APPENDIX A
SAFETY

This appendix provides units the necessary information to operate the Javelin missile system safely. Units should develop local directives and SOPs to supplement this appendix with the following information: safety requirements, individual responsibilities, equipment required for handling munitions, location and sequence of operations, protection of soldiers, and clear designations and explanations of responsibilities for operations. Training safety for the Javelin applies to all types of ranges and training sites.

A-1. SAFETY PRECAUTIONS

The backblast of the Javelin comes from the firing of the launch motor and the flight motor. The Javelin has little recoil because the propellant gases escape to the rear of the weapon. This backblast can damage equipment or seriously injure personnel who are too close to the rear of the LTA at time of firing. The Javelin backblast area extends 100 meters to the rear and up to 25 meters to the sides of the launcher and forms a 60-degree danger area. It is divided into a primary danger zone and two caution areas (Figure A-1A, page A-2).

a. **Primary Danger Area.** The primary danger area is a 60-degree included sector, with the apex of the sector at the aft end of the missile launch motor. The primary danger area radius of curvature is 25 meters. Serious injury or fatality is possible for personnel in the primary danger zone during firing. A portion of the primary danger area has been extended forward to the firing line. This portion is within the range of 1 to 5 meters left and right of launch tube centerline.

b. **Caution Area 1**. Caution area 1 is an area extending radially (25 meters) from each side of the primary danger zone to the firing line. Serious hearing impairment or damage from frequent exposure could occur to personnel in this area during firings. Personnel should always wear the approved hearing and eye protection when positioned in Area 1 (Figure A-1A, page A-2).

c. **Caution Area 2.** Caution Area 2 is identified as a 100-meter radius, aft of the launcher and within the 60-degree sector. This area is affected by the activation of the FM pressure relief system. Caution Area 2 is an extension to the rear of the primary danger zone. Hearing impairment and eye damage could occur to personnel that are 10 meters beyond the primary danger zone during firing. Personnel should always wear the approved hearing and eye protection when positioned in Area 2 (Figure A-1A, page A-2).

d**. Area A.** Area A is 500 meters at its widest point for warhead rounds and 200 meters for inert rounds. Area A is measured from the launch point extending 850 meters downrange (Figure A-2B, page A-2). At this point downrange, the flight motor is fully expended. The remaining downrange portion of Area A tapers down to a

200-meter width for warhead rounds and 100-meter width for inert rounds at the maximum range of 4,000 meters. The size of Area A was selected to contain missile and warhead debris from impacts on the boundary and also contain portions of the missile that remain attached to the propulsion section, which may continue to be propelled until FM burnout.

f. **Area B.** Area B contains the debris scatter associated with missile landing at the forward edge of the impact area. This area measures 500 meters deep and about 1,880 meters wide (Figure A-1A).

g. **Area F.** The launcher danger zone (Area F) is the zone aft of the launch tube. Debris, heat, and noise hazards are the major concern within Area F. Figure A-1B also identifies the caution area of the launcher danger zone and related dimensions for normal missile firings.

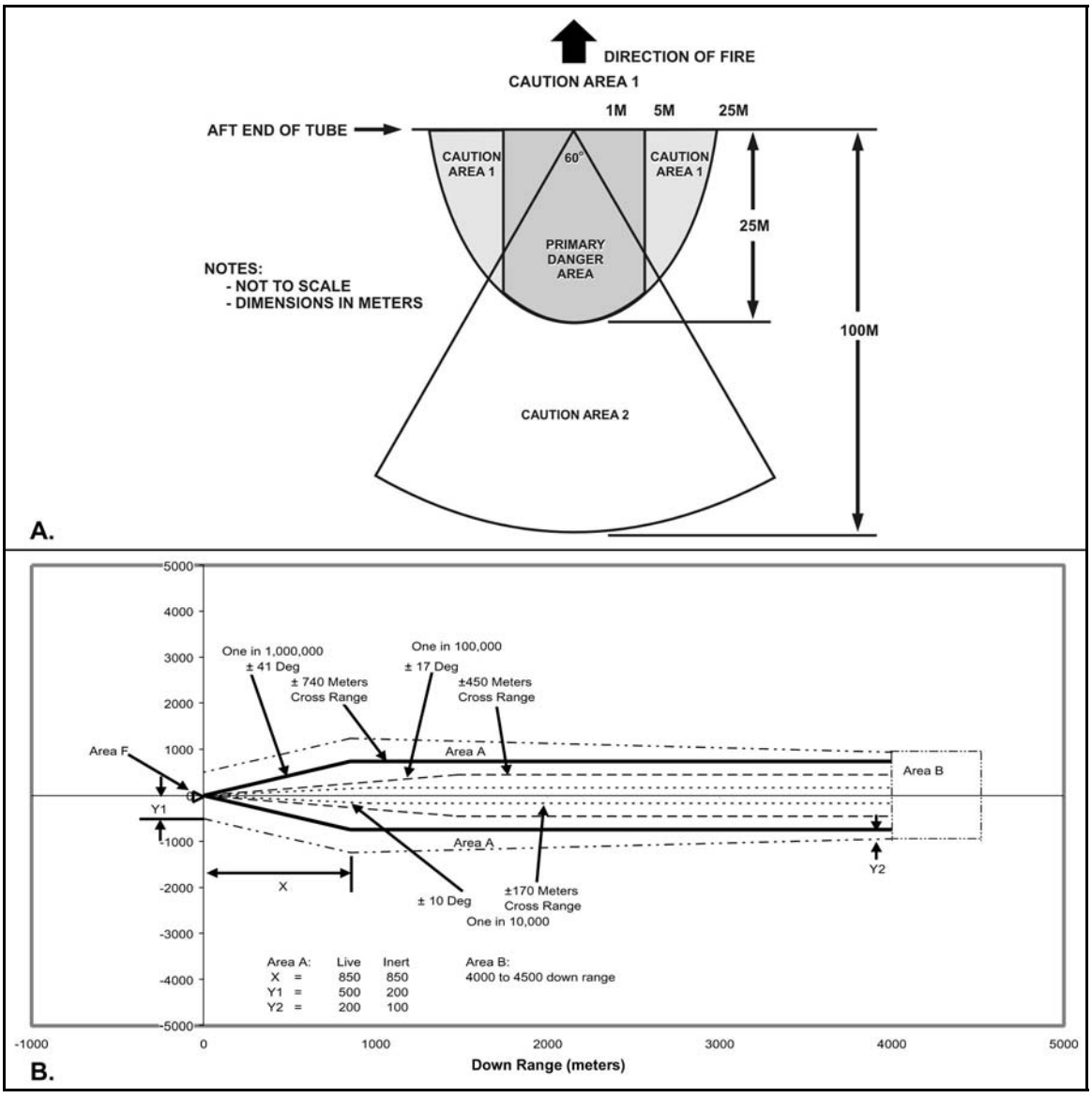

Figure A-1. Backblast area and surface danger zone.

A-2. ROUND HANDLING

Improper or careless handling of the Javelin round can damage its components and cause the missile to malfunction when launched. If the gunner notices any sign that the round may have been dropped or is deformed or fractured, the gunner notifies his supervisor immediately (TM 9-1425-688-12 and TM 9-1300-206).

A-3. FIRING FROM ENCLOSURES

The Javelin can be fired from inside a building provided the room from which it is fired is at least 7 feet high, 12 feet wide, and 15 feet deep. The Javelin has a soft launch system with a two-stage motor. The first motor stage moves the missile out of the tube and downrange a safe distance. The second motor stage fires and propels the missile to the target.

a. **Debris**. Debris and loose objects are cleared from behind the launch site when firing within a confined area.

b. **Venting**. When possible, doors and windows are opened to allow the backblast and overpressure to escape.

c. **Structural Damage**. Escaping gases from the missile's first-stage motor are hot and flammable. The materials that can easily catch fire are removed before firing (for example, some types of curtains and throw rugs). When possible, a fire extinguisher should be present when firing from inside a building.

d. **Hearing Protection**. All personnel within 25 meters of the Javelin must wear hearing protection.

e. **Face Shield**. The face shield protects the gunner's face. It is possible to damage the face shield absorber between the indentation and the CLU main housing. If this part of the face shield is missing, the gunner must switch from firing the Javelin with the right eye to the left eye.

A-4. FIGHTING POSITION

When firing from either a hasty or improved fighting position, the gunner must take into consideration obstructions directly to his front, to his rear, and to the sides of the fighting position. (For more information on fighting positions, see Chapter 4.)

A-5. SAFETY PRECAUTIONS FOR THE MULTIPLE INTEGRATED LASER ENGAGEMENT SYSTEM TRAINING SYSTEM

Avoid direct eye exposure to MILES laser radiation. The MILES laser is classified as a Class 3A laser. *Do not* point the MILES laser at personnel within 49 feet with the unaided eye or 98 feet with the aided eye (binocular). Personnel within the beam path must wear eye protection since direct exposure to the laser radiation or reflection from the beam could cause serious eye injury. If eye exposure to laser radiation is evident, seek medical attention immediately.

A-6. SAFETY PRECAUTIONS FOR THE BATTERY COOLANT UNIT

Observe the following safety precautions for the BCU:

a. **Heat**. Avoid skin contact with the BCU. The BCU can produce enough heat to cause serious burns. If you experience burns from accidental contact with the BCU, seek medical attention immediately.

b. **Hazardous Waste**. The BCU battery and the BA5590/U contains a lithium-alloy thermal battery considered hazardous waste. Disposal of the BCU and BA5590/Uafter use must be IAW TM 43-0003-44.

A-7. SAFETY PRECAUTIONS FOR LIVE ROUNDS

Observe the following safety precautions when firing live rounds:

a. **Malfunctions**. The gunner performs corrective action when he experiences a malfunction. He notifies his supervisor immediately.

b. **Misfire.** Once a round is declared a misfire and will not launch, the gunner places the round 25 meters from the firing position and keeps it pointed downrange.

c. **Hangfire**. Once a round is declared a hangfire and will not launch, the gunner places the round 25 meters from the firing position and keeps it pointed downrange.

A-8. RISK MANAGEMENT

Risk management is the process of identifying and controlling hazards to conserve combat power and resources. This five-step process is integrated into the military decision-making process. The five steps of risk management are:

- Step 1. Identify hazards.
- Step 2. Assess hazards to determine risks.
- Step 3. Develop controls and make risk decisions.
- Step 4. Implement controls.
- Step 5. Supervise and evaluate.

A-9. ACCIDENT REPORTING

Report accidents involving injury to personnel or damage to materiel on DA Form 285 (Accident Report), IAW AR 385-40. Report explosives and ammunition malfunctions IAW AR 75-1.