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VECTOR V5
TACTICAL STARSHIP COMBAT SYSTEM

OVERVIEW

Vector V5 is a game of combat between small, fast starships in the distant future. The emphasis in creating these rules has been to provide players with a fast exciting game after a game or two, players will probably not have to refer to the rules at all.

The most innovative aspect of *VV5* is the movement system, which is based on the real physics of movement in space. All too often, science fiction films (& games) assume that starships will behave in the same way as terrestrial ships or aircraft. The truth is quite different as you will see. Once you have played one or two games, the movement rules will become second nature; they're actually much simpler than those used by most other games.

Components

In addition to these rules, you will have to print a copy of the counters, fifteen copies of the map section, and at least one copy of the starship status cards. It is recommended that the counters are mounted onto thick card – artist's mounting board is ideal.

Game Scale

1 hex = 250 metres
1 turn = 7 seconds
A velocity of 1 hex per turn = 35 m per second, or 126 km per hour.

Sequence of Play

VV5 is played out in *turns*. For each turn, follow this sequence of play:

- Initiative.
- Launch Missiles.
- Fire guns.
- Gun damage.
- Plot Movement.
- Change *vector* counters and move starships to new locations.
- Move *vector* counters to new location.
- Resolve any incoming missile fire against starships.
- Resolve any boarding actions in progress.

Initiative

Each side rolls 1D6, with a modifier of +2 for the team with the smallest number of starships in play. In the event of a tie, keep the same initiative as used in the previous turn. The player with the highest roll has the initiative this turn.

The initiative player decides which side will declare missile launches and / or gunfire first.

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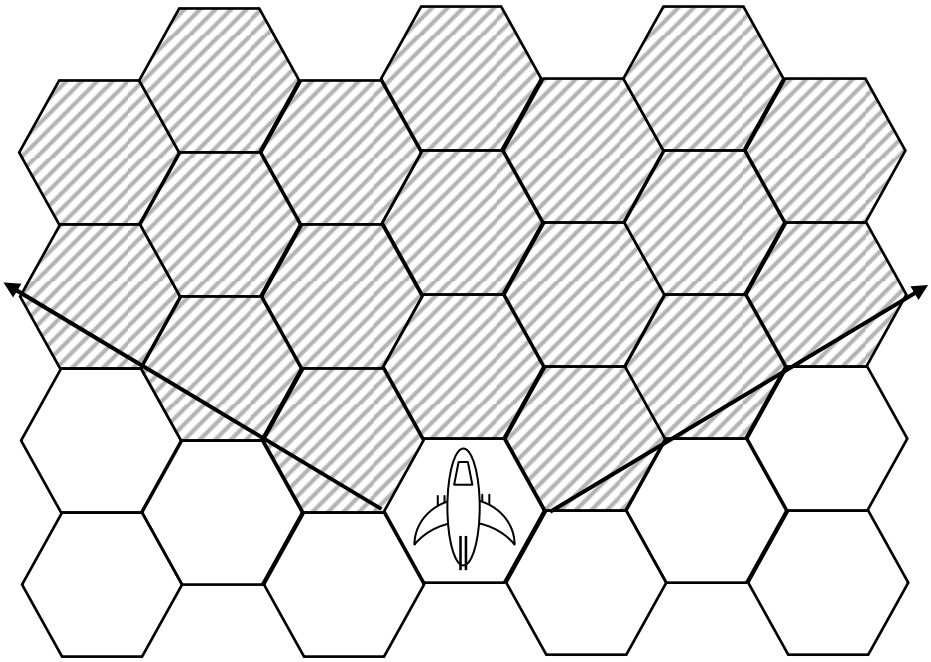
Launch Missiles

A starship may fire one or more missiles at any target within its forward arc (shaded hexagons in the diagram below).



When a missile is launched at a target, place an incoming missile counter on the target's card in the appropriate *to hit number* space. Clearly mark fired missiles by putting a large dot in the centre of the missile symbol on the firing starship's card. If more than one missile is fire, use the appropriate counter.

Range	To-Hit Number
1	10+
2 – 3	6+
4 – 5	7+
6 – 7	8+
8 – 9	9+
10 – 11	10+
12 – 13	11+
14 – 15	12

An unmodified roll of "2" always misses.
An unmodified roll of "12" always hits.

If a target is unable to accelerate, the missile only misses on an unmodified roll of "2".

If the target starship has any guns facing the firing starship, increase the initial to-hit number by 1 (except at range 1). Note that 360 degree turrets are particularly useful in fending off missile attacks. If a starship launchess missiles at more than one target in the same turn, reduce the initial *to hit number* by 1 for each missile launched.

Missiles don't reach their targets until after all starships have moved.

For every G of acceleration made by the target this turn, place the incoming missile counter 1 space lower on the target starship's card.

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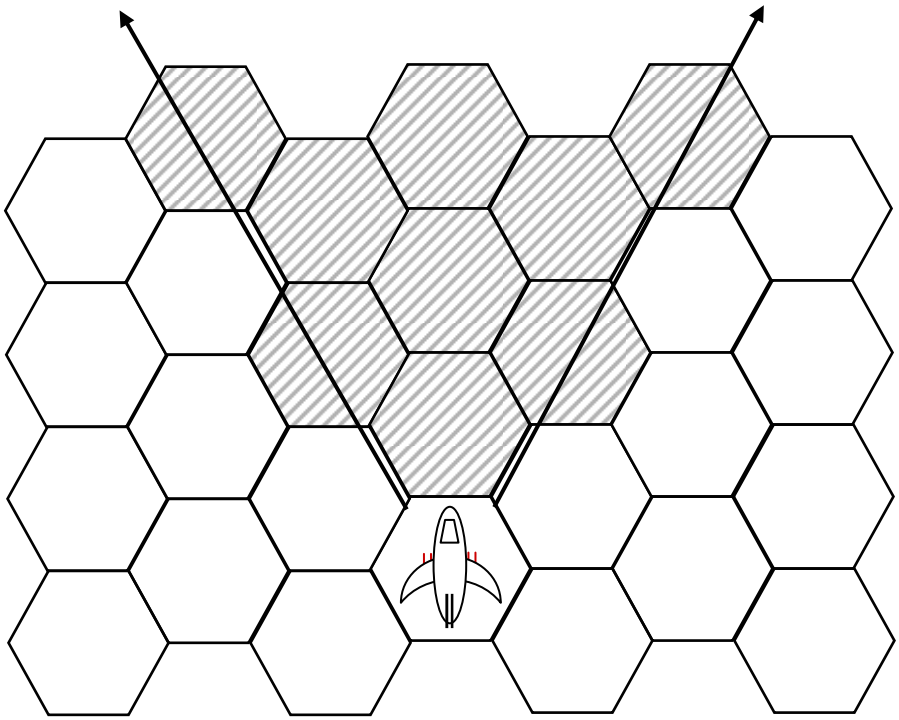
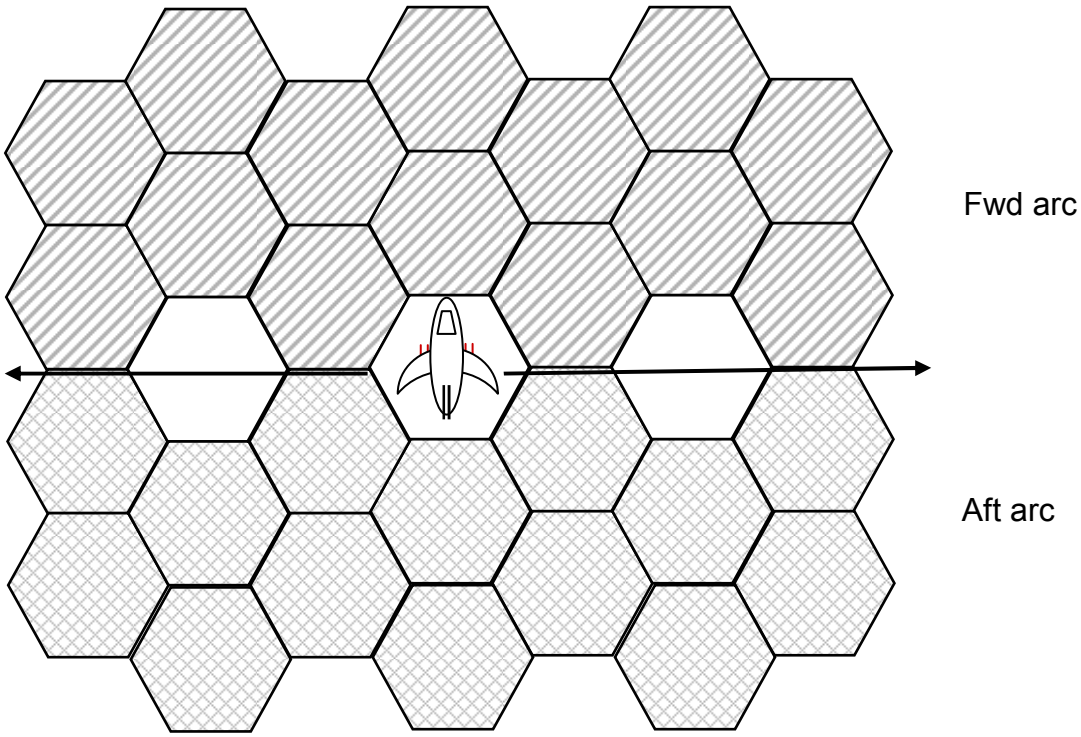
Gunfire

Unless otherwise stated, a starship armed with guns has them facing its front. Forward-firing guns have a more restricted arc of fire than missiles. Targets can be fired at if they are in the forward gun arc as noted by the shaded hexes on the diagram below:



Starships with guns in a 180 degree forward (fwd) or back (aft) arc can fire into the hexagons to the front or back as shown in the diagram below.



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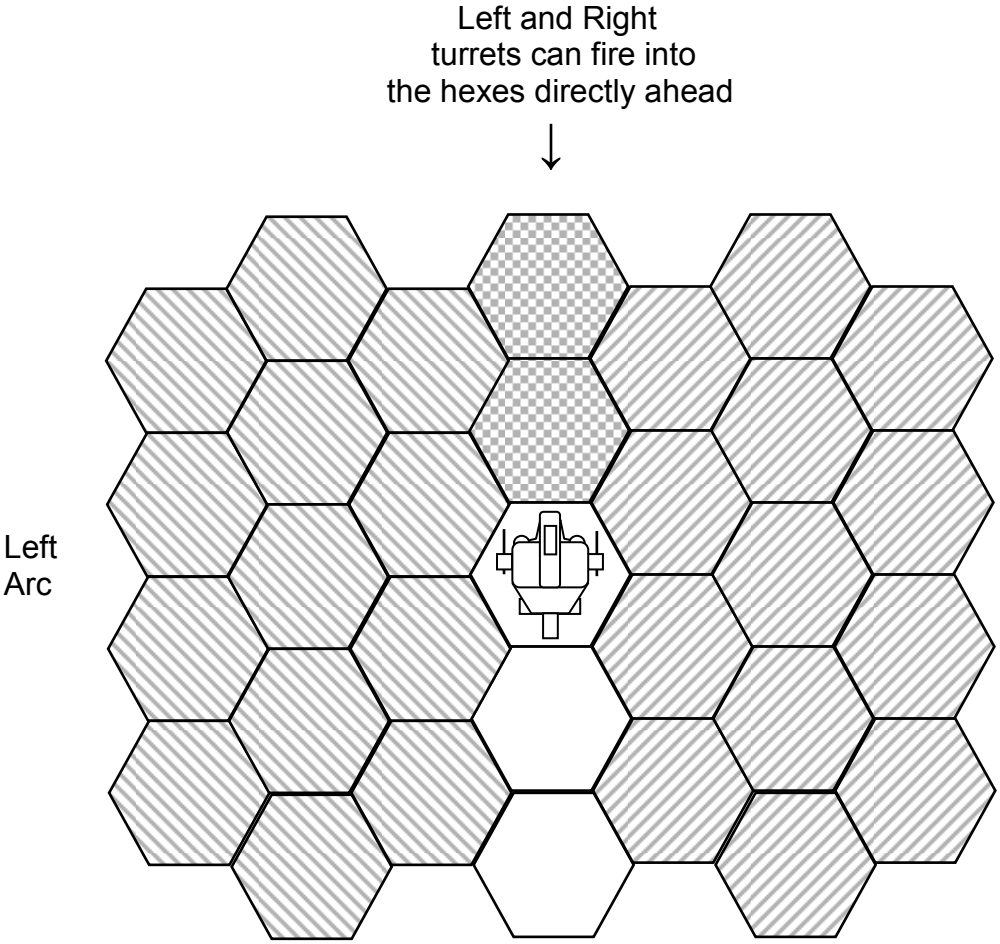
Starships with guns in a 180 degree Left or Right arc can fire into the hexagons to the left or right of the starship as shown on the diagram below. Note that both guns can fire into the line of hexagons directly ahead, but none can fire into the line of hexagons directly behind the starship.



Starships with 360 degree turrets can fire into any direction.

Guns can be fired *through* hexes containing other starships. However, if a hit is scored, roll 1 die for every occupied hex between the firing ship and its target (starting with the hex nearest the firer). If a “6” is rolled, the ship in that hex has been hit, rather than the original target.

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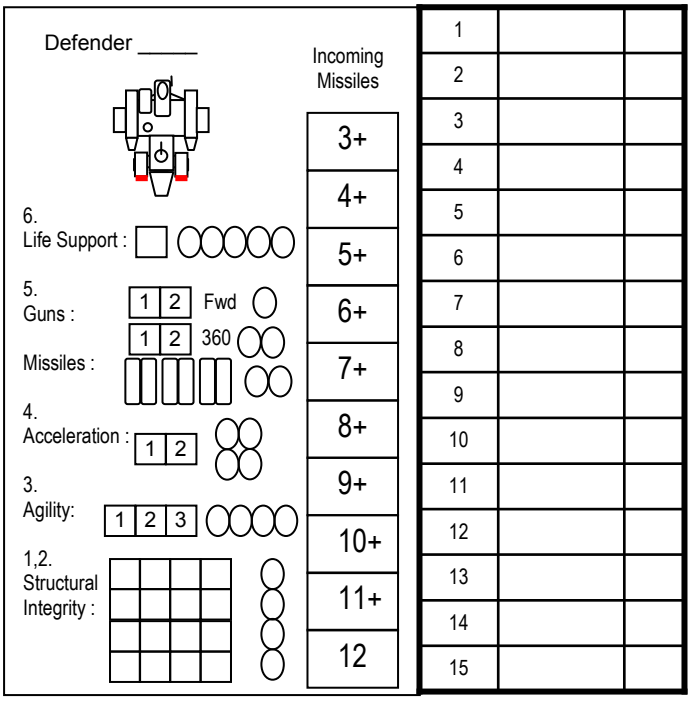
Roll two dice ("2D") to determine if you have hit your target:

Range	To-Hit Number	
1	7+	
2	8+	
3	9+	If firing more than 1 gun: +1 to dice roll.
4	10+	Target size 20+ : +1 to dice roll.
5	11+	Target size 40+ : +2 to dice roll.
6	12	Target unable to accelerate: +3 to dice roll.

As each target is hit, damage is determined. 1 point of damage is inflicted unless the firing ship rolls a double. If a double is rolled, the inflicted damage is equal to the number of guns fired.

As starships' guns are rapid fire, each gun can fire *twice* at a target. The damage inflicted on a target is cumulative.

For each point of gun damage inflicted on a target, note this in the right-hand column of the plot section on the starship's status card. (See illustration below.)



↑
Damage noted here

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Gunfire damage is resolved once all guns from both sides have fired. For every point of damage suffered, roll 1 die to determine the location hit. The location-hit numbers are noted on the left side of the target ships's status sheet. Generally, the numbers are:

1 = Structural Integrity. This represents the ability of the starship to sustain damage. The structural integrity of a starship is equal to its mass in tons. If any other location has been damaged to the extent that it has no more boxes left, or if there were no boxes to begin with, any damage at that location is considered to be structural integrity (in this case, ignore any armour that may remain on the ship's structural integrity – see armour below).

2 = Cargo. If cargo-carrying starships are used in a scenario, the loss of cargo boxes usually results in the loss of victory points. Cargo boxes can be used to carry a wide range of materials including passengers and soldiers (each box can carry one mechanised starship trooper and his equipment).

3 = Agility. Damage here affects the ability of the starship to turn in place. Once all agility boxes have been knocked out, the starship must rely on *emergency thrusters*. (See the movement rules below.)

4 = Acceleration. Damage to a starship's acceleration reduces its ability to change its speed. Once all acceleration boxes have been knocked out, the starship can turn in place but must continue on its current course. It is in effect a sitting target – particulary for missiles.

5 = Weapons. If more than one type of weapon system is carried (e.g. guns and missiles, or two gun turrets), roll 1 die to decide which system is hit. In the example on the previous page, the *Defender* starship has two types of gun and missiles. In this case, one die would be rolled. 1,2 = missile hit, 3,4 = 360-degree gun turret hit, 5,6 = forward gun hit.

For every gun hit, the number of guns available are reduced by one.
For every missile hit, two launchers are knocked out. If a starship has launched some of its missiles but has some remaining, randomly determine which pair of launchers has been knocked out by roiling a die. If a starship only has one launcher, this is knocked out and a point of *Structural Integrity* damage is also inflicted.

6 = Life support. All starships will have one life support box. Once this has been damaged, the starship is considered to be knocked out. Remove it from the game.

Note that if a starship doesn't have one of the above locations (usually cargo), there are two chances of hitting *structural integrity*.

Armour
If a starship has armour (represented by an oval space) in the location hit, cross this off before going on to do any real damage.

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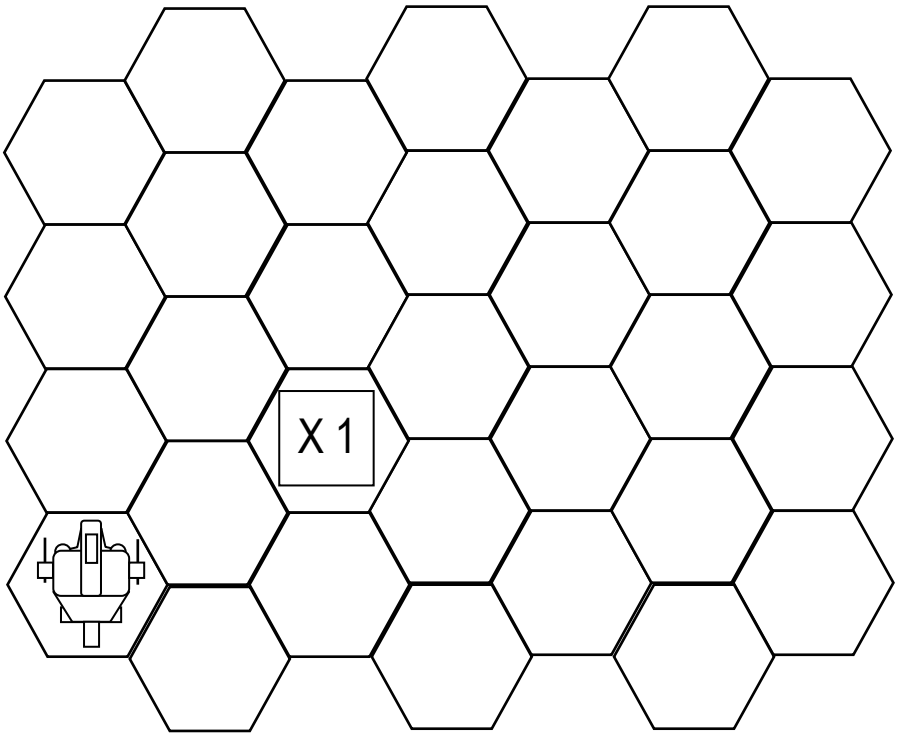
Movement

In space, you continue travelling along in the same direction at whatever speed you happen to be, indefinitely until you apply some acceleration from your engines (or until you hit something or get caught up on the gravity well of a planet or star).

To keep a track of each starship's movement, each ship in the game is given a designation by the player and a pair of *vector* markers. Two sets of markers are included in the game, 8 each of A-C and X-Z; enough for twelve starships to each side. One of the vector markers is placed under the starship counter, the other is placed one space in front of it. This represents where the starship will be placed at the end of its next move.



For example, the starship above (X1), has one X1 vector marker underneath it. The other is two hexes away. Unless the starship accelerates, it will end up in the hex occupied by its vector marker.

Plotting Movement

During the "Plot Movement" phase, each player writes down, for each starship, any rotations his starship will make that turn and any acceleration in the plot section of his starship's status card. Rotations cannot exceed the starship's current Agility value and acceleration cannot exceed the starships' current Acceleration value. A starship can undertake any combination of the following:

L = Rotate 60 degrees Left
R = Rotate 60 degrees Right
A = Accelerate 1G in the direction the starship will be pointing in.

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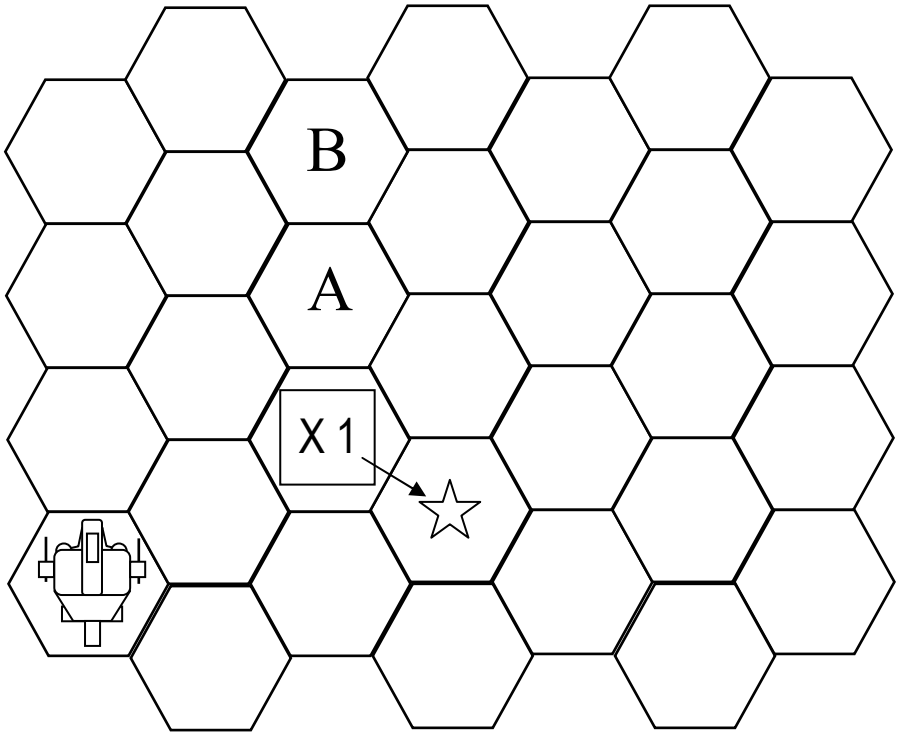
If a starship has all of its *Agility* boxes knocked out, it relies on emergency thrusters. As long as the starship has some Acceleration capability, an “L” or “R” can be plotted, but the ship can’t accelerate (in effect, energy from the main engines are redirected to turn the ship). However, if a starship has no agility *or* acceleration, it can’t rotate.



For example, *the starship above wants to change direction. If it just switched on its engines it would accelerate in the direction it is pointing in: a 1G acceleration (plotted as “1”)would mean the vector marker would be moved to hex “A”, a 2G acceleration (plotted as “2”) would move the vector marker to hex “B”. If the player wants the starship to do anything more interesting, he must rotate it.*
The player could plot “RR1”to turn the starship through two 60-degree right-hand rotations and then accelerate 1 space, moving the vector marker to the hex labelled with the star.

Any combination of rotations and accelerations can be plotted, as long as the starship has sufficient *Agility* and *Acceleration*.

Acceleration is often the best way to shake off incoming missiles. For every G of acceleration undertaken by the target starship this turn, place the incoming missile counter 1 space lower on the target starship’s card.

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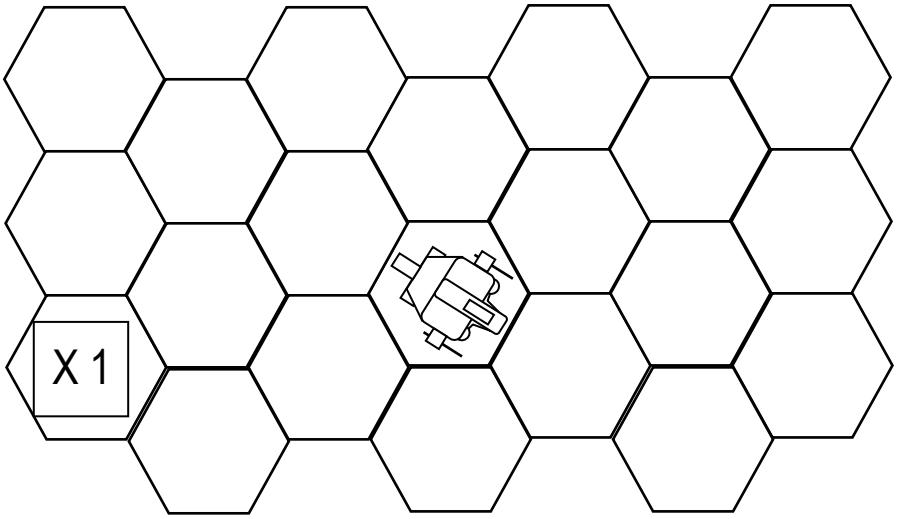
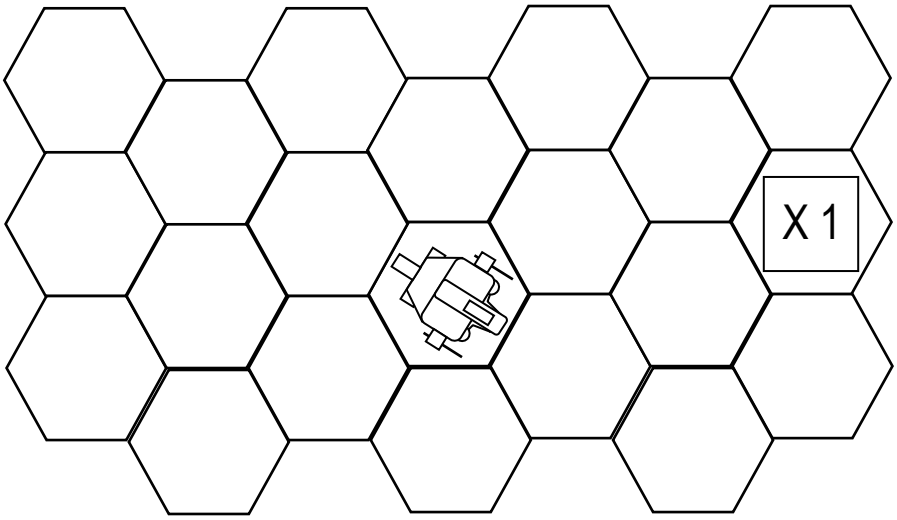
Moving starships

Once all moves have been plotted, the starships are moved, one at a time, on top of their vector markers. The vector markers underneath them are left where they are for the moment.



When all starship counters have been moved, and once all collisions have been resolved (see below), the vector marker is moved to its new position. In effect, a mirror-image of its position in relation to the starship. In our example, the X1 vector marker is moved to the new hexagon as shown below.



Collisions

As each hexagon is 250 m across, there is little chance of starships unintentionally colliding. However, there are good aesthetic reasons for limiting each hex to one starship, particulary if models are used. Therefore, only one starship can occupy a hex at the end of movement. If two starships are plotted to occupy the same hex, roll competitive dice. The ship with the highest roll occupies the hex. The losing ship is displaced 1 hex in a random direction (roll 1die to determine this direction). All starships' headings remain the same.

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Resolving Missile Attacks

Once all starships have moved, all missile attacks are resolved.

The number needed to hit a target (with two dice) is the *to hit* number as noted by the *incoming missile* marker on the target's ship status card. This number may be modified as the target accelerates (see "Plotting Movement" above)

If the target is unable to accelerate, the missile only misses on an unmodified roll of "2".

Missiles inflict 2 dice of damage on a target when they hit. This damage is resolved immediately – before going on to resolve the next missile attack.

Resolving Boarding Actions

Some scenarios may involve the use of starship troopers to board other ships or alien installations. Any actions relating to these are conducted at this time, before the next turn begins. Rules relating to the use of starship troopers are noted in the relevant scenario section.

The Game Board

Players may either make use of a commercially purchased hexagonal grid sheet, or may make eight copies of the hex grid included in these rules. If using the sheets, lay them out in the following order:

A	B	C	D	E
F	G	H	I	J
K	L	M	N	O

In the case of the "dogfight" scenario, players may, by mutual agreement, shift starships and their vector markers in such a way as to enable ships to remain on the board. In the other scenarios, this is not possible.

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Scenarios

1) Dogfight

More than two players can play this scenario.

Roll 2 dice and add 8. This is the number of tons available to both sides to purchase one, two or three starships. Players should, if possible, purchase starships in pairs. For larger dogfights, double the number of points available.

An interesting way to limit the availability of starships is to put one counter for each starship fighter (i.e. not transport ships) in an opaque container and let each player in turn pick two of these from the container. He must then choose one of these starships if he is able. Any purchase points left over can be used when that player next gets a chance to choose a starship. If possible, two starships of the type must be chosen. The next player then picks a new starship out of the container; he can choose to have ships of this type or of the type left by the first player. If the first player has purchase points remaining, he can draw a new starship.

For example, the players each have 15 purchase points to spend. The first player draws the Dynamo (6tn) & Harpy (7tn) starships. He chooses the harpy, & purchases a pair of these for 14 points. 1 purchase point remains, which is unable to be used as the smallest starships is 5tns.
The second player draws the Ghost (5tn) starship. He could purchase a pair of Dynamos or three Ghosts.

One side sets up along the left edge of map section F, the other sets up along the right edge of map section J. All ships have a starting velocity of 1 hex per turn in the direction of their opponents.

As a matter of honour, players should not attempt to retreat from the board until at least one starship from either side has been destroyed or until a whole plot sheet has been completed, whichever is the first.

Victory Points (VPs):
Destroyed Starship = 3 VPs per Structural Integrity point.
Damaged Starship = 1 VP per non-armour damage suffered.

Multi-player games

Players try to other players' ships. For three players, setup on Left side of section F, & in the far corners of sections E & O. For four players, set up in the far corners of sections A, E, K & O.

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2) Strike Force

Set up is as for a dogfight (scenario 1), but one side has some (at least two) of its missiles replaced by bombs. Note this by putting a horizontal line above the missile symbols. The bombers must attempt to get from one side of the board to the other. The strike force player starts along the right edge of map section J with a starting velocity of 1 hex per turn. Once these ships have been placed, the intercepting player can place his ships, starting either along the top edge of map section D or the bottom edge of map section N. The intercepting player's ships have a starting velocity of 2 hexes per turn.

Victory Points:
Destroyed Starship = 3 VPs per Structural Integrity point.
Damaged Starship = 1 VP per non-armour damage suffered.

At the end of the game, the strike-force player rolls 1 die for each bomb carried off the left edge of the board:

6 = Target destroyed. +5 VPs for the bomber player
5 = Target damaged. +1 VP for the bomber player
1-4 = Target missed.

3) Assault Force

One transport ship, carrying space marines, is being escorted by fighters. Setup is as for the Strike Force scenario (scenario 2), but the Assault Force player adds 1 cargo ship for each element of the fighters. This ship must cross from one side of the board to the other.

Victory Points:
Destroyed Starship = 3 VPs per Structural Integrity point.
Damaged Starship = 1 VP per non-armour damage suffered.
Destroyed transport = 2 VPs per Structural Integrity point.
Damaged transport = 1 VP per 2 non-armour & non-cargo damages suffered.

At the end of the game, the Assault Force player rolls 1 die for each intact cargo box carried off the left edge of the board:

3 – 6 = Starship trooper successfully disembarked. +3 VPs.
1 – 2 = Starship trooper unable to disembark.

For every cargo point destroyed, the intercepting player gains +5 VPs.

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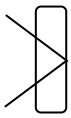
4) Stasis Pod

This scenario may be played by more than two players.
A stasis pod has been discovered orbiting a body in a star system located in the area of hostilities. Before the players decide where they will enter the board, one places the orbited body in the centre of the map. The other player places a stasis pod counter in a hex adjacent to it. Roll 1Die to determine what is near the pod:

1. Asteroid field in the centre strip of the board: map sections C, H, & M. (See Scenario 5 below)
2. Automated defence platform. (See Scenario 6 below)
3. Large asteroid.
4. Strangely dense body. (Gravity 1).
5. Strangely dense body. (Gravity 2)
6. Strangely dense body. (Gravity 3)

Stasis Pod

Opposing forces begin within 3 hexes of opposite corners of the board, with a velocity of 1 hex per turn. As the point of this scenario is to capture the stasis pod, both sides may opt to replace one missile from any missile-armed starships with a traction unit. A converted missile launcher has a pair of horizontal lines drawn across the missile thus:



To get hold of the stasis pod, a starship must, at the Boarding Action phase of a turn, be in the hex adjacent to the pod. To successfully grab the pod, roll 1D6. If the number rolled is greater than the velocity of the starship (count the number of hexes between the starship and its vector marker), the pod is grappled. Place the pod marker onto the status sheet of the starship that grabbed it. Stasis pods cannot be damaged or destroyed.

If two opposing starships successfully grab the pod with their traction units, the starship with the highest velocity wins and gets the pod. If both starships have the same velocity, decide which one gets the pod by competitive dice rolls.

Victory:
The winner is the player who is able to get the stasis pod off the board within 5 hexes of his starting corner. If the pod exits the board at any other point, the game is a draw.

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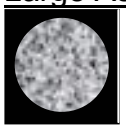
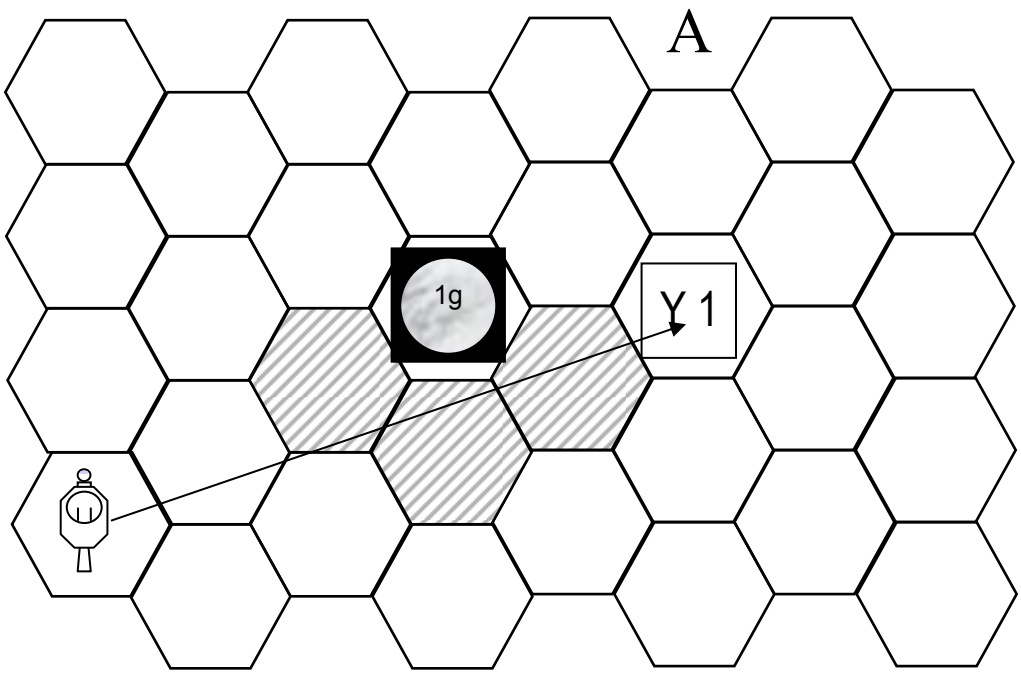
Large Asteroid



This object completely covers the hexagon it is in. Missiles and guns cannot be fired through a large asteroid. A starship *may* fly through a hex occupied by a large asteroid, but if a starship finishes its turn in the large asteroid's hex, it is assumed to have crashed and is destroyed.

Strangely Dense Body

This object behaves in the same way as a large asteroid. However, it exerts a strong gravity field. Every time a starship moves into a hex adjacent to the body, its vector marker is accelerated towards the body. If more than one hex is traversed in a turn, the vector marker is accelerated for every hex.



For example, the starship would normally move to the hex occupied by its vector marker. However, it moves through three hexes adjacent to the 1g body. This means that the marker will be accelerated 1 hex in the direction of the body from the first hex (i.e. upper right), 1 hex in the direction of the body from the second hex (i.e. straight up), and 1 hex in the direction of the body from the third hex (i.e. upper left). The vector marker therefore ends up in the hex labelled "A".

If a collision takes place next to a large asteroid or strangely dense body, any starship shifted to the same hex as one of these is destroyed.

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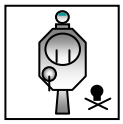
5) Pirates



A pirate ship is attempting to make a run for its home base, located in a dense asteroid field. The Pirate player has one specially designed pirate ship (Use a re-designed transport, or just add a single gun 360-degree turret to an existing transport ship and remove two cargo boxes. The pirate must have an acceleration value of 2). The pirate ship is placed on the left edge of the section F. The intercepting player has two dice +8 purchase points to spend on fighters; these are placed at the top left corner of section A & the bottom left corner of section K. All ships have a starting velocity of 2.

The far part of the board (map sections D,E,I,J,N & O) is an asteroid field. Any starship entering this area must roll 2 Dice. If the number rolled is less than the velocity of the starship, it has struck an asteroid and is destroyed. If the number is equal to the velocity of the starship, it has struck a small piece of rock and suffers 1 die of damage. The pirate player, because he knows the asteroid field well, adds 1 to the dice roll.

Every Boarding Action phase, the pirate player rolls 1 die. If the number rolled is less than the distance between the pirate ship and the nearest intercepting starship, the pirate has managed to evade his pursuers and wins the game. The pirate can also win the game by destroying his pursuers. The intercepting player wins by destroying the pirate ship.

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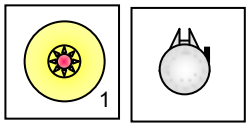
6) Alien Starship

This scenario may be played by more than two players.



An ancient starship has been located in deep space, defended by three automated defence platforms (ADPs). The players must escort a starship trooper unit to the starship where they must take control of it and download its databanks. Alternatively, the starship must be destroyed to prevent its capture by the enemy.

Place the ancient starship in the centre of the board with three ADPs spaced out adjacent to it, with an empty hex between each ADP. The opposing players start at opposite corners of the board. This scenario may be played by more than two players. Each player gets two dice +10 purchase points of fighters (see scenario 1) as well as a randomly determined transport ship containing starship troopers.

During the gunfire phase, an ADP will fire at the nearest target. If two or more targets are equally near, it will fire at the largest. Resolve ties by competitive dice rolls. Phasers are particularly accurate guns. Roll 2 dice; they hit their target if the roll is equal to or greater than the range to the target. If the target is unable to accelerate, add 4 to the dice roll. If a starship is hit by phasers it suffers 1 die of damage. Phasers reduce the “to hit” number of any incoming missiles by 1. During the Movement phase, each ADP with a functioning engine will move 1 hex in a random direction. (Roll 1 die for the direction).

Starship troopers board the ancient starship in the same manner as Scenario 7 below. The ancient starship has a structural integrity of 20. If destroyed before anyone manages to download its data, victory is determined by

Destroyed Starship = 3 VPs per Structural Integrity point.
Damaged Starship = 1 VP per non-armour damage suffered.
Destroyed transport = 2 VPs per Structural Integrity point.
Damaged transport = 1 VP per 2 non-armour & non-cargo damages suffered.
Starship trooper killed (either in combat on the ancient starship or as a result of a cargo box being destroyed before the trooper can board the ancient starship) = 5 VP each.
The ADPs are not worth any victory points.

However, if a player manages to download the data from the ancient starship, he automatically wins.

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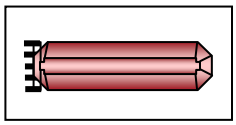
7) The Ghost Ship

This scenario may be played by more than two players.



A huge mining ship has been located drifting through space. There appears to be no-one on board and there are no clues as to what has happened to it. Both players must attempt to send a boarding party of starship troopers onto the vessel to recover the ship's computer log. To board the ship, a transport ship must move to an adjacent hex and match velocity with the Ghost Ship; a number of marines equal to the cargo capacity of the transport ship are transferred across. Each Boarding Action phase roll 2 dice. If the dice roll is equal to or less than the number of marines aboard, the computer log has been found and has been downloaded to the player's starships. The computer is then sabotaged to stop the other players getting this information. The player then has to get at least one of his starships off the board, within 5 hexes of his starting position.

If more than one player has troopers on board the Ghost Ship, at the Boarding Action phase each player rolls 1 die for each of his troopers. On a roll of "6" an enemy trooper is killed. While enemy starship troopers are on board, the computer log can only be recovered if one player rolls a "2" on 2 dice. It is possible for more than one player to obtain a copy of the computer log in this manner.

At the start of the game the Ghost Ship is positioned at the centre of the left edge of section F. Opposing forces are positioned at the two far corners of the board. The Ghost Ship is moving at a velocity of 2 hexes per turn towards the edge of the board where the players start. Each player has a flight of fighters and a randomly determined transport ship.

The Ghost Ship has a structural integrity of 80. It occupies two hexes and cannot be fired through.

Starship troopers are safe from injury if the Ghost Ship is damaged, but if any troopers are on board when the Ghost Ship's structural integrity is reduced to zero, they are considered to have been killed.

The scenario ends when the Ghost ship has been destroyed, when the computer log is download, or when the Ghost Ship reaches the far edge of the board (at which point, it is assumed to have plunged into the gravity well of a black hole and is destroyed).

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8) Refugees

One player must escort a transport ship full of refugees off a war-torn asteroid. Place a large asteroid in the centre of the board. The intercepting player has a flight of fighters and places his starships first – no less than ten hexes away from the asteroid. The refugee player has a flight of fighters and a randomly determined transport ship; these start play on the asteroid facing any direction.

Victory Points:
Destroyed Starship = 3 VPs per Structural Integrity point.
Damaged Starship = 1 VP per non-armour damage suffered.
Destroyed transport = 2 VPs per Structural Integrity point.
Damaged transport = 1 VP per 2 non-armour & non-cargo damages suffered.
Killed Refugees = 5 VP to the intercepting player per cargo box destroyed.
Rescued Refugees = 5VP to the refugee player per cargo box that escapes across either of the narrow board edges.

9) Invasion

This scenario can be played by one or more players.

The player sets up his flight of starships along the right edge of the board. The 1g strangely dense body (see scenario 4) is placed in the centre of section G, the 2g body is placed in the centre of map section B and the 3g body is placed in the centre of map section L. The three ADP counters (see scenario 6) are placed in the centres of sections A, F & K.

The alien starships and strangely dense bodies have an initial velocity of 3 hexes per turn. After all alien units have moved, roll 1 die to see which hexagon the unit will actually move to (the alien units have some weird propulsion device that shifts them one hex in a random direction each turn).

If an ADP has its engine knocked out, it must maintain its current velocity and cannot shift one hex in a random direction.

Every time an alien ADP is destroyed, remove one randomly determined strangely dense body.

Victory
Alien victory : Two or three strangely dense bodies exit the right board edge.
Draw : One strangely dense body exits the right board edge.
Human victory : No strangely dense bodies exit the right board edge.

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EXPERIENCED CREWS (Optional Rule: not necessary for playing the game)
If players wish to play a series of scenarios with the same starship crews, keep note of how many "Experience Points" a crew accumulates. 1 Experience point is gained for each of the following:

* Being part of the winning side in a scenario.
* Destroying an enemy starship.
* Escaping from a destroyed starship.

If gunfire or missiles from several starships were used to destroy an enemy, each participating attacker gets the experience point for the "kill".

When a starship is knocked out (either by its Life support being destroyed or by its Structural Integrity being reduced to zero), roll 1 die to see if the crew escape:

If the crew's side wins the scenario	If the crew's side loses the scenario
4-6 = Crew escapes	5-6 = Crew escapes
1-3 = Crew killed	4 = Crew captured by the enemy
	1-3 = Crew killed

Aces add 1 to these *escape* die rolls.
Crews may *voluntarily* attempt to escape from a starship. Voluntary escapes are always successful, but if a scenario is lost, the crew are captured on a roll of 1 or 2.

Experience Points	Rating	Game Effects
None	Rookie	All missile and gun to-hit numbers are reduced by 1.
1	Regular	(No special effects)
5	Veteran	+1 to all missile and gunfire attacks.
10	Ace	As Veteran, but has an "Ace Moment" on a roll of 1
20	Ace(2)	As Veteran, but has an "Ace Moment" on a roll of 1-2
30	Ace(3)	As Veteran, but has an "Ace Moment" on a roll of 1-3
40	Ace(4)	As Veteran, but has an "Ace Moment" on a roll of 1-4
50+	Ace(5)	As Veteran, but has an "Ace Moment" on a roll of 1-5

Ace Moments
After all movement has been plotted, roll 1 die for every Ace. On a roll of "6", he experiences an "Ace Moment" and is able to ignore his plotted movement. Once all other starships have moved, any ships with an Ace Moment then make new plots. In effect, the crews get a chance to see what most of the other ships are up to before deciding on their own moves.

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SHOCK (Optional Rule: not necessary for playing the game)
"Shock action, or surprise, is in effect the dominant factor in air combat…Its effect cannot possibly be over-rated." – M. Spick.

There are some situations where a crew has to overcome the surprise effects of "shock". If they manage to do so, they can continue to fight effectively, but if not, they are forced to manoeuvre in a limited and erratic manner.

Add 1 *Shock* point counter to a starship's status card for each of the following:

- Shot at from its rear arc by guns or missiles
  (The rear arc is the reverse of the forward gun arc)
- Has one or more missiles incoming
- Suffers damage from gunfire
- Suffers damage from missile hits
- Each friendly starship destroyed

Apart from the last category, a maximum of 1 shock point is added to the starship for each. *For example, a starship is shot at by three enemy, two of which are in its rear arc: 1 shock point is added. It is hit by gunfire from all three attackers: 1 shock point is added. Two friendly starships are destroyed by other enemy gunfire: 2 shock points are added. Thus by the beginning of the movement phase, this starship has accumulated 4 shock points. Not nice.*

Before plotting movement, check for "panic". For each starship with shock points, add an extra 1 point for all Rookie crews, and subtract 1 point or more for all Ace crews (where the number of shock points removed is equal to the crew's ace status). Then roll 1 die for each ship with shock points. If the die roll is equal to or less than the shock point number, the crew *panic*. Otherwise, there is no effect. Remove all shock point markers.

Ace crews that panic cannot experience an *Ace Moment* this turn. (*Aces are not supermen – they are less likely to panic, but under extreme pressure even highly experienced warriors make mistakes.*)

Panic
Before all other ships plot their movement, roll 1 die for each panicked starship and must, if possible, do this move. Panicked ships that move into asteroids or strangely dense bodies are destroyed.

1 = No rotation or acceleration this turn.
2 = Left turn.
3 = Right turn.
4 = Left turn then 1 acceleration.
5 = Right turn then 1 acceleration.
6 = 1 acceleration.

Veteran and Ace crews that are panicking, do not get their +1 bonus for gunfire or missile attacks.

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Starship Design

These rules enable players to create their own starship designs and use them in their games. If players are using models, these may act as an inspiration for an entirely new ship design.

Starship fighters typically range from 1 to 10 tons in mass. Larger ships such as small transports can be up to 20 tons. Each ton of starship mass gives it a Structural Integrity (S.I.) value of 1.

Life support: Required (room for pilot and systems officer). 1 ton.

Acceleration: 1G = 15% of starship mass.
2G = 30% of starship mass.
3G = 45% of starship mass.
4G = 60% of starship mass.
5G = 75% of starship mass.
(round all fractions up)

Agility: 1 Turn = 5% of starship mass.
2 Turns = 10% of starship mass.
3 Turns = 15% of starship mass.
4 Turns = 20% of starship mass.
5 Turns = 25% of starship mass.
6 Turns = 30% of starship mass.
(round all fractions up)

Guns: 1 Gun = 0.4 tons.
180 degree 1-gun turret = 0.8 tons.
360 degree 1-gun turret = 1.2 tons.
(for more guns, simply increase the mass proportionally)

Missiles: 1 missile = 0.2 tons.

Cargo: 1 Cargo space = 1 ton.

Armour: Life Support, guns, missiles = 0.1 ton.
Acceleration, Agility, Cargo, S.I. = 0.1 ton (1-10 ton starships).
Acceleration, Agility, Cargo, S.I. = 0.2 tons (11-20 ton starships).
Acceleration, Agility, Cargo, S.I. = 0.3 tons (21-40 ton starships).
Acceleration, Agility, Cargo, S.I. = 0.4 tons (41-80 ton starships).

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And Finally…
Thanks to Rob Herbert for assistance in playtesting.
There may be other bolt-on rules in the pipeline for this game including: Solitaire and multi-player campaigns & large-ship action rules loosely based on concepts introduced in Vector V5.
If you have any ideas, drop me a line.

Thanks for playing,
Nigel