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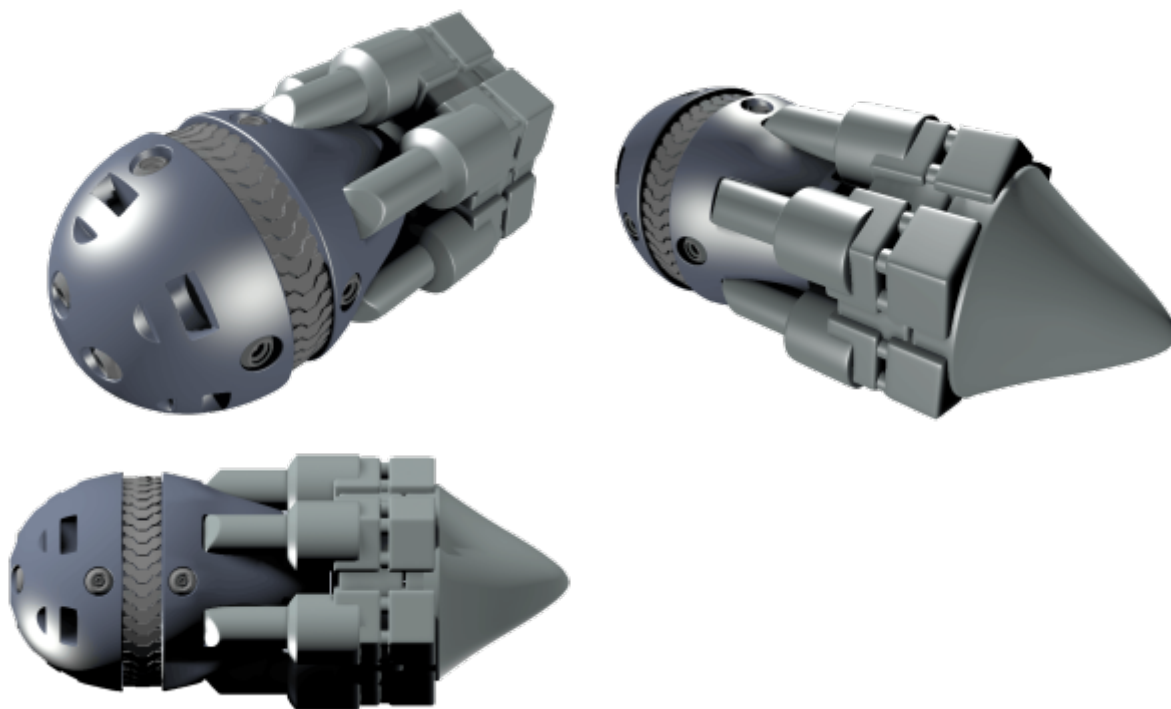
PDCT Super-Phoenix II plasma engine/positron overthruster

The SuperPhoenix II (Plasma Drive/Circulation & Transmission System) is a military grade plasma propulsion system. It can operate as a plasma-jet engine or vacuum plasma engine with the capacity to vent antimatter or other particles into the thrust-stream for improved effect. In addition, the engine can form a specialised cloud of plasma which follows the parent platform performing support functions. Finally like the [original](#), output plasma can be weaponized.

It is an addon for the [AN063 Aura powerplant](#).

It entered the market in [YE 36](#).

"Were either you or Michael are fans of [Captain Phoenix](#), based on the engine name?" "Actually, the positron overthruster was inspired by the Phoenix! punch. I was talking to [Luca](#) about how he likes to solve his problems." "You've met him?" "Mm. Rather than draw things out, he tells me he likes to make one decisive high powered punch, really putting his all into it with that [grappler stunner](#)" "And the real reason?" "I... thought it might help shift a few more units. We're a sponsor so in return, we get to use his likeness." "Ah, capitalism." "A bit better than a shitty plastic lunch box, don't you think; the whole THING is Phoenix Punching!" ~ [Aiesu Kalopsia L'manel](#) & [Captain Mil'ana Porrim 'Sightseer' L'manel](#)



About

The Phoenix II stands on the shoulders of the [PDCT](#). Decoupled from a dedicated heating source and using superior materials to reduce weight, the Super Phoenix boasts superior performance over its predecessor across the board.

One of the main features of the Super Phoenix II incorporates what is being called a “ **positron overthrust**” which bleeds excess positrons sourced from the Aura into the thrust stream for greatly improved short-term performance; a live collector intake based on the **existing Lorath Plasma Gathering and Containment Systems**, allowing fuel to replenished for the aura while in an atmosphere (serving similar to a [RAM-jet](#)), and an **apparition wake array**: A specially conditioned form of both [cool-plasma](#) and [thermal plasma](#) suspension which serves as an amplifier for other field systems the platform may be using.

The Super Phoenix II is also **substrate solenoid compatible** allowing thrust to be extruded out through moving self-healing self-optimized ionized thrust-accelerator pipelines running through the body of a parent platform if a structol substrate is present.

In addition, the engines output can be **weaponized** (based on [plasma arc disruptor technology](#) and [compressed packet weapon technology](#), with the engine design itself scaled up accordingly alongside the powerplant based on the platform type it is used on (*armour, mecha, starship, etc*)

Finally the system is capable of forming an apparition wake array: A specially conditioned form of both cool-plasma and thermal plasma suspension which serves as an amplifier for other field systems the platform may be using. To do so, the unit must use a Substrate Solenoid; specifically, shockvanes and pulse-channels.

- **Damage rating: 3 per scale (Tier 5 or Tier 6, Medium Anti-Armor or Heavy Anti-Armor (**



: Staff needs to determine which), MDR3, Tier 11, Medium Anti-Starship) without enhancement via solenoid

Modes of Operation

Detailed below are some basic performance characteristics:

Mode	Description	Performance Notes
RAM/PLASMA	Air in, plasma out.	Similar in function to a jet engine, the thrust can be shaped. This mode is always available in atmosphere. As the speed increases so does compression which result to higher acceleration at post-mach speeds.
VACUUM APOGEE/PLASMA	Propellant/fuel in, plasma out	When no air intake is available onboard propellant or fuel is used instead, this can be wasteful in some circumstances but is often useful.

Mode	Description	Performance Notes
POSITRON BOOSTER/PULSE BOOST	Positrons + Plasma	Positrons are vented into thrust stream. The result is a brief but explosive jump in thrust capable of throwing the frame large distances similar to a flea jumping. This is often ideal for rapid breaking, changing directions, side-stepping ordinance or making sharp turns.
PION ROCKET OVERTHRUSTER	Pions + Plasma	Pions, which break down into positrons anyway (but can be transferred with much lower losses of energy) are vented into thrust-stream. This “higher ratio” of positrons in the mix results in a sort of rocket which can achieve escape velocity from large gravitational bodies with very little fuel expense or be used for orbital burns. While very powerful it is in no way environmentally friendly and would be unthinkable around inhabited spaces. It has a habit of interfering with sensors and communications as a side effect. Additionally it can potentially be weaponized up close.

Accessories

The Super Phoenix II's output can either be routed directly to exit or through a structol substrate to one of two thruster types:

Shock Vanes

An advanced style of thruster, shock-vanes are generally tube like in shape. They incorporate a [gravitic centrifuge ring](#) at the base of the nozzle and a convex field amplifier rod running from the middle of the thruster on a ball-joint which can be swivelled. The unit functions as a high-power transmitter and receiver, able to generate, control, and detect the powerful electromagnetic fields used to generate barriers and spacial nesting systems with the purpose of controlling plasma in a very high resolution manner.

Shock Vanes can either include a small amplifier rod resembling the inner rod of a coaxial cable shaped like a rocket nozzle (especially in fighters or powered-armour) or the amplifier-rod can be larger than the nozzle itself resembling a low-polygon horn, requiring additional mechanical support and cooling housing which may also incorporate pulse-channels in its construction, especially in starship style engines.

Vent Strips

A concave take on the shock-vane, pulse-channels are long thin blade-like strips which fit into the body profile of a unit. They are usually moving parts, controlling the opposite end of the electromagnetic spectrum from shock-vanes. Importantly, pulse-channels double as air-intakes and cooling systems as well as thrusters.

Importantly, pulse-channels are usually easy to conceal and protect beneath armour plating.

Specialist Effects

Specialist drivers manipulating the linked field-controllers allow the Super Phoenix II to manipulate plasma in an assortment of complex and useful ways. These specialist abilities improve the functionality of the host-platform.

New specialist effects may be added as time goes, issued as a software update which may or may not be appropriate for use on different platforms.

Apparition Wake Array



Produced by the vent strips of Super Phoenix engines is the 'apparition wake'; a prehensile antennae made of cold ionized plasma produced by the engines themselves. Similar in form to the confinement technologies used to produce the [Compressed Packet Rifle](#), the wake is instead repurposed to create a wide variety of broadcast and receiver properties ideal for field forming and amplifying, making technologies like the [Combined Field System](#) (achievable by the Lorath using the [Gravitic Centrifuge](#)) more robust and reliable.

The projectors of the wake are distributed through the parent platform's body in the form of long blade like strips called shock-vanes. The system fails gradually as each projector is torn down, rather than all at once. The field can also offer very limited dedicated defence of its own, similar to [Armor-Energized Magnetic Shield \(AEMS\)](#) which while almost useless against kinetic weapons, is very effective in stopping plasma or particle weapons or reducing their effectiveness.

Wake Roll

Normally, a given unit will have its strongest shock-vanes (and therefor defence) on a single side of its body. By rotating, the wake can be left in a short-duration trail wrapped about the unit which very briefly improves the effectiveness of the wake antennae array to broadcast the defensive fields of the parent platform ([combined field system](#), [full spectral barrier](#), etc).

The effect is achieved by by violently *rolling*, wrapping the craft in a *barrel* like structure created exclusively from its largest and most powerful shock-vanes. Properly timed, this wake roll can deflect attacks which would normally pass through it.

Given that the roll only works if the rotation is quick enough, the technique is best paired with [gravitational centrifuges](#) or other *gravity diffusion* technologies. In the case of the centrifuges, they are timed to rise or fall in RPM inducing a violent Z-Axis rotation via rotational inertia. As the rotational speeds return to normal, the roll self-cancels and the craft automatically stabilises with no need for any special breaking or compensation, resuming normal flight. The same technique can also be used to stabilise the craft in harsh conditions, snap heading or to exit an uncontrolled spin.

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