

# SPACE COMMAND SCOUTING GUILD

A JOINT INITIATIVE OF THE  
UNITED STATES SPACE  
COMMAND  
AND DEPARTMENT OF  
COLONIAL AFFAIRS



## SHIP SYSTEMS GUIDE: ROOSEVELT CLASS

OUTBOUND HOPE EDITION

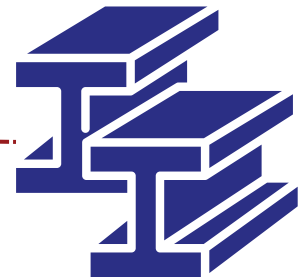
# STRUCTURAL INTEGRITY



## SHIP SPINES

Every military ship is built around thick, stable SPINES forged from ultra-high-strength proprietary alloys. These spines help stabilize the ship against all the forces that act upon it during the stresses of spaceflight. On the Roosevelts, they are also designed to withstand the conditions created by the Linear Skip Drive.

Roosevelts have four spines: Dorsal, Ventral, Port, and Starboard. The Dorsal spine runs only from the Aft Railgun to the Dorsal Railgun. The three other spines all run the length of the ship, and are connected by an intricate web of integrations that create the stability and strength needed for a modern warship.

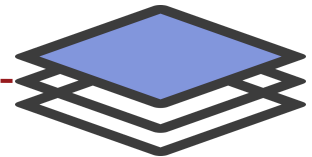


## DOUBLE HULL

The Roosevelt class is a DOUBLE-HULLED SHIP. The external hull mounts the incorporated defense shielding, radiation shields, sensor arrays, and all necessary external equipment.

The inner hull is separated from the outer hull and creates the pressurized, heated, and cooled spaces managed by Life Support systems.

This double-hull model ensures that even if one hull is breached, the life-supporting segments of the ship are not automatically exposed to the vacuum of deep space.

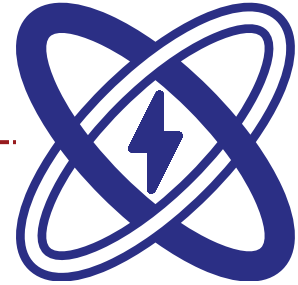


# POWER



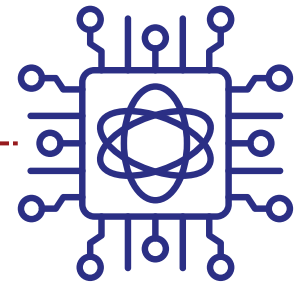
## THE CORE

Every ship has a FUSION CORE that generates power. Once the core is brought online at launch, it is never powered down again. It is extremely rare for these extremely reliable cores to need repairs or adjustment.



## POWER IS COMPUTING

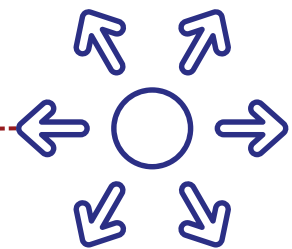
Modern ships run through their computing systems as much as their power plants, so much that POWER has become synonymous with CALCULATION. Does a ship's system need electrical energy? Yes! But it also needs computing calculations to support it, and those also need electrical energy. If there's electricity running to the gravitic sensors, but no additional processing allocated to the software platforms that control, direct, and analyze the results of those sensor scans, the sensors aren't truly online.



To eliminate confusion, we combine both these needs and call them POWER.

## DISTRIBUTION SYSTEMS

Power runs from the core through POWER RELAYS to all the systems of the ship. Engineers manage that flow, balancing the load across all the systems that need power.



# PROPULSION: CONVENTIONAL DRIVES



## PRIMARY THRUSTERS

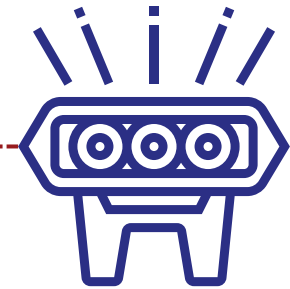
The Advanced Ion Engine (AIE) is the primary maneuvering engine of any ship. They are used alone to move a ship through planetary traffic lanes, or in conjunction with the Hawking Drive to change the vector of the ship as it moves through the Sol system. Roosevelts boast 8 AIEs: 2 ventral engines, 2 aft engines, and 4 aft maneuvering engines distributed 2 each on port and starboard.



## REACTORS AND REACTIONS

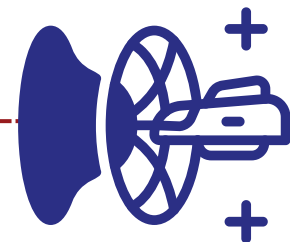
The DRIVE CORE of an AIE system is built on a reliable standard magnetic bottle system: a high-intensity laser fires into a fusion-friendly mass ("fuel"), which in turn heats the reaction mass (often water), causing that mass to shoot outward at high pressure and velocity, propelling the ship forward.

An AIE is always mounted on the rear of the ship, both because it creates push-propulsion *and* because it creates a drive plume of super-energized plasma. No one wants to be behind an active AIE!



## MASS

The limitation of AIEs is mass: reaction and reactor mass (fuel and water) must be carried. The further a ship plans to travel, the more mass it must carry (in order to eventually shoot it out of the back of the ship!). The more reactor and reaction mass you carry, the more mass there is to move - which leads to diminishing returns at long distances.

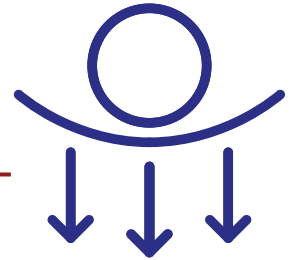


# PROPULSION: GRAVITATIONAL DRIVES



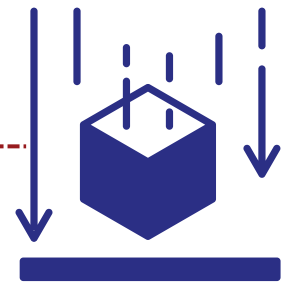
## PRIMARY ENGINES

The HAWKING DRIVE creates pull-propulsion without creating new mass problems. By creating pulsed Near-Grav™ fields on the nose of a ship with an instant of delay at start-up, they can be used in sequence and in very specific power cycles to create a "gravitational" field that can "pull" itself - and any mass in front of it - like a ship!



## THE CREW'S BEST FRIEND

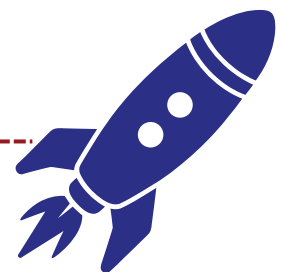
Roosevelts use the Hawking Drive in conjunction with their AIEs to maneuver outside of planetary traffic lanes. AIEs and Hawkings alone would create inertial forces greater than human crews can withstand, but use of near-grav technology allows the bridge crew to maneuver without that concern. The state of the art ships' systems adjust the near-grav fields, no matter what the helmsmen input, to match the needs of the humans aboard!



## FACT VS FICTION

The Hawking Drive is often referred to as the BOOTSTRAP DRIVE, because of the comparison to the way they succeed at "pulling themselves up by their bootstraps."

Near-Grav™ plating and Hawkings can make space travel safe and comfortable, often compared to the "inertial dampeners" of science fiction. In reality, there's no dampening involved!



# PROPULSION: LINEAR SKIP DRIVES



## THE TREATY OF TITAN

Use of the LINEAR SKIP DRIVE is prohibited within the Sol System by the terms of the Treaty of Titan of 2162, but the technology is still installed on the remaining Roosevelt-Class Destroyers.



## HIGHLY PROTECTED DATA

The LSD's development and deployment data is not public information. What we do know comes from publicized accounts of the Solar War. These indicate that Roosevelts appeared to "skip through space like a stone on a pond," disappearing just before missiles would impact their hulls, and reappearing a short distance away.

It is theorized that the LSD employs highly detailed sensor data, quantum computing power, and innovative proprietary technology to accomplish its "skips".



## THE ROOSEVELTS

✘ DESTROYED    ⊖ DECOMMISSIONED    ● OUTBOUND HOPE MISSION

- USSC 938 - Valor's Edge ✘
- USSC 939 - Glory's Chorus ✘
- USSC 940 - Sovereign Light ✘
- USSC 941 - Wings of Resolve ✘
- USSC 942 - Triumph's Call ⊖
- USSC 943 - Storm of Justice ⊖

- USSC 944 - Valiant Warrior ⊖
- USSC 945 - Spirit of Concord ✘
- USSC 946 - Ascendant Dawn ●
- USSC 947 - Flame of Liberty ●
- USSC 948 - Freedom's Cry ●
- USSC 949 - Shard of Destiny ✘

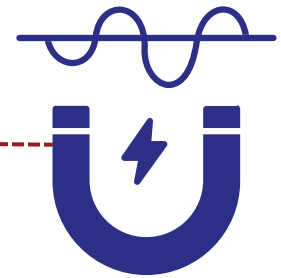


# HULL SHIELDING



## PINPOINT SECURITY

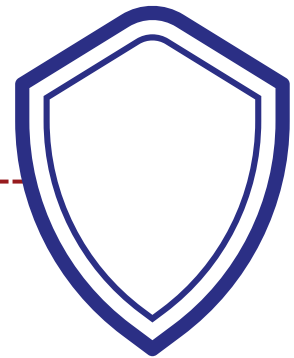
Science fiction shares a vision of ship shields that act like a forcefield around the ship - a bubble of safety that distributes strikes across its matrix. The safety created by INCORPORATED DEFENSE SHIELDING is better. USSC shielding uses modified near-grav technology and EMF manipulation to deflect each strike individually, preventing damage to the hull and allowing all other plates to also deflect additional strikes.



## ABLATIVE SHIELDING

ABLATIVE SHIELDING is a component of the Integrated Defense Shield system, and refers to a sacrificial protection system designed to mitigate damage to the underlying hull through the removal of material from the surface of a vessel by vaporization, chipping, or other erosive processes.

While the Integrated Defense Shield is not traditionally ablative in that it doesn't wear down physically, parts of the system must be recharged between uses. Each plate can be slowly recharged using ship systems, or by replacement of its power bank by repair drones. With fast drones and effective damage control teams, it functions even better than traditional ablative hull plating.



# WEAPONS & DRONES



## USSC STANDARDS

USSC ships are armed with a combination of railguns, missiles, energy weapons, or combat drones.



## WEAPONS LIMITERS

Each type of combat weapon is limited in some way. Limits include:

- Ammunition availability
- Capacitor charge speed
- Power systems capacity
- Combat drone communications range
- Sensor data availability

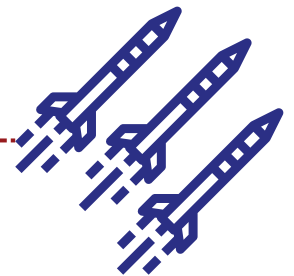


## TYPICAL ROOSEVELT WEAPONS

Each Roosevelt was initially provisioned with identical weapons, but over time each remaining ship has been uniquely updated.

Typically, each Roosevelt may have mounted:

- 4 railguns, two aft, one dorsal, and one ventral (each installed along a spine)
- 2 Port and 2 Starboard ship-to-ship missile batteries
- One combat drone suite ventrally mounted just aft of the gravitational drive



# LIFE SUPPORT



## WHAT IS LIFE SUPPORT?

On all ships, LIFE SUPPORT systems maintain breathable oxygen levels and pressure regulation, monitor and prevent dangerous radiation exposure, provide potable water, and ensure removal of waste and carbon dioxide. Most critically for USSC ships, they also regulate temperature.



## COOLANT IN HER VEINS

There's a saying in USSC engine rooms - "she's got coolant in her veins" - referring to the critical importance of temperature regulation for all ship's systems.

Moving heat off of a ship is hard and constant work. "The cold of space" is a long-standing cliché, but cold is actually not the biggest problem faced by ship engineers. Each ship is a huge mass of metal traversing empty space, and with no air or other matter around it, there is nothing for heat to transfer to. But there are many ways to generate heat!

The pumps, divertors, and regulators that move power, water, and air, the propulsion drives, the weapons and drones, the communications equipment, and all the day-to-day activities of medical suites, mess halls, and recreation create excess heat. Managing the flow of coolant to critical systems at the time its needed is a primary engineering function in support of ship efficiency.



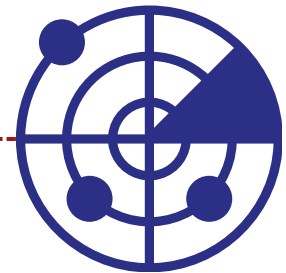
# SENSORS



## WHAT CAN WE SEE?

Sensor arrays extend the USSC's 'vision' beyond what humans can perceive. ELECTROMAGNETIC SPECTRUM ARRAYS read the EM spectrum, providing data on radio, microwave, infrared, ultraviolet, X-rays, and gamma rays in addition to the visible light spectrum.

GRAVITIC ARRAYS provide data on ripples in spacetime curvature, propagating at light speed, generated by massive accelerating objects - which is anything with sufficient mass, from a satellite to a ship to a planet. Unlike electromagnetic radiation, these waves can span from kilometers to the size of the universe.



## LSD SENSORS

While it is likely that the Linear Skip Drive requires additional sensors - potentially scanning with quantum technology - little information about these proprietary tools has been made public.



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AGE 6-15 WELCOME!

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