A Fistful of Tripods

Miniature Wargame Rules for The War of the Worlds

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1. Introduction

No one would've believed in the last years of the nineteenth century, that human affairs were being watched from the timeless worlds of space. No one would have believed that we were being scrutinized – as someone with a microscope studies creatures that swarm and multiply in a drop of water. Few men even considered the possibility of life on another planet. Yet, across the gulf of space, minds immeasurably superior to ours regarded this earth with envious eyes. And slowly, and surely, they drew their plans against us.

--Introduction from Jeff Wayne's The War of the Worlds *Album*

The Game

A Fistful of Tripods is a set of wargames rules designed to simulate the Martian invasions of Earth in the late nineteenth and twentieth centuries. It is based on the Fistful of TOWs system of games and is designed to be compatible with those rules. The game was designed for 1/300 scale miniatures, but you can play it in 15mm or 25mm by doubling all measurements.

You can use normal 1/300 miniatures for the humans. Ainsty Castings makes a nice tripod – but it's 15" tall. It would look great with 15mm though. Or you can build your own if you like.

This game portrays five different Martian invasions and is divided into the following periods:

1. The "historical" invasion of the 1890s (pretty much a rout of the humans until the Martians succumb to microorganisms);
2. The second Martian invasion in the 1920s;
3. The Martians alternative invasion in 1917;
4. The Martians alternative invasion in the late 1930s – early 1940s; and
5. The Martians alternative invasion in the 1990s.

Scale

One inch equals 100 meters, one tripod model represents one tripod, one vehicle represents five vehicles, a gun represents a battery and a stand of infantry or cavalry represents a platoon. One turn represents about 5 minutes.

When the rules require that numbers be halved, always round the numbers up to the next whole number. This game uses only six sided dice.

Measuring

Players may not measure distances before they declare fire. They may never check front/flank angles until an attack is declared against them.

If a player declares an attack, measures the range and determines that the target is out of range, the attack is wasted.

2. The Sequence of Play

Overview

Each *game turn* is composed of two *player turns*. A game lasts a number of game turns as determined by the referee. A good limit is ten turns for a two hour game. Each player turn is composed of the following phases:

1. Command Phase
2. Movement Phase
3. Close Combat Phase
4. Firing Phase
5. Indirect Fire Phase
6. Final Phase

The Command Phase

In your Command Phase, you place indirect artillery barrages. Then, you place your reinforcements on the board. During this phase, no enemy overwatch activity (which includes "shoot and scoot") is allowed.

The Movement Phase

In your movement phase, you move your stands one at a time. The enemy player may fire with any of his stands that have an overwatch marker on them. He may fire before, during or after your movement. At the end of the phase, make all required quality checks.

The Close Combat Phase

Stands in close combat (see below) alternate firing (non-moving player first) until one side or the other is eliminated. Then, under certain circumstances, the moving player's stands may continue movement (possibly causing other close combats). No overwatch activity is allowed during this phase.

The Firing Phase

During your Firing Phase, enemy stands may pivot. Then, your stands may execute Direct Fire. So can enemy stands that have hold fire markers on them, or overwatch markers. All fire in this phase is simultaneous (except for overwatch fire, which occurs immediately when the player declares it). You fire first, if it matters. At the end of the phase, make all required quality checks.

The Indirect Artillery Phase

During your indirect artillery phase, your *enemy's artillery* barrages that he placed in his last Command Phase will land.

Final Phase

In the final phase, you'll handle housekeeping chores (in the game, of course), make any required quality checks and remove Pin markers from your stands.

Time Limits

To properly capture the intensity of command, it's essential that time limits be imposed on the commanders. Some of the greatest blunder in military history have occurred because one side failed to react in time. Therefore, the following time limits are imposed on each side:

- 1 minute to place artillery barrages.
- 5 minutes to conduct movement. If overwatch fire is conducted during the movement phase, the clock is stopped while the overwatch attacks are resolved. So you should (if possible) conduct overwatch fire during the overwatch first phase or the overwatch final phase.

When time is called, all movement must stop. A player may move the rest of the unit he was moving when time was called. Referees may adjust these turn lengths to suit the scenarios. Also, the referee may call an administrative time out if a rules question comes up or if something needs to be resolved.

Players can have one "time out" per game. This allows them to add 5 minutes to the clock.

3. The Forces

Markers

You will need the following markers in order to play FFT:

- **Barrage templates** indicate the area affected by an artillery strike. They are 1", 2", 3", 4" and 5" square.
- **Barrage markers** are used to indicate the location of artillery barrages. Any marker numbered on one side can be used for barrage markers.
- **Quality check markers** indicate which units must take a quality check at the end of the phase. A penny with a red stick-on dot makes a good quality check marker.
- **Overwatch markers** indicate stands that are on overwatch. Pennies with yellow stick-on dots make good overwatch markers.
- **Hold fire markers** indicate stands that are on hold fire. Pennies with green stick-on dots make good overwatch markers.
- **Missile ammo** markers indicate the status of units that have limited missile ammunition. Pennies make good ammo markers; heads indicates that one shot is left, tails indicates that no shots are left.

"Units" and "Stands"

In these rules, the word "stand" refers to individual vehicles and infantry stands. "Unit" refers to the

entire command unit (companies or battalions, depending on the army lists), which comprises several vehicles and/or infantry stands.

Vehicles

Vehicles stands include Martian Tripods, Martian Flying Machines, Landships, Zeppelins, Tanks, Attack Flyers, Infantry Carriers, APC's, IFV's, etc. have their characteristics listed on the Vehicle Data Chart. A sample listing looks like this:

					-------------Gun-------------				--------Msl--------				
Vehicle	Period	PV	Move	Armor	Pen	ROF	Rng	Inf	Pen	ROF	Rng	Equip	Carry
Early Tripod	1 2 3	50	15v	2	[8]	3	24	2+	--	--	--	ss, n	-

The Data chart abbreviations are:
- Vehicle: The vehicle's name
- Period: The time period that these ratings are valid for.
- PV: Point value of the vehicle.
- Move: Movement allowance. " a" means that the vehicle is amphibious. "w" is a wheeled class vehicle; "t" is a tracked class vehicle; "h" is a flyer; "v" is leg mobile, "c" is cavalry.
- Armor: Armor value. The number before the slash is the front armor, the number after the slash is flank armor. An "r" indicates reactive/laminate armor and a "c" indicates Chobham armor.
- Pen: Penetration. An "h" indicates that this is an h-class weapon. Brackets indicate a Heat Ray.
- ROF: Rate of fire.
- Rng: Effective range of the weapon. A "†" indicates a top-attack weapon.
- Inf: Anti-infantry rating of the weapon.
- Equip: Special equipment carried by the vehicle:
  - s - stabilized gun
  - ss - advanced stabilization
  - t - thermal sights
  - n - nbc protection
- Carry: The number of infantry stands that the vehicle can carry.
- Notes: Any other data relevant to the vehicle.

Infantry and Cavalry

Infantry and Cavalry stands have their characteristics listed on the Infantry Table. A sample listing would look like this:

				------Small Arms------			---LAW---		---MAW---		
Type	Period	PV	Move	To Hit	ROF	Rng	Pen	Rng	Pen	Rng	Notes
European Inf	1	1	6v	4+	1	6	--	--	--	--	--

The chart abbreviations are:
- Type: The type of infantry stand. An asterisk (*) indicates that the stand's MAW is a missile.
- Period: The time period that these ratings are valid for.
- PV: Point value of the stand.
- Move: Movement allowance.
- (Small Arms) To Hit: The to hit roll when using small arms fire..
- (Small Arms) ROF: The stand's rate of fire when using small arms fire.
- (Small Arms) Range: The stand's range when using small arms fire.
- Pen: Penetration of the weapon. An "h" indicates that this is an h-class weapon. Double asterisks denote that the stand has a limited ammo supply with its MAW.
- Rng: Effective range of the weapon.
- LAW: Ratings for the stand's Light Antitank Weapons.

- • MAW: Ratings for the stand's Medium Antitank Weapons.
- • Notes: Any other relevant data.

Artillery

Artillery stands are listed on the Artillery Data Chart. A sample listing looks like:

| Type | PV | Period | Move | Armor | Range | —Converged— | | —Dispersed— | | | —Direct Fire AV— | | |
						AF	Temp	AF	# Temp	Ammo	Pen	ROF	Rng
Light Field Gun	5	1 2 3	3x	s	60"	1L	1"	--	--	--	1h	1	12"
SP Lt. Hwz	30	2 4 5	6t	0	15(21)km	2L	1"	1L	2" x 1"	s,c	10h	1	8"

The chart abbreviations mean:

Type: Type of artillery.
PV: Point value of the vehicle.
Period: Periods the weapon is available.
Move: Movement allowance.
Armor: Armor value.
Range: Range of the weapon. The number in parenthesis is the range for rocket assisted
projectiles.
Converged: Data for converged sheafs.
Dispersed: Data for dispersed sheafs.
AF: Artillery factors for the sheaf. An "L" indicates an L-class artillery piece.
Temp: The dimensions of the template for the sheaf.
Ammo: Special ammunition types that the weapon can fire:
s-smoke
c-chemical
i-improved conventional munitions
l-laser guided projectile
Direct Fire AV: The weapon's characteristics when firing direct fire anti-vehicle fire.
Pen: Penetration. An "h" indicates that this is an h-class weapon.
ROF: Rate of fire.
Rng: Effective range of the weapon.
Notes: Any other data relevant to the vehicle.

4. Troop Quality

Stands in A Fistful of Tripods fall into one of five classes:

Green troops are poorly trained, disaffected, and/or inexperienced. They have a quality of 6 and have a to hit adjustment of -1 when using anti-vehicle fire and small arms fire. Examples include typical Asian, African Central/South American soldiers, poorly trained reservists, irregulars, Martian levies, etc.

Average troops are trained, reasonably well-led, and effective. The majority of armies from European industrialized nations are average. Examples include the US Army, most Europeans, etc.

Veteran troops are well-trained, long term professionals who often have considerable combat experience. They have a quality of 4 and have a to hit adjustment of +1 when using anti-vehicle fire and small arms fire. Examples include US Marines, British Regulars, Boers, and Canadians.

Elite troops are superbly trained and superbly led professionals, often special forces. They have a quality of 3 and have a +2 to hit adjustment when using anti-vehicle fire and small arms fire. Examples include the Rough Riders, Royal Marines, Coldstream Guards, etc.

If you're playing a campaign game, it is recommended that units be rated one quality level lower than normal in their first battle. In subsequent battles, they attain their normal quality.

Martians are completely free of emotion and are "wired" into their machines. They are treated as elites..

5. Quality Checks

General

Whenever a stand takes a quality check, it must roll its quality number or higher on one die. A natural "1" always fails. Unless stated otherwise, a failed quality check removes the stand from the game.[1] The stand counts half for enemy victory conditions.

Stands take quality checks at the end of the phase in which the event requiring the quality check occurred.

A stand can take a maximum of three non-close combat quality checks in a player turn, excluding close combat. It can take one check from each of the following sources each turn:

- fire combat (during the fire phase or due to overwatch fire);
- artillery; and
- losses (its unit has taken 2/3 losses or the stand is the last stand in its unit).

Quality checks in close combat do not count against these limits. In addition, a stand can take any number of quality checks in close combat (see Close Combat).

If a stand has already taken and passed a particular type of quality check in a turn, later quality checks of that same type during the same turn are ignored.

Quality Checks Due to Fire Combat

Quality checks that occur as a result of fire combat are taken at the end of the fire phase. Only one fire combat quality check per game turn is permitted per unit. This includes overwatch fire.

Quality Checks Due to Overwatch Fire

A quality check caused by overwatch fire occurs at the end of whatever phase the overwatch fire occurred in. Additional quality checks due to overwatch fire and fire combat are ignored for the remainder of the turn.

> *For example, a Martian Tripod is advancing in its movement phase towards a Human Landship that is in overwatch. The Landship fires and hits the Tripod, causing a quality check. The quality check is taken at the end of the movement phase and the Tripod passes. Later, during the fire phase, another Landship on overwatch fires at the Tripod and causes a quality check. The Tripod automatically passes the check.*

Quality Checks Due to Artillery Attacks

Quality checks occurring as a result of artillery fire are taken at the end of the artillery phase, and again, only one test per artillery phase is taken per unit.

A non-soft AFV (that is, any vehicle with an armor rating that is not "s") that takes a quality check from "L" class artillery has +2 added to its die roll. A natural "1" still fails the check.

Quality Checks Due to Losses

When a unit loses 2/3 (or more) of its stands, the entire unit must make a single quality check (one roll for the whole unit). This check occurs in the final phase of the turn in which the unit's losses reach 2/3.

Martians are immune to quality checks caused by losses.

A unit that has already lost 2/3 or more of its stands must make a quality check in the final phase of any turn in which it takes additional losses.

A stand that is the last stand in a unit must make a quality check during the final phase of the first turn in which the stand becomes the last stand in the unit.

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[1]   The stand is not necessarily dead, but it is out of the current fight.

Quality Checks Due to Close Combat

A stand can take a maximum of one quality check per close combat round. In close combat, the only quality checks allowed are due to weapons fire. All close combat quality checks take place at the end of each close combat round.

6. Movement and Cohesion

General

Players may move as many of their stands as they want during their movement phase. Stands may use as much of their movement allowance as the owning player wants.

There are two classes of movement, normal and strategic.

Stands may turn during movement at no additional movement cost. Turning is not movement for firing and overwatch purposes. A vehicle (except flyers) may move backwards at 1/4 movement rate.

Movement Classes

A stand's movement class determines the effect that terrain has on that stand's movement. Movement class is noted after the movement allowance on the data charts.

All infantry stands and Martian Tripods have a leg movement class ("v").

All cavalry stands have a "c" movement class. Stands with a "t" are tracked vehicles and have a tracked movement class. Stands with a "w" are wheeled vehicles with a wheeled movement class. Stands with an "h" are flyers with a flyer movement class. Stands with an "x" are towed weapons and have a towed movement class.

Stands with an "a" are amphibious vehicles and may cross impassable rivers (see below). Amphibious vehicles may cross rivers and streams at one quarter movement allowance. They may not fire while in the water. The referee may rule that some rivers or streams are impassable to amphibious vehicles because the banks are too steep.

Terrain Effects on Movement

Clear Terrain

Clear terrain does not affect movement.

Light Woods

Light woods do not affect movement. Flyer stands may not move through light woods in NOE mode. Light woods are cover for spotting and los purposes.

Heavy Woods

Heavy woods do not affect leg class stands. Flyer class stands may not move through heavy woods in NOE mode. All other movement classes have their movement halved. Heavy woods are cover for spotting and los purposes.

Forest

Forest is impassable to all movement classes except leg class stands. Forest is cover for spotting and los purposes.

Swamp

Swamp does not affect leg class stands. Cavalry has its movement rate quartered when moving through swamp. Swamp is impassable to all other stands.

Swamp is cover for spotting and los purposes.

Streams

Streams have no effect on a leg class stand or a flyer class stand. All other stands must spend half of

their movement allowance to cross the stream. Stands that are behind a stream are in cover for spotting and los purposes, if the spotting stand must trace his los through the stream.

Rivers

Fordable Rivers have no effect on flyer stands or on Tripods. All other stands may cross the river but their movement rate is halved.

Impassable Rivers have no effect on flyer stands. All other non-amphibious stands may not cross the river. Amphibious stands may cross impassable rivers at 1/4 movement rate. These stands may not fire (except in close combat) while in the water. At the referee's discretion, infantry stands may have integral rubber rafts. They can cross impassable rivers at 1/2" per turn and may not fire while in the water.

Roads, Bridges and Paths

Roads or Bridges have no effect on flyer stands. Wheeled class stands have their movement rate quadrupled when moving along a road. All other stands have their movement rate doubled when moving along a road.

Roads are blocked if a vehicle is destroyed on them.

An MBT may only be pushed out of the way by another MBT. A light vehicle may be pushed out of the way by an MBT or light vehicle. A vehicle spends half its movement allowance pushing a vehicle off of a road. Alternately, a vehicle can move past a blocking vehicle at a cost of 2" of movement (the moving vehicle is going around the blocking vehicle). This option is not available if a bridge is being blocked.

Paths cannot be used by flyers. All other stands are treated as if they were moving through clear terrain as long as they move along a path.

Cliffs and Ridges

Cliffs have no effect on flyer stands. Cliffs are impassable to all other stands, except light infantry. Light infantry may cross cliffs after they have spent a full turn adjacent to the cliff.

Ridges have no effect on movement.

Towns

Towns are impassable to flyers in NOE mode. Towns have no effect on leg class stands. All other class stands have their movement rate halved when moving through towns. Towns are cover for spotting and los purposes.

Cohesion

To be in cohesion, all stands in a unit must remain within cohesion distance of another stand in the unit. Recon stands ignore all cohesion rules.

A stand that is out of cohesion must move towards the other stands in its unit, if the stand moves at all. A stand out of cohesion has its quality number increased by one until it restores cohesion.[2]

Players may intentionally move a stand out of cohesion, but the stand must move to re-join its unit if the stand moves in a later turn. Cohesion distance depends on troop quality:

Green troops have a cohesion distance of 2".

Regular troops have a cohesion distance of 2".

Veteran troops have a cohesion distance of 3".

Elite troops have a cohesion distance of 4".

Martian cohesion range is doubled.

Strategic Movement

Strategic movement is a special type of movement. Only ground stands can make strategic moves. A vehicle or cavalry stand that makes a strategic move has its base movement rate doubled or increased to 16, whichever is greater. An infantry stand has its movement rate doubled. A stand must make a strategic move

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[2]   This rule simulates the additional command and control burden of having a detachment running around the battlefield, as well as the brittle nature of detachments.

for the entire movement phase; it can't "mix and match" movement modes. But for the entire player turn and the following enemy player turn, the stand must obey the following restrictions:

1. It can't fire during its fire phase.
2. It can't move within 10" of any enemy stand, regardless of whether it can see the enemy stand or not. Of course, this means that it can't initiate a close assault.
3. It can't have an overwatch marker or a hold fire marker placed on it.
4. All quality checks that the stand takes as a result of enemy anti-vehicle or small fire are at -1.
5. Enemy attacks against the stand are at +1 to hit, except for artillery attacks.
6. If close assaulted, the stand fights normally.
7. It must start its movement phase more than 10" away from any enemy stands before it can make a strategic move.

7. Seeing Your Opponent

General

Before a stand may fire, its target must be spotted. Before a stand can spot a target, the spotting stand must be able to trace an unblocked line of sight to the target stand.

Line of Sight (los)

Stands trace line of sight from any part of a stand to any part of a stand.
Los may be blocked by certain types of terrain as well as geographic features such as hills or towns.

Spotting

A stand is spotted the instant it is within spotting range of an enemy stand. The spotting chart lists spotting ranges.
Once a stand is spotted by any stand, it is spotted by all stands.
A stand becomes unspotted during the beginning of any phase in which it is out of any enemy unit's line of sight.

Terrain Effects on Los and Spotting

Tripods

Martian Tripods are 3 levels higher than the terrain they're standing on.

Hills and Ridges

Hills are not usually shaped like wedding cakes. They regularly slope from the ridge of the hill to its base. Hills can be one or more levels high. Ideally, hills should be at least two levels high, but you can make them as high as you want.

Ridges are linear obstacles. They block los, unless either the spotting stand or the target stand touches the ridgeline. A stand touching a ridgeline is not counted as being in cover for spotting purposes or for artillery fire purposes.

If opposing stands are firing across the same ridgeline and both stands are within 1 inch of the ridgeline, the ridgeline is ignored in combat.

Cover

Woods, forests, towns and swamps are cover. Most cover is one level high, but towns and cities can be higher if you desire. A stand touching a ridge is in cover for spotting purposes only if the los must be traced through the ridgeline. Cover blocks line of sight. Stands in cover may see up to 2" in the cover. This stops at the edge of the cover. So a stand 1" inside a forest cannot see out of the forest. Its los stops at the forest edge.

Smoke

Smoke blocks line of sight just like cover. But stands equipped with thermal sights ignore smoke. Smoke goes away during the command phase of each turn on a roll of 1 on one die. Roll during each player's first phase. A smoke barrage has the same width as the weapon's HE burst size, and three times the HE burst size in length.

An incendiary smoke barrage has the same size as regular smoke. All soft or infantry stands in an incendiary smoke barrage are attacked with 1 anti-infantry die on the turn that the barrage lands (only).

Thermal Sights

A stand with thermal sights can see through normal smoke. However, all fire through normal smoke is at –1 to hit because smoke does degrade laser rangefinders.

Incendiary smoke degrades a thermal sight more than normal smoke. All fire through incendiary smoke is at –2.

8. Infantry, Cavalry, APCs and Towed Weapons

General

Infantry are groups of armed men – i.e., foot troops. Towed stands represent towed weapons and their crews.

Types

There are several types of infantry and cavalry stands in this game:
- **Cavalry stands** are "normal" cavalry.
- **Infantry stands** are "normal" infantry. They have a normal assortment of weaponry — light machineguns, light antitank weapons, and possibly medium antitank weapons.
- **Light infantry** stands are like normal infantry, except they get special movement bonuses in certain terrain.
- **Heavy weapons** stands have heavy machineguns, light mortars, etc. They have better anti-infantry factors but their anti-infantry hit roll is reduced by 2 if they move in the same turn they fire. Heavy weapons stands do not lose ROF when firing at multiple targets.
- **Missile teams** are half-sized infantry stands armed primarily with small arms and antitank missiles. A missile team takes up 1/2 space on a carrier.
- **SAM teams** are half-sized infantry teams armed with small arms and surface to air missiles.
- **Machinegun teams** are half-sized infantry stands armed primarily with machineguns. A machinegun team takes up 1/2 space on a carrier. They may not fire in a turn if they move that turn.

Infantry Movement and Facing

Infantry have no facing. They can move any direction they want to.

Infantry Firing

Infantry may fire each type of weapon each turn. Also, remember that they get to fire at a vehicle's flank in close combat. Ouch!

Towed Weapons

Towed weapons have a front and flank arc just like vehicles. Towed weapons may only fire through their front arc. Towed weapons are usually guns, and will fire just like vehicle mounted guns. Towed weapons are treated as infantry stands when attacked.

Horse Artillery

A horse artillery stand is treated like a vehicle for movement purposes. It is not a stabilized system so it can only move 1/2 and still fire. The limbers and horses are integral to the guns and are not removed.

Carrying Infantry/Moving Towed Weapons

A vehicle may carry a number of infantry stands equal to the vehicle's capacity. The vehicle expends half of its movement allowance when it picks up or drops off infantry stands. The vehicle may pick up or drop off infantry at any time during its movement phase. The vehicle is not considered to have moved (for overwatch purposes) if it only drops off infantry.

Infantry that is dropped off will lose half of its movement factors.

In close combat, mounted infantry can dismount after the first round of close combat. The carrier loses half or all of its movement allowance at the end of the close combat. The infantry may not move after close combat.

These same rules apply to towed weapons and their movers, except that towed weapons may be moved 1" per turn by their crews, if the towed weapon did not plot fire in the command phase. A towed weapon that moves may not fire in the next Fire Phase.

9. Combat Overview

General

There are 3 types of combat:

Anti-vehicle combat: direct fire against vehicles usually using armor piercing ammunition or heat rays.

Small arms combat: fire against infantry and soft stands usually using infantry weapons and high explosive shells.

Artillery combat: fire delivered by indirect fire from artillery systems.

Cover

A stand must touch the edge of cover for the stand to fire out of the cover or be fired at by stands outside the cover. A stand in cover may trace a line of sight two inches through the same cover. It may fire at a target 2 inches or less away in the same cover.[3]

Infantry in Personnel Carriers

Infantry may fire from a vehicle, but the effective range is halved and a -1 adjustment is applied to the hit number. Infantry in a vehicle that is destroyed (not one that fails a quality check) must make a quality check. If they fail this quality check they're destroyed and removed with the vehicle. Infantry in a vehicle that fails a quality check are eliminated with the vehicle.[4]

10. Fire Combat Eligibility

General

Stands execute fire combat during the firing phase, or, in the case of overwatch fire, during the movement or firing phase of the opposing player's turn.

Vehicles with multiple weapons systems (i.e., both guns and missiles) must choose one weapon system

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[3] All cover has this "hard edge" for playability purposes. If you like, you can delete this rule and allow all stands to see 1" into cover and see 1" out of cover.

[4] The infantry are staying in the vehicle as it seeks "better firing positions" to the rear.

to fire. Vehicles may conduct anti-infantry fire or anti-vehicle fire, but not both.

Infantry and Cavalry may attack regardless of how far they moved. Infantry and Cavalry stands may use all of their weapons in the same turn, against different targets, if the owning player decides. Infantry missiles are an exception to this rule. They may only fire if the infantry stand did not move during its last movement phase. This applies to overrun combat as well.

Stands with integral towed weapons (i.e., mortar stands) may only fire the towed weapons if they did not move during the movement phase. Towed weapons may only fire the towed weapons if they did not move during the movement phase.

All attacks against a given target must be declared before they are resolved. This doesn't apply for stands conducting overwatch fire.

Vehicles that moved more than half their movement (not including turning or picking up/dropping off infantry) are not eligible to fire in the fire phase, unless the vehicle has stabilized guns.

Procedure

A player may conduct fire with his stands in any order. The player indicates one or more firing stands, identifies the target, and states the type of weapon(s) being fired. The player then resolves the attack(s). The player then declares and resolves the next attack. Note that this allows a player to see the effect of the first attack before he declares the second attack. However, all fire against a given target must be declared before resolving any attack against that target.

Targeting Restrictions

A stand must fire at the nearest enemy stand, at the moment it fires, subject to the following exceptions:
- Firing stands may ignore any enemy stands being fired at by other friendly stands during the current phase. All overwatch fire in a given phase counts for this rule. So, a stand firing in overwatch at a tripod 10" away may ignore the tripod 5" away, if a friendly stand has already made an overwatch attack against the tripod during the current phase.
- Firing stands may ignore infantry in favor of vehicles/tripods or vice versa. A firing stand may ignore enemy stands in cover in favor of enemy stands in the open.
- Firing stands may ignore a target in cover or behind an obstacle in favor of a target in the open.
- Firing stands may ignore light vehicles to fire at main battle tanks/tripods (but not vice-versa).[5]

Artillery units (on-board and off-board) are not subject to this rule when making indirect fire attacks.

Movement and Firing; Stabilized Guns

Vehicles that moved more than half their movement (not including turning or picking up/dropping off infantry) are not eligible to fire in the fire phase, unless the vehicle has stabilized guns.

Vehicles that have stabilized guns have an "s" in the "Equip" section of the vehicle data chart.

Missiles are never stabilized, even on vehicles that have stabilized guns.

A vehicle may always make anti-infantry attacks, no matter how far it moved.

Overwatch and "Shoot and Scoot"

Overwatch

A stand that does not move during its movement phase or fire during its firing phase may fire during the enemy's turn or even during the player's next movement phase. If a stand has advanced stabilization ("ss"), it can move up to half its movement and place an overwatch marker (assuming that it didn't fire in its fire phase).

If a stand conducts overwatch fire it's own next movement phase, it may not fire in its next fire phase. But it may have an overwatch marker placed on it at the end of the owning player's turn in this case.

For example, a Tripod has an overwatch marker placed on it at the end of the Attacker's Turn 1. It does not fire during

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[5] Yes, this means that your cannon-armed infantry fighting vehicle must fire at the Tripod right in front of him, even though he can't hurt the Tripod.

Defender's turn 1. During the movement phase of Attacker's Turn 2, a Landship conducts overwatch fire and becomes spotted by the Tripod. The Tripod fires. It cannot fire again in the Fire Phase of Attacker's Turn 2. But since it did not move in the Movement Phase or fire in the fire phase (it conducted overwatch in the Movement Phase, not the Fire Phase), the Tripod can have an overwatch marker placed on it.

Overwatch markers are placed at the end of the owning player's fire phase.

Overwatch fire may be made at any point – before, during or after movement or firing – unless specifically excluded in the sequence of play. All normal targeting restrictions must be obeyed during overwatch fire. A stand loses its overwatch eligibility after it fires all of the shots that it is eligible to fire.

Shoot and Scoot

A stand on overwatch that fires during the opponent's turn may fire normally or may make a special "shoot and scoot" attack.

To execute a shoot and scoot attack, the stand makes an anti-vehicle attack at half its ROF, round down. If the stand has an ROF of 1, it gets 1 shot, at -1 to hit.

After taking this shot, the stand may immediately move half of its movement. It may back up 1/4" and may not be fired at by enemy units on overwatch for this 1/4" movement. During the rest of the stand's movement, it may be fired at by eligible enemy stands, if they can trace a valid los and are in range.

Hold Fire

A stand that is eligible to fire during its fire phase may choose instead to "hold fire". The stand cannot fire in its own fire phase, but can fire during the enemy's next fire phase. All fire in a fire phase is simultaneous. Stands that have a hold fire marker may also pivot.

Pivot

A stand may pivot at the beginning of the enemy fire phase. The stand may only pivot when an enemy stand that began its movement phase in the friendly stand's front arc moves into the friendly stand's flank arc. The pivoting unit must pivot to keep the enemy unit in the pivoting unit's front arc.[6]

11.   Anti-Vehicle Fire

General

Anti-vehicle fire requires the following:
- An unblocked line of sight from the firing stand to the target stand; and
- The target stand must be within range of the firing stand.

Angle of Attack

If there is an unblocked line of sight, determine the angle of the attack. An attacker wholly or partially in the target's front arc (120°) uses the target's front armor value. An attacker not in the front arc uses the target's flank armor value. If the target does not have a flank armor value listed, use an armor value of 1 if the target is an MBT or 0 for any other vehicle.

Rolling to Hit

Procedure

To resolve an anti-vehicle attack, roll dice equal to the ROF of the weapon.

At close range (one half of effective range), the target is hit on a 3+. At effective range, the target is hit on a 4+. At long range (1.5 times effective range), the target is hit on a 5+.

A natural "1" always misses; a natural "6" always hits.

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[6] This prevents players from exploiting the sequence of play and "panzerbushing."

Quality Modifiers

Green troops get a -1 to their roll, Veterans get a +1 to their roll. Elites get a +2 to their roll.

ROF Reduction for Multiple Targets

A stand with an ROF greater than 1 may fire at different targets and may allocate the number of shots among the different targets as the owning player wishes, but it loses one ROF for each target it engages after the first. Therefore, a stand with an ROF of 3 can fire 3 shots at one target, or 1 shot at 2 targets. Martian war machines are exempt from this rule.

So a Tripod with an ROF of 3 can fire at 3 different targets.

The Heat Ray

The Martian Heat Ray is a devastating, high tech system that requires special rules. It does make a "to hit" roll. If it hits, it gets **all** of its penetration dice in anti-vehicle combat, no matter what the target's armor rating is. But against vehicles with "c"-class armor, it gets half its penetration dice. It hits enemy infantry stands on a 2+.

The Heat Ray can make a special "sweeping attack". In lieu of normal fire, a Heat Ray may sweep a 12" line in any direction. Any stand in that area is attacked by the Heat Ray (at half the normal dice; 1/4 if the target stand has "c" class armor). Infantry is killed on a 3+ in a sweeping attack.

Heat Rays have an unlimited range when firing at aircraft.

Martian Gas Canisters

Martian Tripods can fire Gas Canisters at any spot on the board that **any** Martian stand can see (direct or indirect). These Gas Canister attacks have a maximum range of 20" and leave a Gas Cloud (1" square) and occur like any Direct Fire attacks. Gas Clouds kill all troops and vehicles except vehicles with NBC systems ("n" on the equipment section of the data charts), Flyers, and Ironclads. Roll 1 die in the Command Phase of each subsequent Martian turn. The Gas Cloud is removed on a "6". Any Martian Tripod can remove a Gas Cloud by moving into contact with it. The removal is entirely discretionary.

Missiles

Missiles may have a minimum range and always have maximum range. Their hit number at all ranges is 3+. Missiles get no penetration modifier for close or long range.

Green troops get a -1 to their missile to hit roll, Veterans get a +1 to their missile to hit roll. Elites get a +2 to their missile to hit roll. A natural "1" always misses. A natural "6" always hits.

Most missiles have a minimum and maximum range. For example, "1-40". The missile may not be fired at less than one inch or more than 40 inches.

Stands that are listed as having missiles (Msl on the data charts) may have a limited supply of missile ammunition. Stands with a limited missile supply have two shots. To represent this, place a penny under the stand (heads up) when it fires. Whenever the stand fires another missile, turn the penny tails up. The stand may no longer make missile attacks.

Stands with unlimited missile ammunition may fire as many shots as they wish. However, the stand runs out of ammo when it rolls it's second natural "1". Mark the first natural one with a heads-up penny. When the stand is out of ammo, mark it with a tails-up penny.

Terrain Saving Throw

A stand that is hit by anti-vehicle fire gets a saving throw if it is in certain types of terrain. The saving throw is made on 1 die, and a separate saving throw is made for each round that scored a hit.

If the stand makes the saving throw, the round misses.

- Stands in Lt. Woods, Heavy Woods or Swamp have a saving throw of 5 or 6.
- Stands in Forests, Towns or Smoke, or behind Ridges have a saving throw of 4,5, or 6.
- Stands that are behind (and touching) streams or trenches have a saving throw of 4,5, or 6.
- Saving throws into woods, forests, swamps, or towns are increased by 1 if the attacker is firing a

missile.

Penetration Roll

Procedure

For every round that hits the target, roll dice equal to the weapon's penetration minus the target's armor. Apply modifiers from the Anti-Vehicle Fire Table for "h" class weapons. A player may roll a maximum of 10 dice per shot that hits.

Note that Heat Rays (see above) roll **all** of their penetration dice against targets with normal armor. They roll half of their dice against c-class armor. And they roll half their penetration dice in a sweeping attack (1/4 if the target has c-class armor).

If a 6 is rolled on any die, the target is destroyed. If a 4 or 5 is rolled on any die, the target must make a quality check. Only one quality checks needs to be made, no matter how many 4s or 5s are rolled.

For example, a Heavy Tank (pen 8) fires and hits a Tripod (armor 6c) in the front. The Heavy Tank gets (8-6) two dice and rolls them. He rolls a 1and a 4. The Tripod must make a quality check. The Martians are elite, so its roll must equal or exceed 3 or it will be destroyed.

A weapon always rolls one penetration die per shot that hits the target. However, if the weapon's penetration is less than the target's armor, the penetration roll is adjusted by the negative number.

So, if a Light Tank fires its gun (pen 3) at a Tripod (armor 6c), the Light Tank would roll 1 die per shot that hits, and since the penetration minus the target's armor is a negative number (-3), the Light Tank would subtract 3 from its penetration roll. Therefore, the Light Tank cannot harm the Tripod at that range.

Soft Vehicles

Soft vehicles (vehicles with an armor rating of "s") have an armor value of 0 when fired at by anti-vehicle fire. Note that soft vehicles can also be fired at with anti-infantry fire.

Chobham Armor

Missiles (and some guns) have an "h" listed after their penetration. All "h" weapons and Heat Rays halve their penetration against vehicles whose armor has a "c".

Infantry Anti-Tank Weapons

In Periods 2+, many infantry stands have an anti-infantry rating, a LAW (light antitank weapon) and possibly a MAW (medium antitank weapon).

Most MAWs and all LAWs have a long and close range just like most other weapons.

However, some MAWs are actually missiles and use the missile rules below.

Infantry stands that have integral mortars are equipped with light 60mm mortars. The stand may make an additional mortar attack with a range of 16", a burst of 1" and 1L artillery factors. They are treated as Battalion/Regiment Mortars (see below).

12.   Small Arms Fire

Procedure

Small arms fire may be conducted against any infantry stand or soft vehicle stand. The firing stand nominates any infantry stand or soft vehicle it can see within effective range (or long range for vehicles) and rolls dice equal to its rof.

The target takes a hit for each of the firing stand's dice that exceeds the firing stand's to hit number. The target stand then must make a quality check. For every additional hit after the first one, subtract one from the quality check. Infantry units only have to make one quality check per phase, no matter how many attacks are made against them. If the infantry stand makes the quality check, the stand is marked with a pinned marker. A stand with a pin marker may not move (or continue moving) until the marker is removed in the final phase.

If the firing stand fires at more than 1 target, the ROF Reduction for Multiple Targets rules (§ 8 C.) apply.

For instance, an IFV fires its cannon at two enemy infantry stands. The cannon has a ROF of 5, reduced to 4 because there are two targets. The IFV allocates two attacks against each target. The IFV 's small arms to hit number is 4+. The dice on the attack against the first stand are 2 and 6. The first stand takes a hit and must make a quality check. The dice on the attack against the second stand are 5 and 4. The second stand must make a quality check at a -1.

Artillery pieces use the artillery rules for resolving hits, if they are conducting self-spotted artillery fire. They use the small arms fire rules if conducting direct fire.

Small arms fire at long range is permitted, but subtract 2 from the to hit roll.

Terrain Effects on Small Arms Fire

Apply a -1 to the to hit number of a stand firing at a target that is in soft cover (woods, forest, swamp) and that did not move in the last movement phase (or the current phase if attacked by a stand on overwatch).

Apply a -2 to the to hit number of a stand firing at a target that is in hard cover (towns, bunkers, ridgeline, trench/stream, etc) and that did not move in the last movement phase (or the current phase if attacked by a stand on overwatch).

Apply a +2 to the to hit number of a stand firing at a target that moved in its last movement phase (or that is moving in the current movement phase if attacked by a stand on overwatch).

13.   Artillery Fire

General

Artillery fire includes indirect fire by artillery pieces, mortars and rocket launchers, as well as direct fire by such weapons, and direct HE fire by vehicles.

Indirect fire is fire by a stand that cannot see its target and direct fire is fire by a stand that can see its target. Indirect fire is only available in periods 2+.

Indirect Fire Procedure

Players place artillery barrage markers during their Command Phase. The marker can be placed anywhere the owning player wishes as long as a friendly **forward observer** (FO) can see where the center of the marker is placed. Each FO can "spot" in this way for one barrage marker. In addition, a player can place up to 3 decoy barrage markers anywhere he wants.

The artillery fire will usually hit during the enemy's Artillery Phase. The firing stand must make a quality check for the barrage to land. If the check is made, the barrage lands. If not, the barrage will land next turn (no quality check required).

Americans, British and Germans in period 4 get a +2 to the roll. In period 5 all artillery hits (no quality check needed).

One barrage marker corresponds to an artillery mission. An artillery mission is one or more batteries.

When you place a barrage marker, write down the turn, the barrage marker number, the batteries/battalions that are firing, the sheaf, and the ammunition. If the barrage marker is a decoy, note that on the sheet.

Any number of batteries may participate in a single mission, but all artillery stands must be of the same type and must fire the same ammunition and sheaf.

Artillery barrages land during the Artillery Phase of the opponent's turn. A barrage is represented by a **barrage template.** But just before the barrage lands, it can be "corrected." The actual barrage template can be placed within 6" of the marker, as long as the observer can trace an unbroken line of sight to the new location.

If the FO that placed the barrage marker cannot trace a line of sight to the marker when the artillery

lands, the barrage template is placed exactly where the barrage marker is. No correction is allowed. Also, if the observing stand or unit is destroyed, the artillery strike lands exactly where the barrage lands.

An FO can always cancel an artillery barrage at any time before the barrage lands.

Any stand wholly or partially within an artillery barrage template is affected by the barrage.

Total the number of artillery points from all firing guns. Cross reference this on the **Artillery Chart** to determine the roll needed to score a hit on the target. A stand that is hit must make a quality check.

Forward Observers

Each unit has one integral FO. The integral FO is with any stand the owning player desires at any time. The FO is not destroyed until the entire unit is destroyed.

There are also FOs that are deployed on the battlefield. They act like any other stand with these exceptions:
- They may not fire at an enemy stand.
- As long as they are within 4" of a friendly stand, they may not be targeted by enemy troops, nor may they be affected by enemy artillery.
- During the command phase, FOs may spot for friendly off-board artillery.

Batteries

All guns in a battery fire at the same target. Additional guns do not increase the barrage template size, but simply add artillery points to the attack.

For example, an American heavy artillery battery has two guns. Each gun has 2 artillery points. So the battery has 4 artillery points.

Sheafs

Most artillery can fire two kinds of sheafs: dispersed and converged. The data charts give the template sizes and number of artillery points for each sheaf.

Off-Board Artillery

Off board artillery can conduct indirect fire at any target on the board as long as a FO or unit spots for them. As a practical matter, most artillery will be off-board.

On board artillery stands (mortars usually) don't need an FO to place a barrage marker if they can spot their target. If they can spot the target, these stands can fire during their fire phase. On board artillery can also conduct direct fire attacks (se below).

Direct Fire

There are two kinds of direct fire: direct anti-vehicle fire and direct HE fire. A stand may not engage in direct fire if it conducts an indirect fire mission.

On-board non-mortar artillery stands can engage in direct anti-vehicle fire. The stand is treated as an AFV and uses its ratings for penetration, range, and ROF. The firing stand conducts attacks according to the Anti-Vehicle Fire chapter.

The following stands can conduct direct HE fire:
- On-board, non-mortar artillery stands; and
- Vehicles with a base ROF of 3 and a Pen of 4+

Direct HE fire occurs in the fire phase and does not require a barrage marker. Place an appropriate sized sheaf template (no to hit roll is necessary) and resolve the attack just like a normal barrage. Vehicles have a 1" square template and attack with1L points per ROF.

Battalion/Regiment Mortars

Mortars that are integral to a Battalion or Regiment (see the Army Lists) can react faster than other artillery.

These stands fire during the fire phase (or overwatch phase if the stand does not move or does not fire during its fire phase). They resolve their hits like normal artillery attacks. Their attacks do not have to be marked with barrage markers.

These stands can fire at targets that they cannot see, as long as any stand in their battalion/regiment can see the target.

Artillery Fire Against Unspotted Stands

An unspotted stand that is touched by an artillery template is only affected if the firing player rolls a 1-3 on one die. This roll is not made if there is a spotted enemy stand completely covered by the template.[7]

Ammunition Limits (optional)

Many artillery units have limited ammunition. A 119mm or smaller howitzer has 15 shots. A 120-129mm howitzer has 10 shots. A 130-150mm howitzer has 7 shots. A 151mm or larger howitzer has 5 shots.

Multiple Rocket Launchers

Multiple rocket launchers (MRL) are less accurate than tube artillery. Therefore, an MRL barrage may scatter and miss the target.

MRL barrages are placed and corrected like any other artillery mission. But an MRL barrage will only hit its target if the player makes a quality check for the firing stand. The firing stand has the same quality as the majority of the rest of its force. If the check misses, the barrage will scatter 1d6" in a random direction. Use scatter dice to determine the direction.

14.   Close Combat

Procedure

A stand that moves within 1" of an enemy stand must halt. The player places a die or a numbered marker beside the moving stand with its remaining movement allowance showing. During the close combat phase, units take turns firing at each other (nonmoving player first). After each round of close combat, decrease the remaining movement allowance by one. A unit completes close combat when it no longer has a target within one inch.

After the close combat is over, stands that have any movement left may continue moving.

Firing In Close Combat

In close combat, stands take turns firing (the non-moving stand fires first) until one side or the other has been destroyed.

Infantry firing at vehicles in close combat get to attack the vehicle's flank armor (regardless of facing).

Missiles In Close Combat

Due to minimum range restrictions, units may only fire missiles in the first round of close combat, and only if the missile has a minimum range of 1 or less.

Infantry In Close Combat

Non-moving infantry being close assaulted by MBT's must make a quality check at +2 to the roll. If the infantry makes the roll, it may fight as normal. If the infantry misses the roll, it may not fire in the first round of close combat.

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[7] Do not use this rule if you are playing a scenario with completely hidden units and a referee. The intent is to allow players to blast likely terrain features that probably have enemy units in them, yet not take too much advantage of their omniscience.

Infantry firing at vehicles in close combat get to attack the vehicle's flank armor (regardless of facing). Infantry without LAWs can still attack a vehicle in close combat with grenades, molotov cocktails, etc. They roll one die. On a "6", the enemy vehicle must make a quality check.

Pivoting in Close Combat

Stands may pivot before firing in the second and subsequent firing rounds. This pivot will not cause the stand to engage in other close combats.

Miscellaneous Close Combat Rules

When close combat is over, any of the moving player's stands that survive may continue to move if it has any movement remaining (check the movement die beside the stand). They may engage in additional close combats at this time. Stop and resolve each new close combat after all eligible units have moved.

Stands that participate in close combat may also fire in their normal fire phase. Stands on overwatch remain on overwatch after close combat is over.

Stands expend missile ammunition in close combat if they fire missiles.

15.   Autogiros, Helicopters and Flyers

General

All of these vehicles are called Flyers in these rules. A flyer is treated for the most part as a very fast vehicle with special movement rules.

Movement

General

Flyers function in one of two modes: high mode or nap of the earth (NOE). A flyer enters one mode or the other at the start of its movement phase. It must spend the entire turn in that mode.

Nap of the Earth Mode

A flyer in NOE mode is flying very close to the ground. It is treated as an armored vehicle for all purposes. The Flyer Data Chart lists the speed of the flyer in NOE mode. A flyer in NOE mode may not enter cover, but the flyer may fly over it. All terrain moved over costs the same as clear terrain for movement purposes. Treat the flyer as being 1 level higher than the cover for spotting and line of fire purposes.

High Mode

A flyer in NOE mode ignores terrain costs for linear obstacles and broken terrain. A flyer in high mode has an unlimited movement allowance. All enemy units spot the flyer and may trace a clear line of sight to the flyer regardless of intervening terrain. A flyer in high mode must stay in that mode for the whole turn. A stand in high mode may not attack.

Coherency

Flyers have a coherency range of 6".

Combat

General

During the firing phase (or during the opposing player's turn if the flyer is on overwatch), the flyer may attack with one of its weapons systems just like any other vehicle.

Pop-Up Attacks

The flyer may also make a special pop-up attack. The flyer executing the pop-up attack may fire through any intervening terrain and attack a target. Any enemy units on overwatch may fire at the flyer as it rises

before the flyer makes its attack. These units trace a los to the flyer. The flyer is treated as though it were at the minimum height level it would need to be to execute its attack.

Close Combat

Flyers are subject to the normal close combat rules, but close combat occurs at 4" range from enemy infantry. Only flyers in NOE can engage in close combat.

Firing At Flyers

Guns with a ROF of 4 or more may fire at flyers that are within effective range.

Missiles may fire at flyers if the flyers are within 1/2 their maximum range.

All stands have integral machineguns which can attack flyers. For anti-flyer fire, each of these machineguns have a pen of 0, ROF of 1 and an effective range of 10".

Fire against flyers is treated the same as fire against any other vehicle, except that guns, missiles and machineguns score a hit on a flyer on a 6, regardless of range or troop quality.

Artillery treats flyers as though they were armored vehicles. Flyers in high mode are immune to artillery strikes.

SAMs, AAMs, and AA Guns

SAMs, AAMs, and AA guns are specially designed to engage aircraft and are much more effective against flyers. SAMs, AAMs, and AA guns fire at flyers like any other stands, except that they hit on a 5+. AA guns may fire at long range at a -1 to hit.

Some SAMs and AAMs are listed as being rear aspect missiles. These missiles may only fire at a flyer from the 120 degree rear arc. The rear is determined by using the front/flank template.

Add troop quality modifiers when rolling to hit with SAMs, AAMs, and AA Guns.

Other Special Rules

Unless otherwise stated, treat flyers as armored vehicles. Friendly forces may not fire (or correct) any artillery barrages within 20" of friendly flyers. If a friendly flyer is within 20" of a map fire mission, the mission is canceled for that turn. The mission will continue the next turn and will land in the location it normally would for that turn.

Rockets

Flyer rockets are fired like any other direct fire weapon, except that no "to hit" roll is made. Instead, a 1" barrage template is placed and all stands touched by the template take a 5L artillery strike.

Laser Designation

Flyers equipped with laser designated missiles may fire them just like any other missiles. They may also fire missiles at targets that are designated by other stands.

A stand may designate for any other stand in the same company if the stand can trace an unobstructed los to the target. The stand must not have moved that turn (or during the previous turn if the attack is occurring as an overwatch attack)

Referees may also give this designating capability to other units when designing scenarios.

A flyer that is firing missiles designated by another stand may execute a much quicker pop-up attack than normal. The effect of this is that all weapons except SAMs, AAMs and AA guns have their effective range halved when firing at a flyer executing this quick pop-up attack. SAMs and AAMs are -1 to hit.

16. Special Units

Ironclads

Ironclads operate on rivers or lakes. They are treated as vehicles that can only move on the water. Their movement is a maximum of 6". They can change speed by 2" per turn. They have an armor rating of 2. They have 4 guns (Pen 4, ROF 2, Rng 12) and can fire each at a different target. They also have 2 machine guns (anti-infantry of 3+, ROF 2). Ironclads can take 4 hits before being sunk. They are immune to quality checks from direct fire and Heat Rays. Each "destroyed" result will destroy 1 gun and reduce top speed by 2".

Martian Flyers

Martian Flyers are treated like Human Flyers, except that they can lay up to 4 Gas Canisters along their movement path. They also have a Heat Ray.

Martian Cylinders

Cylinders may begin the game on the board or they may land during a scenario. A Cylinder that is to land in a game must designate where it will land and on what turn it will land before the game starts.

A Cylinder will hit its intended landing point on a 3+ on one die. Otherwise, it will scatter 3d6 inches. If it lands in a river, swamp, lake or in a town, it is destroyed.

A Cylinder carries 5 Martian vehicles – Tripods or Flyers. It may carry 2 Light Walkers instead of a Tripod.

Once a Cylinder lands, the Martian player must roll 1d6 each Martian Command Phase to activate it. When the first 6 is rolled, the Cylinder's Heat Ray is active. When the second 6 is rolled, a Tripod is assembled and may leave the Cylinder. A Cylinder may never move.

A Cylinder can be destroyed before its Heat Ray is activated by any Human stand that moves into contact with it. Once the Hear Ray is activated, the Cylinder can only be destroyed by combat. A Cylinder can take 5 "hits" – either "destroyed" results or failed quality checks (at elite status) before being destroyed. Each hit will destroy one Martian Tripod or Flyer or 2 Light Walkers (roll randomly).

A Cylinder is well-represented by a one to two inch diameter medicine bottle cap.

Zeppelins

Were used in periods 2 and 3 against the Martians. The combination of ablative armor, helium and high altitude allowed them to survive in many cases. A Zeppelin is well represented by an aircraft model fuel pod – say 3-4" long. Zeppelins can make bombing attacks by moving over a target and laying a 1" x 2" template during its movement phase. Every stand touched by template is attacked by 3 Artillery Points. A Zeppelin can place 4 such templates in a game (all in the same turn if desired).

The Zeppelin must make a quality check or the template will scatter 2d6 inches (the template will keep its orientation, though).

Zeppelins fly too high for all weapons except Heat Rays. A heat ray gets 1/4 its normal penetration dice against a Zeppelin. All attacks against a Zeppelin are at long range. All stands can see a Zeppelin. Zeppelins move up to 12" per turn. Period two Zeppelins have ablative armor.

Helium filled Zeppelins can take 3 hits (losing 4" of speed and one bombing template with each hit). Hydrogen filled Zeppelins are destroyed instantly if hit by a Heat Ray.

17.   Human High Technology

General

The Martian Invasions, plus two World Wars and an extended Cold War prompted the Humans to develop numerous high technology systems.

Landships

After the initial Martian invasion,. Earth girded itself for another attack. The attack came 25 years later – time that the humans spent developing sophisticated weapons to combat the Martians. The most potent Earth weapons were the mighty Landships. A Landship is treated like a tank, except that it has multiple weapons. It can fire each weapon each turn.

Ablative Armor

In periods 2, 3,4 and 5, the humans eventually develop a form of ablative armor to re-fit on their tanks. This is only available in late war scenarios. Ablative armor will protect a vehicle on a 5+ on 1d6 from a Heat Ray attack. Roll once per shot fired by the Martian. A Sweeping Attack is considered one attack against a particular target. A human player can fit ablative armor to his vehicles for a 25% extra cost.

IVIS (Inter-Vehicular Information System)

The IVIS is a computerized communications system that links every vehicle in a unit with its headquarters, giving the commander unprecedented control over units available in Period 5.

Each stand that has IVIS may place a different barrage marker.

Stands with IVIS also have their cohesion distance doubled.

CITV (Commander's Independent Thermal Viewer)

Available in Period 5. Vehicles equipped with a CITV allow the vehicle commander to target a second vehicle while the gunner is firing at the first vehicle. This has the game effect of allowing a vehicle to ignore the ROF Reduction for Multiple Targets.

For example, a CITV-equipped Heavy Tank with a ROF of 3 can fire one shot at three different targets.

Artillery Laser Guided Projectiles

Available in Period 5. 155mm, 152mm and 203mm guns can deliver laser guided projectiles instead of their normal attacks.[8]

Each unit or FO can place a laser guided mission in lieu of a barrage marker.

The laser guided projectile arrives just like other artillery missions. It will hit an enemy stand within 6" of the marker if:

1.   The enemy stand was spotted by the designating stand when the mission was called; and
2.   The enemy stand remained spotted in all subsequent phases; and
3.   The firing stand makes its to hit roll of 4+.

A laser guided projectile has a Pen of 16h for Medium guns, and a Pen of 24h for Heavy guns. It hits on a roll of 4+. It strikes the flank armor of the target on a second roll of 4+. Otherwise, it hits the front.

Heavy laser guided projectiles cost 25 points for each shot. Medium laser guided projectiles cost 40 points each.

AFATDS (Advanced Field Artillery Tactical Data System)

This system is a replacement for the TACFIRE system that will enable even quicker response times for artillery missions. AFATDS will be available to US and European armies after 2000.

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[8] The US example of this system is the Copperhead. The Russians currently have a complete family of laser guided artillery rounds.

AFATDS stands fire during the fire phase (or opportunity fire phase if the stand does not move or fire). They resolve their attacks like any other artillery attacks. Their attacks do not have to be marked with barrage markers.

These stands can fire at targets that they cannot see, but a FO or unit of their battalion/regiment must spot for them. The FO or unit must not have placed other artillery barrages during the owning player's previous command phase.

Artillery stands that have AFATDS cost triple their normal cost.

NLOS Missiles

The US Army is working on a missile system that can be fired at targets that the gunner cannot see. The gunner flies the missile to the target using a fibre-optic link.

NLOS missiles have an "n" after their range on the vehicle data charts.

NLOS missiles may be fired at any enemy stand as long as a friendly stand can see the enemy stand. A friendly stand can guide any number of NLOS missiles.[9]

The stand firing an NLOS missile does not have to be able to trace a los to its target.

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[9] The friendly stand does not "designate" for the NLOS attack. Instead, the friendly stand tells the firing stand that enemy vehicles are nearby. The firing stand fires its missiles in the general area of the target, acquires the enemy vehicles, and flies the missile to them..

18.   Game Charts

Spotting Chart

| Spotting Stand: | | VEHICLE | | | | PERSONNEL | | | |
		Moving In Open or Firing	Moving In Cover	Station. In Cover	Station. In Open	Moving In Open or Firing	Moving In Cover	Station. In Cover	In Open
Quality	**Type**								
GREEN	Personnel	auto	20"	10"	40"	auto	10"	1"	20"
	Vehicle	auto	10"	5"	40"	auto	5"	1"	10"
	Recon Vehicle	auto	20"	10"	40"	auto	10"	1"	20"
	Recon Personnel	auto	30"	15"	40"	auto	15"	1"	30"
AVERAGE	Personnel	auto	30"	15"	45"	auto	15"	1"	30"
	Vehicle	auto	20"	10"	45"	auto	10"	1"	20"
	Recon Vehicle	auto	30"	15"	45"	auto	15"	1"	30"
	Recon Personnel	auto	40"	20"	45"	auto	20"	1"	40"
VETERAN OR ELITE	Personnel	auto	40"	20"	50"	auto	20"	1"	40"
	Vehicle	auto	30"	15"	50"	auto	15"	1"	30"
	Recon Vehicle	auto	40"	20"	50"	auto	20"	1"	40"
	Recon Personnel	auto	50"	25"	50"	auto	25"	1"	50"

——————————————TARGET TYPE——————————————

Quality Chart

Troop Type	Quality Roll	AV To Hit
Green	6+	-1
Average	5+	0
Veteran	4+	+1
Elite	3+	+2

Small Arms Fire

1. Roll dice equal to the firing stand's ROF (+1 to ROF if firing stand is Veteran or Elite).
2. Apply these modifiers to the rolls:

   If target didn't move in last movement phase (or current phase if attacked by a stand on overwatch)
   -1 if the target is in **soft cover** (woods, forest, swamp)
   -2 if the target is in **hard cover** (towns, bunkers, ridgeline, trench/stream, etc)

   If target moved in last movement phase (or current phase if attacked by a stand on overwatch)
   +2 if target is in the open
   +1 if target is in cover

3. Every die that equals or exceeds the firing stand's "to hit" number is a hit. A natural "6" always hits.
4. The target must make a quality check if it suffers a hit. The check is at -1 for each additional hit after the first one.
5. If the target makes the quality check, it is **pinned.**

Anti-Vehicle Fire

Range	To Hit	
Close …………… 3+		If firer is green, -1.
Effective ………. 4+		If firer is veteran +1; elite +2.
Long 5+		A natural "6" always hits.
		Penetration Dice: A 4-5 is a quality check, 6 is a kill.

Non h-class weapons: +2 penetration dice at close range; -2 penetration dice at long range
Heat Rays: All penetration dice if target has normal armor. 1/2 vs. C-class armor. 1/2 if sweeping attack.

Artillery Fire Chart

Artillery Factors	AFV	"L" Class vs. AFV	Soft/Infantry in the open	Soft/Infantry in cover
1-2	6+	6+	5+	6+
3-4	5+	6+	4+	5+
5-6	4+	5+	3+	4+
7-8	3+	5+	2+	3+
9+	2+	4+	2+	2+

If a target is hit, it must make a quality check.

Terrain Effects Chart

Movement **Class**

Terrain	Anti-Vehicle Save	Small Arms Modifier	Tracked	Wheeled	Leg	Towed	Amphibious	Helicopter
Clear	–	–	1	1	1	1	–	1
Light Woods	5+ 4+ Msl	-1	1	1	1	1	–	P
Heavy Woods	5+ 4+ Msl	-1	2	2	1	2	–	P
Forest	4+ 3+ Msl	-1	P	P	1	P	–	P
Swamp	5+ 4+ Msl	-1	See pp8-9	See pp8-9	See pp8-9	See pp8-9	See pp8-9	P
Towns	4+ 3+ Msl	-2	2	2	1	2	–	P
Streams	4+[1]	-2[1]	1/2 stand's MA	1/2 stand's MA	1	1/2 stand's MA	–	–
Rivers-Fordable	–	–	2	2	2	2	2	–
Rivers-Impassable	–	–	P	P	P[2]	P	4	–
Cliffs	–	–	P	P	P[3]	P	–	–
Ridges	4+[1]	-2[1]	–	–	–	–	–	–
Roads	–	–	MA doubled	MA quadrupled	MA doubled	MA doubled		–
Paths	–	–	1	1	1	1	–	–

P = Prohibited   – = No Effect
A number indicates that this is how many inches of movement it costs to move one inch through that type of terrain.
[1] If target stand is behind and touching the terrain feature, it gets this modifier or saving throw. Otherwise, there is no effect.
[2] At the referee's discretion, infantry may cross with rubber rafts at 1/4" per turn. The infantry may not fire while in the water.
[3] Light infantry stands may cross a cliff by spending an entire movement phase beside the cliff.

19. Vehicle Data

Vehicle	Period	PV	Move	Armor	Pen	ROF	Rng	SA	Pen	ROF	Rng	Equip	Cap	Notes
					———Gun————				——Missile———					
Martian War Machines														
Tripod	1		12v	2c	[4]	2	24	2+	-	-	-	n ss	-	-
Flyer	1		24h	2c	[4]	2	24	2+	-	-	-	n ss	-	-
Tripod	2,3		12v	2c	[8]	2	24	2+	-	-	-	n ss	-	-
Light Walker	2,3		16v	1c	[4]	2	24	2+	-	-	-	n ss	-	-
Flyer	2,3		24h	1c	[8]	2	24	2+	-	-	-	n ss	-	-
Transport Flyer	2,3		24h	1c	[4]	2	24	2+	-	-	-	n ss	2	Carries 2 walkers or 1 Tripod
Tripod (early)	4		12v	3c	[8]	2	24	2+	-	-	-	n ss t	-	-
Light Walker	4		16v	1c	[4]	2	24	2+	-	-	-	n ss t	-	-
Flyer	4		24h	1c	[8]	2	24	2+	-	-	-	n ss t	-	-
Transport Flyer	4		24h	1c	[4]	2	24	2+	-	-	-	n ss t	2	Carries 2 walkers or 1 Tripod
Late Tripod	4		10v	5c/3c	[8]	2	24	2+	-	-	-	n ss t	-	-
Tripod (early)	5		12v	6c/3c	[8]	2	24	2+	-	-	-	n ss t	-	-
Light Walker	5		16v	3c	[4]	2	24	2+	-	-	-	n ss t	-	-
Flyer	5		24h	2c	[8]	2	24	2+	-	-	-	n ss t	-	-
Transport Flyer	5		24h	2c	[4]	2	24	2+	-	-	-	n ss t	2	Carries 2 walkers or 1 Tripod
Late Tripod	5		10v	12c/4c	[8]	2	24	2+	-	-	-	n ss t	-	-

Note: Martians have a flank armor rating of 1c unless otherwise indicated

Human Vehicles

Vehicle	Period	PV	Move	Armor	Pen	ROF	Rng	SA	Pen	ROF	Rng	Equip	Cap	Notes
Heavy Landship	2		6t	1	2	1	12	3+	-	-	-	n	-	-
					2	1	12	3+	-	-	-			
					1	4	8	4+	-	-	-			
Light Landship	2		12t	0	2	2	8	4+	-	-	-	-	-	-
					1	2	8	4+	-	-	-			
Rocket Crawler	2		6t	1	1	2	8	4+	6	1	18*	-	-	-
Lt Rocket Crawler	2		12t	0	1	1	6	4+	6	1	18	-	-	-
Infantry Crawler	2		12t	0	1	1	6	4+	-	-	-	-	1	-
Lorry	2+		8w	s	-	-	-	-	-	-	-	-	1	-
Autogiro Gunship	2		24h	s	2	4	8	4+	6	1	18*	-	-	Can replace missiles with 1 rocket salvo
Autogiro Transport	2		24h	s	1	1	6	4+	-	-	-	-	3	-
Male Tank	3		6t	0	2	2	8	3+	-	-	-	-	-	-
Female Tank	3		6t	0	0	2	6	3+	-	-	-	-	-	-
Whippet	3		10t	0	0	2	6	3+	-	-	-	-	-	-
Fast Tank	3		10t	0	2	1	8	3+	-	-	-	-	-	-

Vehicle	Period	PV	Move	Armor	Gun Pen	Gun ROF	Gun Rng	Gun SA	Missile Pen	Missile ROF	Missile Rng	Equip	Cap	Notes
Light Tank	4		12t	0	2	2	10	3+	-	-	-	-	-	-
Medium Tank	4		10t	1	4	2	12	3+	-	-	-	-	-	-
Heavy Tank	4		8t	4	6	2	16	3+	-	-	-	-	-	-
Maus	4		6t	6	8	2	16	3+	-	-	-	-	-	-
Halftrack	4+		8t	0	0	1	6	4+	-	-	-	-	1	-
Late Medium Tank	4		10t	4	6	2	14	3+	-	-	-	s	-	-
Early Gunship	4		18h	s	1	4	8	4+	-	-	-	-	-	1 rocket attack
Early Trans. Copter	4		18h	s	0	1	6	4+	-	-	-	-	3	-
Missile Tank	4		10t	0	0	1	6	3+	8h	1*	20	-	-	-
Heat Ray Tank (late)	4		6t	0	[8]	1	24	2+	-	-	-	-	-	Captured hear ray
Light Tank	5		10t	0	4	3	12	3+	-	-	-	s	-	PT-76, Scorpion, etc.
Medium Tank	5		8t	5	8	3	16	3+	-	-	-	s	-	M60, AMX-30, etc.
Heavy Tank	5		12t	10c	12	3	24	3+	-	-	-	ss t n	-	M1, Leopard-II etc. Has CITV and IVIS.
APC	5		10t	0	0	1	6	3+	-	-	-	-	1	M113, etc.
Wheeled APC	5		8w	0	0	1	6	3+	-	-	-	-	1	BTR, etc.
MICV	5		10t	0	1	4	12	4+	14h	1	20	s n	-	BMP, Warrior
Heavy MICV	5		12t	1c	1	4	12	4+	14h	1	40	s n	1	Bradley
ATGM Vehicle	5		10t	0	0	1	6	3+	14h	1*	40	s n	-	
Wheeled AT Veh	5		8w	0	0	1	6	3+	14h	1*	40	s n	-	
Heat Ray Tank	5		6t	0c	[8]	2	24	2+	-	-	-	s n	-	Captured heat ray
Attack Helicopter	5		24h	1	1	4	12	4+	14h	1*	40	ss t n	-	2 Rocket attacks as well
Transport Chopper	5		20h	0	0	1	6	3+	-	-	-	-	3	
SP AA Gun	5		10t	0	1	8	12	4+	-	-	-	s	-	AA gun

*Unlimited missile ammo

20.   Infantry and Cavalry

Type	Period	PV	Mov	Size	—Small Arms— To Hit	ROF	Rng	——LAW–– Pen	ROF	Rng	——MAW—— Pen	ROF	Rng
European/US Infantry	1		5	1	4+	1	4	-	-	-	-	-	-
Other Infantry/Militia	1		5	1	5+	1	2	-	-	-	-	-	-
Dragoons	1		8	--	4+	1	4	-	-	-	-	-	-
Lt. Cavalry	1		10	--	4+	1	2	-	-	-	-	-	-
Early Machinegun	1		5*	1	4+	3	6	-	-	-	-	-	-
European/US Infantry	2		5	1	4+	1	4	6h	1	3	-	-	-
Other Infantry/Militia	2		5	1	5+	1	2	6h	1	2	-	-	-
Dragoons	2		8	--	4+	1	4	6h	1	3	-	-	-
Rocket Infantry	2		5	1/2	4+	1	2	6h	1	3	4h	1*	6
European/US Infantry	3		5	1	4+	2	4	-	-	-	-	-	-
Other Infantry/Militia	3		5	1	5+	2	4	-	-	-	-	-	-
Light AT Gun Team	3		5	1/2	4+	1**	4	2	2	4	-	-	-
Late Infantry	3 (late)		5	1	4+	2	4	6h	1	2	-	-	-
Late AT Gun Team	3		5	1/2	4+	1**	4	3	2	4	-	-	-
MG Team	3		5	1/2	3+	3**	8	0	1	4	-	-	-
Industrialized Infantry	4		5	1	4+	3	4	6h	1	2	-	-	-
Other Infantry	4		5	1	4+	2	4	-	-	-	-	-	-
Light AT Gun	4		5	1/2	4+	1	4	1	2	4	-	-	-
AT Missile Infantry	4 (late)		5	1/2	4+	1	4	6h	1	2	8h	1*	20
Infantry	5		5	1	3+	3	4	6h	1	2	8h	1	4
US Infantry	5		5	1	3+	3	4	6h	1	2	14h	1*	10
Med Missile Team	5		5	1/2	3+	1	4	6h	1	2	14h	1*	20

21.   Artillery

Type	PV	Per	Move	Armor	Indirect Range	—Converged— AF	Temp	—Dispersed— AF	# Temp	Ammo	—Direct Fire AV— Pen	ROF	Rng
Guns													
Light Towed		1	t	s	--	1L	1"	--	--	--	1	1	8"
Horse Artillery		1	6c	s	--	1L	1"	--	--	--			
Medium Towed		1	t	s	--	1	1"	--	--	--	2	1	10"
Heavy Towed		1	t	s	--	2	1"	--	--	--	3	1	10"
Guns/Howitzers -- Period 2+; Period 4+ for SP													
Light SP		4+	6	0	15(21)km	2L	1"	1L	2 x 1"	s,c	10h	1	8"
Light Towed		2+	t	s	15(21)km	2L	1"	1L	2 x 1"	s,c	10h	1	8"
Medium SP		4+	5	1	18(30)km	2	1"	1	2 x 1"	s,i,c,m	2	1	8"
Medium Towed		2+	t	s	18(30)km	2	1"	1	2 x 1"	s,i,c,m	2	1	8"
Heavy SP		4+	5	0	27(37)km	3	1"	1	2 x 1"	i,c,m	7	1	8"
Heavy Towed		2+	t	s	27(37)km	3	1"	1	2 x 1"	c	7	1	8"
ICM (3 shots)	*	5	-	-	-	+1	2"	+1	2 x 2"	-	-	-	-

* 3 shots of ICM ammo will double the cost of the gun. 6 shots will triple the cost of the gun, 9 shots will quadruple the cost of the gun.

Towed guns or mortars can be pulled by horses (4c) or vehicles (6w or 6t). Light guns and mortars can be move 3" per turn by their crews.

Mortars -- Period 2+; Period 4+ for SP

SP Mortar	4+	6a	0	30"	2L	1"	1L	2 x 1"	s,c	-	-	-
Towed Mortar	2+	3v	s	30"	2L	1"	1L	2 x 1"	s,c	-	-	-

Multiple Rocket Launchers

MLRS*	5	6	0	30km	15L	3"	3L	5 x 3"	m	-	-	-
Light MLR*	4+	5	0	20km	5L	3"	1L	5 x 3"	c	-	-	-

*This is a multiple rocket launcher with 1 shot per game.

Ammunition Notes
Smoke is available in period 2+.
ICM is available in period 5.

22.   Army Organizations

Humans

Human armies are organized into **companies** of 3-6 stands. 3-6 companies, along with an artillery battery (1-2 guns) make up a **battalion.** 3-5 **battalions** make up a brigade or regiment.

Martians

As far as can be determined, the Martians operate in groups of 5 Tripods or Walkers.