

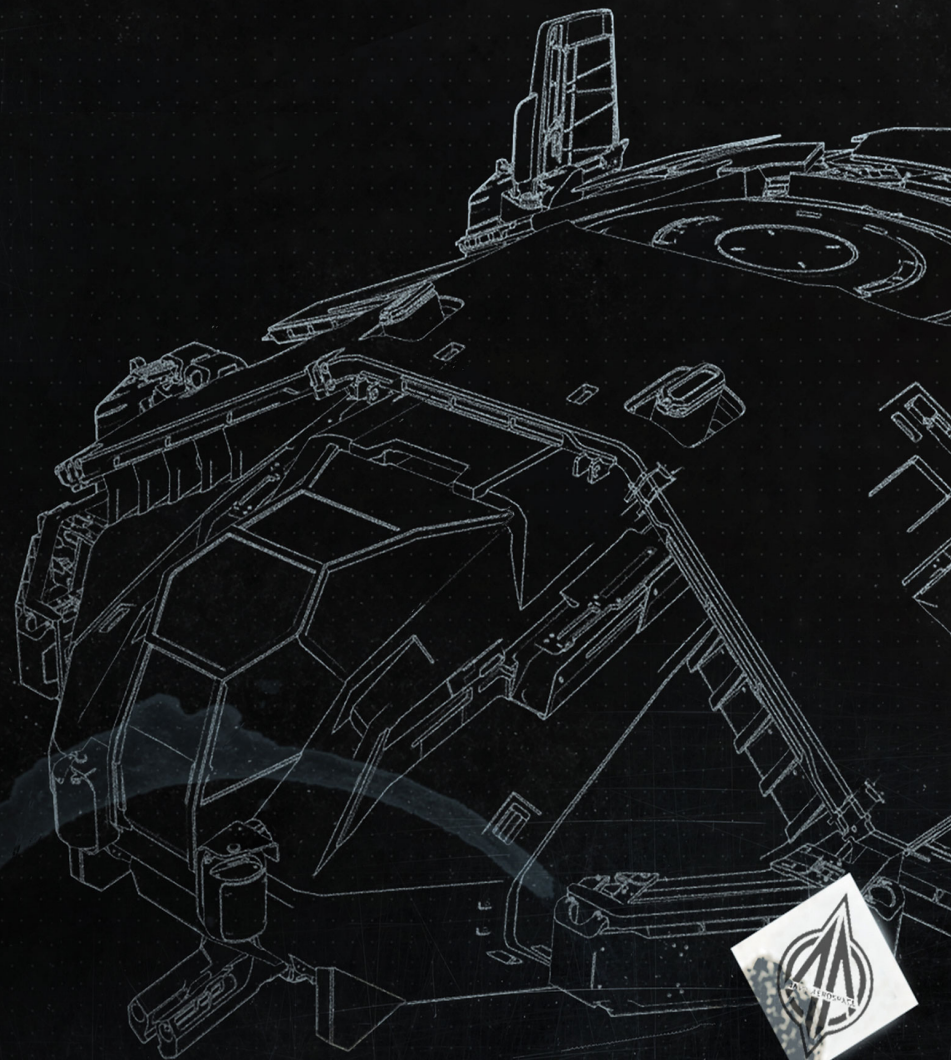


TERRAPIN

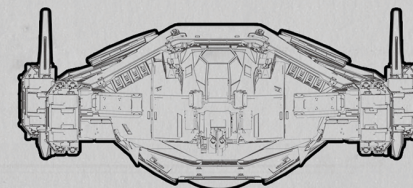
U4A-3

ARMORED
RECONNAISSANCE
VEHICLE

Test Pilot Manual



CONFIDENTIAL INFORMATION



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LT COMM KRISTIN ARROWAY
Personnel#: DBF-163874-b9-121



Signature: _____

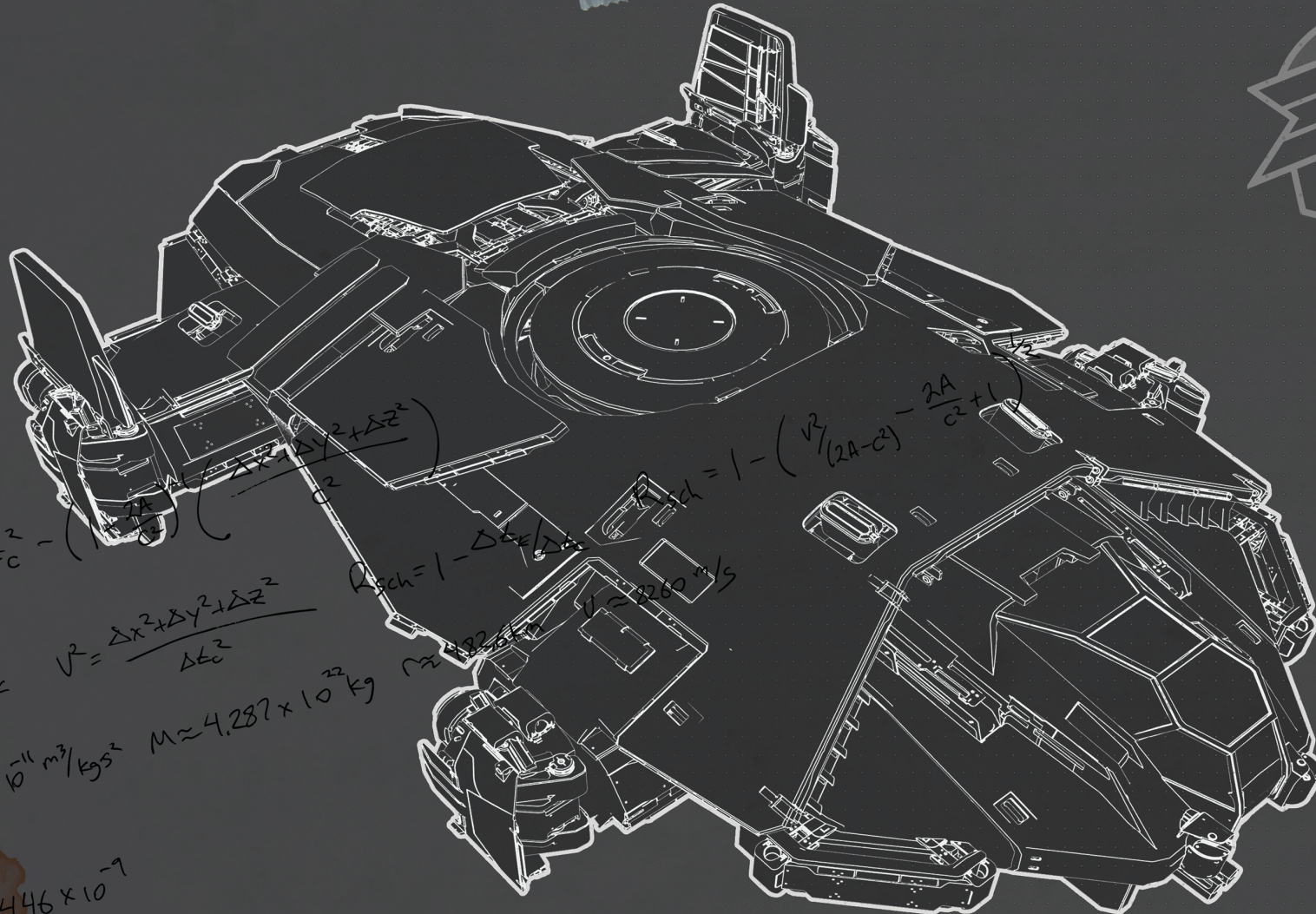
A handwritten signature in black ink, appearing to read 'Kristin Arroway', written over a horizontal line.



Authorization: CC78-BV4

Notes





$$= \left(1 - \frac{2A}{c^2}\right) \Delta t_c^2 - \left(1 - \frac{2A}{c^2}\right) \left(\frac{\Delta x^2 + \Delta y^2 + \Delta z^2}{c^2} \right)$$

$$= \frac{GM}{r} = \frac{1}{2} v_{esc}^2 \quad v^2 = \frac{\Delta x^2 + \Delta y^2 + \Delta z^2}{\Delta t_c^2}$$

$$G \approx 6.674 \times 10^{-11} \text{ m}^3/\text{kg s}^2 \quad M \approx 4.287 \times 10^{22} \text{ kg}$$

$$R_{sch} = 1 - \Delta t_c / \Delta t$$

$$R_{sch} = 1 - \left(\frac{v^2}{(2A - c^2)} - \frac{2A}{c^2} + 1 \right)$$

$$v \approx 4260 \text{ m/s}$$

$$r \approx 4826 \text{ km}$$

$$R_{sch} = 0.446 \times 10^{-9}$$

$$L_{sch} = 0.446 \text{ ns/s!}$$



2796-07-13

Hello Pilot,

We want to congratulate you for joining our ship assessment review team. Your insight and experience flying the prototype ship will be invaluable for High Command to make an informed decision whether they should include this ship in the UEE's military forces.

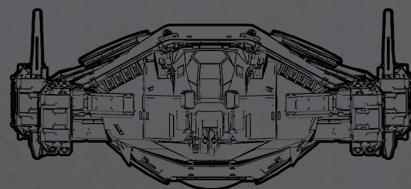
While working on this project we ask that you adhere to a few simple rules. First, please refrain from divulging any details about the ship, tests and conversations telling to anyone [including other military personnel, family, friends, etc.] outside of the project.

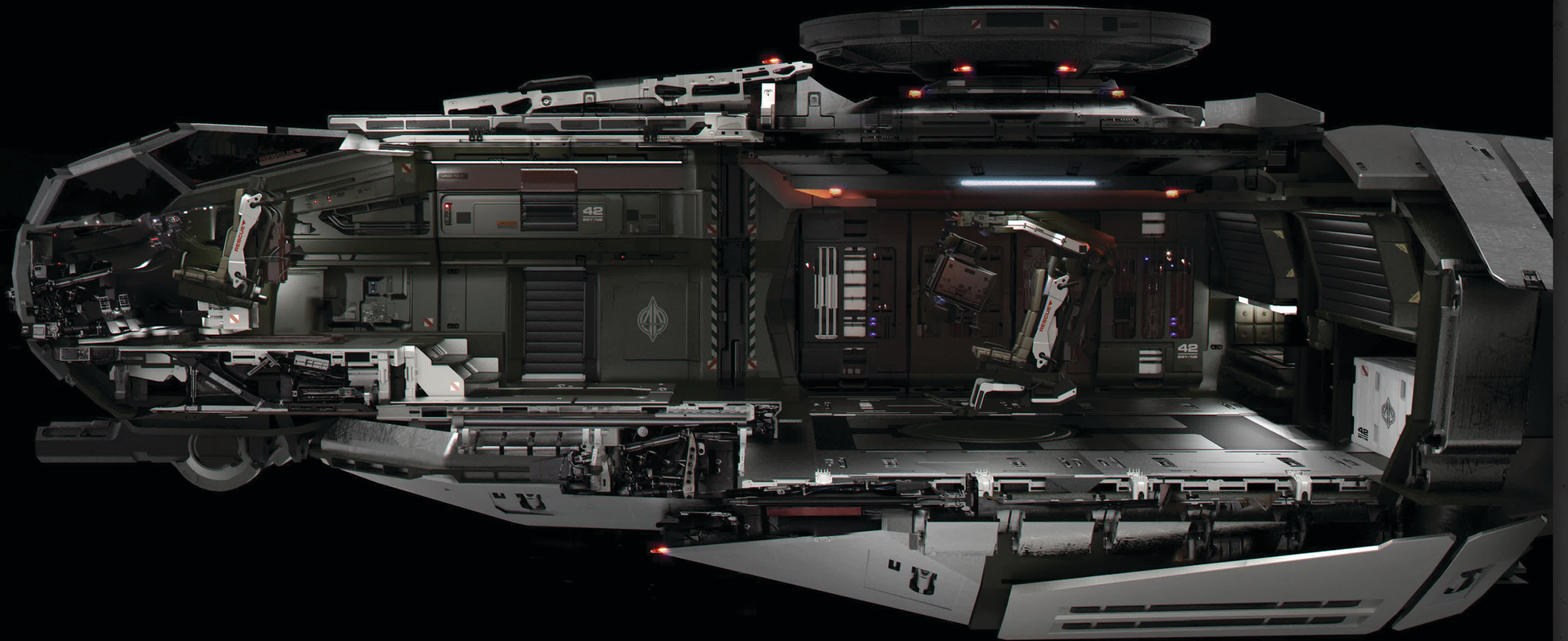
Second, be honest. All of our candidates have been thoroughly vetted for their expertise and communication skills. There are no right or wrong answers, so please, give us your honest feedback when describing your experiences flying the prototype.

Welcome aboard,



GALEN WHISHAW
Vice Admiral, UEE Navy
Research & Development Div
Tamerlane, MacArthur, Kilian

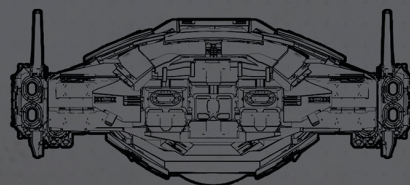




KNOW YOUR ENEMY

The U4A-3 Terrapin marks the first full production ship that Anvil Aerospace has fabricated under direct Naval contract. Part of Emperor Toi's recent 'United Empire' initiative to refocus the military's efforts towards a defensive structure, the Terrapin has been designed from the skids up to follow the new Naval ideal - protect and serve.

This heavily armored operations craft features a thickly plated hull and significant shielding resources that are intended to withstand extreme environments as well as formidable hostile contact in order to facilitate successful completion of whatever mission objectives it may be currently assigned. For example, when equipped with a top-of-class long-range radar, the Terrapin is an ideal candidate for exploratory and reconnaissance expeditions. In addition, thanks to the ship's exceptional wherewithal and fortitude, it is anticipated to perform admirably during combat as a search and rescue craft. Additional roles are expected to emerge as field testing commences, but it is the hope of this Commission that the Terrapin will prove to be a valuable addition to the UEE forces current armament.



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OPERATION: LIFELINE

GOAL:

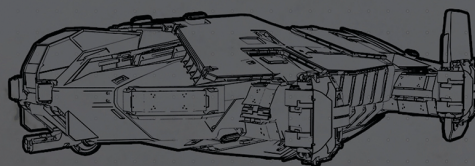
To test the Terrapin's aptitude for enduring hostile environments as well as search and rescue scenarios.

SCENARIO:

You have received a distress signal from a civilian ship that's been damaged in a debris storm. It has sustained catastrophic structural damage and has drifted into a nearby asteroid cluster. The pilot (a mk12 S&R training dummy) will have a predetermined amount of air. You will need to locate the damaged vessel, navigate the precarious environment, and extract the dummy pilot before his air supply runs out.

GRADING CRITERIA:

- ☒ Handling (General)
- ☒ Handling (Precision)
- ☒ Scanning (Target Acquisition)





OPERATION: BEHIND ENEMY LINES

GOAL:

To test the Terrapin's aptitude for reconnaissance and combat scenarios

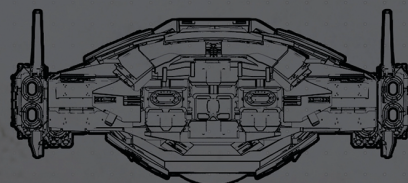
SCENARIO:

You will launch into a system-wide simulated combat environment and attempt to infiltrate past the enemy's battle lines. Once through, your mission will be to collect as much intelligence as you can before discovery. Try to identify main enemy strong points, capital ship deployment, supply depots, comm and scan arrays, etc.

GRADING CRITERIA:

You will rate the ship based on the ease, effectiveness and versatility of the following:

- ☒ Handling (General, in atmosphere and out)
- ☒ Handling (Combat, in atmosphere and out)
- ☒ Signature Management
- ☒ Scanning (Distance, effectiveness, etc.)
- ☒ Defensive Abilities
- ☒ Offensive Abilities



TERRAPIN

Manufacturer: Anvil Aerospace

Model: U4A-3

Class: Scanning/Exploration

Model Year: 2796

Status: Prototype

Internal Project ID: Terrapin

Lead Designer: J. Harris Arnold

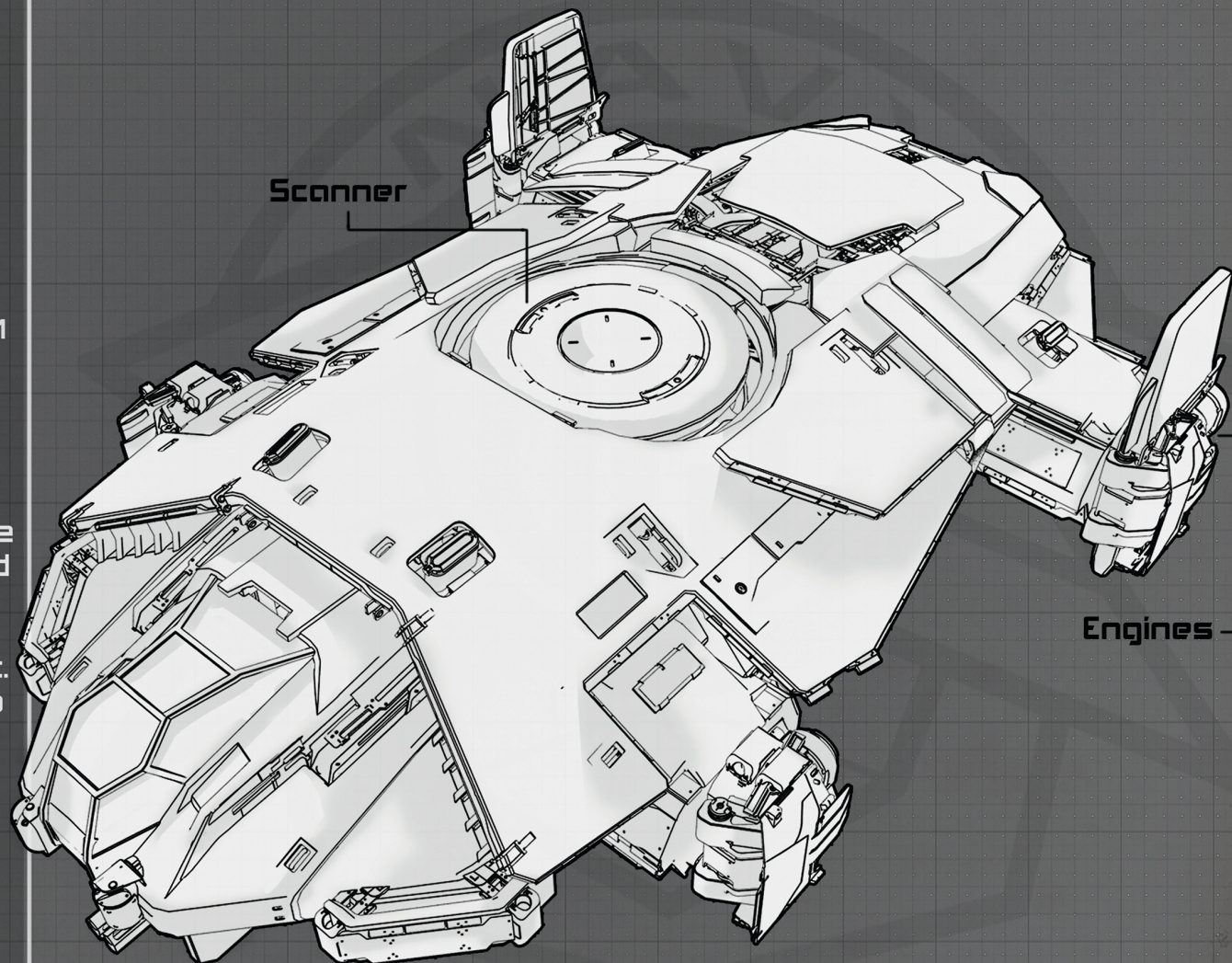
Lead Engineer: Allegra Wilsing, EEM

Plant Location: Nova Kiev, Terra

Registration: 4569-AJ-2CP-32

Cooling Feature:

Early tests showed that extensive operations can cause heat to build up within the reinforced hull plating, so engineers modified the armor panels to be able to retract. This process will allow the ship to vent the excess heat much more efficiently.



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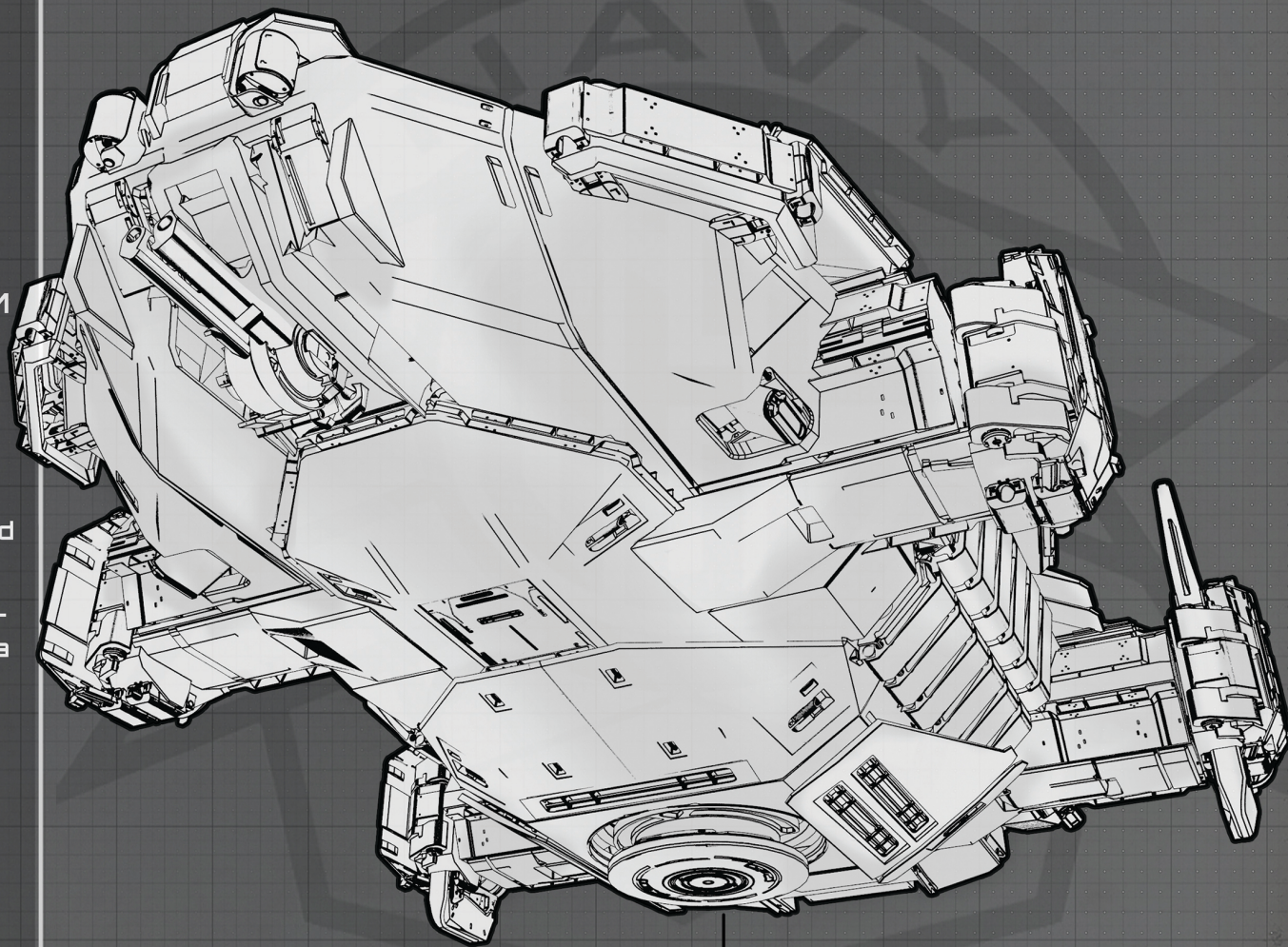
Lead Engineer: Allegra Wilsing, EEM

Plant Location: Nova Kiev, Terra

Registration: 4569-AJ-2CP-32

Defence:

The Terrapin's combination of cutting edge reinforced plating and robust shield generator offer maximum protection against a variety of hostile elements. Although the Terrapin is constructed for defensive considerations, it also offers a nose-mounted turret with a pair of size two weapons that can be remotely operated by the pilot to serve as a main armament.

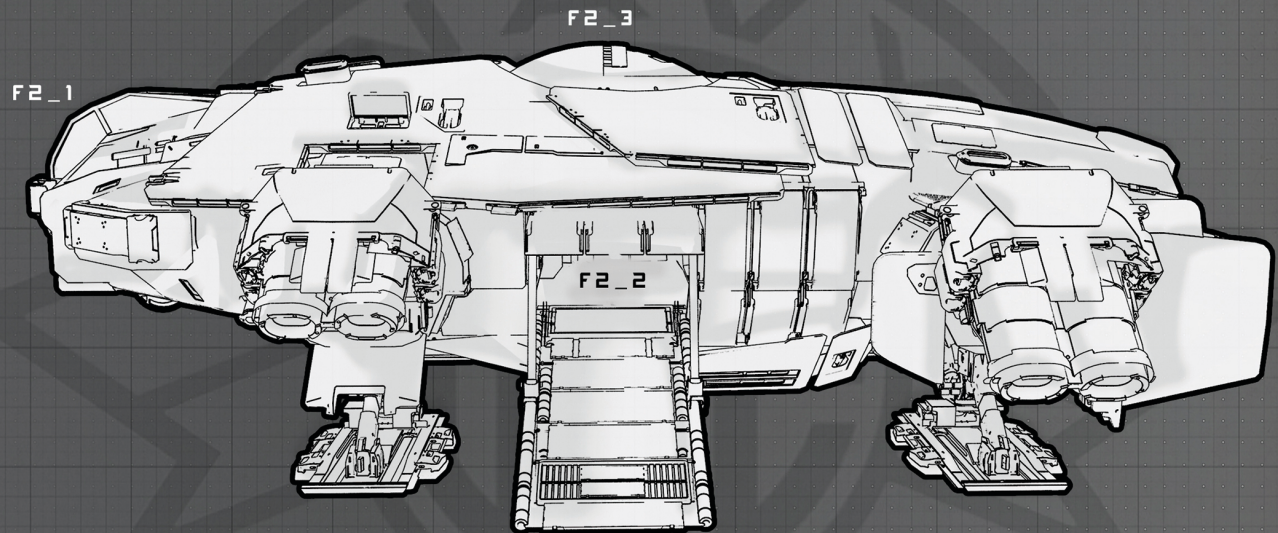


Scanner Activated

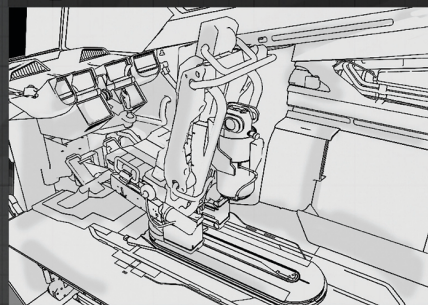
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Landed:
 The U4A-3's hydraulic landing gear system allows for safe touch down on uneven terrain. An entrance ramp on the port side of the ship provides access to the mid-ship's scanning section with direct access to the cockpit and engines.

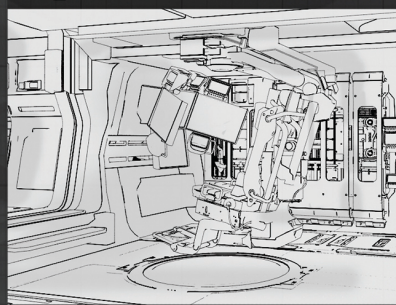


F2_1



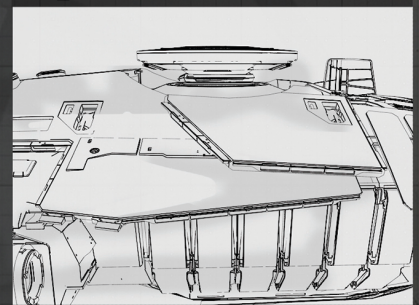
Cockpit

F2_2



Scanning Module

F2_3



Scanning Dish

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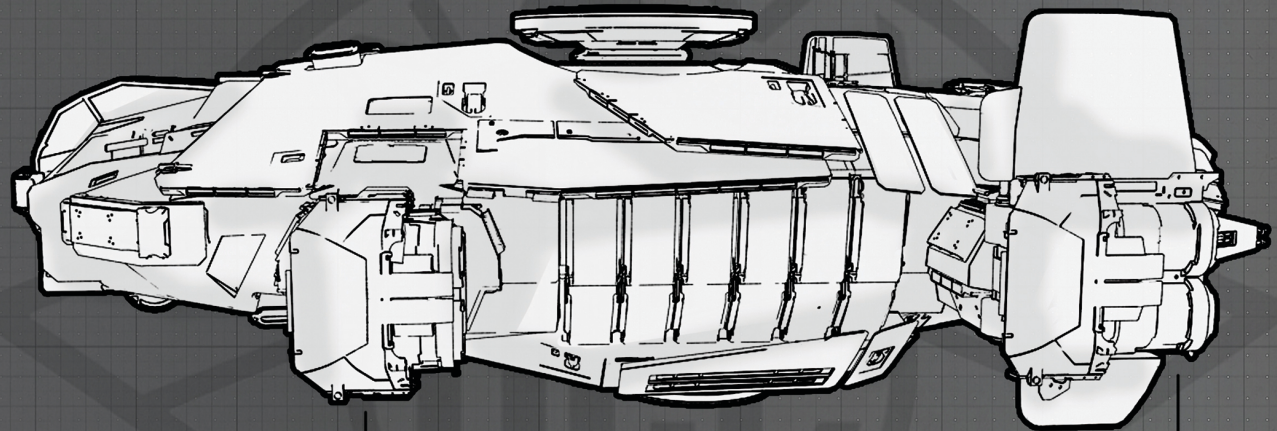
Plant Location: Nova Kiev, Terra

Registration: 4569-AJ-2CP-32

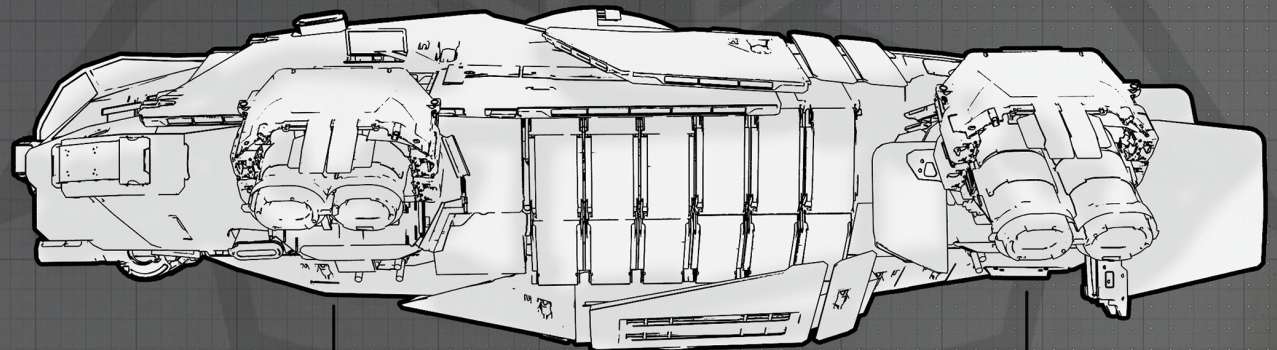
Flight:

In flight, the U4A-3 is powered by four powerful joint thrusters, capable of rotating to provide versatile maneuvering options.

Although the Terrapin is not rated for its acceleration, its twin engines are designed for longer flight duration.



Variable Rotation Engines



Variable Rotation Engines

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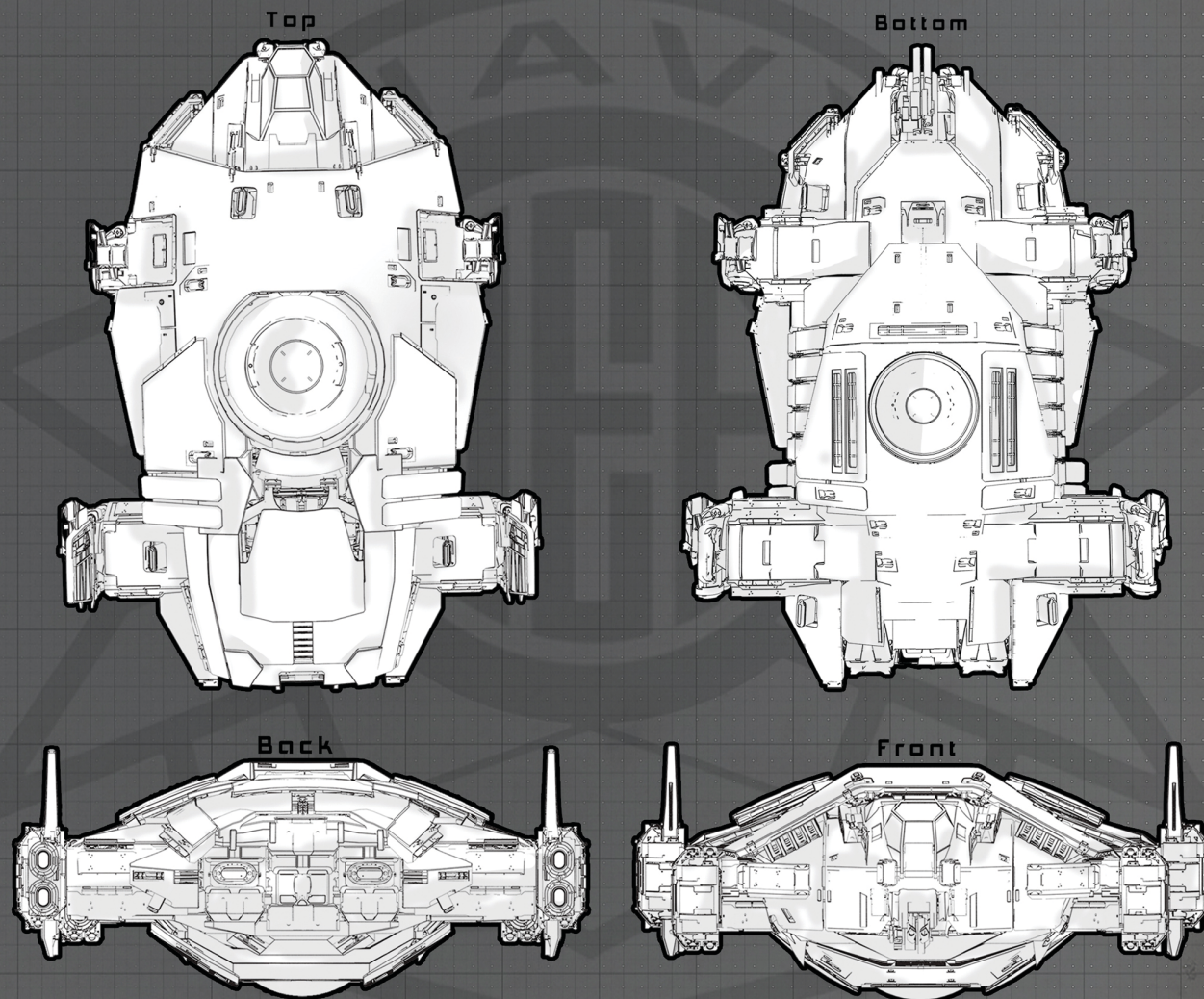
Registration: 4569-AJ-2CP-32

Mounts:

A pair of large and medium-sized utility mounts hold the U4A-3's external scanning arrays.

Discussions with Anvil's astroengineering team indicate that these mounts are versatile enough to easily upgrade scanning systems in the future.

Retractable armor plates protect these systems when not in use.



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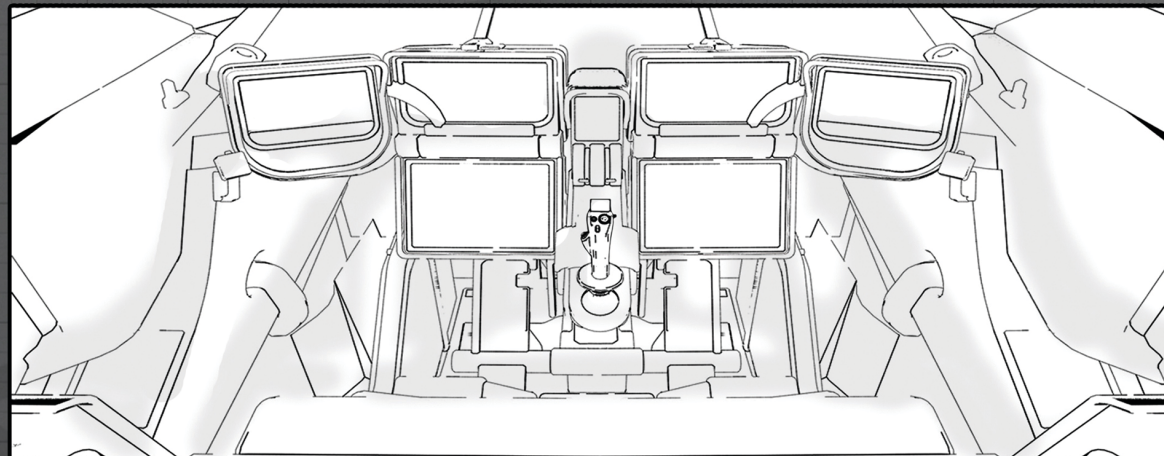
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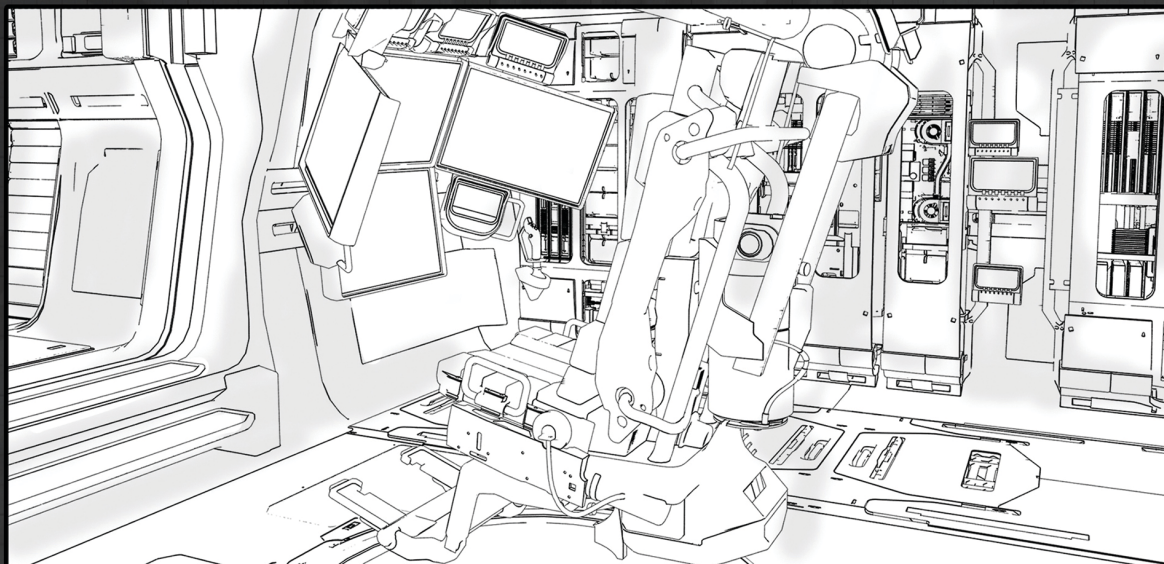
Registration: 4569-AJ-2CP-32

Cabin/Scanning:

To facilitate next generation scanning capabilities, the Terrapin has been fitted with a dedicated station featuring isometric display terminals that allow the operator increased fidelity during data collection and analysis.



Cabin

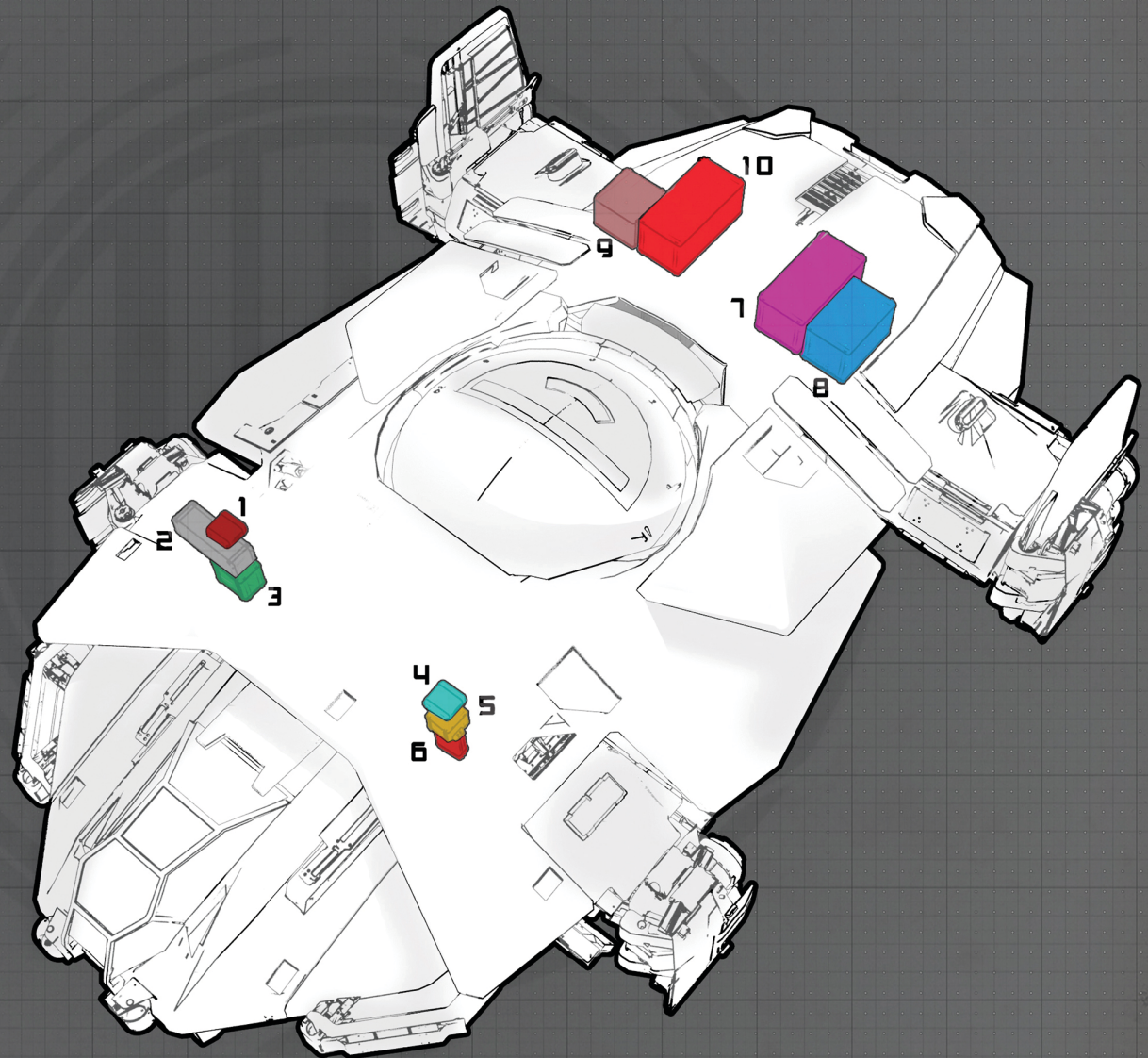


Scanning Module

TERRAPIN

Terrapin Components

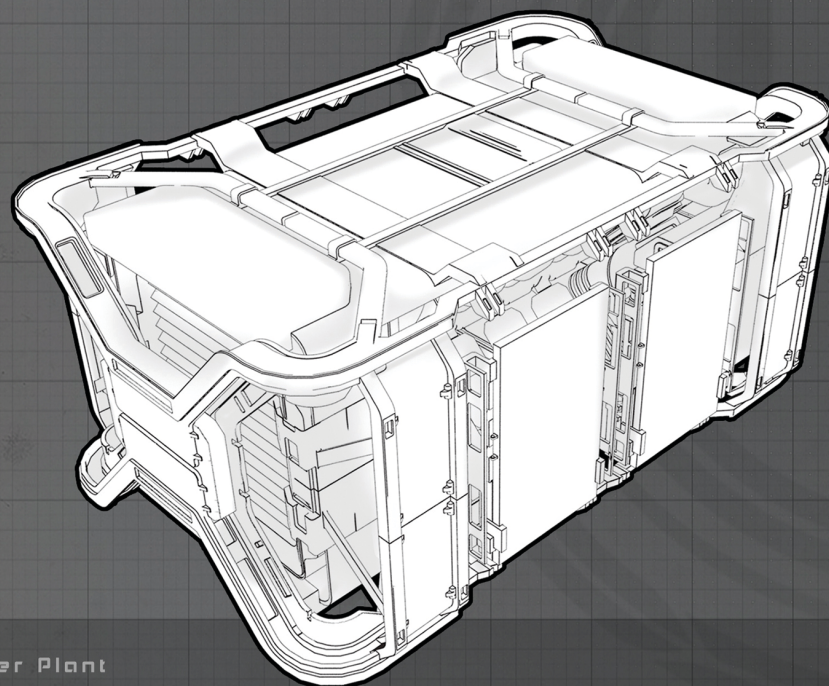
1. Life Support
2. Shield Generator
3. Jump Drive
4. Avionics
5. Gravity Generator
6. Cooler
7. Fuel Tank
8. Power Plant
9. Radar
10. Fuel Tank



TERRAPIN

MAINTENANCE CALLOUTS

While the hangar crew will take care of most normal maintenance needs, pilots are encouraged to keep an eye on a few key components during testing.

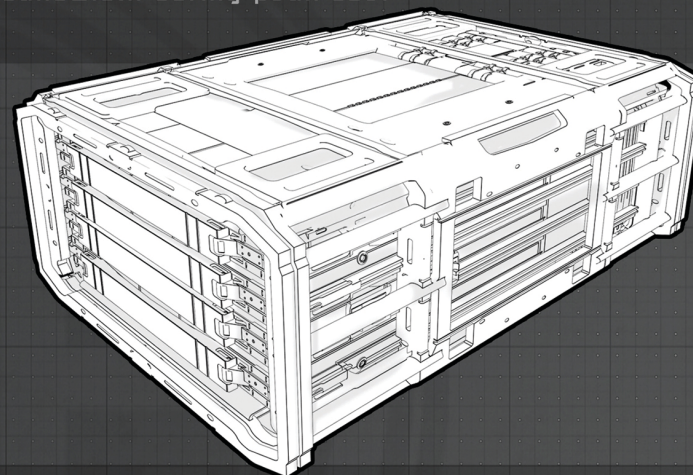


Power Plant

To support such high-grade shield generators the power plant has been hardkeyed into the craft's main trunk. Pilots should pay careful attention to power levels and stress test the system for system overloads.

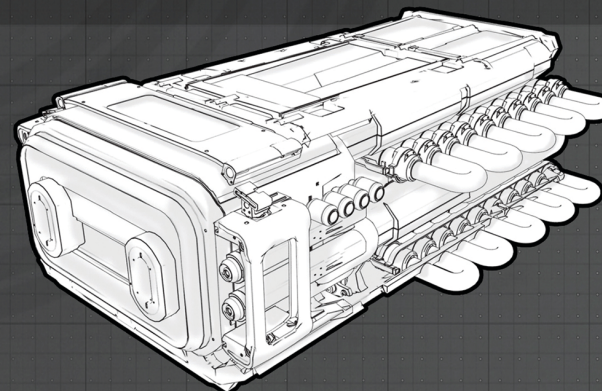
Avionics Unit

With the extra data that the Terrapin is expected to handle, the avionics unit will be under more stress than typical. Monitor cycle-bandwidth during peak use.



Cooler

The vessel's thick hull plating traps heat at a higher than normal rate. The coolers are fully spec'd to handle the expected workload, but pilots should remain mindful if operating with venting closed.

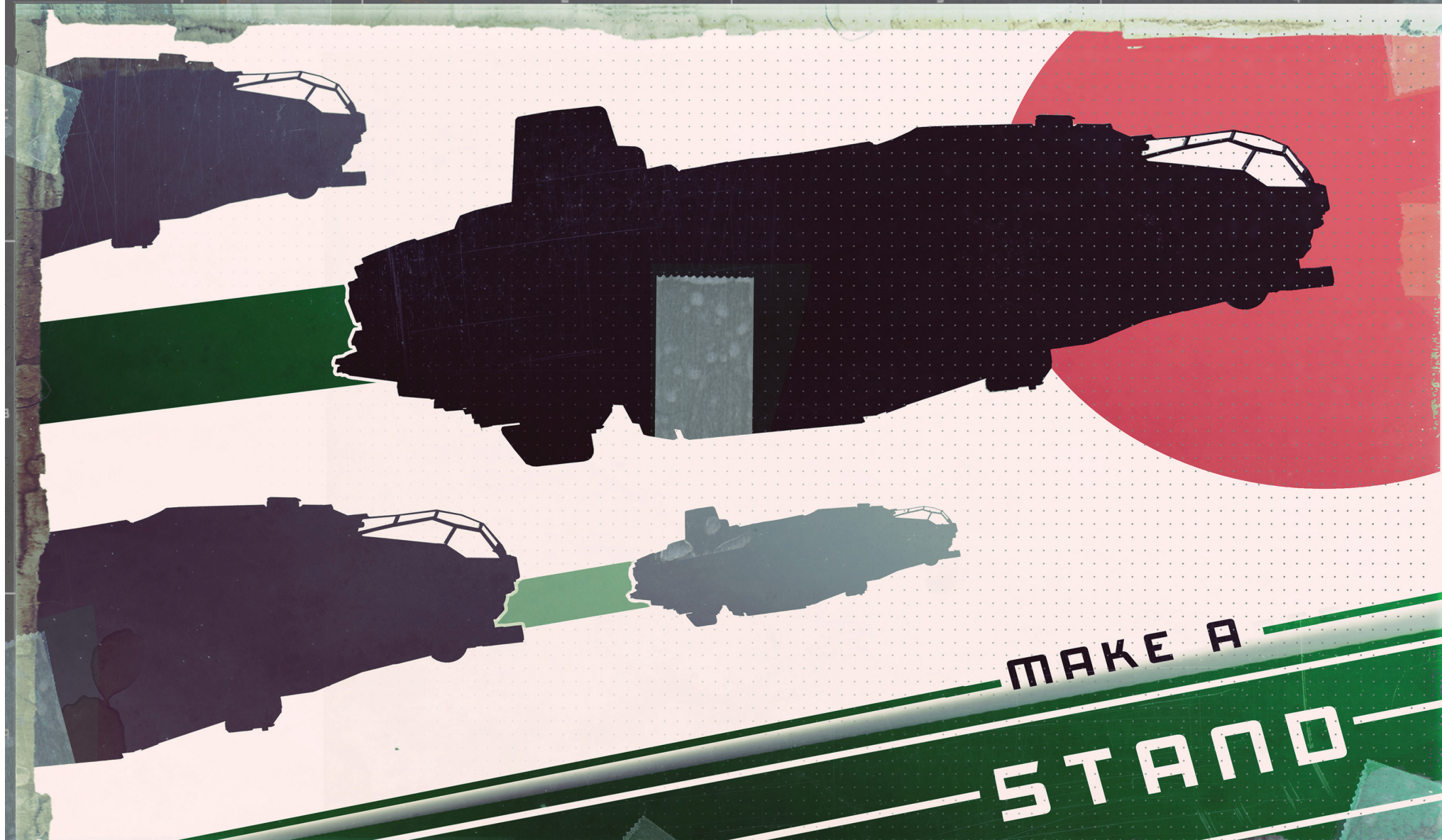


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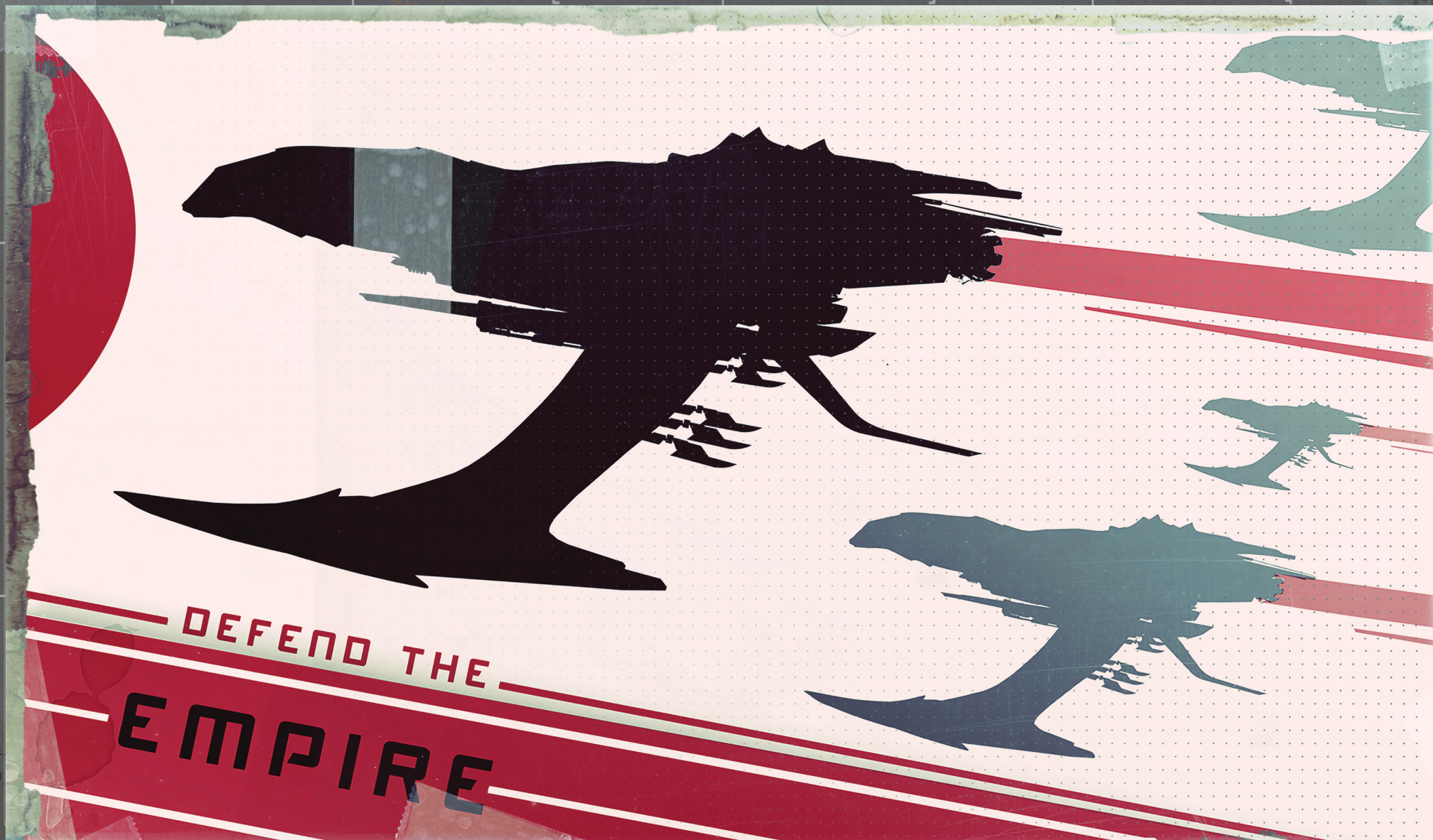
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MAKE A
STAND





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Received on: 2865-12-05
Donated by: The Arroway Family

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Authorization: CC78-EV4



U4A-3 ARMORED RECONNAISSANCE VEHICLE "TERRAPIN" Test Pilot Manual