MILLENNIUM´S END
COMPENDIUM
OF
EXPLOSIVES

RESEARCH
HENRIK SODERBERG AND ROB THOMAS (alias MathesonT)

WRITTEN BY
HENRIK SODERBERG
Hand Grenades

AUSTRIA

HG 77
TYPE : Fragmentation Hand Grenade
ATTACK NR. : 5
DMG FACTOR : 18
BURST RADIUS : 25m
DMG TYPE : Puncture
FUSE DELAY : 4 sec
WEIGHT : 0.48kg

OFF HG 77
TYPE : Blast/Concussion Hand Grenade
ATTACK NR. : 1
DMG FACTOR : 18*
BURST RADIUS : 18m
DMG TYPE : Concussive
FUSE DELAY : 4 sec
WEIGHT : 0.21kg
* Add 10 additional columns to stun effect

HG 78
TYPE : Fragmentation Hand Grenade
ATTACK NR. : 5
DMG FACTOR : 18
BURST RADIUS : 25m
DMG TYPE : Puncture
FUSE DELAY : 4 sec
WEIGHT : 0.52kg

OFF HG 78
TYPE : Blast/Concussion Hand Grenade
ATTACK NR. : 1
DMG FACTOR : 18*
BURST RADIUS : 18m
DMG TYPE : Concussive
FUSE DELAY : 4 sec
WEIGHT : 0.23kg
PRICE : $130
* Add 10 additional columns to stun effect

HG 79
TYPE : Fragmentation Hand Grenade
ATTACK NR. : 3
DMG FACTOR : 15
BURST RADIUS : 15m
DMG TYPE : Puncture
FUSE DELAY : 4 sec
WEIGHT : 0.37kg
OFF HG 79

TYPE : Blast/Concussion Hand Grenade
ATTACK NR. : 1
DMG FACTOR : 15*
BURST RADIUS : 15m
DMG TYPE : Concussive
FUSE DELAY : 4 sec
WEIGHT : 0.16kg
* Add 10 additional columns of stun effect

HG 80 Mini

TYPE : Miniature Fragmentation Hand Grenade
ATTACK NR. : 2
DMG FACTOR : 12
BURST RADIUS : 10m
DMG TYPE : Puncture
FUSE DELAY : 4 sec
WEIGHT : 0.17kg

OFF HG 80 Mini

TYPE : Miniature Blast/Concussion Hand Grenade
ATTACK NR. : 1
DMG FACTOR : 12*
BURST RADIUS : 12m
DMG TYPE : Concussive
FUSE DELAY : 4 sec
WEIGHT : 0.07kg
* Add 5 additional columns to stun effect

HG 85

TYPE : Fragmentation Hand Grenade
ATTACK NR. : 4
DMG FACTOR : 16
BURST RADIUS : 20m
DMG TYPE : Puncture
FUSE DELAY : 4 sec
WEIGHT : 0.34kg

OFF HG 85

TYPE : Blast/Concussion Hand Grenade
ATTACK NR. : 1
DMG FACTOR : 16*
BURST RADIUS : 16m
DMG TYPE : Concussive
FUSE DELAY : 4 sec
WEIGHT : 0.15kg
* Add 10 additional columns to stun effect

HG 86 Mini

TYPE : Miniature Fragmentation Hand Grenade
ATTACK NR. : 2
DMG FACTOR : 12
BURST RADIUS : 10m
DMG TYPE : Puncture
FUSE DELAY : 4 sec
WEIGHT : 0.18kg
OFF HG 86 Mini

TYPE : Miniature Blast/Concussion Hand Grenade
ATTACK NR. : 1
DMG FACTOR : 12*
BURST RADIUS : 12m
DMG TYPE : Concussive
FUSE DELAY : 4 sec
WEIGHT : 0.08kg
* Add 5 additional columns to stun effect

SHG 60

TYPE : Fragmentation Hand Grenade
ATTACK NR. : 5
DMG FACTOR : 18
BURST RADIUS : 25m
DMG TYPE : Puncture
FUSE DELAY : 4.5 sec
WEIGHT : 0.58kg

SplHGr 80

TYPE : Fragmentation Hand Grenade
ATTACK NR. : 5
DMG FACTOR : 15
BURST RADIUS : 25m
DMG TYPE : Puncture
FUSE DELAY : 4.5 sec
WEIGHT : 0.59kg

HC 75 Smoke

TYPE : Burning Type HC Smoke Hand Grenade
EFFECT : Creates a dense cloud of whitish-grey screening smoke
BURN TIME : 120 sec
AREA OF EFFECT :
FUSE DELAY : 4.5 sec
WEIGHT : 0.57kg

LHG-40 Illuminating

TYPE : Illiminating Hand Grenade
BURN TIME : 35 sec
AREA OF EFFECT : 150m
FUSE DELAY : 4.5 sec
WEIGHT : 0.5kg

NOTES : This flare burns at 1800 degrees C (secondary incendiary effect) illuminates at 280 000 candela over 150 meters.

BELGIUM

NR 423

TYPE : Fragmentation Hand Grenade
ATTACK NR. : 4
DMG FACTOR : 16
BURST RADIUS : 20m
DMG TYPE : Puncture
FUSE DELAY : 4 sec
WEIGHT : 0.23kg
<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Attack NR</th>
<th>DMG Factor</th>
<th>Burst Radius</th>
<th>DMG Type</th>
<th>Fuse Delay</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>NR 446</td>
<td>Blast/Concussion Hand Grenade</td>
<td>1</td>
<td>18*</td>
<td>18m</td>
<td>Concussive</td>
<td>4 sec</td>
<td>0.25kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FRANCE**

**TYPE 241 BLINDING**

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Attack NR</th>
<th>DMG Factor</th>
<th>Burst Radius</th>
<th>DMG Type</th>
<th>Fuse Delay</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE 241</td>
<td>Flash/Dazzle Hand Grenade</td>
<td>1</td>
<td>-</td>
<td>20m</td>
<td>Temporary Blindness (10-120 seconds)</td>
<td>1.5 Seconds</td>
<td>0.1kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GERMANY**

**M-DN 11**

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Attack NR</th>
<th>DMG Factor</th>
<th>Burst Radius</th>
<th>DMG Type</th>
<th>Fuse Delay</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-DN 11</td>
<td>Fragmentation Hand Grenade</td>
<td>3</td>
<td>15</td>
<td>15m</td>
<td>Puncture</td>
<td>4 sec</td>
<td>0.47kg</td>
</tr>
</tbody>
</table>

**M-DN 21**

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Attack NR</th>
<th>DMG Factor</th>
<th>Burst Radius</th>
<th>DMG Type</th>
<th>Fuse Delay</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-DN 21</td>
<td>Fragmentation Hand Grenade</td>
<td>3</td>
<td>14</td>
<td>15m</td>
<td>Puncture</td>
<td>4 sec</td>
<td>0.23kg</td>
</tr>
</tbody>
</table>

**M-DN 31**

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Attack NR</th>
<th>DMG Factor</th>
<th>Burst Radius</th>
<th>DMG Type</th>
<th>Fuse Delay</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-DN 31</td>
<td>Fragmentation Hand Grenade</td>
<td>2</td>
<td>14</td>
<td>10m</td>
<td>Puncture</td>
<td>4 sec</td>
<td>0.25kg</td>
</tr>
</tbody>
</table>
M-DN 61

TYPE : Fragmentation Hand Grenade
ATTACK NR. : 4
DMG FACTOR : 18
BURST RADIUS : 20m
DMG TYPE : Puncture
FUSE DELAY : 4 sec
WEIGHT : 0.44kg

**DM 51**

TYPE : Fragmentation Hand Grenade (Blast/Concussion Hand Grenade)
ATTACK NR. : 5 (1)
DMG FACTOR : 17 (17*)
BURST RADIUS : 25m (17m)
DMG TYPE : Puncture (Concussive)
FUSE DELAY : 4 sec
WEIGHT : 0.44kg (0.29kg)

NOTES : This is the standard issue German hand grenade. It can be used as an offensive grenade simply by removing the fragmentation jacket.
*Add 10 additional columns to stun effect

**NICO SOUND/FLASH**

TYPE : Stun Hand Grenade
EFFECT : 8 Flashes in a random pattern @ 1 000 000 candela and 175db causing 5-15 seconds of disorientation
ATTACK NR. : 1
DMG FACTOR : 10*
BURST RADIUS : 10m
DMG TYPE : Concussive
FUSE DELAY : 2.5 Seconds
WEIGHT : 0.27kg

NOTES : The grenade is a canister type, carrying eight submunitions that ejects out of the top. It will coause no dangerous fragmentation when the grenade functions. At the end of the time delay, the eight submunitions elect from the top of the body as the fuze and cover blow away. Each of the submunitions is a cardboard cased thunderflash that is self-propelled and has a very short fuze. Each of the thunderflashes flies off in a random pattern and flashes after 0.5 seconds. The flashes are each 175 to 185 decibels and 1 000 000 candela in intensity. The thunderflashes are carefully engineered to be above the temporary disabling level but not of such intensity as to cause permanent physical damage.
* Add 15 Additional Columns To Stun Effect

**NETHERLANDS**

**NWM V-40 Mini**

TYPE : Miniature Fragmentation Hand Grenade
ATTACK NR. : 2
DMG FACTOR : 12
BURST RADIUS : 10m
DMG TYPE : Puncture
FUSE DELAY : 4 sec
WEIGHT : 0.12kg
ISRAEL

No. 5 Smoke

TYPE : Burning Type Smoke Hand Grenade
EFFECT : Creates a dense cloud of screening smoke
BURN TIME : 90-130 sec
AREA OF EFFECT :
FUZE DELAY : 2 sec
WEIGHT : 0.8kg
NOTES : Available in white-grey, red, yellow or green smoke.

No. 14 Offensive

TYPE : Blast/Concussion Hand Grenade
ATTACK NR. : 1
DMG FACTOR : 24*
BURST RADIUS : 24m
DMG TYPE : Concussive
FUZE DELAY : 4.5 sec
WEIGHT : 0.33kg
* Add 15 additional columns to stun effect

ITALY

MU-50

TYPE : Fragmentation Hand Grenade
ATTACK NR. : 3
DMG FACTOR : 15
BURST RADIUS : 15m
DMG TYPE : Puncture
FUZE DELAY : 4 sec
WEIGHT : 0.14kg

OD/82

TYPE : Blast/Concussion Hand Grenade
ATTACK NR. : 1
DMG FACTOR : 18*
BURST RADIUS : 18m
DMG TYPE : Concussive
FUZE DELAY : 4 sec
WEIGHT : 0.23kg
* Add 10 additional columns to stun effect

RUSSIA

RDG-5

TYPE : Fragmentation Hand Grenade
ATTACK NR. : 6
DMG FACTOR : 18
BURST RADIUS : 30m
DMG TYPE : Puncture
FUZE DELAY : 3-4 sec
WEIGHT : 0.31kg
**RGO**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Fragmentation Hand Grenade</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR.</td>
<td>4</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>18</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>20m</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Puncture</td>
</tr>
<tr>
<td>FUSE DELAY</td>
<td>4 sec</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.53kg</td>
</tr>
</tbody>
</table>

**RGN**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Blast/Concussion Hand Grenade</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR.</td>
<td>1</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>18*</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>18m</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Concussive</td>
</tr>
<tr>
<td>FUSE DELAY</td>
<td>4 sec</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.31kg</td>
</tr>
</tbody>
</table>

*Add 10 additional columns to stun effect*

**F1**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Fragmentation Hand Grenade</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR.</td>
<td>4</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>15</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>20m</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Puncture</td>
</tr>
<tr>
<td>FUSE DELAY</td>
<td>See notes</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.6kg</td>
</tr>
</tbody>
</table>

NOTES: Fuse delays ranging from 0-13 seconds, partial disassembly required to confirm delay.

**UNITED KINGDOM**

**L2A2**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Fragmentation Hand Grenade</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR.</td>
<td>6</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>24</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>30m</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Puncture</td>
</tr>
<tr>
<td>FUSE DELAY</td>
<td>4.5 sec</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.4kg</td>
</tr>
</tbody>
</table>

**KILGORE/SCHERMULY**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Stun Hand Grenade</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFFECT</td>
<td>Blast and flash, 1 000 000 candela and 175db causing 5-15 seconds of disorientation.</td>
</tr>
<tr>
<td>ATTACK NR.</td>
<td>1</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>10(^1)</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>10m</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Concussive</td>
</tr>
<tr>
<td>FUSE DELAY</td>
<td>1.5-2 Seconds</td>
</tr>
</tbody>
</table>

\(^1\) Add 10 additional columns to stun effect

NOTES: The grenade is roughly the same size and shape as an M26A1 grenade, but has a smooth plastic body with a flat bottom. After the delay, a paper submunition is ejected from the base of the grenade where, after less than a second’s delay, it detonates with a brilliant flash and loud report. With the submunition being made of paper and detonation far, 2 or 3 meters, from the plastic grenade body, there is little damage the blast can do unless an individual is actually in contact with the submunition when it goes off. A drawback of this grenade is that the flash may set fire to fabric or other easily ignited material it contacts.
<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Attack NR.</th>
<th>DMG Factor</th>
<th>Burst Radius</th>
<th>DMG Type</th>
<th>Fuse Delay</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mk 2 &quot;Pineapple&quot;</td>
<td>Fragmentation Hand Grenade</td>
<td>3</td>
<td>24</td>
<td>15 m</td>
<td>Puncture</td>
<td>4-5 sec</td>
<td>0.59 kg</td>
</tr>
<tr>
<td>M67 &quot;Baseball Frag&quot;</td>
<td>Fragmentation Hand Grenade</td>
<td>6</td>
<td>24</td>
<td>30 m</td>
<td>Puncture</td>
<td>4-5 sec</td>
<td>0.40 kg</td>
</tr>
<tr>
<td>M68</td>
<td>Fragmentation Hand Grenade</td>
<td>6</td>
<td>24</td>
<td>30 m</td>
<td>Puncture</td>
<td>Impact</td>
<td>0.39 kg</td>
</tr>
<tr>
<td>M61</td>
<td>Fragmentation Hand Grenade</td>
<td>6</td>
<td>23</td>
<td>30 m</td>
<td>Puncture</td>
<td>4 sec</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>M26A2</td>
<td>Fragmentation Hand Grenade</td>
<td>6</td>
<td>23</td>
<td>30 m</td>
<td>Puncture</td>
<td>4 sec</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>M18 Colored Smoke</td>
<td>Burning Type Colored Smoke Hand Grenade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Colors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Green, Red, Violet and Yellow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Area of Effect</td>
<td>18 x 4 x 2 m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fuse Delay</td>
<td>2 sec</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Burn Time</td>
<td>50-90 seconds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weight</td>
<td>0.54 kg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
M34 White Phosphorus

TYPE : Bursting-type White Phosphorus Smoke/Incendiary Hand Grenade
ATTACK NR. : 5
DMG FACTOR : 18
BURST RADIUS : 25m
DMG TYPE : Burn
FUSE DELAY : 4-5 sec
BURN TIME : 60 sec
WEIGHT : 0.77kg
NOTES : White phosphorus ignites spontaneously on contact with air creating a dense hot cloud of smoke while it burns at over 2600° C.

AN-M14 TH3

TYPE : Incendiary Hand Grenade
EFFECT : Intense heat (2200° C) and brilliant light w/ molten iron spray.
ATTACK NR. : None
DMG FACTOR : 18
BURST RADIUS : (1.5-2m spray/sparks radius)
DMG TYPE : Burn
FUSE DELAY : 0.7-2 Seconds
BURN TIME : 40 Seconds
WEIGHT : 0.91kg
NOTES : This is a canister-style incendiary grenade. Grenades of this type are used to destroy materials and ordnance. It can burn through a 1.3mm steel plate and will burn underwater after ignition.

AN-M8 HC

TYPE : Burning Type HC Smoke Hand Grenade
EFFECT : Creates a dense cloud of white screening smoke
BURN TIME : 125 Seconds
AREA OF EFFECT : 288m³ (18 x 4 x 2m cloud)
FUSE DELAY : 0.7-2 Seconds
BURN TIME : 105-150 seconds
WEIGHT : 0.68kg
NOTES : This is a canister style, burning smoke grenade that is used with the U.S. armed forces. The sheet steel canister holds the smoke mixture and supports fuze assembly. There are four tape covered holes of the body to emit the smoke created by the burning composition.

M7A3 CS

TYPE : Burning Type Canister CS Gas Hand Grenade
EFFECT : Produces a large cloud of CS gas
BURN TIME : 25 Seconds
AREA OF EFFECT : 240m³ (18 x 4 x 4m cloud)
FUSE DELAY : 0.7-2 Seconds
BURN TIME : 15-35 seconds
WEIGHT : 0.43kg
NOTES : This is a canister style, burning type CS gas grenade. The filler consists of a pyrotechnic mixture made up of a type of nitrocellulose powder that produces a large amount of dense white smoke as it burns. The CS agent (Orthochlorbenzalmalononitrile) is a white powder contained in gelatine capsules spread throughout the pyrotechnic mixture.

M25A2 CS

TYPE : Bursting Type CS Gas Plastic Hand Grenade
EFFECT : Instantaneous release of CS gas cloud
AREA OF EFFECT : 5m burst radius, 20 x 4m cloud downwind
FUSE DELAY : 1.4-3 Seconds
WEIGHT : 0.22kg
NOTES : The M25AS grenade was developed to allow CS to be used in situations where the danger of fire is too great to allow burning type canister grenades to be used. The bursting type M25A2 grenade releases all of its chemical agent in an instantaneous cloud, giving the CS a more immediate effect and preventing any possible throwback of a burning CS canister.
MK-3A2 Offensive Grenade

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Blast (Concussion) Offensive Hand Grenade</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFFECT</td>
<td>Blast and shock wave</td>
</tr>
<tr>
<td>ATTACK NR.</td>
<td>1</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>15*</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>15m</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Concussion</td>
</tr>
<tr>
<td>FUSE DELAY</td>
<td>4-5 Seconds</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.44kg</td>
</tr>
<tr>
<td>NOTES</td>
<td>The body of this grenade is made of cardboard and produce no fragmentation. They are used by hostage rescue team and in urban combat situations where close quarters fighting. (The SEAL Teams considered the Mk3A2 to be a small demolition charge, though as a concussion grenade it also had its uses in after-invasion bunker cleaning.)</td>
</tr>
</tbody>
</table>
* Add 10 additional columns to stun effect

M6A1 CN-DM

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Burning-type CN-DM Tear/Vomit Gas Hand Grenade</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFFECT</td>
<td>Release a cloud of CN and DM gas.</td>
</tr>
<tr>
<td>AREA OF EFFECT</td>
<td>Approx. 18 x 4 x 2 m</td>
</tr>
<tr>
<td>FUSE DELAY</td>
<td>0.7-2 Seconds</td>
</tr>
<tr>
<td>BURN TIME</td>
<td>20-60 Seconds</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.57kg</td>
</tr>
<tr>
<td>NOTES</td>
<td>CN (Chloroacetophenone) causes a very heavy flow of tears and strong pain in the eyes and upper respiratory passages within 15 to 30 seconds. DM (Diphenylaminochloroaarsine) increases the flow of tears and pain in the respiratory tract as well as causing sneezing and coughing. Symptoms increase with exposure to include headache, acute pain and tightness in the chest. After about 1 minute’s exposure, symptoms include nausea and vomiting. DM symptoms last about 30 minutes after removal from exposure. Exposure to heavy concentrations of DM can cause the effect to last for up to 3 hours. DM takes about 1 minute to become effective and the CN is used to increase the immediate effects of the grenade. Exposure to very heavy concentrations of DM, such as in a closed room or bunker, can be toxic as the gas is an arsenic salt.</td>
</tr>
</tbody>
</table>

UNKNOWN

Multi-Purpose Grenade MPG-120 (CS)

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Flameless &quot;soft delivery&quot; CS Gas Hand Grenade</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFFECT</td>
<td>Instantaneous release of CS gas cloud</td>
</tr>
<tr>
<td>AREA OF EFFECT</td>
<td>5m burst radius</td>
</tr>
<tr>
<td></td>
<td>18 x 4m cloud downwind</td>
</tr>
<tr>
<td>FUSE DELAY</td>
<td>2 or 5 Seconds</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.42kg</td>
</tr>
<tr>
<td>LENGHT</td>
<td>16.5cm</td>
</tr>
<tr>
<td>WIDTH</td>
<td>8.1cm</td>
</tr>
<tr>
<td>NOTES</td>
<td>The fuze uses the familiar pull ring and safety lever but also has a selector switch for determine the time delay. The lever is pushed so that the pointer at its opposite end points at either the raised number 5 or 2 on the grenade’s top for either a five or two second fuze delay.</td>
</tr>
</tbody>
</table>
RIFLE GRENADES

AUSTRIA

SGG 84
TYPE : Fragmentation Rifle Grenade w/ Rocket Boost
ATTACK NR. : 5
BURST RADIUS : 25m
DMG FACTOR : 18
DAMAGE TYPE : Puncture
FUZE DELAY : Impact
RANGE : 200m (7.62mm ver.), 135m (5.56mm ver.)
WEIGHT : 0.64kg

SGG 85
TYPE : Fragmentation Rifle Grenade w/ Rocket Boost (w/ Bullet Trap)
ATTACK NR. : 4
BURST RADIUS : 20m
DMG FACTOR : 16
DAMAGE TYPE : Puncture
FUZE DELAY : Impact
RANGE : 250m (7.62mm ver.), 200m (5.56mm ver.) (220m (5.56mm ver.))
WEIGHT : 0.47kg

SGG 86
TYPE : Fragmentation Rifle Grenade w/ Rocket Boost (w/ Bullet Trap)
ATTACK NR. : 2
BURST RADIUS : 10m
DMG FACTOR : 12
DAMAGE TYPE : Puncture
FUZE DELAY : Impact
RANGE : 380m (7.62mm ver.), 280m (5.56mm ver.) (300m (5.56mm ver.))
WEIGHT : 0.3kg

BELGIUM

Telegram
TYPE : Fragmentation Rifle Grenade w/ Bullet Trap
ATTACK NR. : 3
BURST RADIUS : 15m
DMG FACTOR : 15
DAMAGE TYPE : Puncture
FUZE DELAY : Impact
RANGE : 400m (7.62mm ver.), 300m (5.56mm ver.)
WEIGHT : 0.3kg

M260 AP
TYPE : Armor Piercing Rifle Grenade w/ Bullet Trap
ATTACK NR. : 1
BURST RADIUS : 5m
DMG FACTOR : 5*
DAMAGE TYPE : Concussive
PENETRATION : 140mm (armor), 300mm (concreate)
FUZE DELAY : Impact
RANGE : 400m (7.62mm ver.), 300 m (5.56mm ver.)
WEIGHT : 0.39kg
* Add 5 additional columns to stun effect
**M262 HE**

- **Type**: Fragmentation Rifle Grenade w/ Bullet Trap
- **Attack NR.**: 3
- **Burst Radius**: 15m
- **DMG Factor**: 12
- **Damage Type**: Puncture
- **Fuze Delay**: Impact
- **Range**: 400m (7.62mm ver.), 300m (5.56mm ver.)
- **Weight**: 0.4kg

**M261 HE/D**

- **Type**: Fragmentation Rifle Grenade w/ Bullet Trap
- **Attack NR.**: 2
- **Burst Radius**: 10m
- **DMG Factor**: 14
- **Damage Type**: Puncture
- **Fuze Delay**: 4 sec, See notes
- **Range**: 320m (7.62mm ver.), 320m (5.56mm ver.)
- **Weight**: 0.34kg
- **Notes**: This is an HE round with a 4 delay fuze instead of impact so that it can penetrate walls, windows, or heavy foliage before detonating.

**M258 Smoke**

- **Type**: Smoke Generating Rifle Grenade w/ Bullet Trap
- **Effect**: Creates a dense cloud of screening smoke
- **Area of Effect**: ?
- **Fuze Delay**: 2 sec
- **Range**: 300m (7.62mm ver.), 300m (5.56mm ver.)
- **Weight**: 0.48kg
- **Notes**: The smoke screen begins while the grenade is still in flight and continues for 80 seconds.

**M259 Para Flare**

- **Type**: Illuminating Para Flare Rifle Grenade w/ Bullet Trap
- **Effect**: Illuminating Parachute Flare
- **Area of Effect**: ?
- **Fuze Delay**: ?
- **Range**: 85m (7.62mm ver.), 85m (5.56mm ver.)
- **Weight**: 0.42kg
- **Notes**: This parachute flare burns at 100,000 candela for 30-35 seconds.

**M287 HE**

- **Type**: Fragmentation rifle grenade w/ bullet trap and rocket assist
- **Attack NR.**: 6
- **Burst Radius**: 30m
- **DMG Factor**: 18
- **Damage Type**: Fragmentation
- **Min Range**: 25m
- **Max Range**: 700m (5.56mm and 7.62mm version)
- **Weight**: 0.79kg (5.56mm and 7.62mm version)
### M288 Incen/Smoke

<table>
<thead>
<tr>
<th>Type</th>
<th>Smoke Generating and Incendiary Rifle Grenade w/ Bullet Trap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attack NR.</td>
<td>2</td>
</tr>
<tr>
<td>Burst Radius</td>
<td>10 m</td>
</tr>
<tr>
<td>Damage Type</td>
<td>Burn</td>
</tr>
<tr>
<td>Fuze Delay</td>
<td>4 sec</td>
</tr>
<tr>
<td>Range</td>
<td>300 m (7.62mm ver.), 300 m (5.56mm ver.)</td>
</tr>
<tr>
<td>Weight</td>
<td>0.42 kg</td>
</tr>
<tr>
<td>Notes</td>
<td>This white phosphorous round generates an instantaneous smoke screen and covers the burst radius with fragments burning at 1000 degrees C.</td>
</tr>
</tbody>
</table>

### Super Energa

<table>
<thead>
<tr>
<th>Type</th>
<th>Armor Piercing Rocket Propelled Shaped Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attack NR.</td>
<td>1</td>
</tr>
<tr>
<td>Burst Radius</td>
<td>5 m</td>
</tr>
<tr>
<td>Damage Type</td>
<td>Concussive</td>
</tr>
<tr>
<td>Fuze Delay</td>
<td>Impact</td>
</tr>
<tr>
<td>Range</td>
<td>See notes</td>
</tr>
<tr>
<td>Penetration</td>
<td>275 mm (armor), 600 mm (concrete)</td>
</tr>
<tr>
<td>Weight</td>
<td>0.77 kg</td>
</tr>
<tr>
<td>Notes</td>
<td>Booster cartridges make an effective range of 150 m vs moving targets and 200 m vs stationary targets. This rocket propelled shaped charge is fired from the underarm position. * Add 5 additional columns to stun effect</td>
</tr>
</tbody>
</table>

### BRAZIL

### M2

<table>
<thead>
<tr>
<th>Type</th>
<th>Fragmentation Rifle Grenade w/ Bullet Trap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attack NR.</td>
<td>5</td>
</tr>
<tr>
<td>Burst Radius</td>
<td>25 m</td>
</tr>
<tr>
<td>Damage Type</td>
<td>Puncture</td>
</tr>
<tr>
<td>Fuze Delay</td>
<td>Impact</td>
</tr>
<tr>
<td>Range</td>
<td>380 m</td>
</tr>
<tr>
<td>Weight</td>
<td>0.55 kg</td>
</tr>
</tbody>
</table>

### M3

<table>
<thead>
<tr>
<th>Type</th>
<th>Armor Piercing Rifle Grenade w/ Bullet Trap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attack NR.</td>
<td>1</td>
</tr>
<tr>
<td>Burst Radius</td>
<td>5 m</td>
</tr>
<tr>
<td>Damage Type</td>
<td>Concussive</td>
</tr>
<tr>
<td>Fuze Delay</td>
<td>Impact</td>
</tr>
<tr>
<td>Range</td>
<td>260 m</td>
</tr>
<tr>
<td>Penetration</td>
<td>76 mm (armor)</td>
</tr>
<tr>
<td></td>
<td>* Add 5 additional columns to stun effect</td>
</tr>
</tbody>
</table>
### FRANCE

**AT**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Armor Piercing Rifle Grenade w/ Rocket Boost (w/ Bullet Trap)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR.</td>
<td>2</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>10m</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>10*</td>
</tr>
<tr>
<td>DAMAGE TYPE</td>
<td>Concussive</td>
</tr>
<tr>
<td>PENETRATION</td>
<td>350mm (armor), 1000mm (concrete)</td>
</tr>
<tr>
<td>FUZE DELAY</td>
<td>Impact</td>
</tr>
<tr>
<td>RANGE</td>
<td>100m (7.62mm ver.) (100m (5.56mm ver.))</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.5kg</td>
</tr>
</tbody>
</table>

*Add 5 additional columns to stun effect

### AP-AV

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Armor Piercing / Fragmentation Rifle Grenade w/ Rocket Boost (w/ Bullet Trap)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR.</td>
<td>3</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>15m</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>15</td>
</tr>
<tr>
<td>DAMAGE TYPE</td>
<td>Puncture</td>
</tr>
<tr>
<td>PENETRATION</td>
<td>70mm (armor)</td>
</tr>
<tr>
<td>FUZE DELAY</td>
<td>Impact</td>
</tr>
<tr>
<td>RANGE</td>
<td>300m (7.62mm ver.) (300m (5.56mm ver.))</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.5kg</td>
</tr>
</tbody>
</table>

NOTES: This grenade combines a small shaped charge and fragmentation sleeve.

### SPAIN

**M70**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Fragmentation Rifle Grenade w/ Bullet Trap</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR.</td>
<td>3</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>15m</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>15</td>
</tr>
<tr>
<td>DAMAGE TYPE</td>
<td>Puncture</td>
</tr>
<tr>
<td>FUZE DELAY</td>
<td>Impact</td>
</tr>
<tr>
<td>RANGE</td>
<td>325m</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.4kg</td>
</tr>
</tbody>
</table>

### ISRAEL

**AP67 Frag**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Fragmentation Rifle Grenade w/Bullet Trap</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR.</td>
<td>6</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>30m</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>15</td>
</tr>
<tr>
<td>DAMAGE TYPE</td>
<td>Puncture</td>
</tr>
<tr>
<td>FUZE DELAY</td>
<td>Impact</td>
</tr>
<tr>
<td>RANGE</td>
<td>240m (5.56mm ver.)</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.64kg</td>
</tr>
</tbody>
</table>
140mm RAW (Rifleman’s Assault Weapon)

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Blast and Light Fragmentation Grenade w/ Rocket Boost</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR.</td>
<td>6</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>25</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>30m</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Puncture</td>
</tr>
<tr>
<td>PENETRATION</td>
<td>Creates a 35cm hole in 20cm thick double reinforced concrete.</td>
</tr>
<tr>
<td>MIN RANGE</td>
<td>10m</td>
</tr>
<tr>
<td>MAX RANGE</td>
<td>200m (Direct fire), 2000m (Indirect fire)</td>
</tr>
<tr>
<td>TYPE OF FIRE</td>
<td>Single-shot disposable</td>
</tr>
<tr>
<td>SIGHTS</td>
<td>Uses aperture/post sights on M16 rifle.</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>2.72kg</td>
</tr>
</tbody>
</table>

NOTES: The RAW launcher mounts on the standard M16 rifles and secures itself to the bayonet lug and flash hider. With the arming switch set to safe, the firearm can continue to be used with ball ammunition. When set to arm, the RAW projectile is launched when the rifle is fired. A small amount of gas is tapped from the muzzle to operate a firing pin inside the RAW launcher to fire the rocket. As the motor ignites, the exhaust is guided through two turbine nozzles which spin the the mounting while the warhead is still attached. When the rocket motor reaches full thrust, it breaks away from the mounting while spinning. The spin recieved from the turbine stabilizes the projectile through out the flight.
GRENADE LAUNCHERS

30mm

RUSSIA

AGS-17 Automatic Grenade Launcher

<table>
<thead>
<tr>
<th>IA</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEED</td>
<td>10</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>8kg (load and tripod 35kg)</td>
</tr>
<tr>
<td>ROF</td>
<td>6</td>
</tr>
<tr>
<td>MAGAZINE</td>
<td>29-Round belt</td>
</tr>
<tr>
<td>MIN RANGE</td>
<td>?</td>
</tr>
<tr>
<td>MAX RANGE</td>
<td>1200m</td>
</tr>
</tbody>
</table>

NOTES: Called "Plamya" (flame), this weapon is surprisingly conventional in design. Firing from a disintegrating belt (unlike most Russian automatic weapons), a section of two provide fire support for every infantry company.

35mm

GERMANY

"Handflammpatronen" HAFLA DM-34

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Disposable Incendiary/Smoke Grenade Launcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEED</td>
<td>3</td>
</tr>
<tr>
<td>IA</td>
<td>5</td>
</tr>
<tr>
<td>ATTACK NR.</td>
<td>See notes</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>16</td>
</tr>
<tr>
<td>AREA OF EFFECT</td>
<td>5-8m (stuck target)</td>
</tr>
<tr>
<td></td>
<td>15m long x 10m wide (self destruct)</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Burn</td>
</tr>
<tr>
<td>BURN TIME</td>
<td>120 seconds</td>
</tr>
<tr>
<td>MIN RANGE</td>
<td>10m</td>
</tr>
<tr>
<td>MAX RANGE</td>
<td>70m</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.63kg</td>
</tr>
</tbody>
</table>

NOTES: The rifing handle is folded over the trigger at the rear of the launcher. Depressing a safety button allows the handgrip to rotate 90 degrees downward, locking to the rear and exposing the trigger. Unlike white phousphorus, which ignites spontaneously on exposure to air, red phousphorus has to be ignited by outside means; the pyrotechnic fuze accomplishing this in the HAFLA. The fuze delay allows the capsule to travel 70 meters before it ruptures the case, spreading the filler over a 15 meter long and 10 meter wide oval. If the capsule should strike a target with a hard surface from 10 to 70 meters from the launcher, the capsule will burst with a brilliant flash and blinding smoke covering an area from 5 to 10 meters wide. The red phousphorus burns for two minutes, creating a large cloud of smoke that clears within a few minutes of the phousphorus burning out. The fragments burn at 1300 degrees C and will quickly ignite combustible materials.

37x112mmRb

UK

ARWEN-37 Grenade Launcher

<table>
<thead>
<tr>
<th>OPERATION</th>
<th>Manual</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEED</td>
<td>9</td>
</tr>
<tr>
<td>IA</td>
<td>23</td>
</tr>
<tr>
<td>ROF</td>
<td>2</td>
</tr>
<tr>
<td>MAGAZINE</td>
<td>5-Round Open Cylinder</td>
</tr>
<tr>
<td>RANGE</td>
<td>100m (also see ammo)</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>3.82kg</td>
</tr>
<tr>
<td>COST</td>
<td>$1000</td>
</tr>
</tbody>
</table>

NOTES: The ARWEN (Anti-Riot Weapon, Enfield) is a multi-shot grenade launcher designed to give security forces the ability to fire more than one round without having pause and load.
40mm

RUSSIA

BG-15 40mm Grenade Launcher

OPERATION : Manual, muzzle loaded
SPEED : +1
IA : 17
ROF : 1/3
RANGE : See Ammo
WEIGHT : 1.166kg
COST : Unknown
NOTES : This is a small, very short barreled grenade launcher that can be attached to almost any member of the AK family. Rounds are muzzle loaded, and have no means of retention in the barrel, so great care should be taken in carrying a loaded weapon. The barrel also acts as the low pressure chamber, in the high-low ammunition propellant system

40 x 46mmR

GERMANY

H&K HK69

OPERATION : Manual, break open
SPEED : 5
IA : 17
ROF : 1/5
RANGE : See Ammo
MAGAZINE : Single-shot
WEIGHT : 2.62kg w/sling
OVERALL LENGTH : 46cm/68cm
PRICE : Unknown
NOTES : This is the German answer to the American 40mm M79 grenade launcher.

H&K HK79

OPERATION : Manual, slide open
SPEED : +2
IA : 17
ROF : 1/4
RANGE : See Ammo
MAGAZINE : Single-shot
WEIGHT : 1.5kg
OVERALL LENGTH : Unknown
PRICE : Unknown
NOTES : The HK79 GL can be mounted on the H&K G3 or G41.

USA

M79

OPERATION : Manual, break open
SPEED : 6
IA : 19
ROF : 1/5
RANGE : See Ammo
MAGAZINE : Single-shot
WEIGHT : 2.7kg
OVERALL LENGTH : 74cm
PRICE : $975 (1998)
NOTES : This was the first grenade launcher to use high-low pressure system and it was first fielded by the U.S. military in the late 50’s. The basic design of the M79 was intentionally derived from single shot sporting shotguns allowing easy familiarity by new recruits.
**M203**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Manual, slide open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed (w/shoulder stock)</td>
<td>+2 (on rifle)</td>
</tr>
<tr>
<td>IA</td>
<td>18</td>
</tr>
<tr>
<td>ROF</td>
<td>1/4</td>
</tr>
<tr>
<td>Range</td>
<td>See Ammo</td>
</tr>
<tr>
<td>Magazine</td>
<td>Single-shot</td>
</tr>
<tr>
<td>Weight (unloaded)</td>
<td>1.36kg</td>
</tr>
<tr>
<td>Overall length</td>
<td>40.5cm</td>
</tr>
<tr>
<td>Cost</td>
<td>$875 (1998)</td>
</tr>
</tbody>
</table>
| Notes       | The M203 can be mounted on almost any rifle/carbine, but it takes a armorer to do it.

**Talon (product improved M203)**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Manual, slide open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed (w/shoulder stock)</td>
<td>4 (w/shoulder stock)</td>
</tr>
<tr>
<td>IA</td>
<td>18</td>
</tr>
<tr>
<td>ROF</td>
<td>1/4</td>
</tr>
<tr>
<td>Range</td>
<td>See Ammo</td>
</tr>
<tr>
<td>Magazine</td>
<td>Single-shot</td>
</tr>
<tr>
<td>Weight (unloaded)</td>
<td>1.36kg (unloaded)</td>
</tr>
<tr>
<td>Weight (w/shoulder stock)</td>
<td>1.95kg (w/shoulder stock)</td>
</tr>
<tr>
<td>Overall length (w/o stock)</td>
<td>38cm (w/o stock)</td>
</tr>
<tr>
<td>Overall length (w/ stock)</td>
<td>approx 75cm (w/ stock)</td>
</tr>
<tr>
<td>Price</td>
<td>Unknown (approx $1200 ($300 for the stock))</td>
</tr>
<tr>
<td>Notes</td>
<td>The Talon is equipped with a quick release for the weapon combined with a universal mounting bar. By simple modifications to the mounting bar, it may be attached to most rifles/carbines, and a light folding stock for the launcher. Use of the mounting bar system has resulted in an unusual addition weapon that can be mounted under the rifle/carbine. The Ithaca Stakeout shotgun in .12g will fit on the mounting rail when fitted with the proper brackets. The obvious firepower is tremendous and is an especially good entry weapon for opening doors, using the shotgun for the hinges and lock while still having a fully loaded rifle/carbine at the ready.</td>
</tr>
</tbody>
</table>

**Ithaca Stakeout**

<table>
<thead>
<tr>
<th>Cost</th>
<th>Name</th>
<th>SK</th>
<th>IA</th>
<th>SPD</th>
<th>ROF</th>
<th>RNG</th>
<th>WGT</th>
<th>Action</th>
<th>CAL</th>
<th>CAP</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>550</td>
<td>Ithaca Stakeout</td>
<td>1</td>
<td>15</td>
<td>+3</td>
<td>1</td>
<td>60</td>
<td>1.6</td>
<td>pump</td>
<td>12g</td>
<td>41</td>
<td>cost incl. brackets</td>
</tr>
</tbody>
</table>
40 x 53mmR

USA

MARK-19 MODEL 3

OPERATION : Blowback
SPEED : 10
IA : 22
ROF : 6
RANGE : See Ammo
FEED : Flexible metal disintegrating link belt
WEIGHT : 34kg (Tripod mount Wt: 29.5kg)
OVERALL LENGTH : 103cm
COST : Unknown
NOTES : The Mark-19 Model 3 is a heavy automatic grenade launcher capable of being tripod mounted and firing the 40 x 53mmR family of high-velocity grenades originally designed for helicopter guns. The rounds fired use the high-low pressure system but are loaded to much higher velocities than the 40 x 46mmR rounds. Any attempt to fire the high velocity grenades in a low velocity weapon usually results in the destruction of the weapon and injury or death of the operator. Low velocity rounds could be fired in the Mark 19, but they would have to be singly loaded and would not operate the action.

40mm "Special"

SOUTH AFRICA

ARMSCORE MGL-6

OPERATION : Manual, spring loaded
SPEED : 9/10
IA : 21
ROF : 1
RANGE : 400
MAGAZINE : 6 round (Cylinder)
WEIGHT (Unloaded) : 5.3kg
OVERALL LENGTH : 57cm/80cm
PRICE : Unknown
NOTES : The ARMSCORE Multishot Grenade Launcher (MGL) is a native South African design for a multishot 40mm grenade launcher. The MGL has a rotating cylinder that holds six 40mm grenades of any type (except the 40 x 53mmR rounds) as long as their overall length is under 120mm.

USA

MM-1 MGL

OPERATION : Manual, spring loaded
SPEED : 9
IA : 18
ROF : 1
RANGE : Depends on which grenades it fires.
MAGAZINE : 12 round (Cylinder)
WEIGHT : 5.7kg (unloaded)
OVERALL LENGTH : 64cm
COST : Unknown
NOTES : The MM-1 is a 12-round revolver-styled grenade launcher that can easily and quickly loaded using any 40mm grenade up to 101mm in length (except the 40 x 53mmR shells). Constructed of aluminum, steel and high-strength plastic.
GRENADE LAUNCHER SHELLS

30mm (AGS-17)

RUSSIA

HE Fragmentation

| ATTACK NR. | 3 |
| DMG FACTOR | 15 |
| BURST RADIUS | 15m |
| DMG TYPE | Puncture |
| IMPACT | Impact |
| WEIGHT | 0.275kg |

37 x 112mmRb

UK

AR1 Kinetic Energy Baton

| TYPE | Plastic Impact Grenade Launcher Shell |
| DEL.DAMAGE | 14 |
| DMG TYPE | Impact |
| MIN RANGE | 20m |
| MAX RANGE | 100m |
| WEIGHT | 0.144kg |
| COST | $13 |
| NOTES | Unlike most other baton rounds, this projectile is streamlined for better ballistic stability and accuracy. |

AR2 Irritant Smoke CS

| TYPE | Burning Type Multiple Source CS Gas Grenade Launcher Shell |
| EFFECT | Scatters 4 burning CS submunitions at 85-95m |
| FUZE | 1 seconds |
| SCATTER RADIUS | 5m |
| AREA OF EFFECT | 135m3 |
| BURN TIME | 12 seconds |
| WEIGHT | 0.144kg |
| COST | $20 |
| NOTES | When this round is fired, a 1-second fuse is initiated, which when it detonates (typically at 85-95m) releases four burning CS submunitions. The submunitions burn for about 12 seconds releasing a white cloud of CS smoke. |

AR3 Crush-Nose Baton

| TYPE | Plastic Impact Round w/ CS Agent Grenade Launcher Shell |
| DMG FACTOR | 14 |
| DMG TYPE | Impact |
| AREA OF EFFECT | 10cm area |
| MIN RANGE | 20m |
| MAX RANGE | 50m |
| WEIGHT | 0.116 |
| COST | $19 |
| NOTES | This is a variation of the AR1 in which the nose of the projectile has been hollowed out and quantity of powdered CS powder installed under a styrofoam cap. When the round hits, the nose shatters, spreading the Cs over a small 10cm area. The Cs will affect the target struck, but not contaminate the surrounding area. |
AR4 Screening Smoke

**TYPE** : Burning Type Multiple Source Screening Grenade Launcher Shell  
**EFFECT** : Scatters 4 burning smoke canisters at 85-95m  
**FUZE** : 1 second  
**SCATTER RADIUS** : 5m  
**AEREA OF EFFECT** : 420m³  
**BURN TIME** : 12 seconds  
**WEIGHT** : 0.178kg  
**COST** : $19  
**NOTES** : This is a much like the AR2 but each of the four submunitions creates a dense cloud of white smoke. The smoke is non-toxic and is about three times as dense as the CS smoke from the AR2 round. Other colors are available on special order, cost $21.

AR5 Barricade Penetrator

**TYPE** : Penetrating, Bursting Typr CS Gas Grenade Launcher Shell  
**EFFECTS** : Penetrates target and releases powdered CS  
**PENETRATION** : Auto Windshield @ 30m  
- Plywood @ 40m  
- Door (Interior) @ 60m  
- Window pane @ 80m  
**AREA OF EFFECT** : 100m³  
**WEIGHT** : 0.13kg  
**COST** : $19  
**NOTES** : This round is based on the streamlined projectile of the AR1, the intent being to penetrate and ten release the contents of powdered Cs.

40mm (BG-15)

RUSSIA

HE Fragmentation (Short)

**TYPE** : High Explosive Fragmentation Grenade Launcher Shell  
**FUZE TYPE** : Impact  
**ATTACK NR** : 3  
**DMG FACTOR** : 14  
**BURST RADIUS** : 15m  
**DMG TYPE** : Puncture  
**MIN RANGE** : 5m  
**MAX RANGE** : 420m  
**WEIGHT** : 0.25kg

HE Fragmentation (Long)

**TYPE** : High Explosive Fragmentation Grenade Launcher Shell  
**FUZE TYPE** : Impact  
**ATTACK NR** : 3  
**DMG FACTOR** : 12  
**BURST RADIUS** : 15m  
**DMG TYPE** : Puncture  
**MIN RANGE** : 5m  
**MAX RANGE** : 300m  
**WEIGHT** : 0.26kg
40 x 46mmR

**AUSTRIA**

No. 92 Smoke/Incendiary

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Smoke/Incendiary Grenade Launcher Shell</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR.</td>
<td>1</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>18</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>5m</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Burn</td>
</tr>
<tr>
<td>BURN TIME</td>
<td>20 sec</td>
</tr>
<tr>
<td>MIN RANGE</td>
<td>Unknown</td>
</tr>
<tr>
<td>MAX RANGE</td>
<td>400m</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.23kg</td>
</tr>
<tr>
<td>NOTES</td>
<td>This grenade burn at 1200 degrees C.</td>
</tr>
</tbody>
</table>

**GERMANY**

DM-41 HE-FRAG

<table>
<thead>
<tr>
<th>TYPE</th>
<th>High Explosive Fragmentation Grenade Launcher Shell</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR</td>
<td>2</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>18</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Puncture</td>
</tr>
<tr>
<td>MIN RANGE</td>
<td>14m</td>
</tr>
<tr>
<td>MAX RANGE</td>
<td>400m</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.23 kg</td>
</tr>
<tr>
<td>NOTES</td>
<td>A particular complex fuze was developed for the DM-41 that is released by the setback created when the round is fired and arms from the centrifugal force of the round’s spinning flight. The force of firing also ignites a delay fuze that burns for about 4 seconds, equivalent to a range of 400 meters. The self destruct feature of the fuze normally prevents any duds.</td>
</tr>
</tbody>
</table>

**USA**

M381 HE (M386 HE)

<table>
<thead>
<tr>
<th>TYPE</th>
<th>High Explosive Fragmentation Grenade Launcher Shell</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK NR</td>
<td>2</td>
</tr>
<tr>
<td>DMG FACTOR</td>
<td>18</td>
</tr>
<tr>
<td>BURST RADIUS</td>
<td>10m</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Puncture</td>
</tr>
<tr>
<td>MIN RANGE</td>
<td>3m (14m (M386))</td>
</tr>
<tr>
<td>MAX RANGE</td>
<td>400m</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.22kg</td>
</tr>
<tr>
<td>NOTES</td>
<td>The M386 round is the more commonly issued round for standard troops because of its much longer safety zone. Both rounds have a small, ball-shaped grenade attached to the base of the fuze containing the explosive charge. The ball contains spherical coil of rectangular steel wire, notched every quarter of an inch for fragmentation.</td>
</tr>
</tbody>
</table>

M576 MP

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Multi-Projectile Grenade Launcher Shell</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEL. DAMAGE</td>
<td>18</td>
</tr>
<tr>
<td>DMG TYPE</td>
<td>Hydrostatic Shock</td>
</tr>
<tr>
<td>MIN RANGE</td>
<td>-</td>
</tr>
<tr>
<td>MAX RANGE</td>
<td>15m</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>0.11kg</td>
</tr>
<tr>
<td>NOTES</td>
<td>The round is very short and the projectile consists of a squat plastic cylinder. Inside the cylinder sabot is a small cup holding 20 number 4 banchots and being sealed with a snap-off cap. As the projectile leaves the muzzle, the several drilled air scoops along the circumference of the sabot cause it to quickly to lose speed. As the sabot falls away, the buckshots are free continue on to the target.</td>
</tr>
</tbody>
</table>
M397A1 HE Airburst

TYPE: High Explosive Fragmentation Grenade Launcher Shell w/ Rebound for Airburst
FUSE DELAY: 80 milliseconds
ATTACK NR.: 3
DMG FACTOR: 18
BURST RADIUS: 15m
DMG TYPE: Puncture
MIN RANGE: 14m
MAX RANGE: 400m
WEIGHT: 0.23kg
NOTES: As most fragmentation grenades detonate at ground level, much of the fragmentation is absorbed by the ground, and so, the round is less efficient. A much more effective round would detonate in the air as an airburst and that is what the M397A1 attempts to do. When the projectile strikes the ground, the fuze fires an ejection charge and ignites an 80 millisecond pyrotechnic fuse in the grenade. The grenade ball is blown into the air when the delay fuze detonates is about 1.5 m above the ground.

M433 HEDP

TYPE: High Explosive Fragmentation and Armor Penetrating Grenade Launcher Shell
ATTACK NR.: 2
DMG FACTOR: 18
BURST RADIUS: 10m
DMG TYPE: Puncture
PENETRATION: 5cm steel
MIN RANGE: 14m
MAX RANGE: 400m
NOTES: This is a dual purpose impact type round intended to cause casualties from fragmentation, as well as penetrate up to 5cm of steel. The charge has a conical copper liner at its front to shape the blast into an armor piercing jet. This type of explosive charge is called a shaped charge and greatly increase the penetration effect of the round. The copper liner is vaporized into an armor piercing jet which actually causes the armor steel to flow away from it. The base and sides of the explosive charge are made up of serrsted steel which fragments, giving the round its dual effect.

M583A1(WHITE), M661(GREEN), M663(RED) Star Parachute Flare

TYPE: Illuminating/Signaling Colored Parachute Flare Grenade Launcher Shell
EFFECT: Ejects a burning parachute flare at altitude illuminating an area with:
90 000cp(M583A1), 8 000cp(M661), 20 000cp(M662)
BURN TIME: 40 Seconds
AREA OF EFFECT: 100m²
WEIGHT: 0.22kg
NOTES: Each of these rounds fires a long projectile containing a single pyrotechnic star attached to a small parachute assembly. When the round is fired, a small pyrotechnic delay fuze is ignited from the propellant gas. After the four to five second delay, the round has reached an altitude of 150 to 200meters and an ejection charge is fired by the fuze. The ejection charge ignites the flare candle and ejects it through the top of the aluminum body. The flare lowers itself by a 50cm wide parachute which slows its decent rate to about 2 meters/second.

M713(RED), M715(GREEN), M716(YELLOW) Smoke Ground Markers

TYPE: Burning Type Colored Signaling Grenade Launcher Shell
BURN TIME: 8 Seconds
AREA OF EFFECT: 620m²
MIN RANGE: 45m
MAX RANGE: 400m
WEIGHT: 0.22kg
NOTES: These rounds are used to mark areas and indicate targets with colored smoke. The fuze is a combination pyrotechnic and mechanical which ignites when the round is fired, but will not fire the smoke mixture until the round has traveled 45 meters to centrifugally arm the fuze. On impact, the fuze ignites the smoke mixture and blows open an escape hole at the back of the round. If the impact is insufficient to fire the fuze, the pyrotechnic portion will ignite the smoke charge after a delay of 8 to 10 seconds.
RP 707 CS

TYPE : Burning Type CS Gas Irretant Grenade Launcher Shell
BURN TIME : 10 Seconds
AREA OF EFFECT : 250m²
MIN RANGE : -
MAX RANGE : 400m
NOTES : The pyrotechnic fuze in the base of the projectile ignites when the round is fired and has a delay of three seconds. When the delay is over, an ignition device fires which ignites the CS/pyrotechnic mix and blows of the nose plug releasing the CS smoke. The body and the nose of the projectile are made of heavy aluminum to allow the round to penetrate double-thick windows, wooden doors, and barricades. The round will penetrate 4cm of fiberboard at 100 meters.

FERRETT

TYPE : Shattering Type Liquid CS Gas Irretant Grenade Launcher Shell
AREA OF EFFECT : 125m³
PENETRATION : 25mm Pineboard at 10m
              Auto Windshield at 50m
              Hollow Core (interior) Door at 100m
MIN RANGE : -
MAX RANGE : 100m
WEIGHT : 0.12kg
NOTES : The Ferret is a barricade penetrating, bursting-type CS round with little or no fragmentation potential and no possibility of fire. The casing is of polycarbonate plastic and the entire package is waterproof. The projectile is fin stabilized and is of a bore diameter that prevents it from engaging the rifling to a great extent but the round does spin in flight. The projectile shatters after penetration but will penetrate fully a given list of materials. The accuracy of this round is such that 90 percent of the rounds will group inside a 1 meter circle at 100 meters.

RUBBER IMPACT

TYPE : Rubber Baton Grenade Launcher Shell
DEL. DAMAGE : 10
DMG TYPE : Impact
MIN RANGE : 10m
MAX RANGE : 30m
NOTES : This is a baton type round designed to deliver a punishing but not damaging blow (blunt trauma). The projectile is a four-armed, right-angled cross that is folded under tension to a cylindrical form. The outer surfaces of the projectile are teflon coated to reduce bore friction. When fired, the arms unfold and the projectile takes up a cross-shaped form. The form of the projectile spreads the energy of its impact over a much larger area than conventional munitions of the type reducing the possibility of serious damage.

40 x 53mmR

USA

M384 HE

TYPE : High explosive fragmentation high velocity grenade launcher shell
ATTACK NR. : 3
DMG FACTOR : 18
BURST RADIUS : 15m
DMG TYPE : Puncture
MIN RANGE : 20-35m
MAX RANGE : 2200m
WEIGHT : 0.34kg
NOTES : Belted together as a 48-round belt carried in a metal box the entire package weight 24kg.
M433 HEDP

TYPE: High explosive fragmentation and armor penetrating dual purpose high velocity grenade launcher shell

ATTACK NR.: 2
DMG FACTOR: 18
BURST RADIUS: 10m
DMG TYPE: Puncture
PENETRATION: 5cm of steel
MIN RANGE: 20-30m
MAX RANGE: 2200m
WEIGHT: 0.34kg
NOTES: This dual purpose round has both an anti-personal fragmentation effect as well as an armor penetrating capability, and is considered the standard combat round of the Mark 19.

M677 HE-T

TYPE: High explosive fragmentation shell w/ tracer for high velocity grenade launcher

ATTACK NR.: 3
DMG FACTOR: 18
BURST RADIUS: 15m
DMG TYPE: Puncture
MIN RANGE: 20-35m
MAX RANGE: 2200m
WEIGHT: 0.34kg
NOTES: The M677 has a pyrotechnic tracer composition in the base its projectile that ignites when the round is fired. The tracer burns for about 10 seconds with a bright red light.
HEAVY WEAPONS

AUSTRIA

LAT-500

SPEED : 10
IA : 14
CALIBER : 82mm
TOTAL WEIGHT : 7 kg
LENGTH : 900mm
RANGE : approx 300m
PENETRATION : >500mm (armor), >1000mm (concrete)
NOTES : Disposable shoulder-fired anti-armor weapon.

FINLAND

M-55

SPEED : 11
IA : 16
CALIBER : 55mm
LENGTH : 1240mm
WEAPON WEIGHT : 8.5 kg
ROUND WEIGHT : 2.5 kg
RANGE : 200m
PENETRATION : 200mm (armor)
NOTES : RPG-styled reloadable anti-armor weapon of more elaborate construction.

FRANCE

LRAC-89

SPEED : 11
IA : 18
CALIBER : 88.9mm
LENGTH : 1600mm
WEIGHT : 8.2 kg

AT Round
RANGE : 600m
PENETRATION : 400mm (armor), 1300mm (concrete)

AP/AV Round
ATTACK NR : 6
DD : 24
BURST RADIUS : 30m
DMG TYPE : Puncture
RANGE : 600m
PENETRATION : 100mm (armor)

Smoke Round
RANGE : 450m
SMOKE DUR. : 35 sec

Illumination Round
RANGE : 450m
ILLIMINATION : 300,000 candela
DURATION : 30 sec
Wasp-58

SPEED : 8
IA : 14
LENGTH : 800mm
WEIGHT : 3 kg
RANGE : 300m
PENETRATION : 700mm (armor)
NOTES : Disposable anti-armor weapon that uses the countershot method.

DARD-120

SPEED : 11
IA : 18
LENGTH : 1600mm
WEIGHT : 14 kg
RANGE : 300m
PENETRATION : 820mm (armor)
NOTES : This is a heavy reloadable anti-armor weapon that that is designed to defeat main battle tanks. An advanced sight is under development that adds 6 kg to weight and increases range to 600m

Eryx

SPEED : 10
IA : 11
LENGTH : 925mm
WEIGHT : 11 kg
RANGE : 25-600m (3.6 sec to max range)
PENETRATION : 900mm (armor)
NOTES : This is a man-portable shoulder fired wire-guided anti-tank missile. This is one of the few anti-tank missiles that can be fired from enclosed spaces.

MILAN 2

SPEED : 10
IA : 11
LENGTH : 769mm
WEIGHT : 6.65 kg
RANGE : 25-2000m
FLIGHT TIME : 13 sec (to max range)
PENETRATION : 1060mm (armor)
NOTES : One of the best and most common medium anti-tank missiles. Wire-guided.

APILAS

SPEED : 11
IA : 17
CALIBER : 112mm
LENGTH : 1290mm
WEIGHT : 9 kg
RANGE : 330m
PENETRATION : 700mm (armor), 2000mm (concrete)
NOTES : This is one of the new generation of heavy disposable anti-tank rockets.
**GERMANY**

**Panzerfaust 3**

- **SPEED**: 11
- **IA**: 16
- **CALIBER**: 110mm (There are also 90 and 125m HEAT rounds)
- **LENGTH**: 1200mm
- **WEIGHT**: 12kg
- **RANGE**: 300m (moving), 500m (stationary)
- **PENETRATION**: 700mm (armor) (110mm HEAT)
- **NOTE**: This is a shoulder fired reloadable RPG-type anti-armor weapon. There are also HESH, IR Smoke, Smoke, and Illumination rounds. With the addition of a infra-red sensor this is used as the Panzerfaust Off-route Mine System. German service.

**Armbrust (Crossbow)**

- **SPEED**: 10
- **IA**: 14
- **LENGTH**: 850mm
- **WEIGHT**: 6.3 kg
- **RANGE**: 300m
- **PENETRATION**: 300mm (armor)
- **NOTES**: This disposable anti-armor rocket is unique for the almost lack of signature (no flash or smoke, noise less than a pistol shot). It also uses the countershot method so it can be fired from enclosed spaces.

**ISRAEL**

**B-300**

- **Speed**: 11
- **IA**: 17
- **Caliber**: 82mm (the USMC version might be 84mm)
- **Length**: 1400mm
- **Weight**: 8 kg (loaded)
- **Range**: 400m
- **Penetration**: 400mm (armor)
- **NOTES**: A fairly typical example of modern rocket launchers, in which a sealed round is attached to the rear of the firing unit and discarded after firing. The USMC uses a modified version intended as a bunker buster as the SMAW.

**SPAIN**

**M65 Rocket Launcher**

- **SPEED**: 11
- **IA**: 18
- **CALIBER**: 88.9mm
- **LENGTH**: 1640mm
- **WEIGHT**: 8.5 kg (loaded)
- **RANGE**: 450m
- **PENETRATION**: 400mm (armor)
- **NOTES**: No info.
**C-90C**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>10</td>
</tr>
<tr>
<td>IA</td>
<td>14</td>
</tr>
<tr>
<td>Caliber</td>
<td>90mm</td>
</tr>
<tr>
<td>Length</td>
<td>840mm</td>
</tr>
<tr>
<td>Weight</td>
<td>3.9 kg</td>
</tr>
<tr>
<td>Range</td>
<td>400m</td>
</tr>
<tr>
<td>Penetration</td>
<td>400mm (armor), 1000mm (concrete)</td>
</tr>
</tbody>
</table>

**Notes:** This is a fair representative of the current generation of large caliber disposable anti-armor weapons.

**SWEDEN**

**Miniman**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>7</td>
</tr>
<tr>
<td>IA</td>
<td>14</td>
</tr>
<tr>
<td>Caliber</td>
<td>74mm</td>
</tr>
<tr>
<td>Length</td>
<td>900mm</td>
</tr>
<tr>
<td>Weight</td>
<td>2.9 kg</td>
</tr>
<tr>
<td>Range</td>
<td>150m</td>
</tr>
<tr>
<td>Penetration</td>
<td>340mm (armor)</td>
</tr>
</tbody>
</table>

**Notes:** One of the older generation of smaller caliber disposable weapons.

**AT-4**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>10</td>
</tr>
<tr>
<td>IA</td>
<td>15</td>
</tr>
<tr>
<td>Caliber</td>
<td>84mm</td>
</tr>
<tr>
<td>Length</td>
<td>1000mm</td>
</tr>
<tr>
<td>Weight</td>
<td>6 kg</td>
</tr>
<tr>
<td>Range</td>
<td>300m</td>
</tr>
<tr>
<td>Penetration</td>
<td>See notes</td>
</tr>
</tbody>
</table>

**Notes:** The AT4 fulfils all the fighting man's requirements for a light, effective, preloaded, weapon. It is rugged, easy to use and functions in all environments. With its high hit probability and specially developed behind armour effect the AT4 is an anti-armour system to be reckoned with.

The AT4 consists of the basic disposable weapon that can be preloaded with any of the following warheads:

- **HEAT** with a penetration capability in excess of 420 mm and devastating behind armour effect.
- **HEDP** for anti-armour, support and for knocking out the enemy in buildings, bunkers or fortifications. This unique warhead can be set to impact action or delayed action.
- **HP** high penetration warhead for defeating tanks with 500-600 mm armour.

The AT4 CS can be fired from confined spaces and fitted with an HP warhead. It is extremely effective in urban warfare.

**RBS-56 BILL-2**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>11</td>
</tr>
<tr>
<td>IA</td>
<td>11</td>
</tr>
<tr>
<td>Diameter</td>
<td>150mm</td>
</tr>
<tr>
<td>Length</td>
<td>900mm</td>
</tr>
<tr>
<td>Weight (firing unit)</td>
<td>27 kg</td>
</tr>
<tr>
<td></td>
<td>16 kg (missile)</td>
</tr>
<tr>
<td></td>
<td>11 kg (sight unit)</td>
</tr>
<tr>
<td>Range</td>
<td>150-2000m</td>
</tr>
<tr>
<td>Flight Time</td>
<td>200 m/s</td>
</tr>
<tr>
<td>Penetration</td>
<td>approx 525mm (armor)</td>
</tr>
</tbody>
</table>

**Notes:** The BILL-2 man-portable, anti-tank missile system can defeat any MBT on the battlefield and will be just as effective on the battlefields of the future. It has an effective range of 150-2200m, refined overfly top-attack (OTA) technology, gained from the highly successful BILL-1, and double warhead arrangement with interacting shaped charge warheads. By utilizing an advanced sensor system that either recognizes the turret or centre of the target and determines the exact position for the two vertically fired warheads to ignite, BILL attacks the weakest point, destroying the add-on armour protection and the complex main armour.
**M3 Carl Gustav**

- **SPEED**: 11
- **IA**: 16
- **CALIBER**: 84mm
- **LENGTH**: 1130mm
- **WEIGHT**: 9 kg (unloaded)
- **NOTE**: The most widespread western recoilless rifle, which has been around for decades and is used by most everyone. There are also HE, DP, Smoke and Illuminating ammunition.

**84mm HEAT**

- **WEIGHT**: 2.6 kg
- **RANGE**: 450m
- **PENETRATION**: 400mm (armor)
- **NOTES**: This is the standard anti-armor warhead for the Carl Gustav range of weapons.

**84mm FFV597 HEAT**

- **MOD. LENGTH**: 1500mm
- **WEIGHT**: 9.5 kg
- **RANGE**: 300m
- **PENETRATION**: 900mm (armor)
- **NOTES**: This is a new heavy rocket boosted anti-armor round intended to go against MBTs. The rocket booster is loaded into the rear of the weapon like other rounds, but the oversized warhead (120mm) is loaded from the front and connected internally.

**USSR**

**RPG-2**

- **SPEED**: 11
- **IA**: 18
- **DIAMETER**: 40mm (launch tube), 82mm (warhead)
- **LENGTH**: 1494mm
- **WEIGHT**: 4.67 kg (loaded)
- **PROJECTILE WEIGHT**: 2.25kg
- **RANGE**: 150m (moving target), 500m (stationary target)
- **PENETRATION**: 180mm (armor)
- **NOTES**: This is the first Soviet RPG and was developed directly from the German Panzerfaust of WW2.

**RPG-7V**

- **SPEED**: 11
- **IA**: 17
- **DIAMETER**: 40mm (launch tube), 85mm (warhead)
- **LENGTH**: 1400mm
- **WEIGHT**: 7kg
- **PROJECTILE WEIGHT**: 2.25kg
- **RANGE**: 300m (moving target), 500m (stationary target)
- **PENETRATION**: 330mm (armor)
- **NOTES**: The RPG-7 is the most common anti-armor weapon in the world. The V variant is simply an updated version.

**RPG-18**

- **SPEED**: 10
- **IA**: 15
- **CALIBER**: 64mm
- **LENGTH**: 1000mm
- **WEIGHT**: 2.7 kg
- **RANGE**: 200m
- **PENETRATION**: 375mm (armor)
- **NOTES**: This appears to be a Russian copy of the M72 LAW.
SPG-9

SPEED : 11  
IA : 20  
CALIBER : 73mm  
WEIGHT : 59.5 kg  
LENGTH : 2110mm  
RANGE : 1300m  
PENETRATION : 390mm (armor)  
NOTES : A widely distributed recoilless rifle that is crew served and thanks to its long range is often used in bombardments.

AT-4 Sagger

SPEED : 10  
IA : 11  
WEIGHT : 11.3 kg  
LENGTH : 880mm  
RANGE : 300m  
PENETRATION : 400mm (armor)  
NOTES : One of the first man-portable anti-armor guided missiles. Uses a very early guidance system where the user actually maneuvered the round onto the target (modern wire guided missiles simply require the user to keep the crosshairs on the target and the computer makes course corrections).

AT-4 Spigot

SPEED : 11  
IA : 11  
WEIGHT : 40 kg  
LENGTH : 2500m  
FLIGHT TIME : 200 m/s  
PENETRATION : 600mm (armor)  
NOTES : This appears to be a copy of the Milan. Wire-guided.

United Kingdom

LAW-80

SPEED : 11  
IA : 18  
CALIBER : 94mm  
LENGTH : 1000mm (folded) / 1500mm (firing position)  
WEIGHT : 9.6 kg (carrying configuration) / 8.8 kg (firing configuration)  
MIN RANGE : 20m  
MAX RANGE : 500m  
PENETRATION : 650mm (armor)  
NOTES : One of the most extreme of the large caliber disposable anti-armor weapons. A sporting rifle is used with the system, which contains five rounds – any one of which can be fired without revealing position. The 9mm ammunition used is matched ballistically to the main projectile marked by a tracer and by flash head to record a hit on the hard target. The operator can select and fire the main projectile at any time.

USA

M18A1

SPEED : 11  
IA : 18  
CALIBER : 57mm  
LENGTH : 1564mm  
WEIGHT : 20.15 kg  
RANGE : 450m  
PENETRATION : approx 250mm (armor)  
NOTES : This is a small caliber recoilless rifle. Has not been produced in the US in decades, but exact copies are made in China and several South American countries.
M72A3 LAW

SPEED : 6
IA : 14
CALIBER : 66mm
LENGTH : 893mm
WEIGHT : 2.36 kg
RANGE : 150m
PENETRATION : 305mm (armor)
NOTES : The first and most widespread of the disposable anti-armor weapons. More often used against fortifications than vehicles.

M20 Super Bazooka

SPEED : 11
IA : 18
CALIBER : 89mm
LENGTH : 1549mm
WEIGHT : 9.5kg
RANGE : 110m
PENETRATION : approx 350mm (armor)
NOTES : Entering service shortly after WW2 this rocket launcher is simple, rugged, and still widely encountered in the third world.

M47 Dragon

SPEED : 11
IA : 16
LENGTH : 1154mm
WEIGHT : 13.8 kg
RANGE : 1000m
FLIGHT TIME : 100 m/s
PENETRATION : approx 500mm (armor)
NOTES : This is the US medium anti-armor weapon. Unique in that instead of using a sustainer engine and maneuver fins, it uses a series of maneuver rockets that are fired as maneuver commands are sent. Generation 3 rounds in current service weight 21.5 kg, have a range of 1500m

M202A1 FLASH

SPEED : 10
IA : 30
ROF : 2
CALIBER : 66mm
LENGTH : 670 / 880 mm
WEIGHT (UNLOADED) : 5.2 kg
NOTES : The M202A1 is intended as a replacement for the M9A1-7 and other flamethrowers. Using a four-round clip and having four tubes the M202A1 can place an incendiary rocket up to 750 m away one rocket each second. The danger space of the backblast area is 15 meters long and 15 meters wide at its base.

M74 Incendiary Rocket

TYPE : Bursting Type Incendiary Rocket
ATTACK NR : 4
BURST RADIUS : 20 m
DEL DAMAGE : 18
DMG TYPE : Burn
BURN TIME : 8-9 seconds
MIN RANGE : 9 m
MAX RANGE : 750 m
WEIGHT : 6.85 kg (4-round clip)
NOTES : This is the standard round for the M202A1 FLASH. On impact with the target, the detonator fires a burster which ruptures the casing of the warhead, spraying the filler over the burst radius. The filler consists of TPA (TriethylaluminumPyrophoricAgent) which ignites spontaneously on exposure of air and burns with an temperature of 1000 degrees C.
**M96 CS Rocket**

**TYPE:** Bursting Type CS Gas Rocket  
**EFFECT:** Spreads powdered CS agent over area creating a large dust cloud.  
**AREA OF EFFECT:** 12m burst radius  
9 x 64m cloud downwind  
**MIN RANGE:** 9 m  
**MAX RANGE:** 750 m  
**WEIGHT:** 7 kg (4-round clip)  
**NOTES:** The base detonating fuze arms after launch and detonates on impact. When the fuze fires, a burster ruptures the warhead spreading the CS dust in a large cloud.

**TOW**

**SPEED:** 11  
**IA:** 11  
**LENGTH:** 1675mm  
**WEIGHT:** 25.7 kg (missile)  
93 kg (launcher)  
**RANGE:** 3750m  
**FLIGHT TIME:** 200 m/s  
**PENETRATION:** approx 850mm (armor)  
**NOTES:** Tube-launched, Optically sighted, Wire-guided. This is the west’s standard heavy anti-armor missile. Barely man portable, this is primarily a vehicle mounted system.

**M67 Recoilless Rifle**

**SPEED:** 11  
**IA:** 26  
**SIGHT:** M103 3x Telescopic sight  
**CALIBER:** 90 x 414mmR  
**WEAPON LENGTH:** 135cm  
**RANGE:** See Ammo  
**WEIGHT:** 15.9kg  
**NOTES:** The M76 is the largest shoulder fired recoilless rifle produced in the United States. In use since the 1950’s for antitank purposes, the M67 has been replaced for that job by the wire guided missile, specifically, the M47 Dragon. The danger area of the M67 is cone shaped. The blast spreads out in a 120 degrees cone 25m long and 50m wide. It can be carried by one man but is normally used by a two man crew, one acting as the gunner and the other as the loader.

**M371 HEAT**

**TYPE:** High Explosive Antitank Shell  
**EFFECT:** Heavy Steel Penetration, Secondary Blast and Fragmentation  
**ATTACK NR:** 3  
**DD:** 24  
**DMG TYPE:** Puncture  
**PENETRATION:** 200mm+ (armor)  
**MIN RANGE:** 20m  
**MAX RANGE:** 2100m  
**WEIGHT:** 4.2kg

**M591 HE**

**TYPE:** High Explosive Fragmentation Shell  
**ATTACK NR:** 7  
**DD:** 24  
**BURST RADIUS:** 35m  
**DMG TYPE:** Puncture  
**MIN RANGE:** 30m  
**MAX RANGE:** 2100m  
**WEIGHT:** 6kg
30mm ASP

CALIBER : 30 x 113mmB
AMMUNITION : M789 HEDP, M799 HEI
TYPE OF FIRE : Selective
ROF : 4 / 7
SPEED : 11
IA : 26
SIGHT : None
DEL DAMAGE : See Ammo
PENETRATION : See Ammo
MIN RANGE : 150m
MAX RANGE : 4000m
FEED : Flexible Disintegrating Metal Link (M29)
MAGAZINE : 80 rnd belt
OVERALL LENGTH : 202.7cm
WEIGHT : 48 kg
NOTES : The ASP in an automatic, self powered machine cannon firing 30mm shells and capable of being mounted on any mounting that will accept the M2HB machinegun, including the M3 tripod. The ASP uses the same 30mm ammunition developed for the M230 Chain Gun used in the Apache Gunship. There is no integral sight on the weapon and sighting systems are mounted as needed.

McDonnell-Douglas has developed a variable, reflex sight for it (IA +5).

M789 HEDP

TYPE : High Explosive Dual Purpose Armor Penetrating Cannon Shell
EFFECT : Blast and Fragmentation w/ Steel Penetration
ATTACK NR : 2
BLAST RADIUS : 10m
DD : 24
DMG TYPE : Puncture
PENETRATION : 70mm + (armor)
WEIGHT : 33kg (80 rnd belt)
NOTES : 

M799 HEI

TYPE : High Explosive Incendiary Cannon Shell
EFFECT : Blast and Fragmentation w/ Incendiary Effect
ATTACK NR : 3
BLAST RADIUS : 15m
DD : 18
DMG TYPE : Burn
WEIGHT : 33 kg (80 rnd belt)
NOTES : The incendiary effect is obtained by mixing a powdered pyrophoric metal with the explosive. When the fuze detonates the filler on impact with the target, the shell casing is shattered, providing the antipersonel fragments. The heat of the explosion ignites the metallic particles mixed in with it and drives the burning particles out with the shock wave.