

INTRODUCTION:

- Landmines are emplaced area-denial weapons, from small antipersonnel (apers) types to larger antitank (AT) or special-purpose types (off-route).
- Landmines may be designed to be boobytrapped with anti-lift devices.
- Landmines may be loaded with high explosives, chemicals, or pyrotechnic materials.
- Fuzed in a variety of ways, including mechanical, electrical, chemical, acoustic/seismic, infrared, magnetic-influence, or controlled firing systems. They may be fired by pressure, tripwire, tension release, explosive pressure pulse, pressure release, magnetic field changes, or direct electrical circuit closure.

SAFETY:

- Observe magnetic precautions when approaching/working with a known or suspected magnetic influence fuze.
- If it is absolutely necessary to walk into a mined area, move slowly, looking at the ground carefully to note disturbances in the soil and the presence of any tripwires.
- Permit only one person at a time to work on one mine.
- Probe and examine the ground around a mine before starting to work on it.
- Take boobytrap precautions.
- Before lifting a mine, neutralize all external fuzes.
- Perform all initial movement of the mine remotely.
- Assume the presence of other mines nearby whenever a landmine is located.
- Before disarming, determine the number and types of fuzes within the mine to ensure proper safety precautions are followed.
- A nonmagnetic probe is safer to use, as the mine may have a magnetic fuze.

- AT mines may be protected by apers mines.
- Do not manually disturb, drop, or strike an armed mine or mine fuze. It may contain a cocked-striker firing system.
- Consider an emplaced landmine armed and remove remotely.
- Do not cut/pull a taut wire; never pull a slack one.
- Take cover before pulling a mine and wait for at least 60 seconds.
- Do not handle an AT mine that has been pulled from its emplacement until after closely examining the mine case to ensure that the case was not deliberately altered to permit separation at its base. Separation of the mine case from its base and main charge will function an internal pressure/pressure-release fuze.
- Do not use force on a mine or boobytrap. If a part cannot be removed without applying an undue amount of force, cease removal procedures and destroy the mine in place.
- If a mine or boobytrap must be left unlifted, mark the location prominently and notify the proper authorities.
- Improvised grapnels may be used to clear tripwire-actuated mines.
- When cutting the wires of an electric detonator, cut and tape them one at a time to avoid closing the circuit with the wire cutters. A mine is harmless if the firing train is broken, but there may be more than one firing train.
- Do not stack fuzed mines. Many types contain pressure-actuated fuzing which may be fired by such action.
- If possible, destroy in place all mines loaded with picric acid explosive. Extremely sensitive explosive salts may have formed wherever the explosive contacts the metal.
- Observe acoustic/seismic precautions when approaching or working on landmines with a known or suspected acoustic/seismic fuze.
- Do not remove a mine from its emplacement if the pressure plate is compressed or deformed. The fuze may contain a hung cocked firing pin.

LANDMINES

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SAFETY - Continued:

- The preferred disposal procedure for antipersonnel and antitank landmines is to detonate or burn using incendiary grenades for the situation found.
- Do not permit personnel, vehicles, or any heat-generating source in front of or to pass between an infrared source and receiver in front of the ordnance;
- Some fuzes may not have a safety feature, or a safety device may not be available or cannot be applied.

EOD CONSIDERATIONS

ANTI-TANK (AT) MINES:

- Do not uncover until the ground has been thoroughly checked for anti-lift devices. Probe cautiously, for even nearby disturbance by the probe may release the fuze striker.
- Do not remove the pressure plate from a metallic AT mine unless the mine can be positively identified as one that is not fitted with a pressure/pressure-release fuze.
- Exercise care when disarming wooden AT mines by hand. Frequently, holes are drilled through the bottom of the case and pullwires connected to auxiliary fuzes are threaded and anchored to a stake underneath. If the stake is driven deep enough, it is not easy to locate the wire by probing. A pressure-release fuze or pull fuze with pullwire may be actuated by raising or removing the pressure plate or lid. Some wooden mines have a special mousetrap device that is actuated in this way.
- Exercise care with wooden AT mines that have been buried for a long time. Because of soil conditions, the wood deteriorates and the slightest inadvertent pressure on the top may initiate the fuze.

ANTIPERSONNEL:

- Neutralize apers mines by replacing all safety pins, if possible, before lifting the mines.
- Exercise care when hand-disarming apers mines with tripwire actuation. Before cutting tripwires, trace them from mine to anchor (often the anchor may be another mine).
- Be alert for small apers mines laid along the side of or underneath the tripwire to hinder disarming.
- Always trace the tripwire from the friendly side - do not straddle it - as a safeguard against accidental tripping or stepping on a small apers mine laid underneath the tripwire.
- If possible, insert a safety pin in the fuze before cutting the tripwire.

OFF-ROUTE:

- Electronic off-route mines contain an anti-handling option.
- Contact with fuzing sensor or into field of view may initiate.
- Do not cut electric wires/breakwires connected - collapsing circuit.
- Precautions to prevent formation of HEAT jet or self-forging fragment.

FUZES:

- Be extremely cautious disarming tilt fuzes by hand, especially if they have been partially initiated. There must be no movement of the tiltrod when the fuze is removed from the mine.
- Use extreme caution disarming belleville-spring-type fuzes by hand, as they may be partially initiated by contact or blast, and a slight jar or movement will set off the mine.

References 60A-1-1-22

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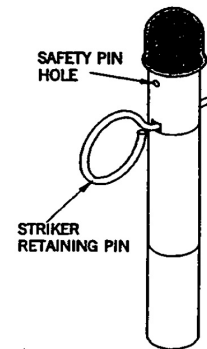
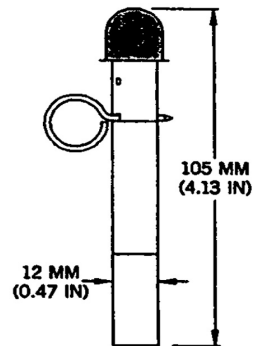
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□ IRAQI FUZE, MINE, MODEL UNKNOWN



H-57-5-1

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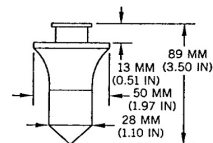


■ CANADIAN LANDMINE, APERS, C-3A1 (ELSIE)



H-5-2-1

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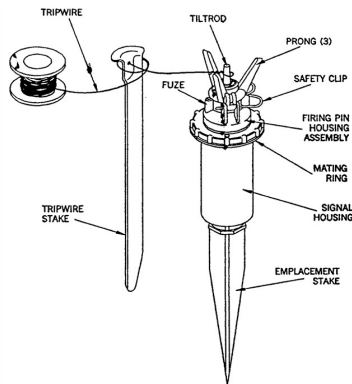
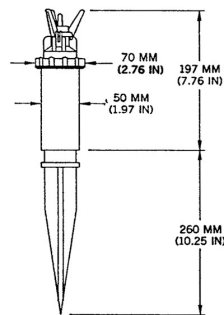


SHIPPING CAP



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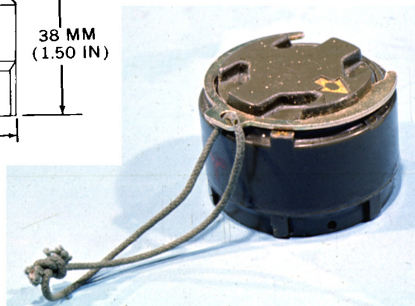
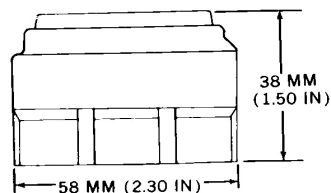
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ITALIAN LANDMINE, ILLUMINATION, VS-T

H-9-2-9

Ordnance used with:



U.S. LANDMINES, APERS, HE, M14 & M14E1; & LANDMINE, APERS, PRACTICE, M17

H-2-2-27

Ordnance used with:

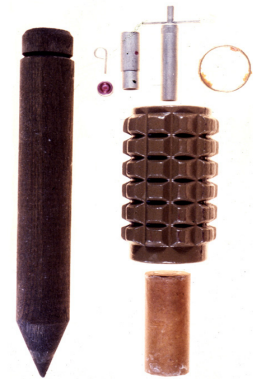
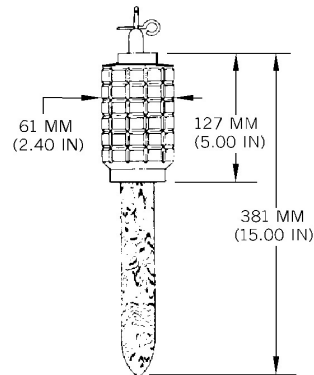
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U.S.S.R. LANDMINE: APERS, POMZ-2

H-35-2-22

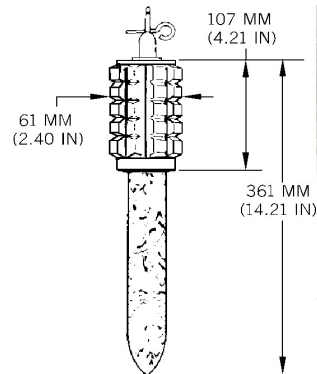
Ordnance used with:



U.S.S.R. LANDMINE: APERS, POMZ-2M

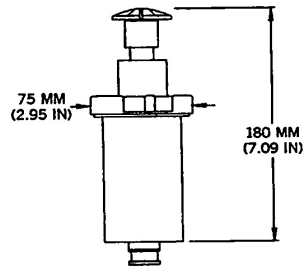
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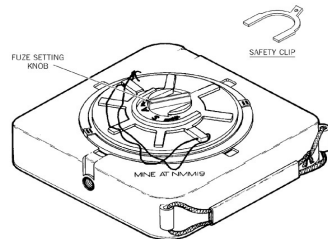
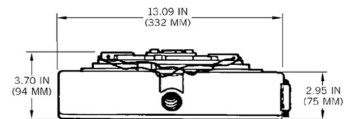


■ ITALIAN LANDMINE, APERS, P-25 (W/TYPE 2 FUZE)



H-9-2-10

Ordnance used with:



■ U.S. LANDMINES: AT, HE, NONMETALLIC, M19; INERT, M19;
AND TRAINING, M80



H-2-2-23

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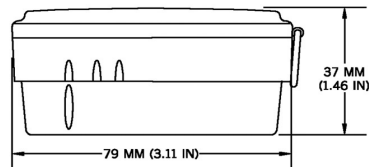
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CHINESE LANDMINES, APERS, TYPES 72, 72B, AND 72C

H-17-2-4

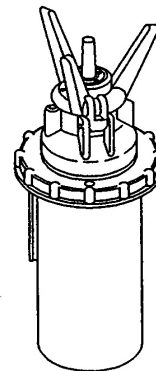
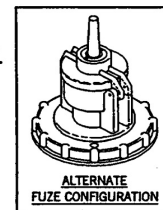
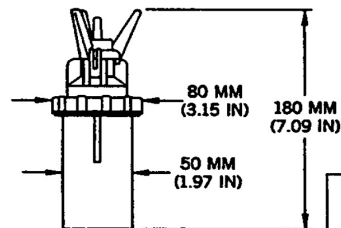
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ITALIAN LANDMINE, APERS, P-25 (W/TYPE 1 FUZE)

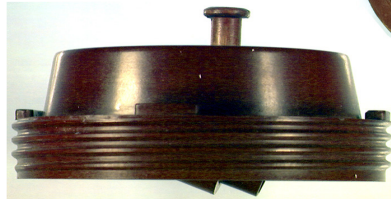
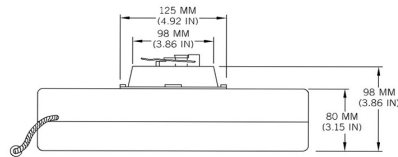
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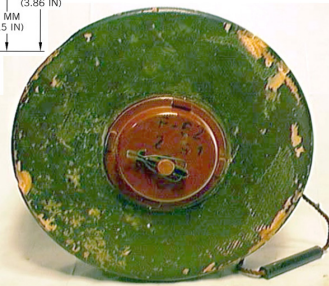
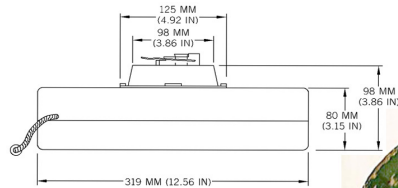


■ ROMANIAN LANDMINE FUZE, AT, P-62



H-29-2-2

Ordnance used with:
FUZE: P-62, PRESSURE



■ ROMANIAN LANDMINE, AT, MAT-76



H-29-2-2

Ordnance used with:
FUZE: P-62, PRESSURE

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U.K. LANDMINE, AT, L9A1 (BARMINE)

H-3-2-10

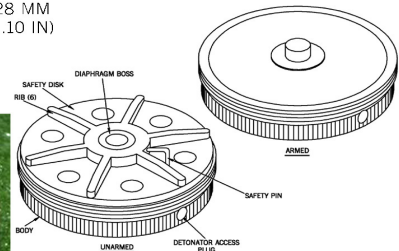
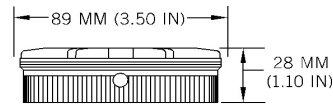
Ordnance used with:



BELGIAN LANDMINE, APERS, PRB-BAC H-28

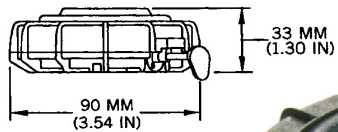
H-4-2-3

Ordnance used with:



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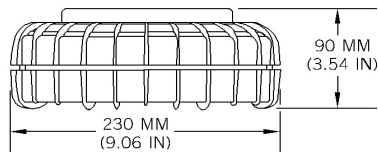


ITALIAN LANDMINE, APERS, VS-MK 2 AND VS-MK 2 AR-AN



H-9-2-6

Ordnance used with:
LAUNCHER: GRILLO



ITALIAN LANDMINES, AT, SB-81 AND SB-81/AR



H-9-2-24

Ordnance used with:

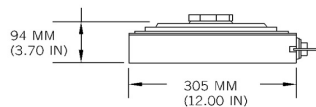
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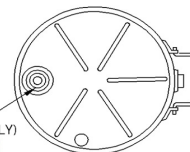
U.S.S.R. LANDMINES, AT, TM-46 AND TMN-46; AND TRAINING,
UITM-46

H-35-2-21

Ordnance used with:



AUXILIARY
FUZE WELL
(TMN-46 ONLY)



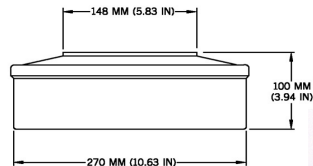
BOTTOM VIEW



CHINESE (PEOPLE'S REPUBLIC) LANDMINE, AT, TYPE 72

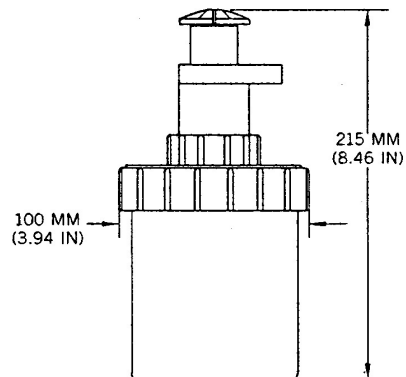
H-17-2-5

Ordnance used with:



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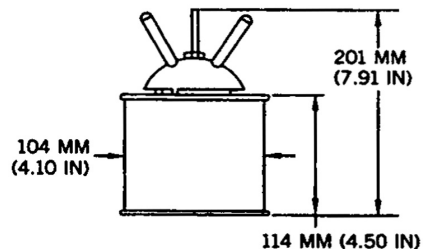


■ ITALIAN LANDMINE, P-40 TYPE 2



H-9-2-27

Ordnance used with:



ITALIAN LANDMINES, APERS, VALMARA AND VALMARA 59

H-9-2-15

Ordnance used with:

ANTILIFT DEVICE: VS-AR4

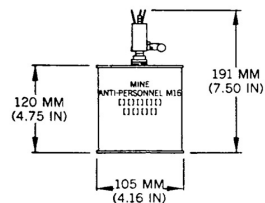
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U.S. LANDMINES, APERS, HE, M16 AND M16A1; AND
LANDMINES, INERT, M16 AND M16A1

H-2-2-30

Ordnance used with:

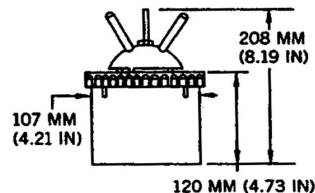


ITALIAN LANDMINES, APERS, VALMARA 69 PRACTICE,
VALMARA 69

H-9-2-15

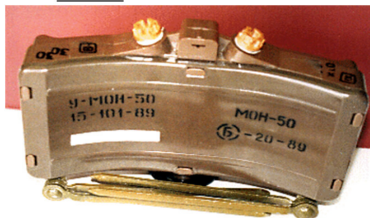
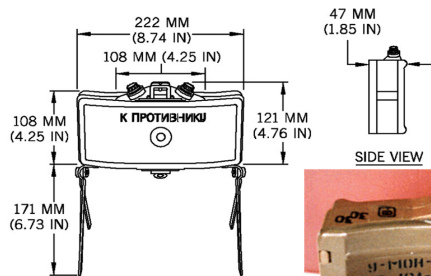
Ordnance used with:

ANTILIFT DEVICE: VS-AR4



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■ U.S.S.R. LANDMINE, APERS, FRAG, MON-50

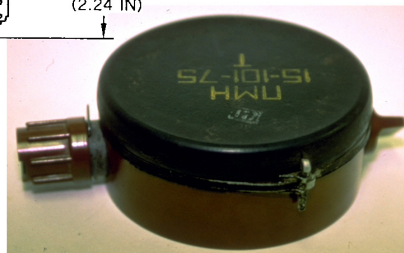
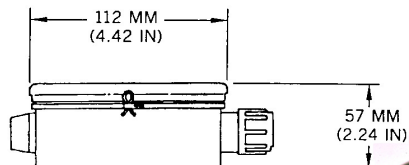


H-35-2-8

Ordnance used with:

CONTROL DEVICE: VP-13

ELECTRIC MINE FUZE: MVZ-72



■ U.S.S.R. LANDMINE, APERS, PMN

H-35-2-7

Ordnance used with:

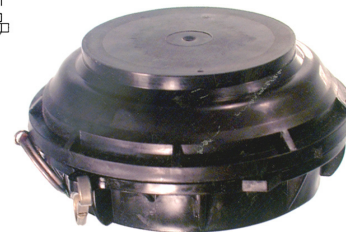
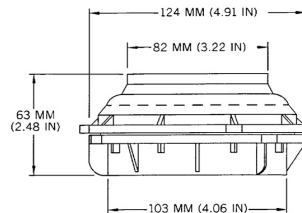
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GERMAN (PEOPLE'S REPUBLIC) LANDMINES, APERS, PPM-2;
AND PRACTICE, PPM-2 UB

H-21-2-4

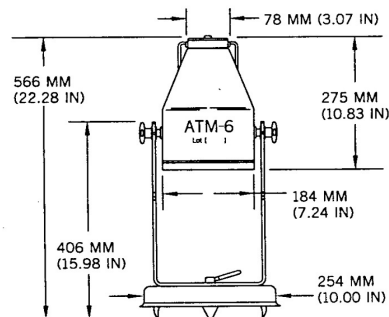
Ordnance used with:



AUSTRIAN LANDMINE, AT, OFF-ROUTE, ATM-6

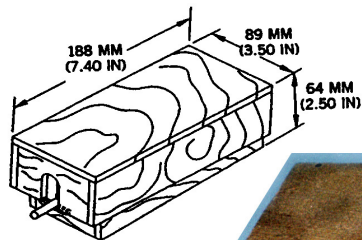
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Ordnance used with:



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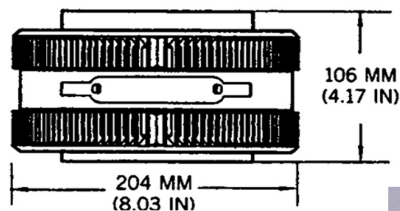
■ U.S.S.R. LANDMINES, APERS, PMD-6 AND PMD-6M



H-35-2-19

Ordnance used with:

U.S.S.R. MINE FUZE: MUV-4



■ ITALIAN LANDMINE, AT, TC/2.4



H-9-2-8

Ordnance used with:



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CHINESE LANDMINE, APERS, CLAYMORE, TYPE 66

H-17-5-4

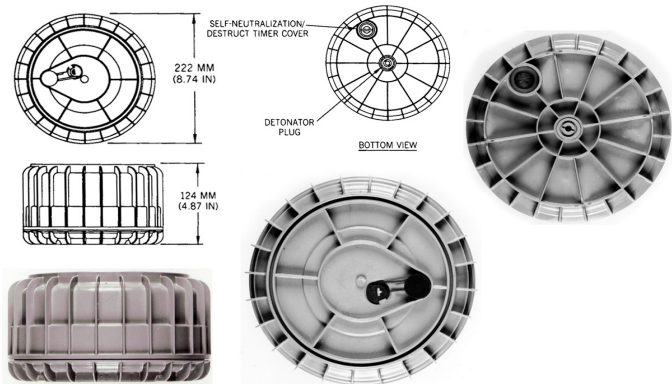
Ordnance used with:



ITALIAN LANDMINE, AT, VS-HCT

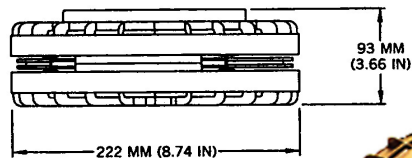
H-9-2-25

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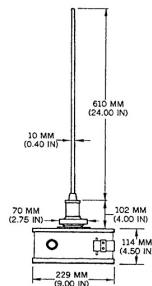
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□ SINGAPORE LANDMINE, AT, VS 1.6

■
■
■ **H-63-5-1**
Ordnance used with:



■ U.S. LANDMINE, AT, HE, M21

■
■
■ **H-2-2-36**
Ordnance used with:

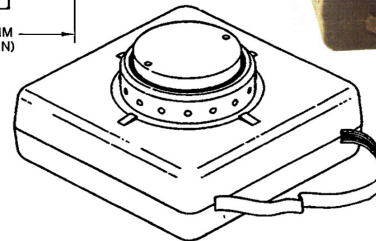
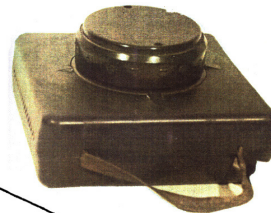
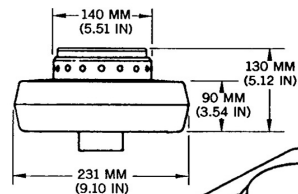
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■ BELGIAN LANDMINE, AT, PRB-ATK-M3

■ **H-4-2-9**

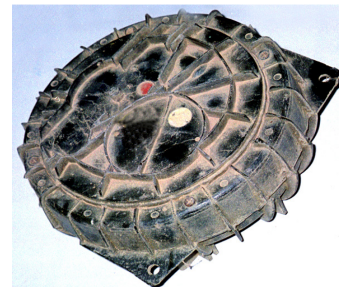
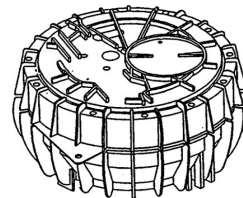
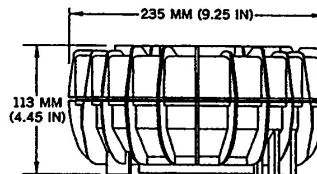
Ordnance used with:



■ ITALIAN LANDMINE, SB-MV/1

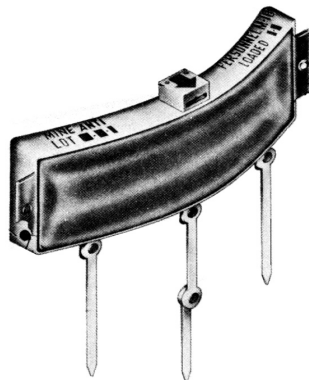
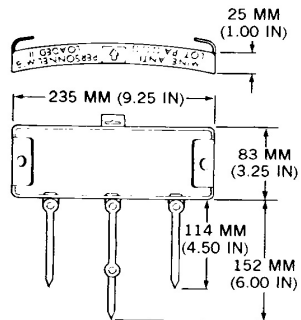
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Ordnance used with:



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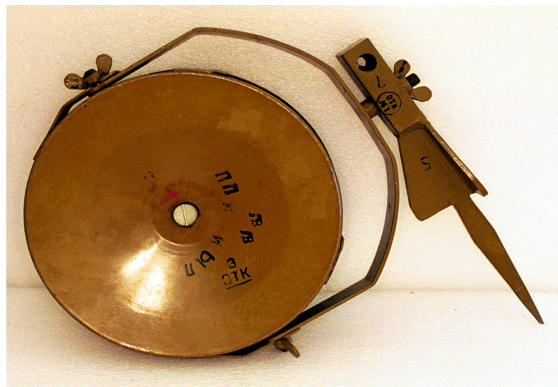


■ U.S. LANDMINE, APERS, HE, M18



H-2-2-31

Ordnance used with:



■ U.S.S.R. LANDMINE, APERS, MON-100



H-35-2-4

Ordnance used with:

U.S.S.R. FUZE: MUV-4

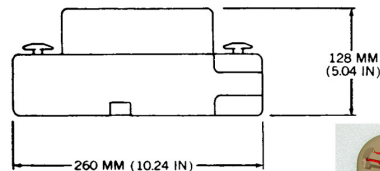
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ITALIAN LANDMINE, AT, VS-HCT2 (MOD 1)

H-9-2-19

Ordnance used with:

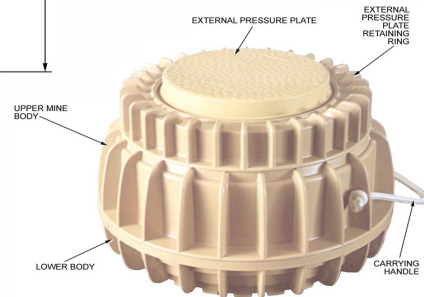
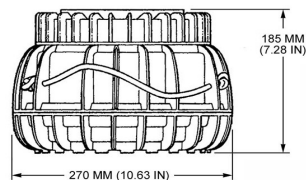


ITALIAN LANDMINE, AT, ELECTRONIC, TCE/6

H-9-2-31

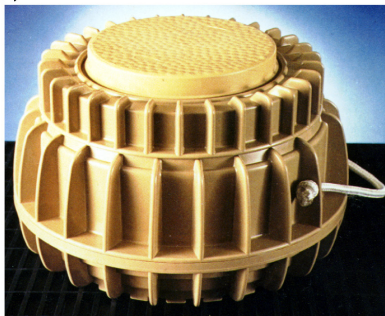
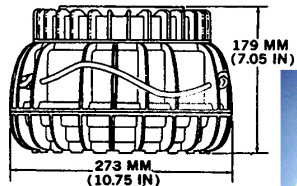
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FUZE: ELECTRONIC, MODEL UNKNOWN



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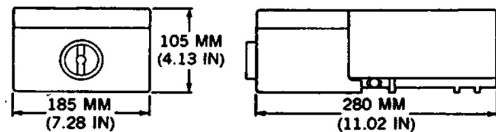


■ ITALIAN LANDMINE, AT, MODEL TC-6



H-9-2-7

Ordnance used with:

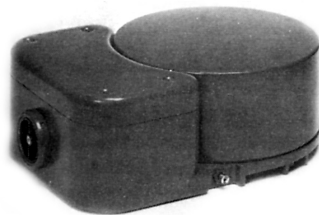


□ FRENCH LANDMINE, AT, HPD F2



H-7-5-7

Ordnance used with:



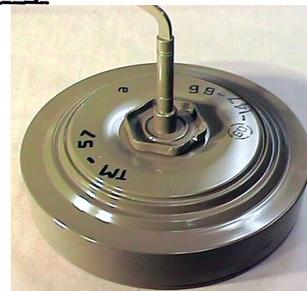
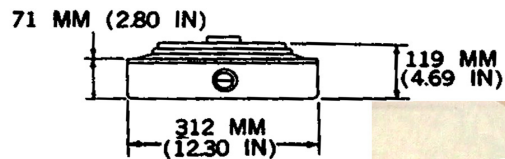
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■ U.S.S.R. LANDMINE, AT, TM-57

■ **H-35-2-5**

Ordnance used with:



■ U.S.S.R. LANDMINE, AT, TM-62M

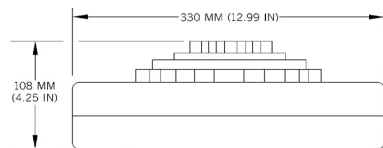
■ **H-35-2-12**

Ordnance used with:



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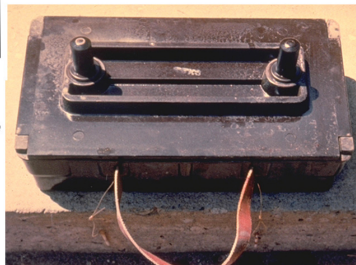
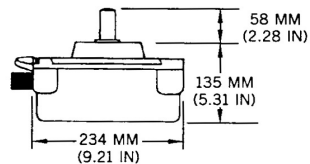
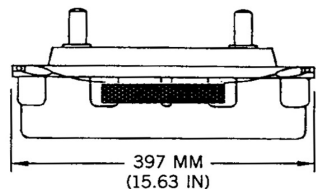
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■ CZECHOSLOVAK LANDMINES, AT, PT-MI-BA III AND PRACTICE, BT-MI-BA III

■ **H-20-2-17**

Ordnance used with:



■ CZECHOSLOVAK LANDMINE, AT, PT-MI-BA II

■ **H-20-2-13**

Ordnance used with:

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■ U.S.S.R. LANDMINE, APERS, MON-200



H-35-2-4

Ordnance used with:
U.S.S.R. FUZE: MUV-4



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