20mm Vulcan

Notes: The Vulcan, and its upgraded version, the PIVAD, is one of the most common air defense guns in the world, whether in trailer-mounted versions, fixed mountings, naval mountings, and vehicular use. A modified form is a very common aircraft gun. The Vulcan is a six-barreled rotary cannon that fires at an extremely rapid rate of fire, projecting a virtual wall of metal at targets. The standard model has a range-only radar and a generator; the PIVAD adds a new digital optical sight, and a ballistic computer. A third model, the Basic Vulcan, is designed for export to poorer countries; it deletes the radar, digital sight, and power controls for elevation and traverse.

Weapon	Ammunition	Crew	Set Up Time	Weight	Price
Basic Vulcan	20mm Vulcan	3	4 Minutes	1565 kg	$32769
Vulcan ADA	20mm Vulcan	4	4 Minutes	1588 kg	$43692
PIVAD	20mm Vulcan	4	4 Minutes	1732 kg	$53692

Weapon	ROF	Magazine	Range	Round	Damage	Penetration
Vulcan	300	300 Belt, 500 Belt	490	AP	4	2/2/2/1
	300	300 Belt, 500 Belt	490	API	4	3/3/2/1
	300	300 Belt, 500 Belt	370	HEI	C1 B5	-4C
	300	300 Belt, 500 Belt	490	MPT-SD	4	4/3/3/2
	300	300 Belt, 500 Belt	370	SAPHEI	C1 B3	2/2/2/1

25mm M-242 Chain Gun

Notes: Also known as the Bushmaster, this autocannon is fitted to the M-2 and M-3 Bradley Fighting Vehicles and the LAV-25, as well as US Navy deck mountings. It is also employed on MOWAG Piranhas used by the Saudis. Rounds may be fired on semiautomatic, ROF 2, ROF3, or ROF5. This weapon fires both US-made and European ammunition. The mechanism is actuated by a chain drive, hence the name. It is noteworthy that before Operation Iraqi Freedom, the US Army was heavily considering replacing the Bradley's 25mm M-242 with a heavier-caliber autocannon; however, the 25mm M-242 has outperformed expectations and its replacement is no longer being considered.

Weapon	Ammunition	Crew	Set Up Time	Weight	Price
M-242	25mm KBA	1	NA	153.5 kg	$11270

Weapon	ROF	Magazine	Range	Round	Damage	Penetration
M-242 ChainGun	5	100B (x2)	390	AA	C1 B8	-4C
	5	100B (x2)	520	APFSDSDU	6	14/12/10/7
	5	100B (x2)	520	API	6	5/4/3/2
	5	100B (x2)	390	HE	C1 B5	-3C

25mm Objective Crew-Served Weapon

Notes: This weapon was designed to partially replace the Mark 19, ASP, and M-2HB. The OCSWs rounds, like the OICWs grenade launcher rounds, can be set to airburst over a target's heads or strike the target directly. The OCSW fires a special 25mm round with a computerized proximity fuse, either HE or HEDP. The OSCW is fired from a lightweight tripod developed especially for this weapon, or it may be fired from a NHT mount. The OCSW uses a computerized laser sight, a slightly improved version of the IR imaging sight on the OICW. The OCSW is fed from special cassettes of 22 or 74 rounds.

Twilight 2000 Notes: The Objective Crew-Served Weapon (OCSW) was rushed into service several years ahead of its target date, however, few were available by the Twilight War.

Merc 2000 Notes: Budget cuts largely ended deployment of this weapon.

Weapon	Ammunition	Crew	Set Up Time	Weight	Price
OCSW	25mm OCSW	1	1 Minute	16.5 kg (With Tripod)	$15152

Weapon	ROF	Magazine	Range	Round	Damage	Penetration
OSCW	5	22, 74	190	HE	C4 B20	-3C
	5	22, 74	190	HEDP	C2 B10	23C
	5	22, 74	190	HEAB	C6 B24	-3C
	5	22, 74	190	HEDP-AB	C4 B15	23C

30mm ASP

Notes: The ASP-30 (Automatic, Self-Powered) is a gas-operated version of the 30mm ChainGun designed as an infantry support weapon. It fits on an NHT or any other mount that is equivalent to an NHT. It is fed from a 50-round belt. Recoil is manageable when on a tripod or vehicle mount.

Weapon	Ammunition	Crew	Set Up Time	Weight	Price
ASP	30mm KCB	1	3 Minutes	48 kg	$20179

Weapon	ROF	Magazine	Range	Round	Damage	Penetration

ASP	5	50B	340	APFSDSDU	7	14/12/10/7
	5	50B	340	API	7	5/4/3/2
	5	50B	250	HE	C2 B10	-3C
	5	50B	250	HEAT	C1 B5	29C
	5	50B	250	HEDP	C2 B10	13C

30mm Bushmaster II

Notes: This weapon is an upgraded M-242 Chain Gun, and retains 70% commonality of parts with that weapon. The Bushmaster II can use the same ammunition as the GAU-8, and can also fire 30mm Rarden and KCB ammunition. It is used on US Navy deck mounts, and on the Swedish CV-30, and on some versions of the cancelled AAAV. It is rumored as an interim upgrade for the Bradley Fighting Vehicle. And the US Marine AAPV-7A1.

Weapon	Ammunition	Crew	Set Up Time	Weight	Price
Bushmaster II	30mm KCB, GAU-8, and Rarden	1	NA	147.4 kg	$20180

Weapon	ROF	Magazine	Range	Round	Damage	Penetration
Bushmaster II	5	100B (x2)	625	GAU-8 APIDU	7	17/15/13/8
	5	100B (x2)	390	GAU-8 HEI	C2 B10	-3C
	5	100B (x2)	520	KCB APFSDSDU	7	17/15/13/8
	5	100B (x2)	520	KCB API	7	6/5/4/3
	5	100B (x2)	390	KCB HE	C2 B10	-3C
	5	100B (x2)	390	KCB HEAT	C1 B5	29C
	5	100B (x2)	390	KCB HEDP	C2 B10	13C
	5	100B (x2)	625	Rarden APDS	7	10/9/7/5
	5	100B (x2)	625	Rarden APFSDS	7	14/12/10/7
	5	100B (x2)	520	Rarden APSE	7	6/5/4/3
	5	100B (x2)	390	Rarden HE	C2 B10	-3C

30mm GAU-8/A Avenger

Notes: The A-10 Warthog CAS aircraft was literally built around the massive GAU-8/A and it's huge ammo drum. Since then, it has been used on the Goalkeeper CIWS shipboard defense system, better to bring down low-flying missiles at short-range. As noted above, the 20mm Bushmaster II can also use the GAU-8/A's rounds. Warthogs normally carry only APIDU rounds; the Goalkeeper normally uses only HEI rounds. GAU-8/A rounds are about the size of a milk bottle or, for those youngns who don't remember milk delivery, a 2-liter Pepsi).

Weapon	Ammunition	Crew	Set Up Time	Weight	Price
GAU-8/A Avenger	30mm GAU-8	1 (3 Loaders on Ground Crew)	6 Minutes (To Reload)	1.584 tons	$46,100

Weapon	ROF	Magazine	Range	Round	Damage	Penetration
GAU-8/A Avenger	35	1274 Linkless	2125	APIDU	8	17/15/13/8
	35	1274 Linkless	1326	HEI	C2 B10	-2C

35mm Bushmaster III

Notes: This is a belt-fed autocannon which is just beginning to be mounted on AFVs; antiaircraft and naval use is still more common. The Norwegian variant of the CV-9040, for example, uses the Bushmaster III. 70% of the parts of this weapon are compatible with the Bushmaster I and II. It fires ammunition identical to that of the 35mm Oerlikon autocannon, though some new warhead types were developed along with the Bushmaster III. The Bushmaster III has been designed to, after the replacement of the barrel and some minor parts, to be able to fire 50mm Supershot ammunition, effectively becoming a 50mm autocannon. As of yet, this has not been done on an operational basis, but the concept has been thoroughly tested and is ready for deployment upon request.

Twilight 2000 Notes: This weapon has been mounted some versions of the M-2 and M-3 Bradley.

Weapon	Ammunition	Crew	Set Up Time	Weight	Price
Bushmaster III	35mm Oerlikon KDA	1	NA	181.5 kg	$35841

Weapon	ROF	Magazine	Range	Round	Damage	Penetration
Bushmaster III	5	100B (x2)	390	AHEAD	C2 B12	17C
	5	100B (x2)	520	APCI	8	8/7/6/4
	5	100B (x2)	520	APDS	8	12/10/9/6
	5	100B (x2)	520	APFSDS	8	17/14/12/8
	5	100B (x2)	520	APFSDS-T	8	20/17/14/9
	5	100B (x2)	520	APFSDSDU	8	21/18/14/10

5	100B (x2)	520	API	8	7/6/5/3
5	100B (x2)	520	FAPDS	C1 B5	15/12/11/7
5	100B (x2)	390	HE/HEI	C2 B10	-2C
5	100B (x2)	390	HEAT	C2 B5	35C
5	100B (x2)	390	HEDP	C2 B10	17C
5	100B (x2)	390	HEIBF	C1 B12	-3C
5	100B (x2)	390	HEINF	C3 B15	-4C
5	100B (x2)	520	SAPHEI	C1 B5	7/6/5/3

75mm ARES XM-274

Notes: Initial development of this heavy autocannon began in 1973 as part of the US Army's HSTV-L and HIMAG programs; the development was sponsored by the US DoD's ARRADCOM Large Caliber Weapons Laboratory, and though the design work was done by ARES personnel, most of the work was done at this facility and ARRADCOM provided partial funding. The XM-274 was originally going to be used in both a light armored gun system as well as in a self-propelled antiaircraft gun system, but the HSTV-L and HIMAG programs came to naught. However, in 1981, ARES received renewed interest in the XM-274 from the Army, as possible armament for its RDF/LT program vehicle, the supposed replacement for the M-551 Sheridan at the time. In conjunction with AAI, a light armored gun system which could be airdropped was designed, using a low-profile turret and a special feed system for the gun. However, this program too eventually came to naught. ARES and MOWAG got together and produced a test version of the Piranha II armed with this gun, but no one seemed interested. Test vehicles with the XM-274 as armament were also made on a LAV-25 chassis, again with no takers. Eventually, the gun was shelved, though ARES still retains the design in their inventory and is willing to put it into production if someone is interested.

The XM-274 is a heavy autocannon firing revolutionary (for the time) case-telescoped ammunition. In vehicular applications, the gun is fed from a 36-round carousel in the floor of the vehicle under the low-profile turret, though ARES is willing to consider and has proposed other feed designs. The CTA ammunition reduces its volume and its weight, as well as making feed more reliable. The XM-274's design called electrical priming of the rounds and a recoil/hydropneumatic system for operation. Spent cases are ejected upwards and outside of the vehicle. The XM-274 is designed to function optimally firing in short bursts of 1-5 rounds, with a cyclic rate of one round per second. The barrel is fairly long at L/75.48 (5.661 meters), giving it good accuracy and power despite the relatively small caliber of its rounds.

At the time of the cancellation of ARES's entry in the RDF/LT program, ARES was working on a 90mm version of the XM-274, but the rate of research was slow as ARES concentrated on the 75mm version, and only two such prototypes were made.

Twilight 2000 Notes: In the Twilight 2000 timeline, this autocannon is mounted on the LAV-75 light armored gun system.

Weapon	Ammunition	Crew	Set Up Time	Weight	Price
XM-274	75mm ARES CTA	1	NA	1144 kg	$65,410

Weapon	ROF	Magazine	Range	Round	Damage	Penetration
XM-274	5	36 Carousel	670	APFSDS	17	97/84/71/46
	5	36 Carousel	500	HE	C10 B20	4C
	5	36 Carousel	500	HEAT	C6 B15	68C
	5	36 Carousel	500	WP	C2 B15	Nil

90mm ARES "XM-275"

Notes: This grew out of the XM-274 project in the early 1980s, when the Army expressed a wish for an ARES/AAI RDF/LT with greater firepower (and they were asking for the same from RDF/LT prototypes in general). The gun was never mounted on a vehicle or even in a mockup or turret; however, the basic gun system was built to the same standards as the XM-274 and AAI drew up plans for a carrier vehicle. In the end, though, the gun barrel was simply too long and the vehicle itself unable to be airdropped from the C-130 or the C-141 (it was meant to equip the 82n's Airborne in addition to light formations). The two working prototypes reportedly still exist, but are mothballed.

The ARES 90mm gun would have required a bigger vehicle with a bigger turret to make room for the gun and it's ammunition. It too is fed by a 36-round carousel on the floor of the vehicle. The barrel of the ARES 90mm is not as long relative to its caliber, being 56.61 calibers long. Optimal fire is still a burst of 1-5 rounds, though ARES recommended 3-round bursts to conserve ammunition and because the rounds themselves are capable of more damage potential than the 75mm ARES rounds. Operation is identical to the XM-274.

"XM-275" is the Twilight 2000 designation, or more likely, "M-275."

Weapon	Ammunition	Crew	Set Up Time	Weight	Price
XM-274	90mm ARES CTA	1	NA	1373 kg	$86,443

Weapon	ROF	Magazine	Range	Round	Damage	Penetration
XM-274	5	36 Carousel	430	APFSDSDU	20	152/132/112/73
	5	36 Carousel	320	HE	C16 B30	7C
	5	36 Carousel	320	HEAT	C11 B20	101C
	5	36 Carousel	320	WP	C2 B20	Nil
	5	36 Carousel	160	Flechette	D 30x65; 2d6	1-Nil

	5	36 Carousel	320	HESH	Each C11 B20	121C