

1997 Convention on the Prohibition of the Use, Stockpiling, Production, and Transfer of Anti-Personnel Mines and On Their Destruction

Article 2. Definitions.

"Anti-personnel mine" means a mine designed to be exploded by the presence, proximity or contact of a person and that will incapacitate, injure or kill one or more persons. Mines designed to be detonated by the presence, proximity or contact of a vehicle as opposed to a person, that are equipped with anti-handling devices, are not considered anti-personnel mines as a result of being so equipped.

"Anti-handling device" means a device intended to protect a mine and which is part of, linked to, attached to or placed under the mine and which activates when an attempt is made to tamper with or otherwise intentionally disturb the mine.

Since the conclusion of the Oslo negotiations of the 1997 Mine Ban Treaty, the International Campaign to Ban Landmines (ICBL) has been stressing that, according to the treaty's definitions, antivehicle mines with antihandling devices that explode from an unintentional or innocent act are considered antipersonnel mines and therefore prohibited. The diplomatic history from Oslo clearly shows that this was the intent and understanding of the negotiators (see below). Yet, few governments since have publicly recognized this fact or taken appropriate steps to ban such weapons.

It is essential that States Parties explicitly acknowledge this understanding. States Parties should clarify what specific types of antihandling devices, antivehicle mines and delivery methods are permissible and which are prohibited under the treaty. Consideration should be given to the formation of an expert technical group to accomplish this. Antivehicle mines with antihandling devices prohibited under the treaty should be included in Article 7 reporting, including numbers possessed, destroyed or modified.

Many basic questions remain unanswered. Which, if any, antihandling devices do not pose dangers to innocent civilians? Which, if any, antihandling devices are acceptable under the definitions in the treaty? Which, if any, antivehicle mines with antihandling devices will not explode from an unintentional act? Can antihandling devices be designed to eliminate or minimize the likelihood of detonation from an unintentional act? Are some deployment methods (e.g., burying) acceptable and others (e.g., remote delivery/surface laid) not?

This fact sheet lists many, though likely not all, of the antivehicle mines with antihandling devices that have been produced by States Parties and ban treaty signatories. Human Rights Watch is concerned that many of these may function as antipersonnel mines, that they may easily explode from an innocent or unintentional act. **In identifying these mines and antihandling devices, Human Rights Watch is seeking clarification from governments about their consistency with the Mine Ban Treaty.**

Types of Antihandling Devices

There are many types of and terms for devices, features and characteristics designed to protect antivehicle mines. Almost any antivehicle mine can be expediently equipped with and activated by an antihandling device in the field using common ordnance items such as firing devices as an initiating device. Some antihandling devices are inherent to and built into the mine. No action is necessary to activate the antihandling feature during the mine's employment. Other antihandling devices are the result of deliberate modification, attachment or activation during the employment of the mine. In this instance, the mine itself has either a primary or secondary feature that allows the deliberate modification of the mine for antihandling purposes.

Under the definition of "antihandling device" in the Mine Ban Treaty, the following would be included:

- antihandling, anti-disturbance, anti-tilt circuits and fuzes
- anti-lift and pressure release circuits and fuzes
- trip, contact and break wires
- tilt rod fuzes
- magnetic influence fuzes
- light sensitive fuzes
- cocked striker mechanisms in the firing chain

- motion sensitive fuzes
- acoustic sensors
- infra-red (IR) sensors
- seismic or vibration sensors
- electro-magnetic sensors

It would appear that any use of tilt rods, tripwires, breakwires, and contact wires would be prohibited under the treaty, as they could clearly cause the antivehicle mine to explode from an unintentional act.

It is unclear which anti-disturbance and anti-lift circuits and fuzes, light sensitive fuzes, magnetic influence fuzes, motion sensitive fuzes, and cocked striker mechanisms are acceptable and which are not. It would seem, for example, that certain sensitive magnetic influence fuzes might also be prohibited, especially early generation magnetic influence fuzes, because they would cause a mine to explode from an innocent act. It is also unclear if certain acoustic, infra-red, seismic and electro-magnetic sensors are sufficiently sensitive to activate the kill mechanism of the antivehicle mine due to the unintentional act of a person. There is insufficient data to render judgment regarding the stimuli or forces necessary to activate the mines kill mechanism for these various antihandling devices.

States Parties should explicitly identify which anti-handling devices and features of the antivehicle mines in their stockpile or in development are permissible and prohibited.

Antivehicle Mines With Antihandling Devices

The purpose of this analysis is to highlight those antivehicle mines with antihandling devices and features produced by States Parties and Signatories, that as the result of design consequences or deliberate action to activate, might be caused to explode from an unintentional act. Human Rights Watch is not at this time making a definitive determination about the consistency of these mines with the ban treaty, but is asking governments to clarify their views.

The antivehicle mines produced by States Parties and Signatories of the Mine Ban Treaty identified below are separated into two broad categories. The first, "of primary concern," are those antivehicle mines in the inventory or in development with design features or capabilities that are judged to pose the greatest threat of exploding or detonating as the result of an unintentional act. The other category, "of secondary concern," lists those mines with design consequences or capabilities that may pose a threat of exploding or detonating as the result of an unintentional act, but there is insufficient data to render judgment regarding the stimuli or forces necessary to activate the mines kill mechanism.

ARGENTINA

Primary Concern

- FMK 3 (uses FMK-1 APM as initiating device)

AUSTRIA

Primary Concern

- ATM 6 (contact wire, other unidentified influence type fuzing)
- ATM 7 (break wire fuze and IR sensor)
- ATM 2000E (also designed Pz Mi 88, antihandling circuit)
- PM 83 (tilt rod fuze)
- Pz Mi 85M (tilt rod fuze)

Secondary Concern

- AVM (IR sensor)
- Model 67 (contains secondary fuze wells for antihandling device)
- Model 75 (contains secondary fuze wells for antihandling device)
- PM 3000 (possible inherent antihandling device)
- SCRAM 95 (IR sensor)
- SMI 21/11C (IR sensor)
- SMI 22/7C (IR sensor)

BELGIUM

Primary Concern

- PRB-III and Improved PRB III (inherent anti-lift device, cocked striker mechanism in firing chain)
- PRB-IV (uses PRB-BAC APM as an initiating device)
- PRM-ATK-3 (with PRB-M30 anti-lift device, cocked striker mechanism in firing chain)

Secondary Concern

- NR 141 (unknown antihandling capability)
- NR 201 (unknown antihandling capability)
- PRB-408 (contains secondary fuze wells for antihandling device)

BRAZIL

Secondary Concern

- MIN AC AP NM AE T-AB-1 (cocked striker mechanism in firing chain)

CHILE (signatory only)

Secondary Concern

- MAT 80 F5 (pressure initiated, sensitivity unknown)
- MAT 83 F4 (pressure initiated, sensitivity unknown)
- MP APVL F4 (cocked striker mechanism in firing chain)

CZECH REPUBLIC AND/OR SLOVAKIA

Primary Concern

- PT Mi-P (tilt rod fuze)
- PT Mi-U (tilt rod fuze)

Secondary Concern

- PT-Mi-BA (uses a Ro-7-III anti-removal fuze, cocked striker mechanism in firing chain)
- PT-Mi-BA II (uses a Ro-7-III anti-removal fuze, cocked striker mechanism in firing chain)
- PT-Mi-BA III (uses a Ro-7-III anti-removal fuze, cocked striker mechanism in firing chain)
- PT-Mi-D II (The holes in the base of the mine allow the attachment of tether wires to the fuze striker retaining pins; these will detonate the mine if it is lifted. Additionally, the large voids within the mine allow the use of booby traps inside the mine body, so that removing the lid may also cause initiation.)
- PT-Mi-D I/III (uses a Ro-7-III anti-removal fuze, cocked striker mechanism in firing chain)
- PT-Mi-K (uses a Ro-7-III anti-removal fuze, cocked striker mechanism in firing chain)
- PT-Mi-K II (the base of the RO-5 fuze is threaded to accept the RO-3 anti-lift booby trap)

DENMARK

Secondary Concern

- Fuze M/88
- PM M/47 I (cocked striker mechanism in firing chain)
- PM M/47 II (cocked striker mechanism in firing chain)
- PM M52 (contains secondary fuze wells for antihandling device)

FRANCE

Primary Concern

- APILAS (inherent anti-disturbance features)
- APILAS-APA (break wire sensor package)
- HPD 1-A (inherent anti-disturbance features)
- HPD 2 (inherent anti-disturbance features, cocked striker mechanism in firing chain)
- HPD 3 (inherent anti-disturbance features)
- HPD F 1 (inherent anti-disturbance features)
- HPD F 2 (inherent anti-disturbance features)
- L14A1 (variant produced for UK contains break wire)
- MI AC M CC MLE 56 (also designated Model 1956, tilt rod fuze)
- MI AC PED GIAT (item in development, break wire sensor)
- MIACAH F1 (break wire fuze)
- Model 48/55 (can be used with M1954 tilt rod fuze)
- Type 1954 (tilt rod fuze)

Secondary Concern

- ACL 89 (item in development, seismic and IR sensors)
- ACPM (contains secondary fuze wells for antihandling device)
- ATM Heavy (unknown nomenclature, motion sensitive fuze)
- ATM Light (unknown nomenclature, motion sensitive fuze)
- GIAT Lance (magnetic influence fuze)
- HPD (seismic sensor and magnetic influence fuze)
- MACIPE (unknown antihandling capability)
- M AZ AC Wide Area Mine (acoustic sensors)
- MI AC AH F1 (unknown antihandling capability)
- MI AC PED ARGES (in development with GE and UK, IR sensor)
- MI AC Disp F1 (magnetic influence fuze)
- MI AC PM E (pressure plate, unknown sensitivity)
- MI AC PR F2 (pressure plate, unknown sensitivity)
- MI AC DISP (unknown antihandling capability)
- MI AS DISP (unknown antihandling capability)
- MITRAL (item in development, unknown sensitivity of pressure fuze)
- Model 1947 (mine has provisions for one or two booby trap fuze(s), the Model 1951 pull-friction fuze has been known to be used as a booby trap fuze)
- Model 1948 (Model 1952 Pressure/Pressure Release fuze provides an anti-withdrawal feature)
- Model 1948 T (including tilt rod variant)
- Model 1951 -- including all metallic, nonmetallic, tilt rod, and shaped charge variants -- (contains secondary fuze wells for antihandling device, such as M1951 fuze)
- Model 1951 "Grille" (contains secondary fuze wells for antihandling device, cocked striker mechanism in firing chain)
- Model 1952 -- including all metallic, nonmetallic, tilt rod, and shaped charge variants -- (contains secondary fuze wells for antihandling device, such as M1951 fuze)
- Type 542-L (contains secondary fuze wells for antihandling device)
- Type 1953 (uses unknown mine as initiating charge, other fuzing unknown)

GERMANY

Primary Concern

- DM 1233/AT 2 (reported to be also used by UK, FR, IT, NO, inherent antihandling device)
- DM 31 [purchased from Sweden, same as FFV 028] (possible inherent anti-disturbance features in stockpiled mines, new production reported to be without anti-disturbance feature)
- DM39A1 anti-lift device used with DM19 fuze
- DM49 anti-lift device
- K 1 (anti-lift pull fuze)

Secondary Concern

- DM 11 (contains secondary fuze wells for antihandling device)
- DM 21 (contains secondary fuze wells for antihandling device)
- DT 21 (contains secondary fuze wells for antihandling device)
- DYNAMINE AM (unknown antihandling capability)
- MIFF (secondary kill mechanism is plate charges of unknown sensitivity)
- MINOS (acoustic/seismic and IR sensor package)
- PM 60 (contains secondary fuze wells for antihandling device)
- Tarantel Wide Area Mine (item in development, acoustic sensors)

- Tellermines 35, 35(s), 42, 43 (contains secondary fuze wells for antihandling device)

GREECE (signatory only)

Primary Concern

- PYRKAL (appears to have an inherent anti-disturbance device because of design of magnetic influence fuze)

HUNGARY

Primary Concern

- UKA-63 (tilt rod fuze)

Secondary Concern

- CVP 1 Dual Purpose (variable pressure fuze)
- Nonmetallic shaped charge ATM (unknown designation)

ITALY

Primary Concern

- G 50 (initiated either by this pressure fuze or by the adjacent offset pressure tentacle that contains 10 small pressure fuzes. The mine and offset fuze are reported to utilize an integral anti-removal device)
- SB-81/AR-AN (also produced by PO and SP, inherent electronic anti-disturbance feature)
- SB-MV/AR and SB-MV/1 (inherent anti-tilt/anti-opening feature, tilt rod) [SB-MV/1 produced for Australia]
- VS-1.6 EL (inherent electronic anti-disturbance mechanism)
- VS-2.2 Type 2 (when used with VS-N-EL2 electronic pressure fuze, an anti-disturbance feature, also contains inherent motion sensor)
- VS-3.6 (when used with VS-N-EL2 electronic pressure fuze and VS-N/AR-AN fuze anti-disturbance features)
- VS-AT4 EL (inherent anti-lift mechanism)
- VS-HCT (including Mod 1, circuit board has an anti-disturbance switch and seismic sensor)
- VS-HCT 2 (including Mods 1 & 2, fuze may be programmed for anti-disturbance)
- VS-SATM (due to its relatively simple design, the magnetic influence fuze in this mine appears to have an inherent anti-disturbance capability)
- VS-SATM 1 (magnetic influenced fuzing and has an anti-removal device)

Secondary Concern

- ATIS (seismic-magnetic sensor)
- B 2 (motion sensitive firing chain)

- BAT/7 (acoustic sensor and magnetic influence fuze, possible antihandling capability)
- CS 42/2 (cocked striker mechanism in firing chain)
- FD (pressure initiated, sensitivity unknown)
- MAT/5 (anti-disturbance device may be fitted)
- MAT/6 (anti-disturbance device may be fitted, cocked striker mechanism in firing chain, motion sensor)
- MATS/1.4 (unknown antihandling capability)
- MATS/2 (unknown antihandling capability)
- MATS/2.6 (unknown antihandling capability)
- SACI 54/5 (when used with ACS52 anti-disturbance fuze)
- SACI 54/7 (when used with ACS52 anti-disturbance fuze)
- SACI 54/9 (when used with ACS52 anti-disturbance fuze)
- SBP-04 (pressure initiated, sensitivity unknown)
- SH-55 & FD variant (cocked striker mechanism in firing chain)
- TC/ 2.4 (pressure initiated, sensitivity unknown)
- TC/6 (pressure initiated, cocked striker mechanism in firing chain)
- TCE/3.6 (pressure initiated, sensitivity unknown)
- TCE/6 (unknown if versions contain anti-lift or anti-disturbance options)
- VS-2.2 Type 1 (when used with VS-N-EL2 electronic pressure fuze, an anti-disturbance feature)
- VS-9.0 (when used with VS-N-EL2 electronic pressure fuze, an anti-disturbance feature)
- VS-HCT 4 (magnetic influence fuze and seismic sensor)

JAPAN

Secondary Concern

- Type 63 (contains secondary fuze wells for antihandling device)
- Type 63B (contains secondary fuze wells for antihandling device)
- Type 93 (pressure initiated, sensitivity unknown)
- Type 99 (magnetic influence, cocked striker mechanism in firing chain)
- Yardstick Bar Mine (pressure initiated, sensitivity unknown)

NETHERLANDS

Secondary Concern

- Model 25 (contains secondary fuze wells for antihandling device)
- Model 26 (contains secondary fuze wells for antihandling device)
- NR 25 (cocked striker mechanism in firing chain)
- NR 26 (cocked striker mechanism in firing chain)
- NR 26 C1 (contains secondary fuze wells for antihandling device)

PERU

Secondary Concern

- MGP 31 (unknown antihandling capability)

POLAND

Primary Concern

- MN-111 (once armed, initiates on any attempt to move or disturb)
- MN-121 (once armed, initiates on any attempt to move or disturb)
- MN-123 (antihandling features incorporated)

Secondary Concern

- MPP-B (contains secondary fuze wells for antihandling device)

PORTUGAL

Secondary Concern

- M453 (licensed copy of Italian SB-81 AR with electronic antihandling features)

ROMANIA (signatory only)

Primary Concern

- MC-71 (tilt rod fuze)

Secondary Concern

- MAT-46 (copy of Soviet TM-46, contains secondary fuze wells for antihandling device)
- MAT-62B (copy of Soviet TM-62P, contains secondary fuze wells for antihandling device)
- MAT-76 (does not have secondary fuze wells cast into the body, but the thin resin coating can be easily cut away, and an expedient well created in order to fit an anti-lift device)
- MAT-87 (contains secondary fuze wells for antihandling device)
- P-62 (The fuze appears to be very brittle. If it breaks at the shear point, it could cause the mine to function as an antipersonnel mine)

SOUTH AFRICA

Secondary Concern

- Intelligent Horizontal Mine (acoustic and IR sensors)
- No. 8 (contains secondary fuze wells for antihandling device)

SPAIN

Primary Concern

- CETME (inherent anti-disturbance device)
- SB-81/AR-AN (licensed copy of Italian mine, inherent electronic anti-disturbance feature)

SWEDEN

Primary Concern

- M/41-47 (tilt rod fuze, also cocked striker mechanism in firing chain)
- M/44-49B (airfield mine supposed to deter landing aircraft, trip wire activated)
- M/47 (B, C, & D variants) (tilt rod fuze, optional F1 booby trap fuze, cocked striker mechanism in firing chain)
- M/52 and M/52B (tilt rod fuze, cocked striker mechanism in firing chain)
- FFV 028, FFV 028 RU, and FFV 028 SD [sold to Germany as DM 31] (possible inherent anti-disturbance features in stockpiled mines, new production reported to be without anti-disturbance feature)

Secondary Concern

- M43 (unknown antihandling capability)
- M1 101 (contains secondary fuze wells for antihandling device)
- MI 101 (cocked striker mechanism in firing chain)
- MI 102 (cocked striker mechanism in firing chain)
- MI 103 M5 (cocked striker mechanism in firing chain)
- Model 5 (contains secondary fuze wells for antihandling device)
- FFV 018 (IR sensor)
- Mine Fuze 15/16

THAILAND

Secondary Concern

- U/I TH (pressure initiated, sensitivity unknown)

UNITED KINGDOM

Secondary Concern

- Barmine Family and Full Width Attack Mine (FWAM (antihandling fuzes available)
- EP MK 2 (II)
- EP MK 6 (VI)
- IMP (unknown type of influence fuze)

This fact sheet was prepared using the following sources: ORDDATA II, Version 1.0 -- a CD-ROM distributed by the U.S. Assistant Secretary of Defense for Special Operations and Low Intensity Conflict; MINEFACTS, Version 1.2 a CD-ROM distributed jointly by the U.S. Department of State and the U.S. Department of Defense; *Janes Mines and Mine Clearance, 1999-2000*; *Landmine Monitor Report 1999*, published by the International Campaign to Ban Landmines; "Anti-Vehicle Mines equipped with Anti-Handling Devices," an information paper prepared by the International Committee of the Red Cross and distributed at the First Meeting of States Parties in May 1999; and materials contained in Human Rights Watch files.

The Diplomatic History Regarding Antivehicle Mines with Antihandling Devices

On September 1, 1997, the opening day of the Diplomatic Conference on an International Total Ban of Anti-personnel Landmines in Oslo, President Selebi formed five working groups to work on difficult articles. One was the Working Group on Article 2 (Definitions), chaired by Amb. Thomas Hajnoczi of Austria. Amb. Hajnoczi was the person mainly responsible for producing the draft treaty that formed the basis for the negotiations.

The Article 2 Working Group first met on Sept. 3, with some 28 governments participating, as well as the ICBL and ICRC. The United States made a proposal to permit its "mixed mine" systems (with both antipersonnel and antitank mines in a single canister) under the definition of antihandling device a proposal that was eventually rejected by the negotiators. Among its arguments, the US maintained that its mixed mine systems were less dangerous to civilians than the antivehicle mines (AVMs) with antihandling devices (AHDs) permitted under the draft treaty. Canada and Norway responded that AVMs with AHDs that functioned as APMs, that exploded from an innocent act, were not permitted under the treaty. Further discussion was deferred until the following day.

On September 4 the Working Group met again, and discussed Article 2(3), the definition of antihandling device. The language in the draft treaty was identical to the CCW Protocol II: "Anti-handling device means a device intended to protect a mine and which is part of, linked to, attached to or placed under the mine and which activates when an attempt is made to tamper with the mine."

The United Kingdom offered an amendment: "tamper with OR OTHERWISE DISTURB the mine." Norway then proposed to add the word "intentionally": "tamper with OR OTHERWISE INTENTIONALLY DISTURB the mine." A discussion ensued, with Canada, Belgium, Zimbabwe (on behalf of the OAU), Chile, ICBL and ICRC supporting Norway, and Sweden supporting the UK language. Those supporting Norway repeatedly emphasized that the word "intentionally" was needed to establish that if an AVM with an AHD explodes from an unintentional or innocent act, it is an antipersonnel mine, and banned under the treaty. The chair, Amb. Hajnoczi, stated the Norwegian proposal had the most support and asked for consensus. The UK asked for additional time to consider the Norwegian proposal. The following day the chair again asked for consensus on the issue, and the United Kingdom said it would accept "intentionally." The US reserved the right to raise the issue again.

On Monday, September 8, Amb. Hajnoczi reported to the Committee of the Whole the deliberations and recommendations of the Definitions Working Group, including a summary of the discussion on the UK and Norway proposals, and the agreed upon Norwegian language. No comments or objections were made from any delegation. That afternoon, President Selebi went back through articles in the Committee of the Whole, asking for comments, objections or amendments to the recommendations of the working groups, and seeking agreement on each. In the Article 2 discussion, Australia noted the importance of a record of proceedings to assist in interpretations, and asked for recognition of a clear consensus on a number of things, including that antivehicle mines functioning as antipersonnel mines are prohibited by the convention. No dissent or objection was raised by any delegation.

President Selebi left the article open due to a controversy over another matter. The following day that controversy was solved and the Committee of the Whole agreed to all of Article 2. No attempt was made to re-open Article 2 by any delegation during the rest of the negotiations, and the convention was formally adopted on September 18. In its closing

remarks, the ICBL noted the importance of the clear understanding of the negotiators that antivehicle mines with antihandling devices that explode from an unintentional act are to be considered antipersonnel mines and banned by the convention.

(Prepared by Stephen Goose, deputy head of the official ICBL delegation to the Diplomatic Conference)