

MVE-NS mine fuze (anti-handling device)

Compiled by Vanja Jokic using original Russian military sources, 2011

MVE-NS electric mine fuze is electronic self-destruction anti-handling device, which is intended to use with antipersonnel fragmentation mines when they are installed as anti-handling mines and for making booby-traps.

Main characteristics

Types of mines, which can be used with the fuze.....	OZM-72, MON-50, MON-90
Target sensor.....	Breaking wire, 40 metres length
Type of target sensor.....	Graze
Delayed cocking mechanism.....	Electronic
Time of delayed cocking, min.	7,5 or 30
Time of self-destruction, days.	from 25 to 90
Weight of fuze, g.....	250
Diameter, mm.	31
Height, mm.	90
Temperature range, °C.	from -30 to +50
Time of fuze installation, min..	до 4
Power source	7RTs53U

MVE-NS mine fuze consists of two units: cylindrical activating unit (AU) 1 and square power unit (PU) 3. Both units are connected by two wires 2 (see fig. 1).

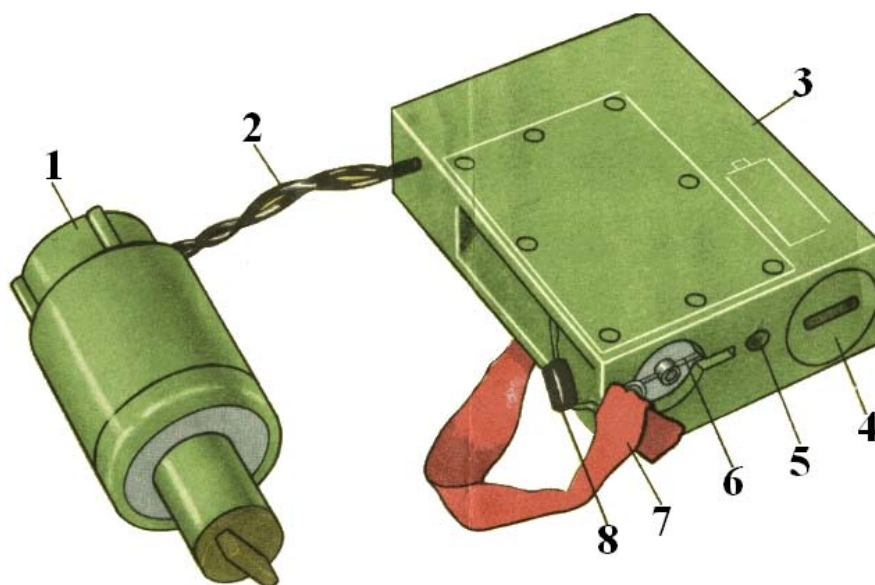


Fig. 1 MVE-NS mine fuze (general view):

1 – activating unit (AU); 2 – connecting wires; 3 – power unit (PU); 4 – plug of battery house; 5 – LED indicator; 6 – safety pin; 7 – tape for pulling safety pin; 8 – seal.

Activating unit consists of graze target sensor 9, (it activates MVE-NS fuze, if somebody tries to remove mine or to take off fuze's AU from the mine, see figure 2), electronic unit 6 (it activates MVE-NS fuze, if somebody tries to remove it from mine, after exhaustion of power source, after breaking of wire of breaking target sensor 12, after breaking or short circuit of connecting wires 10) and collar 7 with percussion device, which are assembled in polyethylene cylindrical body 8.

Power unit consists of power source 15 (7RTs53U battery closed in battery house with plug 1), electronic unit 5 with LED indicator 2, cocking mechanism with safety pin 3 and breaking

target sensor 12. Square body 14 of power unit is marked by “7” and “30” digits, which show the time of delayed cocking in minutes.

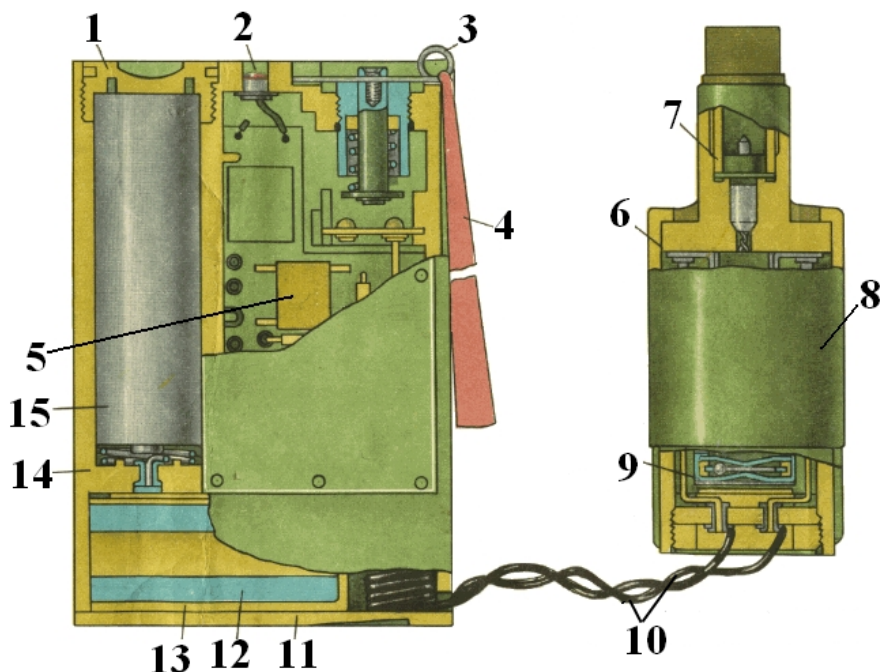


Fig. 2 MVE-NS mine fuse (detailed view):

1 – plug; 2 – LED indicator; 3 – safety pin; 4 – tape for pulling safety pin; 5 – electronic unit of PU; 6 – electronic unit of AU; 7 – collar with percussion device; 8 – body of AU; 9 – graze target sensor; 10 – connecting wires; 11 – detachable cover; 12 – breaking target sensor; 13 – polyethylene parcel; 14 – body of PU; 15 – power source.

After removal of safety pin, LED indicator is twinkled during two third of time of delayed cocking. It shows that electronic circuit of MVE-NS fuse is ready to operate. Breaking target sensor is doubled wire with 40 meters length packed into polyethylene parcel 13. It is located in bottom butt end of PU and closed with detachable cover 11.

Operation

During transportation, power source is switched off from electrical circuit of fuse.

After removal of safety pin, power source is switched on into electrical circuit of MVE-NS fuse and delayed cocking mechanism is activated. LED indicator starts to twinkle during two third of time of delayed cocking, after that it go out. After expiration of time of delayed cocking, fuse’s condenser is charged and the fuse stays into action position.

When somebody tries to remove of MVE-NS fuse or mine as well as during the other influence on graze target sensor, the collar with percussion device is activated, MD-5M primer is pierced and the mine explodes.

Fuse has self-destruction unit, which activates MVE-NS fuse if the power source voltage declines to 6.8 ± 1.5 volts. Also, MVE-NS fuse is activated after breaking or short circuit of connecting wires, after removing of power source and after breaking of wire of breaking target sensor.

Usage

Figure 3 shows variants of installations of OZM-72, MON-50 and MON-90 mines with MVE-NS fuse.

Figure 3, *a* and *z* shows installation of OZM-72 and MON-50 with breaking target sensor. Figure 3, *б* and *в* shows installation of MON-90 without breaking target sensor. In the last case mine becomes command detonated and will be activated by operator with electro-detonator. It is

screwed into the second blasting gear socket (left socket), activating unit of MVE-NS fuse with MD-5M primer is screwed into the first socket. In the both variants of installation, MVE-NS fuse makes the mine anti-handled.

Disarming

Disarming of MVE-NS fuse is **IMPOSSIBLE!** Mines with this fuse must be shot with fire-arms from the safe distance.

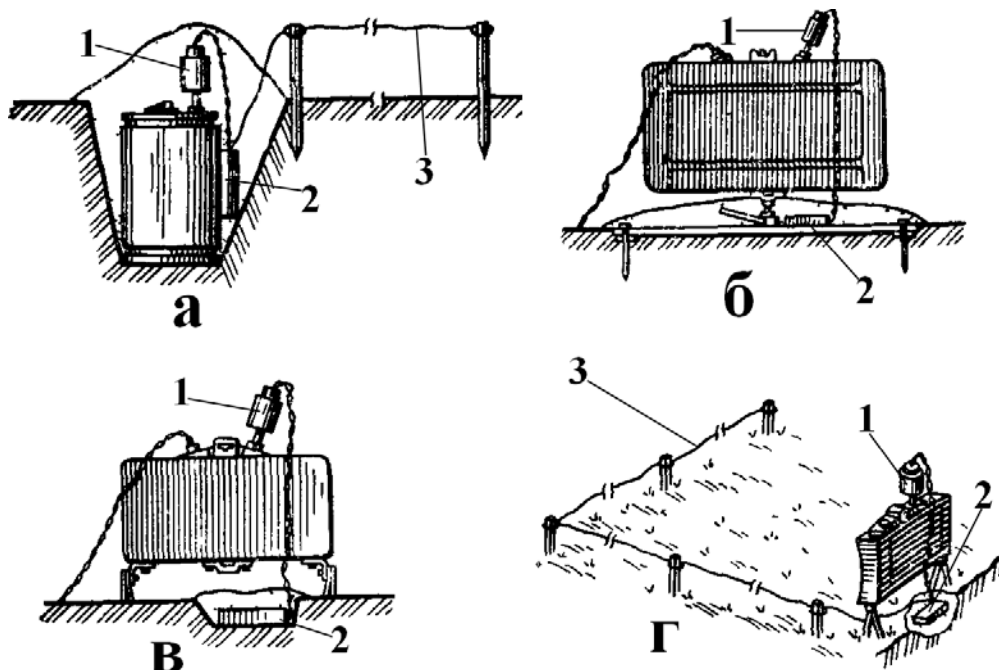


Fig. 3. Typical schemes of MVE-NS fuse installation:
a – with OZM-72 mine; б – with MON-90 mine; B and Г – with MON-50 mine; 1 – activating unit; 2 – power unit; 3 – breaking target sensor.

After finding of breaking target sensor, it is necessary to find a mine with the fuse. **DO NOT TOUCH breaking target sensor! DO NOT TOUCH mine!** Following by breaking target sensor, remember that the mines can be installed near the sensor.

The following rules are used when the mines with MVE-NS fuse are being installed. These rules should be kept in mind during the working on the place where those mines may be found.

— fuses can be activated by detonating of adjacent mine located on the following distances:

OZM-72 — 10-60 meters;

MON-50 — 7-70 meters;

MON-90 — 20-150 meters.

— fuses can be activated with dropping stones, twigs etc.

— installation of mines with MVE-NS fuses near roads with possible traffic of tracking vehicles (up to 25 meters) and roads with possible traffic of wheeled vehicles (up to 6 meters) is not recommended.