

MR90-Series Projectile Weapon System

As opposed to the “primitive” parallel-rail systems employed in most tests, the MFRG uses either 4, 8, or 16 rails set equidistance around the circumference of the barrel to both protect from discharge (arcing) and enable faster, more reliable mechanical firing.

The basic design is a large, single-barrel Rifle, powered by one or two BU-P50R Batteries, which are good for 400 shots in standard fire mode, or approximately 20 shots in overcharge. The Batteries, diagnostics computer, and recoil-reduction system are stored in the stock, while the receiver and barrel assembly of the weapon contain the more mechanical parts of the rifle itself.

Inside the barrel assembly are the 4, 8, or 16 aforementioned rails, two of which are powered during fire, the others absorbing what little electrical energy is lost through discharge arcing. Each rail pair is fed power for the shot via a pair of capacitors (two for each pair) located adjacent to the firing rails.

Power from the batteries is initially sent to the recoil-compensation system, where a series of systems prepares the GAS (Gravitic-Anchor System) to engage for the duration of time during which the projectile is being propelled by the rail system. After the system is ready, the power is forwarded to the two capacitors, which step the power up and engage the rails, which slide back into pre-manufactured slots to receive the projectile from the magazine feed. When the trigger is depressed, the rails are charged, and the projectile is ejected at hypersonic velocities.

Immediately after the rails engage, the GAS engages, so recoil is minimal, though there is a noticeable shudder as the projectile is fired. During the instant the GAS is engaged and the projectile is leaving the barrel, the weapon's aim is fixed; only extreme amounts of force (massive machines, starships, etc.) can alter the aim. However, the time at this state is negligible, so few will notice this unless they are using an alternate firing method.

After the projectile has cleared the end of the barrel, the rails return to their position, a mechanical catch using the remaining energy of the capacitors to rotate the barrel and lining up the next two rails.

Versions

MR90C Standard (civilian) versions of the rifle will have only 4 rails, with only semi-automatic capabilities. Due to the lack of power requirements, this version only requires one battery.

Range: 7,000m (22967ft) Ammunition Type: BU-P50R battery; 4mm tungsten spheres (15-Rd Magazine)
Mass: 2.13kg (5 lb.) Length: 1.1m (43.31")

MR90L Law Enforcement Versions will feature 8 rails, with an automatic firing mode, though the number of rails is there more to ensure the weapon lasts longer while seeing more use than the occasional game-hunter's rifle. This variation uses two batteries.

Range: 10,000m (32810ft) Ammunition Type: BU-P50R battery; 4mm tungsten spheres (50-Rd Magazine)
Mass: 2.55kg (6 lb.) Length: 1.1m (43.31")

MR90 Military Versions feature a full 16-rail spread, capable of single, burst, or full-auto firing. Like the Law Enforcement version, this version requires two batteries.

Range: 14,000m (45934ft) Ammunition Type: BU-P50R battery; 4mm tungsten spheres (50-Rd Magazine)
Mass: 2.98kg (7 lb.) Length: 1.1m (43.31")

Multi-Version Features: Both Law Enforcement and Military Varieties feature "Overcharge" mode, where all capacitors are charged and engaged sequentially, so the projectile gets a full powered "push" all the way down the barrel, as opposed to the initial boost and the subsequent "carry-charge" down the rest of the barrel. Muzzle velocity at this setting is nearly twice that of standard fire mode, and is capable of punching through almost any shield and or armor, at the cost of a 20-second recharge between shots.

Maintenance/Modification

The stock of the weapon is a precisely tooled computer, and as such, no field-maintenance can be done on it. The barrel, however, is statically-charged to repel dust, and what isn't cleared via the cleaning kit stored within a recess of the handgrip, tends to be removed/vaporized as the weapon is fired. Sensors within will also prevent the weapon from being fired if there are any barrel obstructions.

Aside from the fact that the receiver, barrel, and stock can be interchanged between models with tools normally found on the field, the system is versatile, and rugged enough to see use as a ballistic/projectile replacement for energy weapons on the field of battle.

Modification to the weapon can not be done without the proper tools and computer software. Any attempts to modify the software or hardware will result in a CPU lockup that prevents firing. This is for the safety of the user, as well as to prevent illegal modification.

Addendum

MR90S

Modifications to a civilian 4-rail, dual-battery overcharge-capable weapon have given rise to a sniper-variation for field use. The added power of both batteries, combined with the added velocity of a multiple-rail launch has created a dangerously high-velocity projectile capable of taking out a moving target from kilometers away. While devastating to unarmored organics, the projectile's kinetic energy is high enough to not only penetrate, but overturn most personal vehicles and shielded/armored transports. There is still a noticeable recharge period between shots, but due to the lower number of rails, there is only a 4 second delay, as opposed to the 20 seconds the MR90L's and MR90's must wait.

Range: 26,000m (85,446ft) Ammunition Type: BU-P50R battery; 4mm tungsten spheres (50-Rd Magazine)
Mass: 2.34kg (5.1 lb.) Length: 1.1m (43.31")

Prices to be announced pending approval for mainstream integration.

OOC Information

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