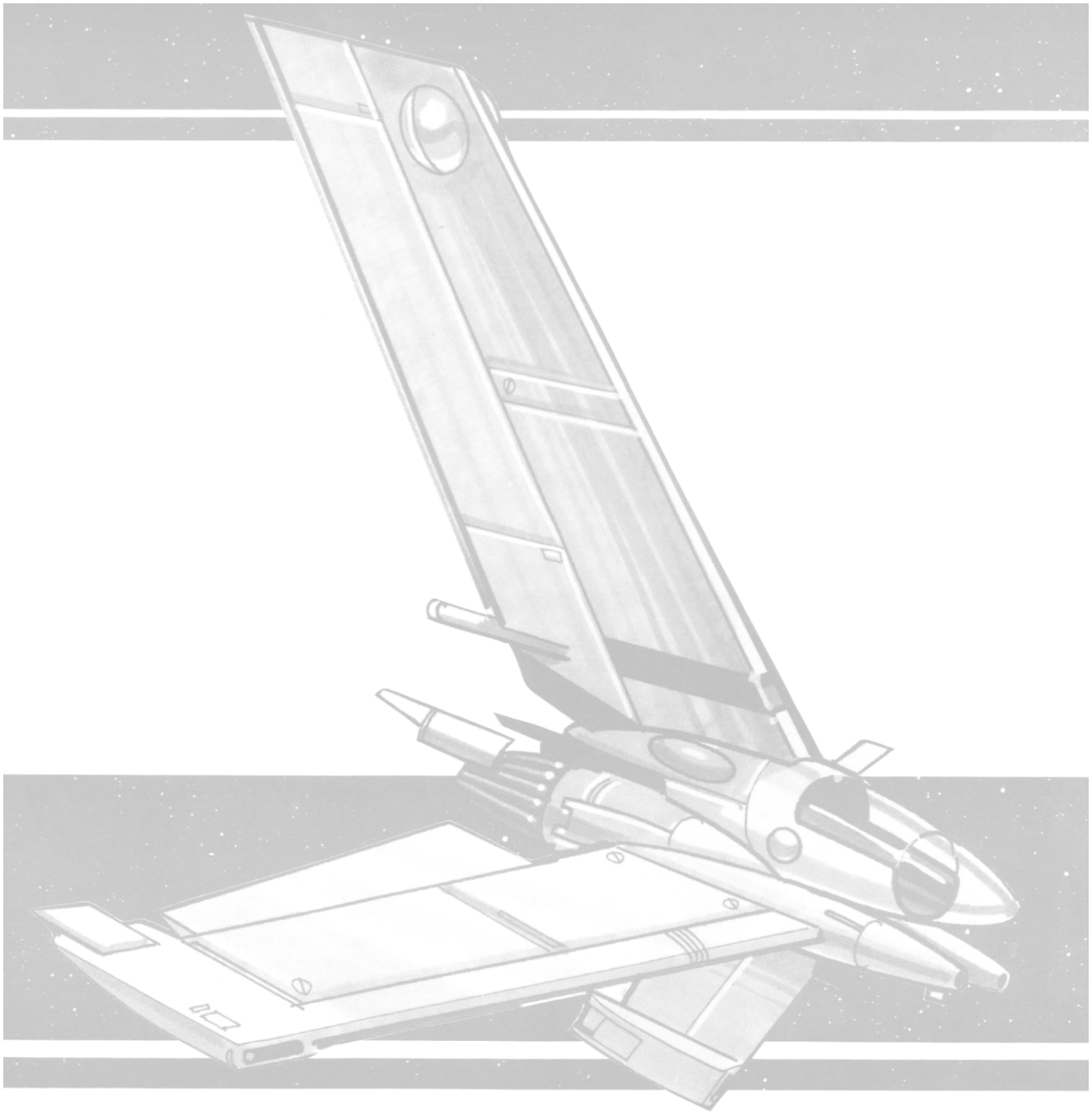

F O R E W A R D

RENEGADE LEGION
INTERCEPTOR
2ND EDITON RULES

Welcome to the official 2nd Edition INTERCEPTOR rules. This is the complete ruleset required to learn and play the game of INTERCEPTOR. These were the rules written by Don Gallagher and to be published by Night Shift Games, before their dropping of the line and it's return to FASA. FASA itself has subsequently cosed its doors.

Now, we present them here for everyone on the Renegade Legion Web Resource. All that is missing from the 'boxed' set is the counters, maps and dice required to play, all of which can be easily attained and made from local gaming stores, including hansom miniatures.

Strap in then, and prepare for INTERCEPTOR!

Editor, Oliver Bollmann, 2003

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INTRODUCTION

The basic objective in INTERCEPTOR is to destroy the enemy's ships without losing one's own. The challenge of the game is for one player to outwit his opponent and to make better use of his ships. Though it requires skill to win consistently, even the greenest pilot can sometimes make that lucky shot that cripples the experienced ace.

1.1 SEQUENCE OF PLAY

The sequence of play regulates the players' actions and gives structure to the game. Its list of events and procedures is repeated until the conflict is resolved. Each turn is divided as follows:

INITIATIVE Phase: Both sides roll 1D10 to determine which must move first in this turn .

DECISION Phase: Each ship determines its power allocation (if necessary) and whether it will carry out any special tasks .

MOVEMENT Phase: Each side now moves its ships in an order determined by size and initiative.

COMBAT Phase: At any point during the Movement Phase, both sides may fire weapons at targets of opportunity, with damage being determined as it occurs.

1.2 INITIATIVE

Within each tonnage category (see *MOVEMENT PHASE* below), each side rolls a single die. The side with the highest initiative die roll must move one unit first; the other side then moves a unit. Movement alternates until all units of a given size have been moved; then, the same process is repeated in descending size order until all units have been moved. If, prior to any pair of movements, one side's units of the size in question outnumbers those of the other, that side moves a proportionate number of units rather than one (i.e., if one side had three fighters against the other's one, it would move them all). In any case, however, the side that won the initiative moves at least one unit last. For initiative purposes, any surviving unit may "move", even if disabled or unable to change position.

The only exception to this procedure is when a potential target ship is within a potential attacker's front 60 degree arc, the attacker is in the target's rear 60 degree arc, the attacker is within effective weapon range (i.e., a range at which one or more of its currently-operating weapons can do damage), and the attacking ship is both under control and has a conscious pilot. If these conditions are met, the attacker may choose to make the target move first and himself move immediately thereafter, regardless of any other initiative rolls or requirements.

1.3 POWER ALLOCATION

With very few exceptions, fighters are built with powerplants that can provide enough energy to operate all of their systems at the same time. This is not always the case for patrol class ships and orbital installations, for a variety of reasons. The challenge for such a ship's commander is to balance the power demands of weaponry, shielding, maneuverability and auxiliary equipment against the requirements of the tactical situation in order to defeat the enemy.

A ship's powerplant is rated in terms of the total number of Energy Points (EPs) that it can produce each turn. EPs are lost if not used in the turn they are allocated. Unused EPs may not be accumulated from turn to turn. Power allocation is shown on the Ship Record Sheet by checking each system that will receive EPs in a given turn. The effects of such allocations are as follows:

THRUST: If a ship wishes to use any or all of its slower-than-light engines to produce thrust points, it must allocate a number of EPs equal to the power rating of the engine(s), as shown on its record sheet. These thrust points can then be used to accelerate, decelerate and maneuver -- see MOVEMENT. A ship's normal thrust rating assumes that all of its engines are operating; if one or more are disabled or are not being powered, the maximum number of thrust points that can be generated are reduced proportionately.

WEAPONS: Most weapons require EPs to fire in the Combat Phase; the cost for each is individually listed. All weapons in a TOT array must be powered if any are (see below). The player must specify which weapons are being energized before movement commences (i.e., if a player powers all left-side weapons and his intended victim never comes into their arc of fire, they must either find another target or the EPs will be wasted.)

SHIELDS: If a ship's shields are powered at all, each must receive at least enough EPs to produce a flicker rate of 10 on all six sides of the ship. The cost of each additional 10 points of flicker rate per side is listed; again, the player must determine which shields (if any) will be reinforced before movement commences, up to the maximum flicker rate possible for the ship's powerplant.

ANTI-GRAVS: Any non-streamlined ship equipped with anti-grav lifters must provide EPs for them before moving into an atmosphere hex and must continue to do so while moving through atmosphere; otherwise, it will immediately lose altitude and possibly crash (see below). The EP cost of anti-gravs is not variable.

FTL DRIVE: Once a ship has completed T-Space entry calculations, it spends a single turn on the board while it makes the transition to FTL velocity. During that turn, it must provide EPs to the FTL drive; if it cannot do so, it cannot leave the battle until such time as it is able to provide enough EPs, and in any case must stay on its straight-line course unless it aborts the calculations. The EP cost of FTL drive is not variable.

1.4 SPECIAL TASKS

During the Decision Phase, a ship's commander may carry out any or all of the following tasks, depending on circumstances and damage, unless specifically stated otherwise.

DECLARE T-SPACE TRANSITION: If sufficient EPs have been allocated to the ship's FTL Drive and the T-Space calculations have been made, the ship's commander may declare transition. It spends this turn on the board, functioning normally in all respects except that it must maintain its straight-line course, and is removed from play at the end of the turn. See TRAVELING FASTER THAN THE SPEED OF LIGHT, below.

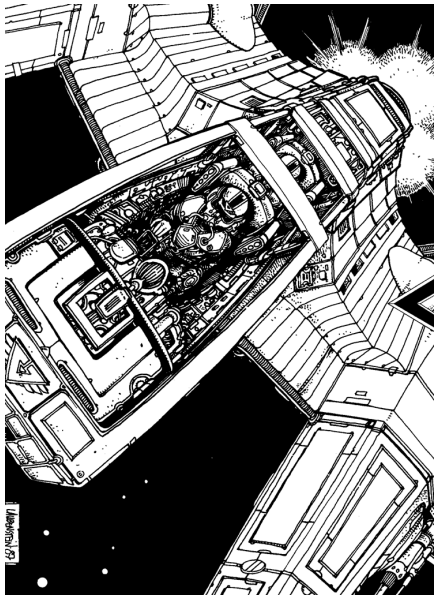
LAUNCH / RECOVER SMALL CRAFT: If a PCS or OI carries any small craft, one may be launched or recovered from each bay per turn at this point. A launched ship takes on the facing, heading and velocity of its carrier at the moment of launch; to recover, it must enter the carrier's hex and match the carrier's heading, facing and velocity. If the carrier is an OI, a launched ship may have any velocity up to SOT, and it may take on any heading, but its heading and facing must be the same; to recover, the ship must enter the OI's hex at a velocity of 1, and its heading and facing must be the same. See MOVEMENT and CONSTRUCTION SYSTEM for further details.

ABANDON SHIP: Any ship or OI that is being abandoned may use its crew's ejection seats or other evacuation methods to allow its surviving crew to escape. Place a ejected crew counter or other mutually-agreeable single-hex, single-sided counter on the appropriate hex to indicate their release. Further details are in the ABANDONING SHIP section.

DROP HARDPOINT LOADS: Any ship with missiles or pods on its hardpoints (not in an Autoloader -- see below) that wishes to can drop them without combat effect. This can be done to relieve a crewman's task overload (see PILOTS AND CREW) or lighten the ship (see VARIABLE MASS AND THRUST CALCULATION).

PILOTS AND CREW

REALLOCATE CREW ROLES: If desired or necessary, crewmen can abandon control of weapons, take control of other weapons, or take flight control of a ship. See PILOTS AND CREW for details.



The men, women and other beings who operate fighters form an elite corps in the forces of the Terran Overlord Government as well as those of the Commonwealth, the Renegades and the KessRith. They have two skills that play an important part in the game -- Piloting and Gunnery. Piloting skill is primarily used as part of movement, but also represents the ability to make small evasive maneuvers that are effectively invisible due to the game scale. Gunnery skill is used to improve the chances of hitting a target with direct-fire weapons.

2.1 INITIAL SKILL LEVELS AND SKILL IMPROVEMENT

The average citizen of the galaxy has no skill in INTERCEPTOR Piloting or Gunnery, and will thus have luck's chance in any attempt to do anything in a ship. Most new pilots and gunners are graduates of one of the various military academies or training centers. Crewmen who complete the whole training sequence will have initial Skill Levels as determined below. A separate roll is made for each of the two skills.

Note that only the pilot and gunner(s) on a ship have both Piloting and Gunnery skills. Orbital installation gunners, regardless of nationality or race, do not roll for a Piloting skill level and take an additional +1 DM to their Gunnery skill roll. All other ship and OI crewmen are assumed not to need Piloting and Gunnery skill training and do not receive it.

Increases in skill level come only from experience. A crewman may increase either his Piloting or his Gunnery skill one level for every five kills. For this purpose, a kill is credited to the one who either caused a ship to explode, killed its last surviving crewman, or scored the last hit before the target's crew abandoned ship. An armed ship or OI of less than 1000 tons is worth 1 kill. An armed ship or OI of 1000 tons or larger is worth 1 kill per 1000 tons, rounding up; an unarmed ship or OI is worth 1 kill, regardless of size. Fractional kills are not allowed; if there is a dispute as to who gets a kill, each claimant rolls a die with the highest roll receiving credit. There is no upper limit to Gunnery and/or Piloting skill levels, although it is fairly unusual to see crewmen with skill levels of 10 or more. Any pilot who meets one had better hope that he's on the same side!

INITIAL SKILL LEVEL TABLE (PILOTS)

Roll	Piloting	Gunnery
1	6	6
2	5	5
3	5	4
4	5	4
5	5	4
6	5	4
7	5	4
8	5	4
9	4	3
10	3	2

INITIAL SKILL LEVEL TABLE (GUNNERS)

Roll	Piloting	Gunnery
1	3	7
2	2	6
3	2	5
4	2	5
5	2	5
6	2	5
7	2	5
8	2	5
9	1	4
10	1	3

DIE ROLL MODIFIERS (BOTH TABLES)

Nationality	Race	Piloting DRM	Gunnery DRM
TOG	HUMAN, SSORA, NARAM	0	0
COMMONWEALTH AND RENEGADE LEGION	HUMAN, SSORA, NARAM	-1	-1
	VAUVAUSAR	-1	-2
	BAUFRIN	-2	-1
	KESSRITH	0	0
KESSRITH EMPIRE	KESSRITH	+1	+1

2.2 FAMILIARITY

When crews manage to survive battle in the same ship again and again, they gradually learn its subtleties and idiosyncrasies. Because of this familiarity, they receive a bonus to their skill levels when flying that particular ship, as shown on the table below.

FAMILIARITY BONUS TABLE

Combat Missions	Piloting Increase	Gunnery Increase
1 - 5	0	0
6 - 10	+1	0
11 - 20	+2	+1
21 - 30	+3	+2
31+	+4	+3

For familiarity purposes, a combat mission is defined as one in which the crewman has both fired at and been fired at within effective range by an enemy ship or orbital installation, or one in which he shot down at least one enemy ship (armed or unarmed). Ground attack missions do not qualify. The Familiarity Bonus does not apply when a different ship is flown, even if it is of the same type, and it is lost permanently when the original ship is destroyed. Piloting familiarity bonuses are not possible for gunners.

2.3 SKILL MAINTENANCE

Like any other skills, Piloting, Gunnery and Familiarity bonuses must be maintained through use or they will be lost. A pilot or gunner loses 1 from his Familiarity combat missions tally for every five consecutive non-combat missions, as defined above. Likewise, 1 is subtracted from a pilot's or gunner's Piloting or Gunnery skill (at player's choice) for every 10 consecutive non-combat missions. In any case, a pilot's or gunner's skills may never fall below their initial level -- once learned, they're never forgotten.

2.4 WEAPONS CONTROL AND TASK OVERLOADING

Each crewman controls particular weapons, which must be specified during the ship's construction. A crewman can normally handle no more than five weapons, all of which are firing in the same direction at all times, without losing effectiveness from task overload. For this purpose, all weapons controlled by a TOT synchronizer (see COMBAT and CONSTRUCTION SYSTEM) are considered to be a single weapon. Task overloading means that a crewman is being given too much to do at once, and becomes especially critical if the crewman has to constantly watch for enemy action in several directions at once. This will happen if he controls fixed weapons covering more than one arc of fire, or if one man is trying to control both a turret and fixed weapons. Details follow:

TASK OVERLOADING DIE ROLL MODIFIERS

+1	per weapon after 5th under crewman's control.
+2	per arc of fire (Forward, Left, Right, Aft, or 60 degree fan from OI) covered with fixed weapons under crewman's control after first arc.
+3	if crewman controls both fixed and turreted weapons.
+4	if ship's pilot controls both fixed and turreted weapons, or controls turreted weapons alone.

These modifiers are cumulative, and are applied to all direct fire rolls (including DFM attacks) by all weapons in use. Attacks with all missiles except DFMs are unaffected except by the restriction on number of targets engaged in a turn (see GENERAL MISSILE FIRE PROCEDURE, below). Hardpoints or autoloaders count as single weapons, regardless of the number or type of offensive missiles or weapon pods carried on each, when determining the number of weapons in use as well as arcs of fire covered.
If a hardpoint carries only non-weapon pods (ELS, ECM, Safeguard-1, Sensor, or Painting) or Decoy missiles, it is ignored when determining the number of weapons in use as well as arcs of fire covered.

If a crewman is killed or incapacitated, all weapons assigned to his control are out of action unless another crewman takes over for him. All weapons on a ship with more than 1 crewman and without a bridge (typically, a 2-seat fighter with a turret) can be fired by any surviving crewman with Gunnery skill, but with an additional +3 modifier. All weapons on a ship with more than 1 crewman and a Bridge (typically, a corvette) may be fired by any surviving crewman with Gunnery skill. In these cases, apply task overloading modifiers as necessary. Weapons may also be abandoned by their controller to relieve task overload; they are out of action for the rest of the game unless re- manned by someone else.

Empty hardpoints and autoloaders are automatically considered to be abandoned for this purpose.

Some examples of task overloading: *A large Renegade Legion corvette with a Bridge is about to be attacked by a mass of TOG fighters. The pilot is assigned control of five fixed forward-firing weapons, while there are three gunners aboard with the following weapons assigned to them:*

#1 = five weapons in a turret;
#2 = four fixed aft-firing autoloading missile launchers;
#3 = twenty fixed weapons mounted ten to a side, with TOT gear for each group of ten.

Gunner 1 would take no modifier to his shots since he has only five weapons to deal with. Gunner 2 has no overloading problem per se, although it is likely that he will be taking negative modifiers for firing at multiple targets in a turn. Gunner 3 is considered to be controlling 2 weapons since TOT is in use -- but, since his weapons are on two different sides of the ship, he takes a +2 modifier. The pilot has no overloading problem.

After some turns of battle, the Renegade corvette has taken a considerable hammering. Gunner 1 is dead, but three of his turret's weapons are still working; Gunner 2 is wounded and unconscious, and all of his autoloaders are empty; Gunner 3 is unwounded and all of his weapons are working, but the TOT gear on the right side has been disabled; the pilot is unwounded and all of his weapons are working. Gunner 3 would have a +8 modifier if he tried to keep all of his weapons working: +2 for two arcs of fire being covered, plus +6 for the number of weapons above five under his control since the right side TOT is gone. Instead of doing this, he abandons all but 4 of the right side weapons, leaving him with a total of five weapons under his control and reducing his modifier to +2. The pilot takes control of Gunner 1's turret in addition to his own weapons, giving him a modifier of +7: +4 for pilot controlling both fixed and turreted weapons and +3 for number of weapons above 5 under his control, since only three of the turret's weapons are still working. The pilot does not abandon any of these weapons, although the overloading makes it unlikely that he'll hit anything with any of them. Some time later, Gunner 2 regains consciousness. Since his autoloaders are empty, he automatically abandons them and takes control of Gunner 1's turret from the pilot. This leaves both the pilot and Gunner 2 with no overloading modifier.

2.5 FLIGHT CONTROL

A ship with a single crewman (typically, a single-seat fighter) can only be flown by that crewman (obviously!)

A ship with more than 1 crewman and without a Bridge (typically, a 2-seat fighter with a turret) can be flown by any surviving crewman with Piloting skill, but with an additional +3 modifier to any Piloting skill rolls.

A ship with more than 1 crewman and with a Bridge (typically, a corvette) may be flown by any surviving crewman with Piloting skill, with no modifiers to Piloting skill rolls.

Any crewman aboard a ship without a Bridge and who does not have Piloting skill cannot take control unless a scenario's special rules allow it (this should be quite rare, adventure stories to the contrary!)

A ship with more than 1 crewman and with a Bridge can be flown by crewmen without Piloting skill; as noted above, however, they will have luck's chance in any attempt to do anything with the ship.

M O V E M E N T

During the Movement Phase, actions take place in the following order:

Make random movement recovery roll

Move ships that are subject to random movement in strict order of size as follows:
PCS larger than 5000 tons
PCS of 5000 tons or less
PCS of 2500 tons or less
PCS of 1000 tons or less
Superheavy fighters (500 tons and less)
Heavy fighters (250 tons and less)
Medium fighters (150 tons and less)
Light fighters (100 tons and less)

Move ships that are under control, in order of initiative, in the following size order:
PCS larger than 5000 tons
PCS of 5000 tons or less
PCS of 2500 tons or less
PCS of 1000 tons or less
Superheavy fighters (500 tons and less)
Heavy fighters (250 tons and less)
Medium fighters (150 tons and less)
Light fighters (100 tons and less)

Move asteroids (if necessary)

As noted in INITIATIVE, "tailed" ships must always move before their pursuers.

3.1 GENERAL MOVEMENT PROCEDURE

Movement in INTERCEPTOR is much like that in other RENEGADE LEGION games. Each ship must keep track of its velocity and use thrust points to change velocity, heading and facing. A ship must travel in a straight line until its commander alters its heading. The ship's velocity remains constant until the ship's commander changes it by applying thrust. Thus, a ship can remain in the same hex with a velocity of 0 or coast at a constant velocity for as long as it stays on the mapsheet. 1 point of velocity equals 1 hex of movement on the board.

Each ship and pilot has two ratings that affect the ease or difficulty of using thrust. These are the Thrust Rating and the Safe Operating Thrust (SOT).

Each ship is designed with a specified Thrust Rating, which is the maximum number of Thrust Points that a player may spend in one turn to change velocity and/or heading. Pilots may push the plant and try to get extra Thrust Points, but this could also result in severe damage to their craft.

The Safe Operating Thrust is the average of the ship's Thrust Rating and the pilot's Piloting Skill Level (rounded up). The SOT is the number of Thrust Points that the pilot may safely spend and still maintain control of his craft. If he spends thrust over his current SOT rating, he must make an SOT Saving Roll.

For example: *TOG Pilot Marcos' PILUM Class fighter has a thrust of 7 and a beginning velocity of 3. In this case, before any other movement, he may spend up to 3 Thrust Points to slow down his fighter to a velocity of 0, or he may spend up to 7 Thrust Points to speed up his fighter to a velocity of 10. He chooses to speed up to a velocity of 5 by spending 2 Thrust Points. His fighter must now move five hexes. In this example, Pilot Marcos did not exceed his SOT, and so no Saving roll is necessary.*

Thrust Points are used for the following: Changing a ship's facing; Changing its heading; Changing its orientation by rolling; Increasing or decreasing its velocity.

FACING CHANGES: A ship's FACING is the direction towards which its bow is pointed, which can affect both its movement and combat abilities. Every ship must face one of the six hexsides at all times. A player may use Thrust Points to change a ship's facing at any point during the Movement Phase. The amount of Thrust Points required to change facing by 1 hexside is equal to the ship's tonnage divided by 1000 (rounding down, with a minimum cost of 1).

HEADING CHANGES: A ship's HEADING is the direction in which it is traveling. In this game, a ship's heading and facing are not necessarily the same, although they often are. Should it happen that they are not, use a single-sided directional arrow counter to show the ship's heading. A player may use Thrust Points to change a ship's heading at any point during the Movement Phase. The amount of thrust needed to change a ship's heading depends on how fast it is moving, as follows:

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Thrust Cost to change heading by 1
       hexside (minimum of 1)
                =
  (Velocity / 3, rounding down) + 1
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If a ship has more than 1 set of Directional Control Thrusters installed and operating on a given side (see DAMAGE and CONSTRUCTION SYSTEM), each set after the first "reduces" the ship's velocity by 1 when calculating heading change thrust cost. In any case, a heading change will always cost at least 1 Thrust Point. Once the Thrust Point(s) have been spent, all movement continues in this direction until the player spends Thrust Points to change it. Remember that regardless of what the ship does during its movement, it must move as many hexes as its beginning velocity, subject to any thrust spent to change it before movement begins.

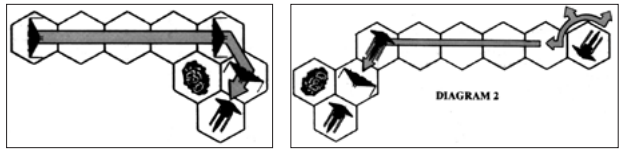
VELOCITY CHANGES: A ship may only use Thrust Points to change velocity at the beginning of its Movement Phase. A ship's velocity can never drop below 0, but it can increase to as high a level as the ship's commander desires; however, maneuverability at high velocities is severely limited. Since a ship's thrust venturis are located at the rear of its hull, which way the ship faces during acceleration or deceleration is important, as follows: If a ship's FACING is the same as or within 60 degrees (1 hexside) of its HEADING, 1 Thrust Point is required to increase velocity by 1, while 2 Thrust Points are required to decrease velocity by 1. If the ship's FACING is more than 60 degrees (1 hexside) away from its HEADING, 1 Thrust Point is required to decrease velocity by 1, while 2 Thrust Points are required to increase velocity by 1. It is thus possible to "accelerate backward" or "decelerate forward"; this is accomplished by the use of thrust deflectors on the I-K drives, but they are less effective than rotating the entire ship. They do, however, have the advantage of not requiring the ship to take time to rotate or to expose its rear when decelerating into a fight.

ORIENTATION CHANGES BY ROLLING: Space battles are three-dimensional dances of death and destruction; after initial maneuvering, however, combat in three dimensions almost invariably becomes conflict with both combatants on the same plane, though it might be far from what was originally thought of as horizontal. Because of this phenomenon and for ease of play, INTERCEPTOR simulates combat on a two-dimensional board. Thus, all ships begin a battle with the same "up" orientation. As the battle progresses, however, a ship may perform a roll around its long axis. Rolls may be carried out any point during a ship's Movement Phase. This maneuver costs one Thrust Point regardless of the ship's size or velocity, and reverses the ship's right and left sides; invert the ship's counter to reflect this. A roll maneuver does not change a ship's velocity, facing, or heading, only which side faces in which direction. Ships with damaged Directional Control Systems can still change their heading or facing in the desired direction by first rolling the ship and then using undamaged thrusters to turn the ship in the appropriate direction. Rolling is not permitted in atmosphere (in reality, a roll can take place, but a ship cannot stay airborne while inverted for an extended time).

TURNING POINTS: A ship may have such a velocity that it cannot generate enough Thrust Points in one turn to change its heading, or to be unable to change its facing in one turn because of insufficient Thrust Points for its size. Thrust Points can still be allocated, but are recorded on the Ship Display Sheet as turning points for either facing or heading along with their intended direction. Turning points can be built up from turn to turn, and need not be built up in consecutive turns; once a change of facing or heading is made, however, the appropriate points are lost. If the ship begins to build up turning points for a change of heading or facing in the opposite direction from that of any current turning points, it must use them to negate the existing turning points until the ship is

Thrust example: *A ship equipped with 1 set of DCS and at a velocity of 12 would have to use 5 Thrust Points to change heading by 1 hexside -- (12 / 3 = 4) + 1. If this ship had 2 DCS, it would have to use only 4 Thrust Points -- [(12 velocity - 1 for extra DCS, or 11) / 3 = 3.67, rounding to 3)] + 1.*

Movement examples: *Pilot Marcos wants to maneuver his PILUM fighter (with a thrust rating of 7 and a single set of DCS) to get a rear shot against the Commonwealth fighter, which is next to an asteroid. At this point, his ship's heading and facing are identical. Before movement, he raises his initial velocity from 3 to 5 by expending 2 Thrust Points, leaving 5. Marcos moves four hexes forward and then makes a heading change. At a velocity of 5, this will cost 2 Thrust Points -- (5 / 3 = 1.67, rounding down to 1) + 1. Marcos now moves one last required hex, which puts him directly behind the enemy fighter. He now makes another heading change to be able to shoot at it. At his velocity of 5, the Thrust Point cost is 2 as calculated before. Marcos has now used 6 of his 7 Thrust Points and wishes to do nothing further. The unused Thrust Point cannot be saved for future turns. Had he wished to, Marcos could have changed his PILUM's facing, rather than its heading, in order to fire at the Commonwealth fighter; this would have cost 1 Thrust Point (148 tons / 1000 = .148, but the minimum cost is 1 Thrust Point). If this had been done, the ship counter's bow would be facing toward the Commonwealth fighter, but a directional arrow counter would show that it is still moving in the original heading direction.*



In another example, Commonwealth Pilot Victor Erskine sees one of his squadron mates being attacked by TOG Pilot Marcos and wants to help his buddy by maneuvering to get a shot at the TOG fighter. He is flying a CHEETAH Class fighter with a thrust of 10 and an initial velocity of 9. From the diagram, we see that Pilot Erskine must make at least two heading changes to move in the direction of the TOG fighter. For the best shot, it would be even better to make three heading changes and end up in the enemy's rear arc. At a velocity of 9, however, heading changes cost 4 Thrust Points each, and so Pilot Erskine decides first to slow his fighter by spending 4 Thrust Points to change his velocity to 5. He then makes two heading changes before moving, moves five hexes, and finally makes another heading change to position himself directly behind the TOG fighter. The total number of Thrust Points spent is 10 (4 for initial velocity change and 6 for three heading changes at a velocity of 5). In this example, Pilot Erskine has exceeded his SOT, requiring a roll on the appropriate table.

3.2 PUSHING THE PLANT

In a combat situation, a pilot will sometimes do anything to get that extra little bit of power to put his ship in the best firing position. In cases where he needs more Thrust Points than he has, he may push the powerplant at the risk of breakdown. To find out what can be accomplished and at what risk, refer to the Pushing The Plant Table.

The table shows that the pilot must have something to push (i.e., a ship with a current maximum thrust of 1 may only push the plant by 1 point). The most that any plant can be pushed is by 5 thrust points.
Pushing the plant always results in the pilot obtaining the extra Thrust Points he desires. The catch is whether or not he damaged the plant in getting those Thrust Points. If the roll fails, the pilot must immediately mark off one-quarter of the total original number of his power plant boxes (rounding up) on the Internal Component Block and note the changes to his maximum thrust on the data portion of the Ship Record Sheet.

For example, Pilot Marcos' PILUM has suffered damage, putting his current maximum velocity at 4. He needs to spend 6 Thrust Points (pushing the plant by 2 thrust points) in a single turn. Referring to the Pushing The Plant Table, we see that he must roll a 6 or less to keep from damaging his fighter.

PUSHING THE PLANT TABLE

Current Max Thrust	Extra Thrust Points Desired				
	1	2	3	4	5
1	8	-	-	-	-
2	8	A	-	-	-
3	8	6	A	-	-
4	8	6	4	A	-
5+	8	6	4	2	A

RESULTS KEY:
- = The ship cannot push the plant to that level.
A = The ship automatically takes damage.
# = Denotes the die roll or less needed to successfully push the plant with no damage.

3.3 SAFE OPERATING THRUST (SOT)

The SOT is a measure of the pilot's Piloting Skill in the ship he is flying. This is determined by averaging the Pilot's Piloting Skill Level and the thrust rating of his ship. In most cases, green pilots will have an SOT that is equal to or less than the maximum thrust of their ship. Experienced pilots may have SOTs with ratings higher than the thrust of the ship in question. This means that an experienced pilot is able to get the most out of his ship (and maybe even more than that), while a green pilot will have his hands full just flying his ship to its capabilities. The SOT also takes into account the fact that pushing the plant usually requires exceeding the SOT, especially on ships with lower accelerations. This means acceleration at levels for which the acceleration compensators are not equipped and that the forces acting on the pilot are much greater than usual.

Whenever a pilot needs to spend more thrust in one turn than his SOT Rating, he must make an SOT saving roll. First, he subtracts the number of additional Thrust Points needed from the SOT, then he must roll a number equal to or less than that target. If the roll succeeds, the maneuver is successful. If the roll fails, the ship is SOC, or Seriously Out of Control.

When a ship needs to exceed its SOT, simply move the counter normally. At the point where the SOT is exceeded, make a Piloting skill roll. If the SOT roll succeeds, complete the move. If the roll fails, make a roll on the Random Movement Maneuver Table to find the series of random movements the ship will suffer. If a ship was making a 4 Thrust Point heading change that would cause it to exceed the pilot's SOT by 2 and he failed his roll, he would then have to roll for 4 points on the Random Movement Table, NOT the 2 Thrust Points by which he exceeded his SOT.

In some cases, a pilot may have to push the plant AND exceed his current SOT. In such cases, he must make both rolls and suffer the consequences of any failures.

For example, Pilot Erskine, who has a Piloting Skill Level of 5, is flying a CHEETAH with a maximum thrust of 10. To perform the maneuver given in Movement Diagram 2, he must exceed his SOT to make the final heading change. At the point just before making the heading change, Erskine makes his roll. In this situation, Erskine's SOT is 8 -- ([5 + 10]/2 = 7.5, rounding up). He must make a roll of 8 (his SOT) - 2 (the number of Thrust Points over the pilot's SOT) = 6 or less. If the roll succeeds, he will end his movement as shown. If the roll fails, he must roll for 2 Thrust Points on the Random Movement Table.

3.4 SERIOUSLY OUT OF CONTROL (SOC)

When a ship is seriously out of control, either through damage or the failure of an SOT roll, the pilot loses control over all of the maneuvering functions of his ship; the craft is tumbling or skidding while the pilot fights to regain control.

To determine where a randomly moving ship will end up, the player first rolls against the Random Movement Maneuver Table to determine what maneuver the ship will attempt. Next, the pilot determines the number of Thrust Points that maneuver will cost. First, he finds the ship's current velocity in the first column of the Random Movement Thrust Cost Table and cross-indexes along the row to the column number that corresponds to the previous Random Movement Maneuver Roll. This process continues until the player has spent the ship's current maximum number of Thrust Points. If the rolled maneuver costs more Thrust Points than the ship has left, the ship will drift one hex while a new maneuver is rolled. In some cases, the ship may drift any number of hexes, but it may never drift more than its beginning velocity. Random movement is the only case when a ship's velocity can change in the middle of movement.

The effects of a failed SOT roll are relatively minor because only a small number of Thrust Points must be spent on the Random Movement Table. A pilot who fails to regain control of his craft and must spend a whole turn suffering the effects of random movement is usually SOL.

A randomly moving ship may still make direct fire attacks, but with a +3 To-Hit die roll modifier in lieu of all other modifiers; it may not attempt missile lock-on.

RANDOM MOVEMENT MANEUVER TABLE

Die Roll	1	2	3	4	5	6	7	8	9	10
Result:	-1V	+1V	-2V	+2V	+3V	TR1	TL1	TR2	TL2	DIS

+1V	means Velocity increases by 1. Move ship forward 1 hex.
-1V	means Velocity is decreased by 1. Ship stays where it is. Velocity cannot drop below 0. If this movement is rolled and would cause the velocity to drop below 0, drift the ship 1 hex and roll again.
TR1/TL1	means turn ship right/left 1 hexside and move one hex.
TR2/TL2	means turn ship right/left 2 hexsides and move one hex.
DIS	means the ship spins out of control, and ends up facing a random direction. The ship stays in the same hex. Roll 1D10 and consult the mapsheet direction key for facing; 1-2 = next hexside to right of ship's current facing, 3-4 = next hexside clockwise, and so on.

RANDOM MOVEMENT THRUST COST

Current Velocity	Die Roll 1	2	3	4	5	6	7	8	9	10
1	1	1	1	2	3	1	1	2	2	3
2	1	1	2	2	3	1	1	2	2	3
3	1	1	2	2	3	2	2	4	4	3
4	1	1	2	2	3	2	2	4	4	3
5	1	1	2	2	3	2	2	4	4	3
6	1	1	2	2	3	3	3	6	6	3
7	1	2	2	2	3	3	3	6	6	3
8	1	2	2	2	3	3	3	6	6	3
9	1	2	2	2	3	4	4	8	8	3
10	1	2	2	2	3	4	4	8	8	3
11	1	2	2	2	3	4	4	8	8	3
12	1	2	2	2	3	5	5	10	10	3
13	1	2	2	2	3	5	5	10	10	3
14	1	2	2	2	3	5	5	10	10	3
15	1	2	2	2	3	6	6	12	12	3

To recover from random movement, a pilot must roll less than or equal to his Piloting Skill Level. This roll is made before movement during the Movement Phase.

Keep rolling against the tables and moving the ship until the Random Movement Thrust Cost equals the current maximum thrust of the ship. If a roll on the table exceeds the maximum thrust of the ship, drift one hex and roll again. It is important to keep track of velocity during the random move because it changes what row of the table the player use for his die roll target.

Remember that each hex moved also counts against the movement limit of the beginning velocity, no matter what the ending velocity turns out to be.

For example, Pilot Erskine must spend 2 Thrust Points on the Random Movement Table. His current velocity is 5. His first roll is a 2. According to the table, this is an increase of 1 point in velocity, at a cost of 1 Thrust Point. He still has one remaining Thrust Point. At his new velocity of 6, Erskine moves as shown. His next roll is a 6, which is a one hexside heading change to the right. At a velocity of 6, this costs 3 Thrust Points. With only 1 point left, the fighter drifts one hex. This completes Erskine's Random Movement, as he had already drifted five hexes before exceeding his SOT. If he had missed his SOT roll before drifting the number of hexes dictated by his initial velocity, he would have to keep rolling against the Random Movement Table until the remaining Thrust Point was spent or until he had drifted a number of hexes equal to his initial velocity.

At the beginning of movement of the next turn, Erskine must make a Piloting Skill Roll of 5 or less to regain control of his fighter. If the roll fails, he must roll 10 Thrust Points of movement on the Random Movement Thrust Cost Table.

3.5 OPTIONAL: VARIABLE MASS AND THRUST CALCULATION

A ship's Thrust Points are calculated on the basis of its engine power divided by its tonnage, as explained in the CONSTRUCTION SYSTEM (see below). For simplicity's sake, we do not recalculate thrust after each change in mass, and in most cases it would make little difference; we also finesse the distinction between volume and mass, as most of the ships commonly seen in this game are "solid" warships.

If desired, however, players can make thrust calculations as needed based on changes in the ship's

full-load tonnage (such as firing missiles, dumping fuel or cargo, and so on) or when rated tonnage and actual tonnage are very different (such as with an unloaded freighter, or a carrier which has lost its fighters). In all cases, the new thrust is rounded to the nearest full number, with .5 rounding up. Details will have to be agreed between the players before play.

An additional consideration is the acceleration compensator mounted by the ship. Crewmen will not be able to stand thrust above the compensator's limits that is more than 50% (rounding down) of their race's normal limit. Designers may wish to take this into consideration for ships which have a widely-variable thrust.

This optional rule is not recommended for any but the most experienced players, as it will make the game much more complicated, to put it mildly!

Example 1: *A TOG LANCEA weighs 70 tons (9 of which are 3 missiles at 3 tons each, and 4 of which are fuel for the engines and powerplant) and has 700 points of engine power, which gives it a basic full-load thrust of 10. After firing its first missile, its thrust doesn't change appreciably -- 700 / 67 = 10.45, which rounds down to 10. Once the second missile is gone, the LANCEA'S thrust goes up by 1 -- 700 / 64 = 10.94, rounding up to 11. Firing the third missile makes no further difference, as 700 / 61 = 11.48, which rounds down to 11. Determined to get the extra thrust point, the LANCEA pilot dumps half a ton of powerplant fuel, which does the trick -- 700 / 60.5 = 11.57, rounding up to 12. One can only hope that he had the fuel to waste, or he may have a long walk home!*

Example 2: *A 2,000 ton freighter with a 1,000 ton cargo bay has 8,000 points of engine power, which gives it a basic full-load thrust of 4. Its crew are Baufrin, which require a thrust compensator at any thrust of 4 or greater, and a Thrust 4 compensator is installed. If the ship is running with an empty cargo bay, it could theoretically have a thrust of 8 -- 8,000 / 1,000 actual tons. However, since the compensator can only handle Thrust 4, the maximum thrust the crew can endure is 6 -- 50% of the Baufrin tolerance of 4, plus the 4 that the compensator already handles.*

3.6 MOVEMENT NEAR TO A PLANET

Not all battles occur in the depths of space. Ships must often attack planetside targets or chase other ships to prevent them from landing on or taking off from a planet. Ships move in different ways in each environment, as explained below.

When playing near a planet, the following changes are made to the map. One hexrow at the edge of the mapsheet is declared to be the ground. The next five hexrows are the planet's atmosphere, and the next hexrow is the space/atmosphere interface. Movement between and within these different zones, ground, atmosphere, interface, and space hexes is different. The rules given so far in this book are for space movement. The rules for movement in the other zones are listed below.

3.7 SPACE/ATMOSPHERE INTERFACE

The interface is a barrier separating the vacuum of space and the denser atmosphere, which can be used or abused by pilots. Skillful pilots may use the interface zone to slow down and change their heading by bouncing. They do this at the risk of entering the zone unintentionally, or worse, burning up. To enter the zone, the ship's heading and facing must be the same, and a Piloting Skill Roll must be made. If the player's modified die roll is less than or equal to the basic chance of success, he has successfully entered the interface zone from space, and so continues his movement in the direction of his heading. If the roll is greater than the modified target, the attempt failed. The pilot must now check the Failed Entry Table for the result of his maneuver, using the difference between his target and his die result as the reference number.

The same procedure is followed if the pilot is attempting to bounce off the zone. Prior to entering the zone hex, the pilot makes a Piloting Skill Roll. If the roll is successful, the ship's heading may be changed up to 180ø without changing velocity. The Failed Bounce Table is used to determine the results of a failed roll. Damage from a failed bounce is taken in the same manner as asteroid damage.

INTERFACE ZONE TABLES

Basic Chance of Success = Piloting Skill Level	+4
Die Roll Modifiers:	
Ship in random movement	+2
Per every 10% of internal boxes lost	+1
Per each 25% of engine power lost	+1
Powerplant disabled	+4
All Directional Control Systems disabled (per side -- unstreamlined ships only)	+3
Atmospheric Control System disabled (per side -- streamlined ships only)	+2

FAILED ENTRY MODIFIER TABLE

Modified Die Roll Exceeded Basic Success Chance By:	*Effect*
1	Ship enters zone but suffers 5 points of damage to its Forward side
2	Ship enters zone but suffers 10 points of damage to its Forward side
3	Ship enters zone but suffers 15 points of damage to its Forward side
4	Ship enters zone but suffers 25 points of damage to its Forward side
5	Ship bounces and suffers 10 points of damage to its Forward side
6	Ship bounces and suffers 15 points of damage to its Forward side
7	Ship bounces and suffers 25 points of damage to its Forward side
8 or more	Ship burns up during reentry: ship and crew are destroyed

FAILED BOUNCE TABLE

Modified Die Roll Exceeded Basic Success Chance By:	*Effect*
1	Ship bounces and takes 5 points of damage to its Forward side
2	Ship bounces and takes 10 points of damage to its Forward side
3	Ship bounces and takes 15 points of damage to its Forward side
4	Ship bounces and takes 25 points of damage to its Forward side
5	Ship enters zone and suffers 10 points of damage to its Forward side
6	Ship enters zone and suffers 15 points of damage to its Forward side
7	Ship enters zone and suffers 25 points of damage to its Forward side
8 or more	Ship burns up during reentry: ship and crew destroyed

3.8 INTERFACE ZONE EFFECTS

MOVEMENT: A streamlined ship may safely enter the interface zone at a velocity of 4 or less. If the pilot successfully makes his entry roll and is traveling at a velocity greater than 4, he must make another Piloting roll to avoid taking damage. To succeed, the pilot must roll less than or equal to his Piloting skill minus the difference between his velocity and 4. If the roll succeeds, no damage is taken. If the roll fails, the ship suffers 10 points of damage to its Forward side for every point of velocity over 4. The pilot must either slow his ship or continue to make the Piloting roll to avoid damage.

An unstreamlined ship with anti-grav lifters can safely travel in the atmosphere or interface zone at any velocity up to 2. Such a ship must make a Piloting skill roll (as above) if it ever moves faster than 2 while entering or moving in the zone or atmosphere. It takes damage for excess velocity as above.

A ship that is neither streamlined nor equipped with anti-gravs will be destroyed if it enters atmosphere. It may still try to bounce off the interface zone; entering the zone automatically costs the ship 1 point of velocity. A ship that is both streamlined and equipped with anti-gravs may choose which mode it wishes to employ (assuming that the anti-grav lifters are currently supplied with energy by the ship's powerplant).

COMBAT: Ships in space can fire at targets in space or in the interface zone, but not in the atmosphere. Ships in the interface zone can fire at any target within range, except for targets on the ground. Ships in the atmosphere can fire at targets on the ground, in the atmosphere or in the interface zone, but not at targets in space. There is a+2 To-Hit die roll modifier for any attack that crosses the space/interface zone line. There are no additional modifiers for attacks from the interface zone to targets in the atmosphere.

3.9 MOVEMENT IN THE ATMOSPHERE

When in atmosphere, an unstreamlined ship using anti-grav lifters may not move at a velocity greater than 2; each hex moved costs 1 thrust point. The ship can change facing and heading at will, at a cost of 1 thrust point per hexside rotated. The ship may also hover motionless, at a cost of 1 thrust point. If no thrust is applied during a turn, 1 point of velocity is lost. An unstreamlined ship at velocity zero that is not hovering will fall directly toward the ground at 1 hex per turn. If it reaches the ground and has no usable thrust, it will crash, completely destroying the ship, crew and any passengers or cargo. If the ship has usable thrust when it reaches the ground, it must make a standard landing roll, modifying as necessary (see CAMPAIGNS).

A streamlined ship in atmosphere has a maximum velocity of 6. Its heading and facing must always be the same. Because they can turn using their airfoils, streamlined ships can turn 1 hexside at the end of all movement at no thrust cost; any additional turning costs 2 thrust points per hexside turned. If no thrust is used during a turn, 1 point of velocity is lost, to a minimum of 1. A streamlined ship with a velocity of 1 which does not use thrust moves 1 hex toward the ground in addition to any other movement -- it is assumed to be gliding downward. If it reaches the ground and has no usable thrust, it must make a deadstick landing (see LANDING under CAMPAIGNS, below); if it has usable thrust, there is no additional modifier. A failed roll means a crash, with effects as above.

Note in both the above movement types, a ship always loses one point of velocity should it expend no thrust in a given turn, hence, unlike space, a ship cannot coast indefinitly, it must spend thrust to stay aloft!

A streamlined ship that mounts and can power anti-grav lifters may use either movement mode. It must still have the same heading and facing if it begins normal flight, but may have a maximum velocity of 6 even if using anti-gravs.

Any ship that hits the ground as a result of random movement automatically crashes.

3.10 GRAVITY

Ships in the vicinity of a planet may be subject to the effects of gravity. If the world is Earthlike, gravity is too slight to be noticeable within INTERCEPTOR's time and distance scales. If gravity does need to be simulated, however, all ships are moved one hex closer to the mapedge that has been designated as the ground at the end of all movement. If this takes ships into the interface zone or the atmosphere, resolve this as shown above. Ships that end their movement in the hexrow closest to the ground are assumed to have landed and must make a landing roll as described in the CAMPAIGN section of the rules. In addition to the above effects, ships traveling directly toward the ground increase their velocity by 1 at the beginning of each turn; ships traveling directly away from the ground decrease their velocity by 1 each turn. Note that orbital installations will almost never be seen in such high-gravity areas, as their station-keeping thrusters are not powerful enough to resist the 1-hex-per-turn pull.

3.11 OPTIONAL: ADVANCED ATMOSPHERIC MOVEMENT RULES

Normally, the INTERCEPTOR map shows a planet's surface, atmosphere and interface zones in "cross-section". For the purposes of these optional rules, visualize the map as having been rotated 90 degrees so that one is looking down on the surface of the planet. Players will have to keep track of the altitude of each ship; level zero is the surface, with levels 1-5 being the atmosphere, 6 being the interface and from 7 upward being space. Each scenario should define the altitude level that is the "top" of the map. All references to being in atmosphere, interface or space hexes should be read as being in those altitude levels.

An unstreamlined antigrav-equipped ship must pay 5 thrust points per hex to move in atmosphere; a streamlined ship must pay 2 thrust points per hex. Ships may voluntarily move at less than full speed by throttling back, although the restrictions for minimum speed and hovering as shown above

are still in force. The rules for turning, facing and heading are also unchanged except as shown below.

While in atmosphere, each altitude level moved upwards costs the same as moving 1 hex. Diving does not cost thrust points, but an unstreamlined ship may not dive more than (Total Thrust Rating / 10, rounding down) altitude levels per turn; a streamlined ship may not dive more than (Total Thrust Rating / 4, rounding down) altitude levels per turn. Each level dived gains 1 free hex of movement on the turn AFTER the dive was carried out. If, during the same turn, a ship dives and then climbs, it loses the benefit of the dive and will not receive any free hexes on the next turn; it would receive the bonus, however, if it had first climbed and then dove. A dive-gained hex may also be used in lieu of a thrust point when paying to turn more rapidly (simulating various aerobatic maneuvers); turns "paid for" in this way can be taken at any point in the ship's move, rather than just at the end as with streamlined ships' free turns. A ship must use all dive-gained hexes in a turn; if this would put its velocity over 6, it must throttle back until its thrust rating (divided as above) plus its dive-gained hexes are equal to or less than 6.

Example: *A streamlined fighter with a thrust rating of 8 moves 4 hexes and dives 2 levels on Turn 1. It could only make one 60-degree turn at no cost at the end of its movement, since it used all of its thrust for straight-line flight. On Turn 2, the fighter dives another 2 levels; it now can move 6 hexes and turn once (4 for its basic velocity, plus 2 for last turn's dive, and taking its free turn), move 4 hexes and turn twice (4 for its basic velocity, plus its free turn, plus using the dive-gained hexes to turn), or some other combination. On Turn 3, the fighter does not dive. It has the same options as Turn 2 again, since it dove last turn. On Turn 4, the fighter is back to moving 4 hexes, having lost the energy gained by diving.*

When calculating firing ranges, cross-index the horizontal range in hexes with the vertical altitude level difference on the chart below to get the true range. While in atmosphere, all missiles with a range greater than 30 are restricted to a maximum range of 15; their minimum range limit (if any) is unaffected.

VERTICAL \ HORIZONTAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	2	3	4	4	5	6	7	8	9	10	11	12	13	14	15
3	3	4	4	5	6	7	8	9	9	10	11	12	13	14	15
4	4	4	5	6	6	7	8	9	10	11	12	13	14	15	--
5	5	5	6	6	7	8	9	9	10	11	12	13	14	15	--
6	6	6	7	7	8	8	9	10	11	12	13	13	14	15	--
7	7	7	8	8	9	9	10	11	11	12	13	14	15	--	--
8	8	8	9	9	9	10	11	11	12	13	14	14	15	--	--
9	9	9	9	9	10	10	11	11	12	13	13	14	15	--	--
10	10	10	10	11	11	12	12	13	13	14	15	--	--	--	--
11	11	11	11	12	12	13	13	14	14	15	--	--	--	--	--
12	12	12	12	13	13	13	14	14	15	--	--	--	--	--	--
13	13	13	13	14	14	14	15	--	--	--	--	--	--	--	--
14	14	14	14	15	--	--	--	--	--	--	--	--	--	--	--
15	15	15	15	--	--	--	--	--	--	--	--	--	--	--	--

3.12 STACKING

There is no stacking limit in INTERCEPTOR, though there are reasons why ships should not bunch up in the same hex. Besides the fact that stacked pieces are awkward to handle, especially if the ships have different headings and/or facings, collisions become much more likely and shots that miss one ship may hit another close to it (see DANGER SPACE, below, for further details).

3.13 COLLISIONS

Collisions can happen either accidentally by moving in too-close formation or mistiming a maneuver, or intentionally by ramming the foe. In INTERCEPTOR, collisions are possible if any unit moves into or through an asteroid hex or if two ships occupy the same hex at the end of all movement. Possible collisions are resolved after all movement and combat have been completed, with the exception of movement through asteroid hexes (see ASTEROIDS, below).

When neither unit is attempting to ram the other, resolve all combat and then roll one die for each ship. If the numbers are the same, there has been a collision. Determine which sides of the ships have struck each other; in most cases this should be fairly obvious, but in the event that there is a question, roll 1D10 for each ship. The armour facing of the ship on the side directly opposite the ship that struck it can never be damaged; a roll of 1 or 2 would indicate that the next armour facing clockwise from the "immune" hexside was hit -- a 3 or 4 would indicate the second clockwise, and so on. Note that an unintentional collision cannot result from a ship's attempt to launch from or dock with an orbital installation or lock on to another ship for towing -

- it is assumed in these cases that having matched vectors and velocities before coming close, the chances of collision are insignificant in game terms. The amount of damage inflicted by an unintentional collision is calculated using the Collision Damage Table below. All damage resulting from a collision is applied row-by-row across the entire armour and/or Internal Component block(s).

If one ship is attempting to ram another, use a slightly different procedure. Ram attempts must be declared in the Movement Phase before the would-be rammer begins to move or fire. If the ship's nationality is not KessRith, it must pass a morale check with a +2 die roll modifier in order to carry out the attempt (see MORALE, below) -- if it fails, it will permanently morale out; if it succeeds, it need not check morale again during the game. KessRith ships NEVER take pre-ramming morale checks. The ramming ship must suffer any fire from the target ship or others during its movement; assuming it makes it into the ram hex, the attempt takes place at the end of all movement and combat.

The rammer and its target both roll the die; if the rammer's roll is within 3 points of the target's, a collision has taken place. The differential between the rammer's and target's rolls will affect the amount of damage to both (see below). If the target of a ramming attempt is an orbital installation, a dieroll is not necessary -- the rammer will automatically hit his target, and there are no modifiers based on the dieroll differential.

ASTEROIDS: Unlike ships, asteroids are much easier to collide with since they aren't trying to save themselves! At the instant that a ship enters a hex occupied by an asteroid, the pilot must make a Piloting skill roll, modified as below.

If a pilot passes his skill roll, he continues to move; if he fails the skill roll, his ship suffers damage as though it had rammed an orbital installation against its front facing (see above). A ship in Random Movement that collides with an asteroid must roll on the table below to see where it takes the damage.

If the ship is in Random Movement when it enters the asteroid hex, there is an additional +2 modifier.

COLLISION DAMAGE TABLE

The amount of damage inflicted on the colliding armour facings of both ships is equal to:

```
Ramming Ship's Tonnage  x

( [Velocity of ramming ship] - [Velocity of target ship] / 3, rounding down; minimum of 1 )
     if rammer strikes through any of target's three rear hexsides -- OR

( [Velocity of ramming ship] + [Velocity of target ship] / 3, rounding down; minimum of 1 )
     if rammer strikes through any of target's three front hexsides -- OR

( Velocity of ramming ship / 3, rounding down; minimum of 1 )  if target was an orbital installation.
```

MODIFIERS

Ram Die Roll Differential	DAMAGE REDUCTION
0	0%
1	25%
2	50%
3	75%

```
Target's shield: 10% per 10 flicker rate higher than rammer's
                  0%  if equal or lower
  Unintentional: 75%
```

The minimum amount of damage inflicted by a collision is always 10 hits. Note that a ship that has its powerplant destroyed in a collision will explode, with the appropriate effect -- see DESTROYING A SHIP, below.

If a ship collides with an asteroid and survives, its pilot must immediately take another Piloting skill check to avoid going into Random Movement. The asteroid itself, if not destroyed (see below), must make a dieroll to determine which direction the impact has pushed it in.

ASTEROID PILOTING TABLE

Velocity	Piloting Skill Die Roll Modifier
1 - 2	0
3 - 4	+1
5 - 6	+2
7 - 8	+3
9 - 10	+4
11 - 14	+5
15 - 20	+6
20+	+7

If the ship is in Random Movement when it enters the asteroid hex, there is an additional +2 modifier.

ASTEROID DAMAGE LOCATION TABLE

Die Roll	Damage Location
1 - 4	Forward
5 - 6	Left Forward
7 - 8	Right Forward
9	Left Aft
10	Right Aft

Truly adventurous players may put the asteroid field in motion. Each asteroid counter has an identification number and a small arrow on it. Before the game begins, simply roll a six-sided die to determine the direction of travel of the entire field for the rest of the game. As noted above, this direction of travel must be re-rolled for an asteroid that survives a collision with a ship. At the end of each Movement Phase, move each asteroid one hex in the direction of its arrow. If it enters a hex with a ship in it, add the asteroid's velocity of 1 to that of the ship to find the Piloting Skill Roll modifier for the ship. If a collision happens, the ship takes damage on the side from which the asteroid came.

If two or more asteroids end their movement in the same hex, consider it a collision. During the next asteroid Movement Phase, roll new directions of travel for each asteroid. If the results of the roll would send them all in the same direction, new directions must be rolled in the next turn.

An asteroid can suffer 200 damage points before being pulverized and removed from the board. If someone wants to go on an anti-asteroid crusade, he should keep track of any damage inflicted on these poor, defenseless hunks of rock. Asteroids may be damaged by weapons (hits equal to the total amount of damage done at the range in question), by collision with one another (which will inflict 100 hits per collision), or by colliding with a ship (taking the same amount of damage that was inflicted on the ship).

The basic object of most INTERCEPTOR scenarios is to destroy the enemy. To do this, ships are maneuvered into the best possible attack position and their weapons are fired. The important factors involved in making a successful attack are firing arcs, line-of-sight, range, and crew quality.

4.1 GENERAL COMBAT PROCEDURE

Combat takes place during the Movement Phase. Each energy-using weapons system on a ship that was powered during the Decision Phase, and all missile-carrying hardpoints with ammunition remaining, may fire once per turn. Weapons may be fired at any time during a turn, except during the Initiative and Decision Phases -- during another player's move, during your own move, before or after a move, etc. The procedure is as follows:

Announce what weapon(s) will fire at what target, and at what point on the map. If a target is moving, the firing player must watch as it moves across the map, and declare his fire at the instant of his choice; he may not watch the target complete its movement and then move it back to an advantageous point. All weapons that are to fire at this point must be declared. All weapons allocated against a target are considered to fire even if not all of them are required to destroy the target.

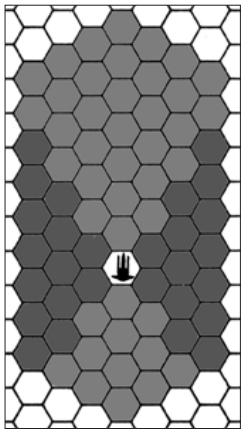
If the target wishes to return fire, the owning player states this now, and does so under the same restrictions as the original firer. If the target's owner says nothing, the target must undergo the attack and suffer the consequences. The target may either return fire at the unit attacking it, or at any other unit in its field of fire. In either case, the exchange of fire is considered to be simultaneous.

To resolve the fire of each weapon, make sure that the intended target is within the firing arc of that weapon and within its range. Once a to-hit number has been determined, roll to see if the shot struck the target; if it does, it will do damage in a manner based on its type and the target's level of shielding.

4.2 FIRING ARCS

A firing arc is the area of space around a ship into which a particular weapon can be aimed. For fixed weapons (those not mounted in a fully-rotating turret), there are four arcs: Forward, Aft, Left, and Right. Any object within the lines delimiting the firing arc are potential targets for the weapons mounted to cover that arc. Turreted weapons can fire into any and all of the four arcs. All fire is considered to be coming from the rear hex of the counter and aimed at the rear hex of the target counter. If ships should be firing at each other in the same hex, the arc of fire to use for each is determined by the pilot of the ship that moved into that hex last during the Movement Phase.

Weapons under the control of a ship's pilot are normally fixed to fire through its Forward arc. Any weapons fixed to fire through other arcs and/or mounted in turrets must either be operated by a gunner, or risk task overloading the pilot (see PILOTS AND CREW). Note that the actual field of fire of a fixed weapon is much less than its arc indicates; the extra area incorporates attack angles and ship positioning that the hexgrid cannot easily show.



4.3 LINE OF SIGHT AND TACTICAL INTELLIGENCE

INTERCEPTOR's map scale is 15 kilometers to the hex; under ordinary circumstances, as long as a unit is on the playing area it can be seen at all times and fired at if in range. However, there are times when battles are fought in and around "terrain" such as asteroids, wreckage, gas clouds and the like which can have a variety of effects on play - - especially on line of sight. Even under normal circumstances, electronic jamming, counter-jamming and other deception measures can make identification of targets and their status uncertain until one gets close enough to "count rivets".

Depending on how close any of his units are to enemy ships, a player may require his opponent to give him information about those units. The amount of intelligence that can be gathered by observing an enemy unit is as listed on the table below.

Ships carrying Sensor Pods may reduce the range bracket by 1 at all ranges (i.e., a target at range 16 or more would be considered to be at range 11-15 if observed by a ship with a Sensor Pod). Orbital installations are treated as ships of the appropriate size. Missiles are covered under MISSILE TYPES -- NOTES and DEFENSIVE SYSTEMS, below. Ground targets are covered under SPACE - GROUND COMBAT, below.

COVER: Ships may use wreckage or asteroids as cover (see ASTEROIDS). A ship may also use a friendly ship as cover by declaring this before movement begins. The covered unit must start a turn in the same hex as its covering ship and spend the entire turn with the same velocity, heading and facing as the covering ship, moving at the same time. The covered unit must specify which side of the covering ship it is hiding behind, and may only fire into or be fired at through the 180 degree arc opposite the covering ship. The covering ship must be at least three times the tonnage of the covered

TACTICAL INTELLIGENCE TABLE

Range from Observing Unit	DATA Owner must reveal:
16 +	Approximate tonnage (+/- 20%)
11 - 15	(Non)Streamlined + Approximate tonnage (+/- 10%)
4 - 10	(Non)Streamlined + Exact tonnage + Number, size and type of weapons
1 - 3	(Non)Streamlined + Exact Ship Class (if known) + Type of weapons + Damage to Armour
0	(Non)Streamlined + Exact Ship Class + Number, size and type of weapons + Armour and Internal Damage

Exact Ship Class need only be revealed if the opponent would recognize the ship class; else, tonnage only

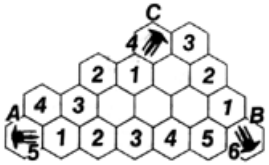
unit (i.e., a 245-ton FLUTTERING PETAL fighter could hide behind a 1000-ton PEGASUS corvette but not vice versa, nor could it hide behind another PETAL). If the line of sight from an observing unit passes through the covering ship, increase the range bracket by two. Also see DANGER SPACE, below.

DANGER SPACE: If two or more ships are in the same hex, and any or all of them are not in cover (see COVER, above), there is a chance that fire that misses its intended target will hit the other unit(s) close to it. If a shot misses its original target, make another to-hit number calculation for the next largest unit in the same hex that is not in cover (size priority calculated in the fashion as for movement order) and re-roll the attack. This process is continued until the shot hits one of the targets in the hex, or until it has missed all of them, in which case it has no further effect. Also note that HELL missiles destroyed in the same hex as their target, or any HELL missiles used for anti-missile fire in the same hex as a ship (friendly or not), will affect all non-covered units in that hex -- see DAMAGE.

4.4 RANGE

Range is determined by counting the number of hexes from the firing craft to its target, including the target's hex but excluding the attacker's. Begin at the hex next to the attacker along the line-of-sight and follow the shortest path to the target. The range has an effect on how difficult it is to hit the target, with distant targets being harder to hit.

For example, the range from Fighter A to Fighter B is six hexes, from Fighter B to Fighter C is four hexes, and from Fighter C to Fighter A is five hexes.



4.5 DIRECT FIRE PROCEDURE

Non-missile weapons fire can begin after a player has determined that a target is within range and that there is a clear line-of-sight. First, determine the Base To-Hit Number of the firing weapon (or for a group, if using TOT gear -- see CONSTRUCTION SYSTEM), which depends on range. Roll the die; the number rolled is then modified by crew skill differential, target attitude, and any other appropriate factors. If the final result is equal to or less than the Base To-Hit Number, the weapon has scored a hit. In any case, a roll of 1 will always hit, and a 10 will always miss.

BASE TO-HIT NUMBER TABLE

Range (in hexes)	0-1	2-3	4-6	7-10	11-15
Base To-Hit Number	8	7	6	5	4

This number is modified by the following factors:

SKILL DIFFERENTIAL: The firing pilot or gunner subtracts his Gunnery Skill Level, plus any Gunnery familiarity bonus, from the To-Hit die roll. The target's pilot then adds his Piloting skill, plus any Piloting familiarity bonus, to the To-Hit die roll.

TARGET ATTITUDE: The relative velocity and directions of motion between the attacker and his target also affects the To-Hit die roll. All target attitudes are judged on the basis of the target's HEADING. Apply the following modifiers:

ANGLE OF ATTACK MODIFIERS

Firing through Facing D:	+0
Firing through Facing A:	+1
Firing through Facings B or F:	+4
Firing through Facings C or E:	+2
Paralleling	+0

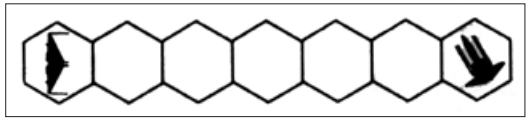
Paralleling is when Firer and target heading in same direction, and firing side-mounted weapons into target's side or turreted weapons into any facing. A target must have a velocity of at least 1 to qualify for these modifiers. A target that remains stationary does not receive any angle of attack modifier. Any question as to which facing is being hit is resolved in the target's favor.

DAMAGE TO ATTACKER: Internal damage to a ship may affect its ability to hit a target. See INTERNAL DAMAGE EFFECTS for details.

CONSECUTIVE TARGETS: The attacker adds 1 to the To-Hit die roll for each target he has fired at after the first this turn (i.e., if this is the third ship he is firing at this turn, he would take a +2 modifier).

SIZE: Subtract 1 from the To-Hit die roll for every 1000 tons after the first (rounding down) of a target ship's tonnage (e.g., no modifier if attacking a 1000-ton ship, but subtract 4 from the To-Hit roll if attacking a 5500 ton ship, and so on).

OTHER MODIFIERS: A ship in Random Movement can still fire weapons, but does so with a +3 To-Hit die roll modifier in lieu of any Gunnery or familiarity bonuses. A target in Random Movement DOES NOT receive modifiers for Piloting skill or familiarity. Any attacker suffering from task overload receives the modifiers specified in PILOTS AND CREW.



For example, Pilot Marcos has a green Renegade pilot in his sights. His Base To-Hit Number at range 6 is 7. His Gunnery skill is 4, and he has a Gunnery familiarity bonus of 1; the Renegade has a Piloting skill of 4 and no Piloting familiarity bonus. The angle of attack modifier is +4, and there are no other To-Hit modifications. The combined modifier to the To-Hit roll is +3, so Marcos must roll a 4 or less for each weapon that is being fired to hit the target, since his PILUM is not fitted with TOT gear.

4.6 DIRECT FIRE WEAPON SYSTEMS NOTES

IMPORTANT: Note that the only direct-fire weapons that may be used while in atmosphere are lasers (NOT cone lasers), mass driver cannon, and MDC-Gs.

Lasers: No changes to standard To-Hit procedure. They do damage in a line one column wide, and rows deep accorded by the damage done.

CLs, MDCs, EPCs NPCs and TPPs: No changes to standard To-Hit procedure. They do damage as accorded by their template.

Laser/EPC: The firer must make two To-Hit rolls for this weapon. If the first roll succeeds, the laser component of the weapon hits and does damage normally. If not, do not make a second roll.

The second roll determines whether the EPC component successfully followed the laser bolt. If the roll succeeds, the EPC will hit the same column of the target's armour block that the laser did. If not, the EPC misses and does no damage.

If TOT is being used, the firer must still make two rolls as though a single LEPC was being fired, with the same effects for successful or unsuccessful rolls.

Pod-Mounted Lasers and MDCs: No changes to standard To-Hit procedure. Treat as standard laser of the appropriate size, with the exception that pod has a limited range and number of shots -- see PODS.

MDC-G: No changes to standard To-Hit procedure when being used in offensive mode -- treat as MDC 8; when in defensive mode, see SHIELDS AND ANTI-MISSILE SYSTEMS.

4.7 GENERAL MISSILE FIRE PROCEDURE

Unlike direct fire, a missile attack requires no To-Hit die roll -- an attack automatically hits if a missile reaches its target's hex without first being stopped by anti-missile fire or other obstacles. The difficult part is achieving a lock-on to fire the missile at all -- but, once this is done, the weapon will take care of itself.

A missile can be launched at any point during the Movement Phase if the firer is not in Random Movement, preconditions for locking-on that missile type have been achieved, if the target is within the missile's range bracket (or to a maximum of 15 hexes, if in atmosphere), and if the firer rolls equal to or lower than the missile's Intelligence Rating. If the target is using ECM, the base Intelligence number is reduced by 3 for all missiles except DFMs and RISs. The firer also reduces the base Intelligence number by 1 for each target he has fired at after the first this turn, either with missiles or direct fire weapons (i.e., if this is the third ship he is firing at this turn, he would reduce the missile's Intelligence by 2 to

reflect the lowered time the weapon has to lock-on). Should the lock-on roll fail, the missile cannot be launched this turn at any target.

When a ship launches a missile (other than DFMs -- see below), a missile counter is placed on the launching ship's hex. The firer then moves it across the board hex by hex along the shortest path to its target as his opponent watches, giving him the chance to take action (see DEFENSIVE SYSTEMS, below).

If the missile enters an obstructed hex (containing an asteroid, wreckage or the like), the missile uses its intelligence as its Piloting skill level for any required Piloting rolls, and is assumed to have a velocity of 10 for this purpose only. If the missile fails its roll, it hits the obstruction and inflicts its damage to the obstacle as necessary.

If a missile hits its target, and if it penetrates the target's shields, damage is resolved normally using the appropriate Damage Template.

4.8 MISSILE TYPES AND NOTES

Missile types available, and their statistics, are as follows:

DOGFIGHT ARMOUR PIERCING MISSILE (DAP)

DESCRIPTION: DAPs are "all-angle" missiles equipped with very heavy armour piercing warheads for use in close-range dogfights.

LOCK-ON PRECONDITIONS: The DAP's target must be within the attacking ship's forward 60-degree arc; this restriction is lifted if a turret-mounted hardpoint is launching a DAP). The attacking ship must have a clear line-of-sight to the target and must be within three hexes to attempt a lock-on roll.

INTELLIGENCE RATING: 7
DAMAGE: 30 points (See Template)
RANGE BRACKET: Minimum = 0; Maximum = 3

DEAD-FIRE MISSILE CLUSTER (DFM)

DESCRIPTION: A DFM cluster is designed to inundate its target with a large number of small, high- velocity unguided missiles.

LOCK-ON PRECONDITIONS: None -- treat DFM attacks in the same fashion as a direct fire attack, rather than a missile attack. There is an additional +4 To-Hit Modifier that reflects the large quantity and spread of projectiles heading for the target. As with a direct fire attack, DFMs cannot be intercepted, nor are they affected by ECM or Decoys.

INTELLIGENCE RATING: NA
DAMAGE: 12 points (See Template)
RANGE BRACKET: Minimum = 0; Maximum = 6

RADIATION INTENSITY SEEKING MISSILE (RIS):

DESCRIPTION: The RIS missile tracks a target's engine exhaust radiation. It is therefore useless against OIs.

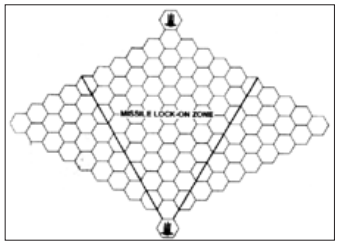
LOCK-ON PRECONDITIONS: The RIS' target must be within the attacking ship's forward 60-degree arc (or that of a turret launching an RIS) and the attacker must be within the target's 120-degree rear arc, as shown in the illustration. The attacking ship must have a clear line-of-sight to the target and must be within ten hexes to attempt a lock-on roll.

INTELLIGENCE RATING: 5 -- unaffected by ECM, but is affected by Decoys
DAMAGE: 30 points (See Template)
RANGE BRACKET: Minimum = 3; Maximum = 10

SCANNER SILHOUETTE SEEKING MISSILE (SSS)

DESCRIPTION: The SSS missile locks on to the configuration or silhouette of its target.

LOCK-ON PRECONDITIONS: Functional scanners are required to fire this missile. The attacking ship must have a clear line-of-sight to a target within its 60-degree forward arc and be within 30 hexes to attempt a lock-on roll. Unlike DAPs, turret-mounted SSS missiles must also abide by these lock-on preconditions.



INTELLIGENCE RATING: 8
DAMAGE: 20 points (See Template)
RANGE BRACKET: Minimum = 3; Maximum = 30

TRANSPONDER GUIDED MISSILES (TGM MARKS I AND II)

DESCRIPTION: TGMs track a ship's friend-or-foe transponder signal. They are "fire-and-forget" weapons, whose method of operation makes them useful as a screen for a retreat or as nuisances during an attack.

LOCK-ON PRECONDITIONS: Unlike other missiles, TGMs are not used up in one turn -- they lie dormant until they acquire a target. When launched, a TGM counter is placed in its launching ship's hex, taking on the ship's velocity (plus or minus up to 3 points at the firer's option) and heading. The TGM will continue to drift at that velocity and heading until it locks onto a target. When movement starts in the turn after launch, the TGM makes a lock-on roll against each target not broadcasting a friendly transponder signal up to 30 hexes away, including friendly ships with damaged transponders. Once a lock-on roll succeeds, the missile will move to attack in the usual way. If no lock-on is achieved, the TGM continues drifting and must try to make a lock-on roll in each succeeding turn.

INTELLIGENCE RATING: 7 -- TGM Mark Is will lock-on to ANY target not broadcasting a friendly transponder signal. TGM Mark IIs are sometimes able to distinguish between enemy and friendly ships that are not sending out a transponder signal; see below.

TRANSPONDER CONDITION	LOCK-ON ROLL
Enemy Transponder Working	7 or less
Enemy Transponder Not Working	4 or less
Friendly Transponder Working	No chance
Friendly Transponder Not Working	3 or less

DAMAGE: 15 points (See Template)
RANGE BRACKET: Minimum = 0; Maximum = 30

THERMO-FUSION - GRAVITIC EFFECT MISSILE (HELL)

DESCRIPTION: Using a system identical to the SSS, the HELL missile locks on to the configuration or silhouette of its target. Its great size, devastatingly powerful warhead and high cost tend to restrict its use to attacks on high-value targets such as large OIs or PCS.

LOCK-ON PRECONDITIONS: Functional scanners are required to fire this missile. The attacking ship must have a clear line-of-sight to a target within its 60-degree forward arc and be within 30 hexes to attempt a lock-on roll. Unlike DAPs, turret-mounted HELL missiles must also abide by these lock-on preconditions.

INTELLIGENCE RATING: 8

DAMAGE: Variable -- the HELL missile is salvage-fused to insure detonation in all cases, and will also do damage to nearby targets when it explodes.

A HELL missile that strikes its target and penetrates its shields will inflict 300 points of damage to the target facing that was struck and 150 points to each of the facings adjacent to the one struck. For example, if a target's Aft facing was struck, it takes 300 hits, and the Left Aft and Right Aft facings would take 150 hits each.

If the target's shields stopped the missile (see DEFENSIVE SYSTEMS, below), the damage to the three facings affected is equal to the basic damage times the percentage chance of successful penetration of the given shields. For example, a target has shields with a flicker rate of 70 on its Forward and Aft facings and a rate of 60 on all other facings. If its Aft facing was struck by a HELL missile which its shields stopped, it would still suffer damage from the close-up blast. The Aft facing would take 150 hits and the Left Aft and Right Aft facings would each take 75 hits, since the chance of penetrating a 60- or 70-rate shield is 50%, thus halving the HELL's basic damage.

Ships in the same hex as a HELL detonation (including the original target, if it had shot the HELL down or decoyed it away at that point) will suffer damage to the three facings nearest to the blast, and reduce damage based on their shield rates in the same fashion as described above. The procedure is the same as for HELLs stopped by target shields, except that the damage inflicted on the nearest facing (before reduction by shields) is 200 hits and that to the adjacent facings is 100.

Ships 1 hex away from a HELL detonation take damage in the same way as those in the same hex, but the damage is reduced to 100 on the nearest facing and 50 to the adjacent facings; ships 2 hexes away from a HELL detonation take 50 on the nearest facing and 25 to the adjacent facings. Ships 3 or more hexes away from a HELL detonation suffer no damage at all.

All missiles, decoys and ejected crews drifting in space that are within the blast radius of a HELL detonation are destroyed. Note that destroying another HELL missile in this way will cause it to explode as well, with the same effects as the original. It is thus possible to have a very spectacular chain reaction if several HELLs are in the area at the same time, which most commanders keep in mind when employing them. Caveat Emptor!

RANGE BRACKET: Minimum = 4; Maximum = 30

HARDPOINTS

These are attachment points for pods and missiles, which can be located either interior or exterior to a ship's armoured shell. An autoloader, although it performs most of the same function as a hardpoint, is what its name implies -- a magazine-fed, automatically reloading missile launcher -- rather than a rack from which ordinance is slung and dropped.

Hardpoints can carry either missiles or pods; they may not carry both at once. Missiles are described above, Pods are self-contained systems that can be mounted in place of missiles on a ship's hardpoints, giving extra flexibility when preparing for a mission. Specific cost and price data for all of the above can be found in the CONSTRUCTION SYSTEM. Note that non-weapon pods (ELS, ECM, Sensor, Painting, and Safeguard-1) cannot be carried on turreted hardpoints, nor may any type of pod be carried in the ammunition bays of autoloaders.

A hardpoint may carry any combination of pods or missiles within its tonnage limit, and as restricted in the Notes for that particular type. It is not permitted to split the weight of a missile or pod between several hardpoints (i.e., a HELL missile weighing 10 tons could not be carried by a fighter with 4 External Hardpoints, even though their total load capacity would be 12 tons).

Data for the various hardpoints are located under DESIGN. The combat effects of the different hardpoint types are discussed in DAMAGE.

4.9 DEFENSIVE SYSTEMS

Incoming missiles must first run the gauntlet of a target's defensive systems before attempting to penetrate its shields; whereas a successful direct fire shot strikes the target's shields immediately. Details on each defensive system follow:

ANTI-MISSILE FIRE: Ships can use direct fire weapons to intercept any type of missile but DFMs. These shots are resolved as usual, but with an additional To-Hit die roll modifier of +4; any hit destroys the missile (and detonates it, in the case of a HELL missile). For skill differential purposes, a missile's Intelligence Rating is treated as its Piloting skill.

DFM, DAP and HELL missiles may be used against other missiles, using their normal lock-on and firing procedures. Any hit destroys the targeted missile (and detonates it, in the case of a HELL missile).

For the purposes of Tactical Intelligence and allocation of defensive fire, HELL missiles can be identified after launch at any range bracket due to their radioactive warheads; no other missile types can be identified except by their behavior.

Note that defensive missiles or direct fire can be used on any enemy missiles passing within range, not just those targeted on the ship in question. This allows ships to guard each other or to mass their defensive fire (for example, a fighter might take refuge under the guns of an orbital installation, or several ships might be used exclusively to stop incoming HELL attacks on a larger ship that they are convoying).

DECOY MISSILES: As the name implies, a Decoy is intended to attract enemy missiles away from its launcher through electronic spoofing and engine exhaust simulators. Decoys may be used at the same time as ECM, and the two do not affect each others' function. A Decoy may only be launched when an enemy missile has locked onto the target ship, and must be launched before the missile enters the target's hex.

The Decoy may be placed anywhere within three hexes of the target ship. When the Decoy appears, all missiles locked on to the target ship at that moment must make another lock-on roll to avoid attacking the Decoy instead. For this purpose, the attacking missiles' Intelligence is decreased by 2 if the Decoy is 1 hex away from the target, decreased by 1 if the Decoy is 2 hexes away, and is not decreased if the Decoy is 3 hexes away. This represents the increased chance that the attacking missiles can sort out the two images if distance gives them a few extra seconds to do so. The advantage to placing the Decoy farther away comes if HELL missiles need to be diverted -- the defender must balance the chance of a failed diversion against the extra damage that a closer explosion might cause. All attacking missiles that succeed in their lock-on roll continue into the target ship's hex; all that did not enter the Decoy's hex and explode there, with the appropriate effect. Note that DFMs are unaffected by Decoys, as they are unguided missiles.

Regardless of its effectiveness or lack thereof, the Decoy is removed from the board as soon as all attacking missiles have made their lock-on roll. No more than one Decoy can be used by a ship at a time,

although it is possible to launch one immediately after another as long as the supply lasts. Decoys cannot be targeted for anti-missile fire, as they do not operate long enough to allow this.

POINT DEFENSE SYSTEMS: Once a missile has entered the hex containing its target, the target can attempt to stop it using one of the following systems if it is so equipped.

MDC-G (TOG ONLY): The Mass Driver Cannon - Gatling is a small-caliber multi barreled version of a standard MDC on a semi-flexible mounting, which allows it to function in either the point defense or direct-fire roles. The MDC-G has a 60-degree field of fire if fixed forward or aft, or a 120-degree field of fire if fixed on either side. Due to fire control constraints, only 1 MDC-G may be fitted to fire into any of these arcs by any ship regardless of size, and may not be mounted in a turret (see ORBITAL INSTALLATIONS for exceptions to these restrictions). An MDC-G must be operated by a crewman; if used in its point defense mode, any number of shots counts as the use of one weapon for that crewman. The MDC-G cannot be used at the same time as a Decoy, although it may be used at the same time as ECM. If used against missiles, refer to the chart below:

MDC-G ANTI-MISSILE TO-HIT CHART

MISSILE ENGAGED IS ... THIS TURN				
1st	2nd	3rd	4th	5th
8	4	2	1	-

MDC-Gs cannot be used against DFM attacks. All missiles shot down by MDC-Gs are assumed to be stopped prior to hitting the ship's shields. Intercepted HELL missiles are assumed to detonate in the ship's hex.

If the MDC-G is used in its direct fire mode, it cannot be used for missile defense at all during that turn, and vice versa. It has the following values when firing directly, and uses the MDC 8 damage template.

SAFEGUARD (CW/RL ONLY): Safeguard is an adaptation of the point-defense lasers used on ground vehicles and installations. Unlike the MDC-G, the Safeguard system has a 360-degree field of fire, and is fully automatic -- i.e., using it does not count as firing a weapon. It cannot be used at the same time as a Decoy, although it may be used at the same time as ECM. Due to fire control constraints, only 1 Safeguard system may be carried by any ship or OI regardless of size, and may not be mounted in a turret. The different versions of Safeguard increase both the number of incoming missiles that can be engaged as well as the chance that each will be intercepted, as shown below:

SAFEGUARD ANTI-MISSILE TO-HIT CHART

	MISSILE ENGAGED IS ... THIS TURN					
Ver	1st	2nd	3rd	4th	5th	6th+
1	5	2	-	-	-	-
2	8	4	2	1	-	-
3	9	5	3	2	1	-
4	9	6	4	3	2	1

Safeguard cannot be used against DFM attacks. All missiles shot down by Safeguard are assumed to be stopped prior to hitting the ship's shields. Intercepted HELL missiles are assumed to detonate in the ship's hex. Note that Safeguard-4 systems can attempt to stop any number of non-DFM missile attacks in a turn, although its effectiveness will drop severely after the first five; this is the only version of Safeguard able to do this.

SHIELDS: Once a direct fire attack or missile has struck a target ship, the shield of the facing that was hit must be penetrated to do damage. The chances of success are as follows:

SHIELD PENETRATION CHART

FLICKER RATE	PENETRATION
10	1 - 8 (80%)
20 - 30	1 - 7 (70%)
40 - 50	1 - 6 (60%)
60 - 70	1 - 5 (50%)
80 - 100	1 - 4 (40%)
110 - 120	1 - 3 (30%)
130 - 160	1 - 2 (20%)
170 - 200	1 (10%)

If the shield is penetrated, go to DAMAGE to resolve the effect (but see FIREWALL, below); if not, there is no effect (with the exception of HELL missiles, as described above).

FIREWALL (KESSRITH ONLY): This is an evolution of so-called "reactive armour", consisting of explosive blocks linked to proximity fuses covering the outer surface of a ship's armoured shell. If a missile of any type other than DFM or HELL penetrates the shield of a Firewall-equipped ship, roll to find the center of the hit as described in DAMAGE, below. If that location has a Firewall armour box, the missile is destroyed along with the Firewall box, but no further damage is done. DFMs and HELLs will destroy Firewall boxes like any other armour, as will all direct fire weapons hits.

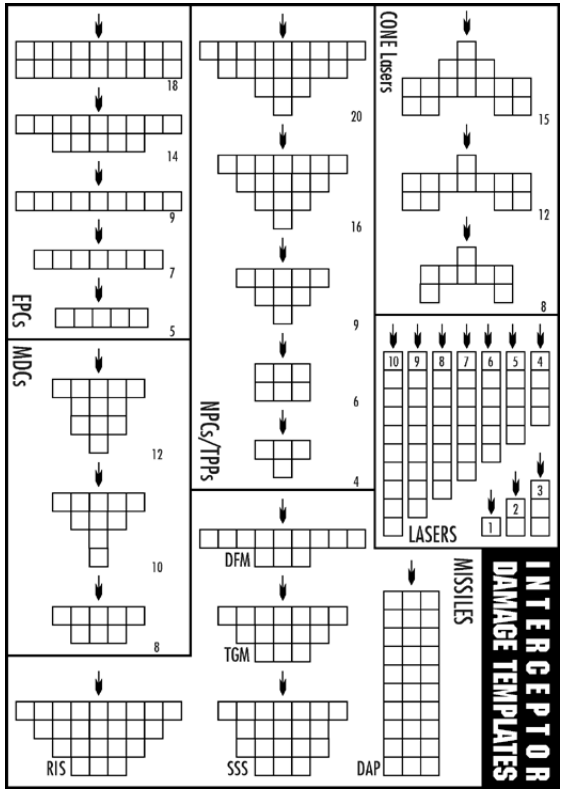
4.10 DAMAGE

Once a shot has hit its target, the exact damage inflicted must be determined. Each weapon is rated according to the amount of damage it does at any specified range. This varies considerably, depending on the type of weapon. Each point of damage that the weapon does will destroy 1 armour box or one internal component box of the target ship. In addition, each type of weapon spreads its damage out in different ways.

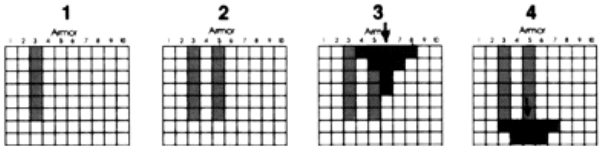
DAMAGE TEMPLATE

The Damage Template is made up of die-cut diagrams showing the shape of damage for each weapon in the game, except for lasers (also see DIRECT FIRE WEAPON SYSTEMS -- NOTES, above). Each shape is labeled for weapon type and damage amount and has a small arrow centered along the top of the shape. Lasers need no template, as their damage simply descends straight down a column of armour for a number of boxes equal to the strength of the laser.

Each side of a ship has armour, as shown on the Armour Diagram of the Ship Record Sheet. It is configured in ten- column-wide boxes. The number of rows depends on the amount of armour carried. To determine where damage is done on the armour, the attacker rolls one die. This determines the center of the hit. The defender then takes the damage template and aligns the arrow of the appropriate weapon and damage shape on the rolled column. The arrow is then lowered on the armour diagram until it is above the highest remaining armour box of the indicated column. The area covered by the template is the area destroyed by the hit. If the area shown by the template extends below the last row of armour boxes, apply that damage to the Internal Component Block. If part of the damage template extends beyond either side of the armour block or Internal Component Block, then the hits in that area have no effect.

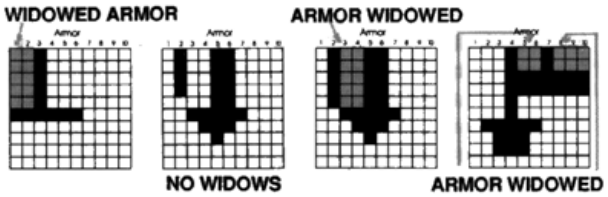


For example, two 6-point laser shots and an MDC 10 hit the Forward armour block of a SPACE GULL fighter. The SPACE GULL has a total of 80 armour points on that side. The first laser hits in Column 3 and is marked off as shown in diagram 1. The second laser hits in Column 5. If it had hit in column 3, the armour would have stopped 2 points and so 4 would have gone into the internal structure. The MDC 10 hits in column 6, and the damage is marked off as shown in diagram 3. The 2 points of armour missing from Column 5 were done by the second laser hit and are lost. If the MDC 10 had hit in Column 5, the arrow for the MDC 10 hit would be centered over Column 5 and lowered until it reached an intact armour box. This would have been in row 7, as the laser shot removed the armour from the first six rows in column 5. This damage would have appeared as shown in Diagram 4. Two points penetrate to the internal components and the hit widows the armour in Column 4.



WIDOWED ARMOUR

When all damage against a ship at a given point in its movement has been resolved, the defender must check for widowed armour. Widowed armour is created when upper layers of armour are undercut by penetrating hits, as shown in Diagram 4 above. Any such armour is also marked off, even though it has not been hit. Widowed armour is created when any block of armour remaining on the Armour Diagram cannot trace a continuous path of armour blocks to the bottom row. The armour blocks of this path must connect at the side and/or the top or bottom. Blocks that touch only at the corner are not connected for this purpose. The following diagrams show some examples.



DAMAGING INTERNAL COMPONENTS

Once damage has destroyed the last row of armour, any further damage in that column penetrates into the internal structure of the ship. The internal structure is represented by the Internal Component Block on the Ship Record Sheet. Each ship has a different number of internal component boxes. Thus, it is usually much more difficult to cripple a large ship than a small one. When shots penetrate to the Internal Component Block, the weapons destroy internal component boxes just as they would armour boxes, and use the same damage templates to do so.

Each internal component is made up of one or more boxes. Components with a single box are disabled by a single hit; those with more than one box are disabled when more than half of the boxes in that component (rounding up) are marked off. “Free” boxes represent areas or systems whose loss will have no effect on a ship’s battle worthiness.

TURRETS

Each of a ship’s turrets has a separate Internal Component Block of its own, and a single armour block. When a ship with one or more turrets is hit, the attacker must roll the die to see if he hit a turret or the ship’s main hull. The chance of hitting a turret is equal to (Number of turrets / 2, rounding up, with a minimum of 1 as long as at least 1 turret still exists). If the ship has multiple turrets, roll randomly to see which of the turrets is hit. All damage inflicted on a turret’s armour and Internal Component blocks is resolved in the usual fashion. Once a turret is destroyed, any residual damage passes into the ship’s hull and is resolved as usual. Hits on a previously-destroyed turret are re- rolled until they strike an existing turret, or are applied directly to the ship’s hull if none remain.

“EXTERNALLY MOUNTED” INTERNAL COMPONENTS

External Hardpoints, External Heavy Hardpoints, and External Rescue Compartments are located within a ship’s hull skin but outside of its armoured shell to save tonnage; such systems do not need shutters, hydraulics and the like to move them into and out of firing position when not under armour. These systems are placed on top of the armour block of whichever of the ship’s facings that they are mounted on. If the center of a damage template is placed on an armour column covered with an external system, move the template back to treat the external system as the first box of damage. Note that, with some weapons, this will result in wasted hits. External systems covering widowed armour blocks are lost when the widowed armour is removed. Unarmoured ships cannot carry external systems.

4.11 INTERNAL DAMAGE EFFECTS

COMMAND AND CONTROL SYSTEMS

BRIDGE (if fitted): If the Bridge is disabled, the ship will drift at its last heading, facing and velocity; it may not fire weapons or recover small craft, although automated systems such as Safeguard will continue to function; if attempting T-Space transition, the run is canceled. The ship maintains its last power allocation to shields (assuming other damage does not preclude this), but may drop shields in order to abandon ship. If the ship has backup command facilities (such as a second Bridge or a separate pilot cockpit that is manned at the time), full control can be regained after 1 turn out of control (i.e., if the Bridge is disabled during Turn 1, the ship is out of control during all of Turn 2, and only recovers at the start of Turn 3).

At the end of each turn in which the Bridge is hit, divide the number of Bridge hits suffered so far by the original total of Bridge boxes (rounding up to the next 10%) to determine each Bridge crewman’s

chance of being wounded. If a crewman is wounded, roll again on the Consciousness Table (see below), with each 25% of Bridge damage (rounding up) counting as a hit to determine what column to use. If the crewman fails the roll, he cannot perform his assigned functions (i.e., if the pilot passes out, the ship drifts and cannot fire the weapons under his control unless he wakes up), and cannot abandon ship on his own initiative -- see ABANDONING SHIP. During the Decision Phase of the next turn, all unconscious crewmen must roll again on the Consciousness Table, with a successful roll indicating that the crewman has reawakened and can resume his functions. REPAIR TIME (BRIDGE ONLY): 24 hours per box. The amount of time it will take for wounded crewmen to return to action (if ever) depends on the situation -- see CAMPAIGNS for guidelines.

An example of Bridge damage: A TOG CINGULUM Class corvette has 50 Bridge boxes, and all 7 of its crewmen are used to man it -- there are no separate cockpits or backup facilities. At the end of a turn in which the Bridge is hit, there are 15 total hits against the Bridge. 15 / 50 = 30%. Each crewman must roll greater than a 3 to avoid being wounded; those that are wounded must roll on the "2 Hits" column of the Consciousness Table, as the Bridge has lost more than 25% but less than 50% of its total boxes, which rounds up to 50%.

COCKPIT: (for any crewman if Bridge not fitted, or if installed in addition to a Bridge) These hits represent wounds inflicted on the crewman himself as well as damage to his cockpit systems. All cockpits, regardless of type or occupant, can take 4 hits, and are disabled after 3 hits are taken. A disabled Cockpit prevents the crewman from performing any of his assigned functions (piloting, weapons fire, etc., as determined in the design process -- see CONSTRUCTION SYSTEM for details). In addition, each time a cockpit hit is suffered, the crewman must roll a number equal to or less than the number found on the Consciousness Table to remain conscious.

CONCIOUSNESS TABLE

	TOTAL HITS AT THIS POINT			
Crewman's Race	1 Hit	2 Hits	3 Hits	4 Hits
Vauvausar	6	4	2	KIA
Baufrin	7	5	3	KIA
Human/Naram/Ssora	8	6	4	KIA
KessRith	9	7	5	KIA

If the crewman fails the roll, he cannot perform his assigned functions (i.e., if the pilot passes out, the ship drifts and cannot fire the weapons under his control unless he wakes up), and cannot abandon ship on his own initiative -- see ABANDONING SHIP. During the Decision Phase of the next turn, all unconscious crewmen must roll again on the Consciousness Table, with a successful roll indicating that the crewman has reawakened and can resume his functions. REPAIR TIME (COCKPIT ONLY): 24 hours per box; can be completely replaced in 12 hours if Cockpit is a Multiracial type and spare modules are available. The amount of time it will take for wounded crewmen to return to action (if ever) depends on the situation -- see CAMPAIGNS for guidelines.

DIRECTIONAL CONTROL SYSTEMS: Disabling all DCS on one side of a ship makes it impossible to change facing or heading in the appropriate direction unless the ship can be rolled to bring working DCS thrusters into play, as well as making atmospheric operations more hazardous. If multiple DCS were fitted, the ship's maneuverability in the appropriate direction(s) will be reduced proportionate to the number lost. See MOVEMENT for details. REPAIR TIME: 2 hours per box.

ATMOSPHERIC CONTROL SYSTEMS: Disabling the ACS on one side of a ship makes it impossible to change a streamlined ship's heading in the appropriate direction, as well as making atmospheric re-entry or interface bouncing more hazardous (see MOVEMENT). REPAIR TIME: 1 hour per box.

AVIONIC SYSTEMS

TRANSPONDER: This system broadcasts the ship's IFFN (Identification -- Friend, Foe or Neutral) signal. If it is disabled, friendly TGMs may lock on to the ship in error. REPAIR TIME: 15 minutes per box.

COMMUNICATIONS: If disabled, the ship cannot talk to other ships. In team play, this ship cannot communicate with teammates or the enemy. If a player is flying more than one ship, those with disabled Communications cannot give Tactical Intelligence data to or receive it from friendly ships. REPAIR TIME: 1 hour per box.

LONG-RANGE SENSORS: If this system is disabled, it will be extremely difficult for the ship to find its way back to a moving carrier. This can be

important in campaigns. REPAIR TIME: 1 hour per box.

SCANNER: If disabled, the ship is no longer able to fire SSS or HELL missiles. In addition, it cannot receive any Tactical Intelligence other than the presence, size in hexes and streamlining (or lack thereof) of a ship, or the presence (not type) of any missiles. REPAIR TIME: 1 hour per box.

NAVIGATION COMPUTER: If disabled, plotting a course for long-distance travel (such as to or from a carrier, base or objective) becomes very difficult. This will be important in campaigns. REPAIR TIME: 1 hour per box.

FASTER-THAN-LIGHT NAVIGATION COMPUTER: This system is only carried on FTL-capable ships, and is treated as a free hit on all other ships. If it is disabled, T-Space transition is not possible. REPAIR TIME: 1 hour per box.

MAIN FIRE CONTROL COMPUTER: If disabled, no further weapons fire is possible. REPAIR TIME: 1 hour per box.

SHIELD SYNCHRONIZER: If disabled, all outgoing fire must roll to penetrate the ship's own shields. Use the same procedure as shown in DEFENSIVE SYSTEMS, with the exception that all direct fire, missiles (including HELLs) and Decoys that fail the penetration roll are lost with no effect on the firer or the target. REPAIR TIME: 1 hour per box.

HELM CONTROL COMPUTER: If disabled, the ship cannot change its heading or facing, cannot perform a roll maneuver, and will automatically fail any required Piloting skill checks -- in cases requiring a roll to see how severe the failure was, roll the die with no modifiers. REPAIR TIME: 1 hour per box.

THRUST CONTROL COMPUTER: If disabled, the ship cannot change its velocity. REPAIR TIME: 1 hour per box.

WEAPONRY AND DEFENSIVE SYSTEMS

HARDPOINT (INTERNAL OR EXTERNAL): If disabled while a missile or pod is attached, the carried system is destroyed with no further ill effect. REPAIR TIME: 1 hour per box.

AUTOLOADER: Comes in two sections: the Autoloader itself (20 tons) and its ammunition (30 tons). If disabled, the Autoloader cannot fire. Its ammunition may explode if hit (see CARGO BAY). REPAIR TIME: 2 hours per box.

TIME-ON-TARGET SYNCHRONIZER SYSTEM (TOT): If disabled, all weapons attached to the TOT gear must be fired individually, with the appropriate effects on task overloading and combat. REPAIR TIME: 2 hours per box.

ALL OTHER WEAPONS AND DEFENSIVE SYSTEMS: If disabled, the system cannot be used in any mode that it is normally capable of. There are no other effects. REPAIR TIME: 2 hours per box.

SHIELD GENERATORS: If a shield generator is disabled, the 60 degree facing of the ship that it normally protects cannot put up a shield until the generator is repaired. REPAIR TIME: 4 hours per box.

INTERNAL ECM GEAR: If disabled, the ship loses its ability to affect missile lock-on rolls by ECM unless a backup ECM Pod or Internal ECM is carried. REPAIR TIME: 4 hours per box.

TURRET STRUCTURE: All turreted weapons require a certain amount of tonnage for the turret's structure, rotation gear, and so on. If this system is disabled, roll the die. On a 1, the turret is jammed facing towards the ship's front, with a 2 meaning that the turret is facing to the right front, and so on in a clockwise direction; the turreted weapons are now considered to be fixed weapons firing in the appropriate direction with a 60-degree field of fire like that of an orbital installation (see below). On a 7-10, the weapons are unable to fire at all and must be abandoned, although the turret can still absorb damage.

VLCA-RELATED SYSTEMS

VLCA PANELS: These are the transmission/reception arrays needed for a VLCA system. If disabled, the VLCA system cannot be used. REPAIR TIME: 1 hour per box.

EXTENSION/RETRACTION GEAR: If disabled, VLCA Panels cannot be extended or retracted and the ship's clamshell doors cannot be opened or

closed. While the panels are extended, the armour of the ship's forward half is disregarded, no shields may be used and the ship may not move. When the panels are retracted, the ship may move, use its shields, and the armour once again covers the ship's forward half. REPAIR TIME: 2 hours per box.

ENGINEERING SYSTEMS

POWERPLANT: If this system is disabled, the ship cannot generate Energy Points to operate any of its systems. If all powerplant boxes are lost, the ship explodes and is destroyed. REPAIR TIME: 1 hour per box.

ENGINE: If an engine is disabled, the ship's ability to generate Thrust Points is reduced regardless of the state of its Powerplant. In the case of multi-engined ships, the possible maximum number of Thrust Points is always rounded up; a single-engined ship cannot generate thrust at all. REPAIR TIME: 2 hours per box.

FTL DRIVE: FTL drive moves a ship through T-space. Obviously, it is not required if the ship is not intended for interstellar travel. If this system is disabled, the ship may not go into T-Space. REPAIR TIME: 4 hours per box.

ANTI-GRAV LIFTERS: If the lifters are disabled while moving in atmosphere, the ship will lose altitude and possibly crash -- see MOVEMENT. REPAIR TIME: 2 hours per box.

FUEL TANKS: In battle, hits against a ship's fuel tanks are treated as "free hits" -- there is assumed to be enough fuel in lines and voids to last out the action. In a campaign, the ship's endurance is reduced proportionately to the amount of fuel tank boxes lost. REPAIR TIME: 1 hour per box.

ACCELERATION COMPENSATOR: Required to maintain livable artificial gravity during high-G maneuvers. If the compensator is disabled, the ship cannot accelerate or decelerate at a rate greater than its crew can stand (see CONSTRUCTION SYSTEM). REPAIR TIME: 1 hour per box.

OTHER SYSTEMS

QUARTERS: At the end of each turn in which an occupied Quarters area is hit, divide the number of hits suffered so far by the original total of boxes in that Quarters area (rounding up to the next 10%) to determine each occupant's chance of being wounded. If an occupant is wounded, roll again on the Consciousness Table (see above), with each 25% of Quarters damage (rounding up) counting as a hit to determine what column to use. If the occupant fails the roll, he cannot abandon ship on his own initiative (since passengers have no other combat-related function) -- see ABANDONING SHIP. During the Decision Phase of the next turn, all unconscious passengers must roll again on the Consciousness Table, with a successful roll indicating that the passenger has reawakened. REPAIR TIME (QUARTERS ONLY): 2 hours per box. The amount of time it will take for wounded passengers to return to action (if ever) depends on the situation -- see CAMPAIGNS for guidelines.

CARGO BAY: Empty cargo bay boxes are ignored -- hits striking them will continue onward until a "solid" box is struck, at which point they will do their damage and continue inward as usual. Loaded cargo bay boxes are destroyed as usual if hit. In battle, hits against any loaded cargo boxes but Missile Reloads are treated as "free hits" unless something valuable is carried (i.e., if troops are being carried by the ship and their survival is important to the scenario's victory conditions, etc.). If a box containing Missile Reloads is hit, it will cause secondary explosions. All boxes adjacent to the Missile Reload box will be destroyed; this can cause a chain reaction if more Missile Reloads are near to the explosion. Continue the process until all possible secondary explosions have been resolved. In a campaign, the loss of a ship's cargo can have many effects. REPAIR TIME: N/A.

LIFE SUPPORT: On a ship with short-duration life support, disabling this system leaves the crew with 30 turns of air in their spacesuits. If the ship does not land someplace where there is a breathable atmosphere, or if the crew is not picked up by another ship within this time, they will die. Note that an ELS pod cannot take the place of the ship's main life support system -- it only extends the endurance of a working system. Disabling the life support system has no combat effect on a ship with long-duration life support; in a campaign, however, the ship must either begin repairs at a repair facility or be abandoned within 24 hours, as the crew cannot stay in spacesuits indefinitely. REPAIR TIME: 2 hours per box.

REPAIR FACILITIES: In battle, these are treated as "free hits"; in a campaign, disabled repair facilities can't be used to maintain other ships (obviously!), which makes the ships and/or orbital installations that have them priority targets for both sides. REPAIR TIME: 1 hour per box.

HANGAR BAY: If a ship is in a larger ship's hangar bay at the time that the bay takes damage, apply the hits directly to the smaller ship's front armour block and work inward as usual. If the small ship explodes due to losing its powerplant while still in the bay, the large ship suffers damage as though a HELL missile had exploded against the next row of boxes inward from the bay. Hits against an unoccupied hangar bay will continue onward until a "solid" box is struck, at which point they do their damage and continue inward as usual. These hits have no direct combat effect. REPAIR TIME: N/A.

TOWING ATTACHMENTS: If disabled, the ship cannot lock onto a disabled ship to move it using the towing ship's STL engines, or allow the use of FTL Drive Jumpers; if already locked on, the lock is lost when this system is disabled. The ship under tow continues to drift at the heading, facing and velocity of the towing ship at the moment the Towing Attachments were disabled. REPAIR TIME: 2 hours per box.

FTL DRIVE JUMPERS: If disabled, the towing ship cannot use its FTL Drive to move a ship whose own FTL Drive is disabled. If the towing ship was making a T-Space transition run at the time, it is immediately aborted and must be restarted. This will also happen if Towing Attachments are disabled. REPAIR TIME: 4 hours per box.

HOSPITAL BAY: In battle, these hits are treated as "free hits"; in a campaign, the ship cannot influence post-battle crew recovery rolls if its Hospital Bay is disabled. REPAIR TIME: 6 hours per box.

RESCUE COMPARTMENT: If an RC is disabled, the occupants (if any) are killed. REPAIR TIME: 2 hours per box.

SHIP DESTROYED: Represents overall structural integrity of the ship or the loss thereof; see below for damage effects. REPAIR TIME: 12 hours per box.

4.12 DESTROYING A SHIP

A ship can only be put out of action permanently in the following ways:

POWERPLANT EXPLOSION: If all boxes of a ship's powerplant are lost, the ship explodes and is completely destroyed, along with all crewmen and passengers aboard at the time. The amount of damage to ships in the vicinity varies, as follows:

- Ships in hexes adjacent to an exploding ship will take hits equal to (Destroyed ship's Powerplant Rating / 100) against the facing closest to the blast. This damage is reduced by shields in the same fashion as HELL missile damage (see above).

- Ships in the same hex as an exploding ship will take hits equal to (Destroyed ship's Powerplant Rating / 50) against the facing closest to the blast. This damage is reduced by shields.

- Ships in collision with an exploding ship must roll to see if their shields were penetrated by the blast, in the same fashion as with a direct fire attack. If the shield is penetrated, the target ship will take hits equal to (Destroyed ship's Powerplant Rating / 10) against the facing closest to the blast; if not, the damage is reduced by shields.

In all of the cases shown above, the explosion damage is applied from left to right. All missiles in flight or ejected crew units in the blast area of an exploding ship will be destroyed; HELL missiles in flight or carried by the exploding ship will detonate. As always, this can cause chain reactions, which are resolved immediately.

STRUCTURAL COLLAPSE: When a ship starts to take hits against its Ship Destroyed row, it has taken potentially fatal structural damage. At the end of every turn in which a ship suffers damage to its Ship Destroyed row, or at the instant that the pilot of a ship with such damage is required to take a Piloting skill roll, its pilot must roll above the number of Ship Destroyed boxes lost at this point to avoid breaking up. If the roll is unsuccessful, the pilot must roll again on the chart below:

1 - 4: The ship breaks up without an explosion. The crew has as many turns to abandon ship as there are Ship Destroyed boxes left, during which time all systems except ejectors and hangar bays cease to function; after this period, any personnel left aboard will die. The wreck will continue to drift at its last heading and velocity.

5 - 7: The ship explodes after a short delay. All personnel able to eject may abandon ship immediately, after which the ship's powerplant explodes with the effects noted above. Any personnel unable to eject and any carried ships are lost in the blast.

8 - 10: The ship explodes immediately. All personnel aboard are killed as the ship's powerplant explodes with the effects noted above.

If the roll is successful, the ship continues to operate.

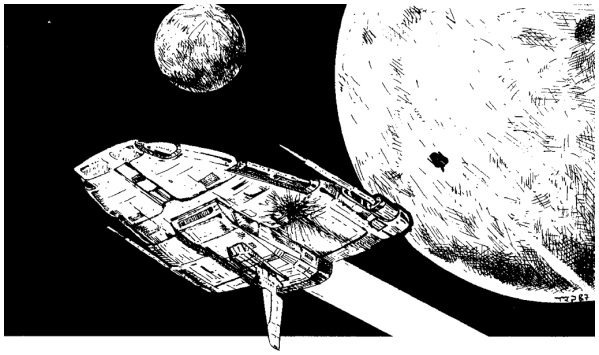
CREW FATALITIES: If all of a ship's crewmen with Piloting and Gunnery skill abandon ship or are killed without otherwise destroying the ship, it becomes a derelict drifting at its last heading and velocity (but see FLIGHT CONTROL, above). If the ship has a functioning powerplant, "dead-man" controls will shut off power to all systems but life support and hangar bays; if not, any personnel still aboard must go to emergency life support. Any survivors may abandon ship, or possibly wait for rescue.

ACCIDENTS: Ships may be destroyed by piloting errors -- crashing while flying in atmosphere, burning up on re-entry, and the like as specified in various sections of the rules. There is no chance of surviving such accidents.

SELF-DESTRUCTION: This may be declared by a ship's pilot in the Decision Phase if he is conscious and the ship's powerplant is functional. The pilot chooses a delay period between 1 and 10 turns, which must be written down; at the end of this time, the ship explodes with the effects noted in POWERPLANT EXPLOSION. During the delay, the ship cannot change facing, heading, or velocity, and all crew members and/or passengers may abandon ship using the appropriate procedure (see below). Note that the ship can still be destroyed by enemy action during the delay period.

4.13 DAMAGE CONTROL AND REPAIR

Because of INTERCEPTOR's short time scale, systems disabled in combat cannot be repaired during a scenario. The indicated repair times are only used if there is an opportunity between scenarios for repair work to be done, and if the ship's situation allows particular repairs to be done at all. See CAMPAIGNS for further details.



SPECIAL CASES

5.1 ORBITAL INSTALLATIONS

For game purposes, an OI is essentially a ship without engines. They are used by both sides to provide basing and servicing facilities for ships, defend points in space, or carry out a variety of non-combatant tasks that are best performed off-planet. The rules covering installations are the same as those for ships, with the following exceptions:

BASIC DESCRIPTION: The hexside at the top of an OI counter is numbered 1, with the rest numbered in clockwise sequence. All references to weapons facing, armour and shielding use these side numbers, rather than the usual facings of a ship.

MOVEMENT: An OI does not move, change facing or change heading. The player controlling the OI must, however, follow the sequence of play just as if he were controlling a ship of the appropriate tonnage, and "moves" it for initiative purposes.

COMBAT: Weapons on OIs follow the same rules and restrictions as weapons mounted on ships. Their fields of fire are more limited by dead zones created by the OI's hull than comparable weapons on a ship, however, because of the OI's inability to move or reorient itself.

The weapons of an OI are emplaced on its curved surface; this is represented by noting which sides contain weapons and/or MDC-G systems (if any). Turreted weapons have a 180-degree field of fire into open space hexes on their side of the OI, and may also fire at range zero (i.e., into their own hex). Fixed weapons or MDC-Gs have a 60-degree field of fire into open space hexes on their side of the OI, but may NOT fire at range zero. A centrally-mounted Safeguard system has a 360-degree field of fire. Safeguard-1 pods may not be carried by OIs.

For missile lock-on purposes, any hex within the field of fire of a particular hardpoint or autoloader is covered by its sensors and scanners; however, different hardpoints or autoloaders may not help each other to satisfy lock-on prerequisites.

For example, all six sides of a TOG OI contain both turreted and fixed weapons. A Renegade fighter is 6 hexes away, and decides to close for an attack on the OI. In the next turn, the Renegade fighter moves adjacent to Side 1 and is fired on as it does so. As it is within the 60 degree arc of Side 1's fixed weapons, they may fire on it at a range of 1 (assuming that they hadn't fired on the fighter as it closed in). The turreted weapons on Sides 1, 2 and 6 may fire on the fighter, as the fighter lies within their 180 degree arcs; again, the range for these shots would be 1. None of the OI's other weapons can fire at this point. In the next turn, the Renegade fighter moves into the OI's hex and is fired on as it does so. All six turrets can fire at the fighter with a range of zero; they are not "firing backwards", for in reality the fighter is skimming closely over or under the OI. None of the fixed weapons may fire at the fighter until or unless it moves into their arc of fire; as they are fixed, they cannot rotate to cover its close skimming maneuver.

5.2 ABANDONING SHIP

In a campaign situation, the ability to save trained crewmen can be of great importance. Most fighters are equipped with ejectors for their crew, while larger ships and OIs often carry small craft to evacuate in an emergency.

5.3 ABANDONING SMALL SHIPS

Crewmen of ships with short-duration life support whose cockpits have ejection systems and who are conscious can eject at any time, except as otherwise noted (see DESTROYING A SHIP); they simply make the declaration and place an ejected crew counter on the board. The ejectors of all gunners and other crewmen are tied to that of their ship's pilot. These crewmen must eject when the pilot does, although the reverse is not always true. All crewmen that eject together are represented by the same ejected crew counter; note this information as needed.

An ejected crew counter may be placed at any facing anywhere within 2 hexes of the ship's position at the moment of ejection, and will drift at the last heading and velocity of the ship. The crews' emergency life support systems will keep them alive for 30 turns, minus any time in which they used emergency life support if the ship's main life support was disabled. If not picked up by the end of this time, the crewmen will die.

If a crewman's cockpit is not equipped with an ejection system and he wishes to abandon ship, he must follow the same procedure as the crewmen of large ships and OIs (see below). Unlike large ships, however, the ship's systems will not shut down unless the pilot is abandoning ship.

Ejected crews have a very limited thrust capability built into their spacesuits. They have a total of 3 thrust points available, but once used they are lost; they can all be used at once or in any other combination. They may be used to change velocity, heading and facing according to the normal movement rules.

If an ejected crew counter enters a hex containing an asteroid or wreckage, each crewman must roll less than or equal to 10 minus his velocity to survive. If he fails, he hits the obstruction and is killed; if he succeeds, he continues to drift.

Ships that are equipped with Rescue Compartments are capable of picking up drifting crewmen. RCs are small pockets within the ship's hull where a space suited crewman can strap in and hook into the ship's own life support system. The rescued crewman is protected by the ship's armour and shields if carried in an Internal RC, or by its shields alone if in an External RC, and will survive if the ship survives and the RC itself is not destroyed.

To pick up a drifting crewman, a ship must enter the same hex as the ejected crew counter, match heading and velocity and drop its shields. The ship's pilot must then make a successful Piloting Skill Roll at the end of all movement and combat. If the roll fails, he may try again during the next turn, but with a -1 cumulative die roll modifier, which ensures eventual success. When the roll succeeds, the drifting crewman has been picked up. The ship attempting pick-up may perform no other action (including making direct fire attacks, launching missiles or Decoys, or using a Safeguard system, although it may use its ECM pod, if any) while the attempt is proceeding.

All of the above presumes that the drifting crewman both wishes to be rescued and is conscious (or, if more than 1 drifting crewman is in a hex, that at least 1 is conscious; make consciousness recovery rolls as usual for those crewmen who were unconscious at the moment of ejecting). If both are not true, pick-up cannot take place -- a crewman must make some effort on his own to get into a Rescue Compartment.

Unfortunately, there are those who may wish to commit atrocities. If a ship enters a drifting crewman's hex with the intent to ram him, the ship's pilot makes a Piloting skill roll with a +3 die roll modifier, and kills the drifting crewman if he succeeds. Direct fire attacks may also be made on drifting crewmen. These are done with a +3 To-Hit die roll modifier; any hit kills the crewman. To date, only TOG pilots have carried out such acts, but the knowledge that they will face war crimes charges if captured -- or possibly be "overlooked" if forced to eject in hostile space -- tends to discourage this kind of activity.

5.4 LARGE SHIPS AND OIs

Crewmen on large ships and OIs do not generally use cockpits (see CONSTRUCTION SYSTEM), and thus do not have a quick means of abandoning ship. They must either exit the ship via its airlocks or get to an escape ship carried in a hangar bay -- both of which can take a fatally long time in combat.

A ship's commander must declare his intention to abandon ship during the Decision Phase. Once the abandonment order has been given, all of the ship's systems will cease to function except life support and hangar bays, and it will drift at its last heading and velocity.

If the crew must exit via the airlocks, it will take 1 turn per 1000 tons of ship tonnage (rounding down, with a minimum of 1 turn) before crew counters can be placed on the map. Unlike crewmen who used ejectors to abandon ship, these crew counters are placed in the same hex as their ship, and must use some or all of their 3 spacesuit thrust points to get away from the ship. All other rules pertaining to ejected crews are as usual.

If the crew must use an escape ship, it will take 1 turn per 1000 tons of the carrying ship's tonnage (rounding down, with a minimum of 1 turn) to reach the hangar bay. Once there, roll the die and divide the result by 2, rounding down, to determine how long the escape ship must wait for launch as it is powered up and the crew straps in. Once launched, the escape ship conducts all actions under the usual rules.

When a ship is being abandoned, it is traditional to cease firing on it; however, as with ejected crews, TOG pilots have sometimes been known to keep firing regardless. There are no additional modifiers to such attacks, and the target's pilot obviously cannot use his skills to counter those of the attacker.

C A M P A I G N S

Campaign games consist of a series of battles where the starting conditions of the next battle are greatly dependent on the outcome of the previous one. For reasons of space, these rules cannot be comprehensive in covering campaign possibilities; however, for those players who want to "worry about tomorrow" when fighting battles, or for those who want to work out full-fledged campaign situations, the following rules and guidelines are attached.

6.1 INTANGIBLES: GUIDELINES

Despite the near-equality of technology among the warring nations of the RENEGADE LEGION universe, there are definite and noticeable differences among the personnel of each side -- and these are often the decisive factors in a battle or campaign. TOG's repressiveness and paranoia leads to generally lower quality among their crews; by comparison, the Commonwealth suffers from no such problems, and the Renegade Legions are even more inspired. Neither, however, are such fanatics that they will willingly throw their lives away without good cause. This is in sharp contrast to the KessRith, whose clumsy tactics and somewhat backward vessels are often compensated for by their inflexible will to combat. Only TOG's slightly higher training level and greater numbers have allowed them to prevail over the K-Rs, and only via hard fighting. The following rules expand on these differences.

CREW QUALITY: The initial skill levels determined in PILOTS AND CREW are those for the members of typical squadrons on all sides. These values can go higher or lower depending on circumstances; however, elite units are by definition rare, and this should be kept in mind when creating higher-quality forces. For instance, crewmen in a TOG fighter wing such as the Blood Eagles might take a -2 initial skills roll modifier, or a -3 for the infamous Death Express; in addition, all but the newest pilots in such units should have high Familiarity bonuses, as they will have had plenty of experience and enough action to keep their skills sharp. Elite units are the cream of the crop on all sides, and should be treated accordingly in a scenario -- i.e., they won't be seen often, if at all, and will certainly not be involved in a routine operation or a bloodbath in which their skills would be wasted.

MORALE: In campaigns, commanders will learn the value of disengaging badly damaged ships in order to fight another day -- but, in extreme circumstances, their crews may take matters into their own hands! In scenarios in which a player controls more than one ship, he must specify which ship is under his personal control. For all other ships under his command, a morale check is required whenever one of the following situations occurs:

- A ship or orbital installation has lost more than 50% (rounding up) of its Internal Component boxes;
- Each time a ship or orbital installation takes further internal damage after exceeding 50% of its Internal Component boxes, as above;
- A ship wishes to ram an enemy ship or orbital installation.

In order to pass a morale check, the ship's pilot must roll less than or equal to (4 + current Piloting Familiarity bonus) -- as always, a 10 is an automatic failure. If the check is successful, the ship carries on as ordered; if not, it will seek to escape from battle by the most direct route, and its crew will abandon ship if unable to do so. In any case, KessRith ships and OIs are NEVER required to take morale checks, regardless of circumstances.

6.2 PERSONNEL: GUIDELINES

One of the largest problems confronting the anti-TOG factions is lack of manpower (or being power, if you prefer!) Weapons or tactics that are cost-effective may not be acceptable in terms of lives lost, with all that this implies in both tactics and strategy. On the other hand, while TOG theoretically holds an unbeatable numerical advantage, internal security requirements mean that their front-line forces must also avoid gratuitous losses, even though they are not so constrained as their opponents. On both sides of the lines, the relative scarcity of fighter and other small craft crews is a constant bottleneck, limiting the attractiveness of massed fighter attacks because of their inevitable bloodiness. The following rules expand on these themes.

CREW AVAILABILITY: In general, TOG players should be allowed a total number of crewmen that is two to three times that of their opponents, unless the situation being gamed is unusual. Any excess personnel on either side can be used to replace casualties in an ongoing campaign, but should only be available at a depot or other rear-area repair and supply facility unless special arrangements are made.

RACIAL MIXTURE: As noted in PILOTS AND CREW, certain races have varying physical abilities that can affect their initial skill levels. In a campaign, the availability of personnel of different races can have a considerable impact, as follows:

TOG's personnel are overwhelmingly Human, with a relatively small percentage of Naram and Ssora mixed in. All of these are able to use the same equipment without modification, and all have the same initial skill level modifiers, so any differentiation is unimportant unless unusual conditions in a campaign call for it.

The KessRith Empire has only KessRith personnel, and thus the issue does not arise.

The personnel of the *Renegade Legions* and the *Commonwealth* are much more mixed than either of the above, although Renegade Legion units tend to have far fewer non-Human/Naram personnel than those of the Commonwealth. In general, available Commonwealth and Renegade personnel will break down as follows:

60% Human and Naram
25% Baufrin
10% KessRith
05% All others (Vauvausar, Ssora, etc.)

These factors should be kept in mind when building ships or setting up campaigns -- i.e., a squadron of ships with a "perfect" mixture of races for different jobs might be very formidable, but casualties may be hard to replace.

SEARCH AND RESCUE: In many cases, crewmen who have abandoned ship will be picked up during a battle by their comrades; however, there are times when this is not possible, and a search-and-rescue operation must be mounted afterward. S/R missions can be played out as scenarios if desired, or a roll can be made on the table below for each ejected crew counter. Unrecovered crewman are assumed to have died or been taken prisoner (determine this as necessary, although it normally makes no difference); recovered crewmen are available for further duty unless wounded (see below). All crewmen in an ejected crew counter suffer the same fate.

CREW RECOVERY TABLE

LOCATION/ SITUATION	RECOVERY CHANCE
Friendly-controlled area:	
Won battle and stayed	8
Won battle and left	6
Lost battle	4
Contested area:	
Won battle and stayed	6
Won battle and left	4
Lost battle	2
Enemy-controlled area:	
Won battle and stayed	4
Won battle and left	2
Lost battle	1
MODIFIERS:	
Crewman wounded (per hit > 1st)	-1
Velocity 10 or more	-1
Velocity 20 or more	-2
Area subject to gravity effects	-1
Area contains asteroids	-1

For example, a squadron of Commonwealth CHEETAHS is carried into a TOG-controlled system for a fast raid. The raid is a success, but one of the CHEETAHS is destroyed. The pilot is unwounded and ejects; he is drifting at a velocity of 13. The carrier opts to stay in system to look for the pilot (the campaign guidelines will have to determine whether this is either wise or possible), and there are no other modifiers. In this case, the Commonwealth player must roll a 3 or less to recover the pilot.

WOUNDS AND RECOVERY: If crewmen are wounded but not killed outright, consult the table below to determine if they survived the battle. Roll 1D10 for each wounded crewman brought back to base, and apply the modifiers listed below unless the result is a 1 or a 10; the crewman is always lost on a 1 and always survives on a 10.

Crewmen that are severely wounded will be out of action for 1D10 + 4 weeks; those that are wounded, for 1D10 + 4 days; and those that are slightly wounded, for one day.

CREW SURVIVAL TABLE

Die Roll	Result
1	Dead
2	Dead
3	Severely Wounded
4	Severely Wounded
5	Wounded
6	Wounded
7	Slightly Wounded
8	Slightly Wounded
9	Immediately Available
10	Immediately Available

DIE ROLL MODIFIERS:

-1 Each hit taken after first
+1 Hospital Bay available at base or carrier (must be specified in scenario or campaign)
-1 Crewman is Vauvausar or Baufrin
+1 Crewman is KessRith

6.3 TRAVEL TO AND FROM BATTLE

In a campaign, the time it takes for a ship to reach its objective and then return to base can be vitally important if the ship's life support is failing or if it is low on fuel. With this in mind, travel time to and from an objective should be calculated for various thrust factors. In addition, damage to a ship's navigation computer and/or long-range sensors may make it impossible for it to find its way to the objective or back to base on its own. A ship with both of these systems working can always find its way to either a static target (a planetary base, an OI, or the like whose position is previously known) or a moving target (a ship whose previous position was determined in the very recent past and whose performance is known with fair accuracy -- for instance, the ship's own carrier, which has dropped it off for a raid). If the long-range sensors are disabled, the ship can find static targets on a roll of 9 or less and moving targets on a roll of 5 or less; if the navigational computer is disabled, the ship can find static targets on a roll of 5 or less and moving targets on a roll of 1; if both of these systems are disabled, the ship must roll a 1 to find either type of target. If a friendly ship stays with the damaged ship, and if that friendly ship can find the desired target, then both can.

6.4 LANDING

To land aboard a ship or OI, a pilot must roll equal to or below his Piloting skill + 5, with the following die roll modifiers:

Per hit against pilot	+1
Per every 10% of internal hit boxes lost	+1
Per each 25% of total engine power lost	+1
Per Directional Ctrl Sys disabled (L,R)	+3

If the landing roll fails, treat as an unintentional collision from the rear of the target, at a velocity 3 points higher than that of the target, and with no shield or differential modifier values (see COLLISION DAMAGE TABLE).

Landing on a planetside base in atmosphere uses the same procedure as above except that the pilot must roll equal to or below his Piloting skill + 6. In this case, read Atmospheric Control Systems for DCS if the ship is streamlined, and add a +2 die roll modifier if landing deadstick (with engines off, willingly or not). A failed roll completely destroys the ship.

6.5 TRAVELING FASTER THAN THE SPEED OF LIGHT

To enter T-Space, an FTL-capable craft must be traveling at a velocity of at least 30 hexes per turn. To travel FTL accurately, the ship must have maintained a straight line course for the five turns previous to translation, with at least three turns being at a velocity of 30+ hexes per turn. For every turn less than five, the chance of a ship's achieving its desired destination grows quite small, as shown by the Misdirection Table below.If there is a misdirection, roll on the table below left to find how long it will take to get to the original, intended destination.

To successfully make T-Space translation, an FTL-capable ship must have a conscious pilot, navigator, and FTL Drive engineer; a powered and functioning FTL Drive, and a functioning FTL Navigation Computer. Translation is declared during the Decision Phase. The ship moves and takes damage during that turn, but is removed at the end of the turn.

MISDIRECTION TABLE

Turns spent on straight course	Roll to avoid misdirection
0	Auto Misdirection
1	1
2	1
3	1-2
4	1-5
5	1-9
6	Auto Correct

d=Days
h=Hours

COURSE ADJUSTMENT TABLE

Original Travel Time (in days)	Turns Spent on Straight Course 0	1	2	3	4	5
1	1d	20h	16h	12h	8h	4h
2	10d	5d	1d	18h	14h	8h
3	20d	15d	5d	1d	21h	12h
4	30d	25d	15d	5d	1d	16h
5	35d	30d	25d	15d	5d	20h
6	40d	35d	30d	25d	10d	1d
7	45d	40d	35d	30d	15d	2d
8	50d	45d	40d	35d	20d	3d
9	55d	50d	45d	40d	25d	5d
10	60d	55d	50d	45d	30d	10d

CONSTRUCTION

6.6 REPAIR

As noted above, damage cannot be repaired while in battle due to INTERCEPTOR's short time scale. In a campaign, the amount and type of repairs that can be done vary as follows:

If Repair Facilities are not available, a ship may not repair lost Ship Destroyed boxes or armour (including Firewall boxes). It may repair all other internal damage, but only one system may be under repair at a time.

If Repair Facilities are available, and the ship, OI or base equipped with them has a hangar bay large enough for the damaged ship (or is a planetside base with a breathable atmosphere), any type of damage may be repaired. Each armour box takes 30 minutes to repair; each Firewall box, 1 hour. All Ship Destroyed boxes must be repaired first; once this is done, all other damaged systems may be repaired simultaneously. Only one ship may be repaired at a time.

If Repair Facilities are available but the ship, OI or base equipped with them doesn't have a hangar bay large enough for the damaged ship (or is not a planetside base with a breathable atmosphere), the same procedure is followed, but all repair times are tripled. In all of the above cases, the campaign background should specify whether there are sufficient spare parts, armour plate and the like to enable repairs to be done and in what quantity.

The fighters and patrol class ships described in this game are typical of the vast variety of small craft operating in TOG and non-TOG space. If players wish to design their own ships, the following rules will enable them to do so. INTERCEPTOR designs are defined by tonnage ranges long established by all sides for ease of logistic calculations. The movement characteristics, number and power of weapons, armour and shielding of a ship are tied directly to mass/power relationships. Additionally, the configuration and intended mission of a ship can produce radical differences in the fighting power of ships theoretically within the same class. The construction system is also used for designing orbital installations; see below for exceptions to the standard procedure. Unless specifically noted otherwise, "ship" can refer equally to ships and orbital installations. The procedure for creating a ship is as follows:

SHIP CONSTRUCTION

1. Choose Ship Class, Tonnage, and Nationality
2. Determine Desired Thrust Rating
3. Add Engines and Directional Control System
4. Add Acceleration Compensator
5. Add Weapons (Fixed and/or Turreted)
6. Add Shielding
7. Add FTL Drive, Streamlining and/or Anti-Grav Lifters
8. Add Armour
9. Add Accessories
10. Calculate Crew Requirements; Install Control Facilities
11. Add Life Support Facilities
12. Calculate Required Energy; Install Powerplant
13. Add Fuel and Cargo
14. Recalculate As Needed
15. Fill Out Ship Record Sheet

7.1 STEP 1: CHOOSE SHIP CLASS, TONNAGE, AND NATIONALITY

SHIP CLASS

A ship's class is determined by its actual tonnage and what its designer chooses to call it. All ships must fit into one of the following ranges:

CLASS LIMITS TABLE

Tonnage Limits	Usual Designation
150 tons or less	Light Fighter
200 tons or less	Medium Fighter
300 tons or less	Heavy Fighter
500 tons or less	Superheavy Fighter
500 tons or more	Demi-Corvette
1000 tons or more	Small Corvette
2500 tons or more	Corvette
5000 tons or less	Medium Corvette
5000 to 10,000 tons	Large Corvette

These designations are not exclusive, and are strictly for the convenience of the ship's owners. Generally, they should reflect a ship's intended mission (i.e., a 1000-ton ship which carries many more weapons than fighter bays would typically be called a corvette rather than a fighter carrier, and vice versa, although "hybrids" are possible).

TONNAGE

Once a ship's class has been determined, the designer must choose the ship's tonnage within the class limit. In general, the bigger the ship, the more powerful it will be; however, it will probably also be more expensive and possibly more difficult to maintain and repair in a campaign situation. Note that there is some overlap between classes.

NATIONALITY

Even though the level of aerospace technology in use by all the opposing factions is nearly equal, there are some significant differences between them. The social, political and military organization of each side can have an impact as well. In general, TOG ships are the "baseline" for both crew quality and technology, while TOG designers will have the most money to spend in campaign situations due to TOG's greater size. Ships of the Commonwealth and the Renegade Legions have the advantage of slightly higher technology and crew quality, but considerably fewer resources. KessRith ships are the least advanced, but their crews are physically tougher and will fight fanatically in all circumstances. Other groups can be modeled as needed, but are usually derivatives of one of the three main groups mentioned. Specific differences are mentioned below as needed, and in the CAMPAIGNS section.

To provide an example of ship construction, we will design a well-known fighter, the famous FLUTTERING PETAL, used by all of the anti-TOG forces. The original nationality of this design was KessRith, but the example ship will be a Human-crewed PETAL belonging to the Renegade Legions. The PETAL masses 245 tons, and is classed as a heavy fighter.

7.2 STEP 2: DETERMINE DESIRED THRUST RATING

The thrust rating of a ship has nothing to do with its class, but is a factor of its engine power divided by its tonnage. The only real limits on a ship's thrust rating are tonnage and cost; however, few ships will have a thrust higher than 15. Tactical considerations also play a role; for example, it probably won't make sense to design an interceptor that can't catch the ships it was built to guard against, or an assault fighter with such large engines that its armour and weapons are much inferior to its competition. Orbital installations, being stationary, do not have a thrust rating.

The FLUTTERING PETAL is intended to have a thrust rating of 5, which is slightly low for a heavy fighter. However, the ship's designers intend for its firepower and survivability to make up for lack of speed, and its thrust is not decisively lower than that of its TOG counterpart, the GLADIUS.

7.3 STEP 3: ADD ENGINES AND DIRECTIONAL CONTROL SYSTEM

Once a desired thrust rating has been determined, multiply this number by the tonnage of the ship and round up to the next increment of 50. The resulting number is the total amount of power that must be provided by the Ippolito- Kuldonov sublight drive engine(s). The maximum number of engines that can be fitted is three.

If multiple engines are fitted, a set of linkage controls is required to connect each engine in the system together (i.e., a twin-engined ship requires one set of linkage controls, and a triple-engined ship requires two sets of controls). Each set of linkage controls weighs 5% of the total engine tonnage (rounding up, with a minimum of 1/2 ton), requires one Energy Point (EP) from the ship's powerplant per ton (rounding up for each linkage), and costs 100,000 talents per ton (minimum cost of 100,000 talents per linkage).

A ship must carry Directional Control Systems (also known as vector thrusters) in order to change direction and orientation. DCS weighs 1/2 ton per 1000 points of engine power (rounding up to the next ton, with a minimum of 1 ton), requires EPs equal to (Ship's tonnage / 10, rounding up) from the ship's powerplant, and costs 200,000 talents per ton (minimum cost of 200,000 talents). More than one set of DCS may be carried as insurance against damage, or to improve a ship's maneuverability -- see MOVEMENT and DAMAGE for details.

Orbital installations do not have engines and do not require DCS.

The FLUTTERING PETAL's engines must provide a total power of 1250 -- 245 tons times desired thrust 5 = 1225, which rounds up to 1250. This requirement is fulfilled by two 400-point engines and a 450-point engine. Each 400-point engine weighs 1 ton and costs 400,000 talents; the 450-point engine also weighs 1 ton and costs 450,000 talents. Two sets of linkage controls weigh a total of 1 ton (3 tons of engine x .05 = .15 ton per linkage, rounding up to the 1/2-ton minimum for each), use two EPs and cost a total of 200,000 talents.

By comparison, a single 1250-point engine would have cost 400,000 talents less and not required any EPs for linkages, but would have weighed 13 tons more. A single set of DCS is installed, which weighs 1 ton, requires 25 EPs, and costs 200,000 talents. Totals so far: Cost = 1,650,000 talents; Tons remaining = 240.

7.4 STEP 4: ADD ACCELERATION COMPENSATOR

Depending on how high its thrust rating is, a ship may require an acceleration compensator to counteract the forces acting on its crew. The point at which a compensator needs to be mounted depends on their race, as follows:

```
Vauvusar: Compensator required at Thrust 3 or more
 Baufrin: Compensator required at Thrust 4 or more
   Human: Compensator required at Thrust 5 or more
   Naram: Compensator required at Thrust 5 or more
   Ssora: Compensator required at Thrust 5 or more
KessRith: Compensator required at Thrust 6 or more
```

Compensators are rated by the maximum thrust that they can counteract. One compensator must be mounted per 1000 tons, rounding up. Compensators may be fitted even if not required, or one may be fitted that counteracts a higher thrust than the ship is normally capable of. This is usually done to make the ship operable by a variety of races (see STEP 10, below), to allow higher acceleration rates if the optional variable mass thrust rule is used (see MOVEMENT, above), or to easily allow for a High-Thrust modification (see STEP 15, below).

Were our example PETAL an original KessRith-operated model, it would not necessarily require an acceleration compensator since the K-Rs are physically tough enough to withstand a thrust of 6 -- but, since it is crewed by Human Renegade Legionnaires, it must carry one Thrust 5 compensator requiring 3 tons, 3 EPs, and 5,000 talents. Totals so far: Cost = 1,655,000 talents; Tons remaining = 237.7.47

ACCELERATION COMPENSATOR TABLE

Rating	Tons	EPs	Cost
3	2	2	3,000
4	3	3	4,000
5	3	3	5,000
6	4	4	6,000
7	4	4	7,000
8	5	5	8,000
9	6	6	9,000
10	6	6	10,000
11	7	7	11,000
12	8	8	12,000
13	8	8	13,000
14	11	11	14,000
15	12	12	15,000
16+	15	15	20,000

ENGINE TABLE

POWER	TONS	COST	POWER	TONS	COST	POWER	TONS	COST
50	1	50,000	3450	124	3,450,000	6850	328	6,850,000
100	1	100,000	3500	127	3,500,000	6900	331	6,900,000
150	1	150,000	3550	130	3,550,000	6950	334	6,950,000
200	1	200,000	3600	133	3,600,000	7000	337	7,000,000
250	1	250,000	3660	136	3,650,000	7050	340	7,050,000
300	1	300,000	3700	139	3,700,000	7100	343	7,100,000
350	1	350,000	3750	142	3,750,000	7150	346	7,150,000
400	1	400,000	3800	145	3,800,000	7200	349	7,200,000
450	1	450,000	3850	148	3,850,000	7250	352	7,250,000
500	2	500,000	3900	151	3,900,000	7300	355	7,300,000
550	3	550,000	3950	154	3,950,000	7350	358	7,350,000
600	4	600,000	4000	157	4,000,000	7400	361	7,400,000
650	5	650,000	4050	160	4,050,000	7450	364	7,450,000
700	6	700,000	4100	163	4,100,000	7500	367	7,500,000
750	7	750,000	4150	166	4,150,000	7550	370	7,550,000
800	8	800,000	4200	169	4,200,000	7600	373	7,600,000
850	9	850,000	4250	172	4,250,000	7650	376	7,650,000
900	10	900,000	4300	175	4,300,000	7700	379	7,700,000
950	11	950,000	4350	178	4,350,000	7750	382	7,750,000
1000	12	1,000,000	4400	181	4,400,000	7800	385	7,800,000
1050	13	1,050,000	4450	184	4,450,000	7850	388	7,850,000
1100	14	1,100,000	4500	187	4,500,000	7900	391	7,900,000
1150	15	1,150,000	4550	190	4,550,000	7950	394	7,950,000
1200	16	1,200,000	4600	193	4,600,000	8000	397	8,000,000
1250	18	1,250,000	4650	196	4,650,000	8050	400	8,050,000
1300	20	1,300,000	4700	199	4,700,000	8100	403	8,100,000
1350	22	1,350,000	4750	202	4,750,000	8150	406	8,150,000
1400	24	1,400,000	4800	205	4,800,000	8200	409	8,200,000
1450	26	1,450,000	4850	208	4,850,000	8250	412	8,250,000
1500	28	1,500,000	4900	211	4,900,000	8300	415	8,300,000
1550	30	1,550,000	4950	214	4,950,000	8350	418	8,350,000
1600	32	1,600,000	5000	217	5,000,000	8400	421	8,400,000
1650	34	1,650,000	5050	220	5,050,000	8450	424	8,450,000
1700	36	1,700,000	5100	223	5,100,000	8500	427	8,500,000
1750	38	1,750,000	5150	226	5,150,000	8550	430	8,550,000
1800	40	1,800,000	5200	229	5,200,000	8600	433	8,600,000
1850	42	1,850,000	5250	232	5,250,000	8650	436	8,650,000
1900	44	1,900,000	5300	235	5,300,000	8700	439	8,700,000
1950	46	1,950,000	5350	238	5,350,000	8750	442	8,750,000
2000	48	2,000,000	5400	241	5,400,000	8800	445	8,800,000
2050	50	2,050,000	5450	244	5,450,000	8850	448	8,850,000
2100	52	2,100,000	5500	247	5,500,000	8900	451	8,900,000
2150	54	2,150,000	5550	250	5,550,000	8950	454	8,950,000
2200	56	2,200,000	5600	253	5,600,000	9000	457	9,000,000
2250	58	2,250,000	5650	256	5,650,000	9050	460	9,050,000
2300	60	2,300,000	5700	259	5,700,000	9100	463	9,100,000
2350	62	2,350,000	5750	262	5,750,000	9150	466	9,150,000
2400	64	2,400,000	5800	265	5,800,000	9200	469	9,200,000
2450	66	2,450,000	5850	268	5,850,000	9250	472	9,250,000
2500	68	2,500,000	5900	271	5,900,000	9300	475	9,300,000
2550	70	2,550,000	5950	274	5,950,000	9350	478	9,350,000
2600	73	2,600,000	6000	277	6,000,000	9400	481	9,400,000
2650	76	2,650,000	6050	280	6,050,000	9450	484	9,450,000
2700	79	2,700,000	6100	283	6,100,000	9500	487	9,500,000
2750	82	2,750,000	6150	286	6,150,000	9550	490	9,550,000
2800	85	2,800,000	6200	289	6,200,000	9600	493	9,600,000
2850	88	2,850,000	6250	292	6,250,000	9650	496	9,650,000
2900	91	2,900,000	6300	295	6,300,000	9700	499	9,700,000
2950	94	2,950,000	6350	298	6,350,000	9750	502	9,750,000
3000	97	3,000,000	6400	301	6,400,000	9800	505	9,800,000
3050	100	3,050,000	6450	304	6,450,000	9850	508	9,850,000
3100	103	3,100,000	6500	307	6,500,000	9900	511	9,900,000
3150	106	3,150,000	6550	310	6,550,000	9950	514	9,950,000
3200	109	3,200,000	6600	313	6,600,000	10000	517	10,000,000
3250	112	3,250,000	6650	316	6,650,000	20000	1050	20,000,000
3300	115	3,300,000	6700	319	6,700,000	30000	1600	32,000,000
3350	118	3,350,000	6750	322	6,750,000	40000	2000	45,000,000
3400	121	3,400,000	6800	325	6,800,000	50000	2600	55,000,000

7.5 STEP 5: ADD WEAPONS (FIXED AND/ OR TURRETED)

A ship may carry as many fixed weapons as desired within the limits of tonnage, energy requirements and cost. Keep in mind, however, that a single crewman can fire no more than five weapons per turn unless TOT equipment is fitted (see STEP 9). The arcs of fire for fixed weapons are diagramed in COMBAT, above; also see STEP 15 for restrictions on their placement.

TURRETS
If desired and possible, weapons may be mounted in fully-rotating turrets. A ship may carry 1 turret per thousand tons of total weight (rounding down, with a minimum of 1). No more than 5 weapons may be mounted per turret.

TURRET DATA TABLE	
Turret Tonnage:	Equal to 5 percent of the total weight of the weapons to be mounted there.
EPs Required:	Equal to (Total weapon and turret tonnage) / 10, rounding up.
Cost:	10,000 talents per ton.
(per turret, rounding turret up to the next full ton)	

WEAPONS
Select the weapons to be placed in the ship, using the data tables below and on the next page.

The FLUTTERING PETAL carries a powerful selection of weaponry, as follows:

Fixed Forward: *2 MDC 8 (each 24 tons, 6 EPs, 168,000 talents), 2 7.5/5 Laser (each 20 tons, 20 EPs, 240,000 talents), 1 Hardpoint (3 tons, 0 EP, 10,000 talents)*

Turreted (TRT 1): *2 5/5 Laser (each 17 tons, 17 EPs, 204,000 talents) 2 5/4 Laser (each 14 tons, 14 EPs, 168,000 talents) 1 Hardpoint (3 tons, 0 EP, 10,000 talents)*

The specific arrangement of the fixed forward weapons is discussed further in STEP 15. The turret requires 7 EPs -- (65 tons of weapons + 4 tons for the turret itself) divided by 10, rounding up -- in addition to the EPs for its lasers; its weight is 4 tons and its cost is 40,000 talents. Totals so far: Cost = 3,275,000 talents; Tons remaining = 77.

DEFENSIVE SYSTEMS DATA TABLE

Type	Damage at Range					Requirements		Cost
	0-1	2-3	4-6	7-10	11-15	EPs	Tons	
Safeguard-1	NA	NA	NA	NA	NA	10	10	100 000
Safeguard-2	NA	NA	NA	NA	NA	16	16	160 000
Safeguard-3	NA	NA	NA	NA	NA	24	24	240 000
Safeguard-4	NA	NA	NA	NA	NA	30	30	300 000
MDC-G	8	8	0	0	0	6	24	120 000
Firewall	NA	NA	NA	NA	NA	NA	VAR	10 000/Ton

Safeguard systems are only found on CW/RL ships.

MDC-G systems are only found on TOG ships.

Firewall armour is only found on KessRith ships.

Note that Safeguard and MDC-G may not be installed in turrets.

See STEP 8 for Firewall tonnage and restrictions.

LASER DATA TABLE

Type	Damage at Range					Requirements		Cost
	0-1	2-3	4-6	7-10	11-15	EPs	Tons	
15/30	25	24	23	22	21	300	300	3 000 000
15/15	20	19	18	17	16	200	200	2 000 000
7.5/30	15	14	13	12	11	150	150	1 470 000
7.5/25	14	13	12	11	10	110	110	1 220 000
7.5/20	13	12	11	10	9	80	80	975 000
7.5/15	12	11	10	9	8	55	55	730 000
7.5/10	11	10	9	8	7	35	35	487 000
7.5/6	10	9	8	7	6	23	23	276 000
7.5/5	9	8	7	6	5	20	20	240 000
7.5/4	8	7	6	5	4	18	18	216 000
7.5/3	7	6	5	4	3	15	15	180 000
7.5/2	6	5	4	3	2	12	12	144 000
7.5/1	5	4	3	2	1	10	10	120 000
5/6	9	8	7	6	0	19	19	228 000
5/5	8	7	6	5	0	17	17	204 000
5/4	7	6	5	4	0	14	14	168 000
5/3	6	5	4	3	0	11	11	120 000
5/2	5	4	3	2	0	9	9	108 000
5/1	4	3	2	1	0	7	7	84 000
3/6	8	7	6	0	0	15	15	180 000
3/5	7	6	5	0	0	13	13	156 000
3/4	6	5	4	0	0	11	11	132 000
3/3	5	4	3	0	0	9	9	108 000
3/2	4	3	2	0	0	7	7	80 000
3/1	3	2	1	0	0	4	4	48 000
1.5/6	7	6	0	0	0	10	10	120 000
1.5/5	6	5	0	0	0	8	8	96 000
1.5/4	5	4	0	0	0	7	7	84 000
1.5/3	4	3	0	0	0	5	5	60 000
1.5/2	3	2	0	0	0	3	3	40 000
1.5/1	2	1	0	0	0	2	2	24 000
Cone Laser	15	12	8	0	0	35	35	420 000

15/30s and 15/15s are larger lasers normally meant for Capital Ships. Only the KessRith may mount these weapons in their interceptors, and they may not be turret mounted.

Cone Lasers (CL) are special 7.5/6 lasers that fire a variable-frequency beam, causing a unique damage profile. This is a TOG developed weapon, and only TOG ships may mount them.

Save for the CL, all lasers do damage one column wide and x rows deep where x is the damage listed above.

ELECTRON PARTICLE CANNON DATA TABLE

Type	Damage at Range					Requirements		Cost
	0-1	2-3	4-6	7-10	11-15	EPs	Tons	
EPC 9	9	5	3	0	0	27	6	125 000
EPC 14	14	7	3	1	0	37	9	183 000
EPC 18	18	9	3	3	0	47	12	237 000

NEUTRON PARTICLE CANNON DATA

Type	Damage at Range					Requirements		Cost
	0-1	2-3	4-6	7-10	11-15	EPs	Tons	
NPC 9	1	6	9	0	0	7	16	104 000
NPC 16	1	4	9	16	0	10	23	154 000
NPC 20	3	9	16	20	0	18	39	263 000

THORMIUM PLASMA PROJECTOR DATA TABLE

Type	Damage at Range					Requirements		Cost
	0-1	2-3	4-6	7-10	11-15	EPs	Tons	
TPP 9	9	6	1	0	0	30	8	120 000
TPP 16	16	9	4	1	0	55	15	219 000
TPP 20	20	16	9	3	0	85	23	338 000

LASER/EPC COMBINATION DATA TABLE

Type	Damage at Range					Requirements		Cost
	0-1	2-3	4-6	7-10	11-15	EPs	Tons	
LEPC 9	4/9	3/5	2/3	1/0	0	40	17	120 000
LEPC 14	4/14	3/7	2/3	1/1	0	55	20	219 000
LEPC 18	4/18	3/9	2/3	1/3	0	66	24	338 000

Each weapon does their listed damage via template. TPPs use a reversed NPC damage template.

LEPCs are the merging of a Laser and an EPC. See the *Combat* section for full rules.

MASS DRIVER CANNON DATA TABLE

Type	Damage at Range					Requirements		Cost
	0-1	2-3	4-6	7-10	11-15	EPs	Tons	
MDC 8	8	8	8	0	0	6	24	168 000
MDC 10	10	10	10	10	0	11	42	250 000
MDC 12	12	12	12	12	0	12	46	300 000

MDCs do their above listed damage via template.

7.6 STEP 6: ADD SHIELDING

If a ship is to carry flicker shields, it must provide one shield generator for each of its six hull sides. These generators may either be fixed-rate (with a constant power requirement) or variable-rate (which can have different amounts of energy allocated each turn). A ship may only carry one or the other type of generators, not a combination. See below for price, weight and power details.

SHIELD DATA TABLE

Flicker Rate	Tons	EPs	Cost/Ton
10	1	1	5 000
20	1	2	10 000
30	1	4	15 000
40	1	6	20 000
50	1	12	25 000
60	1	24	30 000
70	1	40	35 000
80	1	70	40 000
90	1	125	45 000
100	1	550	50 000
110	1	385	55 000
120	1	675	60 000
130	1	1180	65 000
140	1	2065	70 000
150	1	3615	75 000
160	1	6325	80 000
170	1	11068	85 000
180	1	19369	90 000
190	1	33895	95 000
200	1	95316	100 000
Variable	2	-VAR-	100 000

Tons and EPs above are per 1000 tons of the ship's mass.

Variablee Shield Generators, see *POWER ALLOCATION* above.

To save tonnage and expense, the PETAL mounts fixed-rate shields with the following values: Forward 80, all other facings 60. The generators require 190 EPs, weigh 6 tons and cost 190,000 talents. Totals so far: Cost = 3,465,000 talents; Tons remaining = 71.

7.7 STEP 7: ADD FTL DRIVE, STREAMLINING AND/OR ANTI-GRAV LIFTERS

FASTER-THAN-LIGHT DRIVE
This system is only required for interstellar travel. Tonnage: equal to 10 percent of the total tonnage of the ship (rounding up to next ton), with a minimum weight of 50 tons. EPs Required: 1 per ton. Cost: 20,000 talents per ton.

Ships may be equipped with either or both of the following methods of flying in an atmosphere:

STREAMLINING
Ships may be streamlined for atmospheric entry and maneuver. This modification requires 5 percent of the tonnage of the ship, rounding up to the next ton (representing wasted interior space to get sensitive components inboard as well as general structural strengthening), at a cost of 1,000 talents per ton. A streamlined ship must also carry Atmospheric Control Systems in order to change direction and orientation. ACS weighs 1 ton per 1000 points of engine power (rounding up to the next full ton, with a minimum of 1 ton), requires 1 EP per ton from the ship's powerplant, and costs 50,000 talents per ton. The effects of streamlining are discussed in MOVEMENT. Unlike DCS (see STEP 3), only 1 set of ACS may be fitted.

ANTI-GRAV LIFTERS
Ships may also be fitted with anti-gravity generators to allow atmospheric entry and maneuver. Lifters require 1 percent of the tonnage of the ship (rounding up to the next ton) and EPs equal to 5 percent of the ship's total tonnage (rounding up to the next ton). The cost is 5,000 talents per ton of lifters. The effects of anti-gravs are discussed in MOVEMENT.

Note: Orbital installations may not be streamlined, nor may they mount FTL drive or anti-gravs.

The FLUTTERING PETAL does not have FTL drive, as it relies on a carrier or the like to travel from star to star. It is not streamlined, instead using anti-gravs for atmospheric operations; they weigh 3 tons (.01 x 245 = 2.45, rounded up to 3), require 13 EPs (.05 x 245 = 12.25, rounded up to 13) and cost 15,000 talents. Totals so far: Cost = 3,480,000 talents; Tons remaining = 68.

7.8 STEP 8: ADD ARMOUR

The larger a ship is, the more armour tonnage is required to get the same level of protection, since this same thickness is spread over a wider area. There is no restriction on the amount of armour that can be purchased other than cost and other design requirements. How the armour is arranged on a ship is also important -- see STEP 15 for details.

If a ship is armoured at all, it must buy at least 10 armour boxes for each of its six sides and each turret, if any are carried; anything beyond that is at the designer's discretion. Armour must always be purchased in increments of 10 boxes.

KessRith ships (only) may carry Firewall "reactive armour" (see DEFENSIVE SYSTEMS for details). This system must be purchased as a single increment of 10 boxes for each of a ship's six sides and each turret, if any are carried. No more than 1 layer of Firewall can be installed. Firewall cannot be installed on a ship that is otherwise unarmoured, as it requires a "baseplate" to be effective without damaging the carrying ship. Firewall also precludes installing External Hardpoints or an External Recovery Compartment, as these would be destroyed by the action of the system.

ARMOUR WEIGHT TABLE	
Armour Tonnage:	**10 armour boxes = .25 % of ship's total tonnage**
EPs Required:	NA
Cost per Ton:	50 talents
(rounding weight down to the nearest 1/2 ton, with a minimum of 1/2 ton)	

FIREWALL TABLE	
Firewall Tonnage:	**10 armour boxes = .25 % of ship's total tonnage**
EPs Required:	NA
Cost per Ton:	10 000 talents
(rounding weight down to the nearest 1/2 ton, with a minimum of 1/2 ton)	

The PETAL carries 100 points of armour on each of its hull sides and on its turret, for a total of 700 armour boxes. Each increment of 10 boxes weighs (.0025 x 245 tons), or .6125 tons, rounding down to .5 tons. The total weight of armour is thus 35 tons, and the cost is 1,750 talents. Totals so far: Cost = 3,481,750 talents; Tons remaining = 33.

7.9 STEP 9: ADD ACCESSORIES

Many of these systems are rarely seen in standard INTERCEPTOR games, but can have an effect in a campaign.

TIME-ON-TARGET (TOT) WEAPONS FIRE SYNCHRONIZER

This system allows all weapons of a given type to be fired at the same time and same target, regardless of the number of such weapons; this is the key component of the weapon bays seen in LEVIATHAN. All weapons linked together by TOT must make a single roll to hit, and all either hit or miss; all are restricted to the maximum range and modifiers of the shortest-ranged weapon linked into the TOT array.

TOT GEAR	**1 tons; 1 EP; 250,000 talents**

HANGAR BAYS

These bays are used to house, repair and maintain any fighters, corvettes or other small vessels of this sort attached to a larger ship or orbital installation, and open directly into space. For structural strength, external bay openings must be kept relatively small -- thus, a small craft bay may only launch or recover 1 small craft per turn; it may not do both. In many cases, this means that each small craft has its own bay -- however, if tonnage is more critical to the carrying ship than speed of launch and recovery, a single large bay with a single opening is the usual solution.

HANGAR DATA TABLE	
Hangar Tonnage:	**Single Ship Bay = 2 times the total tonnage of the craft carried.** **Multi Ship Bay = 2 times the total tonnage of the craft carried.**
EPs Required:	NA
Cost per Ton:	1 000 talents

TOWING ATTACHMENTS

These allow a ship to lock onto a disabled ship and move it using the towing ship's STL engines, or to allow the use of FTL Drive Jumpers (see below). Locking on for towing takes 30 turns; the two vessels must be in the same map hex and match direction, heading and velocity for the entire lock-on period. Unlocking takes 5 turns. Neither ship may use its shields while locking on or unlocking, but may use them while towing or being towed. For movement purposes, the two are considered to be a single ship and are moved first in a turn, regardless of the size of either. The available thrust for the combination is determined by adding the total tonnage of both ships together, then comparing this with the towing ship's current engine power rating. Available thrust is calculated after power is allocated. NOTE: an enemy ship may not be towed until or unless it has surrendered or been abandoned.

TOWING ATTACHMENTS DATA TABLE	
Towing Attachment Data sufficient to tow a ship of X mass	
500 or less	**30 tons; 300,000 talents; 3 crew required**
500 - 2000	**65 tons; 650,000 talents; 6 crew required**
2001 - 5000	**75 tons; 750,000 talents; 8 crew required**
5001 - 10000	**120 tons; 1,200,000 talents; 12 crew required**

REPAIR FACILITIES

This system represents front-line major rebuild facilities, specialized mechanical and electronic repair shops, and the like. The effects of having Repair Facilities are described in CAMPAIGNS. A ship may have more than one Repair Facility, but no more than one can work on a given ship at a time.

REPAIR FACILITY	**400 tons; 10 million talents; 40 crew**

FTL DRIVE JUMPERS

Jumpers allow a ship to use its FTL Drive to move a ship whose own FTL Drive is disabled, or one that has no FTL Drive at all, by extending its own drive field to cover the drive less ship. This can only be used in conjunction with Towing Attachments. A ship with jumpers must already have locked onto a disabled ship with its Towing Attachments (procedure as above) before it can attach the jumpers, which takes 60 turns. Once the jumpers are attached, transition to T-Space is possible, with both ships moving as a single unit. Detaching jumpers takes 10 turns. Neither ship may use its shields while attaching or detaching jumpers, but may use shields while they are attached.

FTL JUMPERS DATA TABLE	
FTL Jumper Data sufficient to tow a ship of X mass	
500 or less	**30 tons; 600,000 talents; 2 crew required**
500 - 2000	**65 tons; 1,000,000 talents; 3 crew required**
2001 - 5000	**75 tons; 1,500,000 talents; 4 crew required**
5001 - 10000	**120 tons; 2,500,000 talents; 16 crew required**

HOSPITAL BAYS

This system represents front-line intensive care facilities. In a campaign situation, a ship with a Hospital Bay will increase the chance that wounded crewman will survive if recovered, and indirectly speed their return to action. Hospital Bays are purchased in blocks of 100 beds. Each block requires 200 tons (500 tons if purchased for a KessRith ship), costs 500,000 talents, and needs a support staff of 20 crew.

RESCUE COMPARTMENT

RCs are small pockets within a ship's hull generally used to pick up ejected crewmen, but which can be used for passenger transport in an emergency. There are two types of Rescue Compartments -- Internal and External. Both types can hold up to 2 crewman of any race. An RC's occupants must be wearing spacesuits (they are assumed to receive only air from the ship's life support system), and are covered by the ship's acceleration compensator. Internal RCs are located on a ship's Internal Component Block, while External RCs are located on the surface of one of the ship's armour blocks. KessRith ships may not install Rescue Compartments of either type.

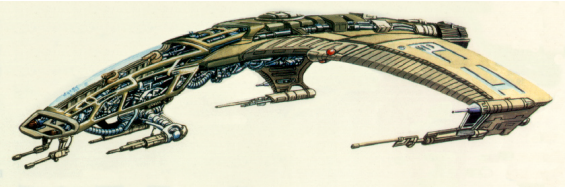
INTERNAL RC	**1 ton, 20,000 talents**
EXTERNAL RC	**2 tons, 50,000 talents**

INTERNAL ELECTRONIC COUNTERMEASURES GEAR

Internal ECM gear performs in the same manner as an ECM Pod, except that it requires a crewman to operate it and is placed on the ship's Internal Component Block rather than on a hardpoint.

INTERNAL ECM	**2 tons; 1 EP; 100,000 talents**

No accessories are needed on the PETAL (but see STEP 14 below).



7.10 STEP 10: INSTALL CONTROL FACILITIES

The number of crewmen required by a ship is calculated as per the table below. In general, ships that carry other ships (such as a corvette carrying a squadron of fighters) are FTL-equipped and are intended to operate for at least a week; thus, they are required to have space for passengers and support crews, as described below. Ships that are not intended to operate for more than 24 hours but that still carry other ships (such as a high-speed in system defense ship) do not have support crew; the crews of their carried ships simply sit in their own ships' cockpits awaiting launch, and thus do not require additional space.

A cockpit must be provided for each crewman and passenger on a ship intended to operate for 24 hours or less. These come in several varieties, as listed in the table below. Crewmen may not use cockpits not designed for their race under any circumstances. The Multiracial cockpit is a modular design allowing installation of the appropriate cockpit for a crewman; this requires 1 hour's work by a support crewman and availability of the correct cockpit module. It does not allow different races to use the same cockpit without this installation procedure. Each cockpit module costs the same as a normal cockpit for the race in question.

On ships equipped with FTL drive and/or intended to operate for more than 24 hours, all controls (including those for turrets, if desired) are centralized on a Bridge. Ejectors cannot be installed for quick escape; instead, carried ships must be used as lifecraft. Since a Bridge is not so cramped as a cockpit, different races may man any of its positions without difficulty. Round Bridge weight up when calculating using the table below:

In addition, ships intended to operate for more than 24 hours must install quarters. Each person's quarters require 5 tons and cost 10,000 talents. These should be designated as necessary to show a person's combat station for casualty purposes (i.e., while in battle a ship's pilot will be on the Bridge -- or he ought to be there, at any rate! -- even though he has quarters, whereas a passenger will be in his quarters at all times. See DAMAGE for further details).

Orbital installations never have pilots or navigators. They must always install Bridges, although they may still provide separate cockpits for gunners, and must always install quarters for their crew and passengers. All ships and orbital installations receive the various avionic systems as part of their command facilities, although they are not designed in detail -- see COMBAT and DAMAGE for details.

The FLUTTERING PETAL requires a crew of 2 -- 1 pilot and 1 gunner to man its turreted weapons. Since the ship is not equipped for FTL travel and is not intended to fly for more than 24 hours at a time, two cockpits are provided for the crew. These cockpits are Human/Naram/Ssora types, as the Renegade Legions' pilots are largely Human and Naram. They are equipped with ejectors, to give the crew a chance if the PETAL is badly damaged. If this were a KessRith Empire PETAL, ejectors would not be available at all because of the KessRith death-in-battle tradition. The total weight for control facilities is thus 2 tons, 2 EPs are required, and the cost is 20,000 talents. Totals so far: Cost = 3,501,750 talents; Tons remaining = 31.

CREW REQUIREMENTS TABLE

Pilot	1 required.
Navigator	1 required if ship has FTL drive.
Gunner	1 required per turret; 1 optional per 5 fixed weapons (or any number equipped with TOT) not under pilot's control.
Flight Engineer	1 required if ship has variable-rate shields; 1 required if ship has FTL drive; 1 required for engines if ship is intended to operate for more than 24 hours; 1 required for powerplant if ship is intended to operate for more than 24 hours.
Support Crew	1 required per carried ship if carrying ship is intended to operate for more than 24 hours; As required by any systems installed as accessories.
Passengers	As required for carried ship crews if carrying ship is intended to operate for more than 24 hours.
Others	Any others optional.

COCKPIT MODULE TABLE

Races	Ejector?	Tons	EPs	Cost
Vauvusar	Y	1	1	10 000
"	N	1/2	1	5 000
Baufrin	Y	1	1	10 000
"	N	1/2	1	5 000
Human/Naram/SSora	Y	1	1	10 000
" " "	N	1/2	1	5 000
CW/RL Kessrith	Y	3	1	15 000
Kessrith Empire	N	2	1	7 500
Multiracial	Y	3	1	25 000 + module cost
"	N	2	1	25 000 + module cost

BRIDGE TABLE Tonnage = 5% of ship's tonnage, min 10 tons; EPs req = 1 EP/ton; Cost = 10,000 talents/ton.

7.11 STEP 11: ADD LIFE SUPPORT FACILITIES

Ships intended to operate for 24 hours or less require basic life support equipment with the values indicated below.

Ships intended to operate for more than 24 hours and all orbital installations require long-duration life support facilities, allowing the crew to work under "shirt-sleeve" conditions (including passageways, recreation areas, and so on). These facilities allow a ship to operate for at least one month, and theoretically indefinitely depending on fuel and supplies (see below). Each crewman and passenger requires life support equipment with the following values, listed in the table:

BASIC LIFE SUPPORT	**1 Ton; 1 EP; Cost = 10,000 Talents. (per crewmember)**
LONG DURATION LIFE SUPPORT	**5 Tons; 1 EP; Cost = 10,000 talents. (per crewmember)**

The PETAL installs basic life support equipment for its crew, with a total requirement of 2 tons, 2 EPs and 20,000 talents. Totals so far: Cost = 3,521,750 talents; Tons remaining = 29.

7.12 STEP 12: CALCULATE REQUIRED ENERGY; INSTALL POWERPLANT

At this point, all energy-consuming systems have been installed on a ship. The size of powerplant that must be installed to power them depends on whether the ship can switch power from one system to another. This can be done if the ship has variable-rate shields and a Flight Engineer to operate them, a Flight Engineer to allocate energy from the powerplant, or both. Typically, these combinations are only seen on orbital installations or larger ships, although some fighters also carry Flight Engineers. Beyond the restrictions of money and tonnage, however, the extra crewmen are usually hard to obtain or justify for fighters -- see CAMPAIGNS for further details.

The powerplant of a ship that cannot switch power must provide enough EPs to run all EP-consuming systems at all times. The powerplant of a ship that can switch power must provide EPs equal to the largest of the following:

1 per engine power point + enough to power all engine linkages, acceleration compensators, DCS, accessories, control systems and life support + enough to achieve a flicker rate of 10 on all variable-rate shields

1 per engine power point + enough to power all engine linkages, acceleration compensators, DCS, accessories, control systems and life support + enough to power anti-grav lifters (if carried)

1 per engine power point + enough to power all engine linkages, acceleration compensators, DCS, accessories, control systems and life support + enough to power FTL drive (if carried).

Any EPs in excess of the minimum can be provided at the designer's option. Keep a ship's intended role in mind when determining what size of powerplant will be fitted; a ship with only the minimum EP level will be severely restricted in its abilities, while "overpowering" a ship is often unnecessary. Note that a ship can only carry a single powerplant, unlike engines; for various reasons, the "power station" principle isn't practical for ships smaller than a LPCS.

Since our FLUTTERING PETAL doesn't carry variable-rate shields or a Flight Engineer to shunt power, it must power all systems at all times. It requires a total of 1608 EPs, broken down as follows:

Engines	1250	Engine Linkages	2
Directional Control System	25	Acceleration Compensator	3
Turret	7	Weapons	114
Fixed-Rate Shields	190	Anti-Grav Lifters	13
Cockpit Controls	2	Life Support	2

This means that a 1650 point powerplant must be installed -- which requires 22 tons and 2,475,000 talents. Totals so far: Cost = 5,996,750 talents; Tons remaining = 7.

POWER PLANT TABLE

POWER	TONS	COST	POWER	TONS	COST	POWER	TONS	COST
50	1	75,000	3500	83	5,250,000	6950	217	10,425,000
100	1	150,000	3550	85	5,325,000	7000	219	10,500,000
150	1	225,000	3600	86	5,400,000	7050	221	10,575,000
200	1	300,000	3660	88	5,475,000	7100	223	10,650,000
250	1	375,000	3700	90	5,550,000	7150	225	10,725,000
300	1	450,000	3750	92	5,625,000	7200	227	10,800,000
350	1	525,000	3800	94	5,700,000	7250	229	10,875,000
400	1	600,000	3850	96	5,775,000	7300	231	10,950,000
450	1	675,000	3900	98	5,850,000	7350	233	11,025,000
500	2	750,000	3950	100	5,925,000	7400	235	11,100,000
550	2	550,000	4000	102	6,000,000	7450	237	11,175,000
600	3	900,000	4050	104	6,075,000	7500	239	11,250,000
650	3	975,000	4100	106	6,150,000	7550	241	11,325,000
700	4	1,050,000	4150	108	6,225,000	7600	242	11,400,000
750	4	1,125,000	4200	110	6,300,000	7650	244	11,475,000
800	5	1,200,000	4250	112	6,375,000	7700	246	11,550,000
850	6	1,275,000	4300	114	6,450,000	7750	248	11,625,000
900	7	1,350,000	4350	116	6,525,000	7800	250	11,700,000
950	8	1,425,000	4400	118	6,600,000	7850	252	11,775,000
1000	8	1,500,000	4450	120	6,675,000	7900	254	11,850,000
1050	9	1,575,000	4500	122	6,750,000	7950	256	11,925,000
1100	9	1,650,000	4550	124	6,825,000	8000	258	12,000,000
1150	10	1,725,000	4600	125	6,900,000	8050	260	12,075,000
1200	11	1,800,000	4650	127	6,975,000	8100	262	12,150,000
1250	12	1,875,000	4700	129	7,050,000	8150	264	12,225,000
1300	13	1,950,000	4750	131	7,125,000	8200	266	12,300,000
1350	14	1,350,000	4800	133	7,200,000	8250	268	12,375,000
1400	16	2,100,000	4850	135	7,275,000	8300	270	12,450,000
1450	17	2,175,000	4900	137	7,350,000	8350	272	12,525,000
1500	18	2,250,000	4950	139	7,425,000	8400	274	12,600,000
1550	20	2,325,000	5000	141	7,500,000	8450	276	12,675,000
1600	21	2,400,000	5050	143	7,575,000	8500	278	12,750,000
1650	22	2,475,000	5100	145	7,650,000	8550	280	12,825,000
1700	23	2,550,000	5150	147	7,725,000	8600	281	12,900,000
1750	25	2,625,000	5200	149	7,800,000	8650	283	12,975,000
1800	26	2,700,000	5250	151	7,875,000	8700	285	13,050,000
1850	27	2,775,000	5300	153	7,950,000	8750	287	13,125,000
1900	29	2,850,000	5350	155	8,025,000	8800	289	13,200,000
1950	30	2,925,000	5400	157	8,100,000	8850	291	13,275,000
2000	31	3,000,000	5450	159	8,175,000	8900	293	13,350,000
2050	33	3,075,000	5500	161	8,250,000	8950	295	13,425,000
2100	34	3,150,000	5550	163	8,325,000	9000	297	13,500,000
2150	35	3,225,000	5600	164	8,400,000	9050	299	13,575,000
2200	36	3,300,000	5650	166	8,475,000	9100	301	13,650,000
2250	38	3,375,000	5700	168	8,550,000	9150	303	13,725,000
2300	39	3,450,000	5750	170	8,625,000	9200	305	13,800,000
2350	40	3,525,000	5800	172	8,700,000	9250	307	13,875,000
2400	42	3,600,000	5850	174	8,775,000	9300	309	13,950,000
2450	43	3,675,000	5900	176	8,850,000	9350	311	14,025,000
2500	44	3,750,000	5950	178	8,925,000	9400	313	14,100,000
2550	46	3,825,000	6000	180	9,000,000	9450	315	14,175,000
2600	47	3,900,000	6050	182	9,075,000	9500	317	14,250,000
2650	49	3,975,000	6100	184	9,150,000	9550	318	14,325,000
2700	51	4,050,000	6150	186	9,225,000	9600	320	14,400,000
2750	53	4,125,000	6200	188	9,300,000	9650	322	14,475,000
2800	55	4,200,000	6250	190	9,375,000	9700	324	14,550,000
2850	57	4,275,000	6300	192	9,450,000	9750	326	14,625,000
2900	59	4,350,000	6350	194	9,525,000	9800	328	14,700,000
2950	61	4,425,000	6400	196	9,600,000	9850	330	14,775,000
3000	63	4,500,000	6450	198	9,675,000	9900	332	14,850,000
3050	65	4,575,000	6500	200	9,750,000	9950	334	14,925,000
3100	67	4,650,000	6550	202	9,825,000	10000	336	15,000,000
3150	69	4,725,000	6600	203	9,900,000	20000	675	31,000,000
3200	71	4,800,000	6650	205	9,975,000	30000	1050	47,000,000
3250	73	4,875,000	6700	207	10,050,000	40000	1350	63,000,000
3300	75	4,950,000	6750	209	10,125,000	50000	1700	79,000,000
3350	77	5,025,000	6800	211	10,200,000	100000	3500	160,000,000
3400	79	5,100,000	6850	213	10,275,000	150000	5500	250,000,000
3450	81	5,175,000	6900	215	10,350,000	200000	7000	325,000,000

7.13 STEP 13: ADD FUEL TANKAGE AND CARGO

All ships are required to have fuel tanks; cargo bays may be required, depending on circumstances. Details follow:

FUEL TANKS

Both the Ippolito-Kuldonov (I-K) slower-than-light engines and fusion powerplants of a ship require hydrogen fuel; the I-K drive uses it as reaction mass, while the powerplant uses deuterium extracted from the raw hydrogen to power the engines and FTL Drive as well as other energy-consuming systems. Fuel is normally provided by tankers or orbital installations; however, in an emergency, hydrogen can be separated from water, albeit with much greater delays and inconvenience (see CAMPAIGNS for further remarks). Ships with short-duration life support systems (i.e., fighters) have a much higher fuel consumption than OIs or ships with long-duration systems and/or FTL Drive; the rationale here is that fighters are usually in use for short periods, but are at full power throughout, while a long-duration ship or OI runs its powerplant and drives at an economical consumption rate at most times, only stepping it up when in combat.

FUEL REQUIREMENTS TABLE

Fuel Tank Tonnage Required for 24 Hours' Operation (round up to next .5 ton):

Engines	Equal to (1% of ship's total tonnage x normal thrust rating) / 30 (/300 if ship has FTL Drive and/or long-duration life support systems)
FTL Drive	NA (powered directly by powerplant)
Powerplant	Equal to (Total EPs / 300) (/3000 if an OI or if ship has FTL Drive and/or long-duration life support systems)

Orbital installations, ships with FTL drive and/or long-duration life support facilities usually have at least 30 days' (1 month) worth of fuel tankage; those that carry other ships usually have 24 hours' worth of fuel for the carried ships, although this is not required (and should be marked separately on the ICB). Tankage cost per ton: 10,000 talents.

CARGO BAYS

Orbital installations and ships with FTL drive and/or long-duration life support facilities are required to carry General Supplies in their cargo bays in order to operate away from their bases for any extended time. They may also carry reloads for missile launchers, spare small craft, or unassigned cargo. Details follow:

GENERAL SUPPLIES: Represents food, various supplies, spare parts and so forth. Without General Supplies, a ship may not leave its base, or must return to a base or supply ship at once. Each crewman and passenger requires .25 tons per month; ships must carry at least 1 month's supplies, and must purchase additional supplies in 1-month increments. Most ships carry at least 2 months' worth of General Supplies. Cost= 100 talents/ton.

MISSILE RELOADS = A ship with autoloading missile launchers or that carries other ships may carry as many missiles of the appropriate size(s) and warhead type(s) it desires in its cargo bay, subject only to tonnage, cost limitations and any campaign considerations. Note that autoloaders may not be reloaded during combat, only between scenarios or in a campaign; also note the reload missiles' potential to cause secondary explosions if hit in combat. Tonnage and cost per missile are as listed on the Missile Data Table.

RESERVE SMALL CRAFT = These are used to replace losses and are crated in a ship's cargo bay. Each stored small craft requires cargo space equal to 1.5 times its tonnage. Replacement crewmen and ground crewmen must be provided at the usual rate and carried as passengers. Reserve craft take 12 hours to be prepared for action. A ship without a hangar bay can carry reserve craft, but it cannot use them itself; however, it need not provide replacement crewmen. Cost = variable; not added to a ship's production cost.

UNASSIGNED CARGO = Any cargo not covered above. It has no combat effect unless otherwise specified.

Cargo tonnage carried within a bay and the tonnage of the bay itself are not added together; again, we are finessing the difference between mass and volume for simplicity. Cargo bay tonnage costs 250 talents per ton.

The PETAL requires a total of 6 tons of fuel tankage -- ([.01 x 245] x 5) / 30 = .408 tons, rounding up to .5 ton for the engines, and (1650 / 300) = 5.5 tons for the powerplant -- at a cost of 60,000 talents. Totals so far: Cost = 6,056,750 talents; Tons remaining = 1.

7.14 STEP 14: RECALCULATE AS NEEDED

In most cases, players will find that their designs are too slow for their taste. The easiest way to increase a ship's speed is to switch tonnage to engines. The easiest places to find that tonnage are in the weaponry and the armour. Experienced designers will quickly learn what is easiest to change and to take full advantage of the system.

At the end of the FLUTTERING PETAL's design process, we still have 1 ton left over. Since there is little else that we can usefully install, we return to STEP 9 for an accessory. The last ton is used for an External Rescue Compartment costing 20,000 talents. The PETAL's final cost is 6,076,750 talents, exclusive of any missiles or pods.

7.15 STEP 15: FILL OUT SHIP RECORD SHEET

The final step in the ship construction procedure is to fill out a record sheet for the newly designed ship. There are three main tasks:

- Arrange the ship's weapons;
- Arrange the ship's armour;
- Arrange the ship's Internal Component Block.

WEAPONS LAYOUT

Since a ship must be able to easily rotate around its axis when rolling or changing direction, it must carry exactly the same number and types of fixed weapons on its left and right sides to keep its center of mass in the right place. The fixed weapons bearing forward and aft need not balance; if a ship has an odd number of fixed weapons, the extra weapon may only placed bearing forward (in this case, the ship's center of mass is adjusted by rearrangement of its engines, powerplant or other heavy internal systems). There are no restrictions on turreted weapons.

The PETAL carries its weapons in the following layout:

Fixed Forward: *2 MDC 8*
2 7.5/5 Laser
1 Hardpoint
Turreted (TRT 1): *2 5/5 Laser*
2 5/4 Laser
1 Hardpoint

Since there are no side-mounted weapons, the ship is in balance.

ARMOUR LAYOUT

Once the total number of armour boxes that a ship carries has been determined, it must be allocated to each of the ship's six sides and its turret(s), if any. Armour boxes must be allocated to each side or turret in increments of 10. As noted above, a ship must be balanced so as to easily rotate around its center of mass when rolling or changing direction. With this in mind, the amounts of armour on its Left Front and Right Front sides must be equal; so must

the amounts of armour on its Left Aft and Right Aft sides; however, the LF\RF and LA\RA amounts need not be equal. The armour on the Forward and Aft sides need not balance, but the Aft side may not have more armour than the Forward side (again, the ship's center of mass is adjusted by rearrangement of its engines, powerplant or other heavy internal systems; heavier Aft armour would make this impractical). Armour on turrets may be as heavy as desired. If Firewall is installed, it must always occupy the uppermost row of an armour black; designate it with an "F" to either side of the row.

The PETAL carries 100 points of armour on each of its hull sides and on its turret, for a total of 700 armour boxes. Since it has an equal amount on all of its sides, it is already in balance and nothing more need be done.

INTERNAL COMPONENT ARRANGEMENT

Each of the systems that go into a ship require a certain number of boxes on its Internal Component Block (ICB). The ship's main ICB is always 10 boxes wide, and has a number of boxes equal to:

ICB TABLE	
Ship's Total Tonnage	
Armour Tonnage	−
Tonnage of all External systems	−
Tonnage of all Turret Components	−
(10 if tonnage < 1000)	+
(20 if tonnage > 1000)	+
10 boxes for the Avionic systems	+
10 boxes for the Ship Destroyed row	+
The total is always rounded up to the next increment of 10.	

A turret ICB is always 10 boxes wide; its number of boxes is equal to the total tonnage of all its components (including the turret structure itself), rounding up to the next increment of 10.

When placing system boxes on an ICB, the following caveats should be kept in mind:

All boxes should be filled in from the last row above the Ship Destroyed row and going upward. Any boxes that remain unused at the top of the ICB are treated as "free hits" (i.e., these are portions of a ship whose loss is not critical in a combat situation). Free hits may, however, be used farther down on an ICB if desired. This is usually done to keep contiguous blocks together (see below), or for purely aesthetic reasons.

Each "solid" system (i.e., Bridge, cockpit, single weapon, single engine, powerplant, etc.) must be kept in a contiguous block, with each box adjacent to at least two other boxes of the same system if at all possible. Fuel boxes may be spread out if desired.

Gunner cockpits may be placed either in the ship's main hull ICB or in the ICB of the turret that gunner controls; all other cockpits, and all Bridges, are always placed in the main hull ICB. Again, they always have 4 boxes regardless of actual tonnage.

DCS and ACS always occupy at least one box on each side of a ship, and must be split evenly between the left and right sides.

Each "empty" system (i.e., large cargo bays, hangar bays, etc.) is always shown by a single complete row marked with dots; a notation to one side of the ICB will show how many boxes this actually represents.

External Hardpoints and External Heavy Hardpoints must be placed on top of the armour block of whichever of the ship's facings that their arc of fire covers. External Rescue Compartments may be placed on top of any armour block.

Each turret is represented by an ICB and single armour block of its own. The only differences between a turret ICB and the ship's main ICB are that turrets cannot contain boxes for any but the systems designed into them (i.e., weapons, ammunition, turret structure and gunner cockpits) and do not have a separate Ship Destroyed row.

Once an ICB is filled out, the ship's internal layout is finalized and cannot be changed for any reason (excepting High Thrust variants -- see below). All the standard ship classes presented in the game have their own ICB layouts, which also cannot be changed for any reason.

When calculating the number of internal components boxes, OIs still receive 10 for avionics; however, since they have no use for the movement-related avionic systems (Helm, Thrust, Navigation, FTL, and Long Range Sensors), five of these boxes will automatically be treated as free hit boxes. Similarly, any ship without FTL capability would treat its unused FTL avionics box as a free hit; ships without missiles would do likewise with their Scanner box, and so on.

Beyond these restrictions, the designer is free to arrange the ship's internal components at will. There is no "best" way to do this; only experience will show which layouts are better than others, and why.

SCALING FOR SHIP SIZE

Since ships in INTERCEPTOR can range from less than 100 up to 10,000 tons, larger ships' ICBs have to be proportionately scaled to make it possible to handle them easily. When determining the number of boxes on an ICB, take the result of:

ICB SCALING TABLE	
Ship's Total Tonnage	-
Armour Tonnage	-
Tonnage of all External systems	-
Tonnage of all Turret Components	=
Divide the above result by ship tonnage value below:	
0 000 - 1 999	1
2 000 - 3 999	2
4 000- 5 999	3
6 000 - 7 999	4
8 000 - 10 000	5
	(tons/box)

The result returns the actual number of boxes used in the ICB (1/1 scale, 2/1 scale, etc to 5/1 scale). The boxes for Ship Size, Avionics, and Ship Destroyed are then added to this to get the total, rounding up to the next increment of 10 as usual. The same scaling procedure is used for any turret ICBs. The scale factor should be marked on the ship data sheet as a reminder when applying damage.

When resolving damage to a ship whose scale is larger than 1/1, place the templates on the ICB as usual, but a box is only destroyed when it takes a number of hits equal to its scale factor. This is indicated by the number of slashes in the box.

Note that this means that a given damage template may have to be applied to an area several times before the armour is worn away; as long as an ICB box has not received a number of slashes equal to its scale factor, it is not destroyed.

HELL missile and laser damage can be handled more simply, as they do their damage in straight lines. Damage done by these weapons doesn't go on to the next box across a row (for HELLs) or down a column (for lasers) until the previous box is completely destroyed.

Regardless of a ship's tonnage, each of the Avionics systems is always represented by a single box that is disabled with a single hit. Likewise, Cockpits are never scaled, although Bridges are. Ship Destroyed boxes are scaled to represent the greater structural strength of larger ships; any effects or morale rolls based on Ship Destroyed hits only take place once a box is completely destroyed.

Armour boxes are never scaled; unlike the ICB, armour boxes represent a thickness of armour rather than an area of a ship's interior. External systems on an armour block's surface are scaled, however, and follow the same procedure as with internal damage. Note that it is possible for a weapon damage template to widow the armour from under an external system that has not itself been destroyed because of its scale; as always, this widowing will destroy the external system.

In campaigns, repair times for each internal box (other than Avionics or Cockpits) are multiplied by the ship's scale factor.

7.16 ALLOCATABLE POWER -- CLARIFICATION

When working out allocatable EPs for a ship able to shunt power, remember that this is not the same as the minimum that must be designed in, but only the EP value of the powerplant minus "unavoidable" EPs -- those that must be permanently used for control systems, life support, turret structures, and the like.

7.17 HIGH THRUST VARIANTS

An HT model of a ship is one in which a standard model has had some or all of its EP-using weapons removed and permanently replaced with hardpoints, or simply left as unused space to save weight. This is usually done as a recognized variant by the ship's manufacturer, but can be done at a Repair Facility in the field if a campaign's background allows for this.

To create an HT model, take a standard design, remove whichever weapons are not needed, and replace them with either hardpoints, heavy hardpoints, or nothing. Recalculate the ship's thrust based on its new weight; make sure that its Acceleration Compensator can deal with the new thrust -- if not, it must also be replaced and upgraded. No armour or other systems can be added. The cost of these procedures is equal to 1.5 times the total cost of the systems being removed and/or added. As can be seen, is generally easier and cheaper to let the factory do the work!

If the ship has a Flight Engineer and variable shields, more power will be freed by the HT modification; if not, there will be no effective difference since the excess power cannot be shunted anyway. The ship's ICB must be changed; place any new hardpoint boxes within the area vacated by the previous weapon, with the remainder of the boxes (or all of them, if no new weapons are being fitted) becoming free hits.

S C E N A R I O S

SCENARIO 1: INTERCEPTION IN AN ASTEROID FIELD

Two CHEETAHS of the Commonwealth 345th Fighter Wing are on a reconnaissance flight through the Ciria system. One pilot is a veteran of the shattered 132nd Commonwealth Carrier Wing, while his wingman is a new pilot fresh from flight school on Xiphias. The flight was supposed to be a routine mission, a high-speed pass through the system, before meeting the mother ship and jumping out. Just the sort of milk run to give a young recruit some experience. Unknown to the Commonwealth pilots, an anti-recon squadron from the TOG 816th Strike Legion had just moved into the area. The two Commonwealth fighters were able to shake all but two of the intercepting LANCEAS, and the four tiny ships are now entering an asteroid field. The vet has decided to fight.

BOARD SET-UP:

Maps 1 and 2 are laid out as illustrated. Each player then takes turns placing an asteroid counter on the map. The players alternate placing the counters until all the asteroids are placed on the map. Remember that it is advantageous for the Commonwealth player to have as many clumps of asteroids as possible to hide him from missile attacks.

DEPLOYMENT:

COMMONWEALTH (set up first):
Two CHEETAHS are set up anywhere on Map 1 within seven hexes of any hex in row xx07. They start with a velocity of 3 and a heading and facing of 4. Crew skill ratings are --

```
CHEETAH 1: Piloting 7, Gunnery 5, SOT 9,
Familiarity 2 (Piloting), 1 (Gunnery)

CHEETAH 2: Piloting 3, Gunnery 4, SOT 7,
Familiarity 0
```

Both of the CHEETAHS must carry a Sensor pod on their hardpoints.

TOG (set up second):
Two LANCEAS set up anywhere on Map 1 on Row xx01. They start with a velocity of 6 and a heading and facing of 4. Crew skill ratings are --

```
LANCEA 1: Piloting 6, Gunnery 5, SOT 8,
Familiarity 1 (Piloting)

LANCEA 2: Piloting 6, Gunnery 5, SOT 8,
Familiarity 0
```

Any type of pod or missile allowed to TOG may be carried on the Lanceas' hardpoints.

GAME LENGTH:

Combat continues until all of the opponent's ships are destroyed or abandoned, or have broken off the engagement by exiting the map.

VICTORY CONDITIONS

Victory is based on points, as follows:

Each enemy fighter destroyed or abandoned	20
Each enemy fighter that breaks off action	5
Each enemy Sensor pod destroyed (TOG only)	5

Total the victory points for both sides; subtract the TOG score from the Renegade score, and consult the table below.

OUTCOME TABLE

51+	Decisive Renegade Victory
11 to 51	Substantive Renegade Victory
0 to 10	Marginal Renegade Victory
- 1 to -10	Marginal TOG Victory
-11 to -61	Substantive TOG Victory
-61 or less	Decisive TOG Victory

VARIANT SCENARIO:

If desired, 2 KessRith AUTUMN LEAF light fighters can be substituted for the CHEETAHS. All other factors remain the same, although SOTs will have to be recalculated.

SCENARIO 2: DEEP SPACE INTERCEPTION

While evacuating refugees from Caralis, a large Commonwealth convoy was intercepted. Most of the transports were able to escape, but one heavy transport was crippled. A mixed squadron from of the TOG 689th Interceptor Wing has been sent to finish it off. Units from the Commonwealth 1151st Interceptor Wing have been ordered to intercept and destroy the oncoming units.

BOARD SET-UP:

Maps 1 and 2 are laid out as illustrated. There are no asteroids or other obstacles to place.

DEPLOYMENT:

COMMONWEALTH (Set up first):
Two FLUTTERING PETALS, two PENETRATORS, and two AVENGERS are set up between 2601 and 2606 of Map 2. Their velocity is 5 and their heading and facing is 6.

Commonwealth Squadron Crew Skill Ratings:

```
PETAL 1 -- Pilot: Piloting 5,Gunnery
4,SOT 5,Familiarity 0
PETAL 1 -- Gunner: Piloting 2, Gunnery
6, SOT 4, Familiarity 0
PETAL 2 -- Pilot: Piloting 5, Gunnery 4,
SOT 5, Familiarity 0
PETAL 2 -- Gunner: Piloting 2, Gunnery
6, SOT 4, Familiarity 0
AVENGER 1: Piloting 5, Gunnery 5, SOT 6,
Familiarity 0
AVENGER 2: Piloting 5, Gunnery 5, SOT 6,
Familiarity 0
PENETRATOR 1: Piloting 4, Gunnery 6, SOT
6, Familiarity 0
PENETRATOR 2: Piloting 4, Gunnery 6, SOT
6, Familiarity 0
```

Any type of missiles (other than HELLs) or pods available to the Commonwealth may be mounted on the hard points.

TOG (Sets up second):
Two GLADIUS, two MARTIOBARBULUS, and two SPICULUM are set up on Map 1 between 1101 and 1701. Their velocity is 6 and their heading and facing is 4.

TOG Squadron Crew Skill Ratings:

```
GLADIUS 1 -- Pilot: Piloting 5, Gunnery
4, SOT 6, Familiarity 0
GLADIUS 2 -- Gunner: Piloting 2, Gunnery
6, SOT 4, Familiarity 0
GLADIUS 2 -- Pilot: Piloting 5, Gunnery
4, SOT 6, Familiarity 0
GLADIUS 2 -- Gunner: Piloting 2, Gunnery
6, SOT 4, Familiarity 0
MARTIOBARBULUS 1: Piloting 4, Gunnery 5,
SOT 5, Familiarity 0
MARTIOBARBULUS 2: Piloting 4, Gunnery 5,
SOT 5, Familiarity 0
SPICULUM 1: Piloting 5, Gunnery 6, SOT
7, Familiarity 0
SPICULUM 2: Piloting 5, Gunnery 6, SOT
7, Familiarity 0
```

Any type of missiles (other than HELLs) or pods available to TOG may be mounted on the hard points.

GAME LENGTH:

Combat continues until all of the opponents' ships are destroyed or have broken off the engagement. Ships that exit off the map are considered to have broken off the engagement. Ships are considered destroyed if the pilot is killed, the ship explodes, or if it has no thrust capabilities.

VICTORY CONDITIONS:

Victory is based on points, as follows:

```
Per enemy fighter destroyed or abandoned 20
Each enemy fighter that breaks off        5
```

Total the victory points for both sides; subtract the TOG score from the Renegade score. Consult the Outcome Table.

OUTCOME TABLE

```
    80+        Decisive Renegade Victory
 11 to  79     Substantive Renegade Victory
  0 to  10     Marginal Renegade Victory
 -1 to -10     Marginal TOG Victory
-11 to -79     Substantive TOG Victory
-80 or less    Decisive TOG Victory
```

VARIANT SCENARIO:

If desired, a KessRith squadron can be substituted for the Renegades. Replace the FLUTTERING PETALS with FLUTTERING PETAL - BIS, and the remainder of the squadron with 4 DELICATE BLOSSOMS. All other factors remain the same, although SOTs will have to be recalculated, and the KessRith will be limited to the missiles and/or pods that they are allowed.

SCENARIO 3: SEARCH AND RESCUE

BOARD SET-UP:

Lay out the map as shown. The bottom hex row (xx14) of Map 2 is the upper atmosphere of Grosianus IV, a high-gravity planet in the Grosianus system. All other hexes are considered to be open space.The bottom hex row (xx14) of Map 1 marks the beginning of the planet's gravity well. All gravity rules are in force for this scenario.

DEPLOYMENT:

TOG (Sets up first):

The CINGULUM class corvette Deduco is set up anywhere on hex row xx07 on Map 1. It may be set up with any heading or facing and a starting velocity of 1.

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Corvette Deduco -- Pilot: Piloting 5,
Gunnery 4, SOT 5, Familiarity 0
Corvette Deduco -- Turret Gunner:
Piloting 3, Gunnery 6, SOT 4, Famarity
0
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An ejected crew counter representing Flight Officer Mannius is placed on Map 1 in Hex 1313. Mannius has a current velocity of 1 and a heading of 4 (directly toward the planet). His suit's maneuver unit has 1 Thrust Point left. The Deduco's hardpoints may mount any type of missile or pod available to TOG.

RENEGADE LEGION (Sets up second):

The Renegade player has a six-ship squadron; two FLUTTERING PETALS, two AVENGERS, and two SPACE GULLS. During the Decision Phase of the first turn, the Renegade player rolls one die for each ship. If the result is 1, the ship may enter Map 1 immediately. All other ships enter the map in the Decision Phase of Turn 2. All Renegade ships must enter via Hex 0101 or 0102 of Map 1. They may have any heading and facing, and have a starting velocity of 1.

Renegade Squadron Crew Skill Levels:

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PETAL 1 -- Pilot: Piloting 5, Gunnery 4,
SOT 5, Familiarity 0
PETAL 1 -- Gunner: Piloting 2, Gunnery
6, SOT 4, Familiarity 0
PETAL 2 -- Pilot: Piloting 5, Gunnery 4,
SOT 5, Familiarity 0
PETAL 2 -- Gunner: Piloting 2, Gunnery
6, SOT 4, Familiarity 0
AVENGER 1: Piloting 5, Gunnery 5, SOT 6,
Familiarity 0
AVENGER 2: Piloting 5, Gunnery 5, SOT 6,
Familiarity 0
SPACE GULL 1: Piloting 5, Gunnery 4, SOT
6, Familiarity 0
SPACE GULL 2: Piloting 5, Gunnery 4, SOT
6, Familiarity 0
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The ships may mount any type of missile (except HELLs) or pod available to the Renegades.

GAME LENGTH:

The game ends if Flight Officer Mannius is killed, or if a ship which has picked him up has successfully broken off the engagement.

SPECIAL RULES

Any crewman that is not picked up by the time he enters the upper atmosphere of Grosianus IV is considered to have died by burning up in the atmosphere.

If a Renegade ship attempts to pick up Mannius, he will cooperate and enter the rescue compartment -- the shock of being shot down has weakened even the steely resolve of an Overlord's son to accept no favors from Renegades (!)

Any ship that exits the board without carrying Mannius or in pursuit of a ship carrying him is considered to have broken off the engagement and is out of the combat.

A ship may attempt to break off from the engagement by entering T-Space, or by exiting from Map 1 through the 01xx hexrow. Pursuit of a ship that exits Map 1 in such a manner while carrying Mannius is done in the following manner. At the end of the Movement Phase Map 2 is placed on top of Map 1 and the escaping ship is placed on the appropriate hex of the bottom row. All ships that were on Map 2 are removed from the game. All other ships may move normally. As the escaping ship moves onto Map 2, Map 1 is placed on top of it in the same manner, and the ships on Map 1 are removed. This procedure continues until all pursuing ships are removed, or the ship carrying Mannius is destroyed, abandoned, or goes into T-Space.

VICTORY CONDITIONS:

Victory is based on points, as follows:

Rescuing/Capturing Flight Officer Mannius and successfully breaking off engagement	150
Each Renegade fighter destroyed/abandoned	10
Deduco destroyed or abandoned	50

Total the victory points for both sides; subtract TOG's score from the Renegade score, and check the Outcome Table.

OUTCOME TABLE

151+	Decisive Renegade Victory
100 to 150	Substantive Renegade Victory
0 to 99	Marginal Renegade Victory
-1 to -150	Marginal TOG Victory
-151 to -200	Substantive TOG Victory
-201+	Decisive TOG Victory

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