Medium Frontier Combat Module

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Contents

1 Introduction

These rules attempt to represent combat between ill-equipped amateurs who are not actually in war with each other. Sort of like a whaling ship ramming an activists' boat. Except with a speed difference of few hundred meters per second. And the harpoon just happens to be a 60 MW laser. And they are in space.

1.1 Changes from High Frontier Combat Module

The rules and probabilities from the official High Frontier combat module have been kept roughly the same, but there are few major changes:

- Blockading a whole planet from orbit is no longer possible. You can only attack by chasing down your enemy during your own turn or by interrupting his operations on the ground.

- Beam damage is simultaneous while the order in which ramming and ground attacks are resolved depends on what is being targeted.

- Anything can be used for ramming, but the maneuver requires reasonable acceleration and some fuel, therefore keeping those $5 \cdot 4$ missile robonauts relevant.

- Besides of luck, ramming damage depends on the mass of the ramming stack, therefore giving a purpose for those high mass and high radiation hardness cards.

- Buggy robonauts are already important enough for their ability to reroll claim attempts, so their attack capability is limited to ground targets.

1.2 Changes to Medium Frontier Infamy

This combat module overrides Medium Frontier infamy rules.

Water theft from another player's factory is no longer possible: instead the factory has to be attacked and captured.

Claim jump (building a factory on another player's claim) is only worth of one point of infamy. The point is awarded when the build action is declared. Crew card is no longer needed for the action, and another player's crew card cannot prevent it either: instead the build action must be interrupted by declaring combat. If necessary cards survive combat, the interrupted player can try again on the same site and during the same turn without receiving more infamy.

Combat is a major source of infamy. Detailed rules in section 4.1.

2 Declaring Combat

Combat can take place on a **site hex** or in **space** (Hohmann intersection, burn, or Lagrange point). Combat happens only between two players: the player declaring combat is the **attacker** and the other is the **defender**. All of the defenders **units** (factories or stacks with cards) in the site hex or space are involved in combat, while the attacker can choose some of his units to stay out. If combat takes place on a site hex, the attacker can also choose to involve any of his units in an adjacent space (these units pass over the battlefield at the right moment, while the defender's units in same space are on the wrong leg of their orbit).

There are two ways to declare combat: attack and interrupt.

2.1 Attack

The phasing player can declare combat in any site hex or space he has units in or in a site hex which is adjacent to a space he has units in. He can do this only once for each site hex or space during his turn.

None of the phasing player's cards taking part in combat can take move or landing/lift off actions during the remainder of the turn (this applies even if they started the turn there).

2.2 Interrupt

If the phasing player attempts an extraterrestrial action, **other players** with collocated units can interrupt him by declaring combat. If the ET-action takes place on a site hex, other players can interrupt from adjacent space.

If several players declare combat simultaneously, the one who would take his turn first goes first. Each player can attempt to interrupt the phasing player only once for each site hex or space during the phasing player's turn.

The phasing player's extraterrestrial action is not used in the process.

3 Combat Sequence

Combat sequence is the same regardless on how the combat started: go through sections 3.1 - 3.6 in numerical order.

3.1 Form stacks

Attacker can use free actions to manage his stacks (the hard limit of three stacks applies). Defender can wait to see attacker's stacks before doing the same. After this phase the only allowed free action is "jettison fuel".

3.2 Declare Ramming Attack Targets

Attacker declares ramming attacks and their targets before defender. Each stack can target one enemy stack or factory.

Each stack declaring a ramming attack has to instantly perform a **half-burn with acceleration of at least 5** or higher than the site size, whichever is more. Stacks with **crew cards can never declare ramming attacks**.

If the ramming stack is on a site hex and the target is in adjacent space and has not declared a ramming attack, the ramming stack has to instantly perform a normal lift off in addition to the half burn. Note that only those units the attacker decided to involve in combat can be targeted.

All aerobrake and crash hazards are ignored when performing ramming attacks.

3.3 Declare Ground Attack Targets

Attacker declares ground attacks and their targets before defender. Each stack can target one enemy factory or a stack which starts the combat landed and did not declare a ramming attack.

A crew card or a buggy robonaut with supports is required for ground attack. In addition the stack must start the combat landed on a site and it must not have declared a ramming attack in previous phase.

Targeted stacks can **evade** the attack by instantly performing a half-burn with acceleration of at least 5 or higher than the site size, whichever is more. Evading stacks cannot perform beam attacks. The attacking unit can choose another target.

3.4   Resolve Beam Attacks

Each factory cube (normally 2 per factory), raygun robonaut, and raygun crew can make one beam attack in this phase.

Support cards can be used to support a raygun robonaut even if they were used to support a thruster in previous combat phases. However, raygun robonauts cannot share their supports with other raygun robonauts.

Each individual weapon can target **one card or all fuel tanks in one stack** (attacking factories with beam weapons is useless). Attacker and defender can **declare attacks freely in any order**, but once an attack is declared it cannot be canceled. All beam attacks are resolved when neither side is capable or willing to declare any more attacks. **Damage is applied simultaneously to all targets**.

A beam attack is resolved by rolling 1D6 and adding modifiers. Factories receive positive solar modifier, but not negative. Robonauts with solar supports receive negative solar modifier, but not positive.

Targeted card is decommissioned if the result exceeds its radiation hardness. If fuel tanks were targeted, each **3** points will destroy one tank.

3.5   Resolve Ramming Attacks

The order in which ramming attacks are resolved is defined by two rules:

1. Attacks against stacks are resolved before attacks against factories.

2. Attacks made by stacks which are not themselves being targeted by ramming attacks are resolved first.

A ramming attack is resolved by rolling 1D8. The player who declared the ramming attack can also choose to miss the target before the die is rolled.

Both sides use same roll to determine damage to their own unit, but they **add the total mass of the opposing unit to it** (total mass is read from fuel track, so the minimum mass is always 1). All cards with radiation hardness less than the result are decommissioned. Remove one fuel tank for each **2** points. **The radiation hardness of a factory is 8**.

A stack ramming any target on a site hex is completely destroyed: even if the player chooses to miss a target on a site hex, the attacking stack will still hit the ground. Stacks which made the lift off burn in order to ram a target in the adjacent space, and those stacks that rammed them, are not considered to be in the site hex anymore. They end the battle in space.

Two stacks ramming each other are completely destroyed.

3.6   Resolve Ground Attacks

If both sides are performing ground attacks, the rules used to define the order in which attacks are resolved are similar to the rules used for ramming attacks.

A ground attack against a stack is resolved by rolling a die for each crew card or supported buggy robonaut in both stacks. Supported **buggy robonauts use d6**, while **crew cards use d8**. Highest roll from each stack is compared to all opposing cards which had a die rolled for, and their supports. The cards with smaller

radiation hardness are decommissioned. If the other stack has at least one crew card or supported buggy robonaut remaining and the other stack has none, everything in the latter stack is decommissioned (therefore an attack against a stack without crew or buggies is automatically successful).

Ground attack against a factory is resolved by simply rolling dice for each attacking card. Supported **buggy robonauts use 2d6**, while **crew cards use 2d8**. **The radiation hardness of a factory is 8**. If the best roll was made for a crew card, the player can choose to capture the factory instead of destroying it.

4 Results of Combat

4.1 Combat and Infamy

For each combat, **one point of infamy** is awarded according to following rules:

1. If combat takes place on a site hex where the defender has a factory, the attacker gets the point of infamy.

2. If the previous rule does not apply, the one who first declares a beam attack gets the point of infamy.

3. If neither side uses beam weapons, but there are ramming or ground attacks which are actually resolved (not evaded or missed on purpose), the player who declared the attack which is resolved first gets the point of infamy.

If none of the rules above apply, no infamy is awarded (combat where no attacks are made is possible if the whole thing was just a failed attempt to provoke a violent response from the defender and make them look bad).

Player can instantly pay off the point of infamy with 4 WT, **if his opponent already had two points of infamy before combat** (violence against known criminals is sort of okay if you bribe the right people).

In addition to the one point of infamy, for each **crew** card that is decommissioned or discarded, opposing side receives one point of infamy. This cannot be paid off.

4.2 Destroyed Factory

If a factory gets destroyed, the player owning the factory will still keep his claim to the site. The factory track is updated to match the new amount of factories, which might change the amount of active end conditions and cancel the end of the game. However, destruction of factories has no effect on completed projects.

A Example: Raid Over Ceres

The white player has a factory and a stack of random rocket parts in Ceres. The orange player intends to eliminate this factory. He has just moved a large rocket stack to the Lagrange point adjacent to Ceres. He declares combat in Ceres site hex by attacking.

As an **attacker** the orange player **has to form his stacks first**. He decides to divide his force into two stacks: **Stack A** is the main ship. Its dry mass is 4 and it only has a half tank of fuel left. It is armed with raygun robonaut. The weakest card is the Ti/K heat pipe radiator with radiation hardness of 3. **Stack B** functions as an missile. The two cards are nuclear drill (M1 RH6) and dual mode fission reactor (M1 RH5). It has two and half tanks of fuel.

The white player has three tanks of fuel and two cards on the surface: electric sail (M0 RH2) and Maragoni flow radiator (M0 RH2). He divides the cards in two stacks, giving one fuel tank for **stack C** and two for **stack D**. The electric sail is useless here as a thruster, since it cannot reach acceleration 5 normally required for the ramming half burn nor can it reach acceleration 7 required to lift off from Ceres. However, both stacks can function as weak missiles by using chemical thrusters.

The **attacker declares ramming attacks first**: the orange player targets the factory with his **stack B**. Nuclear drill has fuel consumption of 4, so the **half burn** expends two fuel steps. The stack still has two full fuel tanks remaining; this additional mass should help the missile to destroy the factory.

The white player attempts to counter stack B's attack by declaring a ramming attack against it with his **stack D**. The stack spends 5 fuel steps for the half burn because the fuel consumption of chemical thrusters is 10. This leaves it with one full fuel tank.
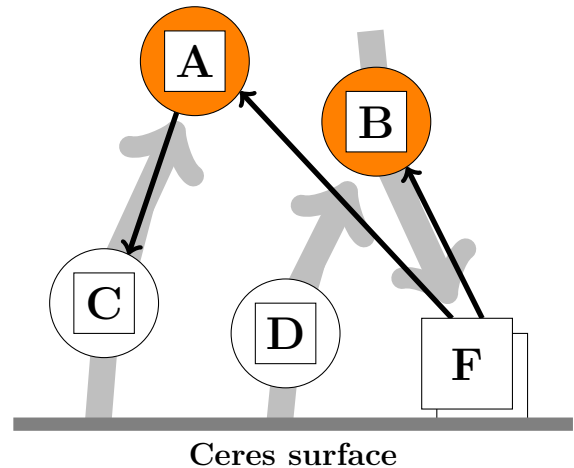
1. Stacks are formed
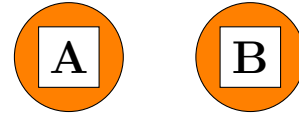
2. Ramming attacks are declared
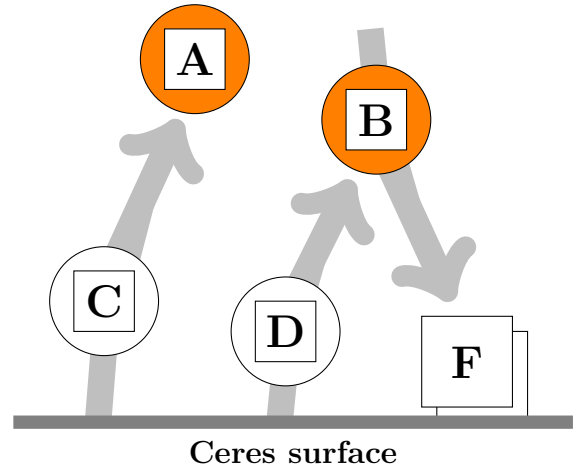
3. Beam attacks are declared

Stack C is launched in revenge against the attacker's main ship in stack A. Because it has to perform 1/5 burn to escape Ceres in addition to the half burn, it spends 7 fuel steps in total. The remaining few fuel steps would have no effect on ramming damage, since only full tanks are taken into account.

Players can declare beam attacks in any order. Because the orange player is already getting the **point of infamy for declaring combat on a site hex where the defender has a factory**, he does not bother waiting for the defender's reaction before firing at the only card in stack C with the raygun robonaut in **stack A**.

Defender's **factory can perform two beam attacks**. He decides to make one attack against the attacker's main ship in stack A in case stack C is destroyed before it can reach its target. He naturally targets the radiator, which is the weakest card in the stack. He could use the second attack against the same target, but instead he decides to target stack B's reactor.

Beam attacks can be solved in any order because the damage caused is applied only after all of them are resolved. The orange player rolls 3 for his attack against the only card in stack C, which is more than the card's radiation hardness of 2. The card is decommissioned. Since there are no more cards in the stack, the remaining fuel steps are removed as well. The white player rolls 5 for the attack against stack A's radiator. The card is decommissioned, since the result exceeds the radiator's radiation hardness of 3. However, the attack against stack B's reactor fails, because he rolls 4 against the radiation hardness of 5.

Ramming attacks are resolved one at a time. After the destruction of stack C there are only two stacks with declared ramming attacks: stack B targeting the factory and stack D targeting the stack B. **Stack D**'s attack is resolved first, because **attacks against stacks are resolved before attacks against factories**. Both players determine damage to their own stack by adding the total mass of the opposing stack to the common d8 roll. The result of the roll is 4, the total mass of the stack D is 2, and the total mass of stack B is 4. Therefore the result against the stack D is 8, which easily exceeds the card's radiation hardness and destroys the remaining fuel tank. The result against stack B is 6, which is enough to destroy both fuel tanks and decommission the fission reactor card. However, the nuclear drill has radiation hardness of 6, so it survives and continues its descent towards the factory.

Because **stack B**'s mass was reduced to 1, it would need a roll of 8 to exceed the radiation hardness of the factory. The roll turns out to be 3, so the attack fails miserably. Everything remaining in stack B is decommissioned automatically regardless of the result of the roll, because the stack just hit the ground at high speed.

Since no ground attacks were declared, combat sequence is concluded. Orange player can continue his turn, but none of the surviving cards in stack A can participate in move or landing/lift off actions during the remainder of the turn. If the orange player wishes to attack Ceres again, he has to wait for next turn, or interrupt the white player's extraterrestrial action.