

Technical Note 08.20 / 01

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PMN 3 anti-personnel mine - Technical Description

*Technical notes
for mine action*



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Foreword

Management practices and operational procedures for humanitarian mine action are constantly evolving. Improvements are made, and changes are required, to enhance safety and productivity. Changes may come from the introduction of new technology, in response to a new mine or ERW hazard, and from field experience and lessons learned in other mine action projects and programmes. This experience and lessons learned should be shared in a timely manner.

Technical Notes provide a forum to share experience and lessons learned by collecting, collating and publishing technical information on important, topical themes, particularly those relating to safety and productivity. Technical Notes complement the broader issues and principles addressed in International Mine Action Standards (IMAS).

Technical Notes are not formally staffed prior to publication. They draw on practical experience and publicly-available information. Over time, some Technical Notes may be 'promoted' to become full IMAS standards, while others may be withdrawn if no longer relevant or if superseded by more up-to-date information.

Technical Notes are neither legal documents nor IMAS. There is no legal requirement to accept the advice provided in a Technical Note. They are purely advisory and are designed solely to supplement technical knowledge or to provide further guidance on the application of IMAS.

Technical Notes are compiled by the Geneva International Centre for Humanitarian Demining (GICHD) at the request of the United Nations Mine Action Service (UNMAS) in support of the international mine action community. They are published on the IMAS website (www.mineactionstandards.org).

Introduction

The PMN 3 APM is reported to be in use in Chechnya, but is not likely to be encountered anywhere else.....yet. It utilises the new-shaped casing, so old apple-green, smooth-sided type casings encountered in Cambodia, Afghanistan are unlikely to contain PMN 3 type components.

It is stressed that the information on this munition has only been received from a single source and has yet to be corroborated.

The PMN 3 is reported to be an electronic booby-trapped version of PMN 2, incorporating both anti-handling and self-destruct features. The two mines use the same casing and are externally identical. It is believed that PMN-3 is marked on the side with the Cyrillic designation, but that this marking is often removed before the mine is laid.

PMN 3 - Technical Description

1. Scope

This Technical Note provides "First Look" information on a possible new variant of the PMN series of APM.

2. Background

The PMN 3 could be the missing link in the Russian PMN series. Apparently, the PMN 3 is a variant of the PMN 2, but incorporates both anti-handling and self-destruct features. In some ways, this is a logical follow-on to the PMN and MS-3 anti-lift mine.

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3. Description

The PMN 3 uses the new type of PMN 2 casing in which the plastic securing ring at the top is ribbed and can be unscrewed; this allows the battery to be inserted and removed. The PMN 3 is significantly heavier than the PMN 2, reportedly weighing more than 600 g (compared to 420 g for the PMN 2), which suggests that additional steel fragmentation may be present. This, together with the battery and circuitry, should make the mine even more readily detectable.

Unlike the PMN 2, which contains 100 g of TG-40 (RDX/TNT), the PMN 3 contains 80 g of A-IX-1 (RDX/Wax).

4. Mode of operation

PMN-3 can be laid by hand or chute delivered from helicopters. The pneumatic arming mechanism is the same as that used in the PMN-2, with the removal of the side key releasing a spring-loaded bellows, which inflates in 2-3 minutes. However, in addition to releasing the detonator slide, a set of electrical contacts are closed to activate the electronic circuitry once the bellows are inflated.

The self-destruct options are 30 minutes, 1, 2, 4 or 8 hours. It is not clear whether the fuze functions when the battery discharges, or whether the self-destruct can be disabled (so that the mine is armed for the entire battery life). Because the mine may be laid either way up, the anti-handling feature functions when the mine is turned 90 degrees into the vertical plane (on its side), as it would be during the normal disarming procedure.

Amendment record

Management of Technical Notes amendments

Technical Notes (TN) are subject to review on an 'as required' basis. As amendments are made to this TN they will be given a number, and the date and general details of the amendment shown in the table below. The amendment will also be shown on the cover page of the TN by the inclusion under the version date of the phrase *'incorporating amendment number(s) 1 etc.'*

As reviews of TN are made new versions may be issued. Amendments up to the date of the new version will be incorporated into the new version and the amendment record table cleared. Recording of amendments will then start again until a further version is produced.

The most recently amended TN will be the versions that are posted on the IMAS website at www.mineactionstandards.org.

Number	Date	Amendment Details
01	01 Jul 2013	1. Inclusion of amendment No, date in the title and header. 2. Updated links and email addresses. 3. Inclusion of amendment record. 4. Minor change in the fifth paragraph of forward.