

## APPENDIX F

## NATO HAND GRENADES

This appendix provides general information on NATO hand grenade identification, functions, and capabilities. The North Atlantic Treaty Organization nations have an extensive inventory of grenades. This appendix describes only the more common grenades that the United States soldier might encounter during joint operations.

## Section I. NETHERLANDS

## F-1. NR17

Type: fragmentation, offensive.

Weight: 475 grams.

Length: 125 millimeters.

Diameter: 56 millimeters.

Body Material: plastic.

Filler Weight: 205 grams.

Filler Material: high explosive.

Fuze Type: pyrotechnic delay.

Fuze Delay: 5 seconds.

Range Thrown: 30 to 40 meters.

Effective Radius: 5 meters.

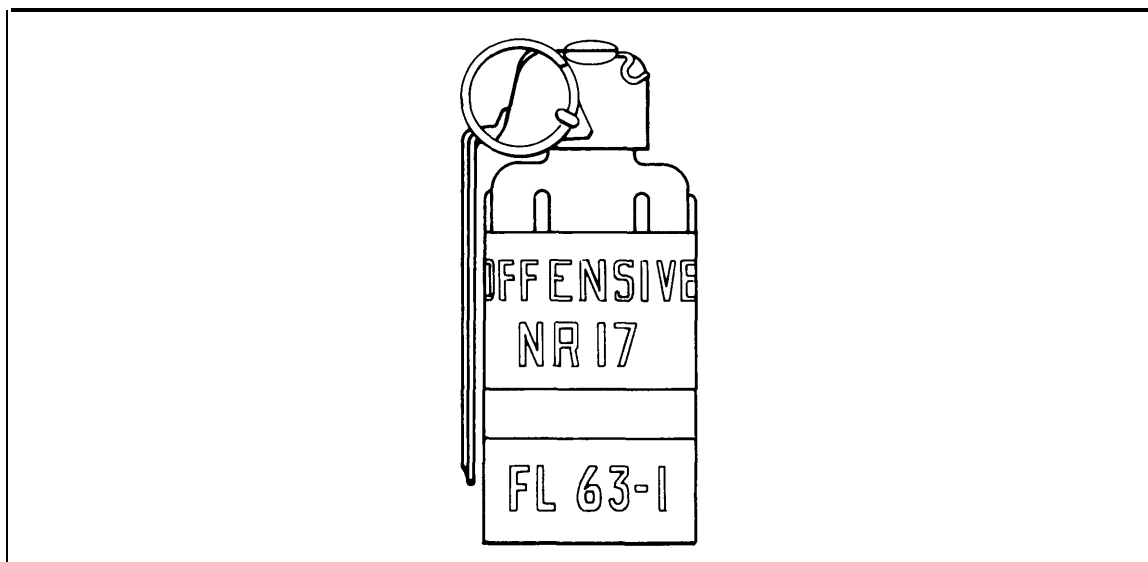


Figure F-1. NR17.

F-2. NR13C1

Type: fragmentation, offensive.

Weight: 475 grams.

Length: 143 millimeters.

Diameter: 54 millimeters.

Body Material: steel.

Filler Weight: 225 grams.

Filler Material: high explosive.

Fuze Type: pyrotechnic delay.

Fuze Delay: 5 seconds.

Range Thrown: 30 meters.



Figure F-2. NR13C1.

F-3. MARK 2

Type: fragmentation.

Weight: 630 grams.

Length: 114 millimeters.

Diameter: 57 millimeters.

Body Material: cast iron.

Filler Weight: 55 grams.

Filler Material: TNT powdered.

Fuze Type: pyrotechnic delay.

Fuze Delay: 3 seconds.

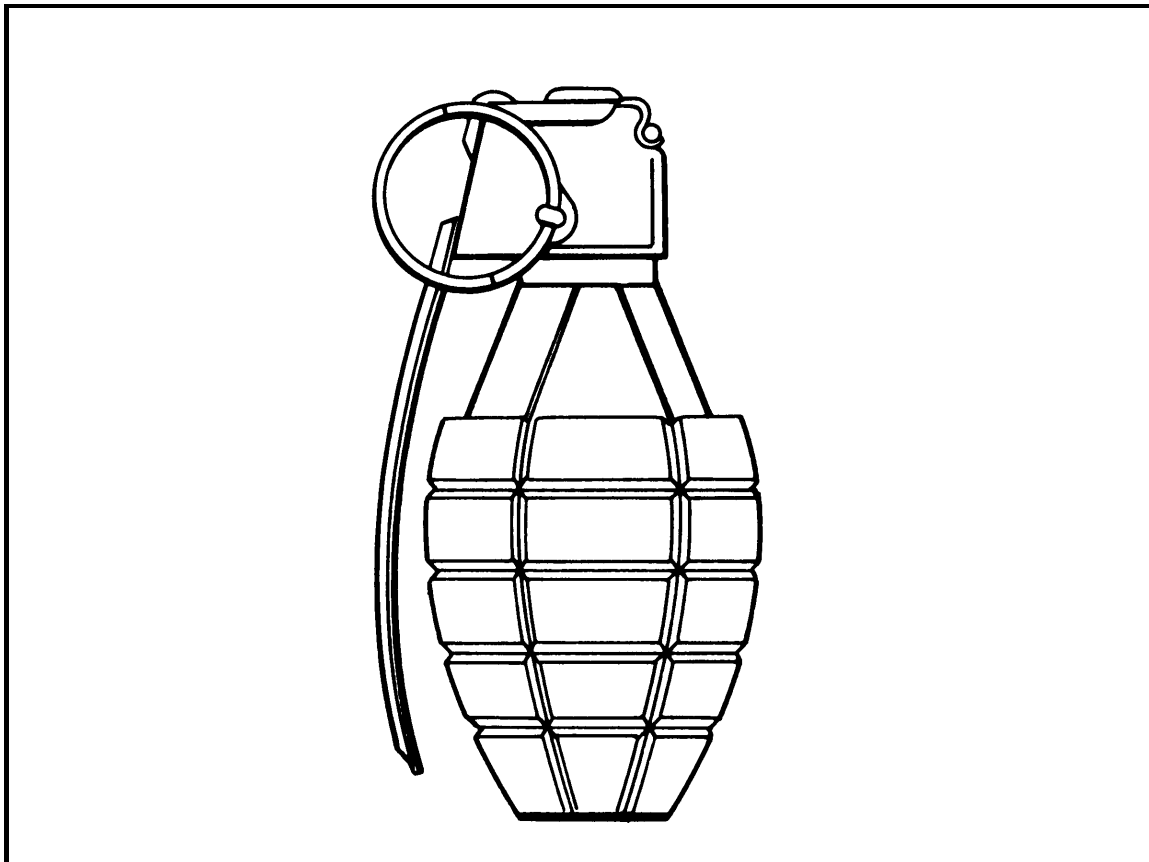


Figure F-3. Mark 2.

F-4. NR1C1

Type: fragmentation.

Weight: 60 grams.

Length: 122 millimeters.

Diameter: 56 millimeters.

Body Material: cast iron.

Filler Weight: 55 grams.

Filler Material: TNT powdered.

Fuze Type: pyrotechnic delay.

Fuze Delay: 3 seconds

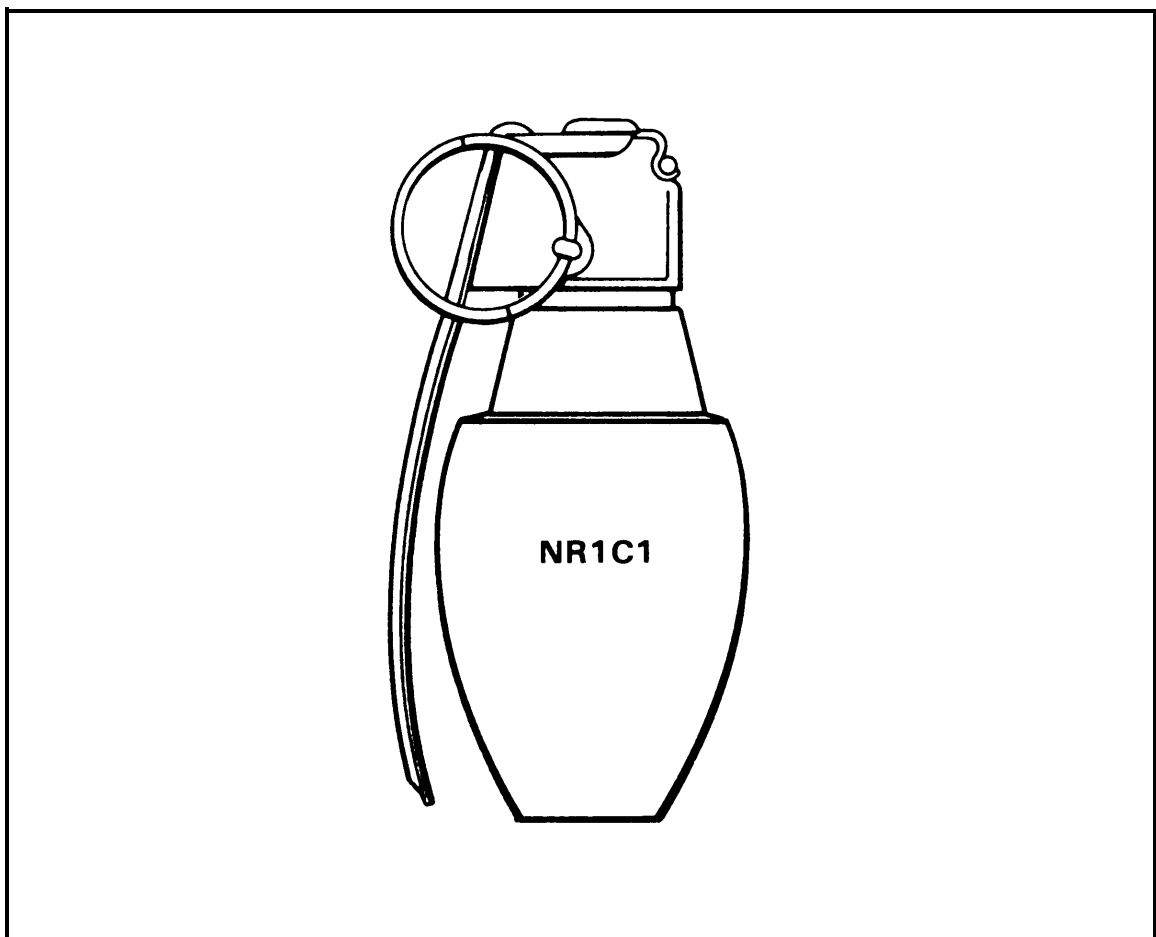


Figure F-4. NR1C1.

F-5. JNS 62-65

Type: smoke.

Weight: 660 grams.

Length: 151 millimeters.

Diameter: 63 millimeters.

Body Material: tinned steel.

Filler Weight: 405 grams.

Filler Material: colored smoke.

Fuze Type: delay

Fuze Delay: 2 to 3 seconds.

Burn Time: 1 to 2 minutes.

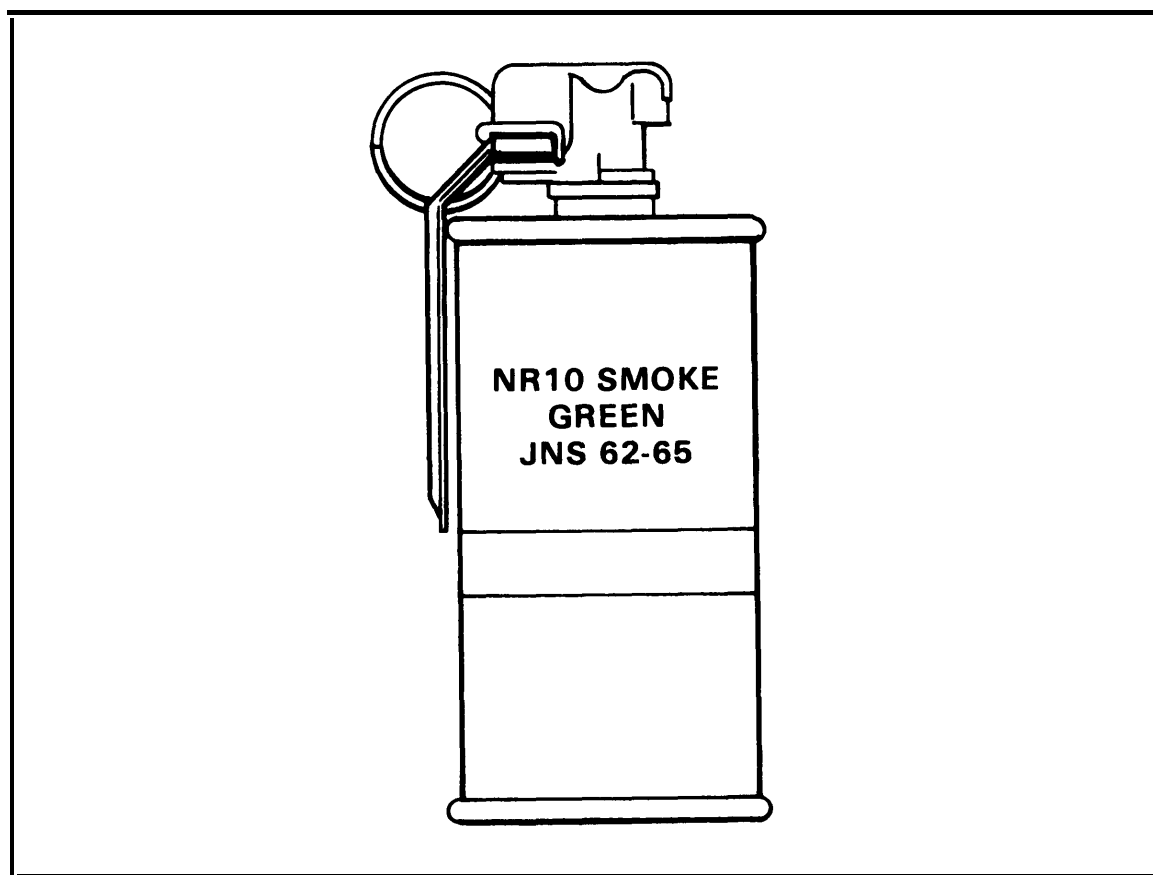


Figure F-5. JNS 62-65.

F-6. NR12

Type: incendiary

Weight: 735 grams

Length: 153 millimeters.

Diameter: 63 millimeters.

Body Material: tinned steel.

Filler Material: thermite.

Fuze Type: delay.

Fuze Delay: 2 seconds.

Range Thrown: 40 meters.

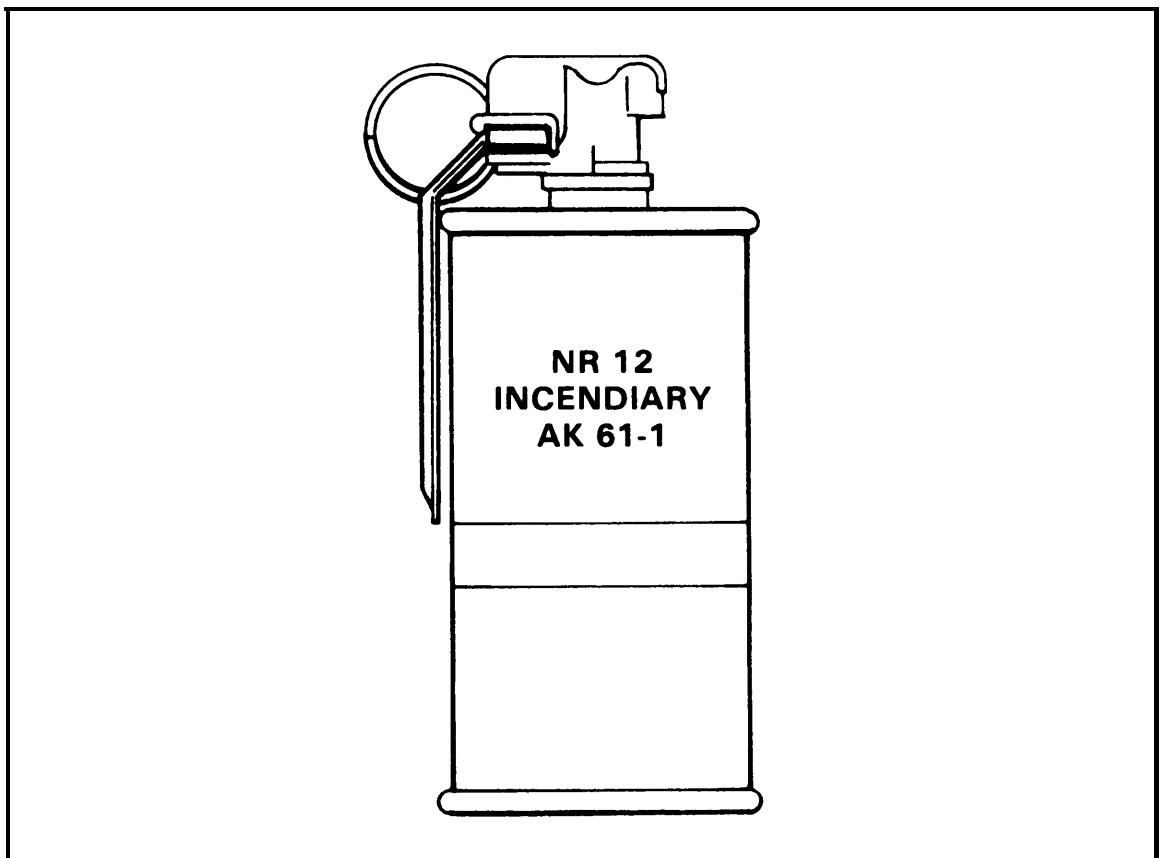


Figure F-6. NR12.

F-7. NR16

Type: smoke.

Weight: 284 grams.

Length: 101 millimeters.

Diameter: 50 millimeters.

Body Material: tinned steel.

Filler Weight: 180 grams.

Filler Material: white phosphorus.

Fuze Type: delay.

Fuze Delay: 4 seconds.

Range Thrown: 37 meters.

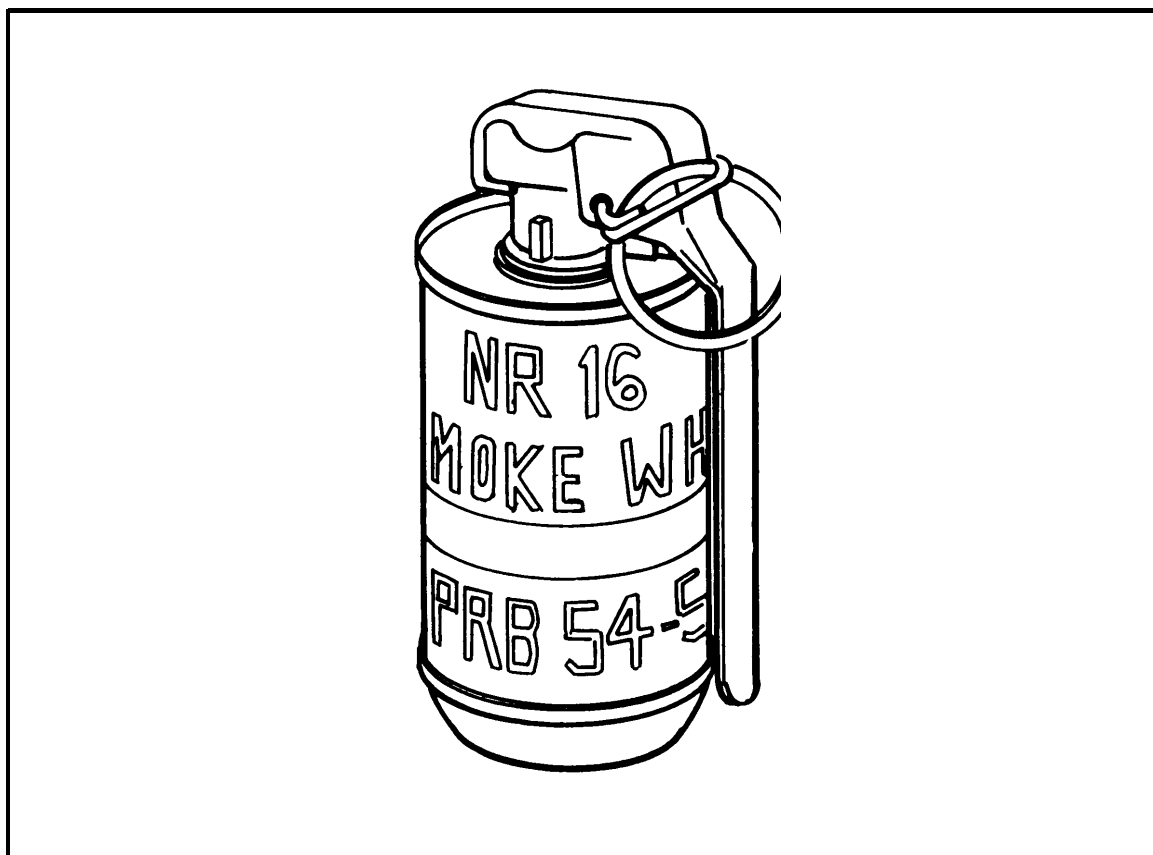


Figure F-7. NR16.

F-8. NR20C1

Type: fragmentation.

Weight: 380 grams.

Length: 104.5 millimeters.

Diameter: 62 millimeters.

Body Material: plastic.

Filler Weight: 145 grams.

Filler Material: composition B.

Fuze Type: 19C3 delay.

Fuze Delay: 3.5 seconds  $\pm$  0.5 second.

Effective Radius: 15 meters.



Figure F-8. NR20C1.



Section II. GERMANY

F-9. DM 24/68

Type: incendiary smoke.

Weight: 340 grams.

Length: 133 millimeters.

Diameter: 67 millimeters.

Body Material: plastic.

Filler Weight: 255 grams.

Filler Material: red phosphorus.

Fuze Type: impact.

Fuze Delay: none.

Burn Time: 5 minutes.

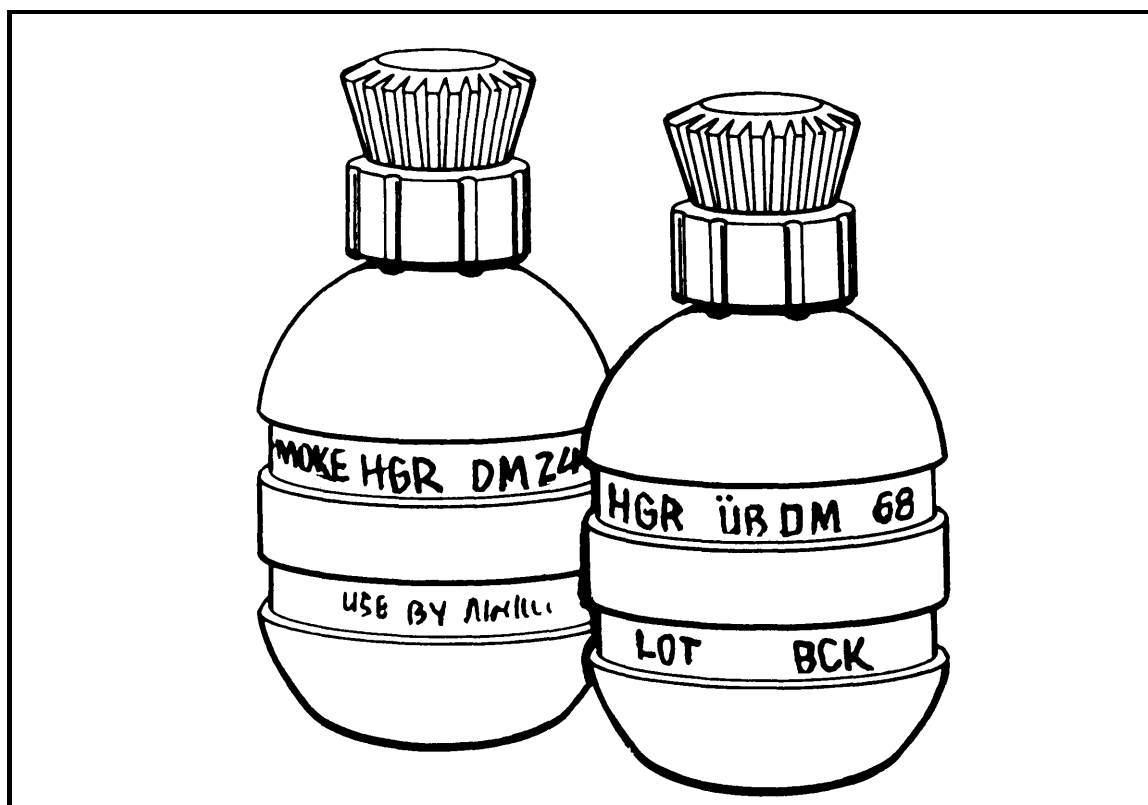


Figure F-9. DM 24/68.

F-10. HC DM 15

Type: smoke.

Weight: 1,200 grams.

Length: 175 millimeters.

Diameter: 76 millimeters.

Body Material: metal.

Filler Weight: 880 grams.

Filler Material: hexachlorethane.

Fuze Type: mechanical ignition.

Fuze Delay: 2.5 seconds after ignition.

Burn Time: 2.5 minutes.



Figure F-10. HC DM 15.

F-11. M-DN 11

Type: fragmentation, defensive.

Weight: 470 grams.

Body Material: plastic.

Filler Weight: 42.5 grams.

Filler Material: plasticised nitropenta.

Fuze Type: delay.

Fuze Delay: 4 seconds.

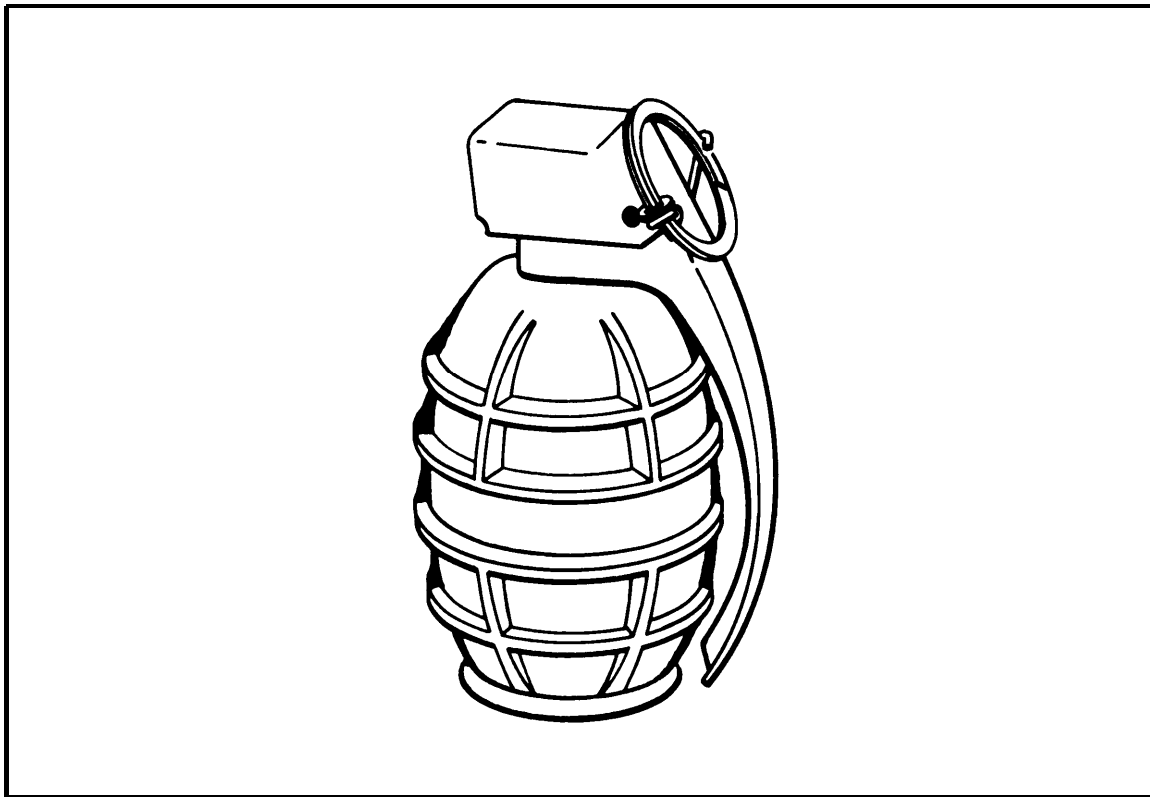


Figure F-11. M-DN 11.

Section III. BELGIUM

F-12. 35X65 MECAR

Type: fragmentation, defensive.

Weight: 230 grams.

Length: 88 millimeters.

Diameter: 35 millimeters.

Body Material: metal.

Filler Weight: 73 grams.

Filler Material: composition B.

Fuze Type: delay.

Fuze Delay: 4 seconds.

Range Thrown: 40 meters.

Effective Radius: 10 meters.

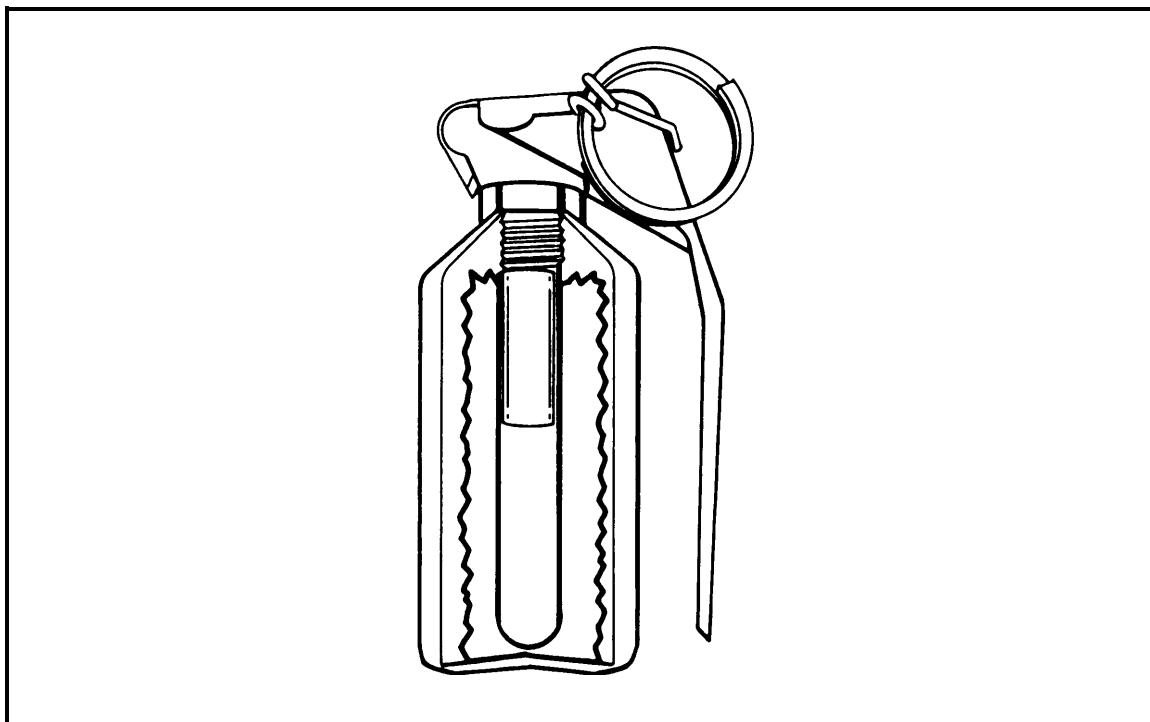


Figure F-12. 35X65 MECAR.

Section IV. UNITED KINGDOM

F-13. 36M

Type: antipersonnel.

Weight: 962 grams.

Length: 84 millimeters.

Diameter: 60 millimeters.

Body Material: cast iron.

Filler Weight: 774 grams.

Filler Material: TNT.

Fuze Type: delay.

Fuze Delay: 7 seconds.

Range Thrown: 25 meters.

Effective Radius: 10 meters.

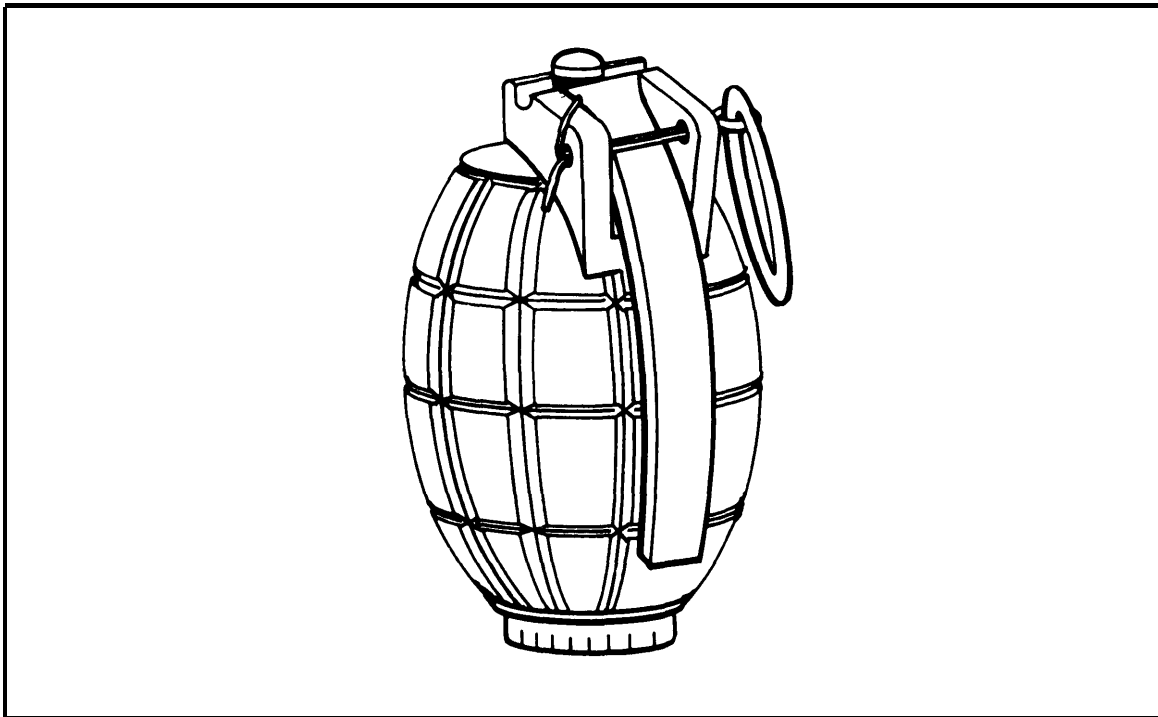


Figure F-13. 36M.

F-14. 80 WP MARK 1

Type: combat.

Weight: 485 grams.

Length: 136 millimeters.

Diameter: 65 millimeters.

Body Material: tinned plate.

Filler Weight: 11 1/4 ounces.

Filler Material: white phosphorus.

Fuze Type: 75 Mark 2 detonator.

Fuze Delay: 2.5 to 4 seconds.

Range Thrown: 15 to 20 meters.

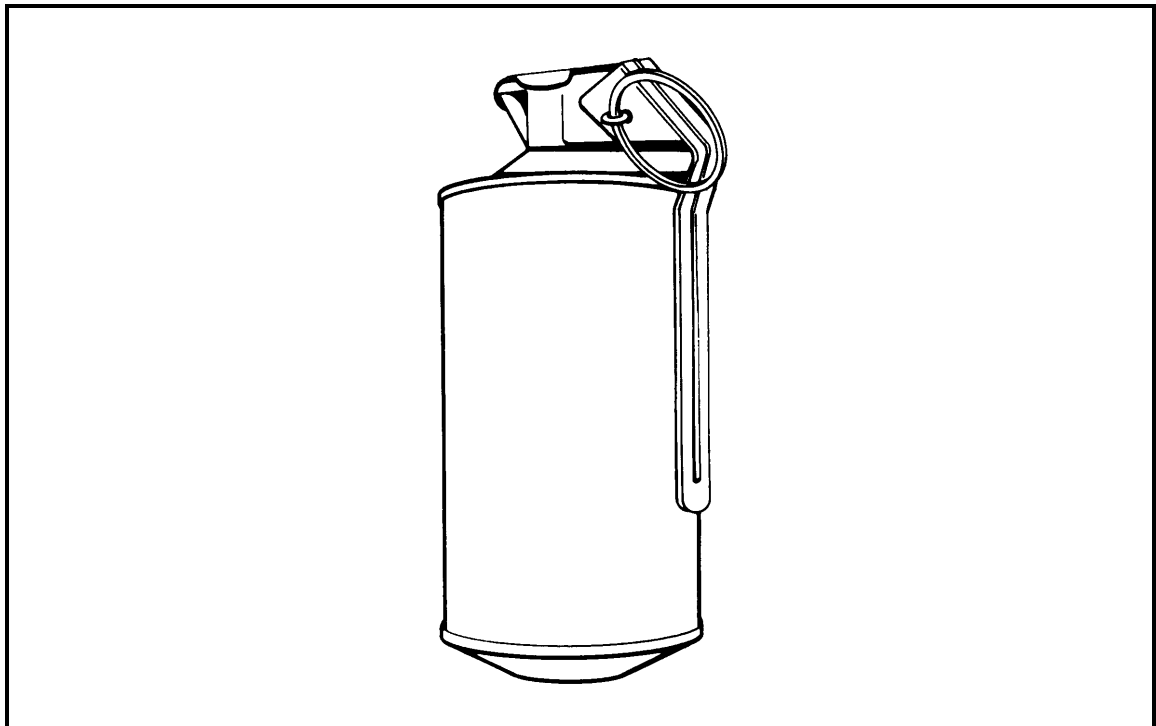


Figure F-14. 80 WP Mark 1.

F-15. PC1

Type: practice.

Weight: 265 grams.

Length: 95 millimeters.

Diameter: 56 millimeters.

Body Material: soft plastic.

Filler Weight: 80 grams.

Filler Material: white powder.

Fuze Type: delay.

Fuze Delay: 4.4 seconds  $\pm$  0.5 second.

Range Thrown: 40 meters.

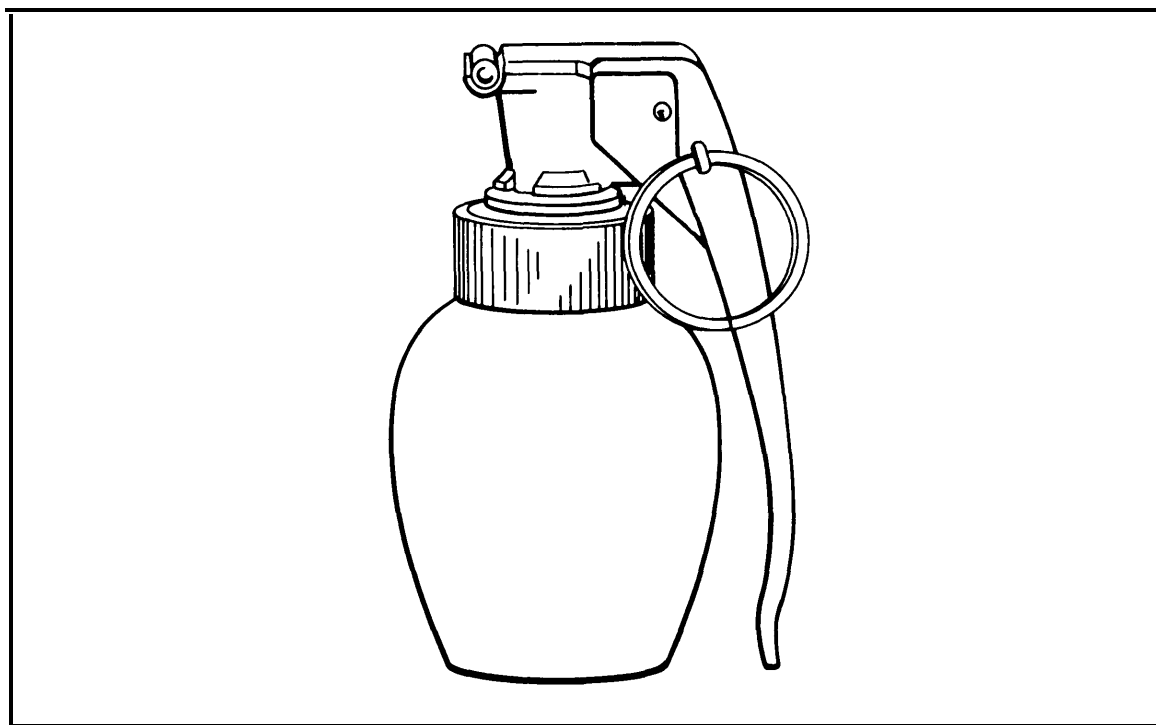


Figure F-15. PC1 practice grenade.

F-16. L2A2

Type: antipersonnel.

Weight: 395 grams.

Length: 84 millimeters.

Diameter: 60 millimeters.

Body Material: thin sheet metal.

Filler Weight: 170 grams.

Filler Material: RDX/TNT.

Fuze Type: L25A6.

Fuze Delay: 4.4 seconds  $\pm$  0.5 second.

Range Thrown: 40 meters.

Effective Radius: 10 meters.

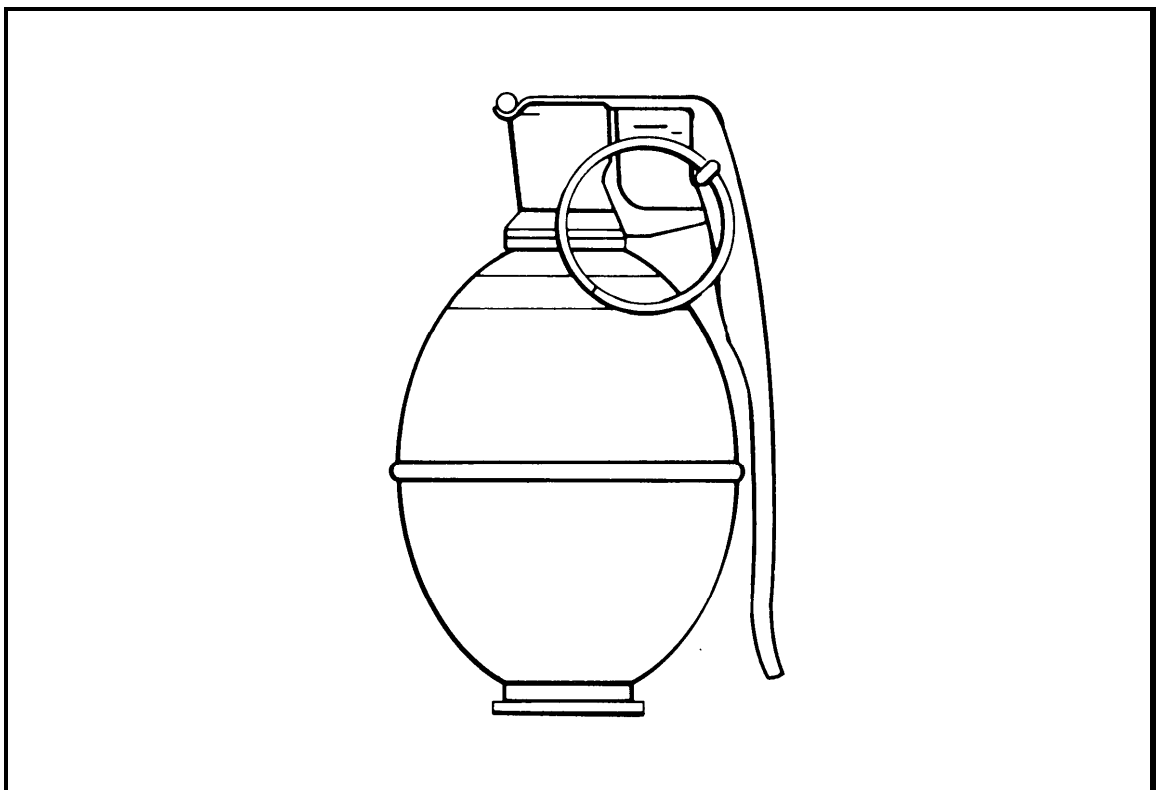


Figure F-16. L2A2.



F-17. CS 83

Type: riot control.

Weight: 445 grams.

Length: 135 millimeters.

Diameter: 60 millimeters.

Body Material: tin.

Filler Weight: 320 grams.

Filler Material: CS, gas.

Fuze Type: delay.

Fuze Delay: 2 to 4 seconds.

Range Thrown: 20 to 30 meters.

Burn Time: 20 to 25 seconds.

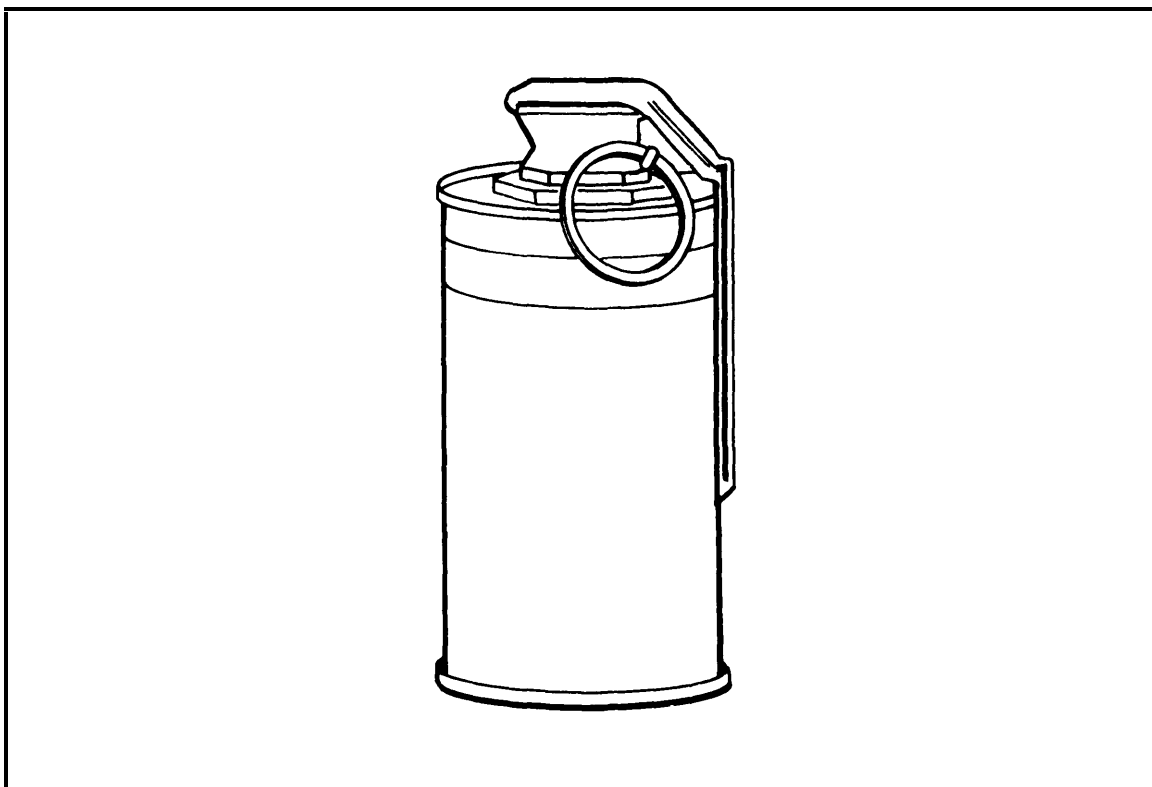


Figure F-17. CS 83.

F-18. RUBBER BURSTING CS

Type: riot control.

Weight: 630 grams.

Length: 175 millimeters.

Diameter: 60 millimeters.

Body Material: rubber.

Filler Weight: 480 grams.

Filler Material: CS pellets.

Fuze Type: short delay.

Fuze Delay: 2 to 4 seconds.

Range Thrown: 25 to 35 meters.

Burn Time: 20 to 25 seconds.

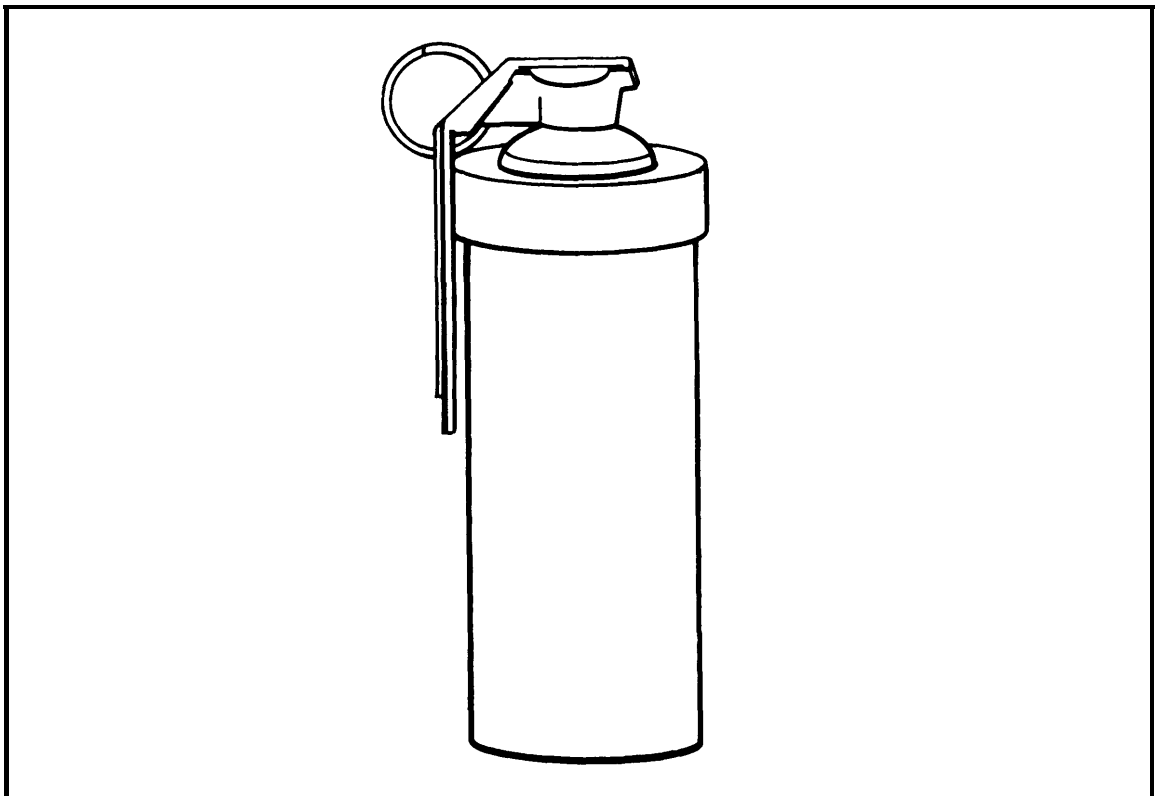


Figure F-18. Rubber bursting CS grenade.

Section V. AUSTRIA

F-19. ARGES HG 77

Type: fragmentation.

Weight: 480 grams.

Length: 96 millimeters.

Diameter: 65 millimeters.

Body Material: rigid plastic.

Filler Weight: 70 grams.

Filler Material: high explosive.

Fuze Type: delay.

Fuze Delay: 4 to 5 seconds.

Range Thrown: 45 meters.

Effective Radius: 10 meters.

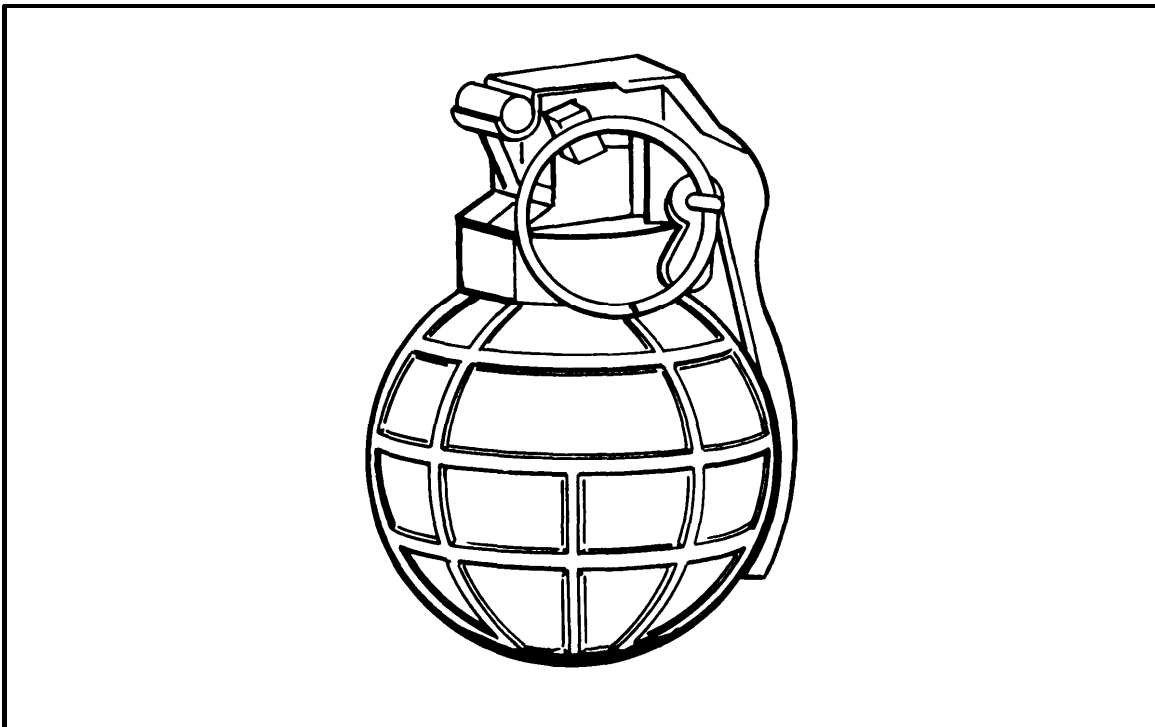


Figure F-19. Arges HG 77.

F-20. ARGES HG 78

Type: fragmentation (offensive and defensive).

Weight: 520 grams.

Length: 115 millimeters.

Diameter: 60 millimeters.

Body Material: plastic with steel core.

Filler Weight: 7 ounces.

Filler Material: high explosive.

Fuze Type: delay.

Fuze Delay: 4 seconds.

Range Thrown: 35 to 40 meters.

Effective Radius: 15 meters.

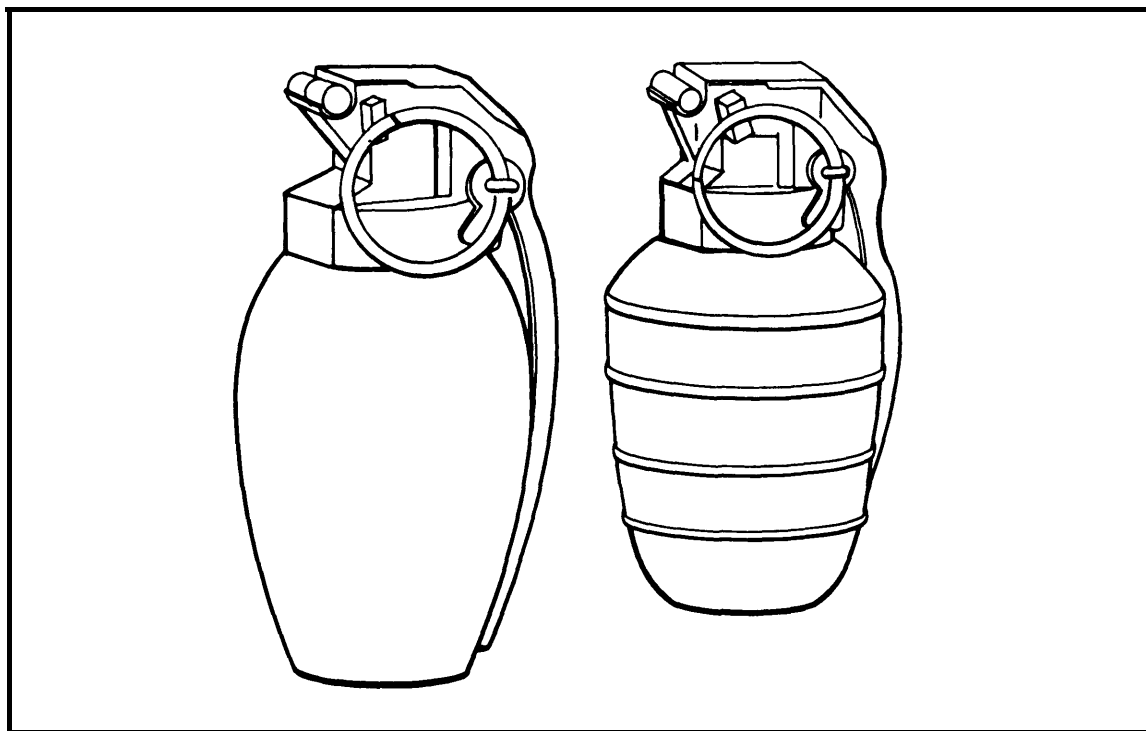


Figure F-20. Argos HG 78.

F-21. ARGES HG 79

Type: fragmentation.

Weight: 360 grams.

Length: 95 millimeters.

Diameter: 58 millimeters.

Body Material: plastic.

Filler Weight: 40 grams.

Filler Material: high explosive.

Fuze Type: delay.

Fuze Delay: 4 to 5 seconds.

Range Thrown: 45 meters.

Effective Radius: 10 meters.

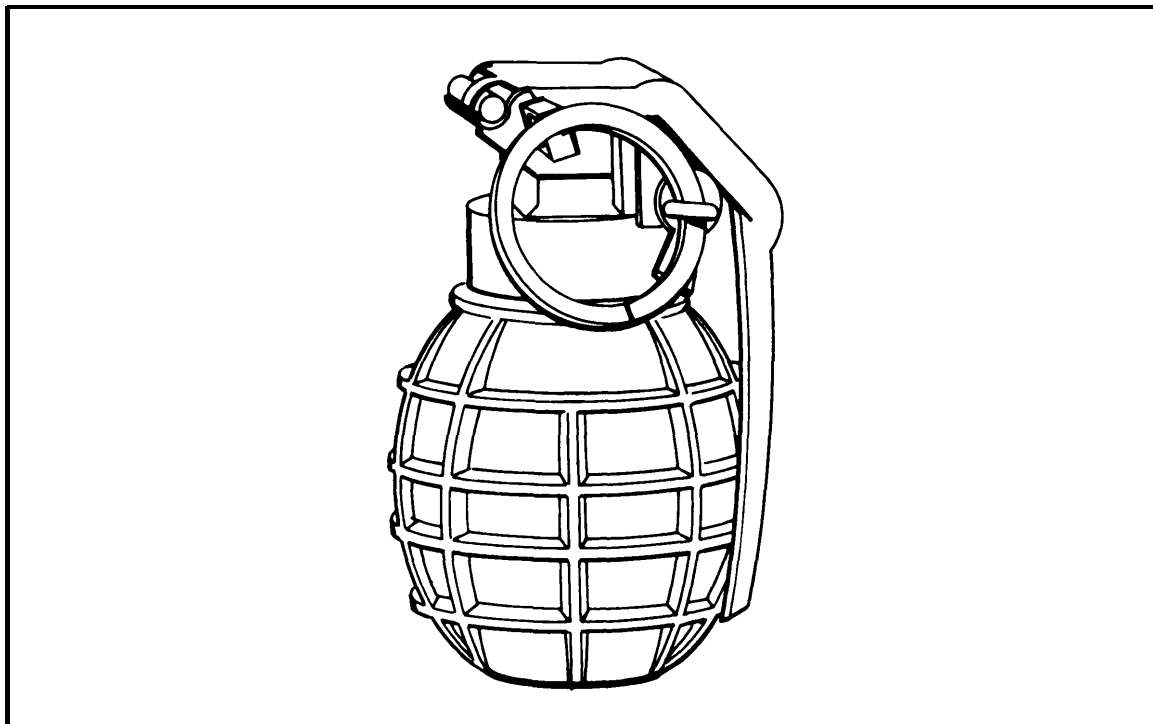


Figure F-21. HG 79.

F-22. ARGES HG 84

Type: fragmentation.

Weight:  $480 \pm 20$  grams.

Length:  $115 \pm 2$  millimeters.

Diameter:  $60 \pm 1$  millimeters.

Body Material: plastic.

Filler Weight:  $93 \pm 3$  grams.

Filler Material: high explosive.

Fuze Type: delay.

Fuze Delay: 4 seconds nominal.

Range Thrown: 35 to 40 meters.

Effective Radius: 15 meters.

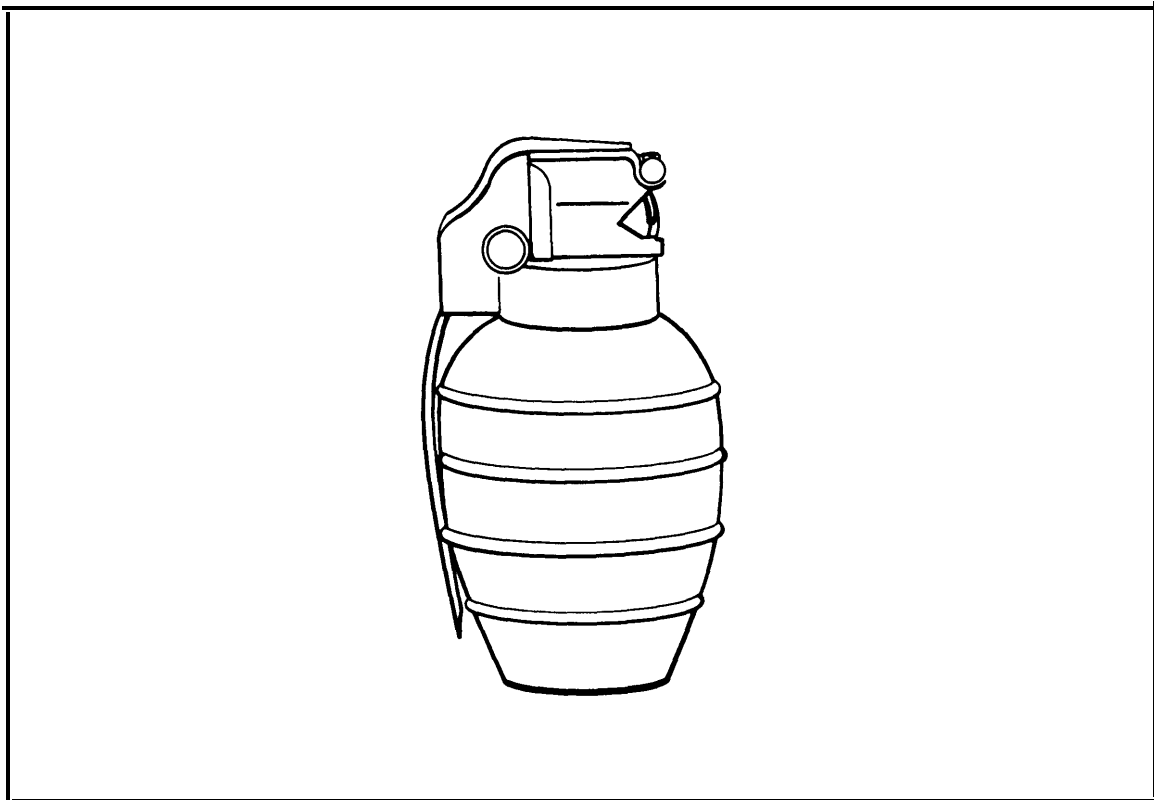


Figure F-22. Arges HG 84.

F-23. TYPE 72

Type: fragmentation.

Weight:  $485 \pm 30$  grams.

Length:  $115 \pm 2$  millimeters.

Diameter:  $60 \pm 1$  millimeters.

Body Material: rigid plastic.

Filler Weight:  $65 \pm 5$  grams.

Filler Material: high explosive.

Fuze Type: delay.

Fuze Delay:  $4 \pm 1.5$  seconds.

Range Thrown: 40 meters.

Effective Radius: 20 meters.

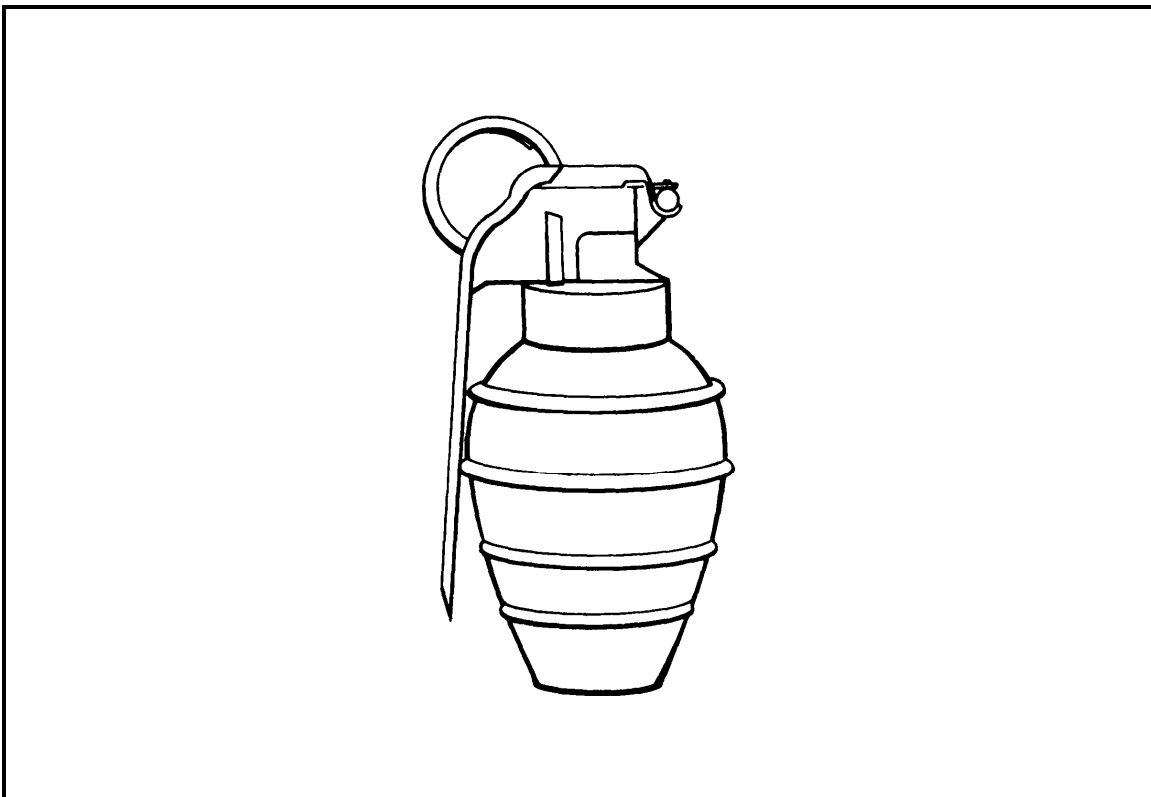


Figure F-23. Type 72.

F-24. TYPE 73

Type: fragmentation.

Weight:  $355 \pm 20$  grams.

Length:  $91 \pm 2$  millimeters.

Diameter:  $57 \pm 1$  millimeters.

Body Material: plastic.

Filler Weight:  $37 \pm 20$  grams.

Filler Material: high explosive.

Fuze Type: delay.

Fuze Delay:  $4 + 1.5 - 0.5$  seconds.

Range Thrown: 45 meters.

Effective Radius: 15 meters.

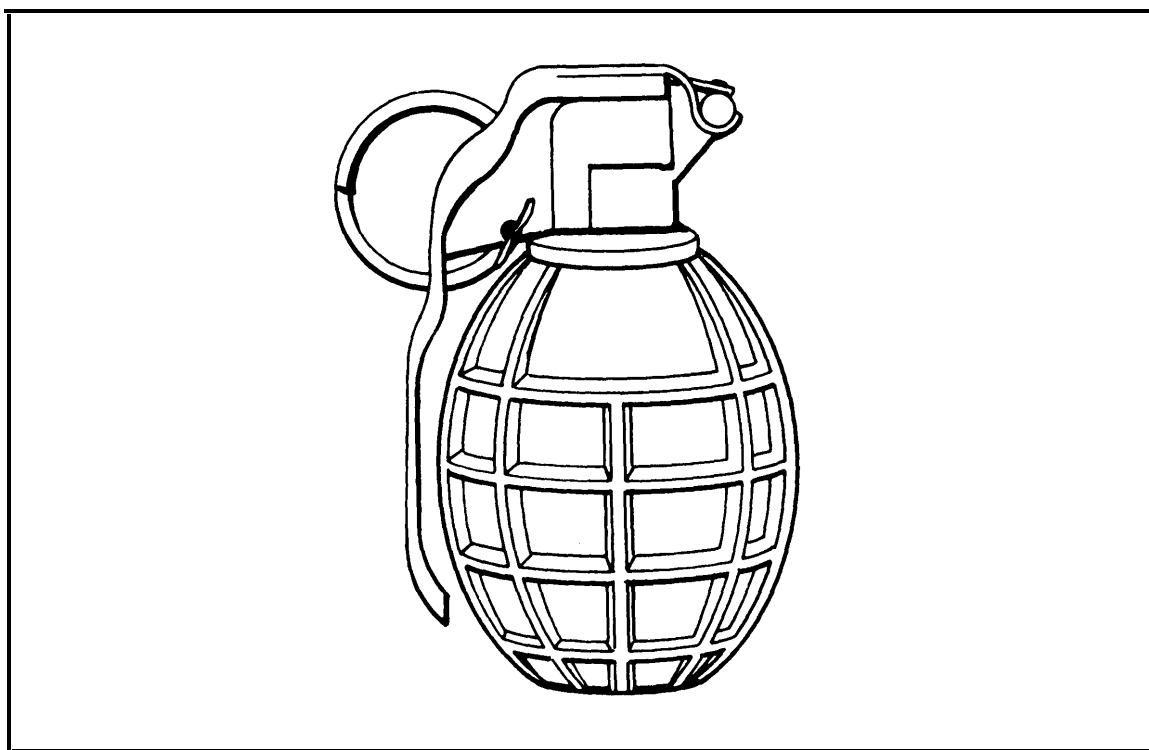


Figure F-24. Type 73.