

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S MANUAL
LAUNCHER AND GRENADES, SMOKE: HC AND WP, M176
FSN 1330-930-8945

Headquarters, Department of the Army, Washington, DC
10 February 1972

WARNING

The M176 grenade launcher contains one armed HC-filled smoke grenade and one armed WP-filled explosive smoke grenade.

DEATH

or severe injury may result if personnel fail to observe warnings.

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1. Scope

These instructions are for use by the operator. They apply to the Launcher and Grenades, Smoke: HC and WP, M176.

2. Record and Report Forms

a. Report accidents involving injury to personnel or damage to materiel as specified in AR 385-40.

b. Report accidents or malfunctions in combat or training as specified in AR 75-1.

c. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750.

d. The reporting of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding Officer, Edgewood Arsenal, ATTN. SMUEADE-ET, Edgewood Arsenal, Md.21010.

* This manual supersedes TM 3-1330-203-10, 1 April 1970.

3. Description

The M17; grenade launcher (fig. 1) consists of a cylindrical plastic tube (fig. 2), which houses one M225 cartridge, and a two-piece sabot assembly (cover and holder) which contains one M34 WP-filled smoke grenade and one AN-M8 HC-filled smoke grenade. The M176 grenade launcher provides a smoke screen for concealing tactical maneuvers of a vehicle. The bursting and incendiary actions of the M34 WP grenade provides a secondary capability of producing casualties. The safety pins are removed from both the M34 WP grenade and the AN-M8 HC grenade during assembly. Therefore, the munition is armed and ready to function when it is released from the launcher tube. The sabot assembly with grenades is inserted into the launcher tube. The aluminum-alloy cap assembly is rolled in place over a rubber gasket on the open end of the tube to hold the sabot assembly in place. The cartridge containing a percussion primer is placed in the base of the tube. A threaded plastic retainer holds the cartridge in place. Two synthetic-rubber or felt pads are placed between each grenade and the sabot assembly. A plastic spacer separates the grenades inside the sabot assembly. A synthetic-rubber seal services as an obturator ring between the sabot assembly and the cartridge.

4. Tabulated Data

a. M176 Grenade Launcher

Length..... 38.10 centimeters
Diameter..... 9.37 centimeter
Weight..... 2,315 grams
Range..... 31 to 46 meters

b. AN-M8 HC Grenade.

Diameter..... 6.35 centimeters
Height..... 11.43 centimeters
Weight..... 680 grams
Fuze..... M201A1
Fuze delay time..... 1.2 to 2 seconds
Burning time..... 105 to 150 seconds

c. M34 WP Grenade.

Diameter..... 6.03 centimeters
Height..... 13.97 centimeters
Weight..... 680 grams
Fuze..... M206A2
Fuze delay time..... 4 to 5 seconds
Burning time..... 10 to 20 seconds

d. M225 Cartridge.

Diameter..... 1.83 centimeters
Length..... 2.22 centimeters
Weight..... 8.5 grams
Primer percussion..... M29A1
Propellant (BKNO₃) weight.. 1.49 grams

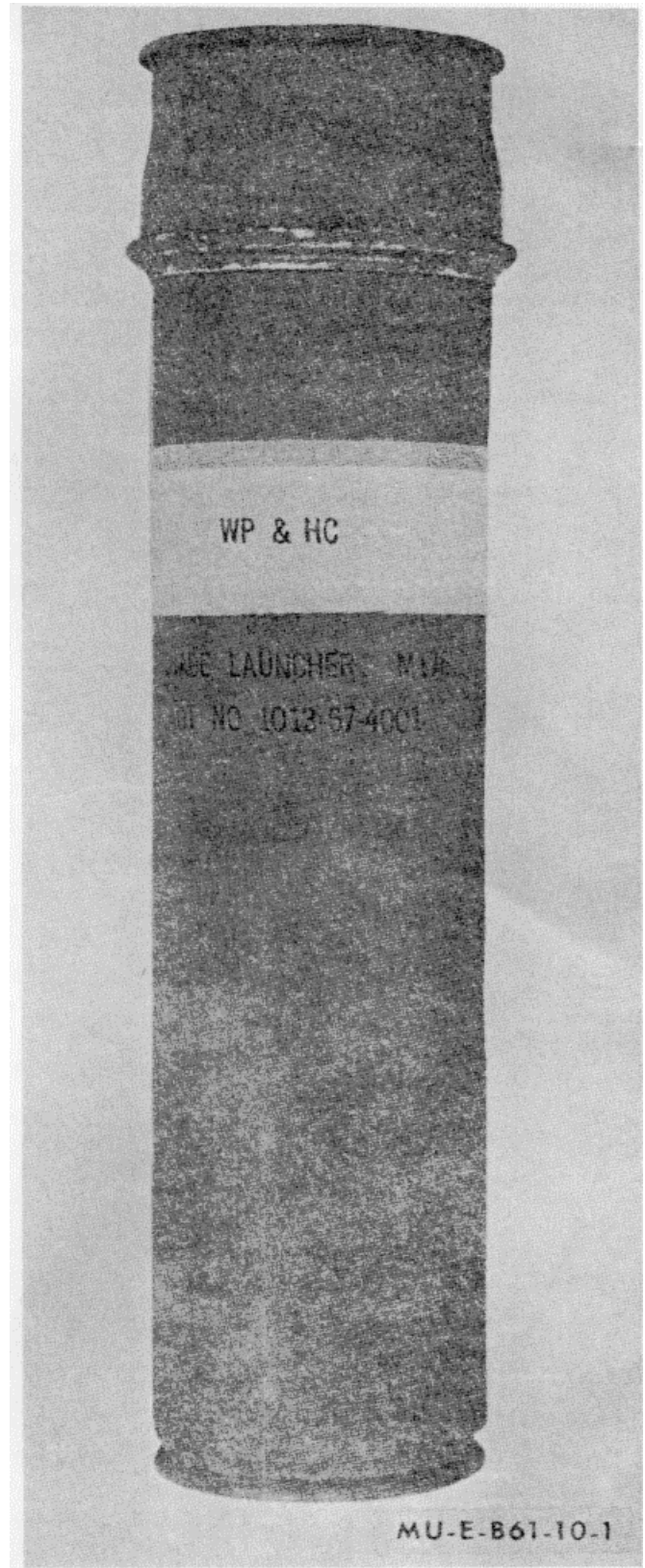
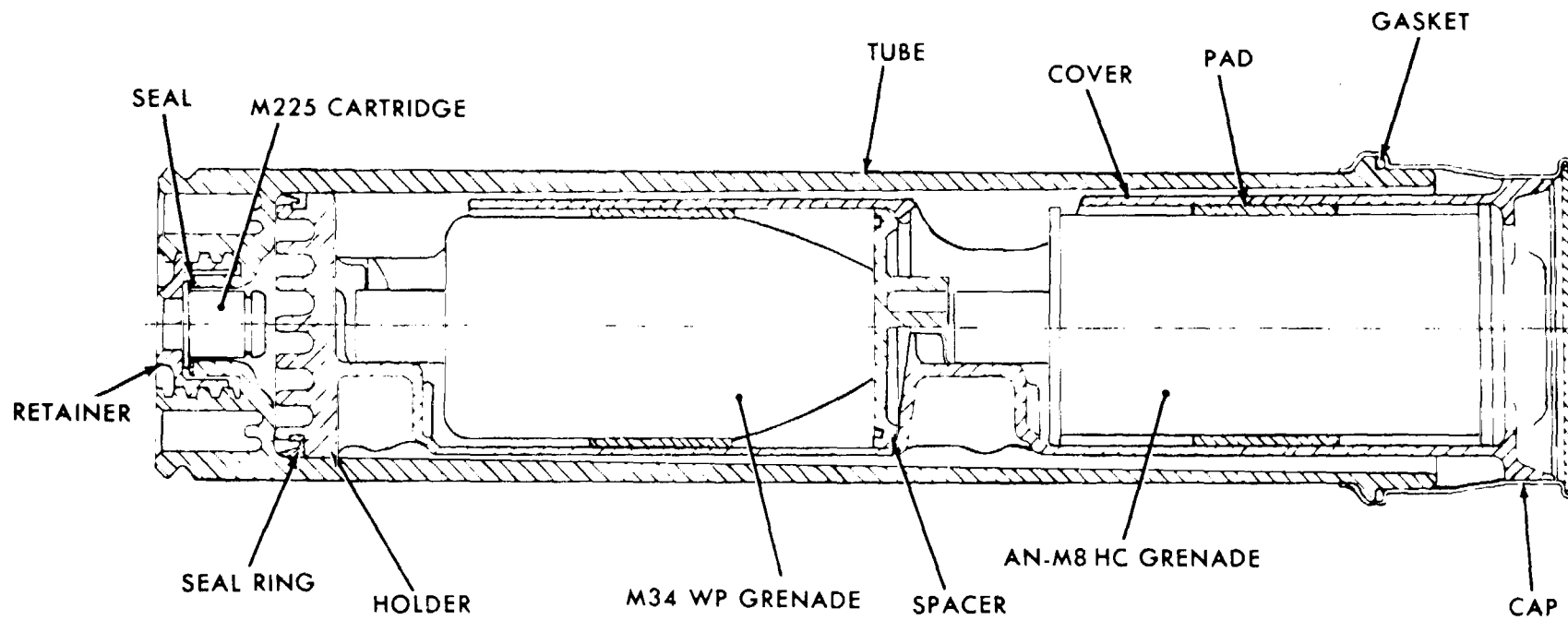


Figure 1. M176 grenade launcher.



MU-E-B61-10-2

Figure 2. M176 grenade launcher, cross-section view.

5. Functioning

WARNING

Never place any portion of the body in front of either end of an M176 grenade launcher.

WARNING

Always handle an M176 grenade launcher as an armed high-explosive incendiary, munition.

WARNING

Never attempt to disassemble an M176 grenade launcher or sabot assembly. The safety pins have been removed from the grenades during assembly of the M176 grenade launcher.

WARNING

Observe all warnings before loading M176 grenade launchers into firing tube mounts or when mission is interrupted or concluded.

WARNING

Always make sure the master switch and individual firing switches are in the OFF position BEFORE loading MS176 grenade launchers into firing tube mounts.

WARNING

The M34 grenade contains and constitutes a fragmentation and fire hazard to personnel.

WARNING

Do not drop the M176 grenade launcher. Striking the cartridge primer may cause the munition to function.

When an M176 grenade launcher is fired, the firing pin strikes the M225-cartridge percussion primer, which ignites the propellant charge in the M225 cartridge (fig 2). Gas, which is formed in the sealed projector base cavity, ejects the sabot assembly and grenades through the end of the cap. Then the sabot assembly's cover and holder separate and allow the grenade fuzes to function. (TM 9-1330-200 describes the WP and HC grenades.)

NOTE

See applicable vehicle manual for specific loading, firing, and unloading procedures.

6. Hangfires, Misfires, and Duds

WARNING

All personnel that are outside the vehicle must remain at least 125 meters (410 ft) from vehicle during firing.

WARNING

Always consider a delay in firing as a misfire after three attempts to fire have failed.

WARNING

Do not use an M176 grenade launcher that has been hit by small arms' fire or has cracks, dents, or other deformities. Isolate these launchers and notify Explosive Ordnance Disposal (EOD) personnel immediately.

WARNING

Notify EOD personnel when grenades fail to function; give quantity and location of unfired grenades.

a. *Hangfires.* A hangfire is a temporary failure or delay in the action of a percussion primer or propellant charge. When an apparent misfire occurs, wait 10 seconds and make two additional attempts to fire at 10-seconds intervals.

WARNING

When a misfire occurs, all personnel must remain 125 meters (410 ft) clear of firing vehicle and firing-vehicle crew must remain "buttoned up" for at least 5 minutes.

b. *Misfires.* A misfire is the failure of the M176 grenade launcher to fire.

c. *Duds.* A dud is a munition which has not armed as intended or has failed to explode or burn after being armed. Record the number and precise location of all grenade duds and notify EOD personnel.

7. Marking

a. *M176 Grenade Launcher.* The tube of the M176 grenade launcher is painted olive drab and has one yellow band and one light-green band (fig. 1). WP and HC are marked in red on the light-green band. GRENADE LAUNCHER M176 and LOT NO. Are marked in red on the tube.

b. *Shipping Box.* The shipping box is color coded on two diagonally opposite edges. Yellow identifies high-explosive ammunition, light green identifies smoke ammunition, and light red identifies incendiary ammunition.

8. Packaging and Packing

WARNING

Do not open or repair a damaged M176 grenade launcher shipping box, shipping container, or damaged launcher tube. Isolate the box, container, or tube and notify EOD personnel immediately.

WARNING

Always use caution when opening an M176 grenade launcher shipping box or shipping container.

WARNING

Always handle an M176 grenade launcher as an armed, high-explosive incendiary munition.

WARNING

Never place any portion of the body in front of either end of an M176 grenade launcher.

WARNING

Never attempt to disassemble an M176 grenade launcher or sabot assembly. The safety pins are removed from the grenades when the M176 grenade launcher is assembled.

WARNING

Do not use an M176 grenade launcher that has been hit by small arms' fire or has cracks, dents, or other deformities. Isolate these launchers and notify EOD personnel immediately.

a. *PBA-1 Series Lots.* Each M176 grenade launcher is packaged in a spirally wound fiber ammunition shipping container (fig. 3). Chipboard and felt filler pads are placed in the container as required to keep the launcher from moving within the container. Pressure-sensitive tape holds the cover in place. Eight launchers are packed four to a layer in a nailed wood shipping box that has metal strapping. Filler pads are placed in the shipping box as required to insure a tight pack. Each end of the wood shipping box contains a rope handle.

b. *PBA-2, PBA-3, and PBA-4 Series Lots.* Eight launchers are packed in two rows of four each into a cleated plywood box. The box contains fiberboard packaging and interlocking partitions. The nailed wood box has two steel straps.

c. *PBA-5 and Subsequent Series Lots.* Eight launchers are packed in two rows of four each in a three-piece plastic-foam box. The foam box is held together with tape and is packed in a wirebound wood box that is closed with metal strapping and wire.

9. Firefighting Instructions

a. *General.*

(1) If the packing boxes should catch fire or are damaged during transit, the grenade launchers and grenades could function.

(2) The launcher was designed to project the grenades 46 meters (151 ft.) with an occasional maverick going 62 meters (204 ft.). When the M34 WP grenade functions, it could eject particles of WP or grenade body fragments 50 meters (164 ft.). To prevent injuries from munition functioning, a restricted radius of 305 meters (1,000 ft.) from the source of the fire should be maintained.

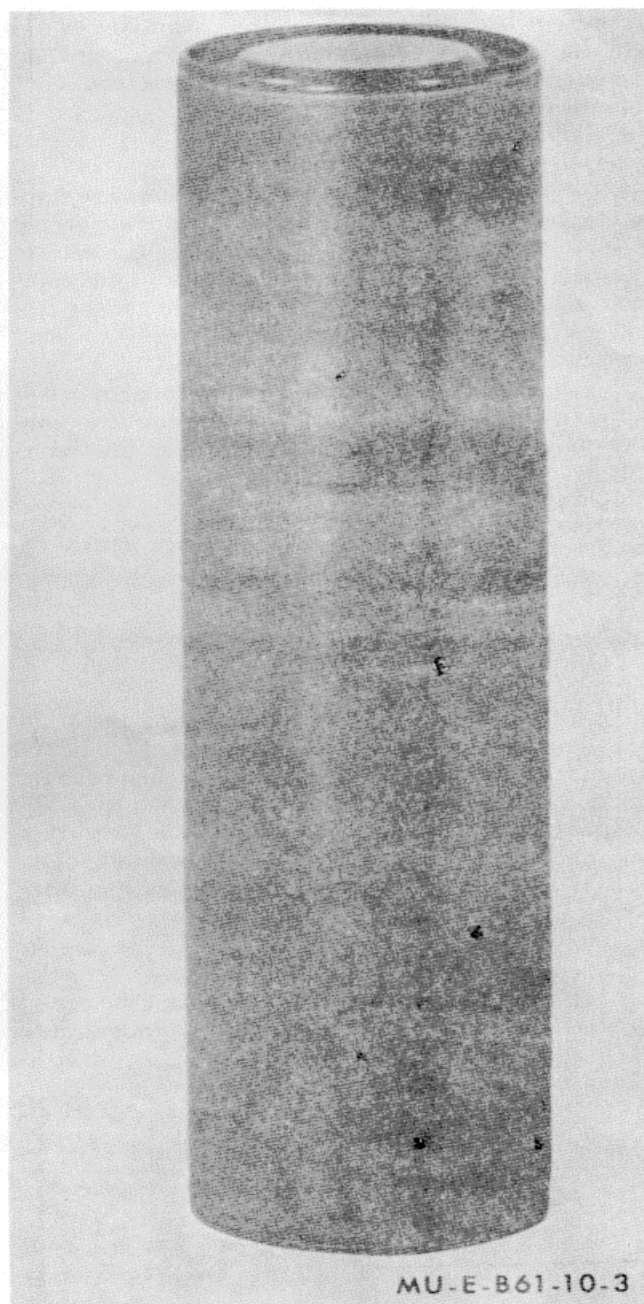


Figure 3. Shipping container.

WARNING

A protective mask must be worn around burning HC.

(3) Water applied continuously in large quantities will extinguish burning HC and control (not extinguish) burning WP. No firefighting technique

in present use will extinguish WP. Applying water will contain (not extinguish) the fire and prevent the burning WP from igniting other materials. Contain the fire and notify EOD personnel.

b. Surface and Air Transportation.

(1) Surface transportation.

(a) When the M176 grenade launchers are shipped by truck or railroad boxcar and fire is suspected in the vehicle (odor, smoke, etc.), isolate the vehicle immediately, establish restricted radius of 305 meters (1,000 ft.), determine the exact source of the fire and if the cargo is not involved, follows established firefighting procedures.

(b) If the fire is in the cargo compartment of the carrier (truck or boxcar), prevent the fire from spreading by using water or any type of fire extinguisher.

WARNING

The operator of the fire extinguisher must wear a protective mask.

WARNING

Protective masks must be available for all other personnel onboard the aircraft including pilot and copilot.

(2) Air transportation. When shipping the M176 grenade launcher by aircraft, there are three possible sources of hazard if an M34 WP grenade should function: (1) fire, (2) excessive smoke, and (3) fragments. If possible immediately jettison the crate containing the burning grenade over an uninhabited area. If this is not possible, use a fire extinguisher to contain the fire and prevent its spreading until the pilot can land.

c. Specific Instructions.

(1) Notify local authorities of the fire as soon as possible and direct them in precautions to be taken.

(2) Notify military authorities of the fire as soon as possible.

10. Shipment and Storage

Table 1 gives the M176 grenade launcher's shipment and storage requirements.

Table 1. Shipment and Storage Data

| Item | Chemical munition storage group | Storage hazard class | Storage compatibility group | DOT* requirement | |
|---|---------------------------------|----------------------|-----------------------------|---------------------|---|
| | | | | Hazard class | Markings |
| Launcher and Grenades, Smoke: HC and WP, M176 | C Fireworks, | 3 | A | Explosives, Class B | Special Handle Carefully, Keep Fire Away |

* Department of Transportation

11. Destruction to Prevent Enemy Use

WARNING

Be sure that bursting M34 W/P grenades and smoke produced by the burning chemical-agent fillings do not interfere with operations of nearby tactical units.

TM 9-1300-206 contains procedures for destroying ammunition. When M176 grenade launchers are in danger of being captured, authority to destroy them must be obtained from the responsible commander. Destroy the M176 grenade launchers by burning them in a pit or trench. Pile them with flammable material such as brush or dunnage and ignite. Keep unprotected personnel a safe distance away (305 meters 1,000 ft.)).

APPENDIX REFERENCES

| | |
|---------------|--|
| AR 55-56 | Transportation of Dangerous or Hazardous Chemical Materials |
| AR 75-1 | Malfunctions Involving Ammunition and Explosives |
| AR 75-14 | Responsibilities for Explosive Ordnance Disposal |
| AR 385-10 | Accident Reporting and Records |
| AR 385-63 | Regulations for Firing Ammunition for Training, Target Practice, and Combat |
| TM 3-215 | Military Chemistry and Chemical Agents |
| TM 3-220 | Chemical, Biological, and Radiological (CBR) Decontamination |
| TM 3-250 | Storage, Shipment, Handling, and Disposal of Chemical Agents and Hazardous Chemicals |
| TM 9-1300-206 | Care, Handling, Preservation, and Destruction of Ammunition |
| TM 9-1330-200 | Grenades, Hand and Rifle |
| TM 38-750 | The Army Maintenance Management System (TAMMS) |

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