

Titans of Steel: Warring Suns – Guide

HeadQuarters Module

Race	Attribute Modifiers	Special
Human	+1 Instinct +1 Charisma	
Android (sexless)	+1 Reaction +1 Neural Sense	self-healing ability (no healing from Life Support); less vulnerable to radiation (Neutron Blaster or engine explosion); resistant to unconsciousness;
Replicant D	+2 Dexterity	very vulnerable to radiation (Neutron Blaster or engine explosion);
Replicant I	+2 Intelligence	
Cyborg	+1 Constitution -1 Charisma	less vulnerable to damaged Life Support and cockpit hits; reduced unconsciousness time;

Sex	Attribute Modifiers
Male	+1 Constitution
Female	+1 Instinct

When choosing a Jock's race and gender, keep in mind that Intelligence, Instinct and Dexterity are harder to develop than Neural Sense, Reaction, Constitution; Charisma is the cheapest attribute to develop. Attributes have a maximum rating of 20.

Attribute (*)					DP Cost	
Int, Ins, Dex	7	Neu, Rea, Con	8	Cha	9	9
	8		9		10	12
	9		10		11	16
	10		11		12	22
	11		12		13	30
	12		13		14	40
	13		14		15	52
	14		15		16	66
	15		16		17	82
	16		17		18	100
	17		18		19	120
	18		19		20	145
19	20	-	175			
20	-	-	250			

Skill (%)	DP Cost
01~10	1
11~20	2
21~30	3
31~40	4
41~50	5
51~60	7
61~70	11
71~80	17
81~90	23
91~100	29

(*) racial modifiers not factored in

A Jock's maximum health is given by: HPs = 9 x Constitution

For each Jock you can develop a number of skills equal to his current Intelligence score. Each skill can be raised up to a limit value that is given by:

$$\text{Skill_Limit} = 5 \times \frac{2 \times \text{Primary_Attribute} + 1 \times \text{Secondary_Attribute}}{3} (\%)$$

Skill Type	Skill	Primary Attribute	Secondary Attribute
Pilot	Recon/Light	Dexterity	Reaction
	Medium/Heavy	Neural Sense	Dexterity
	Assault	Neural Sense	Dexterity
	Jump	Dexterity	Reaction
	Scouting	Instinct	Intelligence
Combat	Close Combat	Instinct	Reaction
	Guided Missile	Intelligence	Instinct
	Unguided Missile	Dexterity	Reaction
	Cannon	Reaction	Dexterity
	Energy Weapon	Reaction	Dexterity
	Indirect Fire	Instinct	Intelligence
Systems	Electronic Warfare	Intelligence	Instinct
	Scanner	Intelligence	Neural Sense
	Defensive	Dexterity	Intelligence
	Damage Control	Intelligence	Dexterity
Social	Leadership	Charisma	Intelligence
	Business	Intelligence	Charisma
Survival	Survival	Instinct	Constitution
	Medical	Intelligence	Dexterity

Medium/Heavy: can only be developed by Jocks of Green rank [2] or better.

Assault: can only be developed by Jocks of Regular rank [4] or better.

Jump: used to calculate jump related move skill checks and jump charge success.

Scouting: modifies chance to move quicker in woods, and grants a protection and hiding bonus for motionless Titans in hexes with any type of cover.

Close Combat: used to calculate weapon skill checks for HtH and CC attacks, and charge (including jump charge) success; modifies recycling time for HtH weapons.

Indirect Fire: decreases penalty for missile attacks without direct LoS, especially with Guided Missiles.

Electronic Warfare: modifies time to get a lock, time to toggle ECM, chance to defeat active scans, and threat level calculation.

Scanner: modifies time to toggle Scanner, time to active scan a target, chance to succeed in active scans, maximum number of link partners, and chance to keep scanner links stable.

Defensive: modifies time to launch Flares, chance to prolong their duration and the duration itself, time to toggle Shield and chance to prevent Shield overload, Shield's protective value, and chance to fine-tune the Heat Regulator (heat dissipation bonus).

Damage Control: modifies chance to use DCS efficiently and chance to avoid explosions; salvage recovered after a battle is modified by the highest *Damage Control* skill of all Squad Jocks that took part in that battle.

Leadership: a Leader's *Leadership* skill is used to recruit superior rookies, along with the Leader's rank.

Business: used to calculate the Jock's upkeep [$2500 - 25 * (\text{Business} - 50)$]; money earned and salvage recovered after a battle is calculated using the highest *Business* skill of all Squad Jocks that took part in that battle.

Survival: modifies eject time, chance to eject safely, and chance to reduce effect of shock damage.

Medical: modifies chance to use the healing capability of the Life Support, and chance to stop bleedings.

A Jock's initial attributes and skills are a function of his name, modified by the Squad Leader's *Leadership* skill. The first Jock in a Squad is created by a virtual Squad Leader with *Leadership* skill 75%.

The first Jock created in a Squad has an improved *Leadership* skill, and should be its Leader. The Leader's *Leadership* skill will determine the maximum number of Jocks allowed in the Squad (to a maximum of 8).

Number of Jocks in Squad = integer part of $[(\text{Leader's } Leadership - 1) / 10] + 1$

The second Jock created in a Squad has an improved *Business* skill, and should be its Manager. The Manager's *Business* skill will determine the Purchase modifier applied when buying Titans in the HQ. Maximum markup is locked at 40%.

Purchase modifier = Manager's *Business* – 70%
(a negative modifier corresponds to a markup, a positive one to a discount)

The third Jock created in a Squad has an improved *Damage Control* skill, and should be its Mechanic. The Mechanic's *Damage Control* skill will determine the Repair modifier applied when repairing Titans in the Factory and the maximum number of Titans a Squad can own (to a maximum of 16).

Repair modifier = Mechanic's *Damage Control* – 70%
(a negative modifier corresponds to a markup, a positive one to a discount)

Number of Titans in Squad = integer part of $[16 * \text{Mechanic's } Damage Control / 100] + 1$

Each Jock has a leader position value that is given by $(Leadership + rank * 20)$. The Jock with the highest leader position value is the Squad Leader.

A Squad Leader's recruit skill is given by $[(Leadership + rank * 5) / 1.5]$.

The Squad Leader's rank determines the maximum weight class of Titans that can be bought:

Rookie: Recon
Green: Light
Novice: Medium
Regular: Heavy
Veteran: Assault

After a battle, earned XPs for each skill type generate the corresponding DPs on a 15:1 basis.

Total XPs earned are then added to the Jock's experience total.

When a Jock is promoted, he receives an amount of DPs depending on the rank attained (30*rank).

Jocks go up in rank using the following table:

Rank	Experience (XPs)	DP bonus
Rookie	0	333
Green	4,000	60
Novice	12,000	90
Regular	24,000	120
Veteran	40,000	150
Crack	60,000	180
Elite	80,000	210
Ace	110,000	240
Champion	140,000	270
Hero	180,000	300

These values are modified by the Jock's Charisma attribute: every point above 10 decreases the amount of XPs needed to reach the next rank by 5%, every point below 10 increases it by 5%.

A Jock's salary is modified by number of battles and number of kills.

Maintenance of Titans not allocated to a Jock (left at HQ during a battle) is 50% the normal.

Jocks left behind at HQ during a battle that have a Titan allocated to them receive 5 DPs in each category.

The money you get by selling a Titan in the HQ ranges from 50 to 65% of its purchase value. Managers with a markup will get 50%, while those with a skill above 70% will get half the excess more.

Example: Manager with *Business* skill 90% -> $(90 - 70) / 2 = 10\%$ bonus -> 60% sell value.

This keeps the sell price below the buy price even for the best Manager (70% buy, 65% sell).

A Squad on a mission can sell its unallocated Titans for 50% their purchase value, if the need for retrieving the Squad from battle arises and it does not have enough money. This is an emergency sale, so the Manager's skill does not apply.

Jocks can only be transferred if they are Green rank [2] or better. A Jock's transfer cost will depend on his rank and will be partially paid to the Squad he was drafted from.
A Squad can obtain money by transferring Jocks to other Squads.

BEGINNER SQUADS:

Add a new entry in the tcc.cfg file

```
[TOS_WS_HQ]
```

```
start_rank = 2
```

New Squads are created as Green rank, and with a 700,000\$ budget.

You can also toggle starting rank for recruited Jocks in any Squad by searching the Training Camp Database for:

name RANK callsign GREEN or ROOKIE : following Jocks start with the specified rank

This Squad is not a Special Squad (see below).

SPECIAL SQUADS:

Create a new Squad and search the Training Camp Database for:

name MONEY callsign XXXXXXXX : start with that amount of money

name SKILL callsign XXXX : start with that amount of DPs in each skill category

Special Squad Jocks' rank is given by (devp/1000 +1).

Special Squads have the following restrictions:

the only limit to the number of Jocks in the Squad is the maximum of 8

the only limit to the number of Titans in the Squad is the maximum of 16

Jocks cannot be transferred to and from any other Squads

Jocks do not receive XPs, and therefore receive no DPs

Squads will not get Titans as special salvage after battle

Squads are not updated

Standard Tournament Rules:

Money = 1,000,000

Skill = 1,000

No skill can be raised above 70%

All Squad Jocks must fight

Ultra Tournament Rules:

Money = 1,200,000

Skill = 2,000

Combat skills can be raised up to 80%, all others to 70%

4 Titans per Squad maximum

All Squad Jocks must fight

Random Battlefield

Factory Module

SYSTEMS

The **Engine** generates power (PUs) to maintain, in order of priority:

Device	PUs	Notes
Heat Regulator	1	
Move Actuators	1~3	depending on move mode
Shield	1~4	depending on shield settings
Scanner	1	
ECM	1	
Weapons	(*)	1~3 for each Energy weapon, 1 for each CC weapon
HtH Actuators	1~4	1 for each arm/leg
Jump Ports	1	for recharging (1 jump sec each 3 secs grounded)

(*) Energy weapons (except Flame Thrower) recharge at 3 PUs/sec max if PUs needed >15
recharge at 2 PUs/sec max if PUs needed = 7~15
recharge at 1 PUs/sec max if PUs needed = 1~6

Notes: Charges (including jump charges) can only be performed if both legs are fully recharged.
Weapons that will be ready the fastest will be recharged (assigned available PUs) first.
Damaged CC/HtH/energy weapons will recycle last.
A Gauss Cannon requires 1 PU to be fired, which will be spent before weapons recycle phase.

Flares, when launched, provide protection against Heat Guided Missiles, but hamper the Battle Computer's targeting system (5% decrease in ToHit modifier), create heat (5C) and increase the chance of losing own scanner links (by 5%). They only protect the Titan that launched them, and become obsolete when it moves to a different hex or to any jump level. Each Flare Launcher has 7 charges.

The **Shield**, when on, provides some protection against Energy weapons and heat, but at the cost of producing heat and consuming PUs. It converts absorbed damage to heat (except for Cold Light Guns, Neutron Blasters and E.M. Pulsers). It reduces heat from burning woods, Napalm Missiles and Flame Throwers, and damage and heat and radiation level from exploding Titans.

ToHit – Mod < roll ≤ ToHit : negates damage but feedbacks the damage as heat
1 ≤ roll ≤ ToHit – Mod : damage applies as normal

The **DCS**, when activated, tries to repair one damaged system of your choice, with no guaranteed success. It can also automatically reduce or negate internal damage, ammo explosions and Engine explosion.

The **Scanner**, when on, allows active scans on enemy Titans; these provide various degrees of information on the scanned Titan depending on the level of success. A normal success active scan (yellow) also provides a +4% ToHit modifier, and a critical success active scan (green) +8% – either one is required to make called shots. A Scanner also allows a scanner link to a Squad member, useful for targeting and scanning unseen enemies, and getting a better range modifier when using indirect missile fire.

The **Battle Computer** increases the speed of target locking and is required to calculate threat level. A Titan without a BC gets a 25% ToHit penalty with ranged weapons (all but HtH and CC). You can design a close combat Titan without a BC. Conversely, the BC's ToHit modifier does not apply to HtH and CC attacks.

The **ECM**, when on, provides protection against Heat Guided Missiles, reduces VH of enemy Scanners and hampers enemy active scans for a cost of 1 PU. Threat level calculation requires this system, and accuracy depends on its quality.

Notes:

The **Heat Regulator** and the **Jump Ports** might be spread over several locations; damage to the component in one of those locations will affect the whole system!

A Titan must have an Engine, a Heat Regulator and a Life Support in order to be saved.

WEAPONS

Each weapon hit that does more than 4 points of damage has a small chance of causing internal damage to the target Titan; the higher the damage of the weapon the better the chance.

Meson Guns have a better chance than normal to cause light or medium damage to internal systems, 40% for the light and 50% for the heavy meson – if the target's Shield is on, it will subtract 1/3 its defensive value from that chance. **Vibra Claws** have the same special ability, with a 60% chance, but Shield is ineffective. Their damage is applied to both the external armor and to the internal structure. Critical hits to armor slots can cause additional internal structure damage as long as external armor has not been depleted yet, and that additional damage won't destroy the bodypart – light critical hits cause 1 additional point of damage, all others cause 2.

Each weapon hit that does more than 4 points of damage, except the Flame Thrower, has a chance to cause instability to the target Titan, forcing the opposing Jock to make a move skill check. Each weapon modifies instability, and the check if required, with its damage (the AC20 modifies with 20%) – energy weapons only modify with 75% of their damage (the Tesla Bolt with 18%, the Pulse Laser with 6%).

The **Black Ray Gun** further modifies instability with +65% and the Pilot skill of the opposing Jock is reduced to 2/3 of its value for the move skill check calculation if one is required. It has a good chance of burning woods, and does increased Jock damage on head hits, negating Life Support protection.

Cannons and Energy weapons (except the Flame Thrower, the Neutron Blaster and the E.M. Pulser) have the ability to make called shots.

The **Flame Thrower** and the **Napalm Missiles** do damage and add heat to the target – for each point of damage dealt (Flame Thrower) or each location hit (Napalm Missiles) in each attack, the target's temperature is raised by 1.8C. They can be used to heat an already hot Titan, reducing enemy fire and forcing shutdowns and ammo explosions. They also have a good chance of burning woods.

Guided Missiles have a lower penalty for indirect fire.

Flares, fire and ECM reduce the effectiveness of **Heat Guided Missiles**, and the target's temperature increases it; they lower the target's defensive speed modifier (speed/8 instead of the normal speed/5).

The effectiveness and range of **Energy-Emission Guided Missiles** increases with the target's Shield and ECM (when on) and active scans, as well as its Engine's power output.

Regular **Lasers** (all except the Pulse variant) lower the target's defensive speed modifier (speed/8 instead of the normal speed/5).

The **Neutron Blaster** has a chance to affect the enemy Jock, lowering his ability to fire weapons – if affected he also takes minor Jock damage. It may render the Jock unconscious, which can be used to prevent ejects. Shield protection is only half-effective, but the Jock's Constitution and a good Life Support help. Cover does not protect against this weapon.

All Energy weapons, except the Cold Light Gun, the Neutron Blaster and the E.M. Pulser, can overload Shields on a Shield hit, and have a chance of burning woods hexes; big energy weapons can create steam in water/swamp hexes, the chance depending on the damage of the weapon.

Ammo duds or missile launcher failures may happen when firing damaged ammunition-dependent weapons. They do no damage, just a wasted shot.

If one weapon has more than one ammo slot, rounds will be deducted first from the closest slot to the weapon. For each slot distance one additional reload second is added. Here is an example:

WWA[12]A[13]A[14]

a two slot weapon with three ammo slots. Ammo is first deducted from slot 1 with 12 seconds reload time.

The **Machine Gun** lowers the target's defensive speed modifier (speed/8 instead of the normal speed/5), and deals double damage at point blank range at the cost of double heat and double ammo.

Auto Cannon rounds fired at a non-water/swamp hex will create a smoke screen, which will block LoS; the higher the caliber, the longer the screen will last.

Gauss Cannon ammo does not explode, neither when hit nor by excessive heat. Each Gauss Cannon requires one PU of available power to be fired.

The **E.M. Pulser** can have one of many effects, depending on location hit:

- cockpit: minor jock damage if Titan has neural bridge, light jock damage for androids
- gyro: break move
- hip actuator: break move, kick recycle set to 15 secs if lower
- knee actuator: 50% chance for break move, kick recycle set to 10 secs if lower
- foot actuator: 20% chance for break move, kick recycle set to 5 secs if lower
- shoulder actuator: if prone and getting up break move (fall), punch recycle set to 15 secs if lower
- elbow actuator: punch recycle set to 10 secs if lower
- hand actuator: punch recycle set to 5 secs if lower
- weapons: energy (except Flame Thrower) and Close Combat weapons set to maximum recycle
- Engine: possible shutdown (higher chance for lower level Engines)
- Heat Regulator: disable for 5-15 secs (cumulative)
- Shield: toggle off, set recycle to 15-50 secs
- ECM: toggle off, set threat level to a random value
- Battle Computer: lose lock, possible +1 step damage (higher chance for lower level Computers)
- Jump Ports: drain remaining jump time to 0
- Scanner: toggle off, scanner links broken
- Life Support: special Jock damage
- DCS: light damage, break repair in progress

Armor and empty slot hits have no effect.

Shields give 10% protection against E.M. Pulsers. Cover does not protect against this weapon.

Notes:

When a Titan is prone, only weapons mounted in the arms and head can fire.

Weapons mounted in the legs will not fire when the Titan is crouched, or standing in any type of liquid; they get an additional speed-related ToHit penalty when the Titan is walking/running/dodging.

Only weapons mounted in the center back torso can fire at targets in the Titan's rear firing arc.

ARMOR

A heat dissipation modifier of 115% means that a Titan fully armored with Millenia will have its Heat Regulator working at 115% efficiency.

Only armor in locations with a Heat Regulator section will modify heat dissipation capability.

If a location is completely stripped of external armor, the heat dissipation rate for that location will be counted as 100% regardless of armor type.

Each location has a size factor for armor:

- HD = 1
- LOT = 1.5
- CBT = 2
- RL/LL = 2.4
- RA/LA = 2.5
- RT/LT = 2.6
- CT = 3

Armor weight and cost are always multiplied with the corresponding factor, in Titan design and in repairs.

The damage allocation table results in the following average damage profile:

CT/CBT	15%
RT/LT	13%
RL/LL	12%
RA/LA/LOT	10%
HD	5%

Keep this in mind when adding armor to your Titan design.

Repairs:

Repair cost for a damaged part is the cost of that part modified by the Mechanic's Repair modifier and the part's damage level (30% light, 50% medium and 70% heavy).

Actuators (13 total) and gyro sections (3 total) are worth 2/3 of the chassis cost, a gyro being worth 3 times an actuator. The remaining 1/3 is for the internal structure.

When repairing armor in a location, the internal structure and external armor repair costs are added:

Armor repair = lost armor mms at that location * cost of the location's armor type * location's size factor

Internal structure repair = lost IS points at that location * ((chassis cost / 3) / total chassis IS points)

Choosing an Engine for optimum performance:

An Engine 1 will give you just enough power to maintain the Heat Regulator (1 PU), any type of movement (maximum 3 PUs for run and dodge) and the Scanner (1 PU).

If you want to install more power-consuming systems and/or energy weapons, an Engine upgrade is necessary. A Shield will use 1~4 PUs depending on its quality and settings, and an ECM device 1 PU. As for weapons, the following is advisable:

- 1 PU for firing (not reloading!) each Gauss Cannon

- 1 PU for recharging each Small Laser

- 2 PUs for recharging each Medium Laser and Pulse Laser

- 3 PUs for recharging each Large Laser, Neutron Blaster, Cold Light Gun, E.M. Pulser, Black Ray Gun, Plasma Gun and Tesla Bolt

PUs for recycling CC weapons and HtH attacks do not need to be factored in, as they'll use the movement PUs (you can't use these and move at the same time, and you'll usually be standing still).

Additional PUs for swiveling (1 PU) and for recharging Jump Ports (1 PU) might be included in the calculations, but they're not really necessary, as this will result in a heavier and bulkier Engine. They can be accomplished with spare PUs, from movement when the Titan is not moving or is walking, from the Shield when it is off, and from recharge patterns of energy weapons. The same can be said about PUs for firing Gauss Cannons and for recharging Small Lasers (as long as the Small Lasers are not the Titan's primary weapons), though counting on recharge patterns is a time consuming process.

If there is enough room and/or weight left, a bigger Engine than what is strictly necessary is always advisable, to accommodate possible Engine damage and subsequent decrease in power output.

Note for Titans with only one energy weapon: if that weapon is a Large Laser, only 2 PUs need to be allocated since it will recharge in the exact same time as with 3 PUs – this allows some weight to be saved; if it's a Neutron Blaster or a Cold Light Gun, allocating only 2 PUs will result in 1 more second recharge time, and if it's a Black Ray Gun or an E.M. Pulser, 2 more seconds.

Battle Module

SPECIAL BATTLEFIELDS

Savannah: woods are smaller, offer less protection, have less HPs; hills are lower; 'Quicksand' does not dissipate heat; 'Wadi' hexes are less deep.

Polar: global -1.0 C/sec heat modifier; decreased movement rate and slightly harder move skill modifier in normal terrain; pines are harder to burn; steam can be created in any hex with energy weapons and Napalm Missiles; 'Frozen Water' has reduced movement, much harder move skill modifiers, and lower heat dissipation.

Core: global +1.0 C/sec heat modifier; cover cannot be burned, is smaller, offers less protection, has more HPs; 'Lava' and 'Lava & Rock' hexes produce heat instead of dissipating it; 'Lava' and 'Lava & Rock' hexes melt armor of immerse body parts.

BioChem: cover cannot be burned, is smaller, offers less protection, has more HPs; hills are lower; 'Acid' and 'Acid & Rock' hexes melt armor of immerse body parts; 'Pit' hexes are deeper.

INITIATIVE

Jocks start the game in an order depending on their Reaction attribute. The Jock with the best Reaction of all Squads acts at game second 1; all others will act with a delay of 1 second for each point difference in Reaction relative to the best.

Whenever two Jocks are ready for an action in the exact same game second, the one with the best combination of Reaction, Instinct and rank will go first.

Firing weapons and other actions may be delayed for a few seconds if the Jock fails a Reaction check.

MOVEMENT

Elevation change is an independent modifier for movement time calculation. If the height difference is greater than 8m (+4m is the standard deviation of height) then moving uphill will take longer, whereas moving downhill can be quick as long as it is not too steep.

Walk forward and walk backward down very steep slopes is possible. Move buttons will be yellow and a skill check with very hard modifiers has to be passed.

Move buttons will be yellow if the Titan will leave the battlefield (flee) by performing that move.

Completing a move (say run) does not change the speed of the Titan; it will keep its speed until a new command is issued. The speed is calculated for the new command, so you have no speed break if you would choose to run again (continuous movement). If you call fire weapons mode, speed drops to zero.

When using 'wait on locked foe' to wait for the target to complete a move, you will not get the movement related penalties if he calls his move and your Jock's Reaction is higher than his.

Turning, standing and crouching provide a 5% defensive bonus. For other move modes, the defensive speed modifier is calculated as speed/5 (speed/8 for Machine Guns, GMHs and regular Lasers).

During ground movement, leg-mounted weapons have a speed/4 ToHit penalty, speed/3 if dodging.

Jump forward has no skill check; jump up has a check for jumping out of water, swamp, or dense woods; landing always has a skill check, which is harder for landing in water, swamp, or dense woods.

Landing in dense woods has a -25% move skill check modifier.

Jumping out of a water or snow hex creates steam on that hex.

Dodging provides a defensive bonus based on the Jock's skill with the piloted Titan's weight class.

(pilot skill + chassis handling modifier) / 5

Jumping forward gives a Titan a big defensive bonus, jumping up/down gives a smaller defensive bonus, jumping forward/up/down gives the attacker an offensive penalty. Hovering Titans also get an offensive penalty (-20%, -15% for energy weapons).

Breaking move when running, dodging or jumping (including up and down) will result in a skill check; when standing up, in a fall with no skill check.

An E.M. Pulser hit to the gyro or leg actuators might cause the target to break move, resulting in (immediate) higher ToHit chances, and possibly on a move skill check (end of game second).

A Titan cannot swivel, eject, fire weapons or engage in HtH combat while standing up or crouching from prone.

If the lower torso or both legs are disabled, the Titan falls and no further movement actions are possible.

If one leg is disabled, only standing, walking or turning is possible, and at 300% move time.

If one of the gyro sections is destroyed, no movement is possible except for swivel and jump down.

Climb rate is modified by damage to the leg actuators, which reduces it by half the corresponding move modifier. Expl: 150% movement time results in a 25% decrease in climb rate.

Loss of one of the legs results in half climb rate, loss of the two legs results in no climb rate.

STANCE

A crouched Titan gets +5% to attacks, -5% to skill checks, and opponents get a ToHit offensive penalty because of its reduced size (50% height, rounded up).

You can't engage in CC and HtH attacks while crouched; weapons mounted in the legs and lower torso won't fire.

A prone Titan's size is 20% its height, rounded up.

A prone Titan can only fire weapons mounted in the arms and head. It cannot launch center torso mounted Flares if facing is 'down' or center back torso mounted Flares if facing is 'up'.

There's a ToHit bonus when attacking prone targets.

TERRAIN

Chance to create steam in water and swamp hexes is (damage * 4). Chance to create steam on snow hexes with Tesla Bolt, Large Laser, Plasma Gun, Black Ray Gun and Flame Thrower is (damage * 2 + 20) and with Napalm Missiles (rack size * 3 + 20) if the hex is locked; if a Titan is locked and the shot misses, the chance steam is created in that hex is half that value.

Water and swamp hexes increase heat dissipation; only in water hexes does depth have influence.

Titans prone in water and swamp hexes get double heat modifier.

Damage from falling is less in water (except frozen water) and swamp hexes. The depth is only important in cooling your Titan.

Rivers will often have shallow water fords to allow easier crossing. Streams in *Core* and *BioChem* have 'Lava & Rock' and 'Acid & Rock' hexes respectively instead.

Napalm Missiles and energy weapons (except Cold Light Gun, Neutron Blaster and E.M. Pulser) have a 'cause fire value'. The base chance to burn woods is normally the damage of the weapon for light woods, double for dense woods; there are some exceptions, Black Ray Guns get (damage * 2), Flame Throwers get (damage * 3), and Napalm Missiles get (rack size * 2 + 5). This value is then modified by wind strength. Scrub cannot be burned. Chances are halved for woods in *Polar* hexes.

Burned woods work exactly like the corresponding normal woods but defense modifiers and height are halved, and HD is increased by 50%.

Standing in, moving through or jumping over burning woods will affect your heat dissipation.

Woods on fire will burn for a length of time depending on their HPs, modified by wind strength.

Woods/cover can be reduced (dense/heavy to light and light to scrub/rubble) with missiles (except Napalm Missiles), intentionally or not. Dense woods have 150 HPs, light woods 70HPs – same for pines in *Polar*, in *Savannah* woods have 110/50, and in *Core* and *BioChem* cover has 170/80.

Reducing a burning woods hex will extinguish the fire.

When intentionally firing at woods/cover, missed shots will not reduce HPs.

The Jock's *Scouting* skill will grant additional protection when his Titan is stationary in hexes with any type of cover, (*Scouting* / 10) in heavy cover and (*Scouting* / 15) in light cover. It will not work for weapons fired at point blank range though.

Neutron Blaster and E.M. Pulser attacks ignore defensive modifiers for cover and Jock's *Scouting* skill.

In acid and lava hexes, Titan size (stance) is compared to hex depth to determine immerse locations (where there is armor corrosion):

45% lower torso

60% center torso and center back torso
70% right and left torso
80% arms
90% head

When prone, all parts are immersed with the exception of:

if Titan is facing up it must be immersed > 50% to take center torso damage;
if Titan is facing down it must be immersed > 50% to take center back torso damage;
the head is only damaged if immersed > 90%, regardless of stance.

'Acid' hexes melt armor of immerse body parts at a rate of 1 point every 5 game seconds, 'Acid & Rock' every 10 seconds, and have a lower penalty for move skill checks.

'Lava' hexes melt armor of immerse body parts at a rate of 1 point every 10 game seconds, 'Lava & Rock' every 20 seconds, and have a lower penalty for move skill checks.

Immersed Titans cannot fire weapons or launch Flares.

Firing on immersed Titans has a penalty depending on distance and target's weight class.

A Titan cannot fire its leg-mounted weapons or kick when standing in fluid hexes.

LINE OF SIGHT

LoS is calculated adding terrain height, Titan size (stance) and the Scanner's VH.

You can only lock hexes to which you have a direct LoS.

Smoke screens and steam block LoS with an effective height of 25m.

All Auto Cannons have the ability to create smoke screens. Duration of the screen is dependent on caliber, but it'll never go below 10 game seconds:

duration = (weapon damage * 3) + 30 - (wind power * wind power) + random(0-5)

Burning woods also block LoS.

LoS is calculated from source to destination with hexes between them blocking the sight.

Smoke, steam, and/or fire in the target's hex do not affect LoS or ToHit, they just affect HD.

Woods in the target's hex do not affect LoS either, but modifies ToHit and HD.

Holding down the <SHIFT> key and clicking on any hex in the map will give you the LoS path from the active Titan to that hex. Use this to block LoS with forest fires or smoke screens or steam.

A Titan does not have LoS to a target when:

- intervening obstacle is higher than observer and higher than target;
- intervening obstacle is higher than observer but lower than target and distance from source to obstacle is smaller or equal to distance from obstacle to target;
- intervening obstacle is lower than observer but higher than target and distance from source to obstacle is greater or equal to distance from obstacle to target.

In the case the observer is higher than the obstacle, the obstacle "shadows" a distance equal or less than its distance to the observer.

When the Scanner is off, maximum sight range is 15 hexes.

Titans immersed in water/acid/lava have their visibility reduced.

There are a total of 125 shade levels for any hex, fading in about every 2 game seconds; the lower the Jock's Intelligence, the faster they fade. Memory fading is also faster if the Jock is dizzy or unconscious.

HIDING

Standard HD modifiers for woods/cover in *Terran* and *Polar*:

	Swamp	Depression	Plain	Low hill	Medium hill	High hill	Mountain
Dense wood	0.6	0.4	0.4	0.4	0.3	0.3	0.2
Light wood	---	0.9	0.8	0.7	0.6	0.5	0.4

Core has -0.1 HD; *Savannah* and *BioChem* have +0.1 HD.

The height difference between the Titan's hex and the observed hex will modify the HD value. If the observer is in plain, the target gets the standard HD modifier. For each level the observer is higher than plain, the target gets +0.1 to HD.

(swamp = depression = plain, low hill +0.1, medium hill +0.2, high hill +0.3, mountain +0.4)

If a Titan's height is equal to or greater than 11m, its base HD value will be higher.

Active ECM modifies your HD by $(1.0 - \text{Mod1} / 100)$, where Mod1 is the first ECM modifier, used for GMH distraction. ECM does not count against the visibility of own Squad members. Your ECM will also help you detect hidden Titans while they are scanning you, adding 0.5 to their HD for the duration of the active scan (a Titan without ECM won't notice being scanned).

The Jock's *Scouting* skill reduces HD when in hexes with any type of cover, (*Scouting* / 250) in heavy and (*Scouting* / 500) in light cover.

Dodging adds $(\text{hex_HD})/2$ to HD.

Jumping up adds (hex_HD) to HD.

Active Shield adds 0.5 to HD.

Firing weapons adds 1.0 to HD.

Deployed Flares add 1.0 to HD. The HD value is not updated when Flares are exhausted, only when you move to a different hex (a Titan launching its Flares has revealed its position, the same for firing weapons).

Smoke/steam and fire work like a 0.5 HD multiplier.

Titans totally immersed will have their total HD value reduced to 0.1.

The HD value in the first info page is the total HD factor.

All HD end results which will exceed 1.0 are treated as 1.0 = NO hiding, normal sight.

The range within which a hidden Titan can be detected by another Titan is: observer's Scanner long-range value modified by damage, multiplied by the hidden Titan's total HD.

A hidden Titan's detect range is: own Scanner long-range value modified by damage, multiplied by $(1.5 * \text{hex HD})$.

Hexes where enemy Titans might be hiding are displayed with a '?' in the tactical screen when Scanner ranges are toggled on. It does not take into account the enemy's HD modifiers like ECM, size, etc. It's just the hex HD.

When in cover, red range marker shows area an enemy with the best Scanner has to enter to penetrate the HD "bubble".

A Titan cannot hide if its current size (stance) is higher than the cover's height.

RANGE

The max range penalty is 45%. This is pro-rated across the maximum to minimum effective ranges. Thus, a Medium Laser (range 9) has no penalty at point blank range, -5% at 1 hex, -15% at 3 hexes, ... up to -45% at 9 hexes. A Flame Thrower, on the other hand, has no penalty at point blank range, -45% at 1 hex.

The less-than-minimum range penalty is fixed at -20% / hex.

ARC-OF-FIRE

When moving forward out of a hex (with either ground or jump movement), a Titan can only fire at that hex or at any Titan in that hex with weapons mounted in its center back torso. When moving backwards out of the hex, all weapons except those mounted in the center back torso (and HtH and CC) can be fired.

The arc-of-fire of weapons mounted in the legs and lower torso will not rotate if the Titan swivels.

If a Titan is firing from any jump level above (same hex) its target, a different damage allocation table is used – upper body is hit more often. If firing from below, lower body is hit more often.

SCAN

Normal scans (yellow) give +4% to hit, critical ones (green) give +8%. These modifiers are lost if the Battle Computer is destroyed.

Accuracy of the gathered information depends on the distance to the target, and therefore on the Scanner's optimum and maximum ranges. The scanning Titan's heat level will also influence this information.

Chance as well as scan speed will increase once the target is successfully scanned.

No experience is gained for scans of the same or lower accuracy than the best one already in the scanner database for a given target.

Background of target's armor display is black for no scan or red scan, green for yellow scan, and a brighter green for a green scan. Also, if you have hit the enemy, normal scans will show red (no armor) locations, and critical scans will show red and yellow (less than 10 armor points left) locations. Body parts change color because of damage.

An active scan does not detect if a Jock is a Replicant, so these will always show as Human.

SCANNER LINK

A Titan can fire missiles at a target that it does not see if it links Scanners with a spotter that does; the spotter must have LoS to the firing Titan. A scanner link also allows firing missiles at a better ToHit if the spotter is closer to the target. You will never be penalized for firing with a link partner.

Additionally, the linking Titan will get its LoS augmented by that of the spotter. There are no scanner link chains though, that is, you don't get LoS extension from other Titans linked to the Titan you're linked to.

A Jock can link his Scanner to a Squad mate that is in a different Team (split Squads).

An *Indirect Fire* skill check has to be passed for the attacker to take advantage of linked fire. The Titan uses its own scan (and respective ToHit modifier), if it has one, of the target.

When a Titan fires missiles at a target through a scanner link, both range modifiers (from linker to target and from spotter to target) are calculated and the best one is taken. The spotter's modifier has some special rules:

1. If it is inside the missiles' minimum range, the modifier is a fixed -10%
2. The modifier for range can't get better than -10%

Therefore the modifier at optimum range is -10% and will remain so even if the spotter gets closer.

It is possible to active scan a target through a scanner link. Scan time is increased by 50%. Time and effect are modified by Scanner type of link partner.

A Titan that has deployed its Flares will have its link stability affected by -5%. If both linked Titans have their Flares deployed, stability will decrease by -10%.

MISSILES

All Heat Guided Missiles in a given rack will hit the target on a successful attack roll, except if fired indirectly, or if the target has Flares deployed or is in a burning woods hex – in which case a roll is made for each missile against the respective protection value, failed checks causing the corresponding missile to be deflected. Burning woods can deflect Heat Guided Missiles the same way Flares do, dense woods with 75% chance, light woods with 50%.

Heat Guided Missile racks will get +1% to ToHit for each 15C target's temperature.

Flare duration is prolonged on a successful *Defensive* skill check, by $(\text{Defensive} / 10 + \text{duration} / 3)$.

Flares are launched after move. If you time them to be launched in the exact game second that your current movement will end, GMH enemies set to 'wait on locked foe' can only fire before they are launched if their Reaction is better than yours.

Energy-Emission Guided Missiles have their range extended (from 6 base up to 12 maximum) by the highest range extension for target's Shield, ECM and Scanner when these devices exist and are on – Shield extension is the target's current Shield setting, ECM extension is the target's ECM quality, Scanner extension is the target's Scanner quality and is only applicable when it is scanning active.

Their ToHit is also increased by the following cumulative modifiers: (Shield_power * 3%) if target has an active Shield and is within base range extended by Shield setting; +10% if target has an active ECM and is within base range extended by ECM quality; +10% if target has an active Scanner and is scanning active and is within base range extended by Scanner quality; (Engine_power * 1%) where the target's Engine power output is modified by damage, and is 1 in case the target is shutdown.

Range modifier for attack rolls is calculated using the extended range, not the base range of the weapon.

For Unguided Missiles, the number of missiles that hit depends on the type of rack and the attack skill check. LRM minimum hits are 2/4/6 missiles for each rack size, SRMs 2/5, and NMs 3/8. The higher the

difference between the skill check and what was rolled, the more missiles hit; any roll below what was needed minus 50% will result in maximum hits.

Missiles fired at a target in a hex with multiple Titans might hit any other Titan, including Squad mates. If you miss the original target, there is a chance you'll hit another one. The more Titans in that hex, the higher the chance to hit one of them. A maximum of 50% of the missiles will hit, with a minimum of 1. Woods/cover will get full damage from splash hits if a check against the Jock's skill to hit the hex is passed, and buildings take no damage.

Firing missiles without direct LoS incurs in a ToHit penalty given by

- $((35 - (\textit{Indirect Fire} / 3)) * 2)$ for Guided Missiles
- $((35 - (\textit{Indirect Fire} / 3)) * 4)$ for Unguided Missiles

HAND TO HAND

Recycle time is

- Punch: $8 + (\textit{Titan weight} / 40) - (\textit{Close Combat} / 20)$ [minimum 6 seconds]
- Kick: $13 + (\textit{Titan weight} / 40) - (\textit{Close Combat} / 20)$ [minimum 10 seconds]

Damage is

- Punch: $4 + (\textit{Titan weight} / 25)$
- Kick: $6 + (\textit{Titan weight} / 20)$

A Titan must be still to use CC and HtH attacks.

A Titan cannot kick if one of its legs is disabled.

Arm mounted weapons may get damaged when using punch attacks.

Punches are handicapped when a target is prone, and kicks get a bonus.

CHARGES

Speed and tonnage are factors in charge damage. Skill checks are not affected by tonnage.

If the target is running towards the attacker, a countercharge will happen. Damage will be calculated adding the tonnages and speeds of both Titans, and each will take half of that damage.

Base chance for a successful jump charge is $[(\textit{Jump} + \textit{Close Combat}) / 2]$ modified by the target's movement modifier and hex modifiers for cover. Jump charges are not possible in heavy cover.

Charges (including jump charges) are only possible if both legs are fully recharged.

Legs will take 20 PUs to recycle after a charge.

Two move skill checks may be required after a successful charge. The first, if it happens, is due to instability caused by damage taken during the charge; the second always happens and is the check to stand/land upright after the impact.

SKILL CHECKS

The target's size modifier for attack skill checks is $(\textit{size} - 11)$; it does not apply at point blank range.

Heat modifies attacks (half for close combat), ammo explosions (double modifiers) and active scans.

There's a 5% penalty to move skill checks when a Titan is in a hex with fire, smoke or steam.

Breaking a stand move from prone will cause the Titan to crash to the ground with no skill check.

Negative chassis handling modifiers are doubled when jumping or dodging, and positive modifiers will not be applied at all. The handling modifier is displayed in the Jock Skill Data status window, next to the applicable pilot skill.

All jump-related skill checks are modified by wind power if it is > 3 .

When a battle starts, each Jock makes a *Defensive* skill check. Success will grant him an increased cooling of $(\textit{Defensive} / 200)$ C/second for the duration of that battle.

When standing up, "Movement rate increased" is possible. It's related to the pilot skill with the respective weight class. A Jock must pass an exceptionally good check.

There can be situations where there are multiple reasons for a move skill check (dodging into water, being hit by a weapon when standing up...). If such a situation occurs, the worst modifier is taken as the primary modifier. All reasons for skill checks also have a secondary modifier, which is always negative and will be added to the primary modifier.

Example: Your Titan is standing up and being hit by a weapon. The primary modifier for standing up is +30%. Let's assume the weapon modifier is +5%. Since 5 is smaller than 30 the primary modifier is +5%. Now the secondary modifier for standing up comes into play, which is -10%. Final modifier is -5%. If the move would have a primary modifier of 0%, this would be taken and the weapon's effects secondary modifier would be applied (-10%) with a final of -10%.

Each hit of more than 4 points of damage (with the exception of a Flame Thrower hit) can cause instability on the target Titan. The chance is dependent on:

1. The amount of damage being dealt
2. The location being hit
3. The weight class of the target
4. The target's move mode

If the instability (need for a move skill check) occurs, it is again modified by the above factors.

The Black Ray Gun's effect is in addition to all other effects. It can cause a move skill check with 60% even if it hits an arm.

Bravery is based on *Leadership* and affects skill checks. Jocks that start the battle within 3 hexes of and have LoS to the Team Leader start with Bravery = Leader's *Leadership*; others start with their own *Leadership*.

Hex transformations (floods for example) break both attack and move modes of Titans in them.

EXPERIENCE

The base formula for experience earned for passing a skill check is:

$$XP = 375 - 3 \text{ times what you need} - \text{what you rolled (minimum 15 XPs)}$$

No XPs that require a target will be earned if the target is disabled or the Jock has ejected or been killed.

Combat XPs for succeeding in hitting the target with a weapon are divided by 7/10/14 depending on weapon class (heavy/medium/light) - weapon class is determined by weight/slots.

You will only get half the normal CXPs for hitting a prone or shutdown target.

Launching Flares will only give you experience if there is a GMH threat.

Successful tuning of the Heat Regulator grants experience, as do Shield hits due to the *Defensive* skill and defeating active scans due to the *Electronic Warfare* skill.

A small amount of XPs is awarded after each battle, whatever type of map.

Coward Jocks, those that fled the battlefield, will only get half their total earned XPs; Jocks that ejected or that had their Titans destroyed will get full XPs.

HEAT

Weapons that generate heat on the target Titan create 1.8 C per point of damage, less if the target has its Shield active. That's 12.6 C for the Flame Thrower, 1.8 C per location hit for Napalm Missiles.

All energy weapons (with the exception of the Cold Light Gun, the Neutron Blaster and the E.M. Pulser) will only cause heat on the target if they hit the Shield (1 C per point of damage, doubled in case the Shield overloads).

After a shutdown, the Heat Regulator will kick back in when heat drops to red, but a complete Titan restart will only take place when it reaches yellow.

SHIELD

The Shield's protection against energy weapons (including the Flame Thrower) is modified by (*Defensive* / 10), except for the Neutron Blaster and the E.M. Pulser.

For the Neutron Blaster, the Shield's base protective value is halved; for the E.M. Pulser, the Shield's protective value is 10%. Nothing happens on a Shield hit with these weapons.

If the chance to hit without Shield would be 70% and the Shield's protective value is 30%, then 1~40% is a normal hit (displayed ToHit), 41~70% is a Shield hit, negating damage, and 71~100% is a miss. Shield hits count as hits for hit ratio calculation, but provide no CXPs.

Absorbs all damage when hit, directly converting the damage to heat. If it overloads this is doubled.

Reduces the amount of heat received from Napalm Missiles, Flame Throwers and burning woods as well as the damage, heat and radiation from Engine explosions.

Shields reduce heat from Flame Throwers, Napalm Missiles and fire by $(20 + 10 * sh_lvl) \%$.

If a Titan is hit with a Flame Thrower, it'll take:

- on an armor hit (bypassing Shield): 7 damage plus 12.6 C if it has no Shield or Shield is down, or 7 damage plus 8.82 / 7.56 / 6.30 / 5.04 / 3.78 / 2.52 C (Shield 1~6) if Shield is up
- on a Shield hit: 7 C (or 14 C if Shield overloads)

The extra heat of Flame Throwers does not count on Shield hits.

If the Shield is damaged, for each damage level it is treated as one level lower for heat reduction purposes.

Shield overload chance is $[(\text{damage} - sh_lvl) * 3]$. If the defending Jock passes a *Defensive* skill check, he will deduct (*Defensive* skill / 4) from that chance.

If overloaded, the Shield will take $(\text{damage} * 2 + 1d10)$ seconds to recharge – it will not recharge if it is turned off however.

Example: Large Laser hits Shield 1, 24% overload chance. Defending Jock with *Defensive* skill 50 passes check and will deduct 12% -> 12% final. If it overloads, it will take 18 seconds + a random number from 1 to 10 seconds to come back online.

The Cold Light Gun cannot overload Shields; its damage will not be converted to heat on a Shield hit.

INTERNAL DAMAGE

Each weapon hit that causes more than 4 points of damage has a $(\text{damage} / 2)$ chance to cause internal damage. If internal damage happens, the internal structure of the hit location is reduced by $(\text{damage} / 4)$ and a slot is chosen randomly in that location. If it's an empty slot or an armor slot, nothing happens; else, either the DCS negates further damage or the equipment installed in that slot gets light damage.

Example: A Tesla Bolt hit (25 damage) has a 12% chance to cause internal damage, in which case 6 additional internal structure points are removed for a total of 31 damage.

All missiles that hit the same location are added before damage is applied; therefore they might exceed the 4-point damage limit.

Titans with DCS can perform repairs during battle if they have damaged weapons/systems/actuators/gyro.

Repair skill check is: *Damage Control* skill + DCS mod - damage level mod - health mod

damage level mod is -15% for light, -30% for medium and -60% for heavy damage.

If you have skill 70 and a DCS [6] you will repair lightly damaged systems with $70 + 35 - 15 = 90\%$.

Successful skill checks repair one level, which is from heavy to medium, medium to light or light to none.

Repairs performed on the battlefield are permanent; the Squad doesn't need to spend money in the Factory after battle for those repairs.

Repair Bays perform repairs like a DCS with mod 100%.

The gyro is not a single system, but 3 independent sections. Damage level in each section is independent of damage level of other sections; move skill check modifiers however are cumulative.

Leg actuator damage results in a move time modifier. Modifiers from different damaged actuators are not cumulative, only the worst modifier is counted.

If the swivel actuator is damaged, swiveling will take longer; if it is destroyed, the Titan cannot swivel.

Destroyed limb actuators modify related skill checks in the following manner:

- | | |
|----------------|------|
| shoulder / hip | -50% |
| elbow / knee | -40% |

grip / foot -30%

If all limb actuators in a given location are destroyed, weapons mounted in that location are disabled. Weapons mounted in an arm are disabled if the respective shoulder actuator is destroyed.

Destroying the Life Support of a Titan will not automatically kill the Jock. Destroying the cockpit will. The cockpit is just a slot in the head. It does not accumulate damage; it is a spot that will hurt the Jock when hit internally. If it gets destroyed, the Titan is disabled.

Damage to the Engine will create heat on the Titan and reduce its power output:

	Light	Medium	Heavy
Heat	power/10	power/6	power/4
Power	75%	50%	33%

If the Engine is destroyed, the Titan is considered disabled.

Light damage to the Heat Regulator will decrease its heat dissipation ability to 80% normal, medium damage to 60% and heavy damage to 40%. A Titan with a destroyed Heat Regulator will still have a base heat reduction of 0.25C/second; it will not be considered disabled unless its heat rises to shutdown level. Destroying a body part containing a section of the Heat Regulator will damage the whole system with a damage level depending on the destroyed location:

center torso or center back torso: destroyed
each leg or arm: medium damage
rest of body: heavy damage

A missing leg/arm allows the Heat Regulator to be repaired to medium damage.

Scan ranges decrease as the Scanner takes damage, to 85% with light damage, 70% with medium, and 40% with heavy. A destroyed Scanner means visual detection only, 15 hexes. Minimum value for maximum range is always 15 hexes (visual).

Damage to the Jump Ports will only affect recharge rate. Destroying a body part containing a section of the Jump Ports will destroy the entire system.

Damaged CC/HtH/Energy weapons will recycle last.

Damaged Plasma Guns produce heat according to their damage level: 0.3/0.6/1.2/2.0 for light/medium/heavy/destroyed. If the location is destroyed, however, no heat is produced.

Damaged cannons and missile launchers may dud or fail when fired, round is lost, heat is only 20% normal.

AMMO

Critical hits to ammo slots (except for Gauss Cannon ammo slots) will cause ammo loss or detonation, depending on the damage level of the critical hit.

When rolling to avoid ammo explosions by heat, near skill failures result in ammo loss, fumbles in detonation. Gauss Cannon ammo is not affected by heat.

Ammo explosions by heat may occur after 25 seconds in heat level red. The counter will be stopped as soon as you reach heat level yellow and will be decreased each second you spend below heat level red.

Example: You spend 20 seconds in heat red (counter 20) till you are cooled down yellow. You spend 5 seconds there (counter 15) when heat goes back up to red. After 10 seconds in red the ammo will explode if you fail a skill check!

The DCS helps the Jock with ammo explosions and even has a slight chance on its own. Once a Jock is ejected, ammo explosions might happen automatically, only the DCS can control this if the Engine is still running.

Ammo explosion damage is calculated as

$(\text{weapon damage} * \text{rack size} * \text{ammo}) / 5$

with a minimum of 3. So 10 shots of AC20 do 40 points of damage.

Ammo explosions always raise the Titan's heat by an amount equal to the damage they cause. In weapons that cause heat buildup on the target (Napalm Missiles and Flame Thrower), they will do double damage (and therefore double heat).

An ammo explosion may cause damage to the reloading mechanism of the respective weapon, which will be one level below that of the ammo slot critical hit.

Ammo explosions in the legs and the lower torso will force a move skill check, modified by (damage/2).

CALLED SHOTS

For a weapon to qualify for called shots, it must be ready and in range, its ToHit must be 85% or above, and you must have a yellow scan or better on the targeted Titan. You cannot call shots with missile racks, Flame Throwers, Neutron Blasters or E.M. Pulsers.

Called shots are modified by weapon type, distance to target and targeted location:

Weapon type: Cannons have a -5% modifier, and Close Combat weapons -15%.

Distance to target: -3% per hex distance for Cannons, -2% per hex for Energy weapons.

Location:

30% for CT

35% for RT/LT/RL/LL

40% for RA/LA

45% for LOT

50% for HD

The resulting modifier is shown in the called shot window (E = energy weapons, C = cannons, H = close combat weapons).

If the called shot attack check is successful, you get a number of rolls on the internal damage location table. If one of those rolls falls into the desired location, the called shot hits that location; otherwise it hits the location of the last of those rolls. The number of attempts is modified by what you roll making the check. Example: Let's say your ToHit for a called shot to the center torso is 50%. You roll 30. You get 4 free rolls on the location table for aiming at the center torso and 2 more for being 20% below what you needed. 6 rolls are made on the internal location table, which has a 20% for the torso you want to hit. If one of these rolls makes it your called shot is successful.

Each location has a different value on the location table based on size. The head for example gives only 2 free rolls on the location table, making it much harder to hit.

ENGINE EXPLOSION

There is a small chance that a Jock may survive the explosion of his Titan's Engine. It depends on his *Survival* skill, Life Support and luck.

The probability an Engine will explode when destroyed depends on the Jock's *Damage Control* skill and the quality of the DCS (if present). Though the chance to avoid explosions will never drop below 50% it can go as high as 98% for well-equipped Titans with experienced Jocks. If the Titan is shutdown, the Jock's *Damage Control* skill and the DCS will have no effect.

Damage from Engine explosions is (Engine power * 8). Titans 1 hex away take half that damage, those 2 hexes away take 1/4. Titans that are not in LoS of the exploding Titan (except for smoke and fire) will take no damage. Everything else within 1 hex is also affected; woods/cover and buildings take damage the same way, woods may ignite, and Jocks may suffer a special effect caused by radiation exposure. Smoke is created in the hex the Titan exploded in.

If the exploding Titan is immersed, damage from the explosion will be halved.

Immersed Titans not in the same hex as the explosion will only take half damage and radiation.

Shields protect from explosions, reducing damage by their protective value. Heat taken is equal to what damage is left.

Example: A Titan explodes for 80 points of damage. For Titans in the same hex with no Shield protection, heat would be raised by 80 C. A Shield 6 (50% modifier) will reduce damage to 40, so heat will only be raised by 40 C.

Shields have a random chance (half their protective value) to negate radiation from explosions.

If a Titan takes 60 or more points of damage from the Engine explosion of another Titan and fails a skill check, it can be pushed out of its hex.

JOCK DAMAGE

Minor: 4d6

Light: 10d6
Medium: 20d6
Heavy: 30d6
Critical: 40d6 or instant death

The Jock takes damage from falls, ammo explosions, and even weapon hits if the Life Support is damaged.

A Jock may survive the destruction of the cockpit (Engine explosion, head ripped off), even though it is a very remote possibility. When that happens however, the Jock will not take any further damage.

Weapons hitting the head but not penetrating the armor:

Weapons that do > 10 damage have a (damage * 7) chance to hurt the Jock; they do medium Jock damage with a chance equal to their damage (25% for Tesla Bolt), otherwise they do light Jock damage.

Weapons that do > 4 damage have a (damage * 4) chance to hurt the Jock with light Jock damage.

Other weapons' chance is (damage * 1) for minor Jock damage.

The Black Ray Gun would normally fall into the second category, but it is in the first (increased Jock damage bonus).

Life Support protects against head hits that cause medium Jock damage with $(-2 * LS_level)$, except for the Black Ray Gun.

Weapons hitting the head when armor there is depleted will cause minor Jock damage if no cockpit critical hit is rolled; light/medium/heavy cockpit critical hits will cause light/medium/heavy Jock damage.

Hits to locations other than the head will only hurt the Jock when the Life Support is damaged.

If the Life Support is undamaged, it will prevent shock damage completely. If it is damaged, each hit to any location has a 25% chance to cause light Jock damage from shock.

Jock damage level from shock is determined by Life Support damage level, weapon damage and luck. It can be reduced by one level if the Jock passes a *Survival* skill check; Cyborgs get one Jock damage level reduction for free after the *Survival* check (so they can still earn OXPs), meaning they can effectively reduce 2 levels on a successful check.

The Neutron Blaster causes minor Jock damage whenever its special effect is triggered. A good Life Support and high Constitution help in avoiding both.

Here is the arithmetic behind being affected by a Neutron Blaster:

Roll a random number from 1-80 and add 1 for each 5% scored above what you needed to hit. Maximum is 99%. Subtract Constitution, three times for Androids, two times for Humans and Cyborgs, once for Replicants. With an average Constitution of 10 that's -30/20/10%. Subtract the Life Support's healing value times 3. Here you get a range from -9% to -30%. If the total is greater than 0 you are affected, the more above 0 the worse the effect. Replicants should go for a good Life Support.

The E.M. Pulser will cause minor Jock damage on a neural bridge hit (cockpit critical hit, only on medium Titans or heavier); if the Jock is an Android, it will take light Jock damage. Life Support hits will cause Jock special effects (dizzy, stunned, unconscious, bleeding).

A wounded Jock will get a skill check penalty according to his current health:

76 to 99% max HPs : 05% penalty

51 to 75% max HPs : 10% penalty

26 to 50% max HPs : 20% penalty

11 to 25% max HPs : 40% penalty

01 to 10% max HPs : 60% penalty

An unconscious Jock gets a skill check penalty of 100%.

A Jock that is bleeding will lose 1 HP every other game second, if bleeding fast he will lose 1 HP every game second. A good *Medical* skill will help in stopping bleedings.

A Jock in a Titan with a damaged Life Support and high heat will lose HPs on a regular basis. It's called burning, and the Jock may burn to death. Damage is dependent on Life Support damage and heat, and checked every 18 game seconds after the *Medical* skill check.

Androids can take advantage of a Life Support's general shock/concussion protection. They just won't be healed by it if they take damage. They'll heal at a constant rate of 2 HPs every 18 seconds when wounded.

Healing from the Life Support will only occur if you have at least one action on wait mode, and is checked every 18 game seconds. Base chance for using the healing capabilities of the Life Support is 40% if doing no action at all.

Each time a Jock is hurt there is a chance for a special effect (15% on light wounds, 30% on medium...). These effects can be dizzy/stunned/unconscious/bleeding, or the loss of 1 point in Dexterity, Reaction or Constitution.

Regaining consciousness is a matter of time. Maximum is 60 seconds, less for Cyborgs. Androids never get unconscious, whatever the source (Neutron Blaster, E.M. Pulser, normal damage).

KILLS

Conditions for a Titan to be considered DESTROYED:

1. Destroyed Engine
2. Destroyed cockpit
3. Destroyed Heat Regulator and shutdown.

A safety circuit disables the Engine so that no explosion is possible in any of the last 2 cases.

EJECT

A Jock cannot eject if his Titan is totally immersed in water/lava/acid (size \leq depth). Ejects from a partially immersed prone Titan are possible if the Titan is not facing up. The hatch is in the back of the head. It is blocked if the Titan is facing up; otherwise the Jock can exit. So you can always try to get up and tumble on the belly.

Ejects in dangerous terrain have severe modifiers. The eject skill check includes not only escaping the Titan but also the battle. So you also get penalties for each enemy Titan in your hex and surrounding hexes. The eject skill is also modified by the Titan's heat level (half the heat modifier).

The eject skill is modified by the quality of the Life Support system, $[+10\% + (LS_level - 1) * 3\%]$.

The damage a Jock gets during ejects is based on the difference of his roll and what he needed to succeed. Critical failures in the eject skill check may result in the Jock's death or high damage.

Jocks will lose their Titans if they ejected and their Squad lost the battle.

A Squad loses the battle if all its Jocks ejected.

Squad Jocks with *Damage Control* and *Survival* skills of 60% or more will get a chance to self-destruct their Titan when they eject. The eject skill check will be modified by -25% and by the Jock's bravery. Eject time is doubled, or tripled if the Jock fails a *Damage Control* skill check.

PROMOTIONS

A Jock will not be promoted if he deserts the battlefield. Ejecting is not dishonorable.

He will also not be promoted if his Titan is destroyed in battle.

For a Jock to be promoted for an outstanding performance in battle (regardless of accumulated experience) he must have scored at least 3 kills in that battle and then there is a random chance modified by rank.

FINANCIAL BALANCE

In case of defeat, you lose all the Titans that have been disabled or destroyed and all Titans that have no Jock (killed or ejected). In case of victory or draw, you get to keep all Titans except those that were annihilated by an explosion.

Bounty:

For each enemy Jock killed, your Squad gets a bounty of $[10,000\$ + 2,000\$ * \text{killed Jock's rank}]$.

Mission and campaign maps can award additional money as bounty.

Payment:

Money the Squad gets for fighting the battle, regardless of the outcome. Depends only on the rank balance between sides; for same rank, it's a fixed base amount of 125,000\$.

Mission and campaign maps can award a base payment and additional money as success bonus.

Salvage:

The Squad will only get salvage if it wins the battle; there'll be no salvage in case of a defeat or a draw.

Takes care of the size balance between sides, and depends on how efficiently your Squad disabled the opposition.

It's modified by the Jock with the highest *Business* skill (not necessarily a Manager) and by the Jock with the highest *Damage Control* skill (not necessarily a Mechanic) from the winning side (both Teams if applicable) that fought and survived (even if they ejected or fled) the battle. It's split between the 2 allied winning Teams, if that's the case.

Special:

The winning Squad has a chance of getting opponent's most valuable Titan that was not destroyed as reward after battle in random maps. That chance is equal to the *Damage Control* skill of the best Mechanic of the winning side.

There's a $\pm 50\%$ deviation of the Titans' base value for Titan or money salvage choice calculations. The Titan can be sold later in the HQ for money.

Mission and campaign maps can award a specific opposing Titan as special reward.

There'll be no rewards (Bounty, Payment and Salvage) if 50% or more of a Team's Jocks flee the battle, or eject before game second 100 – these are marked as coward Teams. This is true for any battle, random or not, and regardless of advancement on defeat in mission/campaign maps.

AI TITANS

Low rank AI is seriously handicapped in its fighting style. It will gradually gain access to improved techniques until it is fully capable at Veteran rank [5].

The chance the AI will shoot its locked target depends on its weapon skill. If the target is in woods and the weapon can light them, it will shoot nevertheless.

The AI can lock hexes to ignite woods and set smoke screens.

The AI has the advantage of plotting an auto-move through unseen terrain. At the start of a game the target is set to the middle of the opposite side.

The AI is able to see the weak points of armor with a scan and take advantage of it. The computer can use the called shot tactic if one of your limbs is nearly destroyed.

AI airdrops have a 25% chance of happening in any random map. They will only happen though if the AI opponent has at least 2 Titans with weapons with no minimum range, and they must be jump-capable. Only up to half the number of Titans in the Team can be airdropped. The chance for an airdrop will be increased by 10% if the map has a river.

AI Jocks will behave according to the classification of the Titan they are piloting. Classification of a Titan is determined by assigning the damage of each of the Titan's weapons into one of the following range categories:

close range	00~04 hexes
short range	05~09 hexes
medium range	10~17 hexes
long range	18~26 hexes

Special cases: NBs and EMPs count as having a damage value of 10; meson guns and the VC use their full damage (external and internal); all missile racks except the GME only add 75% of their maximum damage potential.

If one of the categories is higher than the sum of all the others, the Titan is classified that way (a Titan with a Chain Saw and an AC4 would be close range; with an AC20 and a Chain Saw would be short range). This classification is re-evaluated at the start of each move/attack sequence.

The AI will offer a draw, in Solitary and Hotseat non-mission battles with custom player Team only, when both Teams are down to 70% (Rookie) / 60% (Green) or 50% (default) tonnage or less – relative to player Team's average rank.

RANDOM BATTLES

When each random Jock is created, there's a 9% chance he will have a rank deviation of ± 1 from the requested Team rank and a 1% chance he will have a deviation of ± 2 .

MESSAGES

Damage received will always be displayed if message detail is medium/high/max.

Damage dealt will only be displayed if you have either scanned the enemy successfully or are in the same hex. This is independent of weapon type. Meson Gun, Neutron Blaster, E.M. Pulser and Vibra Claw success display will be disabled with message detail low.

Some of the messages you get may need some explaining:

- * you can get hit by missile friendly fire if in the target's hex
- * weapon hits may hit locations already disabled
- * called shots might hit a different location than that which you were aiming at
- * Heat Guided Missile racks may be fully deflected by Flares and fire
- * Jocks may take shock damage from non-head hits when the Life Support is damaged
- * Titans can get pushed out of their hex when taking 60+ damage from a nearby Engine explosion
- * punches / kicks will damage your Titan's arm / leg armor on hits, Vibra Claws on misses
- * movement rate through woods can be increased due to the *Scouting* skill
- * missing a kick forces a move skill check
- * missile launcher failures or cannon duds are possible when damaged weapons are fired
- * a "pulling jump stunt" check is made when jumping up in non-burned dense woods
- * movement rate when standing up can be increased by passing a hard move skill check
- * a Jock may burn to death inside his cockpit if Life Support is damaged and heat is high

Abbreviations:

XP (eXperience Points)

DP (Development Points)

HP (Hit Points)

HtH (Hand to Hand attacks – Punch, Kick)

CC (Close Combat weapons – Power Axe, Chain Saw, Vibra Claw)

PU (Power Units)

ToHit (chance to hit)

LoS (Line of Sight)

HD (HiDing factor, visibility)

AI (Artificial Intelligence – 'the computer')

d6 (6-sided dice)

VH (Virtual Height)