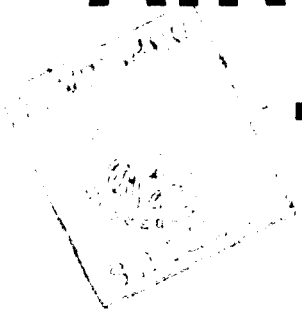
FM 20-16

DEPARTMENT OF THE ARMY FIELD MANUAL

AIR-SUPPORTED TENTAGE



HEADQUARTERS, DEPARTMENT OF THE ARMY
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FIELD MANUAL
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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *6 July 1964*

AIR-SUPPORTED TENTAGE

CHAPTER 1
INTRODUCTION

1. Purpose and Scope

This manual is published to provide information on air-supported tentage. It includes general descriptions and information on erection and striking of the tents and is designed to serve as an aid for training personnel in the use of air-supported tentage as well as a handy reference and guide for load planning purposes. For detailed information on a specific tent, refer to the appropriate technical manual for that particular tent.

2. General Description

At the present time air-supported tentage consists of a high-strength, coated fabric designed to be inflated and supported by a continuous flow or supply of air, and held to the ground or a prepared base by an anchoring system. Fundamentally, an air-supported tent has a partial-sphere shape which may or may not be separated by center sections. Because the tent is supported by air alone, no supporting framework is required.

3. Uses

Air-supported tentage may include, but is not limited to, the following uses:

a. Missile checkout, protective, and maintenance shelters.

b. Radar shelters.

c. Aircraft maintenance shelters.

d. Vehicle maintenance shelters.

e. Equipment maintenance shelters.

f. Storage shelters.

g. Personnel shelters.

h. Field hospitals.

i. Mobile repair shops.

j. Mobile offices.

k. All-weather construction shelters.

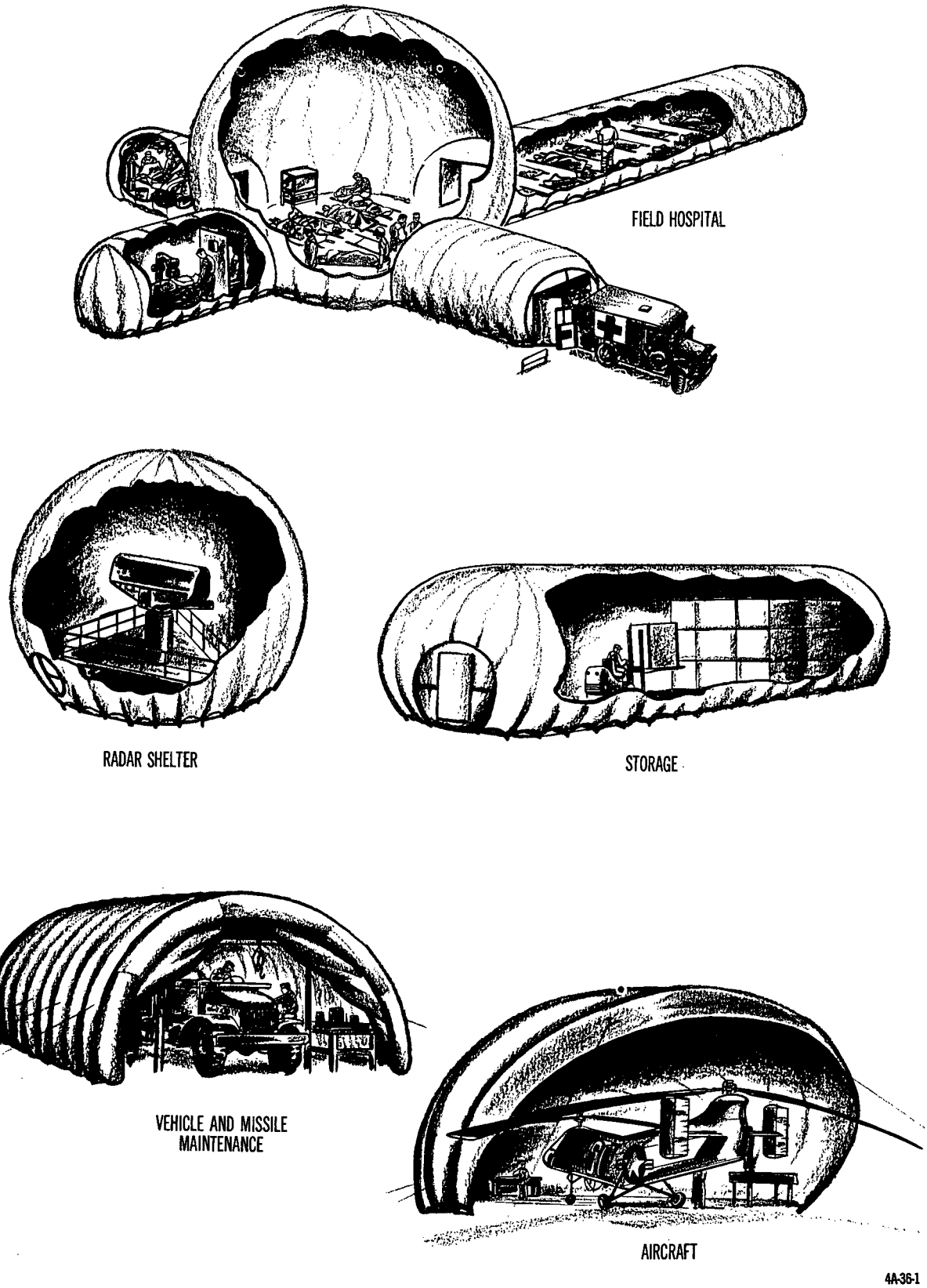


Figure 1. Various uses for air-supported tentage.

CHAPTER 2
SINGLE WALL TENTAGE

4. Concept

The single wall air-supported tent is based upon the principle of equalizing all air pressure within the tent. Like a balloon, in order for the inside air pressure to be equal in all directions, a partial-sphere configuration is necessary (A, fig. 2). Center sections may be placed between the halves of the partial-sphere provided the sections are of an equalizing-curved design (B, fig. 2). A sod cloth extends over and covers the ground for approximately two feet around the interior sidewalls of the tent. The air pressure supporting the tent also holds the sod cloth to the ground and forms an airseal at ground level.

5. Fabric

Envelope material used in air-supported tentage is normally a high strength nylon or polyester base fabric, coated with vinyl or neo-

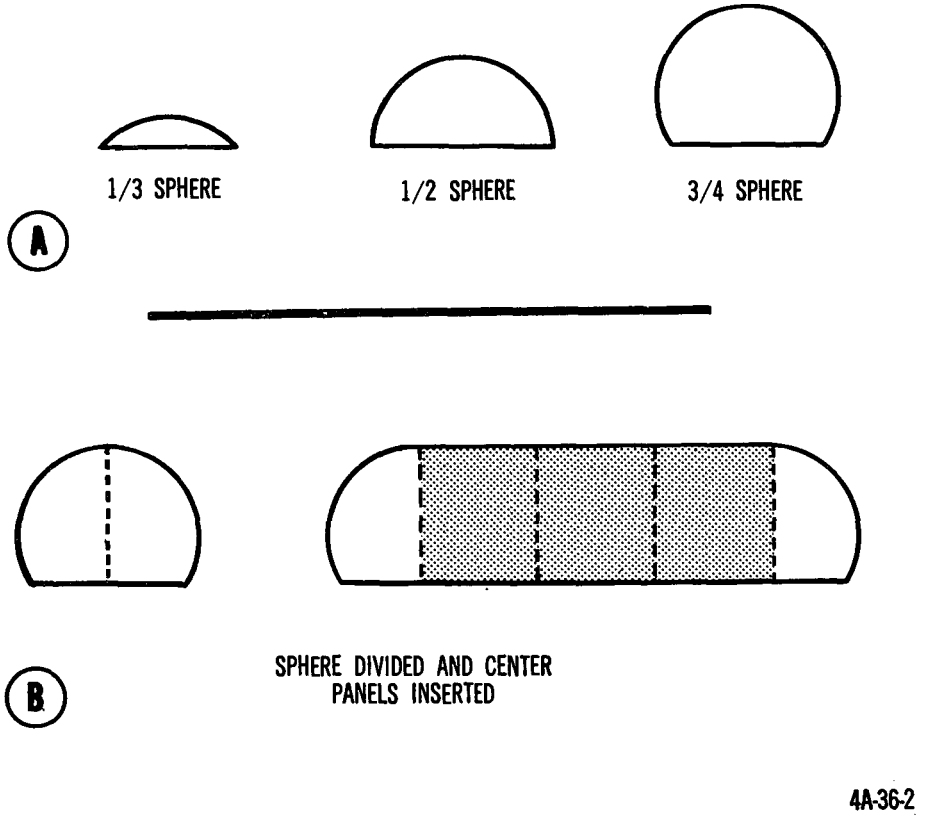


Figure 2. Concept of the single wall air-supported tent.

prene top-coated with hypalon. These fabrics have the following general characteristics:

a. Lightweight, yet highly resistant to wear and tear.

b. Woven and coated to hold and maintain an even pressure of air.

c. Flexible in low temperatures.

d. Resistant to fire, water, weather, and mildew.

6. Fabrication of Tents

The seams formed by the vinyl-coated fabric are electronically heat-sealed or welded in order to retain original strength. The seams formed by the neoprene-hypalon coated fabrics are cemented. Sewing weakens the fabric.

7. Anchoring System

a. General. The single wall air-supported tent differs from past building concepts in that it requires a base to *resist* a force (lift), rather than a base to *support* a force (weight). Anchoring systems for air-supported structures are designed to withstand the extreme lifting force concentrated at each anchor point.

b. Catenary Cable System. The catenary cable arrangement consists of a nylon-coated, stranded steel cable and a catenary sleeve at the base of the tent. The cable is incorporated within the sleeve and is exposed at certain intervals for attachment to permanently installed anchors or temporary ground anchors (fig. 3).

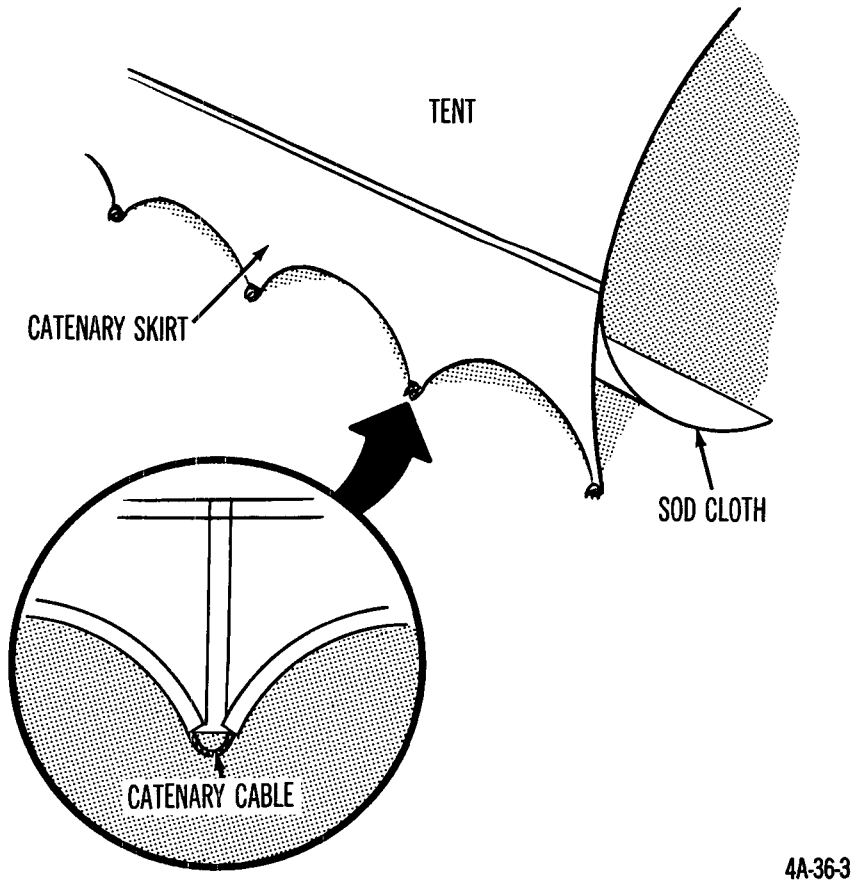


Figure 3. Catenary cable system.

c. *Anchoring Installation.*

(1) *Prepared apron.* Certain air-supported tents, such as the Nike-Hercules Above Ground Launcher, are designed to be erected on a specially prepared apron. This system requires anchors to be installed in a recessed or projected position in a concrete base (fig. 4), and in such a manner as to accommodate an exposed portion of the catenary cable located at the base of the tent.

(2) *Anchor ring.* Certain air-supported tents, such as the radar radomes, are designed to be attached to a mounting ring assembly by means of a pipe ring and bolts. This system requires the bottom edge of the tent to contain a rope hem or welt. Holes are drilled through the tent fabric just above the rope welt to conform to drilled holes in the pipe ring. The tent is anchored by bolting the pipe ring and the tent to the mounting ring (fig. 5).

(3) *Ground.* Other air-supported tents are designed to be attached directly to the ground. To do this, ground anchors such as the auger or arrowhead type (fig. 6) are driven to the necessary depth. Anchor hooks are then attached to the ground anchors, which in turn accommodate the exposed portions of a catenary cable located at the base of the tent.

8. Inflation System

a. General. The heart of the air-supported tent is the blower, which not only inflates the tent, but maintains proper air pressure at all times and under various conditions. For this reason, the blower system is designed to deliver higher capacities than is required under normal conditions. Air is transmitted from the

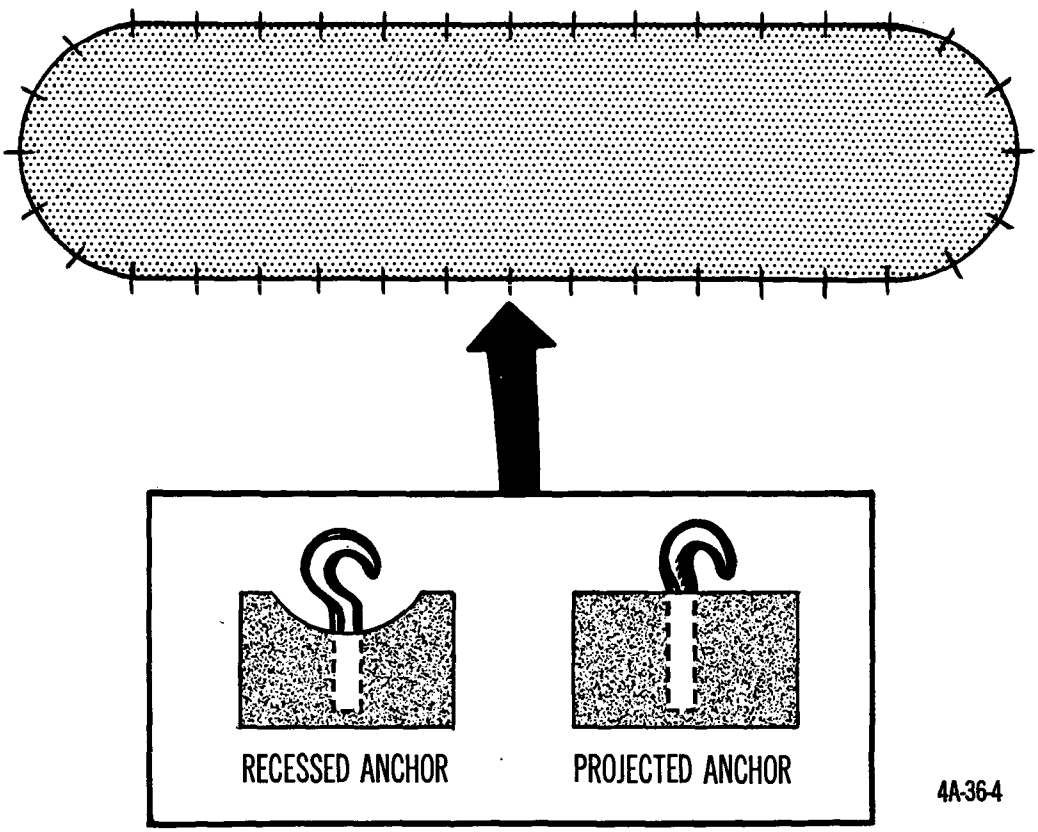


Figure 4. Typical anchor arrangement for an air-supported tent.

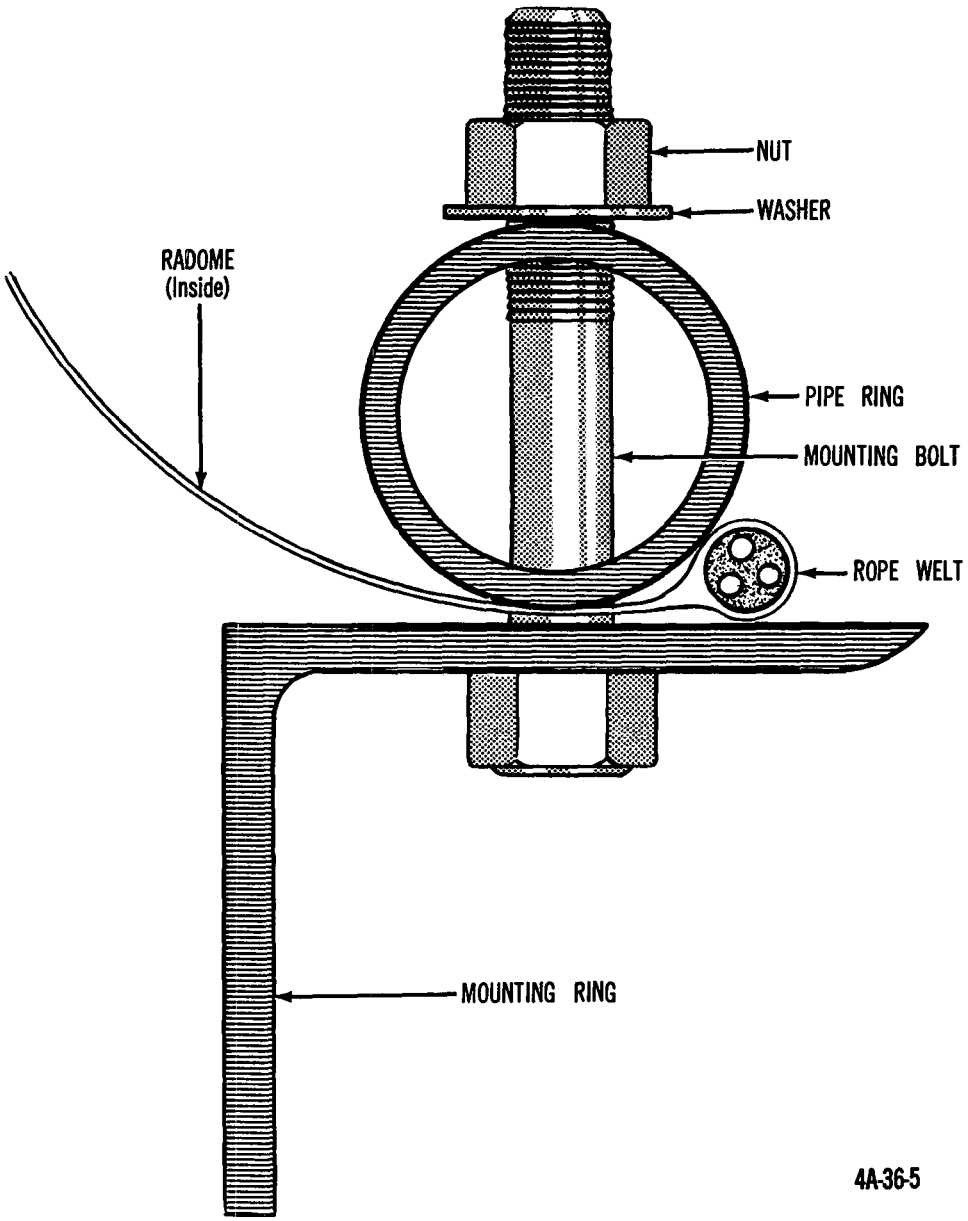


Figure 5. Anchor ring installation.

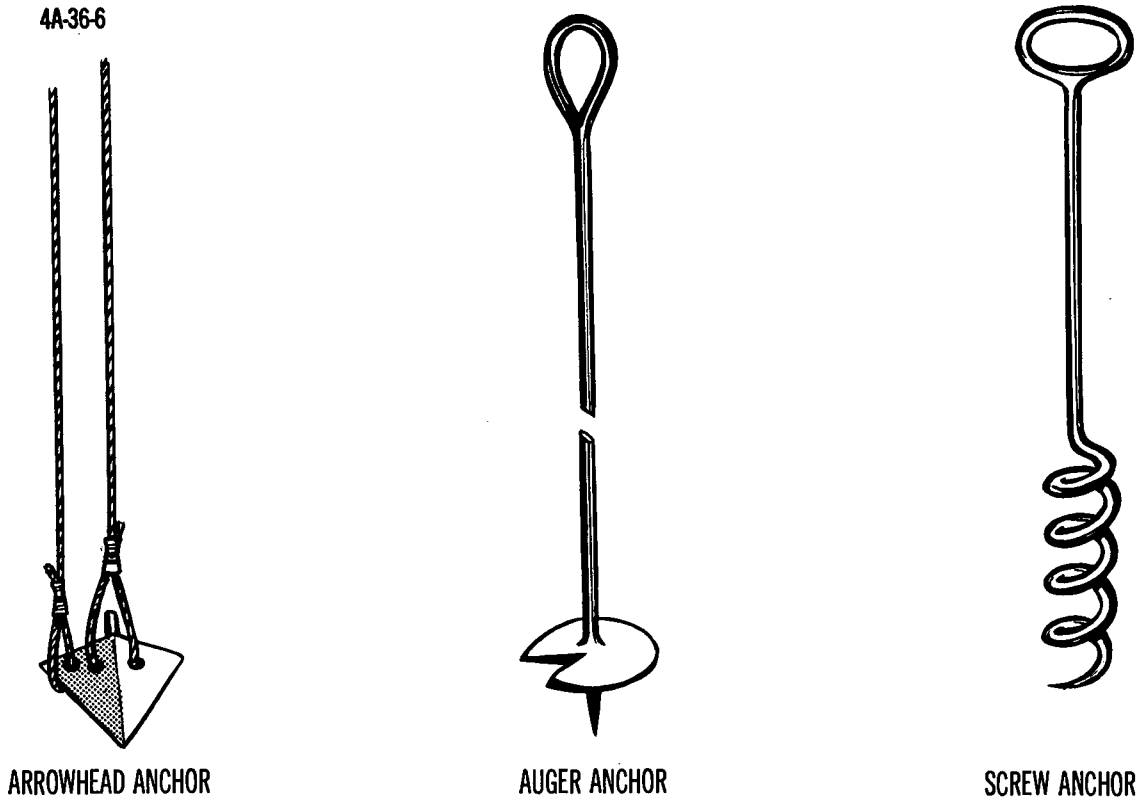


Figure 6. Types of ground anchors.

blower to the tent by means of a blower duct located on the blower and a blower sleeve attached to the tent. The blower is normally a centrifugal fan with a standard motor and is equipped with a filtering system to insure clean air input into the tent (fig. 7).

b. Blower Installation. The blower is normally furnished on a wood skid which may be used to anchor the blower to the ground when ground-anchoring is required. The base of the blower is designed to be anchored to a prepared apron when necessary. In order to prevent wrinkles or crimps in the blower sleeve, which restrict the free flow of air to the tent, the blower must be positioned so that the blower duct corresponds with the blower sleeve.

9. Access Doors

a. General. Any door design that permits easy access of personnel or materiel and allows small loss of supporting air pressure, can be used as an entrance or exit for a single wall air-supported tent. The design of the door depends upon its purpose and frequency of use.

b. Personnel Access. Types of personnel access doors include the—

(1) *Bump-through door.* The bump-through door assembly (fig. 8) consists of a circular area opening in the tent reinforced by a cable welt, and a circular door made of tent material supported by a stainless steel metal hoop welt. The door is suspended by short lines attached to the tent at the top of the circular opening and is stabilized by a tab attached to the door and to the side of the tent. Opening the door consists of pushing (from the outside) or pulling (from the inside) to separate the door from the

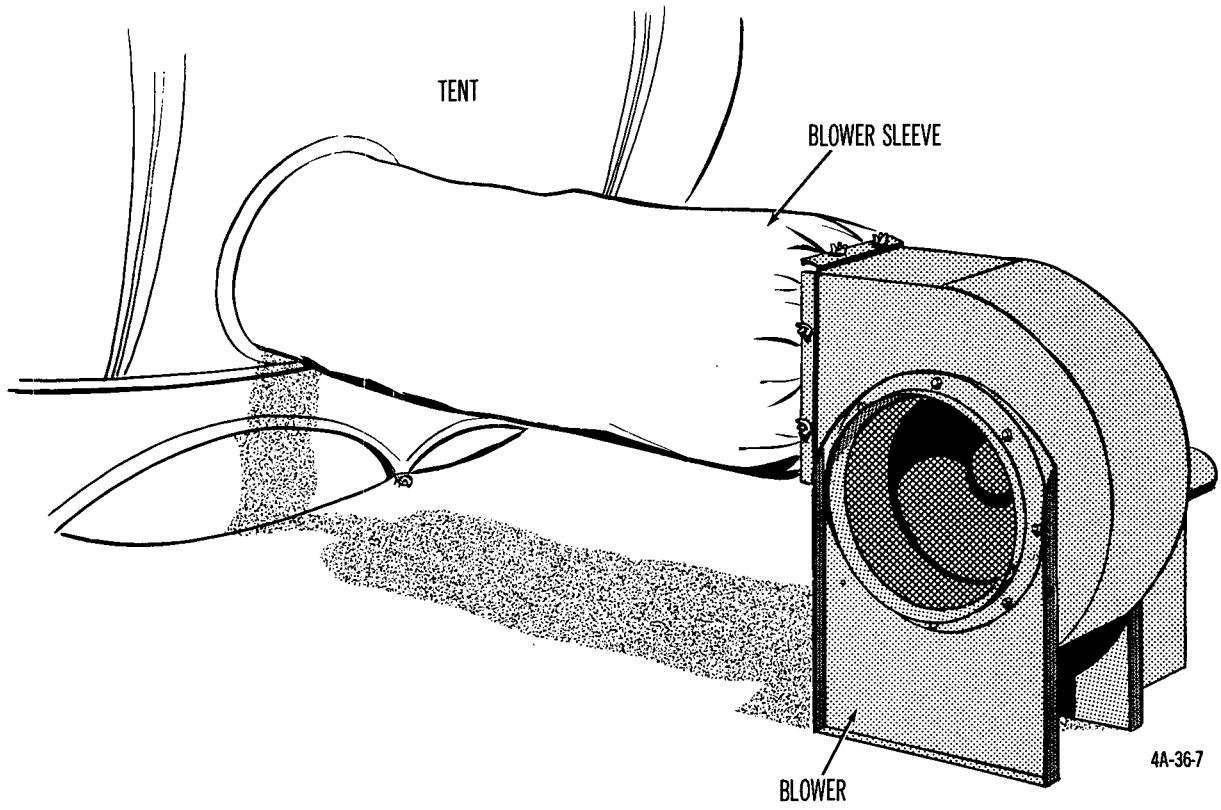


Figure 7. Attachment of blower to an air-supported tent.

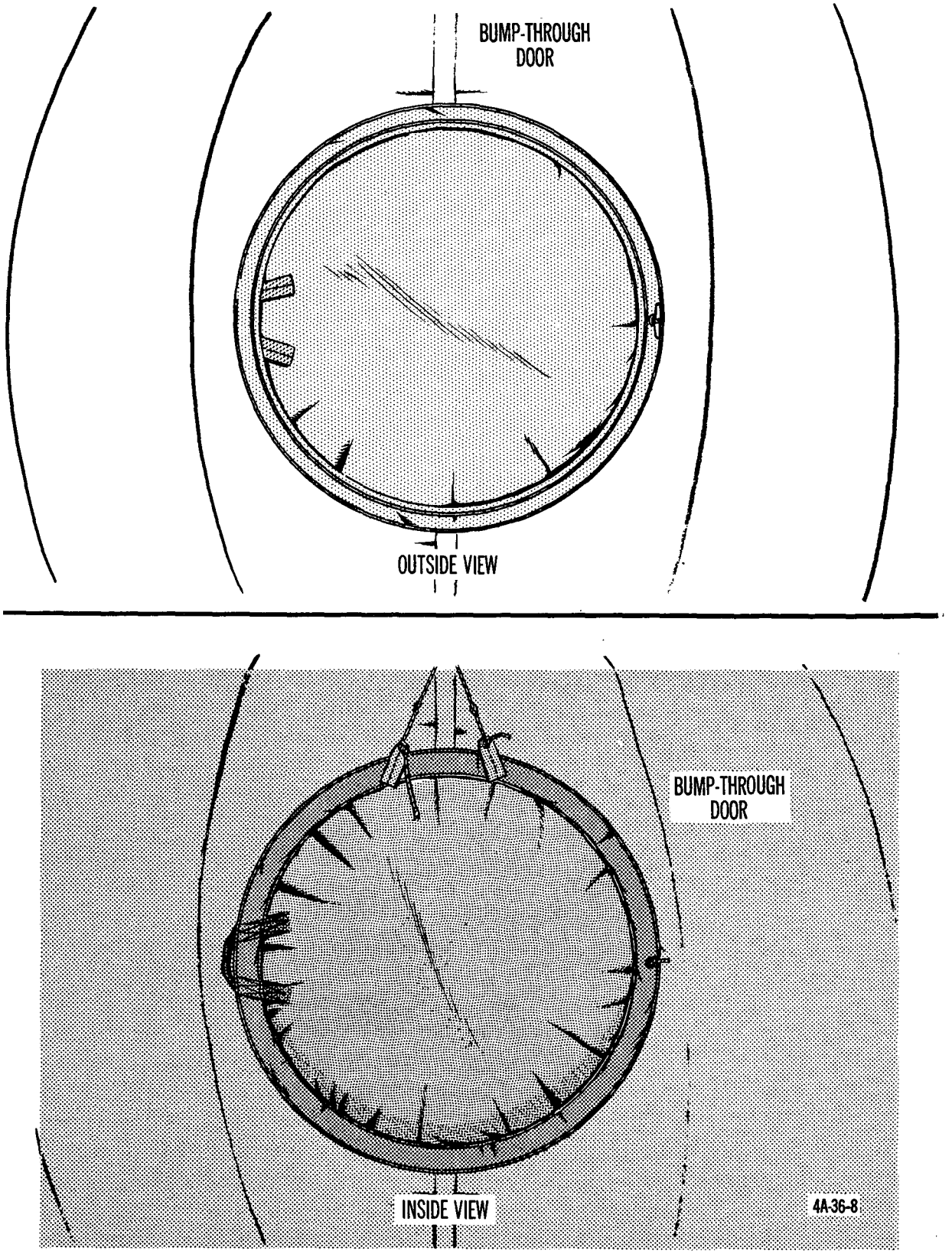


Figure 8. Bump-through door.

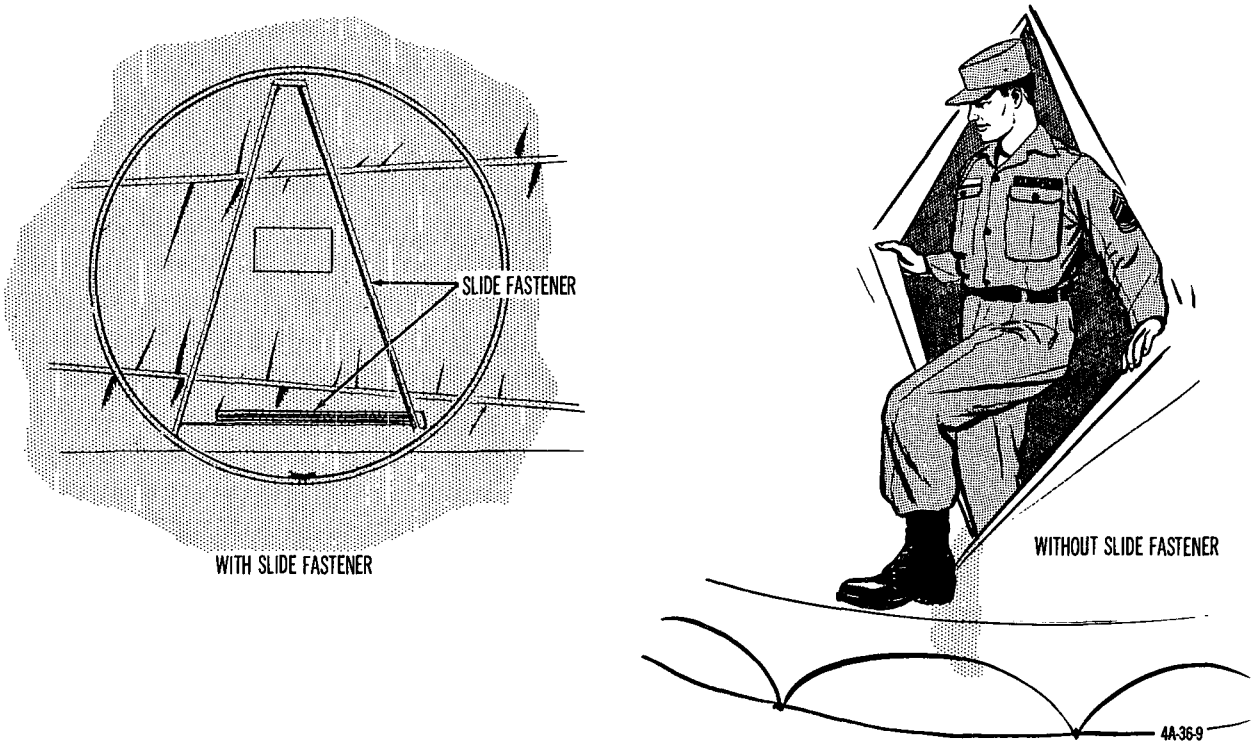


Figure 9. Flap doors.

circular area opening. Inside air pressure closes it automatically.

(2) *Flap door.* The flap door consists of a slit in a reinforced circular area of the tent, with a non-rigid overlapping flap arrangement. It may be closed either by a slide fastener or the inside air pressure (fig. 9).

(3) *Rigid door.* The rigid door assembly (A, fig. 10) consists of an aluminum frame door installed within a reinforced circular area. The door is opened and closed in the normal manner of any standard house door.

(4) *Revolving door.* The revolving door (B, fig. 10) consists of the same type of revolving door used by commercial establishments. It allows entrance and exit simultaneously.

(5) *Vestibule airlock.* The vestibule airlock door (C, fig. 10) can be of a variety of designs; basically, it consists of a smaller tent or constructed corridor with one door opening to the outside and one door opening into the tent. To use the vestibule airlock, enter through one door and close it before using the other door. In order to form an airlock, both doors should *not* be open at the same time.

c. Cargo Access. Types of cargo access doors include the—

(1) *Bumper door.* The bumper door (A, fig. 11) consists of double doors that swing in and out when bumped or pushed from either side. The door hinges are designed to close the doors when not in use. The vertical edges of the doors that meet at the center are designed to form a seal to pre-

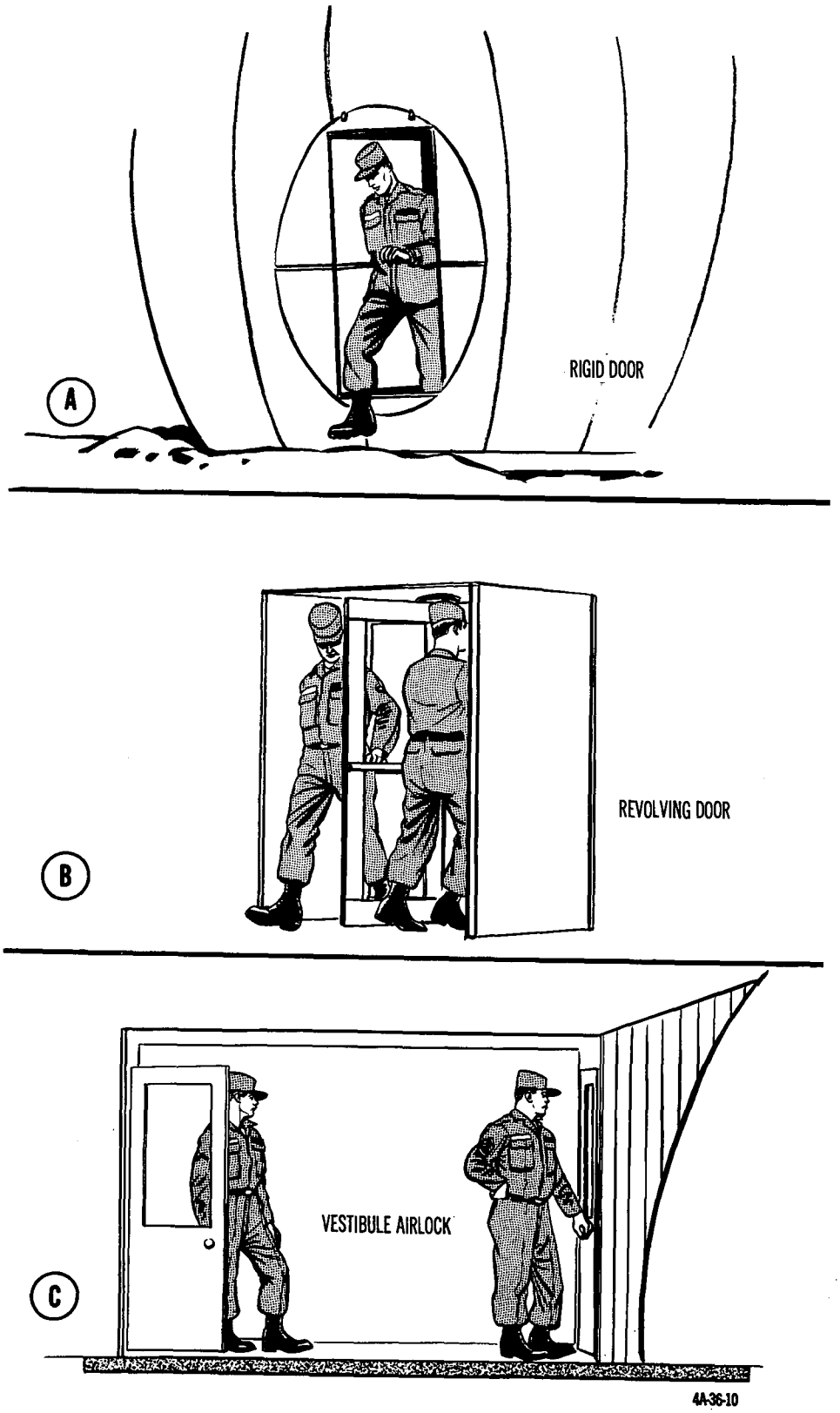


Figure 10. Rigid, revolving, and airlock doors.

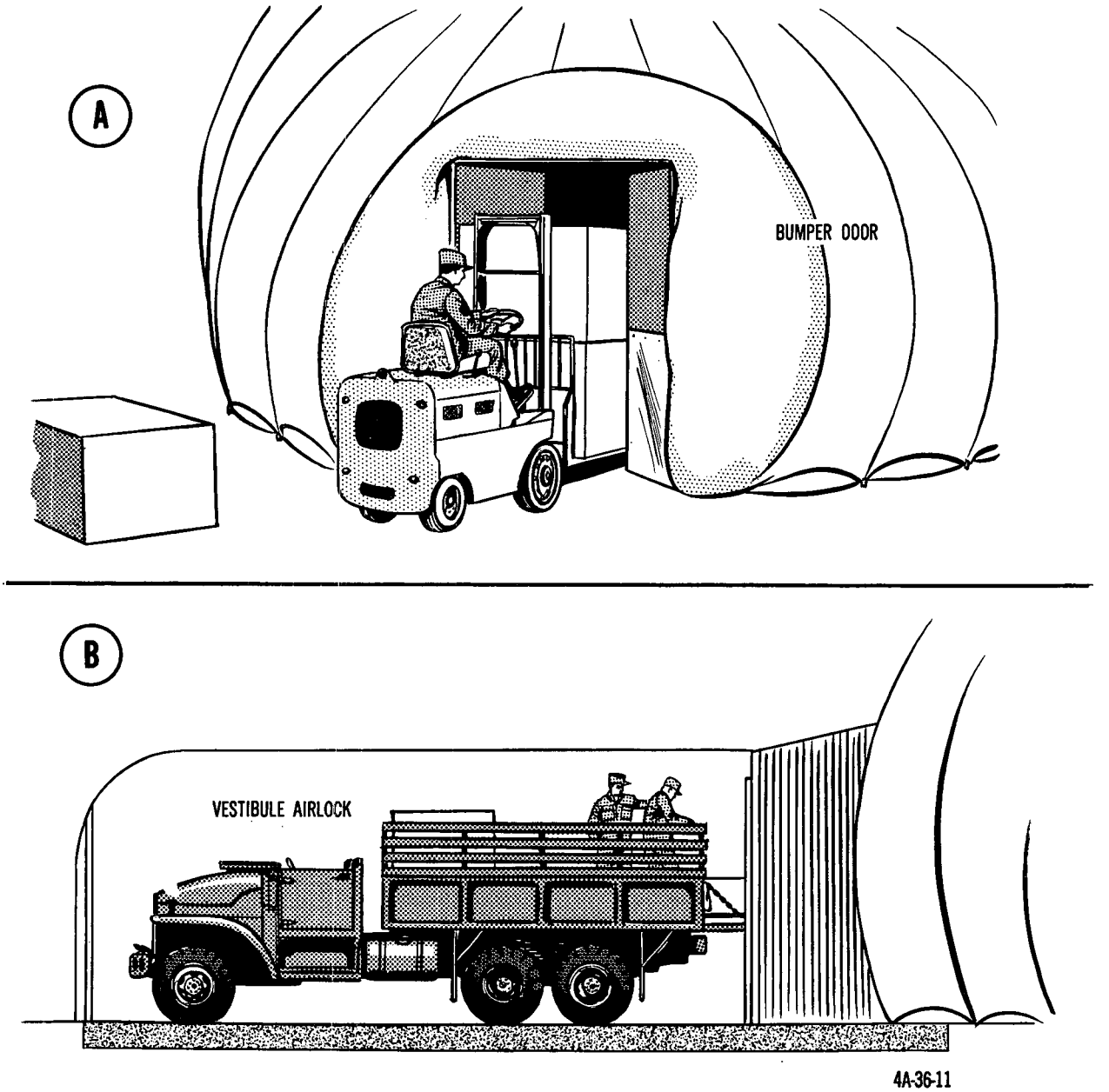


Figure 11. Cargo access doors.

vent loss of air pressure. Both sides of each door are equipped with supporting bumpers.

(2) *Vestibule airlock.* The vestibule airlock door (B, fig. 11) is essentially the same as the personnel access vestibule airlock (*b* (4) above).

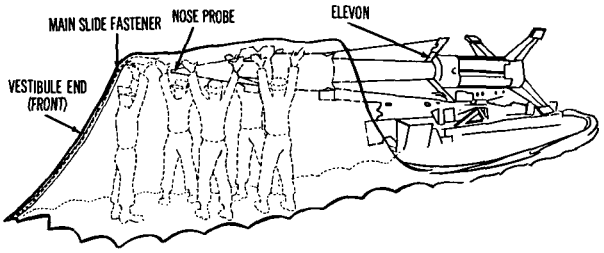
10. Erection and Striking

The particular method of erecting and striking a single wall air-supported tent will depend upon the purpose for which the tent is designed.

a. Erection.

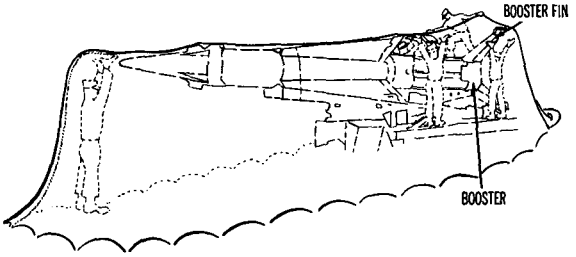
(1) *General.* Generally, the tent envelope is unfolded, placed near the appropriate anchor points (fig. 4), anchored (para. 7), and inflated (para. 8).

(2) *Other.* Certain tents require erection *over* an emplaced item. Erection procedures employed are normally compatible with the emplaced item being housed. As an example, figure 12 illustrates the method for closing an air-supported tent over a Nike-Hercules missile.

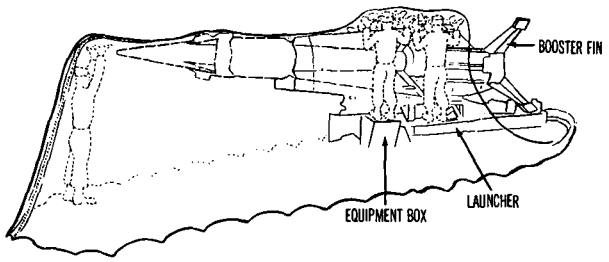


(1) POSITION ONE MAN AT VESTIBULE END OF TENT TO HOLD THE FABRIC AWAY FROM THE MISSILE PROBE.

(2) POSITION TWO MEN AT ONE SIDE OF THE MISSILE TO LIFT THE TENT OVER THE MISSILE TO TWO MEN STATIONED AT THE OPPOSITE SIDE OF THE MISSILE.

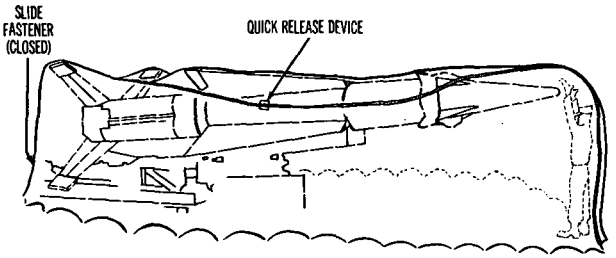


(5) WITH ONE MAN STANDING ON THE MISSILE BOOSTER (BETWEEN THE FINS ONLY), RAISE AND PULL THE TENT HALVES OVER THE FINS TO A POINT WHERE THE SLIDE FASTENER CAN CONTINUE TO BE CLOSED.

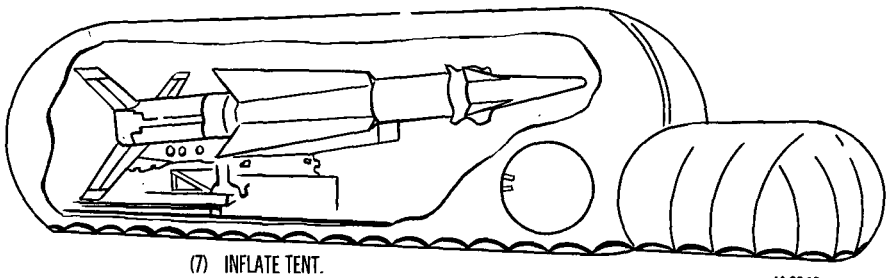


(3) CLOSE THE SLIDE FASTENER, WHICH JOINS THE TWO HALVES OF THE TENT, MAKING SURE QUICK RELEASE DEVICE IS ATTACHED CORRECTLY.

(4) CONTINUE CLOSING SLIDE FASTENER TO A POINT NEAR THE MISSILE BOOSTER FIN BY STANDING ON EQUIPMENT BOX AND LAUNCHER.



(6) COMPLETE CLOSURE OF THE TENT.



(7) INFLATE TENT.

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Figure 12. Method for closing air-supported tent over Nike-Hercules missile.

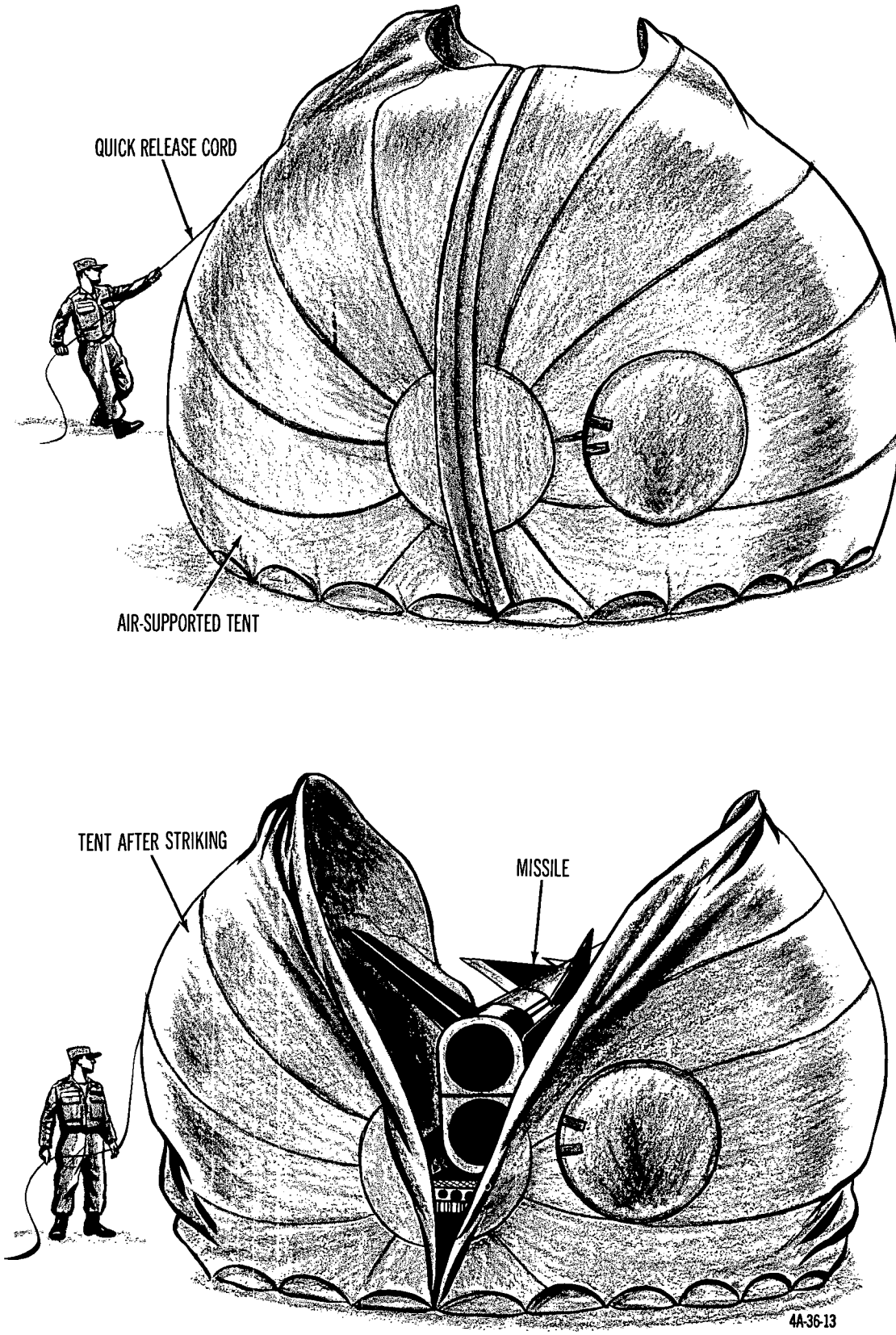

Figure 13. Striking an air-supported tent by means of a quick release device.

b. Striking.

(1) *General.* Generally, striking the tent consists of clearing the area under the tent, turning the blower switch to the OFF position, allowing the tent to deflate, detaching the tent from the anchors and blower, and folding the tent.

(2) *Other.* Certain missile tents require striking within a matter of seconds. To do this, a quick release opening device is utilized. The quick release device, when activated, releases a slide fastener located at the top along the length of the tent. Inside air pressure separates the tent into two sections which fall to either side away from the missile or equipment housed within the tent (fig. 13).

CHAPTER 3
DUAL WALL TENTAGE

11. Concept

The dual wall air-supported tent is based upon a pneumatic principle of compressed air within a flexible tubular-cell container (fig. 14) in order to provide a self-supporting shelter. The tent (fig. 15) normally has an inverted-U configuration with the sides and roof of tubular design and the end sections of single wall curtain design. A ground cloth is attached to the bottom of each side. The dual wall air-supported tent eliminates the requirement for auxiliary frame supports and special access doors, such as the vestibule airlock door (para. 9). The tent normally is designed so that independent sections may be joined together in groups of two or more to form larger tents.

12. Fabric and Fabrication

Except for design the material and method of fabrication used for the dual wall air-supported tent are essentially the same as those used for the single wall air-supported tent (paras. 5 and 6).

13. Anchoring System

For anchoring purposes, the dual wall air-supported tent normally uses guy lines with ground anchors, and ground cloth stakes (fig. 15). Any acceptable type of ground anchor, such as the auger or arrowhead (fig. 6) may be used, depending upon the terrain. The ground cloth is normally secured with tent pins or stakes.

14. Inflation System

The tent is inflated and supported by a centrifugal blower (fig. 15) that can be operated continuously or intermittently, and is required to maintain the desired pressure within the tubular cells. The air is transmitted from the blower to the tent air inlet fitting by means of a flexible duct. When more than one tent section is used, the air is transmitted to each section through a manifold system consisting of a flexible duct that distributes the air to each section of the tent (fig. 15). The inlet fitting at each section is equipped with a valve arrangement that permits one section to be isolated from another section which prevents a major loss of air in case of rupture of one section. The manifold system is designed to be used inside or outside the tent. An air dump with a slide fastener closure is located at the base of each section (fig. 15).

15. Access Doors

a. General. Due to the design of the dual wall air-supported tent, conventional tent access doors at the tent ends can be provided. Because the supporting air is contained within flexible cells, the problem of loss of supporting air when entering and leaving the tent is nonexistent. The purpose of the tent will dictate the design of the access doors.

b. End Closures. End closures (fig. 16) are basically single wall end curtains that are attached to the ends of the main tent. The curtain may be in one piece or divided into parts so that one or both sides of the curtain may be pulled back and held open with ropes and pulleys. The curtains may also be provided with personnel doors and observation windows.

c. Nose-In Closures. Nose-in closures are designed to allow maintenance of large vehicles, such as trucks, tanks, and small aircraft. Nose-in closures may consist of removable coated fabric curtains to fit around the vehicle and an integral curtain for complete closure of the tent.

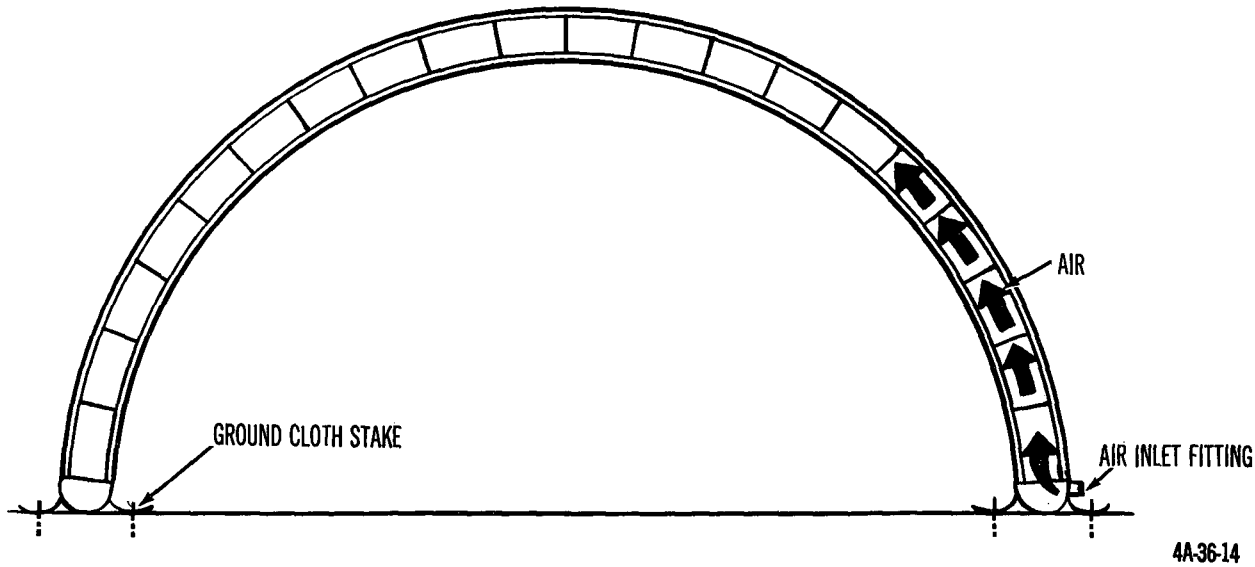

Figure 14. Cross section view of a flexible tubular cell.

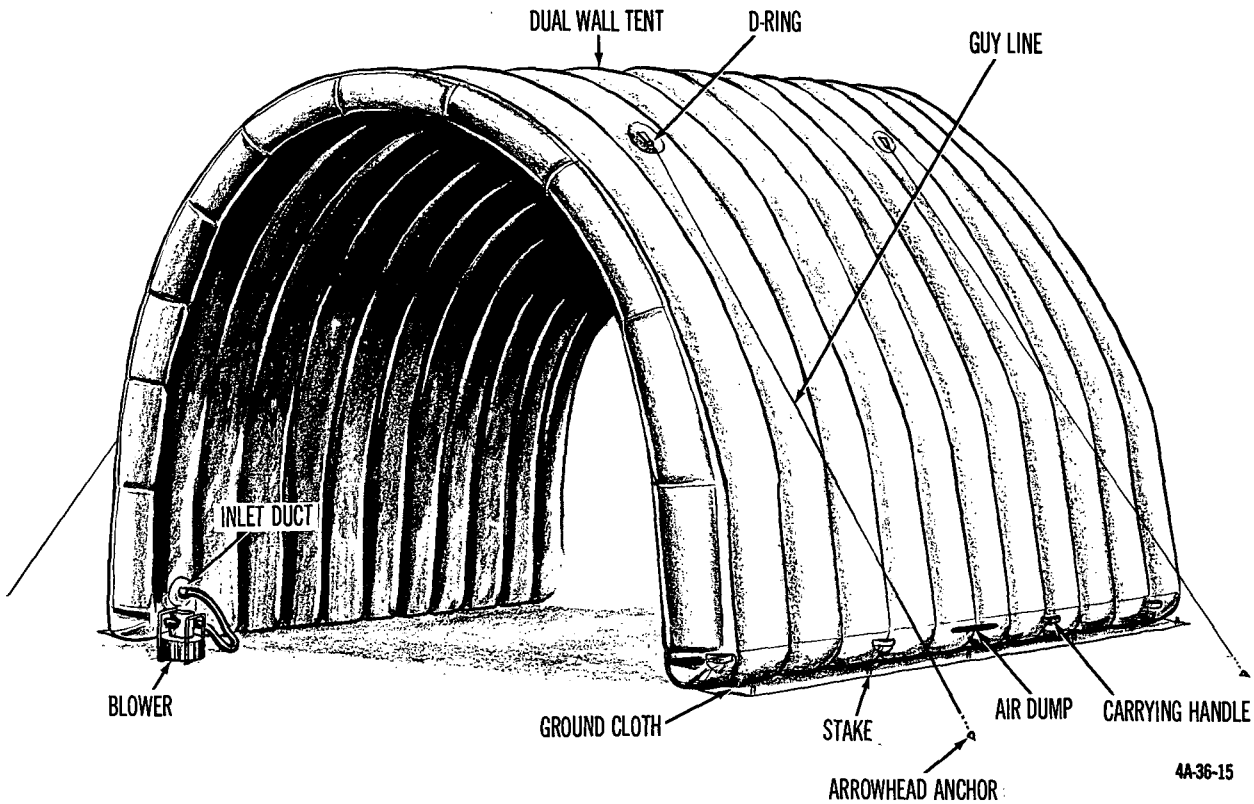

Figure 15. Dual wall air-supported tent.

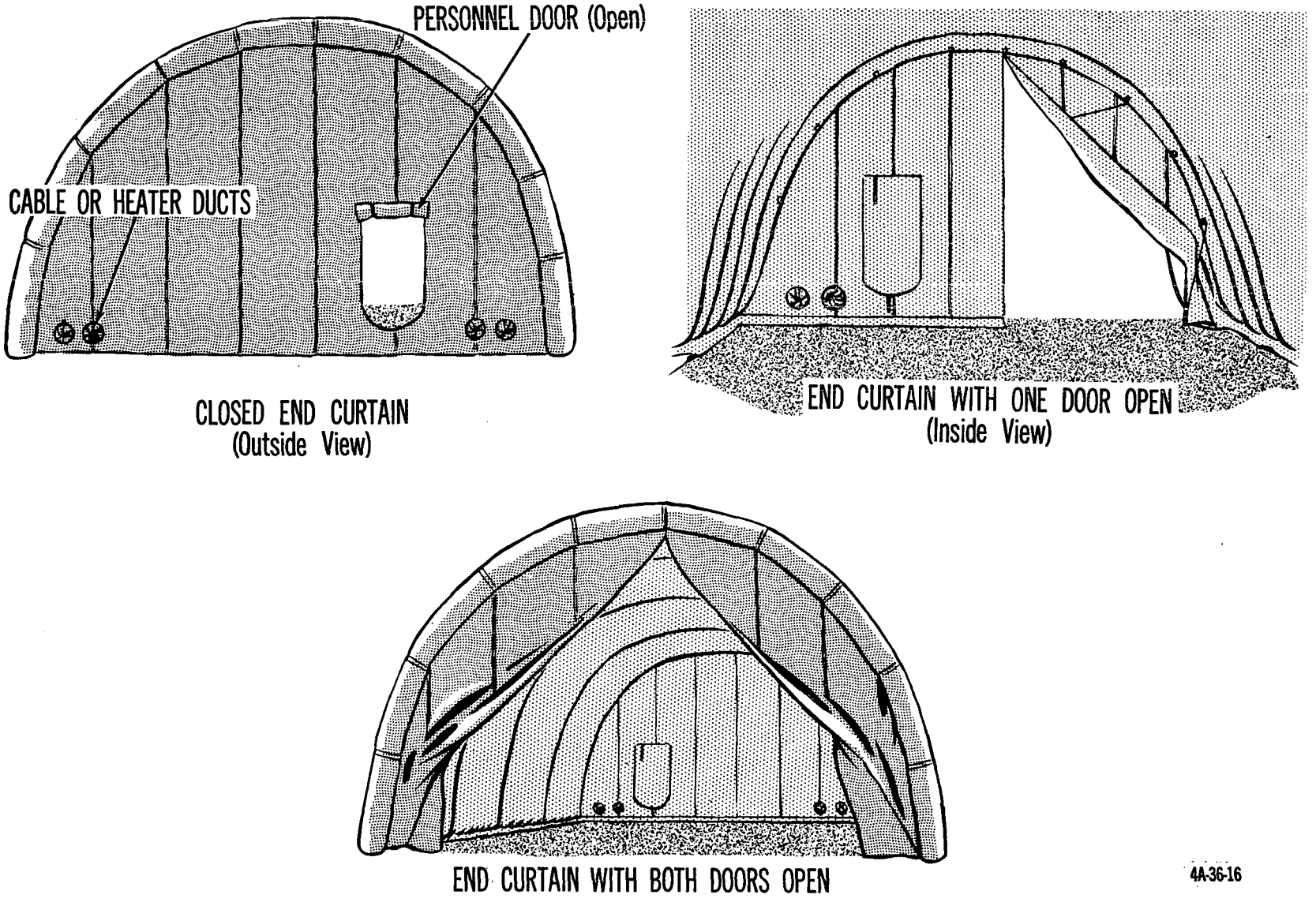

Figure 16. Types of dual wall air-supported tent end closures.

16. Erection and Striking

a. Erection. Generally, the tent section is unfolded and placed on the ground with the blower along-side the tent air inlet fitting; the flexible duct, guy lines, and closures are attached to the tent; the air dump is closed; and the tent is inflated and secured with stakes and ground anchors. When more than one tent section is used, the sections are buckled together loosely before inflation and the buckles tightened after inflation (fig. 17).

b. Striking. Generally, striking the tent consists of clearing the area under the tent, detaching guy lines and ground cloth stakes, disconnecting the ducts, opening the air dump and allowing the tent to deflate, and folding the tent, always working the entrapped air toward the open air dump.

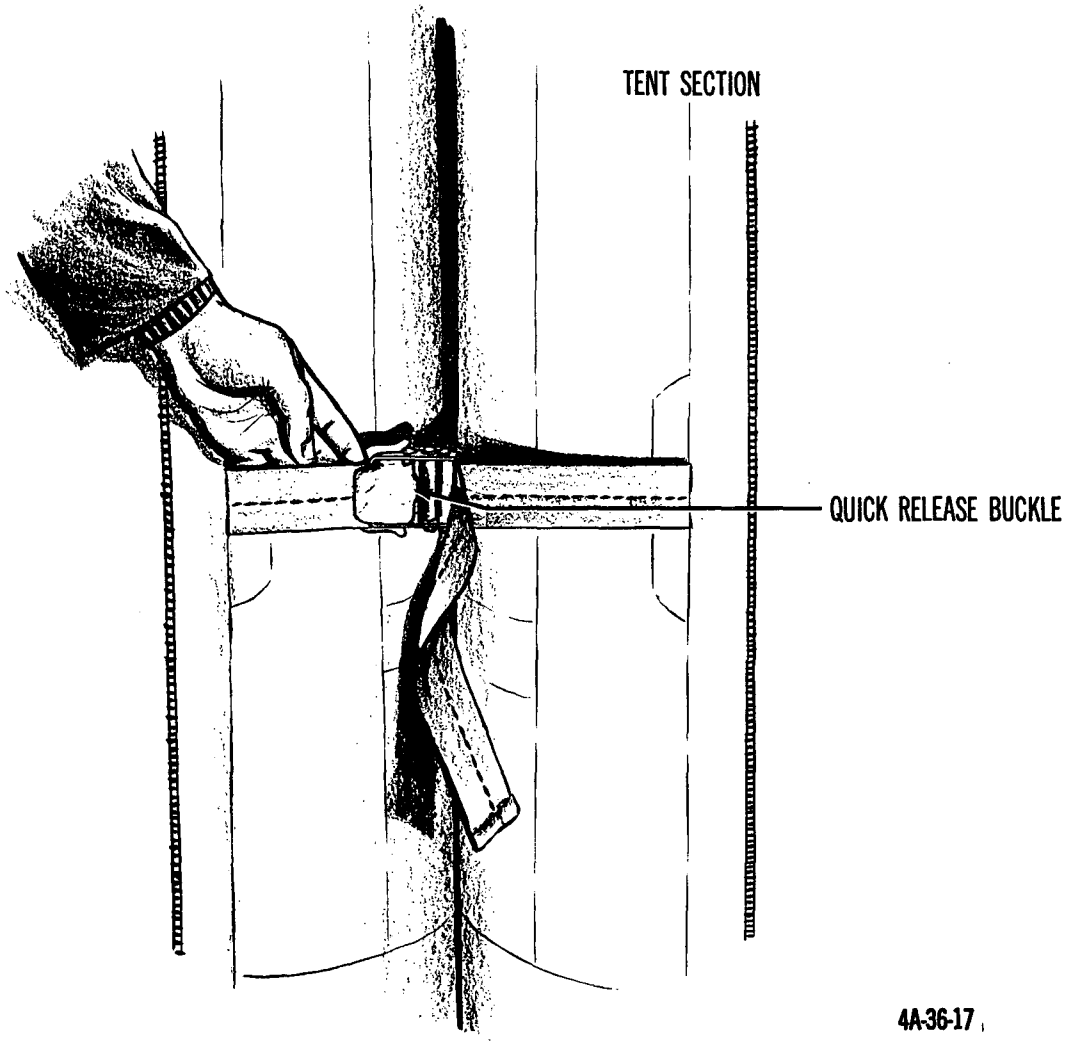

Figure 17. One method for buckling tent sections together.

CHAPTER 4
INSPECTION, CLEANING, AND CARE

17. Inspection, Cleaning, and Care

Detailed instructions for maintenance of specific tents are included in the appropriate technical manual for the particular tent. Proper care for air-supported tentage includes inspection, cleaning, and general care.

a. Inspection. To make certain that an air-supported tent is ready for operation at all times, it must be inspected frequently so that defects may be discovered and corrected before they cause serious damage or failure. Pay particular attention to the following:

(1) *Material.* Inspect the envelope material for holes, cuts, defective stitching and cementing, and signs of extreme wear.

(2) *Cords.* Check to see that all cords are attached properly and are not torn or deteriorated.

(3) *Slide fasteners.* Check to see that all slide fasteners are clean and lubricated, if required, and operate properly. See that slide fastener tapes are not torn or deteriorated.

(4) *Metal items.* Check to see that metal items such as snap fasteners, grommets, hooks, snaps, cables, and other devices are not loose, bent, broken, or missing.

b. Cleaning. Clean all cloth material, including webbing, with a soft brush, cloth, or mop using clear water. Remove oil or grease with kerosene or 140° F. flash dry cleaning solvent. *Do not* clean the material with the solvent used in patching procedures. Clean all metal components with a clean, dry cloth or with a wire brush, if necessary.

c. General Care. General care of air-supported tentage is based on common-sense precautions and procedures. Brushing or sweeping the fabric before folding and packing will remove grit and minimize abrasive damage to the fabric coating. Walking on or dragging the tent will damage the fabric coating. Packing hard objects such as tent pins and anchors will tear the material. Sharp, rough, or hot objects will puncture the material, especially when the tent is inflated. Folding the tent when it is wet increases deterioration of the material. Thoughtful and careful handling will greatly increase the service life of both single wall and dual wall air-supported tentage.

d. Tent Trench. Air-supported tents erected on prepared aprons will have built-in provisions for water drainage. Unless otherwise directed, when a tent is erected on heavy soil or clay, a trench should be dug because the surfaces of these soils hold water and will not readily absorb rain. To trench a tent, proceed as follows:

(1) Dig around the tent by cutting 3 to 5 inches straight down, just outside the tent area; do not dig in a V-shape. Slope the side away from the tent inward toward the straight (or dam) side (fig. 18).

(2) Slope the trench enough so that the water will flow freely toward the outlet and not back up.

(3) Dig an outlet ditch at the lowest point of the area and connect it to the trench which has been dug around the tent.

(4) When there is a possibility that water may flow in from higher ground, dig a ditch to divert the water before it can reach the tent.

18. Temporary Storage

Clean all components, fold tent fabric, and pack in provided containers. Store containers in covered area if possible, or cover with paulins if containers are stored in open. Place containers at least 6 inches off the ground. Cover items if no container is available.

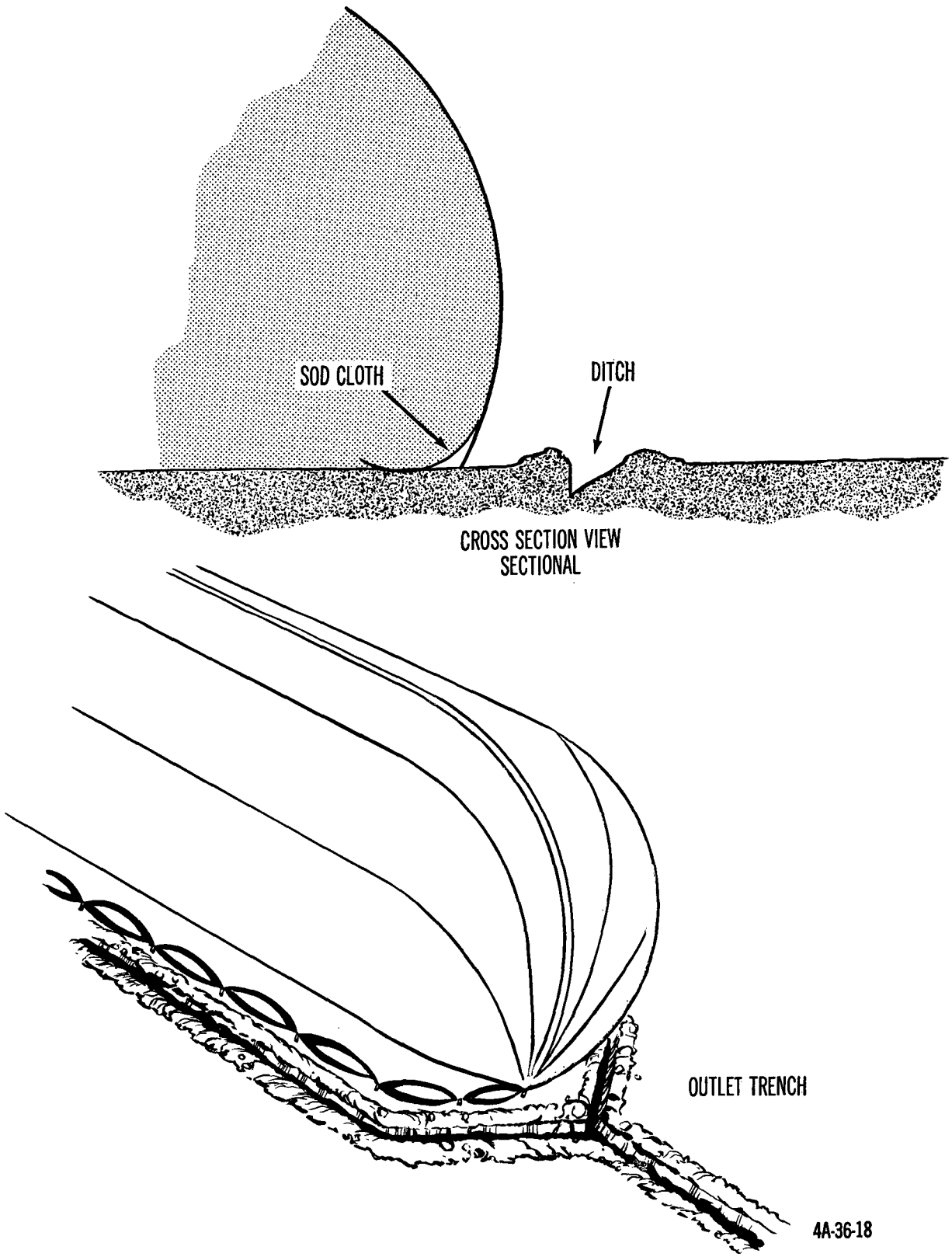

Figure 18. Trenching a tent.

APPENDIX I
REFERENCES

AR 320–5	Dictionary of United States Army Terms
AR 320–50	Authorized Abbreviations and Brevity Codes
AR 385–40	Accident Reporting and Records
AR 735–35	Supply Procedures for TOE Units, Organizations, and Non-TOE Activities
AR 750–5	Organization, Policies and Responsibilities for Maintenance Operations
DA Pam 108–1	Index of Army Motion Pictures, Film Strips, Slides, and Phono-Recordings
DA Pam 310–1	Index of Administrative Publications
DA Pam 310–2	Index of Blank Forms
DA Pam 310–3	Index of Doctrinal, Training, and Organizational Publications
DA Pam 310–4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 4, 6, 7, 8, and 9), Supply Bulletins, Lubrication Orders, and Modification Work Orders
DA Pam 310–5	Index of Graphic Training Aids and Devices
FM 20–15	Tents and Tent Pitching
FM 21–6	Techniques of Military Instruction
FM 21–15	Care and Use of Individual Clothing and Equipment
TM 5–4450–200–15	Fan, Centrifugal: Multiblade, Vertical Intake Plenum; Frame Mounted
TM 10–8340–201–10	Operator's Manual: Tent, Nike-Hercules, Air Supported (FSN 8340–656–0999)
TM 10–8340–201–25	Organizational, Field and Depot Maintenance Manual; Tent, Nike-Hercules, Air Supported (FSN 8340–656–0999)
TM 10–8340–201–25P	Organizational, Field and Depot Maintenance Repair Parts and Special Tool Lists: Tent, Nike-Hercules, Air Supported (FSN 8340–656–0999); Fan Centrifugal, Peerless Model D222F–CE (FSN 4450–707–6645)
TM 38–230	Preservation, Packaging, and Packing of Military Supplies and Equipment
TM 38–750	The Army Equipment Record System and Procedures
TM 57–210	Air Movement of Troops and Equipment
MWO 10–8340–201–50/3	Tent, Nike-Hercules, Air Supported, FSN 8340–656–0999: Close Front Personnel Door, Vent Hood, and Missile Nose Hatch; Install Door, Panel, and Dee Ring Chape; Reinforce Catenary; Change Features of Quick-Release Assembly
SB 38–8–1	Storage of Army Supplies and Equipment in Shed and Open Storage

APPENDIX II.
PLANNING DATA

1. Tent, Nike-Hercules, Air-Supported (FSN 8340–656–0999)

(fig. 19)

a. Purpose. To provide environmental protection to the Nike-Hercules Missile and to maintenance personnel during maintenance and servicing operations.

b. Status. Standard.

c. Description. The tent is air inflated and supported by a continuous flow of air. It is partial-sphere shaped and is designed in lengthwise noninterchangeable halves. The halves are joined together with a lengthwise slide fastener, which is interrupted at the top center of the tent by a quick release device, used to strike the tent in a matter of seconds. A vestibule, attached to the main tent with two slide fasteners, acts as an airlock when special equipment is brought into the tent. The tent is equipped with a bump-through personnel door and a catenary cable anchoring system.

d. Fabric. The tent is fabricated from 5.5 oz. per square yard nylon, both sides vinyl resin coated, 18 oz. maximum weight per square yard after coating, water resistant white, Federal Standard 595, Shade 27778.

e. Dimensions.

(1) *Length (with vestibule):* 71 ft. 4⅝ in.

(2) *Width:* 15 ft. 4⅜ in.

(3) *Height (at center):* 12 ft. 11 in.

f. Area.

(1) *Without vestibule:* 945 sq. ft.

(2) *With vestibule:* 995 sq. ft.

g. Weight. 625 lb.

h. Cubage. 198 cu. ft.

i. Cost. $2,800.

j. Erection. 5 men—1 hour (instructions for erection are affixed to the tent).

k. Striking. 4 men—½ hour (instructions for striking are affixed to the tent).

l. Accessories. Hand tools for erection and striking.

m. Portability. Vehicle and aircraft.

n. Associated Equipment. Centrifugal fan.

(1) *Manufacturer:* Peerless Electric.

(2) *Frame:* P213J.

(3) *Horsepower:* 3.

(4) *RPM:* 1,150.

(5) *Phase:* 3.

(6) *Cycles:* 60.

(7) *Volts:* 208/416.

(8) *Amperes:* 10/5.

(9) *Heat Rise:* 55° C (centigrade).

(10) *Duty:* Continuous.

(11) *Enclosure:* Total.

(12) *Overall dimensions.*

(*a*) *Length:* 6 ft.

(*b*) *Width:* 3 ft. 6 in.

(*c*) *Height:* 7 ft.

(13) *Weight:* 800 lb.

o. Special Equipment. Materials handling equipment to handle centrifugal fan and motor.

p. Auxiliary Equipment. Cover for tent; protective covers for booster fins and elevons; and frame arch assembly (3 sections).

q. Life Expectancy.

(1) *Field:* 3 years.

(2) *Storage:* 5 years.

r. Equipment Publications.

(1) TM 10–8340–201–10 Operator's Manual: Tent, Nike-Hercules, (FSN 8340–656–0999) Air-Supported.

(2) TM 10–8340–201–25 Organizational, Field, and Depot Maintenance Man-

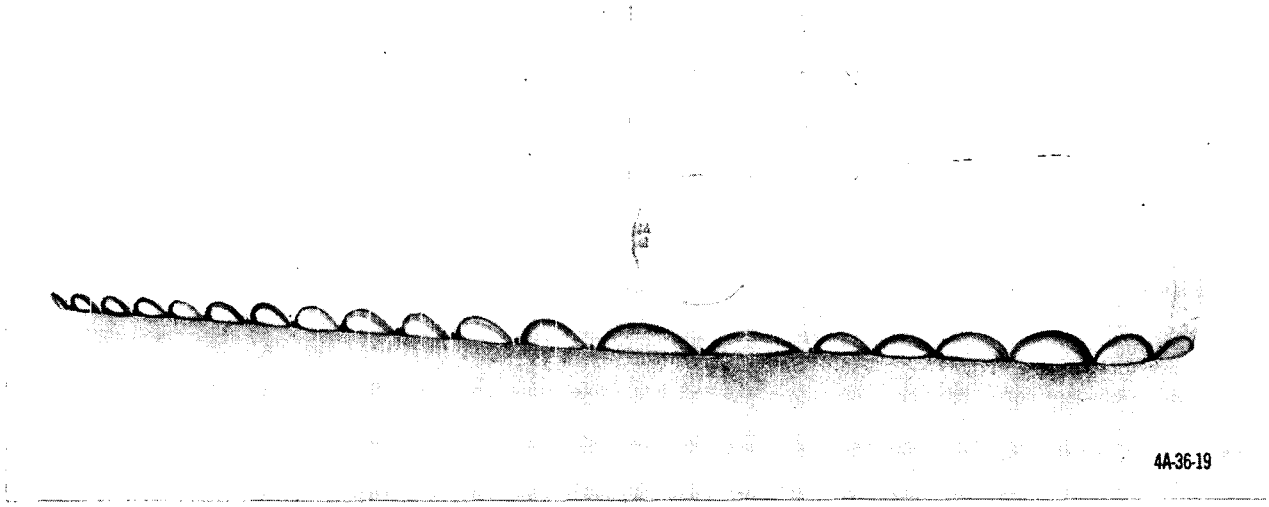

Figure 19. Tent, Nike-Hercules, air-supported.

ual: Tent, Nike-Hercules, Air-Supported (FSN 8340–656–0999).

(3) TM 10–8340–201–25P Organizational, Field, and Depot Maintenance Repair Parts and Special Tool Lists: Tent, Nike-Hercules, Air-Supported (FSN 8340–656–0999); Fan, Centrifugal, Peerless Model D222F–CE (FSN 4450–707–6645).

2. Tent, Air-Supported, Dual Wall, Assembly Area, Nike-Hercules, Mobile System

(fig. 20)

a. Purpose. To provide environmental protection to the Nike-Hercules Missile and to the personnel who perform the war-heading and assembly operations.

b. Status. Standardized by Ordnance at Technical Committee Meeting, 10 May 1962.

c. Description. The tent is hemi-cylindrical shaped and is of dual wall construction. It is inflated and supported by air and has single wall, inverted-V end curtain closures. Each curtain half has a personnel door and a roll up door to allow the entrance of dollies and vans. Removable end curtain liners are provided for use when necessary. The tent consists of six 12-foot sections joined with catenary and snap fasteners, which facilitate handling and transport and allows tent erection by personnel wearing cold weather clothing. A manifold inflation system is used to inflate and maintain the desired tent support air pressure. The tent can withstand windloads up to 100 miles per hour and is operational at temperatures from 125° F. to —40° F.

d. Fabric. The tent is fabricated from neoprene-hypalon coated nylon cloth.

e. Dimensions.

(1) *Length:* 72 ft.

(2) *Width:* 48 ft.

(3) *Height:* 24 ft.

f. Area. 3,456 sq. ft.

g. Weight.

(1) *Tent (6 sections):*	3,825 lb.
(2) *Frame and piping:*	800 lb.
(3) *Inflation system:*	475 lb.
(4) *Anchors and pins:*	410 lb.
Total	5,510 lb.

h. Cubage. 494.5 cu. ft.

i. Estimated cost. $20,000.

j. Erection. 10 men—3 hours.

k. Striking. 10 men—1 hour.

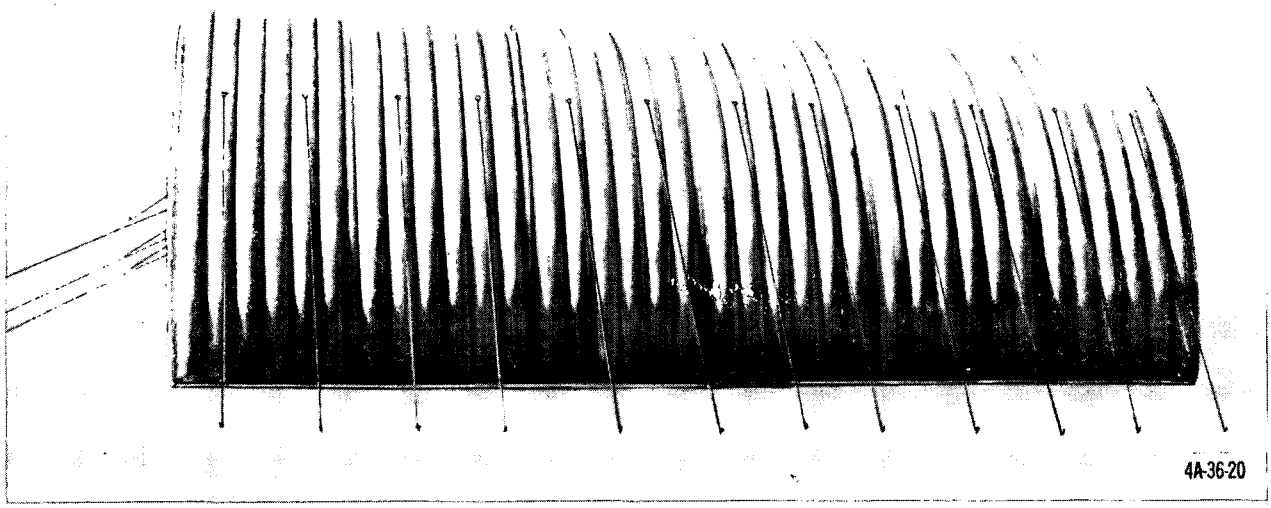

Figure 20. Tent, air-supported, dual wall, assembly area, Nike-Hercules, mobile system.

l. Accessories. Hand tools for erection and striking.

m. Portability. Vehicle, aircraft, and capable of being man-handled.

n. Associated Equipment. Blower; lighting, heating, and maintenance equipment.

o. Power Requirements:
120/208 volts
400 cycle
3 phase

p. Special Equipment. None.

q. Auxiliary Equipment. Covers for tents; end curtain liners.

r. Life Expectancy.
(1) *Field:* 3 years.
(2) *Storage:* 5 years.

3. Tent, Maintenance, Multi-Purpose, Air-Supported, Sectionalized, Pershing Missile System

(fig. 21)

a. Purpose. To provide environmental protection to the Pershing Missile and to personnel during maintenance and checkout operations while the missile is mounted on the transporter-erector launcher.

b. Status. Limited procurement type.

c. Description. The tent is hemi-cylindrical shaped and is of dual wall construction. It is inflated and supported by air and has single wall end curtain closures. The tent is designed in four sections which fasten together with quick action buckle assemblies. The sections are identical and can be used singly or in groups of two, three, or four. A manifold inflation system is used to inflate and maintain the desired tent support air pressure. The tent can withstand wind loads up to 80 miles per hour, snow loads up to 10 pounds per square inch, and is operational at temperatures from 125° F. to —40° F.

d. Fabric. The tent is fabricated from 13-oz. neoprene-hypalon nylon cloth, with a top coating of O.D. hypalon on the outside and coated with white hypalon on the inside.

e. Dimensions.
(1) *Length:* 52 ft. (four 13 ft. sections).
(2) *Width:* 20 ft.
(3) *Height:* 12 ft. 6 in.

f. Area. 1,040 sq. ft.

g. Weight.

(1) *Tent (Four sections):*	1,013 lb.
(2) *Blower:*	361 lb.
Total	1,374 lb.

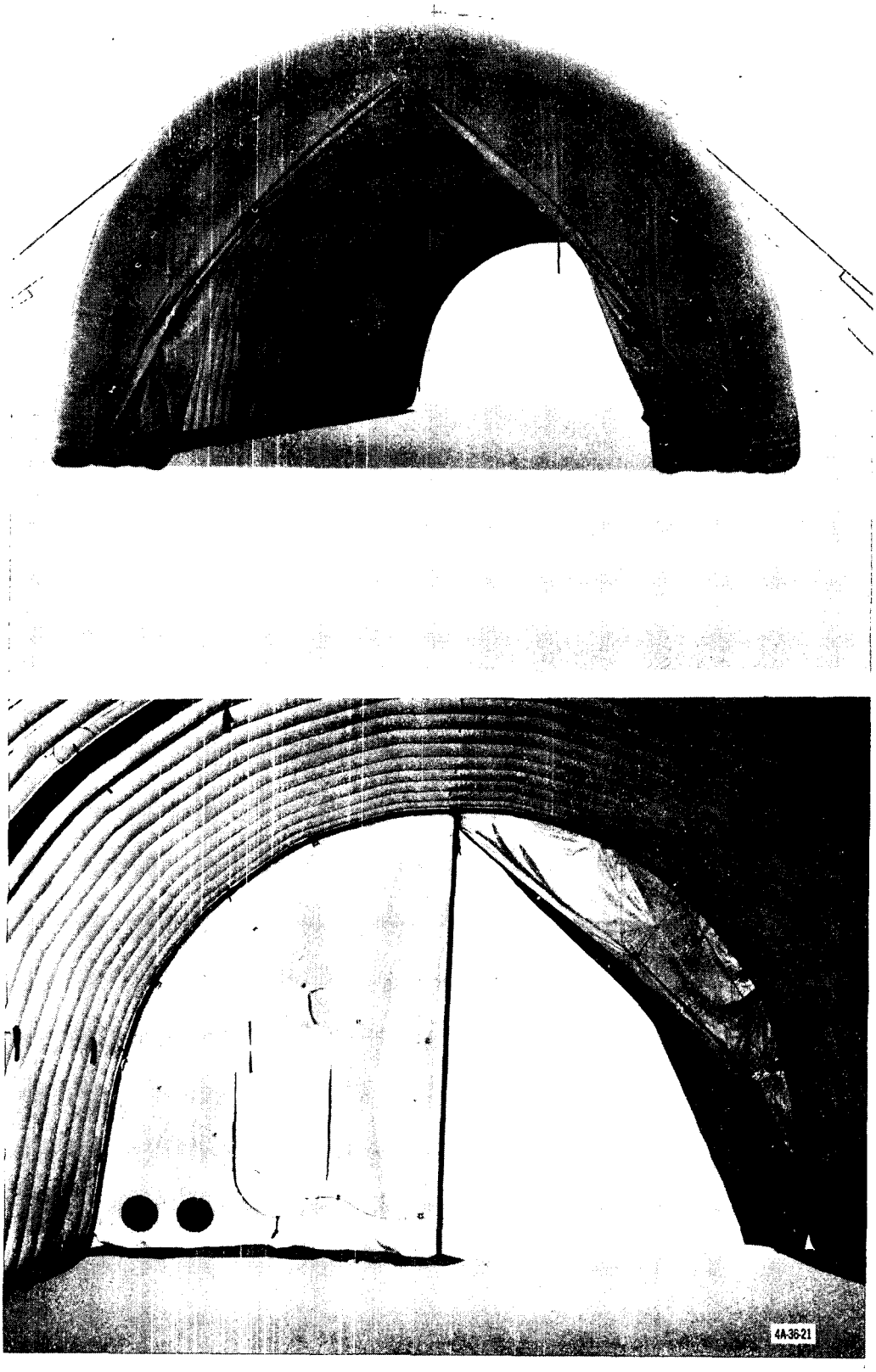

Figure 21. Tent, maintenance, multipurpose, air-supported, sectionalized, Pershing Missile system.

h. Cubage. 128 cu. ft.

i. Estimated Cost. $12,000.

j. Erection. 4 men—1 hour.

k. Striking. 4 men—½ hour.

l. Accessories. Hand tools for erection and striking.

m. Portability. Vehicle, aircraft, and capable of being man-handled.

n. Associated Equipment. Blower; lighting, heating, and maintenance equipment.

o. Power Requirements.
120/208 volts
400 cycle
3 phase

p. Special Equipment. None.

q. Auxiliary Equipment. Tent covers; pole for releasing top center quick action buckles.

r. Life Expectancy.
(1) *Field:* 3 years.
(2) *Storage:* 5 years.

4. Tent, Air-Supported, for Track Antenna and Acquisition Radar, Ground- and Tower-Mounted

(fig. 22)

a. Purpose. To provide environmental protection to personnel and radar equipment at fire control sites.

b. Status. Limited procurement type.

c. Description. The tent is air inflated and supported by a continuous flow of air. It is approximately a ⅝ sphere and is designed in halves which are joined together with a lengthwise slide fastener. The slide fastener is interrupted near the center of the ridge of the tent by a quick release device, used to strike the tent in a matter of seconds. The tent is equipped with a bump-through personnel door and an anchor ring anchoring system.

d. Fabric. Vinyl-coated nylon cloth.

e. Dimensions.
(1) *Base diameters:* 24 ft.
(2) *Major diameters:* 27 ft.
(3) *Height:* 19 ft. 8 in.

f. Area. 452 sq. ft.

g. Weight.

(1) *Tent:*	293 lb.
(2) *Blower:*	736 lb.
Total	1,029 lb.

h. Cubage. 85 cu. ft.

i. Estimated Cost (tent and blower): $2,700.

j. Erection. 4 men—2 hours.

k. Striking. 4 men—1 hour.

l. Accessories. Hand tools for erection and striking.

m. Portability. Vehicle and aircraft.

n. Associated Equipment. Blower, with motor:
2.2 HP—1140 RPM
5 HP—1750 RPM

o. Power Requirements:
120/208 volts
60 cycles
3 phase

p. Special Equipment. Pressure switch and remote control panel.

q. Auxiliary Equipment.
(1) Covers for tent.
(2) Boresight panels.
(3) T-pole for tent erection over radar antenna.

r. Life Expectancy.
(1) *Field:* 3 years.
(2) *Storage:* 5 years.

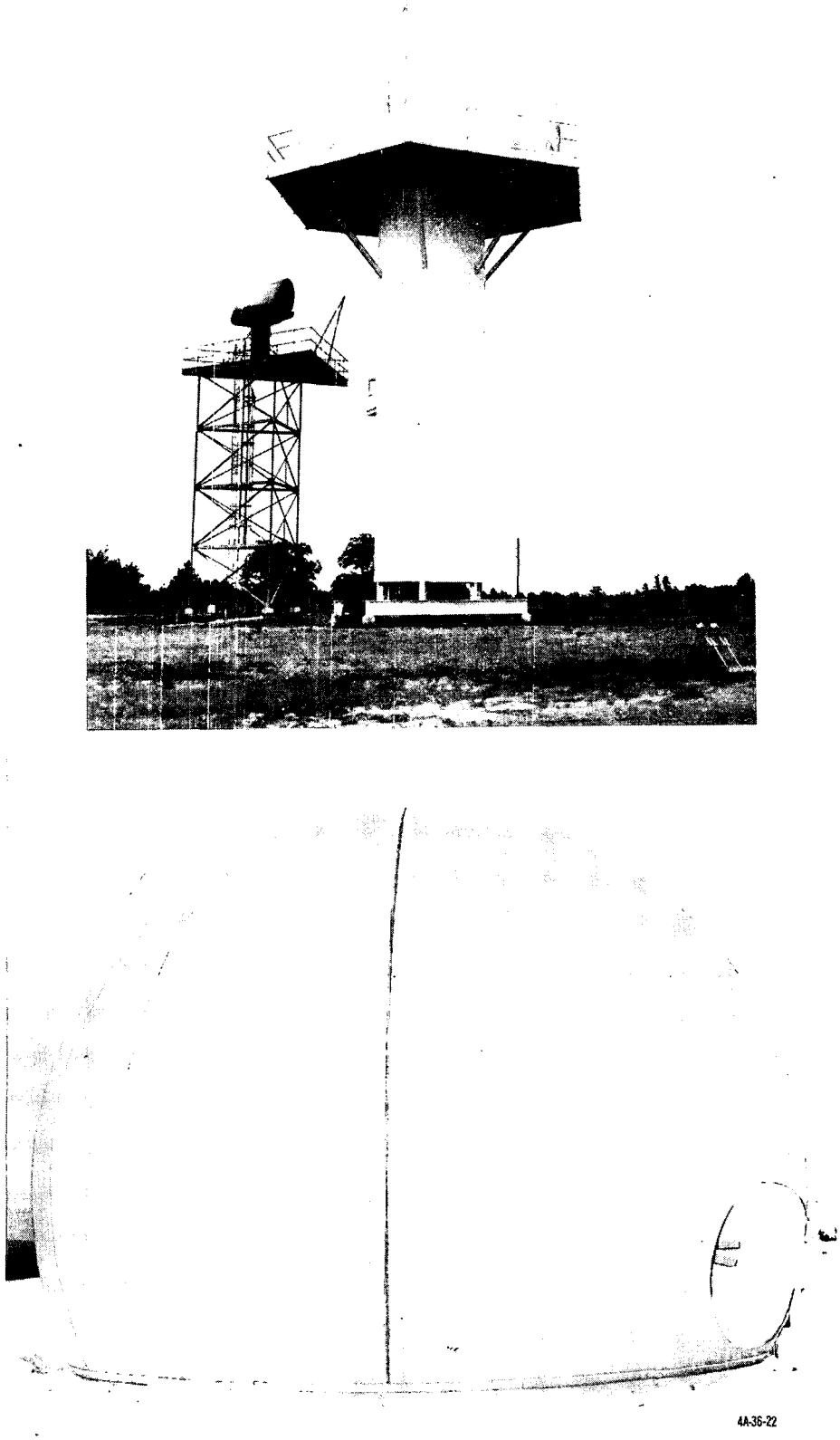

Figure 22. Tent, air-supported, for track antenna and acquisition radar, tower- and ground-mounted.

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USA Corps (3)

NG: State AG (3).

USAR: Units—same as Active Army except allowance is one copy to each unit.

For explanation of abbreviations used, see AR 320–50.

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