

PHOENIX COMMAND

UNOFFICIAL SUPPORT PAGE

Welcome to the Unofficial Support Page for the Phoenix Command Combat System, originally published by Leading Edge Games. This site is a source of experimental rules, new weapons data, and vehicle data for the line of Phoenix Command Combat System Games.

The Revolution Continues...

WHAT'S NEW

WE'VE MOVED!

We're now settling into our new digs here at phoenixcommand.com, which has a bit more space than the old motiondigital.com site.

New to the page this time is the the [Sri Lanka](#) scenario pack and the [Siege of Yeltsin](#) scenario.

Also added is a [Sitemap](#) and a [FAQ Page](#). These should make navigating the site a bit easier.

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- [Kurstenjager Team Organization \(1943-1945\)](#) - by Panzerfaust
- [Soviet 62nd Army Storm Group \(1942-1943\)](#)
- [French Armoured Infantry](#) - by Panzerfaust

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- [Welcome to Hell](#) Balkans (Yugoslavia and Romania)
- [Things Fall Apart](#) Liberia
- [This Land is Our Land](#) Canada
- [A Long Time Before Peace](#) Sri Lanka
- [Seige of Yeltsin](#) Russia

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PHOENIX COMMAND

Miniatures

Phoenix Command Miniatures Rules and Expansions

In recent years, I have been growing more interested in miniatures gaming, and **Phoenix Command** makes an outstanding set of rules for miniatures simulations. But it was the introduction of the **Terminator 2 Miniatures Game** that provided the spark to explore **Phoenix Command** from another direction. The miniatures rules developed for T2 gave the opportunity to explore rules designs for command and control rules, as well as morale rules.

This page will contain links to sub-pages on a Miniatures Gaming system for Phoenix Command. These rules are in an ongoing state of development, so I would greatly appreciate any and all feedback.

Presently, only the base rules have been uploaded. Rules expansions for vehicles, artillery and air support, and warfare through the ages are in the planning stages.

Phoenix Command Core Miniatures Rules:

- [Introduction and Definitions](#)
- [Basic Miniatures Rules](#)
- [Tables](#)

Tables of Organization and Equipment -- Modern

- [Modern Canadian Mechanized Infantry](#)
- [Modern North Korean People's Army Infantry](#)
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PHOENIX COMMAND

Rules

Phoenix Command Rules Upgrades

This page contains rules suggestions and rules upgrades for Phoenix Command.

Small Arms Combat System

Integrated Morale Rules - These rules add graduated morale effects on combat. Combatants progress through various stages from Bold to Cautious to Panicked, with each state having an effect on how well they engage in combat.

Attribute Modifications - Fredrik Tegman has provided these tables of modifiers to Recovery Rolls and ALM based upon character attributes.

Civilians in Combat - These rules allow referees to add an in the element of civilians on the battlefield, particularly in simulating low-intensity conflicts.

Mob Actions and Riots - Rules for simulating the action of riots. Contains rules that are suited for roleplaying and skirmishing.

System Expansions

Air Support Rules - Eero Juhola submitted these comprehensive Air Support Rules for use in PCSACS and PCMCS.

Chemical and Biological Weapons Supplement - CBW rules for use in PCSACS and PCMCS. Data is provided on all historical and modern chemical and biological weapons. The Biological Warfare rules can also be used for roleplaying disease rules in **Living Steel**.

PHOENIX COMMAND

Small Arms

The Phoenix Command Small Arms Combat System revolutionized modern gaming by introducing a higher level of accuracy in small arms combat simulations than had ever been seen before, or since. For many who tried PCSACS, there could be no going back. This section of the website is dedicated to providing rules augmentations and new weapons data for PCSACS.

Weapon Data:

[WDS: Pistols](#)

[WDS: Rifles](#)

[WDS: PDWs](#)

[WDS: Shotguns](#)

[WDS: MG](#)

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- [Modern Spanish Mechanized Infantry](#)
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WWII Unit Organizations

- [Waffen SS Panzer Grenadier Platoon Organization \(1944-1945\)](#)
- [Fallschirmjager Platoon Organization \(1940-1945\)](#)
- [Kurstenjager Team Organization \(1943-1945\)](#)
- [Soviet 62nd Army Storm Group \(1942-1943\)](#)
- [French Armoured Infantry](#)
- British Infantry Platoon Organization (1945) (Coming Soon)

Modern Scenarios

- [Red Embers Scenario Pack](#) (Modern, Historical) A series of five scenarios for both PCSACS and PCMech on the conflicts that erupted in the former Soviet Union following the fall of Communism.
- [Welcome to Hell](#) (Modern, Historical) A collection of scenarios and background on the wars that tore through the Balkans following the collapse of the Soviet Union and Warsaw Pact. The scenarios are drawn from the War of Yugoslavian Dissolution and the Romanian Revolution.
- [Things Fall Apart](#) (Modern, Historical) Five scenarios for PCSACS set during the Liberian Civil War in 1990-91.
- [This Land is Our Land](#) (Modern, Historical) Scenarios exploring the different facets of Canada's Oka crisis of 1989.
- [A Long Time Before Peace](#) (Modern Historical) Four scenarios set in the Sri Lankan civil war of the late 1980's-1990's

- [Seige of Yeltsin](#) (Modern Historical) A single Miniatures Rules scenario set during Yeltsin's standoff against the Soviet Junta that led to the downfall of the Soviet Union.

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PHOENIX COMMAND

Links

Here are a set of links that deal with Wargames and Military Affairs. More links will be added over time, so check back here often.

Phoenix Command Websites

[Legate's Aliens Page:](#)

Legate's page has an extensive listing of weapons data, rules, and other support for LEG's ALIENS RPG. This is also the home page for the LEG web ring.

[7.62mm: Tactical Military Gaming:](#)

Run by PCCS List regular Eero Juhola, this PCCS website offers a collection of scenarios and weapon data, focusing on Finland.

[Leading Edge Games Home Page](#)

This website is an extensive compilation of information on Leading Edge Games products, and has a complete listing of all the quotes that appeared in LEG publications. Run by Brian Biswell.

[The Phoenix Command Conspiracy](#)

A Phoenix Command variant combining PCCS with Call of Cthulhu/Delta Green. Run by Jesper Anderson.

[Gurth's Phoenix Command Page](#)

Phoenix Command rules, expansions, and guidelines on weapon design. Run by Gurth.

[Leading Edge Games - The Unofficial Home Page](#)

Phoenix Command weapons data on modern weapons. Run by Greg Brovane.

[Phoenix Command Mailing List](#)

The Phoenix Command Mailing List is now run by William Barr through Yahoo's egroups. Click on the link above to join the list.

[Phoenix Command Mailing List Archives](#)

This website provides a searchable archive of the Phoenix Command Mailing List.
Run by Akos M. Szderjei.

Miniatures Wargaming

[Magweb: Military History and Gaming Magazines](#)

Magweb is a subscription service that offers its members access to online editions of various military and wargames magazines. Several historically-oriented magazines are available through them.

[Command Decision Mailing List](#)

This is THE web resource for the popular Command Decision line of wargames, formerly published by GDW. Barry Geipel, who puts the page together, also manages an internet mailing list for Command Decision.

[Major General Tremordan Rederring's Colonial Wargames Page](#)

A fascinating page devoted to miniatures wargaming with Colonial troops. Includes a wide array of images and links.

[Horse and Musket Wargaming](#)

This page provides source material for the Horse and Musket era of warfare (roughly 1750-1850), with a strong emphasis on Napoleonic.

Military Affairs:General

[Welcome to Army Technology: The Website for the Army and Military Defence Industry](#)

This is a website that has a lot of interesting technical data on current land forces hardware for the US Army and NATO forces as well. I have not gone all the way through this site, but what I have seen has impressed me.

[Jane's Information Group Home Page](#)

It's Jane's. Need I say more?

[Stratfor.com](#)

Stratfor is a world news service which provides news briefs and commentary on ongoing conflicts throughout the world.

Military Affairs: Canada and the United States

[Armed forces: Canada](#)

This is the official website for the Canadian Armed Forces.

[Special Operations.Com](#)

A page that deals with all manner of special operations forces issues. I've just had a brief look, but this page appears to have a lot of interesting articles on it.

[The Age of Imperialism](#)

A historical overview of some of the United States' "Little Wars" of the nineteenth century, including Central American interventions, the Boxer Rebellion, and the Panama Canal, among others. This site contains links to some interesting historical places on the web and is a good introduction to America's Empire.

Military Affairs: History

[The Age of Imperialism](#)

A historical overview of some of the United States' "Little Wars" of the nineteenth century, including Central American interventions, the Boxer Rebellion, and the Panama Canal, among others. This site contains links to some interesting historical places on the web and is a good introduction to America's Empire.

[STEEL CHARIOTS](#)

A page serving as a repository of information on historical Canadian Armor.

[Elite Forces of the Third Reich](#)

This site contains writeups on the special purpose forces and elite units used by the Third Reich in WWII.

[Third Reich Factbook](#)

This site contains a series of orders of battle and historical information on the Third Reich..

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PHOENIX COMMAND

Roleplaying

Roleplaying with Phoenix Command

Although the rules technology was never really designed for the modern near-freeform style of roleplaying typified by games like White Wolf's **World of Darkness** series, or Atlas Games **Over The Edge**, **Phoenix Command** and **Living Steel** did bring a set of valuable design philosophies to the gaming table.

By pushing for realism, PCCS adopted a real sense of danger to player characters. Every decision became life or death, and roleplaying combat was reduced to an equation of survival. As the copy on the back of PCCS 1st Edition read:

"Using your current small arms combat system, place the muzzle of a large calibre pistol between your character's eyes. Squeeze the trigger. Continue squeezing the trigger until the character falls unconscious. Then, have a friend put a band-aid over that nasty .45 calibre dent in his skull and try not to get him shot too often in the week or two it takes to heal."

"Now, using Phoenix Command, place the same pistol in the same place. Squeeze the trigger. You now have a choice: you can either roll up a new character or rush the body to a very sophisticated medical facility and discover the joys of role-playing a vegetable."

This following links will take you to roleplaying resources for Phoenix Command. Check back on this page for updates.

[**RPG: Death of Nations**](#)

[**RPG: Jericho**](#)

[**RPG: Roleplaying Expansions**](#)

[Send Comments](#)

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PHOENIX COMMAND

FAQ

There are a number of recurring questions which I receive from time to time.

GAME RELATED QUESTIONS

Where can I buy Phoenix Command?

*Phoenix Command was published by **Leading Edge Games** until LEG ceased operations in 1996. This has made the products, especially the core Small Arms Combat System very difficult to find. There are three possible sources:*

- a. *Used bookstores and used game stores. Phoenix Command may still be found in some game stores' inventories, and occasionally, caches of product are sometimes unearthed in distributor's warehouses.*
- b. *Online retailers such as Amazon's Zshops sometimes carry Phoenix Command.*
- c. *Online auctions such as ebay sometimes have Phoenix Command offered up for sale.*

How do I create my own weapons--where can I find the formulae? How are the weapon data derived?

The original formulae for deriving weapon data is the intellectual property of the game's designer, Barry Nakazono, and he has never released them to the public. Some formulae which approximate the weapons design process have been created, and can be found in on sites listed in our links section.

What is Phoenix Command?

Phoenix Command is a small arms combat simulation designed to be used with dice, paper, and/or miniatures. The Phoenix Command rules use a modular design which allows them to be inserted into any set of roleplaying game rules, or wargame rules. Rules exist for Small Arms, Mechanized (Tanks and Vehicles), Artillery, Hand-to-hand, Special Weapons, Roleplaying, and other aspects of warfare. Weapons data exists for many weapons, ranging from medieval to futuristic.

SITE RELATED QUESTIONS

Who designed all the stuff on this page?

The website design and any rules designs appearing here are created by myself, R.J. Andron unless otherwise stated. I tend to be quite careful in ensuring that proper credit is given and if a rules design, scenario, weapon design, or other design was submitted by another person, then I have placed that person's name atop the appropriate page.

Can you help me find gun parts, munitions, or fulfill other, bizarre requests that could have possible dangerous repercussions in the real world?

*Repeat after me...**Phoenix Command** is a game. I cannot help you find weapon parts, I do not deal in arms or munitions, and any unusual (i.e. dangerous) requests are typically forwarded to the proper authorities for further action.*

[Send Comments](#)

Page last modified: January 05, 2002

PHOENIX COMMAND

RPG: Death of Nations

Roleplaying with Phoenix Command

Recently I rediscovered the following notes I had prepared for a **Phoenix Command Roleplaying Game** manuscript back in 1994. I thought that you might want to see my interpretation of what the PC:RPG might have been. Sadly, I never did any more work on the game as other projects would take up all of my time.

PHOENIX COMMAND THE DEATH OF NATIONS

ROLE PLAYING ADVENTURE GAME

Introduction

Anno Domini 2060; Earth is dead...

Technological advances allowed humanity to reach for and capture a foothold in the stars. Though the promise of space was always tremendous natural resources capable of being exploited for the good of the Earth, there was always the danger, just as with the colonization of the Americas, that many people would rather leave the old order behind and strike out into the new frontier to build their own new nations.

Earth was worth abandoning. Its fragile ecosystem had been used up and crushed under the weight of ten billion people. Its nation-states were decaying as debt and economic collapse frayed and wore at the social fabric while resurgent tribalism sparked hundreds of tiny wars, each impossible to end. No one questioned the flood of would-be colonists eager to board any vessel that would get them off-planet, not when one considered what the colonists were willing to leave behind.

But there are the stirrings on the Earth; people are trying to rebuild their fragmented and decaying world. These are people who have run out of faith, out of hope, and out of options. They have to fight to reclaim the Earth from what it has become. For these few desperate visionaries, surrender and death ceased to be options years ago.

PHOENIX COMMAND: The Death of Nations Role Playing Game is a complete role-playing system including all the rules and background necessary to adventure in a game universe of space exploration and societal implosion in the year 2060.

In the **Death of Nations** setting, humanity has just started exploration of the stars. At the forefront of the exploration are a select few corporations taking tremendous risks in the

uncharted reaches of near space. The prizes are habitable worlds, each becoming a base for further explorations and granting its owners a wealth of chemical and biological treasures for exploitation. Humanity's home planet of Earth has been torn apart by war, economic collapse, and unbridled technology. As corporate prestige grows through space exploration, the prestige of nations wanes. Conflict between the two is inevitable.

The time of nations is passing. A new order must assert itself.

Welcome to **PHOENIX COMMAND: The Death of Nations**.

About the Book

The rules and setting are divided into four parts and several chapters, each of which is further divided into sections. This makes it easy for players to find specific rules when necessary. The tables used when playing the game are presented in the text. For ease of reference, the most important tables are also repeated at the back of the book and are numbered; the number also appears in parentheses whenever the table is referred to in the text.

At least three six-sided dice and one or more ten-sided dice (available in game and hobby stores) are needed for play. The ten-sided die is usually used to generate numbers from 0 to 99. To do this, roll the die twice; the first roll is the tens digit while the second roll represents the ones. So a roll of 6 and 2 would be 62, and a roll of 4 and 9 would be 49.

About the Game

Phoenix Command: Death of Nations is a Roleplaying Game which is part of the **Living Steel** storyline, and is set 300 years before the desperate last stand of humanity on Rhand in the onslaught of the Spectral invasion, and 100 years before the time of the Seven Worlds rebellion against the Imperium and the invading Dragoncrest Empire. **Death of Nations** is the prequel to the future histories described in **Living Steel** and **Dragonstar Rising**.

Death of Nations tells the story of a future history that would become known as the Corporate Wars. The Corporate Wars served as the foundation for the Imperium that would ultimately enslave Humanity under an oppressive caste system in the **Living Steel** and **Dragonstar Rising** settings. In **Death of Nations**, the Corporations are trying to establish themselves as the new political rulers of the human race.

However, **Death of Nations** continues the theme of other games in the **Living Steel** storyline. This theme is that the Dream of the Human Soul, while being crushed and stamped out throughout history, can never truly be eliminated. Every place that it is crushed by tyranny, it rises anew in another place, stepping out of its own ashes like the Phoenix of ancient myths. And the struggle continues.

Nations may die, but the Dream will always continue.

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DESIGNER NOTES: EYES ONLY

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PHOENIX COMMAND

RPG: Jericho

NOTES:

This is really the first major variation from the overall theme of the Phoenix Command Unofficial Support Page, and many of you may be wondering what this is all about.

Well, in late 1994 to early 1995, I ran a cyberpunk-style game using Phoenix Command roleplaying rules in the Lawnmower Man RPG (aka PC-Lite) and set the game in my own interpretation of the First Corporate Wars. The game was called Jericho, since it was to be set in a time when the very walls of society seemed to be crashing down. Besides, it seemed like a cool name at the time.

The game itself was a blast with a convoluted storyline that involved riots, mercenaries, biotechnology, and high-level politics. This was the last serious roleplaying game that the group played as time schedules forced us all to move on with our lives.

I recently rediscovered my notes and materials on the Jericho game, and decided to post them onto the internet in this form. These are unedited from their original text, even though in some places, I did think pretty hard about it--read the predictions in the worldview section and see how close I came to reality--or not, as the case may be. Anyhow, Jericho had--still has a lot of stuff I find interesting and I may as well share it with you. If you can find some way to use this in your own personal roleplaying sessions, I wish you well. Incidentally, these materials may not make it clear, but the original intent of the game was to have the players take on the roles of the disenfranchised revolutionaries--those who would still fight for the human destiny and the human spirit. In the Living Steel storyline, they would have been among the first to have fought for "The Dream."--essentially becoming the precursors to the Seven Legions.

Also, an interesting side note: At about the same time, Barry Nakazono and Dave McKenzie of LEG had let slip that they planned a Phoenix Command roleplaying game, and that the game was to be set in the first corporate wars era. Alas, this was not to be, since LEG decided to stop operations shortly after releasing the Terminator 2 miniatures game rules.

I won't claim that Jericho is anywhere near on par with what was intended for the official Phoenix Command RPG, but it is an interesting look at "what might have been."

Enough retrospection. Enjoy the Revolution.

[RPG: Jericho Worldview](#)

[RPG: Jericho Technology](#)

[RPG: Jericho Small Arms](#)

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PHOENIX COMMAND

RPG: Jericho Worldview

WORLDVIEW:

The year is 2060, and the world is dying. Technology promised a golden age, but instead has ushered in chaos.

Technological advances allowed humanity to reach for and capture a foothold in the stars. Though the promise of space was always tremendous natural resources capable of being exploited for the good of the Earth, there was always the danger, just as with the colonization of the Americas, that many people would rather leave the old order behind and strike out into the new frontier to build their own new nations.

Earth is worth abandoning. Its fragile ecosystem has been used up and crushed under the weight of ten billion people. Its nation-states are decaying as debt and economic collapse fray the social fabric while resurgent tribalism sparks hundreds of tiny wars, each impossible to end. No one questions the flood of would-be colonists eager to board any vessel that can get them off-planet, not when one considers what the colonists are leaving behind.

But there are the stirrings on the Earth; people are trying to rebuild their fragmented and decaying world. These are people who have run out of faith, out of hope, and out of options. They have to fight to reclaim the Earth from what it has become. They have to fight for the Dream. For these few desperate visionaries, surrender and death ceased to be options years ago.

This is the time of Jericho, and the walls are caving in.

CHRONOLOGY:

The world has been sliding on a downward spiral into chaos for many decades.

The Iron Years: In 1996, the Second American depression began with the American debt default. Trillions of dollars worth of debt were defaulted upon by individuals, businesses, and even governments. The final blow which drove the economy into depression was the attempted financing of Federal debt obligations through the printing of new money. Within moments of the Presidential order being signed, foreign investors began selling off their debt and equity holdings, forcing a run on the markets rivalling the one in 1929. America, for all intents and purposes, was broke.

Following the 1996 elections, the new President tried desperately to keep the industries

working to no avail, but the American debt default had sent shockwaves through the international economy. Japanese banks collapsed like cards as Pacific Rim nations defaulted, forcing Japan to grind to a halt. German and French economies, overwhelmed by Eastern European refugees also staggered and fell. Britain kept going, oblivious to the economic calamity, but it had been in a depression since the end of WWII. The Canadian, Argentinian, Mexican, and Italian economies simply collapsed.

Tribalism: In Russia, Zhirinovskiy staged a coup that deposed Yeltsin and swept away the reformers. A reign of terror began as the Russian and international media are shut down. Rumors of purges to rival Stalin were heard, and by the turn of the millennium, a revitalized Russian army swept into the Baltics and part of Poland, almost triggering WWIII. Only French and German intervention prevented Russian expansionism from drawing all of Europe into a devastating conflict. The brief war for Polish soil gave Eastern Europe and the Franco-German coalition a small economic boost.

In the Middle East, a newly revitalized Iraqi army struck deep into Saudi Arabia, while the Iranians tried to expand northwards into Armenia and Azerbaijan. Syria and Turkey came to blows over water in the Euphrates River. By 2005, the Middle East was a cauldron of little wars. Even Egypt and Israel, two former longtime partners in peace engaged in border skirmishes and brinksmanship as Islamic Mujihaddeen struck across the border.

Other wars included:

- The massacre of Bosnians and Albanians in Greater Serbia,
- The resurgence of the Khmer Rouge in Kampuchea and Laos,
- Drug wars in Colombia, Venezuela, and Peru,
- The massacre of Christians and Kurds in Turkey and Iraq,
- The bloody fighting between ex-Soviet nationalities including
Iranians/Armenians/Azeris, Russians/Ossettians, Russians/Georgians,
Russians/Moldovans/Dniestrians, Uzbeks/Muslims, Afghans/Tadzhiks,
Russians/Ukrainians, and on in terminum,
- Sudanese Muslim massacres of Sudanese Christians,
- Vietnamese massacre of Hmong,
- Guatemalan Confederacy massacre of Mayan and Incans

and so forth across almost every continent in the World.

In America during this period, the debt default had been accompanied by a renewed isolationism that kept America tightly focussed on itself. High tariff barriers put in place to keep foreign competition out only created an intense smuggling enterprise.

For those who could afford it, the "Fifth Migration"--the abandonment of the cities--gave the rich a way to protect their lifestyle. By moving to exclusive and private resource communities, the wealthy professionals were used telecommuting technology to build their own utopias. These resort communities were strongly protected by PSO forces to ensure that "undesireables" were kept out.

The abandoned cities and suburbs became nightmares. No one who could avoid the cities wanted to live there. In the suburbs, two-thirds of homes were vacant. These homes, often vandalized, served as shelter for squatters and vagrants. Municipal governments, among the first of the debt defaulters, were unable to fund infrastructure upgrading and public services.

Parks turned into garbage dumps because garbage collection was only funded for once a month. Public police services, where not contracted out to PSOs, was limited to wealthy neighborhoods and important downtown facilities.

Following the nationwide Blood/Crip war of 2024, the municipal police gave up all hope of trying to protect their communities, and settled for protecting themselves. It was into this environment that the NatGuard forces were summoned to try to maintain some order. In bloody fighting, the NatGuard took back the cities from the Bloods and the Crips, often block by block. For two years, American cities were truly war zones.

Even the Police and NatGuard were unable to prevent the waves of Islamic Terrorism which washed across American cities as Islamic fundamentalists, supporting one side or the other in the various Middle Eastern wars, struck at America. These terrorists inspired others, from Drug lords to environmentalists, to take up the terrorist methodology.

By 2030, the world was a collection of brushfire wars, and was still strongly in the grip of the deepest depression in modern history. The American economy was beginning to show signs of life, however, until a corporation called Heisson Aeronautics would dash those hopes.

INTO SPACE:

In 2033, Heisson Aeronautics made a public offering that was essentially unnoticed except for a few secretive investors. Heisson, a high-technology company which had been heavily involved in Space development and testing, was working on a private space project that they kept under the tightest of security. Whispers echoed through the aerospace industry about a project code named: Regalia.

When finally revealed in 2035, "Regalia" was a new form of physics, and a working prototype Gravitic Effects Drive (GED), which used gravitational forces for starcraft acceleration. Many companies, expecting a boom in space, invested heavily in the new technology, and Heisson Aeronautics stock skyrocketed in value.

These starfaring corporations were rewarded for their risks. The mining potentials of Luna and the Asteroids alone were worth enough to repay the investments in GED several times over. The economy began to improve across the world.

The net revenues from space travel gave the spacefaring corporations a tremendous financial resource, and made them much more self-sufficient. A stream of mergers and acquisitions followed as each spacefaring corporation began acquiring and amalgamating subcontractors until most corporations were able to supply themselves from their own divisions. The corporations owned their own communities, sold their employees goods from company stores, and taught their children in private company academies. StarReach, Kansas, was the first of these planned corporate communities, and it was completely isolated from the rest of the world. Only employees of Startech could enter StarReach.

Ten years later, Heisson Aeronautics unveiled yet another Regalia technology--the Heisson Drive. By using the same physics as the Regalia project, Heisson Aeronautics had developed an interstellar stardrive that opened new solar systems to exploitation by the spacefaring corporations.

Within a few years, New Eden, the first corporate colony world was discovered. It was a hot

dirtball, with subterranean water and a noxious atmosphere, but it was capable of supporting human life and had the potential to be terraformed into something better. The owning corporation's stocks shot upwards, and new investment and licensing offers poured in.

Seven other colony worlds were located, as well as dozens of other "resource" worlds that were developed for mining. As each new colonizable planet was located, the owning corporation was able to reap the profits.

Many people saw the colonization of space as the salvation of humanity. The human race would continue, but not on the polluted decaying Earth. It was so much easier to colonize a new world than to try to repair the homeworld.

THE TIME OF JERICO

The preceding chronology provides much of the megapolitical background and trends up to the time of Jericho and shows the world in a fragile state. The people of Earth are divided now along tribal lines, economic lines, and political lines, and this is accompanied by a sense of abandonment by the human elite. There is also the sense of desperation in everyone. People are afraid to live on Earth, and are afraid of being left behind.

There is war coming, and people are choosing sides...

Tribalism: One of the driving forces behind current events is the resurgence of tribalism that manifested itself in the "Iron Years" following the debt defaults. During that time, people sought comfort within groups, using the commonality of the group to combat the personal impacts of the economic and political chaos of the era. The development of street gangs in the 1940s and 1950s was a similar pattern, but on a microscopic scale.

One of the most prominent "tribes" were Islamic fundamentalists, who banded together out of religion and used their group to wage war against their enemies. Street gangs also formed prominent tribes, often based on race or economics.

Ultimately, the tribal concept has taken over the western world. People identify themselves by their group. The good of the group is more important than the good of the member, and anyone not a member of your group is a potential enemy.

The divisions between tribes and groups were so significant that many new languages developed. Called "Ghettospeak" by the political analysts, these languages presented significant barriers to education and integration, not only because of the actual linguistic barrier, but also because many of the languages did not contain common concepts. For example, Ghettospeak dialects are grounded in the present, with no concept of future tense, which makes the understanding of key scientific ideas almost impossible.

Years of racial and economic stagnation have pulled the people into several distinct socio economic clans. People identify themselves according to these groups, claiming the security and sense of existence offered by the group. To many, not belonging to a group is the equal of being dead.

A century after King, and the nation is more divided than ever.

Economics: With the development of space travel, the gap between rich and poor widened into a gaping chasm. For the elite, the promise of space was a new golden age of prosperity and order for humanity. For the poor, space was a death sentence.

Following the Fifth migration, the rich and poor were physically separated, with the rich living in secluded resort towns and leaving the cities and suburbs to the poor. Those who have been abandoned to the cities face much the same problems as their parents did years before, in the time before the Blood/Crip wars.

Cities remain the centres for planetary manufacturing, with the manufacturing workers living in the suburbs and in apartment complexes near the industrial facilities. The manufacturing facilities are aging and are unable to compete with the unique capabilities of zero-gravity processes. As a result, Earthbound corporations are forced to restrict their production to inexpensive, lower-technology goods for sale to the poor and middle-class. While the technology in these goods is highly advanced by twentieth-century standards, it is nothing compared with the technology available to the elites.

Many homes and buildings are half a century old or older, reflecting the shift in the construction industry to serving the resort communities. Any new buildings are typically of poor or prefab workmanship, designed to accomodate local workers.

The city economy remains vibrant, despite all the foregoing. People remain consumers, and street merchants ply their wares in city squares and corners. Shopping malls are little more than collections of these street merchants in a warehouse-type enclosure protected by cyclone fence and metal detectors at the gates. PSO operatives watch over the entire affair, protecting their contracts.

But there remains the dark side. Many suburban communities are ghost towns filled with abandoned buildings owned by bankrupt mortgage companies. Street gangs rule the nights, selling designer drugs and homebrew weapons to their victims. Bitter wars are fought over turf by these young tribes. Squatters hide in the abandoned homes, and maintain a precarious existence at the bottom of the food chain, as their children become the next generation of gangsters.

For these people, the only road to prosperity also leads to a quick death. OG's don't live past 25.

Politics: Space travel has also created massive divisions in politics as the corporations seek to free themselves of governments. National governments, however, see their power slipping away, and are trying hard to maintain some of their power, but the citizenry, alienated and disempowered, could care less about this grand scale of politics.

America stopped any pretense of being a democracy following the Blood/Crip war, when NatGuard troops fought to recapture the cities from the criminal gangs. At that time, civil liberties were suspended, and the government took the opportunity to round up dissidents and malcontents and place them into MaxSec Detents, along with surviving gang members,

National politics are still based on the Democratic/Republican dichotomy, with the parties switching Presidents every two terms. The current President is Democrat Michael Prestanki, who was elected on a platform of developing a national technology base for all citizens. He was elected by 7% of the eligible voters.

The media are still relatively free, but the underground media often give the best stories, though loaded with political bias. Corp media care only about entertainment, not the truth, leading to Information Programming, rather than news. There are rumors that the undergrounders get their funding from Corps or governments, depending on their political bent.

The military has assumed a more significant role in national politics, simply because of their new law-enforcement role following the repeal of the Posse Comitatus Act in 2032. The military now perform border-watch duties and patrols of Urban Security Zones (peacekeeping), as well as smuggling interdiction and a number of other duties. It is not uncommon to see Army vehicles on city streets. But even so, the military is finding recruitment tough, since they lose many of their troops to corporate Striker teams (Corporate Security), which offer better benefits and less risk. Other troops turn to mercenary careers, either for crime or foreign governments.

On the opposite end of political power are the dissidents, which range from Corporations, to tribal leaders, seeking to advance their own causes. There are also the apathetic majority, fighting only to survive at a modest standard of living.

At the very bottom of the political food chain are the disenfranchised--the poor, the homeless, and the dissidents. They are shunned, but their numbers are growing.

[Send Comments](#)

Page last modified: August 27, 2000

PHOENIX COMMAND

RPG: Roleplaying Expansions

This page contains rules that expand on roleplaying with Phoenix Command.

William Miller has provided the following set of resources for roleplaying in PCCS. These are zipped files, and require Adobe Acrobat viewer to read.

Phoenix Command Character Generation System: This PDF file provides basic rules for Roleplaying Character creation

Phoenix Command Special Ops: A PDF file containing guidelines for creating Phoenix Command Characters in for Special Operations roleplaying.

Equipment List: Modern-era equipment in PDF form.

Weapon Creation V.1.3: This Microsoft Excel spreadsheet uses a comparative approach to generate gun data for Phoenix Command.

KC has submitted the following rules and rules modifications for roleplaying.

Optional Skill Rules: Skill contests, skill deterioration and upkeep.

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Page last modified: January 03, 2002

PHOENIX COMMAND

Optional Skill Rules

Raw Ability Contests

Certain limited-outcome contests (e.g. lifting a heavy object, staring matches), or contests in which raw ability appears to matter as much or more than skill (e.g. armwrestling, grabbing a door before it closes), aren't well simulated by the A/R system.

Two agents: Roll 3(6) against the relevant characteristic(s), determining the success or failure degree, which are then compared. If more than one characteristic applies, determine which is secondary, and add $\frac{1}{2}$ of it to the primary. Similarly, if a skill applies, add $\frac{1}{2}$ of it to the primary characteristic.

Example 1: Duke (STR 18, Armwrestling 5) and Bitch (STR 16, Armwrestling 8) decide to armwrestle over mating privileges (i.e. who's on top). The GM rules success by 4+ is required to win. Duke totals 20, rolls 7, for a success of 13. Bitch totals 20, rolls 10, for a success of 10, nearly capitulating. The GM calls for Will rolls. Duke (Will 16) rolls 15, while Bitch (Will 15) rolls 10 and pins Duke's hand to the table-top with a grin on her face.

Example 2: Frasier (WIL 12, Meditation 2) and Eddie (WIL 14, Meditation 4) get into a staring contest. Frasier totals 13 and rolls 10, succeeding by 3; while Eddie totals 16 and rolls an 8, succeeding by 8. Foiled again!

Example 3: Bradley (HLT 17, WIL 14, Marathon Running 16) and Katherine (HLT 17, WIL 15, Marathon Running 18), enter the Boston Marathon, and slowly whittle the competition down to each other. Health is primary here, modified by willpower and skill. Bradley's $HLT + 0.5 \times (WIL + SL)$ totals 32, and he rolls an 11, succeeding by 21. Katherine totals 34 and rolls a 7, succeeding by 27 and breaking the ribbon first.

One agent. The GM rules at what characteristic level it would be easy to accomplish the task. The amount this number exceeds 16 equals the negative modifier applied, or conversely the amount this number is less than 16 equals the positive modifier applied. A task roll on 3(6) is then rolled as normal against the raw characteristic. If a skill applies, add $\frac{1}{2}$ of it to the characteristic.

Example 1: Reggie (STR 14, Weightlifting 6) wants to pick up a huge chunk of die-cast steel chassis off the concrete floor of the machine shop. The GM's not interested in determining exactly how many pounds Reggie can lift, nor precisely how heavy the chassis is, but rather rules that it would be easy for STR 19 to pick it up, yielding a -3 penalty for anyone to attempt it, $D = 1$ Phase (see State Decay, below). $STR\ 14 + 3\ (\frac{1}{2}\ \text{Weightlifting}\ SL) - 3 = 14$. Reggie rolls a 13 and straining, hurries it over onto the skid 10' away (3AC) before shay drops it.

State Decay

Often the results of a successful skill roll will be temporary at best, such as when one is attempting to carry many objects without a proper container, trying to keep the attention of a crowd, or using a forklift to stop a load of wood from collapsing. The amount succeeded by equals the state level achieved. The GM must assign the state decay rate D a value in time (Phases, Turns, minutes, hours, days, weeks, months, years, etc) accounting for the factors involved in its durability. $\text{State level} \times D = \text{time to decay}$. Once state level reaches 0, the system immediately begins failing, with total failure happening in $\frac{1}{2} \times D$. A negative state level indicates immediate total failure.

LIFTING ENDURANCE TABLE

STR differential	D	Standard Time
-8 to -13	1 Impulse	$\frac{1}{2}$ second
-3 to -7	1 Phase	2 seconds
-2 to +2	1 Turn	8 seconds
+3 to +7	15 Phases	30 seconds
+8 to +13	30 Phases	1 minute

For weightlifting purposes, a character may transfer points to STR temporarily, deducting them from the STR differential, and risking injury. The amount the original STR attempt was missed by indicates the injury sustained. A character can, if given adequate time, simply keep on aborting attempts until the first die comes up a 1, thus, only in crises is lifting weights particularly difficult. Also, note how in Example 1 below, the problem is one of applying strength, while in Examples 2 and 3, the problem is one of applying agility to something one can already lift.

Example 1: Crackhead Bob (STR 11, Weightlifting 2) tries to lift an awkward 27" television set. The GM rules this is a STR feat at -2, $D = 1$ Phase. Shay rolls a 10, missing by 1. Bob (-7 away from the easy STR of 18) transfers 6 points to his STR, increasing it to 17 for a 7 point success, while also downgrading D to 1 Impulse. Bob can carry the tv for 7 Impulses, his back groaning, but manages to move the set without injury.

Example 2: Killborn (AGI 9, Handwork 2) tries to pick up a pile of books, papers, a scarf and pair of mittens simultaneously from a counter, running with them to catch a bus a block away. The GM rules this is an Agility feat at -2, modified by Handwork, $D = 1$ minute. Killborn rolls a 5, 2, and 1, totalling 8,

and manages to get 1 Hex before dropping a book in the revolving doors.

Example 3: Stacy (STR 10, AGI 10, HTH Combat 1, Handwork 1) grabs at her son Pete falling over the balcony railing. The GM rules this would be easy for Agility 18 (-2), modified by Handworking or any melee skill, D = 1 Turn (it would be easy for STR 12 to lift Pete). Stacy needs a $(10 - 2 + 1 =) 9$ or less, and rolls a 9! She snatches Pete's flailing fingers in a weak, sliding grip, with only two Phases to spare!

A character may try to increase the state level by making a second task roll. Failure reduces the state level by the difference failed by. A negative state level indicates immediate total failure.

Example 1: Killborn tries to grab the book and get a better grip on everything. The GM rules this is an Agility feat at -4 (-2 basic mod, -1 collapsing system, -1 for being in revolving door), modified by Handwork, D = 1 minute. Needing a 6 or less, Killborn rolls an 11, dropping everything in a flurry.

Example 2: "Don't let go!" Pete (AGI 10) cries, trying to get a grip on his mother's hand, which the GM rules is an Agility feat, modified by Handworking or any melee skill. She rolls a 12 and fails. Stacy tries to improve her grip, needing a 9 or less once more, and rolling a 14. Pete falls from their six-story (50') balcony to the greensward below, screaming and rolling Fall Recovery $22 - \text{feet}/2 + \text{SL}1 = 22 - 25 + 1 = \text{target } -2$. Pete rolls 12, failing by 14 points, and ends up in the hospital with 210 PD and an 82% chance of survival.

Cooperation

The GM may rule that two or more characters may cooperate with each other to perform a single task, such as making a quilt, forging documents, writing a screenplay, bearing a heavy coffin, or team-fighting in the Battle Circle. The Living Steel core rule book recommends that in a team effort, the highest SL present is the one used. For aggregate efforts which seek to cut time, each character makes his own success roll, with any failure botching either the entire effort, or his fraction of work alone, at the GM's discretion. Alternately:

Aggregate effort (Multiple die rolls, average success level). When each character is responsible for an individual section of a patchwork project, each character makes a separate skill roll. The average of all successes indicates the overall quality of the project; deduct the worst failure from this average. Sections fail according to the individual dice rolls.

Example 1: Nell, Jane, Myrtle, Felicity, and Twee, with Sewing SL 13, 10, 13, 7, and 5 respectively, meet to teach, learn, laugh, and make their entry for the annual County Quilting Championship. The GM rules that it would be easy for SL 8 to make a decent section. They roll 14, 10, 9, 7, and 16, succeeding by 7, 8, 11, 8, and -3 respectively. Twee's section is badly done and the others realize it was a mistake to induct him before the championship. On the morning of the judging Nell hastily reworks it against a target of $8 - 3$ (previous

failure) - 2 (pressed for time) = 3 + SL 13 = 16 or less, rolling a 7, succeeding by 9 to make it one of the best pieces. The group average shifts from 6 to 9.

Seamless effort (Single modified die roll). When each character is contributing to the success of a single task, only one die roll is made, by the most skilled character. The GM first determines the maximum number of contributors, beyond which penalties are incurred rather than bonuses. Then, start with the highest SL. If the second-highest SL is greater than $\frac{1}{2}$ the highest SL, add 1. If the second-highest SL is $\frac{1}{2}$ or less, there is no modifier - however, then compare the second and third-highest SLs in the same way to determine if the second-highest SL is increased by 1 (which might then affect the highest).

Example 1: Three junior detectives (SL 2, 3, and 6), are trying to outwit a professional antique thief (SL 8). Since SL 2 is greater than half of SL 3, SL 3 boosts to 4, which is now greater than half of SL 6, which in turn boosts to 7. Thus, the detectives' seamless effective SL is 7.

Interactive (Multiple modified die rolls). For raw ability contests (single) combine characteristics for purposes of determining D. Failure is applied to the Lifting Endurance Table from the lowest range, to downgrade D (e.g. failing by 6 when D = 15 Phases, would result in D equalling 1 Phase), but so long as anyone succeeds, their success level is used by all.

Example 1: With the forklift busy and needing to move the same chassis chunk again onto a pickup truck bed 15' away, Reggie (STR 14, Weightlifting 6) gets Brent (STR 12, Weightlifting 2) to help. Once again, the chunk is STR 19 to easily lift (-3). Their combined STR of 26 ensures D = 15 Phases. Reggie's target equals $13 + 3$ (Weightlifting 6) - 3 (chassis weight) = 13 or less; Brent's target equals $12 + 1$ (Weightlifting 2) - 3 (chassis weight) = 10 or less. Reggie rolls 7 on 3(6), succeeding by $7 \times D = 3\frac{1}{2}$ minutes; but Brent rolls 16, failing by 6, changing D to 1 Phase $\times$ Reggie's success level of 7 = Brent drops it in 7 Phases. "Hurry!" Brent barks. Luckily the truck bed is only 5AC away + 4AC to set it down. No problem!

For skill contests in which people are trained to work together, use the rules given for B (Seamless effort) above, but each character rolls his own dice, and each gains the modifier. Additionally, an opponent will lose the modifier.

Example 2: A pit fighter (SL 6) faces two opponents (SL 2, 3) trained in tandem-fighting. Thus, when attacking together, the pair fight at SL 3, and 4 respectively, while the pit fighter fights at SL 5. He'll probably win, but not easily.

Experience

Beyond the incidental experience points, award the PC's each (6) Learning Points each at the end of each scenario, or 2(6) for good roleplaying, to be spent on improving any skill(s) even remotely applicable. Maximum SL increase 1 per session. Improving Fields costs

double. XP may be exchanged for Karma Points at a rate of 1 per 0.1. Karma may also be awarded for roleplaying a character's True Will [as per Living Steel section 7.8].

Extended medical example: While patrolling in a jeep with the physician Stiles, the camp dog Cedilla gets badly wounded by a weird antipersonnel weapon, and the jeep crashes. The skill tradeoff ratio for human to veterinary medicine is $\frac{1}{2}$, so Stiles effectively knows Veterinary Medical Aid SL 5. Administering first aid is easy for SL 4 = base 12, -2 for weird weaponry, +5 SL = 15 or less. Stiles rolls a 16 and can't stabilize Cedilla, who's obviously dying. He pauses for ten seconds, wrestling with conscience, then produces an hypodermic syringe and injects the dog with Oxyspan, creating a window for surgery, and reducing the patient's Health by 2 (HLT 15 - 1(6)), equalling 13, with a critical time period of two hours. With the jeep wrecked, Stiles must carry the inert dog on foot back to base...

Back at the base, Orlando sizes up the patient's condition. Diagnosing severity of injury is easy for SL 10 = base 6 - 2 for weird weaponry, equals 4 + 7 SL = 11 or less. Orlando rolls an 11 and estimates Cedilla has a 3000 PD wound, with now less than ten minutes to live.

Orlando is picked to operate because he has the highest skill (Medical Aid 13) and because he already knows canine first aid (SL 2), and so can round fractions up, yielding de facto Veterinary Medical Aid SL 7. With no time to spare, Stiles is left to tend the diagnostic machine (see example above) whilst Orlando operates in the deserted medical theatre. Operating in a Trauma Centre is easy for SL 8 = base 8, -2 for weird weaponry, -2 for understaffing, +2 for machine diagnosis, +7 SL = 13 or less. The surgeon rolls a 10, and skillfully sews the dog back together after extracting nearly all of the elaborate shrapnel.

Three weeks later Cedilla makes her recovery roll on 0-99. With 3000 PD and Health 15, she needs a 64 or less, and rolls a 16, steadily gaining strength. In another two months she'll be completely recovered, albeit with terrible scars and a permanent reduction in running speed.

Skill Oxidation

Aside from loss of raw talent due to age loss and injury, skills neglected will get rusty with time. For every three months a skill is not used either in a crisis or on the job, deduct 1 Learning Point from its total, reducing effective skill levels as applicable. The highest LPT ever achieved for a given skill is recorded, as for the purposes of refresher courses, characters re-learn their skills at ten times the normal rate, up to the LPT from which they started getting rusty. LP gained beyond that watermark are earned at normal rates.

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PHOENIX COMMAND

RPG: Jericho Technology

TECHNOLOGY:

More than anything else, technology is the ultimate prize. It is the contemporary Grail.

Corporations are engaged in a desperate scramble for new technology, realizing that new technology is the key to prosperity and power in the new society. Corporate espionage and sabotage is all geared towards gaining or keeping a technological edge over the competition.

This section describes some advances in technology in specific areas so that players have some idea of the cutting edge (as the public perceives it). At the end of this section are several examples of contemporary technology.

Computers and Communications: Given the explosive advances of data technology in the late twentieth century, it is difficult to imagine the computer/communications technology of 2060. In a sense, computers have continued to grow faster and more powerful, with terms like 2 megabit bandwidth databuses, 20GHz processors, multi-Terabyte chips, and Random Instruction Processor Protocol (RIPPers) being commonly bandied about at the consumer level. But computer technology has hit the wall of human capability. Humans simply don't need that much computational power, and the software has fattened up to compensate.

In human terms, computers can provide holographic imaging, voice recognition, multitasking, mathematic-dimensional sound with full emulation capabilities. Perhaps the best way of giving an idea of the technology is by showing that the average dataterminal has media access (television, vidphone, telecopier) as its primary role--effectively replacing all the old media access technologies.

Telecommunications have likewise kept pace with data technology. Telecommunications come in either landline (fibre-optic cable) or broadcast (microwave burst) and both are used extensively. Every city has a cellular digital microwave network supplementing an extensive fibre-optic grid, though only the microwave network can reach into the gang-ruled neighborhoods of the downtown and suburbs.

All communication is routed through the planetwide DataNet, a form of global information highway. This net allows full video (often holographic) transmission to anywhere on Earth, and there are gateways to Graviton Pulse Communicators, permitting FTL communications with the colonies.

Rumors of new technology include organic processors, instant linguistic translation, and

holographic memory storage.

Genetics: The Information Revolution has been most felt in the genetics field, where genetics has finally entered the consumer field. Only the rich can afford genetic products, like Turf (R) brand lawnseed (never needs mowing), or genetically pure fruits and vegetables. This is the consumer side of genetics. Not seen as much are the genetic immunization drugs, which have already wiped out dozens of diseases. Even less seen are genetic vivisections, and human testing is rumored to be occurring on some of the secret corporate worlds. Genetic weapons are a persistent concern.

Vehicles: Vehicles are all based upon either an alcohol-burning turbine, or a capacitance gel battery. Both have similar performance, and both use a renewable and relatively clean power source. Gravitic Effects Drive has, however, created a new class of vehicle--contragravitics. These range from carryall dropships for orbit-to-ground transfer to heavily armed and armored gunships.

TECHNOLOGY SAMPLER:

Finance

Currency Cards: Originally designed as a form of bearer security, currency cards have become almost a replacement for currency. Currency Cards look much like credit cards but are issued in set denominations of 20, 50, 100, 1000, and 5000 Cr. The back of the card has an optical strip, which will authorize payment from the issuing institution up to the denomination amount. On the face of the card is a Liquid Crystal strip which shows the value remaining on the card, and once the strip is spent, the card reader keeps the card for recycling by the issuer.

Electronic Fund Transfer Authorization Card: EFTA cards are used for special fund transfers between large corporations and investors. The EFTA card looks very much like a standard credit card but does not possess the twin optical strips. Instead, all EFTA data is burned into a set of PROM chips. At a special termina, often found only at large financial institutions, the PROM chips can be interrogated for security codes and counter codes. If these are acceptable, the PROM chips then provide the interrogator computer with the amount to be transferred, the appropriate account numbers, the date range in which the transaction is to be effective, and recognition and identification criteria of the parties involved. Once the information has been read and approved by the reader computer, the security counter codes are wiped from the EFTA chips, making the card useless for future transactions. Because of their ease of use and security, EFTA cards have become a form of short-term bearer security and are used for futures contracts, share purchases, and even payment of contractors and mercenaries. They are often found in transactions where payment must be guaranteed but delayed for a short time.

Credit Cards: Credit cards are the primary medium of consumer commerce on Earth and are carried by all citizens as a means of identification and currency. Normally, credit cards are distributed to citizens through major financial institutions, and these institutions have signed agreements with all national governments and colonizing corporations to include citizenship data on the cards prior to issue. Each credit card is made of thin plastic impressed with the owner's name, address, and national/corporate identity number on the face. On the reverse of the card are two special optical strips--one fixed, the other programmable, as well as an interface for an optical chip embedded in the card. The fixed optical strip contains an initiator code for the billing computer, which will interrogate the card chip with a verification algorithm.

If the algorithm is correctly executed by the card chip, other information stored on the optical strips can be accessed. A card normally carries the following data on the fixed strip:

- Citizenship
- Identity Number
- User Security Code
- GENPATH Code
- Billing/Shipping Address
- Medical Data
- Machinery Qualification (Motor Vehicle and Air/Spacecraft qualifications)
- The programmable strip holds the following encrypted data:
- Alteration Audit Number (for internal verification by bank computers)
- Credit Rating
- Account Balances.

In the event of an incorrect audit number, or a record of loss/theft in the bank computer, the entire credit card is neutralized in the card reader and security services are notified. The optical chip serves as a hardware safety measure by acting as an interface with the card reader terminal. The chip is the other half of the reader processing circuitry and if damaged, the card is rendered useless.

Criminal Gear

CIR Reader: This is a handheld unit carried by talented muggers. The muggers use the CIR reader to strip all the data from a victim's credit card and download it into a CIR counterfeiter terminal, which produces a copy of the stolen card and allows the counterfeiter access to the victim's accounts. Usually the counterfeiter can use the CIR card data for one or two days before the card data is burned or invalidated by the issuer, longer if the theft is not reported. Muggers will typically not use the cards themselves, but will be paid a percentage of the value of the victim's card.

Electronic Lockpick: This is a highly restricted device used by locksmiths and others to penetrate portals secured by the old-fashioned pin-tumbler locks. The lockpick works by applying constant torque to the lock cylinder while each pin is slowly raised in turn. The pick head senses when each pin reaches its shear line and the head moves on to the next pin. Once a lock has been picked, the lockpick can store its configuration in memory (up to 256 combinations) and re-create the pick heights for later use in either picking the lock or making a separate key. The Electronic Lockpick is a 25mm by 300mm wand with replaceable pick heads for various inline, circular, and angled-pin locks.

Magnetic Resonance Inducer: This creates powerful magnetic field which can affect microprocessor operations through induction. It is used to jam or otherwise manipulate the microprocessors on computer-operated locks. By placing an MRI next to the lock console, the user can cause the lock to open or close a portal and simultaneously shut out other methods of operating that lock.

Military Gear

PALE/PTI Merge Technology: A common feature of the modern battlefield, PALE/PTI is passive vision technology incorporating ambient light enhancement and thermal imaging into a single near-day image which can use false colors to indicate temperature variations.

Vision Headsets: These are an adaptation of both image intensifiers and PALE/PTI Merge technology in the form of night vision goggles. They allow variable magnification of up to 10x.

Nomad GUNCAM Vision Headset: GUNCAM is a development of NOMAD, a partner in JVR and consists of a single PALE/PTI Merge scope rigged for binocular output. A Fibre-optic cable connects the scope to the vision headset, allowing the goggles to reproduce the scope view in the form of a picture-in-picture display of the headset output image. This means that the wearer can automatically use weapon sights, regardless of stance or facing.

Radeytek Remote Position Monitor (RPM): Radeytek's RPM is intended for use by platoon and strike-team leaders engaging in defensive urban combat. The RPM consists of a set of self contained video transmitters which are linked to a handheld command console. This allows the platoon commander to monitor the status of several key outlying defensive positions from relative safety. Each video transmitter is roughly the size of small book (125mm x 200mm x 43mm) and is built around a single CCD camera incorporating PALE/PTI technology. The camera elements are able to scan a 90 degree arc by using a wide-angle lens and digital image reprocessing at the console. Each transmitter also comes equipped with adhesive tape, a magnetic mounting bracket, and an aluminum screw mount. The command console is slightly smaller than the transmitters (110mm x 190mm x 37mm) and incorporates a touch-sensitive color LCD screen capable of displaying up to four incoming images in either split-screen or picture-in-picture display formats. The screen is also capable of being "stealthed" for use with night vision gear by using infrared rather than visible backlighting. System communications are accomplished by sending encrypted video stills every two seconds from each camera. Without the proper key, the console cannot decrypt the image data. Also, for greater security, the image updates can be transmitted using a unique frequency-hopping algorithm, making the units almost unjammable. Camera range is 250 hexes.

Collaris Research Industries Endocrine Implants: While not a technology likely to be encountered in the Jericho campaign, this is included in order that players have some idea of the scope of technological development. All data on Endocrine Implants should be treated as rumor. The implants consist of animal endocrine glands which have been genetically modified to produce a specific hormone or biological medication, and offer great promise in the treatment of various endocrine maladies, such as diabetes. However, there are rumors that these devices will be used in crude forms of eugenics and population control. The implants are controlled by a bacterial computer which is a wonder of nanotech engineering. The computer can regulate hormone production in the implant in response to body conditions or external stimuli. Possible applications include the supplemental production of adrenaline for elite troops, production of endorphins for pain therapy and recreation, the production of hypnotic drugs for control of individuals, especially criminals. A more controversial suggested use of the implants is the production of estrogen as a means of curbing violence in dangerous male criminals.

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PHOENIX COMMAND

RPG: Jericho Small Arms

JERICH0



Havril Hellstorm 6.5mm PDW

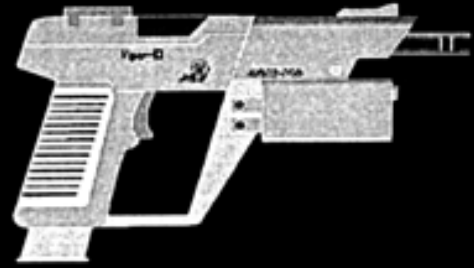
PDW

6.5 x 29mm Caseless

Physical Data		Aim Time		Ballistic Data		
		AC	ALM			
W	7.2	1	-22	FMJ	PEN 14	
		2	-11		DC 6	
		3	-9			
RT	8	4	-7	JHP	PEN 14	This is an illegal submachinegun thought to be designed by ex-Micor engineer Sussanne Hawril. The Hellstorm has only recently begun appearing in any numbers and is thought to be produced on pirated Computer Assisted Manufacturing equipment. The 6.5 x 29mm caseless ammunition is not a standard calibre and is produced by the Hellstorm manufacturers. The ammunition is specially designed for penetration of body armor and has a tendency to process wildly inside human targets, causing erratic wound channels. The Hellstorm is slightly larger than many other machineguns, but incorporates many of the same features, including scope rails, a collapsible stock and standard universal mount for underbarrel armament. Unlike other submachineguns, however, the Hellstorm cannot accept a silencer as its ammunition is supersonic. The Hellstorm also includes an integral diode laser sight.
ROF	*6	6	-4		DC 8	
Cap	40	8	-2			
				AP	PEN 20	
					DC 6	
				JFC	PEN 13	
					DC 9	

JERICO

Magnum Design
P-37 10 mm Magnum Viper-10
 Pistol
 10 mm Magnum



Physical Data		Aim Time		Ballistic Data		
		AC	ALM			
W	4	1	-19	FMJ	PEN	4
		2	-12		DC	6
		3	-10			
RT	4	4	-9	JHP	PEN	na.
ROF	*	6	-7		DC	na.
Cap	6/12			AP	PEN	6
					DC	5
				JFC	PEN	3.9
					DC	7

The P-37 Viper-10 is a large frame autopistol firing the 10mm pulse rifle round. This firearm has been adopted by several West Asian security forces as standard issue and is being evaluated by the United States Justice Department. The P37 enjoys a strong market among the corporate elite, who have taken to purchasing the nickel-plated P37A1 as a status symbol. The firearm is quite heavy, and this helps to counteract some of the recoil of firing the very powerful caseless rifle ammunition. An advanced design of muzzle brake eases the rest of the recoil, but in the words of one shooter "Firing the gun is like having your hands explode." It is a very powerful and loud gun. A forward grip and collapsible stock are available as options, while tritium nightights and scope rails are standard. The P37 civilian versions come with standard 5 round magazines, but the larger 12 round versions intended for law enforcement or military use are also available on the black market.

JERICO

Startech PBX-92 10mm Assault Rifle
 Assault Rifle
 10 x 39mm Caseless



Physical Data		Aim Time		Ballistic Data		
		AC	ALM			
W	8.5	1	-22	FMJ	PEN	12
		2	-12		DC	6
		3	-9			
RT	8	4	-7	TDS	PEN	10
ROF	*6	6	-4		DC	3
Cap	70	8	-3			
		11	0	AP	PEN	13
					DC	6
				JFC	PEN	11
					DC	7

The PBX-92 Scorpion is a new Startech-engineered assault rifle firing standard 10mm ammunition. It is much lighter than the ICW rifle and incorporates extensive ergonomic engineering to permit greater combat accuracy. The rifle features integral tritium night-sights, a top mounted magazine, and the capability to accept any standard underbarrel weapon like a grenade launcher. The Scorpion is issued with a PALE/PTI merge scope and attached IR laser-assist aiming device. This rifle has started appearing in Startech Corporate military and Striker units. Some special ammunition developed includes the TDDS-C (Triple Dart Discarding Sabot-Consumable) cartridge, which is a flechette round holding three separate steel darts in a plastic sabot. The plastic casing of the TDDS round is consumed on firing and will load in and standard 10mm x 39mm weapon.

Physical Data		Aim Time		Ballistic Data		
		AC	ALM			
W	3.1	1	-18	FMJ	PEN	1.8
		2	-11		DC	3
		3	-9			
RT	4	4	-9	JHP	PEN	1.9
ROF	*	6	-7		DC	4
Cap	'5/18			AP	PEN	1.5
					DC	5
				JFC	PEN	5.5
					DC	3

The civilian market for firearms was very restricted on major worlds until only recently, when urban decay and criminal violence forced legislators to liberalize internal security laws and permit private possession of firearms by licensed and trained users. The police products firm of Thorne Straker then modified its police handgun for sale as the TS 299C autopistol. The civilian pistol has a limited capacity magazine and a retaining bolt prevents full-capacity police magazines from being loaded. The police version 299 holds a 18 round double column magazine while the 299C only accepts modified 5 round magazines. The 299C has seen many purchasers among Terran middle class civilians and among upper class women, who prefer the 299C Designer, which is nickel plated to a mirror finish and has switchable colored grips. The fashion accessories are of dubious value in such a market, more important is the comfortably low recoil compared to the P37.

Page last modified: August 27, 2000

PHOENIX COMMAND

Modern Canadian Mechanized Infantry

Special thanks to Corporal Jade Ohlhauser for assistance with the research.

Canadian Infantry Platoon Table of Organization & Equipment:

The Canadian military has seen service in several foreign wars, from the Second Boer War to the Gulf War, and is most noted for its expertise in Peacekeeping, where Canadian units have served on almost every United Nations Peacekeeping mission since the inception of the Peacekeeping role of the United Nations. More recently, Canadian units have been used for internal security at the Oka, Quebec crisis and on peacekeeping in Bosnia.

The Canadian Land Forces are (finally) getting new equipment, and the organization charts below show the state of the Canadian Mechanized Infantry Platoon in the 1990s, which consists of a Platoon HQ and Weapons Section, and 3 Rifle Sections, all carried within 4 APCs. The APCs are being modernized at present, so Canadian Infantry could, depending on the time frame, actually use one of three types of APCs.

Currently being phased out is the venerable M113, which is still in service in some units. For the UN mission to Somalia, the Canadian Airborne Regiment (now disbanded) appropriated the LAV-APC "Bison" from Canadian reserve units. Currently, the APC just coming into service is the Kodiak, which is a slightly larger version of the LAV-25.

PC Mech Rules Modifications for Canadian APCs

The following Rules modifications are designed to allow players to easily integrate the following vehicles into a PC Mech game. Ideally, we would have status sheets custom made to each vehicle, which is not practical within the context of this website.

M113:

No modification

Bison (LAV-APC):

Use LAV-25 Status Sheet, re-roll Turret hits as the Bison has no turret. Replace "Turret Lip" location with "Heavy Machine Gun, PF: 6/6" to represent the commander's Cupola. The weapon mounted is the M2HB. Increase Hull Target Size by +1 on table 3 of the LAV-25 Status sheets to represent the enlarged Hull/Dismount Section compartment.

Kodiak:

Use LAV-25 Status Sheet. Increase Hull Target Size by +1 on table 3 of the LAV-25 Status sheets to represent the enlarged Hull/Dismount Section compartment. There are reports that the Kodiak has bolt-on armour panels to increase its protection against weapons fire up to 30mm. As soon as I have more information on this, I'll update this page.

Coyote (LAV-RECCE):

This is a Reconnaissance version of the LAV-25. Externally identical to the LAV-25, the Coyote is packed with sensors and radio gear, as well as an extensible, mast-mounted thermal imaging camera. Replace Hull Side Hot Location "57-60" with the hit location "Camera". If the camera is extended (PF: 6/6), any hits on that location will only hit the camera and will not penetrate into the Fuel tank. If the camera is retracted (PF:24/24), then any hits in that location will have their normal chance of penetrating the Fuel tank.

Platoon Organization Charts

Platoon Headquarters	#	Weapon FP Value	Total FP Value	Morale Grade Crack
Platoon Commander	1	5	5	
Rifleman (C7 Rifle)	3	5	15	
Total	4		20	

Weapons Section	#	Weapon FP Value	Total FP Value	Morale Grade Crack
Rifleman (C7 Rifle)	3	5	15	
Machine Gunners (C6 GPMG)	1	9	9	
AT Gunner (Carl Gustav 84mm)	1	5/38	5/38	
Total	5		29/52	

The Platoon HQ and Weapons Section ride in 1 APC. Each of the Three Rifle Sections is also assigned its own APC.

Rifle Section	#	Weapon FP Value	Total FP Value	Morale Grade
Section Commander (C7 Rifle)	1	5	5	Crack
Section 2IC (C7 Rifle)	1	5	5	
Radio Operator (C7 Rifle)	1	5	5	
Rifleman (C7 Rifle)	5	5	25	
Machine Gunners (C9 SAW)	2	13	26	
Total	10		66	

Each section member carries 150 rounds for their C7. As well everyone carries 200 rounds for the C9s. The C9 gunner themselves I think carry 200 rounds in a drum on the gun and 200 on the webbing. In addition, each member carries an M72A2 SRAW, which boosts firepower up to 28 per member, or 280 overall.

For those unfamiliar with Canadian military designations, a C7 is an M16A2 rifle produced under license by Diemaco. It differs from the M16A2 issued to U.S. Military personnel in that it replaces the Three-round burst option with Full Automatic fire. U.S. Military M16A2s have no full automatic fire option. The C9 refers to the Belgian Minimi Squad Assault Weapon, designated M249 in U.S. Military service. The C6 is the Belgian FN Mag-58 GPMG.

Everyone is paired into two man teams, the commander is with the rad-op and the 2ic is with one of the machine gunners. This set up may be changed according to the commander's discretion. For tactical purposes the section is divided into two groups.

When advancing upon the enemy positions the commander forms the section into an "extended line" with everyone facing the enemy. Starting with a "section attack" one group covers while the others advance. Then "group attack" starts and teams cover while the other advances. Finally "team attack" begins where one team member covers the other.

Phoenix Command Miniatures Section Organization:

Unit 1 (Group 1)	Weapon	Troop Quality
Section Commander*	Assault Rifle	Elite
Radio Operator	Assault Rifle	
Machine Gunner	SAW	
Assistant Gunner	Assault Rifle	
Rifleman	Assault Rifle	

Unit 2 (Group 2)**Weapon****Troop Quality**

Section 2IC*

Assault Rifle

Elite

Rifleman

Assault Rifle

Machine Gunner

SAW

Assistant Gunner

Assault Rifle

Rifleman

Assault Rifle

Platoon Command Sections and Weapon Sections translate directly into units in Phoenix Command Miniatures

[Send Comments](#)

Page last modified: January 04, 2002



North Korean People's Army Infantry Platoon

Table of Organization & Equipment:

North and South Korea have been enemies since just after World War II, and the leadership of late North Korean leader Kim Il Sung committed the countries to a path of mutual hatred. Kim Il Sung's stated goal was the reunification of the two Koreas under Communist rule, and North Korea made many covert attempts to accomplish this goal. Only the presence of a dedicated South Korean military and U.S. Troops stationed on Korean soil kept North Korea from making more overt efforts.

The threat of a potential North Korean invasion of South Korea has been a constant scenario in U.S. military planning, as this country is a potential flashpoint from which World War III could be started. In the 1980s, the WWII threat was presented by a clash between the U.S. and Soviet Union on the peninsula. Now, the threat is posed by a U.S.-China clash, which is a much more remote, but still potential conflict.

Since Kim Il Sung's passing, news reports have started coming out of North Korea of widespread famine and economic collapse. Whether this will increase or decrease the potential for conflict is anyone's guess.

The following table presents the standard structure of a North Korean infantry platoon. Players can modify this platoon as needed for their scenarios. I have chosen to make the platoons line quality. At their peak, NKPA forces could have been considered crack or line. In their present state of economic collapse, the NKPA troop quality becomes heavily variable (just like all collapsing communist militaries)--anywhere from Green to Line.

Platoon Organization Charts

Platoon Headquarters	#	Weapon FP Value	Total FP Value	Morale Grade Line
Platoon Commander (T-64-68)	1	1	1	
Total	1		1	

There are three rifle squads in each platoon, each broken down into three four-member teams.

Rifle Squad	#	Weapon FP Value	Total FP Value	Morale Grade
Squad Leader (AK-47)	1	5	5	Line
Team Leaders (AK-47)	2	5	10	
Riflemen (AK-47)	3	5	15	
RPG Gunner (AK-47/RPG-7V)	3	5/38	15/114	
Machine Gunners (RPD)	3	10	30	
Total	12		75/170	

Phoenix Command Miniatures Rifle Squad Organization:

Unit 1	Weapon	Troop Quality
Squad Leader*	Assault Rifle	Professional
Machine Gunner	SAW	
Rifleman	Assault Rifle	
RPG Gunner	Assault Rifle/RPG	

Unit 2	Weapon	Troop Quality
Team Leader*	Assault Rifle	Professional
Machine Gunner	SAW	
Rifleman	Assault Rifle	
RPG Gunner	Assault Rifle/RPG	

Unit 2	Weapon	Troop Quality
Team Leader*	Assault Rifle	Professional
Machine Gunner	SAW	
Rifleman	Assault Rifle	
RPG Gunner	Assault Rifle/RPG	

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Page last modified: January 04, 2002

PHOENIX COMMAND

Modern Spanish Mechanized Infantry

Modern Spanish Mechanized Infantry

Table of Organization & Equipment:

By Juan Luis Perez Borrego

A Spanish mech platoon has an organization that is the same for any infantry outfit in the Spanish army, the Infanteria de Marina (marines) belongs to the Navy and gets different equipment.

A platoon consists of 3 squads each with the following

Rifle Squad	#	Weapon FP Value	Total FP Value	Morale Grade
Sergeant (Cetme L/G36)	1	5	5	Line
Corporal (Cetme L/G36)	1	5	5	
Riflemen (Cetme L/G36)	7	5	35	
MG (MG3)	1	13	13	
Total	9		45	

As for statistics for each weapon I use the G3 for the CETME C, the SIG 33 for the L , and in the Mech supplement I tweak with the factors of the M16 and the M60 to get the ones I need , altering the BTR templates to represent the BMR 600, as is the vehicle used in Bosnia where I place most of my scenarios.

I hope the info will come handy, any more doubts just tell me!

Regards

They ride in a M113 with the driver never leaving the vehicle and the sergeant operating the pintle mounted .50 cal., the BTR 600 used in many infantry units, is a six wheeled battle taxi with a remotely controlled .50 cal turret

The AR is the CETME C during the '70 and '80 and the L during the '90. The CETME C is the same rifle as the German G3 being designed by WWII german engineers that flew to Spain at the end of the war, the L is the 5'56 version of the same weapon and is being replaced by the new German G 36. The machine gun is always the MG3 (MG42). Each squad is equipped since 1990 with 5 or 6 C90, a modern version of the M72 LAW a step below to the British LAW 80, some units still using the local version of the "super bazooka".

As for statistics for each weapon I use the G3 for the CETME C, the SIG 33 for the CETME L, and in the Mech supplement I tweak with the factors of the M16 and the M60 to get the ones I need, altering the BTR templates to represent the BMR 600, as is the vehicle used in Bosnia where I place most of my scenarios.

Phoenix Command Miniatures Rifle Squad Organization:

Unit 1	Weapon	Troop Quality
Sergeant*	Assault Rifle	Professional
Rifleman	Assault Rifle	
Machine Gunner	SAW	
Assistant Gunner	Assault Rifle	
Rifleman	Assault Rifle	

Unit 2	Weapon	Troop Quality
Corporal*	Assault Rifle	Professional
Rifleman	Assault Rifle	
Rifleman	Assault Rifle	
Rifleman	Assault Rifle	

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PHOENIX COMMAND

Modern US Army Infantry

Modern US Army Infantry

Table of Organization & Equipment:

Phoenix Command Miniatures Rifle Squad Organization:

Unit 1	Weapon	Troop Quality
Squad Leader*	Assault Rifle	Elite
Fire Team Leader	Assault Rifle	
Automatic Rifleman	SAW	
Grenadier	Assault Rifle/GL	
Rifleman	Assault Rifle	
Unit 2	Weapon	Troop Quality
Fire Team Leader*	Assault Rifle	Elite
Rifleman	Assault Rifle	
Automatic Rifleman	SAW	
Grenadier	Assault Rifle/GL	

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Modern US Army Dismount Section

Modern US Army Infantry -- Dismount Section

Table of Organization & Equipment:

This is the unit carried in the M2 Bradley MICV that dismounts from the MICV for combat operations

Phoenix Command Miniatures Rifle Squad Organization:

Unit 1	Weapon	Troop Quality
Team Leader*	Assault Rifle	Elite
Automatic Rifleman	SAW	
Grenadier	Assault Rifle/GL	
Unit 2	Weapon	Troop Quality
ATGM*	Assault Rifle/ATGM	Elite
Automatic Rifleman	SAW	
Grenadier	Assault Rifle/GL	

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PHOENIX COMMAND

WWII German SS Panzer Grenadiers

German WWII SS Panzergrenadier (1944-1945)

Table of Organization & Equipment:

Over the course of WWII, attrition and the pressures of mechanized warfare meant that units of all nationalities often had organizations in no way resembling their "official" TO&E. Units of all sides made use of captured enemy equipment where practical, and with new equipment being frequently sent to the front lines, units could change in composition overnight. The following organization, therefore, is to be considered a starting point from which Phoenix Command players can build.

An additional note on the Waffen SS: Troop quality in this branch of service was highly variable, ranging from raw recruits to elite, a situation which became even more diverse in the closing years of the war, and as troop quality varied, so did equipment. Phoenix Command players choosing to play with the Waffen SS should take this into account, so that a unit from the 28th "Wallone" Waffen Grenadier SS Division (Crack troop quality) may have Stg 44's and Gew41s, while a unit like the 38th "Nibelungen" (Novice to Untrained troop quality) may still be making do with Mauser Kar 98k's. For a unit in the latter case, use the FP values in brackets on the tables below.

Platoon Headquarters	#	Weapon FP Value	Total FP Value	Morale Grade
				Variable
Platoon Commander (MP44)	1	2	2	
Riflemen (Stg 44/Kar 98k)	2	5 (2)	10 (4)	
Sniper (Gew 43/Kar 98k)	1	5 (2)	5 (2)	
Medic (P-08)	1	0.4	0.4	
Total	5		17.4 (8.4)	

Depending on the platoon, many units had either three or four infantry squads/groups in their composition, but most were standardized on three squads per platoon.

Infantry Squad/Group	#	Weapon FP Value	Total FP Value	Morale Grade
Squad Leader (MP 44)	1	2	2	Variable
Squad 2IC (MP 44/Kar 98k)	1	2	2	
Machine Gunners (MG42)	2	13	26	
Riflemen (Kar 98k)	2	2	4	
Riflemen (StG 44/Kar 98k)	3	5 (2)	15 (6)	
PanzerSchreck (Kar 98k)	1	21/2	21/2	
Total	10		70/51 (42)	

The Panzerschreck gunner and loader carried as little as 4 rounds for the Panzerschreck. In the above organization, the Panzerschreck gunner is assumed to carry or have access to a Kar 98k. Use the Firepower of 70 when the Panzerschreck is being used in an anti-personnel role, 51 if the Panzerschreck gunner has switched over to a rifle, or 42 if the entire team is kitted with Kar 98k's.

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Page last modified: January 04, 2002

PHOENIX COMMAND

WWII German Fallschirmjager

Since starting on the World War II TO&E in the October revision of the website, I have received not a few offers to help in expanding the source material on this page. This page comes to us courtesy of Panzerfaust, who profiles the German Fallschirmjager. I have included the platoon organization tables at the end of the page to give a "base unit" which can be built up to suit any particular scenario. Any errors in those tables are mine, not Panzerfaust's.

German WWII Fallschirmjager (1940-1945) Table of Organization & Equipment:

By Panzerfaust

The Fallschirmjaeger are the easiest to start with. All were technically elite even in 44 when more than 160,000 were active. The training even without actual combat jumps was sufficient to create a light infantry force only matched by the Allied elite (Commandos, SAS, some Russian specials etc, not regular airborne or even rangers of the day) Indeed as demonstrated at Casino they made the ideal defenders in the face of allied doctrine.

A typical rifle company would consist of an HQ unit of 1 officer and 35 enlisted and 3 rifle platoons of 1 officer and 38 enlisted divided into 3 squads of 12-13 men (on paper of course). The Platoon ideally was a mix of about 16 rifles (by 44 a mixture of FG42s and MP44/MP43 with a number of Gewehr 33/40 for sniper work), 9 MP-40s (officers and senior NCOs), and 6 machine guns (double the number in regular infantry squads). The machine guns were most often the MG34 as the MG42, while slowly supplanting it, was judged less desirable due to its increased weight and difficulty deploying. Also most Paras carried a pistol when possible. A throw back to the early days in Holland and Crete where these were the only weapons carried in the jump, with the rest in containers).

Usually a number of special weapons were issued or just plain scavenged in the fighting to increase the firepower of the unit. These range from picked up ATK rifles which proved their value even in nonarmored fighting on the eastern front (Russians loved their rifles and partially pioneered their use as AMRs over ATK as well as sniper work) to light mortars (5cm leichter granatenwerfer 36) and Panzerfausts/Schrecks.

The Schreck proved its value in Northern Europe especially in hedgerow fighting and usually was found 1 per squad with limited rounds due to the supply state. The 'fausts were usually kept in their sealed containers till needed just prior to use. They had to be armed ahead of

time. You might find anywhere from 6-8 in a well supplied squad.

The Jaegers also had more access to specialist weaponry such as the Shaped Charges and Flamethrowers (Eintoss Flammenwerfer) making them very unpredictable opponents.

As to experience levels they were various (some fought through Holland, Crete (a lifetime on its own), the east and west till the end) But none realistically can be judged as green. Line would seem the lowest ranking due to their training and comradeship which was superior to the SS in all honesty.

The allies could always tell when they were fighting units such as the Fallschirm by their non-M1935 helmets, jump boots, and special Combat jumpsuit/camouflaged smocks. This was appreciated by the Germans who enjoyed the distinction, unlike the Luftwaffe field divisions whose blue uniforms made them stand out more than the WW1 french pantalon rouge to the enemy who knew their weakness. Also it was quite common even in '44-45 for platoon sized units to air drop at key points either behind enemy lines or in the line of advance. Nothing the scope of Arnhem but truly incredible all things considered.

Platoon Headquarters	#	Weapon FP Value	Total FP Value	Morale Grade
				Elite
Platoon Commander (MP40)	1	2	2	
Riflemen (MP 40)	2	2	4	
Total	3		6	

Including 3 Infantry Squads/Groups:

Infantry Squad/Group	#	Weapon FP Value	Total FP Value	Morale Grade
Squad Leader (MP 40)	1	2	2	Elite
Squad 2IC (MP 40)	1	2	2	
Sniper (Gew 33/40)	2	2	4	
Machine Gunners (MG34)	2	13	26	
Riflemen (FG 42)	5	5	25	
Panzerschreck (FG 42)	1	21/5	21/5	
Total	12		80/64	

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PHOENIX COMMAND

WWII German Kurstenjager

Panzerfaust has also provided his notes on the organization and equipment of the Kurstenjager (Coastal Raiders) of the Division Brandenburg I have included the platoon organization tables at the end of the page to give a "base unit" which can be built up to suit any particular scenario. Any errors on those tables are mine, not Panzerfaust's.

German WWII Kurstenjager (1943-1945) **Table of Organization & Equipment:**

By Panzerfaust

The Coastal Ranger is just a unique option for anyone who wants to role play a German special forces unit circa 1943-45. This unit was part of the elite Brandenburgers who themselves provide a lot of specialist options.

The Rangers were formed by the Heer in December of 42 after the Kriegsmarine under Raeder refused the mission. A company was formed from the ranks of the Heer Wasserpionieren (water engineers). Using Italian experience and methods the Germans started building an aquatic special operations group of commandos/marines, frogmen, and explosive attack boats. By late 1943 a composite battalion had been formed.

The unit was deployed mainly in the Med and Black sea. And enjoyed some spectacular successes leading many to believe that had they and their navy counterparts been formed before the war or early in it they might have tipped the balance to Germany's favor hands down.

A sailboat raid in Tunis, attacking soviet shipping, and destroying bridges earned these men fearsome reputations but the most telling instance was in the capture of the Aegean islands of Kos and Leros that had been surrendered by their former Italian allies. Spearheading the assaults to take these islands the rangers were forced to come ashore against a ready and numerically superior enemy, due to broken codes. Even so they fought to and won their objectives and the islands fell, prolonging the war and keeping Turkey neutral.

Little standard applies to these units although their training was relatively normal in most regards. Only specialist training at sites like La Spezia and Agra island were unique over standard Brandenburger procedures. Weaponry varied with very little emphasis on heavy weapons as these troops were raiders and scouts.

A typical mission might have been:

19 men, 1 officer in 2-3 boats with the mission of scouting a coastline or capturing a prisoner or two. Weapons would range from pistols and MPs to a handful of captured allied weapons such as Enfields or Brens. Later weapons like the Panzerfaust were issued on a limited basis. Assault detachments had a wide range of demolition gear available as well as access to heavier weapons such as MG42s or mortars. (note the units always had at least one MG34 or 42 handy).

In World War 2 nearly a million experienced German troops were wasted protecting the Reich's coastline from allied threats such as the Commandos and not available at key battles like Kursk or D-Day. Later in the war less than 100 German frogmen alone tied up several thousand allied troops in protecting bridges and waterways. This type of warfare in WW2 gets glossed over for the more dramatic Blitzs but was crucial to the war efforts of both sides. And its fun to run as a scenario instead of the standard SEAL team rescuing POWs in Vietnam or SAS clearing terrorists out of an Embassy.

Kurstenjager Team	#	Weapon FP Value	Total FP Value	Morale Grade
				Elite
Team Commander (MP44)	1	2	2	
Raiders (MP44)	18	2	36	
Machinegunner (MG 42)	1	13	13	
Total	20		51	

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Page last modified: January 04, 2002

PHOENIX COMMAND

WWII Russian Stormgroups

While doing some reading on WWII, I ran across an interesting tactical organization used by the Red Army in WWII during the defence of Stalingrad.

Soviet 62nd Army Storm Group (1942-1943)

Table of Organization & Equipment:

In 1942, the Red Army was regaining its strength after the massive defeats it had faced in the prior year during the German Barbarossa offensive. The 62nd Army, under Lt. General V.I. Chuikov was tasked with the defence of Stalingrad.

Chuikov recognized the need to neutralize the Wehrmacht's superiority in armor and air support, and in Stalingrad, he recognized that the terrain would give him significant advantages in doing just that. Chuikov also recognized the assets of the Russian soldier of 1942, who was a very highly motivated and tenacious fighter. So, in order to defend Stalingrad and the Rodina, Chuikov adopted a tactical organization of assault groups or storm groups that made use of the terrain and his riflemen.

Storm Groups were platoon sized or larger and tailored to the mission. Their role was one of active defence--they would stage assaults on forward German positions to make the Germans bleed for every inch of Russian soil. The Germans never did manage to counter the Storm Group tactics, and Storm Groups were used right up to the liberation of Stalingrad.

Storm Groups were built around two or more Assault Teams, consisting of a leader and 8-10 men. Supporting these assault teams was a Reinforcement section consisting of Antitank groups, Mortar Groups, Machinegunners, and specialists, such as demolitions teams, snipers, or flamethrower teams. Providing further support was a reserve detachment organized into two or more assault teams.

In action, the assault teams would use stealth and speed to approach a German position, holding their fire if possible until they were right on top of their objective. Then they would use grenades, submachineguns and even entrenching tools and shovels to disrupt and suppress and ultimately kill or drive out the German soldiers on the objective. Once the assault teams were on the objective, they would signal the Reinforcement section to move up and secure the flanks. During this time, the assault teams would be cleaning up the objective, and fortifying it against counterattack, or as a staging point for the next storm group operation.

Other missions performed by Storm Groups included raids on enemy supply lines, and even tunnelling under German positions to set explosives.

Storm groups appeared when the 62nd Army was desperately trying to hold on to Stalingrad in September, 1942, and the organization grew out of the use of traditional rifle groups, which did not have the firepower to maximize assault tactics. Storm groups eventually were found in every division that fought in Stalingrad.

The following tables provide a sample storm group organization, and players can use this as a base from which to build organizations for their own scenarios. I have given the Storm Groups Crack morale, since all the storm groups were composed of volunteers,

Headquarters Team	#	Weapon FP Value	Total FP Value	Morale Grade
Team Commander (PPsh41)	1	2	2	Crack
Messengers (PPsh41)	3	2	6	
Total	4		8	

Including 2 Assault Groups:

Assault Team	#	Weapon FP Value	Total FP Value	Morale Grade
Team Commander (PPsh41)	1	2	2	Crack
Troopers (PPsh41)	10	2	20	
Total	11		28	

The Reinforcement Section Consisted of the following elements:

Machinegun Section	#	Weapon FP Value	Total FP Value	Morale Grade
				Crack
NCO (PPsh41)	1	2	2	
Troopers (PPsh41)	6	2	18	
Machinegunner (DShK.50*)	2	10	20	
Total	9		40	

Mortar Section	#	Weapon FP Value	Total FP Value	Morale Grade
				Crack
NCO (PPsh41)	1	2	2	
Mortar Gunners (PPsh41)	2	2	4	
Mortar Crew (PPsh41)	6	2	12	
Total	9		18	

The Mortar section is equipped with two 82mm Mortars.

Antitank Section	#	Weapon FP Value	Total FP Value	Morale Grade
				Crack
NCO (PPsh41)	1	2	2	
Antitank Crew (PPsh41)	10	2	20	
Antitank Rifles (ATR*)	3	2	6	
Total	14		28	

The antitank crews were armed with two 45mm Antitank guns, and three Antitank rifles. I do not have any data on these at the moment, but I will update this page as soon as more data comes available.

In addition to the above elements, the storm group also included a reserve detachment consisting of two or more assault groups and one Headquarters group. Also, Storm groups would also make liberal use of flamethrower teams, demolitions teams, and snipers. These can be added almost anywhere to the organization.

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Page last modified: January 04, 2002

PHOENIX COMMAND

WWI French Armoured Infantry

French WWII Armoured Infantry (1938-1941)

Table of Organization & Equipment:

By Panzerfaust

More info gleaned over the years, this time for any wishing to run Frenchmen from 1938-41 (this organization lasted well into Vichy periods and was even beginning to be adopted by colonial forces in Syria before their removal)

Building a mechanized warmachine that dwarfed and eventually might have surpassed the fledgling Wehrmacht was a French goal. One that if not for the Old school and the hard needed currency spent on Maginot might have come to pass. Combined arms doctrine originated in French circles but adopted by the Germans with their usual efficiency in practice. Unable to acquire the proper command elements such as radios the formation of proper mechanized formations lagged but was certainly real. Who knows another couple of years and superior equipment used in action instead of reaction would have relegated the Outmoded and poorly equipped Wehrmacht into the place now held by the French Military of WW2 (or even half baked use during Poland for that matter).

While building purpose ridden formation like the tank divisions of France the call went out for Mechanized infantry known as dragons portes. These men would eventually be formed into division Legere mechaniques to support the armored spearheads such as the german Panzergrenadiers.

The basic squad was as follows.

Rifle Section	#	Weapon FP Value	Total FP Value	Morale Grade
Fusilier Team				Line

Driver (Lebel M1892)	1	0.2	0.2
LMG (Chatellerault FM 24/29)	1	9	9
Loader (Lebel M1892)	1	0.2	0.2
Riflemen (MAS 36)	3	2	6

Eclairer Team**Line**

Team Leader (MAS 36)	1	2	2
Driver (Lebel M1892)	1	0.2	0.2
Rifle Grenadier (MAS 36)	1	2	2
Riflemen (MAS 36)	3	2	6

Total	12		25.6

Both teams had their own tankette and armored trailer (APC) attached.

Note some formations replaced the Eclairer team with a second Fusilier Team for greater firepower. Although they retained the Rifle grenadier.

The remainder of the unit was fairly standard with 4 platoons each in 3 Squadrons. A platoon being of 3 squads with a HQ detachment. Fire support Squadron brought more 8mm Hotchkiss mgs as well as 81mm mortars superior to the germans.

But alas for the cream of the french footsoldier there was neither the will nor the time to employ them as trained. Instead they faced the situation they were designed to create on the wrong side. And an offensive doctrine used solely to parry quickly breaks the blade and loses the fight.

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PHOENIX COMMAND

Red Embers

In late 1993, I had started work on a scenario pack for LEG called **Red Embers: Legacy of the Soviet Union**. This was to be the follow-up to the **Russian Roulette** scenario pack, and was to chronicle the wars and battles that occurred in the Commonwealth of Independent States from 1992 onwards. Unfortunately, LEG ceased operations before the manuscript could be completed. Reproduced in full on these pages are all the scenarios that would have been included in Red Embers.

Submission in Russia makes you believe there is uniformity.

Correct this idea.

Nowhere is there a country where there is such diversity of races, of customs, of religion or mentality as in Russia.

- Czar Nicholas I

INTRODUCTION

A seventy-five year experiment with Communism that had divided the world into Eastern and Western spheres of influence ended on an August day in 1991 when the tanks rolled into Moscow. Within days, the political masters directing the tanks had been swept out of office in the face of popular dissent. The collapse of the Communist government caused the shattering of the Soviet borders, unleashing fifteen new nation-states upon the world in the first step in restructuring world politics and forcing the world to search for new stabilities.

Within the old Soviet Union, however, there were a series of civil wars that erupted as ethnic nationalities were finally allowed to vent their anger. The old political science didn't work anymore--the Soviet Union was no longer around to keep the peace within what had once been its own borders. What resulted was a paradigm shift to a new world chaos.

This Scenario Pack is the sequel, in a sense, to 1992's Russian Roulette Scenario Pack for the Phoenix Command Small Arms Combat System. Like Russian Roulette and other PCSACS scenario packs, Red Embers features a number of scenarios which cover the clashes in the former Soviet Republics during 1992 and 1993. Each scenario has a full description of the setting, special rules for unusual situations, and a map that can be enlarged for tabletop play.

This scenario pack features a mix of scenarios for the Small Arms and Mechanized Combat System scenarios, allowing the supplement to be used with both.

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PHOENIX COMMAND

Scenario: Moldova

DNIESTER REPUBLIC/MOLDOVA

When there is a war going on...we cannot stand idly by. We simply must respond. We simply must do that, defend the people in order to stop the bloodshed.

- Boris Yeltsin

June 21, 1992

June 20, 1992 The rejection of a Moldovan peace plan intended to reunite the Moldovan and Dniestrian republics led to more bloodshed.

The Dniester republic declared its independence from Moldova in 1991 when the Russian-speaking Dniestrians feared that they would become subsumed by a planned reunification between Moldova and Romania. A series of clashes followed independence as the Moldovan government refused to recognize the breakaway republic. The Russian 14th Army was deployed to the region to act as peacekeepers, but ultimately, they would become drawn into the fighting on the side of the Dniestrians.

On June 20, 1992, the Dniestrian government rejected a peace proposal put forward by the Moldovan parliament. An incident where Moldovan police in the town of Bendery, the only Dniestrian stronghold west of the Dniester River, arrested Dniestrian guardsmen, escalated into a Moldovan offensive against the Dniester Republic. The town of Bendery was the scene of heavy fighting control see-sawed between Dniestrian and Moldovan forces over the course of two days. The battle for the city saw the direct intervention of the 14th Army on the side of the Dniestrians, and almost sparked a state of war between Russia and Moldova.

Scenario Outline: This is a Mechanized Combat System scenario which deals with the night assault to recapture Bendery from Moldovan forces. The Russian 14th Army has joined with Dniestrian infantry in attempting to cross the Bendery-Tiraspol bridge. Dniestrian irregulars are fighting for control of the Bendery bridgehead and Moldovan forces are trying to prevent the assault.

This scenario is a large scenario, involving a tank company, a motor rifles company, and numerous infantry and artillery units on either side. Team play is strongly recommended for this scenario, with each player being given command of a company or so. For games with a single player to each side, players should read the notes on Smaller Scenarios at the end of this section.

The scenario takes place at night under a half-moon, with a wind of 1 MHPT blowing from the east.

Order of Battle:

Moldovan Forces:

Moldovans are on the defensive in this scenario. They must beat back the combined Russian/Dniestrian attack and prevent the Russians and Dniestrians from achieving their victory conditions.

Elements, Tank Company

Company Assets:

1 T-72M1, Line

Platoon 1:

3 T-72M1, Line

Platoon 2:

2 T-72M1, Green

Platoon 3:

1 T-72M1, Line

2 T-72M1, Green

Divisional Reconnaissance Company

Company Assets:

1 BMP-2, Crack

2 x Motor Rifles Platoon, each with

1 BMP-2, Line

2 BMP-2 with Dismount Squad, Green

Elements, Tank Platoon:

2 T-72M1, Line

Moldovan Nationalist Militia

Infantry Platoon:

1 Motor Rifle Squads, Line

3 Motor Rifle Squads, Green

Artillery Battery (off board, Firebase Level), with:

4 x 2A36 Howitzers

Ammunition Loadout per howitzer:

HE: 30

WP: 6

Illumination: 4

Mortar Battery:

3 x M-36 Mortars

Ammunition Loadout per Mortar:

HE: 15

WP: 3

Illumination: 2

3 Gaz-66 Trucks

1 Gaz-66 Ammunition Carrier with

2 Ammunition Loads per mortar

Russian/Dniestrian Forces:

The Russian and Dniestrian forces must recapture Bendery from the Moldovan forces presently holding the city. There are a number of key objectives marked on the map in Bendery, and if the Russian/Dniestrian forces can capture these, then they will have won the battle for the present.

Tank Company, organized as follows:

Company Assets:

1 T-80 MBT with ERA, Crack

Platoon 1:

3 T-80 MBT, Line

Platoon 2:

2 T-80 MBT, Line

1 T-80 MBT, Green

Platoon 3:

3 T-80 MBT, Green

Elements, 1 Company Motor Rifles

Company Assets:

2 BMP-2, Line

Platoon 1:

3 BMP-2 with Dismount squads, Green

Platoon 2:

1 BMP-2 with Dismount squad, Line

1 BMP-2 with Dismount squad, Green

Elements, Dniestrian Militia

Set up in Tiraspol:

5 x Motor Rifle Squads, Green

Set up in Bendery within 5 MH of the Bendery-Tiraspol bridge:

1 x Motor Rifle Squad, Crack

2 x Motor Rifle Squad, Line

Off-board artillery support (Company-Level)

2 x Batteries, each with:

6 x 122mm D-30

Ammunition Loadout per howitzer:

HE: 30

WP: 6

Illumination: 4

Special Rules:

Smaller Scenario: For a more manageable scenario, players can scale down the size of the forces involved by reducing each company down to a single platoon and by concentrating the fighting only around the Bendery bridgehead by only using map1. The Russian and Dniestrian forces would set up within 20 MH of the bridgehead, and would have to try to secure any two of the numbered objectives on that map.

Ammunition Loading: To add some randomness to the ammunition loads carried by the MBTs, and possessed by the artillery batteries, make two 0-9 rolls and subtract the sum of these rolls from the full load of ammunition carried by each tank and each howitzer. This represents depletion over the course of the fighting.

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PHOENIX COMMAND

Scenario: Estonia

ESTONIA - July 27, 1992

**Russia will be
great again.**

- Richard Nixon

Delays in the withdrawal of Russian troops from within Estonian borders caused tensions to flare between the two nations, leading to sporadic clashes.

On July 27, 1992, Russian and Estonian Troops fought over the transfer of a building that had been used by the Soviet Baltic Fleet. The Russians claimed that the Estonians opened fire, trying to capture the building. The Estonians said the Russians fired first, interrupting the previously-agreed transfer of the building, and the Estonians took control of the building to prevent the Russians from looting the contents.

Scenario Outline: This scenario is intended for use with the Small Arms Combat System, and is a battle for control over a building. The Estonian Player has a squad of relatively inexperienced troops, but holds a fairly strong defensive position. The Russian player has a larger, more experienced force, but is forced to attack across open terrain before he can assault the building. This is a daytime scenario, with no wind.

The scenario is a fairly straightforward exercise in infantry assault and defence, and quite suitable as an introduction to infantry tactics.

Order of Battle

Estonian Forces:

The Estonians have captured the building, but have not had time to fortify it. They are well-stocked with ammunition and are awaiting the Russian counterattack. The Estonians must prevent the Russians from re-taking the building.

- 1 AK-74, Line
- 1 AK-74/GL, Line
- 1 RPK-74, Green
- 1 AK-74/RPG-7V with 3 HEAT rockets, Green
- 4 AK-74, Green

Russian Forces:

The Estonians must be forced out of the building, and the building retaken by force. The Russian player must have sole control of the building at any point in the game.

3 AK-74, Line
2 AK-74/GL, Line
2 RPK-74, Line
1 AK-74/RPG-7V with 3 HEAT rockets, Line
6 AK-74, Green

Special Rules and Variants

Larger Scenario: This scenario has been scaled down to make it easier to handle for a two-player game. The actual numbers of the forces involved are listed below, and will make for a scenario suitable for team play.

Estonian Forces:

2 x Motor Rifle Squads, Green
3 AK-74, Line

Russian Forces:

3 x Motor Rifle Squads, Line
5 AK-74, Line
1 RPK-74, Line

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PHOENIX COMMAND

Scenario: Abkazia/Georgia

ABKAZIA/GEORGIA - July 2, 1993.

Georgian forces fighting against Abkhaz secessionists suddenly found themselves cut off by an amphibious assault in their rear.(Mechanized)

The Georgian city of Sukhumi had come under heavy assault from separatist Abkhazians in 1993, and would ultimately fall to the Abkhaz forces in September. Georgian leader Eduard Schevardnaze remained in the city providing political and military leadership in the city right until the fall.

This scenario represents one of the earlier battles leading to the fall of Sukhumi, where on July 2, 1993, 600 Abkhazian paratroopers used the Gumista river to make an amphibious landing at Tamysh behind Georgian lines, cutting the Sukhumi-Ochamchiry road and encircling the Georgian forces fighting to keep Sukhumi from falling. It would take two days of fighting for the Georgians to reopen the road.

Scenario Outline: The Abkhazian paratroopers have made an amphibious landing using small boats and barges, and have moved to cut off the road. Although they were on the offensive briefly, their advance has been stalled by the stiffening resistance of the Georgians. They are now fighting over the a small village near Tamysh, and the lighter armor has been brought up to try to force a resolution.

This is a daytime scenario and there is a light wind from the east at 1 MHPT.

Setup: The Georgian player sets up first. There are limits to where certain forces may be set up as described in the order of Battle.

Order of Battle

Abkhazian Forces:

The Abkhazian forces must capture the village and establish a salient long enough for reinforcements to arrive in order to blunt a Georgian counterattack. The Abkhazian commander realizes that if his forces are overextended and fall before the coming counterattack, then the beachhead at Tamysh will be for nothing. Abkhazian forces enter on the first turn from the South edge of the map.

2 x Armored Platoon, each with:

3 x BMD-1 with Dismount Elements and Crew, Line

2 x Desant Platoons, each with:

- 3 x Desant Squads, Line
- 2 x AGS-17 and Crew, Line
- 3 x Ural 375 Trucks
- 2 x UAZ-469 Jeeps

Desant Antitank Platoon:

- 4 x UAZ-469
- 4 x AT-5 + Line Crews

Note: The armor given to the Abkhazi paratroops is primarily done for the purpose of play balance as well as making the scenario a bit more interesting in terms of a light-armored clash as opposed to a straight-up infantry-armor fight. Players wanting to give the scenario a more authentic feel should replace the Abkhazi Armored platoons with an equal number of Desant Platoons, using the above organization.

Georgian Forces:

The Georgian Forces, since they are reacting to an Abkhazian push, will set up a hasty defence with forces at hand and will obtain more forces over time. The Georgian commander realizes that he must break open the Sukhumi-Ochamchiry road quickly in order to preserve the battle at Sukhumi. Also, he has heard rumors over the radio nets that 2000 Russian troops from the 14th Army have crossed into Georgian territory from Moldova and are fighting on the side of the Abkhazis, so time is of the essence, and his forces will be very limited.

Georgian orders, therefore, are to hold the town (or recapture it, that being the case), and then drive through any Abkhazi forces towards the beachhead.

Georgian Motor Rifle Platoon (set up in town)

- 3 x BTR-80
- 3 x Motor Rifle Squads (dismount elements, Green)

Georgian Militia (set up in town)

- 5 x Militia squads
- 3 AK-47 (Green)
- 2 RPK (Green)
- 5 AK-47 (Untrained)

Arriving after 15 + (10) MT from the North edge of the map.

Motor Rifle Platoon

- 3 x BMP-2
- 3 x Motor Rifle Squads (dismount elements, Green)

Militia Units, Wheeled

- 2 x Gaz-66 Trucks, carrying
Georgian Militia
- 10 AK-47 (Green)
- 2 RPK (Green)
- 2 AK-47/GL (Green)
- 2 AK-47/RPG-7 (Green)

10 AK-47 (Untrained)

Arriving after 30 + 2(10) MT from the North Edge of the map.

2 x Motor Rifle Platoon

3 x BMP-2

3 x Motor Rifle Squads (dismount elements, Green)

Reconnaissance Platoon, elements

4 x BRDM-2 with Green Crew

2 x BMP-2 with Green Crew

Scenario Length

The scenario is designed to be open-ended as to length, and players should agree that the scenario ends whenever one side is no longer combat-effective. Combat-effectiveness is a judgment call by the players, and the following guidelines may be used to determine if a side remains combat effective.

A combat effective unit is cohesive (i.e. still under a unified command, not broken), mobile (no mobility kills, no fatigued units), and armed (vehicles still have 1/3 of their maximum ammunition load, main weapons in working order, squads have at least 1/3 of their members uninjured). Players should tally all the combat effective units on both sides at any time after all the Georgian reinforcements arrive, and if the number of effective units (infantry squads and vehicles are each treated as one unit) on one side is more than three times the number of effective units on the other, then the weaker side is no longer effective, and the scenario ends then.

These guidelines should not be interpreted literally. For example, one side may have only armored units, while the other has only infantry remaining--the armor may still be effective even though facing down three times their number of infantry units, especially if the infantry have spent most of their antiarmor weapons. It depends on the circumstances.

The effectiveness guidelines are based upon the realities of combat, where a 3:1 advantage is typically required in order to successfully attack a defending unit. Consequently, an infantry unit reduced to less than 1/3 its complement would not be able to defend against another infantry unit and is therefore not combat effective.

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Scenario: Tadzhikistan

TADZHIKISTAN - July 1, 1993

**If Central Asia
boils over, it will
be very hard to put
out the fire.**

Anonymous Russian
peacekeeper on the
Tadzhikistan/
Afghanistan border,
November 1992.

150 Tadzhik and Afghan guerillas storm across the Afghanistan border, with the Afghan 55th Infantry Division in support. (Mechanized)

In 1992 and 1993, there were many incursions across the Tadzhikistan-Afghanistan border by Tadzhik and Afghan guerillas fighting a cross-border war against the Tadzhik regime and their Russian allies. The once-secure Soviet borders were now under attack for the first time since the Second World War.

On July 1, 1993, a group of 150 guerillas stormed across the border with units of the Afghan 55th Infantry providing supporting fires. The Russian and Tadzhik border patrols engaged in two days of fierce fighting and resorted to their own artillery and helicopter gunships to drive the guerillas back across the border. This attack set the pattern for many more such incursions in the following weeks.

Scenario Outline: Guerrillas are using the artillery fire as cover to enter Tadzhikistan and seize control of the border area before pushing inwards. All that stands in their way is a border guard outpost.

This is a dusk scenario. There is a wind out of the north gusting irregularly at 2 MHPT.

Setup: The referee should give both players photocopies of the main map, and have them plan their movement on these copies. The Guerrilla troops may enter from either the southern or western edges of the maps at any time or in any order they wish. The Border Guards may send out up to two squads on patrol, but the rest of the Border Guard contingent must remain at the base.

Order of Battle:

Russian & Tadzhik Border Guards:

The border guards have come under unexpected artillery fire from within Afghanistan and realize that it is cover for an incursion by guerillas. The border guards must prevent the guerillas from overrunning the border compound.

Russian Motor Rifle Platoon, elements of 201 MRD

3 x Motor Rifle Squads, Line

3 x BTR-80

Motor Rifle Platoon Assets

1 x Plamya AGS-17

The AGS-17 is mounted atop the turret of one of the BTR-80s, in Afghanistan style. The shooter must stand exposed atop the hull of the BTR-80 to fire the AGS-17 and does not receive any protection from the BTR-80 when doing so.

Tadzhik Border Patrol

2 x Motor Rifle Squad, Line

1 x BRDM-2

3 x Gaz-66 Trucks

Tadzhik Border Patrol Assets

2 x PKM Machineguns with Line crews, dug in

Tadzhik & Afghan Guerillas:

Neutralization of the border compound is essential for subsequent operations. This means raiding the border compound and seizing control.

Guerilla Forces

1 x Command Group

1 Commander (Crack, AK-74)

1 RTO (Line, AK-74)

2 Riflemen (Line, AK-74)

2 x Machinegun Squads, Line

1 Gunner (PKM)

1 Spotter (AK-74)

1 Ammunition Carrier (AK-74)

8 X Rifle Squads, Green

12 Riflemen (AK-74)

1 Grenadier (AK-74/GL)

1 Anti-Tank (AK-74/RPG-7V w/ 3 HE rockets)

1 SAW (RPK)

Special Rules

Artillery Support: To use artillery support, players must have access to the Phoenix Command Artillery System, or God of War: Phoenix Command Mechanized Artillery and Indirect Fire Supplement.

In this scenario, the Guerrillas are able to call upon the Afghan 55th Infantry Division for fire support. This can be brought into play either through pre-planned fires or by having the Regiment stand by for the Guerrilla FO's instructions.

The Regiment is able to provide up to 4 fire missions in a game, with each fire mission counting as three shots from each gun in the battery of six, but not counting ranging shots. The Regiment is equipped with Russian D-1 152mm Howitzers.

Preplanned Fires: Preplanned fire missions are resolved by having the Guerrilla player secretly designate a target point for each fire mission and an expected Time On Target, which is the turn in which the rounds actually hit the target area. Once these are set, the Guerrilla player cannot modify them. Use the calculated target position error for resolving Fire Mission accuracy. Preplanned fire missions are immediately Fire for Effect, with no ranging shots.

The referee then rolls for the scatter of the target hex as specified in the Advanced Accuracy rules of section 2.3 of the Artillery System rules. This will shift the aiming point of the battery's incoming fire, and all scatter of the fire will be measured off the shifted aiming point. The referee also rolls a 0-9 roll twice. The first roll is multiplied by 5 to determine how many turns the Time on Target is shifted, while the second roll is simply a high-low roll. If the second roll is 5-9, the fire mission is late. If the second roll is 0-4, the fire mission comes early.

Forward Observers: The command squad acts as FO and has the only radio link to the 55th Regiment. Their commander is able to call for fire support as normally. However, if the command squad is wiped out, all artillery support is lost. The commander has a forward observer SL of 3.

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PHOENIX COMMAND

Scenario: Unseen Armies

UNSEEN ARMIES - August 13, 1993

Forget everything you ever heard about street crime.

Organized Crime in the former Soviet Union, which was forged under the oppression of the Soviet regime, was emboldened by the anarchy following Glasnost reforms, and became a major power after the final collapse of Communism in August, 1991. Now, Russian organized crime is an unseen army, wresting control of the nation away from the politicians and trafficking in drugs, weapons, and even nuclear materials.

The Russian mafia and the Russian police are fighting a hidden war, but one that is as bloody as any of the civil wars that are tearing apart the other former Soviet States. This scenario describes one clash between these two forces.

Scenario Outline:

On August 13, 1993, a group of Moslem Ingushi merchants in the Urals city of Nizhny Tagil became fed up with paying protection money to the local mobsters and fifty of the merchants engaged in bloody streetfighting. Russian racketeers managed to escape the fighting and broke into a military base and stole a tank. They then took the tank down to the fight to put down the rebellious merchants, but were stopped by the local police and interior ministry forces.

This scenario may be played using either the Small Arms scale or the Mechanized scale. Due to the small number of units involved, and the variety of weapons brought into play, this scenario is ideal as an introduction to either rules set.

To play the scenario, PC Mechanized and the Modern Light Vehicles Supplement are required. If playing at the PCSACS scale, then PC Small Arms Combat System Rules will also be required.

Order of Battle

MAFIYA:

The criminals in this scenario have very little respect for the law. They have stolen a T-90 tank (the latest export version of the T-72/T-74 series) from a Russian military base and are

trying to drive it into an Ingush community to show the merchants what happens when protection money is not paid. However, they have run into a roadblock set up by the local police. They must break through or circumvent this roadblock.

Criminal Forces:

T-90, Line crew

(use the sheets for the T72M1 in PC Mechanized, since the performance will be nearly identical to the T-72 for the purposes of this scenario).

2 x UAZ-469 Jeeps, each carrying:

2 AK-47, Line
1 AKR, Green
1 Shotgun, sawed-off (driver)

(for the UAZ-469, the HMMWV is an acceptable substitute, as well as for civilian vehicles)

Police and Interior Ministry:

The academy never covered how to deal with situations like this. However, all of the crew have some military experience and familiarity with antitank weapons and there are active military personnel in your forces. You must capture or kill the tank (mobility kills are not acceptable) in order to stop the threat posed by the criminal elements.

Police Forces:

Police Tactical Squad, composed of:

4 AK-74, Line
2 AK-74/GL, Line
2 RPK-74, Line
Plus 4 RPG-18s distributed among the squad members

Interior Ministry Forces:

1 BRDM-2, Line Crew

1 BRDM-3, Line Crew

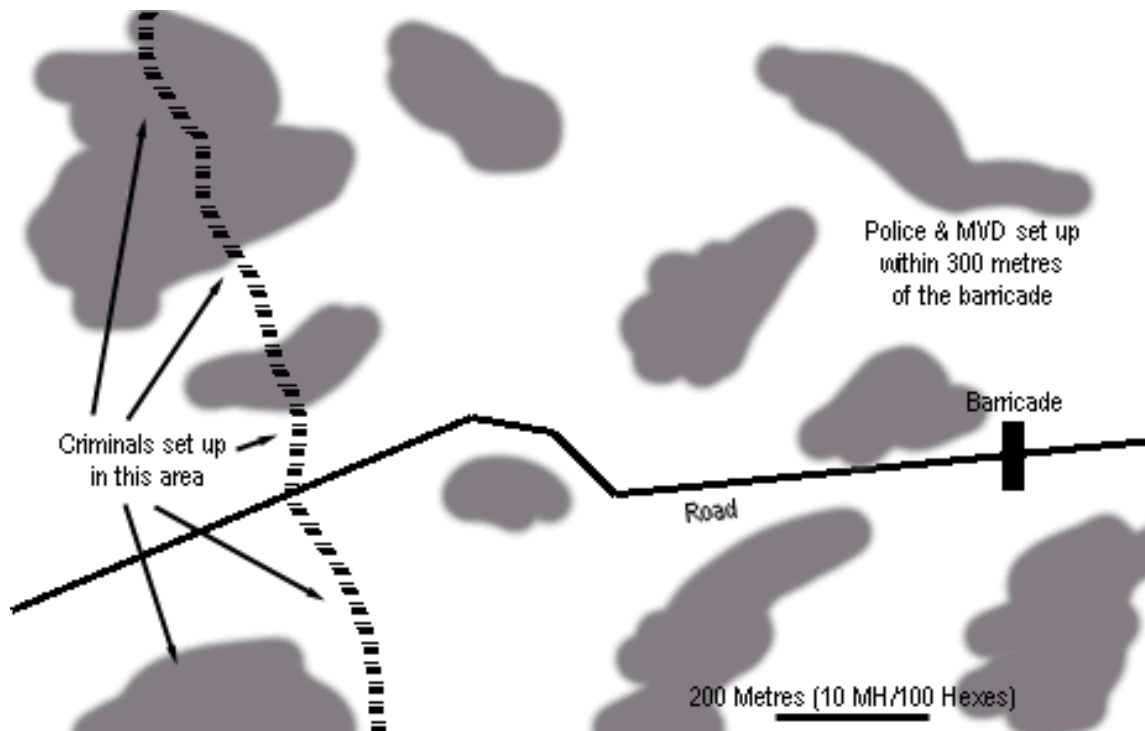
Special Rules

Barricades: The police have had the opportunity to set up a barricade from commandeered civilian vehicles, including some heavy trucks and farm machinery. This barricade is clearly marked on the map. The tank could be used to push all of these out of the way, taking 5 MT

(40 Phases) to clear a path through which the tank may pass. During the time spent pushing, the tank's movement would effectively be zero, allowing enemy forces an easier shot at the tank.

The barricade should be treated as a 40 degree incline on hard earth in the event that players simply want the tank to overrun the barricade.

Terrain: The terrain in the Urals for this scenario should be considered rough terrain--Light Rock, with a wide array of hills, all with 20 degree slopes. The only level ground in the area is the dirt road (Hard Ground, 10 degree slope on average). There are no trees, but a random scattering of brush around the landscape. Hill crests are represented by the grey areas on the map.



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PHOENIX COMMAND

Welcome to Hell

In 1992, I had completed a second scenario pack for LEG called **Welcome to Hell: War In the Balkans Scenario Pack**. The scenario pack dealt with the breakup of Yugoslavia. These traumatic events were the consequence of the fall of the Soviet Union, which saw the Warsaw Pact crumble and collapse as a wave of reform and revolution swept through Eastern Europe.

LEG ceased operations before the manuscript could be completed. Reproduced in full on these pages is the entire **Welcome to Hell** scenario pack.

INTRODUCTION

The Balkan Peninsula has written much of European and even World history. The cultural diversity of the people of the Peninsula has led to substantial internal ethnic friction over time while the location of the Peninsula on the borders of Europe and Southwest Asia has meant that the region has been used as a staging area for conquerors on both borders seeking to invade and rule lands on the other side. Both internal and external belligerence gained the Balkans the title of "powderkeg of Europe," a title which has proved apt over time as irredentist and nationalist pressures have kept the region in perpetual conflict.

Now, with the removal of Communism throughout Eastern Europe and the Balkans, the people of the Balkans are beginning to find their independent political identity in the World, and this has thrown the Balkan nations into turmoil.

In Romania, a vicious dictator was removed by a popular uprising. In Yugoslavia, the old borders have been torn apart in a bloody civil war by people eager to express their nationalism. And all across the Balkans, the decades of communism have left a legacy of refugees, economic ruin, and political uncertainty. These, combined with the blood spilled in the bitter ethnic and revolutionary fighting have started the fuse on the powderkeg burning again, and while there is little risk of the keg detonating another World War, even local explosions have proved to generate terrible misery and significant international repercussions.

This scenario pack features a mix of scenarios for the Small Arms and Mechanized Combat System scenarios, allowing the supplement to be used with both.

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Welcome to Hell.

-Anonymous graffiti near
'Sniper Alley,' Sarajevo

**"When people ask me
whom do you blame, I
say give me the day
and the month, and
I'll tell you."**

-Canadian Major-General
Lewis MacKenzie,
Commander UNPROFOR
Sarajevo: July 1992

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PHOENIX COMMAND

Background on the Balkans

PERSPECTIVES

**God protect us
from ceasefires,
'cause every time
we have a
ceasefire, the
amount of fighting
goes up.**

-Canadian Major-
General Lewis
MacKenzie,
Commander
UNPROFOR Sarajevo:
July 1992

The historical chronicle of the Balkan peninsula is fascinating not only for the factual record of events it encompasses, but also for the cultural and philosophical insights it provides into the current ethnic and political conflicts sweeping across the region. This section provides an overview of Balkan history and examines how that history has contributed to the current strife.

Histories of Nationalism and Irredentism

The current ethnic tensions in the region are driven by the twin forces of nationalism and irredentism. Nationalism, the desire of an ethnic group to have a nation of their own both combines and competes with irredentism, which is the concept that areas settled by an ethnic group should be ruled by that ethnic group. Balkan history is filled with instances of ethnic clashes caused by nationalist and irredentist motives.

Balkan History and Geography offer an explanation for the strength of nationalist and irredentist movements in the region. Following the collapse of the Western Roman Empire and the barbarian invasions of the Byzantine Empire in the fifth to seventh centuries, the northern Balkan peninsula was left sparsely-populated and became settled by Slav and Bulgar peoples. The first Slavs in the regions were vassals of the Avars, a Turkic people from Russia and they engaged in raiding the Byzantine empire. The Avars were defeated by the Byzantines and Slavic tribes of Serbs and Croats were invited by Byzantine Emperor Heraclius to settle in the Balkans in A.D. 626. These tribes settled in Dalmatia and present-day Serbia and Croatia. The fall of the Avars also permitted their vassals the Bulgars, a Turkic tribe, to conquer Slavs in the eastern Balkans. The pattern of resettlement and conquest displaced the Thracian population of Dacia and the Illyrian population of the Southern Balkans. These people would eventually become Vlachs (Romanians) and Albanians.

Over the next several centuries, the various Balkan groups engaged in empire building and were themselves the subjects of larger empires. Bulgarians and Serbs expanded their holdings until finally joined into the Ottoman empire. Bulgaria fell to the Ottomans in A.D. 1396 following political and economic destabilization from a succession crisis and Mongol raids of a century before. Serbia itself broke away from the Byzantine Empire in A.D. 1180 and began building its own empire under Stefan Dusan in 1331, eventually encompassing Albania, Epirus, Thessaly, and Bulgaria. But in 1389, the Ottoman Turks defeated the Serbs at Kosovo, fragmenting the Serbian empire into tiny holdings and all of Serbia except Montenegro was swallowed by the Ottomans. Unlike their southern neighbors, the Croats and Dalmatians faced Frankish conquest, but would break away to form the independent

kingdom of Croatia in 925. Croatia would remain independent until a succession crisis permitted Hungarian King Ladislas I to take the throne in 1089, effectively making Croatia a province of Hungary. Hungary would also later fall under to the Ottomans in 1526, bringing all of the Balkan states under Ottoman dominion.

The geographical and cultural boundaries which had existed in the Balkan peninsula and had allowed the development of unique ethnic identities for many of the Balkan peoples were superseded by the Ottoman conquest. During the Ottoman rule, a great deal of internal migration took place as required by the dictates of the Empire and of Commerce. The internal migration served to muddy the national boundaries and provided a strong breeding ground for irredentist politics.

By the 19th Century, many Balkan nations were able to gain their modern political identity with the slow collapse of the Ottoman Empire. This brought the Balkans to the forefront of Western European concern. The strategic location of the Balkans made them important to Russia and Habsburg Austria as frontier territories, to Britain as a communications link with its far Eastern colonies, and to the Ottomans themselves, who on seeing the decline of their empire were unwilling to cede more territory to their rivals. In the midst of the international concerns, Balkan nationalism rose to start the formation of independent states. Serbia staged an uprising in 1804-1813 that would eventually gain it autonomy in 1830, with Montenegro receiving international recognition as an independent state in 1860. The Greeks also engaged in revolution and civil war in the 1820s, gaining independence in 1830. Danubian principalities, which under the Crimean War's Treaty of Paris were to remain separate, elected Alexandru Cuza as sole prince and achieved unification in 1861 to create Romania. Bulgarian revolutionaries used the new state of Romania as a staging area to throw off the Ottomans in 1875. Albania also had an insurrection in 1909-1912, but failed to achieve independence until 1926.

By the start of World War I, the Balkan Peninsula was a region of several small states each seeking to expand their own territories while simultaneously trying to prevent powers outside of the Balkans from exerting their influence. Several major crises occurred in the period before the wars, but the most serious was the 1908 Austrian annexation of Bosnia-Herzegovina from the Turks, an action protested by all the then-independent Balkan states. Austria and Serbia almost went to war over the issue, and could have drawn in the whole of Europe as many of the treaty obligations which contributed to the expansion of World War I were already in place. Two Balkan wars would be fought before the start of the Great War. The first Balkan War (1912) removed the remnants of Turkish rule from Europe in a battle between Turkey on the one side and the nations of Serbia,

Bulgaria, Montenegro, and Greece on the other. Great Power diplomats brokered a peace unsatisfactory to Serbia and Bulgaria, and these two former allies fought each other in the Second Balkan War (1913). Serbia, Greece, and Turkey were eventually able to beat Bulgaria into submission and gained substantial territorial concessions from the defeated nation.

By the end of all of this history, the forces of nationalism and irredentism had permanently marked the face of the Balkans. Nationalism gained the Balkan nations their independence, while irredentism threw them against one another. At this point, the stage was set for the start of the Great War.

Serbia had been angered over the Bosnian annexation and so supported Serbian independence movements within Bosnia-Herzegovina. One of which, the Black Hand under the command of Serbian Colonel Dragutin Dimitrijevic, would finally start the war when their

Bosnian Serb member Gavrilo Princip assassinated the Austrian Archduke Franz Ferdinand and his wife Sophie duchess of Hohenburg on June 28, 1914. The Powderkeg of Europe had exploded into the Great War.

Diplomatic Solutions

Following the Great War, the victorious Allied nations attempted to divide the Balkans in a way that would stabilize the region for the foreseeable future. Many borders were redrawn as territories were taken from central power allies and given to Entente allies. The old Austro-Hungarian empire was shattered. Transylvania was given over to Romania, and Slovenia and Croatia were surrendered to the Serbians and rearranged into Yugoslavia, the South Slav state. Greece received Western Thrace from Bulgaria and Eastern Thrace and Smyrna from Turkey. The Diplomats, in proposing this solution, failed to take into account the strong nationalism of the minorities in the South Balkans, which would lead to the Greco-Turk War, which led to a solid defeat for the expansionist Greeks.

In the rest of the Balkans, nationalism also caused interwar friction. The rise of peasantist, communist, and later fascist organizations along ethnic lines in Yugoslavia, Romania, Bulgaria, and Albania led to the collapse of parliamentary breakdowns in those nations, creating effectively authoritarian states. Rather than stabilizing the region, the rise of authoritarianism led to even more unrest.

Yugoslavia's king Alexander was assassinated in 1934 by IMRO Macedonian revolutionaries, forcing his brother Paul to take power as regent. Greece suffered repeated Coup-d'etats. King Carol II of Romania waged a covert war against Corneliu Codreanu and his Iron Guard fascists. King Boris III of Bulgaria launched a military coup which drove IMRO revolutionaries from his country.

All of these revolutionary and nationalist tensions would be stilled for the next fifty years by events transpiring far beyond the Balkan Peninsula, first by the arrival of World War II, and then by the post-war Communist governments in Albania, Bulgaria, Hungary, Romania, and Yugoslavia during the Cold War.

Repression and Consequences

It was only the repression practiced by the former Soviet Bloc nations of the Balkan Peninsula that was able to mask and control much of the existing ethnic tension and keep the region from exploding into violence from 1945. Harsh object lessons like Hungary in 1956 and Czechoslovakia in 1968 emphasized that the Soviet Union would use military force to quickly and brutally crush dissent in its European Empire, and that the national governments had the military might of Moscow at their summons to help in controlling unrest. The threat of Soviet military intervention bolstered the repression of Eastern Bloc nations and controlled the simmering ethnic friction. But then came Soviet "Perestroika" reforms, and the military threat evaporated as former Eastern Bloc nations began digging themselves out from over four decades of Communism and liberalizing their government structures. Much of the repression that had controlled ethnic tensions also disappeared, and in ethnically diverse regions such as the Balkan nations, the ethnic tensions became dangerously high.

Of course, there were governments which tried to continue their repression despite the lack of Soviet support. In Bulgaria, the slow reform process under President Todor Zhivkov tried to assimilate Bulgarian Turks, resulting in Turkish protests, police crackdowns, and a 300,000 member exodus across the Turkish border. The domestic and international censure Bulgaria

received for bringing about the exodus eventually forced Zhivkov's resignation and the liberalization of Bulgaria. In Romania, leader Nicolae Ceausescu bled his nation white of assets to attempt to repay foreign debts and forced the Romanian people through a bizarre systemization policy of destroying villages and settling the residents in urban apartment complexes. Ceausescu paraded himself as absolute leader of his nation, but when demonstrators attempting to block the arrest of Hungarian priest Laszlo Tokes were shot and killed by Securitate, Ceausescu was removed from power in a bloody week-long revolt by protestors no longer facing Soviet military intervention.

Another nation, however, found that the ethnic tensions which had been controlled by the central socialist government were strong enough to tear the nation apart. Yugoslavia in 1991 found that several of its component republics wanted independence and for a while, the central government fought to keep the nation together. Eventually, the central government itself was replaced by a Serbian command, which used the Army and irregular forces to realize Serbian territorial claims. Yugoslavia which was born out of the First World War as an amalgam of several smaller republics had disintegrated some seventy years later in a fit of irredentist bloodletting.

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PHOENIX COMMAND

Yugoslavian Military Forces

YUGOSLAVIAN MILITARY AND PARAMILITARY FORCES

What's left of Yugoslavia...

-Popular term among western media to describe Yugoslavian disintegration.

During the war of Yugoslavian dissolution, there were several military and paramilitary forces operating within the Yugoslavian republics. These ranged from the remnants of the Federal Yugo-slavian Armed Forces to National Guard forces of the breakaway republics. As the war progressed, military forces fragmented along first ethnic, and then political lines. The war itself devolved into numerous small-unit actions and artillery bombardments. Each of the major combatants is examined below.

FEDERAL YUGOSLAVIAN AND SERBIAN FORCES

Federal Yugoslavian and Serbian Forces engaged in joint operations in 1991 and 1992 in an attempt to prevent the dissolution of Yugoslavia and to attempt to place Yugoslavia under Serbian dominion. The interoperability of these forces was based both upon the Yugoslavian military doctrine of Total National Defence and the ethnic similarity of their command. Since 1953, the officer corps and command structures of the Yugoslavian National Army had come to be dominated by Serbians and Montenegrins, while the Serbian Forces were an ethnically-organized militia. The military structures and doctrines of Yugoslavian and Serbian forces are examined below.

Army of the Republic of Yugoslavia

The Yugoslavian National Army (JNA), also known as the Yugoslavian Peoples' Army (YPA), had a unique operational doctrine for a conventional military force. Yugoslavia based its defence doctrine upon the concept of Total National Defence (TND), which drew upon Yugoslavia's rich partisan history during World War II. TND gave the JNA the role of defending borders against aggressors with the intention of delaying an invader long enough for Territorial Defence Forces (TDF) to enter the field and start wearing the invader down with partisan tactics. The entire Yugoslavian population under TND was to be engaged in armed resistance, armaments production, and civil defence. TND was believed by the Yugoslavian planners to be the best method by which a smaller nation could properly defend itself against a much stronger invader.

Ironically, the TND concept proved to be a catalyst in tearing the Yugoslavian nation apart in the bloody separatist battles of 1991 and 1992. The TDF were organized along social/political lines with each Republic, province, and commune possessing its own TDF elements. Unlike the JNA, which integrated all nationalities below the officer level, the disparate TDF elements were usually ethnically homogenous, and would form the base of nationalist resistance to the

Yugoslavian Federation.

Each TDF force was split into manouverable and spatial elements. Under TND, manouverable elements were to act as mobile partisan squads, while the smaller spatial elements protected key locations and defended the population. The battalion-sized manouverable elements were under the control of republic staffs and these were the units which formed the armies of the breakaway republics.

The JNA itself was organized under six districts, based at Belgrade, Skopje, Split, Zagreb, Sarajevo, and Ljubljana. Before the war, the JNA fielded a large force, with some 213,500 people under arms and 575,000 reservists. The TDF fielded as many as one million personnel. The JNA organization is given on the table below.

Table of Yugoslavian National Army Composition

12	Infantry Divisions
3	Mechanized Infantry Brigades
3	Motorized Infantry Brigades
3	Light Brigades
3	Mountain Brigades
8	Independent Tank Brigades
6	Artillery Regiments
6	Antitank Regiments
11	Antiaircraft Artillery Regiments
4	Antiaircraft Missile Regiments

As the war of Yugoslavian dissolution progressed, the JNA found itself being weakened, not only through the usual casualties and desertions accompanying an inter-ethnic war, but also because JNA conscripts in Croatia, Slovenia, Macedonia, and Bosnia-Herzegovina refused to enter the ranks. The JNA slowly became a Serb/Montenegrin organization, and even these ethnic groups were wont to desert when they grew weary of the fighting.

Weapons and Equipment: JNA and TDF equipment consisted of material ranging in vintage from World War II to the present. Main Battle Tanks (MBTs) were primarily the older Soviet T-54/T-55 series, but the Yugoslavian State Factories were also producing the newer M-84 MBT, which was a licensed copy of the Soviet T-72M MBT (also known as the T-74). Other tanks in active service were the American M-47 Patton, and the Soviet PT-76 Light Amphibious Tank. As the war went on, World War II era T-34/85 Soviet tanks were pressed into service. Most tanks were organized into tank battalions attached to infantry divisions or regiments. Eight independent tank regiments consisting of one heavy tank battalion using M-84s and two regular tank battalions using T-55s were also fielded. Each tank battalion was organized along Soviet lines, with a headquarters tank over three companies of ten tanks each.

Armored personnel carriers were mainly locally produced BVP M80A and M60 APCs and BOV-M armored cars. Older Soviet equipment like BTR-60/50/40s as well as American M-3A1 halftracks and M-8 Greyhound armored cars were also in service. Soviet BRDM-2 vehicles were used for reconnaissance.

Helicopter support provided by the Yugoslavian Air Force consisted of Aerospatiale SA-341 Gazelles produced under license in Yugoslavia as the "Partizan" and Mil Mi-8 Hip Transport helicopters. The air force also provided close air support over the combat zones with the

Yugoslav-produced Galeb/Jastreb, Kraguj, and Soko IAR-93B Orao 2 and Soviet-made MiG-21F and MiG-21U jets.

However, the Yugoslavian war was not a mobile war. Infantry and artillery ruled the battlefield, with tanks being pressed into service as self-propelled artillery. Other artillery consisted of D-30 and 2S1 (SAU-122) 122mm howitzers, M-101 105mm, and M65 and M-114 155mm Howitzers. There was a strong reliance on mortars, primarily the Soviet M-38 82mm and M-43 120mm types.

Yugoslavia also produced its own copy of the Brandt MO-120-AM50 120mm Mortar. Direct fire antitank guns included the 75mm M-1943, the 90mm M63B2, and the 100mm T-12.

JNA infantry weapons were primarily Warsaw Pact and locally-produced weapons, including AK-47s (called M-70 Zastavars) and AMD-65s assault rifles as well as the Soviet SVD sniper rifle and Tokarev TT33 (M-65) 9mm pistol. The JNA also fielded RPK (M-65B) light machineguns and relied upon the M53 SARAC (local copy of German MG-42 World War II-era MG), the German MG-3, and the Soviet PKM for heavier machineguns. Explosive infantry weapons included the local M-79 Osseer 90mm rocket launcher and the M-71 LRL 128mm indirect fire rocket launcher. Yugoslavia also relied quite heavily on older recoilless artillery and anti-tank launchers in the past, but these have not had much of a profile in media reports on the fighting, leading to the assumption that many had been retired and replaced by more modern rocket and missile launchers. Recoilless launchers included the 82mm M-60PB, the 57mm M-18, and the 105mm M-65. Anti-tank missiles included the AT-1 Snapper and the AT-2/AT-3 Sagger.

Rechristening: With the formation of the Federal Yugoslavian Republic (FRY) on April 27, 1992, the JNA was renamed the Army of the Republic of Yugoslavia, and was supposed to operate only on FRY territory, theoretically preventing any Army operations in Croatia, Slovenia, Bosnia-Herzegovina, or Macedonia.

Serbian TDF

The Serbian TDF was the official military force of the Serbian republic and operated very closely with the JNA. The Serbian TDF was a militia/partisan structure under the TND concept which dominated Yugoslavian military structures for several decades and the TDF's role was to assist in the defence of Serbia against foreign invasion. However, when the Yugoslav nation began its devolution, TDF units quickly became official armies for the breakaway republics and at this time, the Serbian government obtained control of the elements comprising the Serbian TDF.

Serbian TDF weapons were identical to JNA arms, although the TDF, being oriented towards small-unit operations, would have focused on infantry weapons. Because of the closeness of the Serbian TDF and the JNA, Serbian TDF units were much better equipped and trained than other TDFs.

Serbian Irregulars

The term irregular was applied very liberally to many non-JNA units operating in Yugoslavia and often encompassed government-controlled Territorial Defence Forces. In proper use, the term "irregular" should only apply to independent paramilitary forces.

The most prominent group of irregulars in Yugoslavia was the Cetnik movement. They were a wing of Vojislav Seselj's Serbian Radical Party and operated in the partisan or marauder style, much like their World War II namesakes. The original Cetniks were nationalist Serbian partisans led by General Drazha Mihailovic fighting against Nazi German occupation. The original Cetniks were eradicated by Tito's partisans following World War II.

Although Croatians used "Cetnik" to refer to both all Serbian irregulars and as a synonym for fascists or hardcore Marxists, the Cetniks were only one group of Serbian irregulars operating in Yugoslavia. Others prominent irregulars included the White Eagles under the command of Dragoslav Bokan and the Serbian Tigers of Zeljko (Arkan) Raznatovic.

Finally, there were irregulars which claimed to be the armies defending independent Serbian republics liberated from Bosnian or Croatian territory. These included the Army of the Serbian Republic of Bosnia-Herzegovina under the command of Radovan Karadzic and General Ratko Mladic and the Army of the Serbian Republic of Krajina. All of these irregulars, because of the close Serbian ties to the JNA, operated with arms and even armor and artillery equal to those of the JNA and relied on the JNA for air support. They also fielded civilian or irregular weapons where military weapons were unavailable.

Serbian Special Force

The Serbian military announced the formation of a Special Force of 20,000 "well-trained" troops on November 7, 1991. The exact role of this force has not been reported to date, although the name suggests elite force style missions, ranging from intense partisan warfare to internal security operations. A more likely role would be as a politically reliable and militarily effective guards unit, receiving the best equipment and personnel.

SLOVENIAN FORCES

The Republic of Slovenia was the first Republic to break away from Yugoslavia, and also the first to suffer attack by JNA and Serbian troops seeking to preserve Yugoslavian "jedenstvo" (unity). It was also the first republic to cement its independence with strong resistance and an effective and lasting ceasefire.

Slovenian TDF

The Slovenian Territorial Defence Force was organized along the same lines as other Yugoslavian TDFs, but in combat, the Slovenian TDF responded with well-trained and well-organized troops. In this sense, the Slovenian TDF was not the partisan militia that TND envisioned, but was the full-fledged republican army that Serbia feared. JNA troops in Slovenia found their ground assault facing heavy resistance, and then found their positions besieged by the Slovenian TDF.

Slovenian TDF units equipped themselves from Slovenian-based JNA and TDF armories and from weapons captured from JNA forces, so they used the same weapons and vehicles as the JNA, as well as any weapons which they were able to import from other nations.

The current Slovenian Army is now making use of JNA equipment handed over to them on the JNA withdrawal of October 25, 1992.

Slovenian and Croatian Special Forces

Given that the TDF structure did not allow for the formation of Western-style elite units, the sparse media references to Slovenian and Croatian Special Forces are a mystery. Of the two nations, Slovenia had a more professional TDF organization, so it is possible that elite units were organized from the best trained of Slovenian TDF troops to act as "palace guards" and partisan raiders, much like the Serbian Special Force (see above).

Croatian Special Forces, on the other hand, were likely Special Forces in name only, trading on the mystique surrounding elite units. Croatian "Zebras", as they called themselves, were probably little more than a splinter of Croat irregulars or ZNG units. The organization of the Croatian ZNG and the splintering of Croat resistance along political lines precluded the establishment and training of traditional "elite" units.

CROATIAN FORCES

The resistance units which saw the most of the fighting in the war of Yugoslavian dissolution were the various Croatian militias. The fighting within Croatia lasted for several months and even spilled over into Serbia. Croatian units were also active in Bosnia-Herzegovina following the republic's move to independence and were instrumental in carving the state of Herzeg-Bosna out of the old borders of Bosnia-Herzegovina.

Croatian TDF/ZNG

On April 11, 1991 the Croatian Territorial Defence Force became the cadre for the Croatian National Guard Corps or ZNG. The ZNG later filled the role of the republic's army and was the main force of resistance to JNA and Serbian invasion. The ZNG came under the command of the Croatian "Ministartvo Obrane" (Defence Ministry).

During the course of the war, the ZNG proved capable of fighting the JNA and Serbian forces to a standstill, but nothing more. The ZNG was primarily an infantry-based organization which used captured JNA weapons and artillery pieces where available. Its infantry weapons were likewise primarily those of the JNA and civilian and irregular units (see below), although Croatian leaders, after scouring world arms markets, were able to procure a large amount of Ultimax 100 Squad Assault Weapons manufactured by Chartered Industries of Singapore. Other infantry weapons, primarily Soviet-designed, were imported from Hungary, Romania, and other former Eastern Bloc nations.

Armored Units: Although very rare, Croatian ZNG armor did operate in small units distributed throughout the Croatian theatre. Any armored vehicles the Croatians possessed consisted of captured JNA equipment or civilian vehicles. Tanks used by the Croatians included sparse collections of T-54/T-55 MBTs, M-84 MBTs, and whole units of T-34/85 World War II tanks. Armored Personnel Carriers included BVP M80As, M-60s, BOVs, BTR-60s, and BTR-40s, as well as civilian trucks and farm tractors which had steel plate welded on as expedient armor.

Croatian HOS and Irregulars

The political splintering of the Croatian military forces meant that there were several unofficial Croatian paramilitary forces operating as irregulars through the course of the war. The most prominent of the irregular units was the HOS, which was the military wing of the "Hrvatska Stranka Prava" (HSP)--the Croatian Party of Rights or Croatian Party of Justice, depending on

the translation. The HSP/HOS were an extreme right-wing organization which organized and fought independently of the actions of the Croatian government and even engaged in attacks in the Republic of Serbia. Naturally, this caused a great deal of friction between the HSP/HOS and the ZNG, and Dobroslav Paraga, the HSP leader, was arrested in November 1991 on charges of trying to overthrow the Croatian government.

The HSP/HOS appeared to be a resurrection of the Ustase radical movement of World War II. The Ustase were a fascist terrorist group installed as the government of independent Croatia following Hitler's invasion of April 6, 1941. The Ustase militia terrorized the civilian population, but their most terrible crimes included the mass extermination of Orthodox Serbians and Croatian Jews with such brutality that even German and Italian officials were horrified.

HOS used weaponry similar to the ZNG, although frictions between the two organizations have probably meant that the HOS had been forced to limit itself to civilian and irregular weaponry or to cultivate other sources for its arms. HOS was primarily an infantry organization, but did use captured armored vehicles in a defensive role. HOS units engaged in both guerrilla infantry attacks on Serbian and JNA positions and villages, and also defended several village strongholds in Croatia.Üd[1]ÜŒ Croatian Specijalci and Milicija.

Many of the early clashes preceding Croatian independence occurred between Croatian "Milicija" (police) forces and armed Serbian insurgents operating in the Serbian-dominated regions of Croatia. In response to Serbian insurrection, Croatian extremists, including those in the ruling Croatian Democratic Union (HDZ) armed themselves and the Croatian government formed a special paramilitary police reserve known as the "Specijalici", an internal security force. Although the "Specijalici" were demobilized in January 1991 to forestall a crackdown by the JNA, they were not disbanded and appeared two months later at Pakrac, acting as riot police in concert with the "Milicija". The Croatian police forces there cracked down heavily on Serbian separatists until replaced and forced out of the fighting by JNA forces.

Croatian International Brigade

The Croatian International Brigade was an irregular Croatian infantry unit which was composed of expatriate Croatians and non-Croatian mercenaries acting as cadre for local Croatian units. In practice, the Zagreb International Brigade acted as a receiving area for "imported" troops before assigning them to disparate Croatian ZNG and "Samb" (independent) units. The International Brigade also referred to all "imported" troops, regardless of their actual unit assignment. The Internationals were of varying quality, ranging from untrained teenagers to professional soldiers. In a sense, they were much like the mercenaries and adventurers who fought the Fascists in the Spanish Civil War.

Weapons consisted of a varying mix of civilian weapons and Croatian military weapons.

BOSNIAN FORCES

To understand the warfare in Bosnia-Herzegovina, one must be aware that there were three distinct ethnically-based forces fighting for the same land. Bosnian Muslims (Bosniaks) made up just over half of the population of Bosnia-Herzegovina, with the balance composed of Bosnian Serbs and Bosnian Croats in roughly equal numbers. The forces fighting in Bosnia are summarized below.

Serbian forces operating in Bosnia-Herzegovina included the JNA, who contributed 55,000 Bosnian-Serb troops as well as artillery and armor. The JNA forces were subordinated to the 100,000 strong Bosnian Serb Army commanded by Karadzic and Mladic, leaders of the Serbian Republic of Bosnia-Herzegovina. Serbian irregulars also joined the fighting and included the Cetniks, Krajinan Serb volunteers, White Eagles, and Serbian Tigers. Although the irregulars were not officially under the command of the Bosnian Serb Army, they did receive aid and arms from Serbia.

Croatian forces in Bosnia-Herzegovina were mainly Bosnian Croats and included the Croatian Defence Council (HVO) and the Croatian Democratic Union. HOS units were also present, and although the Croatian government denied the reports, Croatian ZNG troops were said to be present in Herzeg-Bosna and near Sarajevo.

Bosnian government forces included the 120,000-strong Bosnian TDF which is a poorly-trained and poorly-equipped militia organization, and the 70,000 strong multiethnic Bosnian Police.

Independent units included the Muslim Patriotic League and the Bosnian Green Berets, which were the military wing of the ethnically-Muslim Party of Democratic Action (SDA).

MACEDONIAN FORCES

Macedonian Armed Forces consist of the old Macedonian TDF and have been subordinate to the Macedonian government since January 1992. They have used JNA equipment turned over to them when the JNA pulled out on March 26, 1992.

Macedonia was not involved in the fighting surrounding the war of Yugoslavian dissolution and its independence came peacefully. However, the independence of Macedonia has angered Greece, and worried Bulgaria. Also, Macedonian Albanians have started agitating for independence. So, given these factors the peacefully-born Macedonian Army will be tasked with border defence and internal security responsibilities for the foreseeable future.

IRREGULAR AND CIVILIAN WEAPONS

Combatants in Yugoslavia, and especially Croatia and Bosnia-Herzegovina, used a mix of weapons from a variety of sources. Although the primary weapons were those captured from JNA forces and arsenals, several others were imported by Croatia prior to an European Community arms embargo, while others were older weapons relegated to TDF arsenals.

The most common irregulars' weapon was the Soviet-designed AK-47, and these were brought in from Hungary, Romania, and Czechoslovakia. German made G-3s and Argentinian produced FN-FAL Para Modelo IIIs were also present in quantity, and photographs showed combatants with Italian SPAS-12 shotguns, Czechoslovak-produced MG-76 copies of the American AMD-180 submachineguns, and Soviet PPSH-43 submachineguns. Irregulars in Croatia also made extensive use of the Singaporean Ultimax 100 Squad Assault Weapon.

Civilian Weapons were pressed into military service, ranging from the new Croatian-produced HS-91 9mm submachinegun, to the World War II era Mauser Kar98K rifles. American-made hunting rifles in calibers ranging from .22 LR to Remington 7mm Magnum and beyond were used extensively when military weapons were unavailable.

On a much smaller scale, expedient firearms improvised out of steel pipe saw use in the most desperate areas. These included homemade pistols, rifles, and shotguns, including shotgun revolvers, and were as dangerous to the firer as to the target. Improvised firearms have never been particularly effective when compared with modern weapons, but their danger on the battlefield should never be underestimated.

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PHOENIX COMMAND

Troubles in Yugoslavia

Troubles in Yugoslavia

**What is Man, that
he can give so
much for war, and
so little for
peace?**

-John Masters

The war of Yugoslavian dissolution was fought in three consti-tuent republics during 1991 and 1992. An overview of the fighting in each region is given in this section.

Much of the trouble started brewing in 1990. Like other Communist nations in Eastern Europe, Yugoslavia underwent significant economic turmoil and hyperinflation as it tried to rid itself of a socialist economy. Nationalist factions within the ruling League of Communists of Yugoslavia (LCY) walked out on a January 1990 congress and so doing effectively destroyed the party. Yugoslavia's communists reorganized themselves along republican structures, giving new prominence to the local communist organizations, but without a national party leadership, there was little to check rising nationalism in all the major Yugoslavian republics and when this nationalism combined with Yugoslavians' growing distaste for the Communists led to non-communist governments being elected in four of the six republics at the next free elections.

In Slovenia, the reformed communist Party for Democratic Renewal was defeated by the DEMOS coalition of anti-communist political parties. In Croatia, the Croatian Democratic Union (HDZ) under Franjo Tjudman gained the majority in the republic's Parliament.

Bosnia-Hercegovina's communists were defeated by nationalist groups representing Muslims, Serbs, and Croats with the Muslim Party of Democratic Action gaining power. Macedonian nationalists also gained power in that republic's elections.

Only in Serbia and Montenegro did the former Communists manage to hold on to power with Slobodan Milosevic's Socialist Party of Serbia (SPS) gaining the majority of seats in Serbia. These elections were indicative of how the nation would later disintegrate from the newly re-ignited nationalist and irredentist unrest.

Following the election of the Croatian Democratic Union, Serbs within Croatia's borders staged an August 19 referendum calling for Croatian Serb autonomy. When the Croatian government declared the referendum illegal, Serbs in the Krajina region raided government armories and blocked roads and railways leading to the region. Croatian police efforts to put down the uprising met with interference from JNA and Serbian authorities. This in turn sparked HDZ extremists to arm themselves to counter the Serbian insurgency. The situation was made worse when both Croatia and Slovenia assumed command of their regional TDFs and when Slovenia staged a successful separatist referendum.

1991 started with Yugoslavia in military and constitutional crisis. A January 9 Federal Presidential order for all unauthorized forces to disarm was widely ignored. Only emergency diplomatic maneuvers averted clashes between the JNA and Croatian TDF and irregular units over the enforcement of the order. A January 10 meeting among the six republics on reorganizing the Yugoslav federation was a failure as competing visions of the nation could not be reconciled. In February, both Slovenia and Croatia enacted secession legislation and signed a mutual defence pact against JNA intervention.

Ethnic tensions continued to rise in the region as a result of three events. In February, the Serbs in Krajina declared their secession from Croatia. Then in March, 100,000 anti-SPS protestors in Belgrade organized by the Serbian Renaissance Party's Vuk Draskovic were met with riot police and JNA troops using tanks and APCs. The violent Belgrade clashes caused a great deal of concern over the combative nature of the Milosevic government and the potential use of the JNA to settle civil disorder. Also on March 1, armed Serbs police in Pakrac in Krajina attempted to disarm their Croatian colleagues and started a riot as thousands of ethnic Serbs in the town came out to show their support. 200

Croatian "specijalci" riot police were sent in later in the day. The next day, the JNA were deployed in Pakrac to restore order and force the Croatian special police from the area.

Fighting within Krajina would continue and grow in intensity in May. Gun battles occurred in Plitvice National Park, bombs exploded in Knin, and the JNA occupied Kijevo. May encompassed several JNA crackdowns on Croat and Serb fighting in Krajina with armored units occupying many of the villages around Knin and paratroopers relieving the Serb-besieged Kijevo. Adding to the tensions in May were the Krajina and Croatian secessionist referendums. Krajinsans voted 90% to remain part of Yugoslavia, while 92.2% of Croatians voted for secession. It was on this stage of ethnic tension that Croatia and Slovenia jointly declared their independence and so started the war of Yugoslavian dissolution.

Slovenia

The formal declaration of Slovenian independence came on June 25, 1991 and brought forth an immediate call for military intervention from the Federal parliament. Two days later, almost 2,000 JNA troops were mobilized to seize border crossings on the Slovenian borders of Austria, Hungary, and Italy. After twelve hours of pushing through roadblocks and heavily armed resistance, the JNA reached and seized the crossings. The Slovenian airports were closed down and the Ljubljana airport came under JNA airstrikes. June 28th saw a brief halt to JNA activities and the implementation of a fragile European Community-brokered cease-fire, which quickly fell apart and sporadic fighting continued throughout Slovenia. The Slovenian TDF proved its effectiveness in a well-organized campaign against the JNA in which it was able to stage effective blockades of JNA troops before a second ceasefire was implemented. On July 3, the JNA began returning to its Slovenian barracks allowing an uneasy peace to settle during the summer.

Slovenia had participated in EC-sponsored talks with Croatia and the Federal Government on the island of Brioni on July 7. This called for a ceasefire and a three-month moratorium on the implementation of Slovenian and Croatian independence declarations. Three months later, on October 7, Slovenia once again declared its independence and dissociated itself from Yugoslavia. This was accepted by the Yugoslav government, who agreed to withdraw JNA troops and hand over military equipment by October 25th. Slovenia had attained its sovereignty.

Croatia

Like Slovenia, Croatia declared its independence from Yugoslavia on June 25th, 1991. Unlike Slovenia, however, the JNA fought a campaign of territorial conquest with much of the fighting revolving around protecting the Serb-dominated regions of Krajina and Slavonia.

Eastern Croatia and Krajina came under heavy conflict with JNA, Serbian irregulars, and Croatian ZNG all fighting over the same territory, despite the Brioni and the later Ohrid peace talks. The overmatched Croatian ZNG was unable to prevent a steady advance of Serb/JNA forces across Eastern Croatia and lost several villages to armored and infantry thrusts by August. The fighting also produced a significant refugee problem within Yugoslavia, with nearly 90,000 people being displaced internally and several thousand fleeing to Hungary.

By September, international pressure forced further EC-brokered ceasefire talks, but the ceasefires were unable to hold for more than a few hours. Croatians were able to regain some control over the fighting by blockading of 15 army bases, which quickly surrendered on September 15 with their equipment. That same day, the JNA bombed and shelled Ploce where Croatian forces had pillaged a naval base for weapons. On September 19, a JNA armored column also moved into Slavonia near Osijek to engage Croatian defenders in the heaviest fighting of the war and on September 22, they had gained control of Petrijna and several other towns. At this point, the JNA was suffering heavily from desertions and agreed to a ceasefire which lasted to month's end. The ceasefire gave Croatian forces the opportunity to improve their positions by moving armored units and heavy artillery into new combat positions. Most of the Croatian equipment had been captured from the surrendered JNA bases.

When the fighting began again on October 1, the Croatians were in a much better position to stall the disintegrating JNA and Serbian forces. Croatian forces fought hard to capture JNA garrisons within Croatia. In response, the Yugoslav navy blockaded and attacked the Croatian ports of Dubrovnik, Ploce, Pula, Rujeka, Sebenik, Split, and Zadar, which created severe shortages of water and electricity in those cities. A few days later, on October 8, Croatia declared its independence.

Fighting would continue in Croatia until the beginning of the new year. HOS staged attacks into Serbia (November 5,6), Vukovar fell to Serbian forces (November 17), and the JNA launched renewed offensives against Dubrovnik, Osijek, Karlovac, and Sisak (December 27) while Croatia managed to recapture parts of western Slavonia (December 20). Then, on January 3, a lasting ceasefire ended the major fighting in Croatia as the United Nations granted recognition to Slovenia and Croatia. Although the ceasefire would be sporadically and continually violated in the coming months, the war in Croatia was over. Peace was ensured by the deployment in March of a 14,000-member UN Protection Force (UNPROFOR) to the regions of Slavonia and Krajina.

Bosnia-Herzegovina

With its multiethnic population, it was only a matter of time before Bosnia-Herzegovina became the scene of bitter ethnic fighting in the war of Yugoslavian dissolution. The people of Bosnia consist primarily of Muslims but with Serbs and Croats both strongly represented in the balance. But ethnic fighting is a deceptive term, implying that there is no greater purpose to the war than killing one's neighbors. The Bosnian war was not about ethnic hatreds and the term was used only as post-facto justification. Instead, the war occurred because of a mix of irredentism and expansionism.

By January 1992, the Serbian leadership knew that Yugoslavia no longer existed except as "Greater Serbia" and their main concern then became the enlarging of Serbian lands so that they would have the biggest territory when the ashes settled. Bosnia, with its large Serbian population and borders to Krajina would have appeared the best region for a territorial war.

The Bosnian government had made legislative changes to prepare for independence in October 1991 with an independence plebiscite held on November 9-12. The people of the republic voted overwhelmingly for independence, although it was claimed that the Serb-dominated Krajina (sic) had voted 90% in favor of remaining with Yugoslavia. This split was enough to frighten the European Community from granting Bosnia-Herzegovina international recognition in January 1992, in the belief that doing so would lead to ethnic fighting. This did not prevent the Serbs from declaring the Autonomous Republic of the Serbian People of Bosnia-Herzegovina on January 9 and removing themselves from independence debates in the Bosnian government.

Tensions would increase between the three ethnic groups in Bosnia. On February 24, a bomb injured 12 people in an Odzak Croatian Cultural Center. Three days later, another bomb in Banja Luka damaged the central mosque. Tensions would rise even higher following a February 29-March 1 referendum on independence when 99.4% of the voters preferred independence. Bosnian Serbs boycotted the vote and Bosnian Serb leader Radovan Karadzic said that an independent Bosnia was unacceptable and there were several clashes between Serbs and Muslims in Sarajevo and Bosanski Brod. This did not stop Bosnian President Alija Izetbegovic from proclaiming the republic's independence on March 3.

Although diplomacy would defuse the tensions for the next few weeks, by month's end, fighting had broken out between Bosnian Serbs and Croats in Bosanski Brod and Neum. On March 27, the Serbian Republic of Bosnia-Herzegovina and its loyalty to Yugoslavia were proclaimed.

Amid intensifying fighting in April, Bosnia-Herzegovina received international recognition. The fighting occurred all across the new republic, with Serbs attempting to capture and hold territory where possible. The goal of the Serbs at this point was to open an overland corridor from Serbia to Bosanska Krajina and the Serbian Republic of Krajina in Croatia and in this they had succeeded by month's end. They captured Zvornik, Srebrenica, and Bratunac and were poised to besiege and shell Sarajevo by April 21.

The fighting in Bosnia then settled into a pattern of intense fighting broken by short-lived ceasefires as the war became a state of siege against the Bosniak and Croat citizens of Bosnia-Herzegovina. In May, the JNA forces, which had been supporting the Bosnian Serbs, had all non-Bosnian members recalled to Yugoslavia. This left 55,000 Bosnian Serb JNA members still in Bosnia and they and their equipment were assigned to the Bosnian Serb Army.

Then in June, Federal Croatian forces entered Bosnia in force to assist Bosnian Croats in expanding Croat-held territories around Bosanski Brod, Mostar, and Travnik, thus creating the Croatian Community of Herzeg-Bosna. This came as a shock to the Bosnian Muslim forces who had previously considered the Croatians as allies. Instead, the Croatians seemed to be cooperating with Serbs in carving up Bosnia. The creation of Herzeg-Bosna was welcomed by Bosnian Serbs as legitimizing their territorial conquests and the creation of ethnic cantons. Muslims treated Herzeg-Bosna as illegal, but did not have the military or political assets to dispute it. Muslim control of Bosnia had by this point shrunk to holding the cities of Tuzla, Zenica, Sarajevo, Visegrad, and Gorazde as well as a small pocket north of

Bihac. The rest of the nation was split between Serbs and Croats.

Fighting would continue interminably over the summer, although the establishment of a UNPROFOR base at the Sarajevo airport by Canadian and French peacekeepers to permit entry of relief flights was one moment of brightness. The UNPROFOR peacekeepers would be replaced a month later by French, Ukrainian, and Egyptian forces who would continue the dispersal of relief supplies to Bosnian citizens over the coming months.

Despite the presence of UNPROFOR in Sarajevo, a lasting peace is not readily foreseeable. Peace, when it comes, will have to be a diplomatic, rather than military, solution because none of the belligerents in Bosnia-Herzegovina have the military resources to create their own peace and all are on precarious political and economic footings. However, a diplomatic peace effort is also begarred by the results of the war. Both Bosnian Serbs and Croats have peace plans calling for ethnic cantonments based on the territories they have captured. Bosnian Muslims, however, who make up the majority of the population would be dispossessed under such a plan, which would legitimize Serb and Croat land grabs and the creation of as many as 1 Million Bosniak refugees. To bolster its case for cantonments, the Bosnian Serbs have been engaging in "ethnic cleansing," which involves forcibly evicting non-Serb residents from Serb-held regions, creating even more refugees.

Many of the refugees have fled to Hungary, Croatia, and Kosovo. Others remain in Bosnia, unable to leave, and ill prepared for the coming winter.

In the long term, the continued fighting in Bosnia must end. No war can continue forever. The only questions are when, and how many will have to die first. This war simply becomes another justification for Blood Vengeance in the next round of fighting.

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PHOENIX COMMAND

The Romanian Revolution

The Romanian Revolution

Let them hate, so
long as they fear.

-Caligula

One of the largest upheavals in the Balkan region was the violent overthrow of Romania's autocratic Ceausescu regime by the democratic National Salvation Front. It marked the brutal end of the Ceausescu regime's efforts to halt the wave of reforms breaking across Eastern Europe and the end of Romania's nightmare of paranoia and oppression.

Nicolae Ceausescu, since he assumed "de facto" power in 1965, treated Romania and its citizens as resources to be used in the furtherance of his dynasty. He placed thirty of his relatives in positions of power within Romania and built a personal fortune estimated in the millions of dollars. Along with Elena, his wife, he instituted several repressive policies which dehumanized the Romanian citizenry. Ceausescu's pet projects included the repayment of a \$10.2 billion foreign debt by maximizing exports to the point of creating substantial domestic shortages of food, energy, basic necessities as well as a bizarre Systemization program, which involved forcibly relocating rural residents into apartment blocks. Elena herself instituted several repressive programs to increase Romania's birthrate, the result of which was a large number of children surrendered for adoption and an alarmingly high incidence of HIV/AIDS among children who received infected blood at birth. In order to retain power, the Ceausescus relied on the fanatical loyalty of their Securitate internal police to suppress dissent, leading to rumors of government massacres in the thousands.

It was, however, the Securitate's repression which triggered the revolution. On December 15, 1989, Protestant pastor Laszlo Tokes who had criticized the Ceausescu regime for mistreatment of his fellow ethnic Hungarians was ordered deported. The following day, a crowd gathered near Tokes' home in Timisoara to prevent the implementation of the deportation order. The Securitate Special Assignment Brigade allowed the protests to continue for a day before moving in with tanks and helicopter gunships and opening fire on the crowds. Several hundred casualties were reported in this first clash. Within days, demonstrations had spread to other towns and cities.

When Nicolae Ceausescu returned from a state visit to Iran on December 20, his immediate response was to declare a state of emergency in Timisoara. The following day, he attempted to give a speech to a government-sponsored rally in Bucharest promising wage increases but was shocked when the segments of the crowd turned on him and staged counter demonstrations. The Securitate were active later in the day, firing on demonstrators and using armored vehicles to disperse them. Similar armed clashes occurred in Arad, Brasov, Cluj, Sibiu, and Timisoara.

On December 22, it all fell apart. Ceausescu declared a national state of emergency and

ordered the army to use force to disperse the demonstrators. Defence minister Colonel-General Vasile Milea refused, and was killed by one of Ceausescu's bodyguards. After a last attempt to address the hostile crowd outside the Communist Party Central Committee building, Ceausescu and his wife fled the building by helicopter, leaving it to the demonstrators.

The revolutionaries at this time had organized themselves into the National Salvation Front and had received the backing of the Army. The Securitate, however, remained loyal to Ceausescu and counterattacked in a campaign of terrorism intended to frighten the Romanian people into submission. Heavy fighting took place in Bucharest, Sibiu, and Timisoara around hospitals, media buildings, and key government facilities.

By December 25 the revolution was all over. The Securitate threat had been largely neutralized by Army and National Salvation Front militia, although small pockets of resistance remained. The NSF was in control of the country. Finally, Nicolae and Elena Ceausescu, who had been captured late on December 22, were tried secretly on Christmas morning and then executed before a firing squad.

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PHOENIX COMMAND

Balkans and Neighbors

Balkans and Neighbors

If there is ever another war in Europe, it will come out of some damned silly thing in the Balkans.

-Prince Otto von
Bismarck (1815-1898)

The Balkans have had their borders changed so many times over the centuries that many of the present and emerging borders will continue to divide ethnic groups even as migration and warfare scatter many other ethnic groups throughout the region. The Balkans are spiderwebs of conflicting ethnic groups and historic claims.

Untangling these to the satisfaction of all is a pleasant fantasy that will never be reality. The best that can be expected is a shaky peace that will ultimately be made permanent when the ethnic ties and claims are forgotten. This section briefly explores some of the outstanding territorial claims and counterclaims of the Balkan nations and their neighbors. Although few of these claims are actual government policies, all represent the aspirations of nationalists within the region. Given the strengths of nationalist movements in the Balkans, these claims will be potential sources for future conflicts in the region.

Albania: Albania has shakily started on the road to reform after a half-century of Communist rule. In 1990, violent political demonstrations in Tirane permitted President Ramiz Alia to remove several hardline communists from power and start on democratic reforms. This was not enough to prevent 57,000 Albanian "boat people" from leaving the country for Italy from 1990 to August 1991. Italy has since stepped up aid to Albania, but this was insufficient to permit the Albanian government to prevent tragic food riots in December 1991. The Albanian relationship with Yugoslavia/Serbia is difficult as the latter is Albania's major trading partner and Albania does not want to criticize Yugoslavia too harshly. However, Albanians are greatly angered by the rough treatment of ethnic Albanians living in Kosovo and Macedonia by the Serbian-dominated Yugoslav government. Albanian minorities in Macedonia/Illiridia and Kosovo have long been agitating for union with "Greater Albania" and have received political support from Albania.

Austria: Austria is presently suffering from a slow resurgence of neo-Nazi sentiment spearheaded by the Freedom Party (FPÖ), which made gains in the November 1991 regional elections on a platform of anti-immigration. The Austrians have also been flooded with Croatian refugees fleeing the fighting in their home state. Austrian territorial ambitions go back to the Hapsburgs and encompass all of Slovenia and parts of Italy surrounding Trieste, although none of these ambitions are likely to be fulfilled in the foreseeable future.

Bulgaria: Bulgaria has historical claims to the whole of Macedonia, although at present Bulgarians are not pressing such claims, preferring instead to keep the Balkans stable. Bulgaria has demanded of Macedonia that the latter surrender any claims to Bulgarian Macedonian provinces as a condition for recognition. In addition, Bulgarians would like to

obtain western Thrace from Greece, but a present mutual defence pact with Greece against Turkey and potentially Macedonia would preclude this. Bulgaria also has a substantial Turkish population within its borders and this has caused ethnic strife and anti-Turk rioting between Bulgarian and Turkish populations, who have a mutual disgust for each other. The Bulgarian Communist government pursued its own anti-Turkish pogrom from 1984 to 1989, causing 300,000 Bulgarian Turks to flee to Turkey.

Croatia: Croatian nationalists have already made moves to exercise their claims to Bosnia, and if possible, they would like to have all of the former Yugoslav coast from Montenegro to Trieste.

Greece: Greece has had a running feud with Turkey for more than a century, a feud which goes back to Ottoman domination of the Balkans, and the Greco-Turk war of 1919-1922. Greece, quite simply, covets Thrace out to Constantinople, Ionia to the Dardanelles, and "enosis" with Crete. From the Balkans, Greece would like parts of southern Albania known as Northern Epirus and several Aegean islands. Also, Greece has been quite vocal in preventing European Community recognition of Macedonia until the latter changes its name to the Vardar Republic, presumably to forestall any Macedonian claims on Greek Salonikan territory, but also to legitimize its own claims to the whole of Macedonia.

Hungary: The Hungarian people have scattered throughout much of the Balkans and have not been treated well in the lands in which they now live. Although the government of Hungary is not interested in irredentism, Hungarian minorities in foreign lands could rise to assert their ethnicity and demand assistance from Budapest. The Hungarians in Transylvania were oppressed by Romanian "de-Maygarisation" programs, possibly as revenge for the "Maygarization of the Vlachs" practiced when Hungary ruled Transylvania. Currently, the Hungarian Transylvanians, who helped to start the 1989 revolution against Ceausescu are petitioning for their own cultural identity, a sore point between Hungary and Romania. Other Hungarians exist in concentrations in Vojvodina in northern Serbia, and the future of these people under Serbian rule has yet to be determined.

Iran and the Middle East: The tribulations of a Muslim majority in Bosnia-Herzegovina prompted Iranian spiritual leader Ali Khameni to call on all Islamic nations to assist Bosnia-Herzegovina to become an Islamic state in Europe. In August 1992, the United Nations was under pressure from several Islamic nations to provide military assistance to Bosnia-Herzegovina. The Islamic nations of the Middle East have little political interest in a distant European region fighting for independence, but the religious ties have already been tenuously used as a political hammer to increase the international influence of these nations.

Israel: Israel may offer humanitarian aid to Jews within former Yugoslavia as they did for former Soviet and Ethiopian Jews, but otherwise, Israel has no interest in the region.

Italy: Italy has no territorial claims on the Balkans, other than the Dalmatian coast of Croatia. Italy at present is content to accept its role as Balkan economic and spiritual savior, a role it filled by accepting many Albanian refugees during the summer exodus of 1991. Acting as savior would also give Italy economic dominance over the region.

Macedonia/Vardar Republic: One of the dreams of former Yugoslav leader Josef "Tito" Broz was to create a "Greater Macedonia" incorporating the traditional regions of Macedonia which were under the dominion of Bulgaria and Greece. Much of the current tension between Bulgaria, Greece, and Macedonia over Macedonia's name is based in Bulgarian and Greek fears that Macedonia may try to press its claims to "Greater Macedonia." The independence

of Macedonia in January 1992 angered Greece, which believed that the very name of Macedonia indicated a desire to press territorial claims to Salonika (Greek Macedonia). Even Bulgaria, which recognized Macedonian independence early on had concerns about territorial claims on its Macedonian provinces. These two nations have been quite vocal in preventing Macedonia from achieving international recognition, demanding that Macedonia change its name to the Vardar republic. Also, Albanians within Macedonia had been agitating for independence and in April declared the independent republic of Ilirida in northwest Macedonia.

Romania: Romania is still pulling itself out of the tomb dug by Ceausescu and is dealing with rumors of a "false revolution" which installed anti-Ceausescu communists in power as the National Salvation Front. Presently, Romanian territorial claims encompass the former Soviet republic of Moldova, which used to be Romanian Bessarabia.

Russia and the Ukraine: The new Commonwealth of Independent States remains troubled by internal disputes and an economic nightmare left behind by the previous communist governments and its focus is on rebuilding its political and economic integrity. Its present concern with the Balkans centres on Romania and Moldova. Moldova, as stated above, used to be Romanian Bessarabia, but was ceded to the Soviet Union in 1940. Moldova is heavily populated with Vlach descendants who have been agitating for unification with Romania. This has upset the Russians and Ukrainians living in the region, who have formed the self-proclaimed Dnestr Republic. Several skirmishes occurred between Moldovans and Dnestrians in early 1992, and peace negotiations between Russian, Ukrainian, Moldovan, and Romanian diplomats have been unable to reach a peaceful resolution. More on the battles in the Dnestr republic can be found in the [Red Embers](#) Scenario Pack, which covers conflicts in the Commonwealth

of Independent States and former Soviet republics. Another possible area of concern is the Black Sea Fleet and other disputes between Russia and the Ukraine. If the Russian and Ukrainian governments can finally settle the debate over title to the Black Sea Fleet, then there may be impacts on the other Black Sea nations like Bulgaria, Romania, and Turkey. Also, the Ukrainians may turn towards the Balkans to assist their "Fellow Slavs" should such assistance be required. In fact, Ukrainians have been part of the UN peacekeepers stationed in Sarajevo since August 1992.

Serbia: In the quest for Serboslavia, or Greater Serbia, Serbian nationalists have claimed Vojvodina, Kosovo, much of Croatia, all of Bosnia-Herzegovina, and bits and pieces from their Balkan neighbors, such as the Baranya region of Hungary, the Serb-dominated regions of Romania, and Independent, Bulgarian, and Greek Macedonia. At present, Serbs have their hands full trying to keep the Federated Republic of Yugoslavia together.

Slovenia: Slovenian nationalists would like to claim Trieste, as heirs of an outstanding Yugoslav claim to the area. Also, Slovenians have historical claims to the Carinthian region of Austria.

Turkey: Historically a major ruler of the Balkans, Turkey presently has its own problems with Kurdish insurgency, border and water rights arguments with Syria and Iraq, aggravating squabbles with petulant Greece, concerns about Turkish minorities in Bulgaria, rising power of Islamic fundamentalists, and Armenian ASALA terrorists. It is quite a list of problems. Only the problems with Greece, Bulgaria, and Armenia could directly impact the Balkans, although these nations might become adventurous if Turkey's attention were diverted to fighting Kurds, Syrians, or Iraqis. Greek and Bulgarian claims against Turkey have already been examined. Armenian claims go back to Ottoman military operations in Armenia from 1915 to 1923, where Armenians claimed Ottoman forces engaged in genocide, killing between

600,000 and 1 million Armenians. The Turks claim the deaths were incidental to the fighting, citing their own casualties of 2 million Turks, and the deaths were not part of a genocide program. The Armenian Secret Army for the Liberation of Armenia (ASALA) and other terrorist groups have been assassinating Turkish politicians since 1975 over the Armenian genocide.

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PHOENIX COMMAND

Scenario: The Battle Begins

The Battle Begins

The decisive means for politics is violence

-Max Weber

Two days following the June 25, 1991 Slovenian declaration of independence, the Yugoslavian Army was mobilized, with columns heading for the Austrian, Italian, and Hungarian borders. The Slovenian Territorial Defence Force responded with roadblocks and partisan-style resistance. By nightfall, the JNA had sized all border crossings, and found itself under siege in what had become a foreign land overnight. This scenario simulates one of the first battles on June 27, when the war of Yugoslavian dissolution officially began.

Scenario Outline

The Slovenians have little more than a squad of TDF and irregular troops equipped with military weapons, and with these they must prevent the JNA forces from crossing the roadblock. The TDF have used civilian vehicles as a quick roadblock, and have had a little time to prepare fighting positions, but even so, they are outnumbered and outgunned.

The two Yugoslavian infantry squads have dismounted from their personnel carriers and are preparing to assault the roadblock in what promises to be a pitched battle.

The scenario takes place in normal daylight and starts at the moment of the JNA attack

Setup

In a straightforward battle, all forces are placed on the board, with the Slovenians setting up first anywhere on the northern half of the map. The Yugoslavians enter anywhere along the southern edge.

For a more advanced scenario, the Slovenian player can declare some or all of his units hidden. In such a case, he may position the hidden units out of sight of the Yugoslavian player. He does not place these hidden units on the board, but notes their position on a piece of paper and gives this paper to the Referee. Hidden combatants can move and engage in actions normally, but are subject to spotting by the Yugoslavians.

Slovenian TDF

The Slovenian Territorial Defence Forces have managed to recover from the Yugoslavian assaults earlier this morning. The TDF units must hold the roadblock for as long as possible and prevent Yugoslavian units from passing.

Slovenian TDF Units

Number	Quality	Weapon
2	Line	AK-47 (one is sergeant)
1	Line	RPK
1	Green	RPK
4	Green	AK-47
2	Green	AK-47 & M-79 Ossear
3	Militia	Shotgun

Yugoslavian Army

The Yugoslavian Army has been called on to preserve the borders of the nation, but all the soldiers know that this means crushing the secessionists. Two JNA squads of the platoon have been sweeping ahead of their armored vehicles securing roadblocks so that the column can pass safely to its objective. This obstacle

is just another roadblock which must be secured, with two sets of armed men facing each other, waiting for the killing to begin.

JNA Command Elements

Number	Quality	Weapon
1	Line	AK-47 (Lieutenant)
1	Line	SVD

Yugoslavian JNA Squad Organization -- Each Squad of Two Squads

Number	Quality	Weapon
3	Line	AK-47
1	Line	RPK

1	Line	AK-47 & M-79 Osseer
3	Green	AK-47

Sidearms: The Lieutenant carries a Makarov PM pistol along with two magazines.

Special Rules

Parlay and Negotiation: As an option, the Yugoslavian player may elect to negotiate with the Slovenian player with the hopes of getting the Slovenians to either surrender the roadblock, or offering amnesty to any Slovenes who surrender to the JNA. Players who are interested in a straightforward battle should not engage in parlay.

To engage in parlay the JNA Lieutenant must advance in the open, preferably with his hands above his head, to within 10 hexes of the TDF vehicle barricade and announce his intention to parlay, taking 10 AC to do so. If the TDF player agrees to parlay, then his Sergeant must walk towards the Lieutenant until the two are in adjacent hexes.

The parlay process will take 30 phases per attempt, during which time, all troops may move and aim, but may not fire or otherwise engage in combat. The Yugoslavian may demand either the surrender of the barricade or the surrender of the Slovenian troops. During parlay, the Yugoslav Lieutenant must roll three six-sided dice per attempt. The Lieutenant must have the sum of the dice be less than the base odds of 4 plus his SL in order to succeed at the attempt, and he requires three successful attempts in order to have the Slovenians succumb to his demands. A failed roll is not necessarily fatal to the process--the process simply takes more time. However, each time the Yugoslavian Lieutenant fails his success roll, the Slovenian Sergeant makes a 0-9 roll and if the roll is greater than his SL x 2, then he breaks off the parlay and returns to the barricade.

If the Yugoslavian Lieutenant is able to make three success rolls, then he is able to convince the Slovenian sergeant to agree to his demands. If the demand was that the Slovenians surrender the barricade, then the Slovenians do so without combat and the scenario ends. If the demand was for all troops to surrender, the sergeant agrees to relay the demand to his troops. This will take another 30 phases, with each Slovenian combatant making a 0-9 roll. Any combatants whose rolls exceeded their SL will surrender and be escorted off the board by Yugoslav soldiers, requiring one Yugoslav soldier to escort three prisoners. Play is suspended during the surrender process. Then the remainder of the troops fight out the battle for the barricade.

Although it is Machiavellian behavior for combatants, neither side is obligated to honor either the request to parlay, or the parlay procedure itself. The only thing players must honor is the individual combatants' wishes to surrender.

Optional Parlay Breakdown: The parlay process is always tense and always has the potential to degenerate into combat through an accidental discharge or sudden threatening movement by one side or the other. If players wish to use this optional rule, then every 30 phases of parlay, make a 0-9 roll for each squad or squad element on the board. If the roll is higher than the SL of the most experienced combatant in that squad element, then someone in the squad has broken and may open fire. Make a 0-9 roll for every combatant in that squad

or element and if the roll is higher than 2 x a combatant's SL, then that combatant is nervous and will open fire unless saved by the sight of a more experienced combatant. If there is an experienced combatant within the nervous combatant's field of view, then make a third 0-9 roll, and this time, if the roll is higher than the more experienced combatant's SL, then the nervous combatant begins shooting at the closest enemy.

If shots have been fired, then at the end of the next phase repeat the process for each squad and combatant on the field, but this time, add 2 to each of the dice rolls. In this way, any parlay can degenerate into a full-scale firefight regardless of the commander's intentions. The parlay breakdown can be avoided by judicious placement of troops; by teaming more experienced soldiers with those less experienced, the entire unit is kept under better command control.

Optional Mechanized Support: At the start of the JNA assault on many barricades, a standard tactic was to send the armor forward to drive over and break apart the barricade. However, the JNA was quickly educated in the vulnerability of their expensive armored vehicles while practicing such tactics. Televised scenes of tanks ramming through barricades were quickly replaced by scenes of the same tanks brewing up and burning.

Players with the "Phoenix Command Mechanized System" can incorporate the Yugoslavian vehicles into the scenario. The Yugoslavians will have 3 BVP M80A APCs with Line quality crews carrying three squads in the column. If this is done, double the number of Slovenians and provide the whole Slovenian force with 6 RPG-18s. Data on the BVP M80A can be simulated with data for the BMP-2.

Victory Conditions

The JNA win if they capture the roadblock without taking more than a squad of casualties, with casualties defined as combatants who are either dead or incapacitated for more than 20 minutes. The Slovenian TDF wins by preventing a JNA victory.

If the barricade was surrendered as a result of parlay, the JNA win a minor victory, having achieved their objective. In a sense, the TDF have also won a small victory, both by forcing the Yugoslavians to negotiate before combat, and in denying the Yugoslavians a pretext for escalating the conflict within Slovenia.

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PHOENIX COMMAND

Scenario: Rearguard

Rearguard

The city of Vukovar came under siege by JNA forces on August 23, 1991 and withstood the siege for 86 days. In the end, the casualties and bombardment were too much for the Croatian defenders, and Vukovar fell to JNA and Serbian forces on November 17. In the last few days before the fall, Croatian forces were desperately attempting to regroup, leaving only rearguards to delay advancing JNA forces long enough to escape and fortify another strongpoint elsewhere.

Scenario Outline

As the scenario title suggests, this scenario concerns a desperate rearguard action by Vukovar's Croatian defenders against advancing JNA forces. This scenario takes place on the morning of November 15, two days before the fall, and allows players to simulate the bitter fighting that defines the close of a siege.

The Croatian player has a bit more than a squad of militia-class defenders who must delay or otherwise prevent the advance of larger JNA forces across the map until the main body of defenders has had time to establish a new defensive pocket. The JNA player has two squads of regulars with which to penetrate the Croatian rearguard, but he cannot afford to wait to clear them out. The JNA know that if the main body of Croats has a chance to set up another strongpoint, then the fighting will drag on, and there will be even more casualties.

For maximum realism, use of the initiative and morale rules is recommended. Players with the "Advanced Phoenix Command" Rules supplement may wish to incorporate leadership rules as well.

Setup

Croatians set up first anywhere on the western half of the map but can move to other positions once the scenario starts. JNA forces enter on any streets along the eastern edge of the map.

Croatian Irregulars

The Croatian irregulars have been designated a rearguard to allow a body of ZNG troops to retreat to another defensive pocket. These irregulars are little more than civilians who have taken up arms against the Serb-dominated JNA. Their reason for fighting is to protect their

homes and their city against Serb domination. Their exact orders will depend upon the Victory conditions chosen by the Croatian player, but all conditions will have them fighting to pin or delay the advancing JNA forces for a certain amount of time, and then retreating off the map.

Croatian Irregular Units

Number	Quality	Weapon
1	Line	AK-47
1	Line	MG3
1	Green	AK-47
1	Green	Ultimax 100
2	Militia	AK-47
1	Militia	Kar98G
2	Militia	Shotguns

Special Weapons: There are 4 M72A2 LAWs available to the Croatian irregulars to be distributed as the Croatian player desires.

JNA Infantry

The JNA is past the point of fighting to keep the country together. Yugoslavia died when Slovenia and Croatia separated and the war is now driven by irredentism. Currently, the JNA is dedicated to seizing Serb-dominated areas of Croatia from the ethnic Croats.

The JNA commander is under severe time pressures and cannot afford to be delayed by a rearguard. He must strive to eliminate the Croatian rearguards and exit at least 6 of his combatants off the western edge of the map as quickly as possible.

JNA Infantry Organization -- Each Squad

Number	Quality	Weapon
2	Line	AK-47
1	Line	RPK
2	Green	AK-47 & M-79 Osse

Time and Victory

In a rearguard action, success is measured in time. The longer a rearguard force can delay an enemy's advance without sustaining many casualties, the more effective the rearguard tactics. That the enemy will eventually break through the rearguard line is never in question, but if the rearguard can delay the enemy long enough, then a potentially disastrous enemy advance can be blunted by allowing other defensive forces to regroup and re-establish defences.

The problem in any rearguard action is defining how long the rearguard should be in place. Many rearguard commanders are given the discretion within orders to hold as long as possible and then retreat. Other rearguard situations involve a signal to the rearguard from the main body indicating when to retreat, and still others have a prearranged time for retreat. This scenario allows the Croatian player to experiment with all of these. The choices are listed below. The Croatian player secretly writes down his choice of rearguard retreat and reveals it to the JNA player at the end of the game to determine the victory.

Discretionary Rearguard: In this option, the Croatian player has discretion as to the length of the rearguard. In short, his orders are to hold as long as possible and then retreat. Both time and casualties determine victory conditions in this option. The Croatian player must keep a count of the number of phases which have elapsed since the start of the game and he stops this count when either 6 JNA combatants have exited off the west side of the map, or when the last non-incapacitated Croatian has withdrawn off the west side. He divides this phase count by the number of casualties he suffered in the game to arrive at his delay number. If the delay number was less than or equal to 20, then the scenario is a JNA victory. If the delay number is between 20 and 40, the scenario is a draw. Only a delay number above 40 gives the Croatsians the victory in this scenario.

Messenger: In this option, the Croatian player has arranged with his superior commander for a runner to be sent to notify the rearguard to retreat. Every 40 phases, the Croatian player makes a 0-9 roll. If the roll is a 0, the messenger arrives at the baseline marked on the map and moves towards the nearest Croatian position. If the Croatian commander is not there, the messenger spends 10 AC at the nearest position finding out where the commander is and then moves towards the commander. Upon reaching the commander, the messenger spends another 10 AC delivering the message to retreat and after that, he acts as an ordinary combatant. Once the retreat message has been given, the Croatsians may start withdrawing from the map. Note that if the messenger is killed before giving the retreat order, then the retreat order will never be given, and the scenario for the Croatsians becomes a hold at all costs situation.

Victory in this situation depends upon the arrival of the messenger. If the JNA have exited at least 6 combatants off of the western edge of the map before the retreat order is given by the messenger, then they win the scenario. Croatsians win by preventing a JNA victory in this case.

Once the retreat order is given, the victory conditions change to saving the lives of the rearguard. If the Croatians are able to exit at least 7 combatants off the west edge of the map, including wounded carried by other combatants, but not counting the messenger, then they win the scenario. JNA win by preventing a Croatian victory.

Pearranged Withdrawl: With this option, the Croatian commander has agreed to attempt to delay the JNA for at least 15 minutes (450 phases) and then to retreat with as much of his force intact as possible. Victory in this option is simple: if the JNA are able to exit at least 6 combatants off the west edge of the map before the 15 minutes elapses, or are able to kill or seriously incapacitate (>500 PD) at least 8 of the Croatians, then they win the scenario. The Croatians win by preventing a JNA victory.

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PHOENIX COMMAND

Scenario: Meeting Engagement

Meeting Engagements

This scenario takes place at the height of the Croatian resistance to Serbian/JNA intervention in late 1991. At this point, the Yugoslavian civil war had degenerated into an infantry shoving match with mortar and artillery accompaniment. This scenario is typical of many of the infantry meeting engagements which took place in the villages swept under the path of the war. Players can take the roles of Croatian ZNG militia or JNA regulars contesting possession of a nameless village somewhere in Croatia.

Scenario Outline

The scenario is based around a meeting engagement in a small village between Croatian militia and Federal Yugoslavian soldiers. The Croatian player has a small force familiar with the village defences, but lacks heavy firepower and training. The Yugoslavian player fields two squads of well-trained regulars, but is faced with making an assault across defensible terrain. Ideally, this scenario can be used to introduce new players into the game by teaming them with more experienced players and letting them command an element of either Croatian or Yugoslavian forces. If a larger scenario is desired to accommodate more players, then give the ZNG a second squad, and give the JNA a third squad as well as a platoon command group consisting of a Line trooper armed with an AK-47, and a Line trooper armed with an SVD.

This scenario takes place in the early morning in mountainous territory near Sisak. As an option, players who want to add in atmospheric conditions can make a 0-9 roll. If the roll is from 0-2, the entire map is covered with early morning haze for a -6 Visibility ALM to all fire. Otherwise, visibility is clear.

Setup

Croatian forces hold a village area and are able to set up anywhere in the northern half of the map.

The Yugoslavian player must enter along the southern edge of the map, but may be delayed several phases, giving the Croatian player time to move to different positions should he so desire. The Yugoslavian player secretly makes a 0-5 roll and multiplies the result by 20. He writes this number on a card and places the number face-down. This is the number of phases which must pass before the Yugoslavian player can enter the map. When the required number of phases have passed, the Yugoslavian player flips the card over, showing the

number to the Croatian player, and can enter the map.

Croatian ZNG

The "Zengee" squad has been moving forwards since before dawn to try to re-occupy a village it had to evacuate a week ago because of intense fighting. Since then, the village has been abandoned, although there are rumors of a Yugoslavian or Serbian unit moving up. The Croatian mission is to hold the village against any assault, although since the "Zengees" only arrived a short while ago, they have not had time to make any improvements to the old defences.

Croatian ZNG Units

	Number	Quality	Weapon
	1	Line	FN-FAL
	1	Green	MG3
	3	Green	AK-47
	2	Militia	Ultimax 100
	2	Militia	FN-FAL

Yugoslavian JNA

The war has gone poorly for Federal Yugoslavian forces almost from the beginning, and now it has become a difficult infantry campaign in what has become to the JNA a foreign land. The war has become one of territory and casualties.

This patrol of two squads has been ordered to occupy the village. JNA reconnaissance patrols have reported the village empty, but there have been rumors of increased Croatian activity. This patrol must overcome any resistance and capture the village.

Yugoslavian JNA Squad Organization -- Each Squad

Number	Quality	Weapon
3	Line	AK-47
1	Line	RPK
1	Green	AK-47 & M-79 Osse
3	Green	AK-47

Special Terrain

Cemetery: The Cemetery is a typical Eastern European graveyard with large tombstones and crypts above the ground, mixed with patches of cement and foliage. The waist-high stone crypts have a PF of 11,000. The smaller tombstones have a PF of 6400. Both types provide waist high cover and grant a kneeling combatant full cover.

Also, because of the density of the tomb arrangement within the cemetery area, all movement is at +1 AC per hex, which assumes that combatants are either moving between or vaulting over the tombstones and crypts.

Trenches and Ditches: Two trenches were built by the previous Croatian defenders of this village and are in the north-western section of the town. These trenches are 0.5 hexes wide and several hexes long and provide waist-high cover to a standing combatant and full cover to a kneeling combatant. Because of their narrowness, movement within these trenches is at +1 AC per hex.

There are also some shallow drainage ditches running along the eastern road. These ditches are 1 foot deep, 0.5 hexes wide, and several hexes long. They do not have any effect on movement, and provide no cover to a standing or kneeling combatant other than reducing the target size of a person in them by 2. However, the ditches will provide full cover to any prone combatant. The ditches are not much, but when bullets are flying, they are better than nothing.

Church: The Catholic church building is at the south edge of the map and consists of a small chapel with a bell-tower/steeple, accessible by a ladder within the church itself. The church has brick & stucco walls (PF 400) while the steeple is simply wood and stucco (PF 6). The steeple itself sits 3 floors (30 feet) above ground level and a combatant wishing to reach the steeple must spend 20 AC climbing the ladder. The steeple floor is made of thick wood (PF 7) and has a 2 x 2 foot hole to accommodate the ladder and a long-vanished bell rope. There are 2 x 1 foot openings in all four walls of the steeple, permitting a good view of the entire town. Treat these openings as windows for spotting and firing purposes.

Victory Conditions

This scenario is a fairly straightforward infantry battle with both sides having the objective of capturing the village. The battle for the village ends by mutual consent of the players.

To score a major victory, one side must have the only non-incapacitated armed troops on the map after the JNA comes onto the map.

The battle dynamics of an infantry match may prevent a major victory in the case where neither side is willing to surrender ground and both are too spent to launch an offensive. To score a minor victory in such a case, one side must have possession of more buildings than the other. To have possession of a building for victory purposes means to have the only non-incapacitated armed combatants within the building itself. Any other result counts as a draw.

Sniper Alley Variant

In Croatia, and later in Bosnia-Herzegovina, the role of the sniper was redefined. No longer were snipers units targeting enemy forces with surgical precision, in Yugoslavia they became instruments of terror, targeting mainly civilian targets, media personnel, and relief workers. The rationale for this activity was that the presence of one side's sniper in an area was sufficient to indicate that side exerted influence over the area. Snipers took advantage of urban terrain by operating from fortified nests and multistory buildings in order to keep shooting at targets for as long as possible.

Sniper weapons in Yugoslavia were rarely "bona fide" military sniper rifles. Hunting rifles, assault rifles, and even machine-guns were used in the sniper role. This reflected the sniper's new purpose--no longer was precision required, but only sufficient firepower to telegraph to the opposition which side actually did have control over the sniper's area of operations.

This variant allows players to take the roles of a Serbian Cetnik sniper team and a Croatian ZNG patrol meeting in a Croatian village. Again, this was a fairly common event in the war. Use the same map as the main scenario.

Cetniks (variant):

Cetniks set up inside the church, with the sniper setting up in the top floor of the steeple itself. The sniper team must kill or incapacitate as many of the of the Croatian squad as possible before pulling out, if necessary. The Line trooper with the SVD is the actual sniper, while the 2 Green combatants act as his security team.

Cetnik Units

Number	Quality	Weapon	
1	Line	SVD	(sniper)
2	Green	AK-47	

Cetnik units also have one RPG-18 disposable rocket launcher distributed as the player desires.

Sniper Nest: A double layer of sandbags have been placed around the steeple walls, giving a total PF of 48 to each steeple wall. Firing holes 2 feet by 1 foot have been cut in the steeple walls and should be treated as windows.

Croatian ZNG

The ZNG have learned about a sniper team operating in the village and are sent to eliminate it. They must capture the sniper nest itself by killing or driving off the sniper. ZNG units set up on the road on the north side of the map.

Croatian ZNG Units

Number	Quality	Weapon
2	Green	AK-47
1	Green	Ultimax 100 SAW
3	Militia	AK-47
2	Militia	Kar 98K (Mauser Bolt-actions)

Victory Conditions (variant): The Cetnik player wins the scenario if the ZNG units retreat or are unable to take the sniper nest. He also wins if he is able to exfiltrate his forces off the map and has killed or severely incapacitated (>20 Minutes) four members of the ZNG force. For each Cetnik not making it off-map alive, increase the requirement by 1, but note that at least one Cetnik must be alive and not incapacitated for the Cetniks to claim any kind of victory. So, if only one Cetnik survived the ZNG assault, at least 6 ZNG troopers would have to be dead or seriously incapacitated for the Cetniks to claim a victory. ZNG forces win if they take the sniper nest or if the sniper nest is abandoned by the Cetniks and the ZNGs have taken less casualties than the Cetniks need to have inflicted for victory.

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PHOENIX COMMAND

Scenario: Crossfire

Crossfire

By July 1992, the Serbian and Croatian forces in Bosnia had occupied the vast majority of the country and had pushed the Bosnian Muslim defenders into a tiny defensive pocket north of Bihac and reduced the Bosnian presence in the rest of the country to holding major cities and towns, such as Sarajevo, Visegrad, Gorazde, Tuzla, and Zenica. In the following months, the Serbians besieged the Bosniak defenders by pounding the Bosniak-held communities with heavy artillery and mortar fire. Nighttime street battles raged as Serbs kept up the pressure through sniper fire and concentrated infantry attacks. This scenario allows players to participate in a nighttime infantry assault in Sarajevo by Serbians against Bosniak positions.

Scenario Outline

This scenario is based on a battle for a single intersection on the outskirts of Sarajevo. A small unit of Bosnian Green Beret defenders must slow down or even stop the advance of the Serbian infantry. The Serbian infantry squads are assaulting the square in an attempt to capture buildings held by Bosnian defenders.

This scenario takes place at night with only a full moon providing illumination, giving all combatants a spotting range of 200 hexes and a -4 ALM to all fire. The Serbs cut off the electricity to the city earlier, so all visibility within buildings is at no moon level illumination, with a 20 hex spotting range and -12 ALM to all fire.

Setup

The Bosnian Green Berets set up in the buildings surrounding the square and are allowed to set up any defences they may wish to use. These defences are detailed below. After the Green Berets have set up, the Serbian squads enter the map from the south or east edges.

All buildings around the square are two stories tall. All of the floors are identical, except that there are no exterior doors on the upper floors. These are treated as windows. The buildings are brick (PF = 370) and the Bosnians can emplace a double layer of sandbags on up to 10 walls of their choice, which adds a PF of 48 to the selected walls for a total PF of 418. Bosnians can also place up to 10 mouseholes, 10 rubble barricades, and 6 expedient mines. These are covered below in the special rules.

The fountain in the centre of the square provides cover for a kneeling combatant and has a PF of 900. The statue in the centre of the fountain provides cover for up to two combatants

standing side-by-side and has a PF of 4000. The kiosks around the square are small metal booths, with a PF of 2 for each wall.

Bosnian Green Berets

The Green Berets have taken the role of defending this part of the city and have spent a great deal of time preparing defences. This has been time well spent since the Green Berets are an independent unit and can expect no support or relief from anyone. Once the battle begins, they have only themselves to hold the square. The Green Berets must defend the intersection by either killing or driving off the Serbian attackers.

Bosnian Green Beret Units

Number	Quality	Weapon
3	Line	AK-47
1	Green	PKM
2	Green	AK-47
1	Militia	Ultimax 100
1	Militia	Shotgun
1	Militia	AMD-65

Note: The PKM gunner must always have another combatant with him to serve as a loader. Whenever the PKM fires, the loader's CA are occupied with feeding the ammunition belt into the gun and so cannot be used for anything except for spotting targets. If the loader is incapacitated or killed then he can be replaced by another combatant.

Special Weapons include 6 M72A2 LAWs to be distributed as the Bosnian player desires.

Army of the Serbian Republic of Bosnia & Hercegovina

The Bosnian Serb Army has had the city under siege for months and has been pounding it with artillery for much of that time and making occasional infantry forays. Platoon elements have been dispatched to try to take some territory in the nightly ritual of streetfighting. The Serbian troops must capture the buildings surrounding the intersection.

Bosnian Serb Units

Number	Quality	Weapons
1	Line	SVD

4	Line	AK-47
1	Line	RPK
1	Line	AK-47 & M-79 Osseer
2	Green	AK-47
2	Militia	AK-47

Special Rules

The following rules are optional and can be used if both players consent. The scenario may be played without these rules.

Tracers: Tracers are special ammunition rounds with a pyrotechnic composition in the base of the bullet. The pyrotechnic chemicals are ignited when the bullet is fired and show the path of the bullet in flight. At night, tracers are a mixed blessing because they not only show where a combatant's shots are hitting, but combatants can also determine the firer's position by following the tracer's path to the source. This is why tracers are normally only used once in every three shots by experienced military personnel--the one in three is sufficient to permit tracking of automatic fire while being sparse enough to avoid revealing the shooter's position.

Rules for tracers in tracking automatic fire are given in Section 6.15 of the "Phoenix Command Expansion". Players without access to that supplement may simply add a +1 ALM per tracer to the next shot or burst taken at the same target in the following impulse. So for example, if a burst containing five tracers were fired, the next burst at the same target in the following impulse would receive a +5 ALM.

Combatants trying to spot tracer firing troops are able to spot both the firing and target locations of tracer fire in half the required spotting time and both locations are then considered pinned for spotting purposes. Heavy tracer fire, which is more than one tracer every three shots, is spotted in one quarter the required spotting time and the location is also pinned for spotting purposes. When fire is directed at the tracer location within the next phase, instead of using a firing at muzzle flash ALM, any fire at the location is done using a -7 ALM for firing at normal tracer, and -5 ALM for firing at heavy tracer.

Players wishing to record tracer locations should place a marker or chit in the hex where tracer was fired. Use a different marker for heavy tracer. The tracer chits remain in place for one phase and then are removed from the board.

For this scenario, both sides have access to tracer rounds and are able to use it as they wish.

Muzzle Flash: In night combat, muzzle flashes are one way in which enemy forces are spotted and targeted. Modern flash suppressors and muzzle brakes have done much to eliminate muzzle flash, but even so, most flashes still light up the night.

Muzzle flashes are automatically spotted by any combatants who have a direct line of sight to them. A quick way of determining this is to mark the muzzle flash hex with a chit or other marker and any combatants with a direct line of sight to the chit can "pin" the hex for spotting purposes. Any fire directed at the muzzle flash is done with a -10 ALM. The chits are removed at the end of the phase. Muzzle flashes within windows are assumed to be from shots fired far enough inside the room that the muzzle flash visibility will be limited. In this case, the flash is only visible to those combatants within the central 90 degree arc outside the window. Simply mark the window with a muzzle flash chit and treat the window as pinned for spotting purposes.

Building Defences

The Bosnian Green Berets have had some time to fortify the buildings surrounding the square and have installed the following improvements.

Mouseholes: Mouseholes are small gaps cut into the walls, allowing combatants to crawl through on hands and knees (+1AC). Mouseholes can be created in any interior wall, or on any wall where two buildings adjoin one another. In this scenario, Bosnian defenders can place up to ten of these. Creating a mousehole in the middle of combat is possible, but requires the use of an axe, sledgehammer, or entrenching tool. This requires 150 person-phases for a simple interior wall composed of wood, sheetrock, or plaster & lath. Obviously, the same method cannot be used for breaching brick walls. There, a 2 pound TNT charge is required and 6 phases are needed to set the charge. All Line-quality Serbian troops are assumed to carry entrenching tools.

Rubble Barricades: Barricades consisting of furniture, rubble, and barbed wire are often placed by defenders to limit or cut an attacker's route through a building. Common places where barricades are placed are stairs, doors, and corridors. The barricade prevents movement beyond its location. These barricades can be cleared by troops in 450 person-phases (15 person-minutes), during which they may come under fire from the enemy.

Mines: The Bosnian Green Berets have emplaced a series of RGD-5 grenades rigged with tripwires as expedient mines. A person walking through the tripwire would pull the grenade from a container, releasing the safety lever and igniting the fuse. The Bosnian player should give a list of the hexes where the tripwires are placed to the referee, who will reveal the location to whenever a combatant crosses through the mined hex. Rules for spotting tripwires are found in Section 9.3 of the "Advanced Phoenix Command" Rules Supplement, but players may simply have the combatant make a Success Roll using three six-sided dice. If the total on the dice is less than the Base Odds plus the combatant's Skill Level, then the tripwire is spotted. Otherwise, the tripwire is missed. The Base Odds for spotting a tripwire are 6 for an actively searching person and 3 for an inattentive person. There is also a -2 modifier to the base odds because of the darkness.

If a mine is spotted, it can easily be disarmed by cutting the wire (6 AC), or avoided (+1 AC to movement). If the mine is not spotted, then there is a chance that the tripwire will be caught by a combatant passing through the hex. A running combatant has a 10% chance of triggering the tripwire, while a walking one has a 90% chance. Once triggered, the grenade explodes at the end of its arming time. Have the triggering combatant make a Success roll at Base Odds of 6 plus his SL to avoid getting tangled in the tripwire. Otherwise, he will drag the mine with him until it explodes. This explosion will occur in the same hex as the combatant.

Victory Conditions

In order to win, the Serbians must kill or incapacitate all the Bosnian defenders, or as an alternative, they must capture all the buildings surrounding the square. Bosnian defenders must prevent a Serbian victory in order to win.

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PHOENIX COMMAND

Scenario: Zasjeda

Zasjeda

"Zasjeda", meaning ambush, was a favored military tactic in the fighting in Yugoslavia, and was used extensively by all parties. In this scenario, a group of Bosniaks plays a deadly stalking game with Bosnian Serbs.

Scenario Outline

This scenario is a bit different from the other PCCS scenarios in that it takes place over a much larger than usual map area. This allows "Phoenix Command" players to explore fire and manoeuver tactics of small-unit combat. Chapter 7 of the "Advanced Phoenix Command" Rules Supplement will be required to resolve the use of large-scale battlefields and group spotting rolls in this scenario.

Rules are provided for converting the scenario to a smaller map if players are interested in simply playing out the ambush, and ignoring the aspects of small-unit manoeuver.

The main scenario revolves around a Bosniak patrol which is tasked with orders to locate and ambush a Serbian column. The Bosniaks must locate the Serbians and prepare a hasty ambush to prevent the Serbians from passing. Both Bosniak and Serbian commanders will have to engage in careful planning and manoeuver in order to accomplish their missions.

The main scenario requires a referee and can be enlarged to accomodate any number of players. The Bosniak side should have a single player controlling the main ambush element and other players controlling any other elements like security teams, reconnaissance units, and so on. The Serbian side can be played by one or two players without difficulty, and can be expanded to include other players.

Players should use the Initiative, Morale, and Leadership rules of "PCCS" and "Advanced Phoenix Command" for maximum realism.

Setup

The Referee distributes copies of the main map to both sides, and asks them to draw in their itineraries, formations, and projected path of movement. Remember that a walking pace is roughly 1 HPP. Then the Referee resolves any spotting according to the Spotting Rules of "Advanced Phoenix Command" (2nd Edition) Section 7.2, and if one group spots the other, then the Referee informs the spotting group and allows them to prepare alternate movement

plans. This continues until contact occurs, at which point, play is moved to a tabletop map.

The Play Map:

Although any miniature terrain system can be used to reproduce the smaller map, a system using banquet paper and colored felt-tip markers is the easiest and most accurate. Cover the playing table with a sheet of white banquet-table paper and tape the ends down to prevent curling or movement. Players may wish to have several sheets of banquet paper ready to permit simulation of harassing attacks. Then, using the felt-tip pens, draw in the major terrain features and buildings of the main map to an agreed miniatures scale on the banquet paper. Center the banquet paper map on the location of the ambushed column. At this point, players may elect to use the Cover Generation rules of "Advanced Phoenix Command" (Second Edition) Section 7.1 to add in a variety of cover. The general terrain of the main map is Hilly for Cover Generation purposes.

When the tabletop map is completed, the ambushed player sets up first and must position his column in the centre of the map in whatever formation his unit was using. The ambushing player sets up next anywhere, provided that the ambushed player's forces would be unable to spot the ambushing combatants in their chosen locations. Combat then begins, using the instant ambush rules below.

Meeting Engagement: There may be situations where both sides spot each other and choose to engage each other immediately. In this case, reduce the conflict area down to a tabletop map. Both sides set up simultaneously in their respective positions, and must be set up in their formations. Combat then proceeds normally.

Bosniak Irregulars

Other units have reported a Serbian column moving towards a small village, and a squad of available fighters has been ordered to locate and ambush the Cetniks before they reach the village. Bosniaks start the scenario anywhere on their baseline as marked on the map.

Bosniak Irregular Units

Number	Quality	Weapon
3	Line	FN-FAL
4	Green	AK-47
1	Line	MG-3
1	Militia	Ultimax 100
3	Militia	FN-FAL
2	Militia	AK-47 & M-79 Osseer

Special Equipment: The Radio-Telephone Operator (RTO) carries a Soviet R-107 Manpacked radio. Two R-126 hand radios (walkie-talkies) are also available to the Bosniak group. This equipment allows Bosniak forces to split up into at least three elements and remain in communication with each other. The hand radios have a 1100 hex range, while the manpack radio has a 2500 hex range.

Army of the Serb Republic of Bosnia & Hercegovina

The Serbians have planned a patrol sweep in the south quadrant around a village to investigate reports of Bosniak forces operating in the area. The Serbians must execute a patrol sweep throughout the area covered by the map and wait for follow-on forces at one of the Objective Rally Points (ORP), that they select on the map.

Once at the ORP, the Serbians are to provide security for a follow-on group who will secure the village, but this is beyond the scope of this scenario.

The Serbians enter from the south edge of the map.

Serbian Units

Number	Quality	Weapon
2	Line	AK-47
1	Line	RPK
1	Line	AK-47 & M-79 Osseer
4	Green	AK-47

Smaller Scenario

Players not wanting to engage in a patrolling scenario may simply run the scenario as a straightforward ambush.

Instant Ambush

At the start of the ambush, the Bosniak player rolls a number from 1 to 4 for each of his troops; this is the number of combat actions that the combatant has available at the start of the ambush. The Bosniak player can use these Actions as desired, including movement and fire. During these actions, the Serbian player cannot take any actions and cannot Duck. Once the Bosniak actions have been used, the Serbian troops can react and play proceeds normally.

Squad Level Combat

As an option, players with the "Mechanized Combat System" can play this scenario using the

system's squad combat rules. Simply split up the forces into the appropriate elements and calculate each element's firepower rating using the rules in Section 5.2. Have both sides plan their itineraries as before, and then place the squad elements on the play map. Movement proceeds on a turn by turn basis until one side spots the other or is fired upon, at which point the side's original itineraries are abandoned and combat proceeds using the "PCMCS" squad Combat rules on Section 5.3.

Victory

For the main scenario, the Serbians claim a victory if they are able to reach their ORP with more than 75% of their force. Bosniaks win by preventing a Serbian Victory. In the smaller scenario, the Bosniaks win if they are able to kill or capture all of the Serbs. The Serbs win a minor victory if any troops survive, and they win a Major Victory if they either hold the field or withdraw while inflicting more casualties to the Bosniaks than they take.

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PHOENIX COMMAND

Scenario: Pears on Poplars

Pears on Poplar Trees

[Reform will come to Romania] when pears grow on poplars.

-Nicolae Ceausescu

A state coup cannot be recognized.

-Nicolae Ceausescu

A great deal of heavy fighting in Romania occurred in urban centres including as Arad, Brasov, Cluj, Iasi, Ploiesti, Sibiu, Tirgoviste, and Timisoara. This was where the Securitate chose to hold its battles, fighting to protect government facilities at first, and later shifting its attacks to terrorism to destabilize the National Salvation Front. The heaviest fighting occurred in the capital of Bucharest, where the NSF and Securitate contested the possession of government buildings in vicious streetfighting. The Securitate emerged from secret tunnels to recapture several key buildings but found themselves under siege by the Army and Romanian revolutionaries.

This scenario takes place on December 23, 1989, during the height of the fighting in Bucharest. A new reality has come to Ceausescu's government and Securitate, a reality where pears do grow on poplar trees.

Scenario Outline

On December 23, 1989, Ceausescu himself had fled, leaving the Securitate to defend what was left of his government. This they did by turning the Bucharest government buildings into interconnected fortresses through a secret tunnel network connecting the Presidential palace with other key buildings. The Securitate has waited out the initial assault in the tunnels, and has emerged to recapture the buildings.

The scenario itself is in three stages. It starts when the Securitate emerge from the tunnels of the key buildings and attempt to secure the buildings around the square. The second stage occurs when the Securitate have secured the buildings and consists of attacks on the troops and civilians in the square. The final stage involves successfully resisting any counter-attacks.

Both the Securitate and the National Salvation Front (NSF) are heavily armed with substantial forces, filling out both their ranks and making this a very brutal scenario. Because of the large numbers of combatants involved, team play with a referee is recommended. Play with the Initiative and Morale rules is also strongly recommended for maximum realism.

Setup

The NSF player sets up the Garrison inside the buildings as desired and the Reinforcement troops in the square. The Securitate player does not set up on the map, but has his troops in the connecting tunnels. He must designate which troops will enter the map through which

tunnel entrance.

National Salvation Front

The National Salvation Front had just organized itself yesterday and has welcomed the Army to its ranks. Many of the government buildings had been captured earlier with only light resistance encountered. But now that the Securitate are flooding out of these captured buildings, the NSF answers one question but is faced with two others. It now knows that the Securitate did not give more resistance earlier because they were in hiding, preparing a counterattack. But where were they hiding, and how does the NSF beat them back now?

The initial Securitate battles will be in the buildings themselves and soldiers in the Garrison are first line of defence. The Garrison must prevent the Securitate from capturing the buildings. Failing that, the Garrison must escape the buildings to join with the Reinforcement troops both to usher the civilians out of the square and to stage a counterattack. All of the buildings must be recaptured.

National Salvation Front—Garrison

1 Rifle Platoon, containing:

3 Rifle Squads -- Organization is below.

1 Platoon Command Group -- Organization is below.

National Salvation Front—Reinforcements

1 Rifle Company, containing:

9 Rifle Squads organized into 3 Platoons -- Organization is below.

3 Platoon Command Groups -- Organization is below.

1 Company Command Group -- Organization is below.

Romanian Rifle Squad Organization

Number	Quality	Weapons
2	Line	AK-47
1	Line	RPK
1	Line	AK-47/RPG-7V
4	Green	AK-47

Romanian Rifle Platoon Command Group Organization

Number	Quality	Weapons
1	Line	AK-47
1	Line	SVD

Romanian Rifle Company Command Group Organization

Number	Quality	Weapons
1	Crack	AK-47
2	Line	AK-47
1	Line	RPK

Securitate

The Securitate were always prepared for a military coup against Ceausescu. They hid weapons, equipment, and facilities waiting for the attempted ouster but now they are facing down the entire country in a revolution. The old tactics of holding government structures may not apply, but they are the only tactics possible. The Securitate start in the tunnels and must recapture the buildings to use as fighting positions against the troops in the square. If a building cannot be captured, ignore it and divert the resources to others--the building can always be captured later. Once the buildings are secured, the troops in the square must be attacked and neutralized with Securitate in each building contributing to a crossfire. Then, the buildings must be held against any further attacks, or failing that, the Securitate must escape with their units intact.

Securitate Units

1 Special Assignment Company, containing:

9 Squads organized into 3 Platoons -- Organization is below.

3 Platoon Command Groups -- Organization is below.

1 Company Command Group -- Organization is below.

Securitate Special Assignment Squad Organization

Number	Quality	Weapon
2	Crack	AK-47
3	Crack	AMD-65
1	Crack	AK-47/RPG-7V

Securitate Special Assignment Platoon Command Group

Number	Quality	Weapon
1	Elite	AK-47
1	Crack	RPK

Securitate Special Assignment Company Command Group

Number	Quality	Weapon
1	Elite	AK-47
1	Crack	RPK
2	Crack	AMD-65

Civilian Securitate Operatives

Number	Quality	Weapon
2	Line	AK-47
3	Line	AMD-65
2	Line	Shotguns
4	Green	AMD-65
2	Green	Shotguns

Special Rules

Terrain: The buildings are all mass-construct stone with thick walls (PF 6400). Interior walls are simple plaster and lath, for PF of 2. The floors are typical with an assortment of offices and cubicles. All buildings have three floors and a basement, each identical except that doors on the upper floors are considered windows.

Fountains in the square are 2 feet high and provide protection to kneeling combatants while the statuary in the square, provide cover to as many as two standing combatants. The fountains have a PF of 900, while the statuary has a PF of 4000.

Tunnels: There are tunnel entrances inside the basement of each key building. Each basement is identical to the floors above the ground but has no windows or exterior doors.

The tunnel is wide enough to allow two combatants to exit simultaneously side by side. The NSF does not know about these tunnels and so cannot react to the presence of the Securitate until the Securitate are spotted by the Garrison or shots are fired within the building. The NSF cannot make use of the tunnels themselves.

Reinforcement Reaction Time: The Reinforcements are stationed in the square outside the buildings and so must first hear the shots inside before they can start the reaction process. It will take 9+(6) phases for the Reinforcements to realize that the shots they are hearing are an actual battle and not Romanians celebrating by firing their guns in the air. The Reinforcements can do nothing until the reaction time ends or the Securitate open fire on them, at which point they can move and engage in combat normally.

Civilians: The civilians present an obstacle for the Securitate and NSF Reinforcements. There are 80 civilians randomly placed throughout the square, celebrating the flight of Ceausescu. These civilians will not react to gunfire until (6) phases after either the Reinforcements open fire or the Securitate opens fire on the reinforcements. Once the reaction time has elapsed, the civilians will start to run at 4 HPP towards the nearest map edge, and all actions for NSF Reinforcements within 2 hexes of a civilian at this time will be at +1 AC, representing the time spent shouting orders to civilians and trying to avoid endangering them.

The civilians represent an obstacle for the Securitate as well because the Securitate must pick out NSF Reinforcement targets among the throng. Players with access to the "Phoenix Command Expansion" should use the target identification rules of Section 6.13 to determine which targets are NSF and not permit Securitate to open fire until the target is identified. This target identification rule applies only to NSF troops within 2 hexes of a civilian. The Securitate had no compunctions about shooting unarmed civilians and often did. The simple fact of the matter is that the Securitate realize that in this situation with limited ammunition, it is more effective to shoot an armed soldier than an unarmed civilian.

Combat Engineering: Once the Securitate have captured a building, they can designate certain combatants for combat engineering tasks, such as building

barricades, mouseholing, and planting grenade mines. The rules on the combat effects of these devices are found in the scenario "Crossfire" in this supplement.

Building these devices requires the following amounts of time: Rubble Barricades require 120 AC with up to 8 combatants contributing CA while Grenade mines require 60 AC with up to 2 combatants contributing CA.

Smaller Scenario: This is a very big scenario with a large number of combatants. There are 77 Securitate, 108 National Salvation Front Soldiers, and 80 civilians involved in the fight and this may be much more than players would want to handle at a time. Reducing the size of the forces to a more manageable size is simple. Remove 4 Securitate squads from play and take out one Garrison squad, 3 Reinforcement Squads, and 1 Reinforcement Platoon Command group. Also reduce the number of civilians by half. This will reduce the scenario to a more manageable size.

For a still smaller scenario, remove 6 squads from the Securitate, 14 soldiers from the Garrison, and 5 squads and 1 command group from the Reinforcements. Reduce the number of civilians down to 20, and close down all buildings except for one which is determined by mutual consent of all the players. None of the other buildings may be entered by any combatants, but may be used for cover. This way, the scenario becomes a simple building assault/counterassault and is quite manageable for two players.

Armored Reinforcement: Players with the "Mechanized Combat System" can at their option provide the NSF Reinforcements with 3 T-55 MBTs with Green quality crews. These provide a form of mobile artillery for bombarding Securitate positions and were used in the actual battle for this very purpose. Also, one of the reinforcement infantry platoons should be mechanized, having 3 TAB-77 APCs. Use BTR-70 statistics for the TAB-77. The vehicles may set up anywhere within the square.

If these vehicles are introduced into the scenario, provide the Securitate with 20 RPG-18s and 12 RKG-3M Antitank Grenades to be distributed as the Securitate player desires.

Scenario Length

To keep the scenario manageable and realistic, the scenario should last for a maximum of one hour of game time (1800 phases). Within one hour of the battle's start, more reinforcements will be arriving from the rest of the city and the scenario will be reduced to a siege with both sides trying to weaken the other to gain a small advantage. Both sides will be trapped, unable to leave the battle area until events elsewhere force the battle to a close. This is what happened in the real battle. It took overwhelming force and the death of Ceausescu to finally break the Securitate threat in Bucharest, although scattered snipers and pockets of loyalists remained in combat until near the year's end.

Victory

The unusual three-stage nature of this scenario gives rise to some complex victory conditions. The Securitate plan is what is driving this scenario and this plan requires that the Securitate meet certain objectives.

The first objective is obviously capturing the key buildings. This has to be accomplished quickly and with a minimum of casualties so that more combatants are available to participate in the other objectives. If the Securitate is able to capture the majority of key buildings by eliminating or driving out all the NSF Garrison defenders, they win this battle.

If the first objective is met, the next objective is to take the square by eliminating the defenders and driving off the civilians. This is much more difficult due to the larger forces involved and the Securitate often fighting from fixed positions. If the Securitate are able to kill, incapacitate, and drive off the NSF reinforcement units and civilians from the square itself, then they have won this battle as well.

The third objective is somewhat muddled because it represents the Securitate realizing the exact nature of their victory: they have captured the buildings and succeeding in placing themselves under siege. The buildings are territory only and possess no command or government significance. The Securitate therefore have three options. The first is to drive away all NSF units off the map through an all-out assault. The second is to continue to hold the building against the next assault, if any. The final option is to designate rearguards while the rest of the unit exfiltrates overland off the map. More than 50% of the original Securitate members must exfiltrate for a victory if this option is chosen. If the Securitate are able to achieve any of these objectives, then they have won this battle as well, and have won the scenario.

It is not enough to say that the NSF wins the scenario by frustrating the plans of the Securitate and preventing them from achieving their objectives. If the NSF can frustrate the Securitate's plans in the first two stages so that the later stages never occur, then the NSF has won the scenario. Should the third stage of the battle occur, then the NSF has the following two objectives: recapturing the buildings and neutralizing the Securitate through death or capture. If the NSF can meet both of these later objectives, then they have won this scenario.

If the one-hour time limit expires before the battle's scenario's third stage is resolved, then the battle is a draw.

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PHOENIX COMMAND

Scenario: Favouring the Criminal

Favoring the Criminal

"On the basis of the actions of the members of the Ceausescu family, we condemn the two of you to death."

-Sentence following the Verdict of Genocide in the Ceausescu trial

Ceausescu's reign ended at 1:00 PM on December 22, 1989, with his flight from the Communist Party Central Committee Building after a final attempt to address a hostile crowd of demonstrators. Angered, the crowd broke into the building, forcing the Ceausescus to be airlifted out by helicopter from the roof, even as the demonstrators emerged onto the roof in pursuit. The helicopter landed at the Boteni airbase, and the Ceausescus commandeered a car from the base. When the first car broke down, a second was obtained, and they proceeded to an agricultural station. There, they were arrested and moved to military barracks at Tirgoviste to await trial.

On December 25, Christmas day, Nicolae and Elena Ceausescu were brought before a military tribunal facing charges of genocide, corruption, and the destruction of the national economy. They remained defiant throughout the trial, refusing to recognize the jurisdiction of the court, even as the verdict and sentence of death were read. They, they were taken out and shot. National Salvation Front-held Romanian television repeatedly broadcast images of the trial and the corpses. Nicolae Ceausescu, the Criminal, was dead.

I am not a defendant. I am President of Romania and the Commander in Chief of the armed forces. I refuse to recognize this court.

-Nicolae Ceausescu, response to verdict.

The evening before the trial, the Securitate attacked the barracks where the Ceausescus were held, possibly as part of a failed rescue attempt. Their actions encouraged the NSF to hasten the trial and execution of the Ceausescus, because they knew that Nicolae and Elena Ceausescu, if freed, would stiffen the resolve of the Securitate and spill more blood throughout Romania. The trial and execution marked the turning point of the revolution by breaking the resistance of the Securitate. With the Criminal dead, many Securitate saw no more reason to continue fighting, and so began surrendering. Later, these Securitate would face criminal charges, the most common of which was Favoring the Criminal--supporting Ceausescu.

Scenario Outline

This scenario allows players to take part in the Securitate rescue mission on Christmas Eve of 1989. The Securitate player has skilled troops and better equipment, while the Romanian Army player has numbers and reinforcements which might be brought into play. Because of the unusual nature of the scenario, play with a referee is recommended but not required.

The scenario takes place at night in the Tirgoviste military barracks, with the only illumination provided by electric streetlights, giving dusk-level illumination (-2 ALM) to the camp and the surrounding 10 hexes of the perimeter. Outside of that range, there is no moon level illumination (-12 ALM). There is a medium wind (5 HPP) blowing from the West. Lights in all

We want to die together.

-Elena Ceausescu, final words

build-ings are on, giving full illumination inside. Interior lighting can be shut off by any combatant standing in a doorway or adjacent hex and using 1 AC.

Setup

The antichrist is dead. He died too easily."

-Anonymous Romanians speaking on the Ceausescu

The Army player sets up his initial forces first and designates any patrol routes that are to be followed. These patrol routes may be abandoned once the shooting starts, but otherwise must be followed by the patrolling guards at a Walking pace of 1 Hex per Phase. The Army player also secretly designates the room where the Ceausescus are held on a copy of the map and hands this to the referee. The Ceausescus must be guarded by at least two combatants at all times.

The Securitate player does not set up his combatants on the map, but instead plots out his movement each phase on a copy of the main map and hands this to the Referee, who checks to see if any of the Securitate combatants have been spotted, or if they have discovered the room where the Ceausescus are held. Once spotted, Securitate combatants are placed onto the main map and remain on it for the rest of the game. Securitate combatants may enter the map from any one side they wish.

Army

The Romanian Army has recently switched sides to support the National Salvation Front against the hated Ceausescu regime. Nicolae and Elena Ceausescu are held on the Army base, and the Army's mission is to guard them and prevent their escape or rescue by the Securitate. This task is taken very seriously—if the Ceausescus were to escape, the Securitate would continue their terror campaign indefinitely while the Ceausescus would become rich exiles like Amin, Marcos, and Duvalier. Romania would bleed to death.

After gunfire, explosions, or shouts of alarm are heard throughout the camp, the Romanian Army player is able to receive reinforcements. These reinforcements consist of up to four rifle squads which arrive from the barracks baseline. A 0-9 roll is made once every twenty phases. On a roll of 0, two squads arrive, and on a roll of 1, only one squad arrives. Otherwise, no squads arrive. This continues until the game ends or a total of four squads have arrived.

Romanian Army Initial Units

2 Rifle Squads -- Organization is below

Romanian Rifle Squad Organization -- Each Squad

Number	Quality	Weapons
2	Line	AK-47
1	Line	AK-47/RPG-7V
1	Green	RPK
4	Green	AK-47

Securitate

The Securitate have learned from their informers that Nicolae and Elena Ceausescu are being held in the barracks at Tirgoviste. The local Securitate group of the Special Assignments Brigade has dispatched an elite hostage rescue team to recover the Ceausescus. The Ceausescu's rescue is paramount--they must be recovered alive and unharmed for the government of Romania to put down the rebellion. The Ceausescus rescue will symbolize to the National Salvation Front that the Securitate and Ceausescu can never be defeated.

Securitate units must search through the barracks area to locate the Ceausescus, free them, and then exfiltrate them from the area. Wounded must also be recovered if possible, but dead may be left behind.

Securitate Units

Number	Quality	Weapon
3	Elite	AK-47
6	Crack	AMD-65
5	Line	AMD-65

Securitate also have 6 RPG-18s which may be distributed among the troops as the player desires. Securitate also wear Titanium/Nylon Composite Body Armor (PF 6, BPF 3) vests.

Special Rules

Securitate Weapons: The Securitate were always equipped with the best of equipment. Therefore, Securitate combatants are allowed to carry up to four special-purpose hand grenades in addition to their normal grenade load. These special-purpose grenades can be flash and stun grenades, tear gas grenades, or smoke grenades. Two special purpose grenades can be exchanged for one MON-50 directional mine, the Soviet copy of the US M-18A1 Claymore mine. Use the M-18A1 as a proxy for the MON-50.

Rules for Claymores, Flash and Stun grenades, and tear gas grenades are in the "Special Weapons WDS" as are rules for smoke grenades. Smoke grenade rules are also found in the "Advanced Phoenix Command" Rules Supplement.

Night Vision Devices and Illumination: There are ten lampposts providing dusk-level illumination to the base. Securitate can attempt to shoot out the lights on the lampposts; each light has a TS ALM of -4 and is destroyed on being hit. Each light that is destroyed reduces the visibility ALM by 1. When all are eliminated, the visibility on the base will be reduced to no moon level darkness. Interior building lights will still provide illumination inside of buildings and within 1 hex of unshuttered windows.

The darkness may be offset in a number of ways. The Securitate possess passive night-vision goggles, which allow unlimited dusk-level visibility across the board (-2 Visibility ALM). These goggles must be removed from the user's eyes (3 AC to remove, 12 AC to replace) before entering a lighted room or the goggles will "bloom out" from too much light, effectively blinding the wearer for as long as he wears the goggles (-14 Visibility ALM).

A second way to offset the darkness involves using two spotlights mounted on the guard towers. Each will illuminate a moveable 10 hex-radius circle to dusk-level darkness and will cause "blooming" in any night vision devices looking into the spotlights. These spotlights can be switched on in 2 AC and moving them requires a user's full attention, so no aiming or movement can be done while operating them. They have a TS ALM of -4 and are destroyed by a single hit.

The final way to offset the darkness involves the use of parachute flares. Each flare is handheld and propelled by a small rocket motor to a height of 210 metres where a small parachute flare is ejected to burn for 15 Phases. Each flare launched will increase the visibility ALM of the entire map by 4 up to but not exceeding dusk-level darkness. So if the visibility ALM for the base had been reduced to -5 by having 3 lampposts destroyed by the Securitate, a parachute flare would normally increase the base visibility ALM by 4 to a -1, but since the maximum visibility ALM for the base is -2, the flare only increases visibility to -2. Each squad commander possesses two of these flares and arming and firing one flare requires 8 AC.

The Ceausescus: Nicolae and Elena Ceausescu are treated as Militia level civilians. Once they are found by the Securitate, they may be controlled by the Securitate player. They are unarmed, unarmored, and handcuffed when found. Removing the handcuffs requires 8 AC with a standard handcuff key, carried by all Securitate combatants in their pockets.

Squad Morale: The Army reinforcement squads which may arrive following the start of combat are relatively inexperienced groups who have no desire to face down elite Securitate units. When three of the squad members have been incapacitated or killed, the squad will refuse to advance any further and will take up stationary fighting positions nearby. At least one squad member will be designated to recover the wounded and get them under cover while the remainder of the squad continues to fight. As the bodies are brought under cover, one active member must stay with each incapacitated member to provide basic medical care.

Guard Towers: The one guard tower is three stories (30 feet) tall and has a simple ladder to reach the guard platform. If the army player chooses to man the guard tower, then there must be two combatants in there. One combatant will aim and fire a pintle-mounted PKM (+5 ALM). The PKM gunner must always have another combatant with him to serve as a loader. Whenever the PKM fires, the loader's CA are occupied with feeding the ammunition belt into the gun and so cannot be used for anything else, except for spotting targets. If the loader is killed, then he can be replaced by any other combatant.

Victory

The Securitate win the scenario if they are able to get the Ceausescus off the map alive and unharmed. The Army wins if they prevent a Securitate victory.

Nicolae and Elena Ceausescu are not loved at all by the Army, and the Army player may be sorely tempted to kill the two of them when the shooting starts as a means of denying victory to the Securitate. There is nothing in the rules to prevent this, but the Army player should realize that doing so would lead to a substantial political loss to the National Salvation Front. As a guideline, if the Ceausescus are handcuffed and can be considered still in custody of the Army, the Army is not allowed to shoot them until after the trial. However, if the Ceausescus are considered escaping or have been freed by the Securitate, then they are valid targets and may be shot without hesitation. Of course, the Army victory would be so much sweeter if the Ceausescus were to be recaptured alive to stand trial, as they did in real life. Therefore, in the event that the Ceausescus do not survive the game and are shot by the Army while escaping, the game is a draw whereas if they are shot by the Army while still in custody, the Army loses.

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PHOENIX COMMAND

Things Fall Apart

The **Russian Roulette** and **In the Name of God** scenario packs were originally part of a much larger work called **Phoenix Command: Low Intensity Conflict**, which included scenarios from a number of wars raging in 1990-91, including Canada, El Salvador, Sri Lanka, and Liberia, in addition to the scenario packs on Russia and Israel.

What follows are the scenarios that arose from Liberia, which underwent a brutal civil/tribal war in 1990 that saw the death of President Samuel Doe and the collapse of the nation into anarchy. Despite the strong historical ties to the United States, Liberia's 1990 civil war saw little airplay on American or even world media at the time as journalists subscribed to the theory of "MEGO" - "My Eyes Glaze Over." A war in a tiny country on the coast of Africa was deemed to mean little to viewers or readers, and so it received almost no airtime or ink in the press.

INTRODUCTION

There are always wars happening somewhere. The 1990's, which began with the end of the Cold War, saw dozens of other wars which raged in the early part of the decade. Usually, each war involved a disaffected ethnic or political minority group taking up arms against its government, which responded in kind.

The proper term for these situations is low-intensity conflict. This term is used because life in the affected nations somehow continues as before, interrupted only by brief flashes of chaos. The rest of the world takes no notice of the uprising, save for when the war interrupts trade or refugees spill over into a neighbouring country. It is quite a different style of warfare from high-intensity conflict characterized by extensive use of armoured forces, supporting artillery, and aircraft, such as the 1990-1991 Persian Gulf War.

In one Low Intensity Conflict in 1990, Liberia suffered a revolution which saw the repressive regime of Samuel Doe removed and replaced by that of ECOWAS-supported Amos Sawyer. In the process, atrocities against civilians were practiced by both sides--the nation's traditional tribal animosities operated to encourage wholesale slaughter of innocents. Also, the revolution destroyed what was left of an economy ravaged by international depression and Doe's financial policies. Liberia's revolution has shattered the oldest African republic and it will be a long time before the nation will be able to recover from Doe and his overthrow.

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Page last modified: January 04, 2002



Background to Liberia's War

Liberia has a unique history among African states. It was originally established as a colony by the philanthropic National Colonization Society of America as a homeland for freed American slaves. Land was obtained by treaty with indigenous tribes in 1822, and was subsequently settled. In 1847, Liberia proclaimed itself an independent republic, but failed to live up to the name. Later generations of American Liberians established a slave-state of their own, enslaving the indigenous Liberians.

Slavery continued until the 1936, when it was abolished in the wake of scandal and League of Nations investigation. The scandal did not manage to unseat the True Whig party from its then more than half-century of domination of Liberian politics.

Liberia continued as a republic under the Whigs until April of 1980, when M.Sgt. Samuel K. Doe and his People's Redemption Council staged a bloody coup. The PRC established itself as an interim regime until 1985, when elections were held. Doe and the PRC were returned to power among allegations of election fraud.

The 1990 Civil War:

In late December of 1989, a group of rebels entered Liberia's Nimba county from the Cote d'Ivoire. They were led by Charles Taylor, a former member of Doe's cabinet who was removed from office on charges of embezzlement. Doe's response was a harsh crackdown on his own people in an attempt to stop Taylor's group, which called itself the National Patriotic Front. But Doe's crackdown served only to drive many Nimba county residents into the NPF ranks.

By February, the war had settled into a predictable pattern of low-intensity skirmishes and atrocities. The NPF held Nimba county and was slowly taking other parts of Liberia away from Doe's forces. In the meantime, Doe's military was deserting and taking their weapons. Many ended up in NPF ranks. Doe, in a frantic attempt to enlarge his military, press-ganged thieves from the Waterside district, only to have them desert and use their new-found weapons to enhance their old profession.

The atrocities came quickly now and followed tribal lines. Four of Liberia's sixteen tribes were prominent in the civil war. The Krahn and Mandingo tribes supported Doe, while the Gio and Mano tribes backed the NPF. The tribal animosities among these groups verged on genocidal. In one incident, Doe's death squads slaughtered more than 600 Gio and Mano civilians inside the St. Peter's Lutheran Church of Monrovia; the civilians were seeking asylum from Doe's troops. NPF forces were also accused in one case of breaking into a mosque and killing Mandingo members.

The rebels encircled Monrovia in June. On June 4, an NPF squad was ambushed and Taylor's strategist, the American mercenary Elmer Johnson was killed. Shortly afterwards, Prince Yormie Johnson left the NPF with a group of followers to form the Independent National Patriotic Front of Liberia (INPFL). These two events crippled the NPF and rendered it mostly ineffective for the rest of the conflict. The NPF spent the rest of the war looting and executing civilians.

In August, the flow of refugees into neighboring states caused the Economic Community of West African States (ECOWAS) to send in the 3000-member ECOWAS Monitoring Group (ECOMOG). However, ECOMOG was unable to stop the fighting and the INPFL continued to advance on Monrovia, eventually being able to exercise control over portions of it. Doe spent the last months hiding in his presidential mansion in the company of his "Satue" presidential guard battalion. Whether he was there by choice or under house arrest by his Satue was never clear, as Doe's guards said that he would not leave Liberia without them.

Doe left the presidential mansion on September 9th and travelled to the ECOMOG headquarters but was intercepted by Prince Johnson. Doe's accompanying bodyguards were killed, and Doe was mutilated and tortured before being killed.

On Doe's death, there were no less than four people claiming control of Liberia. ECOMOG tolerated these for awhile, but later supported Professor Amos Sawyer as head of an interim government based in Ghana. In February 1991, ECOMOG forced the rival factions to sign a peace treaty and begin disarming, but Charles Taylor claimed he would continue to protest Sawyer's government. Taylor's NPF was recently reported to be engaging in banditry and raiding in neighboring Sierra Leone and Cote d'Ivoire. Both Johnson's INPFL and General Hezekiah Bowen's Armed Forces of Liberia (AFL) have chosen to support Sawyer.

The war created an estimated 700,000 refugees and an unknown number of civilian casualties. International trade channels had been eliminated by the fighting, cutting off food shipments and causing deaths from starvation among more civilians. Power-sharing negotiations following the peace treaty remain bogged down, mostly due to Taylor's resistance to any such agreement. Liberia's immediate future remains grim.

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Page last modified: January 05, 2002

PHOENIX COMMAND

Forces in Liberia's War

The four groups with forces in Liberia during the civil war were the **Armed Forces of Liberia** (AFL), the **National Patriotic Front** (NPF), **Independent National Patriotic Front of Liberia** (INPFL), and the **Economic Community of West African States Monitoring Group** (ECOMOG). Little data is available on the organization of these forces other than the AFL. What does exist has been collected from photographs and first-person accounts by journalists.

The AFL were and remain a small army, which has decreased in personnel and equipment due to desertion and thievery. The AFL are presently headed by General Bowen and before the civil war consisted of 6300 troops in 10 battalions. There were 6 infantry battalions, 1 artillery battalion, 1 armored recon battalion, 1 executive mansion guard (Satue) battalion, and 2 support battalions. An aerial reconnaissance squadron with 20 propeller-driven aircraft also existed.

Infantry units are believed to follow American squad organization and field an array of old weapons including M2HB HMGs, M1918M2 BAR automatic rifles, M1919A4 LMGs, and M-16A1 rifles sometimes with M-203 grenade launchers. Doe also purchased AK-47s from Romania before he was overthrown and his military was also fielding these. Photographs during the civil war showed weapons to be in poor condition. Support equipment included 3.75" Super Bazookas, M40A2 106mm recoilless launchers, 60 and 81mm mortars, 3 M116 75mm howitzers, and 8 M101 105mm howitzers. Armored vehicles included WW II-era M3 halftracks and recently purchased MOWAG 4x4 Piranha vehicles fitting twin machineguns. Most mechanized transport was accomplished by civilian trucks. The AFL was, and likely is, composed of ill-trained and poorly motivated troops. However, the AFL were the only troops with any real organization during the war.

The guerrilla groups started under Charles Taylor's NPF banner in 1989. They are reported to have received training and aid in Libya, but probably followed American-style squad organization in the early part of the war due to Elmer Johnson's leadership. During the later part of the war, the NPF and INPFL did not appear to have any organization or discipline. Weapons maintenance appeared nonexistent, and rebels were observed going to war in bright-colored athletic gear.

Both the NPF and INPFL fielded AK-47s (mostly from AFL deserters), G-3s, Uzi SMGs, and a large amount of PPS 43 SMGs and M-1 Garand rifles. As AFL deserters joined the rebels, their arms quality improved to include M2HBs and M-16A1/M-203s.

ECOMOG forces came from a variety of nations in ECOWAS, but primarily Nigeria and

Ghana. Troop strength increased from an initial 3,000 in August 1990 to 10,000 by February 1991. Equipment varied among the nations, and ECOMOG is not detailed here because they were not really in fighting.

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PHOENIX COMMAND

Scenario: Christmas Presents

On the Saturday after Christmas Eve, 1989, Charles Taylor and a group of rebels crossed the Liberian border into Nimba County. Their arrival was noticed by Doe's army, which moved swiftly to attempt to throw the intruders back into Cote d' Ivoire. However, the NPF intruders had substantial support in Nimba County already because of tribal affiliations. Also, the initial group of NPF had likely received military training from Libya, and was composed of motivated and capable fighters. Thus, the NPF were able to continue to advance into Nimba county.

At this time, Doe denounced the NPF attack as an attempted coup by foreign mercenaries and stated that the coup had been put down. He followed this with a harsh security crackdown on the Liberian people, but the crackdown served only to drive more people to the NPF ranks. Fighting continued despite Doe's pronouncements.

This scenario simulates an AFL counterattack on a NPF rally point in a Nimba County village. The AFL must capture or kill all NPF members in the village, while the NPF must repel the attack. Numerous civilians sympathetic to the NPF are in the village and serve as obstacles to the combat.

NPF: The NPF troops have crossed the border a few days ago and, after an attack on an AFL border post, have fallen back to this sympathetic village to rally for another attack. They realize that the AFL is hunting them, but have had little time to prepare a defence. This squad has been assigned a rearguard action so that the remainder of the NPF troops can move to safety. They must hold as long as possible, then exit the map. NPF units set up in the village in the open.

NPF Units:

Number	Quality	Weapons
1	Line	AK-47
6	Militia	PPS 43
1	Green	RPK
1	Green	AK-47 & RPG 7V with 5 HEAT

Injuries: 3 of the NPF Militia troops have been wounded and suffer a 1 point penalty to their Combat Actions.

Ammunition: Except where otherwise noted, all troops carry 6 magazines of FMJ. The RPK gunner only has two drums of FMJ. All units also carry 3 RGD-5 hand grenades

each. Players may substitute Uzis for the PPS 43s.

AFL: The AFL has two nine-member squads in pursuit of the NPF rebels. They must break through any rearguard and secure the village.

AFL Units:

First Squad

1	Line	M-16A1
2	Green	M-16A1
1	Militia	M-16A1/M-203 w/ 10 HE
4	Militia	M-16A1
1	Militia	BAR A2

Second Squad

3	Green	M-16A1
1	Militia	M-16A1/M-203 with 10 HE
4	Militia	M-16A1
1	Militia	BAR

Ammunition: Unless otherwise stated, all troops carry six magazines of FMJ. They also each carry 2 M26A2 hand grenades. Players may substitute M-60s with one belt in place of the BARs.

Civilians: There are 20 civilian noncombatants in the village, and these serve primarily as obstacles in combat. Both NPF and AFL troops should try to avoid killing the civilians, but are not required to protect them. Normally, a political loss would occur if civilians were killed, but given the nature of the war, each side will blame the other, and the deaths will become blurred by a hail of counteraccusations. Civilians treat the AFL as a hated authority.

Victory: Victory is achieved by the NPF if they can hold the village for 15 minutes before moving off the map. The AFL wins by preventing the NPF victory.

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PHOENIX COMMAND

Scenario: Death of Elmer Johnson

Elmer Johnson was the primary military advisor to Charles Taylor, and was responsible for the early NPF victories and maintaining the NPF as a viable fighting force through his charismatic leadership and military skill. Following his death, the NPF fell into disarray and spent the rest of the war committing brigandage.

Johnson was an expatriate Liberian who held dual American and Liberian citizenship. He had served in the U.S. Army in the early 1980s, and had returned briefly to Liberia in 1984 to take part in an abortive coup against Doe. He was captured and later released, and stayed in the United States until 1989, when he traveled to Cote d'Ivoire to advise the NPF and lead them through quick many victories over Doe's AFL.

On June 4, 1990, Johnson was leading a convoy of 30 NPF rebels in captured AFL vehicles when he was ambushed, ostensibly by 500 counterattacking government troops. He was captured and executed by the ambushers. Doe was quick to claim responsibility for the ambush and it is likely that the AFL did perform the ambush and execution, but there is also circumstantial evidence which suggests that Charles Taylor himself may have ordered Johnson's execution.

This scenario is a scaled-down version of the ambush with the goal of the NPF being simply to survive the attack, and the ambusher's role being to wipe them out. Players wishing to play with realistic forces should simply multiply all units by 3.

NPF: The NPF is led by Charles Taylor and is ferrying troops from the captured Firestone plantation to Roberts Field when it is ambushed. At this time, NPF ranks have been swollen by new recruits, so while morale is high, troop quality is quite low. NPF objectives are to survive the ambush. NPF troops set up in vehicles on the road.

NPF Units:

1	Line	M-16A1
3	Green	M-16A1
1	Militia	RPK with 1 drum
5	Militia	PPS 43

Ammunition and Weapons: Except where otherwise stated, all troops carry 6 magazines FMJ and 3 RGD-5 hand grenades each. The PPS 43 may be replaced by the Uzi SMG.

Vehicles: The NPF troops are riding in 2 civilian pickup trucks.

Ambushers: The purpose of this ambush is to destroy the entire convoy. Positions have been carefully selected and explosive weapons are available ensure that nothing leaves the kill zone. Ambushers set up anywhere on the map, and may even move the log barricade.

Ambush Units:

1	Line	M-16A1
4	Green	M-16A1
10	Militia	AK-47
2	Militia	BAR A2
3	Militia	M16A1/M-203 with 10 HE

Ammunition and Weapons: Except where otherwise stated, all troops carry 6 magazines FMJ. Also available are 2 M26A2 hand grenades each, and a total of 4 command-detonated Claymore mines. The BARs may be replaced with M-60s with one belt each.

Victory: This is a simple scenario. To win, the ambushers must kill or capture all of the NPF troops. NPF troops must try to prevent that. Note that if Johnson (the Line trooper on the NPF) is captured or killed, it is a propaganda victory for Doe's AFL.

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Scenario: Snuff Films

Samuel Doe came to power in a bloody coup in 1980, and the years that followed saw Liberia on a path to devastation. Doe's economic policies served to destabilize the national economy and saw Liberia become heavily dependent on foreign aid. The United States provided Liberia with \$50 Million annually, but much of it went to the pockets of the corrupt officials of Liberia, including Doe himself.

The civil war saw Samuel Doe becoming more and more desperate as his AFL was unable to suppress the NPF and INPFL rebels. His desperation finally drove him to attempt to escape Liberia by traveling towards the ECOMOG headquarters to request asylum. He was intercepted by Prince Johnson and a group of INPFL rebels.

Doe's 60 accompanying Satue were overpowered by INPFL troops and executed. Doe himself was stripped, mutilated, and shot as Johnson questioned him about the Liberian treasury. Doe's ears, fingers, and hair--believed to be a source of magical powers--were removed and Doe was then left to bleed to death in a nearby girl's washroom. The last hours of Doe's mutilation and life were captured for posterity on VHS videotape by an INPFL cameraman.

This scenario simulates a scaled-down meeting engagement between Doe and his Satue and Johnson's INPFL. Players command either Satue or INPFL troops.

INPFL: Johnson and his INPFL have heard that Doe is moving towards the ECOMOG headquarters, presumably to seek asylum. Johnson, the INPFL leader, sees this as an opportunity to end the war and locate the Liberian treasury, so he has led a force to intercept Doe. INPFL troops must capture Doe. They set up on the south side of the street.

INPFL Units

Johnson	Green	AK-47, Colt Python 6"
4	Green	AK-47
5	Militia	Beretta M12S
5	Militia	AK-47

Ammunition: All units carry 3 magazines FMJ. Johnson carries 24 rounds of JHP for his

python.

Satue: As part of Doe's elite bodyguard battalion, the Satue received many privileges and much of the anger of the Liberian people opposed to Doe. The Satue were also in a substantial position of power over Doe, and they promised that Doe would not leave Liberia without them during the several months when he barricaded himself in his presidential mansion, indicating that Doe was under a form of house arrest. Now, Doe has finally tried to go into exile, and has taken some of his Satue to the ECOMOG headquarters to seek asylum, but the party has been intercepted by an INPFL force. Satue troops must get Doe to the ECOMOG headquarters which means exiting off the south edge of the map. Satue troops set up on the north side of the street.

Satue Units

Doe	Green	S & W M-19 6"
2	Line	M-16A1
4	Green	M-16A1

Ammunition: All Satue troops carry 6 magazines FMJ. Doe carries 24 rounds JHP for his M-19. Doe and the two Line troops also carry 2 M26A2 hand grenades each.

Victory: If Doe is captured, it is a major victory for the INPFL. If Doe is killed, however, the encounter is a draw, because Johnson does not get to question Doe and there is the potential for making Doe a martyr. If Doe manages to exit off the south edge of the map, it is a victory for the Satue.

Variant 1: This scenario had forces scaled down by a factor of 10. Teams of players may wish to try using the actual forces involved and a larger map area. If this is the case, multiply the number of units involved by 10 and provide Doe and his troops with 5 pickup trucks as transport.

Variant 2: There were stories that Doe actually made it to ECOMOG headquarters and they turned him away. Players may wish to extend the scenario or variant 1 by rolling a d10 should Doe make it past the INPFL forces. On a 0-2, ECOMOG grants asylum, and Doe wins. However, on a 3-9, Doe finds the ECOMOG doors closed to him and to win in this case, Doe must then travel back to his presidential palace past the INPFL forces again.

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Scenario: Terminator 5 Strikes

In March 1991, as the war began to degenerate into series of atrocities, the American embassy in Monrovia requested that all American nationals and peace corp workers leave Nimba county. Foreigners came under attack, and some were even kidnapped and killed. Even the embassy came under attack as its Liberian personnel disappeared in fear for their lives and the embassy's own Liberian guards made death threats against embassy staff.

The guards were angered that the embassy was removing taxes from their paychecks. Earlier in the year, Doe had cancelled all taxes, but the legislature had not approved the plan. The guards vented their frustration on the embassy, and may even have burned down an embassy warehouse. The day after the fire, the guards even marched on the embassy until they were stopped by the ambassador and the Liberian National Police.

One of the guards called himself "Terminator-5" and gave graphic descriptions of the harms he would cause to embassy staff during the employment dispute. On the night of the fire, he was heard to shout "It has begun," though nothing happened that night other than the fire.

The guards only embarked on a campaign of verbal terror and intimidation against the staff and did not actually commit violence against the staff. This scenario simulates what would have happened had the guards actually turned on the embassy staff and attempted to loot the embassy. This action is a night action with a half moon and no artificial lighting in the embassy grounds.

All buildings except the main embassy building are single story. The embassy building is a two-story building.

Guards: The embassy guard units have been angered by the deduction of taxes from their paychecks. In the troubled civil war economy, American dollars keep them and their families from starving. However, to protest against the Liberian government would be suicidal as the Satue or AFL would quickly kill them. It is much safer to protest against the embassy. Tonight, however, a group of guards intends to do more than protest. A squad has gathered and will attack the embassy building and attempt to loot it for cash and valuables. Prisoners are required to show the locations of valuables, or as hostages to force the cooperation of the other staff. Guards set up in the embassy grounds.

Guard Units:

2

Green

M1 Carbine

10	Militia	M1 Carbine
5	Militia	M-870 with 20 rounds "00"

Ammunition: All guards carry 3 magazines FMJ. They also carry up to 10 petrol bombs (molotov cocktails).

Staff: The staff at the embassy has been cut back as much as possible, and only essential people remain. They are staying in the embassy residences because local residences have become too dangerous. The majority of the staff are civilians, but there is a trio of USMC guards to provide some measure of protection. The staff must hold off the attack of the guards and prevent the guards from injuring the staff. Spare weapons exist for some of the staffers who wish to join in the defence. Staff set up in the main embassy building.

Staff Units:

2	Line	M-16A2
1	Line	M-870 with 30 "00" & 10 slugs
4	Untrained	M-16A2

Ammunition: Except where otherwise noted, all units carry 6 magazines FMJ. The USMC guards (Line troops) also have access to 4 M26A2 hand grenades each and 2 tear gas grenades each. Gas masks are available for the USMC guards only.

Civilians: There are 7 unarmed civilians in the embassy building. They will see the Liberian guards as an abusive non-authority.

Spoils: There is a safe holding embassy funds and documents on the second floor of the main embassy building. It is located in the northwest corner of the floor.

Victory: The Liberian guards score a major victory if they can loot the safe of the embassy. The embassy staff win by preventing this.

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Scenario: Streetfighting

A common encounter in the Liberian war was streetfighting between NPF or INPFL forces and Doe's AFL troops. There were dozens of small villages which were taken in streetfighting. The streetfighting in these wars had a special flavor quite unlike the streetfighting in other wars. Prepared defences were not present, and troops did not often resort to using buildings as cover, preferring instead to use items in the street itself. Sometimes, quick passage through a building was all that was required to perform a flanking maneuver.

This scenario allows players to try streetfighting in a small Liberian village with infantry and with variants allowing for vehicles and mortar support.

Rebels: These are either NPF or INPFL troops who have been given orders to take the area around the town square, presently a no-man's land. In the basic scenario, only an infantry element is available. The rebel squad sets up north of the church.

Rebel Units:

2	Line	AK-47
4	Green	M1 Carbine
1	Green	RPK with 2 Drums FMJ
1 Green PPS 43, RPG-7V with 10 HEAT Rockets		
4 Militia M1 Carbine		

Ammunition: Except where otherwise noted, all units carry 6 magazines FMJ. Units also carry 2 RGD-5 hand grenades each. The PPS 43 may be replaced by an Uzi SMG.

AFL: The AFL troops have encountered rebel units operating in the village, and have been ordered to take the town square. Only an infantry element is available. AFL units set up south of the school.

AFL Units:

2	Line	AK-47
1	Line	M-16A1/M-203
4	Green	AK-47
1	Green	BAR A2
2	Militia	AK-47

Ammunition: All units carry 6 magazines FMJ. The BAR A2 can be replaced by an M-60 with one belt FMJ.

Variant 1: To increase the confusion of the streetfight, add the following forces to each side. This variant is quite suitable for team play.

Rebels add:

1 more squad as above

3 Pickup trucks with Green crews.

AFL add:

1 more squad as above

1 Pickup truck with a Green crew.

Variant 2: To alter the basic scenario to simulate fighting in one sector of a larger battle (such as the outskirts of Monrovia), double the size of the basic rebel forces and add a battery of 2 M-19 60mm Mortars off the map for the AFL. Provide both HE and WP mortar rounds. This battery is company level fire support for the AFL troops. The "Artillery System" will be required for this variant.

Variant 3: The basic scenario does not deal with civilians. Most civilians would have left the area to the soldiers, but for those players wishing to add stragglers, roll a 0-9 the first time a building is entered by either side. On a 1, a single civilian is inside. On a 0, there are two civilians, and one is armed with a melee weapon (such as a machete). Resolve actions for these civilians as necessary.

Victory: Victory is determined by who controls the town square at the end of the game.

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PHOENIX COMMAND

This Land is Our Land

The **Russian Roulette** and **In the Name of God** scenario packs were originally part of a much larger work called **Phoenix Command: Low Intensity Conflict**, which included scenarios from a number of wars raging in 1990-91, including Canada, El Salvador, Sri Lanka, and Liberia, in addition to the scenario packs on Russia and Israel.

In 1990, Canada came to the brink of a civil war. A small Quebec town's bid to develop a golf course on the land of a Mohawk Indian reservation led to blockades of two Mohawk reservations and an armed standoff between a group called the Mohawk Warriors and the Canadian Army. The blockade resulted in sympathy blockades and fears of violence spreading across the entire nation. This scenario pack includes a series of scenarios that highlighted different facets of the conflict, from Warriors fighting for sovereignty, to Police seeking to keep the peace, to the Canadian Armed Forces blending their traditions as soldiers and peacekeepers to keep the conflict from spinning into violence.

INTRODUCTION

The Oka Crisis started when the small Quebec town of Oka wanted to expand their golf course and build a private housing project. The land slated for these developments was titled to the town, but the Mohawks of the Kanasetake reserve bordering Oka claimed the land was sacred to them and part of an outstanding land claim.

On March 11, 1990, the Mohawk Warrior society erected dirt and log barricades to their reserve and the disputed land. Court challenges and mediation followed until July 11, when Oka Mayor Jean Ouellette ordered the "Surete du Quebec" (SQ) to take down the barricade. The SQ used tear gas, stun grenades, and assault rifles in a disastrous assault which ended with SQ Cpl. Marcel Lemay dead. The assault inflamed the situation and led to the Mohawks of the Kahnawake reserve barricading the Mercier bridge in sympathy for the Oka Mohawks, thus cutting off access between the South Shore and Montreal. A siege ensued with food and medicines being withheld from the reserves for awhile.

Racial tensions rose in the weeks that followed, with Royal Canadian Mounted Police and SQ contending with mobs of rioting whites in Chateauguay.

On August 17, Canadian Army troops replaced SQ and RCMP units at the barricades at the request of Quebec Premier Robert Bourassa. The standoff continued until late September, when Canadian Army personnel and Mohawk Warriors cooperated in dismantling the barricades on August 29. Although rioting incidents between Mohawk civilians and Canadian Forces did occur and the white riots continued, the removal of barricades was peaceful.

After the barricades were removed, some Mohawk Warriors who had been manning the barricades retreated to the Oka Drug and Alcohol Rehabilitation Treatment Centre (TC), where they continued the standoff behind an ever-closing circle of Canadian Forces razor wire.

Finally, on September 27, the holdout Warriors in Oka turned themselves over to Army custody. The crisis was over.

Since that time, the Mohawk Warriors which were taken into custody have come up for trial on various riot and weapons charges. There was another flare-up of tensions at Oka in January 1991 when police attempted to charge a Mohawk with speeding—the result was a riot involving 100 Mohawks and police.

In the end, the crisis was not about the disputed lands, for the Federal Government had purchased the lands and turned them over to the Kanesatake reserve on August 31. Instead, the issue was about the apathy of the Canadian governments to the plight of the Native people of Canada in both racial and economic terms.

For many natives, life has been a cycle of racism, poverty, and deplorable treatment by Canadian institutions where their land, their culture, and they themselves were subject to being wiped out. The Kanesatake natives chose to fight back. But they were also fighting for something many natives desire: sovereignty. For many natives, this means being treated as distinct nations within or in partnership with Canada as a whole. Sovereignty is seen as the way in which natives can preserve their land, culture, and themselves.

Out of the crisis came the claims that the Canadian governments had shaken off their apathy. As for whether the new attitude of the governments will produce positive effects remains to be seen.

As a final note, the crisis itself was as much a public relations contest as it was a military confrontation. The Warriors used cellular phones and fax machines along with regular press conferences in order to brief the media, while the military used professional videotapes and hindered press access to blockaded reserves. Both sides recognized that the sympathy of the Canadian people was essential for a political victory. For this reason, both sides were reluctant to actually start shooting, as the aggressor would lose public sympathy, and thus lose the war.

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PHOENIX COMMAND

Forces at Oka

There were three groups involved at the Oka crisis. These were the Mohawk Warriors, the police forces, and the Canadian Armed Forces.

The Mohawk Warrior Society is a paramilitary/enforcement arm of the longhouse faction of the Mohawks. The longhouse is a traditional leadership faction and is distinct from tribal councils, the leadership recognized by the Canadian governments. Warrior societies exist on many reserves, including the Kanasetake, Kahnawake, and Akwesasne reserves. Each society consists of a disorganized collection of highly dedicated men of varying military skills. Some are ex-military and even have Vietnam experience while others are teenagers. Their main small arms include civilian rifles and shotguns, and a very large amount of semi-automatic military-type rifles from 5.56 to 12.7mm calibres. Support equipment consisted of dynamite, boobytraps, and petrol bombs (molotov cocktails). Canadian Armed Forces videotapes suggested that the Warriors also had possession of illegal automatic weapons and military-type antitank weapons such as M72 LAWs and RPG-7s. The key defensive assets of the Warriors during the crisis were a series of dirt, log, and vehicle barricades designed to slow or stop armour and infantry assaults.

The police forces were involved during the early part of the crisis and were relieved by Canadian Armed Forces personnel on August 17. The first police force on the scene was the "Surete du Quebec" or Quebec Provincial Police. The SQ is primarily a rural police force equivalent in function to American State Troopers. It regularly contracts with small communities to provide police services for them. As such, it is inexperienced in the sort of civil unrest as it encountered at Oka. The SQ was supported by the Royal Canadian Mounted Police, a national police force with a broader range of experience than the SQ. Both police forces manned barricades of their own outside of the reserves and contended with rioters in Chateauguay. The police forces' equipment includes AR-15s, M-16s, M-870 shotguns, and HK-MP5A2 and MP5K submachineguns, along with an assortment of sidearms and concussion and tear-gas grenades. The automatic weapons are usually issued to SWAT-type units, while regular police officers carry shotguns and possibly AR-15s.

Finally, the Canadian Armed Forces are a small but highly professional and very well-trained military force. They were brought in at the request of Premier Bourassa and nominally placed under his command. It should be noted that the Canadian Armed Forces handled themselves with a great deal of professionalism and discipline during the crisis, and this professionalism was what kept the crisis from degenerating into a civil war.

Assigned were the 3300 person 5th Mechanized Brigade, the 430th Tactical Helicopter Squadron, and the CSV Acadian--a 50 foot navigation training vessel. A fighter aircraft

squadron was also used for photo reconnaissance.

Canadian Forces are armed with M-16A2 rifles (C7s), M-203 grenade launchers, and M-249 Minimi SAWs (C8s). They also normally carry M72A2 LAWs and can carry 84mm Carl Gustav Recoilless Launchers. Vehicles at the time of the confrontation included M113 APCs (and M150 TOW and M125 81mm Mortar carrier variants), Grizzly APCs, Cougar Fire Support Vehicles, M113 1/2 Lynx Reconnaissance vehicles, M109A2 105mm self-propelled howitzers, and 3 Leopard 1A4 MBTs fitted with bulldozer blades (no ammunition was issued for the main guns of the MBTs during the crisis).

Aircraft included the Bell UH-1N Huey and the Bell OH-58 Kiowa helicopters.

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Scenario: Violence at Akwesasne

The St. Regis-Akwesasne reserve straddles the New York, Ontario, and Quebec borders, and it was the scene of violent confrontation between Warriors and other Mohawks in May 1990. The reserve's main economic base is a series of bingo and gambling establishments on the New York side, and these businesses are protected by the Warriors and others. On the Canadian side of the reserve, a group of Mohawks wanted to diversify the reserve economy and shut down some of the gambling interests. Tensions continued to rise on the reserve between groups to the point where both were taking up arms. Shortly after the Canadian Mohawks requested police intervention, there was a nine-hour gun battle between the two groups which left two people dead. In a joint operation, police forces from Ontario, Quebec, and New York State moved onto the reserve to restore order. The incident marked a turning point in the militancy of the Warrior society and served as a precursor of the Oka crisis. Some of the Akwesasne Warriors ended up behind the barricades at Oka, as did Warriors from several other reserves in both Canada and the United States.

This scenario simulates the clash between the two groups of Mohawks. It is essentially a case where armed men went looking for trouble and found it in a rural neighbourhood.

Pro-Gambling Forces: There has been a long period of intimidation and rising tension, with people on both sides of the dispute calling for external intervention. The anti-gambling forces have put up barricades to keep the white customers off the reserve and out of the casinos. There have already been skirmishes, but no injuries yet. This night, the opponents have set themselves up in front of a house and are refusing to back down to pro-gambling Warrior pressure. Considering the steady increase of tension over the past few weeks, such defiance amounts to a direct challenge. The Warrior player's orders are to take his group of Warriors and overrun the house, using force if necessary. Warriors and two pickup trucks set up on the road. The two green troops armed with Pythons are drivers.

Pro-Gambling Units:

Number	Quality	Weapon
3	Line	AK-47 (semiauto)
1	Green	Ruger Mini-14
1	Line	M-870

2	Green	Python (6")

Ammunition: Combatants with rifles carry 10 magazines FMJ while the shotgunner carries 40 rounds "00". The two with Pythons carry 50 rounds of JSP each.

Anti-Gambling forces: From the anti-gambling forces' perspective, the Warriors' intimidation tactics have served to increase the tension to the breaking point. There have already been gun battles, and the police station has been attacked twice, once with explosives, and again a few days later with an overnight fusilade of small-arms fire. Confrontation happened before, but tonight will be when the shooting starts in earnest. Anti-gambling units must prevent the Warriors from overrunning their positions, but must avoid casualties. Anti-gambling units start anywhere in the yard of the house, but may retreat to the house later on.

Anti-gambling Units:

Number	Quality	Weapon
2	Line	AK-47 (semiauto)
1	Line	Sako 30'06
1	Militia	M-870
2	Green	Mini-14

Ammunition: Combatants with AK-47s or Mini-14s carry 10 magazines FMJ. The combatant with the SAKO carries 50 shells FMJ, while the shotgunner carries 40 shells "00"

Special Rules--Night Action: This action is a night action with limited lighting (-6 ALM). Warriors may use the pickups for illumination of the battle scene, thus dispensing with the visibility ALM for everyone over clear terrain, but giving anyone directly looking into the lights a -8 ALM.

Victory: The battle lasts as long as the ammunition holds out. No extra reloads will arrive. If the anti-gambling player remains on the starting property at the end of the skirmish, then he wins a strategic victory by standing up to the pro-gambling forces' intimidation. If the pro-gambling player has managed to kill, capture, or run off all the anti-gambling combatants, then he wins a strategic victory by showing the community the power of the pro-gambling faction.

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Scenario: Women and Children

July 11, 1991 was the turning point in what had been a drawn-out but quiet protest by the Mohawks of Kanesatake against the plans of the Oka town council. On the day before, the town council had obtained a court order forcing the Mohawks to remove their simple log barricades and stopping them from preventing work on the expansion of the town golf course. Oka Mayor Jean Oulette, despite the urgings of Quebec Native Affairs Minister John Ciaccia for compromise, intended to see the court order enforced.

Before dawn, SQ squad cars and vans arrived at the barricades and the SQ assault teams deployed. After SQ requests to speak with a spokesperson were not met the SQ launched a volley of tear gas grenades over the barricades. These gas grenades were fired despite the presence of Mohawk women and children.

More negotiation followed as police reinforcements and dogs were brought in. Some women confronted the police officers, sprinkling them with ashes and sweetgrass. Warriors used chainsaws to fell trees to prepare more barricades.

Finally, shortly before 9:00 AM, the police moved in. Their plan was to use a show of overwhelming force to remove the Mohawks from the barricades. They fired tear gas and concussion grenades and advanced towards the barricades. The Warriors, seeing that their women and children were endangered, responded with gunfire.

Both sides laid down barrages of suppressive fire. Seconds after the shooting started, SQ Cpl. Marcel Lemay was wounded. An ambulance quickly came on the scene and took him to the hospital where he later died, the only casualty of the battle. The other SQ officers, unprepared for the heavy resistance of the Warriors, began to retreat, abandoning several of their vehicles in the process. These vehicles were later used to create a new barricade by the Mohawks.

What had started as a small dispute had bloomed into an armed uprising. This scenario simulates the final push of the SQ on the barricades, and the full resistance of the Warriors. Also involved are Mohawk civilians, which serve to complicate the scenario. This scenario may be played as a one-on-one game, but is quite suited to team play due to the large number of forces involved.

Warriors: The Warrior player has the twin goals in this scenario of defending the barricades, and ensuring the civilians are unharmed. This means repelling the SQ assault and directing groups of civilians off the map. Warriors set up in the rifle pits and woods.

Warrior Units:

Number	Quality	Weapons
2	Militia	Mini-14 (semiauto)
2	Green	AK-47 (semiauto)
1	Green	RPK (full auto)
1	Green	Sako 30'06 with 50 shells FMJ
5	Line	AK-47 (semiauto)
1	Line	M-870 with 30 shells "00"
4	Crack	AK-47 (semiauto)

Ammunition: All combatants, except where otherwise stated, carry 10 magazines FMJ.

Support Equipment: Warriors also have a total of 3 caches of 10 petrol bombs each.

Surete du Quebec: The SQ player must advance and take the barricade, by force if necessary. The plan calls for an overwhelming show of force in hopes of frightening the Mohawks away from the barricades, and tear gas and stun grenades are available. Political considerations force the SQ player to avoid casualties on the Mohawk side, meaning he cannot use rifle fire first, but can use riot control weapons at his disposal. Police units set up at the police start position.

SQ Units:

Number	Quality	Weapon
Assault Team		
2	Crack	M-16A2
2	Line	M-870 with 30 shells "00" each and 20 "launcher" shells each.
4	Line	M-16A2
Patrol Officers		
4	Green	M-16A2
4	Green	M-870 with 30 shells "00" each.

Canine Team

2	Green	S & W M19 (6" bbl) with 24 rounds of .38 spl JSP.
2	German Shepherd Police dogs	

Support Equipment: Assault teams wear Medium rigid body armour (flak jackets), and patrollers wear medium flexible armour (Kevlar vests). All police units wear medium rigid riot helmets and gas masks. All police troops carry 3 flash and stun grenades and 3 tear gas grenades. An ambulance and 2 Emergency Medical Technicians are available in one of the vehicles.

Ammunition: All police, unless otherwise stated, carry 6 magazines FMJ.

Special Rule--Shotgun Launchers. These are cowlings which attach to the muzzle of a 12 gauge shotgun and are designed to hold cylindrical grenades like stun or smoke/gas grenades. The grenade is inserted into the cowling and the pin is pulled. The cowling prevents the striker lever from flipping off until the grenade is launched from the cowling by firing a special blank launcher cartridge in the shotgun. The grenades can be direct fired and indirect fired to a maximum range of 60 hexes. Players should use the rules for indirect fire of rifle grenades in the "Artillery and Indirect Fire System" Basic operation includes 4 AC for arming the grenade, 2 AC for placing it in the cowling, and 1 AC for assuming a firing stance before aiming can begin. Note that the fuse of the grenade does not start running until after firing. For direct fire, use the shotgun's Aim Time statistics to a maximum of 6 AC aim.

Police Dogs: For simplicity, the dogs will always be under the control of their masters and will follow all orders. They will not be spooked at any time by anything. Their only limitation is that they will not advance into an active tear gas cloud, or an area where tear gas was applied.

Civilians: There are 15 women and 5 children placed randomly behind the barricades. SQ are considered a hated authority.

Victory: The battle lasts until one side is neutralized or retires from the field or the ammunition runs out. Military victory is decided by who controls the barricades at that time. Political victory is much more important and is decided as follows. Both Warriors and SQ start with 100 points. For each civilian wounded or killed, the side which inflicted the shot deducts 10 points from its score per civilian. If a Warrior is wounded or killed by SQ fire, the SQ deducts 10 points per Warrior. If civilians have been targeted for any attack, the SQ deduct 20 points. If an SQ officer or animal is wounded or killed, both sides deduct 10 points per officer or animal. The side which can claim military victory can add 30 points to its score. In reality, the SQ suffered a military and political defeat with scores roughly Warriors: 120 and SQ: 70.

PHOENIX COMMAND

Scenario: Armour on the Mercier

On the morning of August 29, 1991, the Canadian Armed Forces, with the assistance of the Mohawk Warriors at Kahnawake, began taking down the barricades on the Mercier bridge. The initial tension and preparation for an armoured assault on the bridge was broken by the offering of a peace pipe by the Warriors and some short negotiations between Warriors and Army officers on the scene. For those wishing to avoid bloodshed, this was a powerful example of how the crisis could be resolved peacefully and without the partisanship that hampered formal negotiations.

This scenario simulates the situation where the peace pipe had not been offered, and the military had travelled forwards to take the bridge by force. It is a complex scenario incorporating a large number of units and a wide variety of weaponry and vehicles and thus is quite suitable for team play.

Players take either the role of the Mohawk Warriors or the Canadian Forces. Warriors will be manning the barricades and the Army will be attempting to remove them. Either side may fire first as this is a full-scale civil war which, fortunately, never happened.

Warriors: Protection of the barricades is a secondary goal. The focus is on keeping the Warriors alive and fighting. Warrior command has suggested fading into the woods and engaging in harassing attacks to prevent the Canadian Forces from proceeding into the reserve. Warriors set up behind the barricade and in rifle pits off the highway.

Warrior Units:

Number	Quality	Weapon
First Squad		
7	Line	AK-47
3	Green	AK-47
1	Line	RPK

Second Squad

2	Crack	AK-47
5	Line	AK-47
1	Line	M2HB (w/ 3 belts FMJ)
4	Militia	Mini-14 (semiauto)

Third Squad

5	Line	M-16A1

Fourth Squad

1	Line	Sako 30'06 with 50 shells
1	Militia	Mini-14 (semiauto)

Ammunition: All Warriors with detachable-magazine-fed firearms carry 10 magazines FMJ. Others carry ammunition listed.

Supporting Equipment: Warriors also have stored five caches each with 10 petrol bombs. Warriors also have access to a bulldozer and three pickup trucks. There are also numerous tripwire activated boobytraps in the woods, roughly equivalent to an M26A2 grenade in power. As a variant, players may wish to issue Warriors up to 10 M72A2 LAWs and 2 RPG-7s with 5 HEAT rockets each.

Small Arms: All AK-47s, RPKs, M16A1s, and M2HBs are capable of fully automatic fire. Dedicated players may issue sidearms in the .357 to .45 calibre categories with up to 20 bullets.

Barricades: Barricades consist of old passenger vehicles, kneeling-height concrete highway barriers (PF 680), and large sandbags (PF 40) piled up to chest height. Rifle pits are treated as field trenches and can hold 5 combatants.

Army: The Army has two goals in this scenario. First is to take the barricades and second is to advance onto the reserve to begin restoring order. This second goal may be accomplished by advancing off the south edge of the map. Elements of an armoured recon platoon will be available for the initial assault as well as one infantry platoon in Grizzly APCs. Players can use the M113 templates to simulate the Lynx, but reduce target size by 2 on all aspects to reflect the lower profile of the Lynx. Accurate templates are in the works for the Lynx and will be posted on the website in due course. Use the LAV-25 templates for the Grizzly, but replace the main armament with an M2HB .50 calibre machinegun, with a coaxial .30 calibre M1919A4 machinegun from the WWII WDS.

Army Units:

Recon Elements:

2 Lynx Recon Vehicles Line crews of 3 each.

Mechanized Platoon:

4 Grizzly Wheeled APCs Line crews of 3 each.

3 Rifle Sections in above APCs. See below for T.O. & E.

1 Command Group in above APC. See below for T.O. & E.

T.O. & E. Rifle Section (diminished)

Number	Quality	Weapon
1	Crack	M16A2
4	Line	M16A2
1	Line	M249

T.O. & E. Command Group

1	Crack	M16A2 and FN Mk-1 pistol with 1 magazine FMJ
2	Line	M16A2

Ammunition: All soldiers, unless otherwise stated, carry 10 magazines FMJ. M249 gunners carry 2 ammunition boxes of belted FMJ. Each section is allowed 4 M-72A2 LAWs and each soldier carries 4 M26A2 hand grenades.

Variants: The same scenario as above, except that it is a night assault. Canadian forces will have a rifle section on the ground beneath the bridge to try to soften the Warrior positions by stealth, before the armour rolls in. Smoke and tear gas grenades will be available to this rifle section. Another variant is to allow the Army players the option of negotiating, using the Diplomacy rules.

Tactical Notes: This scenario represents Warrior forces as seen by the media. That is, their main weapons are small arms and petrol bombs. Against an armoured force, the Warriors would not be expected to last very long. Indeed, Warrior plans only called for the slowing of armour so that their high-powered rifles and petrol bombs could attack them, before the Warriors themselves faded into the woods to continue a long-term guerrilla war. Their defences were arrayed in such a manner as to impede the progress of armour, and thus offset its advantage. The light-skinned vehicles of the Canadian Armed Forces are quite vulnerable to heavy-calibre weapons fire. Players wishing to upgun the Warriors to the weapons suggested by the Canadian military should feel free to do so.

However, even if the Army force is destroyed, the Canadian military possesses airstrikes, artillery, and heavier armour in the form of Leopard and Cougar AFVs. In short, there would have been no way for the Warriors to claim any more than a minor political victory in the long

term.

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Scenario: On to the Barricades

There was a sense of hope in the nation following the removal of the Kahnawake barricades. The day after the Kahnawake Warriors and Armed Forces Engineers started removing the barricades on the Mercier bridge, Federal Minister of Indian Affairs Tom Siddon announced that the Federal Government had purchased the disputed lands from the town of Oka and planned to turn the lands over to the Mohawks. Many Warriors at Kanesatake chose to slip away and leave the defence of the barricades to others.

However, the hopeful situation was marred by the Quebec government breaking off negotiations, and by the beating of Kanesatake Chief Francis Jacobs and his son by a group of Warriors. The Chief had been critical of the Warrior's tactics of ransacking the vacant houses of Mohawks who chose to leave the reserve during the crisis. The beating was taken by the Canadian Armed Forces as a sign that all order on the reserve was lost and they moved in at 1:00 PM on September 1. Infantry and APC units crossed the now-undefended barricades and proceeded onto the reserve, where they were met by Warriors who screamed at the soldiers to fire the first shot. A confrontation began to flare until Jennie Jack, a Warrior messenger, ordered the Warriors to retreat to the Treatment Centre compound. The rest of the reserve was occupied, and the siege of the Treatment Centre began.

This scenario simulates the meeting of the Military and Warrior forces behind the barricades. Both sides are quite hesitant to open fire, but will do so if necessary. Both sides have their orders and intend to carry them out.

Because this scenario focuses on avoiding combat, it provides a good platform for learning initiative and morale rules. Playing with these rules is strongly recommended.

Warriors: The Warriors must prevent Army units from moving onto the reserve until otherwise ordered by a messenger. Standing in front of advancing troops is permitted, but firearms combat is not. Warriors are under orders not to fire the first shot, and to do so would result in a political defeat. As Warrior commander, the player commands tense troops of varying skill levels ranging from militia to line. They must be carefully controlled, because they may break under the tension and open fire. Warriors set up in the rifle pits or woods surrounding the barricades.

Warrior Units

Number	Quality	Weapon

3	Militia	AK-47 (semiauto)
4	Trained	FN-FAL (semiauto)
5	Line	AK-47 (semiauto)
1	Line	RPK
1	Crack	M-870 with 50 shells "00" and 20 slugs.

Ammunition: All Warriors, unless otherwise stated, carry 20 magazines FMJ. The RPK gunner carries 2 drums. Sidearms and petrol bombs are also available, along with numerous boobytraps in the woods.

Warrior Messenger: The Warrior command will send an unarmed messenger on a 4-wheel ATC to the barricades some 5 + (5) minutes after the military crosses its razor wire. Roll a 0-9 once she contacts the Warrior commander on the map. On a 0-5, she orders the Warriors to fall back. On a 6, she orders them to hold their ground but only fire if fired upon, and on a 7-9, she orders them to be the first to shoot.

Army: For the Army, removal of the barricade without bloodshed is essential for a victory in this scenario, but either way, the barricade must come down and forces advance onto the reserve. If any gunfight breaks out, a political loss occurs, and this is made even worse if the Army fires the first shot. The army sets up behind its razor wire barricades.

Army Units:

Number	Quality	Weapons
Command Group (Negotiating group)		
1	Crack	M-16A2 and FN-Mk1
2	Line	M-16A2
Rifle Section (diminished)		
3	Line	M-16A2
2	Green	M-16A2
1	Line	M-249

Vehicles:

1	Lynx Armoured Recon Vehicle, Line Crew of 3
1	Grizzly Wheeled APC, Line Crew of 3

Ammunition: All soldiers, unless otherwise stated, carry 15 magazines FMJ. The M-249 gunner carries 2 boxes of belted FMJ. Other equipment includes 4 M26A2 Hand grenades per soldier and 4 M72A2 LAWS for the rifle section.

Special Rules--Breaking: Warrior and Army Units in this scenario are organized according to elements. An element is the most skilled trooper in an area and all friendly troops with a direct line of sight to him. Every ten phases, sum the roll of three six-sided dice for each element and compare it to Base Odds of 8 plus the element's highest individual gun-combat skill level.

If the total is less than the Base Odds, then the element does not break. If the total is greater than the Base Odds, then the element has broken and may start shooting. Roll again for each soldier in that element to determine if he breaks at Base Odds of 6 plus each soldier's skill level. Continue rolling until either one soldier breaks or all the soldiers in the element have rolled. A broken soldier will have been panicked by some imagined threat and must immediately hipshoot at the nearest target (real or imagined)

Once a shot has rung out, each element on both sides must check again on the following impulse, but now with Base Odds 2 plus the element's highest individual skill level, to see if any more soldiers open fire. If there have been any casualties to friendly troops, Base Odds are -2 plus the element's skill level. Each broken soldier may accept commands normally, provided he can hear them. (Use Sound Detection Rules.) A cease-fire command forces the soldier to check for breaking again, but at Base Odds of 8 plus the firing soldier's skill level.

Victory: There is both a political and a military victory, with the political victory being more important. In order to win politically, a side must avoid being the first to fire and hit an opponent's unit. Military victory is determined by who controls the area behind the barricades at the end of the scenario.

Variant 1: In this variant, it is assumed that the Warriors at Kanesatake did not abandon their barricades, but remained on them, awaiting a confrontation like the one on the Mercier Bridge. As in reality, both players will be trying to avoid combat. Players take either the role of the Mohawk Warriors or the Canadian Forces. Warriors will be manning the barricades and the Army will be attempting to remove them from the barricades through negotiation or force. As an added problem, the tension level at this time is quite high, and troops on either side may open fire, thus starting a civil war. Warriors set up as above and have the same orders, but, for political reasons, must negotiate with the Army if the Army requests it. The Army also sets up as above, but has orders to remove the Warriors from the barricades peacefully, through negotiation if possible. In this variant, breaking rules apply, as do diplomacy rules below. No messenger will arrive.

Special Rules--Diplomacy: The Army Captain in negotiating has a Base odds of 4 plus his Diplomacy skill level of 3. If he succeeds on a Base Odds roll three times, regardless of the number of failures, he has convinced the Warriors to peacefully leave the barricade. It takes 30 phases per attempt. All negotiations must be face-to-face.

Variant 2: Warriors were alleged to have antitank weapons such as M72A2 LAWS and RPG-7s. Also, they were supposed to have skilled snipers with civilian hunting rifles, while other Mohawks were armed with civilian shotguns. Players may wish to "upgun" Warriors in some scenarios. Players may also wish to make smoke and tear gas grenades available to the

Army.

Notes: Obviously, the prevention of combat is essential for a "victory with honor" for both sides, so both sides should organize their units into elements with at least one very highly skilled soldier to watch over the inexperienced troops. If the shooting should start, the commanders should get control over their troops before everyone starts shooting.

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Scenario: Onen'to:kon

Shortly after the Canadian military took the barricades at Oka, some thirty warriors and dependents who refused to surrender retreated to the Onen'to:kon Drug and Alcohol Treatment Centre. The military followed close behind and soon had encircled Onen'to:kon with razor wire. The standoff would last for more than a month until the military announced it would be pulling out of Oka and turning the responsibility for keeping order over to the SQ. Warriors were incensed at the military as they feared that the SQ would retaliate for its initial defeat where Cpl. Lemay was killed.

The Warriors began negotiating to end the blockade, and on September 27, they exited the treatment centre compound "en masse" and turned themselves over to military custody.

A few Warriors ran past the military lines, only to discover that the SQ had set up its own lines behind the military ones. Those Warriors were forcibly apprehended.

This scenario simulates what would have happened if the Canadian military had launched a final assault on the treatment centre. Warriors must repel the attackers and keep their civilian dependents safe, while Canadian troops must capture all the Warriors without harming the dependents. Because of the numbers involved, this scenarios is recommended for team play.

Warriors: At the place called Onen'to:kon, or "place beneath the pines," the Warrior Society of Oka has chosen to make its last stand. It is probably a battle which cannot be won, but which must be fought. Warriors must repel the assault of the military forces for at least an hour, after which point, a small political victory may be won.

Warrior Units:

	Number	Quality	Weapon
	1	Crack	M-16A1
	5	Line	AK-47 (full auto)
	3	Line	RPK (full auto)
	5	Line	Mini-14 (semiauto)

1	Line	M-870 with 30 shells "00"
6	Green	AK-47 (semiauto)
5	Green	Mini-14 (semiauto)

Ammunition: Unless otherwise stated, all Warriors carry 10 spare magazines of FMJ. The RPK gunners each have only one drum of FMJ.

Sidearms: At the Warrior players' option, revolvers up to .357 calibre or pistols up to .45 calibre may be carried by any or all Warriors. Only two magazines of FMJ are available for each weapon.

Army: The military has received its orders. The politicians feel that the situation has dragged on long enough, and have ordered military units across the wires into Onen'to:kon with instructions to end the resistance.

Army Units:

Number	Quality	Weapons
1 Command Group		
1	Crack	M-16A2
2	Line	M-16A2
3 Rifle Sections, each with:		
1	Crack	M-16A2
2	Line	M-16A2
1	Line	M-16A2/M-203 with 8 40mm HE gdes.
1	Line	M-249 with 3 boxes FMJ
2	Green	M-16A2

Ammunition: Unless otherwise stated, each soldier carries 6 magazines FMJ.

Civilians: There are a number of civilians distributed throughout the building in the compound. These range from journalists to infants. They must be kept safe, or the Army suffers a major political defeat, and the Warriors suffer a personal defeat.

Civilian Units:

Number	Quality	Notes

10	Untrained	Women
15		Children
10		Journalists

The women may be armed by the Warriors and used as untrained troops. Neither the children nor the journalists will fight.

Victory: For Warriors to win a victory in this scenario, they must hold off the Army platoon for one hour. This will show the nation that they remain prepared to fight and can do it effectively. The Army must take the treatment centre and capture all the Warriors without any injury to civilians in the building.

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Scenario: Lock and Load

Shortly after the last Warriors at Oka were taken into military custody, a crowd of 400 Mohawks from the Kahnawake reserve near Chateauguay gathered to protest the rough treatment of the Oka Warriors by military and police forces. In a feeble attempt to hold them back were six Canadian soldiers who used tear gas. The tear gas failed to disperse the crowd because some rioters were wearing gas masks. The crowd gathered again, this time facing down 24 more soldiers who had arrived as reinforcements. An officer ordered the soldiers to aim rifles at the crowd, specifically aiming at people who appeared to be agitators. The tactic worked, and the crowd dispersed.

This scenario is a scaled-down simulation of that riot. It is designed for two players, with one player handling the military and the other handling the agitators among the crowd.

Army: Your role is to disperse the crowd. Army units set up on the northern part of the highway.

Army Units:

Number	Quality	Weapons
4	Line	M-16A2
4	Green	M-16A2
1	M-113A3 APC with a Line Crew. Fitted with M2HB.	

Special Equipment: At the Army's disposal are 2 shotgun launchers and 20 Tear Gas grenades and launcher cartridges

Ammunition: All troops carry 6 magazines FMJ for their rifles. The M2HB on the M113 has only 1 belt of FMJ.

Agitators: Your role is to incite the crowd to attack the military. Such an attack would not only terrorize the military, but would also show to the Canadian governments that the situation is beyond their control. Agitators set up in the body of the crowd itself.

Agitator units:

Number	Quality	Weapon
4	Line	Blunt melee weapons.
4	Green	Blunt melee weapons.

Special Equipment: Gas masks. They are the only members of the crowd to wear these.

Weapons Option: At the Agitator player's option, the agitators may be armed with handguns.

Crowd: There are 80 members in the crowd. They are deployed in a skirmish line some 40 hexes away from the line of military troops. The Threat Level begins at II.

Victory: A simple victory is measured by which side manages to neutralize the other first. If the Army manages to disperse the crowd without resorting to gunfire, they win a strategic and political victory. If gunfire is used by the Army, then the Army suffers a political loss.

On the other hand, if the crowd, either with or without agitator control, manages to charge the Army line and render the line ineffective, then the agitators win a strategic and political victory.

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PHOENIX COMMAND

A Long Time Before Peace

The **Russian Roulette** and **In the Name of God** scenario packs were originally part of a much larger work called **Phoenix Command: Low Intensity Conflict**, which included scenarios from a number of wars raging in 1990-91, including Canada, El Salvador, Sri Lanka, and Liberia, in addition to the scenario packs on Russia and Israel.

INTRODUCTION

Among the many wars raging at the start of the 1990s, the war in Sri Lanka was almost unknown to the world, apart from scattered news reports that would appear on slow news days.

The Republic of Sri Lanka had been fighting a brutal civil war with a group calling itself the Liberation Tigers of Tamil Eelam (LTTE) since 1983. It is a war which has seen numerous atrocities and civilian massacres. Even the intervention of a peacekeeping force from India has been unable to stop the violence. It will be a long time before peace returns to Sri Lanka.

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PHOENIX COMMAND

Background to the Sri Lankan Civil War

Sri Lanka's warring factions are divided along ethnic lines. The majority of the Sri Lankan population is Sinhalese and have resided on the island nation for millennia. The Tamils are the largest minority group and are separated into the northern Tamils, who are descendants of Tamil invaders from India from many centuries past, and the plantation Tamils, who were brought to the island to work British tea plantations in the nineteenth century.

The roots of the current war can be found in the British colonial practices. The British gained the island of Sri Lanka in 1798 as a Crown colony after a short struggle with the previous Dutch rulers. Tea and rubber estates were developed and Tamils were imported from India to work the plantations. The Sinhalese residents refused to work for the slave wages offered by the British. However, as the colonial occupation continued, the Sinhalese who had refused to work for the British found themselves passed over for education and employment opportunities which went to the Tamils. The result of British rule was the domination of the island's economic and political life by the Tamil minority.

In 1948, Sri Lanka was granted independence and a Sinhalese government was appointed. This government quickly passed legislation discriminatory against Tamils, allowing the Sinhalese greater access to land, education, and employment. Some plantation Tamils were even deported to India. The legalized discrimination continued through the 1970s, when two major Tamil parties joined to form the Tamil United Front, which would later become the Tamil United Liberation Front (TULF) and would press for creation of a separate state "Tamil Eelam", from within the system. Other Tamils, more militant than the TULF, chose the path of terrorism and became the LTTE and other guerrilla groups. These Tamils concentrated their efforts on murdering Sinhalese officials and civilians until 1983.

The War:

In July 1983, the LTTE killed thirteen soldiers with a land mine. This explosion sparked three days of anti-Tamil rioting across Sri Lanka by the Sinhalese. Rioters rampaged through Tamil neighbourhoods, burning them to the ground and killing any Tamils they found. By the time the government took action to calm the rioting, some 400 Tamils had been massacred. The government was accused of not acting fast enough to stop the rioting, and this accusation, coupled with a tradition of official discrimination against Tamils, turned many to assisting the Tamil guerrillas.

Armed with popular support among their people, the guerrillas stepped up their guerrilla and terrorist activities. In one such attack in May 1985, Tamil guerrillas dressed as government soldiers entered Anuradhapura and went on a killing spree. They attacked the Bodhi Tree shrine, a sacred site to Buddhist Sinhalese, and then rampaged through the town. At least

150 civilians died in the hour-long attack.

Civilian massacres and atrocities continued unabated until July 1987, when a negotiated peace settlement was worked out under Indian mediation. The agreement called for an Indian peacekeeping force (IPKF) to disarm the guerrillas in exchange for a full amnesty for the guerrillas and limited autonomy for Tamils. Unfortunately, the Tamils refused to be disarmed, and fighting broke out again, this time involving the IPKF. After months of fighting, the IPKF were able to remove control of the city of Jaffna from LTTE hands.

Terrorist attacks continued during the resurgence in fighting following the arrival of the peacekeeping force, and in 1987, an old terror group was resurrected. This old group was the Janatha Vinukthi Peramuna (JVP) and was composed of Sinhalese extremists who felt that the government had made too many concessions to the Tamils. The JVP, in a previous incarnation, had tried to take over the government in the short 1971 revolution. In its present incarnation, the JVP has launched terrorist attacks against Tamils and government personnel, including a bombing attack on the presidential palace that almost killed then-President Jaywardene. A counter-insurgency campaign in late 1989 was thought to have effectively wiped out the JVP.

The IPKF bore the brunt of the fighting against the Tigers until 1989, when souring relations between the Sri Lankan and Indian governments and continued heavy fighting caused the recall of the 50,000 member force. The last Indian troops left on March 24, 1990.

This war, like many others, has fallen into a pattern of repeated ceasefires and combat. A thirteen-month cease fire was broken in June 1990 when a Tamil complained to the LTTE of police brutality. During 1990, several battles took place between LTTE and Government forces and Government forces discovered that the LTTE had used the ceasefire to build strong fortifications on the Elephant Pass which linked Jaffna to the rest of Sri Lanka. Combat continued until January 1991, when a week-long ceasefire occurred.

1991 saw continued military and guerrilla activity with LTTE forces attacking military bases. Terrorist activities also continued, with the assassination of Defence Minister Wijerante in a bomb blast on March 2. The war goes on.

Prospects for Sri Lanka are dismal. The hatred of the Sinhalese and Tamils for each other is simply too strong and too many civilians have been slaughtered to allow the mutual hate and fear which has existed since colonial times to be wiped out in a short time. Until one side either gives up the struggle, or gains enough strength to wipe out the other, the war will continue. At this point, the differences between the LTTE and the Government are irreconcilable.

Forces

The war in Sri Lanka is primarily fought between the Army and the LTTE, with some other groups joining the battle until being wiped out by either of the first two groups.

The Army in Sri Lanka is a large conventional force with a strong infantry base. Some 40,000 people serve in the Army, although this may have increased through repeated calls for enlistment by the regime. They are organized into 5 infantry brigades, 2 reconnaissance regiments, and 5 support regiments. Infantry weapons are mainly the AK-47 assault rifle, Bren L4 machinegun, and the M2HB heavy machinegun although other weapons can be found in service. Artillery support is provided by several small-calibre howitzers including the

25 Pounder, the 85mm Type-56, and the 76mm M-48 and this is supplemented by a small number of 106mm M-40 and 82mm M-60 recoilless launchers. Mortars include the Soviet 82mm M-37, 107mm M-38, and the 120mm M-43. Finally, Armoured units have a number of wheeled AFVs, including Saladins, Ferrets, Dingos, BTR-152s, and armoured SAMIL 100s.

Small local militia or Home Guard units provide support for the military and attempt to keep local peace along with police forces. Both the militia and police use civilian small arms, but the police may have access to military-style weapons. There also exist paramilitary Special Task Force Units, which seem to be internal security forces.

On the opposing side are the LTTE. Little is known of their structure or armaments, but they may follow a Soviet-style organization as all Sri Lankan guerrilla groups have received training either from the Palestinians in Lebanon or the Indian government. The LTTE is also believed to have received weapons from the Indian government and possibly other Marxist nations. So, speculation on likely arms for the LTTE would produce a list encompassing AK-47s and older model Soviet support weapons such as RP-46 and RPD machineguns. Photographs have also shown them fielding L7A2 GPMGs. Weapons such as DShKs and RPG-7Vs are also likely to be found, but would be rare. Rounding out the LTTE armouries would be large quantities of civilian and military rifles, pistols, and shotguns.

Other Tamil guerrilla groups would mimic the LTTE in weapons, but not numbers. The LTTE is large enough to have held off both the Sri Lankan Army and the Indian Peace Keeping Force (IPKF) while at the same time fighting the other Tamil groups to eliminate rivals. On several occasions, the LTTE has almost wiped out its rivals. These other Tamil groups include the LTTE-allied Eelam Revolutionary Organization (EROS), a terrorist group and the Three Star Group, which is a rival to the LTTE. The Three Star Group consists of the Eelam People's Revolutionary Liberation Front (EPRLF), the People's Liberation Organization of Tamil Eelam (PLOT), and the Tamil Eelam Liberation Organization (TELO).

The final guerrilla group is the Sinhalese Janatha Vinukthi Peramuna (JVP), or People's Liberation Front. These are Marxist insurgents who are fighting against the government which they see as having given too many concessions to the Tamils. Their weapons likely mirror the LTTE.

Of these last groups, only the LTTE currently remains a viable guerrilla organization. The others have been either wiped out by counterinsurgency efforts of the government or by LTTE attacks. Those fragments which remain have chosen terrorist tactics to continue their struggle.

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Scenario: Trench Warfare

Trench Warfare

During the thirteen-month ceasefire which lasted until June 1990, both sides sought to consolidate their positions. For the LTTE in the northern provinces, this meant training, re-arming, and constructing fortifications and strongpoints. In some places, the strongpoints were little more than rifle pits and trench networks, but in other places, the LTTE had managed to build reinforced-concrete bunkers with elaborate tunnel systems.

When fighting broke out again, the Sri Lankan military found itself facing these dug-in guerrillas. In this scenario, two Sri Lankan squads and a machinegun section are sent to engage LTTE troops hidden in a bunker. The scenario is designed for two teams of two players each, with each player controlling a squad.

LTTE: After decades of violent oppression of the Eelam nation, and after several years of war, the Tamil people finally seem to be gaining an advantage. The ceasefire has allowed the construction of several bunker complexes, and two squads have been sent to prepare this bunker as a staging area for attacks on military bases. Unfortunately, the Army has located the bunker and has sent an assault team to destroy it. The LTTE squads must hold the bunker and fend off any attacks. The LTTE set up in the bunker.

LTTE Units:

Number	Quality	Weapons

First Squad

3	Line	AK-47
1	Green	RP 46
1	Green	RPK
3	Militia	AK-47

Second Squad

3	Line	AK-47
2	Green	L7A2
3	Green	AK-47
1	Militia	M-870 with 30 shells "00"

Ammunition: All combatants with AK-47s carry 6 magazines FMJ. RP 46 and L7A2 gunners carry 4 belts FMJ, while the RPK gunner carries 2 drums FMJ. All soldiers also carry 4 RGD-5 hand grenades.

The Bunker: The bunker is made from reinforced concrete and the walls have a PF of 1600. For the artillery variant below, the bunker has a BV of 7. Trenches should be treated as field trenches.

Army: The Sri Lankan Army is facing difficult times. It simply does not have the manpower or logistic support to wage a protracted war with the Tamil guerrilla groups. And now the Tamils have built fortifications. The Sri Lankans must clear the bunker of any guerrillas. They set up on the south road.

Army Forces:

Number	Quality	Weapons

First Squad

2	Line	AK-47
1	Green	Bren L4
5	Green	AK-47
1	Green	AK-47, RPG-7V with 10 HEAT.

Second Squad

3	Line	FAL

1	Line	Bren L4
2	Green	FAL
3	Militia	AK-47

Machine-gun section

1	Green	M2HB
2	Green	FAL

Ammunition: All combatants with AK-47s or FALs carry 6 magazines FMJ. Bren gunners carry 10 magazines FMJ, while the machine-gun section carries 5 belts FMJ for the M2HB. All soldiers also carry 4 RGD-5 hand grenades.

Variant: Normally, fortifications are assaulted after they have been pounded to dust by artillery. This variant gives the Army players access to a single off-board M-37 82 mm Mortar and up to 40 rounds of HE. The Forward Observer is the leader (Line) of the first squad who carries a backpack radio.

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Scenario: Urban Terror

Urban Terror

In any war, civilians suffer. But in the Sri Lankan war, civilians are made primary targets simply because of their ancestry. The war has spawned a mass of vigilante actions and terrorist attacks, with civilians being slaughtered in retaliation for the other side's atrocities. Tamils kill Sinhalese and Sinhalese kill Tamils and Muslims.

In some cases, the authorities have been accused of standing by while the terrorists carry out their attack as the IPKF was during its fighting with Tamils. Sometimes, the authorities are even accused of assisting the terrorists as the Army and police were accused following the 1983 massacres. In recent years, however, the Sri Lankan authorities have been striving to stop the terrorism, regardless of who the terrorists are.

In this scenario, the Army faces off against the terrorists in a Hindu Temple on the outskirts of Colombo. The Army must try to rescue the hostages inside the bank and kill the terrorists, while the terrorists must somehow try to escape.

This is a fairly straightforward hostage scenario and is excellent for learning Initiative and Morale rules. Players who wish to try negotiation between the terrorists and the military should use communications guidelines in the Initiative rules ("PCCS" Section 5.5).

Terrorists: The Terrorists are Sinhalese Janatha Vinukthi Peramuna (JVP) who have attacked the Hindu temple in retaliation for an LTTE attack on northern fishing villages a week ago. The attack was to terrorize the Tamil civilians and blow up part of the temple. They were cursing the misfortune that had a passing Army patrol force them into a hostage situation. The JVP must now somehow escape. KILLING HOSTAGES IS NOT AN OBJECTIVE. JVP set up inside the Temple.

Terrorist Units:

Number	Quality	Weapons
2	Line	AK-47
3	Green	AK-47
1	Green	AK-47, 2 x 10-lb TNT charges

Ammunition: All soldiers carry 6 magazines FMJ.

Army Units: The Army unit was returning to its base when it saw frightened civilians in the streets surrounding the temple and came under fire from the terrorists inside. Although the situation has been quiet for some time now, the Army knows that it must get the hostages out alive and capture or kill the terrorists. The Army units set up in the street.

Army Units:

Number	Quality	Weapons
2	Line	AK-47
1	Green	Bren L4
6	Green	AK-47

Ammunition: All soldiers with rifles carry 5 magazines FMJ. The Bren gunner carries 3 magazines FMJ. All soldiers also carry 2 RGD-5 hand grenades.

Hostages: There are 5 civilian hostages in the Temple building. They have been forced to lie prone on the floor by the JVP terrorists. Although the JVP objective is not to kill the hostages, threats of killing may be used by JVP forces to hinder Army operations. Manhandling a hostage as a human shield requires double AC for movement.

Victory: A simple point system is used to determine the victory in this scenario. Give the Army player 1 point for every hostage which is rescued unharmed, but deduct 2 points for every terrorist who manages to make it off the map free and alive. If the total is below zero, the Army has suffered a major defeat. If the total is 1 to 3, the scenario is a draw. If the total is above 3, the Army wins the scenario.

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PHOENIX COMMAND

Scenario: Night of Tigers

Night of Tigers

A standard tactic used by governments in fighting low intensity conflicts is the patrol. Patrols not only gather

information on insurgent operations, but also serve to display a government presence in the patrolling area. The Sri Lankan Army also mounts sporadic patrolling operations to try to carry the war back to the LTTE and other insurgent groups.

This scenario allows players to plan competing LTTE and Army night patrols. The Army unit must perform a sweep around and through the plantation, while the LTTE unit must intercept them. This is a night scenario with a full moon.

The scenario is designed for two players and a referee, using the Spotting and Large Scale Battlefield rules in "Advanced Phoenix Command" Sections 7.2 and 7.3. Players plan their itineraries for several minutes on separate maps. They hand these maps to the referee, who resolves spotting and notifies players of combat when it begins.

Terrain Notes: The plantation is covered with mature tea plants. These plants are waist-high shrubs which impede movement. The only non-impeded routes of movement through the plantation grounds are small harvesting paths between the shrubs. These are shown as lines on the plantation map. Harvesting paths are narrow enough to only allow combatants to move in single file.

LTTE: The LTTE squad has received word through its supporters that an Army patrol is operating in the area. The squad must locate the patrol and ambush it as a display of LTTE authority.

LTTE Units:

Number	Quality	Weapons
3	Line	AK-47
2	Green	L7A2
3	Green	AK-47

1	Green	AK-47, RPG-7V with 10 HEAT

Ammunition: All combatants with AK-47s carry 6 magazines FMJ. The L7A2 gunner carries 4 belts FMJ. All soldiers also carry 4 RGD-5 hand grenades.

Army: The Army has received intelligence indicating a Tamil squad is operating in the field either in or near the tea plantation. The Army must perform a sweep of the area and capture or kill the LTTE squad.

Army Units:

Number	Quality	Weapons
2	Line	AK-47
1	Green	Bren L4
5	Green	AK-47
1	Green	AK-47, RPG-7V with 10 HEAT

Ammunition: All soldiers with rifles carry 6 magazines FMJ. The Bren gunner carries 10 magazines FMJ. All soldiers also carry 2 RGD-5 hand grenades.

Victory: The success of an operation like this would be judged by the ARMY and LTTE command on the basis of body counts and kill ratios. Strategic victory is therefore determined as follows. In order to qualify for a chance at strategic victory, the squad must have eliminated or captured at least a quarter of the opposing side. Then, to claim the strategic victory, the squad must have killed or captured more people than it itself lost to death or capture.

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PHOENIX COMMAND

Scenario: Boneyards

Boneyards

In a war noted for its atrocities, it is not surprising that reports of "disappeared ones" have been filtering out of Sri Lanka. The disappeared ones are those people who were detained by government authorities only to vanish in the Sri Lankan prison camps, never to emerge.

Under the 1982 Prevention of Terrorism Act, the government has the authority, among other things, to detain people for up to eighteen months without trial and reports are that it has used this power extensively. There are stories and international reports which tell of torture and threats of reprisals for speaking of the tortures. Other stories tell of Tamil disappeared being buried in mass graves.

In this scenario, a European reporter and a Tamil escort have been searching the cemeteries around the Boosa detention camp for a rumoured boneyard: a mass grave of disappeared. The reporter had just stumbled onto signs of a large unusual burial site when he was spotted by a group of Home Guard. Players take the role of the reporter and his party or the Home Guard to determine whether the reporter manages to get his story out of Sri Lanka or whether he joins the ranks of the disappeared.

Reporters: The reporter is a European photojournalist who is accompanied by two Tamil guides. The reporter must escape off the map alive and with his film and the Tamils must assist him in doing this. The reporter's party sets up beside the mass grave.

Reporter Units:

Number	Quality	Weapons
1	Green	Sig P226
1	Green	M-870
1	Militia	M1949-56

Ammunition: The reporter (Green) carries 3 magazines FMJ for his P226. The shotgunner carries 30 rounds "00", while the rifleman carries 3 magazines FMJ.

Home Guard: The Home Guard units were patrolling the area outside Boosa searching for terrorists when they spotted the trio in the cemetery taking pictures. In order to prevent the Tamil guerrillas from gaining a propaganda victory, the Home guard units must capture or kill the reporter and his guides.

Home Guard Units:

Number	Quality	Weapons
1	Green	AK-47
2	Militia	M-870
4	Militia	MAS-36 Bolt Action Rifles

Weapons Note: The statistics for the MAS-36 are found in the "World War II WDS". Players without access to that supplement can substitute the M1949-56 from "PCCS", but give the M1949-56s a ROF of 3 and a Cap of 5 to mimic bolt action rifles.

Ammunition: The AK-47 gunner carries 5 magazines FMJ. Shotgunners each carry 30 rounds "00", while the MAS-36 riflemen carry 25 rounds of FMJ each.

Victory: If the reporter manages to exit off the map, he wins a strategic victory. If he, or his guides are able to take the film off the map, the reporter wins a political victory as well. If the Home Guard are able to capture or kill the reporter, they win a strategic victory. If they manage to capture the film, they win a political victory as well.

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PHOENIX COMMAND

Seige of Yeltsin

In the original Russian Roulette scenario pack, the "Eyes of the World" scenario was changed from the original manuscript. Reproduced here for the first time is the scenario as it was originally designed.

The scenario, as designed, is a very large scenario, and is better suited for use with the **Miniatures Rules**. Hardcore players can, of course, attempt this with the full **Phoenix Command Small Arms** and **Mechanized** rules.

The Siege of Yeltsin

A group of Gorbachev's most trusted ministers ousted him from power for a short time. They would hold power in the Soviet Union for two days and watch their government and authority crumble around them as the Soviet people refused to heed them. This scenario is based upon these events.

Anatomy of a Coup

Day 1: On August 19, 1991, Army, Fleet, KGB, and Interior Ministry forces moved to surround President Gorbachev's Black Sea residence and place him under house arrest and hold him incommunicado. These units are acting on the orders of an eight-member ruling council, which included KGB Chair Kryuchkov, Defence Minister Yazov, Interior Minister Pugo, Prime Minister Pavlov, and Vice-President Yanayev. The council claims Gorbachev resigned due to health problems and declares a six-month state of emergency. Soviet military and paramilitary forces move quickly to take control of Moscow and cities in the Baltic republics. In Moscow, the ruling council is opposed by reform-minded Russian President Yeltsin who calls the Soviet people to resist the coup.

Day 2: Yeltsin barricades himself in the Russian Parliament building behind rings of civilian supporters and expedient barriers. The equivalent of two tank battalions and supporting motor rifle units are deployed by the coup leaders around Yeltsin's stronghold. Public demonstrations continue and several APCs are destroyed by partisan petrol bombs. Three partisans are killed by nightfall by a panicked APC crew. The military makes it clear to coup leaders that they will not use force against civilians and, in fact, some military units have defected to Yeltsin's side and news footage shows Yeltsin's photograph laminated onto the side of an APC turret. The ruling council gives orders for the arrest of Yeltsin.

In outlying republics, Soviet troops crack down on dissent. Latvia's broadcast station is seized and the Estonian city of Tallinn is under naval blockade and occupied by airborne

forces. Large protests take place in the Ukraine and Moldavia.

Day 3: The coup crumbles as the military refuses to act against Soviet civilians. Without the military and paramilitary forces to back up its decrees, the ruling council is powerless. Military forces pull out of Moscow and the Baltic republics as the coup leaders scatter. Five would be arrested, two would claim parliamentary immunity, and one, Pugo, would commit suicide. President Gorbachev would arrive back in Moscow the next day to return to power in a coalition with Yeltsin and Gorbachev would later resign from the Communist Party.

This scenario takes place on the dawn of the third day of the coup. It is a hypothetical scenario which examines what could have happened if the Soviet military had been ordered to attack the Parliament buildings and to capture Yeltsin, dead or alive. Players take the side of either the junta or Yeltsin as each tries to command fragmenting forces in what could be the deciding battle of the coup. Special rules are provided below covering refusals, civilians, and Adamsite gas attacks.

This is a very complex scenario and team play with a referee is strongly recommended. One set of players should handle infantry combat within the Parliament buildings while the rest handle the armoured combat. In order to make the scenario more realistic, strict use should be made of initiative and morale rules.

Building Notes: All buildings in this area are multistory buildings. Treat each as having 10 floors.

Junta: The ruling council has seen Yeltsin as a major problem which must be neutralized before he rallies the people to tear apart all order in the capital. Elements of a motor rifle regiment have been sent in to break through the barricades to the parliament buildings. A Spetsnaz platoon will be inserted by helicopter to the top of the buildings to work their way down to capture Yeltsin. Airstrikes are not allowed as pilot loyalty is questionable and the junta cannot afford the public backlash from bombing Moscow. Gas grenades have been issued to deal with civilian protestors. The Junta sets up at least 20 hexes away from civilian barricades.

Junta Units:

2 Tank Platoons, each containing

4 T-80 MBT with Professional Crews

2 Motor Rifle Platoons, each containing

3 BMP-2 APC with Professional Crews

3 Motor Rifle Squads (mounted). See below for T.O. & E.

1 Motor Rifle Command Group (mounted). See below for T.O. & E.

1 Spetsnaz Platoon, containing

1 Spetsnaz Command Group. See below for T.O. & E.

3 Spetsnaz Airborne Squads. See below for T.O. & E.

T.O. & E. Motor Rifle Squad:

Number	Quality	Weapons
1	Prof.	AK-74
1	Prof.	AK-74/BG-15 and 10 HEAT
1	Prof.	RPK-74
1	Prof.	AK-74/RPG-7V with 5 HEAT
4	Militia	AK-74

T.O. & E. Motor Rifle Command Group:

Number	Quality	Weapons
1	Prof.	AK-74
1	Prof.	SVD

T.O. & E. Spetsnaz Command Group:

Number	Quality	Weapons
1	Elite	AK-74
1	Elite	AK-74

T.O. & E Spetsnaz Airborne Squad:

Number	Quality	Weapons
4	Elite	AKR

1	Elite	AK-74/BG-15 with 10 HEAT
1	Elite	RPK-74

Ammunition: All soldiers carry 10 magazines FMJ and 4 RGD-5 hand grenades. Each Spetsnaz Squad also has access to 3 RPG-18s. Armoured units have a full ammunition load. All squads and armoured vehicles have 6 Adamsite gas grenades each.

Notes: Only 4 platoons are listed among junta forces. In fact, the junta could have fielded up to two tank battalions against Yeltsin, each with 9 platoons of four tanks each. The accompanying troops from the two motor rifle regiments (MRR) to which the tank battalions belonged would have come to six motor rifle battalions, each with 9 platoons. Each MRR has one tank battalion and three motor rifle battalions. Players wishing to expand the scenario to include these troops are encouraged to do so.

Yeltsin: The Yeltsin forces were barricaded in the Parliament buildings and much of the effort in planning was focussed on protecting the buildings and passive resistance. Now, the Soviet forces are moving in and approaching the civilian ring. Yeltsin's group has little military experience and has only the military units which defected for protection. Yeltsin armored units set up on the Parliament building grounds and infantry units may set up anywhere behind the barricades. Yeltsin himself must set up in the Parliament buildings.

Yeltsin Units:

Armored Units (defectors)

3	T-80 MBT with Professional Crews
5	BMP-2 APCs with Professional Crews
2	BMD-1 ACVs with Professional Crews

Personnel (defectors)

4	Motor Rifle Squads	(T.O. & E. identical to Junta squads, above)
2	Motor Rifle Command Groups	(T.O. & E. identical to Junta squads, above)
5	OMON Squads	(see below for T.O. & E.)

Personnel (civilian)

Number	Role	Quality	Weapons
1	Yeltsin	Militia	None
20	Partisans	Militia	None

10	Partisans	Militia	Karabin 1938g
10	Partisans	Militia	M-870
10	Partisans	Militia	SKS
20	Milicye	Militia	AK-47

T.O. & E. OMON Squad

Number	Quality	Weapons
3	Elite	AK-74
3	Prof.	AK-74

Yeltsin Ammunition: All Soldiers and Milicye carry 10 magazines FMJ and 4 RGD-5 hand grenades. OMON units also have access to 3 RPG-18s per squad.

Partisans with either an SKS or Karabin 1938g have 200 rounds FMJ each. Partisans with M-870 equivalent shotguns carry 50 rounds "00". In addition, each Partisan squad has access to 10 petrol bombs (Molotov cocktails).

Special Rule--Refusal: Every 10 turns, roll 3(6) for each Junta and Yeltsin infantry squad and vehicle crew. If the roll is below 9 plus the squad's highest SL, the squad continues to fight. If the roll is higher than 9 plus the squad's highest SL, the squad refuses to fight and is out of play. They must either surrender or move off the mapboard, depending on the situation, but they will no longer fight.

As an option, players on the Yeltsin side may add +2 to the odds to represent desperation and Yeltsin's oratory skills.

Special Rule--Civilian Supporters: At the start of the coup, the rally around Yeltsin's stronghold had as many as 50,000 civilians in it. At the moment, only 2,000 civilians staff the area around the Parliament buildings. These will act like rioters, but will move in clusters of 100. Each cluster occupies a hex, but can spread out to occupy other hexes as well. These clusters can be simulated by a simple counter or group of counters, rather than placing a figure for every rioter.

Movement of infantry through these clusters is prohibited and any soldiers who try will be attacked. The use of riot gas or deadly force on a cluster permits infantry to move through the cluster at 10 x normal cost. Movement of tracked vehicles is permitted at 4 x normal cost and will cause (10) civilian casualties per hex.

Special Rule--Adamsite Gas: Adamsite gas (Designation DM) is used by the Soviet Union as their primary riot control gas. It is, in fact, classed as a vomiting agent and is much stronger in symptoms than lachrymators like CS riot gas used in Western nations. DM symptoms include tearing, salivation, nasal drip, retching and vomiting, and agonizing gastric and nasal pain. Adamsite is dispersed in burning-type grenades like tear gas, and anyone

exposed to the cloud takes 2 SP for every 2-second phase of exposure. Roll for knockout at the target's KV + 10, but when checking to see how long the incapacitation lasts, use the SP taken times 10. This is severe incapacitation, where the person affected can do nothing but writhe on the ground in pain.

Gas masks provide complete protection against Adamsite. All soldiers carry gas masks and all armoured vehicles are sealed against gas. Yeltsin's forces also have access to 30 gas masks for distribution among partisan and Milicye forces.

Special Rule--Helicopters: Two Mi-17 HIP-H helicopters will deposit the Spetsnaz assault teams anywhere the Junta players choose on the Parliament building roof or grounds. Insertion time is in (10)+5 phases after the start of the scenario. For simplicity, these helicopters provide no air support, cannot be shot down, and are not subject to refusal.

Victory: This is a fight to the death between the two governments claiming control over Russia. For the Junta, Yeltsin must be captured or killed, or the Parliament buildings taken in order for them to claim victory. Yeltsin wins by preventing a Junta victory. The game lasts until all junta units have either refused to fight or been eliminated, or until the junta satisfies its victory conditions.

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Page last modified: February 09, 2002

PHOENIX COMMAND

WDS: Pistols

WDS: Pistols[WDS: Rifles](#)[WDS: PDWs](#)[WDS: Shotguns](#)[WDS: MG](#)[WDS: AMR](#)[WDS: Explosive](#)[WDS: Exotics](#)[WDS: Anti-Tank](#)**PISTOLS**

The weapon data pages will provide data on firearms not covered in the Phoenix Command Weapon Data Supplements. In all cases, the weapon data provided here should be considered unofficial.

[Baby Eagle](#)[Colt Delta Elite](#)[Desert Eagle 50 AE](#)[7.65mm DWM Luger 08/20](#)[9mm DWM Luger P-08](#)[9mm DWM Luger 17](#)[7.65mm Gabilondo Ruby](#)[Glock 18](#)[Glock 20](#)[Glock 21](#)[Glock 22](#)[Glock 26](#)[Glock 27](#)[LAR Grizzly 50 AE](#)[M1896 Mauser](#)[Mark 22 Model 0 Hush Puppy](#)[OA 93](#)[SIG 229 .357 SIG](#)[SIG 229 .40 S&W](#)[S&W 1076](#)[Walther P88](#)

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PHOENIX COMMAND

WDS: Rifles

[WDS: Pistols](#)[WDS: Rifles](#)[WDS: PDWs](#)[WDS: Shotguns](#)[WDS: MG](#)[WDS: AMR](#)[WDS: Explosive](#)[WDS: Exotics](#)[WDS: Anti-Tank](#)

RIFLES

The weapon data pages will provide data on firearms not covered in the Phoenix Command Weapon Data Supplements. In all cases, the weapon data provided here should be considered unofficial.

[Delisle Mk3](#)[Galil AR 5.56mm NATO](#)[HK G-36](#)[HK G-36K](#)[HK MSG-90](#)[H&K PSG1](#)[M21](#)[Model 85 Parker Hale](#)[VG 1-5](#)[Vektor CR21](#)[Winchester M1895 Russian](#)[Send Comments](#)

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PHOENIX COMMAND

WDS: PDWs

PERSONAL DEFENCE WEAPONS and SUBMACHINEGUNS

The weapon data pages will provide data on firearms not covered in the Phoenix Command Weapon Data Supplements. In all cases, the weapon data provided here should be considered unofficial.

[WDS: Pistols](#)[WDS: Rifles](#)[WDS: PDWs](#)[WDS: Shotguns](#)[WDS: MG](#)[WDS: AMR](#)[WDS: Explosive](#)[WDS: Exotics](#)[WDS: Anti-Tank](#)[ARES FMG](#)[Bizon SMG](#)[Calico 950](#)[Calico 960A](#)[CAR 40 .40 S&W](#)[Carl Gustaf Kulsprutepistol Modell 45](#)[FAMAE](#)[FN P-90](#)[HK MP2000](#)[HK MP5 .40 S&W](#)[HK MP5 10mm](#)[HK MP5 SD3](#)[IDW 10mm](#)[Micro UZI](#)[Sterling L2A3](#)[Sterling L34A1](#)[Steyr AUG 9mmP](#)[Steyr TMP 9mmP](#)[TEC-9](#)[Send Comments](#)

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PHOENIX COMMAND

WDS: Shotguns

[WDS: Pistols](#)
[WDS: Rifles](#)
[WDS: PDWs](#)
[WDS: Shotguns](#)
[WDS: MG](#)
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[WDS: Explosive](#)
[WDS: Exotics](#)
[WDS: Anti-Tank](#)

Shotguns

The weapon data pages will provide data on firearms not covered in the Phoenix Command Weapon Data Supplements. In all cases, the weapon data provided here should be considered unofficial.

[Benelli M1 Super 90](#)
[Beretta M3P](#)
[Bernardelli B4](#)
[Franchi SPAS 15](#)
[Pancor Jackhammer](#)
[Ultimate M16A2](#)

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PHOENIX COMMAND

WDS: MG

MACHINEGUNS and SQUAD AUTOMATIC WEAPONS

The weapon data pages will provide data on firearms not covered in the Phoenix Command Weapon Data Supplements. In all cases, the weapon data provided here should be considered unofficial.

[WDS: Pistols](#)
[WDS: Rifles](#)
[WDS: PDWs](#)
[WDS: Shotguns](#)
[WDS: MG](#)
[WDS: AMR](#)
[WDS: Explosive](#)
[WDS: Exotics](#)
[WDS: Anti-Tank](#)

[Cetme 5.56 SAW](#)
[Ultimax 100](#)

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PHOENIX COMMAND

WDS: AMR

[WDS: Pistols](#)[WDS: Rifles](#)[WDS: PDWs](#)[WDS: Shotguns](#)[WDS: MG](#)[WDS: AMR](#)[WDS: Explosive](#)[WDS: Exotics](#)[WDS: Anti-Tank](#)

HEAVY WEAPONS: ANTI MATERIEL RIFLES

The weapon data pages will provide data on firearms not covered in the Phoenix Command Weapon Data Supplements. In all cases, the weapon data provided here should be considered unofficial.

[Barett M82A1](#)[Barett M82A2](#)[Barett M90](#)[BRG-15](#)[.55 inch Boys Anti Tank Rifle](#)[Destroyer 12.7mm](#)[Destroyer 14.5 mm](#)[Solothurn S-18/100](#)[Steyr AMR 15mm](#)[Top Gun 12.7mm](#)[Send Comments](#)

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PHOENIX COMMAND

WDS: Explosive

EXPLOSIVE WEAPONS and LAUNCHERS

The weapon data pages will provide data on firearms not covered in the Phoenix Command Weapon Data Supplements. In all cases, the weapon data provided here should be considered unofficial.

[WDS: Pistols](#)

[WDS: Rifles](#)

[WDS: PDWs](#)

[WDS: Shotguns](#)

[WDS: MG](#)

[WDS: AMR](#)

WDS: Explosive

[WDS: Exotics](#)

[WDS: Anti-Tank](#)

[MM1](#)

[REA 40mm GL](#)

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PHOENIX COMMAND

WDS: Exotics

[WDS: Pistols](#)

[WDS: Rifles](#)

[WDS: PDWs](#)

[WDS: Shotguns](#)

[WDS: MG](#)

[WDS: AMR](#)

[WDS: Explosive](#)

[WDS: Exotics](#)

[WDS: Anti-Tank](#)

EXOTIC AND CLANDESTINE WEAPONS

The weapon data pages will provide data on firearms not covered in the Phoenix Command Weapon Data Supplements. In all cases, the weapon data provided here should be considered unofficial.

[Bang Stick 12 ga.](#)

[Cigarette, .22 Calibre](#)

[Stinger .22 Calibre](#)

[Send Comments](#)

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PHOENIX COMMAND

WDS: Anti-Tank

[WDS: Pistols](#)

[WDS: Rifles](#)

[WDS: PDWs](#)

[WDS: Shotguns](#)

[WDS: MG](#)

[WDS: AMR](#)

[WDS: Explosive](#)

[WDS: Exotics](#)

WDS: Anti-Tank

HEAVY WEAPONS: ANTI TANK

The weapon data pages will provide data on firearms not covered in the Phoenix Command Weapon Data Supplements. In all cases, the weapon data provided here should be considered unofficial.

[Javelin AAWS-M](#)

[M-136/FFV AT-4](#)

[Send Comments](#)

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AAWS-M JAVELIN

Guided Anti-Tank Missile

USA

Data provided by R.J. Andron

Physical Data	Aim Time	Ballistic Data										
		Range in 20 yard Mech Hexes										
		AC			4	10	20	40	60	80	100	120
W	49.5	6P	HEAT	PEN	7600	7600	7600	7600	7600	7600	7600	7600
			DC		10	10	10	10	10	10	10	10
RT	16		BC0		7900							
ROF	*											
Cap	1											

AW	35									
	Rnd									
		CC	0.1	0.7	3	8.0	14	23	34	
FP	67	AOI	0	2	6	6	6	6	6	
MR	110	PALM	-3	17	29	40	46	50	53	56
KD	15	BA	7	7	8	8	8	8	8	
SAB	7	TOF	1	3	7	13	20	27	33	40

Javelin AAWS-M - The Javelin is the US Army's newest AT Missile system. It is a lock-on-before launch system and is self-guided towards the target. This is effectively a "fire-and-forget" system. Designating the target takes 6 Phases of aim time, and the missile will not guide towards the target without this target designation process.

The system consists of a Command Launch Unit (CLU), battery, and missile pod. The CLU sight is a thermal imaging sight capable of operating continuously for 4 hours off the battery.

The gunner acquires/designates the target using the CLU by placing a curser box over the image of the target. Then, the gunner locks the missile's IR seeker head.

The twin stage motor consists of a soft-launch stage and a sustainer stage. The soft launch ejects the missile from the launcher for a low-recoil shoulder launch. This permits the missile to be fired from inside buildings.

The missile when launched, can fly on either a direct attack or a "lofted attack" to strike the less-armored tops of AFVs. The warhead consists of a tandem shaped charge warhead. The above table assumes an AOI for a lofted attack. For a direct attack, use an AOI of 1.

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PHOENIX COMMAND

M-136/FFV AT-4

M-136/FFV AT-4

Rocket Launcher

84mm

USA

Data provided by R.J. Andron

Physical		Aim		Ballistic Data												
Data		Time		Range in 2 yard Hexes						Range from Burst						
		AC	ALM			40	100	200	400		0	1	2	3	5	10
L	34	1	-26	HEAT	PEN	4800	4800	4800	4800	PEN	5.2	5.1	4.8	4.6	4.2	3.4
W	14.8	2	-16		DC	10	10	10	10	DC	7	7	7	7	6	6
		3	-10							BSHC	15	3	0	-3	-7	-12
RT	-	4	-8							BC	11h	260	80	47	18	8
ROF	-	5	-6													
		6	-5		AOI	0	0	1	2							

Cap	1	7	-4	BA	10	-3	-12	-22
AW	6.75	8	-3	TOF	3	7	14	28
	Rnd	9	-2					
		10	-1					
MR	600							
KD	230							
SAB	0							

M136/FFV AT-4 - The disposable AT-4 has been adopted for US Army service and is designated M-136.

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PHOENIX COMMAND

Bang Stick 12 ga.

Bang Stick

Exotic

12 Gauge

Data provided by R.J.
Andron

Physical		Aim		Ballistic Data													
Data		Time		Range in 2 yard Hexes													
		AC	ALM														
L	42	1	-20	Slug	PEN	5.1	2.5	2.4	2.4	2.3	2.2	2.2	2.0	1.9	1.6	1.2	1.0
W	8.4	2	-13		DC	8	8	8	8	8	8	8	8	8	7	7	5
		3	-11														
RT	30	4	-11	Shot	PEN	5.1	1.1	1.0	1.0	1.0	0.9	0.9	0.8	0.7	0.6	0.5	0.3
ROF	*	5	-10	(00)	DC	8	3	3	3	3	2	2	2	2	1	1	1
					SALM		-5	-2	2	5	7	9	12	15	18	21	25
Cap	7			(12)	BPHC		*11	*10	*6	*3	*2	*1	40	18	5	0	

AW	0.13		PR	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.5	0.8	1.1	2.0
	Rnd													
KD	25		BA	61	51	41	36	31	28	23	18	13	9	-1
SAB	12		TOF	0	0	0	0	0	0	1	1	1	2	4

Bang Stick - This device is designed for use by divers as a means of wounding and driving off sharks. The shotgun round is placed onto the striking tip and fired when the striking tip makes contact with the target (use the "C" column to determine damage). The design can and has been modified into concealed weapons. Such shotguns have been concealed in handlebars, shock absorbers, highway flares, flashlights, and clubs. The aim time data assumes an expedient grip or handle has been affixed. Normal operation of the weapon is done using the rules for a hand-to-hand strike.

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PHOENIX COMMAND

Cigarette, .22 Calibre

Cigarette, .22 Calibre

Clandestine Weapon

.22 LR

USA

Data Provided by R.J. Andron

Physical Data	Aim Time		Ballistic Data						
	Time		Range in 2 yard Hexes						
	AC	ALM							
					2	4	7	10	
L	2.75	1 -25	FMJ	PEN	0.6	0.5	0.5	0.4	
W	0.2	2 -20		DC	1	1	1	1	
		3 -12							
RT	*	4 -8	JHP	PEN	0.6	0.5	0.5	0.4	
ROF	-			DC	2	1	1	1	
Cap	1		AP	PEN	0.8	0.8	0.7	0.6	

AW	0.01		DC	1	1	1	1
	Rnd						
KD	1		BA	20	12	3	-
SAB	5		TOF	1.5	2.2	4.3	7.4

Cigarette, .22 Calibre - This is the smallest type of Pen Gun available and is commonly camouflaged as a cigarette. Pen guns, like hideout weapons, are intended for use as concealable escape aids. Because of the weapon's light weight, the gun is intended to be thrown backwards by the recoil, and the proper stance is to place the shooter's body perpendicular to the line of fire and maintain a relaxed grip.

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PHOENIX COMMAND

Stinger .22 Calibre

Stinger .22 Calibre

Clandestine Weapon

.22 LR

USA

Data Provided by R.J. Andron

Physical		Aim		Range in 2 yard Hexes					
Data		Time							
		AC	ALM			2	4	7	10
L	3.2	1	-16	FMJ	PEN	0.5	0.5	0.4	0.4
W	0.5	2	-12		DC	3	3	2	1
		3	-8						
RT	30	4	-6	JHP	PEN	0.5	0.5	0.4	0.4
ROF	-				DC	4	4	3	2

Cap	1		AP	PEN	0.7	0.7	0.6	0.5
AW	0.01			DC	3	3	2	1
	Rnd							
KD	1			BA	20	12	3	-
SAB	5			TOF	1.6	2.3	4.7	8

Stinger .22 Calibre - Hideout weapons are intended to be carried clandestinely by intelligence operatives or saboteurs, and are intended to be used primarily as escape devices. This version, the Stinger, was used by the CIA, and was marketed to civilians as the "Single Shot Survival Weapon." The Stinger has a sealed barrel to keep out dirt and other materials during storage. The seal is blown open on firing.

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PHOENIX COMMAND

MM1

MM-1

Grenade Launcher

40mm

USA

Data provided by Greg
Brovane

Physical		Aim		Ballistic Data											
Data		Time		Range in 2 yard Hexes					Range from Burst						
		AC	ALM			40	100	200		0	1	2	3	5	10
L	34	1	-28	HEAT	PEN	106	106	106	PEN	1.6	1.4	1.0	0.7	0.4	
W	20	2	-18		DC	10	10	10	DC	1	1	1	1	1	
		3	-10						BSHC	*2	47	11	4	1	
RT	66	4	-8						BC	241	71	23	12	5	1
ROF	*1	5	-6												
		6	-5	HE	PEN	2	2	2	PEN	1.4	1.2	0.8	0.6	0.3	

Cap	12	7	-3	DC	10	10	10	DC	1	1	1	1	1	
AW	0.51							BSHC	*3	73	17	7	2	
	Rnd							BC	250	74	23	12	5	1
				AOI	0	1	4							
MR	200			MA	1	3	5							
KD	15			BA	23	10	1							
SAB	7			TOF	11	33	80							

MM-1 40mm Grenade Launcher-Is a 12-shot wind up grenade launcher that will fire full-auto.

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PHOENIX COMMAND

REA 40mm GL

REA 40mm GL

Grenade Launcher

40mm

South Africa

Data provided by Greg Brovane

Physical		Aim		Ballistic Data											
Data		Time		Range in 2 yard Hexes					Range from Burst						
		AC	ALM			40	100	200		0	1	2	3	5	10
L	34	1	-23	HEAT	PEN	106	106	106	PEN	1.6	1.4	1.0	0.7	0.4	
W	8	2	-12		DC	10	10	10	DC	1	1	1	1	1	
		3	-9						BSHC	*2	47	11	4	1	
RT	10	4	-7						BC	241	71	23	12	5	1
ROF	*	5	-6												
		6	-4	HE	PEN	2	2	2	PEN	1.4	1.2	0.8	0.6	0.3	

Cap	6	7	-3	DC	10	10	10	DC	1	1	1	1	1	
AW	4	8	-2					BSHC	*3	73	17	7	2	
	Mag							BC	250	74	23	12	5	1
				AOI	0	1	4							
MR	200			MA	1	3	5							
KD	15			BA	23	10	1							
SAB	7			TOF	11	33	80							

REA 40mm AGL-Is a prototype lightweight clip fed grenade launcher. It uses lightweight composite materials in its construction.

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Barett M82A1 "Light Fifty"

Anti-Materiel Rifle

.50 Browning

USA

Data Provided by Greg Brovane

Physical Data		Aim Time		Ballistic Data											
				Range in 2 yard Hexes											
		AC	ALM			10	20	40	70	100	200	300	400	600	800
L	58	1	-32	FMJ	PEN	40	39	37	35	34	28	23	19	15	12
W	35	2	-22		DC	10	10	10	10	10	10	10	10	10	9
		3	-15												
RT	10	4	-9	JHP	PEN	38	37	36	34	32	27	22	19	15	12
ROF	*	5	-7		DC	10	10	10	10	10	10	10	10	10	10
		6	-5												
Cap	11	7	-3	AP	PEN	56	55	53	50	47	39	33	27	21	16

AW	3.5	8	-1	DC	10	10	10	10	10	10	10	10	9	9
	Mag	9	1											
		10	2											
KD	45	12	5	BA	64	58	50	43	39	33	28	26	22	19
SAB	6			TOF	0	0	1	2	2	5	8	11	16	22

M82A1 Light Fifty .50 Browning-The light fifty also known as the Barrett, is a simple rugged weapon designed for sniping vulnerable high tech equipment at long ranges.

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PHOENIX COMMAND

Barett M82A2

Barett M82A2 "Light Fifty"

Anti-Materiel Rifle

.50 Browning

USA

Data Provided by Greg Brovane

Physical Data		Aim		Ballistic Data											
		Time		Range in 2 yard Hexes											
		AC	ALM												
L	46	1	-28	FMJ	PEN	40	39	37	35	34	28	23	19	15	12
W	29	2	-19		DC	10	10	10	10	10	10	10	10	10	9
		3	-11												
RT	10	4	-8	JHP	PEN	38	37	36	34	32	27	22	19	15	12
ROF	*	5	-7		DC	10	10	10	10	10	10	10	10	10	10
		6	-5												
Cap	11	7	-3	AP	PEN	56	55	53	50	47	39	33	27	21	16

AW	3.5	8	-1	DC	10	10	10	10	10	10	10	10	9	9
	Mag	9	1											
		10	2											
KD	45	12	4	BA	64	58	50	43	39	33	28	26	22	19
SAB	6			TOF	0	0	1	2	2	5	8	11	16	22

M82A2 Light Fifty .50 Browning-This is a semi-auto bullpup configured weapon. The weapon is designed to be held like a bazooka and fired from the shoulder. The weapon was probably made during the Afghanistan conflict to engage helicopters. The gun comes standard with a scope.

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PHOENIX

COMMAND

Barett M90

Barett M90 "Light Fifty"

Anti-Materiel Rifle

.50 Browning

USA

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data											
Data		Time		Range in 2 yard Hexes											
		AC	ALM			10	20	40	70	100	200	300	400	600	800
L	46	1	-28	FMJ	PEN	40	39	37	35	34	28	23	19	15	12
W	23.4	2	-19		DC	10	10	10	10	10	10	10	10	10	9
		3	-11												
RT	10	4	-8	JHP	PEN	38	37	36	34	32	27	22	19	15	12
ROF	3	5	-7		DC	10	10	10	10	10	10	10	10	10	10
		6	-5												
Cap	5	7	-2	AP	PEN	56	55	53	50	47	39	33	27	21	16

AW	1.5	8	-1	DC	10	10	10	10	10	10	10	10	9	9
	Mag	9	1											
		10	2											
KD	45	12	5	BA	64	58	50	43	39	33	28	26	22	19
SAB	6			TOF	0	0	1	2	2	5	8	11	16	22

M90 Light Fifty .50 Browning-Is a shorter lighter bullpup configured weapon. The weapon is bolt-action and uses a more efficient muzzle brake to lower recoil down. The gun comes standard with a bipod and scope.

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PHOENIX COMMAND

BRG-15

BRG-15

Anti-Materiel Rifle

15mm Milo

Belgium

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data												
Data		Time		Range in 2 yard Hexes												
		AC	ALM			10	20	40	70	100	200	300	400	600	800	1000
L	85	1	-37	AP	PEN	116	115	112	108	103	90	78	68	50	37	27
W	242	2	-27		DC	10	10	10	10	10	10	10	10	10	10	10
		3	-21		TOF	0	0	1	1	2	4	6	9	15	24	32
RT	40	4	-17													
ROF	*5	5	-14	SABOTPEN		238	238	237	235	234	228	223	218	209	199	190
		6	-10		DC	9	9	9	9	9	9	9	9	9	9	9
Cap	140	7	-8		TOF	0	0	1	1	2	3	5	7	10	14	17
AW	110	9	-5													
	Mag	10	-4													

[illegible]

BRG-15 15mm Milo-This unusual is made by FNC in Belgium. This weapon fires a 15.5mm round and will also fire a 7.62 Tungsten core SABOT. The weapon is a dual feed weapon, being fed from two 70 round bins. The rounds are loaded into a bin similar to how a aircraft gun is loaded. The weapon is still in prototype and I don't know if it has entered production.

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PHOENIX COMMAND

.55 inch Boys Anti Tank Rifle

.55 inch Boys Anti Tank Rifle Mark 1

Anti-Materiel Rifle

.55 ATR

United Kingdom

Data Provided by Eero Juhola

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	63.5	1	-30	AP	PEN	132	123	111	95	82	50	30	18
W	36.6	2	-20		DC	10	10	10	10	10	10	10	10
		3	-14										
RT	8	4	-10										
ROF	3	5	-8										
		6	-6										

Cap	5	7	-5									
AW	1.3	8	-4									
	Box	9	-3									
		10	-2									
KD	50	11	-2	BA	64	57	49	42	37	28	23	19
SAB	4	12	0	TOF	0	0	1	1	2	4	7	9

.55 inch Boys Anti Tank Rifle Mark 1

The Boys ATR was a large rifle with a padded rifle stock, pistol grip, an over-the-barrel magazine reminiscent of the Bren machine gun and an integrated support leg which counts as a bipod. Named after one of its principal designers Captain Boys, this gun was the primary anti-tank weapon of British infantry until 1941, when it was replaced by the PIAT shaped charge weapons. It was widely used in campaigns against the Axis in France and North Africa in the early part of the war. While effective against the 1930s tanks it was designed to counter, it was - due to its bolt-action design - slow to operate and outclassed by later models such as the PzKpfw III. However the ATR could break the track of any tank.

"Quickly the men moved around few more corners in the trench. 'We'll set up right here !' the anti-tank gunner ordered the lieutenant. They peeked over the brim of the trench. The second tank stood still, its turret rotating slowly. 'It's that one's turn now,' the man said with conviction.

When the turret had rotated so that the tank's gunner could not see their location, the man barked: 'Now !'

The men lifted the anti-tank rifle into position in a corner of the trench. It only took a second. The gunner hung onto the rear of the rifle and sighted on the target. That took a couple of seconds."

When the Winter War erupted in late 1939 international public sentiment

was very much on the Finnish side. The British government donated two hundred Boys ATRs with the express wish that thirty of them would be given to Swedish volunteers. The rifles were a huge success against Soviet tanks of pre-war design which had been built to withstand small-arms fire only.

"Bang, bang, bang, bang the anti-tank rifle fired four times. Raetpalo's ears were ringing viciously. Blue smoke hung above the corner in the trench. Loud smacks were heard from the direction of

the tank, proving that at least two rounds had struck it. Raetpalo peered at the tank. He could make out two holes in its side where the rounds had penetrated. Suddenly the hatches were flung open. The tank stood still, its engine having stalled, and it was slowly beginning to emit smoke. The engine came to life again at high revs and the volume of smoke increased, now almost completely hiding the tank. Slowly the machine began to crawl again, now headed back toward the Lähde road where it had come from.

'They've had enough. They're fleeing !' Raetpalo was overjoyed. After about a hundred meters there was a loud bang from the tank. It stopped and burst into flames. A smile of victory was on the lips of the tank killer - for that is what these anti-tank men were called - as he stated: 'That was my sixth bullseye.'

*Combat between a Boys gunner and a thirty-ton T-28 tank.
Mannerheim Line, February 1940*

In late 1940 Finland bought 200 Boys ATRs from German war booty stocks. The rifles were used on the front in the beginning of the Continuation War in 1941 but were for the most part withdrawn by 1943. The remaining 300 examples were kept in storage until the Fifties when they were sold to collectors.

[Send Comments](#)

Page last modified: February 09, 2001



Destroyer Heavy Sniping Rifle

Anti-Materiel Rifle

12.7mm x 107mm

Data Provided by Greg Brovane

Physical Data		Aim Time		Ballistic Data											
				Range in 2 yard Hexes											
		AC	ALM			10	20	40	70	100	200	300	400	600	800
L	60	1	-32	FMJ	PEN	45	44	43	40	38	32	27	23	19	14
W	37.4	2	-21		DC	10	10	10	10	10	10	10	10	10	9
		3	-15												
RT	8	4	-9	JHP	PEN	43	42	41	39	37	31	26	22	16	11
ROF	*	5	-7		DC	10	10	10	10	10	10	10	10	10	10
		6	-5												
Cap	10	7	-3	AP	PEN	63	32	60	57	54	45	38	32	23	18

AW	3.8	8	-2	DC	10	10	10	10	10	10	10	10	9	9
	Mag	9	0											
		10	2											
KD	49	12	4	BA	65	58	51	45	40	34	28	25	21	18
SAB	7			TOF	0	0	1	2	2	4	6	9	15	21

Destroyer 12.7x107mm-This is a heavy sniper rifle that fires the Soviet 12.7x107mm round. It comes standard with a bipod and muzzle brake.

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Page last modified: February 09, 2001

PHOENIX

COMMAND

Destroyer 14.5 mm

Destroyer Heavy Sniping Rifle

Anti-Materiel Rifle

14.5 mm

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data											
Data		Time		Range in 2 yard Hexes											
		AC	ALM			10	20	40	70	100	200	300	400	600	800
L	60	1	-32	API-T	PEN	122	118	114	107	103	87	73	62	44	31
W	37.5	2	-22		DC	10	10	10	10	10	10	10	10	10	10
		3	-15												
RT	10	4	-9	AP-T	PEN	185	180	175	167	160	136	116	99	72	53
ROF	*	5	-7		DC	10	10	10	10	10	10	10	10	10	10
		6	-5												
Cap	5	7	-3												

AW	2.2	8	-1											
	Mag	9	1											
		10	2											
KD	70	12	4	BA	64	60	54	48	42	33	28	24	18	14
SAB	12			TOF	0	0	1	2	2	4	6	9	14	20

Destroyer Heavy Sniping Rifle 14.5mm-This is a modern rifle built to fire the huge 14.5mm round. This is a improved model of the Destroyer rifle. Needless to say the weapon would have a fearsome recoil. The gun comes standard with a bipod and scope

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Page last modified: February 09, 2001

PHOENIX

COMMAND

Solothurn S-18/100

Solothurn S-18/100

Anti-Materiel Rifle

20mm x 105mm Short Solothurn

Switzerland

Data Provided by R.J. Andron

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	69.3	1	-35	AP	PEN	70	66	60	51	44	27	16	9.8
W	99.2	2	-25		DC	10	10	10	10	10	10	10	10
		3	-18										
RT	8	4	-15										
ROF	*	5	-11										
		6	-8										

Cap	10	7	-5										
AW	3	8	-3										
	Mag	9	-1										
		10	0										
KD	122	12	2	BA	64	60	54	48	42	33	28	24	
SAB	10	14	5	TOF	0	1	1	2	3	6	10	13	

Solothurn S-18/100 - The Solothurn S-18/100 was an anti-material rifle developed in the interwar years in Switzerland and was adopted by Italy, Hungary, and Switzerland. The recoil-operated semiautomatic rifle fired from an integral bipod and rear monopod. The Solothurn was one of the more powerful anti-tank rifles of its era, and was the forerunner of the German PzB41.

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Page last modified: February 11, 2001

PHOENIX

COMMAND

Steyr AMR 15mm

Steyr AMR 15mm

Anti-Materiel Rifle

15mm AMR

Austria

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data										
Data		Time		Range in 2 yard Hexes										
		AC	ALM			40	70	100	200	300	400	600	800	1000
L	80	1	-37	TF	PEN	463	458	452	435	418	401	370	341	314
W	44	2	-25		DC	9	9	9	9	8	8	8	8	8
		3	-18											
RT	8	4	-15											
ROF	*	5	-11											
		6	-8											
Cap	8	7	-5											

AW	4.2	8	-3										
	Mag	9	-1										
		10	0										
KD	54	12	2	BA	37	33	30	25	22	20	16	12	8
SAB	6	14	5	TOF	0	1	1	3	4	5	8	12	15

AMR 15mm-This is a unusual weapon made by Steyr to knock out vulnerable high tech equipment at long ranges. The weapon is not intended to be used against personnel that is why Steyr called it the AMR(Anti-material Rifle). The weapon fires a special cartridge that is part plastic that carries a 5.5mm 36-gram tungsten flechette. The flechette has a muzzle velocity of 4920 ft/sec (1500 m/sec). At 800 meters the flechette has penetrated 40mm rolled steel armor and then shattered to give severe fragmentation damage. The barrel is smoothbore. The recoil force is absorbed by a long recoil movement, multi-baffle muzzle brake, and the entire barrel recoils inside a sleeve type hydro-pneumatic recoil system that is usually found on artillery not rifles. All this cuts felt recoil to just a little more than that of a conventional service rifle. The gun comes standard with a bipod and scope.

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Page last modified: February 09, 2001



PHOENIX COMMAND

Top Gun 12.7mm

Top Gun 12.7mm x 107mm

Anti-Materiel Rifle

12.7mm x 107mm

Data Provided by Greg Brovane

Physical Data		Aim Time		Ballistic Data											
				Range in 2 yard Hexes											
		AC	ALM			10	20	40	70	100	200	300	400	600	800
L	54	1	-29	FMJ	PEN	44	43	42	39	37	31	26	22	19	14
W	26.3	2	-19		DC	10	10	10	10	10	10	10	10	10	9
		3	-14												
RT	8	4	-8	JHP	PEN	42	41	40	38	36	30	25	22	19	14
ROF	-	5	-7		DC	10	10	10	10	10	10	10	10	10	10
		6	-5												
Cap	1	7	-3	AP	PEN	62	61	59	56	53	44	37	31	22	18

AW	0.34	8	-2	DC	10	10	10	10	10	10	10	10	10	9
	Rnd	9	0											
		10	2											
KD	49	12	4	BA	64	57	50	44	39	33	27	24	20	17
SAB	7			TOF	0	0	1	2	2	4	6	9	15	21

Top Gun 12.7x107mm-This is a heavy sniper rifle that fires the Soviet 12.7x107mm round. The weapon is a single shot gun and needs to be reloaded after each shot. The gun comes standard with a bipod and scope.

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Page last modified: February 09, 2001



PHOENIX COMMAND

Cetme 5.56 SAW

CETME

Squad Automatic Weapon

5.56 mm NATO

Spain

Data provided by Matthew A.
Crump

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	41	1	-26	FMJ	PEN	15	15	14	12	11	7.0	4.6	3.0
W	18.4	2	-18		DC	6	6	6	6	5	4	3	2
		3	-11										
RT	14	4	-10	JHP	PEN	15	14	13	12	10	6.7	4.4	2.9
ROF	*10	5	-8		DC	8	8	7	7	7	6	5	3
		6	-7										

Cap	200	7	-6	AP	PEN	22	21	19	17	15	9.9	6.5	4.3
AW	6.9	8	-4		DC	6	6	6	5	5	4	3	2
	Blt	9	-3										
		10	-2		MA	0.4	0.8	2	3	4	8	12	16
KD	4	12	-1		BA	61	53	44	37	32	22	17	13
SAB	3				TOF	0	0	1	1	2	5	8	11

CETME Squad Automatic Weapon - Squad Automatic Weapon of the Spanish Army. This weapon is a development of the MG42/MG3 series, and looks much like those weapons. It also shares their tremendous rate of fire, and the light weight of the smaller ammunition allows more to be carried than with its larger cousins. The most significant disadvantage is that its light weight makes it difficult to control.

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Page last modified: February 03, 2001



PHOENIX COMMAND

Ultimax 100

Ultimax 100 SAW

Squad Assault Weapon

5.56mm NATO

Singapore

Data Provided by Greg Brovane

Physical		Aim		Ballistic		Data							
Data		Time				Range in 2 yard Hexes							
		AC	ALM			10	20	40	70	100	200	300	400
L	40	1	-25	FMJ	PEN	15	15	13	12	11	6.6	4.2	2.6
W	15	2	-15		DC	7	7	7	6	6	4	2	1
		3	-10										
RT	14	4	-8	JHP	PEN	14	14	13	11	10	6.3	3.9	2.5
ROF	*5	5	-6		DC	8	8	8	8	7	6	4	2
		6	-5										

Cap	100	7	-4	AP	PEN	21	20	19	17	15	9.2	5.8	3.6
AW	4	8	-3		DC	6	6	6	6	5	4	2	1
	Drm	9	-2										
		10	-1		MA	0.2	0.3	0.7	1	2	3	5	7
KD	4	11	0		BA	60	51	42	35	30	20	15	11
SAB	3				TOF	0	0	1	2	2	6	11	18

Ultimax 100 5.56mm NATO-This weapon is manufactured by CIS of Singapore. It was originally made to be one of the contenders for the U.S. Army's SAW (Squad Automatic Weapon). The Minimi was selected before the Ultimax design was perfected. The weapon is used by Singapore armed forces and several Far East nations, where it has performed well. The weapon is easily controlled from prone, hip or shoulder. The weapon will accept 20, 30 or the special plastic 100 round drum. The weapon uses a quick-change heavy barrel that can survive 500 continuous rounds without heat damage. The weapon comes standard with a bipod.

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Page last modified: February 03, 2001



PHOENIX COMMAND

Benelli M1 Super 90

Benelli M1 Super 90

Shotgun

12 Gauge

Italy

Data provided by Greg Brovane

Physical		Aim		Ballistic Data												
Data		Time		Range in 2 yard Hexes												
		AC	ALM			1	2	4	6	7	10	15	20	30	40	80
L	42	1	-23	Slug	PEN	7.7	7.7	7.6	7.5	7.5	7.4	7.3	7.2	6.9	6.7	5.7
W	8.4	2	-12		DC	10	10	10	10	10	10	10	10	10	9	9
		3	-9													
RT	30	4	-7	Shot	PEN	5.4	1.6	1.5	1.5	1.4	1.4	1.3	1.2	1.1	9.0	0.5
ROF	*	5	-6	(00)	DC	8	3	3	3	3	3	2	2	2	2	1
		6	-4		SALM	-14	-9	-4	-1	1	2	5	7	10	12	17

Cap	7	7	-3	(11)	BPHC		*11	*10	*9	*7	*5	*2	*1	62	35	8
AW	0.13	8	-2		PR	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.7
	Rnd															
KD	25				BA	67	58	48	42	38	35	29	25	19	15	5
SAB	12				TOF	0	0	0	0	0	0	1	1	1	2	4

Benelli M1 Super 90 12Gauge-This is a semi-automatic shotgun made by Benelli firearms in Italy.

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Page last modified: February 09, 2001

PHOENIX

COMMAND

Beretta M3P

Beretta M3P

Shotgun

12 Gauge

Italy

Data provided by Greg Brovane

Physical		Aim		Ballistic Data												
Data		Time		Range in 2 yard Hexes												
		AC	ALM													
						1	2	4	6	7	10	15	20	30	40	80
L	38/46	1	-23	Slug	PEN	7.7	7.7	7.6	7.5	7.5	7.4	7.3	7.2	6.9	6.7	5.7
W	8.4	2	-12		DC	10	10	10	10	10	10	10	10	10	9	9
		3	-9													
RT	8	4	-7	Shot	PEN	5.4	1.6	1.5	1.5	1.4	1.4	1.3	1.2	1.1	9.0	0.5
ROF	*	5	-6	(00)	DC	8	3	3	3	3	3	2	2	2	2	1
		6	-4		SALM	-14	-9	-4	-1	1	2	5	7	10	12	17

Cap	5	7	-3	(11)	BPHC		*11	*10	*9	*7	*5	*2	*1	62	35	8
AW	1.1	8	-2		PR	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.7
	Mag	9	-1													
KD	25				BA	67	58	48	42	38	35	29	25	19	15	5
SAB	12				TOF	0	0	0	0	0	0	1	1	1	2	4

Beretta M3P 12 Gauge-This is a semi-automatic clip feed shotgun.

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Page last modified: February 09, 2001

PHOENIX COMMAND

Bernardelli B4

Bernardelli B4

Shotgun

12 Gauge

Italy

Data provided by Greg Brovane

Physical		Aim		Ballistic Data												
Data		Time		Range in 2 yard Hexes												
		AC	ALM			1	2	4	6	7	10	15	20	30	40	80
L	29/38	1	-23	Slug	PEN	7.7	7.7	7.6	7.5	7.5	7.4	7.3	7.2	6.9	6.7	5.7
W	8.2	2	-12		DC	10	10	10	10	10	10	10	10	10	9	9
		3	-9													
RT	8	4	-7	Shot	PEN	5.4	1.6	1.5	1.5	1.4	1.4	1.3	1.2	1.1	9.0	0.5
ROF	*	5	-6	(00)	DC	8	3	3	3	3	3	2	2	2	2	1
		6	-4		SALM	-14	-9	-4	-1	1	2	5	7	10	12	17
Cap	8	7	-3	(11)	BPHC		*11	*10	*9	*7	*5	*2	*1	62	35	8

AW	1.8	8	-2	PR	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.7
	Mag	9	-1												
KD	25			BA	67	58	48	42	38	35	29	25	19	15	5
SAB	12			TOF	0	0	0	0	0	0	1	1	1	2	4

Bernardelli B4 12 Gauge-Is a tough semi-automatic clip feed shotgun.
The gun has a backup pump-action.

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Page last modified: February 09, 2001



PHOENIX COMMAND

Franchi SPAS 15

Franchi SPAS-15

Shotgun

12 Gauge

Italy

Data provided by R.J. Andron

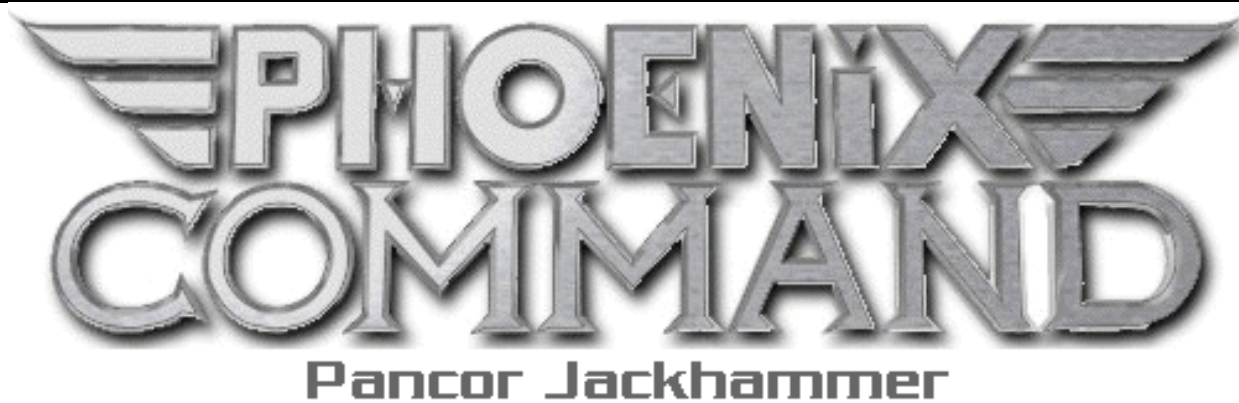
Physical		Aim		Ballistic Data												
Data		Time		Range in 2 yard Hexes												
		AC	ALM													
						1	2	4	6	7	10	15	20	30	40	80
L	36	1	-23	Slug	PEN	6.9	6.9	6.8	6.7	6.7	6.6	6.5	6.4	6.1	6.0	5.1
W	7	2	-14		DC	10	10	10	10	10	10	10	10	10	10	10
		3	-10													
RT	8	4	-9	Shot	PEN	4.8	1.5	1.5	1.4	1.4	1.3	1.2	1.2	1.0	0.9	0.5
ROF	*	5	-7	(000)	DC	8	3	3	3	3	3	2	2	2	2	1
		6	-6		SALM	-13	-8	-3	0	2	4	7	9	12	14	19

Cap	6	7	-4	(8)	BPHC	*8	*7	*7	*6	*4	*2	*1	55.0	24.0	12.0	1
AW	1.3	8	-3		PR	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.5	1.0
	Mag	9	-2													
		10	-1													
KD	23	11	0		BA	71	61	52	46	42	39	33	29	23	19	9
SAB	8				TOF	0	0	0	0	0	0	1	1	1	2	4

Franchi SPAS 15 - This 12-ga. shotgun feeds from a box magazine, and has a switchable semiautomatic/pump action. Limited to military and police use in most nations. May be in the hands of a few private collectors in Canada and the United States before imports were banned in those two countries.

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Page last modified: February 03, 2001



Pancor Jackhammer 12 Gauge

Shotgun

12 Gauge

USA

Data provided by Greg Brovane

Physical		Aim		Ballistic Data												
Data		Time		Range in 2 yard Hexes												
		AC	ALM			1	2	4	6	7	10	15	20	30	40	80
L	32	1	-24	Slug	PEN	7.0	7.0	6.9	6.9	6.8	6.7	6.6	6.5	6.3	6.0	5.2
W	11.2	2	-14		DC	10	10	10	10	10	10	9	9	9	9	8
		3	-10													
RT	10	4	-8	Shot	PEN	5.4	1.6	1.5	1.5	1.4	1.4	1.3	1.2	1.1	9.0	0.5
ROF	*4	5	-7	(00)	DC	8	3	3	3	3	3	2	2	2	2	1
		6	-5		SALM	-13	-8	-3	0	2	4	7	9	12	14	19
Cap	10	7	-4	(11)	BPHC		*11	*10	*9	*5	*3	*2	93	42	23	5

AW	2.2	8	-3	PR	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.9
	Mag	9	-2												
		10	-1	MA	0.2	0.2	0.5	0.7	0.8	1	2	2	3	5	7
KD	23	12	0	BA	67	58	48	42	38	35	29	25	19	15	5
SAB	9			TOF	0	0	0	0	0	0	1	1	1	2	4

Jackhammer 12 Gauge-Is a full-auto shotgun using plastic construction. The weapon has a two-stage trigger for semi-auto our full auto.

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Page last modified: February 09, 2001



PHOENIX COMMAND

Ultimate M16A2

Ultimate/M16A2

Shotgun

12 Gauge

USA

Data provided by Greg Brovane

Physical		Aim		Ballistic Data												
Data		Time		Range in 2 yard Hexes												
		AC	ALM			1	2	4	6	7	10	15	20	30	40	80
L	39	1	-26	Slug	PEN	7.0	7.0	6.9	6.9	6.8	6.7	6.6	6.5	6.3	6.0	5.2
W	14.8	2	-15		DC	10	10	10	10	10	10	9	9	9	9	8
		3	-9													
RT	26	4	-8	Shot	PEN	5.4	1.6	1.5	1.5	1.4	1.4	1.3	1.2	1.1	9.0	0.5
ROF	2	5	-6	(00)	DC	8	3	3	3	3	3	2	2	2	2	1
		6	-5		SALM	-13	-8	-3	0	2	4	7	9	12	14	19
Cap	5	7	-4	(11)	BPHC		*11	*10	*9	*5	*3	*2	93	42	23	5

AW	0.13	8	-3	PR	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.9
	Rnd	9	-2												
		10	-1												
KD	23	12	0	BA	67	58	48	42	38	35	29	25	19	15	5
SAB	10			TOF	0	0	0	0	0	0	1	1	1	2	4

Ultimate/M16A2 12 gauge-Is a heavily modified Remington 870 that is designed to be attached under a M16. The shotgun has no grip or stock so firing it separate is dangerous.

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Page last modified: February 09, 2001



ARES FMG

Personal Defence Weapon

9mmP

USA

Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data										
	Time		Range in 2 yard Hexes										
	AC	ALM											
L	20	1	-21	FMJ	PEN	2.3	2.1	1.8	1.4	1.1	0.5	0.2	0.1
W	6.4	2	-11		DC	3	3	3	2	1	1	1	1
		3	-9										
RT	8	4	-7	JHP	PEN	2.2	2.0	1.7	1.3	1.0	0.4	0.2	0.1
ROF	*6	5	-6		DC	5	4	4	3	2	1	1	1
		6	-5										

Cap	32		AP	PEN	3.2	3	2.5	1.9	1.5	0.6	0.3	0.1
AW	1.4			DC	3	3	2	2	1	1	1	1
	Mag											
				MA	0.3	0.5	1	2	3	5	8	11
KD	3			BA	46	37	28	21	16	7	1	-2
SAB	3			TOF	0	1	2	4	6	13	23	32

ARES Folding SMG 9mmP-This SMG is manufactured by ARES Inc. in the U.S.. It is designed to be a compact concealable SMG. The gun can be folded to about half the size of a standard sheet of paper. The gun can only be folded when 20-round magazines that weigh 1 pound are used. Requires 8 AC to fold or unfold.

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Page last modified: February 03, 2001



Bizon SMG

Submachine Gun

9mm Makarov

Russia

Data provided by R.J. Andron

Physical Data		Aim		Ballistic Data									
				Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	26/17	1	-21	FMJ	PEN	1.7	1.6	1.3	0.9	0.6	0.1		
W	5.5	2	-11		DC	3	3	2	2	1	1		
		3	-10										
RT	8	4	-9	JHP	PEN	1.7	1.4	1.1	0.9	0.6	0.1		
ROF	*6	5	-8		DC	4	3	3	2	1	1		
		6	-7										

Cap	64	7	-6	AP HI	PEN	4.0	3.7	3.0	2.0	1.3	0.3	0.1
AW	2.4				DC	4	3	3	2	1	1	1
	Drm											
					MA	0.2	0.3	0.4	0.5	0.7	1.2	1.6
KD	3				BA	49	41	33	26	22	12	7
SAB	1				TOF	0	1	2	3	4	8	12

Bizon SMG- A new submachine gun from Russia. The Bizon is based on the Kalashnikov frame and chambered for the new 9mm Makarov High Impulse (AP HI) ammunition. The helical feed magazine serves as the weapon's foregrip.

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Page last modified: February 03, 2001



PHOENIX COMMAND

Calico 950

Calico 950

Pistol/Carbine

9 mm Parabellum

U.S.A. Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data									
	Time		Range in 2 yard Hexes									
	AC	ALM										
L	14	1	-19	FMJ	PEN	2.8	2.6	2.3	1.8	1.4	0.4	0.1
W	3.3/5.2	2	-12		DC	4	4	3	2	1	1	1
		3	-10									
RT	8	4	-9	JHP	PEN	2.7	2.5	2.1	1.7	1.3	0.4	0.1
ROF	*	5	-8		DC	6	5	5	4	3	1	1
		6	-7									

Cap 50/100		AP	PEN	3.8	3.5	3.0	2.4	1.9	0.5	0.1
AW 1.6/3.2			DC	4	4	3	2	1	1	1
	Mag									
KD 4			BA	46	37	28	21	16	7	1
SAB 3			TOF	1	1	2	4	7	27	77

Calico 950 9mmP-This unique weapon is made of lightweight modern materials. The standard 50-round magazine sits above the gun, there is a longer 100-round available. The magazine ejects the rounds through the bottom of the gun and all features are ambidextrous.

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Page last modified: February 03, 2001

PHOENIX COMMAND

Calico 960A

Calico 960A

Personal Defence Weapon

9mmP

USA

Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data										
	Time		Range in 2 yard Hexes										
	AC	ALM			10	20	40	70	100	200	300	400	
L	21/31	1-20/-21	FMJ	PEN	3.2	3	2.5	2	1.6	0.7	0.3	0.1	
W	6.8/8.2	2-10/-11		DC	4	4	3	3	2	1	1	1	
		3	-8										
RT	8	4	-6	JHP	PEN	3.1	2.9	2.4	1.9	1.5	0.7	0.3	0.1
ROF	*6	5	-5		DC	6	6	5	4	3	1	1	1
		6	-4										

Cap	50/100	7	-3	AP	PEN	4.5	4.2	3.6	2.8	2.2	1.0	0.5	0.2
AW	1.6	8	-2		DC	4	4	3	3	3	1	1	1
	Mag	9	-1										
					MA	.3/.2	.6/.4	1/.8	2	4	7	11	15
KD	5				BA	46	37	28	21	16	7	2	-2
SAB	4				TOF	0	1	2	3	5	11	19	27

Calico 960A 9mmP- This unique weapon is made of lightweight modern materials. The standard 50-round magazine sits above the gun, there is a longer 100-round available. The magazine ejects the rounds through the bottom of the gun and all features are ambidextrous. This weapon is closely related to the pistol version except it has a longer barrel and fires full auto.

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Page last modified: February 03, 2001

PHOENIX COMMAND

CAR 40 .40 S&W

CAR 40 .40 S&W

Personal Defence Weapon

.40 S&W

USA

Data Provided by Greg Brovane

Physical		Aim		Ballistic		Data							
Data		Time				Range in 2 yard Hexes							
		AC	ALM			10	20	40	70	100	200	300	400
L	27	1	-22	FMJ	PEN	2.4	2.3	2	1.6	1.3	0.5	0.2	0.1
W	7.6	2	-11		DC	4	4	3	2	1	1	1	1
		3	-9										
RT	8	4	-7	JHP	PEN	2.3	2.2	1.9	1.5	1.3	0.5	0.2	0.1
ROF	*7	5	-5		DC	6	5	5	4	3	1	1	1
		6	-4										

Cap	30	7	-3	AP	PEN	3.2	3	2.6	2.1	1.7	0.7	0.3	0.1
AW	1.5	8	-2		DC	4	4	3	3	2	1	1	1
	Mag	9	-1										
					MA	0.3	0.5	1	2	3	5	8	11
KD	5				BA	46	37	28	21	16	7	1	-2
SAB	4				TOF	1	1	3	5	8	15	24	35

CAR40 .40 S&W- This is a version of the CAR16 chambered for the .40 S&W cartridge.

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Page last modified: February 03, 2001

PHOENIX COMMAND

Carl Gustaf Kulsprutepistol Modell 45

Carl Gustaf Kulsprutepistol Modell 45 and Modell 45B "Swedish K"

Submachinegun

9mm Parabellum

Sweden

Data Provided by Eero Juhola

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	20 / 32	1	-22	FMJ	PEN	2.3	2.1	1.8	1.4	1.1	0.5	0.2	0.1
W	7.6	2	-12		DC	3	3	3	3	2	1	1	1
		3	-9										
RT	8	4	-7	JHP	PEN	2.2	2.0	1.8	1.7	1.3	0.4	0.2	0.1
ROF	*5	5	-6		DC	5	4	4	3	2	1	1	1
		6	-5										
Cap	36/50	7	-4	AP	PEN	3.2	3.0	2.5	1.9	1.5	0.6	0.3	0.1

AW	1.7/2.2	8	-3	DC	3	3	2	2	1	1	1	1
	Mag											
				MA	0.3	0.5	1	2	3	7	10	13
KD	3			BA	45	36	27	20	15	6	0	-3
SAB	3			TOF	0	1	2	4	6	13	23	32

Carl Gustaf Kulsprutepistol Modell 45 and Modell 45B "Swedish K"- Thanks to Johan H. A. Okker (jor@algonet.se) and another source who wishes to remain anonymous, I was able to correct and improve the Swedish K stats a bit. I just knew there would be people familiar with the weapon on the list.

I copied many of Johan's comments into the notes about the gun. The ROF information was provided by the anonymous source who has apparently tried to hack this weapon :)

The Carl Gustaf is the standard submachine gun of the Swedish army. In addition to Sweden, this fine gun was also produced in Egypt (as the "Port Said"). It was used by the Egyptian army in the 1967 war with Israel and also by Indonesia and other countries, notably by the US Special Forces in Southeast Asia.

The Model 45 and Model 45B differ mainly in respect to design features which affect shooter safety. There is a special bayonet mount which will accept a standard, c. 16 in. (40 cm) long Mauser bayonet.

The gun is capable of automatic fire only. A special high-velocity round which has better body armor penetration capabilities, the Model 9/39B, exists for the Carl Gustaf. The 9/39B is a lead core, thick steel jacketed projectile. The jacket is coated with copper to counter the increased wear a steel jacket would inflict on the weapon. Use the AP stats for this round.

The 50-round clip was discarded in the 1960's. With some reworking the Model 45B will accept the 70-round drum magazine of the 37/39 Suomi SMG. The Model 45 can use the drum magazine without reworking.

When firing full automatic, the weapon is easy to control but, due to the very heavy receiver, moves rather much with every round. It is possible, though forbidden, to field convert the weapon's feed mechanisms so that ROF is increased to *7 or even *9 or *10, but these may adversely affect reliability and even controllability (the weapon may fail to stop firing !).

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Page last modified: February 03, 2001

PHOENIX

COMMAND

FAMAE

FAMAE

Submachine Gun

9mmP

Chile

Data provided by Greg Brovane

Physical Data	Aim Time		Ballistic Data									
			Range in 2 yard Hexes									
	AC	ALM										
L	16/26	1	-22	FMJ	PEN	2.6	2.4	2.0	1.6	1.3	0.3	0.1
W	7.7	2	-12		DC	4	3	3	2	1	1	1
		3	-9									
RT	8	4	-7	JHP	PEN	2.4	2.3	1.9	1.5	1.2	0.3	0.1
ROF	**7	5	-6		DC	5	5	4	3	2	1	1
		6	-5									

Cap	30	7	-4	AP HI	PEN	3.4	3.2	2.7	2.1	1.7	0.5	0.1
AW	1.2	8	-3		DC	3	3	3	2	1	1	1
	Mag											
					3RB	-6	-1	4	8	11	16	19
					MA	0.3	0.7	1	2	3	7	10
KD	3				BA	46	37	28	21	16	7	1
SAB	3				TOF	1	1	2	5	8	29	81

FAMAE 9mmP-This SMG is produced in Chile by FAMAE Fabrications Militares.

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Page last modified: February 03, 2001



PHOENIX COMMAND

FN P-90

FN P-90 PDW

Personal Defence Weapon

5.7 x 28 mm

Belgium

Data Provided by Greg Brovane

Physical		Aim		Ballistic		Data							
Data		Time				Range in 2 yard Hexes							
		AC	ALM			10	20	40	70	100	200	300	400
L	16	1	-22	FMJ	PEN	5.3	5.1	4.8	4.2	3.8	2.4	1.6	1.0
W	7	2	-12		DC	3	3	3	3	2	1	1	1
		3	-9										
RT	10	4	-7	JHP	PEN	5.0	4.8	4.5	4.0	3.6	2.3	1.5	1.0
ROF	*6	5	-6		DC	5	5	4	4	4	2	1	1
		6	-5										

Cap	50	7	-4	AP	PEN	7.4	7.1	6.6	5.9	5.3	3.4	2.2	1.4
AW	1.5	8	-3		DC	3	3	3	2	2	1	1	1
	Mag	9	-1										
		10	0		MA	0.2	0.3	0.5	1	2	3	5	7
KD	2	11	1		BA	60	50	42	34	29	20	14	11
SAB	2				TOF	0	1	1	3	4	10	18	30

P90 5.7x28mm-Is a unusual SMG designed by FN Herstal in Belgium. The company designed a new round that is a cross between a rifle and pistol round. The weapon has been made to be used by noninfantry personnel. The weapon is made to be easy to use and features a clear magazine.

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Page last modified: February 03, 2001

PHOENIX

COMMAND

HK MP2000

HK MP 2000

Personal Defence Weapon

9mmP

Germany

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	10/14	1	-21	FMJ	PEN	2.5	2.3	2	1.5	1.2	0.5	0.2	0.1
W	8.8	2	-11		DC	3	3	3	2	2	1	1	1
		3	-8										
RT	8	4	-7	JHP	PEN	2.4	2.2	1.9	1.5	1.1	0.5	0.2	0.1
ROF	**7	5	-5		DC	5	5	4	3	2	1	1	1
		6	-4										

Cap	30	7	-3	AP	PEN	3.6	3.3	2.8	2.2	1.7	0.7	0.3	0.1
AW	1	8	-2		DC	3	3	3	2	2	1	1	1
	Mag	9	-1										
					3RB	-7	-2	3	7	10	16	19	21
					MA	0.3	0.5	1	2	3	5	8	11
KD	4				BA	46	37	28	21	16	7	1	-2
SAB	3				TOF	0	1	2	4	6	13	21	31

H&K MP 2000 9mmP-This gun is intended to put all the features of the MP-5 series in a single package. The guns magazines are straight and not compatible with the rest of the series. A very unique feature of the MP 2000 is its silencing system. The MP 2000 silences ammunition by bleeding away some propellant gas. This prevents the bullet from reaching supersonic speed. The bleed holes can be closed by a switch and this allows the bullets to reach normal velocity (1 CA to work the switch). The weapon has a switch for locking the bolt closed to eliminate mechanical noise but this requires the operator to work the bolt by hand before each shot.

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Page last modified: February 03, 2001



PHOENIX COMMAND

HK MP5 .40 S&W

Heckler & Koch MP5 .40 S&W

Personal Defence Weapon

.40 S&W

Germany

Data Provided by Greg Brovane

Physical Data		Aim		Ballistic Data									
		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	19/27	1	-20	FMJ	PEN	2.5	2.4	2.1	1.7	1.3	0.5	0.2	
W	6.8	2	-10		DC	4	4	3	2	1	1	1	
		3	-8										
RT	8	4	-6	JHP	PEN	2.4	2.3	2.0	1.6	1.3	0.5	0.2	
ROF	*7	5	-5		DC	6	5	5	4	3	1	1	
		6	-4										

Cap	30	7	-3	AP	PEN	3.3	3.1	2.7	2.2	1.8	0.6	0.2
AW	1.5	8	-2		DC	4	4	3	3	2	1	1
	Mag	9	-1									
					MA	0.5	0.8	1	3	5	8	12
KD	5				BA	46	37	28	21	16	7	1
SAB	4				TOF	1	1	3	5	8	15	24

H&K MP-5 .40 S&W-Is just one version of the MP-5 series chambered for the .40 S&W cartridge

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Page last modified: February 03, 2001

PHOENIX

COMMAND

HK MP5 10mm

Heckler & Koch MP5 10mm

Personal Defence Weapon

10mm

Germany

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	19/27	1	-20	FMJ	PEN	3.4	3.1	2.7	2.2	1.8	0.6	0.2	0.1
W	6.9	2	-10		DC	5	5	4	4	3	1	1	1
		3	-8										
RT	8	4	-6	JHP	PEN	3.2	3.0	2.6	2.1	1.7	0.6	0.2	0.1
ROF	*7	5	-5		DC	7	7	6	5	4	1	1	1
		6	-4										

Cap	30	7	-3	AP	PEN	4.5	4.2	3.6	2.9	2.4	0.8	0.3	0.1
AW	1.5	8	-2		DC	5	5	4	4	3	1	1	1
	Mag	9	-1										
					MA	0.6	1	2	4	6	12	19	25
KD	5				BA	48	40	32	25	20	11	5	2
SAB	4				TOF	0	1	2	4	7	23	59	132

H&K MP-5 10mm-Is another version of the MP-5 chambered for the 10mm round..

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Page last modified: February 03, 2001

PHOENIX

COMMAND

HK MP5 SD3

HK MP5 SD3

Personal Defence Weapon

9mmP

Germany

Data Provided by Greg Brovane

Physical Data		Aim		Ballistic Data								
		Time		Range in 2 yard Hexes								
		AC	ALM									
L	24/31	1	-22	FMJ	PEN	1.7	1.6	1.4	1.1	0.8	0.2	0.1
W	8.7	2	-12		DC	2	2	1	1	1	1	1
		3	-9									
RT	8	4	-7	JHP	PEN	1.6	1.5	1.3	1.0	0.8	0.2	0.1
ROF	*7	5	-6		DC	4	3	3	1	1	1	1
		6	-5									

Cap	30	7	-4	AP	PEN	2.3	2.1	1.8	1.4	1.1	0.3	0.1
AW	1.2	8	-3		DC	2	2	1	1	1	1	1
	Mag											
					MA	0.3	0.5	1	2	3	5	8
KD	3				BA	46	37	28	21	16	7	1
SAB	2				TOF	1	1	3	6	9	35	99

MP5SD3 9mmP-This is a silenced version of the MP5 SMG. The weapon can use normal 9mmP rounds, it uses small holes to reduce the bullet velocity. For minimum noise 9mmP subsonic is recommended for use. The version here has a muzzle velocity of 284m/s, which is the actual muzzle velocity of real weapon. The suppresser requires no maintenance and will last indefinitely. This same data can be used for the MP2000 in suppression mode.

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Page last modified: February 03, 2001

PHOENIX COMMAND

IDW 10mm

IDW 10mm

Personal Defence Weapon

10mm

Great Britain

Data Provided by Greg Brovane

Physical Data		Aim		Ballistic Data								
		Time		Range in 2 yard Hexes								
		AC	ALM									
L	11	1	-21	FMJ	PEN	2.2	2.1	1.8	1.5	1.2	0.4	0.1
W	7.3	2	-11		DC	4	3	3	2	1	1	1
		3	-9									
RT	8	4	-7	JHP	PEN	2.1	2.0	1.7	1.4	1.1	0.4	0.1
ROF	*4	5	-6		DC	5	5	4	3	2	1	1
		6	-5									

Cap	32	7	-4	AP	PEN	3	2.8	2.4	1.9	1.6	0.6	0.2
AW	1.4				DC	4	3	3	2	1	1	1
	Mag											
					MA	0.2	0.2	0.3	0.4	0.9	1	2
KD	4				BA	48	40	32	25	20	11	5
SAB	3				TOF	1	1	3	5	8	28	72

IDW 10mm-The IDW is a compact SMG designed and built by Bushman Ltd. in UK. the Bushman is extremely heavy due to the use of machined steel for the gun. The Bushman has a small catch controlled by a microchip that reduces the rate of fire to 450rpm. The gun designer reasoned that SMGs would have a natural frequency were they would fire smoothly at. The IDW is controllable in even full-auto mode one-handed, the gun doesn't jump it merely rocks slightly in the hand. I am not sure how hard it is for a user to adjust the ROF for the gun. The natural rate of fire if the catch was disabled would be 1400 rpm, this would certainly prevent the gun from being fired one-handed and make the gun very uncontrollable.

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Page last modified: February 03, 2001

PHOENIX COMMAND

Micro UZI

Micro - UZI

Personal Defence Weapon

9mmP

Israel

Data Provided by Greg Brovane

Physical Data		Aim		Ballistic Data									
		Time		Range in 2 yard Hexes									
		AC	ALM										
L	10/18	1	-20	FMJ	PEN	1.9	1.8	1.5	1.1	0.9	0.4	0.1	0.1
W	5	2	-12		DC	3	3	2	2	1	1	1	1
		3	-10										
RT	7	4	-9	JHP	PEN	1.9	1.7	1.4	1.1	0.8	0.3	0.1	0.1
ROF	*10	5	-8		DC	4	4	3	2	2	1	1	1
		6	-7										

Cap	20	7	-7	AP	PEN	2.7	2.5	2.1	1.6	1.2	0.5	0.2	0.1
AW	0.9	8	-6		DC	3	3	2	2	1	1	1	1
	Mag												
					MA	0.5	1	2	3	5	10	14	19
KD	3				BA	45	37	28	21	16	6	1	-2
SAB	3				TOF	1	1	2	4	6	15	25	36

Micro-UZI 9mmP-This is the smallest and lightest member of the UZI Family. The bolt has a tungsten core to increase its weight and keep the rate of fire somewhat manageable.

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Page last modified: February 03, 2001

PHOENIX COMMAND

Sterling L2A3

Sterling L2A3

Personal Defence Weapon

9mmP

Great Britain

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	19/28	1	-20	FMJ	PEN	2.5	2.3	2	1.5	1.2	0.5	0.2	0.1
W	6.8	2	-10		DC	3	3	3	2	2	1	1	1
		3	-8										
RT	8	4	-6	JHP	PEN	2.4	2.2	1.9	1.5	1.1	0.5	0.2	0.1
ROF	*5	5	-5		DC	5	5	4	3	2	1	1	1
		6	-4										

Cap	34	7	-3	AP	PEN	3.6	3.3	2.8	2.2	1.7	0.7	0.3	0.1
AW	1.3	8	-2		DC	3	3	3	2	2	1	1	1
	Mag	9	-1										
					MA	0.2	0.4	0.9	1	2	4	6	9
KD	4				BA	46	37	28	21	16	7	1	-2
SAB	3				TOF	0	1	2	4	6	13	21	31

Sterling L2A3-The full size Sterling SMG.

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Page last modified: February 03, 2001

PHOENIX COMMAND

Sterling L34A1

Sterling L34A1

Personal Defence Weapon

9mmP

Great Britain

Data Provided by Greg Brovane

Physical Data		Aim		Ballistic Data									
				Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	26/34	1	-23	FMJ	PEN	2	1.9	1.6	1.3	1	0.3	0.1	
W	9.7	2	-21		DC	3	3	2	1	1	1	1	
		3	-9										
RT	8	4	-8	JHP	PEN	1.9	1.8	1.5	1.2	0.9	0.3	0.1	
ROF	*5	5	-6		DC	4	4	3	2	1	1	1	
		6	-5										

Cap	34	7	-4	AP	PEN	2.7	2.5	2.1	1.7	1.3	0.4	0.1
AW	1.2	8	-3		DC	3	3	2	1	1	1	1
	Mag	9	-2									
					MA	0.2	0.4	0.9	1	2	4	6
KD	3				BA	46	37	28	21	16	7	1
SAB	3				TOF	1	1	3	6	9	35	99

Sterling L-34A1 9mmP-This is the silenced version of the Sterling L2A3 SMG. The weapon can use normal 9mmP rounds, it uses small holes to reduce the bullet velocity. For minimum noise 9mmP subsonic is recommended for use. The version here has a muzzle velocity of 308m/s, which is the actual muzzle velocity of real weapon. The suppresser requires no maintenance and will last indefinitely.

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Page last modified: February 03, 2001



PHOENIX COMMAND

Steyr AUG 9mmP

AUG 9mm

Personal Defence Weapon

9mmP

Austria

Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data										
	Time		Range in 2 yard Hexes										
	AC	ALM											
L	27	1	-22	FMJ	PEN	3.2	3	2.5	2	1.6	0.7	0.3	0.1
W	8	2	-11		DC	4	4	3	3	2	1	1	1
		3	-9										
RT	8	4	-7	JHP	PEN	3.1	2.9	2.4	1.9	1.5	0.7	0.3	0.1
ROF	*6	5	-5		DC	6	6	5	4	3	1	1	1
		6	-4										

Cap	32	7	-3	AP	PEN	4.5	4.2	3.6	2.8	2.2	1.0	0.5	0.2
AW	1.3	8	-2		DC	4	4	3	3	2	1	1	1
	Mag	9	-1										
					MA	0.2	0.4	0.9	1	2	4	6	9
KD	4				BA	46	38	29	21	16	7	2	-2
SAB	3				TOF	0	1	2	3	5	11	19	27

AUG 9mmP-This is a 9mmP weapon based on Steyr AUG. Many components are the same. In fact the SMG can be ordered as a conversion kit from the rifle.

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Page last modified: February 03, 2001

PHOENIX

COMMAND

Steyr TMP 9mmP

Steyr TMP 9mmP

Tactical Machine Pistol

9 mm Parabellum

Austria

Data Provided by Greg Brovane

Physical Data		Aim Time		Ballistic Data									
				Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	11	1	-19	FMJ	PEN	2.1	1.9	1.6	1.3	1.0	0.3	0.1	
W	3.5	2	-11		DC	3	3	2	1	1	1	1	
		3	-8										
RT	8	4	-7	JHP	PEN	2.0	1.9	1.6	1.2	1.0	0.3	0.1	
ROF	*5	5	-6		DC	4	4	4	2	1	1	1	
		6	-5										

Cap	25	7	-4	AP	PEN	2.8	2.6	2.2	1.7	1.4	1.0	0.1
AW	0.8				DC	3	3	2	1	1	1	1
	Mag											
					MA	0.3	0.5	1	2	3	5	8
KD	3				BA	46	37	28	21	16	6	1
SAB	3				TOF	1	1	3	5	8	32	90

TMP 9mmP-This is a weapon made by Steyr called the TMP (Tactical Machine Pistol) chambered for 9mmP. The TMP uses about half the parts of a normal SMG making it very reliable. As with all Steyr automatic weapons, the TMP has a two stage trigger that allows the user to fire single shots in full-auto mode.

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PHOENIX COMMAND

TEC-9

TEC-9

Personal Defence Weapon

9mmP

USA

Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data										
	Time		Range in 2 yard Hexes										
	AC	ALM											
L	11	1	-19	FMJ	PEN	2.3	2.1	1.8	1.4	1.1	0.5	0.2	0.1
W	3.8	2	-11		DC	3	3	3	2	1	1	1	1
		3	-8										
RT	8	4	-7	JHP	PEN	2.2	2.0	1.7	1.3	1.0	0.4	0.2	0.1
ROF	*7	5	-6		DC	5	4	4	3	2	1	1	1
		6	-5										

Cap	32	7	-4	AP	PEN	3.2	3	2.5	1.9	1.5	0.6	0.3	0.1
AW	1.3				DC	3	3	2	2	1	1	1	1
	Mag												
					MA	0.4	0.8	2	3	4	8	12	15
KD	3				BA	46	37	28	21	16	7	1	-2
SAB	3				TOF	0	1	2	4	6	13	23	32

TEC 9mmP-The infamous TEC-9 manufactured by Intratec US. This inexpensive gun can be easily converted to full-auto by criminals, which has allowed the gun to acquire a notorious reputation in the US.

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PHOENIX COMMAND

Delisle Mk3

Delisle Mk 3

Rifle

.45 ACP

Great Britain

Data Provided by Greg Brovane

Physical Data		Aim		Ballistic Data									
				Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	38	1	-21	FMJ	PEN	1.5	1.4	1.2	0.9	0.7	0.3		
W	8.4	2	-10		DC	4	4	3	2	1	1		
		3	-6										
RT	10	4	-4										
ROF	3	5	-3										
		6	-2										

Cap	4	7	0							
AW	0.6	8	1							
	Mag	9	1							
		10	3							
KD	4	11	5	BA	45	36	27	20	15	5
SAB	2			TOF	1	2	3	5	8	19

Delisle Mark 3 .45-Is a silent weapon used during WWII. The weapon is very quiet only producing the sound of firing pin striking the primer. I recommend to use a sound magnitude of 55. The weapon has a built in box to collect shell casings. The gun comes standard with a bipod and scope.

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Page last modified: January 03, 2002



PHOENIX COMMAND

Galil AR 5.56mm NATO

Galil AR 5.56

Assault Rifle

5.56 NATO

Israel

Data Provided by Greg Brovane

Physical Data		Aim		Ballistic Data									
		Time		Range in 2 yard Hexes									
		AC	ALM										
L	39	1	-22	FMJ	PEN	16	15	14	12	11.0	6.8	4.3	2.7
W	11	2	-12		DC	6	6	6	6	5	4	3	2
		3	-7										
RT	8	4	-5	JHP	PEN	15.0	15.0	13.0	12.0	10.0	6.5	4.1	2.6
ROF	*5	5	-4		DC	8	8	8	7	7	6	5	3
		6	-3										

Cap	35	7	-1	AP	PEN	22	21	20	17	15	9.5	6.1	3.9
AW	1.6	8	0		DC	6	6	6	5	5	4	3	2
	Mag	9	1										
		10	2		MA	0.2	0.5	0.9	2	2	5	7	9
KD	4	11	3		BA	64	55	45	38	33	24	19	14
SAB	3				TOF	0	0	1	1	2	5	7	11

Galil AR 5.56mm Nato-Is a modified Galil rifle that has a scope and bipod attached to it.

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Page last modified: January 03, 2002

PHOENIX

COMMAND

HK G-36

HK G-36

Assault Rifle

5.56mm NATO

Germany

Data Provided by R.J. Andron

Physical Data	Aim		Ballistic Data										
	Time		Range in 2 yard Hexes										
	AC	ALM											
L	29/39	1	-23	FMJ	PEN	16	15	14	12	10	6	4	2
W	8.5	2	-12		DC	6	6	6	6	5	4	3	2
		3	-8										
RT	8	4	-6	JHP	PEN	15	14	13	11	10	6	4	2
ROF	*6	5	-5		DC	8	8	8	7	7	6	5	3
		6	-4										

Cap	30	7	-3	AP	PEN	23	22	20	17	15	9	5	3
AW	1.0	8	-2		DC	6	6	6	6	5	4	3	2
	Mag	9	-1										
		10	0		MA	0.4	0.8	1.6	2.8	4	8	12	16
KD	4	11	1		BA	60	51	42	35	30	20	15	11
SAB	3				TOF	0	1	1	2	2	5	8	11

HK G-36- The G-36 was adopted by the German Army following the collapse of the G-11 project. The G-36 was designed as a cost-effective rifle able to fire the 5.56mm NATO ammunition required to conform to NATO standard. The weapon uses a gas-operated rotating bolt and incorporates an integral 3x optical sight and a red-dot collimating sight. The export version, the G-36E, is identical, but eliminates the red-dot sight and replaces the optical sight with a 1.5x version.

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Page last modified: February 03, 2001

PHOENIX

COMMAND

HK G-36K

HK G-36K

Assault Rifle

5.56mm NATO

Germany

Data Provided by R.J. Andron

Physical Data		Aim		Ballistic Data									
		Time		Range in 2 yard Hexes									
		AC	ALM										
L	24/34	1	-23	FMJ	PEN	16	15	14	12	10	6	4	2
W	7.9	2	-12		DC	6	6	6	6	5	4	3	2
		3	-8										
RT	8	4	-6	JHP	PEN	15	14	13	11	10	6	4	2
ROF	*6	5	-5		DC	8	8	8	7	7	6	5	3
		6	-4										

Cap	30	7	-3	AP	PEN	23	22	20	17	15	9	5	3
AW	1.0	8	-2		DC	6	6	6	6	5	4	3	2
	Mag	9	-1										
		10	0		MA	0.4	0.8	1.6	2.8	4	8	12	16
KD	4	11	1		BA	60	51	42	35	30	20	15	11
SAB	3				TOF	0	1	1	2	2	5	8	11

HK G-36K- Short-barreled version of the G-36. Issued primarily to German Special Operations units.

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PHOENIX COMMAND

HK MSG-90

MSG-90

Sniper Rifle

7.62 NATO

Germany

Data Provided by R.J. Andron

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	46	1	-26	FMJ	PEN	20	19	18	16	15	11	8	6
W	15.2	2	-16		DC	8	8	8	7	7	7	6	5
		3	-8										
RT	8	4	-6	JHP	PEN	19	18	17	16	14	10	7	5
ROF	*	5	-4		DC	9	9	9	9	9	8	8	7
		6	-3										
Cap	20	7	-2	AP	PEN	29	28	25	23	21	15	11	8

AW	1	8	-1	DC	8	8	7	7	7	6	6	5
	Mag	9	0									
		10	1	MA	0.4	0.8	1.6	2.8	4	8	12	16
KD	9	11	2	BA	61	53	45	37	32	23	17	13
SAB	5	12	4	TOF	0	1	1	2	3	5	8	12

HK MSG-90- German sniper rifle introduced in 1987. The MSG-90 uses a roller-locked delayed blowback breech and is typically fitted with a 10x optical sight. The MSG3 is identical, but adds iron sights.

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HK PSG1

Sniper Rifle

7.62mm NATO

Germany

Data provided by Matthew A.
Crump

Physical Data		Aim		Ballistic Data									
		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	47	1	-24	FMJ	PEN	20	19	18	16	15	11	7.6	5.5
W	16.8	2	-14		DC	8	8	8	7	7	7	6	5
		3	-7										
RT	8	4	-5	JHP	PEN	19	18	17	16	14	10	7.3	5.3
ROF	*	5	-4		DC	9	9	9	9	9	8	8	7
		6	-2										

Cap	20	7	0	AP	PEN	28	27	25	23	21	15	11	7.7
AW	1.4	8	1		DC	8	8	7	7	7	6	6	5
	Mag	9	2										
		10	3										
KD	10	12	4		BA	68	59	50	43	38	28	22	18
SAB	5				TOF	0	0	1	2	2	5	8	11

Heckler & Koch PSG-1- Semi-automatic sniper rifle based on the HK G3. This weapon can use 20 round or 5 round magazines. Data for this weapon is with 20 round mag..

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PHOENIX COMMAND

M21

M21

Sniper Rifle

7.62mm NATO

USA

Data Provided by Greg Brovane

Physical		Aim		Ballistic		Data							
Data		Time				Range in 2 yard Hexes							
		AC	ALM			10	20	40	70	100	200	300	400
L	44	1	-23	FMJ	PEN	20	19	18	16	15	11	7.6	5.6
W	12	2	-13		DC	8	8	8	7	7	7	6	5
		3	-8										
RT	8	4	-6	JHP	PEN	19	18	17	16	14	10	7.3	5.3
ROF	*	5	-4		DC	9	9	9	9	9	8	8	7
		6	-2										

Cap	20	7	-1	AP	PEN	28	27	25	23	21	15	11	7.7
AW	1.5	8	0		DC	8	8	7	7	7	6	6	5
	Mag	9	1										
		10	3										
KD	10	11	4		BA	68	59	50	43	38	28	22	18
SAB	5				TOF	0	0	1	2	2	5	8	11

M21-This is the army's current sniper rifle pending deployment of the M24. This basically a M14 constructed to higher tolerances. This results in a rugged accurate rifle. This version listed is semi-auto only. The gun comes standard with a bipod and scope.

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Page last modified: February 03, 2001



PHOENIX COMMAND

Model 85 Parker Hale

Model 85 Parker Hale

Sniper Rifle

7.62 NATO

Great Britain

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	48	1	-25	FMJ	PEN	20	19	18	16	15	11	7.7	5.5
W	14	2	-15		DC	8	8	8	7	7	7	6	5
		3	-8										
RT	8	4	-6	JHP	PEN	19	18	17	16	14	10	7.4	5.3
ROF	3	5	-4		DC	9	9	9	9	9	8	8	7
		6	-3										
Cap	10	7	-2	AP	PEN	28	27	25	23	21	15	11	7.8

AW	1.1	8	0	DC	8	8	7	7	7	6	6	5
	Mag	9	1									
		10	2									
KD	10	11	4	BA	68	59	50	43	38	28	22	18
SAB	5			TOF	0	0	1	2	2	5	8	11

Model 85 7.62mm NATO-Is a rugged sniper rifle in British Service used by the British Army. The weapon was originally made by Parker-Hale but the design was sold to Navy Arms in the U.S.. The gun comes standard with a scope.

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PHOENIX

COMMAND

VG 1-5

VG 1-5 (Volkssturm-Gewehr 1-5 or Versuchs-Gerat 1-5)

Carbine

7.92mm Kurz

Germany

Data provided by R.J. Andron

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	34	1	-24	FMJ	PEN	9.2	8.8	8.1	7.1	6.3	4.1	2.7	1.7
W	10	2	-14		DC	6	6	6	6	6	4	3	2
		3	-9										
RT	9	4	-8	JHP*	PEN	8.6	8.3	7.7	6.8	6.0	4.0	2.6	1.7
ROF	*	5	-6		DC	8	8	8	7	7	6	4	2
		6	-5										
Cap	30	7	-4	AP	PEN	13	13	12	10	9.0	5.9	3.9	2.6

AW	2.1	8	-3	DC	6	6	6	6	5	4	2	2
	Mag	9	-2									
KD	6			BA	58	49	40	32	27	17	12	8
SAB	4			TOF	0	1	1	2	3	7	11	16

VG 1-5 (Volkssturm-Gewehr 1-5 or Versuchs-Gerat 1-5)- The VGI-5 is an unusual and rare firearm that only saw use in the late stages of WWII as part of the Volksturm series of weapons, and was used on the Eastern front as German Armies and Home Guard fought to defend their homeland from the onslaught of the Red Army.

Externally, the weapon appears nearly identical to the MP 35, but is much cruder in construction. The VGI-5 was made as a delayed blowback-operated semi-automatic carbine firing the 7.92mm Kurz (short) round. Cheap, easy to operate, and easy to manufacture, the VGI-5 played a near-forgotten part in WWII.

The rifle was quickly developed by Chief Designer Herr Barnitzke of Gusloft-Werke as part of the Primitiv-Waffen-Programm of 1944 and was used by the Home Guard (Volksturn) and possibly by the postwar Werewolf Nazi guerrilla movement. Only small production occurred from January 1945.

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PHOENIX COMMAND

Vektor CR21

Vektor CR21

Assault Rifle

5.56mm NATO

South Africa

Data Provided by R.J. Andron

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	30	1	-23	FMJ	PEN	15	14	13	11	10	6.2	3.9	2.5
W	9.7	2	-12		DC	6	6	6	5	5	4	3	2
		3	-8										
RT	8	4	-6	JHP	PEN	14	13	12	11	9.3	5.9	3.8	2.4
ROF	*6	5	-5		DC	8	7	7	7	7	6	5	4
		6	-4										

Cap	30	7	-3	AP	PEN	20	20	18	16	14	8.7	5.6	3.6
AW	1.1	8	-2		DC	6	6	5	5	4	3	3	2
	Mag	9	-1										
		10	0		MA	0.2	0.5	1	2	2	5	7	10
KD	4	11	1		BA	60	51	42	35	30	20	15	11
SAB	3				TOF	0	1	1	2	2	5	8	11

Vektor CR21 - The Vektor CR 21 (Combat Rifle -- 21st Century) is developed by the South African firm of Vektor. It is being marketed as an upgrade to Kalashnikov-type actions, including the Galils and R4s. The bullpup-configuration CR21 uses a polymer-injection molded stock and cover, and a tritium-illuminated fibre-optic 1x reflex sight.

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Page last modified: February 11, 2001



Winchester M1895 Russian

Rifle

7.62 x 53 mm (7,62 kiv/Winchester)

USA

Data Provided by Eero Juhola

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	46.5	1	-23	m/08	PEN	20	19	17	15	13	7.6	4.6	2.8
W	9.5	2	-12		DC	8	8	8	8	8	7	7	6
		3	-9										
RT	7	4	-7	m/30	PEN	24	22	20	17	15	9	5.4	3.3
ROF	2	5	-6		DC	8	8	8	8	8	7	7	6
		6	-5										

Cap	5	7	-4	*JHP	PEN	18	18	16	14	12	7.2	4.4	2.7
AW	0.3	8	-3		DC	10	9	9	9	9	9	8	8
	CS	9	-2										
		10	-1	*AP	PEN	29	27	24	21	18	11	6.6	4.0
KD	12	11	0		DC	8	8	8	8	7	7	7	6
SAB	7												
					BA	64	56	48	41	36	27	21	17
					TOF	0	0	1	2	2	5	8	11

Winchester m/1895 Russian - Between 1915 and 1917 the Winchester Repeating Arms Company supplied Imperial Russia with some 300 000 Winchester rifles model 1895,

i.e. the Winchester M95 Russian. Designed by John Browning, the gun fired the standard model 1908 7.62x53mm cartridge and had a magazine of four, with the fifth going into the barrel. Unlike earlier Winchesters, the m/1895 dispensed with the tubular magazine and used a regular box magazine loaded, in the Russian model at least, with a charging strip. Data is given for both original m/1908 and m/1930 heavy ball ammunition.

The rifle's sights were graduated in arshins, an old Russian measurement corresponding to 71 cm (28 inches). The rifle could be fitted with a 52 cm (20 in) bayonet. Compared to a bolt action the rifle was probably more difficult to operate from a prone firing position but had an advantage if fired in any upright position in that the operator did not have to lift his head off the sights to cycle the action. The m/1895 has a sustained rate of fire of 56 rounds per minute.

The m/1895 is the strongest lever-action rifle ever made. For other markets, Winchester produced the rifle in 30-40 Krag, 30-03, 30-06, 303 British, 35 Winchester, 405 Winchester, 38-72, and 40-72 blackpowder calibers. The barrel lengths varied from the Rifle, with barrels from 22 to 28 inches long, to the Carbine, 22 inches, and the Musket (originally intended

for Army sales) 24 to 30 inches. A total of 425 000 were made between 1895 and the early 1930s. The m/1895 was

the Wimbledon Cup 1896 winner for the 1000 yard championship. Today, Browning offers a replica of the 1895 in .30-06 for about 1100 dollars.

Imperial Russian troops in Finland used the Winchester rifle among other types and both sides employed it in the Civil War of 1918. Due to its fine workmanship the rifle was highly valued but its small numbers and unusual mechanism relegated the type to reserve use only. Fewer than 4000 Winchesters survived the Civil War.

When the Winter War begun the Finns actually de-mothballed even these venerable weapons, though they were primarily distributed to artillery units and troops on the home front. The remaining 500 rifles were sold to civilians in the Fifties.

Some notes kindly provided by John T. Kwon

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Page last modified: February 09, 2001



PHOENIX COMMAND

Baby Eagle

Baby Eagle

Pistol

9mmP

Israel

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	8	1	-17	FMJ	PEN	2.1	1.9	1.6	1.3	1.0	0.3	0.1	
W	2.9	2	-11		DC	3	3	2	1	1	1	1	
		3	-10										
RT	4	4	-9	JHP	PEN	2.0	1.8	1.6	1.2	1.0	0.3	0.1	
ROF	*	5	-8		DC	4	4	3	2	1	1	1	
		6	-7										

Cap	16		AP	PEN	2.8	2.6	2.2	1.7	1.4	0.4	0.2
AW	0.6			DC	3	3	2	2	1	1	1
	Mag										
KD	3			BA	46	37	28	21	16	7	1
SAB	3			TOF	1	1	3	5	8	13	22

Baby Eagle 9mmP-This weapon is a large rugged double-action pistol. Unlike the bigger Desert Eagle it is recoil operated instead of gas. The gun also comes in .40S&W and there is a special conversion kit to convert the 9mmP to .41in AE. The weapon is produced by IMI and is also produced under license in the U.S. by Magnum Research.

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Page last modified: February 03, 2001



PHOENIX COMMAND

Colt Delta Elite

Colt Delta Elite 10 mm

Pistol

10 mm

U.S.A.

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	9	1	-17	FMJ	PEN	2.6	2.4	2.1	1.7	1.4	0.5	0.2	0.1
W	2.7	2	-11		DC	4	4	3	2	1	1	1	1
		3	-10										
RT	4	4	-9	JHP	PEN	2.4	2.3	2.0	1.6	1.3	0.5	0.2	0.1
ROF	*	5	-8		DC	6	5	5	4	3	1	1	1
		6	-7										
Cap	7			AP	PEN	3.4	3.2	2.8	2.2	1.8	0.6	0.2	0.1

AW	0.3		DC	4	4	3	2	1	1	1	1
	Mag										
KD	5		BA	48	40	32	25	20	11	5	2
SAB	4		TOF	1	1	3	5	8	27	67	151

Delta Elite 10mm-Is a 10mm single-action autoloader based closely on the design of the M1911. The gun data is for a normal load.

[Send Comments](#)

Page last modified: February 03, 2001



PHOENIX COMMAND

Desert Eagle 50 AE

Desert Eagle .50 AE

Pistol

.50 Calibre Action Express

Israel

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	10	1	-19	FMJ	PEN	4.6	4.2	3.5	2.6	1.9	0.2		
W	4.6	2	-12		DC	8	8	8	7	5	1		
		3	-10										
RT	4	4	-9	JHP	PEN	4.4	4.0	3.3	2.5	1.8	0.2		
ROF	*	5	-8		DC	9	9	9	8	7	1		
		6	-7										

Cap	8	7	-6	AP	PEN	6.0	5.5	4.5	3.3	2.5	0.3
AW	0.6				DC	8	8	8	7	5	1
	Mag										
KD	9				BA	53	44	35	28	23	16
SAB	7				TOF	0	1	2	3	7	38

Desert Eagle .50in AE- This is a large autoloader that is chambered for the .50in AE round based on the rugged Desert Eagle frame. This round because of its slower speed packs less energy (2400J) than the Casull at 2800J.

[Send Comments](#)

Page last modified: February 03, 2001

PHOENIX COMMAND

7.65mm DWM Luger 08/20

7.65mm DWM Luger 08/20

Automatic Pistol

7.65mm Parabellum

Germany

Data Provided by Eero Juhola

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	8.75	1	-16	FMJ	PEN	1.9	1.8	1.6	1.4	1.2	0.7	0.4	0.3
W	1.9	2	-11		DC	3	3	2	2	1	1	1	1
		3	-10										
RT	4	4	-9	*JHP	PEN	1.8	1.7	1.5	1.3	1.1	0.7	0.4	0.2
ROF	*	5	-8		DC	4	3	3	2	1	1	1	1
		6	-7										

Cap	8		*AP	PEN	2.7	2.5	2.3	2.0	1.7	1.0	0.6	0.4
AW	0.2			DC	3	2	2	2	1	1	1	1
	box											
KD	2			BA	46	38	29	22	17	8	3	-1
SAB	3			TOF	0	1	2	3	5	12	20	29

7.65 mm DWM Luger 08/20 - This is the 7.65mm version of the excellent 9mm Parabellum P08 (model 1908) automatic pistol, commonly called the Luger, which was used by the German army in World War I. The Versailles peace treaty specified that German pistols had to be of a caliber smaller than 9mm and that their barrels could not be longer than 102 mm. Thus a modified version of the pistol was introduced, using the powerful 7.65mm Parabellum cartridge.

The gun achieved considerable export success in the Twenties and Thirties. Finland purchased 8000 such weapons (designated as the Parabellum m/23) and during the Winter War they were used by officers, NCOs, heavy weapon, tank and aircraft crews.

[Send Comments](#)

Page last modified: February 09, 2001

PHOENIX COMMAND

9mm DWM Luger P-08

9mm DWM Luger P-08

Automatic Pistol

9mm Parabellum

Germany

Data Provided by Eero Juhola

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM										
						10	20	40	70	100	200	300	400
L	8.75	1	-16	FMJ	PEN	2.0	1.8	1.7	1.4	1.2	0.7	0.4	0.3
W	1.9	2	-11		DC	3	3	2	2	1	1	1	1
		3	-10										
RT	4	4	-9	*JHP	PEN	1.9	1.8	1.6	1.4	1.2	0.7	0.4	0.3
ROF	*	5	-8		DC	4	4	3	2	1	1	1	1
		6	-7										
Cap	4			*AP	PEN	2.9	2.7	2.4	2.1	1.8	1.1	1	0.4

AW	0.2		DC	3	2	2	2	1	1	1	1
	box										
KD	2		BA	45	36	27	20	15	5	0	-3
SAB	4		TOF	1	1	2	4	6	15	25	36

9mm DWM Luger P-08 - This is the original 9mm Parabellum P08 (model 1908) automatic pistol, commonly called the Luger, which was used by the German army in both World Wars. The weapon achieved an enviable reputation for reliability and stopping power and was widely exported to other countries. The gun continued to be manufactured until 1943. Some 200 pistols of this type found their way to Finland. They were used in the Continuation War by officers, NCOs, heavy weapon, tank and aircraft crews.

Some notes kindly provided by Gurth.

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Page last modified: February 09, 2001

PHOENIX COMMAND

9mm DWM Luger 17

9mm DWM Luger 17, Luger Artillery Model 17

Automatic Pistol

9mm Parabellum

Germany

Data Provided by Eero Juhola

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	12.75	1	-17	FMJ	PEN	2.3	2.1	1.9	1.7	1.4	0.9	0.5	0.3
W	2.3	2	-11		DC	3	3	3	2	1	1	1	1
		3	-10										
RT	4	4	-9	*JHP	PEN	2.2	2.0	1.8	1.6	1.4	0.8	0.5	0.3

ROF	*	5	-8		DC	5	4	4	3	2	1	1	1
		6	-7										
Cap	8			*AP	PEN	3.3	3.1	2.8	2.4	2.1	1.3	1	0.5
AW	0.2				DC	3	3	2	2	1	1	1	1
	box												
KD	3				BA	45	36	27	20	15	5	0	-3
SAB	4				TOF	1	1	2	4	6	15	25	36

9 mm Luger Artillery m/17 Automatic Pistol - This is my second version of the 9mm Luger "cannon" pistol. If anyone has additions or comments, [please let me know](#).

This is the long-barreled version of the 9mm Parabellum P08 automatic pistol. The original pistol proved very useful in trench warfare. The artillery model was introduced in 1917 and was first issued to artillery forward observers and machine gun crews but later also NCOs received them. At a time when submachine guns were just coming into use a fast auto-loading pistol was much handier in close quarters engagements than a conventional bolt action rifle.

The artillery model had adjustable sights for distances up to 800 meters and was usually fitted with the same eight-round box magazine as the model 1908. However a 32-round "snail" magazine was also available though it was prone to jamming, a tendency which was largely cured when the factory came up with a rounded-nose version of the originally pointed Parabellum bullet. The 32-round magazine also fits the Bergmann MP 18/I submachinegun and the Parabellum m/08 pistol.

The pistol could also be fitted with a 35-centimeter long, wooden shoulder-stock which had straps so that it could be attached to one's belt for carrying

purposes. Unlike the Mauser's, the Luger's stock could not be used as holster for the weapon.

Some notes kindly provided by Gurth.

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Page last modified: February 09, 2001

PHOENIX COMMAND

7.65mm Gabilondo Ruby

7.65mm Gabilondo Ruby

Automatic Pistol

7.65mm Browning

Spain

Data Provided by Eero Juhola

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	6.3	1	-16	FMJ	PEN	0.8	0.7	0.7	0.6	0.5	0.1		
W	2	2	-11		DC	1	1	1	1	1	1		
		3	-10										
RT	4	4	-9	*JHP	PEN	0.7	0.7	0.6	0.5	0.5	0.1		
ROF	*	5	-8		DC	2	2	1	1	1	1		
Cap	9			*AP	PEN	1.1	1.1	1.0	0.8	0.7	0.4		

AW	0.2		DC	1	1	1	1	1	1
	box								
KD	2		BA	40	31	23	16	12	3
SAB	3		TOF	1	1	3	5	8	19

7.65 mm Gabilondo Ruby Automatic Pistol

- Pistola Automatica "Ruby" 7.65 mm
- 7.65 mm Gabilondo Ruby Automatic Pistol
- 7,65 pist/19, pistooli m/espanjalainen

The 7.65 mm Browning was a very popular caliber in the beginning of the century but successful pistols using it are few and far between. While sufficient for law enforcement purposes, the Browning round was unsuitable for military use because of its limited stopping power and accuracy.

Based on the Browning type automatic pistol, the Ruby is a short-barreled, unremarkable weapon. During the First World War literally scores of small Spanish factories produced it, the main customers being France and Italy, both of which had an urgent need for pistols. Despite its low quality the wartime demand for the 7.65 mm Ruby pistol was such that it was kept in production until 1919. That same year the French War Ministry was all too glad to sell Finland 10,000 pistols, which were designated the m/19.

The Ruby proved to be totally unsuited for serious use. Pistols made by different factories had non-interchangeable parts. Materials and workmanship were substandard and ten years later twenty percent of the pistols were no longer serviceable. In addition the pistol was heavy for its size, inaccurate, unreliable and lacked stopping power. A combination of the worst features associated with automatic pistols, the Ruby is considered by some experts to be completely worthless as a means of personal protection.

Despite these deficiencies the Finnish Army was forced to use the Ruby pistol in both the Winter War and the Continuation War, though the type was mostly relegated to supply echelon and home front personnel. The remaining pistols were sold to collectors and Army personnel in the Sixties and Seventies. The type was finally retired in 1986.

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Page last modified: February 09, 2001

PHOENIX COMMAND

Glock 18

Glock 18

Submachine Pistol

9mmP

U.S.A.

Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data									
	Time		Range in 2 yard Hexes									
	AC	ALM										
L	8	1	-17	FMJ	PEN	2.1	1.9	1.6	1.3	1.0	0.3	0.1
W	2	2	-11		DC	3	3	2	1	1	1	1
		3	-10									
RT	4	4	-9	JHP	PEN	2.0	1.8	1.6	1.2	1.0	0.3	0.1
ROF	*12	5	-8		DC	4	4	3	2	1	1	1
		6	-7									
Cap	19			AP	PEN	2.8	2.6	2.2	1.7	1.4	0.4	0.1

AW	0.6		DC	3	3	2	1	1	1	1
	Mag									
			MA	1	3	4	5	9	14	16
KD	3		BA	46	37	28	21	16	7	1
SAB	5		TOF	1	1	3	5	8	32	90

Glock Model 18 9mmP-This is a version of the Glock that fires full-auto. The gun represented here has the +2 magazine in it, there is also a 32-round magazine available for it to. Glock has deliberately designed many parts to not be compatible with the Glock 17 so as to prevent unauthorized conversions.

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Page last modified: September 10, 2000

PHOENIX

COMMAND

Glock 20

Glock 20

Pistol

10mm

U.S.A.

Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data										
	Time		Range in 2 yard Hexes										
	AC	ALM											
L	8	1	-17	FMJ	PEN	2.5	2.3	2.0	1.6	1.3	0.5	0.2	0.1
W	2.4	2	-11		DC	4	4	3	2	1	1	1	1
		3	-10										
RT	4	4	-9	JHP	PEN	2.4	2.2	1.9	1.6	1.2	0.4	0.2	0.1
ROF	*	5	-8		DC	6	5	5	4	3	1	1	1
		6	-7										

Cap	15		AP	PEN	3.3	3.1	2.7	2.2	1.7	0.6	0.2	0.1
AW	0.7			DC	4	4	3	2	1	1	1	1
	Mag											
KD	5			BA	47	40	32	25	20	11	5	2
SAB	4			TOF	1	1	3	5	8	27	68	153

Glock Model 20 10mm This is a slightly larger Glock that chambers the 10mm. The frame is also used for the Glock 21. This weapon has one of the largest magazines available in its caliber.

[Send Comments](#)

Page last modified: February 03, 2001

PHOENIX COMMAND

Glock 21

Glock 21

Pistol

.45 ACP

 U.S.A. Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data										
	Time		Range in 2 yard Hexes										
	AC	ALM											
L	8	1	-17	FMJ	PEN	1.7	1.6	1.3	1.1	0.8	0.4	0.2	0.1
W	2.4	2	-11		DC	3	3	2	2	1	1	1	1
		3	-10										
RT	4	4	-9	JHP	PEN	1.6	1.5	1.3	1.0	0.8	0.4	0.2	0.1
ROF	*	5	-8		DC	5	4	3	2	1	1	1	1
		6	-7										

Cap	13		AP	PEN	2.4	2.2	1.9	1.5	1.2	0.5	0.2	0.1
AW	0.9			DC	3	3	2	2	1	1	1	1
	Mag											
KD	5			BA	45	37	28	21	16	6	1	-3
SAB	5			TOF	1	1	3	5	8	18	30	43

Glock 21 .45 ACP-As mentioned under the Glock 20 entry, this is the larger frame Glock that chambers the .45 ACP. Needless to say this weapon has a very high magazine capacity for a weapon of its caliber.

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Page last modified: February 03, 2001

PHOENIX

COMMAND

Glock 22

Glock 22

Pistol

.40 S&W

U.S.A. Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data									
	Time		Range in 2 yard Hexes									
	AC	ALM										
L	7	1	-16	FMJ	PEN	1.8	1.7	1.5	1.2	1.0	0.3	0.1
W	2	2	-11		DC	3	2	2	1	1	1	1
		3	-10									
RT	4	4	-9	JHP	PEN	1.7	1.6	1.4	1.1	0.9	0.3	0.1
ROF	*	5	-8		DC	4	4	3	2	1	1	1
		6	-7									

Cap	15		AP	PEN	2.4	2.2	2.0	1.6	1.3	0.5	0.2
AW	0.6			DC	3	3	2	1	1	1	1
	Mag										
KD	4			BA	46	37	28	21	16	7	1
SAB	3			TOF	1	1	3	6	9	31	78

Glock 22 .40 S&W- This is a Glock pistol that fires the .40 S&W round.

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PHOENIX

COMMAND

Glock 26

Glock 26

Pistol

9 mm P

U.S.A. Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data									
	Time		Range in 2 yard Hexes									
	AC	ALM										
L	6	1	-16	FMJ	PEN	1.8	1.7	1.4	1.1	0.9	0.2	0.1
W	1.5	2	-11		DC	4	4	3	2	1	1	1
		3	-10									
RT	4	4	-9	JHP	PEN	1.7	1.6	1.4	1.1	0.8	0.2	0.1
ROF	*	5	-8		DC	4	4	3	2	1	1	1

Cap	10		AP	PEN	2.4	2.3	1.9	1.5	1.2	0.3	0.1
AW	0.4			DC	2	2	1	1	1	1	1
	Mag										
KD	3			BA	45	36	28	21	16	5	1
SAB	3			TOF	1	1	3	6	9	34	96

Glock 26 9mmP- This is a super compact Glock in 9mmP.

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Page last modified: February 03, 2001

PHOENIX

COMMAND

Glock 27

Glock 27

Pistol

.40 S&W

U.S.A. Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data									
	Time		Range in 2 yard Hexes									
	AC	ALM										
L	6	1	-16	FMJ	PEN	1.6	1.5	1.3	1.1	0.9	0.3	0.1
W	1.5	2	-11		DC	2	2	1	1	1	1	1
		3	-10									
RT	4	4	-9	JHP	PEN	1.6	1.5	1.3	1.0	0.8	0.3	0.1
ROF	*	5	-8		DC	4	3	3	2	1	1	1

Cap	9		AP	PEN	2.2	2.0	1.8	1.4	1.2	0.4	0.2
AW	0.4			DC	2	2	1	1	1	1	1
	Mag										
KD	4			BA	45	35	26	19	14	3	-1
SAB	3			TOF	1	1	3	6	10	33	82

Glock 27 .40 S&W- This is a super compact Glock in .40 S&W.

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PHOENIX COMMAND

LAR Grizzly 50 AE

LAR Grizzly .50 AE

Pistol

.50 Calibre Action Express

USA

Data Provided by Greg Brovane

Physical Data		Aim Time		Ballistic Data									
				Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	11	1	-19	FMJ	PEN	5.0	4.6	3.8	2.8	2.1	0.3		
W	3.8	2	-12		DC	9	8	8	7	6	1		
		3	-10										
RT	4	4	-9	JHP	PEN	4.8	4.4	3.6	2.7	2.0	0.2		
ROF	*	5	-8		DC	9	9	9	8	7	1		
		6	-7										

Cap	6	7	-6	AP	PEN	6.5	6.0	4.9	3.6	2.7	0.3
AW	0.5				DC	9	8	8	7	6	1
	Mag										
KD	9				BA	53	44	35	28	23	16
SAB	7				TOF	0	1	2	3	6	36

LAR Grizzly .50in AE-This Grizzly is based on the M1911 frame and is chambered for the .50in AE round.

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Page last modified: February 03, 2001

PHOENIX COMMAND

M1896 Mauser

Mauser M1896 "Broomhandle" (Mauser Selbstladepistole Construction 96)

Automatic Pistol

7.63mm Mauser

Germany

Data Provided by R.J. Andron

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	11	1	-17	FMJ	PEN	2.6	2.4	2	1.6	1.3	0.6	0.2	0.1
W	2.72	2	-11		DC	3	3	2	2	1	1	1	1
		3	-10										
RT	8	4	-9	JHP*	PEN	2.5	2.3	2	1.5	1.2	0.5	0.2	0.1
ROF	*	5	-8		DC	4	4	3	3	2	1	1	1
		6	-7										
Cap	10			AP	PEN	3.7	3.4	2.9	2.3	1.8	0.8	0.3	0.1

AW	0.26		DC	3	3	2	2	1	1	1	1
	CS										
KD	3		BA	46	38	29	22	17	8	3	-1
SAB	4		TOF		1	2	3	5	12	20	29

As one of the first successful autoloading pistols, the Broomhandle Mauser (called such because of the shape of its grip) used a stripper clip loading system. On loading, the clip containing 10 rounds was inserted into the breech, just atop the internal magazine. The individual rounds were then forced into the internal magazine. When the clip was removed, the breech snapped shut, allowing the M1896 to fire. If clips are unavailable, the magazine can be reloaded one round at a time.

The M1896 Mauser was available with a detachable stock, which could also serve as a holster for the weapon. The stock adds 1.0 to the weight of the pistol and extends the length to 25, but allows the following Aim Time ALMs:

Aim Time ALM		
Aim Time	M1896	M32
1	-18	-19
2	-11	-11
3	-8	-8
4	-7	-7
5	-6	-6
6	-5	-5
7	-4	-4

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Page last modified: February 03, 2001

PHOENIX COMMAND

Mark 22 Model 0 Hush Puppy

Mark 22 Model 0 "Hush Puppy"

Pistol

9 mm Parabellum

U.S.A. Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	13	1	-18	FMJ	PEN	1.2	1.1	0.9	0.7	0.5	0.2		
W	2.6	2	-11		DC	3	3	3	3	2	1		
		3	-10										
RT	4	4	-9										
ROF	*	5	-8										
		6	-7										
Cap	8												

AW	0.38								
	Mag								
KD	2	BA	45	37	27	20	15	6	
SAB	3	TOF	1	1	3	5	8	18	

Mark 22 Model 0 9mmP(Hush Puppy)-Is a special pistol used by navy SEALs in Vietnam. Only a few-hundred were made. The pistol slide can be locked for maximum silent operation.

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Page last modified: February 03, 2001

PHOENIX

COMMAND

OA 93

Olympic Arms OA-93

Pistol

5.56 mm NATO

U.S.A.

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	16	1	-19	FMJ	PEN	9.8	9.4	8.7	7.8	6.9	4.4	2.8	1.8
W	4.2	2	-10		DC	5	5	5	5	4	3	1	1
		3	-8										
RT	8	4	-6	JHP	PEN	9.2	8.9	8.2	7.3	6.5	4.2	2.6	1.7
ROF	*	5	-5		DC	7	7	7	6	6	4	2	1
		6	-4										
Cap	30	7	-3	AP	PEN	13.6	13.1	12.1	10.8	9.6	6.1	3.9	2.5

AW	1		DC	5	5	5	4	4	2	1	1
	Mag										
KD	3		BA	59	50	42	34	29	20	14	10
SAB	2		TOF	0	0	1	2	3	7	13	22

OA-93 5.56mm-This is a cut down M16 that has been made into a pistol. It uses a free-floating barrel and will also accept standard M16 magazines. This weapon is manufactured by Olympic Firearms, USA.

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PHOENIX COMMAND

SIG 229 .357 SIG

SIG 229 357 SIG

Pistol

.357 SIG

Switzerland

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	8	1	-16	FMJ	PEN	4.1	3.8	3.2	2.5	2.0	0.6	0.2	
W	1.9	2	-11		DC	6	5	5	4	3	1	1	
		3	-10										
RT	4	4	-8	JHP	PEN	3.9	3.6	3.1	2.4	1.9	0.5	0.2	
ROF	*	5	-8		DC	7	7	6	5	4	1	1	
		6	-7										
Cap	12			AP	PEN	5.4	5.0	4.3	3.4	2.7	0.8	0.2	

AW	0.5		DC	5	5	5	4	3	1	1
	Mag									
KD	5		BA	49	42	34	27	22	13	8
SAB	4		TOF	0	1	2	4	6	23	64

SIG 229 .357 SIG-This weapon is the same as the SIG in .40 S&W except there is a barrel conversion for the new .357 SIG round. The round uses the same magazine as the .40 S&W The .357 SIG is a high velocity .357 round that is essentially a bottlenecked .40 S&W. The version here exits the gun at 1400+ fps.

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PHOENIX COMMAND

SIG 229 .40 S&W

SIG 229 40 S&W

Pistol

.40 S&W

Switzerland

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	8	1	-16	FMJ	PEN	1.7	1.6	1.4	1.1	0.9	0.3	0.1	
W	1.9	2	-11		DC	3	2	1	1	1	1	1	
		3	-10										
RT	4	4	-8	JHP	PEN	1.6	1.5	1.3	1.1	0.9	0.3	0.1	
ROF	*	5	-8		DC	4	4	3	2	1	1	1	
		6	-7										
Cap	12			AP	PEN	2.3	2.1	1.8	1.5	1.2	0.4	0.2	

AW	0.5		DC	2	2	2	1	1	1	1
	Mag									
KD	4		BA	46	37	28	21	16	7	1
SAB	3		TOF	1	1	3	6	10	32	81

SIG 229 .40 S&W- This is a compact pistol chambered for the .40 S&W.

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PHOENIX COMMAND

S&W 1076

Smith & Wesson 1076

Pistol

10mm

U.S.A.

Data Provided by Greg Brovane

Physical		Aim		Ballistic Data									
Data		Time		Range in 2 yard Hexes									
		AC	ALM			10	20	40	70	100	200	300	400
L	8	1	-17	FMJ	PEN	2.4	2.2	1.9	1.6	1.3	0.4	0.2	0.1
W	2.9	2	-11		DC	4	4	3	2	1	1	1	1
		3	-10										
RT	4	4	-9	JHP	PEN	2.3	2.1	1.8	1.5	1.2	0.4	0.1	0.1
ROF	*	5	-8		DC	4	4	3	2	1	1	1	1
		6	-7										
Cap	9			AP	PEN	3.2	3.0	2.6	2.1	1.7	0.6	0.2	0.1

AW	0.7		DC	4	4	3	2	1	1	1	1
	Mag										
KD	4		BA	47	40	32	25	20	11	5	2
SAB	4		TOF	1	1	3	5	6	13	22	31

Smith&Wesson 1076 10mm-This weapon is part of the 1000-series weapons. In the late 80s Smith & Wesson introduced a new generation of autoloaders in 9mm, 10mm, .40S&W, and .45 ACP. The new autoloaders are represented by 4-digits, which the first two represent caliber and the last two represent features. The representative here is the 1076 which was used by the FBI. The gun data is for a normal load.

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PHOENIX COMMAND

Walther P88

Walther P88

Pistol

9mmP

Germany

Data Provided by Greg Brovane

Physical Data	Aim		Ballistic Data									
	Time		Range in 2 yard Hexes									
	AC	ALM										
L	8	1	-17	FMJ	PEN	2.0	1.8	1.6	1.2	1.0	0.3	0.1
W	2.2	2	-11		DC	3	3	2	1	1	1	1
		3	-10									
RT	4	4	-8	JHP	PEN	1.9	1.8	1.5	1.2	0.9	0.3	0.1
ROF	*	5	-8		DC	4	4	3	2	1	1	1
		6	-7									

Cap	15		AP	PEN	2.7	2.5	2.1	1.7	1.3	0.4	0.1
AW	0.6			DC	3	3	2	1	1	1	1
	Mag										
KD	3			BA	46	37	28	21	16	7	1
SAB	3			TOF	1	1	3	5	9	32	92

Walther P88 9mmP- Is a well made semi-automatic pistol manufactured by Walther in Germany.

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PHOENIX COMMAND

Morale Rules

OPTIONAL RULE: Integrated Morale

Designer's Notes: These rules are an attempt to incorporate the human factor into Phoenix Command simulation. As combatants engage the enemy, a variety of factors will eat away at their effectiveness on the field. When bullets fly past a combatant, the natural reaction is to start being much more concerned about self preservation. Combatants will spend more effort molding themselves to cover, observing for the enemy, and hesitating before committing to action. All of these make combatants less effective on the battlefield. These types of reactions can be categorized as morale--the human factor determining the effectiveness of the combat unit.

This set of rules tries to simulate that and integrate it in an easy way with the normal flow of a PCSACS game.

THE RULES:

MORALE STATE

All combatants will now have a "Morale State" which can change between one of four states, which are listed on the table below.

Morale State	CA Multiplier	DSL Bonus	Spotting CA Bonus
Bold	1.0	+0	+0
Cautious	0.75	-1	+1
Frightened	0.5	-2	+2
Panicked	0.0	-4	+0

All combatants start at the Bold Level, unless otherwise specified in the scenario.

Example: A group of four bank robbers is holding guns on two corporate executives hostages. The leader of the robbers and one of his men start at the Bold morale state, while the other two robbers, who have had doubts about the robbery, start at the Cautious Morale State. The Hostages start at the Frightened and Panicked state.

As can be seen from the above table, people in different morale states will have different levels of combat effectiveness. The columns in the table are defined as follows:

Morale State: A description of the person's behavior in a particular moment in a combat situation.

CA Multiplier: This is a multiple of the person's CA and represents the amount of Offensive CA the person is capable of taking in a phase. As the person's morale degrades, they are able to take fewer and fewer offensive actions, and their CA tends to be spent more and more on Defensive actions. In all cases, Offensive CA is rounded up to the nearest whole number. Offensive CA is CA spent on offensive actions--aiming, shooting, combat, moving towards an enemy, reloading a weapon, and so forth.

***Example:** One of the bank robbers is Green-quality (SL 2, 4 CA) and starts at Bold. When his morale state changes to Cautious, his offensive CA drops from 4 to $(4 * 0.75 =) 3$ CA. This means that he can use 3 CA in offensive actions. He still has his 4 CA, but the remaining CA can only be used for defensive purposes.*

DSL Bonus: This number is the change to the combatant's DSL ALM and represents a person's tendency to make themselves a smaller target as he becomes more and more unsettled.

***Example:** Our bank robber's DSL is +3 under normal circumstances--when he is in a Bold Morale state. When his morale state changes to Cautious, his DSL changes from +3 to $+3-1= +2$, meaning he is taking more time in using cover and is trying to really avoid getting shot.*

Spotting CA bonus: This is the bonus number of CA which a combatant can spend on spotting attempts--if he so chooses. These CA are considered free CA and can be used in conjunction with other actions.

***Example:** Our bank robber (4 CA, 3 Offensive CA) who is now being Cautious, spends 1 CA diving over cover. He spends another CA getting up to kneeling and a third to assume a hip-firing stance. His final CA is spent trying to spot a police sniper down the street (>40 hexes). Because he is being cautious, he gains a Spotting CA bonus of +1. This gives him 2 CA of spotting, and he spots the sniper this phase where ordinarily, he would have had to wait until the next phase to spot the sniper -- (see Spotting PCSACS (4d) s 5.2). This gives him the effect of 5 CA in a phase.*

MAINTAINING AND CHANGING MORALE STATES

A combatant will stay at his initial morale state until one of the following events happens:

- The combatant is wounded
- The combatant is subject to a near miss from enemy fire
- The combatant sees his element leader injured.

Wounding:

If a combatant is wounded or injured, his morale state immediately drops to Panicked.

Near Miss:

If a shot passes within the combatant's Critical Distance (PCSACS (4d) s. 5.6), the combatant will drop 1 morale state if the person is a combat veteran, and 2 morale states if the person is not a combat veteran. A combat veteran is defined as ****anyone**** who has been in combat.

***Example:** Our bank robber was barely missed by a police sniper when he was acting Bold, and so this near miss drops the bank robber's morale state to a lower level. The bank robber has been involved in some gang gunfights in the past, so he is considered a combat veteran, and so his morale state drops only one level--from Bold to Cautious. If the bank robber had no combat experience, then he would have dropped 2 levels--from Bold to Frightened.*

Element Leader Incapacitated:

An element leader is the highest skilled ally who is a) in command of the combatant, and b) within sight of the combatant. If the element leader is incapacitated, then the combatant immediately drops one morale level.

***Example:** Our four bank robbers have split into two teams in trying to make their getaway, and are following separate routes through the inner city. In a firefight with the police, the leader of the bank robbers is incapacitated. His companion, who started at a Cautious morale state, sees that his leader is down, and so his morale immediately drops one level to Frightened. The other team of bank robbers, which were out of sight of their leader, is unaffected by his incapacitation.*

RALLIES

A person can upgrade their morale level by performing a self-rally as described in PCSACS (4d) s. 5.6, with the following modification. A person can make a self-rally attempt once under cover, and if they succeed, then they raise their morale state up by one level. After their Rally Time in CA, they can attempt to raise their morale up by another level, and so on until their morale returns to bold.

If the combatant fails any self-rally, then their morale state remains frozen at its current level for the rest of the battle, or until a comrade makes a rally attempt as described in PCSACS (4d) s. 5.6. The only difference between a rally and a self-rally for our purposes is that a successful Rally attempt will immediately restore a combatant's morale state up to Bold.

NOTES

These rules have seen some playtesting across the internet and the responses that I have received from playtesters has typically been favorable.

One of the suggestions has been the addition of another morale state above the "Bold" state-- either something like "Fanatical" or "Enraged," representing the morale state of people who are hyped up on emotion, adrenaline, and fervor.

For playtesting purposes only, the Fanatic rules are as follows: The effects of a Fanatical Morale state would result in a CA multiplier of 1.25, a spotting bonus of -1, and a DSL bonus of +2 -- meaning these people can do more, see less, and be hit much easier.

Fanatics can start a battle in the Fanatical state, and may not be returned to that state if their morale state is reduced over the course of the battle. Roleplaying GMs may choose to allow player characters (or NPCs) to become enraged in the course of roleplaying.

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PHOENIX

COMMAND

Attribute Modifications

OPTIONAL RULE: Attribute Modifications

Fredrik Tegman has provided the following tables for modifiers for RR and ALM based upon HLT and Perception, respectively.

HLT Value DT Modification

03-05	+2
06-08	+1
09-13	0
14-15	-1
16-17	-2
18-19	-3

The DT Modification indicates the number of rows the character can move up or down on Table 8A.

Example: Jason, whose HLT has been ravaged by disease and is now at 8, is wounded for 800 PD. On table 8A, he moves up one row on the DT Column, treating his wound as if it were 900 PD, and reading his RR and RT information on the 900 PD row.

The following table provides modifications to ALM based upon a character's Perception attribute.

PER Value ALM Modification

03-05	-2
06-08	-1
09-13	0
14-15	+1
16-17	+2
18-19	+3

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PHOENIX

COMMAND

Civilians in Combat

Civilians

A sad fact of war is that civilians have never been safe from its effects. In low-intensity conflict, where war is common-place, the skirmishes can start anywhere and without the opportunity for civilians to leave the field to the combatants. As a result, many civilians find themselves running to cover or to rescue what possessions and loved ones they can as the war sweeps over them. The following rules provide a method of resolving the actions of civilians caught in the crossfire.

All civilians are handled by the referee or the responsibility is shared equally among the players if there is no referee.

Civilians' actions are determined by dice rolls.

Once every ten phases, the referee should make two 0-9 rolls for every civilian and index the results in the respective columns on the following table after applying the appropriate modifiers. The first roll determines the civilian's disposition, while the second roll determines the basic behavior pattern which the civilian will follow for the next ten phases. The referee should make a note of this pattern and try to have the civilian act accordingly.

Civilian Actions Table

Roll 0-9	Demeanor	Roll 0-9	Actions
0-1	Fearful	0-2	Leave Battlefield
		3-7	Go to cover & cower
		8+	Call for help--cry out

2-5	Cautious	0-1 Shock. No movement. Nonresponsive 2-4 Go to cover & cower 5+ No action. Ignore combatants
6-7	Protective	0-2 Go to cover & cower 3-7 Move to goal* and protect goal 8+ Move to goal* and physically remove goal from danger
8+	Aggressive	0-3 Go to cover & cower 4-6 Seek and move towards weapons** 7+ Move to attack "most dangerous" enemy

Modifiers	First Roll	Second Roll

Hated authority present	-1	1
Abusive authority present	-2	-1
Hated non-authority present	0	1
Abusive non-authority present	-2	-1
Civilian already under cover	0	-1
Civilian already armed	1	1
Other civilians under attack	1	3
Loved one endangered	2	5

Notes:

Treat any unmodified rolls of less than zero as zero.

* - A goal is something that the civilian values or cherishes quite highly, such as a spouse or child, but may also include valued possessions, such as cash, valuables, or heirlooms. If there is no goal appropriate in the scenario, treat this result as "Go to cover & cower."

** - If the civilian already has a weapon, this becomes a result of "Move to attack the 'most dangerous' enemy." The most dangerous enemy is solely in the eyes of the civilian.

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PHOENIX COMMAND

Mob Actions and Riots

These rules provide the Phoenix Command Referee with a method of managing a riot. They determine when a riot will start and will resolve the actions of a rioting mob. Although the Mob Actions and Riots rules are primarily designed for use in solo scenarios, rules are provided for agitator troops who sometimes can control parts of the rioting mob. A second player, controlling the agitators, would be able to play against the riot control forces player.

Riot Stages: Every riot undergoes identifiable stages where all of the individuals in a riot follow certain behavior patterns. The average riot will advance through the **crowd**, **riot**, **riot advance**, and **skirmish-line** stages. There is also the possibility that as each stage advances, the level of weapons used by the rioters will increase both in number and quality.

Crowd Stage: All riots will start at the **crowd** stage. Here, the people are gathering peacefully. None of the crowd members should be moved on the game map at this stage. Threat level starts at I unless otherwise specified or earlier raised.

A special set of conditions is required to encourage normally law-abiding people to begin rampaging and attacking the symbols of authority. First, there must be a crowd or large group of people which have gathered for one purpose—either protesting, partying, or any other reason. Second, respect for government authority among the crowd must have disappeared. Third, there must be some sort of triggering event, like the arrest of a popular figure, or an attack on the crowd by the authorities. Another trigger may be the actions of a single crowd member or group from the crowd in leading an attack on the riot-control troops.

Use the following table to determine if the situation advances to the **riot** stage. Roll 00-99 once every 10 minutes and if the roll is less than or equal to the modified chance of a riot, then the riot stage exists.

BASE CHANCE OF RIOTING	
Economic Riots:	Base Chance
Unavailability of standard goods or services	00
As above, but with high taxes	20

As above, but with prevalent starvation (starvation present in 20%+ of population)	40
Political Riots	
Perceived repression of dissent	20
Perceived repression of civil liberties	30
Violent repression of dissent or civil liberties	30
Perceived persecution for political, ethnic, or religious traits	50
Modifiers:	
Crowd Size	Modifier
Up to 99	+10
100 to 499	+30
500 to 1000	+50
Over 1000	+60
Guards	
None	+20
1 guard for every 20 people	+0
1 guard for every 10 people	-20
1 guard for every 5 people	-50
Mounted guards or riot control vehicles present	-20
Incitements	

Agitators inciting riots	+2*SL
Crowd ordered to disperse (Riot Act)	+5
Violent attack on crowd by authorities	+20

Notes: SL is the Diplomacy SL of the commanding agitator in the crowd.

Riot Stage: Once the **riot** stage exists, there is the potential for violence among the individuals and, possibly, the crowd as a whole. The idea that a person in a crowd situation surrenders his will to that of the rioting crowd is incorrect. Each person in a crowd retains his individuality and full control over his own actions, but is subject to external forces which may modify his decisions such as the apparent formation of a norm of behaviour, or the implied threat of harm to non-conformists. So, if an individual in a crowd begins to display violence, others in the crowd may take his violence as a signal that his actions are normal behaviour for the crowd, and act accordingly.

At the riot stage, it is essential to determine whether the individuals in the crowd turn the crowd as a whole towards violence. The crowd does not move at this stage. Instead, the referee or player rolls a 00-99 on the following table after 10 minutes to determine the crowd actions. If the crowd proceeds to **riot advance** stage, then the crowd is already disposed towards violence.

Roll Result

00-19 Passions die down. Riot reverts to crowd stage.

20-34 Continue in riot stage for another (10) minutes.

35-99 Proceed to Riot Advance Stage.

Die Roll Modifiers:

Authority Actions

-10 No action by authorities.

+15 Crowd verbally ordered to disperse by authorities.

+30 Crowd perceived as attacked by authorities.

Authority Numbers

0 1 guard for every 20 people.

-20 1 guard for every 10 people.

-50 1 guard for every 5 people.

-20 Mounted guards or riot-control vehicles present

Agitator Actions:

+2 * SL Agitation by agitator troops. SL is highest Diplomacy SL of agitator troops.

Riot Advance Stage: In this stage, the rioters begin to move towards the positions of the riot-control troops at a steady walking pace of 1 HPP. Roll a 00-99 every 10 phases and compare it with the distance of the rioters from the main body of troops. If the roll exceeds the distance, then the advance stops and a skirmish line forms at that point. Agitators may try to move the crowd closer to the riot-control troops by subtracting 2 times their commander's Diplomacy SL from the die roll.

Skirmish Line Stage: Scenarios in most scenarios will start with the skirmish line already formed. The skirmish line is a line of rioters roughly parallel to the main body of the riot control troops. It is a staging area for small clusters of rioters to launch attacks on the riot control troops or other targets.

Each cluster consists of 5 rioters. All the rioters in a cluster will behave in the pattern determined by rolling on the Cluster Actions Table below.

Rolls for cluster behavior are made once every 10 phases. At the start of a ten-phase period, make a 0-9 roll and note the result. This roll is used to determine the values of modifiers with random components for the period. Next, a 00-99 roll is made for each cluster. By indexing the roll on the Cluster Actions Table under the appropriate threat level, a pattern of behavior is determined for each cluster for the next 10 phases.

Riot Cluster Actions Table		
Threat		
Level	Roll	Behaviour
I	0 - 2	Crowd disperses, riot ends
	3 - 7	Cluster leaves battlefield
	8 - 55	Aggressive shouting - no other action
	56 - 85	Cluster advances to verbally challenge riot troops
	86 - 99	Cluster advances to melee riot troops
	100+	Increase threat level to 2
II	0 - 1	Decrease threat level to 1

	2 - 11 Cluster routs 12 - 24 Aggressive shouting - no other action 25 - 45 Cluster advances to melee riot troops 46 - 85 Cluster moves up and discharges missiles 86 - 95 Cluster charges 96+ Increase threat level to 3
III	0 - 2 Decrease threat level to 2 3 - 20 Cluster routs 21 - 27 Aggressive shouting - no other action 28 - 52 Cluster advances to melee riot troops 53 - 75 Cluster moves up and discharges missiles 76 - 92 Cluster charges 93+ Increase threat level to 4
IV	0 - 9 Cluster routs 10 - 14 Aggressive shouting - no other action 15 - 40 Cluster advances to melee riot troops 41 - 75 Cluster moves up and discharges missiles 76 - 99 Cluster charges 100+ Cluster obtains firearms and opens fire.

Modifiers

Authority Actions:

Physical Barriers established	-10
Police personnel line established	-5
Riot police personnel line established	-15
Military personnel line established	-20
Armoured vehicles present	-5
Mounted police present	-5
Gas weapons used on rioters	+(10)-6
Water cannons used on rioters	+(10)-4
Batons/plastic bullets used on rioters	+(10)-5
Firearms presented and aimed at rioters	+4(10)-20
Live ammunition discharged at rioters	+6(10)-30
Dogs used on rioters	+(10)-8
Electrical Prods or "non-lethal" weapons used on rioters	+3(10)-15
Rioters severely wounded (>200 PD)	+3(10)-10
Rioters slain	+5(10)-15
Rioters in melee with authorities	+3(10)-5

Example: Street riots have degenerated horribly with riot police opening fire on crowds and killing two rioters. At the start of a ten-phase period, the player rolls a 7 on a 0-9 roll. Then, he rolls to determine what each of three clusters will do for the next ten phases. The threat level is III.

Applicable modifiers are "live ammunition discharged at rioters" [+6(10)-30] and "rioters slain" [+5(10)-15]. Since the 0-9 roll at the start was a 7, the modifiers become (6x7)-30 = 12

and $(5 \times 7) - 15 = 20$ respectively for a total modifier of +30.

Modified 00-99 rolls for the three clusters produce 45, 120, and 75, meaning that two clusters will be advancing and attacking riot control troops with missile weapons this period, and the cluster that had the 120 result will be doing nothing but prepare for Threat Level IV actions next period. Next period all clusters will roll at Threat Level IV for their actions.

Agitators must also roll under their SL on a (10)-2 for each of up to two clusters they may command as if the clusters were composed of agitator troops. These rolls are made every 10 phases and replace the respective clusters' rolls on the Cluster Actions Table. Role players should use a Diplomacy or "Agitator" skill roll at Base Odds of 6 instead of the above (10)-2 roll.

Charges: Charges occur almost spontaneously, but usually follow the charges of individual clusters within the mob. If a cluster's actions designate a charge, roll a (10). If the number rolled is less than or equal to the number of clusters which are charging in that phase, then the entire skirmish line charges.

The charge is a headlong run to contact and attempt to overwhelm the riot-control troops. The skirmish line moves at 4 HPP towards the troops and past them if possible. Riot troops, once engaged, will take damage from the group of rioters each phase depending on the rioters' numbers and the threat level of the riot (see below, under INJURIES).

Routs: While in the skirmish line, a cluster may roll a "rout" result. This means that the entire cluster leaves the field in a panic and no longer takes part in the riot. Their leaving may cause the rest of the crowd to rout as well. If a cluster's actions indicate a rout result, roll a (10). If the number rolled is less than or equal to the number of clusters routing, then the entire skirmish line routs.

For situations where there are charges and routs indicated for different clusters, roll for both charges and routs, with charges taking priority. For example, if a crowd has clusters charging and others routing, the gamemaster would roll a (10) to check if the line charges. If the roll indicates the line charges, no further rolls are made, and the line begins its charge. Any clusters shown as routing continue to rout. However, if the crowd does not charge, then the gamemaster rolls to see if the crowd routs. If a rout is indicated, the line routs, but clusters shown as charging would continue to charge.

Threat Level: The threat level of a riot is a measurement of the type of weapons used by the rioters. Naturally, the threat level has an impact on rioter actions and on injuries suffered by the targets of rioters.

Threat Level I: The crowd is simply protesting. Weapons are not much more than insults. Any enemy caught in the crowd will suffer from moderate blows.

Threat Level II: The crowd is enraged and is using missile weapons such as rocks and vegetables. Melee combat shows average blows, and blunt weapons may be present.

Threat Level III: A serious riot where the crowd is using potentially lethal missiles such as boulders, glass, and petrol bombs. Melee weapons include both edged and blunt weapons.

Threat Level IV: This is a more frenzied form of Threat Level III. Certain clusters are using firearms if available. Crowds tend to disperse in panic at this stage, leaving the battle to armed rioters. The situation tends to resemble urban insurgency.

Threat levels are raised immediately on the appropriate roll on the Cluster Actions Table. All subsequent clusters will roll at the increased threat level. The same applies to threat level reduction on

the Cluster Actions Table.

Another method of reducing the threat level is through the dispersal of the crowd. For each dispersal, the threat level drops by one step and the next crowd stage begins at the reduced threat level. This will work on threat levels I to III. Level IV threat levels can only be reduced by a crackdown and 24-hour curfew, and are more suited to role-playing situations than skirmishing.

Injuries: People caught and attacked within the mob can be severely injured. These injuries vary according to the threat level as outlined on the following table. The table gives the average amount of PD taken per phase from melee combat by various targets at the different threat levels. To use the table, index the armour type of the target individual with the threat level. The first number gives the PD taken from each rioter per phase if the target is without a helmet, while second number gives PD taken with a helmet. A target can have up to 6 rioters attacking him. Simply multiply the damage listed on the table by the number of rioters attacking that phase. No such table is provided for thrown weapons. These should be resolved as individual attacks.

Note that this table should be used for skirmish scenarios only. If the referee is simulating a riot involving Player Characters in a roleplaying setting, then the attacks of the rioters on individual player characters should be gamed out using the melee combat rules.

***Example:** An unarmored target without a helmet is caught standing in a riot at threat level II. He has 6 rioters on him, the maximum allowed. He takes 62 PD per phase from blows from fists, kicks, and blunt weapons from one rioter, so his total PD taken per phase is 62 * 6 = 312 PD.*

Melee Damage from Riots											
Threat Level				I			II			III/IV	
Target Armour		Stance									
Unarmored		Stand	3	2			62	17		70	20
		Kneel	5	3			201	46		240	55
		Prone	11	5			203	47		241	55

Light Flex	Stand	2	1	54	9	61	11
	Kneel	4	2	179	24	214	29
	Prone	9	3	181	25	215	29
	Stand	1	1	53	8	59	9
	Kneel	4	1	175	19	209	23
	Prone	8	2	176	19	210	23
	Stand	1	1	52	7	59	9
Medium Flex	Kneel	4	1	174	18	208	18
	Prone	8	2	175	18	208	22
Heavy Flex	Stand	1	1	52	7	59	8
	Kneel	4	1	174	18	208	22
	Prone	8	2	175	18	208	22
Rigid/Plate	Stand	1	1	52	7	59	8
	Kneel	4	1	174	18	208	22
	Prone	8	2	175	18	208	22

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Page last modified: January 05, 2002

PHOENIX COMMAND

Air Support

Phoenix Command Air Support

Eero Juhola has come up with an amazing set of air support rules.

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Page last modified: February 09, 2002

PHOENIX COMMAND

Introduction

Phoenix Command Air Support Rules

by Eero Juhola

1.0 INTRODUCTION

For years I used to wing it whenever the players called in some air support. For the 1998 RopeCon I needed a quick and dirty Vietnam-era tactical air support system. Quick, because it was only two weekends 'til the Con and I was awful busy preparing. Dirty, because the focus was supposed to be on the player characters on the ground.

So in July of 1998 I published the first, rough draft of these rules. Two weeks later at the convention I knew they were worth the effort when my group of players yelled and screamed, attracting the attention of just about everyone in the huge room, as the scenario's first F-4 came in low, dropping 500 lb bombs smack on enemy positions plotted by the player characters...

With another convention coming later this summer, it is time for a new revision of the rules... The main additions are more bombs and rules for rockets and strafing, for improvised AA fire by ground troops and propeller-driven planes for WWII scenarios.

Unfortunately I lack the time to test these rules and to write them out in a clear, organized manner but I hope their publication will add some excitement to the List. I will attempt to rewrite all of this material later. For the moment however you are stuck reading untested, unclear scribbings of a GM who is way too busy as it is. Please consider everything here as a work in progress, not as a rules beta test. The tables are messy, the rules confusing and the examples have yet to be debugged.

These rules are not intended to be a true simulation of air-to-ground attacks, for that they are far too simplistic and the subject is so hideously complex to be out of the scope of the game, rather they provide a means of resolving them in a way conveying the feel of being in the middle of an air strike...

My thanks for List members who gave feedback the last time, hope to get some more this time.

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Page last modified: August 27, 2000

PHOENIX COMMAND

Rules

Phoenix Command Air Support Rules Vietnam Air Strike

2. VIETNAM-ERA AIR STRIKE WITH AIRBORNE FAC

- 2.1 CO orders FO to call in air support is needed
- 2.2 FO calculates position
- 2.3 FO calls FAC, explains situation and gives coordinates
- 2.4 FAC checks with flight controller
- 2.5 FAC gives orders to fighters
- 2.6 FAC comes in for a look-see
- 2.7 FAC checks fighters are in a position to begin run
- 2.8 FAC tells FO he'll mark the target
- 2.9 FAC makes run over target and shoots a WP rocket
- 2.10 FAC gives final orders to fighters
- 2.11 Fighters come over target and drop their loads.
- 2.12 FAC asks FO if more air support is required

2.1. CO orders FO to call in air support is needed

The CO gives order to call in an air strike. "Get me some napalm on those Charlies on that thar hill". 12 AC (6 s).

2.2. FO calculates position

FO Makes the necessary calculations. Use Plot Time from Artillery Supplement.

2.3. FO calls FAC, explains situation and gives coordinates

FO contacts FAC, authenticates, explains situation, gives coordinates etc. This is included in the Plot Time.

2.4. FAC checks with flight controller

2.5. FAC gives orders to fighters

FAC checks with flight controller and talks to the fighters. 60-180 AC (30-90 s).

2.6. FAC comes in for a look-see

FAC comes in low to check the situation for himself. The enemy have a 2% chance to shoot him down with small arms. 60 AC (30 s).

2.7. FAC checks fighters are in a position to begin run

FAC checks with fighters and gives them the full briefing. 120-360 s.

2.8. FAC tells FO he'll mark the target

2.9. FAC makes run over target and shoots a WP rocket

FAC tells FO he's about to come in and does his marking run. The enemy have a 2% chance to shoot him down with small arms. He shoots his WP rocket. Treat this as a WP grenade for damage. Roll for FAC proficiency:

FAC Quality Table			
Roll	FAC Quality	SAL	Position Error

1	Line	10	15
2-4	Crack	11	12
5-6	Elite	12	11
7-8	Elite	13	10
9-0	Outstanding	14	9

The FAC will aim for a hex which is situated in a random direction, at a distance of (FO Position Error + FAC Position Error) from the FO's Plotted Hex.

	ALM
Pilot Quality	Varies
Aim time 2 Impulses	-12
He shoots the rocket from 50 hex distance	5
Cessna's stability	5
Cessna's gunsight	5
Speed	-10
Target is a hex	15
Visibility Modifiers	Varies

Roll for to hit on the Single Shot table. If he misses, use standard missing procedures for grenades etc. to find out by how many hexes he misses.

The total marking run takes 30 s.

2.10. FAC gives final orders to fighters

The FAC checks with FO if that's where the FO wants it. If the FO uses 10 AC to spot the impact site, he can give better instructions to the FAC (subtract one third

of the FO's Position Error from the FAC's Position Error).

The FAC then gives final instructions to the fighters, i.e. to aim x meters the direction y from the smoke. 30-60 s.

2.11. The Attack Runs

The first fighter will now make his run.

Roll for fighter pilot proficiency using the Vietnam War Fighter Pilot Proficiency Table (QDAS-1), below.

QDAS-1a: Vietnam War Fighter Pilot Proficiency Table:

Navy	Air	Marines	South	Pilot Quality	SAL	CA	Position
	Force		Vietnam				Error
-	-	-	1-2	Militia	5	2	45
-	-	-	3-7	Green	7	3	30
1	1-2	1	8	Line	10	4	15
2-4	3-6	2-5	9	Crack	11	4	12
5-6	7-8	6-7	0	Elite	12	4	11
7-8	9	8-9	-	Elite	13	4	10
9-0	0	0	-	Outstanding	14	4	9

2.11.1 Bombs

Use this section if the plane is attacking the target using standard "iron" bombs.

The pilot will aim for a hex which is situated in a random direction, at a distance of (FAC Position Error + Pilot Position Error + (0.5xnumber of hexes between FAC's Plotted Hex and marking rocket's impact hex)) from the FAC's Plotted Hex.

Planes are not restricted by Moving Table 4D restrictions on Aim Time when aiming at a target on their flight path.

If we estimate the drop altitude as 50 meters, the bombs will have to be dropped at about two to three seconds before the target hex, i.e. at a distance of some 240 to 360 hexes.

	ALM 'Nam Jet	ALM WWII Prop
Pilot Skill SAL	From QDAS-1	From QDAS-2
Aim time 2 Impulses	-12	-11
He drops bombs from 300 hex distance	-8	-8
Stability & Bomb Sight	18	6
Speed	-10	-10
Target is a hex	15	25
Visibility Modifiers	Varies	Varies

Roll for to hit on the Single Shot table. If he misses, use standard missing procedures for grenades etc. to find out by how many hexes he misses (whether the first bomb drops long or short). Roll for the Left-Right Position Error in left-right direction using the following formula:

$$\text{Left-Right Position Error} = 22 - \text{SAL} - d10$$

The first bomb will be offset by Left-Right Position Error number of hexes to the left (50%) or to the right (50%) of the aiming point. The first bomb released will be on the left hand side of the aircraft. Every other bomb will be displaced two or three hexes to the right since they are released from the right hand side of the plane.

Example: An A-4 fighterbomber closes in at 450 knots speeds by at some 253 yards per phase (231 m/s, 63 hexes per impulse). Assuming a half a second release between bombs in a salvo, they will land 63 hexes apart, spreading the ten bombs over an area of over 600 hexes.

So one would think that the release interval must be shorter, say 0.1 second. Now the bombs will land 13 hexes apart. I suppose there might be several ways of releasing bombs depending on mission / target. Take your pick:

With a Plane Speed of 450 knots:

Number of Bombs	Release Interval (s)	Bomb Interval (hexes)	Length of target area (hexes)
10	0.05	6	64
10	0.1	13	127
10	0.15	19	181
10	0.2	26	244

To account for changes in aircraft attitude, air pockets, flak, contour of the ground, whatever: For every bomb after the first one roll a d10 to determine exact distance from previous bomb:

Bomb Interval Scatter Table		
Roll	Adjustment to interval	
1	-3	Hexes to interval
2	-2	Hexes to interval
3	-1	Hexes to interval
4-7	0	Hexes to interval
8	+1	Hexes to interval
9	+2	Hexes to interval
0	+3	Hexes to interval

For effects of bombs, see the section X. MUNITIONS, below.

The total bombing run takes 15 s per plane. The enemy has a 1% chance of

downing the fighter using small arms fire. There will be an interval of maybe 10 seconds between planes so that shrapnel is gone by the time the next plane arrives.

2.11.2 Napalm

Use this section if the plane is attacking the target using napalm containers.

The pilot will aim for a hex which is situated in a random direction, at a distance of (FAC Position Error + Pilot Position Error + $0.5 \times$ number of hexes between FAC's Plotted Hex and marking rocket's impact hex)) from the FAC's Plotted Hex. Because napalm is an area weapon, it is generally not dropped exactly on target hex, but rather aimed to impact some distance before it. Once you have calculated the pilot's aim hex as detailed above, move it by 50 hexes in the direction of the plane. This then becomes the new aim hex.

Use the systems detailed in 2.11.1 to determine exact hexes where the napalm tanks hit the ground. For effects of napalm, see the section X. MUNITIONS, below.

2.11.3 Rockets

Use this section if the plane is attacking the target using air-to-ground rockets.

The main differences between bombs and rockets are that rockets are self-propelled and faster than the fighters that fire them; they can be aimed at targets from farther away using more primitive sights than bombs. In addition, they carry smaller payloads and are usually fired in salvos, saturating an area. Rockets are ideally suited for destroying small or mobile targets such as pillboxes or vehicles.

The pilot must choose how many rockets he will be firing.

If directed by a FAC the pilot will aim for a hex which is situated in a random direction, at a distance of (FAC Position Error + Pilot Position Error + $(0.5 \times$ number of hexes between FAC's Plotted Hex and marking rocket's impact hex)) from the FAC's Plotted Hex.

Use FAC Position Error 0 if the pilot is relying on his own spotting only.

This is the aiming point of the salvo.

ALM 'Nam

Plane Type	Jet
Pilot Skill SAL	From QDAS-1
Aim time 2 Impulses	-12
He fires the rockets from 200 hex distance	-5
Jet's stability + bombsite	18
Speed	-10
Target is a hex	15
Visibility Modifiers	Varies

Roll for to hit on the Single Shot table. If he misses, use standard missing procedures for grenades etc. to find out by how many hexes he misses (whether the rocket strikes long or short). Roll for the Left-Right Position Error in left-right direction using the following formula:

$$\text{Left-Right Position Error} = 18 - \text{SAL} - d10$$

The aiming point of the salvo will be offset by Left-Right Position error number of hexes to the left (50%) or to the right (50%) of the aiming point stated by the player.

For each of the rockets in the salvo, find out the rocket's Position Error using this formula:

$$\text{Position Error} = 20 - \text{SAL} - d10$$

To account for changes in aircraft attitude, air pockets, flak, contour of the ground, whatever: For every rocket one roll a d10 on the table below and add the result to the Position Error:

Rocket Interval Scatter Table		
Roll	Adjustment to interval	
1	-3	Hexes to interval
2	-2	Hexes to interval

3	-1	Hexes to interval
4-7	0	Hexes to interval
8	+1	Hexes to interval
9	+2	Hexes to interval
0	+3	Hexes to interval

The rocket will strike a hex in a randomly determined direction Position Error number of hexes from the previous rocket impact point. Repeat the procedure until all rockets in the salvo have been accounted for.

For effects of rockets, see the section X. MUNITIONS, below.

2.11.4 Strafing

When strafing, the plane will come in low and engage the enemy with machine guns and cannon. Unlike bombing and other explosive area weapons, the effect of strafing is heavily dependent on the pilot spotting what he intends to attack.

The pilot may begin spotting as soon as the GM declares it practical. Usually this will be from a distance of at least three kilometers out. He can begin shooting as soon as he has spotted a target or a marking rocket fired by a FAC or other target marker and he is within range of his guns.

Before firing the pilot must decide whether he will be spreading his fire among several targets (standard rules for Minimum Arc are used) or if he concentrates on only one target. He also needs to decide how many CAs he will aim.

	ALM
Pilot Skill SAL	Varies
Aim time 2 Impulses	-12
He fires the guns from 200 hex distance	-5
Jet's stability	11
Jet's gun sight	13
Speed	-10
Target is a hex	15

Shooter not looking (if not spotted target)	-14
Visibility Modifiers	Varies

Roll for to hit on the Automatic Fire table. If he hits, roll for number of hits according to standard procedures, using Minimum Arc rules.

If he misses, use standard missing procedures for grenades etc. to find out by how many hexes he misses (whether the burst goes long or short). In addition, roll for the Left-Right Position Error in left-right direction using the following formula:

$$\text{Left-Right Position Error} = 16 - \text{SAL} - d10$$

Assuming he has enough ammunition, the pilot can continue firing on his target for as long as his plane is no more than one impulse's flight time away from the target. At this point he must pull his plane's nose up in order to avoid crashing into the ground. Pulling up requires one CA so Militia or Green quality pilots might need to pull up earlier.

Example: A Fokker D.XXI fighter closes in at 205 km/h (57 mhexes per Phase, 14.2 mhexes per Impulse). It is armed with four .30 cal Browning MGs with a rate of fire of 1000 rpm.

A Messerschmitt Me-109 G-2 fighter closes in at 312 km/h (86.7 mhexes per Phase, 21.7 mhexes per Impulse).

An F-105 Thunderchief fighterbomber closes in at 450 knots speed (some 253 yards per phase, 231 m/s, 63 hexes per impulse, 58 mhexes per impulse). It is armed with a 20mm Vulcan cannon with a rate of fire of 6600 rpm (ROF 58) and a CAP of 1029.

Assuming that the plane's angle of attack is such that the point where the guns are aimed at is only moving by one third of the plane's velocity, or 21 hexes per impulse. Use the standard rules for burst's chance to hit at MA 21.

2.12. The FAC asks the FO if he wants some more air support. (30 s.)

3. VIETNAM-ERA AIR STRIKE WITH FAC ON THE GROUND

With a FAC on the ground, the air strike is called in quicker but it will be less accurate as the FAC will probably be unable to mark the target and observe results. The FAC may use smoke to mark his own position, and landmarks and other prominent terrain features to explain where the fighters need to strike.

3.1 CO orders FO to call in air support is needed

3.2 FO calculates position

- 3.3 FO calls FAC, explains situation and gives coordinates
- 3.4 FAC checks with flight controller
- 3.5 FAC gives orders to fighters
- 3.6 FAC checks fighters are in a position to begin run
- 3.11 Fighters come over target and drop their loads.
- 3.12 FAC asks FO if more air support is required

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Page last modified: August 27, 2000

PHOENIX COMMAND

Ground Fire

Phoenix Command Air Support Rules Vietnam Air Strike

4.0 MEN AGAINST PLANES

This section is for those players who wish to resolve improvised anti-aircraft fire by ground troops in a detailed manner. These rules are at present not intended to be used for simulating AA gunnery work done with proper anti-aircraft guns and the like.

If the rules in this section bog down the game too much, it is suggested that the players use a flat 1% chance for a ground unit of any size downing an attacking jet, 2% for downing an attacking propeller plane and 3% for downing a FAC or a helicopter.

4.1 TO HIT

To hit a plane, normal rules are used.

If the plane engaged is performing strafing or rocket firing, use distance calculated normally for range. If the plane is dropping iron bombs or napalm, add 2d100 hexes for altitude for jets, 1d100 hexes for propeller planes since the plane is coming in higher.

The PCCS Odds of Hitting Table 4D gives Movement Modifiers for targets. However these modifiers are for ground targets only. It is much more difficult to estimate the flight path of an airborne target and thus an additional -10 ALM is received in addition to whatever result is obtained from Table 4D.

A plane which is headed for or receding from the character in a 30 degree or smaller angle is considered to be coming head-on. This is one of the easier angles from which to hit a plane, the plane's flight path is more

predictable and there is less need to give the target lead. Use head-on target size and to hit modifier. Two CA of aim are allowed for gunners without an AA mounted weapon, up to four CA are allowed for gunners with AA mounted weapon.

If the target is passing by the shooter at an angle which is more than 30 but less than 60 degrees, the plane is considered oblique. The plane's flight path is difficult to estimate. Use the side target size and the oblique to hit modifier. Only one CA of aim is allowed.

If the target is passing by the shooter at an angle which is more than 60 degrees, the plane is considered oblique. The plane's flight path is difficult to estimate and the plane passes by very quickly. Use the side target size and to hit modifier. Only one CA of aim is allowed.

4.2 DAMAGE

Roll on the appropriate Hit Location Table as determined by the plane's configuration and angle.

Due to the velocity of the plane, bullets striking it from the front have much more PEN and thus higher damage potential. Conversely, bullets striking the plane from the rear have a much reduced PEN and correspondingly lower chances of damaging plane components.

In any case the chances of bringing down an airplane with non-exploding, rifle caliber ammunition is quite small.

4.2.1 ENGINE

A lucky hit to the engine will break something vital, causing the plane to lose all engine power.

Engines are often protected by armor on ground-attack planes.

Inline engines are more susceptible to small-arms damage due to their radiators - a single bullet may puncture the radiator, eventually causing the engine to overheat. Symptoms of punctured radiators include white trails of glycol behind the plane.

Symptoms of engine hits include Loss of power, loss of all power, runs rough. Smoke, leaking oil etc.

A plane catching fire while on an attack run must abort it immediately and head for home - often the plane will soon crash.

4.2.2 FUEL

Fuel hits puncture the plane's fuel tanks, causing leakage or even fire. Many planes are equipped with self-sealing tanks while older types often are not. Fuel tanks are sometimes armored. Use Fuel hit table of Mechanized supplement. Fuel tanks which are located right behind engine exhausts add an additional Fire Modifier 5.

A plane exploding due to fuel hit will kill its crew unless they are equipped with ejection seats. Ejection seat equipped crew members must roll for proficiency and have seats which permit ejection in the altitude they are presently in. A plane catching on fire while on an attack run must abort it immediately and head for home - often the plane will soon crash.

4.2.3 PILOT

Pilot hits penetrate the plane's crew compartment, possibly hitting crew members and definitely causing them great concern. The pilot's seat is almost always armored against fire from the rear and sometimes against other directions as well. In addition, armored glass is used on most plane cockpits. Use standard PCCS resolution for hits on crew members.

4.2.4 FUSELAGE

Fuselage hits represent damage to the plane's structural integrity. Small arms have little chance of causing a plane to break apart. However holes in the plane will induce vibration making it harder to hit targets. For every 15 rifle-caliber or smaller holes or every five 12mm or bigger holes in the plane add ALM -1 to pilot's hit chance.

In addition, there is a 2% chance per fuselage hit that a cable controlling the rear control surfaces of the plane has been severed. On early planes without backup systems this will cause problems (see CONTROL SURFACES, below).

4.2.5 WING

Hits to wing represent damage to the plane's structural integrity. Small arms have little chance of causing a plane to break apart. However holes in the plane will induce vibration making it harder to hit targets. For every

15 rifle-caliber or smaller holes or every five 12mm or bigger holes in the plane add ALM -1 to pilot's hit chance.

In addition, there is a 2% chance per wing hit that a cable controlling wing control surfaces has been severed. On early planes without backup systems this will cause problems (see CONTROL SURFACES, below).

4.2.6 CONTROL SURFACES

Hits to the control surfaces of the tail and wings have detrimental effects on the plane's handling characteristics. For every five hits on control surfaces, an ALM modifier of -1 is added to any ground attacks made by the plane.

Hits to cables controlling the control surfaces will sever the cable, causing an ALM modifier of -8 to any ground attacks made by the plane and force the plane to head for home immediately after the current attack run. Planes with backup control systems (most WWII and later planes) are immune to this effect.

4.2.7 HYDRAULICS

On planes which have hydraulics systems, this hit location represents damage to landing gear, flaps and other systems operated by hydraulic systems and sometimes result in a spray of fluid trailing the plane. A hydraulics leak does not render a plane unable to fly, however the plane will often be slowed down (landing gear dropping down, etc.) and there may be problems landing.

4.2.8 LANDING GEAR

Hits to this location cause punctured tires and weakening of the landing gear. Like hydraulics hits, hits to the landing gear do not necessarily cause the plane to plummet to the ground but may prove troublesome later.

4.2.9 RADIO

Damage to the plane's radio systems. Any damage to the radio proper will result in loss of communication. Damage to radio aerials will result in reduced range of communication.

4.2.10 INSTRUMENTATION

Damage to plane's attitude, altitude, speed or other dials, HUD, gunsight, navigation and other systems which help the pilot perform his mission. A hit in instrumentation has a 50% chance of affecting ground attack missions, causing an ALM modifier of -1 to -10 (roll randomly).

4.2.11 COMPUTER

Damage to plane's computer systems will typically result in same sort of damage as hits to the instrumentation. In addition, the plane will have to abort mission immediately.

4.2.12 WEAPONS

Damage to the aircraft's machine guns and cannon and their feeding systems results in jams and other problems which render the weapon inoperable. Hits to explosive cannon ammunition will cause considerable damage to the aircraft.

4.2.13 STORES

Damage to aircraft's external or internal bomb racks, rocket pods, fuel tanks. Effect of damage to stores depends on what the plane happens to be carrying at the time. Use appropriate Mechanized Supplement table.

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PHOENIX COMMAND

Tables

QDAS-1b: WWII Pilot Proficiency Table:

RAF	U.S.	German	German			
Position	Air Force	Luft-Waffe	Luft-Waffe	Pilot Quality	SAL	Error
		Early	Late			
			1-3	Militia	5	45
1	1		4-6	Green	7	30
2-5	2-5	1-4	7	Line	10	15
6-7	6-7	5-6	8	Crack	11	12
8-9	8-9	7-8		Elite	12	11
10	10	9	9	Elite	13	10
		10	10	Outstanding	14	9

QDAS-1c: WWII Pilot Proficiency Table:

Italian Position	Finnish Air Force	Soviet Air Force Early	Soviet Air Force Late	Pilot Quality	SAL	Error
1		1-3	1	Militia	5	45
2-3		4-5	2-3	Green	7	30
4-8	1-6	6-8	4-7	Line	10	15
9	7-8	9-10	8	Crack	11	12
10	9		9	Elite	12	11
	10			Elite	13	10
			10	Outstanding	14	9

QDAS-2: FAC Quality Table

FAC Quality	SAL	Position	Error

1	Line	10	15
2-4	Crack	11	12
5-6	Elite	12	11
7-8	Elite	13	10
9-10	Outstanding	14	9

Plane speed 450 knots:

Number of bombs (hexes)	Release interval (s)	Bomb interval (hexes)	Length of target area
10	0.05	6	64
10	0.1	13	127
10	0.15	19	181
10	0.2	26	244

To account for changes in aircraft attitude, air pockets, flak, contour of the ground, whatever: For every bomb after the first one roll a d10 to determine exact distance from previous bomb:

- 1 -3 hexes to interval
- 2 -2 hexes to interval

3 -1 hex to interval

4-7 0

8 +1 hex to interval

9 +2 hexes to interval

10 +3 hexes to interval

QDAS-3a: GUNSIGHTS

	1960's	1960's	WWII
Aim time	Jetfighter	FAC	Fighter
1	-23	-22	-19
2	-12	-12	-11
3	-9	-9	-10
4	-7	-7	-9
5	-6	-6	-8
6	-5	-4	-7
7	-4	-3	-6
8	-3	-2	

9	-2	-1
10	-1	
11	0	

QDAS-3b: BOMBSIGHTS

	Modern	1960's	WWII	No
Aim time	Computer	Computer	Bomber	Sights
1	-23	-22	-19	-19
2	-12	-12	-11	-11
3	-9	-9	-10	
4	-7	-7	-9	
5	-6	-6		
6	-5	-4		
7	-4	-3		
8	-3	-2		
9	-2	-1		
10	-1			
11	0			

QDAS-5a AIRCRAFT HIT LOCATION TABLE: FRONT

Location	Monoplane	Biplane	Jet

Cockpit	01-03	01-02	
Engine	04-20	03-12	
Lower Fuselage	21-29	13-18	
Fuselage	30-34	19-22	
Tailplane	35-36	23	
Rudder	37	24	
Lower wing, inner	38-73	25-46	
Lower wing, outer	74-00	47-62	
Upper wing, inner		63-84	
Upper wing, outer		85-00	

QDAS-5b AIRCRAFT HIT LOCATION TABLE: FRONT OBLIQUE

Location	Monoplane	Biplane	Jet

Engine	01-23	01-20
Fuselage	24-40	21-35
Cockpit	41-48	36-42
Lower wing, outer	49-61	43-53
Lower wing, inner	62-91	54-79
Upper wing, outer		80-83
Upper wing, inner		84-92
Tailplane	92-94	93-95
Rudder	95-00	96-00

QDAS-5c AIRCRAFT HIT LOCATION TABLE: REAR OBLIQUE

Location	Monoplane	Biplane	Jet

Engine	01-14	01-11	
Cockpit	15-23	12-18	
Lower fuselage	24-31	19-30	
Fuselage	32-45	31-36	
Tailplane	46-55	37-44	
Rudder	56-61	45-48	

Lower wing, inner	62-87	49-69
Lower wing, outer	88-00	70-80
Upper wing, inner		81-89
Upper wing, outer		90-00

QDAS-5d AIRCRAFT HIT LOCATION TABLE: REAR

Location	Monoplane	Biplane	Jet

Engine	01-04	01-03	
Cockpit	05-06	04-05	
Fuselage	07-23	06-18	
Tailplane	24-30	19-23	
Rudder	31-40	24-30	
Lower wing, inner	41-80	31-59	
Lower wing, outer	81-00	60-73	
Upper wing, inner		74-87	
Upper wing, outer		88-00	

6. AIRCRAFT WEAPONS

6.1 BOMBS

Since no stats are available and it is not known how artillery shell data is calculated I'm working on some very rough estimates.

Soviet 50 kg (110 lb) bomb:

Weight 110 lbs (50 kg), slightly less than half of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
1.3M	31k	3k	434	115	59	37	26	15	10	7	5	3	1	1

Use Soviet 152mm howitzer fragmentation table and Collapse radius.

German SC 50 Grade 1 - Ja, L and Stabo bombs:

Weight 106 lbs (48 kg), 46.3 lb (21 kg) of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
1.3M	31k	3k	429	114	59	36	25	15	10	7	5	3	1	1

Use Soviet 152mm howitzer fragmentation table and Collapse radius.

German SC50 bomb:

Weight 123 lbs (55.5 kg), 53.8 lb (24.4 kg) of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
1.4M	33k	3k	453	120	62	38	27	16	10	8	5	3	1	1

Use Soviet 152mm howitzer fragmentation table and Collapse radius.

Soviet 100 kg (220 lb) bomb:

Weight 220 lbs (100 kg), half of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
4.6M	110k	11k	1534	407	209	130	91	53	35	26	18	11	5	3

Use US 8 inch howitzer fragmentation table and Collapse radius.

British 250 lb bomb, WWII:

Weight ??? lbs (xxx kg), ??? lbs of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
xxxk	xxxk	xxk												

250 lb Mk 81 bomb:

Weight xxx lbs (xxx kg), half of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
xxxk	xxxk	xxk												

British 500 lb bomb, WWII:

Weight ??? lbs (xxx kg), ??? lbs of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
xxxxk	xxxxk	xxk												

US 500 lb M43 bomb, WWII:

Weight 510 lbs (xxx kg), maybe half of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
xxxxk	xxxxk	xxk												

US 500 lb Mk82 bomb:

Weight 531 lbs (241 kg), 275 lb of which is H-6 high explosive.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
9.8M	231k	22k	31h	759	384	237	164	94	64	46	31	20	9	6

Use M-240 mortar fragmentation table and Collapse radius.

German SC250 bomb:

Weight 548 lbs (248 kg), 284 lb (129 kg) of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
10.1M	239k	22k	32h	786	398	245	170	98	66	48	32	21	10	6

Use M-240 mortar fragmentation table and Collapse radius.

US 750 lb Mkxx bomb:

Weight xxx lbs (xxx kg), half of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40

xxxxk xxxk xxk

British 1000 lb bomb, WWII:

Weight ??? lbs (xxx kg), ??? lbs of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40

xxxxk xxxk xxk

US 1000 lb M44 bomb, WWII:

Weight 965 lbs (xxx kg), ??? lbs of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40

xxxxk xxxk xxk

US 1000 lb Mk83 bomb:

Weight 985 lbs (xxx kg), 416 lbs of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40

xxxxk xxxk xxk

German SC500 bomb:

Weight c. 1102 lbs (500 kg), perhaps 573 lb (260 kg) of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
16.3M	384k	36k	52h	13h	639	395	273	157	106	77	52	34	15	10

Use 16 in shell fragmentation table and Collapse radius.

US Mk84, 2000 lb bomb:

Weight 1972 lbs (xxx kg), 945 lb of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
xxxxk	xxxxk	xxk												

German SC1000L2 general demolition bomb:

Weight 2209 lb (1002 kg), 1323 lb (600 kg) of which is explosives.

C	0	1	2	3	4	5	6	8	10	12	15	20	30	40
22.1M	520k	49k	70h	17h	866	534	370	213	143	105	70	45	21	14

Use 16 inch shell fragmentation table (but roll twice ??) and Collapse radius.

Makes a 20 meter crater...

Bomb Fall Table:

Altitude (ft)	Time (sec)
10 000	24.5
9 000	23.2
8 000	21.9
7 000	20.4
6 000	18.9
5 000	17.2
4 000	15.3
3 000	13.2
2 000	10.6
1 000	7.4

6.2 ROCKETS

Will be here.

6.3 NAPALM

500 lb napalm container, etc.

6.4 GUNS AND CANNON

German 7.92mm MG 17 machine gun

ROF 10 unsynchronized, 8 synchronized

Ballistic Data

		10	20	40	70	100	200	300	400
FMJ	PEN	20	19	17	14	12	7.5	4.6	2.8
	DC	8	8	8	7	7	7	6	6
AP	PEN	29	27	24	21	18	11	6.6	4.0
	DC	8	7	7	7	7	7	6	6
	MA	.2	.2	.2	.4	.5	1.0	2.0	2.0
	BA	63	56	48	41	36	27	21	17

TOF	0	0	1	2	2	5	7	10

German 20mm MG 151/20 cannon

ROF 6 unsynchronized, KD 20

Ballistic Data

	10	20	40	70	100	200	300	400
AP PEN	112	104	95	82	70	43	26	16
DC	10	10	10	10	10	10	10	10
MA	.2	.2	.2	.4	.5	1.0	2.0	2.0
BA	63	56	48	41	36	27	21	17
TOF	0	0	1	2	2	5	7	10

Ammo types: Explosive/Incendiary, Armor Piercing,
Armor Piercing/Electron Incendiary

Use the following table for 92 gram HE shell:

C	0	1	2	3	4	5	6	7	8	9	10
PEN	2.4	2.3	2.2	1.8	1.5	1.0	1.0	0.4	0.4	0.4	0.4
DC	10	3	2	2	2	1	1	1	1	1	1
BSHC	*2	*1	58	14	6	1	1	-2	-2	-2	-2

BC 712	80	25	8	4	2	2	1	1	1	1	1

Use the following table for 115 gram HE shell:

	C	0	1	2	3	4	5	6	7	8	9	10
PEN	2.4	2.3	2.2	1.8	1.5	1.0	1.0	0.4	0.4	0.4	0.4	0.4
DC	10	3	2	2	2	1	1	1	1	1	1	1
BSHC	*2	*1	58	14	6	1	1	-2	-2	-2	-2	-2
BC 890	100	31	10	5	3	3	1	1	1	1	1	1

Soviet 7.62mm ShKAS machine gun

ROF 15 unsynchronized, estimated 13 synchronized

Ballistic Data

		10	20	40	70	100	200	300	400
m/30	PEN	22	21	19	16	14	8.4	4.8	3.1
	DC	8	8	8	8	8	7	7	7
AP	PEN	32	30	27	23	20	12	7.3	4.4
	DC	8	8	8	8	8	7	7	6
	MA	.2	.2	.2	.4	.5	1.0	2.0	2.0
	BA	63	56	48	41	36	27	21	17

T0F	0	0	1	2	2	5	7	10

US .50 cal M2 Browning machine gun

R0F 6 unsynchronized

MA	.2	.2	.2	.4	.5	1.0	2.0	2.0

Ballistic Data as per M2HB in WWII Weapon Data Supplement

MA = greatest distance bet guns (in yhexes) + guns MA

Speed at deck is 92% of speed at height. Attack speed is 90% of deck speed

Wing area from front: length of one wing x base thickness of one wing

7. PLANES

Messerschmitt Bf 109F-4/Trop

Tropical version

Max speed 624 km/h at altitude, perhaps 574 km/h at deck.

Attack speed 517 km/h, 36 mhex/impulse, 144 mhex/phase

Size: 9.9 m wingspan, length 8.8 m,

height fuselage 1.4 m, whole plane 1.9 m.

Front: Fuselage 0.99x1.5 m. The rest c. 4.29x0.33 m.

$$1.49+1.42 \text{ m}^2 = 2.91 \text{ m}^2$$

Single shot target size +15 (Hex+3)

1.9 m high, Auto target size +14 (Hex+2)

Side: Fuselage 8.8 m long, 1.4 m high. 12.3 m²

Single shot target size +20 (Hex+8)

1.9 m high, Auto target size +14 (Hex+2)

Two synchronized MG 17 MG and one unsynchronized 20 mm MG 151

cannon mounted on nose.

Machine guns distance 0.4 meters estimated. Aimed to converge
at 400 meters.

ROF 16, Cap 1000

10	20	40	70	100	200	300	400

MA 0.6	0.6	0.6	0.7	0.8	1.2	2.0	2.4

Cannon aimed with no convergence.

ROF 6, Cap 140

10	20	40	70	100	200	300	400

MA .2 .2 .2 .4 .5 1.0 2.0 2.0

The F-4/B is identical but may carry a 250 kg bomb beneath fuselage.

Hit Location	Front	FrontObl	RearObl	Rear
Engine				
Inline engine	01-80	01-75	01-45	01-20
Radiator	81-90	76-88	46-65	21-60
Guns	91-95	89-98	66-90	61-95
Graze	96-00	99-00	91-00	96-00
Cockpit				
Instruments	01-25	01-14	01-10	01-03
Pilot	27-59	17-80	17-69	11-59
8mm back armor. The G-14 had 90mm glass armor.				
Fuel tank (+5)	60-00	81-00	70-00	60-00
Lower Fuselage				
Stores	01-50			01-50
Fuel	51-89			51-89
Pilot	90-97			90-97
Graze	98-00			98-00

Fuselage

Radio	01-10	01-12	01-13	01-10
Graze	11-00	13-00	14-00	11-00

Tailplane

Control Surfa	01-20	01-30	01-70	01-80
Graze	21-00	31-00	71-00	81-00

Rudder

Control Surfa	01-50	01-60	01-70	01-80
Graze	51-00	61-00	71-00	81-00

Wing, inner

Radiator	01-08	01-12	01-16	01-13
Landing Gear	09-59	13-63	17-63	14-50
Hydraulics	60-70	64-74	64-74	51-70
Control Surfa	71-92	75-92	75-92	71-92
Graze	93-00	93-00	93-00	93-00

Wing, outer

Control Surfa	01-15	01-20	01-25	01-25
Graze	16-00	21-00	26-00	26-00

Polikarpov I-153

Max speed 450 km/h at altitude, perhaps 415 km/h at deck.

Attack speed 374 km/h, 26 mhex/impulse, 104 mhex/phase

Size: 10 m wingspan, length 6 m, 2 m high.

Front: Fuselage 1.4 m diameter. The rest c. 3.21×0.06 m.

$$1.54 + 0.19 \text{ m}^2 = 1.73 \text{ m}^2$$

Single shot target size +14 (Hex-1)

2 m high, Auto target size +15 (Hex)

Side: Fuselage 5.8 m long, 1.7 m high. 9.86 m^2

Single shot target size +19 (Hex+4)

1.7 m high, Auto target size +14 (Hex-1)

4 synchronized ShKAS MG mounted on nose and fuselage,

distance c. 1.4 meters. Aimed with no convergence.

ROF 52, Cap 2600

	10	20	40	70	100	200	300	400
MA	1	1	1	1.2	1.3	1.8	2.8	2.8

Note: Very stiff trigger, count as target ducking for
first Impulse of every burst.

Up to 200 kg bombs or eight RS-82 rockets under wings on racks,

distance 2.4 m from centerline. Typical bomb load was four

50 kg bombs or two 100 kg bombs.

Hit Location	Front	FrontObl	RearObl	Rear

Engine

Radial engine	01-89	01-73	01-23	01-10
Fuel tank (+5)	90-98	74-96	24-96	11-99
Guns	99-00	97-00	97-00	00

Cockpit

Instruments	01-25	01-14	01-10	01-03

There is usually no radio.

Pilot	26-00	15-00	11-00	04-00

8mm back armor. Armored glass for Front angle only,
no glass on cockpit sides.

Lower Fuselage

Fuel	01-16		01-05	
Pilot	17-30		06-70	
Landing Gear	31-85	13-53	71-90	09-40
Hydraulics	86-95	54-74	91-95	41-70
Graze	96-00		96-00	

Fuselage

Graze	01-00	01-00	01-00	01-00

Tailplane

Control Surfa	01-20	01-30	01-70	01-80
Graze	21-00	31-00	71-00	81-00
Rudder				
Control Surfa	01-50	01-60	01-70	01-80
Graze	51-00	61-00	71-00	81-00
Lower Wing, inner				
Graze	01-00	01-00	01-00	01-00
Lower Wing, outer				
Stores	01-15	01-20	01-20	01-15
Graze	16-00	21-00	21-00	16-00
Upper Wing, inner				
Control Surfa	01-15	01-15	01-15	01-15
Graze	16-00	16-00	16-00	16-00
Upper Wing, outer				
Control Surfa	01-15	01-20	01-20	01-15
Graze	16-00	21-00	21-00	16-00

Polikarpov I-16 Type 10

Max speed 465 km/h at altitude, perhaps 428 km/h at deck.

Attack speed 385 km/h, 27 mhex/impulse, 107 mhex/phase

Size: 9 m wingspan, length 6.1 m, height 2.45 m.

Front: Fuselage 1.4 m diameter. The rest c. 3.7x0.12 m.

$$1.54 + 0.44 \text{ m}^2 = 1.98 \text{ m}^2$$

Single shot target size +13 (Hex+1)

2.45 m high, Auto target size +16 (Hex+4)

Side: Fuselage 5.6 m long, 1.6 m high. 8.96 m²

Single shot target size +19 (Hex+7)

1.6 m high, Auto target size +13 (Hex+1)

2 synchronized 7.62mm ShKAS MG mounted on nose

2 unsynchronized 7.62mm ShKAS MG mounted on wings, distance

1.8 meters estimated. Aimed with no convergence.

ROF 56, Cap 2600

10	20	40	70	100	200	300	400

MA 1.2	1.2	1.2	1.4	1.5	2.0	3.0	3.0

Note: Very stiff trigger, count as target ducking for
first Impulse of every burst.

Up to ? kg bombs or four RS-82 rockets under wings on racks,
distance 2.6 m from centerline.

Hit Location	Front	FrontObl	RearObl	Rear

Engine

Radial engine	01-90	01-75	01-25	01-10

Fuel tank (+5)	91-99	76-98	26-98	11-99

Guns	00	99-00	99-00	00

Cockpit

Instruments	01-25	01-14	01-10	01-03

There is usually no radio.

Pilot	26-00	15-00	11-00	04-00

8mm back armor. Armored glass for Front angle only,
no glass on cockpit sides.

Lower Fuselage

Fuel	01-16		01-05	

Pilot	17-80		06-80	

Graze	81-00		81-00	

Fuselage

Graze	01-00	01-00	01-00	01-00

Tailplane

Control Surfa	01-20	01-30	01-70	01-80

Graze	21-00	31-00	71-00	81-00

Rudder

Control Surfa	01-50	01-60	01-70	01-80
Graze	51-00	61-00	71-00	81-00
Wing, inner				
Guns	01-08	01-12	01-16	01-08
Landing Gear	09-49	13-53	17-53	09-40
Hydraulics	50-70	54-74	54-74	41-70
Control Surfa	71-85	75-85	75-85	71-85
Graze	86-00	86-00	86-00	86-00
Wing, outer				
Control Surfa	01-15	01-15	01-15	01-20
Stores	16-25	16-25	16-25	21-30
Graze	26-00	26-00	26-00	31-00

Republic P-47D-10 Thunderbolt

Early "Razorback" D-model

Max speed 690 km/h at altitude, perhaps 635 km/h at deck.

Attack speed 571 km/h, 40 mhex/impulse, 159 mhex/phase

Size: 12.4 m wingspan, length 11 m,

height fuselage 2.8 m, whole plane 4 m.

Front: Fuselage 1.27x2.13 m. The rest c. 4.8x0.40 m.

$$2.71 + 1.92 \text{ m}^2 = 4.63 \text{ m}^2$$

Single shot target size +16 (Hex+4)

4 m high, Auto target size +20 (Hex+8)

Side: Fuselage 11 m long, 2.5 m high. 27.5 m²

Single shot target size +23 (Hex+11)

2.8 m high, Auto target size +16 (Hex+4)

8 .50 cal M2 MG mounted on wings, distance 6.3 meters
estimated. Aimed to converge at 300 yards.

ROF 48, Cap 2800

	10	20	40	70	100	200	300	400
MA	3.7	3.2	2.8	2.4	2.3	1.0	5.5	7.2

Up to 2500 kg of bombs (typically two 500 lb M43 or 1000
lb bombs) or six 4.5 in M8 rockets in launcher tubes
under wings, distance 3.3 m (1.8 yhexes) from centerline.
Sometimes 5 inch HVAR rockets were used instead.

Hit Location	Front	FrontObl	RearObl	Rear

Engine

Radial engine	01-90	01-75	01-25	01-10

Fuel tank (+5)	91-99	76-96	26-96	11-96

Hydraulics	00	97-00	97-00	09-00

Cockpit

Instruments	01-25	01-14	01-10	01-03

Radio	26	15-16	11-16	04-10

Pilot	27-69	17-80	17-69	11-69

Back armor.

Fuel tank (+5)	70-00	81-00	70-00	70-00

Lower Fuselage

Stores	01-33			01-33

Fuel	34-39			34-45

Pilot	40-60			46-50

Supercharger	61-93			51-93

Graze	94-00			94-00

Fuselage

Supercharger	01-80	01-60	01-70	01-80

Graze	81-00	61-00	71-00	81-00

Tailplane

Control Surfa	01-20	01-30	01-70	01-80

Graze	21-00	31-00	71-00	81-00

Rudder

Control Surfa	01-50	01-60	01-70	01-80
Graze	51-00	61-00	71-00	81-00
Wing, inner				
Guns	01-08	01-12	01-16	01-08
Landing Gear	09-49	13-53	17-53	09-40
Hydraulics	50-70	54-74	54-74	41-70
Control Surfa	71-92	75-92	75-92	71-92
Graze	93-00	93-00	93-00	93-00
Wing, outer				
Control Surfa	01-15	01-15	01-15	01-20
Stores	16-25	16-25	16-25	21-30
Guns	26-60	26-60	26-60	31-65
Graze	61-00	61-00	61-00	66-00

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Page last modified: August 27, 2000

PHOENIX COMMAND

Appendix

7.2 APPENDIX: MORE NOTES ON PLANES

A-1 Skyraider

Cessna A-37B Dragonfly

1 7.62 mm GAU-2B/A minigun in nose

8 wing pylons, max load 2576 kg

- 4 inner 394 kg
- 2 intermediate 272 kg
- 2 outer 227 kg

Grumman A-6 Intruder

5 pylons each 1633 kg, max load 6804 kg

Typical load 30 227 kg bombs

Other possible loads:

- Anti Radiation: Four HARM, One Drop Tank, Range 1530nm.
- Anti Surface - guided bombs: Four Walleye II, One Drop Tank, Range 1530nm.
- Anti Surface - Cluster Bombs: Twenty Two Mk20 Rockeye, One Drop Tank, Range 1530nm.
- Anti Surface - 500lb Free Fall Bombs: Eight Mk82 500lb bomb, One Drop Tank, Range 1530nm.
- Anti Surface - 2000lb Free Fall Bombs: Five Mk84 2000lb bomb, Range 1440nm.

McDonnell Douglas A-4E Skyhawk

2 20 mm Mk 12 cannon, each w. 200 rounds

5 pylons for max load of 3720 kg

- usually carries fuel on two pylons
- typically 10 250 lb bombs or 4 500 lb napalm or 1 pods of 19 2.75 in rockets

McDonnell Douglas F-4D Phantom (Navy)

5 pylons for up to 7257 kg

- can carry 1 20 mm M-61 multi-barrel cannon in a pod
- usually carries fuel on two pylons

McDonnell Douglas F-4E Phantom (Air Force) 1967-

1 20 mm M-61 multi-barrel cannon

5 pylons for up to 7257 kg

- usually carries fuel on two pylons

Republic F-105F Thunderchief

1 20 mm M-61 Vulcan gun w. 1029 rounds. 6600 rpm.

Internal bay for 3629 kg

3 external pylons for 2722 kg

Some typical loads:

- Six 750 lb bombs on centerline, extra fuel tanks on wing pylons.

Northrop F-5A Freedom Fighter

2 20 mm M-39A2 cannon each w. 280 rounds

5 pylons for 2000 kg

Vought A-7B Corsair II (Navy) 1967-

2 20 mm Colt Mk 12 gun

8 pylons for max load of 6804 kg, but usually carries fuel on 2

Vought A-7D Corsair II (Air Force)

1 20 mm M-61 gun w. 1000 rounds

8 pylons for max load of 9072 kg, but usually carries fuel on 2

Vought F-8E Crusader (Navy)

4 20 mm guns

4 pylons for 12 Mk 81 bombs

Spitfire

Max speed:

Attack speed: km/h hex/imp, mhex/impulse

Head-on Target Size:

Oblique Target Size:

Side Target Size:

Engine: Inline

Armor: Pilot back armor

Mark I to VA (1939-41):

8 .303 cal Browning MG with 350 rounds and max range of 1000 yards. 1000 rpm.

Aimed to meet (apex of convergence) 250 yards in front of the plane's nose, then spread out again.

Mark VB:

Four .303 cal Browning MG with 350 rounds per gun.

Two 20mm Hispano cannon. 600 rpm.

Spit VB early: 60 rnd drum, VB late onwards 120 rnd belt

Two 250 lb bombs or one 500 lb.

Mark IX to at least Mark XIV: 2 .50 cal Browning with 250 rnds,

2 20mm Hispano Mk II cannon with 120 rounds. 600 rpm.

Two 250 lb and one 500 lb bomb.

Mark F21 and later marks: 4 Hispano cannon, outboard with 150 rounds, inboard with 175 rounds per gun.

Two 250 lb and one 500 lb bomb.

For ground-attack missions planes were fitted with tracer, explosive and armor-piercing shells and bullets.

Notes: Used in the 1948 A

Hawker Hurricane

Mark I:

8 .303 cal Browning MG with 300 rounds and max range of 1000 yards. 1000 rpm.

Aimed to meet (apex of convergence) 250 yards in front of the plane's nose.

Mark II:

Some Russian models had only two 20 mm cannon and two 12.7mm Berezina MGs.

Me-109

Bf-109E:

Two 20 mm cannon, two 7.92 mm MG

Curtiss P-40 Warhawk,

P-40C:

P-40E, P-40K: Six 50 cal MGs often ranged to 287 yards with 315 rounds per gun.

All types: 500 lb of bombs, often one 500 lb or six 18 lb fragmentation bombs

North American P-51 Mustang

P-51D: Also used napalm in the Korean War.

A-10 Thunderbolt II

One 30 mm GAU-8/A Avenger cannon

B-52

66 340 kg bombs in bomb bay + 24 more on pylons on wings

OR 84 225 kg bombs in bomb bay + 24 340 kg bombs on pylons on wings

B-52 bombers will lay a carpet of 1000 lb bombs 1 km wide, 3 km long

A-26B Invader

Called the B-26 in Korea

Hard nose with eight 50 cal MGs.

Standard load for typical night intruder mission in Korea was four 500 lb bombs under wings and fourteen 250 lb fragmentation cluster bombs in the bomb bay.

Todo: Me-262, P-47, P-38, FW-190, Typhoon, Tempest, B-25,

9. WEAPON TO DO LIST:

.303 cal Browning MG: max range of 1000 yards. 1000-1200 rpm, 2660 fps.

7.62 mm GAU-2B/A minigun

7.92 mm Solothurn MG 17. 1100 rpm, 3000 fps.

.50 cal Browning M2. 750 rpm, 2850 fps.

12.7mm Berezina MG

13 mm Rheinmetall Borsig MG 131 MG. 930 rpm, 2560 fps - 750 mps.

20 mm MG FF. 540 rpm, 1920 fps.

20 mm Hispano cannon. 600 rpm.

20 mm Hispano Mk II cannon. 600 rpm, 2850 fps.

20 mm Mk 12 Colt cannon

20 mm M-3 cannon

20 mm M-61 Vulcan multi-barrel cannon. 6600 rpm (ROF 58)

20 mm M-39A2 cannon

30 mm Rheinmetall Borsig MK 103 cannon. 420 rpm, 2820 fps. HE shells. Effective range 2000 ft.

30 mm Rheinmetall Borsig MK 108 cannon. Jams about 1/100 rounds fired ! 660 rpm, 1700 fps. 11-ounce mine/tracer or incendiary shells. Effective range 1300 ft.

30 mm GAU-8/A Avenger cannon

2.75 in rockets

US 4.5 in M8 rockets, WWII. 860 fps. Difficult to aim, a delay between firing and acceleration. Installed in racks of three per wing on the P-47D.

US 5-inch rocket, WWII. 860 fps. Modified AA shell stuck on 3.5-inch rocket motor. "Does about half as much damage as a 500 lb bomb"

UK 5-inch rocket, WWII. 860 fps. "Does about half as much damage as a 500 lb bomb"

R4M rockets for air-to-air. Weight 4 kg, thin walled shell. Firing time 0.3 seconds for 24 rockets. From 1800 feet scatter to cover area of one bomber.

Wfr. Gr. 21 Rocket-fired mortar. 210mm rocket. 1030 fps, range 3280 ft, vertical deviation 25 ft, horizontal 130 ft. 80 lb warhead.

US CRV7 rocket. Used in the LAU 5003A rocket pod.

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Quick and Dirty Tactical Air Support Rules

Version 0.2, May 2000

10.0 EXAMPLES

Here are a few examples of how these rules could be used in a PCCS game session.

10.1 WWII ROCKETING

On a dazzling February 1940 day Russian fighters are doing their daily strafing runs at the Finnish positions at Kollaa River. Spotting what seems to be a log bunker on a hill mowed bare by artillery, the lead Polikarpov I-16 waggles his wings to signal attack (the fighters have no radios) and dives in for the kill. The fighter pilot is a Line quality pilot and has 4 CA.

At this moment the Russian fighter is 1 km (500 mhexes) east of the bunker and closing in at a rate of 27 mhexes per Impulse, or 108 mhexes per Phase. 50 mhexes south of the bunker, a Line quality Finn notices the planes and decides to attempt to engage them with his L/S 26 LMG.

Phase I: The Russian closes to 392 mhexes of the MG position and aims for 4 CA as the Finn takes up firing position (2 CA) and aims for 2 CA.

Phase II impulse 1: At a range of 378 mhexes, the Finn opens fire:

Value	ALM

SAL:	10	10
AimTime:	2	-17 (though aimed for 3 CA, max Aim Time is)
Range	378	-10
Standing:		0
Aiming:		0
Target Size:	16	16
Good Visibility		0
Moving Table 4D	-5	-5 (Maximum Aim 2 Impulses)
Air target	-10	-10

Total		-16 => 1% chance to hit

He misses and decides to aim for 3 CA more. At the end of the Phase the plane has closed to 284 mhexas and his chances of hitting remain similar:

	Value	ALM
SAL:	10	10
AimTime:	2	-17 (though aimed for 3 CA)
Range	284	-8
Standing:		0
Aiming:		0
Target Size:	16	16
Good Visibility		0

Moving Table 4D	-5	-5 (Maximum Aim 2 Impulses)
Air target	-10	-10

Total	-14	=> 2% chance to hit

Phase III: The Finn continues to aim, waiting for the plane to come closer. He fires on the last Impulse when the plane is only 190 mhexes away.

	Value	ALM
SAL:	10	10
AimTime:	2	-17 (though aimed for more)
Range	190	-5
Standing:		0
Aiming:		0
Target Size:	16	16
Good Visibility		0
Moving Table 4D	-8	-8 (Maximum Aim 2 Impulses)
Air target	-10	-10

Total	-	=> 2% chance to hit

The Finn again misses by a mile.

Phase IV: The Finn decides to wait until the plane is closer. He aims for 2 impulses, while the

plane closes to 136 hexes from the bunker.

	Value	ALM
SAL:	10	10
AimTime:	1	-27 (max aim for Oblique target)
Range	136	-3
Standing:		0
Aiming:		0
Target Size:	13	13 (more than 30 degrees, use Oblique target size)
Good Visibility		0
Moving Table 4D	-10	-10 (Maximum Aim 2 Impulses)
Air target	-10	-10

Total	-	=> 0% chance to hit

The plane is speeding past far too quickly for the Finn to have any chance of hitting it ! In the cockpit, the Russian pilot has now been aiming at the bunker for 14CA... he flicks some switches, firing the four RS-82 rockets under his wings... they roar away towards the target at a speed of 158 hexes per Phase.

The Finn waits until the end of the Phase but he cannot get the plane in his sights...

Value	ALM

SAL:	10	10
AimTime:	1	-27 (max aim for Oblique target)
Range	82	1
Standing:		0
Aiming:		0
Target Size:	13	13 (more than 60 degrees, use Oblique target size)
Good Visibility		0
Moving Table 4D	-10	-10 (Maximum Aim 2 Impulses)
Air target	-10	-10

Total	-	=> 0% chance to hit

PHASE V: The rockets strike the target area at the end of Impulse 1:

	Value	ALM
Pilot skill SAL	10	10
AimTime	7	-6 (max for WWII fighter)
Range	136	
Moving Table 4D	27	-10 (but may Aim for more than 2 Impulses worth)
Target is A Hex		15 (an "Elevated" hex)

Good Visibility	0

Total	+ 9 => 9%

9% chance to actually aim at the target hex with the salvo. The bunker is 2x2 hexes so the actual likelihood of hitting it is somewhat larger. The Russian rolls a 31 for the aiming point so it is incorrect. The EAL difference is 9 so lengthwise the aiming point is off by two hexes, long. Left-Right Position Error = 18 - SAL - d10 (rolls 5) so the aiming point also is three hexes towards the right. This is the actual aiming point of the salvo.

The player now rolls for the four rockets. The Left-Right Position Error is 10 - d10:

Rocket#	d10	LocError	Direction
1	6	4 hexes	NW of actual aiming point
2	8	2	NE of rocket #1
3	3	7	SW of rocket #2
4	9	1	NW of rocket #3

All the rockets miss, the closest landing some twelve meters from the bunker.

The Finn waits until the plane is almost on top of the bunker:

	Value	ALM
SAL:	10	10
AimTime:	1	-27 (max aim for Oblique target)
Range	60	3 (28 hexes from the bunker)
Standing:		0
Aiming:		0

Target Size: 13 13 (more than 60 degrees, use Oblique target size)

Good Visibility 0

Moving Table 4D -10 -10 (Maximum Aim 2 Impulses)

Air target -10 -10

Total - => 0% chance to hit

At the end of the Phase the Polikarpov is 26 hexes past the bunker and climbing away. The Finn LMG gunner has not succeeded in hitting the plane with a single round. He can still continue to engage the plane as it recedes into the distance.

10.2 WWII STRAFING AND BOMBING

Swooping low over Western Desert in his Bf-109F/Trop, Hauptmann Erich Juhola notices a small British convoy of three wheeled vehicles. He barks an order and the staffel wheels into attack...

Note for modellers: The square rivets of Hauptmann Juhola's Bf-109F/Trop indicate that it is of the batch made in Dusseldorf in the brown-roofed assembly building by Rumanian slave labor. Bf-109F/Trop batches made in the red-topped building by Hungarian slave labor had round rivets. The plane is finished in Leichtes Dunkelhell Braun #85 (Humbrol 203) with spots of Schweres Dunkeldunkel Braun #82 (Humbrol 221). Hauptmann Juhola was credited with a total of three kills - two Junkers 88's (well they do look a bit like Blenheims) and one barrage balloon - this last kill being awarded posthumously.

Due to his ineptitude Hauptmann Juhola is considered a Green pilot with 3 CA. The other pilots and the Brits in the convoy are Line with 4 CA.

PHASES I-VII:

The Hauptmann's Messerschmitt is three kilometers (1500 mhex) away when he banks sharply,

beginning his attack run. The plane's Attack speed is 517 km/h (323 mph), 36 mhex/impulse, 144 mhex/phase... He lines up his sights for a frontal attack on the lead vehicle which turns out to be a Jeep. The rest of the vehicles are trucks. The vehicles are travelling in a column with 50 meters, 25 mhexes, between each other.

In the Jeep, an intrepid British machine gunner spots the attacking fighters coming in from the ... He yells a warning to his mates and prepares his Lend-Lease, AA-mounted M1919 A4 30-caliber MG for action. The wheeled vehicles are travelling at 25 km/h i.e. 16 mph, 7 mhexes per Phase. The combined speed of the plane and the vehicles is thus 151 mhexes per Phase, 38 mhexes per Impulse.

PHASE VIII:

At the beginning of the Phase the leading fighter plane is now 443 mhexes from the Jeep. On Impulse 3 the Brit gunner opens fire, at range 368 mhexes... The plane is coming directly at the Jeep and thus the Front target size is used.

	Value	ALM
SAL:	10	10
AimTime:	3	-21 (max aim for AA mounted weapon)
Range	368	-10
Standing:		0
Aiming:		0
Target Size:	14	14
Good Visibility		0
Moving Table 4D AA mount)	-8	-8 (Maximum Aim 2 Impulses overridden by
Air target	-10	-10

Total		-25 => 0% chance to hit

The Hauptmann has been aiming all along at the Jeep and now opens fire. The Jeep is 335 cm

long, 132 cm high and 230 cm wide - the GM assumes this makes for a target which is 30% of the vehicle's length + its height high, and as wide as the vehicle... that is to say 233 cm "high" and 230 cm wide, i.e. size 17:

	Value	ALM
SAL:	7	7
AimTime:	7	- 6 (max aim for WWII plane)
Range	368	-10
Target Size:	17	17
Good Visibility		0
Moving Table 4D WWII plane)	-8	-8 (Maximum Aim 2 Impulses overridden by
Ground target	0	0

Total		0 => 10% chance to hit,

Rolls a 79 so the burst goes 20 hexes long... Left-Right Position Error = 16 - SAL (7) - d10 (rolls 1) = 8 hexes towards the left... quite close to the first truck, actually, so the Hauptmann decides to hose that vehicle first. On Impulse 4 the distance has closed to 330 hexes and the chance of hitting rises to 11%, in addition the GM gives him an additional +1 ALM for tracking the fire. But the player rolls 72 and the burst goes short.

PHASE IX:

At the beginning of the Phase the Bf-109 is 292 mhexes away from Jeep, 318 from the truck. GM now gives the German player a +2 ALM for tracking fire for two Impulses... the bullets and shells again go wide...

On Impulse 2, the Brit gunner has aimed all he can and blasts away at the fighter plane which is now only 254 hexes away:

Value	ALM

SAL:	10	10
AimTime:	3	-21 (max aim for AA mounted weapon)
Range	254	-8
Standing:		0
Aiming:		0
Target Size:	14	14
Good Visibility		0
Moving Table 4D	-9	-9 (Maximum Aim 2 Impulses overridden by AA mount)
Air target	-10	-10

Total		-24 => 0% chance to hit

The Hauptmann is now only 280 hexes from his target truck but has no CA available until Impulse 3 when he is 242 hexes away... he probably continues firing, the bullets throwing dust in the air near the truck... on Impulse 3 he fires again but with no bonus for tracking fire as he had no CA to do so:

	Value	ALM
SAL:	7	7
AimTime:	7	- 6
Range	242	- 7
Target Size:	17	17
Good Visibility		0

Moving Table 4D - 9	- 9	(Maximum Aim 2 Impulses overridden by WWII plane)
Ground target	0	0

Total	2	=> 13% chance to hit,

Rolls an 11 so he hits the truck... using a ROF of *16 for MG and *6 for cannon and a target 270 cm (106 in) wide, we get 9 hits by machinegun and six by cannon... the rounds tear through the truck...

On Impulse 4 the Hauptmann continues wreaking destruction on the hapless truck. Now the distance is 204 hexes and

	Value	ALM
SAL:	7	7
AimTime:	7	- 6
Range	204	- 6
Target Size:	17	17
Good Visibility		0
Moving Table 4D - 9	- 9	(Maximum Aim 2 Impulses overridden by WWII plane)
Ground target	0	0
Tracking	1	1

Total	4	=> 17% chance to hit but the burst goes wide.

PHASE X:

At the beginning of the Phase the fighter is 166 hexes away from the truck...

	Value	ALM
SAL:	7	7
AimTime:	7	- 6
Range	166	- 4
Target Size:	17	17
Good Visibility		0
Moving Table 4D	-10	-10 (Maximum Aim 2 Impulses overridden by WWII plane)
Ground target	0	0
Tracking	2	2

Total		6 => 21% chance to hit, misses again...

The Brit gunner has again aimed all he can and blasts away:

	Value	ALM
SAL:	10	10
AimTime:	3	-16 (max aim for AA mounted weapon)
Range	141	-3

Standing:	0

Aiming:	0

Target Size:	14	14

Good Visibility	0

Moving Table 4D	-10	-10 (Maximum Aim 2 Impulses overridden by AA mount)

Air target	-10	-10

Total	-15	=> 2% chance to hit

Impulse 2: The Hauptmann has no CA, the brit gunner continues to fire, now at distance 128 hexes but with SAB 1 from recoil...

	Value	ALM
SAL:	10	10

AimTime:	3	-16 (max aim for AA mounted weapon)

Range	103	-1

Standing:	0

Aiming:	0

Target Size:	14	14

Good Visibility	0

Moving Table 4D	-10	-10 (Maximum Aim 2 Impulses overridden by AA mount)

Air target	-10	-10

SAB	1	- 1

Total	-14	=> 2% chance to hit

Impulse 3, the Hauptmann fires yet again at the first truck, at a range of only 90 hexes...

	Value	ALM

SAL:	7	7

AimTime:	7	- 6

Range	90	0

Target Size:	17	17

Good Visibility		0

WWII Moving Table 4D plane)	-10	-10 (Maximum Aim 2 Impulses overridden by

Ground target	0	0

Tracking	0	0

Total	8	=> 27% chance to hit,

Hits, this time with 12 MG rounds and six cannon shells. The Brit gunner attempts to retaliate

	Value	ALM

SAL:	10	10

AimTime:	3	-16 (max aim for AA mounted weapon)

Range	65	3

Standing:		0

Aiming:		0

Target Size:	14	14

Good Visibility		0

Moving Table 4D	-10	-10 (Maximum Aim 2 Impulses overridden by AA mount)

Air target	-10	-10

SAB	2	- 2

Total		-11 => 2% chance to hit

Impulse 4... the Hauptmann switches targets to truck #2, range now only 77 hexes, aiming . The Brit gunner objects to this furiously:

	Value	ALM

SAL:	10	10

AimTime:	3	-16 (max aim for AA mounted weapon)

Range	27	9

Standing:		0

Aiming:		0

Target Size:	14	14

Good Visibility	0

Moving Table 4D -10	-10 (Maximum Aim 2 Impulses overridden by AA mount)

Air target	-10	-10

SAB	3	- 3

Total	- 6 => 5% chance to hit,

By a miracle he hits the plane ! Four bullets, i.e. the entire burst hit the Hauptmann's Messerschmitt, the player rolls 72, 66, 49, 33 for locations, resulting in three hits to right Inner Wing and one to Fuselage. The player rolls 11, 25, 53 so all three wing hits damage the landing gear, the fuselage hit is a graze only. None of these hits are serious and the Hauptmann does not suffer a Morale effect from them. The fighter roars over the Jeep, continuing towards the trucks.

PHASE XI:

The Hauptmann is now only 39 hexes from the second truck. Because on Impulse 2 he will not have any CA to expend he cannot continue engaging the truck on this Impulse (he would end up 1 hex away from the truck, nose pointing right at it and then crash into it on Impulse 2). If he had CA for Impulse 2 he could pull up just in time and skim over the canvas top of the truck, hoping the vehicle wasn't going to blow up just then... Hauptmann Juhola curses and pulls up, banking away. He has expended 96 MG and 36 cannon rounds and received negligible damage. He can afford to come around again.

About 50 hexes behind him comes the second fighter of the Staffel. This pilot has elected to bomb the first truck. He has been aiming for 2 CA, the maximum for a plane with no bomb sight, at a hex right in front of the truck,

	Value	ALM
SAL:	10	10
AimTime:	2	-11 (No bomb sight)
Range	77	1

Target Size:	15	15 (Elevated Hex)
Good Visibility		0
Moving Table 4D	-10	-10 (Maximum Aim 2 Impulses)
Ground target	0	0

Total	5	=> 4% chance to hit,

Rolls 70 so misses by 17 hexes, the bomb goes long and Left-Right Position Error = 22 - SAL (which is 10) - d10 (rolls 1) = 11 hexes to the left of where he aimed. Even from such a distance the bomb is likely to cause damage to the occupants of the truck. The Messerschmitt banks away, its Daimler-Benz engine howling angrily.

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Chemical and Biological Warfare

Phoenix Command Weapon Systems Data Supplement

INTRODUCTION

The Chemical and Biological Warfare supplement for the Phoenix Command Combat System examines chemical and biological warfare agents able to be dispersed as gases, aerosols, or vapors and allows these agents to be incorporated into simulations of modern warfare. All known CBW agents likely to be stockpiled are detailed.

"Armis Bella Non Venenis Geri"

-(War is waged
with weapons, not
with poisons) --
Ancient Roman
condemnation of
well poisoning.

This rules set was originally designed in 1990, but never saw print. The rules are presented here for the first time.

Links:

[Chapter 1: Dispersal and Protection](#)

[Chapter 2: Chemical Agents](#)

[Chapter 3: Biological Agents](#)

[Delivery Systems Effects Tables](#)

[Chemical Agent Effects Tables](#)

Background: The Application of CBW

Chemical warfare in its modern form was first practiced on the trenches of Ypres in World War I, but the use of poisons to strike at the enemy has been employed since ancient times. The development of Chemical and Biological Warfare (CBW) before Ypres, however, remained relatively unchanged from the days of the well poisoners.

Early Uses:

It was a detested practice among ancient Greek and Roman armies to throw poisons, corpses, or other contaminants down wells to deny enemy use of them. However, well poisoning effectively destroyed the well and did not limit its attack to only enemy troops. Despite public condemnation, the tactic survived to the middle ages.

Another CBW tactic which saw wide use in the medieval period was the catapulting of diseased corpses into besieged fortresses. The disease would soon spread among the defenders and weaken them sufficiently for conventional forces to take the fortress. The Mongols, in their siege of the Crimean city of Kaffa in A.D. 1346, catapulted their own plague-

ridden corpses over the city walls. The refugees from Kaffa travelled to Constantinople, Genoa, and Venice, and they carried the plague with them--possibly contributing to the Black Death outbreak three years later.

The earliest use of CBW as the sole weapon in a conflict was the attempted genocide of the Ohio Indians by the British governor Lord Amherst. Following an Indian rebellion in 1763, Amherst ordered two blankets and a handkerchief from a smallpox hospital to be sent as gifts to the Ohio tribe. Within a few months, a terrible smallpox epidemic had broken out and ravaged the tribe.

Modern Era:

While the early efforts in CBW relied almost exclusively on disease to weaken the enemy over a relatively long period of time, the rise of the European chemical industries meant that enemy troops could be incapacitated by new, fast-acting poisons dispersed as gases or aerosols. The entire focus of CBW shifted to the use of chemical agents.

By the late nineteenth century, the entire concept of CBW was viewed almost dilettantishly by the Europeans. No army had incorporated a "gas" or "chemical" force, and CBW was used haphazardly, when it was used at all. The British had authorized the use of noxious sulphur fumes in the siege of Sebastopol during the Crimean war, and they had fired experimental shells containing picric acid at the Boers during the second Anglo-Boer War. The French had developed tear gas projectors and grenades for riot control during this time.

Despite these developments, the various European armies looked down on CBW as being immoral and unchivalrous, an attitude that led to the 1899 Hague convention, Article 23, which supposedly banned all projectiles whose sole purpose was the diffusion of asphyxiating or deleterious gases.

In World War I, Article 23 was shown to be worthless. Fritz Haber, head of the German Chemical Warfare Service, convinced the German Imperial Army to try his gas weapons as a means of breaking through the Allied front lines. The test was performed at Ypres, on April 22, 1915, when German pioneers uncapped bottles of Chlorine gas, and allowed the wind to carry the green chemical cloud across the Allied troops stationed there. The initial shock of the gas attack was not exploited by the German command, and the front lines remained unchanged.

What had changed was the attitude of the belligerents toward CBW. The attitudes that had brought about the Hague convention had been thrown aside at Ypres as the Allies set about working on gas defence and gas offence. The following years of the war saw the introduction of new delivery and protection systems and gases, like phosgene, chlorpicrin, and mustard gas.

While the armies and politicians seemed to adopt chemical weapons, the general public viewed them with revulsion. Chemical weapons were the first true weapons of indiscriminate and mass destruction, and the public saw their effects firsthand when the casualties returned home. This attitude did not stop the various governments involved from embarking on chemical weapons programs after the war. These programs continued despite the 1925 Geneva convention which was supposed to ban the use of such weapons. In World War II, chemical and biological weapons were not used. However, both Axis and Allied powers experimented with and developed chemical and biological agents.

In an arms race overshadowed by that of nuclear arms, chemical and biological weapons were developed and stockpiled at a tremendous rate by the U.S. and the Soviet Union during 1950-70. In spite of the arms race, CBW was used only in the background in the brushfire wars of the period. North Korea alleged that the U.S. was using BW during the Korean war. Egypt was accused of using Soviet nerve agents against royalist troops in its 1963-67 intervention in Yemen. The U.S. used riot gases and defoliants during its war in Vietnam. In 1975, reports of chemical warfare began filtering out of Laos and Afghanistan. The Hmong tribespeople of Laos claimed that they had been attacked by CBW agents released through aerial spraying. The chemical agent was dubbed "Yellow Rain," but debate still rages as to whether it actually existed. In Afghanistan, Soviet troops were accused of using lethal and

incapacitating chemical agents against the Mujihaddeen. These reports remain unconfirmed as of this writing. Still, it was Yellow Rain that encouraged the U.S. to resume production of chemical weapons in the 1980s.

During the Iran-Iraq war of 1980-89, Iraq used chemical weapons against Iranian troops as early as 1982, and continued to use them throughout the war. The chemical agents used were mustard gas, tabun, and lewisite. In 1984, U.N. observers confirmed the Iraqi use of mustard gas. Later on in the war, Iraq launched lethal agents against Kurdish villages within its own borders to deal with Kurdish guerrillas supported by Iran.

The Iran-Iraq war marks the beginning of a disturbing trend of non-superpower acquisition of lethal chemical and biological agents. More and more nations are turning to CBW as proxies for the tightly regulated nuclear weapons.

There have also been cases of terrorist groups attempting to obtain commercial CBW agents or developing their own in makeshift labs. In November 1980, a raid on a Paris safehouse of the West German Red Army Faction uncovered a bathroom lab containing botulin, and in 1984, two Canadians using false credentials ordered tetanus and botulism cultures from a Maryland research firm. These incidents show the potential for terrorist use of chemical and biological warfare against their targets.

Author's Note: *This was written before the Japanese Subway attack where terrorists used Sarin nerve gas dispersed into the Tokyo subway system to sow terror throughout Japan.*

Future wars are likely to see greater use of chemical and biological weapons, and not only against military forces.

[Send comments.](#)



Chemical and Biological Warfare

Phoenix Command Weapon Systems Data Supplement

DISPERSAL AND PROTECTION

Chemical and biological weaponry is an aspect of warfare which is increasing in importance on the modern battlefield. From the recent use of chemical agents in the Iran-Iraq war to allegations of "Yellow Rain" in Laos, potential military use of lethal chemical and biological weapons is almost certain in a future conflict. Non-lethal agents, such as riot gases, are used daily by various governments and police forces to control civil unrest. Also, various terrorist groups have attempted to manufacture or otherwise obtain biological agents and toxins, meaning that CBW agents may be employed in any setting.

This chapter is concerned with providing background on chemical weapons. Rules are included for military and terrorist delivery systems, as well as special riot control delivery systems. Rules are also provided on decontamination procedures and CBW protective equipment.

It should be noted that while the delivery systems described herein can be used by both chemical and biological agents, chemical agents are the primary payloads. Biological weapons have special dispersal effects which are detailed in Chapter 3, so the dispersal effects covered in this Chapter relate primarily to chemical agents.

Dispersal Methods: Groundbursts

This section covers rules for the dispersal of CBW agents through groundburst explosions. The groundbursts can be created by burst-type grenades, artillery shells, artillery rockets, aircraft bombs, or ground-based explosives like car bombs.

The following rules deal specifically with artillery-delivered gas rounds. More detailed rules on other dispersal methods are in development and will be posted when ready.

NON-PERSISTENT AGENTS:

When a groundburst CBW weapon detonates, the explosive charge hurls the CBW agent a distance from the point of explosion. Within this burst radius, the agent mixes with the atmosphere in a specific ratio, called the Concentration (CNC).

The CNC is shown on the [Delivery Systems Effects Tables](#) for the particular delivery system being used.

As time passes, the agent dissipates and the CNC drops. The drop in CNC can be found on the Delivery Systems Effects Table by indexing the delivery system with the elapsed time since the explosion and moving down the table by the number of rows indicated. Elapsed time is always read from the "Non-Pers." column.

Example: *A 155mm artillery shell lands two hexes away and explodes, throwing out AC gas, a non-persistent chemical agent. By indexing the 155mm howitzer on the Delivery Systems Effects Table with the "5p", or "5 phase" row, the CNC at is found to be 10. This means that for phases 1-5 after explosion, the CNC at range 2 hexes is 10. For phases 6-10 after explosion, the CNC is equal to 9, and so on until the end of phase 20, when the CNC drops to 7.*

WIND EFFECTS:

When wind is present, the non-persistent agent does not simply form a cloud, but instead moves downwind. Use a marker to track the movement of the impact centre of the cloud, and measure all effects from there.

The movement of the wind will force the non-persistent cloud to mix with more air, thus lowering the CNC. To find the CNC downwind of the Burst Zone, index the wind speed in hexes per phase ($2 \times \text{HPP} = \text{mph}$) with the Delivery System. The non-persistent cloud is generated at the point of impact of the burst and moves downwind at the wind speed.

Targets in the course of the cloud from 0 to Wind Speed (W) hexes are attacked at a CNC found on the Delivery Systems Effects Table by indexing the wind speed in HPP with the delivery system. Targets in the course of the cloud from W to $2 \times W$ hexes are attacked at a CNC found one line down, and the section from $2 \times W$ to $3 \times W$ has a value found two lines down, and so forth.

Example: *Taking the artillery shell in the previous example and assuming that a 10 HPP wind is blowing, the impact centre of the cloud will have a CNC of 10 as it moves downwind to 10 Hexes. As it moves from 11 to 20 hexes downwind, it has a CNC of 8, and so forth.*

PERSISTENT AGENTS:

Persistent agents are much denser in nature than non-persistent agents and they tend to soak into the ground downwind of the groundburst and dissipate through slow evaporation. This way, the course of the persistent cloud forms a "footprint" or contaminated zone, which remains dangerous for several days following the initial delivery.

The delivery of persistent agents is identical to non-persistent agents for both still air and wind effects. In still air, this is the only area to be contaminated. In wind, the cloud will move downwind.

This can get quite complicated, and casual players are encouraged to assume no wind when

persistent munitions are used.

For the die-hard players who anticipate modeling wind effects on persistent munitions, divide the footprint into two sections. The **head** of the footprint is the 180 degree arc that is upwind of the impact hex. The **track** of the footprint is the distance the impact centre will travel until CNC reaches zero.

The head of the footprint is treated as if there were no wind, and contamination and dissipation are resolved normally.

The track is treated as a column of chemicals--CNC of a hex is determined by measuring the shortest distance to the track and reading the CNC from the Delivery System Effects Table for the appropriate wind speed. Due to the denser nature of the persistent munitions for each phase of travel of the track, move down a further 4 lines on the table.

Example: In a 10 HPP wind, a persistent chemical shell will determine its CNC values in its track from the 10 HPP line for the first 2-second phase (when the impact centre tracks from hexes 1 - 10 downwind of the impact hex). Then, for the second 2-second phase of travel, move down by 4 lines to 18 HPP wind (when the impact centre tracks from 11 - 20 hexes downwind). For the third 2-second phase of travel, move down a further 4 lines for 26 HPP wind, and so forth

Example: A hex is 12 hexes away from a track in a 10 HPP wind, in the first phase of travel. With a persistent chemical munition, the resulting CNC is 1. Another hex, likewise 12 hexes away from the track, but within the second phase of travel of the track, has a CNC of 0 as read from the 18 HPP line of the table..

CONTAMINATION:

The difference between persistent and non-persistent agent is the persistent agent deteriorates much slower than non-persistent agents. This means that persistent agents contaminate anything in their path for a long period of time. As the persistent cloud moves downwind, the section of terrain it passed over remains contaminated at the CNC the cloud had when passing over.

Example: Taking the artillery shell in the previous example, but filling it with VX, a persistent agent, and assuming that a 9 HPP wind is blowing, the course of the cloud from 0 to 9 hexes has a CNC of 14. After the cloud passes over that section of terrain, the terrain remains contaminated and attacks targets at a CNC of 14. The course 10 to 18 hexes away has a CNC of 13 and the terrain continues to attack targets at a CNC of 13. The course 19 to 27 hexes away has a CNC of 12, and so forth.

To model the deterioration of the persistent agent, find the CNC of the burst zone on the Delivery Systems Effects Table under the appropriate column for the delivery system. Read across the table to the "Pers." column under the "Elapsed Time" section of the table. This will give a time preceded by an "x", meaning that the time must be multiplied by the agent's

Persistence Multiplier (PM). The resulting number is the amount of time required for the agent to deteriorate to the next line of CNC. All contaminated zones downwind also drop in CNC by one line. Continue the process as long as required for the CNC in the burst zone to decrease to zero.

Note: The deterioration of persistent agents can be modified by environmental effects such as temperature and precipitation. See **Weather Effects** for more detail.

Example: Continuing the previous example, indexing a CNC of 14 for a 155mm shell gives a Pers. time of "x 20h", meaning that the Pers. time of 20 hours must be multiplied by the PM of VX. The PM(VX) is 2, so the CNC of the burst zone will decrease by 1 line to a CNC of 13 after 40 hours have elapsed from the initial explosion. All zones downwind will also decrease 1 line after that time has elapsed.

Example: Indexing a CNC of 13 for a 155mm shell gives a Pers. time of "x 2d", or times 2 days. Multiplying this by the PM(VX) of 2 means that 4 days after the initial explosion, the burst zone and all the downwind contaminated zones drop in CNC by one line, and so on.

USE IN ENCLOSED AREAS:

This is a very rare occurrence, but can happen in the case of grenades being lobbed through windows or doors. If a groundburst dispersing CBW agents takes place inside an enclosed space, such as a building, first determine if the burst zone can be contained in the building according to area. If there is sufficient space to contain the burst radius, resolve the groundburst effects as usual. The area of the burst zone can be found by multiplying the square of the burst radius times 3.14.

Should the area of the burst radius be too large to be contained in the enclosed space, then multiply the CNC by the area of the burst zone divided by the area of the enclosed space.

Example: A burst-type tear gas grenade is lobbed into a room 2 hexes by 4 hexes (area = 8 hexes). The burst radius of the grenade is 3 hexes (area = $3 \times 3 \times 3.14 =$ about 28 hexes). The CNC of the grenade normally is a 7 for the burst zone (found off the Delivery Systems Effects Table), but in this enclosed area, the $CNC = 7 \times 28/8 = 24.5$. This is why the use of tear gas inside of buildings can be a deadly affair.

DELIVERY SYSTEMS:

Military delivery systems capable of delivering CBW agents through groundbursts include burst-type grenades, artillery shells, artillery rockets, and aircraft bombs. Refer to the PCCS Artillery System for SMK ratings for the various types of artillery shells. Refer to the PCCS Special Weapons Data Supplement for ratings for smoke grenades.

Non-military, or terrorist delivery systems generally consist of a container for the agent connected to an explosive charge. The size of the charge is important because too little charge and the agent does not disperse as widely as desired, and too much charge may destroy the agent or disperse it too widely to have an effective CNC. Ratings for these are still in development and will be posted as soon as they are available.

BARRAGES:

All CNC values are additive. If multiple shell patterns overlap, then the CNC values in the overlapping areas are added together.

Example: A hex is overlapped by three chemical shell impacts of CNC 10, 3, and 2 respectively. The effective CNC of that hex is 15.

Dispersal Methods: Burning-Type Grenades and Projectors

This section deals exclusively with specialized riot control devices which use a smoke composition or compressed gases to deliver doses of irritating chemicals to a target.

The **PCCS Special Weapons Data Supplement** deals with burning type gas grenades in detail--this section has a few modifications.

Zig-Zag Grenades:

Zig-zag grenades have an angled vent and, as the chemical agent is forced through the vent, the grenade is pushed back in a spinning, bouncing trajectory. This makes the grenade unpredictable and difficult for rioters to pick up and throw back. Each impluse for the Grenade's DUR, roll a (6) and move the grenade 1 hex in the following directions.

Roll	Move
1	Away from the thrower.
2	Away from the thrower and to his right.
3	Towards the thrower and to his right.
4	Towards the thrower.
5	Towards the thrower and to his left.
6	Away from the thrower and to his left.

Use a counter to represent the grenade, and use other counters (or balls of cotton) to represent the smoke trail over the path. Move the smoke trail downwind by a number of hexes equal to wind speed.

Weather Effects

CBW agents are highly vulnerable to the environment in which they are released. The dispersing effects of winds have been covered in the previous sections. Other environmental aspects like temperature and precipitation can have tremendous effects on the spread and contamination of CBW agents.

TEMPERATURE:

Temperature can have marked effects on persistent chemical agents. As the temperature rises, the rate of evaporation of the persistent agent increases, thus decreasing the time of contamination. Conversely, as the temperature falls, evaporation is impeded and contamination time is increased. To model the effects of temperature, a persistence multiplier (PM) is used according to the expected high temperature during the days of contamination. The PM is used in exactly the same way as the PM for individual persistent agents.

Example: A 155mm shell falls carrying VX (PM of 2). It sets up a burst zone of CNC=10. Reading across from a CNC of 10 on the Delivery Systems Effects Table for a 155mm shell under the Pers. column gives a persistence time of "x 20h" or times 20 hours. This is multiplied by the VX's PM of 2 for 40 hours. Under normal conditions, it would take 40 hours for the CNC to drop 1 line on the Delivery Systems Effects Table to a CNC of 9. However, the average high temperature for the days of contamination is 96 degrees. Evaporation is highly accelerated at such a temperature and the PM for temperature is a "x 0.10." This gives a new overall persistence time of $20 \times 2 \times 0.10 = 4$ hours for the CNC to drop one line from a CNC of 10 to 9.

The following table provides persistence multipliers for various temperature bands.

Persistence Multipliers at Various Temperatures

Temperature (F)	PM
86 +	x 0.10
77-85	x 0.50
68-76	x 1.00
59-67	x 2.00
32-58	x 5.00
Below 32	Special

Whenever the temperature falls below freezing, i.e. below 32 degrees F, all evaporation stops. The chemical agent will no longer be dispersing through evaporation until the temperature rises above freezing again. This means that a persistent chemical agent laid down in the early winter will still be contaminating ground at full strength until the spring thaw three or four months later. In polar regions, where the temperatures rarely rise above freezing, contamination could persist at high levels for decades. Temperature has no effect on biological and non-persistent chemical agents.

PRECIPITATION:

Non-freezing precipitation acts as a natural decontaminating device for chemical and biological agents. Rainfall washes off and disperses any contaminants, rendering them less harmful. In game terms, rainfall will lower the CNC of all persistent chemical and biological agents by a certain number of lines on the Delivery Systems Effects Table. This takes effect at the end of a period of rain, and time required to drop to the next level also starts when the overall rain ends. Naturally, contaminated surfaces must be exposed to the rain for the entire period of rainfall for the rainfall to be effective.

The following table details the effects of rainfall. To use the table, determine the initial level of rainfall, using the number of millimetres or inches as a guideline. This level of rain will be maintained until the amount of time found under the DUR column has elapsed. Then, the rain is reduced by (3) levels and the process continues until the rain level is reduced to zero. The Lines column gives the number of lines the CNC is adjusted downwards at the end of the DUR for that level of rainfall. If desired, The Gamemaster should, for role-playing purposes,

determine which part of the day the rain begins, using die rolls if necessary.

Rain Effects Table

Level	Type	Amount (mm/in)	DUR	Lines
0	None	0 mm / 0.0 in	n/a	0
1	Trace/Dew/Fog	5 mm / 0.2 in	1 h	0
2	Light	10 mm / 0.4 in	2 h	1
3	Medium	15 mm / 0.6 in	2 h	1
4	Heavy	20 mm / 0.8 in	2 h	2
5	Extreme	30 mm / 1.2 in	1 h	3

Frozen precipitation will only cover a layer of contamination and neutralize it until thawing, when the contaminated areas will be exposed and dangerous once again at the same CNC as when they were first covered with the frozen precipitation.

Chemical and Biological Defence

An important part of any CBW conflict is the development of countermeasures and defences to the CBW agents utilized by the other side. These defences can be broken down into the categories of detection, protection, decontamination, and treatment.

DETECTION:

There are various methods of detection available to military forces. However, the majority of these methods are oriented towards detecting blister and nerve agents. Militaries view these as being the most dangerous agents likely to be encountered on a battlefield.

All detectors provide warnings when the CNC of certain agents, usually blister and nerve agents, rises above 1. They will stop providing the warning when deactivated or when the CNC of the agent drops back below 1. All detectors are fallible, however, and even the slightest damage or blockage will mean that the detectors will provide false alarms, or worse, not go off at all. The various types of detectors are listed below, together with components and guidelines for use and failure of the detectors.

Smell: Any smells given off by the various agents are listed in Chapter 2. If the combatant can recognise the smell, then he can sound the alarm.

Components: Nasal sensory nerves. These tire after 2-3 minutes of exposure, so the smell seems to go away. Also, blockages such as gas masks being worn or nasal congestion from illness can prevent the nerves from sensing the smell.

Detector Paper: This is chemically-treated paper with an adhesive back, so that the sheet can be attached to an NBC suit. The paper changes color upon exposure to show a distinctively colored pattern of dots. The dots disappear when the paper is no longer contaminated. These are usually issued to all troops likely to encounter CBW. The Warsaw Pact forces also use detector powders

Components: Chemical reagents. These are deactivated by NBC decontamination chemicals, making the paper useless for detection. This is the most reliable method of detection, but does not show strength of contamination. Also, the combatant must look at the paper regularly to determine when chemical agents are present.

Samplers: Samplers pass external air over an electrolytic cell which will react on contact with chemical agents. The cell can then trip a relay to sound a warning, transmit the information by radio to a remote alarm unit, or show strength and type of agent on an LCD screen.

Sensor Components:

Battery: 15 Day life. Any damage to the battery means the detector will not work at all.

Pump: Used to draw air over the cell. MIN damage means that drawing power is impaired, and cell will not trip until CNC = 3. MAJ damage means the pump, and the detector, does not work at all.

Cell: Reacts with the presence of chemical agents. MIN damage means the cell will trip false alarms once every (10)+2 hours it is activated. MAJ damage means the cell will not work at all. Cells deteriorate to MIN damage after 6 months of use, and MAJ after 7 months.

Relay: Transmits electrical impulses from the cell to output devices. Any damage means the relay will not work at all.

Reservoir: Some detectors only. Holds chemicals which allow the cell to detect the chemical agents. Life of 15 days. Any damage means that the detector does not work at all.

Output Devices:

Alarm: A speaker activated by the relay which sounds a warning tone (ESM 70). MIN damage means the speaker will sound randomly once every (5) hours and, once tripped, continuously so long as the unit is activated. MAJ damage means the speaker will not work at all.

Display screen: On handheld models only. An LCD screen which indicates the strength and type of chemical agent encountered. Any damage at all means that the screen does not work.

Transmitter: Transmits an alert to a remote alarm unit up to 220 hexes by radio, or in some units, as far as a landline (wire) can reach. The radio signal is too weak to reach beyond 220 hexes. Any damage or EW jamming on the radio frequency being used means that the transmitter does not work at all. If the landline (if any) is cut, the transmitter does not work at all.

Infrared Remote Sampling System: This consists of an IR camera and computer processor mounted on a tripod. The camera covers a 60 degree arc and detects the presence of nerve agents by monitoring variation in the infrared spectrum. Range is direct line-of-sight for up to 2750 hexes.

Components:

IR camera: This is very sensitive. Any damage and the system does not work at all.

Processing Unit: This is the computer hardware and software which interprets the changes in the IR camera image and determines whether they are caused by chemical agents. MIN damage means that the system will trip randomly once every (5)+2 hours. MAJ damage means that the system does not work.

Battery: A Thermoelastic Generator (TEG) with a life of 24 hours. Any damage and the system does not work.

Transmitter: Transmits an alert to a remote alarm unit up to 220 hexes by radio, or in some units, as far as a landline (wire) can reach. The radio signal is too weak to reach beyond 220 hexes. Any damage or EW jamming on the radio frequency being used means that the transmitter does not work at all. If the landline (if any) is cut, the transmitter does not work.

PROTECTION:

Once a chemical agent is detected, there usually follows a mad scramble to don protective garments and seal up any NBC-shielded vehicles before the agent can cause any injury to personnel in the area of the attack. There are various levels of protection, and each has different advantages and disadvantages as detailed below.

Held Breath: Useful only against chemical agents which must be inhaled to cause damage. The number of phases of normal operation a combatant is allowed without breathing is equal to her health characteristic plus a 0-9 roll. This is determined separately for each combatant and represents how recently each has breathed. After this time has elapsed, the person must draw breath and begin taking damage from exposure to the agent unless she has used the time to don better protective gear or removed herself from the contaminated area.

Handkerchief: A handkerchief held over the mouth and nose can filter out chemical aerosols and mists, but only to a certain degree. This method works only against agents which must be inhaled to cause damage. It has no effect against others. A person using a handkerchief will be attacked at an effective CNC equal to the normal CNC/2. If the handkerchief is wetted, this drops to

(CNC/2)- 1.

Gas mask/respirator: These are plastic masks which provide a seal around the face and isolate the nose, mouth, and eyes from contact with chemical agents by providing pure incoming air. Gas masks filter incoming air, while respirators provide air from a purified air supply. Masks are effective against all agents which require inhalation or exposure to the eyes or mouth to work. They are not effective against all other kinds of agents. In combat situations of quick movement, it is easy for a mask to be jarred or displaced. If this happens, the seal is broken and the air inside the mask is contaminated at the CNC outside the mask. Putting the mask on again will only limit further exposure. While using a mask, a person's visibility is severely restricted, limiting his Field of View to 120 degrees, and giving him a -2 Visibility ALM.

Components:

Seal: Rubber seal at the fringes of the mask. Any damage above MIN here makes the entire mask useless.

Straps: Straps going around the mask and securing the mask to the face. If these are damaged, the mask must be held in place by one hand to remain effective.

Filter: Filters out CBW agents. A filter has a normal operating life of six months. Any damage means that the entire mask is useless.

Voicemitter: A special speaker element incorporated in some masks which allows the wearer to be heard speaking clearly. Damage here will not affect the protective capabilities of the mask, but will make the wearer's voice seem muffled (Reduce ESM by 10). This also applies to masks without voicemitters.

External air supply (EAS): This applies only to respirators. EAS are usually carried in steel tanks and are effective only for as long as the tank has capacity (Normally 20 minutes to 1 hour). Any damage here means that the EAS is useless.

Protective Coveralls: These are synthetic garments designed to prevent any contaminants from reaching the skin of a wearer. They are also available in a zip-up casualty bag designed to give protection to wounded who are unable to pull on coveralls. The coveralls are quite heavy and hot to wear, and all actions have a penalty of +1 AC while the garment is worn. After the allowed time wearing the suit has elapsed, this penalty increases to +2 AC.

Temperature (F)	Allowed Time for Coveralls
86 +	20 Minutes
77-85	30 Minutes
68-76	50 Minutes
59-67	2 Hours
Below 59	3.5 Hours

If the suit is worn for more than twice the allowed maximum time, the AC penalty rises to +4 AC. After four times the allowed time has elapsed, and the person begins to suffer heat injury and can no longer function. Frequent rest (5 in 20 minutes) and cooling sprays can increase the allowed time by 50%. Protective coveralls are usually integrated with a gas mask or respirator.

Components:

Cloth overlayer: Two layer suits only. Wicks the liquid agents away and keeps them on the surface of the coverall. Rips or tears in this layer mean that the agent is allowed to attack the impermeable layer. The cloth layer alone will still transmit liquid agents to the wearer's skin.

Impermeable layer: A layer of synthetic foam or rubber designed to prevent agents from penetrating. It depends on the nature of the agent involved whether a rip or tear in this layer will cause damage to or otherwise contaminate the wearer. This layer alone provides up to six hours of protection from liquid (persistent) agents, after which time the agent attacks at the highest CNC to which the coverall was exposed. This time is increased to eight hours with a cloth overlayer.

Gauntlets: Impermeable synthetic gloves integrated with the coverall.

Designed to protect the hands. Damage is as for the impermeable layer.

Overboots: Impermeable synthetic boots designed to fit over combat boots.

These usually have treads and may even have ski bindings. Damage is as for the impermeable layer.

Special note on coveralls -- Fumbles: Protective coveralls in combat situations are often donned in moments of high stress. Usually, a CBW sensor has sounded an alarm and the combatant knows that he only has but moments to avoid being contaminated. In these situations, the high stress involved may make even veterans fumble with their coveralls and masks, thus wasting precious time. In

these situations, have each combatant roll less than or equal to his SAL on 3(6) for each article of the coverall being donned. Failure means that he has fumbled with the garment and requires an extra (3)+1 AC to put it on properly. Normal ACs

required to put on the various articles are given below.

Article	AC Required	
	On	Off
Gas	12	5
Mask/Respirator		
Gauntlets (each)	10	4
Coverall	32	20
Overboots (each)	15	10
Casualty Bag	35	24

Shielded Vehicles and Structures: Vehicles and structures which are CBW or NBC shielded make use of a mechanical filtration system to introduce fresh air and to provide a positive, or higher, air pressure inside the vehicle or structure than on the outside. This

way, if there are any minor leaks in the seals, the air will flow outside and not allow contaminated outside air in. This system is used on some AFVs, modern office buildings, modern military fortifications, and naval vessels.

Components:

Filter: Designed to capture CBW contaminants from air passed through it. Any damage makes the filter and the entire shielding useless unless the filter can be shut off and a backup system activated in its place.

Air Pump: This draws external air over the filter before passing it into the shielded compartment. Any damage will cause the air pump to fail, and cause air within the compartment to become stale. Normal air flow over the filter will continue to ensure breathability. Positive air pressure cannot be maintained without the pump.

Seals: These are rubber or silicone rings which form an airtight connection between a hatch and its cover. MIN damage means that the seal is broken, but that positive air pressure, if it exists, will prevent contaminants from entering. MAJ damage means that the seal is completely breached, and that positive air pressure will not be able to prevent contamination.

DECONTAMINATION:

Contamination will only happen with biological agents and persistent chemical agents. These agents will remain active until they are deactivated or dispersed. Decontamination is simply the use of chemicals or water to deactivate or disperse the agents.

Decontamination is accelerated naturally through weathering but can be accelerated even further through the use of cleaning solvents and pressure sprayers. Still, whenever these artificial means are used, there is always the possibility that the cleaning was performed unskillfully, and that the contamination remains. For each person attempting cleaning, roll at Base Odds of 6 on a 3(6). Success means that the area that person was responsible for is no longer contaminated. Failure means that the area remains contaminated. The gamemaster should use the skill failure table to determine the level of remaining contamination.

All militaries view decontamination as a priority in a CBW environment, and some, like the Warsaw Pact, have developed large and highly effective decontamination tools. The basic types of decontamination equipment are described below. Normally, if these systems are damaged, they will not work at all.

Decontamination Powder: This powder is dispensed either in foil packs or

impregnated into brushes or mitts. One wipe of the powder is sufficient to absorb persistent chemical agents. The powder is usable only once, and is then discarded. One packet, brush, or mitt is sufficient to decontaminate an individual and his clothing.

Personal Decontamination Kits: These are issued to individual soldiers and contain sufficient decontamination powder and equipment to decontaminate an individual and his equipment. Special kits are available for heavy weapons and artillery. This process can be completed in 15 person-minutes.

Scrubber and reservoir: This is a brush with a hose connected to a jerry-can type reservoir holding cleaning solution. In use, the brush is scrubbed against the contaminated surface while cleaning solution is injected into the brush and over the contaminated surface. One reservoir is usually sufficient to decontaminate an APC in 1 person-hour. A supply of pressurized water is required.

Low pressure sprayer: A pressurized fire-extinguisher-type dispenser filled with decontamination chemicals. This is used for quick decontamination of essential surfaces until a more thorough cleaning can be done.

High pressure sprayer: This is a nozzle connected to a high pressure pump, which directs a pressurized spray of water or a cleaning solution at a contaminated vehicle. This is designed to decontaminate large AFVs and surfaces and will take up to 30 person-minutes for an AFV or 200 hex area.

Steam trailer: This is a water heating system which can provide steam jets or warm water showers for troops to wash contaminants off themselves. This usually takes about 5 person-minutes.

Jet Decontamination System: Warsaw Pact nations have mounted turbojet engines on truck chassis and pump cleaning solvents into the hot jet exhaust to create a hot, high-pressure sprayer. Working in tandem, these units can completely decontaminate an entire AFV in 3 minutes.

TREATMENT:

The treatment of casualties is detailed in the specific chapters on Chemical and Biological Agents. However, there are certain methods which are widely distributed among troops and are essentially first aid for CBW casualties. These can, in many cases, stabilize the patient until more effective treatment can arrive. The various types are detailed below with the number of AC required to use them.

Pralidoxime Mesylate Tablets:(AC: N/A) These are tablets currently used by British forces in cases where chemical attacks are likely. They are issued in day-packs of 4 tablets, with one tablet being ingested every six hours. The combatant who has been using these tablets for at least six hours is able to divide the dosage of Nerve Agents he takes by a factor of 4. This effect ends six hours after the last pill was taken.

Atropine Autoinjectors: (3 AC + 5 seconds) This is the most common type

of first aid for nerve agent poisoning. It is issued to every combatant likely to be in a CBW environment. The Atropine autoinjector consists of a retractable hypodermic needle capable of penetrating the thick fabrics of a protective coverall and injecting the combatant with a premeasured dose of atropine, or atropine and diazepam. Each unit can provide a maximum of three doses. In practice, the person showing symptoms of nerve agent poisoning removes a safety cap and presses the autoinjector against his thigh and holds it there for 5 seconds while the injection takes place. He then swallows a diazepam tablet and repeats the injection/tablet therapy every 15 minutes for as long as the symptoms persist. The repeated dosages are regarded as one treatment for rules purposes. Newer autoinjectors dispense with the tablet. Note that the injection of atropine prior to showing the symptoms of nerve agent poisoning will make the person ill and incapacitate them. Atropine is highly poisonous.

Protective Ointment: (10 AC for face or hands, up to 45 AC for the entire body.) This is a cream which is applied to the skin of a person contaminated by mustard gas. The cream soothes the symptoms and deactivates the mustard gas still on the skin. The ointment is issued in small tubes, each sufficient for 1 person.

[Send comments.](#)

PHOENIX COMMAND

Chemical Agents

Chemical Agents

For game purposes, a chemical agent is defined as a non-living substance which can interfere with or otherwise alter the functioning of a living organism. This page details the effects of a number of agents which are most likely to be encountered on a contemporary battlefield. The following rules cover the effects and treatment of chemical agents.

Chapter Links

- [Toxification Rules](#)
- [Effects of agents: Symptoms](#)
- [Riot Control Agents](#)
- [Blood Agents](#)
- [Blister Agents](#)
- [Choking Agents](#)
- [Incapacitation Agents](#)
- [Nerve Agents](#)
- [Biological Toxins](#)
- [Defoliants](#)

Toxification Rules -- Administration of Agents:

The basic unit of a chemical agent is a standard dose, which is a unit of biological effect. One standard dose of any agent is normally sufficient to induce a reaction in 80% of the human population. Increasing the number of standard doses administered will generate more advanced symptoms like coma and death, and will advance the rate of the appearance of symptoms as well. Because of the varying effectiveness of agents, the size of the standard dose changes tremendously from agent to agent.

Usually, a standard dose enters the combatant's body when he is exposed to a chemical cloud or a contaminated area. To determine the number of standard doses a combatant will take in a CW attack, index the CNC (modified for any protective measures the combatant is using -- Sec. 1.6) of the contaminated area or gas cloud at the combatant's location with the agent being used on the [Chemical Agent Effects Table](#).

A "1" followed by a slash and a dash means that after the first minute of exposure, the combatant will take one dose and will not take another for as long as the symptoms last.

A "1" followed by a slash and another number means that the combatant will take one dose after the first minute, and will continue to take one more dose each time a number of minutes equal to

the second number has elapsed, given that he remains exposed to the agent. An unasterisked number gives the amount of standard doses an unprotected combatant will take for every minute of exposure. If the number is followed by an asterisk, then the number gives the standard doses taken every ten phases, and a number followed by a double asterisk gives the number of standard doses per phase. Note, on single or double asterisked numbers, if exposure is less than ten phases or one phase respectively, gamemasters should prorate the dosage for the actual amount of exposure time.

Example: Donovan suddenly finds himself in the middle of a VR-55 cloud inside a warehouse as a cannister ruptures. The gamemaster states that the entire warehouse floor is covered by a weak VR-55 cloud to a CNC of 5. At this CNC, the dosage from skin absorption is 7*, or 7 doses every ten phases. Donovan quickly runs for the exit and leaves the cloud three phases later. The gamemaster prorates the number of doses taken by Donovan's exposure for 3 phases, so Donovan suffers 3 Phases * Dosage of 7 / 10 Phases = 2.1, rounded to 2 doses.

Effects of Agents: Symptoms

An agent will usually progress through asymptomatic, early symptomatic, and advanced symptomatic phases. The strength of these phases and their speed of advance from one phase to the next can be altered by the number of doses taken by the combatant. If a combatant receives higher doses, the likelihood that he will progress to the next symptomatic phase is greater.

A combatant enters the asymptomatic phase automatically ten phases after exposure. The progress of the agent to higher phases can be stopped by making a Toxic Recovery Roll (TRR). This roll depends on the number of doses administered, the health of the target, and any treatment applied. The Base TRR is found on the Toxicity Table by indexing the level of symptoms with the number of doses administered as of a certain time.

Add the Base TRR to the target's current HLT level and any applicable treatment modifiers. Round the current HLT to the nearest whole number. If a 00-99 roll is less than this number, then the progress of the agent is arrested. Otherwise, the agent continues to the next phase of symptoms.

$$\text{TRR} = \text{Base TRR} + \text{Current HLT} + \text{Treatment Modifiers}$$

Timing:

All agents require time to work their effects. To model the time required for a chemical agent to force the appearance of advancing symptoms, a system of interval times (IT) is used. The IT is the amount of time required for the next higher level of symptoms to manifest.

A combatant has ten combat phases (20 seconds) before he enters the asymptomatic phase. The total number of doses taken during these ten combat phases determines the length of the asymptomatic phase. The asymptomatic phase length is calculated by taking the Asymptomatic IT listed for each agent in the Agent Lists at the end of this section, and multiplying it by the IT Multiplier for the number of standard doses of agent administered and the method of administration. The IT multiplier is found on the Toxicity Table below.

$$\text{Asymptomatic phase length} = \text{Asymptomatic IT} * \text{IT Multiplier}$$

No symptoms appear during the asymptomatic phase. At the end of the asymptomatic phase, a

TRR is rolled. If the TRR is successful, the progress of the agent is arrested and there are no further ill effects. The value for Base TRR is taken from the "Asymptom." column of the Toxicity Table and the dosage level is equal to the total number of doses taken up to the end of the asymptomatic phase.

Because of the lack of symptoms, a medic will be unable to make a diagnosis as to the agent. However, medics can initiate a treatment if circumstances indicate the nature of the agent.

Example: Donovan (HLT = 14) has taken two doses of VR-55, a nerve agent, in ten phases of exposure. The length of the asymptomatic period is 10 phases * 0.7 for an inhaled method of administration = 7 phases. Seven phases after the ten phase "grace period," Donovan must roll a TRR to avoid having his symptoms progress to the early symptomatic phase. His TRR = Base TRR of -16 + HLT of 14 + Treatment Modifiers (none yet, so zero) for a TRR of -2. Donovan automatically proceeds to the next stage of symptoms.

If the first TRR is failed, then the victim enters the early symptomatic phase at the end of the asymptomatic phase. The early symptomatic phase lasts a length of time equal to the Early Symptomatic IT multiplied by the IT multiplier for the total number of doses taken up to the end of the asymptomatic phase. During the early symptomatic phase, the combatant suffers the effects listed under the Early Symptoms field of the agent listing.

At the end of the early symptomatic phase, the combatant makes another TRR. Success in this TRR means that the progress of the agent is arrested and will remain at the early symptoms level of effect until the end of the early symptomatic phase. The victim will then suffer a debility for the listed Healing Time (HT). Failure of this TRR means that symptoms advance to the advanced symptoms level. Note that the Base TRR value is taken from the "Early" column of the Toxicity Table. The dosage level is

equal to the total number of doses taken up to the end of the early symptomatic phase.

Example: Donovan is now showing early symptoms and normally would continue to do so for (7 * IT mult of 0.7 = 4.9 minutes). But, at the start of this phase, he treats himself with atropine and diazepam from an autoinjector and automatically becomes incapacitated from the atropine/diazepam effects. However, the atropine allows him to avoid the effects of the VR-55 for the duration of the early symptomatic phase. The atropine extends this phase for 4 hours, so four hours, 4.9 minutes later, Donovan makes his second TRR at Base of 6 + HLT of 20 + Treatment modifier of 20 = 46. Donovan rolls a 79 and fails, so he goes to the advanced symptomatic phase.

If the second TRR is failed, then the toxicity advances to the advanced symptomatic phase at the end of the early symptomatic phase. The victim still suffers the early symptoms and suffers the advanced symptoms in addition. These symptoms last for the amount of time in brackets multiplied by the IT multiplier with the dosage level being equal to the total number of doses taken up to the end of the early symptomatic phase.

At the end of the advanced symptomatic phase, the victim makes a final TRR. Success in this TRR means that the progress of the agent is arrested and will remain at the advanced symptoms level of effect until the end of the advanced symptomatic phase. The victim will then suffer a debility for the listed Healing Time (HT). Failure of this TRR means that the victim succumbs to the agent and dies. Note that the Base TRR value is taken from the "Advanced" column of the Toxicity Table and the dosage level is equal to the total number of doses taken up to the end of the advanced symptomatic phase.

Example: Donovan has suffered through the early symptoms and his symptoms would normally get worse to include all the early symptoms as well as the advanced symptoms.

He has also been med-evacked to a hospital facility where they have atropinized him and are treating him with nerve gas antidotes called reactivators. It is the atropine that allows him to avoid the convulsions and paralysis associated with the advanced symptomatic phase of VR-55. With the constant atropinization at the hospital, Donovan could extend the advanced symptomatic phase for up to 72 hours plus the allowed time for the phase, which is: $(15 + (\text{random roll of } 7) = 22 \text{ minutes}) * \text{IT multiplier of } 0.7 = 15.4 \text{ minutes}$.

With the consent of the gamemaster, Donovan quick-time role plays through his treatment at the hospital and makes his final TRR. He needs to roll: Base of 49 + HLT of 14 + Treatment Modifiers of (30 for relieve symptoms (atropine) + 5 for the antidote) = 98. Donovan rolls 34 and survives. He will now be debilitated for 28 days as he heals from his exposure.

If the victim survives the agent after undergoing either the early or advanced symptomatic phases, then the victim suffers a debility for the listed healing time. This debility manifests itself by making the character fatigued. Also, if the character suffered physical damage in the administration of the agent, then the injured areas remain painful.

TOXICITY TABLE

Standard		Base TRR		IT Mult.		
Doses	Asympt	Early	Advanced	Inh/Inj	SkA	Ing
1	11	36	88	1	1	1
2	-16	6	49	0.7	0.9	0.9
3	-32	-11	26	0.6	0.8	0.9
4	-43	-24	10	0.5	0.7	0.9
5	-52	-33	-3	0.4	0.7	0.8
6	-59	-41	-13	0.4	0.6	0.8
8	-70	-54	-29	0.4	0.5	0.8
10	-79	-64	-42	0.3	0.5	0.8
12	-86	-71	-52	0.3	0.5	0.8
14	-92	-78	-61	0.3	0.4	0.8
17	-100	-87	-72	0.2	0.4	0.8
20	-106	-94	-81	0.2	0.3	0.7
24	-113	-102	-91	0.2	0.3	0.7
30	Auto	-111	-104	0.1	0.3	0.7
36	Auto	-119	-114	0.1	0.2	0.7
42+	Auto	Auto	Auto	0.1	0.2	0.7

Notes:

Inh/Inj -- Inhaled/Injected method of administration. Agent enters the bloodstream directly or

through the lungs.

SkA -- Skin absorption. The agent enters the bloodstream by passing through the combatant's skin. If the combatant is not wearing a gas mask and is inhaling the agent, then treat the method of administration as being inhaled/injected.

Ing -- Ingested method of administration. The agent enters the bloodstream through the stomach. Not used in CBW warfare.

Treatment of Agents:

Treatment modifiers are given in parenthesis for the Asymptomatic / Early Symptomatic / Advanced Symptomatic phases respectively.

Antidote (40/20/5) Antidotes are a program of pharmaceuticals which neutralize the agent. They must be manufactured in medical labs of Tech Level 13 or higher and are agent specific. Very few agents have specific antidotes. An example of antidote therapy is the reactivator treatment of nerve agents.

Decontamination (40/30/10) Decontamination is the use of special chemicals to neutralize and remove contaminants from the skin surface. This method is only effective against agents which attack the skin or are absorbed through it. Included in this category is the decontaminating ointment used to soothe the effects of mustard gas poisoning.

Relieve Symptoms (0/20/30) This is the use of pharmaceuticals or physical means to alleviate the victims pain and control his symptoms. For some of the more psychoactive agents, it also involves reducing external stimuli. Also, some agents which produce respiratory difficulty will require oxygen to be given to the victim. The atropine autoinjector therapy for nerve agent poisoning also falls into this category.

Washing (30/15/5) Washing is the use of water or other liquid to remove chemical agents from the skin surface. This method is effective against agents which either attack the skin or are absorbed through it.

Riot Control Agents

Riot control agents are low-lethality chemicals designed to cause extremely irritating symptoms in targeted personnel. Their primary use is the control of people in situations where the users are not averse to causing pain and other irritation to those people. The pain and irritation is so great that those exposed will attempt to leave the area where the agent was dispersed.

As the name suggests, riot control agents are commonly used to disperse rioting mobs of people and drive them away from crucial areas or riot control personnel. They are also used by civil authorities to drive criminals or other people out of buildings or shelters or away from behind barricades.

Riot control agents are broken down into lachrymators (causing tears), sternutators (causing sneezing), orticants (causing itching), and vomiting agents. Lachrymators and vomiting agents are the most common. Lachrymators are designed to cause sufficient pain and irritation to force people to leave an area. The harsher vomiting agents are designed to incapacitate. Both can kill in sufficient dosage. The most common types of riot control agents are described below.

Designation: CA

Common Name: Camite

Chemical Name: Brombenzylcyanide

Toxic by: Inhalation

Odor: Sour Fruit

Persistent: No.

Asymptomatic Period: 5 phases.

Early Symptoms [15 Minutes]: Irritation of eyes and mucous membranes, causing tears and nausea. Retching. Vomiting. Tightness in the chest and possible swelling of lung tissues. Involuntary blinking.

Advanced Symptoms [20 Minutes]: Incapacitation. Possible damage to eyes, mucous membranes, and lungs.

Treatment: Remove from exposure. Wash. Relieve symptoms.

HT: 3 days

Notes: Lachrymator. CA is a highly potent irritant, causing effects which are much more severe than other lachrymators. It is not very common due to its potency.

Designation: CN

Common Name: Tear Gas / CAP

Chemical Name: Chloracetophenone

Toxic by: Inhalation

Odor: Apple Blossoms

Persistent: No. However, this can be absorbed by fabrics in the area and anyone touching these fabrics will be attacked at CNC = 1 until the agent is removed by cleaning.

Asymptomatic Period: 5 Phases

Early Symptoms [15 Minutes]: Severe irritation of the eyes and mucous membranes, causing tears and nausea. Severe irritation of the upper respiratory tract, causing secretion of saliva and mucous. Coughing. Involuntary blinking.

Advanced Symptoms [15 Minutes]: Pain in lungs. Retching. Vomiting. Incapacitation. Possible damage to lungs, possible damage to kidneys.

Treatment: Remove from exposure. Wash. Relieve symptoms.

HT: 1 Day

Notes: Lachrymator. CN is a very common formulation of tear gas, although it has for the most part been supplanted in use by CS. It is designed as a very low-lethality crowd control agent and can still be found in the inventories of North American and Western European police departments. It has been inventoried by US military and police and other authorities since 1918, and it was supplied to ARVN forces (along with CS and DM) by the US government during the Vietnam war. It is currently being marketed as a personal defence aerosol.

Designation: CS

Common Name: Tear Gas / Pepper Gas

Chemical Name: Orthochlorbenzalmalononitrile

Toxic by: Inhalation

Odor: Pepper

Persistent: No. However, this can be absorbed by fabrics and anyone touching these fabrics will be attacked at CNC = 1 until the agent is removed by cleaning.

Asymptomatic Period: 2 Phases

Early Symptoms [15 Minutes]: Burning Pain and tearing of the eyes. Involuntary blinking. Runny Nose. Coughing. Nausea.

Advanced Symptoms [15 Minutes]: Vomiting. Retching. Incapacitation. Possible lung and kidney damage.

Treatment: Remove from exposure. Wash. Relieve symptoms.

HT: 1 Day.

Notes: Lachrymator. CS was first developed in 1928 and has become the most common riot control agent in North America and Europe. It is much more potent and faster acting than CN or CA, but is supposedly less lethal. This agent can be found in a wide variety of delivery systems in a vast number of police and military forces and is even marketed as a personal defence aerosol.

Designation: DA

Common Name: None

Chemical Name: Diphenylchlorarsine

Toxic by: Inhalation

Odor: Pepper.

Persistent: No.

Asymptomatic Period: 14 + (6) Minutes

Early Symptoms [30 Minutes]: Intense burning pain in nose and throat. Tightness and pain in the chest. Uncontrollable coughing and sneezing. Runny nose and thick saliva in mouth. Giddiness. Faintness.

Advanced Symptoms [2 Hours]: Nausea. Vomiting. Incapacitation. Possible mental depression.

Treatment: Remove from exposure. Wash. Relieve symptoms.

HT: 1 Day.

Notes: Vomiting Agent. First developed in World War I, it has mainly been supplanted by DM, which is easier to prepare and just as potent. It is used as a severe riot control agent in situations where deaths among the targets are acceptable. This is normally dispersed in a white smokescreen, but it is colorless on dilution with air.

Designation: DM

Common Name: Adamsite

Chemical Name: 10 chloro-5, 10 dihydrochlorphenarsazine

Toxic by: Inhalation

Odor: Pepper

Persistent: No.

Asymptomatic Period: 14 + (6) Minutes

Early Symptoms [15 Minutes]: Intense burning pain in nose and throat. Tightness and pain in the chest. Uncontrollable coughing and sneezing. Runny nose and thick saliva in mouth. Giddiness. Faintness.

Advanced Symptoms [2 Hours]: Nausea. Vomiting. Incapacitation. Possible mental depression.

Treatment: Remove from exposure. Wash. Relieve symptoms.

HT: 1 Day

Notes: Vomiting Agent. This agent is the preferred crowd control agent of the Soviet Union and it has replaced DA in most inventories. It is a highly potent, and is used as a severe riot-control agent where deaths among the targets are acceptable. It was used in Vietnam against tunnel complexes. In such confined areas, the concentrations can become highly lethal. This agent is normally dispersed in a yellow smokescreen, but is colorless on dilution with air.

Designation: CN/DM mixture

Common Name: "Super" Tear Gas

Chemical Name: See individual entries.

Toxic by: Inhalation

Odor: Pepper/Appleblossoms

Persistent: No.

Asymptomatic Period: 5 phases

Early Symptoms [30 Minutes]: Severe burning pain in eyes and throat. Tearing of eyes and runny nose. Tightness and pain in the chest. Nausea. Uncontrollable coughing and sneezing. Thick saliva. Incapacitation after 15 minutes. Giddiness.

Advanced Symptoms [2 Hours]: Vomiting. Possible mental depression.

Treatment: Remove from exposure. Wash. Relieve symptoms.

HT: 1 Day

Notes: This is a combination of CN and DM and was used by American forces in Vietnam. It is still in use by military forces. This is an extremely severe crowd control agent and the combined agents are more effective and more lethal than each agent individually. It is not intended as a crowd control agent unless deaths and other injuries are acceptable. Because of this, it has been relegated to counterinsurgency use.

Blood Agents

Blood agents are a legacy from World War I, where they were used extensively. They proved very difficult to handle as some were unable to be properly dispersed and all were able to penetrate the gas masks of the day. At CNCs greater than 7, they will penetrate all modern gas masks (attack at CNC minus 6), and at a CNC greater than 10, they will penetrate any air filtration system (attack at CNC minus 9). Only special filters which are proof against these agents will keep them from penetrating. Although blood agents are not stockpiled to the same extent as nerve agents and others, they are still considered potential CW weapons by all militaries. Blood agents work by interfering with the oxygen circulation in the bloodstream. They also paralyze the respiratory centre in the brain and force the circulatory system to fail. The victim dies quite suddenly of asphyxiation and circulatory failure.

Designation: AC

Common Name: Prussic Acid

Chemical Name: Hydrogen Cyanide / Hydrocyanic Acid

Toxic by: Inhalation

Odor: Very faint scent of Peach Pits or Bitter almonds.

Persistent: No.

Asymptomatic Period: 10 minutes

Early Symptoms [10 Minutes]: Uneasiness. Vertigo. Deep, heavy breathing. Nausea. Headaches. Uncontrollable blinking.

Advanced Symptoms [10 Minutes]: Unconsciousness. Convulsions.

Treatment: Antidote. Relieve symptoms.

HT: 5 Days.

Notes: This was used by the French forces against the Germans to surprisingly little effect in World War I. However, the formula has been improved since then to make this agent highly lethal. In sufficient concentrations, death is almost immediate. Low concentrations have little aftereffect on survivors, while very high concentrations may cause permanent mental damage because of the oxygen-blocking action. This may manifest as irrationality, diminished reflexes, and unsteadiness that may last for weeks or years.

Designation:CK

Common Name: None

Chemical Name: Cyanogen Chloride

Toxic by: Inhalation

Odor: Pungent, biting odor

Persistent: No.

Asymptomatic Period: 5 Minutes.

Early Symptoms [10 Minutes]: Immediate, intense irritation of the eyes, nose, and throat. Tears produced. Coughing. Tightness in the chest. Dizziness.

Advanced Symptoms [20 Minutes]: Unconsciousness. Convulsions, retching. Involuntary urination and defecation.

Treatment: Antidote. Relieve symptoms.

HT: 7 Days. Survivors may have chest pains, persistent cough, severely labored breathing, and cyanosis (blue skin resulting from a lack of oxygen. Normally manifesting around the fingernails.)

Notes: This lethal agent is unlikely to be used in warfare because the strong irritant action gives warning to the targets that they are under CW attack. Nevertheless, the agent is stockpiled. Like AC, the potential exists for permanent mental damage due to the oxygen-blocking action.

Blister Agents

Blister agents, or vesicants, have a characteristic action by causing blistering or burns, and thus destruction, of any contacted animal cells. Skin contact causes these characteristic and painful blisters and burns to develop a few hours following exposure. A similar process happens with eye contact, and the blistering and irritation can lead to a temporary blindness or permanent eye damage. If the blister agent is inhaled, the sensitive tissues in the respiratory tract and lungs are attacked and blistered, leading to fluid in the lungs and death. Finally, ingestion of the blister agent, through eating of contaminated food or drinking of contaminated water, can lead to a slow poisoning of the victim. In order to remain unaffected in a blister agent attack, the combatant must be wearing the full NBC coverall (including a gas mask) or be housed in an NBC-shielded vehicle or building. Avoiding any contact at all with the agent is imperative.

As a guideline, the effects can be classified as skin, eye, respiratory, and intestinal effects. A person without any protection will be exposed to skin, eye, and respiratory effects. A person wearing a coverall, but without a gas mask will also be exposed to eye and respiratory effects, but skin effects will be limited to a smaller area. A person wearing a gas mask, but no coverall, would be exposed to skin effects only, but over much of his body. Finally, a person would be exposed to intestinal effects only if he ate or drank contaminated food or liquid. The various symptoms for each effects class are listed separately in each entry. Gamemasters should determine which effects apply to each casualty and administer those effects at the appropriate time.

Skin Contact:

The amount of damage caused by the blister agents in skin contact will vary according to the amount of exposed skin. Each entry will provide a PD value for each percent of skin contacted. This is the amount of PD each character suffers from burns for each 1% of skin surface contacted by the blister agent. So, if a character suffered mustard gas burns to one hand, he would take 2% * 4PD or 8 PD. The following table provides a list of skin areas and their relative percentages.

Body Part Skin Percentage

Face 3%

Rest of Head & Neck 6%

Front Torso 18%

Back Torso 18%

Groin/Genitals 1%

Each Arm (Front & Back) 7%

Each Hand (Front & Back) 2%

Each Leg (Front & Back) 7%

Each Foot (Front & Back) 2%

A tear or bullet-sized hole in the CBW coverall or mask will expose roughly 1% of skin per tear.

The gamemasters should adjust this upwards for larger tears.

Background:

Blister agents consist primarily of the mustard gas group of chemicals, which were first synthesized in 1859, and saw widespread use in World War I, although the effects were limited by the delivery systems used. With the improvement in delivery systems since World War I, mustard gas has become much more dangerous to combatants and has remained in several nation's inventories. In fact, it was used as late as 1985 by Iraq in the Iran-Iraq war and Iraq has continued to threaten to use it against its enemies in the Persian Gulf region.

As evidenced by Iraqi actions, blister agents remain likely to be used in a future conflict. They can be dispersed from shells and by aerial spraying, and their persistence means that they can continue killing for weeks after the initial attack.

Persistence is a special feature of blister agents. Blister agents are dispersed in the form of liquid, which soaks the ground and targets in the area. The liquid will evaporate over time and is not completely neutralized until it has evaporated. The liquid can also be captured by soil and plants and prevented from evaporation. In the Argonne region, the plants and soil still retain concentrations of mustard gas fired in German shells during the later years of World War I. Careless civilians in the area are still burned by the mustard gas laid down more than seventy years ago.

Designation:HD or H

Common Name: Mustard Gas / Distilled Mustard / Sulphur Mustard

Chemical Name: Bis (2-chloroethyl) sulphide

Toxic by: Skin Absorption or Ingestion.

Odor: Garlic or horseradish (faint)

Persistent: Yes. PM = 1.5

Asymptomatic Period: 3 + (6) Hours

Early Symptoms: [10+(5) Hours]

Eyes: The eyes begin tearing and feel gritty. This is followed by minor swelling of the eye surface.

Skin: The skin surface turns red, resembling a sunburn in appearance and pain. This is followed in the latter half of the early symptomatic phase by the formation of large, extremely painful blisters.

Blisters are the worst in damp, moist areas of the skin, such as armpits, genitals, and folds of the skin. The casualty takes 4 PD for each percent of skin exposed upon formation of the blisters.

Respiratory: Cough and hoarseness which may develop to loss of voice. Increased mucous production in throat and lungs.

Intestinal: Abdominal pain, nausea, vomiting, and diarrhea.

Advanced Symptoms: [1+(2) Days]

Eyes: Severe blistering and pain which will result in temporary obstruction of vision during this phase. Some destruction of eye tissues and further swelling may occur. Eyes will be very sensitive to light. If the eyes have been exposed, a failed TRR at the end of this phase will mean vision impairment for 3 + (3) months. A person will never die as a result of only having the eyes contacted by mustard gas.

Skin: Severe blistering with some destruction of skin. Also malaise, vomiting, and fever will occur and may advance to heart irregularities and cerebral depression. A failed TRR at the end of this period means the casualty dies.

Respiratory: Fever, labored and noisy breathing, and the possible development of fluid in and inflammation of the lungs. A failed TRR at the end of this period means the casualty dies.

Intestinal:[1+(2) Days]: Fever, malaise, and vomiting which may advance to heart

irregularities and cerebral depression. A failed TRR at the end of this period means the casualty dies.

Treatment: Decontamination or Washing. Relieve Symptoms. Antidote.

HT: Special. Skin injuries heal slowly, so take total PD of skin injuries and determine HT from the Medical Aid and Recovery Table (5A) of Phoenix Command, and multiply that HT by 5. Other effects will usually heal in 3+(3) weeks.

Notes: Vesicant. H (Mustard) and HD (Distilled Mustard) are part of the sulphurous mustard family and remain quite common among various militaries. They are likely to be used in a future war involving CW weapons.

Both H and HD are almost indistinguishable in effect from one another. H is an earlier formulation which was used in World War I and stockpiled in World War II as HT, a 60/40 mixture of H and T. HD is the formula currently stockpiled by most CW-capable militaries.

Repeated exposures are cumulative if they occur during the symptomatic time.

Gamemasters should use the HD and H entry to determine the effects of Q and T. The symptoms of Q and T are identical to HD and H. Q is the designation for sesqui mustard (1,2 Bis (2-chloroethylthio) ethane). T has no common name, but is 1,2 Bis (2-chloroethylthioethyl) ether. Both of these are more potent than HD or H, and these may be stockpiled. There is no evidence to indicate the extent of stockpiling of Q and T, but it is suspected that they are less common than HD or H.

Designation:HN

Common Name: Nitrogen Mustard

Chemical Name: Tris (2-chloroethyl) amine

Toxic by: Skin Absorption or Ingestion.

Odor: Fish (faint), or odorless

Persistent: Yes. PM = 1.5

Asymptomatic Period: (3) * 20 Minutes

Early Symptoms: [10+(5) Hours]

Eyes: The eyes begin tearing and feel gritty. This is followed by minor swelling of the eye surface.

Skin: The skin surface turns red, resembling a sunburn in appearance and pain. This is followed in the latter half of the early symptomatic phase by the formation of large, extremely painful blisters. The casualty takes 4 PD for each percent of skin exposed upon formation of the blisters.

Respiratory: Cough and hoarseness which may develop to loss of voice. Increased mucous production in throat and lungs.

Intestinal: Abdominal pain, nausea, vomiting, and diarrhea.

Advanced Symptoms: [1+(2) Days]

Eyes: Severe blistering and pain which will result in temporary obstruction of vision during this phase. Some destruction of eye tissues and further swelling may occur. Eyes will be very sensitive to light. If the eyes have been exposed, a failed TRR at the end of this phase will mean vision impairment for 3 + (3) months. A person will never die as a result of only having the eyes contacted by mustard gas.

Skin: Severe blistering with some destruction of skin. Also malaise, vomiting, and fever will occur and may advance to heart irregularities and cerebral depression. Also, blood and lymph tissues are affected, and may progress to anemia. A failed TRR at the end of this period means the casualty dies.

Respiratory: Fever, labored and noisy breathing, and the possible development of fluid in and inflammation of the lungs. Also, blood and lymph tissues are affected, and may progress to anemia. A failed TRR at the end of this period means the casualty dies.

Intestinal: Fever, malaise, and vomiting which may advance to heart irregularities and cerebral depression. A failed TRR at the end of this period means the casualty dies.

Treatment: Decontamination or Washing. Relieve Symptoms. Antidote.

HT: Special. Skin injuries heal slowly, so take total PD of skin injuries and determine HT from the Medical Aid and Recovery Table (5A) of Phoenix Command, and multiply that HT by 5. Other effects will usually heal in 3+(3) weeks.

Notes: Vesicant. HN-1, HN-2, and HN-3 are variations on the nitrogen mustard formulation. They are faster acting than the sulphur mustards and generally produce similar effects to the sulphur mustards. Nitrogen mustards, for unclear reasons, also have certain effects on the blood and white blood cells. Although stockpiled during World War II, the HN series of agents is not expected to be encountered on a modern battlefield.

Designation: CX

Common Name: Phosgene Oxime

Chemical Name: Dichloroformoxime

Toxic by: Skin Contact

Persistent: Yes. PM=1

Odor: Very disagreeable, penetrating odor.

Asymptomatic Period: 10+(5) Phases

Early Symptoms: [30 Minutes]: Extreme, stinging pain in contacted areas, causing 2 PD per skin percentage contacted. Tearing of eyes. Contacted areas form welts. If inhaled, then similar pains encountered in respiratory tract.

Advanced Symptoms: [36 Hours]: Welts develop into blisters, causing a further 2 PD per skin percentage contacted. Swelling in lungs starts, followed by nausea. Overall cyanosis followed by difficulty breathing. Breathing is noisy, and a white or yellow froth may fill the lungs.

Treatment: Wash. Relieve Symptoms

HT: 2 Months, with persistent itching and scarring of contaminated areas.

Notes: Vesicant/Choking Agent. CX is often referred to as a nettle gas, because of its highly painful method of skin attack, likened to "being thrown into a bed of stinging nettles." CX also has the asphyxiating effect of phosgene gas in higher concentrations. CX was first considered in the 1930s by the Germans, and is said to have been stockpiled by the Soviets during World War II. The extreme pain associated with contact means that this agent would not be used on a modern battlefield, where a more insidious, non-irritating method is preferred to maximize exposure and casualties. It could be used in the counter-insurgency role, where the irritation would actually help in incapacitating guerrilla forces. Whether CX is presently stockpiled is unknown.

Arsenical vesicants are uncommon. They work as a systemic poison by penetrating the skin and causing arsenic-like symptoms.

Designation: ED

Common Name: The Dicks

Chemical Name: Ethyldichlorarsine

Toxic by: Skin Absorption

Persistent: Yes. PM = 0.1

Odor: Fruity smell.

Asymptomatic Period: 10 Phases

Early Symptoms [24 Hours]: Itching and irritation of the skin along with the development of painful blisters. Skin turns a dead grey in exposed areas. If the eyes are exposed, they will also be irritated and will close due to swelling in the first hour. If inhaled, then coughing and hoarseness, along with pain in the respiratory tract appears. 3 PD for percentage of exposed skin.

Advanced Symptoms [48 Hours]: Symptoms persist, with pain slowly fading. Symptoms include shock (cold skin and cyanosis resulting from improper blood flow), diarrhea,

restlessness, weakness, and subnormal temperature.

Treatment: Decontamination or Wash. Relieve Symptoms. Antidote.

HT: 5 Days. Skin blisters and burns take normal PD HT * 5 to heal.

Notes: Arsenical Vesicant. ED was developed by the Germans in World War I. It is unlikely to be stockpiled or used in a future conflict. ED is listed in reference sources as being persistent, but on the order of 2-3 hours, making it almost useless for area denial. Also, water degrades the effectiveness of ED, making the agent effectively non-persistent in moist climates, and useless in rainy weather.

Designation:L

Common Name: Lewisite

Chemical Name: Chlorvinyl Dichlorarsine

Toxic by: Skin Absorption

Persistent: Yes. PM = 1.

Odor: Sharp smell of Geraniums

Asymptomatic Period: 10 Phases

Early Symptoms [24 Hours]: Stinging and itching of the skin along with the development of painful blisters. Blisters cause 5 PD for each percentage of exposed skin. Skin turns a dead grey in exposed areas. If the eyes are exposed, they will also be irritated and will close due to swelling of the lids in the first hour. If inhaled, then coughing and hoarseness, along with pain in the respiratory tract appears--similar to riot control agents.

Advanced Symptoms [36 Hours]: Symptoms persist, with pain slowly fading. Symptoms include shock (cold skin and cyanosis resulting from improper blood flow), diarrhea, restlessness, weakness, and subnormal temperature.

Treatment: Decontamination or Wash. Relieve Symptoms. Antidote.

HT: 5 Days. Skin blisters and burns take normal PD HT * 5 to heal. Note, in large concentrations, permanent eye damage can occur if the eyes have been exposed.

Notes: Arsenical Vesicant. Lewisite is very similar in effects to ED and has similar weaknesses. L has substantially reduced effectiveness in moist climates and rainy weather. It was developed by the Americans in the later part of World War I but never used in that conflict. During World War II, an antidote cream was developed: British Anti-Lewisite or 2,3-dimercaptopropanol, more commonly called BAL. BAL is also effective against ED. Lewisite is still stockpiled by some minor CW-capable militaries, and it was used by Iraq in the Iran-Iraq war.

Choking Agents

Choking agents were developed in World War I, and were some of the most lethal agents used in that war. However, over time, they have been supplanted by other, more potent agents so they are very rarely stockpiled. They are not expected to be used on the battlefield, and are easy to counter with contemporary gas masks and filtration systems.

Choking agents work on the respiratory tract of a combatant by destroying its ability to transfer oxygen to the blood. Some even work by destroying the respiratory tract itself. The end result is that the exposed combatant asphyxiates.

Designation:CL

Common Name: Chlorine Gas

Chemical Name: Chlorine

Toxic by: Inhalation

Persistent: No.

Odor: Smell of bleach.

Asymptomatic Period: 10 Phases

Early Symptoms [(4) Hours]: Coughing and tearing. Strong burning and irritation of the respiratory tract. Pain in chest and difficulty breathing.

Advanced Symptoms [(3) Days]: Symptoms grow worse. Drowsiness. Skin takes on a bluish or greyish cast cyanosis (lack of oxygen). Lungs expel a frothy yellow-pinkish fluid as lung alveoli are ruptured. Rapid, shallow breathing. Blood thickens, causing heart difficulty.

Treatment: Remove from exposure. Rest. Relieve Symptoms.

HT: 4 Days. During healing, respiratory symptoms will continue, but diminish with time.

Notes: Chlorine was the first gas used by the Germans in World War I. It remained in use for a short time until the Allied powers were able to develop effective mask filters to counter the effects. Presently, Chlorine is not stockpiled by any CW-capable nation and is not expected to be used in any future conflict. This does not mean that it could not be used in a terrorist or low-intensity conflict as an expedient terror weapon.

Chlorine is dispersed in a pale yellow-green cloud and can be released through groundburst explosions, aerial spraying, or cylinders. Effective protection is provided by any gas mask developed after 1915.

Designation:PS

Common Name: Chlorpicrin

Chemical Name: Chlorpicrin.

Toxic by: Inhalation.

Persistent: No.

Odor: Pungent odor.

Asymptomatic Period: 5 + (3) Minutes

Early Symptoms [4 Hours]: Coughing and tearing. Strong burning and irritation of the respiratory tract. Pain in chest and difficulty breathing.

Advanced Symptoms [(3) Days]: Symptoms grow worse. Drowsiness. Skin takes on a bluish or greyish cast from lack of oxygen. Lungs expel a frothy yellow-pinkish fluid as lung alveoli are ruptured. Rapid, shallow breathing. Blood thickens, causing heart difficulty.

Treatment: Remove from exposure. Rest. Relieve Symptoms.

HT: 5 Days

Notes: Chlorpicrin is an obscure agent which was developed in World War I and kept available in World War II. It is not expected to be presently stockpiled by any nation. Chlorpicrin has the strongest irritant action of any of the choking agents and is noted as a strong lachrymator. It is also noted for its cumulative action of progressively increasing susceptibility. Gamemasters may wish to reduce a combatant's TRR roll by (5) percentiles for each previous exposure within the prior month.

Designation:CG

Common Name: Phosgene

Chemical Name: Phosgene Carbonyl Chloride

Toxic by: Inhalation

Persistent: No

Odor: Strong odor of musty or new-mown hay or grass.

Asymptomatic Period: (10) Minutes

Early Symptoms [20 Minutes]: There may appear coughing, tearing, nausea, headache, a feeling of tightness in the chest, and possibly vomiting. This is then followed by a latent period of NO SYMPTOMS for another 2 * (10) Hours.

Advanced Symptoms [2 * (10) Hours]: Rapid shallow breathing, painful cough, and blue or grey cyanosis. This may be accompanied by nausea and vomiting. These symptoms advance to include discomfort and apprehension. A frothy

yellow liquid is expelled from the lungs and breathing becomes labored and noisy.
Treatment: Remove from exposure. Rest. Relieve symptoms.

HT: 7 Days

Notes: Phosgene gas was the most lethal gas to be developed and used during World War I. It was even stockpiled during World War II and was allegedly used in by Egyptian forces in their intervention in Yemen. It may still be stockpiled by minor CW-capable nations, but is not expected to be used in any future conflict. Phosgene's main action is to force oedema, or fluid, into the lungs. The oedema is expelled through the nose and mouth through coughing as a frothy yellowish sputum. Much of the oedema is drawn from the blood, which causes the blood to thicken (haemoconcentration), making it harder to circulate. The haemoconcentration and poor oxygen transfer caused by the oedema in the lungs causes asphyxiation and can lead to heart failure.

Incapacitating Agents

Incapacitating agents are obscure chemicals designed to render troops unable to fight without causing physical harm. Not surprisingly, they were developed as a humane method of warfare and were to be used to make enemy troops unable to fight, thus allowing the user the ability to conquer the enemy without causing or sustaining casualties.

These agents are divided into physical incapacitants, which cause unconsciousness, and psychotomimetic agents, which cause temporary mental disturbances such as hallucinations, memory lapses, and unpredictable or maniacal behavior. They are often referred to as "on the floor" or "off the rocker" agents respectively.

These first development work of these agents was done by the United States in the 1950s and 1960s under a chemical development program which focussed on psychotomimetic agents. After years of testing and even stockpiling an agent called BZ, the United States dropped the program in the 1970s. The psychotomimetic agents examined lead to highly unpredictable behavior. Such behavior is undesirable in military situations. While under the effects of the gas, enemy troops could just as easily curl up in fetal positions or launch frantic, berserker-style attacks, made even more dangerous if the enemy commands weapons of mass destruction.

There have been allegations that the Soviet Union has recently developed and employed a physical incapacitant called Blue-X, which is designed to knock out enemy troops. Blue-X has allegedly been used by Soviet Forces in Afghanistan and by Vietnamese forces in Cambodia. These reports remain unconfirmed as of this writing.

Designation: BZ

Common Name: Buzz

Chemical Name: Unknown

Toxic by: Inhalation or Injection.

Persistent: No

Odor: None

Asymptomatic Period: 3 * (10) Minutes

Early Symptoms [4 Hours]: Parched nose, mouth and throat. Dry, flushed skin.

Headaches, vomiting, blurred vision, and dizziness. Interference with ordinary functioning manifesting in an aimless stumbling and slurred voice or incoherent mumbling. Slowing of physical and mental activity. May be giddiness or drowsiness.

Advanced Symptoms [4 Hours]: Disorientation, visual and auditory hallucinations, and lost memory. Strange behavior may manifest with the casualty behaving maniacally or docily and with the behavior altering unpredictably. Body temperature rises.

Treatment: Relieve symptoms. Rest. Antidote (?).

HT: 4 Days. Unpredictable behavior continues during this time but gradually diminishes.

Notes: Psychotomimetic Incapacitant. BZ is a mysterious chemical developed by the United States in the 1950s and 1960s and stockpiled until the 1970s. It was never used and is not expected to be used in any future conflict. The unpredictable nature of BZ casualties made the agent useless except in very limited circumstances, such as counterinsurgency warfare. The effect of BZ is to interfere with the normal mental functioning of the combatant by causing hallucinations and disorientation, not unlike the effects of popular narcotics. The combatant is effectively placed in a bizarre "dreamworld" and may or may not interact with reality. In all cases, there is no way of determining exactly how he will react. Rational thought processes do not apply. One moment, the casualty may be screaming in terror and the next he may be giggling sporadically while firing at any targets including foliage and friendly troops. Even worse, he may fully realize what he is doing and still do it because it makes him happy at the moment. Combatants taking the same dosage are expected to react in radically different ways. The nature of these bizarre effects led many people to believe that BZ was narcotic in origin, such as an LSD derivative. However, it is more likely a glycollate, such as the quinuclidinol glycollates or the N-methyl 3-hydroxypiperidyl glycollates. The exact formulation has never been disclosed by the United States. If it is a piperidyl glycollate, then an antidote such as 1,2,3,4, tetrahydro-9-amino acridine may be applicable. It is not known if the United States has developed or stockpiled any sort of antidote. No other nations are expected to possess BZ.

Designation:Blue-X

Common Name: Blue-X

Chemical Name: Unknown

Toxic by: Inhalation

Persistent: No

Odor: None

Asymptomatic Period: (10) Minutes

Early Symptoms [(4) Hours]: Unconsciousness.

Advanced Symptoms [3 + (3) Hours]: Continued, with possible development of Central Nervous System--manifesting as slowed heart rate and shallow breathing, both of which worsen as the patient gets closer to death.

Treatment: Relieve symptoms.

HT: 1 Day

Notes: Physical Incapacitant. Blue-X has allegedly been developed and used by the Soviet Union in the 1980s. Vietnamese forces have also allegedly used it in their intervention in Cambodia. Blue-X works as a sort of general anaesthetic, causing complete unconsciousness very rapidly and wearing off 2-8 hours later with no aftereffects. Reports of combatants state that Blue-X was dispersed in aircraft and mortar shells. Beyond this, very little is known about the agent. If Blue-X does in fact exist, it is probably currently stockpiled by the Soviet Union and other CW-capable Warsaw Pact forces. Its primary use could be in counter-insurgency roles and would allow the capture of prisoners for interrogation. In a superpower conflict, Blue-X could also be used to aid in the attack of conventional forces, or assist airborne insertions into the enemy rear by reducing the amount of conscious defenders.

Nerve Agents

Nerve agents have become the primary chemical weapon on the modern battlefield. They are highly toxic substances which cause rapid death by paralyzing the muscles in a human or animal body. Because of their toxicity, nerve agents are considered strategic weapons. Where previous chemical agents could only be used locally, to attack a few troops, nerve agents could be used to attack entire populations.

The nerve agents were first developed in the 1930s by the German I.G. Farben chemical

company. They were the result of Farben chemist Gerhard Schrader's work into organophosphorous insecticides. The first agent prepared was DFP, but this was soon replaced by examination of tabun, sarin, and soman. While the Allies continued development and production of DFP throughout the war, the Germans produced and stockpiled tabun. Two plants for the production of sarin were under construction by 1945, and soman had just reached the laboratory stage. Although the Allies had examined similar agents, they did not even approach the level of the German program by war's end.

During World War II, nerve agents were not used. Following the war, the Soviet forces occupied the tabun plants and transported them and their 12,000 tons of tabun back to the USSR. Allied forces did the same with whatever chemical research they could find. Further development allowed the production and stockpiling of VX in the United States, and VR-55 in the Soviet Union.

Action:

Nerve agents are organophosphorous compounds which attack animal and human nerve cells and inhibit the action of acetyl- cholinesterase. This enzyme is important in the control of nerve impulses.

Normally, when a nerve impulse reaches the end of a nerve cell, the cell releases an enzyme called acetylcholine. The acetylcholine spreads across the synapse, or space, between two nerve cells, and stimulates the next nerve cell in the sequence. Immediately following the release of acetylcholine, the first nerve cell releases acetylcholinesterase, which neutralizes the effect of the acetylcholine and stops the stimulation of the next nerve cell in the sequence.

With nerve agent poisoning, the agent bonds with acetyl- cholinesterase, so there is nothing to counteract the effects of the acetylcholine. In effect, nerve cells can be "switched on" and cannot be "switched off." The result is a contraction and locking of muscles in the entire body. Muscles contract in the cornea, causing a temporary loss of sight. The body undergoes convulsions and paralysis. Finally, the diaphragm becomes paralyzed, preventing the drawing of breath, and the casualty asphyxiates.

Therapy and Treatment:

Therapy of nerve agent poisoning in all cases falls in two classes: the blocking of acetylcholine, and the release of acetyl- cholinesterase.

The blocking of acetylcholine is the standard technique and is achieved through the use of atropine, often issued to troops in the form of autoinjectors. Atropine is itself a very toxic substance and will incapacitate the combatant for a period of at least four hours following the injection. Further therapy includes the taking of diazepam to counteract the convulsive effects of atropine on the brain. Normal treatment for heavy exposure requires atropinization of the casualty for at least two days. Atropine therapy is considered relief of symptoms.

If atropine is given to the casualty, the effects of nerve agent are offset for four hours, regardless of the TRR. After four hours, the effects start again from where their action was blocked.

Atropinization can only be used for 72 hours before it becomes ineffective. If, however, the end of a symptomatic period is reached and a TRR roll is successful, then the nerve agent is deemed neutralized.

Example: *In a previous example, Donovan inhaled two doses of VR-55 and used his autoinjector to take a dose of atropine. Now, the amount of time left before he must make his next TRR roll is (7 Minutes * IT multiplier of 0.7) = 4.9 minutes (for the early symptomatic phase) plus four hours (atropine effects). At the end of the four hours, someone could again inject him with atropine to extend the time by another four hours, with no time lost on the early symptomatic phase.*

The release of acetylcholinesterase is usually done at advanced medical facilities. It involves the breaking of the nerve agent-enzyme bond through the use of chemical reactivators. The dosage of reactivator must be carefully calculated, and the progress of the casualty monitored. If the

technique is successful, the nerve agent is neutralized. Reactivator therapy is considered an antidote.

Designation: GA

Common Name: Tabun

Chemical Name: Ethyl-N-dimethylphosphoramidocyanate

Toxic by: Skin Absorption

Persistent: Yes. PM = 1.5

Odor: Very faint sweet fruity smell.

Asymptomatic Period: 10 Phases

Early Symptoms [15 Minutes]: Runny nose, difficulty breathing, feeling of tightness in the chest. Vision is blurred and dim. These progress rapidly to coughing, drooling, and muscle twitches. Excessive sweating also occurs.

Advanced Symptoms [40 + (10) Minutes]: Strangling tightness in the chest. Vomiting. Cramps. Muscle tremors. Involuntary urination and defecation. These progress to include collapse, convulsions, and finally paralysis.

Treatment: Antidote. Relieve symptoms. Decontamination.

HT: 28 Days

Notes: Acetylcholinesterase inhibitor. Tabun was the first nerve agent synthesized by the Germans in preparation for World War II. There were some 12,000 tons produced, but never used. Presently, Tabun is no longer stockpiled among western CW-capable nations, but is still expected to be held in inventories by the Soviet Union. Finally, Iraq possesses Tabun, having used it in the Iran-Iraq war. As Tabun is the easiest of the nerve agents to produce, it is expected to be developed by nations just starting a CW program. Tabun is also available in a non-persistent form.

Designation: GB

Common Name: Sarin

Chemical Name: Isopropylmethylphosphonofluoridate

Toxic by: Skin Absorption

Persistent: Yes. PM = 1.2

Odor: None

Asymptomatic Period: 10 Phases

Early Symptoms [10 Minutes]: Runny nose, difficulty breathing, feeling of tightness in the chest. Vision is blurred and dim. These progress rapidly to coughing, drooling, and muscle twitches. Excessive sweating also occurs.

Advanced Symptoms [25 + (10) Minutes]: Strangling tightness in the chest. Vomiting. Cramps. Muscle tremors. Involuntary urination and defecation. These progress to include collapse, convulsions, and finally paralysis.

Treatment: Antidote. Relieve symptoms. Decontamination.

HT: 28 Days

Notes: Acetylcholinesterase Inhibitor. Sarin was first developed by the Germans, shortly after they developed Tabun. Sarin is still stockpiled in quantity by the United States, but is expected to be supplanted by VX-class agents. The Soviet Union is also expected to stockpile Sarin, and is said to have aided the CW-program of Iraq to the extent that Iraq is expected to be capable of producing Sarin and may even be stockpiling it. Sarin is also available in non-persistent form and in a binary form to the United States.

Designation: GD

Common Name: Soman

Chemical Name: Pinacolylmethylphosphonofluoridate

Toxic by: Skin Absorption

Persistent: No

Odor: None

Asymptomatic Period: 10 Phases

Early Symptoms [7 Minutes]: Runny nose, difficulty breathing, feeling of tightness in the chest. Vision is blurred and dim. These progress rapidly to coughing, drooling, and muscle twitches. Excessive sweating also occurs.

Advanced Symptoms [15 + (10) Minutes]: Strangling tightness in the chest. Vomiting. Cramps. Muscle tremors. Involuntary urination and defecation. These progress to include collapse, convulsions, and finally paralysis.

Treatment: Antidote. Relieve symptoms. Decontamination.

HT: 28 Days

Notes: Acetylcholinesterase Inhibitor. Soman is a highly toxic nerve agent, which is reported to be three times as toxic as Tabun. It is not a common agent, having been replaced by the VX and VR-55 in the United States and the Soviet Union respectively. Soman is not expected to be stockpiled. Soman is also available in a non-persistent form.

Designation: VX

Common Name: VX or "Thickened Soman"

Chemical Name: Ethyl S-dimethylaminoethyl methylphosphonothiolate

Toxic by: Skin absorption

Persistent: Yes. PM = 2

Odor: None

Asymptomatic Period: 10 Phases

Early Symptoms [7 Minutes]: Runny nose, difficulty breathing, feeling of tightness in the chest. Vision is blurred and dim. These progress rapidly to coughing, drooling, and muscle twitches. Excessive sweating also occurs.

Advanced Symptoms [15 + (10) Minutes]: Strangling tightness in the chest. Vomiting. Cramps. Muscle tremors. Involuntary urination and defecation. These progress to include collapse, convulsions, and finally paralysis.

Treatment: Antidote. Relieve symptoms. Decontamination.

HT: 28 Days

Notes: Acetylcholinesterase Inhibitor. VX was first developed in the United States in 1955 and has been stockpiled by the United States since that time. Recently, however, VX has been stockpiled in binary form. Binaries are a development of chemical agent technology which allows nerve agents to be stored as two somewhat less toxic chemicals. The two chemicals are mixed when the bomb is released or the shell is fired, thus producing VX. The United States is expected to be the sole possessor of VX.

Designation: VR-55

Common Name: Thickened Soman

Chemical Name: Believed to be soman thickened by the addition of synthetic polymers.

Toxic by: Skin absorption

Persistent: Yes. PM = 1.9

Odor: None

Asymptomatic Period: 10 Phases

Early Symptoms [7 Minutes]: Runny nose, difficulty breathing, feeling of tightness in the chest. Vision is blurred and dim. These progress rapidly to coughing, drooling, and muscle twitches. Excessive sweating also occurs.

Advanced Symptoms [15 + (10) Minutes]: Strangling tightness in the chest. Vomiting. Cramps. Muscle tremors. Involuntary urination and defecation. These progress to include collapse, convulsions, and finally paralysis.

Treatment: Antidote. Relieve symptoms. Decontamination.

HT: 28 Days

Notes: Acetylcholinesterase Inhibitor. VR-55 was probably developed in 1955 by the Soviet Union. It is their main nerve agent, and only they and their primary allies are expected to stockpile it. VR-55 was allegedly used by the Egyptians during their intervention in Yemen.

Biological Toxins

Biological toxins are inanimate chemicals naturally produced by living organisms as either defence chemicals or a natural by-product of organic functions. They are presently a matter of grave concern in the defence community because of allegations of their use by the Soviet Union in Laos against the Hmong hill people.

Originally, biological toxins had very little military application, and were primarily used as poisons for assassinations, murders, and suicides. Their use in a conventional CW role was not fully explored until after World War II, and was driven primarily by intelligence agencies wanting better assassination techniques.

The research exploded into a worldwide controversy in 1981, when the United States alleged that the Vietnamese (with Soviet assistance) had used chemical weapons against Hmong and Khmer Rouge tribespeople in Laos and Cambodia since at least 1978, and possibly as early as 1975. One of the weapons allegedly used was Yellow Rain, supposedly a mixture of trichothecene mycotoxin and other chemicals, which was designed to cause massive hemorrhaging and death. Similar reports started filtering out of Afghanistan, where "Yellow Rain" was said to be found on a Soviet gas mask. Refugee reports and interviews have revealed that there are at least three types of chemicals being used and are identified by the cloud colors yellow, white, and green. These agents and their alleged effects are discussed below.

Whether yellow rain actually exists or not, or whether it was actually used has never been resolved. Laboratory tests have proved inconclusive, with trichothecenes being found in some samples and not in others, and sufficient problems have arisen in control tests to cast doubt on the validity of both successful and unsuccessful tests. Sampling procedures and interviews with refugees have had their validity questioned, and alternative theories have been proposed, including natural fungal growths and bee defecations. The debate at present is of a highly speculative nature, and reflects a lack of incontrovertible evidence. Note: For the purposes of these rules only, Yellow Rain and its companions are treated as if they did exist.

Since the development of the Yellow Rain debate, another potential use of biological toxins has come to light. Terrorists may make use of such toxins in direct attacks on civilian targets, such as water and food supplies. In November 1980, a raid on a Paris safehouse of the West German Red Army Faction uncovered a bathroom lab containing Botulin, and in 1984, two Canadians using false credentials ordered tetanus and botulism cultures from a Maryland research firm. These incidents seem to show that terrorists are quite mindful of the potential for toxin warfare against their selected targets.

Designation: None

Common Name: Botulin

Chemical Name: Botulinal Toxin A

Toxic by: Ingestion

Persistent: Yes. PM = 0.5

Odor: None

Asymptomatic Period: 12 * (3) Hours

Early Symptoms [1 Day]: Nausea, weakness/paralysis starting at eyes and throat and moving down the body, dizziness, headache, and blurred vision.

Advanced Symptoms [6 + (3) Days]: Respiratory difficulty which may develop into viral pneumonia (40% chance).

Treatment: Antidote, relieve symptoms.

HT: 30 Days, but respiratory difficulty remains for up to 1 year.

Notes: The most lethal toxin known. As little as 0.1 mL of contaminated food can kill. One

mouthful delivers (6) standard doses. 1 pound of contaminated food delivers up to 200 standard doses. The agent is normally created by Botulism spores which infect improperly preserved food. The storage containers may appear to bulge at the sides and top and may even explode. Such a substance would have very little use dispersed through military means, unless it were released into the food or water supply of a nation or city. Terrorists, such as the West German Red Army Faction, have already apparently discovered the value of Botulin, as they were captured by French police in November, 1980 with a bathtub filled with botulism culture.

Designation: None

Common Name: Staphylococcal Toxin

Chemical Name: Staphylococcal Enterotoxin A

Toxic by: Ingestion

Persistent: Yes. PM = 0.5

Odor: None

Asymptomatic Period: (2) + 1 Hours

Early Symptoms [1 Day]: Nausea, vomiting, abdominal cramps, severe diarrhea with mucus or blood.

Advanced Symptoms [1 Day]: Continued.

Treatment: Relieve Symptoms at 1/2 normal effectiveness.

HT: 1 Day.

Notes: A mild form of food poisoning. One infected meal will provide (2) standard doses of agent, and one pound of contaminated food will provide roughly 3 standard doses. This toxin comes from a bacteria which usually infects dairy products but can infect other foods. The toxin is heat-stable, meaning it cannot be destroyed by cooking. Like Botulin, staphylococcus enterotoxin is a potential terror weapon which can be used to harass a food distribution network. For example, contaminating food at a restaurant or at a dairy plant can cause the entire network to be shut down as inspectors try to track the source of the toxin.

Designation: Oudushayshe ?

Common Name: Yellow Rain

Chemical Name: Believed to be a mixture of Trichothecene Mycotoxins (specifically T-2 or HT-2) and other chemicals.

Toxic by: Skin Absorption. Ingestion.

Persistent: Yes. PM = 1

Odor: "Bad smell"

Asymptomatic Period: 10 Minutes

Early Symptoms [3 Days]: Severe skin rashes--almost like blistering. Rash itches severely. Headaches. Tearing. Runny nose. Blurred Vision and disorientation. Swollen lungs causing difficulty breathing.

Advanced Symptoms [9 Days]: Diarrhea. Severe coughing of blood. Nausea. Vomiting. Severe body pain. Internal bleeding.

Treatment: Wash. Relieve symptoms. Antidote?

HT: 14 Days, but effects may linger for up to a month. Scars may remain even longer.

Notes: The actual existence of Yellow Rain is still being debated with no incontrovertable evidence yet having come to light. Much of what evidence there is suggests that Yellow Rain is a trichothecene mycotoxin believed to be derived from *Fusarium* fungus, the existence of which in Southeast Asia has not been established or disproven.

The above symptoms are taken from Hmong military and refugee reports in 1981 and 1982. These reports state that villages were sprayed with "clouds" of wet, yellow material which dried to a yellowish dust. Fourteen days after the spraying, 30% of the

contaminated plant life turned yellow and died. The actual spraying was done either by aircraft or airburst rockets, and some reports suggest that yellow rain is binary in nature, with the two components being combined in mist form after spraying. Allegations place the dead from this and the related rains at 7000 Laotians and Cambodians and 3000 Afghans. The name "oudushayshe" is taken from testimony of Anatoly Sakharov, a Soviet defector in Afghanistan. It may or may not refer to yellow rain--the name suggests that it refers to a choking or asphyxiating agent.

The existence of an antidote is unknown.

Designation: Smirch ?

Common Name: "White" Rain

Chemical Name: Believed to be a mixture of Trichothecene Mycotoxins (specifically T-2 or HT-2) and other chemicals.

Toxic by: Skin Absorption

Persistent: Yes. PM = 1

Odor: Unknown. Possibly a "bad smell"

Asymptomatic Period: 10 Minutes

Early Symptoms [30 Minutes]: Severe Headaches. Blurred vision.

Disorientation/tiredness. Coughing.

Advanced Symptoms [2 Hours]: Massive internal and external bleeding leading to vomiting of blood and diarrhea with blood simultaneously. Blood-stained urine. Severe coughing, also with blood. In some lethal cases, the heart and lungs are ruptured.

Treatment: Wash. Relieve symptoms. Antidote?

HT: 21 Days, but effects may linger for up to 2 months.

Notes: White rain is often confused with Yellow Rain. White rain's existence is also disputed, but reports suggest that it is a more lethal form of yellow rain. It causes very rapid, painful death. Plants are also killed almost immediately.

Like yellow rain, the name is also provided by Sakharov's testimony, and may not even refer to white rain. "Smirch" is said to be 100% fatal, and the effects of white rain suggest that Smirch is the appropriate designation. The existence of an antidote is unknown.

Designation: Unknown

Common Name: "Green" Rain

Chemical Name: Unknown. Judging from effects, this agent may be related to Yellow and White rains and may be mycotal in origin.

Toxic by: Inhalation

Persistent: Yes. PM = 0.5

Odor: Floral/Perfume scent

Asymptomatic Period: 20 Minutes

Early Symptoms [4 Days]: Blurred vision, general numbness. Disorientation and confusion causing incapacitation. Difficulty breathing.

Advanced Symptoms [4 Days]: Continued.

Treatment: Wash. Relieve Symptoms. Antidote ?

HT: 7 Days.

Notes: Incapacitant, possibly psychotomimetic. It is expected to be lethal in higher concentrations. Like both Yellow and White rain, the existence of Green rain is disputed.

The existence of an antidote is unknown.

Defoliants

Defoliants are unlike other CW weapons in that they do not directly attack troops. They are essentially herbicides designed to either selectively kill certain types of vegetation or non-selectively kill all vegetation in an area where the chemicals have been applied.

The primary use of defoliants is to cause leaves to fall off trees and thus deny the enemy the use of the trees as camouflage. This was the primary justification for the use of defoliants by the United States in the Vietnam War. A secondary, less publicized use is to use defoliants to attack food sources of enemy populations. This was done to a certain extent in Vietnam by the United States, but was not as common as defoliation missions.

The defoliants were first used by the United States in 1962 in Operation Ranch Hand, which involved the use of herbicide spraying from aircraft. Ranch Hand had only defoliation as an objective until 1964, when the United States became fully committed to the war. At that point, the use of herbicides for crop destruction was authorized. Operation Ranch Hand lasted from October, 1962 to January, 1971, and sprayed six million acres of South Vietnam in that time. The adverse publicity surrounding the use of defoliants and the allegations of health risks meant that the United States never used defoliants since. Also, no other nation is believed to have used defoliants either.

Defoliant Effects on Humans:

The studies of defoliant effects on humans are inconclusive. They are unable to show that defoliants applied in battle-field conditions have any effect on a human.

However, the evidence of Vietnam War veterans and civilians in that war suggests that there are both immediate and long-term effects of exposure to defoliants. A combatant sprayed with a defoliant at "battlefield concentrations" will suffer minor skin irritation and itching immediately following exposure, and may develop a rash which fades after a few days. Neither the irritation nor the rash will in any way affect his abilities as a combatant.

However, numerous long-term effects have been alleged. These are primarily attributed to Agent Orange, which saw the most application in Vietnam, but they may apply to the other defoliants as well. In the long term, the exposed combatant may develop respiratory distress, behavioral changes, or cancer. Also, his or her children may suffer from birth defects such as limb malformation and (more commonly) congenital respiratory and heart defects. In very rare cases, the child may be stillborn and horribly deformed. It is expected that such dramatic effects would only occur after prolonged exposure.

Defoliant Effects on Plants:

On plants, however, the effects are substantially different. Three primary defoliants are listed below along with their effects on plant life. The gamemaster should determine the swath sprayed by the delivery aircraft and apply these effects to the plant life covered by the swath. For simplicity, do not consider CNC values of the spray, provided that the players use a "reasonable" spray pattern.

Designation: Agent Orange

Common Name: 2,4-D plus 2,4,5-T

Chemical Name: Mixture of 50% 2,4 Dichlorophenoxyacetic Acid and 50% 2,4,5 Trichlorophenoxyacetic Acid

Effects: Swath is characterized by plant life which has gone on a wild growing spurt and undergone dramatic leaf fall. Not a leaf will remain on the affected trees. Affects only the uppermost canopy of a forest, and only kills those trees. Saplings and shorter trees which are covered by the canopy remain unaffected. Mangrove trees and swamp plants are killed outright, and may take up to a decade to begin regeneration. Crops are killed outright. Bamboo seems unaffected.

Time for Effects to be Noticed: 3 Days to substantial leaf fall. After a week, the affected trees and crops are dead.

Time for Recovery: Variable, depending on location and type of plants sprayed. In a rapidly growing forest or jungle, the effects may persist for up to a month with one spraying, and up to three months with two sprayings. Three or more sprayings will last for

up to two years as the growing cycle is interrupted. Longer effects may persist because of soil erosion or the incursion of grasses or bamboo.

Notes: Defoliant. Agent Orange was the primary defoliant used in the Vietnam War and was used to control jungle growth and attack crops. It works by first interfering with the production of the hormone auxin in plants, which is necessary to have strong cells where the leaf and stem connect. Secondly, Agent Orange causes an acceleration in growth, which has the effect of making the leaves heavier than the auxin-lacking connector cells can hold, and thus accelerating leaf fall. The plant dies shortly after.

Agent Orange is actually a mixture of commercially available herbicides. The name Agent Orange comes from the color of the metal barrels the United States military used to contain the agent. Agent Orange is interchangeable with Agent Purple, which has different proportions of the herbicides.

Designation: Agent White

Common Name: Tordon 101

Chemical Name: Mixture of 2,4-D and 4 amino 3,5,6 trichloropicolinic acid (a.k.a. Picloram)

Effects: The swath of trees is killed, and the leaves are removed. Affects only the uppermost canopy of a forest, and only kills those trees. Saplings and shorter trees which are covered by the canopy remain unaffected. Mangrove trees and swamp plants are killed outright, and may take up to a decade to begin regeneration. Coniferous trees and crops are killed outright. Bamboo seems unaffected.

Time for Effects to be Noticed: 3 Days to substantial leaf fall. After a week, the affected trees and crops are dead.

Time for Recovery: Variable, depending on location and type of plants sprayed. In a rapidly growing forest or jungle, the effects may persist for up to 3 months with one spraying. Two or more sprayings will last for up to two years as the growing cycle is interrupted. Longer effects may persist because of soil erosion or the incursion of grasses or bamboo. Also, Agent White is highly persistent, so growth in a sprayed area may be stunted or otherwise retarded for years after the spraying.

Notes: Herbicide. Agent White is designed for use around settlements because of its lower tendency to drift than Agent Orange. In Vietnam, it was primarily used for woody plant control, and was used on coniferous forests. Like Agent Orange, Agent White is a commercially available herbicide. Agent White's method of operation is to kill the plant outright in addition to halting the production of auxin.

Designation: Agent Blue

Common Name: Cacodylic Acid

Chemical Name: Dimethylarsenic acid

Effects: The swath of grass, crops, and bamboo is killed.

Time for Effects to be Noticed: 3 Days to grass kill.

Time for Recovery: Variable. Agent Blue is expected to be quickly inactivated after application, but this does not apply to cropland. Sprayed areas will not support crops for up to 2 years. Grass and bamboo may start regenerating after 3 weeks.

Notes: Herbicide. Agent Blue was used for grass and crop control in Vietnam. Like the other agents, Agent Blue is commercially available, but has been out of use since the 1970s in North America because of fears of long-term effects.

[Send comments.](#)

PHOENIX COMMAND

Biological Agents

Biological Warfare Agents

The use of biological agents in warfare has been in existence since the time of the well poisoners in ancient Greece and Rome. Only in modern times has Biological Warfare (BW) become a concept which has frightened those who understand the ramifications. Their contagiousness and reproductive abilities, the very features which makes biological agents effective, also make them highly uncontrollable and likely to attack the users as well as the targets. One only has to consider the spread of HIV and Ebola from Central Africa to every nation of the world to understand how uncontrollable a disease organism can be. BW is essentially the intentional release of disease organisms into the atmosphere and those organisms' spread can be just as dramatic.

The rules in this chapter consider biological agents which have been examined by modern military forces and provides data on their application and symptoms. The agents are broken down into viral, rickettsial, bacterial, and mycotal agents.

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- [Administration of Biological Agents](#)
- [Infection and Disease Rules](#)
- [Viral Agents](#)
- [Rickettsial Agents](#)
- [Bacterial Agents](#)

Biological Weapons

The term biological weapon refers to a means of attack where the offensive item is a biological agent. Biological agents are living organisms which are intended to cause diseases or death in human, animal, or plant life. They are organisms which are highly contagious and rely on this and their ability to reproduce to maintain their impact on a targeted population. This makes the agents strategic weapons, and they are quite capable of devastating entire cities or nations with their effect being limited only by how much contact the infected have with the rest of the population. In many of these agent's cases, medical science does not allow anything more than therapy of symptoms, there being no therapy to treat the agent itself. In such cases, human and animal targets must rely on their own immune systems to combat an infection, and often, the immune system is simply inadequate.

Modern Background:

Research into the nature of disease organisms in the nineteenth century brought forward the idea among militaries that bacteria and other agents could be controlled and used as a means of attacking an enemy. The ability to control such agents, and use them to attack enemy troops was an appealing one, for disease at the time was more lethal than any other weapon. Prior to the twentieth century, disease had been a factor among militaries on campaigns and more troops had died of disease than of enemy steel and fire.

Advances in firearms during the late nineteenth century made disease a less prominent feature on the battlefield, and it was not until firepower bogged down in the muddy trenches of World War I that the idea of alternative weapons such as chemical and biological agents was seriously considered.

Biological weapons were not used in that war, and in 1925, the Geneva Protocol, recognizing the danger of "alternative weapons," banned the use of bacterial agents. Despite the protocol, research into such weapons continued.

During World War II, the British, in cooperation with the Americans and Canadians tested bacteriological and chemical weapons. One of the weapons systems tested was anthrax, code named Agent N, which was placed into bombs which were dropped from cranes on Gruinard Island, just off the coast of Scotland. The testing has contaminated the island's soil with anthrax, and the island remains under quarantine to this day. In Europe, the Nazi government of Germany was conducting horrible medical experiments on concentration camp prisoners, including exposing them to potential BW agents.

On the other side of the world, the Japanese were testing biological agents on prisoners of war. The Japanese Unit 731 was officially titled the "Kwantung Army Anti-Epidemic Water Supply and Purification Department", but its real purpose was to experiment with bacteria as weapons of war. At least 3000 prisoners of war, ranging from Chinese to Soviet to American, were exposed to biological agents, and more than 1000 of those prisoners died as a result. Also, there are reports that Unit 731 was involved in the release of anthrax and paratyphoid (not listed) bacteria on eleven Chinese cities between 1940 and 1944.

Following the war, captured members of Unit 731 were brought to the United States and offered amnesty in return for their researches. This began a more intensive research program by the United States into the potentials of BW. Agents were developed and stockpiled by the United States and the United Kingdom, and quite likely by the Soviet Union as well, although the Soviet government has always denied ever possessing BW agents or munitions.

Then, in 1972, these three nations signed the Biological Weapons Convention, which banned all stockpiling of biological agents and biological toxins and their delivery systems. There are at least 100 other signatory nations to this document.

Though there have been allegations that major superpowers are violating the agreement, there is no incontrovertible evidence to support the allegations. The United States points to the Soviet Union's sudden outbreak of anthrax at Sverdlovsk in 1979 as being a BW accident and the reports of Yellow Rain (See Section 2.8) as being evidence of a BW capability. Conversely, the Soviet Union points to the United States' continued research into these agents as evidence of development of a BW capability. Despite these allegations, at present, no nation is expected to possess stockpiles of biological agents for use in a future military conflict.

This does not preclude the use of biological agents as terrorist weapons. The chapter on Chemical weapons has already mentioned the 1980 raid on a West German Red Army Faction safehouse which uncovered a bathtub of botulism culture, and the 1984 efforts of two Canadians to acquire botulism and tetanus culture from a Maryland research facility. These two incidents underscore the potential for use of biological agents by terrorist forces.

At present, the great fear of medical researchers is the potential genetic engineering offers to BW research and development. Although genetic engineering can be used to develop effective vaccines and treatments against many diseases, the risk is that it may be used to make BW agents more lethal or make them more selective. A possible development in BW using genetic

engineering is the creation of an ethnic disease, a weapon that attacks only targets of certain racial/genetic characteristics. These are only two of the possibilities which make the future of BW a frightening one.

Administration of Biological Agents

Biological agents use identical methods and munitions as chemical agents. However, the nature of the biological agents upon release and infection varies tremendously from chemical agents.

This section provides rules for resolving contamination and dispersal effects of biological agents.

Active Period:

A biological agent upon release passes through an active period during which time it can contaminate and infect its targets without requiring a host body to survive. The active period is listed below for aerial and water release:

Active Period

Agent Type	Aerial	Water
Virus	36 hrs	7 days
Rickettsia	48 hrs	7 days
Bacteria*	4 days	15 days
Fungi	4 days	4 days

* Note that anthrax can survive in spore form indefinitely by infecting the soil. Normally, such a case would require heavy bombardment--a single weapon would be insufficient to cause such contamination. Under heavy anthrax bombardment, the contaminated zone is deemed permanently contaminated.

Contamination: Aerial Release

Aerial release methods include groundbursts, aerial spraying, and projectors, and are usually military biological munitions. They are release methods which characterize popular conceptions of biological warfare (BW).

Aerial release methods work by introducing the biological agents into the atmosphere in an aerosol form, much like common chemical chemical agents. When an aerial release munition discharges, it produces a cloud of the agent which proceeds to move downwind at the wind speed and will continue to do so for the full length of the active period. Any area which has been touched by the cloud is contaminated as long as the active period has not elapsed.

Any unprotected person or animal inside a contaminated area during the active period runs a chance of being infected. The contaminated area is deemed to be non-contaminated at the end of the active period.

Contamination: Water/Food Release

A less common concept of BW is the use of biological agents to contaminate water or food supplies of targeted populations. It is a very slow, but effective method of attacking a city population or attacking the export/agricultural economy of a nation. By simply introducing the agent into a city's water supply, an attacker could have the agent delivered to his target's kitchen faucet. Modern urban-water supply filtration systems will normally pick out harmful biological agents (and even chemical agents) to prevent such an attack, but if the agent were introduced after the filtration process or if there was no filtration system in place, the effects on the city

population would be devastating. The mere hysteria among the targeted population could be as devastating as the effects of the agent.

Also, the introduction of biological agents into food supplies, like grain bins, livestock, processing plants, supermarkets, or restaurants can have similar devastating effects. If biological agents were introduced into imported food shipments prior to inspection, and then discovered, all shipments from the exporter nation to the inspecting nation would stop, causing tremendous harm to the exporter's economy.

The foregoing are reasons why terrorist groups view biological attack through water and food supplies as valuable weapons. Such attacks allow them to target city populations or national economies in a highly effective, yet inexpensive manner.

Biological agents released into water or food supplies behave quite differently than aerial-release weapons. A water-released agent will spread through the entire water system. A food-released agent will not spread and will have an active period equal to the aerial-released active period. Any person ingesting the water or the food during the active period will be exposed to the biological agent and may become infected.

Vectors:

Because the active period has elapsed in a contaminated area does not mean that the area is safe. People and animals can still become infected if they are exposed to vectors.

Vectors are sources of infection which have been established by the biological agent. What has happened is the agent has infected a person, an animal, or even the soil, and the agent can then travel from that Vector to attack an uninfected target using its normal method of transmission. The Vector will remain active until cured, treated, or destroyed. For example, the British experimented with anthrax bombs on Gruinard Island off the coast of Scotland and contaminated the island's soil with anthrax. Though the island is quarantined, thus preventing the infection from spreading, the vector--the contaminated soil--is still dangerous, even fifty years later.

Any person or animal which was infected by the original biological agent cloud or through transmission of the disease from another vector becomes a vector. Soil will almost never become a vector because the required amount of agent to which the soil must be exposed is enormous. Gruinard Island's soil became a vector only after repeated bombing with anthrax.

Infection and Disease Rules

The effects of biological agents on characters are determined in three steps: infection, symptoms, and treatment.

STEP 1: INFECTION

A character can become infected in two ways. Either he is infected by being in the area contaminated by a biological agent cloud while the cloud is still active, or he can be infected by exposure to a vector.

Infection via Contamination:

If a character is exposed without protection to contamination during the active period, he must make a 00-99 roll against the Contraction Number. If he rolls over the contraction Number, he avoids being infected. How the disease is normally transmitted (TRX) does not apply in this situation.

Infection via Vectors:

If the character is exposed a vector, the gamemaster checks the Disease Tables to find out how the disease is transmitted (TRX). If the character has been in any of those situations while

exposed to the vector, the gamemaster then rolls 00-99 to determine if the character contracts the disease. If the roll is greater than the Contraction Number, the character has managed to avoid being infected.

Rolling Under the Contraction Number:

If in either of the above cases, however, the roll is less than or equal to the contraction number, the character becomes infected and contracts the disease, and the gamemaster proceeds to the next step--symptoms. The character will never know that he has been infected until the symptoms manifest themselves. For this reason, the gamemaster should make the contraction roll in secret.

Contraction Number:

The contraction number is calculated by taking the disease's Contraction Chance (CTC) and subtracting the character's current HLT score. Any fractions in the HLT score are rounded off to the nearest whole number.

$$\text{Contraction Number} = \text{CTC} - \text{Current HLT}$$

***Example:** Niki gets caught in an anthrax-contaminated area after the active period has elapsed, so she is safe from infection that way. However, she comes across a dead soldier and removes her mask to examine him. The dead soldier is a vector for the anthrax used in the attack, and Niki has just contaminated herself by taking in his airborne anthrax particles. The gamemaster secretly rolls 00-99 and rolls a 35. The CTC of Anthrax is 75 minus Niki's HLT of 14 = 61. Since the roll is under the Contraction Number, Niki has contracted anthrax.*

Methods of Transmission:

Disease transmission through contact with bodily fluids requires that the infected fluid must enter the victim's body in some way. This can include bites, blood transfusions, infected needles, oral contact (such as a kiss), or sexual intercourse unless otherwise specified. Transmission through bites only occurs if the bite breaks the skin. The bite must pass through any clothing and the skin itself before the disease-carrying saliva of the can enter the victim's body. Bites will not penetrate boot-thick leather or any type of armor. The same applies to infected needles.

Disease transmission through airborne particles means that any characters in the proximity of the disease source run the risk of becoming infected. Characters who use air-filtration gear or have an independent air supply are not at risk provided that they decontaminate their clothing prior to removing the air filtration gear. The airborne particles can attach themselves to clothing and later be inhaled by the wearer.

Disease transmission through contaminated food and water only occurs if the characters actually ingest the food or water. Note that this applies even to food obtained or prepared in a settlement. Disease transmission through contact or contact with infected feces occurs in two stages. The contact itself is harmless, but the character's skin is contaminated. If the contaminated skin comes into contact with a cut on the skin, membranes in the nose, eyes, or mouth, or by contaminating food or water the character ingests, then the character has a chance of contracting the disease.

Disease transmission through flies, fleas, or body lice occurs when the character is in close proximity with the insects. Only an isolation suit that is decontaminated prior to being removed will prevent the insects from passing on their diseases.

STEP 2: SYMPTOMS

Symptoms progress through three phases: incubation, early symptoms, and advanced symptoms. During any of these times, the progress of the disease can be arrested by making a

Disease Recovery Roll (DRR). This is calculated by taking the RR value of the disease and subtracting the character's current HLT score as well as any modifiers for treatment. If a 00-99 roll is lower than this number, the progress of the disease is arrested. Otherwise the disease continues to the next phase.

$$\text{DRR} = \text{RR} + \text{HLT} + (\text{Treatment Modifiers})$$

A DRR can only be made once at the end of each symptomatic phase.

Incubation Period

All diseases pass through an incubation period (IP). During this time, there are no symptoms, and the disease cannot be diagnosed by any medic. However, medics can initiate a program of treatment if they suspect that the circumstances would mean that a disease has been contracted. An example of such a situation would be an animal bite, where the animal was shown or suspected to be infected with a disease. If a DRR indicates that the disease is arrested in the incubation period, then there are no further ill effects.

***Example:** Niki contracted anthrax in the last example, and has been undergoing the Incubation Period unaware of any problem and has not had any treatment. The Incubation Period lasted (random roll of 3 on a (5) =) 3 days. At the end of the third day, the gamemaster makes a DRR for her. He determines her DRR to be an anthrax RR of -10 plus her HLT of 14 for a DRR of 4. The gamemaster rolls a 72 on a 00-99 and determines that she advances to the early symptomatic phase of the disease.*

Early Symptomatic Phase

If the disease is not arrested during the incubation phase, the early symptoms begin at the end of the IP. These symptoms will usually debilitate the character and prevent him from engaging in any activity other than resting. A character is treated as being fatigued during this time in addition to suffering from the associated Early Symptoms. The early symptoms last for the amount of time indicated in the brackets.

A medic can attempt to make a diagnosis of the disease based on the symptoms by making a medical skill test (Base Odds = 7). Failure means that he misdiagnoses the disease and he will believe it to be a disease listed under Differential Diagnosis of the disease descriptions. If there is no differential diagnosis listed, then the medic simply cannot identify the disease.

As an alternative, the gamemaster can hand the disease descriptions to the player of the medic character and let him figure out what the disease is based on the description of the symptoms.

A DRR can be made at the end of the early symptomatic phase and if successful, the disease is arrested during this period and the character suffers a debility period equal to the listed Healing Time (HT). During this time, the character is treated as being fatigued. The fatigue associated with the disease is removed at the end of the HT. If the DRR is failed, the disease progresses to the advanced symptomatic phase.

***Example:** Niki, in the early symptomatic phase of anthrax, has been feeling fever and malaise and having labored breathing and coughing. On the first day of the symptoms, the medic attempts to diagnose the problem and rolls a 12 on a 3(6), thus exceeding the needed base odds of 7 plus his own SL of 3. The medic has no idea what the problem could be, but attempts to relieve her symptoms anyhow and confines her to bed. After 3 days, Niki must make another DRR. Since she has not received the treatment required, her DRR remains at RR of -10 plus HLT of 14 for a 4. She rolls a 23 and fails again. She advances to the advanced symptomatic phase.*

Advanced Symptomatic Phase

During the advanced symptomatic phase, the early symptoms continue and the advanced symptoms are added to the character's list of sufferings. These symptoms last for the amount of time listed in brackets. At the end of this time, a final DRR is allowed. If this DRR is failed, the character dies of the disease. If, however, the DRR is successfully rolled, then the character suffers debility for the HT as he would for the early symptoms.

Example: *In the advanced symptomatic phase of her anthrax, Niki's symptoms have become much worse. The medic, in desperation, tries a broad-spectrum antibiotic as treatment. After 5 days, Niki makes her final DRR. This time, it is an RR of -10 plus Niki's HLT of 14 plus 30 for the antibiotic therapy for a 34. Niki rolls a 17 and survives the disease. She now suffers a debility of 5 days before she is fully recovered. Had she failed this DRR, she would have died at the end of the advanced symptomatic phase.*

STEP 3: TREATMENT

The progress of a disease can be arrested through the application of the proper treatment. Each disease has a list of appropriate treatments and only those treatments listed will be effective in combatting the infection. Short descriptions of the various types of treatment are given below. The listed treatments can be used in conjunction with one another.

The effectiveness of treatment varies with the phase of the disease. Each description has a series of effectiveness ratings given in parentheses after the title. The series consists of three numbers separated by slashes. The first number is the effectiveness of the treatment being applied during the incubation period. The second gives the effectiveness of the treatment if it is applied during the early symptoms phase, and the final number is the effectiveness of the treatment if applied during the advanced symptoms phase.

Treatments:

Antibiotics (5/15/30)

This is a program of pharmaceuticals given to the patient. The pharmaceuticals can either be in pill or injection form. These antibiotics are deemed to be broad-spectrum, meaning that one antibiotic type will be effective against all diseases listed.

Restore Fluids (0/5/10)

The restoration of fluids ensures that the patient is not dehydrated by vomiting or excessive sweating. In most cases, this treatment is simply regularly giving the patient something to drink, but in more severe cases, intravenous fluids are used.

Relieve Symptoms (0/10/20)

The relief of symptoms is the use of pharmaceuticals or physical means to alleviate the patient's pain or to lower his fever.

Rest (0/5/10)

Rest means bedrest and sleep. The patient cannot perform any work if this treatment is to be applied. If he does, then any benefit gained from the treatment is lost.

Vaccine (90/65/10)

The vaccine treatment is the injection of a weakened form of the virus into the patient's body in order to build up a resistance to the disease by the body's immune system. Each vaccine is specific to one disease and there is no broad-spectrum vaccine available. There are, however, mixtures of numerous vaccines available where one mixture will protect against a variety of diseases. Note that only the diseases with vaccine listed can

use this treatment.

SPECIAL NOTE ON VACCINES: The most common use of a vaccine is not as a therapy after infection, but to build up the immune system to prevent infection. Vaccines will provide effective protection to a person for an average of six months following injection. They are normally administered through individual injections of killed or weakened agent into the combatant, although American researchers are expected to be working on aerosol vaccines. Aerosol vaccines would allow, for example, an aircraft to spray and thus immunize an entire city against a specific disease. If an agent has a vaccine, it will be listed in the notes accompanying the agent's description. A vaccinated population will be unaffected by the natural occurrence of the disease, but also by the intentional attacks of the disease-causing agent.

Viral Agents

Viral agents have been examined as an integral part of BW research. In many cases, they are the preferred agents because they are easy to manipulate and study, highly contagious, difficult to diagnose, and often cannot be treated except by treating the symptoms.

Viruses are organisms consisting of a protein shell encasing simple genetic material. They are normally inert except when they come in contact with a specific cell. At that point, they link up with the cell wall and inject the genetic material into the cell itself. This genetic material alters the functioning of the cell, possibly by altering the cell's own genetic code. In any case, the cell is now producing more genetic material to match that of the original virus and using the cell's own energy to do it. Eventually, the cell ruptures, releasing hundreds to thousands of new viruses. In some cases, the cell does not rupture, but reproduces itself normally, albeit with its altered genetic code.

The agents discussed in this section have been examined by militaries as potential BW weapons or have been threatened to be used as BW weapons by non-military groups.

Chickungunya Fever

Differential Diagnosis: Dengue, Malaria, Yellow fever, Influenza

TRX: Contact with insects

CTC: 75

IP: 3(4) Days

Early Symptoms [(6) Days]: Excruciating joint pain causing incapacitation. Fever. Mild headache. Anorexia and constipation.

Advanced Symptoms [6 + (6) Days]: Fever drops for (3) days, then returns at lower intensity. Rash. Continued, worsening joint pain.

Treatment: Relieve Symptoms.

RR: 70 HT: 4 Months. Joint pains can continue during HT.

Notes: Vaccine under development. Agent intended to incapacitate.

Dengue Fever

Differential Diagnosis: Malaria, Yellow Fever, Influenza, Chickungunya

TRX: Contact with insects (Mosquitoes)

CTC: 75

IP: 3 + (6) Days

Early Symptoms [4 Days]: Sudden onset of high fever and chilliness. There is severe aching of the head, back, and extremities. Sore throat. Prostration. Anorexia and constipation.

Advanced Symptoms [2 + (2) Days]: Fever drops for (2) Days, then returns. Rash appears.

Treatment: Rest. Relieve Symptoms

RR: 70 HT: 3 + (3) Weeks.

Notes: Also called Breakbone fever. A vaccine is available, but has not been commercially produced. During HT, vision problems (blurred vision) may arise and fade by the end of the HT. Agent intended to incapacitate.

Eastern Equine Encephalitis

Differential Diagnosis: Influenza

TRX: Contact with insects (Mosquitoes), contact with bodily fluids.

CTC: 65

IP: (4) Days

Early Symptoms [(2) Days]: Nausea, vomiting, headache, and fever.

Advanced Symptoms [3 + (6) Days]: After a short period of well being, the following symptoms manifest: very high fever, gastro-intestinal disturbances, convulsions, general rigidity, swelling of limbs and face, cyanosis, and drowsiness possibly leading to coma.

Treatment: Relieve Symptoms, Replace Fluids.

RR: 10 HT: 3 Weeks

Notes: Vaccine available. Common in horses and other equine animals. Agent intended to kill.

Human Immuno-Deficiency Virus (H.I.V)

Differential Diagnosis: None.

TRX: Contact with bodily fluids. Airborne particles?

CTC: 99

IP: 10(10) Months

Early Symptoms [5 + (3) Months]: H.I.V. progresses to Acquired Immune Deficiency Syndrome (A.I.D.S.). The immune system is slowly destroyed. Substantial weight loss occurs in later part. Persistent fatigue. Diarrhea. Enlarged lymph glands. Night sweats or fevers. Hairy leukoplakia--a hairy white/grey growth on the tongue.

Advanced Symptoms [3 + (3) Months]: Any or all of the following may develop:

- Pneumocystis carinii pneumonia (PCP) - Severe shortness of breath and heavy cough.
- Kaposi's sarcoma - skin cancer manifesting as purplish lumps or patches on the skin or in the gastro-intestinal tract.
- Brain Infection - confusion, disorientation, loss of concentration.

By this point, the immune system has been destroyed, and the person is highly susceptible to other communicable diseases. His HLT is effectively a -10.

Treatment: Antibiotics? Relieve symptoms

RR: -50 HT: n/a

Notes: Not a lethal virus per se, although at this point in time, H.I.V. is 100% fatal. H.I.V. attacks the human immune system and cripples it permanently. Death does not necessarily come by viral action, but through secondary infections, such as pneumonias, tuberculosis, etc. The gamemaster should use such secondary infections in determining the outcome of an H.I.V. infection. As H.I.V. is a very infectious virus, and thus possibly of military or terrorist interest, it has been included in this book. Potential applications in a BW context include water-release or poisoning a blood supply. It is also possible that the virus could be dispersed as an aerosol from a groundburst, spray tank, or projector.

Whether airborne particles could infect targets is a matter of debate. For the purposes of this book, it is assumed that such infection can occur.

No vaccine available. Agent is intended to kill.

At the time of writing, there was a great deal of speculation on the infectious nature of

H.I.V. At present, conventional medical thought is that HIV can only be trasnmitted by contact with bodily fluids.

Influenza

Differential Diagnosis: Flu virus (not listed)

TRX: Airborne particles

CTC: 65

IP: (4) Days

Early Symptoms [1 Day]: Abrupt onset of fever, chills, malaise, aches, sore throat.

Advanced Symptoms [2 Days]: All early symptoms get progressively worse.

Treatment: Relieve symptoms, rest, replace fluids.

RR: 10 HT: 2 Days

Notes: Influenza is a very serious and often lethal disease that often appears in epidemics. Making it even more lethal is a 20% chance of the patient developing Viral Pneumonia after the HT is completed. Vaccine available. Agent is intended to incapacitate.

Smallpox / Variola

Differential Diagnosis: Chickenpox or Herpes Zoster (not listed)

TRX: Contact.

CTC: 85

IP: 7 + (10) Days

Early Symptoms [1 + (3) Days]: Chills, fever, headaches, lumbar pain, vomiting.

Advanced Symptoms [7 Days]: Fever falls on first day and a rash appears on face and extremities.

Treatment: Vaccine. Relieve Symptoms. Replace Fluids.

NOTE: QUARANTINE ALL PERSONS THOUGHT TO BE INFECTED.

RR: 20 HT: 4 Weeks

Notes: Believed to have been eradicated by vaccination by the World Health Organization in 1979. Vaccine exists. Agent is intended to kill.

Venezuelan Equine Encephalitis

Differential Diagnosis: Influenza

TRX: Contact with insects, contact with bodily fluids, airborne particles.

CTC: 65

IP: 2 + (3) Days

Early Symptoms: [2 Days] Abrupt onset of fever, chills, malaise, aches, sore throat.

Advanced Symptoms: [(3) Days] All early symptoms get progressively worse.

Treatment: Relieve symptoms. Replace fluids.

RR: 50 HT: 1 Week

Notes: Resembles a mild case of influenza. Common disease in horses. Vaccine available. Agent intended to incapacitate.

Viral Pneumonia

Differential Diagnosis: Other pneumonias (not listed).

TRX: Airborne Particles, contact, illnesses.

CTC: 80

IP: (3) Days

Early Symptoms: [5 Days] Cough, fever, sore throat, body pain, fluid-filled lungs.

Advanced Symptoms: [5 Days] All early symptoms continue.

Treatment: Relieve symptoms, rest.

RR: 20 HT: 21 Days

Notes: Viral Pneumonia can sometimes develop (20% chance) after a bout of influenza. Also, the symptoms are duplicated by pneumonic plague (q.v.). This is not a BW weapon, but is included for convenience as a secondary infection following other infections.

Western Equine Encephalitis

Differential Diagnosis: None

TRX: Contact with Insects. Contact with bodily fluids.

CTC: 65

IP: 5 + (5) Days

Early Symptoms [4 Days]: Headache, drowsiness, fever, gastro-intestinal disturbances.

Advanced Symptoms [4 Days]: Insomnia, muscle pain, lethargy, mental confusion, disturbance of speech, possible amnesia, and possible coma.

Treatment: Relieve symptoms. Vaccine (see notes).

RR: 50 HT: 2 Weeks

Notes: Vaccine available. It is an effective therapy at half-effect if given within the first 48 hours following infection, and no effect after that. Agent is intended to incapacitate.

Yellow Fever

Differential Diagnosis: Hepatitis, Jaundice (not listed)

TRX: Contact with insects (Mosquitoes)

CTC: 65

IP: 2 + (4) Days

Early Symptoms [3 Days]: Malaise, headache, fever, pain in eyes, nausea, and vomiting. Also severe body pains, prostration, bleeding into the skin and from mucous membranes.

Advanced Symptoms [(3) Days]: Slight relief on first day, then all previous symptoms return. Delirium.

Treatment: Relieve Symptoms

RR: 25 HT: 2 Weeks

Notes: Vaccine available. Agent intended to kill.

Rickettsial Agents

Rickettsia are the causes of obscure but still dangerous diseases. The difficulty in diagnosing such diseases makes them attractive to BW researchers because it prevents a targeted enemy from being able to effectively counteract them.

Rickettsia are between viruses and bacteria in size and are structurally similar to bacteria. Rickettsia follow similar life patterns to bacteria. However, Rickettsia do not have an adequate cell membrane and, like viruses, are prone to destruction by drying out.

Psittacosis

Differential Diagnosis: None

TRX: Airborne particles. Contact with bodily fluids. Ingestion.

CTC: 60

IP: (2) Weeks

Early Symptoms [7 days]: Chills, fever, anorexia, sore throat, malaise, headache.

Advanced Symptoms [7 Days]: Continued, but worsening.

Treatment: Antibiotics. Relieve symptoms

RR: 40 HT: 1 Week

Notes: Also called parrot fever. Vaccine available. Agent intended to incapacitate.

Q-Fever

Differential Diagnosis: Psittacosis. Brucellosis. Pneumonia, Hepatitis, Tuberculosis (not listed).

TRX: Caused by a parasite of cattle, sheep and goats. TRX is by airborne particles, ingestion of infected milk, contact with feces.

CTC: 50

IP: (3) Weeks

Early Symptoms [5 Days]: Prostration, muscle pain, abdominal pain, cough, jaundice.

Advanced Symptoms [7 Days]: Continued

Treatment: Antibiotics. Relieve Symptoms.

RR:65 HT: 2 Weeks.

Notes: Vaccine available. Designed to incapacitate.

Rocky Mountain Spotted Fever

Differential Diagnosis: Typhoid, measles (not listed)

TRX: Contact with insects (ticks)

CTC: 50

IP: 3 + (6) Days

Early Symptoms [1 + (5) Days]: Anorexia, malaise, nausea, headache, and sore throat.

Progresses to include chills, fever, aches in joints, bones, and muscles.

Advanced Symptoms [7 Days]: Vomiting. Rash. Delirium and stupor possibly progressing to coma.

Treatment: Antibiotics.

RR: 30 HT: 2 Weeks

Notes: Vaccine available. Agent intended to kill.

Epidemic Typhus

Differential Diagnosis: Murine (endemic) Typhus (see notes).

TRX: Body Lice

CTC: 50

IP: 9 + (5) Days

Early Symptoms: [7 Days] Fever, malaise, headache, rash.

Advanced Symptoms: [8 Days] Worse rash, delirium, stupor.

Treatment: Antibiotics, rest.

RR: 20 HT: 7 Days

Notes: Murine Typhus is flea-borne and less severe (RR=35). It is otherwise identical to Epidemic Typhus. Vaccine available. Agent is intended to kill.

Bacterial Agents

Bacterial agents once made up the bulk of BW agents, although much of the focus has now shifted to viral agents. Part of the reason for the shift of focus is the ease of manipulating viruses, but also there is the drawback that most bacterial infections can be treated quite well with modern antibiotics. Nevertheless, bacterial agents remain an important component of BW.

Pulmonary Anthrax

Differential Diagnosis: None

TRX: Airborne Particles

CTC: 75

IP: (5) Days

Early Symptoms: [3 Days] Fever, malaise, labored breathing, cough.

Advanced Symptoms: [5 Days] All early symptoms get progressively worse.

Treatment: Antibiotics.

RR: -10 HT: 5 Days

Notes: Pulmonary Anthrax is common in livestock. It can survive indefinitely in the soil in spore form, although it would require very heavy bombardment for a permanently contaminated anthrax zone to be established. Vaccine available. Agent intended to kill.

Brucellosis

Differential Diagnosis: None.

TRX: Airborne particles. Contact.

CTC: 40

IP: 3(10) Days

Early Symptoms [7 Days]: Chills, fever, weakness with fatigue and exhaustion, severe headache and backache. Night sweats. Abdominal pains.

Advanced Symptoms [14 Days]: Continued, but worsening.

Treatment: Antibiotics.

RR: 30 HT: 1 Week

Notes: Vaccine available. Agent intended to kill.

Cholera

Differential Diagnosis: Bacillary Dysentery

TRX: Contaminated food and water

CTC: 50

IP: (5) Days

Early Symptoms: [2 Days] Diarrhea passing greyish feces, abdominal cramps, vomiting.

Advanced Symptoms: [6+(4) Days] Dehydration, loss of color, clammy skin, shallow breathing, 20% chance of coma.

Treatment: Restore fluids, antibiotics, relieve symptoms, rest.

RR: -5 HT: 14 Days

Notes: Common disease found in unsanitary conditions where food and water may be contaminated by sewage. Vaccine available. Agent intended to kill.

Bacillary Dysentery

Differential Diagnosis: Cholera

TRX: Flies, contaminated food and water, contact with infected feces.

CTC: 80

IP: (3) Days

Early Symptoms: [3 Days] Blood and mucus in feces, fever, chills, abdominal cramps.

Advanced Symptoms: [7 Days] Convulsions, lethargy, anorexia, delirium, 50% chance of coma.

Treatment: Restore fluids, relieve symptoms.

RR: 20 HT: 17 Days

Notes: Dehydration may also result from sweating and diarrhea.

Meningococcal Meningitis

Differential Diagnosis: None

TRX: Airborne Particles.

CTC: 45

IP: 5 Days

Early Symptoms [4 Days]: High fever, chills, and headache. Pain in the back, abdomen, and extremities. Rash on skin and mucous membranes.

Advanced Symptoms [4 Days]: Confusion and delirium leading to coma. Shock (decreased blood pressure). Muscular spasm. Stiff neck. Exaggerated reflexes. Rash has faded.

Treatment: Antibiotics.

RR: 10 HT: 3 Weeks

Notes: A dangerous infection and inflammation of the meninges, a set of membranes which envelop the brain and spinal column. Vaccine available. Agent intended to kill.

Pneumonic Plague

Differential Diagnosis: Flu, Influenza, various Pneumonias.

TRX: Contact with rat-borne fleas. Pneumonic is spread by airborne particles (see notes).

CTC: 80

IP: (5) Days

Early Symptoms: [5 Days] Fever, swollen lymph nodes, abdominal pain,

Advanced Symptoms: [10 Days] All early symptoms become progressively worse. Also delirium and black rash (rash is for bubonic only--see notes).

Treatment: Antibiotics, relief of symptoms.

RR: -20 HT: 80 Days

Notes: Both the bubonic and pneumonic plague are caused by the same disease organism. The pneumonic form infects the body through the lungs and so the characteristic black rash does not appear. No vaccine available. Agent intended to kill.

Tularemia

Differential Diagnosis: Various pneumonias, cat scratch fever, and meningococcal and rickettsial infections.

TRX: Airborne particles. Contact.

CTC: Contact with animal tissues. Contact with Insects. Ingestion of contaminated meat or water.

IP: 2(5) Days

Early Symptoms [(3) Days]: Fever, nausea, and headache begin suddenly, with a papule or pimple forming at the point where the agent contacted the skin. This papule soon ulcerates. If the agent was ingested, there is gastro-intestinal disturbance, stupor, and delirium.

Advanced Symptoms [(6) Days]: Delirium. Prostration. General aches. Lymph nodes become enlarged and tender and start forming pus.

Treatment: Antibiotics.

RR: 10 HT: 2 Weeks

Notes: A common disease among wild rodents (particularly rabbits) which is normally passed on to man through his interactions with the animals. One attack of tularemia generally confers immunity. Vaccine available. Agent intended to kill.

Typhoid Fever (Enteric Fever)

Differential Diagnosis: Viral Pneumonia

TRX: Contaminated food and water.

CTC: 50

IP: 4 + (10) Days

Early Symptoms: [7+(3) Days] Increasing fever, chills, malaise, coughs, vomiting.

Advanced Symptoms: [7+(3) Days] Stabilizing fever, diarrhea, listlessness.

Treatment: Antibiotics, relief of symptoms, rest.

RR: 10 HT: 7+(3) Days

Notes: 1% of those infected can become carriers. These people do not develop the symptoms but are treated as being vectors for disease transmission purposes. Vaccine available. Agent intended to kill.

Fungal/Mycotal Agents

Fungal/Mycotal agents have not been the subject of a great deal of research in the BW field from a disease standpoint. Rather, the focus has been on mycotal toxins, such as trichothecene mycotoxins, a potential component of "Yellow Rain". At present, the United States Army does not

consider fungi themselves as antipersonnel weapons. The Soviet Union and its allies have been alleged to be experimenting with mycotal weapons, but this seems to be a drive for mycotal toxins rather than using the organisms themselves as the weapon. Fungal/Mycotal weapons are not expected to be stockpiled nor used in a future conflict. Vaccines do not exist for fungal/mycotal agents, but the United States is examining the possibility of a trichothecene vaccine.

Coccidioidomycosis

Differential Diagnosis: Any flu-like disease (not listed). Influenza.

TRX: Airborne particles.

CTC: 60

IP: 3(10) Days

Early Symptoms [(2) Days]: Fever and chills, severe pain in lungs, muscular ache, backache, cough, general weakness.

Advanced Symptoms [15 Days]: Prostration. Anorexia. Measle-like rash soon followed by development of painless ring-type patches.

Treatment: Rest. Relieve symptoms. Antibiotics.

RR: 45 HT: 4 Weeks.

Notes: Agent intended to incapacitate

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PHOENIX COMMAND

Chemical Agent Effects Table

Chemical Agents Effects Table

Concentration (CNC):																				
Agent:	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	25	30	35	40	50+
Riot Control																				
CA	1/-	1/-	1/87	1/25	1/12	1/7	1/4	1/2	1	1	1	2	1*	1*	1*	2*	3*	4*	6*	9*
CN	1/-	1/-	1/-	1/60	1/28	1/17	1/10	1/6	1/4	1/3	1	1	1	1	2	1*	1*	2*	2*	4*
CS	1/-	1/-	1/-	1/-	1/-	1/-	1/76	1/40	1/30	1/20	1/12	1/9	1/7	1/5	1/4	1/3	1	1	1	2
DM	1/-	1/-	1/-	1/-	1/65	1/39	1/24	1/13	1/10	1/7	1/4	1/3	1/2	1	1	1	2	2	1*	3*
DA	1/-	1/-	1/-	1/-	1/66	1/40	1/25	1/13	1/10	1/7	1/4	1/3	1/2	1	1	1	2	2	1*	3*
CN/DM	1/-	1/-	1/-	1/60	1/28	1/17	1/10	1/6	1/4	1/3	1	1	1	1	2	1*	1*	2*	2*	4*
Blood																				
AC	1/-	1/-	1/-	1/79	1/37	1/22	1/14	1/7	1/6	1/4	1/2	1	1	1	1	2	1*	2*	2*	3*
CK	1/-	1/-	1/-	1/35	1/17	1/10	1/6	1/3	1/3	1/2	1	1	2	2	1*	2*	2*	3*	4*	6*
Blister																				

ED	1/-	1/-	1/75	1/21	1/10	1/6	1/3	1	1	1	2	2	1*	2*	2*	2*	4*	5*	7*	1**
L	1/-	1/-	1/38	1/10	1/5	1/3	1	1	1	2	1*	2*	2*	3*	3*	5*	7*	1**	1**	2**
HD or H	1/-	1/-	1/38	1/10	1/5	1/3	1	1	1	2	1*	2*	2*	3*	3*	5*	7*	1**	1**	2**
HN	1/-	1/100	1/25	1/7	1/3	1	1	2	2	1*	2*	2*	3*	4*	5*	7*	1**	1**	2**	3**
CX	1/-	1/100	1/25	1/7	1/3	1	1	2	2	1*	2*	2*	3*	4*	5*	7*	1**	1**	2**	3**
Choking																				
PS	1/-	1/-	1/100	1/29	1/13	1/8	1/5	1/3	1	1	1	2	2	1*	2*	2*	3*	4*	5*	8*
CL	1/-	1/-	1/87	1/25	1/12	1/7	1/4	1/2	1	1	1	2	1*	1*	1*	2*	3*	4*	6*	9*
CG	1/-	1/-	1/80	1/23	1/10	1/6	1/4	1/2	1	1	2	2	1*	2*	2*	2*	3*	5*	6*	9*
Incapacitant																				
BZ	1/-	1/-	1/-	1/35	1/17	1/10	1/6	1/3	1/3	1/2	1	1	2	2	1*	2*	2*	3*	4*	6*
Blue-X	1/-	1/-	1/75	1/21	1/10	1/6	1/3	1	1	1	2	2	1*	2*	2*	2*	4*	5*	7*	1**
Nerve																				
GA	1/75	1/15	1/4	1	2	1*	2*	3*	4*	7*	1**	2**	2**	3**	3**	5**	7**	10**	13**	20**
GB	1/35	1/7	1	2	2*	2*	4*	7*	1**	1**	2**	3**	4**	6**	7**	10**	15**	21**	29**	43**
GD	1/25	1/5	1	1*	2*	3*	5*	1**	1**	2**	3**	5**	6**	8**	10**	14**	21**	29**	40**	60**
VX	1/5	1	2*	5*	1**	2**	3**	5**	7**	10**	16**	23**	30**	40**	49**	73**	106**	146**	200**	300**
VR-55	1/3	1	1*	3*	7*	1**	2**	3**	4**	7**	11**	16**	20**	27**	33**	49**	71**	98**	133**	200**
Biological Toxins																				
YELLOW RAIN	1/-	1/100	1/25	1/7	1/3	1	1	2	2	1*	2*	2*	3*	4*	5*	7*	1**	1**	2**	3**

CBW Tables

WHITE RAIN	1/50	1/10	1/3	1	1*	2*	3*	5*	7*	1**	2**	2**	3**	4**	5**	7**	11**	15**	20**	30**
GREEN RAIN	1/-	1/-	1/75	1/21	1/10	1/6	1/3	1	1	1	2	2	1*	2*	2*	2*	4*	5*	7*	1**

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Delivery Systems Effects Table

US 155mm Artillery Shell

		Wind		CNC																
Elapsed Time		Speed																		
Pers.	Non-pers.	Rows	on Impact	Range from Burst																
					01	2	3	4	5	6	7	8	9	10	11	12	14	16	20	
Burst			0	25	25	107	5	4	4	3	3	3	3	3	2	2	1			
20h	5 p	1	1	25	23	107	5	4	4	3	3	3	3	3	2	2	1			
2d	10 p	2	2	23	209	6	5	4	4	3	3	3	3	3	2	2	1			
3d	15 p	3	3	20	188	6	4	3	3	2	2	2	2	2	2	2	1			
3.5d	20 p	4	4	18	167	5	4	3	3	2	2	2	2	2	1	1	1			

4d	25 p	5	5	18	167	5	4	3	3	2	2	2	2	2	2	1	1	1	
4d	30 p	6	6	15	14	6	4	3	2	2	2	2	2	2	2	1	1	1	
3.5d	35 p	7	7	13	115		4	3	2	2	2	2	2	2	2	1	1	1	
3d	40 p	8	8	13	115		4	3	2	2	2	2	2	2	2	1	1	1	
3d	45 p	9	9	109	4		3	2	2	2	1	1	1	1	1	1	1		-
2.5d	50 p	10	10	109	4		3	2	2	2	1	1	1	1	1	1		1	-
2.5d	55 p	11	12	8	7	3	2	2	1	1	1	1	1	1	1	1	1		-
2.5d	60 p	12	14	8	7	3	2	2	1	1	1	1	1	1	1	1	1		-
2.5d	65 p	13	16	8	7	3	2	2	1		1	1	1	1	1	1	1		-
2d	70 p	14	18	5	5	2	1		1	1	1	1	1	1	1	1		-	-
2d	75 p	15	20	5	5	2	1	1	1	1	1	1	1	1	1	1		-	-
2d	80 p	16	22	5	5	2	1	1	1	1	1	1	1	1	1	1		-	-
2d	85 p	17	24	5	5	2	1	1	1	1	1	1	1	1	1	1		-	-
2d	90 p	18	26	3	2	1	1	1		-	-	-	-	-	-	-	-	-	-
2d	95 p	19	28	3	2	1	1	1		-	-	-	-	-	-	-	-	-	-

2d	100 p	20	30	3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-
1.5d	105 p	21	34	3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-
1.5d	110 p	22	38	3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-
1.5d	115 p	23	42	3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-
1d	120 p	24	46	3	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-

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PHOENIX COMMAND

Introduction and Definitions

Phoenix Command Basic Miniatures Rules v.001

Based upon the **Terminator 2: Year of Darkness Miniatures Combat System** published and Copyright 1994 by Leading Edge Games.

Phoenix Command Miniatures v.001

Modern miniatures adventure and military gaming.

Introduction:

Phoenix Command Miniatures is based upon the **Phoenix Command Small Arms Combat System**, published by Leading Edge Games. Although these two games share a certain pedigree, there are some very significant differences.

One of the last products released by Leading Edge Games before the company ceased operations was the **Terminator 2 Year of Darkness Miniatures Game**. This presented a stripped-down Phoenix Command ruleset and matched humans against terminator robots. Similar game mechanics were presented in the **Aliens Boardgame**, which allowed players to battle between miniatures of Colonial Marines and Alien warriors. Though never released, a **Living Steel** miniatures variant code-named "**Blasteroo**" supposedly adopted a similar rules design. The emphasis on these three incarnations of Phoenix Command Miniatures rules was playability and speed. Though not as complex as the flagship Phoenix Command rules, the miniatures rules carried their own flavour, and tried to expose a wider audience to the Leading Edge rules systems.

This latest incarnation of Phoenix Command Miniatures builds upon the foundations of the Aliens, Terminator 2, and Blasteroo rules, while still cleaving to the standards set by the Phoenix Command Small Arms

Combat System.

So, why rewrite a simplified combat system for miniatures?

While Phoenix Command Small Arms Combat System works quite well as a miniatures game, it is at its core a very complex system based completely around small arms ballistics. It is designed for the player who wants the perfect simulation of small arms combat on the tabletop, taking into account every detail. Its modular ruleset allows for easy expandability and modification by allowing new rules to be layered on the core mechanics. The degree of realism offered by Phoenix Command is phenomenal.

Phoenix Command Miniatures, on the other hand, chooses simplicity in an attempt to be more accessible to a wider array of players without sacrificing the degree of realism which is a hallmark of all Phoenix Command games. The Miniatures System allows the players to set up and start playing a game faster, and play through a game faster still.

Additionally, where things happen on the miniatures table very quickly, players can soon find the situation getting away from them if they fail to make sound tactical decisions. Just as in reality, dealing with a rapidly developing tactical situation can be a crucial element in command.

Where the Small Arms Combat System focuses on simulating the decisions of individuals on a battlefield, the Miniatures System instead focuses on the decisions faced by commanders in small unit engagements. Initiative and morale rules take the centre stage here, and commanders must learn to deal with these human factors in shepherding their units towards their objectives.

The Miniatures rules are presented in stages, to allow new players to learn the rules in easily digestible chunks. The first few sections deal with infantry operations, with armor, artillery, and air support being added in later sections. A subsequent rules set will add in special weapons, animals, and other battlefield elements.

Chapter 1. Setup

1.0 Scale and Dice Rolls

Ground scale for 20 to 25mm miniatures is 1 inch equals 2 metres.

One figure model represents a single combatant. One vehicle model represents one vehicle.

All dice rolls require a ten-sided die that will generate a number from 0 to 9. The 0 is read as zero, rather than 10 as is sometimes the practice in other games.

1.1 Definitions

Actions: A combatant performs actions on the battlefield. In the game these actions typically consist of movement, weapons fire, or melee combat. Actions are typically only performed through the use of command points by a combatants fire team, but in certain cases, actions can be performed independently of the use of command points.

Active Combatant: An active combatant is one who is in the midst of battle. In game terms, this means a combatant who:

1. did not perform actions in the Strategic Movement phase (does not include actions performed in interrupts), and
2. is not panicked or incapacitated.

Activation: A unit can be activated once in a turn. An activated unit can either expend accumulated CP by performing actions such as movement or firing, or it can perform no actions and instead accumulate another CP. A unit which chooses to accumulate another CP is assumed to be engaged in planning and coordinating their next move.

Armour PF: Armour Protection Factor. All Armour and Cover has a Protection Factor, which determines whether a weapon can go through the armour to strike the target behind it. If the weapon's PEN exceeds the Armour PF by more than 3, the weapon penetrates and can cause injury to the target. If the PEN is equal to or exceeds the Armour PF by 3 or less, then the weapon glances and has a reduced chance of injury. Finally, if the PEN is less than the Armour PF, the weapon does not penetrate and does not cause damage.

Breveting: When a unit's leader is killed or incapacitated, a new leader is automatically appointed or breveted from the remainder of the unit. The new leader must spend CP to reorganize the unit, and has a CP rating one less than that of the previous leader. If the CP of the newly appointed leader would be 0 or less, then the unit is broken and cannot brevet a new leader. The broken unit must retreat.

Broken Units: A broken unit has been routed through morale failure. The unit members are considered panicked, and must move back to their forming up point during strategic movement.

Combatant: A combatant is a single figure representing a soldier, police officer, or adversary.

Command Check: A Command Check is a die roll to determine whether a unit's leader maintains control over his troops. A 0-9 roll is made for each figure in the unit other than the leader, and the roll is compared to the Command Check Target. The Command Check Target is the sum of the Troop Quality of the Figure and his Leader's Command Rating. If the 0-9 roll is less than or equal to the Command Check Target, the Command Check is successful.

Command Distance: A leader can only exert command and control over troops within a certain distance. As such, only a leader's troops within his command distance can be subject to the leader's expenditure of command points.

Command Points or CP: A unit leader generates command points through time spent planning. Command points allow the leader's combat team to perform actions on the battlefield. Combat teams that are out of command points are considered disorganized.

Command Rating: A measure of a leader's planning and motivation ability. A leader's accumulated CP can never exceed his command rating.

Defence: A unit attacked by an enemy can return fire and engage in defensive combat. By spending 1 CP, the unit can engage in a disciplined defence, which allows it to fire normally. A unit attacked by an enemy but having no CP can only mount a ragged defence, where all weapons fire and combat is done with a -2 penalty, and all weapons are fired at their maximum rate of fire.

Forming Up Point: Also sometimes called a staging area or start line, the Forming Up Point is where one side's units were organized for the current operation.

Hero: A rarity on the battlefield, the hero is a solitary combatant that is able to perform actions without being part of a unit. Unlike **Stragglers**, who have been separated from their unit, heroes were never part of a unit. Heroes may be part of the player's command structure (such as a platoon

or company commander), or they may be independent of the command structure (such as civilians or journalists).

Interrupt: An Interrupt is an opportunity for an opposing unit to stop the performance of another unit's actions. Typical interrupts include ambushes and defensive weapons fire against a unit performing actions. A successful interrupt causes a unit to stop performing actions, and to lose any remaining command points it may have. To be successful, an interrupt must result in a unit's morale becoming Shaken. An interrupt is automatically successful against shaken units performing actions.

Line of Sight or LOS: Quite simply, units which can see each other have a line of sight to each other. The easiest method of determining line of sight is to stretch a piece of string between two enemy units—if an obstacle intersects the string, then the units do not have a line of sight to each other. Players wishing to make LOS determination more authentic can build a periscope to give a figure's-eye view of the battlefield.

Morale: Morale is a measure of a combatant's willingness to take actions on the battlefield. For many combatants, morale can be **Bold** or **Shaken**. In special cases, combatants' morale can also be **Fanatical** or **Panicked**. In general terms, the more concerned that a combatant is with his personal safety, the less he will be able to do on the battlefield. Morale changes throughout the game depending on the danger faced by the combatant, as well as the motivation provided by the combatants' leaders.

PEN: PEN is the ability of a weapon to penetrate armor.

Ragged Fire: Ragged fire is undisciplined and generally ineffective fire. All ragged fire is performed at the weapon's maximum rate of fire and at a -2 penalty.

Stragglers: Stragglers are individuals who have been separated from their unit, or who are the last survivors of their units. They can generate CP themselves (up to a maximum of 1 CP), and they cannot perform offensive actions. In the basic rules, Stragglers are simply removed from play.

Strategic Movement: Strategic Movement is performed by a unit that is not expecting enemy contact. Strategic movement does not require command points, but can be interrupted by an enemy through the use of ambushes, overwatch, and so forth.

Unit: A unit is a group of combatants that is organized under a unit leader.

The unit is defined by its size (a fire team) or role (heavy weapons). Organization charts are provided later in this rulebook showing the composition of units in many modern military and police forces. In the game, units perform actions together.

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Page last modified: December 14, 2001



PHOENIX COMMAND

Basic Miniatures Rules

Phoenix Command Basic Miniatures Rules v.001

2.1 Turn Sequence

The game is played in a series of turns until one side or the other achieves victory on the battlefield.

The turn is broken into the following stages:

Strategic movement

Move any units that are designated for strategic movement—that unit may not act in the operations phase and loses any CP it may have accumulated over prior turns. The unit must not be in contact with the enemy before it engages in strategic movement, and its movement may not bring it into enemy contact. Its movement may, however, be subject to an interrupt if it passes through an ambush or enemy overwatch. Units are in contact if they are in weapons range of each other and are able to draw a Line of Sight to each other.

Resolve any interrupts that occur when units in strategic mode move into contact.

Initiative

Count the number of active combatants on each side. The Side which has the most active combatants has initiative until the turn ends, or an interrupt causes a change in initiative. An active combatant is one who:

1. did not perform actions in the Strategic Movement phase (does not include actions performed in interrupts), and
2. is not panicked or incapacitated.

Operations

The unit on the battlefield with the highest number of CP is activated. It can either:

1. Expend all its CP by performing actions,

2. Accumulate another CP, or
3. Pass by doing nothing.

The decision then passes to the unit with the next highest number of CP, and so forth until all units have been activated.

In the event that both sides have a unit with an equal number of CP, the side with initiative activates their unit first.

Once a unit has been activated in a turn, it cannot become activated again in the turn.

Example: *Alex has the initiative and has four fireteams with 3, 2, 2, and 0 CP accumulated, while Jason has two squads with 2 and 1 CP accumulated.*

The activation of units in the operations phase of a turn would be as follows: Alex activates the fireteam with 3 CP first and adds another CP, giving 4 CP in total. This fireteam has been activated for the turn and cannot be activated again.

Because he holds initiative, Alex activates one of the squads with 2 CP and performs actions and then does the same with the other squad with 2 CP. He chooses the order in which these two units are activated.

Once Alex has activated all of his units with 2 CP, Jason is able to activate his 2 CP unit. He adds a CP, bringing the unit's accumulated CP to 3. As this unit has been activated once in this turn, it cannot be activated again. Then Jason activates his final unit with 1 CP and has it accumulate another CP.

Finally, Alex activates his 0 CP unit and has it accumulate another CP.

All units have been activated, and this ends the operations phase of this turn.

2.2 Unit Organization

Combatants are organized into units on the battlefield. All members of the unit must remain within the **Command Distance** of the unit's leader and must perform their actions at the same time in the turn. When the unit's leader begins expending command points, all members in the unit must act.

Some common unit organizations are found here.

Units cannot be subdivided below the level of fire-team. However, units can be consolidated into larger organizations, such as sections/squads and even up to platoons, so the entire larger organization acts at the same time, and these can be broken down to their constituent units later in the game.

Consolidation:

To consolidate sub-units into a larger unit or organization, all sub-units to be consolidated

must be within the Organization Leader's Command Radius. Consolidation requires 1 CP per sub-unit to be consolidated. Once consolidated, any CP not belonging to the organization Leader are lost.

Example: *The US Infantry Squad contains two fire teams/sub-units. To consolidate the units into a single squad, the two fire teams/sub-units must be within the squad leader's command radius, and the Squad leader would have to spend a total 2 CP (one CP for each unit) to complete the consolidation. If the intent were to consolidate to a platoon, all the units would first have to be consolidated into squads, and then the squads consolidated into a platoon.*

Furthering the example, the Squad leader had 4 CP and the Team Leader of the second fire team had 3 CP, following the consolidation, the Squad leader would have his original CP less 2 for the consolidation leaving (4-2 =) 2 CP, and the team leader of the second fire team would have lost the 3 CP that he had before the consolidation.

Only units in the same organizational structure can consolidate, so only the two fire teams that comprise the same squad can consolidate, and squads can only consolidate with other squads from their platoon, and so forth.

Detachment:

A consolidated unit can detach units. Doing so costs 1 CP per unit detached. A detached unit begins with no CP.

Example: *A US infantry squad breaks itself into two fire teams. Doing so requires 1 CP, and the unit is broken into two units. Only 1 CP was required for the detachment since officially, only one unit was detached*

Reorganization:

In the midst of a battle, as units take casualties and are eliminated, holes may develop in the organizational structure. A platoon leader may want to assign and shift his units in his organization to maintain an effective command structure. Doing so is handled in a similar way to consolidation, but with key differences.

The reorganization requires expenditures of command points from two levels above the units subject to reorganization. So, a Platoon leader would be necessary to give reorganization orders to units under his command, and a company leader would be necessary to give reorganization orders to squads.

Example: *Heavy fighting has mauled two of the squads in a platoon, so that each squad has lost a fire team. The Platoon leader is able to expend CP to reorganize the remaining fire teams into a single squad.*

Example: *Two squads have taken heavy casualties, so that none of their units are up to full strength. The Platoon leader is able to expend CP to reorganize all the individuals in the two squads into new fire teams and bring the new fire teams together into a single squad.*

Reorganization requires the expenditures of 2 CP for each sub-unit affected. In the event that the reorganization results in the elimination of sub-units from the command structure, CP are only expended on the remaining sub-units. As with consolidation, the units being reorganized must be within the Reorganizing leader's Command Distance.

Example: Continuing the examples above, as the reorganization results in the formation of a single squad with two units, only 4 CP are required from the platoon leader. Ordinarily these two squads would each have had two sub-units, but the reorganization eliminated two sub-units.

2.3 Command and Control

Command and Control determines how well a combat unit is able to develop and execute tasks on the battlefield, through a process of planning, initiative, and motivation. In Phoenix Command Miniatures, the Command and Control process is handled through the use of Command Points (CP).

When a unit is activated in the Operations phase of a turn, the leader of the unit may expend all his accumulated CP by having the unit perform actions. The actions a unit can perform are described in the following section.

If the activated unit's leader does not choose to perform any actions and expend his entire accumulated CP, he accumulates another CP. There is a limit to the number of CP a leader can accumulate, and if the leader is already at his maximum for accumulated CP and does not wish to expend them, he does not gain another and the unit completes its turn. A leader cannot accumulate more CP than his **Command Rating**.

Example: Jason has two units, led by figures with Command Ratings of 4 and 3. Both have accumulated 3 CP at the start of the present turn. Jason decides not to have his first unit expend any actions this turn, so he adds another CP to the unit, bringing its cumulative CP to 4.

He also decides not to have the second unit expend actions either. However, since the unit has already accumulated CP equal to its Command Rating of 3, the unit cannot accumulate further CP. The unit does nothing this turn.

If a unit decides to expend CP by performing actions, all the unit's CP must be expended, leaving the unit with 0 CP when its actions are completed. Any CP not used in performing actions are lost.

Example: Alex activates a unit with 3 CP. He uses 2 CP to advance the unit towards cover and does not wish to perform further actions. The unit's remaining CP is lost.

Command Ratings: Each leader has a Command Rating, which determines his ability to plan and exercise control over his troops. Some leaders, notably poorly-trained militia, will have CP of 1 or 2. Most line troops have Command Ratings of 3 to 5, while elite troops can have command ratings of 5 or 6. The higher the rating, the more CP a commander can accumulate and have his troops expend all at once.

Breveting: If the leader of a unit is incapacitated or killed, the unit loses all accumulated CP

and has to appoint (“brevet”) a new leader immediately from within its ranks. The new leader must accumulate and spend 1 CP to take command of the unit. In the advanced rules, a nation’s command and control doctrine can raise or lower this CP cost for the new leader to take command.

The new leader has a **Command Rating** one less than his predecessor. If the new leader’s command rating is less than 1, then the unit cannot brevet a new leader and breaks.

While a unit is breveting a new leader, it may not perform other actions, and can only mount a ragged defence.

***Example:** Alex’s two militia units (Command ratings 2 and 1 respectively) have taken heavy casualties. Leaders for both units have been killed. Alex brevets a new leader for both units as soon as the old leaders are killed. The first unit’s replacement leader has a Command Rating of 1, while the second would have a Command Rating of 0.*

Since the second unit’s replacement leader has a command rating of less than 1, that unit is unable to brevet a new leader and breaks from the battlefield.

The next turn, while the second unit is breaking, the first unit’s new leader accumulates 1 CP. The following turn, he expends that CP to take command of the unit and is then able to act normally.

Command Distance: Each leader has a command distance. All figures in his unit must remain within this distance to the leader to be able to properly take and execute orders. In the basic game, all leaders have a Command Distance as shown in the **Leader Table**. Rules for generating different command distances for leaders are found in the advanced rules.

A figure which ending his turn outside of his leader’s command distance is a **Straggler**. In the advanced rules, Stragglers are a dangerous fixture on the battlefield and can disrupt their own side’s actions or even open fire on their own side. Under the basic rules, Stragglers are removed from play in the turn they become stragglers.

***Example:** Jason’s fireteam has five figures including a leader. After expending actions, two of the figures finish their movement in positions which place them more than 7” and 8” away from their fireteam leader. These figures are Stragglers and are eliminated from play.*

Command Checks: From time to time, a command check will be required to confirm that a commander maintains control over his troops. The command check is performed by making a 0-9 roll and trying to get under the sum of the figure’s **Troop Quality** and the leader’s Command Rating. This sum is referred to as the **Command Check Target**.

Shaken troops suffer a penalty of –2 to their Command Check Target. Panicked troops and Fanatical troops automatically fail command checks.

Leaders are not required to perform command checks on themselves.

***Example:** Alex has a unit of three figures attempting to perform an*

ambush/interrupt on one of Jason's units. Alex wants the figures to hold fire until Jason's unit is within the kill zone. Alex's figures are militia (troop quality 2) and the leader has a command rating of 3.

*Alex makes a 0-9 roll for the two non-leader figures in the team as soon as Jason's unit enters Alex's team's line of sight, rolling a 3 and 0. Both rolls were below the **Command Check Target 5**, which was the sum of the Troop Quality of 2 and the Command Rating of 3. Therefore, both figures hold their fire, as does the leader.*

Jason's unit expends another CP to perform another action. Before they do so, Alex rolls the Command Check again, this time rolling a 6 and a 4. One of Alex's figures fails the command check and opens fire on Jason's unit. Having the ambush blown by a nervous soldier, Alex has the rest of his ambush team open fire on Jason's unit. This weapons fire is resolved before Jason's unit begins performing their actions on the current CP.

Tracking Accumulated CP: Players can track accumulated CP through the use of CP chits. In an open game such as those played to introduce new players to the game, CP chits can be placed right on the tabletop beside the leader figure. This has the advantage of allowing players to know at a glance a unit's accumulated CP, but it also shows the opposing player the same information and it allows him to anticipate actions from units with high CP counts. Chits can be anything—pennies, glass gaming stones, or cardboard counters have all been used.

By setting up a blind or screen around a unit roster, CP chits can be placed next to the appropriate unit's roster. Since the unit's roster is hidden from the opponent, an element of the fog of war is introduced, and opposing players are never certain which units will be the next to be activated. This creates a tension-filled game and gives a better simulation of real small unit actions, but it requires players to keep close track of their own units to ensure that CP are accurately assigned.

2.4 Actions

Units can only perform actions by expending accumulated CP. This can only be done during the **Operations Phase** of the game turn when a unit is activated and chooses to perform actions (See section **2.3 Command and Control**). Each figure in the unit must perform his action before the unit's next CP can be expended.

The actions permitted are shown on the following table:

Action Type	Description
Disciplined Fire	Disciplined fire allows a figure to deliver a coordinated and carefully aimed volume of fire at a target. Disciplined fire enables a figure take an additional shot without modification to their odds of hitting.
Advance and Fire	The advance and fire action allows a figure to move their Standard Move as shown on the movement chart, and direct fire at a target.

Double-time Advance	Double-time advance allows a figure to move twice their standard move. A figure doing a double-time advance may only do so once in a turn, and may not fire during the action they performed the double-time advance.

Example: Jason activates a fireteam with 3 CP and 5 figures and decides to have them perform actions by assaulting a farmhouse. The five figures in the fireteam are Alan, Bob, Chuck, Doug, and Eric (leader).

The first CP expended is for disciplined fire to suppress any enemy in the farmhouse. Jason has Alan pop a smoke grenade to cover a subsequent advance, while the rest of the fireteam takes 4 shots each with their small arms.

The second CP expended is a double-time advance for the entire unit, which allows each figure in the unit to move twice the figure's standard move. Jason moves the five figures of the fireteam twice their standard move of 6", for total movement of 12" towards the farmhouse. They cannot perform another double-time advance this turn as each figure can only double-time advance once per turn.

The third CP expended has the team close to and enter the farmhouse. Alan and Bob go through the door shooting at targets they find within. Each takes two shots. Chuck and Doug move to cover outside the farmhouse and fire at the windows to suppress any enemy troops within, firing three shots. Eric moves to the corner of the farmhouse to cover approaches from adjacent buildings.

This unit has expended its entire CP and ends its turn. Jason makes a check and confirms that all members of the unit are within Eric's Command Distance so no members have to be eliminated as Stragglers.

Actions are performed by the figures in a unit, and not the unit as a whole. Individual figures in a unit can perform different actions on the expenditure of the same CP. This means that one figure in a unit could be performing a double-time advance, at the same time as another is performing disciplined fire, while others in the unit are advancing and firing, and so forth.

2.5 Interrupts

Often in modern combat, units will set up combat positions to engage an enemy when the enemy moves into a certain area or kill zone. This is referred to as overwatch or ambush, but the result is the same—to prevent the enemy unit from continuing its actions.

Preparing Interrupts: A unit (ambushers) sets an interrupt by expending 1 CP. Once the interrupt is set, the unit ends its turn and holds the CP it expended setting the interrupt in reserve. An "interrupt prep" marker is placed beside the ambusher unit.

When an enemy unit enters an ambusher's LOS, the ambushers have the option of expending the held CP to perform a single action. The entire unit must perform the same action, since there usually is no time to coordinate a complex response to the appearance of an enemy unit.

For clarification, a hidden unit which becomes spotted as a result of performing actions (even another interrupt) is considered to have entered LOS. This means that a hidden unit which

opens fire may be exposing itself to interrupts from enemy units.

While waiting for an enemy to appear, the unit can continue to accumulate CP as normal, but it may not accumulate more CP (including the reserve CP for the interrupt) than the leader's Command Rating.

Even though a unit that has set an interrupt may have multiple accumulated CP, only a single CP may be used in performing the interrupt.

Premature Interrupt Actions: In performing an interrupt, there is a chance that the ambushing unit may choose to perform its interrupt before conditions are optimal. For example, a soldier in the midst of an ambush may get nervous and open fire before the enemy has reached the kill zone.

Each CP the target spends after entering the ambusher's LOS requires a Command Check to be done for each figure under the ambush team leader's control. A successful command check means that the unit holds its fire and can decide when to fire while the target is performing its action. A failed roll means that the figures that failed perform ragged fire on the target before the target begins its action.

***Example:** Alex has a unit of three figures attempting to perform an ambush/interrupt on one of Jason's units. Alex wants the figures to hold fire until Jason's unit is within the kill zone. Alex's figures are militia (troop quality 2) and the leader has a command rating of 3.*

*Alex makes a 0-9 roll for the two non-leader figures in the team as soon as Jason's unit enters Alex's team's line of sight, rolling a 3 and 0. Both rolls were below the **Command Check Target** of 5, which was the sum of the Troop Quality of 2 and the Command Rating of 3. Therefore, both figures hold their fire, as does the leader.*

Jason's unit expends another CP to perform another action. Before they do so, Alex rolls the Command Check again, this time rolling a 6 and a 4. One of Alex's figures fails the command check and opens fire on Jason's unit. Having the ambush blown by a nervous soldier, Alex has the rest of his ambush team open fire on Jason's unit. This weapons fire is resolved before Jason's unit begins performing their actions on the current CP.

Alex resolves the fire as follows. The nervous figure performs ragged fire. This means he fires at the maximum rate of fire for his weapon, in this case three shots and all are performed at a -2 penalty. Unlike disciplined fire, the nervous figure cannot take any shots over and above the 3 shot maximum for his weapon.

The leader and other figure perform disciplined fire. The leader takes 2 shots, using the 1 shot line on the odds of hitting tables. According to the rules for disciplined fire, a figure may take an additional shot without modification to their odds of hitting. The other figure fires at his maximum rate of fire of three shots and takes an additional shot as allowed under disciplined fire.

Resolving Interrupts: If an ambusher's actions are sufficient to cause the morale of the unit to become **Shaken**, then the interrupt is successful. The target unit loses its entire remaining

CP and ceases its turn.

An interrupt is automatically successful against units that were already Shaken before the interrupt occurred.

Example: Continuing the above example, Alex's ambushers manage to cause sufficient casualties to Jason's unit to make the latter's morale Shaken. Jason's unit must cease performing actions and loses all remaining CP. Jason has his unit "Take Cover," which costs no CP and has the unit go to ground taking advantage of any cover they can find. This ends the turn for Jason's unit.

A failed interrupt means that the target unit is able to continue to perform actions normally.

Ragged Interrupts: Often, a unit will not have any CP in reserve to set or perform a prepared interrupt. However, they may still attempt an interrupt against an enemy unit entering their LOS. The procedure for holding fire and resolving interrupts is identical to that of the prepared interrupt except that a unit performing a Ragged Interrupt can only perform ragged fire.

A unit can only attempt one Ragged Interrupt in a turn.

Take Cover: A unit which has been successfully interrupted must cease performing actions and end their turn. As an option, they can "Take Cover" which has the unit as a whole try to locate any cover they can find and make use of it. Each figure can move up to 3" towards the nearest cover, but they cannot advance towards an enemy to do so. If there is no cover within the 3" limit, then the figures go prone.

The unit should be checked for any Stragglers after they have taken cover, and these should be dealt with appropriately. In the basic game, Stragglers are eliminated from play.

A figure that has Taken Cover is able to use the "In Cover" or "Prone" Lines, as appropriate, on the Odds of Hitting Modifiers Table.

Tactical Notes: The interrupt is a devastating tactic that can bring a coordinated enemy plan to a screeching halt if used properly. Interrupts should be set if enemy contact is anticipated. Multiple units can coordinate their actions so that one unit has set an interrupt while the other is advancing and so forth.

A truly successful interrupt may not only cause the target to become Shaken and end its turn, but if sufficient casualties are inflicted, it may also cause the enemy side to lose initiative, allowing the ambushing side to move its units before the enemy can.

Example: Continuing the above example, Jason's unit has been Shaken and has taken three casualties. Alex calls to check initiative and both sides quickly count their active combatants. Jason had 27 active combatants before the ambush and now has 24, while Alex has 26. Alex seizes the initiative from Jason.

Jason has an unactivated unit with 3 CP and 2 unactivated units with 2 CP, while Alex has 2 unactivated units with 2 CP each. The next unit to be activated is Jason's 3 CP unit, followed by Alex's 2 CP units followed by Jason's 2 CP units. Before Alex seized the initiative, Jason's 2 CP units would have been activated before Alex's 2 CP units.

2.6 Weapons Fire

Units can engage in weapons fire during interrupts or by expending actions in the operations phase of the turn. Units which have performed strategic movement in the turn or units which have used the Double-time advance in their action are not eligible to fire.

The Weapons Tables provide information on **Range**, **PEN**, and **System Damage Modifier (SDM)**. Many weapons can strike the target with multiple rounds each time they hit, and these weapons are designated with a value like "2 hits @ 60" in their PEN entry. In this case, this means that the weapon strikes twice at a PEN of 60 for each successful shot. Each of these hits is resolved independently as described further in this section

If the weapon is listed as having **1 Shot/Action**, then it may only fire 1 shot for each Action performed by the shooting figure. A weapon listed as **1 Use** means that the weapon is disposable and can only be fired once before being discarded. Note that a weapon listed as having 1 Shot/Action or 1 Use takes the shooter his entire action to aim and fire. A Shooter, even if willing, cannot use the 2 shot or 3 shot lines on the **Odds of Hitting Tables** with these weapons. Disciplined fire will not give the shooter an extra shot with these weapons.

A firing figure decides what weapon he is going to use (if he has more than one). For figures with multiple weapons, only one weapon may be used per action.

Once the weapon has been chosen, refer to the appropriate section of the **Odds of Hitting Tables**. At this point the firing figure decides how many shots he will take. If he takes one shot, it is assumed to be fairly carefully aimed and its **Odds of Hitting** are higher than if the two shot or three shot lines are chosen. The player cross-indexes this line with the range to the target, and modifies the number by the target's **Odds of Hitting Modifier**. This gives the final Odds of Hitting.

The player then rolls a 0 to 9 number for each shot being taken by the figure; if the number rolled is less than or equal to the final Odds of Hitting, the target has been hit by that shot.

When determining the target's Odds of Hitting Modifier, the target is considered **In Cover** if it is in terrain that provides cover (such as rubble or woods) or if there is cover or an obstacle between the shooter and the target. This includes low walls, vehicles, or other objects which do not block the line of sight but which partially obstructs the line of fire. The target is considered Firing Over Cover if it is firing over or around cover to which it is adjacent.

Optional Stray Fire Rule: Where a shooter is firing at a target, and the shooter's Odds of Hitting are less than zero (0), have the shooter roll 0-9. Take the difference between the shooter's 0-9 roll, and the odds of hitting, and subtract this from the hit location and injury roll.

***Example:** One of Jason's combatants is militia level and is shooting three shots at a target behind cover at 20 inches. The Odds of Hitting are -3 for each of the three shots. Jason rolls a 7, 4, and 8. The target's hit location and injury rolls would be modified by -10, -7, and -11. Jason rolls a 6, 9, and 3 for the hit location and injury rolls, and these are modified to -4, 2, and -8 respectively. Reading on the table, Jason sees that he has caused a graze to the target.*

Hit Location and Injury for Human Targets: If a human target is hit, the target figure refers

to the Hit Location and Injury Table. Compare the Weapon's PEN with the Armour PF and resolve it as follows:

Weapon Penetration vs. Armour PF	
Weapon PEN exceeds Armour PF by 4 or higher or target is unarmoured. Or Weapon PEN exceeds target's Armour PF of its Body Armour.	Roll on Hit Location and Injury Table using the Overpenetration Column.
Weapon PEN equals Armour PF or exceeds Armour PF by 3 or less. Or Weapon PEN does not exceed target's Armour PF of its Body Armour.	Roll on Hit Location and Injury Table using the Glancing Column.
Weapon PEN does not exceed Armour PF.	No penetration. No effect on target.

Make a 0-9 roll on the appropriate column of the Hit Location and Injury Table to determine the result. Add the Weapons **System Damage Modifier (SDM)** to the roll to determine the final Injury Effect.

Note that if there is intervening cover between the shooter and the target, then the projectile's PEN for non-explosive ammunition is reduced by the PF of any intervening cover through which the projectile passes before striking the target. Explosive weapons detonate on the intervening cover.

A **Graze** result reduces the Morale of a Bold target to Shaken, and a Shaken target to Panicked. It has no effect on Fanatical or Panicked targets.

A **Light Wound** Result requires the target to make a 0-9 roll against his **Knockout Chance**. If less than or equal to the knockout chance is rolled, the target goes unconscious and is incapacitated. If the character remains conscious, he can act normally, but the Morale of a Bold target is reduced to Shaken, and a Shaken target to Panicked. A Light Wound has no effect on the Morale of a Panicked target.

Fanatical targets suffering a light wound that remain conscious must make a second 0-9 roll against their Knockout Chance. If less than or equal to the knockout chance is rolled, the fanatical target immediately becomes panicked.

Incapacitated figures are simply removed from play in the Basic rules. Advanced rules allow for Medics and Recovery.

A **Critical Wound** result means that the Character has been immediately Incapacitated and is removed from play.

Explosive Weapons: Weapons which have a (B) following their PEN have a significant blast effect. This includes Grenades, Grenade Launchers, LAWs and other explosive weapons. All figures near the target may be injured, with injury effects taken from the Explosive Injury Table after cross indexing the weapon's SDM with the figure's range from the blast centre in the appropriate part of the table.

If the explosive weapon misses its target, roll a ten-sided die. The direction the upper corner of the first die points is the direction the explosive warhead deviates. The explosive warhead detonates 4" away from the target in the direction of deviation.

2.7 Melee

To make a Melee attack, a figure must move to where his base is touching the base of his target and declare a Melee attack. The target figure then decides if he wishes to engage in melee or escape.

Assuming the target engages in melee, the attacker rolls a 0-9 number; if the number rolled is less than his Melee Attack Value, the attack hits. Any successful attacks roll on the Hit Location and Injury Table using the appropriate Melee column for unarmoured targets or targets wearing Body Armour.

If the target instead wishes to escape, there is an additional +5 to the attacker's Melee Attack Value. If the target survives this attack, the target can then perform actions normally.

2.8 Morale

Morale effects play a very important role on the modern battlefield, and much of a leader's time is spent bolstering the morale of troops in combat.

All figures on the battlefield fall into certain morale states. For the majority of troops, the morale state starts with **Bold**, where troops behave execute orders normally.

As troops are exposed to the rigours of combat, their morale state can drop to **Shaken**. In this condition, a soldier is hesitant to expose himself to combat and requires encouragement from his leader to do so. In many armies, this encouragement comes from reassurance that his squadmates are still there to support him, and need his support in return. In other armies, leaders have been known to push reluctant soldiers at the point of a gun.

When a figure in a unit becomes shaken, the unit's leader must decide whether to attempt to Rally the shaken figure, or to abandon him.

Rallying: A rally involves performing actions. When a unit decides to perform actions, a leader must first spend 1 accumulated CP to rally all shaken figures in his unit. Failure to spend the CP means that the Shaken figures will not move or perform actions, and can only perform ragged fire. If the leader has no CP, the leader's superior officer can move to join the unit and expend his own CP to rally the unit.

Abandonment: Rallying can become very expensive in terms of CP and time, and a leader may be tempted to abandon a Shaken figure and press on with his plan. Doing so requires a successful command check for each Bold figure in the unit—any that pass the command check are able to execute actions normally. Those that fail will lag behind by 1 CP. As the actions are resolved, check to see whether the abandoned figures become Stragglers.

***Example:** Alex's fireteam has been badly mauled by fighting, and one of his five team members is Shaken. Alex's leader has 3 CP accumulated and needs to seize a farmhouse before the enemy can consolidate their defences, so he decides to abandon the Shaken team member, telling him to sit tight and that he and the rest of the team will be back presently.*

Alex makes Command Checks for the rest of the team, and passes with all but one. Deciding to proceed, he expends the first CP and has the leader and the team members who successfully passed the Command Check perform actions. The one team member that failed the command check does not perform any actions on this CP. The Shaken figure also does not perform any actions.

On the second CP expended, Alex moves the leader and all unshaken team members and manages to take down the enemy and clear the farmhouse.

On his third CP, he moves the leader and unshaken team members so that the Shaken member is still within Command Distance and does not become a Straggler.

Leader Self-Rally: If the leader of a unit has been Shaken or Panicked, the leader must expend 1 CP composing himself before he can expend any further CP. On completing a self-rally, the leader is returned to a Bold morale state.

Forced Rally: Where a leader is faced with a desperate situation and where he has multiple shaken troops in his unit, he can perform a Forced Rally. This is a very desperate measure and involves the leader killing one of the Shaken troops.

To do a Forced Rally, the unit's leader expends a CP and removes one of the Shaken troops in his unit from play. The remaining Shaken and Panicked troops in his unit and in any friendly units within sight of the execution are immediately restored to Bold morale state.

The leader performing the forced rally then performs a command check at +2 on each figure in his unit. If the majority of his unit (rounded up) passes, the leader can continue expending CP. If, however, the majority of the unit fails the command check, then the leader is removed from play (shot by his own side) and the unit is Broken.

Panic: A special morale state is Panic, where a figure refuses to follow orders and attempts to flee from the battlefield. The panicked figure will retreat at a double-time advance rate of

movement directly away from the enemy towards cover. He will do so even if he has already double-time advanced earlier in the turn.

If the figure reach cover, the figure will instead attempt to surrender, and is removed from play.

A Panicked figure can be rallied and restored to a Bold morale state by the unit's leader expending 1 CP for each panicked figure.

Panicked figures can only use ragged fire.

Fanatics: Fanatics are another special morale state. Fanatics begin the battle in the fanatic state and can never be changed to a Bold or Shaken morale state. They are, however, subject to **Unit Morale Effects** for panic. Once a fanatic has panicked, he cannot be rallied out of his panic, and will attempt to leave the battlefield. If unable to do so, he will not surrender, but instead attack the enemy with the ferocity of a cornered animal. Fanatic figures can only use ragged fire.

Unit Morale Effects: The morale of figures in a unit can have a ripple effect on others in the same unit. If the majority (rounded up) of figures in a unit are Shaken, then the Unit becomes Shaken and the leader must expend a CP to restore the Unit Morale to Bold for the turn. He must then rally, abandon, or force-rally the individual shaken figures with his next CP in order to keep the unit morale from sliding back to Shaken in the next turn.

If the majority (rounded up) of figures in a unit are Panicked, then the unit as a whole is Broken and immediately routs, moving directly away from the enemy towards the nearest cover at a double-time advance rate of movement. They will do so even if they have already double-time advanced earlier in the turn.

If the unit cannot reach cover within its rout, the unit will instead attempt to surrender, and is removed from play.

Once the unit is in cover, the leader must expend a CP to steady the unit to Shaken state, and then expend another CP to steady the unit to Bold state. Then, he must spend CP to rally each individual panicked member in the unit, as described above.

If the leader does not have sufficient CP to expend, then the unit will, during the next strategic movement phase, move back to its Forming Up Point, or off the battlefield. A commanding officer can attempt to rendezvous with the unit as it routs and may use his CP to rally and steady the unit and its members.

2.9 Heroes

A special form of unit is the Hero, who is an individual figure able to move and act independent of any larger unit. Heroes accumulate CP and perform actions in the same way as other, larger units.

In the advanced rules, heroes can have special abilities which they can use themselves, or to affect a larger unit. In the basic game, however, the heroes have no special abilities and act in the same way as other, larger units with the sole exception of being immune to command distance requirements. They do not have to be within command distance of any other unit,

and can act and move independent of other units.

2.X Design and Tactical Notes

Phoenix Command Miniatures is designed to simulate the decisions faced by small unit commanders, and as such, morale and command and control are key factors, and are reflected in the rules as well.

A small unit commander is essentially trying to impose his will upon an innately chaotic and terrifying situation, and so has to deal with assessing a situation, planning a response, delivering instructions to his people, and then ensuring that his people carry through on those instructions. And all of this is done while the other side is actively trying to kill him and his people. And with the pace of modern combat increasing with the presence of computerized communications, increased coordination of air, ground, and artillery assets, and the growing prevalence of close quarter battle (CQB) and military operations on urban terrain (MOUT), any small unit commander can be quickly overwhelmed by the situation.

Phoenix Command Miniatures simulates a commander's activities through the use of CP. Where in real life units have to stop, assess, plan, and coordinate actions before they can execute operations, in Phoenix Command Miniatures, units have to accumulate sufficient CP before they can act.

This results in a miniatures battle that ebbs and flows as real battles do. Units will spend brief moments acting and racing towards their objectives, and then in the lulls spend time coordinating and planning.

The key to victory is planning. Commanders have to look beyond the next turn, and have to gain an understanding of what their unit will be doing all the way to the end of the battle. Instead of focussing on the next turn, instead focus ten or twenty turns ahead. Players have to manoeuvre units carefully into position for coordinated assaults, or staged defences.

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PHOENIX COMMAND

Tables

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Troop Quality Table

	Militia	Professional	Elite
Base Troop Quality	1	3	5
Operational Move	4	5	5
Strategic Move	12	15	15
Hide/Hunt	2	4	5
Melee	0	2	4
Knockout	4	2	0

Odds of Hitting Modifiers			
In the Open	+2	0	-2
In Cover	0	-2	-3
Firing Over Cover	0	-3	-4
Firing from a Bunker	-2	-4	-5

Leader Table		
Quality	Command Rating	Command Distance
Militia	2	6
Professional	3	6
Elite	5	8

Odds of Hitting									
Skill Rating & Number of Shots	Range								
	2	5	10	20	40	70	150	300	600
MILITIA									
One shot	10	8	5	2	0	0	-2	-4	-5
Two shots	7	3	0	0	-2	-3	-5	-7	-8
Three shots	2	0	-1	-3	-4	-6	-7	-9	-11

PROFESSIONAL									
One shot	12	10	8	6	3	1	0	-2	-3
Two shots	9	8	4	1	0	-1	-3	-4	-6
Three shots	8	4	1	0	-1	-3	-5	-6	-8
ELITE									
One shot	14	12	10	9	8	4	1	0	-1
Two shots	12	10	9	6	4	1	0	-1	-3
Three shots	10	9	6	2	1	0	-2	-3	-5

Hit Location and Injury Table

Wound level	Overpenetration	Glance	Melee (Unarmoured)	Melee (Armoured)
Graze	0-1	0-4	0-2	0-4
Light	2	5-6	4-7	5-8
Critical	3-9	7-9	8-9	9

Explosive Injury Table

In the Open	Behind Partial Cover	Behind Solid Cover
Range from Burst	Range from Burst	Range from Burst

Blast SDM															
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
+1	G	G	G	-	-	G	G	-	-	-	-	-	-	-	-
+2	L	G	G	G	G	G	G	G	G	-	-	-	-	-	-
+3	L	L	G	G	G	L	G	G	G	G	-	-	-	-	-
+4	C	L	G	G	G	L	G	G	G	G	-	-	-	-	-
+5	C	L	L	G	G	L	L	G	G	G	-	-	-	-	-
+6	C	L	L	G	G	C	L	G	G	G	G	-	-	-	-
+7	C	L	L	L	G	C	L	G	G	G	G	-	-	-	-

G = Graze

L=Light Wound

C=Critical Wound

Weapon Data Tables

Weapon	ROF	Range	PEN	SDM
Civilian Weapons				
Carbine	*	100	7	0
Bolt Action Rifle	1 Shot/Turn	400	21	0
Shotgun	*	70	7	+1
Conventional Military Weapons				
Submachinegun	*	300	2 Hits @ 10	0

Assault Rifle	*	300	2 Hits @ 17	0
SAW	*	300	2 Hits @ 21	0
GMPG	*	300	2 Hits @ 27	0
HMG	*	600	2 Hits @ 56	+1
Grenade Launcher	1 Shot/Turn	200	106 (B)	+2
LAW	1 Use	650	2500 (B)	+5
RPG	1 Shot/Turn	500	2600 (B)	+5
Hand Grenade	1 Use	10	36 (B)	+2

Body Armour and Cover PF Table

Armour Type

PF

Body Armour (Military)

M69 Body Armour (U.S. Vietnam)	5
Variable Body Armour (U.S. Vietnam)	5
With Medium Plates	10
With Heavy Plates	26
PAGST (U.S. Modern)	6
Russian Ballistic Armour (Russian Modern)	6
With Titanium Plates	13

Body Armour (Military)

Class I Kevlar Body Armour/with ceramic inserts	4/10
Class II Kevlar Body Armour/with ceramic inserts	6/16
Class III Kevlar Riot Armour/with ceramic inserts	9/30
Cover	
Automobile Door	2
Exterior Wood Door	2
Metal Fire Door	6
Brick Wall	370
Cinder Block Wall	4
Cinder Block Wall – Earth Filled	25
Cinder Block Wall – Concrete Filled	460
Interior Wall – Sheetrock/Gypsum/Plaster	1
Wood Frame Wall	1
Log Timber Wall	22
Furniture	1
55 Gallon Drum – Water filled	8
55 Gallon Drum – Earth filled	85
55 Gallon Drum – Concrete filled	3200

Woods (per 10 hexes)	
Light	1
Medium	4
Heavy	17

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PHOENIX COMMAND

Modern Russian Motor Rifles

Modern Russian Infantry

Table of Organization & Equipment:

Phoenix Command Miniatures Motor Rifle Squad Organization:

Unit 1	Weapon	Troop Quality
Squad Leader*	Assault Rifle	Professional
Machine Gunner	SAW	
Rifleman	Assault Rifle	

Unit 2	Weapon	Troop Quality
Team Leader*	Assault Rifle/GL	Professional
Rifleman	Assault Rifle	
RPG Gunner	Assault Rifle/RPG	

Unit 2	Weapon	Troop Quality
Team Leader*	Assault Rifle/GL	Professional
Machine Gunner	SAW	
Rifleman	Assault Rifle	

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