






"Taihō" Scalable Mass Driver



The Taihō ([Yamataigo](#): 大砲 “Cannon”) Scalable Mass Driver is a coaxial,  [Helical railgun](#), a sort of hybrid between a  [coilgun](#) and a  [coilgun](#). It can launch either magnetic slugs with dense  [tungsten](#) penetrators, or, like a  [plasma railgun](#), toruses of plasma or balls of lightning that explode on impact and have devastating effects on electronics.

About the "Taihō" Scalable Mass Driver

[Yugumo Corporation](#) began a policy of reducing, with the goal of eliminating entirely, reliance on external vendors for their internal use. While [Yugumo Corporation](#) made a variety of [plasma](#) and [antimatter](#) weapons, for a kinetic solution, they had relied on [Origin Industries](#) systems such as the [Light Gauss Starship Cannon](#).

When [Cecily Winters](#) was hired as [Yugumo Corporation](#) Vice President of Armaments Systems Development and Procurement in [YE 43](#), she was presented with this problem as the most pressing issue for her division. With the requirement the system be scalable at any tier like the [Plasma Projection System](#), the Scalable Mass Driver, soon dubbed the “Taihō” (meaning simply “cannon” in [Yamataigo](#)) was her solution. Disregarding specifics of implementation, the Scalable Mass Driver was designed as a core weapons platform to build specific applications from, rather than a single weapons system application.

Nomenclature Information

- Year Created: [YE 43](#)
- Designer: [Yugumo Corporation](#), [Cecily Winters](#)
- Manufacturer: [Yugumo Corporation](#)
- Name: “Taihō” Scalable Mass Driver
- Nomenclature: [Yu-W6](#) / Type 43
- Type:  [Helical Railgun](#),  [Plasma Railgun](#)
- Role: Multirole, scalable kinetic weapon
- Length: Varies by application
- Weight: Varies by application
- Production: Mass Production

Appearance

The exact appearance of the “Taihō” Scalable Mass Driver depends on the particular application and any platform that carries it. For handheld or crew-served applications, the weapon looks much like the underlying platform on which it is built, such as a pistol, rifle, or machine-gun. Mounted Mecha and Starship applications depend greatly on the turret and vehicle configuration. All applications feature in common the shroud to protect and cool the helical rail system. In general, any hand-held application at any tier will have [Yugumo's](#) design aesthetic that skirts the line between sleek and blocky.



Discharge Information

Discharge is dependent on firing mode.

Kinetic Projectiles

- Muzzle Flash: A small flash from the electrical arc between the rails.
- Retort: In an atmosphere, a roar and hiss as the projectile's velocity heats the atmospheric fluid to plasma, and a crack and whine as it breaks the atmospheric sound barrier.
- Projectile/Beam Appearance: In an atmosphere, there is a glowing trail left by the projectile where it superheats the surrounding atmosphere to plasma, similar to that of a tracer round. Outside of an atmosphere there is nothing besides the projectile itself.
- Effective Range: Dependent on tier.
- Rate of Fire: Rate of Fire is dependent on implementation, and generally is inversely proportional to the size of the weapon. Power-armor-sized mass drivers are capable of rapid fire like a GPMG with proper power, larger ones fire more slowly.
- Recoil: Appropriate to the size and rate of fire of the implementation. Perceived recoil is reduced by the force acting outwards on the rails, perpendicular to the firing plane in all directions.
- Velocity: Dependent on application.

Plasma

- Muzzle Flash: A small sphere of blue-white light as the plasma torus or ball lightning is launched.
- Retort: In an atmosphere, a roaring, hissing sound as the plasma torus or electricity superheats the atmospheric fluid.
- Projectile/Beam Appearance: A torus of plasma or sphere of ⚡ **ball lightning** that is launched at such a velocity to appear to be a blue-white beam to most observers.
- Effective Range: Up to 300,000 km (186,411 miles). Max. range is 900,000km (559,234 miles).

- Rate of Fire ([Cannon](#))¹⁾: A single discharge every three seconds.
- Rate of Fire ([Gun](#))²⁾: Two discharges per second.
- Recoil: Negligible relative to size of implementation, but scales up and can be significant for an oversized weapon for the platform.
- Velocity: Near-light speed




Ammunition/Energy Source

Handheld personnel-tier weaponry is powered by the [BR-E2A battery magazine](#), while power-armor and frame tier weaponry is powered by the PA or Frame. Mounted and emplaced weaponry at any tier is powered externally by the platform. Crew-served weapons systems may be powered by a battery or an external power source. Battery-powered applications may recharge wireless when in the presence of a power field such as aboard ship or in a building. Battery-powered applications intended for the [Star Army of Yamatai](#) may instead use the [BR-28 Series Battery Magazine](#) or [YB-28A Triple-Power Magazine](#).

Plasma and ball lightning mode is fed by the platform's onboard [plasma system](#), if any, and as such may fire as long as the [plasma system](#) has access to matter. Without a [plasma system](#) or other source of plasma, the application may only fire kinetic projectiles. Details on kinetic projectiles are below.

- Ammunition: Ferrous-alloy magnetic slugs with tungsten penetrators
- [Purpose](#): Variable-tier, depends on application and platform.
- Round Capacity: Limited by size of application and platform

Kinetic Projectile Damage Quickchart	
Damage Tier	Kinetic Projectile Size
1	3x15mm
2	5x25mm
3	7x35mm
4	10x50mm
5	12x60mm
6	15x75mm
7	20x100mm
8	30x150mm
9	50x250mm
10	125x625mm
11	180x900mm
12	250x1250mm
13	500x2500mm
14	1000x5000mm
15	2000x10000mm

A  [ferromagnetic](#) shell around a  [shaped tungsten penetrator](#) allows for the penetrating mass to be launched by  [electromagnetic force](#) at very high velocities. Smaller weapons can achieve supersonic-to-hypersonic³⁾ velocities, while starship-tier weapons achieve relativistic velocities of significant fractions of the speed of light.

Kinetic penetrators contain a sensor module and small reservoirs of nano-machines and compressed gas in order to disintegrate the round and disperse it widely if it is launched and travels more than 900,000km without striking anything. They may be programmed to self-destruct at a shorter or longer distance (but not disabled entirely), or in response to events such as striking a hard surface to prevent penetration.

Weapon Mechanisms

- Firing Mechanism: Electronic firing
- Loading: Dependent on application and platform. Handheld weapons use various-sized detachable mags, crew-served and mounted weapons use an external ammunition feed. All models have a port for an external [plasma supply](#).
- Mode Selector: Dependent on application and platform.
- Firing Modes: Dependent on application and platform. Plasma firing modes require access to plasma.
- Safety Mechanism: Dependent on application and platform.
- Weapon Sight: Dependent on application and platform.
- Attachment Hard Points: Dependent on application and platform.

Other



The “Taihō” Scalable Mass Driver is just a core system, and much of a particular weapon system implementation depends on external parts and accessories to complete it. When mounted and connected, it can also serve as an emitter for an onboard [Plasma Projection System](#).



Pricing

- "Taihō" Scalable Mass Driver
 - Pistols, Rifles, Submachine-guns, Support Weapons: 1250 **KS** per **tier**
 - Mounted and Crew-Served Weapons: 1000 **KS** per (**tier** x 1.5)
 - Automatic Fire (Burst, Full-Auto) Capability: additional 10% of base cost (additive).
 - Atmospheric Hypersonic Capability: additional 10% to base cost (additive)
 - Relativistic Base Speed: additional 10% to base cost (additive)
 - **Capital (Tiers 13-15)**: final total of above increased by 10%

Example applications are described below. Firing Modes, Effective Atmospheric Range, and velocity are for kinetic projectiles. 🌐 **Relativistic** velocities are in vacuum only, these weapons are 🌐 **Hypersonic** in an atmosphere⁴⁾. Velocity is one category greater in a vacuum. Effective range in vacuum is approximately one 🌐 **Light-second** ($\approx 300,000\text{km}$) for all 🌐 **Relativistic** velocity weapons, and about 1/1000th of a light-second for 🌐 **Hypersonic** weapons, and much lower for slower weapons. Kinetic projectiles self-destruct, disintegrating and dispersing after 900,000km in any case.

<div>  Attention  </div> <p> Buyers⁵⁾ must ensure they read the Catalog⁶⁾ carefully to ensure they select the appropriate form factor, firing modes, rate of fire, and range for their intended use case. All sales are final. <i>Yugumo Corporation</i> and its subsidiaries do not offer refunds for reasons not covered by manufacturer's or extended warranty. </p>							
Scalable Mass Driver Price Quickchart							
Tier	Nomenclature	Description	Price	Form Factor ⁷⁾⁸⁾	Modes/RoF ⁹⁾	Eff. Range ¹⁰⁾	Velocity ¹¹⁾¹²⁾
1	Yu-W6-1A	Light Pistol	1250 KS	P:P	SF,SA	200m	B
2	Yu-W6-2A	Service Pistol	2500 KS	P:P	SF,SA	240m	T
2	Yu-W6-2B	Personal Defense Weapon	2750 KS	P:B	SF,SA,BF3,FA360	300m	T
2	Yu-W6-2C	Scout Rifle	2500 KS	P:R	SF,SA	500m	S
3	Yu-W6-3A	Service Rifle	4400 KS	P:R	SF,SA,BF3,FA240	600m	S
3	Yu-W6-3B	Light Support Weapon	4400 KS	P:S	SF,FA600	600m	S
3	Yu-W6-3C	Interdiction Rifle	4000 KS	P:R	SF,SA	2400m	S
4	Yu-W6-W4304A	Light Armor Service Rifle	5500 KS	PA:R	SF,SA,BF3,FA240	1600m	S
4	Yu-W6-W4304B	Light Machine Gun	6600 KS	P:C,PA:S,M	SF,FA420	1800m	S
4	Yu-W6-W4304C	Armor Service Pistol	5500 KS	PA:P	SF,SA,BF3	800m	S
5	Yu-W6-W4305A	Armor Service Rifle	6875 KS	PA:R	SF,SA,BF3,FA180	2200m	S

Scalable Mass Driver Price Quickchart							
Tier	Nomenclature	Description	Price	Form Factor ⁷⁾⁸⁾	Modes/RoF ⁹⁾	Eff. Range ¹⁰⁾	Velocity ¹¹⁾¹²⁾
5	Yu-W6-W4305B	General Purpose Machine Gun	8250 KS	P:C,PA:S,M	SF,FA360	2400m	S
6	Yu-W6-W4308A	Heavy Armor Service Rifle	8250 KS	PA:R	SF,SA,BF3,FA240	4800m	S
6	Yu-W6-W4306B	Armor Interdiction Rifle	7500 KS	PA:R	SF,SA	7500m	S
6	Yu-W6-W4306C	Medium Machine Gun	9900 KS	P:C,PA:S:M	SF,FA300	5500m	S
7	Yu-W6-W4307A	Light Frame Service Rifle	9625 KS	F:R	SF,SA,BF3,FA120	7500m	S
7	Yu-W6-W4307B	Heavy Machine Gun	11550 KS	P:C,PA:C,F:S,M	SF,FA240	10,000m	S
7	Yu-W6-W4307C	Frame Service Pistol	9625 KS	F:P	SF,SA,BF3	3500m	S
8	Yu-W6-W4308A	Frame Service Rifle	12000 KS	F:R	SF,SA,BF3,FA90	18,500m ¹³⁾	H
8	Yu-W6-W4308B	Frame Support Weapon	12000 KS	F:S	SF, FA180	24,000m ¹⁴⁾	H
8	Yu-W6-W4308C	Light Auto-cannon	14400 KS	M	SA,FA180	48,000m ¹⁵⁾	H
9	Yu-W6-W4309A	Frame Interdiction Rifle	15785 KS	F:R	SF,SA	75,000m ¹⁶⁾	H
9	Yu-W6-W4309B	Auto-cannon	16200 KS	M	SA,FA120	100,000m ¹⁷⁾	H
10	Yu-W6-W4310	Light Starship Cannon	19500 KS	M	SA,FA90	100,000m ¹⁸⁾	R
11	Yu-W6-W4311	Starship Cannon	21450 KS	M	SA,FA90	100,000m ¹⁹⁾	R
12	Yu-W6-W4312	Heavy Starship Cannon	23400 KS	M	SA,FA75	100,000m ²⁰⁾	R
13	Yu-W6-W4313	Capital Artillery	23595 KS	M	SS	100,000m ²¹⁾	R
14	Yu-W6-W4314	Heavy Capital Artillery	25410 KS	M	SS	100,000m ²²⁾	R
15	Yu-W6-W4315	Super-Heavy Capital Artillery	27725 KS	M	SS	100,000m ²³⁾	R

Form Factors

[Yugumo Corporation](#) uses very specific terminology in their technical and marketing materials to refer to specific weapon applications.

- **Pistol:** Handheld weapon with a short barrel and no stock.
 - **Light Pistol:** A lightweight, small-caliber pistol often with a very short barrel. Highly concealable, generally a backup or undercover weapon.
 - **Service Pistol:** A pistol designed as a main sidearm for a security, law enforcement, or military force.
- **Submachine Gun:** Pistol-caliber weapon with a high rate of fire and carbine barrel.
 - **Personal Defense Weapon:** A high-capacity, lightweight submachine gun meant to engage defensively at close ranges.
- **Rifle:** Full sized weapon with a long barrel and stock.
 - **Interdiction Rifle:** An intermediate-to-large caliber rifle with a very long barrel and a very high muzzle velocity, intended for making precise shots at extreme ranges.
 - **Scout Rifle:** A lightweight rifle designed primarily to not impair the mobility of an individual. Generally not intended for military-on-military engagements.
 - **Service Rifle:** A rifle designed as a main arm for a security, law enforcement, or military force.
- **Support Weapon:** Large, rifle-caliber weapon with a very high rate of fire. Bulky and somewhat hard to maneuver with. Generally full-auto only. Fires from a bipod or from the hip.
 - **Light Support Weapon:** A lighter, more compact, less powerful support weapon that can be fired from the shoulder like a rifle as well as from a bipod.
- **Crew-Served Weapon:** Fired from a tripod or quick-release, manually-operated vehicle mount. Too large and powerful to be carried and operated on the move by an individual. Generally relies on external supplies of power and ammunition.
- **Mounted:** A weapons system built into a vehicle, ship, or edifice, often turreted. Exclusively relies on external supplies of power and ammunition.
 - **Autocannon:** A light cannon, heavier than a heavy machine gun, capable of high-rates of fully automatic fire.



Replaceable Parts and Components

An "XX" in the nomenclature represents the size of the weapons, such as Yu-W6-W4311 for a [Light Anti-Starship](#) helical rail/coil system. A "YY" in the nomenclature represents the size of the weapon plus 15, such as Yu-W6-G4326 representing the power control unit for the same system. Likewise, a ZZ

represents that number with 30 added, so the plasma feed for that same weapon would be Yu-W6-G4341.

- Yu-W6-W43XX Helical rail/coil system: 500 [KS](#) / [tier](#)
- Yu-W6-G43XX Hyper Capacitor: 250 [KS](#) / [tier](#)
- Yu-W6-G43YY Power Control Unit: 100 [KS](#) / [tier](#)
- Yu-W6-E43XX Ballistic Computer: 300 [KS](#) / [tier](#)
- Yu-W6-E4300 Multispectrum Sensor and Camera Suite: 400 [KS](#)
- Yu-W6-E4316 Multicolor Light and Laser Package: 50 [KS](#)²⁴⁾
- Yu-W6-E4317 Wireless and Induction Communication Module: 75 [KS](#)²⁵⁾
- Yu-W6-P43ZZ Plasma Feed System: 100 [KS](#) / [tier](#)
- Yu-W6-M43XX Kinetic Projectile Loading System: 125 [KS](#) / [tier](#)

Spare kinetic projectile magazines (Yu-W6-W43XXMG) for Yu-W6 handheld weapons are 5 [KS](#) / [tier](#) for every 10 rounds of capacity. Two magazines come with the appropriate applications, in 20-round capacity for pistols, 30-round capacity for rifles, 50-round magazines for submachine-guns, and 100-round ones for support weapons that accept detachable magazines. *For example, a 100-round magazine for a [Tier 3 \(Heavy Anti-Personnel\) Service Rifle](#) would retail for 150 [KS](#), while one for a [Tier 8 \(Medium Anti-Mecha\) Frame Service Rifle](#) would be 400 [KS](#).*

Handheld personnel weaponry made by [Yugumo Corporation](#) uses parts from the [Yugumo E2 Energy Pistol](#) and [Sakura Type 43 “Bushi” Compact Carbine](#), depending on application.

Although personnel-tier handheld weapons systems have an external port to be connected to a plasma supply and the system to feed it into the firing chamber, but in practice these applications are used almost exclusively for launching kinetic projectiles. Power armor, frame, and ship applications are generally paired with a platform that has a [a compatible plasma supply system](#), such as those manufactured by [Yugumo Fleetworks](#).

Optional Attachments

Personnel-tier, handheld weaponry made by [Yugumo Corporation](#) uses accessories and attachments for the [Yugumo E2 Energy Pistol](#) and [Sakura Type 43 “Bushi” Compact Carbine](#), depending on application.

Ammunition

Kinetic Projectile Price Quickchart		
Tier	Type	Price (100 Round Box)
1	3x15mm	20 KS
2	5x25mm	30 KS
3	7x35mm	50 KS
4	10x50mm	100 KS
5	12x60mm	200 KS
6	15x75mm	300 KS

Kinetic Projectile Price Quickchart		
Tier	Type	Price (100 Round Box)
7	20x100mm	1000 KS
8	30x150mm	2000 KS
9	50x250mm	3000 KS
10	125x625mm	5000 KS
11	180x900mm	7500 KS
12	250x1250mm	10000 KS
13	500x2500mm	50000 KS
14	1000x5000mm	100000 KS
15	2000x10000mm	200000 KS

Yugumo Weapons Policies

The [Yugumo Corporation](#) does not allow the purchase of weapons from buyers outside of the [Yamatai Star Empire](#). Starship models sold outside of the nation come without weapons and are discounted appropriately.

OOC Notes

The toroidal plasma firing mode is inspired by  [MARAUDER](#), an actual military  [plasma railgun](#) weapon system developed in the early 1990's.

[Yuuki](#) created this article on 2021/12/19 19:03 using the [Weapon Template](#). [Approval Thread](#)

Products & Items Database	
Product Categories	weapons: other
Product Name	"Taihō" Scalable Mass Driver
Nomenclature	Yu-W6
Manufacturer	Yugumo Corporation , Yugumo Fleetworks
Year Released	YE 43
Price (KS)	1,250.00 KS
DR v3 max	Tier 15

¹⁾
[Tier 6](#) or greater, no less than 1 tier smaller than platform

²⁾
Less than [Tier 6](#) or smaller than platform

³⁾
at 1 [Yamatai \(Planet\)](#) atmosphere

⁴⁾ ¹⁰⁾
,
in 1 [Yamatai Atmosphere](#)

⁵⁾
Players

⁶⁾

Quickchart

7)

P:X: Personnel, **PA:X:** Power Armor, **F:X:** Frame, **M:X** Mounted

8)

X:P: Pistol, **X:B:** Submachine gun, **X:R:** Rifle, **X:C:** Crew-Served Weapon, **X:S:** Support Weapon

9)

SF: Safe, **SS:** Single Shot, **SA:** Semi-Automatic, **BFX:** Burst Fire (X rounds), **FAX:** Fully-Automatic (X rounds per minute, sustained)

11)

B: Subsonic (less than 🌀Mach 0.8), **TS:** 🌀Transonic (🌀Mach between 0.8 and 1.2) **S:** 🌀Supersonic 🌀 (Mach 1.2 to 5), **H:** 🌀Hypersonic (🌀Mach 5 or greater), **R:** 🌀Relativistic (greater than 0.2c, 🌀Hypersonic in atmosphere)

12)

Sonic speed reference in 1 Yamatai Atmosphere

13)

100,000m trans-atmospheric

14)

180,000m trans-atmospheric

15)

200,000m trans-atmospheric

16)

250,000m trans-atmospheric

17) 18) 19) 20) 21) 22) 23)

300,000m trans-atmospheric

24) 25)

generally only hand-held applications

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