# An Ultimate's Guide to Combat

What comes to your mind when you think "Ultimate"? Most of you readers probably conjure up images of some mercenary, fighting on some blasted rock on the outer system. Some of you will come up with an image that is much less pleasant. Ultimate ideals are much, much different than that. We are more than simply an order of militants.

Ultimates have been associated with mercenaries since the movement's inception, simply because most of us do it at one point or another to make money. I've signed contracts with Ultimate Security, Direct Action, Gorgon, and a half-dozen smaller outfits over the course of the last twelve years. I died on New Mumbai (but you should see the other guy), and in two or three places I'm probably legally obligated not to talk about in print.

The whole sum of the Ultimate philosophy is self-improvement, however. A lot of people fear us because of the fact that we have a perceived penchant for violence, but there are two good reasons for that. First, we simply are capable of delivering better violence because of our training and familiarity with augmentations. Second, we know what's coming. About 80 percent of ultimates died in the Fall, and that's considered a victory. The TITANs aren't dead, and they're hardly even gone.

— Exemplar Harmony "Harm" Cho

The world of Eclipse Phase is wrought with danger and intrigue. The purpose of *An Ultimate's Guide to Combat* is to provide players with more tactical options, and it provides additional opportunities for combat, adding in new systems to give a combat-heavy campaign more variety.

Another of the focuses of this supplement is to provide players with a resource for a more responsive combat system, complete with new and expanded rules for weapon qualities, melee combat, and explosives. *An Ultimate's Guide to Combat* includes some theoretical battlefield tech, as well as additional general use military theory and tactics to improve battlefield simulation in the Eclipse Phase system.



# Table of Contents

## The After-Fall Armory

The Fall taught transhumanity a number of things. First, you can't count on massive decentralized AI tactical networks in place of boots on the ground. Second, sufficiently nasty things can suborn your gear. Third, most battlefields are pretty unsurvivable for even well-prepared transhumans.

I'd say that about half of the things that I encountered during the Fall were things that could only be dealt with using specialized gear or external support. At New Mumbai we had to deploy nukes to stop the TITANs' advance, and we didn't have enough time to get everyone out (civilians and soldiers both).

So, with that in mind, here are a few things that anyone going into combat in this day and age should expect. I'm going to take a moment to remind everyone that the best force multiplier in existence is the transhuman mind, unless the Factors do something particularly shocking, so do enough reading to set yourself apart from the genetrash.

## Weapon Qualities

A lot of people overlook the vagaries of various weapons. Each weapon has its own unique upsides and downsides, and you should be making an intelligent and informed decision about each of your tools as you prepare for battle.

Some weapons are renowned for their ability to consistently put out damage against a variety of targets. These reliable weapons are a mainstay in many peoples' arsenals,.

***Reliable*** *weapons roll each damage die twice, taking the higher result as the final outcome for the die. Reliable applies not only to the weapon's base damage, but any damage added by automatic fire. Alternatively, 2 damage may be added for each d10 in the weapon's DV instead of rerolling dice.*

A handful of weapons are capable of causing damage to a large area; these blast-causing weapons can hit multiple targets at once.

***Area*** *weapons are not content merely to damage a single target, but also cause damage to additional morphs. Targets standing within a number of meters equal to the Blast rating of the weapon fall victim to the same effects as the original target of the weapon.*

There are some weapons capable of functioning radically differently, to the point where different skills are used with various modes of the weapon.

***Multi-Mode*** *weapons are capable of being used in multiple different configurations. The skills used will vary from weapon to weapon.*

It is not uncommon to find weapons that cause damage across a whole cone of fire. These weapons are devastating to unsuspecting combatants or those who cannot take cover.

***Cone*** *weapons use special rules detailed in the Cone Attacks section.*

Some rare weapons do damage directly through radioactivity (x-rays, gamma rays, neutrons, or other energetic particles). These are highly illegal, and go by a number of names; they are generally lumped together as enhanced radiation weapons. Some nuclear weapons, typically referred to as enhanced radiation weapons, yield primarily radiation instead of blast and heat, and have this quality as well.

***Radioactive*** *weapons ignore a target's armor, though special radiation hardening applies. They also expose targets to a number of milisieverts equal to their rating.*

On the other hand, not all of the special qualities that weapons can have are good.

Some weapons are dependable for a low-grade damage output. These unreliable weapons tend to let you down when you most depend on them, though by some fluke it's possible to get good hits out of them now and again.

***Unreliable*** *weapons roll each damage die twice, taking the lower result as the final outcome for the die. Unreliable applies not only to the weapon's base damage, but any damage added by automatic fire. Alternatively, 2 damage may be subtracted for each d10 in the weapon's DV instead of rerolling dice.*

Older weapons, and some post-Fall weapons made in a pinch to use fewer resources, suffer from recoil. I like to keep an old anti-materiel rifle from Earth that I've had since I left for New Mumbai in a locker. It packs a real kick, but it's as hard-hitting as any gun you'll see today.

*Firing a weapon with the* ***Recoil*** *quality imposes a -10 penalty to future attacks with that weapon during the remainder of the combat turn, unless the weapon has been*

*deployed or the character takes a complex action to recover from the recoil.*

One thing you don't hear about firearms that often is how many of them are total lemons. Especially if you're buying from scum tinkerers or the Jovians, you can expect a lot of low-end cheaper firearms to be unreliable at best.

*When firing a weapon with the **Lemon** quality, the weapon jams (kinetic, seeker, or spray weapons) or overheats (energy weapons) if the attacker rolls a 1 on any of the damage dice rolled on account of the weapon's DV. Melee weapons with the Lemon quality break entirely; they lose any other qualities and do 1d10+SOM÷10 damage. A jammed projectile weapon requires a Complex Action to unjam, while an overheated energy weapon cannot be to attack again until the end of the next turn. Broken melee weapons may be repaired; the Game Master decides what processes this entails.*

## Damage Bonus

*An Ultimate's Guide to Combat* introduces a variety of new weapons, many of which use different statistic calculations. It is suggested that Damage Bonus be calculated using the rules in *Transhuman* (p. 96), which state that either SOM + DUR ÷ 20 be used to calculate Damage Bonus or that small morphs should decrease Damage Bonus by 1 and large morphs should increase Damage Bonus by 2. For sake of consistency with the other books, this book uses SOM ÷ 10 to represent the standard damage bonus, and adds in weapons that use SOM ÷ 5, for weapons that use double the normal damage bonus.

## Weapon Manufacturers

Weapons are as diverse as transhumanity, and there's generally a weapon for any given purpose or environment. Violence is part of the transhuman nature, and as tool-making creatures, we've made great tools for violence whenever we've encountered new situations to apply it.

Weapon manufacturers tend to have their own personal hallmarks. One company may have a different target audience than another, and each has their own trademark line and iconic weapons. Some people swear by certain brands, often on account of minor features that just aren't found elsewhere.

### Distributed Munitions

Born out of an early 21-st century open-source weapons movement, Distributed Munitions is considered somewhat controversial for their anarchist leanings among more conservative groups.

Since they are built around the concept of blueprints, the entire Distributed Munitions system has been designed around voluntary contributions, and the group exists more as an autonomist group akin to the argonauts than as a microcorporation or hypercorporation.

While all Distributed Munitions designs are available free of charge, they may be subject to legal restrictions in many habitats; fabbers with safeguards against building weapons typically have the full Distributed Munitions catalog included on their restriction list.

Distributed Munitions is prone to quality control issues; experimental designs are distributed because they exist, not because they are necessarily practical. Experimental-branch weapons from Distributed Munitions gain the Lemon quality, lose 1d10 from their DV, but gain +7 DV. Distributed Munition Digital Munitions manufactures all sorts of weapons, though only Kinetic and Beam weapons have enough adoption for experimental-branch variants.

### Tradition Arms

They may not be the most fancy of weaponsmiths, but Tradition Arms is dependable for a number of reasons. First, they make their weapons built entirely around analog components. There is nothing digital in their arsenal, and the most complex electronics are some capacitors in their railgun variations.

Expensive and overrated, according to critics, Tradition Arms aims for a Jovian and bioconservative market in general, pointing out that without fancy software their guns will never betray you and turn into some sort of TITAN subverted toy. Of course, the simple nature of Tradition Arms' weapons also means that it is the warrior's skill, not their gear, that wins the day. They are of fine craftsmanship, though. Rajput have both blueprints and a small arsenal of Tradition Arms weapons on hand.

Weapons sold by Tradition Arms lack digital systems, using electronics only as necessary for a weapon's functionality. Almost all systems on a Tradition Arms weapon are analogue; any circuitry in them comes down to simple switches, batteries, and capacitors, rather than having digital

controls. Tradition Arms blueprints are available; they are DRM-free and cost the same as a purchased weapon does, though terms and conditions prevent the resale of Tradition Arms weapons made on fabbers in this manner.

Tradition Arms weapons require cased ammunition that is incompatible with modern firearms (even their railguns use ammunition with a self-contained power supply). When fired on full automatic modes, TA kinetic weapons are treated as having the Recoil quality, and other TA weapons are treated as having the Lemon quality. TA does not make seeker weapons. However, TA weapons tend to be high caliber, gaining -1 AP and +2 DV.

Tradition Arms manufactures Kinetic, Beam, and Spray weapons.

## Kinetic Weapons

### Shotguns

Shotguns are not as effective as battlefield weapons as their depiction in the media would indicate. Mercenaries and soldiers will not typically be outfitted with shotguns, but there are times when the weapons are useful for one of two purposes: light, unarmored targets (such as biomorphs or cases), or when fighting threatens to breach a habitat.

Modern shotguns fire caseless ammunition with integrated flechette rounds. Flechettes can have a number of modifications applied to them. Shot and slug projectiles are also available; slugs tend to turn shotguns into very short range rifles (remember that the velocity of projectiles from a shotgun is much lower), and shot functions like flechettes, but tend to have less armor penetration. Shot is available in plastic, flux, and regular varieties, while slugs are available with the full spectrum of ammunition modifications, including smart ammunition (flak cannon slugs are limited to the types of ammunition appropriate for railgun ammunition). Flechette rounds are not customizable with ammunition types.

Shotguns tend to have a lower muzzle velocity than other kinetic weapons. For the past two decades, the same advances that mitigated recoil in other firearms have been applied to shotguns, so you don't have to worry about the kick of a 12-gauge taking out your shoulder.

Likewise, smart materials allow for the choke (which changes the pattern of shot impact) of a shotgun to be configured for appropriate distances on the fly; a user with a smartlink can do this automatically, while old-school users can use a quick action to change the range of a shotgun's choke.

Most shotguns are kinetic weapons, but there is a railgun variant. Popularly called flak cannons, these weapons fire a cluster of magnetic projectiles, and can have their spread adjusted similarly to a traditional shotgun. They can fire slugs, but the normal railgun ammunition type restrictions apply. As an added feature, a flak cannon can fire grenades (with range increments equivalent to a conventional SMG). Flak cannons are only available in a two-handed configuration, and tend to pose a much higher risk of hull breach than their chemical propellant utilizing brethren.

Each type of shotgun has its own ranges; an underbarrel shotgun or flak cannon, or a shotgun in a pistol form factor uses light pistol ranges, while full sized shotguns use submachine gun ranges. Flak cannons use conventional firearm assault rifle range increments (for flechettes, slugs, and grenades). Shotguns firing flechette or shot lose 1d10 damage for firing at long range and 2d10 damage for firing at extreme range. Shotguns firing flechette or shot suffer reduced accuracy penalties for firing at long ranges (no penalty at medium range, -10 at long, and -20 at extreme).

Although many weapons are multi-integrated after the fall, underbarrel shotguns and flak cannons remain in use due to their utility and their ability to be attached to other weapons without requiring attention from a professional armorer.

**Underbarrel Shotgun**: The underbarrel shotgun has been a staple of counterterrorism and military forces for many years, and its utility combined with its quick stopping power makes it ideal. As a complex action, an underbarrel shotgun can be attached to any two-handed weapon. It can also be used as a standalone weapon, but requires two hands to use in this manner due to the awkward design of the firearm. [**Moderate**]

**Shotgun Pistol**: The variety of sawn-off shotguns and other highly portable shotguns manufactured by transhumanity is exceptional, but the one common trend that shotgun pistols have is being neat single-handed weapons that fire normal shotgun rounds. [**Moderate**]

**Hunting Shotgun**: Hunting shotguns fire larger cartridges than most of the other shotguns that are available, and are favored by those who need to do a lot of damage and make a statement. With a pump-action or semiautomatic firing method, they are capable of shooting quickly and accurately in a wide variety of conditions. The hunting shotgun is a two-handed weapon. [**Moderate**]

**Assault Shotgun**: The typical drum-fed assault shotgun is a mean looking weapon that can clear a room in seconds. Capable of being used in a variety of roles and purposes, the assault shotgun has a reputation as a terrifying weapon. The assault shotgun is a two-handed weapon. [**High**]

**Underbarrel Flak Cannon**: The underbarrel flak cannon provides incredible power and range compared to its traditional brethren, and maintains its larger counterpart's grenade launcher functionality, though its range is pitiful due to the short length of the weapon. They are commonly favored as grenade launchers, as they function almost identically to their larger parent weapon when launching grenades. As with an underbarrel shotgun, it can attach to any two-handed weapon, but requires two hands to use effectively if it is detached. [**High**]

**Flak Cannon**: The flak cannon has a reputation as a truly fearsome weapon. Capable of doing massive damage, the flak cannon has the ability to chamber grenades or microgrenades as well as flechettes and slugs. The flak cannon is a two-handed weapon. [**Expensive**]

### *Shot, Flechette, and Chokes*

Shot and flechette projectiles utilize a shotgun's choke to change the spread pattern of the projectiles. Modern smart materials mean that this can be done on the fly, both manually (quick action) or automatically with a smartlink (no action required). Chokes are rated for distance; starting at 0-10, then continuing up to 10-20, 20-30, and so forth out to the end of Medium Range for the shotgun (shotgun pistols have access to a 20-30 meter choke, full-length shotguns have access to a 70-80 meter choke, and flak cannons can emulate a 240-250 meter choke).

A shotgun attacking a target that is closer than its choke's optimal distance loses the Reliable quality. Targets within the choke's optimal distance take normal damage from the shotgun. Targets beyond the choke setting of the shotgun take 1d10 less damage from the shot, which is cumulative with shotguns' damage loss at long and extreme range.

### *Shotgun Ammunition Types*

Shotguns typically use flechette ammunition. This allows them to do consistent damage to targets. However, it is also possible to use slug and shot ammunition, which each have their own special rules.

Firing a shotgun or flak cannon with slugs increases its AP by 4, adds +2 to its DV, and makes it lose the Reliable quality. Additional ammunition type modifications can be applied on top of this, including smart ammunition if appropriate.

Firing a shotgun or flak cannon with shot reduces its AP by +4. Against unarmored targets, a positive AP value has no effect. Shot is typically considered inferior to flechettes, but is favored for its ability to be used with materials that render it less lethal.

In addition to the standard ammunition types, shotguns can fire frag rounds (treated as slugs), which are available in regular and zap configurations. Frag rounds add the Area (2) quality to the weapon, and their damage is resisted as energy damage. Otherwise, they function like their parent rounds (either regular slugs or zap slugs). Smartlinks allow frag rounds to airburst, making them effective against swarms. Flak cannons cannot use frag rounds, as they tend to disintegrate at high velocity, discharging early. [**low** per 100 rounds].

## Beam Weapons

### EMP Weapons

When dealing with nanoswarms, it is useful to bring along specialized EMP weapons that are highly effective against them. In addition, EMP weapons are used as a means to sabotage communications; they cannot disrupt optical electronics' function, but radio communications devices hit with an EMP attack are reduced to 1/10th of their normal operating ranges (p. 341, *EP*). This may be prevented with the EMP hardening upgrade, which specifies a minimum DV for an EMP weapon attack to impact the equipment. Nanoswarms take full damage from EMP weapons.

EMP weapons typically are built with a Marx generator or vircator as their primary source of electromagnetic radiation. This allows them to use radio waves, microwaves or x-rays, though the range on the electromagnetic spectra is secondary to the EMP weapon's function of causing sudden and great levels of electromagnetic radiation very quickly. It is possible to find analogue variants of these weapons, especially in arsenals of people who are concerned about digital subversion threats, especially TITANs. The Jovians have stockpiles of these used both for information suppression and as a safeguard against dreaded nanotechnological attacks.

Since EMP weapons often function without visual cues, many models can be set to create either a flash of light or a low-power laser beam when activated, to let users

without enhanced vision see the shots they are firing. EMP weapons use Laser Pulser ranges.

**EMP Pistol**: Primarily used to subvert personal communication equipments or as a backup for hostile nanoswarm management, the EMP Pistol is not capable of attacking hardened gear, but works decently against nanites and unhardened radios. [**Moderate**]

**EMP Rifle**: More powerful, EMP rifles are almost always used for combat against nanoswarms. Capable of dealing significant damage to a swarm, they are also used as a directed alternative to EMP grenades. This is a two-handed weapon. [**High**]

**EMP Saturator**: EMP saturators look like a device out of twentieth-century science fiction, with an adjustable reflector dish at the end. Capable of firing in a cone, these powerful EMP devices can tear through nanoswarms and disable all but the most hardened devices. [**Expensive**]

### Enhanced Radiation Weapons

Enhanced radiation weapons are terrifying and dangerous, as well as highly illegal in most places. They set off radiation detectors unless they are incredibly well made, and they tend to be the tools of assassins, rather than soldiers.

Radiation has potentially lethal effects against synthmorphs, biomorphs, and nanites, but leaves most things physically intact. In some cases, enhanced radiation weapons may be favorable due to the fact that they do not cause physical damage (i.e. they won't put a hole in the habitat wall).

That said, they have their purposes; ER weapons can penetrate almost any armor, and only things intentionally designed for radiation exposure tend to have any sort of resistance against them. They will decimate nanoswarms, so I've heard people argue for them as backup weapons against TITANs.

One of the advantages of ER weapons is their ability to have late-onset effects; hitting someone with a full graser array may not cause meaningful instantaneous harm other than some burns that would be unpleasant though not particularly concerning. Minutes later, the target will be dead. Synthmorphs tend to fall foul of the effects quicker, though they generally have a greater tolerance.

If you plan on entering a battlefield with ER weapons, have backups—they can toast cortical stacks entirely.

## Exotic Weapons

### Exotic Melee Weapons

**Kinetic Gauntlets**: An alien or TITAN artifact with unknown relationships to the Casimir force. Shaped like long cylinders with two open ends, they are not quite shaped for human forearms, but can be adapted for wear by adding cushions and straps. The final rig usually extends beyond the user's hands, limiting their ability to manipulate other objects. Objects within the generated field are moved by aligning the paired gauntlets and extending one or the other. Studies of the few known specimens of kinetic gauntlets have revealed nothing about their nature and mechanics. Kinetic gauntlets are similar to fixors, though their ability to exert force on outside elements poses a significantly greater threat.

Users of kinetic gauntlets can make a number of attacks, crushing their target with pure force or flinging them about like a bug in a tin can being shaken by a wrathful fury. More frightening for warriors is the ability of a kinetic gauntlet to affect a ten-by-ten-by-ten meter volume. Use of kinetic gauntlets is particularly effective at smashing swarms, which they seem almost purpose designed to do. [**Expensive (Minimum 50,000)**]

**Scour Sword**: If you somehow manage to find one of these, send it my way. Some intrepid artifact dealer figured out a way to warp and refract the fields created by a scour ring around the edge of a foot-long blade (really more of a dagger than a sword). The result is a weapon with almost unstoppable cutting power which doesn't care at all about any sort of armor and severs limbs like a hot knife going through butter.

Since it demolishes target matter to component atoms, scour swords largely disregard armor, weapons used to block them, or the morphs that they are inevitably used against when they are swung. Likewise, they can create hull breaches on spaceships or habitats with less than a foot of matter separating them from vacuum with very little effort. If a habitat knows about scour swords, they are likely banned.

A critical hit with a scour sword causes a wound immediately (rather than bypassing armor, as scour swords already bypass all armor). [**Expensive (Minimum 30,000)**]

### Exotic Ranged Weapons

#### *Archery*

Archery is a tried and true martial discipline, often overlooked. The bow and crossbow are simple designs that can be made in a pinch with readily available materials, and

with smart materials and clever designs you can nanofabricate a bow that would make Odysseus look like a slouch.

Archery is a little difficult, though. You will want a smartlink on your bows to help you adjust to environmental factors, and the motions are different enough that you need to learn archery as a separate skill. Bows tend to fare poorly against modern armor, and they're not as good at putting holes in things as a firearm. In addition, most bows are pretty large; a compound bow can be more than five feet long, easily matching a sniper rifle in dimensions. Smartbows and advanced bows may have mechanisms to allow them to either retract parts to decrease size or be disassembled. Disassembling a bow takes two complex actions, and unless stated all bows can be disassembled (smartbows disassemble themselves once ordered to, requiring no additional effort).

Arrows, however, tend to carry a meaner payload than firearms do. Able to be equipped with everything from full sized nanite hives to microgrenades, archery can be a clever way to deliver payloads without detection. Bows lack the same firing signature that firearms and energy weapons have, making them stealthy without the need for (often illegal and only marginally effective) silencers and flash suppressors. In addition, arrows or bolts dipped in an injection-vector toxin can apply it to their target, so long as the projectile does at least one point of damage when it hits.

It is a quick action to grab an arrow and draw a bow, and a complex action to reload a crossbow with more bolts. Defenders being attacked with archery weapons use their full Fray score to dodge, as if they were being attacked in melee.

**Bow**: Bows are available in a number of different configurations, including smartbows and compound bows that would make turn-of-the-century warriors very jealous. That said, a run of the mill bow is cheap and easy to fabricate, even in habitats with more tough arms restrictions. [**Trivial** (unfinished parts), **low** (assembled bow)]

**Compound Bow**: Compound bows use advanced composite materials and manufacturing techniques to create a set of pulleys and simple mechanisms to allow a user to leverage their strength and fire arrows with a surprising amount of force behind them. [**Low**]

**Smartbow**: Smartbows use smart materials to transform from an inconspicuous cylinder into a moderately sized bow; somewhat shorter in length than a normal bow, they have just enough complexity to perform similarly. They are integrated with a smartlink by default, and are subject to more legal controls than other bows. [**Moderate**]

**Automatic Bow**: A cross between a bow and crossbow, the automatic bow is a compound bow with a self-powered mechanism that allows it to emulate the effects of being fired by a stronger morph, even if the user is not particularly strong. The limbs of the bow partially retract when the bow is not in use, giving it the same carrying profile as a carbine. [**Moderate**]

**Crossbow**: Crossbows have the unique ability to function as kinetic weapons with the aid of a smartlink. Crossbows come in both automatic and manual forms. Manual crossbows leverage a transhuman's strength, and are generally built with adjustable poundage to let anyone use them without too much exertion, while automatic crossbows require either a token effort or will cock themselves without any effort on the user's behalf. Crossbows fire bolts that are functionally similar to arrows (but are not interchangeable), and may be attached to a magazine for rapid shots. [**Low** (manual), **Moderate** (automatic)]

## New Augmentations

Warriors use a vast variety of augmentations, but there's a number of things that I have seen on the battlefield that you need to be aware of. Some high-end augmentations are available exclusively for combat, and you should know about them before you go onto a battlefield where you might tangle with them.

### Bioware

**Whiplash Tendril**: The Whiplash Tendril is a unique transgenic augmentation that lets you reach out and touch someone on the other side of a room. Capable of extending ten meters in less than a quarter of a second, whiplash tendrils are made of a tension tolerant myomer that is highly flexible and durable. Barring the potential applications for Asyncs, Whiplash Tendrils are capable of both making basic unarmed attacks at a distance (including touch only attacks, with the bonus those bring), and Redirect close combat maneuvers. It uses its own Exotic Melee Weapon skill. [**Moderate**]

### Cyberware

**Daedalus Discharger**: Daedalus discharger cyberware is designed to provide rapid bursts of power for cybernetic augmentations or robotic enhancements that require a power

source, as well as allow users to power energy weapons and railguns without requiring an external source.

Daedalus dischargers have integrated nuclear batteries, capacitors, and traditional batteries that allow them to output about four kilowatts (80 energy weapon shots an hour), and store five times that amount in rapid discharge batteries. This power output allows them to serve as a valuable tool for users of power-hungry gear, especially those operating in environments where recharging facilities are not available. [**Expensive**]

**Mjölnir System**: The Mjölnir system is intended to give morphs an advantage in speed and maneuvering. Using a series of physical reinforcement points the Mjölnir system integrates a number of boosters (typically some sort of jet boosters) with vectored thrust. The end result is to allow the user to "jump" a distance of about fifty meters (any direction) in a 1.0 g environment, or significantly further in microgravity and low-gravity environments. The thrusters in a Mjölnir system are built to safely direct the exhaust, often using magnetic containment and plasma jets. Using a Mjölnir system is a complex action.

Mjölnir systems also have combat functionality: making a melee attack from a distance. Mjölnir systems function as a smartlinked weapon, using a special Exotic Melee Weapon skill. A successful hit causes 3d10 + (SOM ÷ 5) damage. If the user decides not to make an attack in this manner, the Mjölnir system can slow them to safe speeds instead. Attacking an object that can't be knocked back (like a bulkhead) inflicts 2d10 damage on the user, but does an additional 1d10 damage to the target.

The Mjölnir system requires a power source; either connection to a recharging station or a nuclear battery can suffice, and the charging process requires about an hour. Wireless recharging is possible, where such facilities are available, but the process takes eight hours. It is possible to store a nuclear battery indefinitely in the augmentation, allowing for regular usage. [**Expensive**; **High** if a morph already includes Thrust Vector movement]

### Nanoware

### Robotic Enhancements

**Internal Fusion Plant**: Designed for Large or larger morphs, an internal He-3 fusion plant can be used to provide nigh-unlimited power to a morph without the need for nuclear batteries or other fuel sources. However, although fusion creates largely inert byproducts, the reactor core itself becomes highly radioactive during use, requiring a second layer of shielding and making overly miniaturized reactors impractical.

A synthmorph or robot with an internal fusion plant can charge energy weapons, devices, and batteries rapidly. In addition, any augmentations that require power can be operated on the power from the fusion plant, rather than internal batteries. The limitations on this are minimal, limited only to applications beyond the usual limitations of an individual morph. Although fusion reactions shut down harmlessly if the reactor is breached, many habitats find the prospect of transhumans and robots walking around with both the ability to power large energy weapon arsenals and expose bystanders to radioactive material troublesome, meaning that this implant may be restricted in many habitats. [**Expensive (Minimum 40,000)**]

## New Mechanics

### Cone Attacks

Some weapons attack a broad area, but not like a blast. These "cone attacks" include flamethrowers, dragon's breath shotgun rounds, and a variety of energy weapons, plus some exotic weapons.

Cone attacks work differently from normal attacks; weapons with a cone quality have two ratings: Distance and width. A final cone quality on a weapon might look like: "Cone: 40/10". Ratings are assumed to be in meters, unless otherwise stated. Attacks made with a cone weapon do not require a roll.

Instead, a character targeted with a cone attack makes an REF*SPD test to avoid the harm. This only applies if the character can move out of the cone entirely, or if there is some sort of cover available within a couple meters. Characters who anticipate a cone attack and get out of the way can take cover as a quick action to avoid the cone. Moderate and major will completely negate, being in minor cover provides a +20 modifier to the REF*SPD roll.

### Radiation

People often come into contact with radiation in space, especially when radioactive materials leak into a sealed habitat or when radioactive weapons such as nuclear bombs or enhanced radiation weapons are deployed to the battlefield. Poor radiation containment in nuclear reactors, including both

fission and fusion reactors, can also cause high levels of irradiation to morphs and equipment, as can exposure to stellar bodies and other natural, alien, and transhuman-made phenomena.

### Radiation in Biomorphs

Transhuman medicine can reduce or entirely negate most of the health factors of long-term radiation exposure, sometimes automatically as a result of the modifications made to even the most basic splicer to prepare them for space colonization, or sometimes with the assistance of healing vats or other nanotechnology, as well as drugs designed for that purpose. As even basic biomods empower morphs to fight off cancer to an extent that would be a miracle by early twenty-first century standards, the largest threat comes from acute radiation sickness.

Acute radiation sickness tends to come about as a result of exposure to very high amounts of radiation very quickly. Speed of exposure plays a critical role in the development of symptoms. ARS has four levels: Minor, Major, Critical, and Extreme. Morphs with basic biomods suffer ARS at thresholds equal to twice those at which flats suffer it. The radiation resistance augmentation (p. 189, *Rimward*) multiplies these thresholds by a further 30 times their original ratings, making ARS significantly less likely. Exposure to radiation weakens the immune system.

Minor radiation sickness occurs at 4 grays for most biomorphs. One to two hours after exposure, morphs experience nausea and vomiting, and have a small chance of suffering diarrhea, as their gastrointestinal tract is thrown into disorder; this lasts for a day or two. This is followed by headaches beginning 3-8 hours after exposure, which are accompanied by cognitive impairment and fever, which last for a day and cause a -10 penalty to all rolls, including tests involving a morphs durability or mental resistance. At this point, radiation poisoning tends to be fatal after a month or two without care, mostly due to infections and hemorrhage; bruise-like features called purpura and the loss of hair are obvious signs of minor radiation sickness.

Major radiation sickness occurs at 12 grays. Ten to sixty minutes after exposure, morphs suffer nausea and vomiting, likely having diarrhea as well. Headaches, fever, and cognitive impairment follow, which last for multiple days, conferring a -10 penalty to all rolls and decreasing all aptitudes by -5. Death is likely even with care, barring a healing vat or medichines. In addition to hemorrhage and hair loss, major radiation sickness includes dizziness, disorientation, and immune system failure. Death usually occurs after 2-4 weeks.

Critical radiation sickness occurs at 16 grays. Within minutes of exposure, nausea and vomiting begin. Within a hour, diarrhea follows. Within a hour, morphs also suffer severe headaches and incapacitating CNS function loss, preventing them from taking actions and conferring a -10 penalty to all aptitudes. Any rolls they must take suffer an additional -20 penalty. Death is certain without medical care, and permanent damage will likely result even with the assistance of a healing vat. Medichines are insufficient to provide care, if they even survived the exposure to ionizing radiation that impacted the morph.

At exposures to more than 60 grays, extreme radiation poisoning occurs. Patients become nauseous and vomit within minutes of exposure, and suffer diarrhea, headaches, fever, and loss of CNS function within an hour, accompanied by seizures, tremors, and loss of motor control. Cortical stacks are typically corrupted beyond repair, any implants fail, and attempts to prevent the morph's inevitable death are pointless.

## Combat Maneuvers

Combat maneuvers are special abilities unlocked when a character hits a certain rank with the appropriate weapon skills.

### Kinetic Weapons

#### *Combat Maneuvers and Recoil*

After Fall weapons provide great benefits to a practical shooter due to their lack of recoil. As a general rule, weapons with the Recoil quality suffer a -10 penalty on all shots that occur after the first in a combat maneuver. The maximum distance that a recoiling weapon can perform combat maneuvers at is equal to the upper end of the weapon's Medium range. Typically, most of these drills are intended to be done with weapons that only require one hand, but recoilless weapons mitigate many of the concerns with using these with larger weapons.

### Mozambique Drill

Two shots in the body, one in the head. The Mozambique drill originated with a mercenary fighting in Mozambique. The practice is simple; aim twice for center of mass, and then once against another point on the target that looks particularly squishy (the forehead or neck on most

biomorphs, for instance). A Mozambique drill can only be attempted with a weapon with the semiautomatic firing mode, and consumes three rounds of ammunition. The attack is treated as if the weapon had the Reliable quality (if the weapon has the Unreliable quality, it loses it instead of gaining Reliable), and gains a +10 accuracy bonus as if it were a normal burst. All three shots are treated as a single attack.

### El Presidente

The "El Presidente" drill was intended for bodyguards on earth to master and use in defense. Consisting of six shots against three targets, the El Presidente drill is typically practiced using two six-round magazines and doing two of the maneuver back-to-back. It requires a one-handed weapon with a semiautomatic firing mode, used with both hands. Each target must be within one meter of the prior target, and all targets must be within short range. Each attack against each target is rolled separately.

*The El Presidente maneuver has two variants: one for less-skilled shooters that only allows one attack against three targets, and then one for more-skilled shooters that repeats the attacks and allows the shooter to reload between the two separate barrages. Shooters capable of using the El Presidente II maneuver may use the original El Presidente maneuver as a Simple Action. Reloading is optional, if the user has a full magazine, though choosing not to reload does not confer bonuses.*

### Dozier Drill

The "Dozier" drill was created as a counter-terrorism training technique; it requires users to take down five targets in the time it takes for a simulated terrorist to ready a sub-machine gun. The Dozier drill requires five rounds, and results in five separate attacks made against five different foes. Each attack against each target is rolled separately.

## EMP Weapons

| Firearms | DV | AP | Average DV | Firing Modes | Ammo | Qualities |
|---|---|---|---|---|---|---|
| EMP Pistol | 2d10+4 | — | 15 | SA | 50 | |
| EMP Rifle | 2d10+6 | — | 20 | SA | 20 | Reliable |
| EMP Saturator | 3d10+8 | — | 24 | SA | 10 | Cone 40/10 |

*EMP weapons only effect nanoswarms and radio communications equipment. Radio communications equipment damaged by EMP has its range reduced to 10 percent of its normal until it is repaired.*

## Shotguns

| Firearms | DV | AP | Average DV | Firing Modes | Ammo | Qualities |
|---|---|---|---|---|---|---|
| Underbarrel Shotgun | 2d10 | — | 14 | SA | 1 | Reliable |
| Shotgun Pistol | 2d10 | — | 14 | SA | 2 | Reliable |
| Hunting Shotgun | 3d10 | — | 21 | SA | 5 | Reliable |
| Assault Shotgun | 2d10 | — | 14 | SA/BF/FA | 20 | Reliable |
| **Railguns** | **DV** | **AP** | **Average DV** | **Firing Modes** | **Ammo** | **Qualities** |
| Underbarrel Flak Cannon | 3d10 | -2 | 21 | SA | 1 | Reliable |
| Flak Cannon | 4d10 | -4 | 29 | SA | 4 | Reliable |

*All ratings given are for flechette ammunition.*

## Bows

| Bows | DV | AP | Average DV | Firing Modes | Ammo | Qualities |
|---|---|---|---|---|---|---|
| Bow | 1d10 + (SOM ÷ 10) | -2 | 5 + (SOM ÷ 10) | SS | 1 | Reliable |
| Compound Bow | 1d10 + (SOM ÷ 5) | -5 | 5 + (SOM ÷ 5) | SS | 1 | Reliable |
| Smartbow | 1d10 + (SOM ÷ 5) | - 3 | 5 + (SOM ÷ 5) | SS | 1 | Reliable |
| Automatic Bow | 1D10 + 8 | -5 | 13 | SS | 1 | Reliable |
| **Crossbows** | **DV** | **AP** | **Average DV** | **Firing Modes** | **Ammo** | **Qualities** |
| Crossbow | 2d10 + (SOM ÷ 5) | -4 | 11 + (SOM ÷ 5) | SS | 5 | Multi-Mode* |
| Automatic Crossbow | 2d10 + 8 | -7 | 19 | SA | 5 | Multi-Mode* |

* These weapons can be used as kinetic weapons if the user is meshed to an attached smartlink (purchased separately).

## Kinetic Weapon Maneuvers

| Technique | Effect | Minimum Skill | Action |
|---|---|---|---|
| Mozambique Drill | Add Reliable or lose Unreliable, + 10 Accuracy, consume 3 rounds | 30 | CA |
| El Presidente | Make single attacks against three targets, consume 6 rounds | 35 | CA |
| El Presidente II | Make double attacks against three targets, consume 6 rounds, reload, consume 6 rounds. | 45 | CA |
| Dozier Drill | Make single attacks against five targets, consume five rounds. | 40 | CA |