

"Militant"-Series War Automaton

"We're not going to lie. NU-class Militants are abominations as far as State sentient AI engineering standards go. They are humorless, disrespectful, have no compassion, and relatively stupid outside the breadth of whatever tactical computer they're slaved to. However, I am confident that in times of war they will be the best friends you'll ever have." - Automaker Jaras Eight One 81-2582-7391 The Art of Never Again, Chapter 811: The Call to Arms

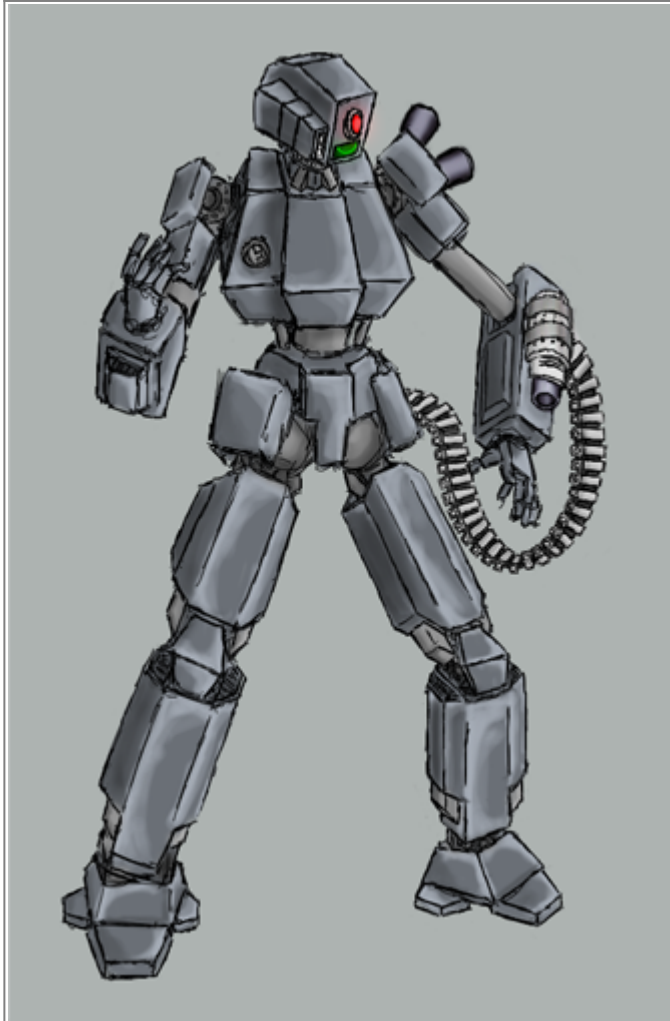


Image: The NUv1.1a "Militant"

History and Background

Since their first contact, when the Nepleslians insisted that a standing military was vital for their survival, the nodes and mainframes of Polysentience have been designing countless schematics and simulations for them on a vast scale. Though the [The Free State](#) was sorely lacking in military technologies, they were still among the most efficient of engineerings, and eventually designed and honed the Militant series. The Militant, in most respects, is not so much the finely-tuned precision machine most militaries would design, but the cost-effective, low maintenance, rugged and reliable unit that follows suit with the pride of the Freespacer engineering core.

The Militant has been become the staple of what may soon become the Free State irregular forces. Since its induction the series has been employed in large numbers aboard nearly all Neplesian vessels and stations, providing a durable, lower-upkeep alternative to a fully crewed vessel, not to mention the fact it has begun appearing on numerous mercenary and privateer vessels. The series is now one of the Free State's largest exports, though it remains to be seen if it will become the success it promises to be.

About the “Militant” War Automaton

Variations	Notes
NUv1.0a “Activist”	Basic frame version; no inbuilt armaments or propulsion. Designed for technical support and basic vehicle crew operations. Modular design allows for components to be removed or replaced for better fitting inside vehicles, but armor is only capable of deflecting light arms fire.
Slv1.0b “Malcontent”	Identical body to the NUv1.0, though with a SI controller. This unit has similar functionality to the “Activist”, but unlike its cousin it can perform more intellectually demanding tasks such as high-speed maneuvering, aerospace piloting, or power armor operations.
NUv1.1a “Militant”	Infantry support unit, possessing heavier armor, inbuilt autocannon, and jump jet capacity. Due to its bulk this unit's chassis is incompatible with vehicle operation.
Slv1.1b “Rioter”	Identical to the NUv1.1a, but with a SI controller. Though the chassis incompatible with vehicle operations, but the SI controller program can be uploaded into a vehicle computer system if needed.

Nomenclature SI: [Synthetic Intelligence](#). Capacity for full sentience, and theoretically learning any given task. NU: [Nonvolitional Unit](#). Limited free will, limited intelligence outside of field of specialization. For this reason tactical coordination requires these units be slaved into a tactical computer or be under a sentient commander.

Statistical Information

Government: [The Free State](#) Organization: State Biomechatronics Type: Automaton Class: Heavy Infantry/Light PA Designer: Polysentience SubNodes Manufacturer: Free State Fleets Production: Mass Production

Width: 2ft Height: 8ft Mass: 400lbs.

Speeds

Running speed: 40 mph / 65 km/h Air speed: 500 mph / 800 km/h Jump Distance (1G): (Will calculate this later) Microgravity speed: 220000 mph / 350000 km/h

Thruster Range (0G): 25 AU Lifespan: 30 Years.

Weapons Systems

"Rude Gesture" Variable Autocannon (1)

The Rude Gesture is a linear railgun autocannon based around magnetic rail technology. The unit utilizes a self-adjusting set of rails which adjust to fit various solid ammunition sizes, thus allowing the variable auto-cannon to utilize anything from 10mm bullets to 25mm grenades. This system is designed as a secondary weapon; ideally the Militant will carry an infantry heavy support weapon as its primary means of attack, while the Rude Gesture will provide support. e.g., a Militant carrying an infantry rifle may carry anti-armor grenades for its cannon, while one carrying a rocket launcher may choose anti-infantry flechettes.

Location: Left forearm Primary Purpose: Antipersonnel Secondary Purpose: Anti-armor Damage: Various Range: 2 km max Rate of Fire: Various Payload Below payloads are the default internal reserves; additional ammo canisters can be mounted on the back or waist of the unit as needed.

Munitions Type	DR	RoF	Internal Reserves	Notes
25mm Plasma HEAT Charge	Tier 4, Light Anti-Armor	20 RPM	10 Charges	These rounds are large HEAT grenades designed to spew a jet of iridium plasma at hypersonic velocities upon impact with armor.
10mm AP Flechette	Tier 2, Medium Anti-Personnel	120 RMP	50 Rounds	A kinetic penetrator that can easily pierce infantry armor, along with anything up to and including moderate vehicle armor. However, upon penetration it does relatively little internal damage to an enemy vehicle, so it often takes many successful hits to incapacitate one.
20mm DU Slug	Tier 3, Heavy Anti-Personnel	80 RPM	25 Rounds	A antitank rifle round encased in a ferrous alloy shell. While of poorer penetrative ability than the 10mm AP round, the properties of depleted uranium makes these rounds self-sharpening (the round fragments into sharpened shards rather than blunting upon impacting armor) and pyrophoric (the round will ignite after penetrating enemy armor, burning internal systems and vehicle crews, thereby ensuring a complete kill).

"Hypnotron" LTL Video/Audio System

Location: 'Mouth' faceplate. Purpose: Less-than-lethal incapacitating laser system. Effect: Nausea, dizziness, visual hallucinations, temporary narcoleptic conditions, intense hunger sensation. Secondary Effect: Audio and visual sensor data input in electronic targets. Range: 7 meters / 23 feet Rate of Fire: Constant

Systems Descriptions

Chassis

Armor and Exoskeleton

The exoskeleton is designed to be a first-line defense against the hazards of combat. The exoskeleton uses primarily tungsten-alloy plating, chosen for its very high melting point and hardness. The armor plating is belted together and undercoated using buckypaper. The extreme tensile strength of this weave increases the armor's absorb kinetic energy exponentially, while at the same time it acts as a sort of makeshift Faraday cage to protect the internal systems from energy discharges.

Electroactive Polymer Structure

When voltage is applied to these polymers they will change their shape in a predefined way, not dissimilar to the way human muscles will contract when they receive a signal from the nervous system. Carbon nanotubes are the staple of the polymers, allowing for the extreme tensile strength needed to lift thousands of pounds. Lining the structure of the muscles is a membrane of buckypaper treated with a coating to protect against atmospheric corrosion.

Endoskeleton

Various heavier and high density metals are used in the endoskeleton, commonly alloyed with tungsten or titanium to prevent corrosion. This makes for quite a relatively heavy frame, but gives it the structural integrity to withstand higher stress levels needed to effectively utilize the strength of their electroactive polymer muscles.

Reactor

Militants use the T04 "Fallout" Fission reactor, which utilizes design style which makes them especially unstable in comparison to other fission reactors designs; they will commonly suffer from nuclear meltdowns in the event of coolant loss (as opposed to other designs that will automatically lose their ability to sustain a reaction in such an event). However, this same reactor design also makes them especially efficient in that they do not require any special isotopes to function; T04 reactors can produce large amounts of power using only natural elements as fuel and drinking water as coolant, rather than requiring enriched fuels or the manufactured moderators that other reactor designs. T04s can be modified to run on any number of fissile fuels, including MOX, thorium, natural uranium, and so on. However, if using highly enriched fuel a T04 won't need to be refueled for up to 30 years.

The T04 uses electromagnetics to hold its control rods out of the core. This feature is so that in the event of a power loss, gravity will instantly pull the rods back into the core and shut down the nuclear reactions

before a meltdown can occur.

Note: Unless an exponential reaction rate is triggered by a nuclear self-destruct mechanism or certain high energy weapons, the Militant reactor will not be able to achieve the supercriticality needed to cause a nuclear explosion. Under normal circumstances, an uncontrolled chain reaction will result in a nuclear meltdown; the core will increase in temperature until it melts through the reactor, spilling forth molten fuel and dangerous amounts of radiation. Such an event would most likely be caused by faulty control rod mechanisms or coolant loss.

Reactor Detonation Assembly

"Regard your soldiers as your children, and they will follow you into the deepest valleys; look on them as your own beloved sons, and they will stand by you even unto death. – The Art of Never Again, Chapter 001: The Exodus and the Exile

The Militant carries more than enough fissile fuel to create a nuclear explosion; the problem is actually getting the fuel to achieve the reaction rate needed for such an event. The "Plan B" Reactor Detonation assembly uses sets of explosive lenses surrounding the reactor's physical shielding, which when detonated forces the reactor core to implode in on itself and compress the fuel rods together. In addition, this neutron trigger components are placed in conjunction with certain blasting caps; when the blast shockwave compresses these components together, they react to create short life but high yield neutron radiation sources and further increasing the reaction rate.

"Plan B" Modes

Prompt Critical (Core fizzle)

Slightly desynchronized explosive lens activation allows for large amounts of fissile fuel and neutrons leak out of the implosion rather than being completely trapped. This results in a so-called "fizzle"; by the time the core is compressed to the point of being supercritical most of the fuel has already escaped. The result is a bright blue flash accompanied by an intense burst of neutron and electromagnetic radiation. This flux will cause a voltage surge in nearby electronic equipment, as well as immediately and permanently incapacitating any humanoids within the vicinity. Commonly the effects include nausea, delirium, coma, and eventually nervous system collapse occurs within hours, the exception being species with superior genetic self-repair abilities. The Militant electronics and control systems will be destroyed, but otherwise the unit's shell will remain unharmed.

Damage: EM Pulse, Radiation Burst (Heavy (Tier 2, Medium Anti-Personnel) against organic targets only)
Range: 330ft / 100m

Sustained Criticality (Core detonation)

The explosive lenses are perfectly synchronized, compressing the fuel to half, or even one third its original size. The synchronized shock wave keeps the bulk of the fuel entrapped for long enough to

trigger a nuclear explosion. In addition to a fireball and concussion wave, the radiation effects extend to several hundred meters.

Damage: Extremely heavy at epicenter Tier 7, plus above effects Range: 2000ft / 600m

Propulsion

Microinertia Drive

The Militant possesses a microinertia drive, which is the little sister of the Intertialess Drive. The device generates an antigravity field that reduces the gravity and the effective mass of the unit, therefore giving it the capacity to reduce its weight as it sees fit. This allows its relatively pathetic booster packs to hurl the Militant great distances.

Magnetoplasmadynamic Thrusters

The MPD thruster works by feeding ionized lithium into an accelerator pocket, where electromagnetic fields are generated using the main reactor. The lithium plasma and the fields react with one another to produce Lorentz force, and thereby propel the plasma. MPD thrusters produce extremely high specific impulses (which can be further increased in strength by drawing more power into system). This allows Militant to jump great distances when used in conjunction with the Microinertia Drive, and travel vast distances using small fuel reserves.

Sensor Suite

“In the Free State, you will never be looked upon with envy, nor hate, nor resentment ... yet you will always be looked upon by tireless eyes. You will never be alone even in your darkest of hours ... but you will never be alone, ever.” – The Art of Never Again, Chapter 008: Now We Are Free

Militants themselves have audio and visual capabilities usually on par with most humanoid species, via a high resolution camera array and electroactive polymer sensors (touch-sense nerves).

Control Unit

A [Savant Computer](#) acts as the control mechanism in the SI variant of this model Automaton. These constructs are usually, but not always, self-aware entities with developing personalities. See [Synthetic Intelligence](#) for more detail on how they work.

Communications Suite

The Militant has a built-in wireless connection compatible with all Freespacer ships, and even some

foreign starship AIs. The Evanescent Wave Coupler is limited to a range of no more than a few dozen meters of a compatible transceiver system, but can transfer huge quantities of data quickly. Alternatively, the EWC may be utilized as a low-intensity wireless energy transceiver to allow a Militant to wirelessly power compatible tools.

The Radio Transceiver is usually reserved as a backup system for situations when range does not permit use of the EWC. The antiquity of this technology will now allow for bulk data transfer, so function is usually limited to little more than sending basic messages.

NU-class Militants predominantly rely on their wireless networks to “sync” with either a tactical computer or some sort of command structure in order to coordinate them in combat, in turn sending back real-time sensor data for the battlefield.

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