

# **AUTOCANNONS**

**Australian Autocannons**

**British Autocannons**

**Chilean Autocannons**

**Chinese Autocannons**

**Czech Autocannons**

**French Autocannons**

**German Autocannons**

**Israeli Autocannons**

**Italian Autocannons**

**Norwegian Autocannons**

**Polish Autocannons**

**Russian Autocannons**

**South African Autocannons**

**Swedish Autocannons**

**Swiss Autocannons**

**US Autocannons**

**Yugoslavian Autocannons**

### ADI Modernized 40/60

Notes: This is a modernization of the standard Bofors L/60 antiaircraft gun. It is designed for low cost and to be an easy upgrade. The biggest upgrades are not in the guns themselves, but in the hydraulic and electrical systems controlling the firing, traverse, and elevation. The result is a weapon that can elevate, traverse, and follow targets much faster than a standard L/60 AAG. It also replaces worn components with newer ones able to better withstand use and abuse. As of 2000, only the Australian Navy is using this version of the L/60, but it is also for sale on the open market.

| Weapon               | Ammunition       | Crew | Set Up Time | Weight  | Price    |
|----------------------|------------------|------|-------------|---------|----------|
| ADI Modernized 40/60 | 40mm Bofors L/60 | 3    | 3 Minutes   | 1520 kg | \$144031 |

| Weapon      | ROF | Magazine | Range | Round    | Damage | Penetration |
|-------------|-----|----------|-------|----------|--------|-------------|
| Bofors L/60 | 3   | 20       | 420   | APFSDS-T | 9      | 17/14/12/8  |
|             | 3   | 20       | 320   | APHC-T   | C2 B5  | 25C         |
|             | 3   | 20       | 420   | AP       | 9      | 7/6/5/3     |
|             | 3   | 20       | 320   | HE       | C2 B10 | -1C         |
|             | 3   | 20       | 320   | MP       | C2 B10 | 25C         |
|             | 3   | 20       | 320   | PFHE     | C2 B15 | -2C         |

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### 30mm L21A2 Rarden

Notes: The Rarden (Royal Armament, Research and Development establishment and Enfield) is fitted to the British FV-510 Warrior IFV, FV-107 Scimitar reconnaissance vehicle, Sabre reconnaissance vehicle, and FV-721 Fox armored car. It was designed in the early 1960s to defeat known and projected armored personnel carriers of the time. Requirements at the time included penetration, accuracy, low weight, and ease of operation. This partially why the ROF was kept so low (90 rounds per minute); another reason was to prevent wasteful ammunition usage. The low rate of fire is primarily because while the Rarden is a dual-feed weapon, it is hand-fed by 3-round clips into either side of the weapon; the 90-round per minute rate of fire is the maximum practical rate of fire by a well-trained crew. The lack of a belt feed also allows the dimensions of the gun to be kept smaller, and allows it to be used in turrets and on vehicles with limited space. The low rate of fire also contributes to a low rate of wear and tear, and reduces maintenance. The Rarden has the advantage of having no firing gasses that escape into the vehicle from a vehicular mount. Operation is by long recoil, but the barrel is the primary part that recoils instead of the gun mechanism itself. The recoil mechanism means that the Rarden does not need to be externally-powered and can remain in operation even if the vehicle's power is put out. Spent casings and dud rounds are ejected forwards out of the turret.

| Weapon       | Ammunition         | Crew | Set Up Time | Weight   | Price   |
|--------------|--------------------|------|-------------|----------|---------|
| L21A2 Rarden | 30mm Rarden or KCB | 1    | NA          | 139.8 kg | \$20015 |

| Weapon       | ROF | Magazine | Range | Round         | Damage | Penetration |
|--------------|-----|----------|-------|---------------|--------|-------------|
| L21A2 Rarden | 3   | 100B     | 520   | Rarden APDS   | 7      | 10/9/7/5    |
|              | 3   | 100B     | 520   | Rarden APFSDS | 7      | 14/12/10/7  |
|              | 3   | 100B     | 435   | Rarden APSE   | 7      | 7/7/6/4     |
|              | 3   | 100B     | 390   | Rarden HE     | C2 B10 | -3C         |
|              | 3   | 100B     | 390   | KCB HEI       | C2 B10 | -3C         |
|              | 3   | 100B     | 435   | KCB SAPHEI    | C2 B10 | 7/7/6/4     |

## FAM-2M

Notes: This is a twin autocannon system used by the Chileans to protect its airfields. There are no known exports to date. Very early versions used HS-820 cannons cannibalized from Vampire T.11 aircraft, but these guns are now out of service and have been replaced by versions using twin KAD autocannons. One of the best features of the system is the degree of protection it gives the gunner; he is almost totally enclosed in thick steel plating. On the right side of the mounting is a small gasoline-powered generator sufficient to supply power to the weapon's elevation and traverse mechanisms. The generator also has a battery backup. The FAM-2M uses an optical sight that is about as advanced as one can get without going to computerized sights. In addition, up to four of these guns can be hooked to one radar for centralized remote control.

| Weapon | Ammunition | Crew | Set Up Time | Weight  | Price   |
|--------|------------|------|-------------|---------|---------|
| FAM-2M | 20mm KAD   | 3    | 4 Minutes   | 1700 kg | \$60845 |

| Weapon | ROF | Magazine      | Range | Round | Damage | Penetration |
|--------|-----|---------------|-------|-------|--------|-------------|
| FAM-2M | 20  | 200 Belt (x2) | 590   | APDS  | 4      | 4/3/3/2     |
|        | 20  | 200 Belt (x2) | 590   | API   | 4      | 2/2/2/1     |
|        | 20  | 200 Belt (x2) | 440   | HE    | C1 B5  | -4C         |
|        | 20  | 200 Belt (x2) | 440   | SHRAP | C1 B8  | -5C         |

### 23mm Type 80

Notes: This appears to be a reverse-engineered version of the Russian ZU-23-2. The differences between it and the Russian weapon are few and mostly to suit local manufacturing methods and materials. The sight is 3.5x instead of the 2.5x of the ZU-23-2.

| Weapon  | Ammunition | Crew | Set Up Time | Weight | Price   |
|---------|------------|------|-------------|--------|---------|
| Type 80 | 23mm ZU-23 | 3    | 2 Minutes   | 950 kg | \$86209 |

  

| Weapon  | ROF | Magazine     | Range | Round | Damage | Penetration |
|---------|-----|--------------|-------|-------|--------|-------------|
| Type 80 | 20  | 50 Belt (x2) | 550   | API   | 5      | 3/3/3/2     |
|         | 20  | 50 Belt (x2) | 410   | HE    | C1 B5  | -4C         |
|         | 20  | 50 Belt (x2) | 660   | HVAPI | 5      | 4/4/3/2     |
|         | 20  | 50 Belt (x2) | 550   | HVHE  | C1 B5  | -4C         |

### 25mm Type 85

Notes: This is basically a ZU-23-2 with the 23mm autocannons replaced with 25mm autocannons of local manufacture. The Type 85 is externally very similar to the Type 80 23mm AAA gun and can be easily mistaken for it at first glance. The Chinese are not as yet using this new weapon; it appears to have been built expressly for export.

| Weapon  | Ammunition | Crew | Set Up Time | Weight  | Price   |
|---------|------------|------|-------------|---------|---------|
| Type 85 | 25mm KBA   | 3    | 3 Minutes   | 1500 kg | \$91329 |

  

| Weapon  | ROF | Magazine     | Range | Round    | Damage | Penetration |
|---------|-----|--------------|-------|----------|--------|-------------|
| Type 85 | 10  | 50 Belt (x2) | 420   | AA       | C1 B8  | -4C         |
|         | 10  | 50 Belt (x2) | 560   | APFSDSDU | 6      | 14/12/10/7  |
|         | 10  | 50 Belt (x2) | 560   | API      | 6      | 5/4/3/2     |
|         | 10  | 50 Belt (x2) | 420   | HE       | C1 B5  | -3C         |

### 37mm Type 55/65/74/74SD/P793

Notes: The genesis of these designs is the Russian M-1939 37mm antiaircraft gun. The Type 55 is, in fact, little more than a Chinese copy of the single-barreled M-1939, while the Type 65 is a copy of the twin 37mm version of the M-1939. Type 74 has the ability to be hooked into an existing antiaircraft system and placed under its radar control, has a slightly higher rate of fire (no effect in game terms), and a telescopic sight. The Type 74SD replaces hydraulic manual controls with electrical servos. The P793 can be equipped with standard or long barrels; the rate of fire is further increased; the unit has its own 5.22 kW generator; the telescopic sight's magnification is increased to 5x; and an image intensifier is supplied.

| Weapon  | Ammunition  | Crew | Set Up Time | Weight  | Price    |
|---------|-------------|------|-------------|---------|----------|
| Type 55 | 37mm M-1939 | 3    | 3 Minutes   | 2100 kg | \$131299 |
| Type 65 | 37mm M-1939 | 5    | 4 Minutes   | 2699 kg | \$241929 |
| Type 74 | 37mm M-1939 | 5    | 4 Minutes   | 2835 kg | \$240817 |

| Type 74SD                 | 37mm M-1939 | 4           | 4 Minutes | 2693 kg | \$246837 |             |
|---------------------------|-------------|-------------|-----------|---------|----------|-------------|
| Type P793 (Standard)      | 37mm M-1939 | 4           | 3 Minutes | 3100 kg | \$247137 |             |
| Type P793 (Long Guns)     | 37mm M-1939 | 4           | 3 Minutes | 3300 kg | \$263449 |             |
| Weapon                    | ROF         | Magazine    | Range     | Round   | Damage   | Penetration |
| Type 55                   | 3           | 5 Clip      | 490       | API     | 8        | 6/5/4/3     |
|                           | 3           | 5 Clip      | 370       | FRAG-HE | C2 B15   | -1C         |
|                           | 3           | 5 Clip      | 490       | HVAP    | 8        | 7/7/6/4     |
| Type 65/74/74SD           | 6           | 5 Clip (x2) | 490       | API     | 8        | 7/6/5/3     |
|                           | 6           | 5 Clip (x2) | 370       | FRAG-HE | C2 B15   | -1C         |
|                           | 6           | 5 Clip (x2) | 490       | HVAP    | 8        | 9/8/7/4     |
| Type P793 (Standard Guns) | 10          | 5 Clip (x2) | 490       | API     | 8        | 7/6/5/3     |
|                           | 10          | 5 Clip (x2) | 370       | FRAG-HE | C2 B15   | -1C         |
|                           | 10          | 5 Clip (x2) | 490       | HVAP    | 8        | 9/8/7/4     |
| Type P793 (Long Guns)     | 10          | 5 Clip (x2) | 510       | API     | 8        | 7/6/5/3     |
|                           | 10          | 5 Clip (x2) | 380       | FRAG-HE | C2 B15   | -1C         |
|                           | 10          | 5 Clip (x2) | 510       | HVAP    | 8        | 9/8/7/4     |

### 57mm Type 59

Notes: This weapon is a close copy of the Russian S-60 and differs from that weapon in only minor respects. Most of these differences are concessions to local manufacturing methods. However, the ammunition used by the Type 59 normally uses steel cases instead of the copper cases used by the Russians. The Type 59 is normally radar-directed by rotating bar-type radar known as the GW-03.

| Weapon  | Ammunition | Crew     | Set Up Time | Weight  | Price    |             |
|---------|------------|----------|-------------|---------|----------|-------------|
| Type 59 | 57mm S-60  | 8        | 2 Minutes   | 4780 kg | \$428765 |             |
| Weapon  | ROF        | Magazine | Range       | Round   | Damage   | Penetration |
| Type 59 | 3          | 4 Clip   | 510         | APFSDS  | 13       | 41/36/31/20 |
|         | 3          | 4 Clip   | 510         | APHE    | C3 B10   | 17/15/13/8  |
|         | 3          | 4 Clip   | 390         | HE      | C5 B15   | 2C          |

M-53

Notes: Like many such things, the Czechs developed their own light anti-aircraft gun system during their Warsaw Pact days. In this case, the twin 30mm autocannon M-53 is used to replace the ZU-23-2 in Czech and Slovak service. It is heavier compared to the ZU-23-2, and has a lower rate of fire, but the range and punch are greater. There is no provision for radar control, but a telescopic periscope is provided.

| Weapon | Ammunition | Crew | Set Up Time | Weight  | Price    |
|--------|------------|------|-------------|---------|----------|
| M-53   | 30mm M-53  | 4    | 4 Minutes   | 2100 kg | \$205530 |

  

| Weapon | ROF | Magazine     | Range | Round | Damage | Penetration |
|--------|-----|--------------|-------|-------|--------|-------------|
| M-53   | 10  | 10 Clip (x2) | 520   | API   | 7      | 5/4/3/2     |
|        | 10  | 10 Clip (x2) | 390   | HEI   | C1 B5  | -3C         |

### 20mm Giat 53T1

Notes: This elderly anti-aircraft gun is still in use by French Foreign Legion units, usually in a ground support role, and by the forces of Chad. It is preferred by the Legion due to its light weight and low recoil forces, which made it suitable for employment from relatively light vehicles. It uses the same M 693 autocannon used by the Cerbere 76T2, Tarasque 53T2, and the 53T4. Sighting equipment includes a reticule sight for anti-aircraft use and a 5.2x telescopic sight for use against ground targets.

| Weapon | Ammunition | Crew | Set Up Time | Weight | Price   |
|--------|------------|------|-------------|--------|---------|
| 53T1   | 20mm KAD   | 2    | 2 Minutes   | 635 kg | \$30712 |

| Weapon | ROF | Magazine  | Range | Round | Damage | Penetration |
|--------|-----|-----------|-------|-------|--------|-------------|
| 53T1   | 10  | 100B (x2) | 630   | APDS  | 4      | 4/3/3/2     |
|        | 10  | 100B (x2) | 630   | API   | 4      | 2/2/2/1     |
|        | 10  | 100B (x2) | 470   | HEI   | C1 B5  | -4C         |

### 20mm Giat Tarasque 53T2

Notes: This is an older French anti-aircraft gun, using the same autocannon (M 693(F2)) that the Cerbere 76T2 twin 20mm gun uses. It is a low-weight weapon that can be easily mounted on light trucks or towed behind smaller vehicles. The traverse and elevation mechanisms are driven by a hydraulic motor. As with the 53T1, the sights are a basic reticule sight for anti-aircraft use and 5.2x telescopic sight for use against ground targets.

| Weapon | Ammunition | Crew | Set Up Time | Weight | Price   |
|--------|------------|------|-------------|--------|---------|
| 53T2   | 20mm KAD   | 3    | 3 Minutes   | 840 kg | \$30651 |

| Weapon        | ROF | Magazine  | Range | Round | Damage | Penetration |
|---------------|-----|-----------|-------|-------|--------|-------------|
| Tarasque 53T2 | 10  | 100B (x2) | 630   | APDS  | 4      | 6/5/4/3     |
|               | 10  | 100B (x2) | 630   | API   | 4      | 3/3/3/2     |
|               | 10  | 100B (x2) | 470   | HEI   | C1 B5  | -4C         |

### 20mm Giat 53T4

Notes: This is a double autocannon version of the Giat 53T2 anti-aircraft gun above. It is otherwise the same as the 53T2, except for a more beefy, stable mounting and hydraulic recocking of the guns when loading them. In addition, the guns have automatic electric cutout to stop a gun from firing if it cooks off, and the gun can be set to not fire if pointed within certain arcs (to prevent firing at friendly targets or at useless fields of fire such as targets the ammunition cannot penetrate). As with most French anti-aircraft autocannons, the gun includes a 1x reticule gunsight for anti-aircraft use and a 5.2x telescopic sight for ground targets.

| Weapon | Ammunition | Crew | Set Up Time | Weight  | Price   |
|--------|------------|------|-------------|---------|---------|
| 53T4   | 20mm KAD   | 5    | 3 Minutes   | 2000 kg | \$61049 |

| Weapon | ROF | Magazine  | Range | Round | Damage | Penetration |
|--------|-----|-----------|-------|-------|--------|-------------|
| 53T4   | 20  | 150B (x2) | 630   | APDS  | 4      | 6/5/4/3     |
|        | 20  | 150B (x2) | 630   | API   | 4      | 3/3/3/2     |
|        | 20  | 150B (x2) | 470   | HEI   | C1 B5  | -4C         |

### 20mm Cerbere 76T2

Notes: This is basically the German Rheinmetall Twin 20mm System with the Rh-202 autocannon replaced with M-693(F2) autocannons like those mounted on the 53T2 and 53T4. The 76T2 is designed to work in concert with the Crotale SAM missile system, and can use the same radar as the Crotale. It is also designed to be used with a helmet-pointing system (where the gunner directs the guns by looking at a target through a visor in a specially-equipped helmet). This helmet system, known as the DALDO, had not been bought by any country as of 2000, but is for sale.

| Weapon | Ammunition | Crew | Set Up Time | Weight  | Price   |
|--------|------------|------|-------------|---------|---------|
| 76T2   | 20mm KAD   | 3    | 3 Minutes   | 2150 kg | \$63297 |

| Weapon | ROF | Magazine  | Range | Round | Damage | Penetration |
|--------|-----|-----------|-------|-------|--------|-------------|
| 53T4   | 20  | 270B (x2) | 630   | APDS  | 4      | 6/5/4/3     |
|        | 20  | 270B (x2) | 630   | API   | 4      | 3/3/3/2     |
|        | 20  | 270B (x2) | 470   | HEI   | C1 B5  | -4C         |

### 20mm Giat Type 20 M621

Notes: The Giat Type 20 M621 is an electrically controlled 20mm autocannon designed for use on light vehicles and helicopters. It is capable of semiautomatic and automatic fire. An attached electrical box controls the selective fire aspects and

burst length. It is mounted on light vehicles such as the Land Rover as well as helicopters such as the Puma, Gazelle, and boats. Turrets have also been devised with this gun. It can accept most sights and night vision equipment designed for use with automatic weapons.

| Weapon       | Ammunition  | Crew | Set Up Time | Weight | Price  |
|--------------|-------------|------|-------------|--------|--------|
| Type 20 M621 | 20mm HS-804 | 1    | 1 Minute    | 49 kg  | \$5644 |

| Weapon            | ROF | Magazine | Range | Round | Damage | Penetration |
|-------------------|-----|----------|-------|-------|--------|-------------|
| Giat Type 20 M621 | 10  | 100B     | 490   | API   | 4      | 2/2/2/1     |
|                   | 10  | 100B     | 370   | HE    | C1 B5  | -4C         |

#### 25mm Giat 53T4

Notes: This is a Giat 53T4 antiaircraft gun (detailed in the *Heavy Weapons Handbook*) with the twin 20mm autocannons replaced with a single 25mm Giat M811 autocannon. The mount is substantially the same with small changes to handle the new autocannon, and the ammunition box is somewhat larger, but also mostly the same.

| Weapon    | Ammunition | Crew | Set Up Time | Weight  | Price   |
|-----------|------------|------|-------------|---------|---------|
| 53T4 25mm | 25mm KBA   | 3    | 4 Minutes   | 1900 kg | \$45649 |

| Weapon    | ROF | Magazine  | Range | Round    | Damage | Penetration |
|-----------|-----|-----------|-------|----------|--------|-------------|
| 53T4 25mm | 5   | 300B (x2) | 370   | AA       | C1 B8  | -4C         |
|           | 5   | 300B (x2) | 500   | APFSDSDU | 6      | 14/12/10/7  |
|           | 5   | 300B (x2) | 500   | API      | 6      | 5/4/3/2     |
|           | 5   | 300B (x2) | 370   | HE       | C1 B5  | -3C         |

#### 25mm Giat Type 25 M 811

Notes: This is an externally powered autocannon with a dual-feed mechanism. The feed direction is selected before firing a burst by flicking a switch. It can be placed on any mount that can normally accept a French 20mm autocannon, and turret mountings also exist.

| Weapon       | Ammunition | Crew | Set Up Time | Weight | Price   |
|--------------|------------|------|-------------|--------|---------|
| Type 25 M811 | 25mm KBA   | 1    | 4 Minutes   | 105 kg | \$11413 |

| Weapon            | ROF | Magazine  | Range | Round    | Damage | Penetration |
|-------------------|-----|-----------|-------|----------|--------|-------------|
| Giat Type 25 M811 | 5   | 100B (x2) | 370   | AA       | C1 B8  | -4C         |
|                   | 5   | 100B (x2) | 500   | APFSDSDU | 6      | 14/12/10/7  |
|                   | 5   | 100B (x2) | 500   | API      | 6      | 5/4/3/2     |
|                   | 5   | 100B (x2) | 370   | HE       | C1 B5  | -3C         |

#### 30mm Giat Type 30 M 781

Notes: This autocannon uses a mechanism similar to the 25mm Chaingun. The cannon comes with an electronic control and power unit, and has a rate of fire up to 1-750 rounds per minute. The Type 30 M 781 is a dual-feed weapon. It was designed principally as helicopter armament, but a ground/vehicle mount does exist. Weight given is with the mount.

| Weapon       | Ammunition | Crew | Set Up Time | Weight | Price   |
|--------------|------------|------|-------------|--------|---------|
| Type 30 M781 | 30mm DEFA  | 1    | 3 Minutes   | 65 kg  | \$17369 |

| Weapon            | ROF | Magazine  | Range | Round  | Damage | Penetration |
|-------------------|-----|-----------|-------|--------|--------|-------------|
| Giat Type 30 M781 | 5   | 100B (x2) | 340   | APHEI  | C1 B5  | 3/3/3/2     |
|                   | 5   | 100B (x2) | 340   | API    | 7      | 3/3/3/2     |
|                   | 5   | 100B (x2) | 250   | HEI    | C2 B10 | -3C         |
|                   | 5   | 100B (x2) | 340   | SAPHEI | C1 B5  | 4/4/3/2     |

### 20mm MK-20 Rh-202

Notes: The MK20 Rh-202 has a high rate of fire, yet low recoil forces, and can thus be mounted in a variety of vehicles and mounts. It is a dual-feed weapon that feeds from the top, and the type of round fired may be selected by a simple switch. The Rh-202 can keep firing even in extremes of temperature, water, and contamination.

| Weapon      | Ammunition | Crew | Set Up Time | Weight | Price  |
|-------------|------------|------|-------------|--------|--------|
| MK20 Rh-202 | 20mm KAD   | 1    | 3 Minutes   | 75 kg  | \$7418 |

| Weapon      | ROF | Magazine      | Range | Round | Damage | Penetration |
|-------------|-----|---------------|-------|-------|--------|-------------|
| MK20 Rh-202 | 10  | 100 Belt (x2) | 570   | APDS  | 4      | 4/3/3/2     |
|             | 10  | 100 Belt (x2) | 570   | API   | 4      | 2/2/2/1     |
|             | 10  | 100 Belt (x2) | 430   | HE    | C1 B5  | -4C         |
|             | 10  | 100 Belt (x2) | 430   | SHRAP | C1 B8  | -5C         |

### 20mm Rheinmetall AA Twin Gun System

Notes: This is a light AAA gun system using two Rh-202 autocannons. The Rh-202 cannon is a fairly common one in European service. The Rheinmetall AA System is remarkable in that it can be almost completely field stripped without the use of any tools. Each gun is belt fed from an ammunition box containing two belts with 140 rounds per belt. The gunsight has a magnification of x5, or 1x for a wider field of view (normally used against low-flying aircraft). A computer is incorporated in the sight for calculating the proper lead for moving targets.

| Weapon              | Ammunition | Crew | Set Up Time | Weight  | Price   |
|---------------------|------------|------|-------------|---------|---------|
| Rheinmetall 20mm AA | 20mm KAD   | 4    | 4 Minutes   | 2160 kg | \$62585 |

| Weapon              | ROF | Magazine      | Range | Round | Damage | Penetration |
|---------------------|-----|---------------|-------|-------|--------|-------------|
| Rheinmetall 20mm AA | 20  | 140 Belt (x4) | 570   | APDS  | 4      | 4/3/3/2     |
|                     | 20  | 140 Belt (x4) | 570   | API   | 4      | 2/2/2/1     |
|                     | 20  | 140 Belt (x4) | 430   | HE    | C1 B5  | -4C         |
|                     | 20  | 140 Belt (x4) | 430   | SHRAP | C1 B8  | -5C         |

### 25mm Mauser MK-25

Notes: This German autocannon was first developed as a replacement for the autocannon on the Marder, then an Rh-202. Some ASCOD IFVs are also fitted with this weapon. 75% of the parts on this weapon are interchangeable with those on the MK-30. The MK-25 is a dual feed weapon.

Twilight 2000 Notes: Replacements with this autocannon began with the Marder in 1994, with some 250 vehicles modified before the start of the Twilight War.

| Weapon | Ammunition | Crew | Set Up Time | Weight | Price   |
|--------|------------|------|-------------|--------|---------|
| MK-25  | 25mm KBA   | 1    | NA          | 112 kg | \$11446 |

| Weapon       | ROF | Magazine  | Range | Round    | Damage | Penetration |
|--------------|-----|-----------|-------|----------|--------|-------------|
| Mauser MK-25 | 10  | 100B (x2) | 400   | AA       | C1 B8  | -4C         |
|              | 10  | 100B (x2) | 530   | APFSDSDU | 6      | 14/12/10/7  |
|              | 10  | 100B (x2) | 530   | API      | 6      | 5/4/3/2     |
|              | 10  | 100B (x2) | 400   | HE       | C1 B5  | -3C         |

### 30mm Mauser MK-30

Notes: This autocannon is used on the Greek Artemis LAAG, the Breda Sentinel ADA, and is used by itself on a ground and vehicle mounts by the Italian Guardia di Finanza and French Navy (with varying barrel lengths in each case). It has a high rate of fire and has a dual feed mechanism that may feed from the sides or top. The MK-30 is gas-operated and is known for its reliability. The MK-30 is easy to maintain and can be assembled and disassembled without tools.

| Weapon | Ammunition | Crew | Set Up Time | Weight   | Price   |
|--------|------------|------|-------------|----------|---------|
| MK-30  | 30mm KCA   | 1    | 3 Minutes   | 155.7 kg | \$20399 |

| Weapon       | ROF | Magazine  | Range | Round  | Damage | Penetration |
|--------------|-----|-----------|-------|--------|--------|-------------|
| Mauser MK-30 | 5   | 100B (x2) | 520   | APDS   | 7      | 10/9/7/5    |
|              | 5   | 100B (x2) | 520   | APFSDS | 7      | 14/12/10/7  |
|              | 5   | 100B (x2) | 520   | APHE   | C1 B5  | 6/5/4/3     |
|              | 5   | 100B (x2) | 520   | API    | 7      | 6/5/4/3     |
|              | 5   | 100B (x2) | 390   | HE     | C2 B10 | -3C         |

### 30mm Mauser/KUKA Arrow

Notes: This anti-aircraft gun is similar in appearance to the Greek Artemis gun, but has a computerized fire control system that allows shots at +2. This fire control computer may also be slaved to an external radar unit to allow shots at +3. The gun mechanisms are powered by a 1.5kW generator. Gun leveling and lowering onto jacks is done mechanically, and setup time is fast for a gun of its size. Besides Germany, this gun is used by Thailand. The autocannons used are MK-30s.

| Weapon | Ammunition | Crew | Set Up Time | Weight  | Price    |
|--------|------------|------|-------------|---------|----------|
| Arrow  | 30mm KCA   | 4    | 5 Minutes   | 6800 kg | \$164750 |

| Weapon | ROF | Magazine  | Range | Round  | Damage | Penetration |
|--------|-----|-----------|-------|--------|--------|-------------|
| Arrow  | 20  | 125B (x4) | 520   | APDS   | 7      | 10/9/7/5    |
|        | 20  | 125B (x4) | 520   | APFSDS | 7      | 14/12/10/7  |
|        | 20  | 125B (x4) | 520   | APHE   | C1 B5  | 6/5/4/3     |
|        | 20  | 125B (x4) | 520   | API    | 7      | 6/5/4/3     |
|        | 20  | 125B (x2) | 390   | HE     | C2 B10 | -3C         |

### 20mm TCM-20

Notes: This light AAA gun is basically an old US M-55 trailer-mounted AA machinegun system with the four M-2HB replaced by two HS-404 20mm autocannons that have been modified to fire more powerful HS-804 ammunition. The resulting gun can be used from a trailer, fixed position, or most light armored vehicles. Each autocannon is fed from 60-round drum magazine, but the guns must be cocked manually when reloaded.

| Weapon | Ammunition  | Crew         | Set Up Time | Weight  | Price   |             |
|--------|-------------|--------------|-------------|---------|---------|-------------|
| TCM-20 | 20mm HS-804 | 3            | 40 Seconds  | 1350 kg | \$49459 |             |
| Weapon | ROF         | Magazine     | Range       | Round   | Damage  | Penetration |
| TCM-20 | 10          | 60 Drum (x2) | 540         | APT     | 4       | 2/2/2/1     |
|        | 10          | 60 Drum (x2) | 400         | HEI     | C1 B5   | -4C         |
|        | 10          | 60 Drum (x2) | 400         | HEITSD  | B5      | 9C          |

### 23mm TCM Mk 3

Notes: Using captured 23mm autocannons, the Israelis also produced a version of the TCM-20 with ZU-23 autocannons. This system was used for a short time by the Israelis, but they later took them out of service, replacing them with more TCM-20s. Rumors point to Chile and South Africa as possible recipients of some of the cast-off TCM Mk 3s, but this is not confirmed.

Twilight 2000 Notes: The Israelis kept some 75 TCM Mk 3s, using them for home defense. South Africa and Chile also received some.

Merc 2000 Notes: As Twilight 2000 Notes, but the Israelis did not keep any.

| Weapon   | Ammunition | Crew     | Set Up Time | Weight  | Price   |             |
|----------|------------|----------|-------------|---------|---------|-------------|
| TCM Mk 3 | 23mm ZU-23 | 3        | 40 Seconds  | 1532 kg | \$85772 |             |
| Weapon   | ROF        | Magazine | Range       | Round   | Damage  | Penetration |
| ZU-23    | 10         | 100B     | 550         | API     | 5       | 3/3/3/2     |
|          | 10         | 100B     | 410         | HE      | C1 B5   | -4C         |
|          | 10         | 100B     | 550         | HVAPI   | 5       | 4/4/3/2     |
|          | 10         | 100B     | 550         | HVHE    | C1 B5   | -4C         |

### 60mm HVMS

Notes: The HVMS (HyperVelocity Medium Support) is a high-velocity autocannon mounted on some Israeli vehicles, such as the M-119A1 and Sherman/60mm. It is a long-barreled system, magazine-fed system with a high rate of fire.

| Weapon | Ammunition | Crew     | Set Up Time | Weight          | Price    |             |
|--------|------------|----------|-------------|-----------------|----------|-------------|
| HVMS   | 60mm HVMS  | 1        | NA          | Vehicular Mount | \$134173 |             |
| Weapon | ROF        | Magazine | Range       | Round           | Damage   | Penetration |
|        |            |          |             |                 |          |             |

|      |    |    |     |          |        |             |
|------|----|----|-----|----------|--------|-------------|
| HVMS | 10 | 40 | 480 | APFSDS-T | 13     | 79/69/49/38 |
|      | 10 | 40 | 360 | HE       | C7 B20 | 2C          |
|      | 10 | 40 | 360 | HEAT     | C5 B10 | 65C         |
|      | 10 | 40 | 360 | WP       | C2 B10 | Nil         |

### 30mm OTOBreda Sentinel

Notes: The Sentinel is a twin 30mm autocannon system using Mauser Model F guns on a mobile field mounting. The trailer includes its own 40 kW generator, sufficient to power the unit. The unit also includes a laser rangefinder with ballistic computer and a passive IR night vision device.

Twilight 2000 Notes: This system is rare in the extreme, and usually not found outside of Italian units.

| Weapon   | Ammunition | Crew | Set Up Time | Weight  | Price    |
|----------|------------|------|-------------|---------|----------|
| Sentinel | 30mm GAU-8 | 4    | 3 Minutes   | 5000 kg | \$164048 |

  

| Weapon   | ROF | Magazine      | Range | Round  | Damage | Penetration |
|----------|-----|---------------|-------|--------|--------|-------------|
| Sentinel | 10  | 250 Belt (x2) | 520   | APDS   | 7      | 10/9/7/5    |
|          | 10  | 250 Belt (x2) | 520   | APFSDS | 7      | 14/12/10/7  |
|          | 10  | 250 Belt (x2) | 520   | APHE   | C1 B5  | 6/5/4/3     |
|          | 10  | 250 Belt (x2) | 520   | API    | 7      | 6/5/4/3     |
|          | 10  | 250 Belt (x2) | 390   | HE     | C2 B10 | -3C         |

### 40mm OTOBreda 40mm Antiaircraft Gun

Notes: This is basically a Bofors L/70 antiaircraft gun carriage license-produced by OTOBreda in Italy and given a few improvements. The improvements include increasing the ROF from 240 rounds per minute to 300 (this has no practical game effect); the ability to fire newer forms of ammunition such as PFHE and 3P rounds; a larger magazine; and the ability to use batteries when a generator is not available. The 40mm AAG can also be attached to a remote control mechanism to place large numbers of guns under the control of a single gunner.

| Weapon   | Ammunition       | Crew | Set Up Time | Weight  | Price    |
|----------|------------------|------|-------------|---------|----------|
| 40mm AAG | 40mm Bofors L/70 | 3    | 3 Minutes   | 5300 kg | \$174159 |

  

| Weapon   | ROF | Magazine | Range | Round      | Damage | Penetration |
|----------|-----|----------|-------|------------|--------|-------------|
| 40mm AAG | 3   | 144      | 350   | 3P (AIREX) | C2 B15 | -3C         |
|          | 3   | 144      | 350   | 3P (HE)    | C3 B10 | -1C         |
|          | 3   | 144      | 350   | 3P (HEAT)  | C2 B10 | 41C         |
|          | 3   | 144      | 470   | APFSDS-T   | 9      | 24/21/18/12 |
|          | 3   | 144      | 470   | API        | 9      | 8/7/6/4     |
|          | 3   | 144      | 350   | HET        | C3 B10 | -1C         |
|          | 3   | 144      | 350   | PFHE       | C2 B15 | -2C         |

### 40mm OTOBreda Twin 40L70

Notes: This is a field mounting of a popular Italian naval antiaircraft mounting using twin Bofors L/70 autocannons. The guns are

linked together so that they recoil and fire at the same time; this increases the recoiling mass and thus lowers the recoil forces on the mount. The system can be linked to a Flycatcher air defense radar to form a system known as the Guardian. It can be further integrated into existing surface-to-air missile defenses. Each gun can be fed from 4-round clips through hatches in the sides of the cupola; the ammunition is held in magazines under the gun. The gun holds a total of 111 clips of ammunition. The entire cupola has an armor value of 2.

| Weapon     | Ammunition       |          | Crew  | Set Up Time | Weight   | Price       |
|------------|------------------|----------|-------|-------------|----------|-------------|
| Twin 40L70 | 40mm Bofors L/70 |          | 4     | 5 minutes   | 10400 kg | \$343431    |
| Weapon     | ROF              | Magazine | Range | Round       | Damage   | Penetration |
| Twin 40L70 | 6                | 222 (x2) | 350   | 3P (AIREX)  | C2 B15   | -3C         |
|            | 6                | 222 (x2) | 350   | 3P (HE)     | C3 B10   | -1C         |
|            | 6                | 222 (x2) | 350   | 3P (HEAT)   | C2 B10   | 41C         |
|            | 6                | 222 (x2) | 470   | APFSDS-T    | 9        | 24/21/18/12 |
|            | 6                | 222 (x2) | 470   | API         | 9        | 8/7/6/4     |
|            | 6                | 222 (x2) | 350   | HET         | C3 B10   | -1C         |
|            | 6                | 222 (x2) | 350   | PFHE        | C2 B15   | -2C         |

#### 40mm OTOBreda Twin Fast Forty

Notes: This is a modernized version of the Twin 40L70 above. The biggest combat modifications are improvements that allow the ROF of each gun to be quickened to nearly 500 rounds per minute each. Other improvements include computer-aided aiming, reduction in recoil length, larger side hatches, and a widespread use of titanium to increase strength of the gun components.

Twilight 2000 Notes: This weapon system does not exist.

Merc 2000 Notes: The Twin Fast Forty development is complete, awaiting orders that have not yet been placed.

| Weapon          | Ammunition       |          | Crew  | Set Up Time | Weight  | Price       |
|-----------------|------------------|----------|-------|-------------|---------|-------------|
| Twin Fast Forty | 40mm Bofors L/70 |          | 4     | 5 minutes   | 12150kg | \$347082    |
| Weapon          | ROF              | Magazine | Range | Round       | Damage  | Penetration |
| Twin Fast Forty | 10               | 222 (x2) | 350   | 3P (AIREX)  | C2 B15  | -3C         |
|                 | 10               | 222 (x2) | 350   | 3P (HE)     | C3 B10  | -1C         |
|                 | 10               | 222 (x2) | 350   | 3P (HEAT)   | C2 B10  | 41C         |
|                 | 10               | 222 (x2) | 470   | APFSDS-T    | 9       | 24/21/18/12 |
|                 | 10               | 222 (x2) | 470   | API         | 9       | 8/7/6/4     |
|                 | 10               | 222 (x2) | 350   | HET         | C3 B10  | -1C         |
|                 | 10               | 222 (x2) | 350   | PFHE        | C2 B15  | -2C         |

## 76mm Otomatic

Notes: This is an Italian autocannon designed for anti-aircraft use, but made with ammunition to give it some antiarmor capability. It is primarily found on the Otomatic self-propelled anti-aircraft gun and shipboard mounts.

| Weapon   | Ammunition | Crew | Set Up Time | Weight        | Price   |
|----------|------------|------|-------------|---------------|---------|
| Otomatic | 76mm OTO   | 1    | NA          | Vehicle Mount | \$30712 |

  

| Weapon   | ROF | Magazine | Range | Round  | Damage  | Penetration |
|----------|-----|----------|-------|--------|---------|-------------|
| Otomatic | 3   | 29       | 420   | APFSDS | 17      | 91/84/71/46 |
|          | 3   | 29       | 310   | HE     | C12 B25 | 4C          |
|          | 3   | 29       | 310   | PFF    | C9 B30  | 3C          |

## 20mm FK 20-2

Notes: This Norwegian autocannon is a German Rh-202 fitted out for the ground support/air defense role. In this role, the autocannon is fitted with a sight that allows shots at +1, a flexible tripod mount that can be used from prone or seated positions, and is fed by two magazines. It is normally towed by a truck, but may be broken into 8 loads for carry over short distances. The mount includes a frontal gun shield that protects the gunner (AV 2). Besides Norway, the FK 20-2 was used by Germany.

| Weapon  | Ammunition  | Crew | Set Up Time | Weight | Price  |
|---------|-------------|------|-------------|--------|--------|
| FK-20-2 | 20mm HS-820 | 3    | 3 Minutes   | 620 kg | \$7508 |

  

| Weapon  | ROF | Magazine | Range | Round | Damage | Penetration |
|---------|-----|----------|-------|-------|--------|-------------|
| FK-20-2 | 10  | 75 (x2)  | 570   | APDS  | 4      | 4/3/3/2     |
|         | 10  | 75 (x2)  | 570   | API   | 4      | 2/2/2/1     |
|         | 10  | 75 (x2)  | 430   | HE    | C1 B5  | -4C         |
|         | 10  | 75 (x2)  | 430   | SHRAP | C1 B8  | -5C         |

## 23mm ZUR-23-2S Jod

Notes: This is a Polish modification of the ZU-23-2 anti-aircraft gun. In this model, the base ZU-23-2 is fitted with tubes and sights for a twin SA-7 Grail mount. The new sight is electrically powered from a battery, and allows shots with either the guns or the missiles at +1. The gun includes seats for two gunners, one for the autocannons and one for the missiles.

| Weapon       | Ammunition                 |  | Crew | Set Up Time | Weight  | Price   |
|--------------|----------------------------|--|------|-------------|---------|---------|
| ZUR-23-2 Jod | 23mm ZU-23 + SA-7 Missiles |  | 4    | 4 Minutes   | 1120 kg | \$47595 |

  

| Weapon               | ROF | Magazine  | Range | Round | Damage | Penetration |
|----------------------|-----|-----------|-------|-------|--------|-------------|
| ZUR-23-2S Jod (Guns) | 20  | 100B (x2) | 550   | API   | 5      | 3/3/3/2     |
|                      | 20  | 100B (x2) | 410   | HE    | C1 B5  | -4C         |
|                      | 20  | 100B (x2) | 550   | HVAPI | 5      | 4/4/3/2     |
|                      | 20  | 100B (x2) | 550   | HVHE  | C1 B5  | -4C         |

  

| Weapon | Magazine | Accuracy   | Guidance | Sensing     |
|--------|----------|------------|----------|-------------|
| SA-7A  | 2        | Formidable | IR       | Rear Aspect |
| SA-7B  | 2        | Difficult  | IR       | Rear Aspect |

  

| Weapon | Reload | Speed | Min Rng | Max Rng | Damage | Pen | Type    |
|--------|--------|-------|---------|---------|--------|-----|---------|
| SA-7A  | 1      | 2150  | 800     | 3600    | C5 B30 | 4C  | FRAG-HE |
| SA-7B  | 1      | 2900  | 800     | 4200    | C6 B38 | 4C  | FRAG-HE |

### 23mm ZU-23

Notes: This cannon is found on a variety of vehicular and ground mounts, including the ZSU-23-4, BMP-23, and ZU-23-2 and ZU-23-4, as well as some Russian-invented aircraft. It was invented just after the Second World War, and very few changes have been made to the design or ammunition since then.

| Weapon | Ammunition | Crew | Set Up Time | Weight   | Price   |
|--------|------------|------|-------------|----------|---------|
| ZU-23  | 23mm ZU-23 | 1    | NA          | 102.2 kg | \$10764 |

  

| Weapon | ROF | Magazine | Range | Round | Damage | Penetration |
|--------|-----|----------|-------|-------|--------|-------------|
| ZU-23  | 10  | 100B     | 550   | API   | 5      | 3/3/3/2     |
|        | 10  | 100B     | 410   | HE    | C1 B5  | -4C         |
|        | 10  | 100B     | 550   | HVAPI | 5      | 4/4/3/2     |
|        | 10  | 100B     | 550   | HVHE  | C1 B5  | -4C         |

### ZU-23-2

Notes: This is a towed mounting of two ZU-23 autocannons. It was designed initially to replace the ZPU-2 double KPV machinegun mounting, but ended up merely supplementing that weapon at best. In the Russian military and that of most former Warsaw Pact countries, the ZU-23-2 ended up being mostly replaced in turn by the SA-9 Gaskin surface to air missile. The ZU-23-2 is, however, very common in the world, particularly in former Russian and Chinese client states and in Israel and South Africa (where captured examples were put to use). In many of those countries, the towed systems have had their wheels removed and they are mounted on the backs of trucks or light armored vehicles.

| Weapon  | Ammunition | Crew | Set Up Time | Weight | Price   |
|---------|------------|------|-------------|--------|---------|
| ZU-23-2 | 23mm ZU-23 | 3    | 2 Minutes   | 950 kg | \$86209 |

  

| Weapon | ROF | Magazine  | Range | Round | Damage | Penetration |
|--------|-----|-----------|-------|-------|--------|-------------|
| ZU-23  | 20  | 100B (x2) | 550   | API   | 5      | 3/3/3/2     |
|        | 20  | 100B (x2) | 410   | HE    | C1 B5  | -4C         |
|        | 20  | 100B (x2) | 550   | HVAPI | 5      | 4/4/3/2     |
|        | 20  | 100B (x2) | 550   | HVHE  | C1 B5  | -4C         |

### 30mm 2A42

Notes: This Russian autocannon is mounted on several Russian and former Warsaw Pact vehicles, including the BMP-2 and BMP-3. It is a long-barreled, gas operated, dual-feed weapon that may be fired at a ROF of 3 or 5.

| Weapon | Ammunition | Crew | Set Up Time | Weight | Price   |
|--------|------------|------|-------------|--------|---------|
| 2A42   | 30mm 2A42  | 1    | NA          | 153.5  | \$19174 |

| Weapon | ROF | Magazine | Range | Round | Damage | Penetration |
|--------|-----|----------|-------|-------|--------|-------------|
|        |     |          |       |       |        |             |

|      |   |           |     |      |        |          |
|------|---|-----------|-----|------|--------|----------|
| 2A42 | 5 | 100B (x2) | 460 | APDS | 7      | 10/9/7/5 |
|      | 5 | 100B (x2) | 460 | API  | 7      | 6/5/4/3  |
|      | 5 | 100B (x2) | 350 | HE   | C2 B10 | -3C      |

### 37mm M-1939

Notes: This is a very old weapon developed before World War 2 and never upgraded in any significant manner over the years. Despite this fact, and that it is of very limited usefulness against modern aircraft, it is widely used throughout the world. The basic gun includes an AV2 gun shield, but it is removed by most countries since it severely limits the depression of the gun, and the M-1939's best use today is as an antipersonnel and anti-light-vehicle weapon. (It also reduces the weight of the gun by about 100 kilograms.) There are one and two-gun mounts of this weapon. The M-1939 is known to be in service with at least 43 countries today, but Russia is not one of them.

| Weapon       | Ammunition  | Crew | Set Up Time | Weight  | Price    |
|--------------|-------------|------|-------------|---------|----------|
| M-1939/70-K  | 37mm M-1939 | 4    | 4 Minutes   | 2100 kg | \$131299 |
| M-1939/V-11M | 37mm M-1939 | 6    | 5 Minutes   | 2699 kg | \$241929 |

| Weapon       | ROF | Magazine    | Range | Round   | Damage | Penetration |
|--------------|-----|-------------|-------|---------|--------|-------------|
| M-1939/70-K  | 3   | 5 Clip      | 490   | API     | 8      | 6/5/4/3     |
|              | 3   | 5 Clip      | 370   | FRAG-HE | C2 B15 | -1C         |
|              | 3   | 5 Clip      | 490   | HVAP    | 8      | 7/7/6/4     |
| M-1939/V-11M | 6   | 5 Clip (x2) | 490   | API     | 8      | 6/5/4/3     |
|              | 6   | 5 Clip (x2) | 370   | FRAG-HE | C2 B15 | -1C         |
|              | 6   | 5 Clip (x2) | 490   | HVAP    | 8      | 7/7/6/4     |

### 57mm S-60

Notes: A magazine fed autocannon, this is a towed version of the gun found on the ZSU-57-2. The weapon is fed from a 4-round magazine, and can be kept continually firing by a diligent crew feeding clips into it. The S-60 is designed to be hooked into fire control radars used by various SAM missile systems, to be used in conjunction with the missiles for an integrated air defense network.

| Weapon | Ammunition | Crew | Set Up Time | Weight  | Price    |
|--------|------------|------|-------------|---------|----------|
| S-60   | 57mm S-60  | 8    | 4 Minutes   | 4660 kg | \$428765 |

| Weapon | ROF | Magazine | Range | Round  | Damage | Penetration |
|--------|-----|----------|-------|--------|--------|-------------|
| S-60   | 3   | 4 Clip   | 510   | APFSDS | 13     | 41/36/31/20 |
|        | 3   | 4 Clip   | 510   | APHE   | C2 B10 | 17/15/13/8  |
|        | 3   | 4 Clip   | 390   | HE     | C5 B15 | 2C          |

## 20mm Vektor GA1

Notes: This is the 20mm autocannon most commonly found on South African vehicles, boats, and aircraft, such as the Casspir, RG-32 Scout/Weapons Carrier, and Rooivalk helicopter. It may be mechanically or electrically fired, and ground and pintle mounted versions include the Armson Occluded Eye Gunsight, a 3.5x sight designed for the extreme vibration of heavy weapons such as heavy machineguns, grenade launchers, and autocannons. The GA1 may be mounted on an NHT for ground use, or in equivalent mounts for pintle use.

| Weapon     | Ammunition  | Crew | Set Up Time | Weight | Price  |
|------------|-------------|------|-------------|--------|--------|
| Vektor GA1 | 20mm MG-151 | 1    | 2 Minutes   | 39 kg  | \$9018 |

| Weapon     | ROF | Magazine | Range | Round | Damage | Penetration |
|------------|-----|----------|-------|-------|--------|-------------|
| Vektor GA1 | 10  | 100B     | 390   | AP    | 4      | 2/2/2/1     |
|            | 10  | 100B     | 390   | API   | 4      | 2/2/2/1     |
|            | 10  | 100B     | 290   | HEI   | C1 B5  | -4C         |

## 20mm Vektor GAMA

Notes: The GAMA (Gun Automatic Multiple Ammunition) is a variant of the GA1 that employs a series of interchangeable barrels and feed mechanisms to fire a large amount of ammunition types. The weapon is issued as a kit containing the barrels and receiver groups. It was first developed to allow the user to train with cheaper smaller caliber ammunition, but was then further developed to give the user greater utility with the weapon.

| Weapon      | Ammunition  | Crew | Set Up Time | Weight  | Price   |
|-------------|---|------|-------------|---|---|
| Vektor GAMA | .50 Browning Machinegun, 12.7mm DShK, 14.5mm KPV, 20mm MG-151, 20mm M-39, 20mm Oerlikon S | 1    | 2 Minutes   | (Receiver) 38 kg; (.50 Caliber or 12.7mm Barrels) 9 kg; (14.5mm Barrel) 12 kg; (20mm MG-151 Barrel) 10 kg, (20mm M-39 Short Barrel) 12 kg, (20mm M-39 Long Barrel) 17 kg; (20mm Oerlikon Barrel) 15 kg) | (Receiver) \$5586, (20mm M-39 Short Barrel) \$301; (Other Barrels) \$331 Each |

| Weapon                        | ROF | Magazine | Range | Round | Damage | Penetration |
|-------------------------------|-----|----------|-------|-------|--------|-------------|
| Vektor GAMA (.50)             | 10  | 105B     | 178   | Ball  | 9      | 2-3-4       |
| Vektor GAMA (12.7mm)          | 10  | 100B     | 169   | Ball  | 10     | 2-2-3       |
| Vektor GAMA (14.5mm)          | 10  | 100B     | 177   | Ball  | 11     | 2-2-3       |
| Vektor GAMA (20mm MG-151)     | 10  | 100B     | 390   | AP    | 4      | 2/2/2/1     |
|                               | 10  | 100B     | 390   | API   | 4      | 2/2/2/1     |
|                               | 10  | 100B     | 290   | HEI   | C1 B5  | -4C         |
| Vektor GAMA (20mm M-39 Short) | 10  | 100B     | 410   | APC   | 4      | 3/3/2/1     |
|                               | 10  | 100B     | 410   | API   | 4      | 2/2/2/1     |

|                              |    |      |     |      |       |         |
|------------------------------|----|------|-----|------|-------|---------|
|                              | 10 | 100B | 310 | HEI  | C1 B5 | -4C     |
| Vektor GAMA (20mm M-39 Long) | 10 | 100B | 440 | APC  | 4     | 3/3/2/1 |
|                              | 10 | 100B | 440 | API  | 4     | 2/2/2/1 |
|                              | 10 | 100B | 330 | HEI  | C1 B5 | -4C     |
| Vektor GAMA (20mm Oerlikon)  | 10 | 100B | 410 | AP   | 4     | 2/2/2/1 |
|                              | 10 | 100B | 310 | HEI  | C1 B5 | -4C     |
|                              | 10 | 100B | 410 | SAPI | 4     | 3/3/2/1 |

### 20mm Vektor GI2

Notes: This South African autocannon is based on the French M-693. It is a smaller autocannon, useable on NHT or pintle mounts as well as being the main armament on the Ratel 20 APC. It is electrically fired by a battery, generator, or vehicle power. It can be installed upright, upside down, or on its side without affecting its performance. It is a dual feed weapon, in which two belts of ammunition may be loaded into the weapon, and the belt fired being selected by a flip of a switch.

| Weapon     | Ammunition  | Crew | Set Up Time | Weight  | Price  |
|------------|-------------|------|-------------|---------|--------|
| Vektor GI2 | 20mm HS-820 | 1    | 2 Minutes   | 73.5 kg | \$7626 |

| Weapon     | ROF | Magazine  | Range | Round  | Damage | Penetration |
|------------|-----|-----------|-------|--------|--------|-------------|
| Vektor GI2 | 10  | 100B (x2) | 570   | AP     | 4      | 3/3/3/2     |
|            | 10  | 100B (x2) | 570   | APC    | 4      | 4/4/3/2     |
|            | 10  | 100B (x2) | 570   | APDS   | 4      | 6/5/4/3     |
|            | 10  | 100B (x2) | 570   | API    | 4      | 3/3/3/2     |
|            | 10  | 100B (x2) | 430   | HEI    | C1 B5  | -4C         |
|            | 10  | 100B (x2) | 430   | SAPHEI | C1 B3  | 3/3/3/2     |
|            | 10  | 100B (x2) | 430   | SHRAP  | C1 B8  | -5C         |

### 35mm eGLaS 35

Notes: This is towed anti-aircraft gun system based around the GA-35 autocannon. It is a surprisingly lightweight system for its size, and computer studies suggest that three of these guns are more effective than two double-barreled 35mm Oerlikon GDF systems (now standard in South Africa). The fire control system includes a periscopic sight with a magnification of 5.2x, a laser rangefinder with a ballistic computer, and a Doppler muzzle-velocity measuring system. The gun is fed by two 55-round belts contained in magazines on either side of the receiver. Unfortunately, with the end of arms sanctions to South Africa, the South Africans were able to obtain cheaper anti-aircraft weapons from foreign sources and development of the eGLaS 35 stopped; the system is for sale, however.

Twilight 2000 Notes: About 50 of these weapons were deployed during the Twilight War.

Merc 2000 Notes: This weapon is a pretty good seller.

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|--|--|--|--|--|--|

| Weapon   | Ammunition |              | Crew  | Set Up Time | Weight  | Price       |
|----------|------------|--------------|-------|-------------|---------|-------------|
| eGLaS 35 | 35mm KDB   |              | 3     | 4 Minutes   | 6600 kg | \$292346    |
| Weapon   | ROF        | Magazine     | Range | Round       | Damage  | Penetration |
| eGLaS 35 | 5          | 55 Belt (x2) | 480   | AHEAD       | C2 B10  | 15C         |
|          | 5          | 55 Belt (x2) | 640   | APCI        | 7       | 9/8/7/4     |
|          | 5          | 55 Belt (x2) | 640   | APDS        | 7       | 12/10/9/6   |
|          | 5          | 55 Belt (x2) | 640   | APFSDS      | 7       | 17/14/12/8  |
|          | 5          | 55 Belt (x2) | 640   | FAPDS       | C1 B5   | 12/10/9/6   |
|          | 5          | 55 Belt (x2) | 480   | HEI         | C2 B10  | -2C         |
|          | 5          | 55 Belt (x2) | 480   | HEIBF       | C2 B12  | -3C         |
|          | 5          | 55 Belt (x2) | 480   | HEINF       | C3 B15  | -4C         |
|          | 5          | 55 Belt (x2) | 640   | SAPHEI      | C1 B5   | 7/6/5/3     |

### 40mm Bofors L/60 AAG

Notes: The design of this weapon dates back to 1928; prototypes appeared by 1931, and it was type-standardized in 1936. Within a few years, over 20 countries adopted it, and most of them still use it to this day. The gun is well-liked due to its simplicity and reliability, as well as flexibility.

In the early 1990s, Bofors developed an upgrade kit for the L/60. This includes an increase in ROF from 120 rpm to 200 rpm, a new 20-round magazine above the guns, and the fitting of a laser rangefinder with ballistic computer.

| Weapon            | Ammunition       | Crew | Set Up Time | Weight  | Price    |
|-------------------|------------------|------|-------------|---------|----------|
| L/60              | 40mm Bofors L/60 | 3    | 3 Minutes   | 2400 kg | \$151454 |
| L/60 (Modernized) | 40mm Bofors L/60 | 3    | 4 Minutes   | 2750 kg | \$161454 |

| Weapon      | ROF                  | Magazine                   | Range | Round    | Damage | Penetration |
|-------------|----------------------|----------------------------|-------|----------|--------|-------------|
| Bofors L/60 | 2 (3 for Modernized) | 4 Clip (20 for Modernized) | 420   | APFSDS-T | 9      | 19/17/14/9  |
|             | 2 (3 for Modernized) | 4 Clip (20 for Modernized) | 320   | APHC-T   | C2 B10 | 41C         |
|             | 2 (3 for Modernized) | 4 Clip (20 for Modernized) | 420   | AP       | 9      | 8/7/6/4     |
|             | 2 (3 for Modernized) | 4 Clip (20 for Modernized) | 320   | HE       | C3 B10 | -1C         |
|             | 2 (3 for Modernized) | 4 Clip (20 for Modernized) | 320   | MP       | C3 B10 | 21C         |
|             | 2 (3 for Modernized) | 4 Clip (20 for Modernized) | 320   | PFHE     | C2 B15 | -2C         |

### 40mm Bofors L/70

Notes: This is a magazine fed autocannon used on the Breda L70 ADA, Breda Twin L70 ADA, Bofors L70 ADA, and the CV-9040 Infantry Fighting Vehicle. It is a long-barreled weapon with considerable hitting power.

| Weapon | Ammunition       | Crew | Set Up Time | Weight        | Price   |
|--------|------------------|------|-------------|---------------|---------|
| L/70   | 40mm Bofors L/70 | 1    | NA          | Vehicle Mount | \$43124 |

| Weapon     | ROF | Magazine         | Range | Round      | Damage | Penetration |
|------------|-----|------------------|-------|------------|--------|-------------|
| Bofors L70 | 3   | 24, 48, 144, 480 | 350   | 3P (AIREX) | C2 B15 | -3C         |
|            | 3   | 24, 48, 144, 480 | 350   | 3P (HE)    | C3 B10 | -1C         |
|            | 3   | 24, 48, 144, 480 | 350   | 3P (HEAT)  | C2 B10 | 41C         |
|            | 3   | 24, 48, 144, 480 | 470   | APFSDS-T   | 9      | 24/21/18/12 |
|            | 3   | 24, 48, 144, 480 | 470   | API        | 9      | 8/7/6/4     |
|            | 3   | 24, 48, 144, 480 | 350   | HET        | C3 B10 | -1C         |
|            | 3   | 24, 48, 144, 480 | 350   | PFHE       | C2 B15 | -2C         |

## 40mm Bofors L/70 Antiaircraft Guns

Notes: There are 5 types of Bofors L/70-based antiaircraft guns of Swedish manufacture. The basic model is the Bofors L/70 Type A antiaircraft gun; this is a basic mounting using an external power source. The Type B adds a 2 kW APU for independent use. The L/70 BOFI (Bofors Optronic Fire-control Instrument) fair weather system adds to this laser rangefinder, ballistic computer, and image intensifier. The L/70 BOFI all-weather system adds a J-band pulse Doppler radar. The fifth model is the L/70 modernization package, also known as the REMO (REnovation and MODernization); this is a Type B gun with the APU upgraded to 5 kW, batteries for use if the APU goes down, a sight system similar to that of the CV-9040 IFV, and a kit that improves the rate of fire by 40 rounds per minute. (This has no practical effect in game terms.)

| Weapon       | Ammunition       | Crew | Set Up Time | Weight  | Price    |
|--------------|------------------|------|-------------|---------|----------|
| L/70 Type A  | 40mm Bofors L/70 | 3    | 4 Minutes   | 4800 kg | \$172867 |
| L/70 Type B  | 40mm Bofors L/70 | 3    | 4 Minutes   | 5150 kg | \$173134 |
| L/70 BOFI FW | 40mm Bofors L/70 | 3    | 4 Minutes   | 5500 kg | \$183134 |
| L/70 BOFI AW | 40mm Bofors L/70 | 3    | 4 Minutes   | 5700 kg | \$223134 |
| L/70 REMO    | 40mm Bofors L/70 | 3    | 4 Minutes   | 5250 kg | \$173584 |

| Weapon         | ROF | Magazine | Range | Round      | Damage | Penetration |
|----------------|-----|----------|-------|------------|--------|-------------|
| L/70 AAG (All) | 3   | 20       | 350   | 3P (AIREX) | C2 B15 | -3C         |
|                | 3   | 20       | 350   | 3P (HE)    | C3 B10 | -1C         |
|                | 3   | 20       | 350   | 3P (HEAT)  | C2 B10 | 41C         |
|                | 3   | 20       | 470   | APFSDS-T   | 9      | 24/21/18/12 |
|                | 3   | 20       | 470   | API        | 9      | 8/7/6/4     |
|                | 3   | 20       | 350   | HET        | C3 B10 | -1C         |
|                | 3   | 20       | 350   | PFHE       | C2 B15 | -2C         |

## 20mm Oerlikon KAA

Notes: The KAA is found on a variety of vehicular and ground mounts, including the GAI-D01, GAI-C01, and GAI C04 anti-aircraft guns. It is also known as the Hispano-Suiza Type 204 GK. It is gas-operated. Based on the World War 2 Hispano-Suiza Type S autocannon (primarily an AAA gun), the KAA was designed in the 1950s, but did not really take off until after the Falklands war after the Royal Navy found their GAM-B01 autocannons were inadequate as close-in AAA guns. Before this, some naval vessels and light AFVs used the KAA, though it is primarily designed for use as a AAA gun. The KAA is electrically-fired and requires a power source, though the Spanish Meroka variant uses a percussion-primed recoil system requiring no power source. The KAA is light and handy.

The KAB is a gas-operated version suitable for anti-aircraft and ground target applications. The gun may be fed from one of several magazines or drums. It is fitted with a very efficient muzzle brake, with a longer barrel. The KAB may be field-stripped without tools.

The GAI-B01 variant is one of the smallest, lightest, and simplest mounted anti-aircraft cannons in existence. This is in no small order related to its being built around the KAB autocannon. It is normally towed on a light trailer by a vehicle, but can be mounted in its entirety on a heavier vehicle, or even man-packed in up to 10 loads plus ammunition. The elevation is done with a handwheel, and traverse with pumping pedals. The mount includes a 1x sight for anti-aircraft use, and a 3.7x sight for ground targets.

| Weapon  | Ammunition | Crew | Set Up Time | Weight | Price   |
|---------|------------|------|-------------|--------|---------|
| KAA     | 20mm KAA   | 1    | NA          | 87 kg  | \$7000  |
| KAB     | 20mm KAA   | 1    | 3 Minutes   | 109 kg | \$7210  |
| GAI-B01 | 20mm KAA   | 2    | 20 Seconds  | 547 kg | \$29401 |

| Weapon       | ROF | Magazine  | Range | Round | Damage | Penetration |
|--------------|-----|-----------|-------|-------|--------|-------------|
| Oerlikon KAA | 10  | 100B      | 540   | API   | 4      | 3/3/3/2     |
|              | 10  | 100B      | 400   | HE    | C1 B5  | -4C         |
| Oerlikon KAB | 10  | 8, 20, 50 | 710   | API   | 4      | 3/3/3/2     |
|              | 10  | 8, 20, 50 | 530   | HE    | C1 B5  | -4C         |
| GAI-B01      | 10  | 8, 20, 50 | 710   | API   | 4      | 3/3/3/2     |
|              | 10  | 8, 20, 50 | 530   | HE    | C1 B5  | -4C         |

## 20mm Oerlikon GAI-C01/GAI-C04

Notes: These weapons are both based around Oerlikon KAD autocannons (also known as HS-820 autocannons). The GAI-C01 uses one belt of ammunition that feeds from the right side, while the GAI-C04 uses a slightly different version that uses a dual feed mechanism. They can be used against aircraft and ground targets. The elevation and traverse are manual with a handcrank and pumping pedals. The sights are x1 for anti-aircraft use and 2.5x for ground targets. Each ammunition box contains 75 rounds of belted ammunition. The KAD suffers from a high rate of fire and in some applications struggles against the limitations of small magazines and belts; it was primarily designed as an aircraft cannon and not a ground-mounted cannon.

| Weapon  | Ammunition | Crew | Set Up Time | Weight | Price   |
|---------|------------|------|-------------|--------|---------|
| GAI-C01 | 20mm KAD   | 3    | 2 Minutes   | 512 kg | \$30531 |
| GAI-C04 | 20mm KAD   | 4    | 2 Minutes   | 535 kg | \$30610 |

| Weapon  | ROF | Magazine     | Range | Round | Damage | Penetration |
|---------|-----|--------------|-------|-------|--------|-------------|
| GAI-C01 | 10  | 75 Belt      | 590   | APDS  | 4      | 6/5/4/3     |
|         | 10  | 75 Belt      | 590   | API   | 4      | 3/3/3/2     |
|         | 10  | 75 Belt      | 440   | APHEI | C1 B5  | 17C         |
|         | 10  | 75 Belt      | 440   | HEI   | C1 B5  | -4C         |
|         | 10  | 75 Belt      | 440   | SHRAP | C1 B8  | -5C         |
| GAI-C04 | 10  | 75 Belt (x2) | 590   | APDS  | 4      | 6/5/4/3     |
|         | 10  | 75 Belt (x2) | 590   | API   | 4      | 3/3/3/2     |
|         | 10  | 75 Belt      | 440   | APHEI | C1 B5  | 17C         |
|         | 10  | 75 Belt (x2) | 440   | HEI   | C1 B5  | -4C         |
|         | 10  | 75 Belt (x2) | 440   | SHRAP | C1 B8  | -5C         |

## 20mm GAI-C03

Notes: This is basically a GAI-C01 that uses a variant of the KAD known as the KAD-A01. The biggest difference between the standard KAD and the KAD-A01, apart from the barrel length, is that the KAD-A01 is fed from drum magazines similar to those of KAB. The GAI-C03 uses the same carriage, mount, and sight of the GAI-C01.

| Weapon  | Ammunition | Crew | Set Up Time | Weight | Price   |
|---------|------------|------|-------------|--------|---------|
| GAI-C03 | 20mm KAD   | 3    | 2 Minutes   | 495 kg | \$31061 |

| Weapon  | ROF | Magazine  | Range | Round | Damage | Penetration |
|---------|-----|-----------|-------|-------|--------|-------------|
| GAI-C01 | 10  | 8, 20, 50 | 670   | APDS  | 4      | 6/5/4/3     |
|         | 10  | 8, 20, 50 | 670   | API   | 4      | 3/3/3/2     |
|         | 10  | 8, 20, 50 | 500   | HE    | C1 B5  | -4C         |
|         | 10  | 8, 20, 50 | 500   | SHRAP | C1 B8  | -5C         |

### 20mm GAI-D01

Notes: This weapon was designed to fill the gap between simple single-barreled 20mm antiaircraft guns and heavy, sophisticated weapons such as the 35mm GDF series. It has twin barrels that are longer than the standard KAA or KAB barrels. It is also meant to be economical enough to be used routinely against ground targets, especially personnel in the open. The GAI-D01 is a fairly simple weapon, but has powerful 6x telescopic sights and a small 1.5 kW generator under the gunner's seat for the gun training and rotation mechanism.

| Weapon  | Ammunition | Crew | Set Up Time | Weight  | Price   |
|---------|------------|------|-------------|---------|---------|
| GAI-D01 | 20mm KAA   | 5    | 1 Minutes   | 1800 kg | \$56472 |

| Weapon  | ROF | Magazine      | Range | Round | Damage | Penetration |
|---------|-----|---------------|-------|-------|--------|-------------|
| GAI-D01 | 20  | 120 Belt (x2) | 590   | API   | 4      | 3/3/3/2     |
|         | 20  | 120 Belt (x2) | 440   | HE    | C1 B5  | -4C         |

### 25mm Oerlikon KBA

Notes: The design of the KBA dates back to the 1960s and the competition for what would become the autocannon on the US MICV (later the M-2 Bradley). The KBA was actually designed by famed small arms maven Eugene Stoner, but the design was bought out by Oerlikon after the MICV autocannon competition was won by the M-242 Bushmaster. The KBA is used in a large amount of vehicles, including the AIFV, MOWAG Piranha, Diana ADA, and Oerlikon GBI-A01, as well as the GBD-AOA and GBD-COA turrets. It is a gas-operated, dual-feed weapon; the KBA-A fires on automatic only; the KBA-B is selective fire, with semiautomatic, programmable rapid semiautomatic with a cyclic rate of 200 RPM, and fully automatic. The standard automatic cyclic rate of fire is 570 RPM, but the KBA-C01 version uses a recoiling barrel and has a slightly higher rate of fire at 600 RPM (this has no effect in game terms). The operation of the autocannon is primarily electrical, though as backups hand cranks and a trigger pedal are available (the electrical firing mechanism actually "pulls the trigger" instead of electrically firing the ammunition).

| Weapon | Ammunition | Crew | Set Up Time | Weight | Price   |
|--------|------------|------|-------------|--------|---------|
| KBA    | 25mm KBA   | 1    | NA          | 112 kg | \$11468 |

| Weapon       | ROF | Magazine      | Range | Round    | Damage | Penetration |
|--------------|-----|---------------|-------|----------|--------|-------------|
| Oerlikon KBA | 5   | 100 Belt (x2) | 380   | AA       | C1 B8  | -4C         |
|              | 5   | 100 Belt (x2) | 510   | APDS     | 6      | 8/7/6/4     |
|              | 5   | 100 Belt (x2) | 510   | APFSDS   | 6      | 11/10/8/5   |
|              | 5   | 100 Belt (x2) | 510   | APFSDSDU | 6      | 14/12/10/7  |
|              | 5   | 100 Belt (x2) | 510   | API      | 6      | 5/4/3/2     |
|              | 5   | 100 Belt (x2) | 510   | FAPDS    | C1 B3  | 7/6/5/4     |
|              | 5   | 100 Belt (x2) | 380   | HEI      | C1 B5  | -3C         |
|              | 5   | 100 Belt (x2) | 380   | SAPHEI   | C1 B3  | 4/3/2/1     |

### 25mm Oerlikon GBI-A01

Notes: This is a relatively simple single-barreled 25mm antiaircraft mount using a KBA autocannon. The weapon requires virtually no set-up time; in a pinch, the GBI-A01 may be fired only partially set up, while still hooked to its towing vehicle (though this limits traverse to 45 degrees in either direction). Elevation and traverse are manual, using handwheels. The gunsight is equivalent to a 4x set of binoculars. The Cannon is fed from two ammunition boxes, one on each side of the gun.

| Weapon  | Ammunition | Crew | Set Up Time | Weight | Price   |
|---------|------------|------|-------------|--------|---------|
| GBI-A01 | 25mm KBA   | 2    | 30 seconds  | 600 kg | \$46084 |

| Weapon  | ROF | Magazine     | Range | Round    | Damage | Penetration |
|---------|-----|--------------|-------|----------|--------|-------------|
| GBI-A01 | 5   | 40 Belt (x2) | 380   | AA       | C1 B8  | -4C         |
|         | 5   | 40 Belt (x2) | 510   | APFSDSDU | 6      | 14/12/10/7  |
|         | 5   | 40 Belt (x2) | 510   | API      | 6      | 5/4/3/2     |
|         | 5   | 40 Belt (x2) | 380   | HE       | C1 B5  | -3C         |

### 35mm Oerlikon GDF-001/002/003/005

Notes: This twin 35mm autocannon began development in the late 1950s. The first model was known as the GDF-001, and

had a low-power telescopic sight, but was otherwise a basic anti-aircraft gun. In 1980s, the GDF-002 was introduced, using a higher-power sight and digital data transmission; it can also be used in conjunction with radar systems. The GDF-003 increases the integration possibilities to include vehicle equipped with the Marksman turret or Skyguard radar system. The GDF-005 adds an autonomous gunsighting system so that several guns may be remote-controlled; an automatic reloader with ammunition storage on the gun, a laser rangefinder with ballistic computer, and better cannons. The cannons used in the GDF-001, 002, and 003 are KDBs; the 005 uses KDC autocannons.

| Weapon  | Ammunition | Crew | Set Up Time | Weight  | Price    |
|---------|------------|------|-------------|---------|----------|
| GDF-001 | 35mm KDB   | 4    | 4 Minutes   | 6300 kg | \$290535 |
| GDF-002 | 35mm KDB   | 4    | 4 Minutes   | 6300 kg | \$297795 |
| GDF-003 | 35mm KDB   | 4    | 4 Minutes   | 6700 kg | \$305243 |
| GDF-005 | 35mm KDC   | 4    | 4 Minutes   | 7250 kg | \$325243 |

| Weapon      | ROF     | Magazine     | Range        | Round  | Damage | Penetration |
|-------------|---------|--------------|--------------|--------|--------|-------------|
| GDF-001/2/3 | 10      | 56 Belt (x2) | 430          | AHEAD  | C2 B12 | 17C         |
|             | 10      | 56 Belt (x2) | 570          | APCI   | 8      | 8/7/6/4     |
|             | 10      | 56 Belt (x2) | 570          | APDS   | 8      | 12/10/9/6   |
|             | 10      | 56 Belt (x2) | 570          | APFSDS | 8      | 17/14/12/8  |
|             | 10      | 56 Belt (x2) | 570          | FAPDS  | C1 B5  | 15/12/11/7  |
|             | 10      | 56 Belt (x2) | 430          | HEI    | C2 B10 | -2C         |
|             | 10      | 56 Belt (x2) | 430          | HEIBF  | C1 B12 | -3C         |
|             | 10      | 56 Belt (x2) | 430          | HEINF  | C3 B15 | -4C         |
|             | 10      | 56 Belt (x2) | 570          | SAPHEI | C1 B5  | 7/6/5/3     |
|             | GDF-005 | 10           | 65 Belt (x2) | 430    | AHEAD  | C2 B12      |
| 10          |         | 65 Belt (x2) | 570          | APCI   | 8      | 8/7/6/4     |
| 10          |         | 65 Belt (x2) | 570          | APDS   | 8      | 12/10/9/6   |
| 10          |         | 65 Belt (x2) | 570          | APFSDS | 8      | 17/14/12/8  |
| 10          |         | 65 Belt (x2) | 570          | FAPDS  | C1 B5  | 15/12/11/7  |
| 10          |         | 65 Belt (x2) | 430          | HEI    | C2 B10 | -2C         |
| 10          |         | 65 Belt (x2) | 430          | HEIBF  | C1 B12 | -3C         |
| 10          |         | 65 Belt (x2) | 430          | HEINF  | C3 B15 | -4C         |
| 10          |         | 65 Belt (x2) | 570          | SAPHEI | C1 B5  | 7/6/5/3     |

## 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 M-39  | 3    | 4 Minutes   | 1565 kg | \$32769 |
| Vulcan ADA   | 20mm M-39  | 4    | 4 Minutes   | 1588 kg | \$43692 |
| PIVAD        | 20mm M-39  | 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 | 370   | HEI   | C1 B5  | -4C         |
|        | 300 | 300 Belt, 500 Belt | 490   | HP    | 4      | 4/3/3/2     |

## 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.

| 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         |

### 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

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 AAV.

| 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        |

### 35mm Bushmaster III

Notes: This is a belt-fed autocannon mounted experimentally on some vehicles. It has not yet been operationally fielded. 70% of the parts of this weapon are compatible with the Bushmaster I and II. It fires ammunition developed for this weapon from that of the 35mm Oerlikon autocannon.

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 | 30mm Bushmaster III | 1    | NA          | 181.5 kg | \$35841 |

| Weapon         | ROF | Magazine  | Range | Round    | Damage | Penetration |
|----------------|-----|-----------|-------|----------|--------|-------------|
| Bushmaster III | 5   | 100B (x2) | 520   | APFSDS   | 8      | 17/14/12/8  |
|                | 5   | 100B (x2) | 520   | APFSDS-T | 8      | 21/18/15/10 |
|                | 5   | 100B (x2) | 520   | API      | 8      | 7/6/5/3     |
|                | 5   | 100B (x2) | 390   | HE       | C2 B10 | -2C         |
|                | 5   | 100B (x2) | 390   | HEAT     | C2 B5  | 35C         |
|                | 5   | 100B (x2) | 390   | HEDP     | C2 B10 | 17C         |

### 20mm Zastava M-55 A2

Notes: This weapon is one of three similar anti-aircraft guns. The guns used are license-produced HS-804 guns, three on one mount. The guns are placed close together to allow quicker reloading. It is otherwise a very simple weapon.

| Weapon  | Ammunition  | Crew | Set Up Time | Weight | Price   |
|---------|-------------|------|-------------|--------|---------|
| M-55 A2 | 20mm HS-404 | 3    | 2 Minutes   | 970 kg | \$49128 |

  

| Weapon  | ROF | Magazine     | Range | Round | Damage | Penetration |
|---------|-----|--------------|-------|-------|--------|-------------|
| M-55 A2 | 15  | 60 Drum (x3) | 460   | AP    | 4      | 1/1/1/1     |
|         | 15  | 60 Drum (x3) | 460   | API   | 4      | 1/1/1/1     |
|         | 15  | 60 Drum (x3) | 350   | HE    | C1 B5  | -4C         |
|         | 15  | 60 Drum (x3) | 350   | HEI   | C1 B5  | -4C         |
|         | 15  | 60 Drum (x3) | 350   | MPHC  | B5     | 5C          |
|         | 15  | 60 Drum (x3) | 460   | SAPI  | 4      | 2/2/1/1     |

### 20mm Zastava M-55 A3 B1

Notes: This is an improved version of the M-55 A2. The main difference is the small gasoline engine to the right of the gunner's seat to provide power and relieve the gunner of having to manually control the traverse and elevation. This engine provides 5.22 kW.

| Weapon     | Ammunition  | Crew | Set Up Time | Weight  | Price   |
|------------|-------------|------|-------------|---------|---------|
| M-55 A3 B1 | 20mm HS-404 | 3    | 3 Minutes   | 1150 kg | \$49859 |

  

| Weapon     | ROF | Magazine     | Range | Round | Damage | Penetration |
|------------|-----|--------------|-------|-------|--------|-------------|
| M-55 A3 B1 | 15  | 60 Drum (x3) | 460   | AP    | 4      | 1/1/1/1     |
|            | 15  | 60 Drum (x3) | 460   | API   | 4      | 1/1/1/1     |
|            | 15  | 60 Drum (x3) | 350   | HE    | C1 B5  | -4C         |
|            | 15  | 60 Drum (x3) | 350   | HEI   | C1 B5  | -4C         |
|            | 15  | 60 Drum (x3) | 350   | MPHC  | B5     | 5C          |
|            | 15  | 60 Drum (x3) | 460   | SAPI  | 4      | 2/2/1/1     |

### 20mm Zastava M-55 A4 B1

Notes: This is an M-55 gun system on the mount of the Swiss GAI-D01 anti-aircraft gun. In addition, an engine of the same type as the M-55 A3 B1 has been placed under the gunner seat, and a ballistic computer has been added.

| Weapon | Ammunition | Crew | Set Up Time | Weight | Price |
|--------|------------|------|-------------|--------|-------|
|        |            |      |             |        |       |

| M-55 A4 B1 | 20mm HS-404 | 3            | 3 Minutes | 1350 kg | \$54859 |             |
|------------|-------------|--------------|-----------|---------|---------|-------------|
| Weapon     | ROF         | Magazine     | Range     | Round   | Damage  | Penetration |
| M-55 A4 B1 | 15          | 60 Drum (x3) | 460       | AP      | 4       | 1/1/1/1     |
|            | 15          | 60 Drum (x3) | 460       | API     | 4       | 1/1/1/1     |
|            | 15          | 60 Drum (x3) | 350       | HE      | C1 B5   | -4C         |
|            | 15          | 60 Drum (x3) | 350       | HEI     | C1 B5   | -4C         |
|            | 15          | 60 Drum (x3) | 350       | MPHC    | B5      | 5C          |
|            | 15          | 60 Drum (x3) | 460       | SAPI    | 4       | 2/2/1/1     |

### 20mm M-75

Notes: This is basically a single-weapon mount of the same M-1955 autocannon as on the M-55 series of anti-aircraft guns. It can be broken into smaller loads, the largest of which is 55 kilograms in weight. It is a very simple, basic weapon.

| Weapon | Ammunition  | Crew             | Set Up Time | Weight | Price   |             |
|--------|-------------|------------------|-------------|--------|---------|-------------|
| M-75   | 20mm HS-404 | 2                | 2 Minutes   | 260 kg | \$24664 |             |
| Weapon | ROF         | Magazine         | Range       | Round  | Damage  | Penetration |
| M-75   | 5           | 10 Drum, 60 Drum | 460         | AP     | 4       | 1/1/1/1     |
|        | 5           | 10 Drum, 60 Drum | 460         | API    | 4       | 1/1/1/1     |
|        | 5           | 10 Drum, 60 Drum | 350         | HE     | C1 B5   | -4C         |
|        | 5           | 10 Drum, 60 Drum | 350         | HEI    | C1 B5   | -4C         |
|        | 5           | 10 Drum, 60 Drum | 350         | MPHC   | B5      | 5C          |
|        | 5           | 10 Drum, 60 Drum | 460         | SAPI   | 4       | 2/2/1/1     |

### 20mm Zastava M-1955

Notes: This autocannon is suspiciously similar to the Hispano-Suiza (later Oerlikon) HS-804. The primary use is on the M-55 3-gun anti-aircraft mount, but it has also been seen on a single-gun wheeled mount.

| Weapon | Ammunition  | Crew     | Set Up Time | Weight | Price  |             |
|--------|-------------|----------|-------------|--------|--------|-------------|
| M-1955 | 20mm HS-404 | 1        | NA          | 115 kg | \$5999 |             |
| Weapon | ROF         | Magazine | Range       | Round  | Damage | Penetration |
| M-1955 | 5           | 60 Drum  | 460         | AP     | 4      | 1/1/1/1     |
|        | 5           | 60 Drum  | 460         | API    | 4      | 1/1/1/1     |
|        |             |          |             |        |        |             |

|  |   |         |     |      |       |         |
|--|---|---------|-----|------|-------|---------|
|  | 5 | 60 Drum | 350 | HE   | C1 B5 | -4C     |
|  | 5 | 60 Drum | 350 | HEI  | C1 B5 | -4C     |
|  | 5 | 60 Drum | 350 | MPHC | B5    | 5C      |
|  | 5 | 60 Drum | 460 | SAPI | 4     | 2/2/1/1 |

### 30mm Zastava M-86

Notes: This Yugoslavian design is intended for mounting on armored vehicles or antiaircraft mounts. The M-68 can feed from either side, but is not a dual-feed weapon; only one belt may be loaded in the weapon at a time. It is designed for low-recoil operation, but its belt-pulling power is not great, limiting the potential belt length. Firing is electrical.

| Weapon | Ammunition | Crew | Set Up Time | Weight | Price  |
|--------|------------|------|-------------|--------|--------|
| M-86   | 30mm M-86  | 1    | NA          | 200 kg | \$5999 |

| Weapon | ROF | Magazine | Range | Round  | Damage | Penetration |
|--------|-----|----------|-------|--------|--------|-------------|
| M-86   | 5   | 40 Belt  | 470   | API    | 7      | 5/4/3/2     |
|        | 5   | 40 Belt  | 470   | APFSDS | 7      | 11/10/8/5   |
|        | 5   | 40 Belt  | 350   | HE     | C1 B5  | -3C         |
|        | 5   | 40 Belt  | 350   | HEI    | C1 B5  | -3C         |

### 30mm Zastava M-89

Notes: This is a dual-feed version of the M-86 above. Except for that feature and the weight and price, it is identical to the M-86.

| Weapon | Ammunition | Crew | Set Up Time | Weight | Price  |
|--------|------------|------|-------------|--------|--------|
| M-89   | 30mm M-86  | 1    | NA          | 215 kg | \$6220 |

| Weapon | ROF | Magazine     | Range | Round  | Damage | Penetration |
|--------|-----|--------------|-------|--------|--------|-------------|
| M-89   | 5   | 40 Belt (x2) | 470   | API    | 7      | 5/4/3/2     |
|        | 5   | 40 Belt (x2) | 470   | APFSDS | 7      | 11/10/8/5   |
|        | 5   | 40 Belt (x2) | 350   | HE     | C1 B5  | -3C         |
|        | 5   | 40 Belt (x2) | 350   | HEI    | C1 B5  | -3C         |