6. WEAPON TECHNOLOGY

Aerial bombs are those bombs that are dropped from aircraft. Aerial bombs usually fall freely once released, but they may be equipped with guidance modules and control surfaces that convert them to guided or smart weapons.

AAM launchers are infantry weapons that fire antiaircraft missiles with *hammerhead* warheads. These launchers are usually long and tubular with sophisticated sights and firing controls. The missile is inserted into the tube and fired. The missiles possess smart warheads so that they may track an aircraft independently once they are fired.

Anti-matter warheads are composed of a small amount of anti-matter protected in special containment vessel that shatters when the warhead impacts, releasing the anti-matter. The unique property of these warheads is the way the anti-matter reacts to the density and mass of the target, developing greater penetrative power the denser the surface struck. As a result these warheads are the only weapons known to "scale" themselves – to become more effective the stronger the armor of the target. Because of the danger of releasing anti-matter amidst friendly troops and vehicles, anti-matter warheads are not employed in any weapons that use explosives as propellants. They are limited to weapons utilizing magnetic propulsion such as the specially-modified driver weapons known as **helldrivers**. Anti-matter warheads are not used in indirect fire weapons or bombs because of the unpredictability of the collateral damage they might cause. As a result of these limitations, anti-matter warheads are not in general use, but are utilized only in specialist weapons provided to highly-trained individuals to employ against high-priority targets. Despite widespread use in space warfare, the proposed development of large caliber weapons employing anti-matter warheads has been outlawed by all stellar nations. Plans to develop smart missiles and gauss cannon capable of firing anti-matter warheads have been cancelled with the probable result that these weapons will never be fielded.

Artillery rockets are projectiles that consist of a warhead and a solid fuel chamber. The burning of the fuel creates a stream of gases that propel the rocket. Artillery rockets are usually unguided weapons.

Attack missiles are surface-to-surface missiles commonly fielded on armored vehicles. These weapons are usually smart weapons, with guidance systems that give them enhanced tracking and targeting abilities. They are generally utilized to give vehicles an accurate weapon with a powerful anti-armor attack or explosive area effect.

Attack rockets are surface-to-surface rockets commonly fielded on armored vehicles. They are unguided weapons that are generally utilized to give vehicles powerful area effect weapons to supplement their energy or anti-armor weapons.

ATR launchers fire antitank rockets, which are specialized anti-armor weapons with *piercer* warheads. These weapons are usually long and tubular with firing controls. The rocket is inserted into the tube for firing. A typical antitank rocket launcher is the bazooka.

Autocannon are smaller caliber cannon that are fed by automatic ammunition loaders giving them a high rate of sustained fire. Although autoloaders speed up the rate of fire of projectile weapons such as tank cannon, they do not make those weapons autocannon. Autocannon are specifically designed to fire with machinegun rapidity.

Automatic weapons are infantry weapons that fire projectiles at a continuous and rapid rate until the trigger is released. The projectiles are usually bullets or similar solid slugs of metal, composites or other material.

Blast weapons generate and magnetically contain fusion plasma, releasing it in the form of small fireballs.

6. WEAPON TECHNOLOGY

Blazer weapons focus and project high temperature ionized gas in a narrow stream, capable of cutting through the target material. Developed from flamers, blazers are more concentrated and have more penetrative power, but suffer from very limited effective ranges.

Bolt weapons convert metallic atoms with a fixed magnetic orientation into energy by a combination of pressure and intersecting magnetic fields. When released the energy shears through target materials.

Bomb throwers are similar to grenade launchers, but fire larger projectiles and have shorter ranges.

Chemical warheads employ poisonous gases or caustic materials to attack troops.

Cone weapons fire small caliber, rocket-assisted projectiles. The rockets extend the range and lethality of the projectiles.

Conversion beams project a high energy beam that excites the matter of the surface hit and converts it to energy, with explosive results.

Dart weapons fire small caliber flechettes that carry to ranges similar to those of cone weapons, but do not have the same penetrative power. To compensate, the rate of fire is greater causing a wide spray of projectiles.

Disintegrators project narrow beams of intense radiation that shatters the molecular structure of the target surface and creates energy that causes additional damage.

Disruptors focus ultra-high frequency radiation that disrupts the molecular structure of the surface hit.

Distortion beams release pulses of energy which penetrate and distort molecular bonds, altering and destroying molecules and releasing short chain reactions of destructive energy.

Driver weapons use a pusher beam to propel projectiles down a tubular, magnetic carrier beam at very high velocities. Although the projectile is smaller and less powerful than that of automatic weapons, the extended ranges of driver weapons make them popular with snipers.

Flame cannon are larger and more powerful flamethrowers that are mounted in vehicles and strongpoints. They also mix fuel and compressed air to project a stream of liquid flame, but because of their greater capacity they have longer ranges.

Flamers project high temperature ionized gas in a stream that expands in the target area, burning through the target material. Flamers are generally used as close-range, area-effect weapons by assault troops such as Stormers and Intruders.

Flamethrowers mix petrochemical fuel and compressed air to project a stream of liquid flame.

Fusion weapons magnetically focus and fire bolts of superheated hydrogen generated by a controlled fusion reaction.

Gauss weapons use intense magnetic impulses to fire projectiles at very high velocities. The projectiles are larger and more powerful than those of automatic weapons. Although the technology is related to that of driver weapons, gauss weapons lack the extended ranges of driver weapons.

Grenade launchers are infantry weapons that lob small explosive projectiles fitted with a variety of warheads. The projectiles are generally about the size of a hand grenade. Automatic grenade launchers utilize a rotary or in-line magazine to allow the rapid firing of multiple rounds.

Guns are long-barreled artillery pieces that fire with a relatively flat trajectory. They fire longer distances than howitzers of the same caliber.

The shells are fired either by chemical propellants or by mass drivers (magnetic accelerators).

Gyrojet weapons have small rocket-assisted projectiles similar to cone weapons. The rocket nozzles are canted to impart spin to the projectiles.

Hailstorm warheads consist of hundreds of balls, cubes or flechettes packed in high explosive. When the round is detonated the blast propels the objects outward with tremendous velocity causing massive damage. These warheads are used by artillery to interdict enemy troop movements and concentrations. This warhead has also been referred to as "steel rain."

Hammerhead warheads employ shaped and focused high explosives to create a combined explosive and implosive effect of great destructive power.

Hand grenades are small hand-thrown projectiles with explosive or chemical warheads.

Harpoon launchers fire large heavy spears by compressed air. They are sometimes used against small craft. In military applications the launchers can be used to fire grappling lines and flexible mine-clearing lines.

Hellburner warheads utilize sodium, magnesium and phosphorus with other compounds to produce a powerful incendiary effect.

Helldriver was the nickname for specially-modified driver rifles developed to fire anti-matter warheads. The widespread usage of the nickname resulted in its general acceptance, even in conservative military circles. Because of their specialized warheads, helldriver rifles are commonly listed as warhead weapons rather than projectile weapons.

Hellfire weapons are lightweight automatic weapons that fire multiple incendiary projectiles at a high rate of fire. When the projectiles hit a target they rupture, spreading a sticky gel over the surface of the target where it immediately bursts into flame and burns with an intense heat. The effect of the weapon at the point of impact is much like a flamethrower, but without the long stream of flame from the weapon to the target. Without a large fuel tank the weapon is much more versatile and manageable, and is easily reloaded from clips or an ammunition belt.

High explosive warheads employ the destructive power of intense, unfocused explosions. These warheads also often augment their lethality with shrapnel produced by the destruction of the warhead's casing.

Howitzers are short-barreled artillery pieces that fire with a relatively high trajectory. They fire shorter distances than guns of the same caliber, but their trajectory allows them to hit targets behind hills and ridges. The shells are fired either by chemical propellants or by mass drivers (magnetic accelerators).

Hypervelocity weapons use tapered bore and compressible casing technologies to accelerate projectiles to supersonic speeds. The velocity of the projectiles gives them tremendous penetrative power on impact.

Intersector beams utilize two nearly-parallel beams that converge at a distance. The beams do not interact with other so they can actually penetrate solid objects without affecting them. At the point where the beams intersect, they collide with each other and other matter to create high energy reactions and destructive radiation.

Infantry missile launchers are advanced weapon systems developed as a further improvement of infantry rocket launchers. The launchers fire guided or smart warheads.

Infantry rocket launchers are weapon systems based upon antitank rocket launchers. A range of warheads is available for use against vehicles

and personnel. The weapons are designed to suppress the flash and smoke produced by earlier weapons.

Ion weapons project a tightly focused beam of ions that penetrate the target and disrupt the molecular structure.

Keg bombs are composed of lethal chemicals or high explosives fitted with a detonator and fuse and assembled in canisters for ease of transport and delivery. They are used for demolitions and in assaults on fixed defenses.

Laser weapons project a narrow, intense beam of amplified and focused monochromatic light that burns its way through materials.

Machine weapons are automatic weapons capable of sustained rapid fire. They are usually fed by continuous belts of ammunition. Machineguns are the primary example of these weapons.

Maser weapons raise atoms to a very energy level to emit a very narrow pulse of microwaves.

Mini-rocket launchers were designed to fire a cluster of small, unguided warheads simultaneously to create a small barrage of multiple impacts. The weapons have a shorter range than grenade launchers, but have a larger area of effect and the multiple warheads give a slightly better chance of hitting a target. The launchers were originally developed as secondary, defensive weapons for wardrones. While they are seen most often on wardrones, they are now generally viewed as offensive weapons and have been adapted for a wider range of applications. The launchers are sometimes referred to as "pepper pots."

Mortars are simple tubes mounted with baseplates and bipods. The mortar shell is dropped down the tube where its propellant charge is ignited. Mortars are high trajectory weapons, like howitzers.
A specific class of mortars, sometimes referred to as gun-mortars, was developed for vehicles. These weapons can be mounted in the same manner as cannon, to utilize flat trajectory direct fire. The rounds are breach-loaded and fired by means of a firing pin.

Needler weapons employ a pusher beam or compressed gas to project the needle-like projectiles. The weapons were developed for paramilitary and police operations and rely upon the volume and shock effect of the needles on unprotected personnel. Covert operations and assassin versions rely upon drugged or poisoned needles.

Neutralizers disrupt the brainwaves of personnel, causing temporary paralysis or death. Sometimes called neural disruptors, these weapons do not actually affect neurons, but instead disrupt the electrical activity of a brain.

Nuclear warheads rely upon nuclear fission to release vast destructive energy in the form of heat, blast, shock, radiation and an electromagnetic pulse. Weapons that utilize fusion to achieve the same results are also included in this category.

Parasonars focus sound waves to cause physical damage and to stun and paralyze personnel.

Particle beams emit high energy streams of subatomic particles that cause disruptive chain reactions in the atoms of the target material.

Petards are very large bomb-throwers developed for use against fortifications. They are primarily mounted on specialized assault engineering vehicles.

Phaser weapons project beams of intense phased light that burns its way through target materials.

Piercer warheads utilize the shaped-charge effect to project an intense jet of superheated gas to burn through materials.

Plasma weapons heat hydrogen to a plasma state and then magnetically focus the plasma

into a narrow stream.

Pulse weapons are more powerful maser weapons that focus and intensify the pulses of microwaves to a higher energy level to emit a more destructive beam.

Ray weapons project intense beams of x-rays and gamma rays that penetrate and disrupt electronic components and living tissue.

Recoilless rifles are infantry support weapons that eliminate recoil by releasing propellant gases from the breech to counteract the recoil of firing. The main drawback of these weapons is their large backblast, which makes them difficult to conceal when firing.

Rifle grenades are grenades that may be fired from a conventional rifle through the use of a special adapter. They have a longer range and greater accuracy than hand grenades.

RPG launchers fire rocket-propelled grenades, which are specialized anti-armor weapons with piercer warheads. These weapons generally have short, tubular stocks with firing controls. The warhead is inserted into the front end and remains exposed.

Satchel charges are blocks of explosive fitted with a detonator and fuse and assembled in a pack for ease of transport and delivery. They are used for demolitions and in assaults on fixed defenses.

Scrambler weapons fire a pulse of intense radiation and energy that can scramble the molecular structure of the target.

Smoke warheads release clouds of non-lethal gas to obscure targets or block fields of fire. In order to provide effective concealment that cannot be penetrated by infrared sights, smoke contains a wide range of micro-particles. Some of the particles are reflective, some serve as insulators blocking the heat signature of objects within or on the other side of the smoke, and some have a thermal component that generates it own heat. The smoke obscures targets and does not allow infrared sights to "see through" the smoke.

Smoke launchers are usually mounted on vehicles and are used to lob smoke grenades outwards to provide smoke screens. Normally, each tube has one grenade and cannot be reloaded from within the vehicle.

Sonic weapons project high frequency waves that are amplified and focused to cause physical damage.

Spearguns fire slim, arrow-like spears by compressed air and are commonly used underwater.

Strike missiles include a full range of air-to-air, air-to-surface, surface-to-air and surface-to-surface missiles. These weapons are usually smart weapons, with guidance systems that give them enhanced tracking and targeting abilities. They are generally utilized by aircraft, but are sometimes mounted on vehicles to augment their other weapons.

Strike rockets are air-to-surface rockets commonly fielded on aircraft. They are unguided weapons that are generally utilized to give aircraft powerful area effect weapons to supplement their other weapons.

Submachineguns are short-barreled automatic infantry weapons that are fielded chiefly for their rapid rate of fire. Machinepistols are very similar but are generally smaller.

Tactical missiles are extremely large rockets. They may be propelled by solid or liquid fuel. These missiles are usually guided or smart weapons, but some low technology societies still produce unguided tactical missiles.

Ultrasonic weapons project ultra-high frequency sound waves that are focused to disrupt the molecular structure of the target through an intense shock wave.

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Vaporshock warheads employ an initial charge to disperse a powerful explosive as a cloud of mist or powder. A secondary charge ignites the cloud of explosive creating a powerful fireball and an intense concussive effect. This warhead is used only in aerial bombs, artillery rockets and tactical missiles because of the large volume of explosive needed to create the intended effect.

Forces of the Zokar Hegemony advance through a warehouse complex as the drive into northern Purna continues. Troops of the reptilian 32nd Rhosuran Stalkers are supported by a Bearcat Z-119B wardrone.