
DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL AND DIRECT
SUPPORT MAINTENANCE MANUAL
TENT, SHELTER-HALF (FSN 8340-753-6435);
AND
TENT, MOUNTAIN, TWO-MAN (FSN 8340-254-9017)

Headquarters, Department Of The Army, Washington, D. C.
7 September 1972

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*This manual supersedes TM 10-8340-221-23,24 August 1970.

TM 10-8340-221-13 }
Change No. 2 }

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 17 March 1989

Operator, Organizational and Direct
Support Maintenance Manual
TENT, SHELTER-HALF (NSN 8340-01-026-6096)
AND
TENT, MOUNTAIN, TWO-MAN (NSN 8340-01-059-2430)

TM 10-8340-221-13, 7 September 1972, is changed as follows:

1-3. REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms, or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Troop Support Command. ATTN: AMSTR-MCTS, 4300 Goodfellow Boulevard, St. Louis, MO 631201798. A reply will be furnished directly to you.

Page B-1, Section II, Group 01, Line 6 is superseded as follows: NSN 5325-00-448-8266, Stud, Eyelet, MS27980-26B (Black)

Page B-1, Section II, Group 01, Line 7 is superseded as follows: NSN 5325-00-285-6250, Socket, MS27980-26B (Black).

By Order of the Secretary, of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

WILLIAM J. MEEHAN, II
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:

To be distributed in accordance with DA Form 12-25A, Operator Maintenance requirements for Tent, Shelter-Half & Tent, Mountain, Two-Man.

OPERATOR, ORGANIZATIONAL AND DIRECT
SUPPORT MAINTENANCE MANUAL
TENT, SHELTER HALF (NSN 8340-01-026-6096)
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TENT, MOUNTAIN, TWO-MAN (NSN 8340-01-059-2430)

TM 10-8340-221-13, 7 September 1972, is changed as follows:

Cover page is changed as above.

Page 1-1-Paragraph 1-3- is superseded as follows:

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You can help improve this manual. If you find any mistake or if you know of a way to improve the procedures, please let us know. Mail your letter. DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual direct to: Commander. U.S. Army Troop Support & Aviation Materiel Readiness Command. ATTN. DRSTS-MTT. 4300 Goodfellow Boulevard. St. Louis. MO 63120. A reply will be furnished directly to you.

Page 1-1, Section I-After Paragraph 1-6. Add new Paragraph 1-7 as follows:

1-7. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs)

"EIRs" can and must be submitted by anyone who is aware of an unsatisfactory condition with the equipment design or use. It is not necessary to show a new design or list a better way to perform a procedure; simply tell why the design is unfavorable or why a procedure is difficult. EIRs may be submitted on SF Form 368 Mail directly to U.S. Army Troop Support & Aviation Materiel Readiness Command. ATTN: DRSTS-ME. 4300 Goodfellow Blvd., St Louis MO 63120. A reply will be furnished to you

Page 1-2. paragraph 1-7b line 1 - Delete the following:

This tent is fabricated essentially of cotton twill. Add the following: This tent is fabricated of an oxford cotton warp cloth with a nylon blend filling.

Page 2-1 Add new paragraph 2-1. i. as follows:

i. Discretion should be exercised when installing tent pins in winter climatic conditions where the temperature falls below freezing. In areas where winter conditions prevail the use of the 12 inch steel tent pins (NSN 8340.00-823-7451) is required rather than the 9 inch aluminum pins furnished with erection kits. Attempts to install the aluminum pins under winter conditions will only result in bending and breaking the pins.

Page 2-5 paragraph 2-7g- NOTE: is superseded as follows:

NOTE

12 inch steel tent pins (NSN 8340-00-823-7451) are to be utilized for hard or frozen ground

Page 4-1 paragraph 4-7b line 2 - Delete "wind resistant cotton twill cloth, 5.8 ounces per square yard" and replace with "oxford cotton warp with a nylon blend filling."

Page 4-2 paragraph 4-8e line 2- Change TM 10-269 to FM 10-16

Page 6-2 paragraph 6-3c line 2- Change TM 10-269 to FM 10-16

Page 6-2 paragraph 6-9 line 4 Change TM 10-269 to FM 10-16

Page A-1 paragraph A-2 (2) line 2 is superseded as follows:

MIL-C-43847. Cloth. Oxford, Cotton Warp and Cotton Warp and Cotton and Nylon Blend Filling.

Page A-1 paragraph A-2 (2) line 9- Delete MIL-F-10844 and add MIL-F-10884 (Nomenclature remains the same).

Page A-1 paragraph A-3 line 4- Change TM 10-269, General Repairs for Canvas and Webbing to FM 10-16. General Repair of Tents, Canvas and Webbing.

Page B-1 Section II Group 10 line 1-Change FSN from 8305-926-1531 to NSN 8305-00-926-9989.

Page B-1 Section II Group 01 line 6- is superseded as follows:

NSN 5325-0-985-6718. Fastener. snap, style 2. finish 2. size 1, MIL-F-10884 (Unit of Mesas HD)

Page B-1 Section II. Group 01. line 7 - Delete line item in its entirety.

Page B-1 Group 01 - after last line item add new line as follows:

PO NSN 8340-00-823-7451, Pin. tent. steel. 12 inch long EA

Page B-1 Section II. Group 02. line Item Description is superseded as follows:

Cloth, oxford, cotton, warp and cotton and nylon blend filling MIL-C-43487.

Page B-1. Section 11. Group 02. line 4 - Delete FSN 8340-262-5765. Kit. repair and add NSN 8340-00-262-5767. Repair Kit. Tentage.

Page B- 1. Section I. Group 02. line 5 - Delete FSN 8305-256-0184.

Page B-2. line . - Change FSN 8340-263-0250 to NSN 8340-00-263-0252.

Page B-2. Group 02 after the last line Item add new line and "NOTE" as follows:

*PO NSN 8340-00-823-.451. pin. Tent. steel. 12 inch long EA

NOTE

Steel tent pins bar authorized for use in winter climatic conditions where the temperature falls below freezing.

By Order of the Secretary of the Army:

Official:

ROBERT M. JOYCE

*Brigadier General, United States Army
The Adjutant General*

E. C. MEYER
*General, United States Army
Chief of Staff*

DISTRIBUTION:

To be distributed in accordance with DA Form 12-25A Operator maintenance requirements for Tent, Shelter-Half.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual is for your use in erecting, striking, and maintaining the shelter-half tent and the two-man mountain tent.

1-2. Forms and Records

Maintenance forms and records that you are required to use are explained in TM 38-750.

1-3. Reporting of Errors

You can improve this manual by calling attention to errors and by recommending improvements, using DA Form 2028 (Recommended Changes to Publications) or by letter, and mail directly to the Commanding General, U. S. Army Mobility Equipment Command, ATTN:

AMSME-MPP4300 Goodfellow Boulevard, St. Louis, Missouri 63120. A reply will be furnished directly to you.

1-4. Equipment Serviceability Criteria (ESC'S)

This equipment is not covered by an ESC.

1-5. Destruction of Army Materiel to Prevent Enemy Use

Procedures to be used for destruction of the equipment to prevent enemy use are in TM 750- 244-3.

1-6. Administrative Storage

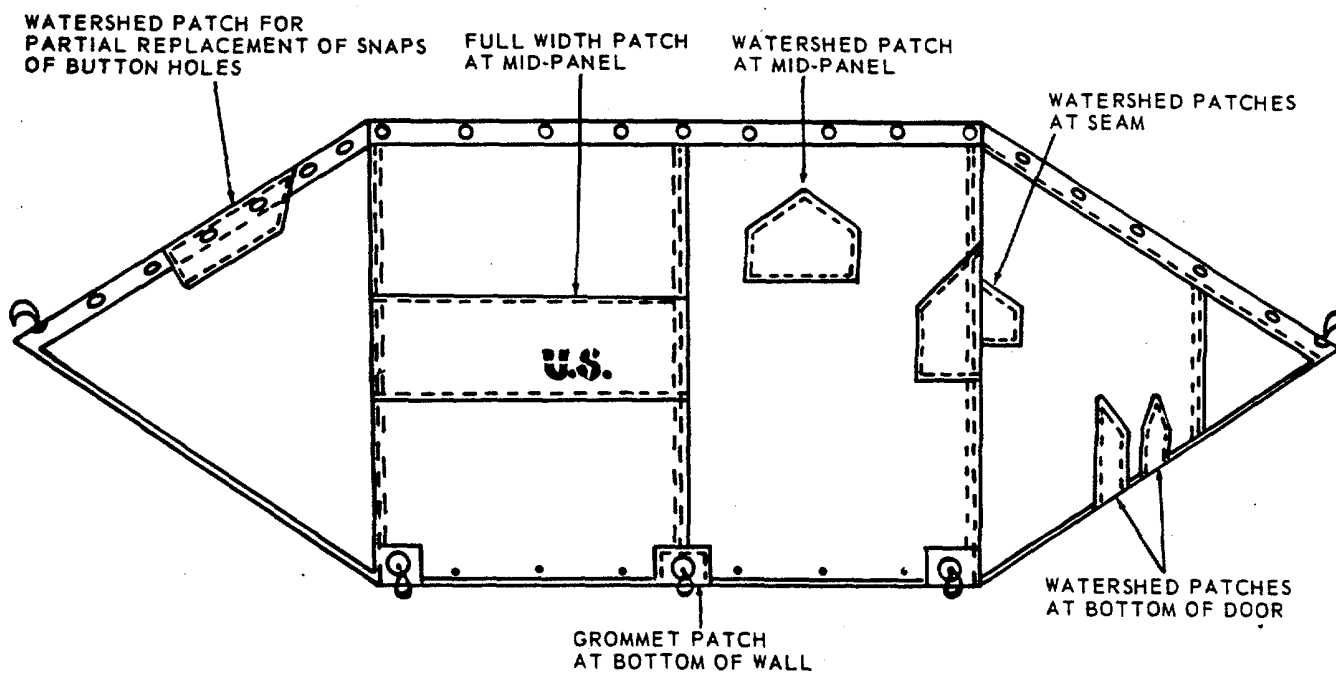
For administrative storage instructions. refer to TM 740-90-1.

Section II. DESCRIPTION AND DATA

1-7. Description

a. Tent. Shelter-half. This tent is fabricated essentially of 7.5 ounce cotton / rayon duck. When joined to another tent. shelter-half, new type, it forms a shelter for two men. Snaps are provided along the lower edge of the shelter half to permit six shelter-halves to be joined together to make a six-man tent.

The pinnacle of the tent is formed with a pole at each end, and the sides are secured to the ground with pins placed through the footstops (fig. 1-1). The maintenance paragraphs of this manual contain detailed descriptions of the tent and its components.

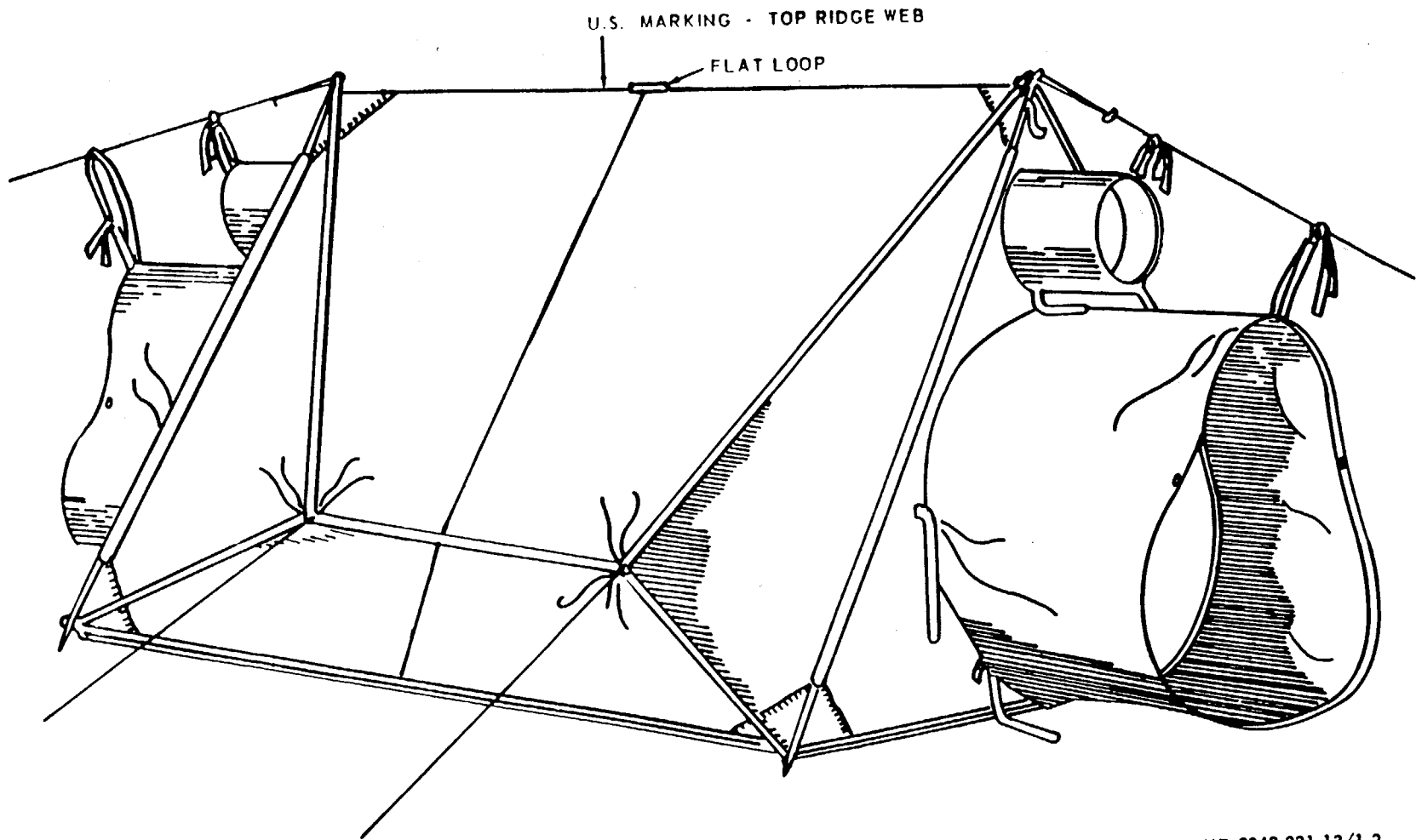


ME 8340-221-13/1-1

Figure 1-1. Shelter-half tent and types of patches.

b. Tent. Mountain. Two-man. This tent is fabricated essentially of cotton twill. It is fire, water, and mildew resistant. white and olive drab reversible cloth. The tent is triangular in cross section. An entrance tunnel and a ventilator are provided at each end. The tunnel opening

may be closed with tunnel fabric or tunnel screen liner. This tent is intended for use in mountainous and arctic regions. with reversible feature for camouflage purposes. See figure 1-2. The maintenance paragraphs of this manual contain detailed descriptions of the tent and its components.



ME 8340-221-13/1-2

Figure 1-2. Two-man mountain tent.

1-8. Tabulated Data

a. Tent, Shelter-hall.

Length12 ft (feet) 9.5 in.
(inches)

Width5 ft 1 in.

b. Tent, Mountain, Two-man.

Length6 ft 10³/₈ in.

Width4 ft 7½ in.

Height: at ridge3 ft 7 in.

at eaves12 in.

Weight: tent6 pounds (lb)

pins and poles3.5 lb

Shipping volume0.7 cubic ft

Floor space30.75 square ft (ap-
proximately)

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. SITING AND OPERATING PROCEDURES

2-1. Site Selection

Consider the following points when selecting a tent site:

a. The ground should be level and free from projecting roots and rocks. When such a spot is not available, a place can often be leveled and cleared. In woods, moss and rocks can be used to level the ground.

b. The ground should be high enough for good drainage.

NOTE

Drainage can be improved by trenching around the tent and digging an outlet ditch to divert water in the desired direction. Refer to paragraph 2-8 for trenching details.

c. The site should be protected from wind and storm.

d. An area with a ground cover of tough top grass is desirable.

e. During hot weather, when possible, select a site that will provide ample shade.

f. The tent should be placed far enough from rivers and lakes so that it will be above the high-water mark.

g. In woods, the location should be away from dead trees with large dead branches.

h. In mountainous country, the tent should not be placed in a canyon or next to a dry creek bed. Such places can fill up with rushing torrents in a short time. The tent should not be placed at the base of a cliff or steep mountainside, where there may be danger from avalanches and falling rocks.

2-2. Erecting the Shelter-Half Tent

a. Refer to FM 21-15 for instructions on erecting and striking the shelter-half tent.

b. Perform the preventive maintenance checks and services (table 3-1).

2-3. Erecting the Two-Man Mountain Tent

NOTE

Two men can pitch (erect) the tent in approximately 10 minutes.

a. Preliminary Procedures (1, fig. 2-1).

(1) Spread tent on ground in position it is to occupy, with desired color on outside; olive drab in normal situations and white under snowy conditions. To reverse tent for proper color, pull inside of tent through one of the entrance tunnels, taking care not to damage fabric.

(2) Assemble tent poles so that four poles of three sections are made. Place poles on ground alongside the two tent pole adapters.

b. Inserting Poles Through Loops and Sleeves and Attaching Adapters (2, fig. 2-1).

(1) Insert tent poles through corner loops and pole sleeves of tent.

(2) Attach pole adapters to tent poles.

c. Raising Front End of Tent (3, fig. 2-1).

(1) Raise front tent poles and adapter to a position so that front end of tent is vertical.

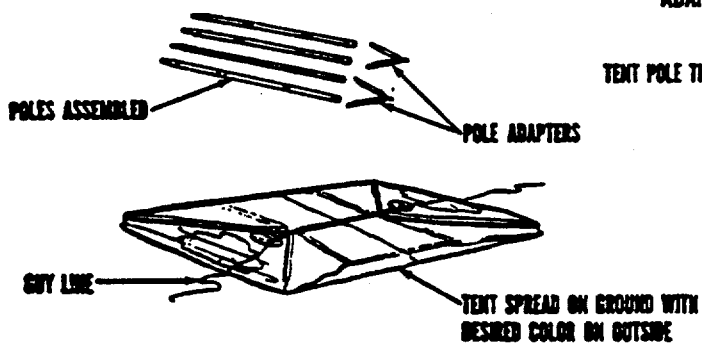
(2) Place front guy line through ring of adapter and stake guy line out to a pin in front of tent.

d. Raising Rear End of Tent (4, fig. 2-1).

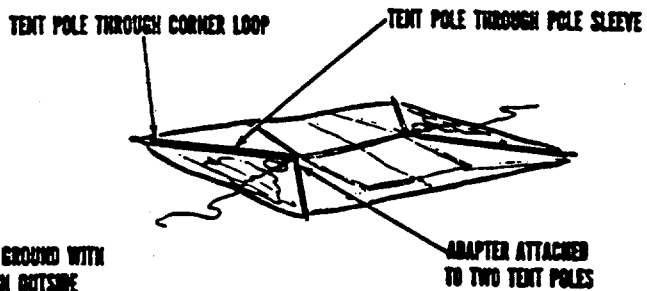
(1) Raise rear tent poles and adapter to a position so that ridge of tent is almost level and rear end of tent is vertical.

(2) Place rear guy line through ring of adapter and stake guy line out to a pin to rear of tent.

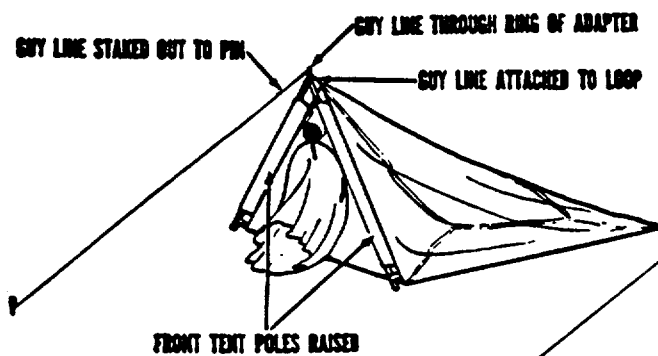
1. PRELIMINARY PROCEDURES



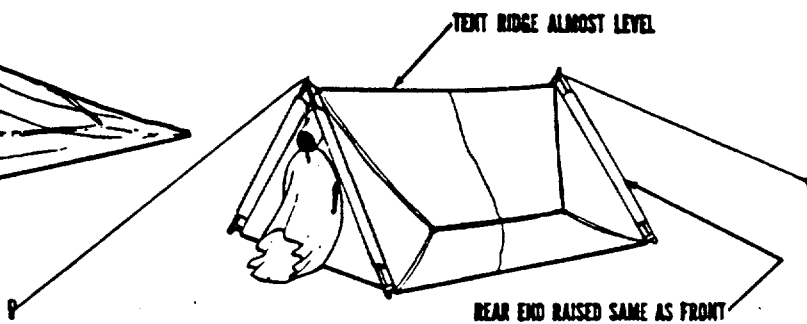
2. INSERTING POLES THROUGH LOOPS AND SLEEVES AND ATTACHING ADAPTERS



3. RAISING FRONT END OF TENT



4. RAISING REAR END OF TENT



5. TYING VENTILATOR AND ENTRANCE TIE TAPES TO GUY LINES AND STAKING OUT EAVE LINES

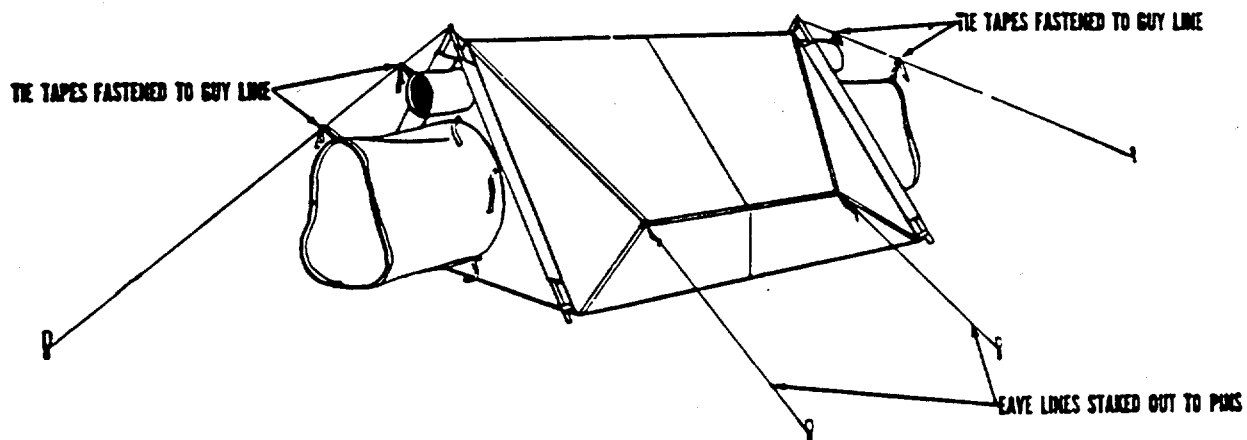


Figure 2-1. Steps in pitching two-man mountain tent.

e. Tying Ventilator and Entrance Tie Tapes to Guy Lines and Staking Out Eave Lines (5. fig. 2-1).

(1) Tie ventilator and tunnel entrance tie tapes to guy lines.

(2) Attach eave lines to the two loops on each side of tent and stake eave lines out to pins.

j. Anchoring Corner. When additional anchorage of tent is required. lines can be attached to the corner loops and secured to the guy-line pins.

NOTE

To achieve maximum mobility. the tent can be pitched without using poles and pins; this procedure is especially valuable in wooded terrain. However. poles and pins should always be available.

g. Pitching Tent Without Poles and Pins. The corners of the tent and the front and rear guy lines can be secured down with available sticks or stones. If the ridge of the tent sags, it can be supported by attaching a line to the loop in center of ridge and securing the line to a tree. Skis and ski poles can be used in place of tent poles and pins.

h. Pitching Tent in Rocky Terrain. In rocky terrain. it may be impossible to drive tent pins into the ground. In this case. attach guy lines to rocks.

i. Pitching Tent in Loose and Powdery Snow (Then the snow on which the tent is pitched is loose and powder). the guy lines can be attached to ski poles or mountain axes. which are driven down into the snow after it has been packed. or the lines can be attached to a "dead man" anchor. This is made by burying a tent pin or stick horizontal. in a hole in the snow and stamping snow on top of the anchor until it is thoroughly packed.

2-4. Two-Man Tent Operating Procedures

a. Entrances.

NOTE

The tent has two tubular tunnel entrances. 2 inches in diameter and 24 inches long.

(1) A tunnel entrance can be closed by tying it either from the inside or outside with tie tapes. To tie entrances wind tie tape around tunnel entrance as if entrance were the mouth of a bag. and fasten it with a half hitch.

(2) A tunnel entrance can be kept open by pulling it out and securing it to a guy line with tie tapes (fig. 2-11. or it can be rolled against the tent and secured by tying the tie tapes on the tent through grommets on the outside opening of the entrance.

(3) Tubular mosquito netting attached to the body of the tent inside the entrance tunnels can be closed by tying it tight either from the inside or outside by tie tapes. To tie the mosquito netting. wind tie tapes around opening of netting as if it were the mouth of a bag and fasten it with a half hitch.

b. Ventilation.

NOTE

Ventilation is important in the mountain tent. because the cloth has been coated to make it impermeable. The tent can be ventilated by opening the tunnel entrances or by using the built-in ventilators.

(1) An 8-inch diameter ventilator with mosquito netting at the outside opening is at each end of the tent. In good weather the ventilators are kept wide open by tying them to the guy lines with tie tapes (fig. 2-1). In storms, they are left hanging loosely to provide adequate protection as well as ventilation.

WARNING

The ventilators should never be closed when a gasoline-burning stove is lighted.

(1) In cold weather. there is an additional reason for leaving the ventilators open. Unless the moisture caused by breathing and cooking can pass off into the outside air. it forms as frost on the roof of the tent. In a wind. this shakes off and wets clothes and sleeping bags.

c. Floor. The floor is constructed as an integral part of the tent. Special care should be taken not to tear the floor with boots.

2-5. Striking the Too-Man Mountain Tent

a. Untie ventilator and tunnel entrance tie tapes front guy lines.

b. Remote guy and eave lines from pins.

c. Remove pins from ground.

d. Untie guy lines from webbing loops at front and rear peaks of tent.

e. Unfasten adapters from poles and remote poles iron tent disassemble pole..

2-6. Folding and Rolling the Two-Man Mountain Tent

a. Place tent so that bottom is flat on ground. Push ventilator: and tunnel entrance inside tent (1. fig. 2-2).

b. With one man at each end of tent make an accordion fold by folding one side of tent inward at center and folding the other side over so that it covers bottom of tent (2).

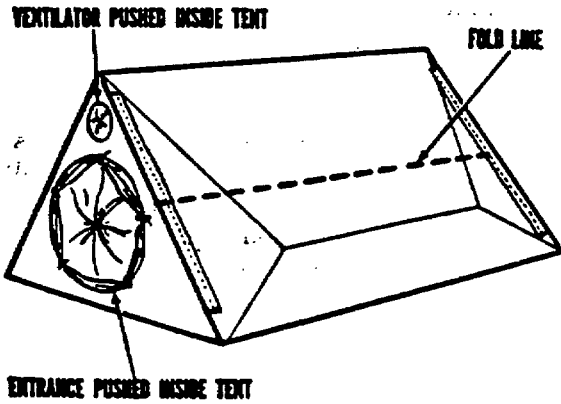
c. Place pole sections. adapters. and pine- at center of one end of folded tent (3). Eave lines should remain attached.

d. Fold sides of folded tent over toward center (4).

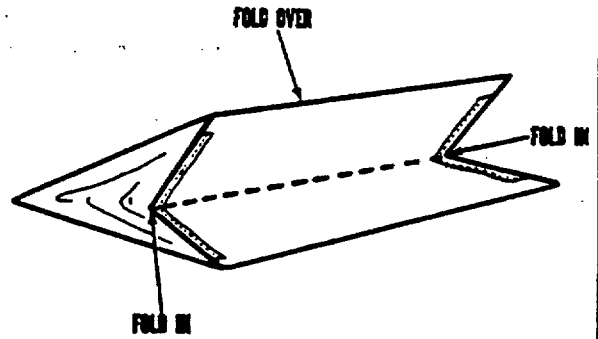
e. Starting at the end with pins and poles. Roll folded tent tight toward the other end (5).

f. Tie rolled tent with guy lines (6). The tent can now be placed on the pack or stored.

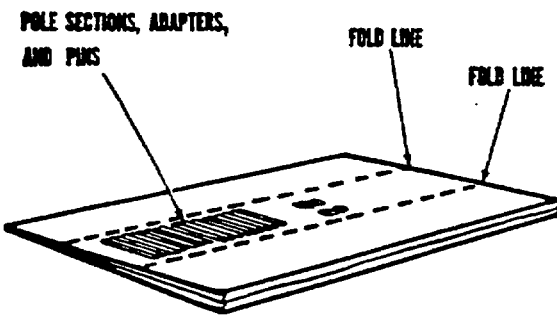
1. PLACING FLOOR FLAT ON GROUND AND PUSHING VENTILATORS AND ENTRANCES INSIDE TENT



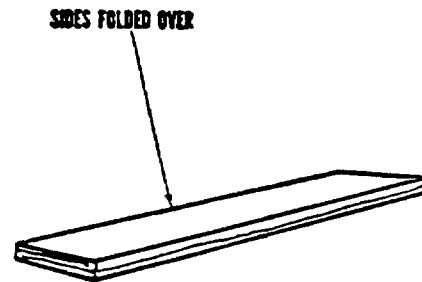
2. MAKING ACCORDION FOLD



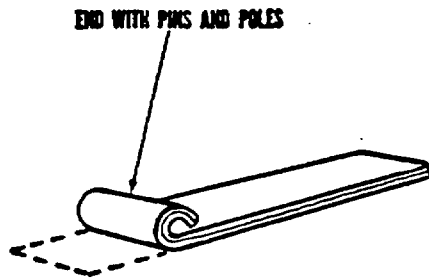
3. PLACING POLE SECTIONS, ADAPTERS, AND PINS ON TENT



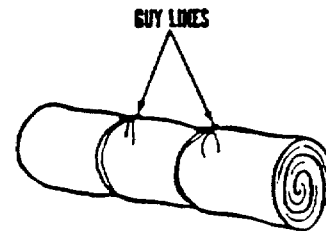
4. FOLDING SIDES OVER



5. ROLLING TENT



6. TYING TENT



ME 8340-221-13/2-2

Figure 2-2. Steps in folding and rolling two-man mountain tent.

Section II. OPERATION UNDER UNUSUAL CONDITIONS

2-7. Using the Tent in Cold Climates

a. Before selecting a campsite on snow, covered ground prod surface with an ice axe or ski pole to see whether snow conceals any crevices. It may be impossible to find an area entirely without crevices, but it is possible to avoid accidents by knowing where they are.

b. When an adequate site on snow has been found, pack snow hard by stamping on it with skis or snowshoes, or better still, shovel top snow off until firm snow is found below.

c. Pitch tent so that entrance is not directly downwind. If the tent is pitched on snow with the entrance directly downwind, the entrance may become blocked, since snow tends to pile up in the lee of any object.

d. If site is not temporary, dig tent into snow. This will provide better protection from the wind. In open terrain with a strong wind, it may be necessary to build a snow wall on the windward side of the tent to protect it from the wind: thus the tent is easier to heat, is less likely to blow down. Leave some space between sides of tent and snow wall to have room to shovel out snow that my drift into tent.

e. Then a tent is pitched on a slope, a horizontal platform should be formed. The snow which is removed may be packed around the outer edge of the platform to widen the space for the tent.

f. High winds, common in cold weather regions, require that tents be anchored securely. The tent pins ma! not provide sufficient anchorage. Arctic tents have snow cloths sewed along the bottom edge of tent walls. When an arctic tent is set up, snow cloths should be flat on the ground, outside the tent. Place snow, snow or ice blocks, stones, logs or other heavy objects on the cloths to help anchor the tent.

g. Do not attempt to drive tent pins into hard, frozen ground if the force required is excessive. Instead, chop small holes into the ground, insert tent pins into holes, and fill holes with slush or water: in a short time the tent pins will be firmly anchored. When removing pins from frozen ground, always chop them out: never hammer them sideways to break them loose.

NOTE

Pins aluminum 9 (FSN 8340-261-9749) are to be utilized for hard or frozen ground.

h. Snow carried into a tent will melt and wet sleeping bags and clothing. The following precautions should be taken to keep snow out of tents:

(1) Each man must take care to brush all snow from his clothing and boots before entering a tent.

(2) One man should enter the tent first and take the sleeping bags, packs, and other articles from the other man after the items have been brushed off completely.

2-8. Using the Tent in Wet Climates

The following instructions supplement the instructions given in paragraph 2-1 b.

a. When possible erect the tent on a mound which slopes in all directions.

b. If the tent is erected in flat terrain of heavy soil or clay dig a trench around the tent. To carry water from the trench, dig an outlet ditch from the trench to the lowest point in the area.

NOTE

When the tent is set up on a very sandy soil which absorbs cater as fast as it falls or when it is located on a mound which slopes off in all directions a trench may not be necessary.

c. 'When digging trench, throw dirt away from the tent never throw it against the tent, for it will quickly rot the canvas. In most cases, do not dig trench more than 4 or 5 inches deep and in the shallowest place not over 3 inches.

NOTE

There should be enough slope in the trench so that the water will flow freely toward the outlet and not back up.

d. When there is possibility that water may flow to the trench from higher ground, dig a ditch that ,will divert the water before it can reach the tent.

e. Before the tent lines become water soaked, loosen them sufficient, so that when the, shrink then will not pull the tent pins from the ground or tear the tent body. However, they must remain slightly taut.

CHAPTER 3

OPERATOR/ CREW MAINTENANCE INSTRUCTIONS

Section I. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

3-1. General

Preventive maintenance checks and services are the minimum inspections which are performed daily to insure that defects may be discovered and corrected before they result in serious damage to or failure of the equipment. When defects are discovered during operation of the equipment, they must be corrected as soon as operation has ceased. If continued operations would result in damage to the equipment, the defects

must be corrected as soon as possible.

3-2. Preventive Maintenance Checks and Services

The preventive maintenance checks and services listed in table 3-1 are the minimum daily inspections to be performed by the operator. The checks and services will be performed in the sequence in which they are numbered.

Table 3-1. Operator / Crew Preventive Maintenance Checks and Services (PMCS)

D-Daily
Time Required: 1/3 hour

W-Weekly
Time Required

Interval and Sequence No.		ITEM TO BE INSPECTED PROCEDURE	Work Time (M-H)
D	W		
1		TENT LINES AND PINS Inspect tent lines and pins for looseness and serviceability	.10
2		TENT BODY Inspect the body fabric and screening for tears and rips. Examine fabric for evidence of leaks.	.10
3		FOOTSTOP LINES AND PINS Check the footstop lines and pins for looseness and serviceability	.10

Section II. OPERATOR/ CREW MAINTENANCE INSTRUCTIONS

3-3. Protection of Tent Against Damage

a. General. Probably the greatest amount of damage to tentage is caused by carelessness, such as forgetting to loosen the lines when it starts to rain. not bothering to use spark arrestors or draft diverters, adjusting lines carelessly, driving pins in a slipshod manner. or dragging tents over rough ground. To prolong the life and usefulness of tentage, observe the following rules:

(1) Pitch, Strike, and fold tentage in the manner described in this manual. Do not try to take shortcuts unless you are sure no damage will be done. To protect the top of the tent during handling and in storage, fold the tent so that the sidewalls rather than the top of the tent will be exposed.

(2) Observe the utmost care when pitching and striking tent making sure the material does not tear on protruding pins, overhanging branches, or other objects.

(3) Never drag tent along the ground or floor.

(4) Use all the necessary, parts and accessories for the tent and use them for their intended purpose.

(5) Pack tent carefully, for shipment. Some tents are issued complete with bag or cover. In this case, carry tent in bag or cover. When no bag or cover is issued, the tent is usually received wrapped in osnaburg or burlap. Save this material for rewrapping when the tent has to be moved again.

Normally, a tent should never be transported without a covering of some kind.

(6) Pack pins and poles separately from the tent itself except when the tent instructions require them to be packed with the tent.

(7) Inspect tentage at frequent intervals to make sure that it is in serviceable condition. Particular attention should be given to seams, bindings, lines, and all places where strain is exerted. Be constantly on the lookout for:-

(a) Any evidence of mildew.

(b) Any foreign matter which may have collected on the tent.

(c) Small rips and holes, splitting of seams, grommets which have become loose, lines which are beginning to rot, or anything else which does not appear to be in normal condition.

b. Protection Against Rain.

(1) Most tents are water repellent. However, rain causes tent canvas and lines to shrink, the shrinkage often becoming sufficient to tear the tent. Tents have been torn completely in two under such circumstances.

(2) Before tent lines become water soaked, they should be loosened sufficiently so that when they shrink they will not become tight enough to tear the tent. To compensate for shrinkage, eave and corner lines should have a free swing of approximately 18 inches at the middle of the line.

c. Protection Against Wind. In a strong wind, lines should be tightened immediately, entrances closed, walls secured to footstop pin, and all corners closed.

d. Protection Against Fire.

(1) Most tents are fire resistant. This does not mean that they will not burn; they usually do not burst into flames, but smolder and char.

(2) Whenever possible, fire extinguishers containing water should be kept in the tent area.

e. Protection Against Mildew.

(1) Most tents are mildew resistant. This does not mean that they are subject to mildew. Under warm and damp conditions, especially in tropical and jungle areas, tents may be ruined by mildew in a few days, if proper care is not taken.

(2) To prevent mildew, follow these rules:

(a) Never fold or roll tent when wet. Even if it is only damp from dew it will mildew when stored. Make double sure that the seams and edges of the tent, especially the bottom edge and the sod cloth, are dry.

(b) When storing or transporting keep pins and poles separate from the tent except when tent instructions require them to be packed with the

tent. In the case of the latter, make sure the pins and poles are cleaned and dried before being placed with the tent.

(c) Keep tent clean at all times. If tent is pitched under trees, inspect the tent roof frequently to see if it is being harmed by drippings from branches or leaves. The growth of fungi and mold is caused to some extent by tree drippings, oils and greases which accumulate on tentage.

3-4. Protection of Pins, Poles, and Lines Against Damage

a. Pins. All wooden tent pins currently issued receive a wood-preservative treatment. Care should be taken in handling pins to see that they are not broken or otherwise damaged. In determining the serviceability of pins, look for cracks, splits, distorted ends, and broken or flattened points.

b. Poles. Care should be taken in handling tent poles to see that they are not broken or otherwise damaged. In determining serviceability of poles, look for cracks, splits, condition of metal joiners, and missing or bent spindles.

c. Lines. Lines should be inspected frequently. The stability and safety of the tent may depend on the condition of the various lines used. Deterioration in the lines is of two kinds: physical and chemical. Physical damage is caused by surface wear or from internal friction between the fibers. Chemical damage is caused by exposure to weather conditions and acids. To prevent damage to tent lines, observe the following rules:

(1) Dry lines properly after exposure to dampness. Lines are best dried when hung loose between two trees or other objects so that they do not come in contact with the ground.

(2) Keep lines clean. If lines become dirty, they should be washed in clean water and thoroughly dried. Grit from sand, mud, or other materials, if allowed to remain and work into lines, will grind and wear the fibers.

(3) Protect lines from chemicals. Keep lines away from chemicals or their fumes, especially acids or alkalis. Drying oils, such as linseed oil, and paint will also damage lines.

(4) Slack off guy lines. When guy lines or other supports are exposed to the weather, slack them off to prevent overstrain because of shortening from wetting.

(5) When wear is localized in a short section, periodical shortening will present a new wearing surface.

(6) If a line becomes damaged, replace it with a new line.

(7) Whip ends of lines to prevent unraveling.

CHAPTER 4

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIEL

4-1. General

When either new or used tent equipment is remitted it must be uncrated and inspected to make certain all items are accounted for and in serviceable condition.

4-2. Inspecting and Servicing the Equipment

a. Clean each item of equipment by removing foreign matter using a cloth or brush. Scrub excessively dirty tent using clear water. Allow tent to dry thoroughly.

b. Make a thorough visual inspection of the tent *equipment for damage or worn condition.

c. Check the equipment against the packing list to make certain all items are accounted for and in serviceable condition. Refer to paragraph 4-3 for serviceability) classification standards.

4-3. Item Classification Standards

Code	Explanation
A	New or unused property possessing original appearance and serviceability.
B	Serviceability as to be acceptable for issue in lieu of Class A property. Items of organizational equipment will have appearance and serviceability comparable to not less than 50% of the life of a new item. Patches and seams will be secure, no loose or broken threads. Netting will

Code Expansion
 be free of tears and deterioration. The item will be free from corrosion, rot, mildew, or other deterioration. Ventilators and tunnels will be of correct design and free of defects. All pins, poles, guy lines, foot stops, and other components will be of proper design and serviceable. Cement patches will be accepted if they are intact and secured by two rows of stitching. Patching will be limited as follows:

LIMITATION OF PATCHES

	Each Side	Each End	Each Tunnel	Each Door
Tent. shelter-half	6	-		4
Tent Mountain-two man	6	4	4	-
Area patch limitation	25%	25%	25%	25%

F Unserviceable items which are economically repairable. Equipment that can be repaired for 65% of the price quote in the current D.O.D. Federal Supply Catalog Management Data List.
 H Unserviceable items which cannot be economically repaired. Items coded H will be disposed of according to applicable regulations.

Section II. REPAIR PARTS, SPECIAL TOOLS, AND EQUIPMENT

4-4. Tools and Equipment

There are no basic issue tools or equipment issued with the shelter half or the two-man mountain tents.

4-5. Special Tools and Equipment None required.

4-6. Maintenance Repair Parts

Refer to the materials list. Appendix B.

Section III. MAINTENANCE OF TENTS

4-7. General

a. Shelter-Hall Tent. The shelter-half tent is made of cotton duck material with cotton warp and rayon filling, oxford. 7.5 ounce per square yard. It is weather repellent and mildew resistant treated, olive green shade No. 107. The tent is attached to other shelter-half tents by snap fasteners with triangular closing flaps on both ends.

Included with each shelter-half are 5 pins, 3 poles, and one guy line (attached).

b. Two-Man Mountain Tent. The two-man mountain tent is made of wind resistant cotton twill cloth, 5.8 ounces per square yard. It is fire, mildew, and water resistant. The tent floor is made of waterproof coated nylon cloth. The tent is olive drab in color on one side and white in the other so

that it can be camouflaged by exposing the appropriate color. Components of the tent include 2 adapters. 6 pins. and 12 poles, single sections.

4-8. Maintenance Instructions

- a. Replace footsteps and guy lines that are missing, worn, rotted, or damaged beyond usefulness.
- b. Straighten bent metal tent pins and remove sharp burrs.
- c. Replace missing or damaged tent pins, pole sections, and adapters with serviceable or new component parts.
- d. Use a cement patch to repair weakened areas, holes, tears, or open seams in the canvas that are less than 4.4 inches in diameter or length.

NOTE

Damage in excess of 4 ¾ inches in diameter or length requires a sewn patch.

- e. In cases requiring sewn patches, mark the damaged area according to TM 10-269 and refer the repair to direct support maintenance.
- j. When storing or transporting keep pins and poles separate from tent except when tent instructions require them to be packed with the tent. In the latter, make sure the pins and poles are cleaned and dried before being placed with the tent.
- g. Before storing, dry tent by hanging it up off the ground in bright sunlight. A tent dried on the ground or left hanging outdoors after sundown might absorb enough dampness for mildew to start. When necessary, a tent can be dried indoors. When drying indoors, hang the tent in a well-ventilated place, high enough to permit the tent to be suspended off the floor.
- h. Do not drag tentage along the ground or permit it to come in contact with the ground while in storage.
- i. When storing tent, stack it on dunnages supported by 2 by 4-inch lumber. If the floor is hard surfaced or wooden, the tentage should be at least 4 inches from the floor. If the floor is earthen, the tentage should be at least 8 inches from the ground.

NOTE

Only lumber that has been thoroughly cured should be used for dunnage, since the moisture contained in green lumber will promote the growth of mildew.

- j. When dampness in the atmosphere is prevalent, dunnage should be used between each course to permit circulation of air between the blocks. The blocks should be separated and reduced to a minimum number of courses to permit passage of air on all four sides.
- k. When tent is to be stacked near ventilators or openings that may admit moisture, protect tent by packing it in bag or waterproof covering.
- l. Do not place tentage received from the field in bags until tent is thoroughly dried and all dirt removed by stiff brushes. If any visible signs of mildew are present, hang tent in open air, preferably in the sun.
- m. Give priority of issue to tentage that has been in storage the longest. To prevent issue of newly stored tentage before older stocks are exhausted, blocks should be marked in accordance with length of time tentage has been in storage.
- n. When tentage is stored in open sheds or in tents, it should be stacked well away from the sides and ends of shelter (preferably about 2 feet, and items not affected by moisture should be stacked between tentage and outer edges of shelter.
- o. Withdraw from storage tentage found to be infected with mildew. Brush with a stiff brush, allow to dry thoroughly, and issue immediately to installation where driest atmospheric conditions prevail. If there is no opportunity for immediate issue, segregate infected tentage from sound tentage to prevent contamination. Tent which has become unserviceable should be turned in to a salvage installation for classification, repair, and return to stock, or for destruction.

4-9. Preventive Maintenance Checks and Services

Because all required inspections must be made daily, or more frequently organizational maintenance personnel will refer to table 3-1 for procedures to be followed during periodic inspection.

CHAPTER 5

DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, SPECIAL TOOLS, AND EQUIPMENT

5-1. Special Tools and Equipment

None required.

5-2. Maintenance Repair Parts

Refer to Material list. appendix B.

Section II. GENERAL MAINTENANCE

5-3. Cleaning

Use a damp or dry cloth or brush. and remove foreign matter from each item of equipment. Launder excessively dirty tents and treat with repellent in accordance with applicable formula and procedures contained in TM 10-354. When Army facilities are not available. clean and treat tents by contract with private industry.

5-4. Inspecting and Marking

Inspect the equipment for damage. missing parts or weakened material. Test for mildewed or rotted areas by applying pressure with the thumb to the area in question. Test seams by pulling the panels at right angles to the seam. Mark the discrepancies indicating the type of repair required as follows:

a. Rectangle: to show damaged area requires a patch.

b. Arrow: to show missing hardware.

c. Parallel lines: open seam.

d. Cross:

(1) Damaged or missing part is on the inside.

(2) Replace old patch.

(3) Replace section or panel.

5-5. Workmanship

Maintenance and repair of tents will be done by personnel of the appropriate Military Occupational Specialty. (M.O.S.). Patches will be tightly sewn or applied and reseaming will be secure and free of loose or broken thread. Hardware will be securely and properly attached, The finished item will be completely clean, well repaired, and free from all defects affecting its serviceability, and appearance.

CHAPTER 6

REPAIR INSTRUCTIONS

Section I. GENERAL

6-1. Stitching

Machine stitch all sewing except emergency repairs. Operating and maintenance instructions for sewing machines are contained in TM 10-3530-203-10. Restitch loose, broken, or defective stitches, Maintain thread tension to prevent loose

stitching. and backstitch or over stitch breaks and ends not less than one inch to prevent raveling. Where stitching is permitted, use the types of stitches, thread size, and stitches per inch as indicated in table 6-1.

Table 6-1. Stitching Table

Item	Sewing operation	Stitch type	Thread		Stitches per inch
			Needle	Bobbin	
Shelter-half tent	General	301	F	F	6 to 8
	Bartacking		F	F	28 each
Two-man mountain tent	General	301	E	E	6 to 8
	Bartacking		E	E	28 each

6-2. Darning

Darning in the shelter-half and two-man mountain tent is not allowed in the body, door, end, or floor sections.

damaged material: allow enough material to be folded under the edges a minimum of 11 inch.

(6) Sew a row of stitching 1/8 inch from edge.

(7) Use a grommet patch when repairing an area where a grommet has been torn loose. Cut the patch large enough to cover both sides of damaged area when the patch is folded. Turn all edges under and stitch in place with a row, of stitching 1/8 inch from edge. Insert a new grommet.

6-3. Patching

a. Shelter-Half Tent.

(1) Use the watershed patch for general repair except at ridge of tent where a rectangular type of patch is required (fig. 1-1).

NOTE

A hole or tear in the tentage larger than X inch and smaller than 4X4 inch in diameter or length ma! be repaired by- a cemented or sewn patch. provided the damage is not on a seam, edge, or in an area sup- porting hardware.

(2) Cut patches from matching salvage material or new material. Watershed patches are cut large enough to overlap 2 inches on all sides of area being repaired. This allows 3 inch turn-under on the edges.

(3) Fold patch in half lengthwise and make a roof-type top edge by cutting from open edges to the folded center at an angle of approximately 22-1/2 degrees to the fold.

(4) Place patch on outside of tent over the damaged area. Turn under patch edge. and stitch into place with a row, of stitching not more than 1/8 inch from edge.

(5) Turn the item over and cut away the

NOTE

Observe patch limitation table in paragraph 1-4B.

(8) Use watershed patch to repair seams of panels where a hole or tear exists near or on seam. Cut the patch large enough to extend 2 inches on all sides of damaged area. Turn patch edge under and sew row of stitches 1/8 inch from patch edge. Turn item over and cut away damaged material: then fold under at least 1/2 inch and sew a row of stitching 1/8 inch from edge.

b. Two-Man Mountain Tent.

NOTE

Patch damaged area with two patches making sure to rise an olive drab patch and a natural patch on the matching surface.

(1) Cut two patches (olive drab and natural) of equal size, large enough to extend on all sides of damaged area and allow for a 1/2 inch turn-under.

(2) Place the first patch over the damaged

area turn the edges under, and stitch with a row of stitching 1/8 inch from edge. Superimpose the opposing patch, turn edges under so that patched align on each side, and stitch with a row of stitching 1/8 inch from edge.

NOTE

Watershed patches shall be used except on ridge where rectangular style patch is to be used. Use diamond shaped patches on ventilator and tunnel.

c. *Cement Patches.* Cement patches may be

used per instructions in TM 10-269. Small holes up to 1/8 inch in size may be sealed with a dab of cement applied on the inside of the shelter. To seal a small hole, such as a spark hole, work on the inside surface as follows:

(1) Clean the area around hole to be sealed.

(2) Apply a dab of patching cement to the hole area and work the cement into the fabric immediately surrounding the hole. Work cement until hole is sealed.

Section II. REPAIR OF CANVAS AND WEBBING

6-4. Netting, Two-Man Mountain Tent

a. Darn all holes or tears that do not exceed 1/2 inch in any direction.

b. Replace netting that is torn or damaged with a piece of new netting (refer to appendix B).

c. Patch holes and tears that exceed 1/2 inch in any direction.

6-5. Webbing, Reinforcement Straps, Loops, and Tie Tapes

a. Darn holes or tears that do not exceed 1/2 inch in any direction.

b. Replace worn, abraded, cut or otherwise damaged webbing, missing tie tapes and loops (refer to appendix B).

c. Restitch loosely attached webbing.

6-6. Ventilators and Tunnels, Two-Man Mountain Tent

a. Darn holes and tears that do not exceed 1/2 inch in any direction.

b. Replace ventilators and tunnels that are unserviceable

c. Patch holes and tears that exceed 1/2 inch in any direction.

6-7. Reinforcements, Two-Man Mountain Tent

Replace defective corner reinforcements with material specified in appendix B.

6-8. Snap Fasteners, Two-Man Mountain Tent

Reset a loose snap and replace damaged snaps and fasteners by using appropriate eyes (refer to appendix B).

6-9. Grommets

Reset loose grommets and replace damaged, corroded, and improperly located grommets with those specified in appendix B. Details for repair are in TM 10-269.

6-10. Pins, Aluminum

Replace pins that cannot be made serviceable by cleaning and sharpening with those listed in appendix B.

6-11. Poles and Adapters

a. Remove dirt, rust, corrosion, and other foreign matter from these items with damp or dry cloth or wire brush.

b. Paint items with enamel (app B), if they are stained or otherwise unsightly.

c. Replace unserviceable items with component part listed in appendix B.

6-12. Lines and Footstops

a. Repair damaged line by machine stitching or hand whipping.

b. Replace missing or irreparable lines and footstops with new ones.

6-13. Refinishing Tent Pins

a. Remove light or loosely adhering contaminants by whipping pins thoroughly with clean cloth.

b. Remove rust or other tightly adhering contaminants by brushing with a wire brush.

c. After cleaning, spray or dip pins with lacquer referenced in appendix B. Allow pins to dry for approximately one hour on paper, board, or suitable clean hard surface.

APPENDIX A

REFERENCES

A-1. Fire Protection

TB 5-4200-200-10

Hand Portable Fire Extinguisher for Arm) Users

A-2. Commodity Specifications

(1) Items:

MIL-T-1926

Tent. Mountain, Two-Man, Complete with Pins and Poles

MIL-S-3.725

Tent. Shelter-Half

(2) Material:

V-T-285

Thread, Polyester

MIL-C-342

Cloth. Cotton. Twill and Poplin, Wind Resistant

MIL-P-501

Pins. Tent. Metal

MIL-W-530

Webbing Tape. Textile. Cotton. General Purpose. Natural or in Colors

MIL-P-608

Pole Section. Tent. Upright; and Adapter Tent Pole Lines. Tent

MIL-L-1709

Cement. Liquid. Tent-Patching

MIL-C-2399

Cloth. Netting Nylon

MIL-C-3395

Fastener. Snap

MIL-F-10844

Grommet. Metallic

MIL-G-16491

Cloth. Coated. Nylon. Waterproof

MIL-C-20696

Cloth. Duck. Cotton: Fire. Water. Weather and Milder Resistant. Light Dry Finish

MIL-C-41808

Cloth. Duck. Cotton, Warp and Rayon Filling. Lights, eight

MIL-C-43605

Tape, Textile, Cotton, General Purpose

MIL-T-43566,

A-3. Maintenance

FM 21-15

Care and Use of Individual Clothing and Equipment

AR 32-15

Classification and Inspection

TB 750-97-27 .

Repair Cost Estimates and Maintenance Expenditure Limits

TM 10-269

General Repairs for Canvas and , ebbing

TM 10-280

Field Laundry. Bath and Clothing Exchange Operation

TM 10-354

Arms Fixed Laundry Operation

TM 38-.50

Army Maintenance Management System

A-4. Shipment and Storage

TM 38-230-1

Preservation and Packing of Military. Equipment

TM 40-90-1

Administrative Storage of Equipment

A-5. Destruction To Prevent Enemy Use

TM 750-244-3

Procedures for Destruction of Equipment to Prevent Enemy Use

APPENDIX B

MATERIAL LIST

Section I. INTRODUCTION

B-1. Scope

This appendix lists materials applicable to the shelter-half and the two-man mountain tents or are required for installation, operation, or maintenance.

B-2. Explanation of Columns

The following provides an explanation of columns in the tabular list of materials. section II.

a. *Source. Maintenance and Recoverability Codes (SAR):*

III Source code indicates the source for the listed item. Source code is:

Code	Explanation
P	Items which are stocked in or supplied from the GSA/DSA, or Army supply system and authorized for use at indicated maintenance levels.

(2) Maintenance code indicates the lowest category of maintenance authorized to install the listed item. The maintenance level codes are:

Code	Explanation
O	Organizational
F	Direct support

(3) Recoverability code indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable.

b. *Federal Stock Number.* This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. *Description.* This column indicates the Federal item name and any additional description of the item required.

d. *Unit of Measure (U/M).* A two-character alphabetic abbreviation indicating the amount or quantity of the item, e.g., ft. ea. pr. etc.

Section II. MATERIAL

(1)	(2)	(3)	(4)
SMR code	Federal stock number	Description	Unit of meas.
PO	8305-926-1531	CLOTH, duck, cotton warp and rayon filling, olive green 107, water repellent and mildew resistant. MIL-C-43605	YD
PF	8310-988-1300	THREAD, polyester, type I, class I, sub-class B of V-T-285, size F, olive drab shade S-1, cable number 66022, 4-ply (4200 yds pkg)	TU
PO	8340-263-0254	FOOT STOPS. Type II tent guy lines	EA
PO	8340-263-0255	GUY LINES, type XIII, tent	EA
PF	5325-231-6603	GROMMET, type II, class 3. Size No. 23	EA
PF	5325-290-5930	FASTENER, snap, style 2, finish 2 size 1, MIL-F-10884	EA
PF	5325-292-5343	FASTENER, snap, style 2. finish 2, size 1, MIL-F-10884	EA
PO	8340-261-9749	PIN, tent, aluminum 9 inch type I. MIL-P-501	EA
PO	8340-223-7849	POLE, tent, single section and adapter MIL-P-608	EA
		GROUP 02-MOUNTAIN, TWO-MAN TENT	
		CLOTH, cotton, wind resistant twill, type I. Class C. MIL-C-342, olive drab no. 7 one side, other side white, reversible	YD
PF	8305-965-1654	CLOTH, coated, nylon, waterproof, tent, floor, type I, class 3, olive drab no. 7, MIL-C-20696	YD
PO	8305-965-1654	CLOTH, cotton duck, 9.85 ounce floor shield, class 1, MIL-C-41808, olive drab no. 7	YD
PO	8340-262-5765	KIT, repair	EA
PF	8305-256-0184	CLOTH, nylon netting, type I. MIL-C-3395	YD
PF	8305-263-2475	WEBBING, textile, cotton, type III, class 4 (water repellent mildew resistant) 1/8 inch wide MIL-W-530	YD
PF	8315-262-3373	TAPE, textile, cotton, type I natural color, 3/4 inch wide MIL-T-435666	YD
PF	8315-253-6289	TAPE, textile, cotton, type I, olive drab color, 3/4 inch wide. MIL-T-43566	YD

(1)	(2)	(3)	(4)
SMR code	Federal stock number	Description	Unit of meas
PF	8315-262-2789	TAPE. textile. cotton. type I. natural color. 1 1/2 inches wide. MIL-T43566	YD
PF	8315-253-6292	TAPE. textile. cotton. type I. olive drab color. 1 1/2 inches wide MIL-T43566	YD
PF	8310-988-129.	THREAD. polyester. type I or II. size E natural color V-T-285. 3 ply (5700 yds / pkg)	TU
PO	8340-261-9749	PIN. tent. aluminum. 9 inch type 1. MIL;P-501	EA
PO	8340-223-7849	POLE. tent. single section and adapter MIL-P-608	EA
PO	8340-263-0250	LINE. tent. eave types LIX and LX. 6 feet long. MIL-L1709	EA
PO	8340-263-0253	LINE. tent. guy. types LIX and LX. 15 feet long. MIL-L-1709	EA
PO	8010-298-3865	ENAMEL olive drab color number X24087. Federal Standard 595. class A., TT-E-529	1 gal
PO	8010-298-3867	ENAMEL olive drab color number X24087. Federal Standard 595, class A, TT-E-529	5 gal
PO	8010-161-7336	LACQUER. international orange color number 12197. Federal Standard 595. class A. type II. TT-L-58	CN

**APPENDIX C
MAINTENANCE ALLOCATION CHART**

Section I. INTRODUCTION

C-1. General

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

b. Section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.

c. Section III lists the special tools and test equipment required for each maintenance function as referenced from section II.

d. Section IV contains supplemental instructions or explanatory notes required for a particular maintenance function.

C-2. Explanation of Columns in Section II

a. Group Number. Column (1). The assembly group number is a numerical group assigned to each assembly. The assembly groups are listed on the MAC in disassembly sequence beginning with the first assembly removed in a top down disassembly sequence.

b. Assembly Group. Column (2). This column contains a brief description of the components of each assembly group.

c. Maintenance Functions. Column (3). This column lists the various maintenance functions (A through K). The upper case letter placed in the appropriate column indicates the lowest maintenance level authorized to perform these functions. The symbol designations for the various maintenance levels are as follows:

C-Operator or crew

O-Organizational maintenance

F-Direct support maintenance

The maintenance functions are defined as follows:

A-INSPECT: To determine serviceability of an item by comparing its physical, mechanical, and electrical characteristics with established standards.

B-TEST: To verify serviceability, and to detect electrical or mechanical failure by use of test equipment.

C-SERVICE: To clean. to preserve. to charge. and to add fuel, lubricants, cooling agents and air. If it is desired that elements, such as painting and lubricating, be defined separately they may be so listed.

D-ADJUST: To rectify to the extent necessary to bring into proper operating range.

E-ALIGN: To adjust specified variable elements of an item to bring to optimum performance.

F-CALIBRATE: To determine the corrections to be made in the reading of instrument or test equipment used in precise measurement

Consists of the comparison of two instruments one of which is a detect standard of known accuracy. to detect and adjust any discrepancy in the accuracy of the instrument being compared with the certified standard.

G-INSTALL: To let up for use in an operational environment such as an emplacement, site, or vehicle.

H-REPLACE: To replace unserviceable items with serviceable like items.

I-REPAIR: Those maintenance operations necessary to restore an item to serviceable condition through correction of material damage or a specific failure. Repair may be accomplished at each level of maintenance.

J-OVERHAUL : Normally, the highest degree of maintenance performed by the Army in order to minimize the time work is in process consistent with quality and economy of operation, it consists of that maintenance necessary to restore an item to completely serviceable condition as prescribed by maintenance standards in technical publications for each item of equipment. Overhaul normally does not return an item to like new zero mileage or zero hour condition.

K-REBUILD: The highest degree of material maintenance. It consists of restoring equipment as nearly as possible to new condition in accordance with original manufacturing standards. Rebuild is performed only when required by operational considerations or other paramount factors and then only at the depot maintenance level. Rebuild reduces to zero the hours or miles the equipment. or component thereof. has been in use.

d. Tools and Equipment. Column (4). This column is provided for referencing b. code the special tools and test equipment (sec. III) required to perform the maintenance functions (sec. II).

e. Remarks. Column (5). This column is provided for referencing by code the remarks (sec. II) pertinent to the maintenance functions.

C-3. Explanation of Columns in Section III Not applicable

C-4. Explanation of Columns in Section IV

a. Reference Code. This column consists of two letters separated by a dash entered from Column 5 of section II. The first letter references alpha sequence in column 5 and the second letter references a maintenance function. column 3. A through K.

b. Remarks. This column lists information pertinent to the maintenance function to be performed as indicated in section II).

Section II. MAINTENANCE ALLOCATION CHART

(1) G r o u p N o.	(2) Assembly group	(3) Maintenance functions equipment										(4) Tools and	(5) Remarks	
		A	B	C	D	E	F	G	H	I	J			K
		I n s p e c t	T e s t	S e r v i c e	A d j u s t	A l i g n	C a l i b r a t e	I n s t a l l	R e p l a c e	R e p a i r	O v e r h a u l			R e b u i l d
01	Tent Body	C	...	C	...	...	...	...	O	O	...	...	.....	A-I
02	Tent Support Components	C	...	C	...	...	...	...	O	O	...	...	.....	A-I
03	Tent Anchoring Components.....	C	...	C	...	...	...	...	O	O	...	...	.....	A-I

**Section III. SPECIAL TOOL AND SPECIAL TEST EQUIPMENT
REQUIREMENTS**

Reference code	Maintenance Category	Nomenclature	Tool number
		No special tools are required.	

Section IV. REMARKS

Reference Code	Remarks
A-I	<p>Average, time standard for repair at organizational level of maintenance is 5 minutes for Tent. Shelter-Half. and 15 minutes for Tent. Mountain. Two-Man. Repairs consist of capabilities contained in organizational repair kit and other minor repairs mentioned in narrative portion of TM.</p> <p>Average time standard for direct support level of maintenance is 2 hours for Tent. Mountain. Two-Man. and 1/2 hour for Tent. Shelter-Half. This is the lowest level of maintenance for machine sewing.</p>

By Order of the Secretary of the Army:

Official:

VERNE L. BOWERS
Major General, United States Army
The Adjutant General

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Distribution:

To be distributed in accordance with DA Form 12-25A (qty rqr block no. 885) Operator requirements for Tent, Shelter-Half.

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THE METRIC SYSTEM AND EQUIVALENTS

WEIGHT MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
 1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
 1 Kilogram = 1000 Grams = 2.2 lb.
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
 1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
 1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

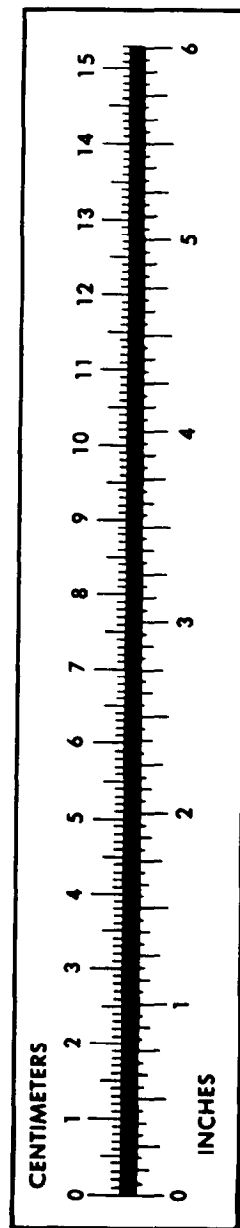
TEMPERATURE

$5/9(^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
its	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
ometers per Liter	Miles per Gallon	2.354
ometers per Hour	Miles per Hour	0.621



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