TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL, INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

TARGET SET, AZIMUTH LAYING
(WILD HEERBRUGG MODEL 242406)
NSN 6675-00-065-7502
(WILD HEERBRUGG MODEL USATS-79)
NSN 6675-01-115-0404

This manual supersedes TM 5-6675-302-15,5 January 1970.

HEADQUARTERS, DEPARTMENT OF THE ARMY

25 FEBRUARY 1982

CHANGE

NO. 4

HEADQUARTERS,
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WASHINGTON, D. C., 22 May 1991

Operator's, Organizational, Direct Support,
and General Support Maintenance Manual
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Operator's, Organizational, Direct Support
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Including Repair Parts and Special Tools List

TARGET SET, AZIMUTH LAYING
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5-21 through 5-24	5-21 through 5-24
B-1 through B-4	B-1 through B-4
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Operator's, Organizational, Direct Support
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Including Repair Parts and Special Tools List

TARGET SET, AZIMUTH LAYING
(WILD HEERBRUGG MODEL 242406)
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Operator's, Organizational, Direct Support
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Including Repair Parts and Special Tools List

TARGET SET, AZIMUTH LAYING
(WILD HEERBRUGG MODEL 242406)
NSN 6675-00-065-7502
(WILD HEERBRUGG MODEL USATS-79)
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TECHNICAL MANUAL

TM 5-6675-302-14&P

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OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL, INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

TARGET SET, AZIMUTH LAYING (WILD HEERBRUGG MODEL 242406) NSN 6675-00-065-7502 (WILD HEERBRUGG MODEL USATS-79) NSN 6675-01-115-0404

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 63120-1798. A reply will be furnished directly to you.

Current as of 5 June 1981

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CHAPTER 1
INTRODUCTION

Section I. GENERAL INFORMATION

1-1. Scope.

a. Type of Manual. Operator's, Organizational, Direct Support, and General Support Maintenance including Repair Parts and Special Tools List.

b. Model Number and Equipment Name. No. 242406- Target Set for Azimuth Laying (figs. 1-1 thru 1-3) and No. USATS-79 - Target Set for Azimuth Laying (fig. 1-4).

c. Purpose of Equipment. The target set is designed to eliminate centering errors and to increase accuracy in traversing.

1-2. Maintenance Forms, Records, and Reports. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System.

1-3. Reporting Equipment Improvement Recommendations (EIR's). EIR's 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. EIR's, may be submitted on SF Form 368. Mail directly to: U.S. Army Troop Support Command, ATTN: AMSTR-QX, 4300 Good fellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you.

1-4. Hand Receipt. Hand receipts for Components of End Item (COEI), Basic Issue Items (BII) and Additional Authorization List (AAL) items are published in a Hand Receipt Manual, TM 5-6675-302-14&P-HR. This manual is published to aid in property accountability and is available through: Commander, U.S. Army Adjutant General Publication Center, 2800 Eastern Boulevard, Baltimore, MD 21220.

Section II. DESCRIPTION AND DATA

1-5. Description.

a. General. The Wild Heerbrugg Model 242406 Target Set for Azimuth Laying (figs. 1-1, 1-2 and 1-3) is designed to eliminate centering errors and to increase accuracy in traversing. The target set consists of a target, tribrach, light concealing hood, battery box, carrying case, and a tripod. The battery box contains a hand lamp, eyepiece adapter assembly, electrical cable assembly and dummy batteries. The tripod has a protective head cover and an accessory case containing a plumb bob assembly and tripod wrench.

b. Target The target consists of a base with three individual feet for clamping to the tribrach, vertical column, target level, target frame, which includes a centering mark, illumination assembly, reflector and a light concealing hood. On model USATS-79 the target consists of a target plate carrier which clamps to the tribrach and includes a target level, a target plate which includes a centering mark, a screw-in lamp assembly, a reflector, and a light concealing hood (fig. 1-4).

c. Tribrach. The tribrach consists of three leveling screws, circular level, optical plummet, and the base plate is provided with a threaded center to accommodate the tripod bridge screw for securing the tribrach and target on the tripod head.

d. Battery Box. The battery box is used to provide power to illuminate the target.

e. Tripod. The tripod is used to secure the target and tribrach assembly and center the assembly over a station.

1-6. Difference Between Models. This manual covers the Target Set, Azimuth Laying, Wild Heerbrugg Model 242406, and Model USATS-79. The Model USATS-79 (fig. 1-4) is a later model of the target set, and incorporates a redesigned target carrier. The reflector, screw-in lamp assembly, and light concealing hood are made to fit the new target plate. The tripod for model USATS-79 is slightly larger and heavier, and the head cover stowage and battery holder brackets are integral parts of the leg

holders. The carrying case incorporates a high-impact plastic exterior, and molded rubber interior for greater protection of the target set components.

1.7. Identification and Tabulated Data.

a. Identification. The target set has no identification plates.

b. Tabulated Date. Wild Heerbrugg Model 242406.

(1) General.

Manufacturer . . . . . Wild Heerbrugg, Ltd.
Model 242406
Illumination system lamps. 4v (volts), 3 amp, miniature screw base
Illumination system batteries BA30

(2) Dimensions and weight.

Tripod
Extended . . . . . 5-1/2 ft. (feet)
Folded . . . . . 3 ft.
Weight . . . . . 12-1/2 lb. (pound)

Carrying case w/contents
Length . . . . . .12-1/4in. (inch)
Width. . . . . 11 in.
Height . . . . . 6-1/4in.
Weight . . . . . 12-1/2 lb.

c. Tabulated Data. Wild Heerbrugg, Model USATS-79.

(1) General.

Manufacturer . . . . . WiIdHeerbrugg, Ltd.
Model USATS-79
Illumination system lamps. 4v (volts), 3 amp, miniature screw base
Illumination system batteries BA30

(2) Dimensions and Weight.

Tripod
Extended . . . . . 6 ft.
Folded . . . . . 3-1/2ft.
Weight . . . . . .14-1/2 lb.

Carrying case w/contents
Length . . . . . 12-1/2 in.
Width . . . . . 9-3/4in.
Height . . . . . 8in.
Weight . . . . . 12 lb.

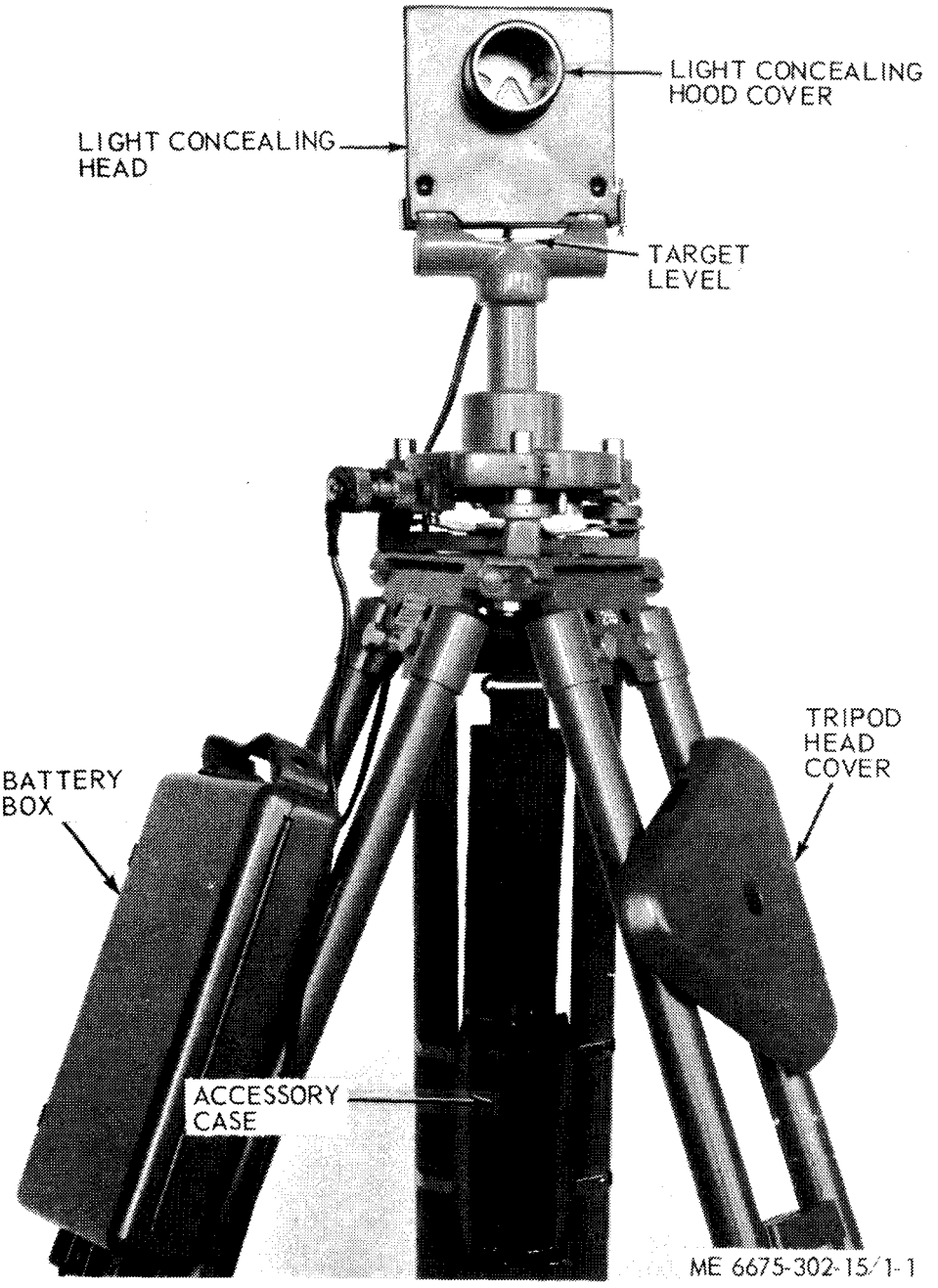


Figure 1-1. Target set, azimuth laying, model 242406 (front view)

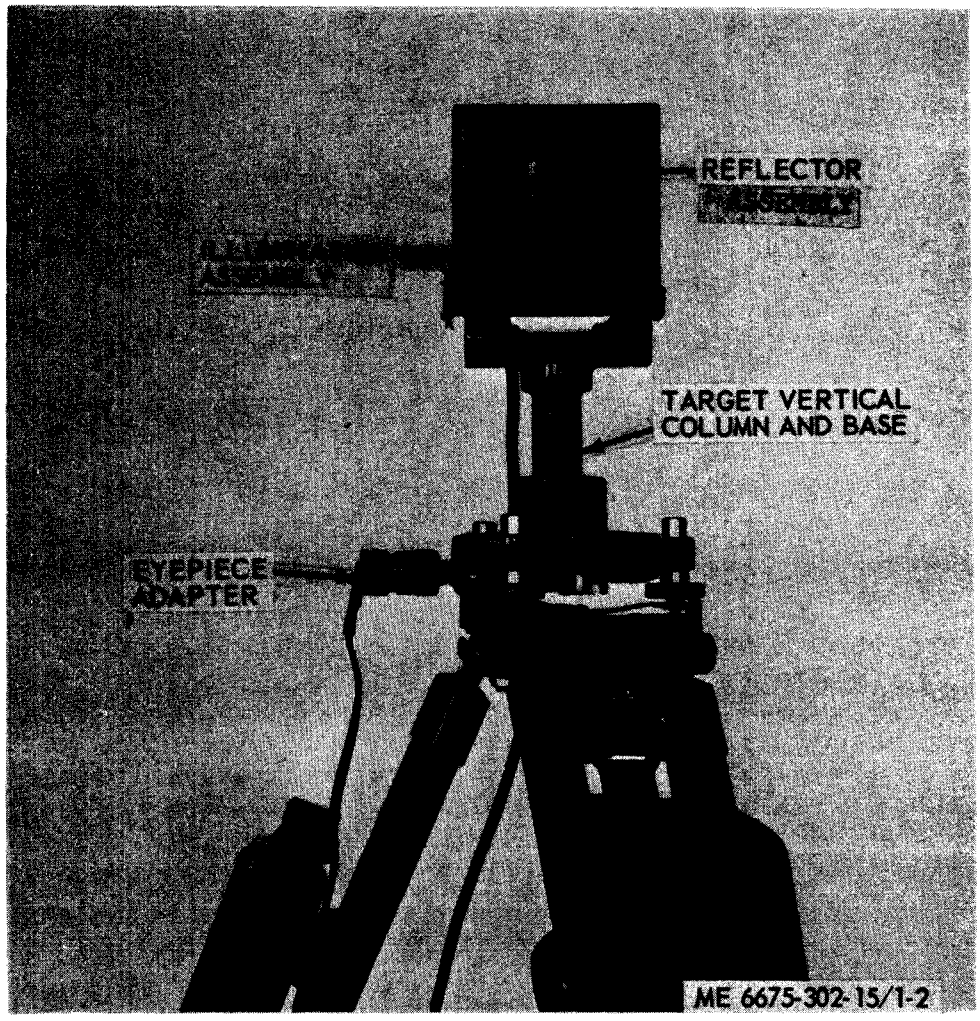


Figure 1-2. Target set, azimuth laying model 242406 (rear view)

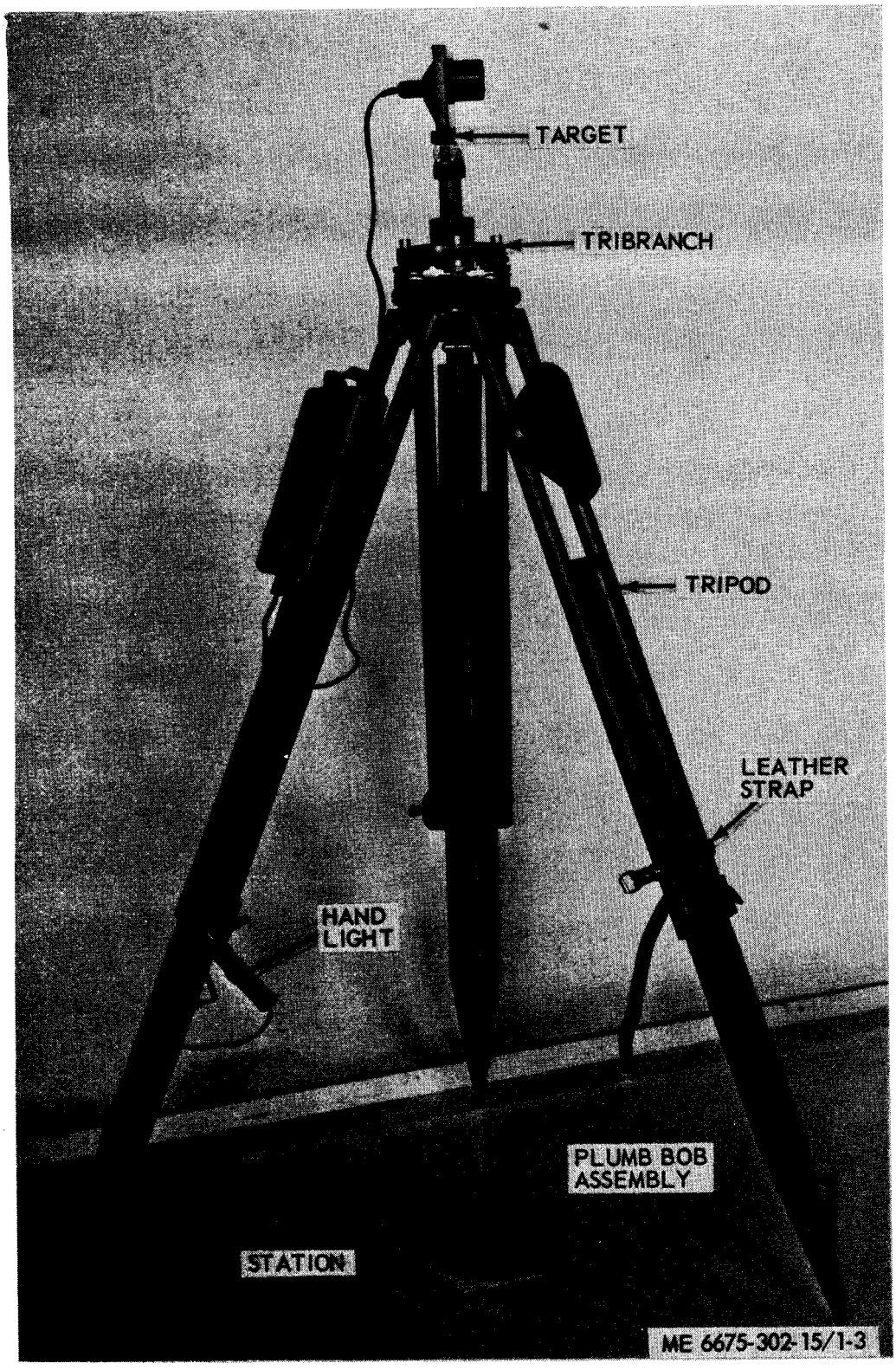


Figure 1-3. Target set, azimuth laying, model 242406 (side view)

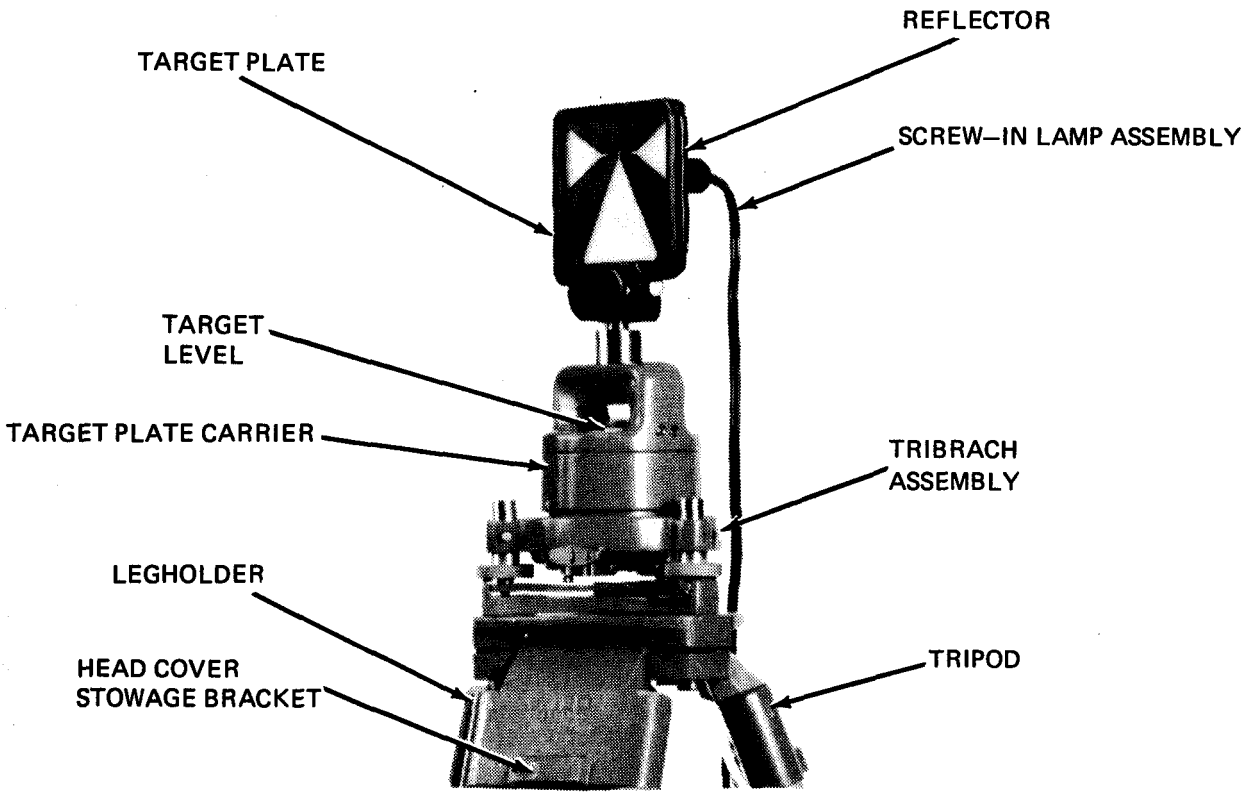


Figure 1-4. Target set, azimuth laying, model USATS-79.

CHAPTER 2
INSTALLATION AND OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIAL

2-1. Inspecting and Servicing the Equipment.

a. Inspect the entire set for missing components, loose or missing mounting hardware.

b. Check the target set against the packing list and be sure all items are with the unit.

c. Inspect the target set to make sure no damage has incurred during shipment.

d. Inspect the tripod assembly (fig. 2-1) for damage or missing tripod head cover, damaged legs, and cut or broken leather strap or carrying strap on model 242406 only. Inspect the cover bracket and battery box bracket for insecure mounting. Unbuckle the leather strap and open the tripod legs to permit access to the tripod accessory case. Inspect tripod accessory case for insecure mounting to the tripod, torn seams, and loose or missing fastener. Make sure the case contains a tripod wrench and plumb bob assembly (fig. 2-3). For model USATS-79 make sure the case contains a key, sockethead and plumb bob assembly (fig. 2-2).

e. Inspect the battery box and components (fig. 2-5 or 2-6) for dents, cracks, missing or broken clamps, and other damage. See that the lid closes easily and can be clamped securely to the box. Inspect all electrical contact points for corrosion and defects. Run the rheostat knob through its travel, making sure the movement is smooth and without binding. Inspect the two dummy batteries for loose or dirty contacts. See that the four spare lamps are secure in the mounting holes and in good condition. Inspect the hand lamp assembly and electrical cable for defective wiring and connector plugs. Inspect the hand lamp assembly for a cracked or broken case, defective lamp, or damaged switch. Inspect the electrical illumination assembly (model 242406), or screw-in lamp assembly (model USATS-79) for defective wiring, lamp, or connector plug. Replace defective parts.

2-2. Installation of Separately Packed Components. There are no separately packed components with the target set.

2-3. Installation or SettingUp Instructions.

a. Refer to figure 2-4 and erect the tripod over the station point and install the plumb bob assembly.

b. Remove the battery box from the carrying case and secure it to the battery box bracket (fig. 2-1) located on the tripod leg, or model USATS-79 (fig. 2-6).

c. Mount the tribrach onto the tripod head. Center the tribrach precisely over the station; level the tribrach, utilizing the level screws and circular level.

d. For model 242406 only, mount the target onto the tribrach. Install the light concealing hood and hood cone (fig. 2-5), if required. Install the reflector and illumination assembly (fig. 2-5), if required.

e. For model USATS-79 only, mount the target plate carrier onto the tribrach (fig. 2-9). If required, slide the reflector onto the target plate and mount the screw-in lamp assembly to the reflector. If required, slide the light concealing hood onto the target plate.

2-4. Equipment Conversion.

a. General. During night or dark-day operation, the target is illuminated by installing the illumination assembly (model 242406, fig. 2-8) or screw-in lamp assembly (model USATS-79, fig. 2-9), which is contained in the carrying case. An eyepiece adapter assembly (fig. 2-8) fits over the optical plummet eyepiece and provides illumination for the optical plummet.

b. Night or Dark-Day Operations. Refer to figure 2-8 illumination assembly (model 242406), or refer to figure 2-9 and install the screw-in lamp assembly (model USATS-79).

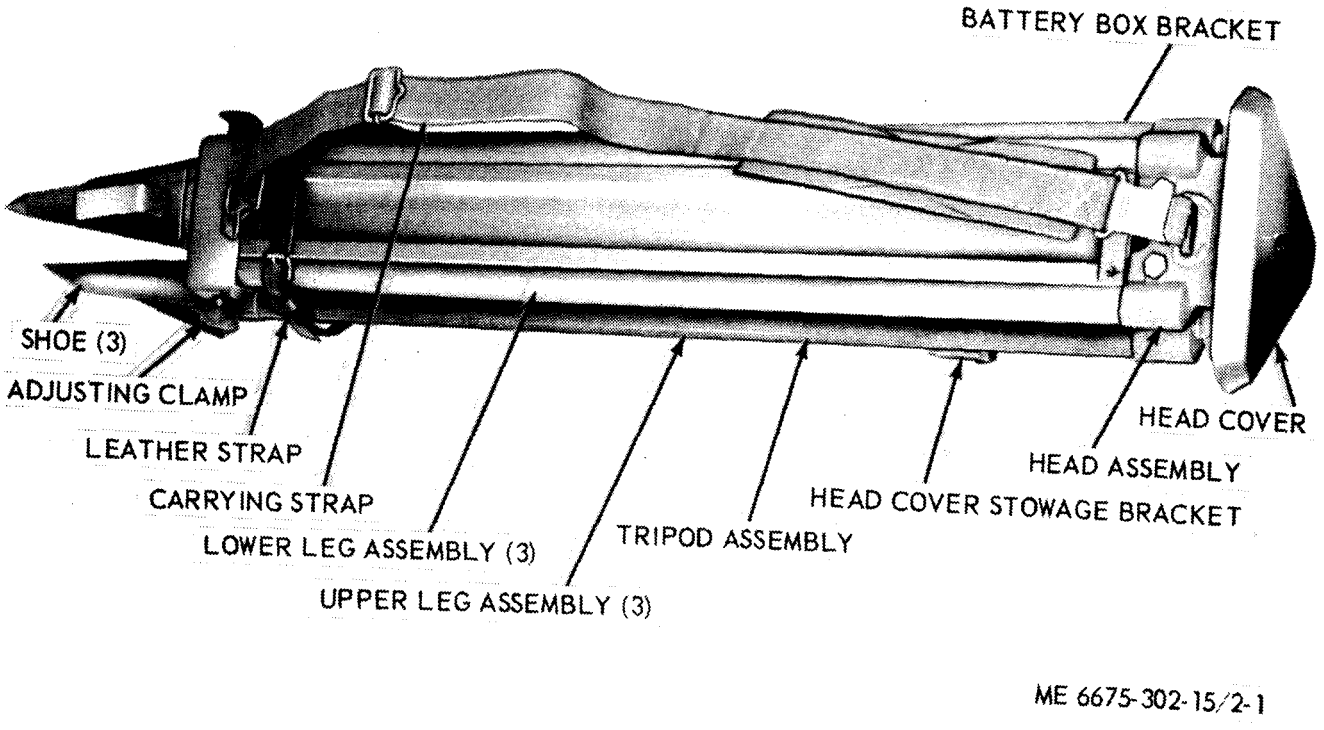


Figure 2-1. Tripod assembly, model 242406

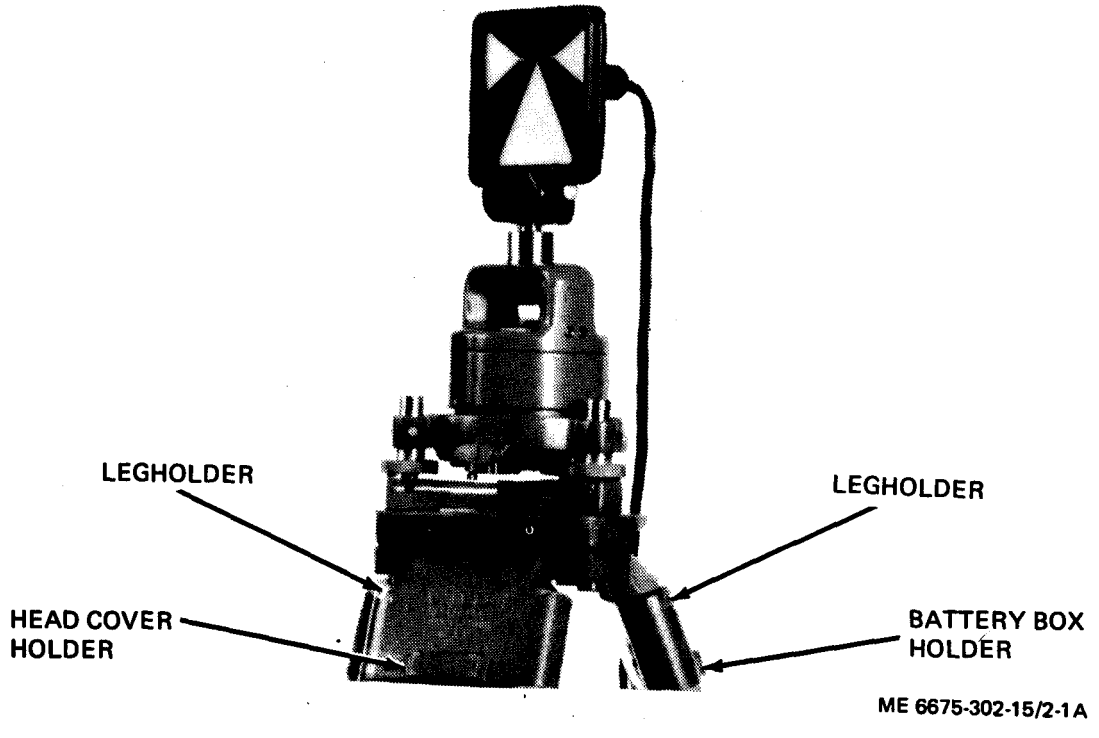


Figure 2-2. Tripod assembly, model USATS-79

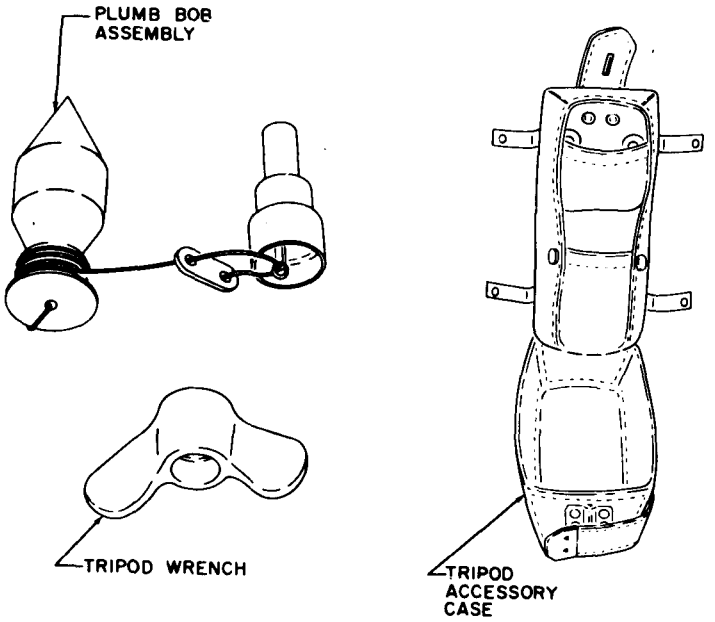


Figure 2-3. Tripod accessory case and accessories, model 242406

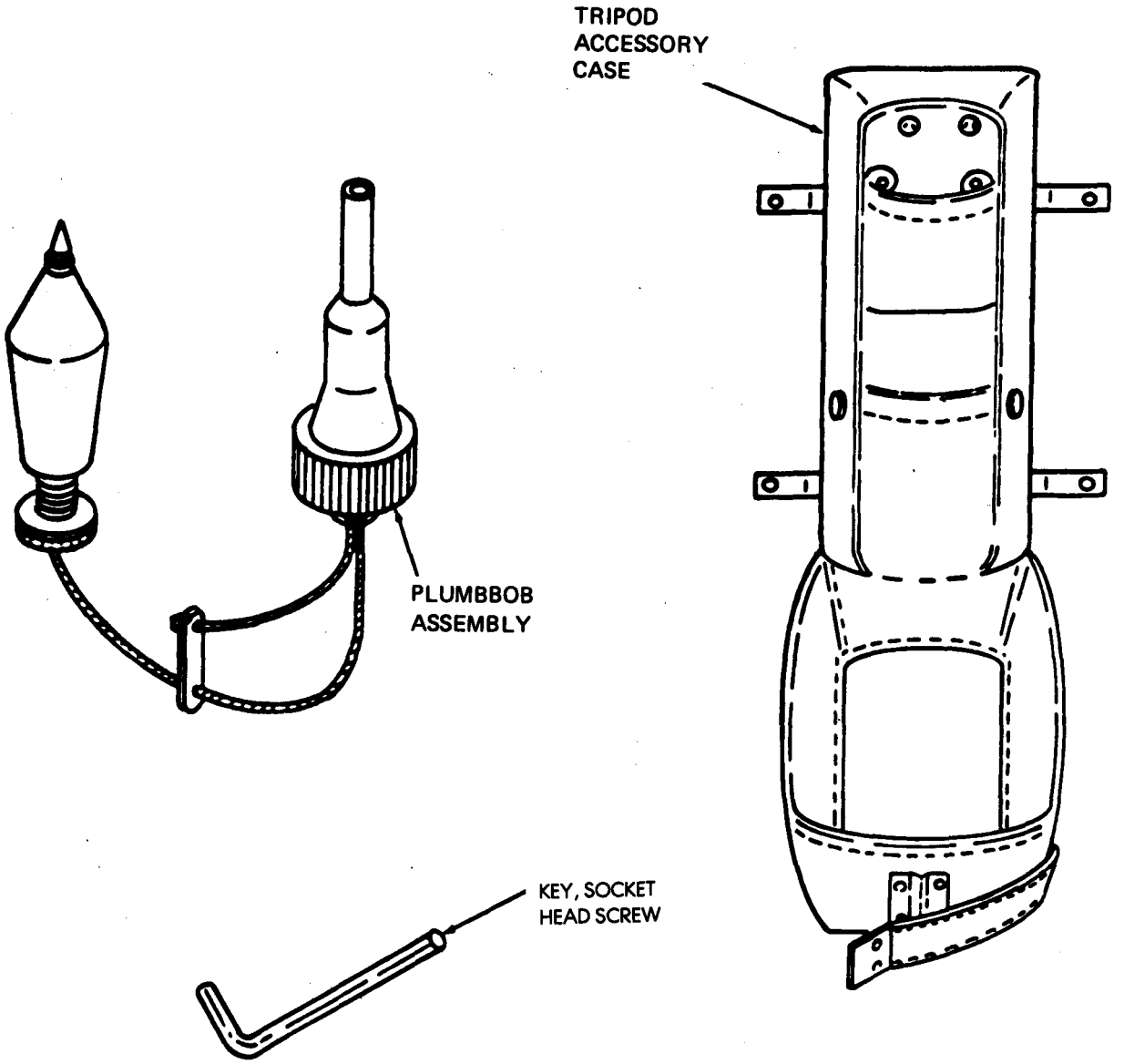


Figure 2-4. Tripod accesory case and accessories, model USATS-79

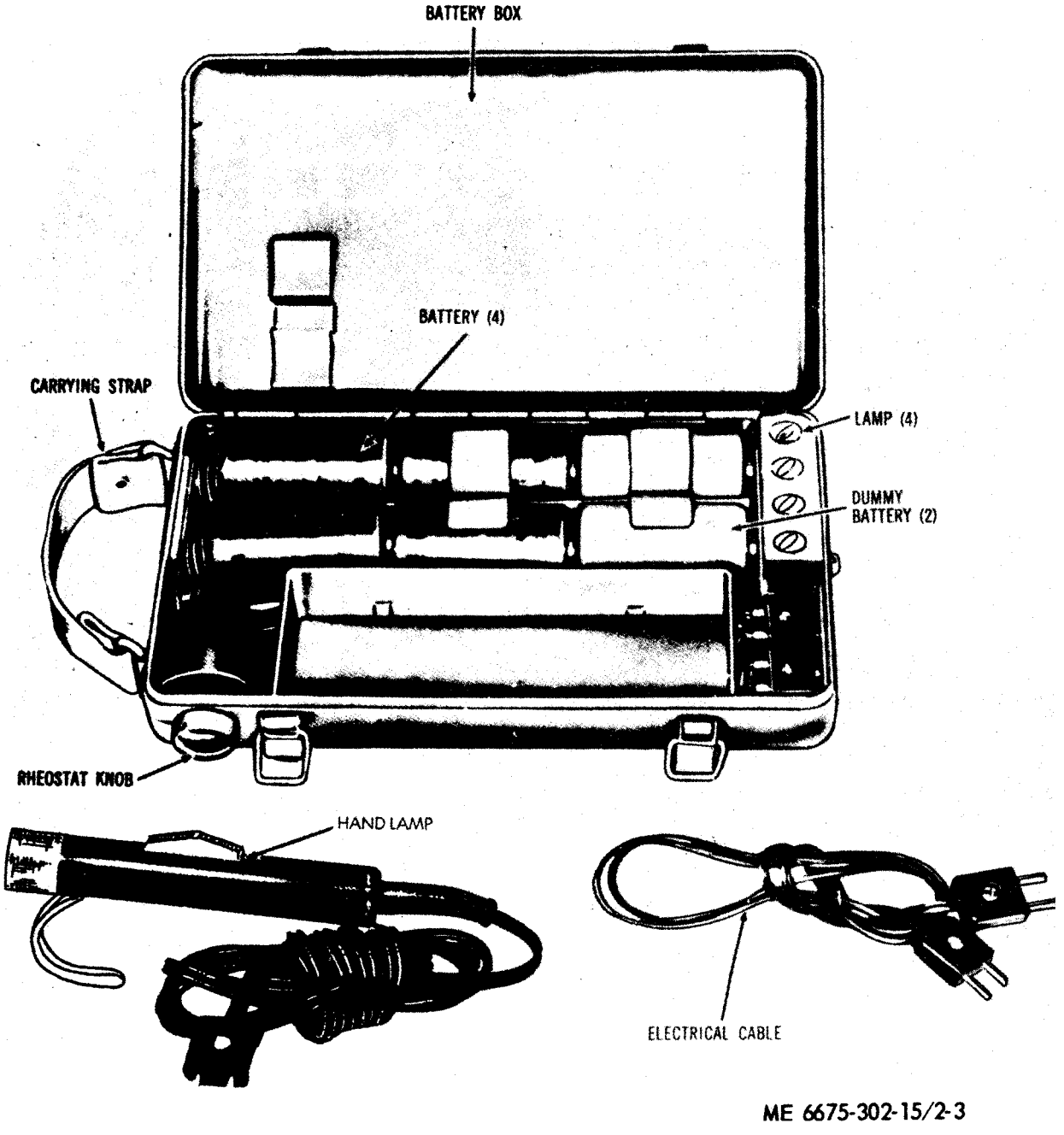
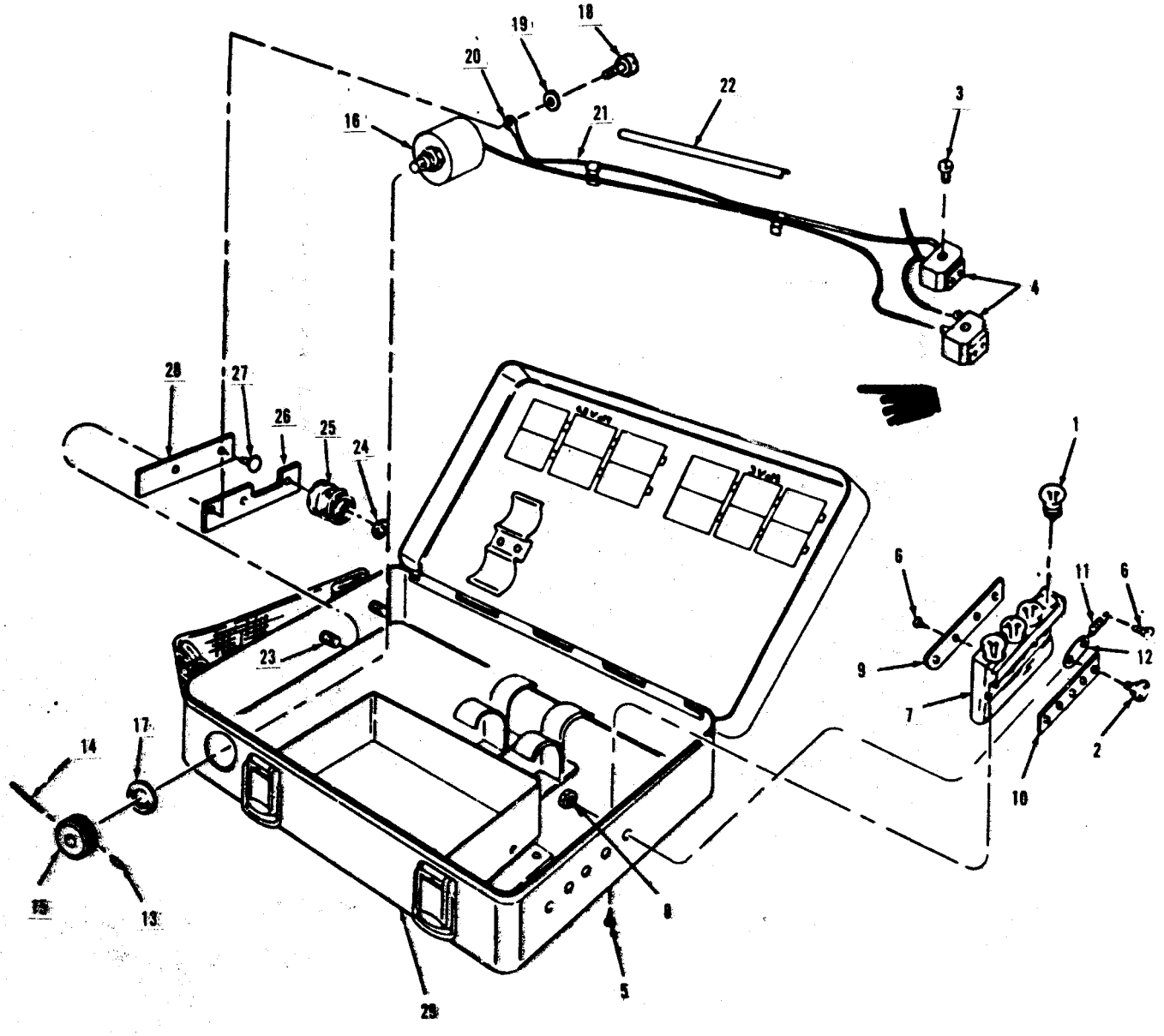


Figure 2-5. Battery box and components, model 242406



1. Bulb (4)
2. Knob
3. Screw (2)
4. Plug (2)
5. Screw (2)
6. Screw (3)
7. Wooden block
8. Nut
9. Contact plate
10. Cover plate
11. Cover plate spring
12. Connector plate
13. Setscrew
14. Pin
15. Knob
16. Potentiometer
17. Washer
18. Screw
19. Spring washer
20. Cable clip
21. Cable
22. Insulation tube
23. Screw (2)
24. Nut (2)
25. Contact spring (2)
26. Contact plate
27. Rivet (2)
28. Insulation plate
29. Battery box

Figure 2-6. Battery box, model USATS-79, exploded view

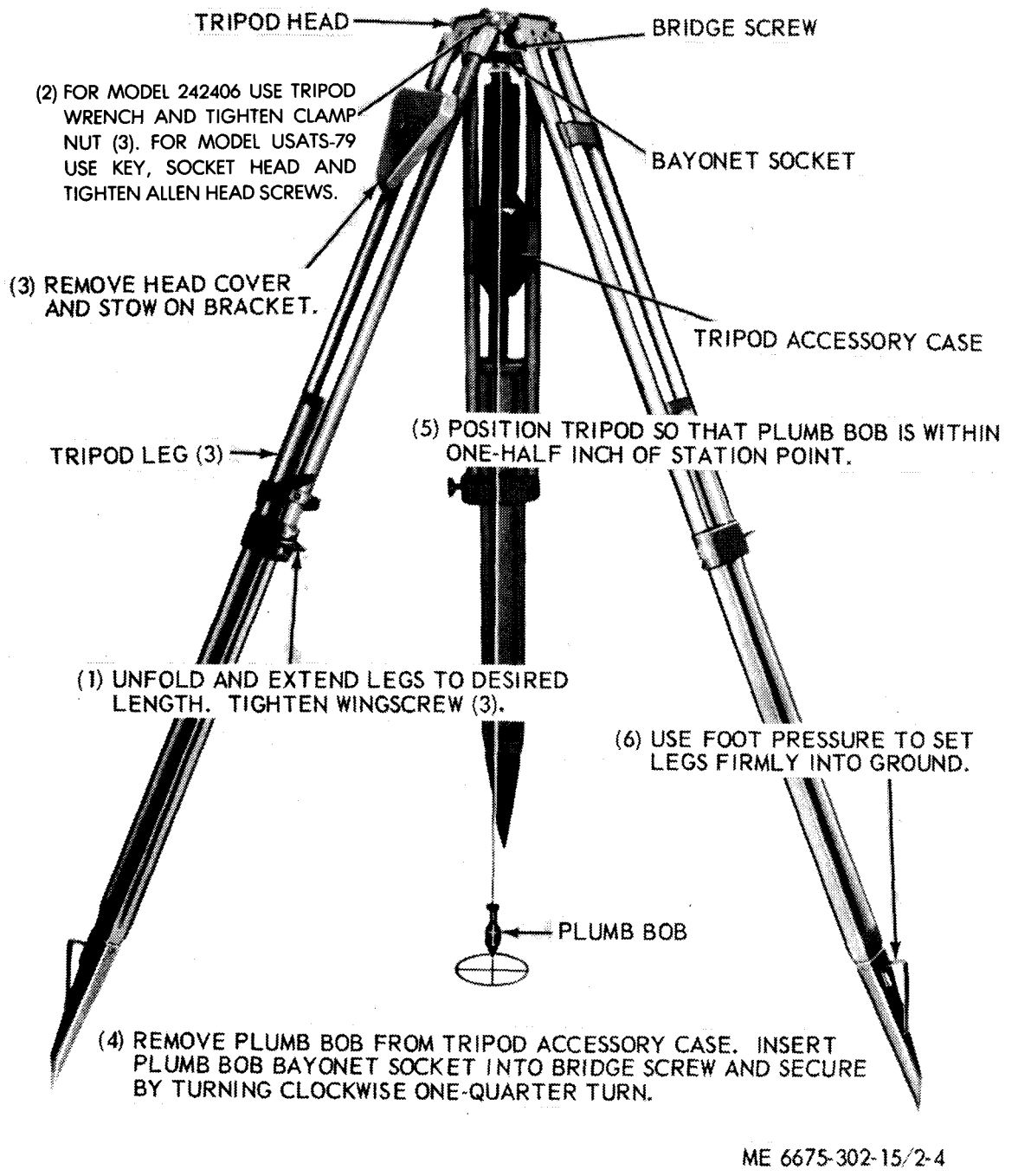


Figure 2-7. Tripod and plumb bob, model 242406 or USATS-79.

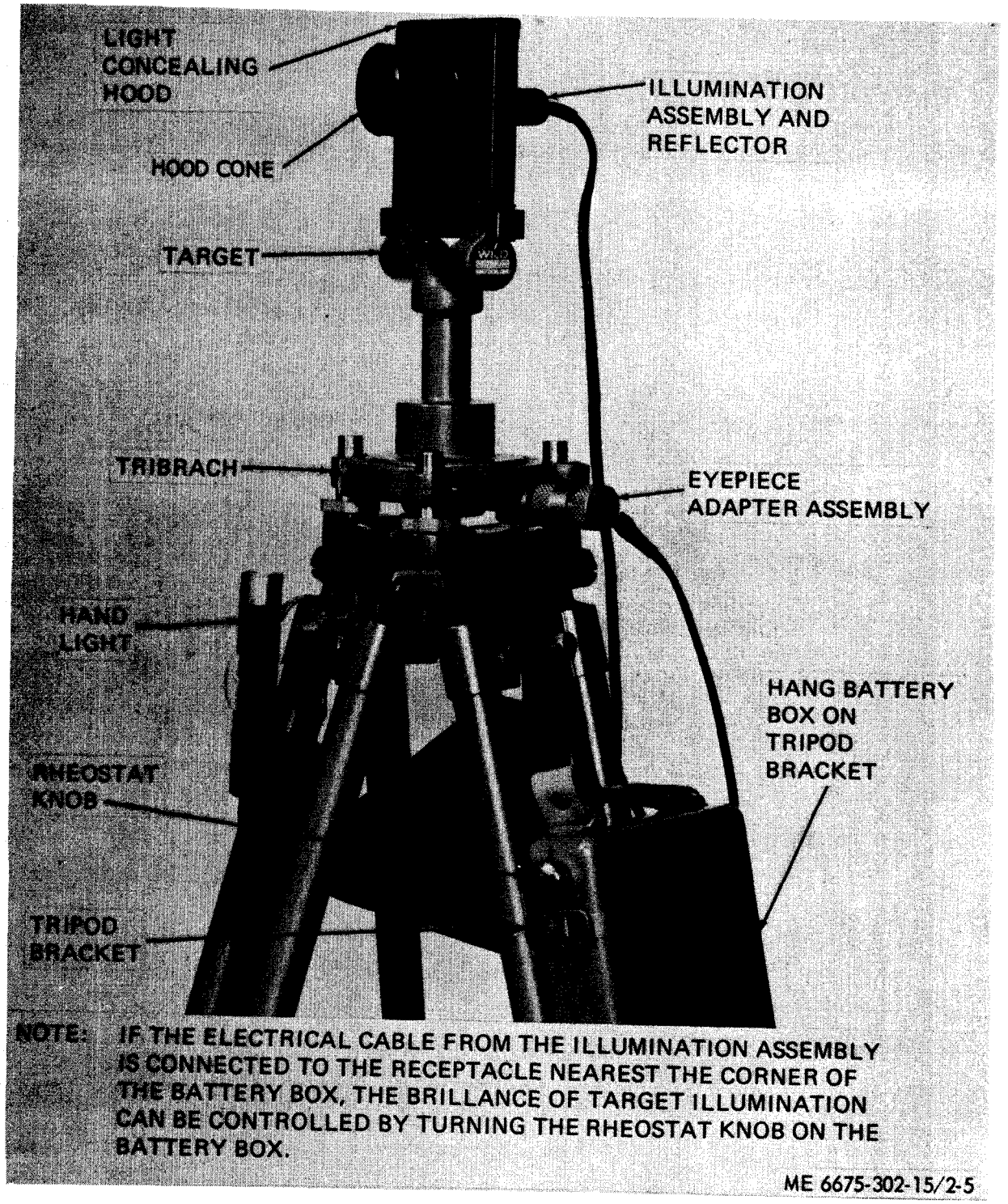


Figure 2-8. Illumination system, removal and installation, model 242406

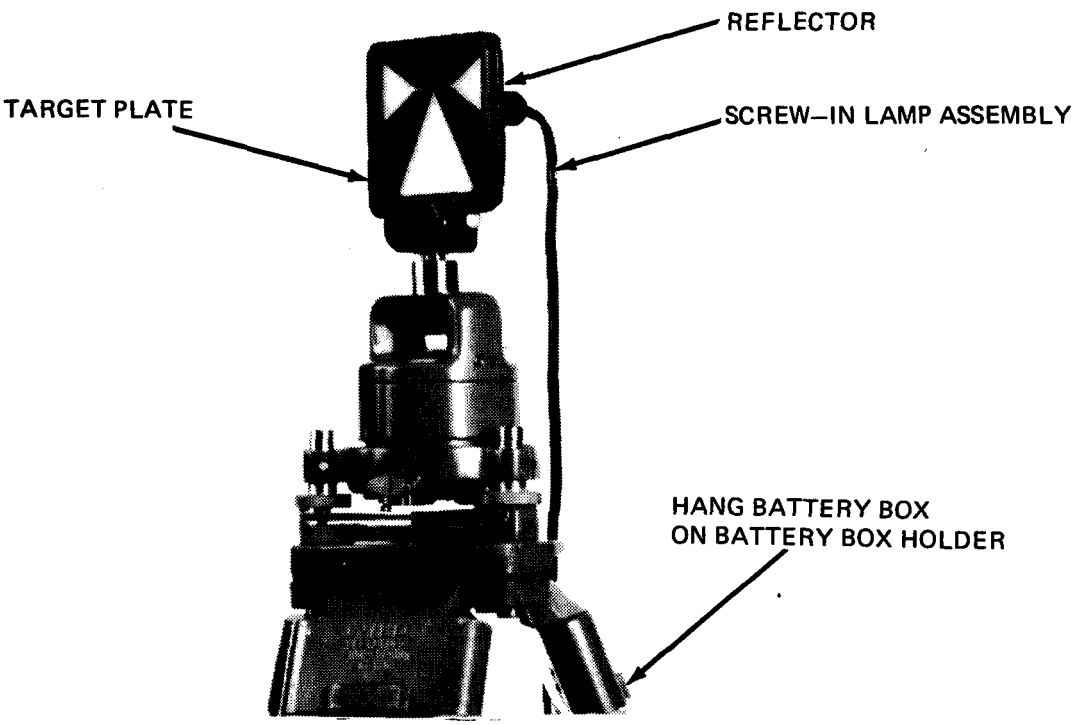


Figure 2-9. Screw-in lamp assembly, model USATS-79, removal and installation

Section II. MOVEMENT TO A NEW WORKSITE

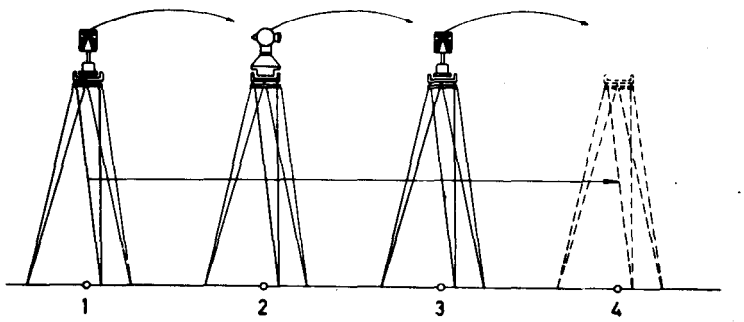
2-5. Dismantling for Movement.

a. The amount of dismantling will vary to the application during actual surveying conditions.

b. To dismantle, disconnect all electrical cables from battery box and instrument store cables in appropriate place. Remove light concealing hood cone and reflector from the target; store in carrying case. Remove the target, tribrach and battery box; store in carrying case, fold up the tripod, fasten locking strap, and the equipment is ready for movement to a new location.

c. Figure 2-10 illustrates the field procedure for traversing with the theodolite and target. Stations 1 -- 2 -- 3 have been measured; the theodolite at station 2 is removed from its tribrach and moved forward to occupy the tribrach of the tripod at station 3. The target is removed from the tribrach at station 1 and is placed in the tribrach at station 2. The tripod with its tribrach is removed from station 1 and proceeds to station 4, collecting the target from station 3. At station 4, the target is clamped into the tribrach and is then centered over the ground mark. Angles 2 -- 3 -- 4 can now be measured, and so forth, until the traverse is completed.

2-6. Reinstallation after Movement. Refer to paragraph 2-3 for setting-up instructions.



ME 6675-302-15/2-6

Figure 2-10. Traversing with the odolite and target, models 242406 or USATS-79

Section III. CONTROLS AND INSTRUMENTS

2-7. General This section describes, locates, illustrates, and furnishes sufficient information about the controls used to operate the target set.

2-8. Controls and Instruments. Refer to figure 2-11 for the purpose and location of control and instruments for model 242406, or figure 2-12 for model USATS-79.

Section IV. OPERATION UNDER USUAL CONDITIONS

2-9. General.

a. The instructions in this section are published for the information and guidance of the personnel responsible for the operation of the surveying target set.

b. The operator must know how to perform every operation of which the target set is capable. This section contains instructions on centering the optical plummet, centering below apex mark, checking the optical plummet and checking the target. Since nearly every job presents a different problem, the operator may have to vary given procedures to fit the individual job.

2-10. Target Set Operation.

a. Setting Up Tripod. For angular measurements, the instruments must be set up over a station of the terrain which has been determined previously. The bayonet socket of the plumb line is plugged into the bridge screw from below and secured by a quarter turn to the right. The tripod is then set up so that the plumb bob, which hangs from the middle of the central opening, points to the station point from within 1/2 inch, and the tripod's plate is approximately horizontal. To achieve this, the leg, whose turning axis at the tripod plate is inclined most, must be displaced laterally. Any other method will affect the centering. The leg points are set firmly into the soil, with care being taken to maintain the centering within 1/2 to 1 inch. Now the plumb bob maybe removed if the final centering is to be done optically. Otherwise, in calm weather the plumb bob may be used on its own.

b. Securing Base Plate of Tribrach. The tribrach itself consists of a star-shaped base plate, where the three leveling screws (fig. 2-11 or 2-12) are kept fast by a rotatable spring plate. The spring plate is normally held in position from below by means of a lock screw. Withdrawing this screw allows the spring plate to be rotated a few degrees. The base plate is thus released and can be separated from the tribrach. For normal use, the spring plate should always be secured to prevent the tribrach from falling out.

c. Fixing and Leveling the Tribrach. The tribrach is fixed to the tripod with the bridge screw. The circular level bubble is centered by turning the leveling screws.

d. Fixing the Target. Turn the tribrach locking lever (fig. 2-11 for model 242406, or fig. 2-12 for model USATS-79) towards the right. Insert the feet of the target into the corresponding holes of the tribrach and turn lever firmly towards the left until it snaps over the clutch and holds the target fast.

2-11. Centering with Optical Plummet.

a. The eyepiece of the optical plummet (fig. 2-11) must be turned until its plumbing mark appears in focus. At the same time the station mark on the ground will be seen, over which the instrument must be centered for night or dark-day operation (para 2-4).

b. Loosen the bridge screw of the tripod slightly to allow the tribrach to be shifted until the ground mark appears in the center of the plumbing mark.

c. During the shifting, the bubble in the circular level must be maintained exactly in the center.

d. Tighten the bridge screw.

e. Center the target level. Turn the target through 90° and center the level bubble with the third leveling screw. Repeat this procedure until the bubble remains central throughout a 360° rotation of the target. The bubble should now be centered in any position. If not, adjust the circular level.

2-12. Centering Below Apex Mark. In galleries, the station points are often marked by hooks cemented in the roof, In this case, fix a plumb line on the hook, so that the point of the plumb will be just at the height of the upper center mark of the target. Shift the target on the tripod until its mark is vertically below the plumb point when the bubble of the circular level is centered, then level the target with reference to the target level.

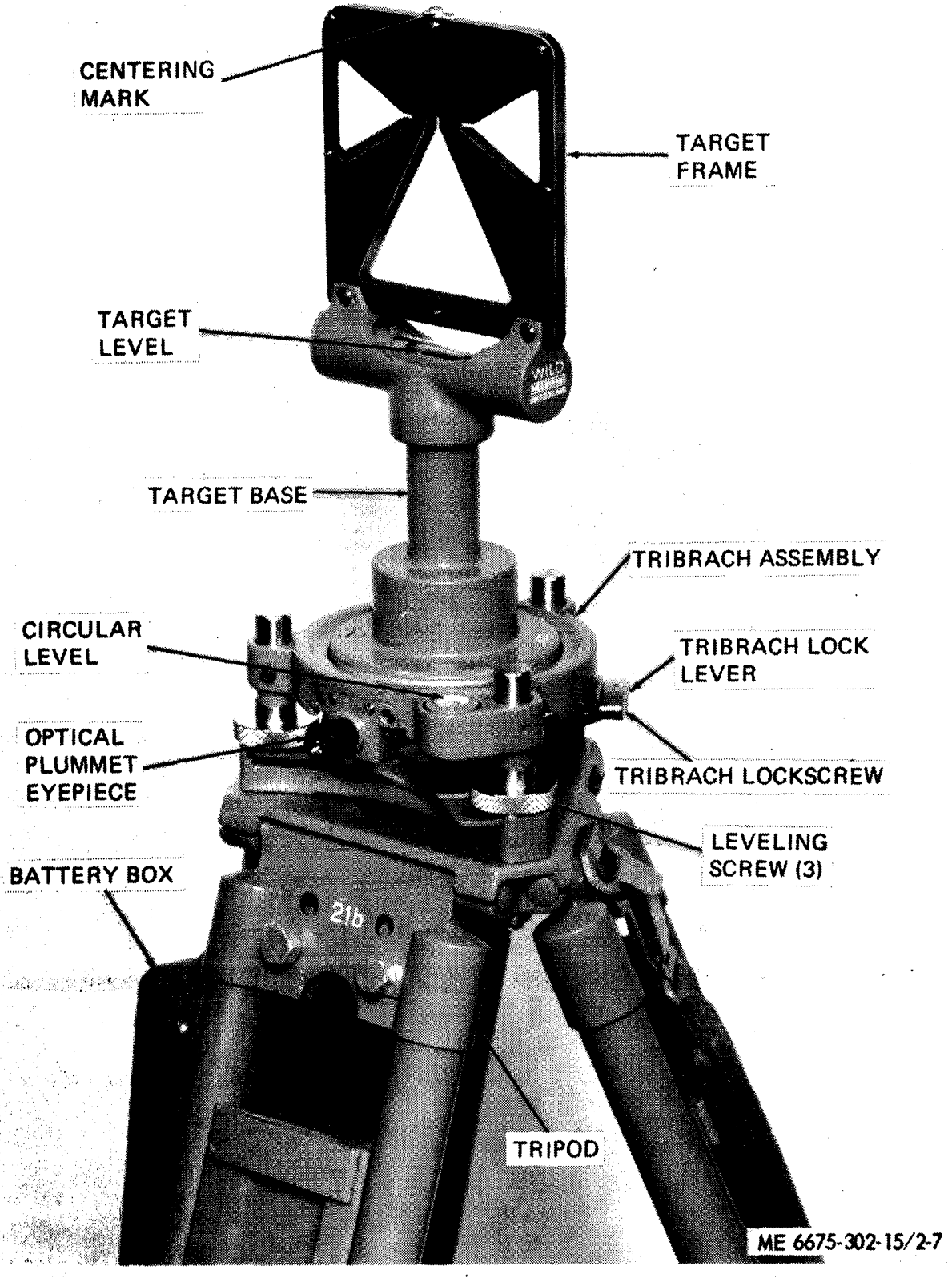


Figure 2-11. Target set operating instructions, model 242406

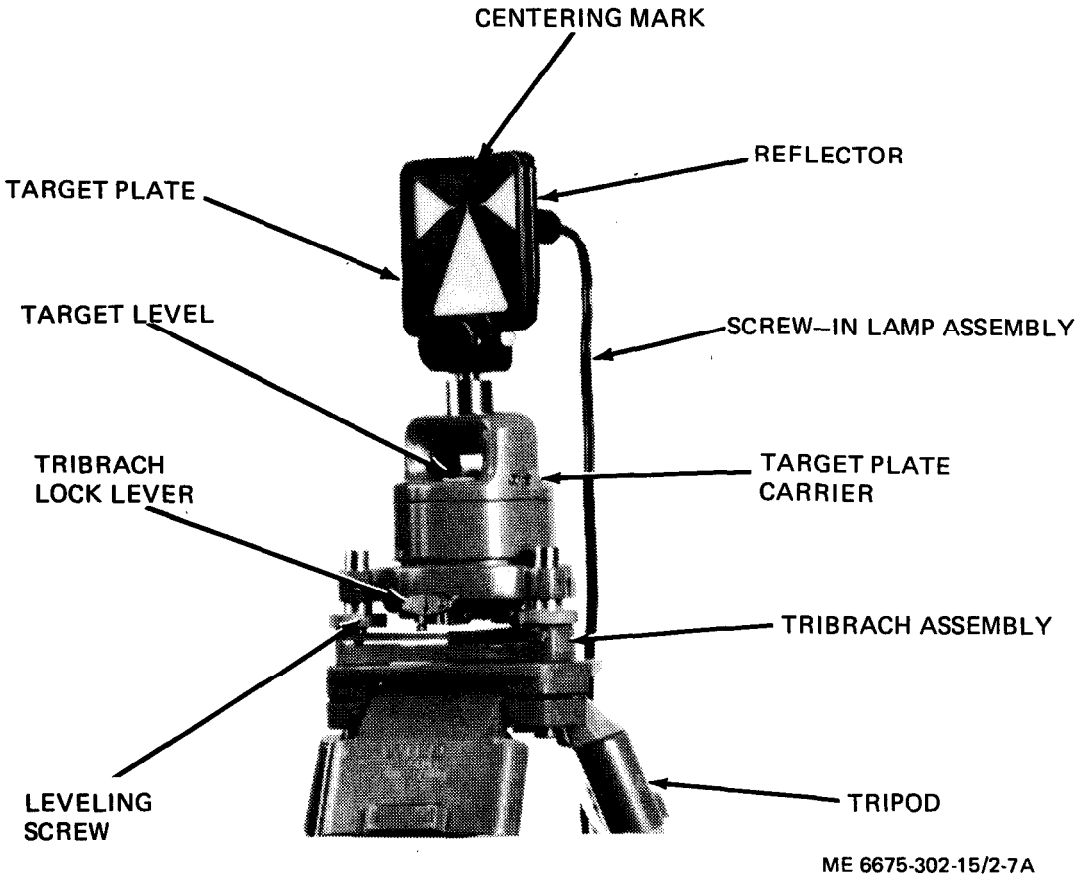


Figure 2-12. Target set operating instructions, model USATS-79

Section V. OPERATION UNDER UNUSUAL CONDITIONS

2-13. Operation in Extreme Cold (below 0° F). With proper precautions, the target set can be used in extreme cold. Its use is limited by the endurance of operating personnel and by the conditions affecting visibility. The target set should be kept out-of-doors or in unheated building for short periods of non-use. Extreme changes in temperature will cause stresses affecting accuracy. The target should be cleaned and all possible lubricants removed before being put to use under extreme cold. Snowfall, winds, and refraction of light are some of the adverse conditions encountered at low temperatures.

2-14. Operation in Extreme Heat. The target set should be protected by a surveyor's umbrella during strong sunlight. Direct rays of the sun will cause stresses and distortion in the equipment. Heat ripples in the air near the ground level create poor sighting conditions. When such conditions prevail, taking shorter sightings will reduce sighting errors. If the target set is kept in a cool storage place, it should be brought out of storage before use to let the equipment temperature ap proach that of the outside air.

2-15. Operation in Dusty or Sandy Areas. Special care must be taken of an instrument that is being used in areas where dust and sand occur, since both dust and sand are highly abrasive. Moving parts will soon bind if they are allowed to remain on threaded or sliding surfaces, and the equipment will become inaccurate or inoperable. Brush the equipment off frequently and carefully wipe it clean. Always protect the equipment from dust or sand that is blowing where the equipment is not in use.

2-16. Operation Under Rainy or Humid Conditions. In humid areas, a slight lowering of the ambient temperature can cause condensation of moisture and fogging of the target lens. Internal fogging of the lens can usually be removed by taking the equipment into a warm, dry place. Corrosion due to high humidity can be kept to a minimum by using warm, dry storage areas, and by the use of desiccants. Dry the equipment thoroughly after use and wipe all metal parts with a soft cloth lightly impregnated with watch oil. Do not get any of the oil on the lens or level vial surfaces.

2-17. Operation in Salt Water Areas. Salt air is highly corrosive to metals and especially to brass, from which many parts are made. Salt reacts with brass to produce a green deposit (verdigris), which must be guarded against and removed as soon as it is noticed. Wipe the equipment frequently with a soft cloth and dry thoroughly. Clean the equip ment daily and apply a light film of watch oil to metal parts.

2-18. Operation at High Altitudes. No special operating procedures are required at high altitudes.

CHAPTER 3
OPERATOR'S MAINTENANCE INSTRUCTIONS

Section I. BASIC ISSUE ITEMS

3-1. Repair Parts, Tools and Equipment. Repair parts and tools issued with or authorized for the target set are listed in appendix E.

Section II. LUBRICATION INSTRUCTIONS

3-2. General Lubrication Information. All moving parts of the tribrach, with both smooth and threaded surfaces, are fitted with extremely fine tolerance. For this reason most parts of the target set must be cleaned before being lubricated. Any attempts to lubricate the target set without first cleaning it may result in damage to the equipment and may render it unfit for use.

3-3. Detailed Lubrication Information.

a. Cars of Lubricants. Special care should be taken to see that all surveying instrument lubricants are kept absolutely free from contamination by a foreign substance. Containers should be stored in a clean, dry place, and wiped free of dirt or dust before they are opened. All lids or bottle tops must be kept airtight.

b. Approved Lubricants. Approved lubricants are noncorrosive and highly refined, and must be free from all paint-removing ingredients. The following lubricants are approved for use with the target set.

(1) OCW: Oil, clock and watch, MIL-L-3918.

(2) GIA: Grease, aircraft and instruments, MIL-G-23827.

c. Components Requiring Lubrication.

(1) Leveling screws. Turn the leveling screws (fig. 2-11 for model 242406, or fig. 2-12 for model USATS-79) outward to the extreme limit of travel. Clean well with a lint-free cloth. Apply grease (GIA) sparingly and run the screws through their travel several times to distribute evenly. Wipe all excess grease off the leveling screws.

(2) Tribrach locking plate. Thoroughly clean all contact points on the tribrach locking plate, knob, and its guides, using a lint-free cloth, Using grease (GIA), lubricate all contact points sparing ly operate locking knob several times to distribute the grease evenly, wipe all excess grease off.

(3) Spring plate. The stop sides of the spring plates which contact the leveling screws to hold them snuggly against the tripod head should be lubricated sparingly as occasion may require, using grease (GIA).

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

3-4. General. To insure that the target set is ready for operation at all times, it must be inspected systematically so that the defects may be discovered and corrected before they result in serious damage or failure. Defects discovered during operation of the unit shall be noted for future corrections, to be made as soon as an operation has ceased. Stop operation which would damage the equipment if operation were to continue. All deficiencies and shortcomings shall be recorded together with the corrective action taken on DA Form 2404, Equipment Inspection and Maintenance Worksheet, at the earliest opportunity. When performing your Before Operation (B) and During Operation (D) PMCS, always keep in mind the CAUTIONS and WARNINGS. After operation, be sure to perform your (A) PMCS. If your equipment fails to operate, troubleshoot with proper equipment. Report any deficiencies using the proper forms, see TM 38-750.

3-5. Preventive Maintenance Checks and Services. Refer to Table 3-1 for Preventive Maintenance Checks and Services.

a. Item Number Column. Checks and services are numbered in chronological order regardless of interval. This column will be used as a source of item numbers for the TM Item Number column on DA Form 2404 in recording results of PMCS.

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

B-Before D-During A-After W-Weekly M--Monthly

Item No.	Interval B	D	A	W	M	Item To Be Inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment Is Not Ready/Available If
1	•					Accessory case	Check for serviceability and presence of components.	
2	•					Battery box	Check for serviceability and presence of components. Check batteries and wiring for serviceability. Check rheostat for tight and clean connections and proper operation.	Faulty batteries
3	•					Head lamp	Check for serviceability and operation.	Bad lamp
4	•					Tripod	Check for serviceability.	
5	•					All components	Check for proper function, alignment, adjustment, and calibration.	

b. Interval Columns. The columns headed B, D, A, W, and M, will contain a dot (.) opposite the appropriate check indicating it is to be performed Before, During, After, Weekly or Monthly.

c. Item to be Inspected Column. The items listed in this column are divided into groups and identifies the items to be inspected.

d. Procedures Column. This column contains a brief description of the procedure by which the check is to be performed.

e. Equipment will be Reported Not Ready /Available Column. This column will contain the criteria which will cause the equipment to be classified as Not Ready/Available because of inability to perform its primary mission.

NOTE

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shutdown.

Section IV. OPERATOR'S MAINTENANCE

3-6. General. This section describes maintenance functions which the operator must perform on components of the target set.

3-7. Lamps, Illumination Assembly (Model 242406), or Screw-In Lamp Assembly (Model USATS-79), Replacement.

a. Remove and replace defective lamp from the illumination assembly and reflector as illustrated in figure 3-1 for model 242406, or from screw-in lamp assembly and reflector as illustrated in figure 3-2 for model USATS-79.

b. Clean the reflector inner surface with a soft clean cloth.

c. Install serviceable lamps in the illumination assembly (model 242406), or screw-in lamp assembly (model USATS-79).

3-8. Lamp, Eyepiece Adapter, Replacement.

a. Remove and replace defective lamp from the eyepiece adapter as illustrated in figure 3-3.

b. Install serviceable lamp in eyepiece adapter.

3-9. **Lamp, Handlamp Assembly, Replacement.**

a. Remove and replace defective lamp from the handlamp assembly as illustrated in figure 3-4 for model 242406, or figure 3-5 for model USATS-79.

b. Install serviceable lamp in the handlamp assembly.

3-10. Battery Replacement. Refer to figure 3-6 for replacement of batteries on model 242406. To replace batteries on model USATS-79, open battery box, remove discharged batteries, and install serviceable batteries.

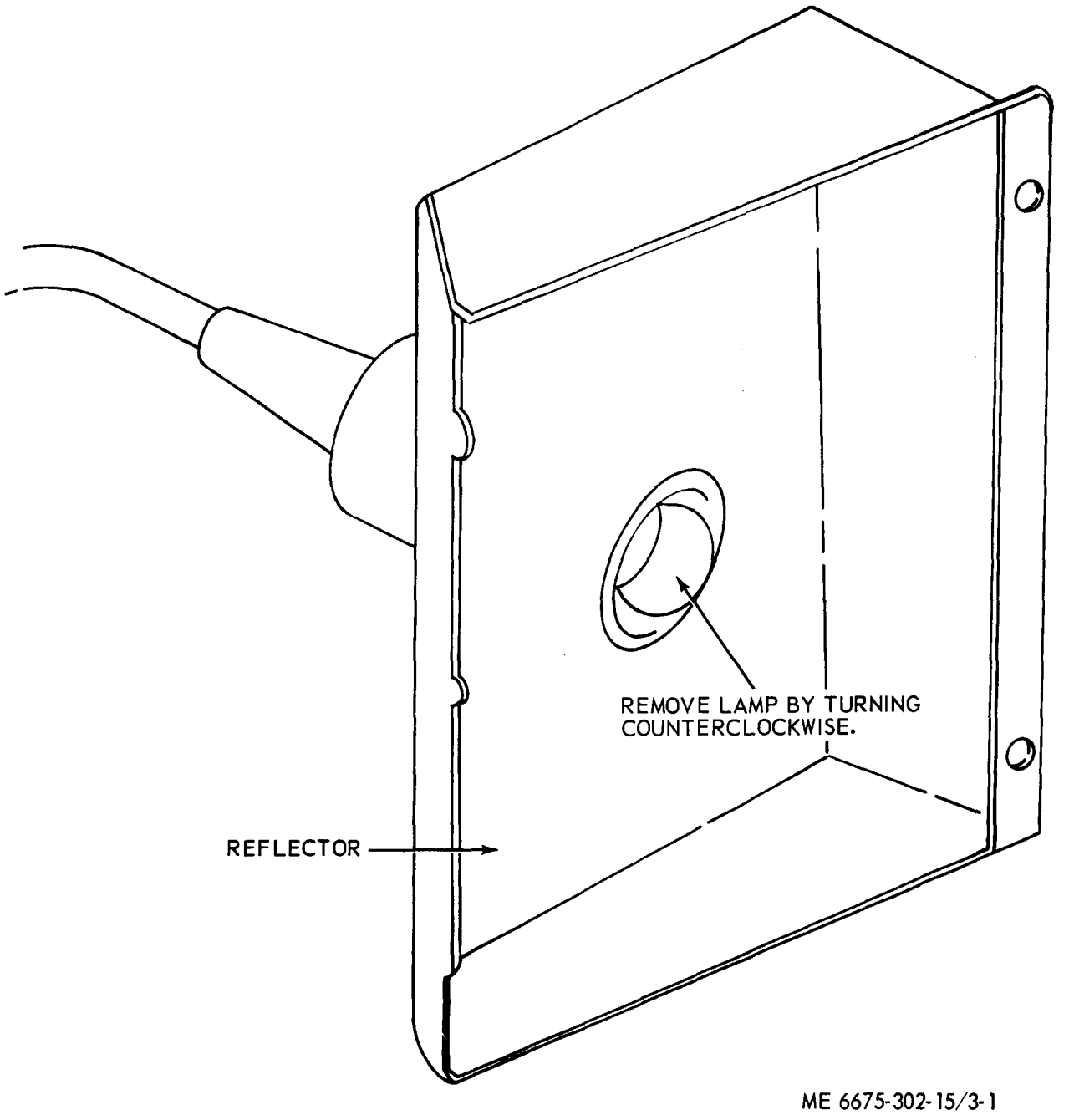


Figure 3-1. Lamp removal and installation, model 242406

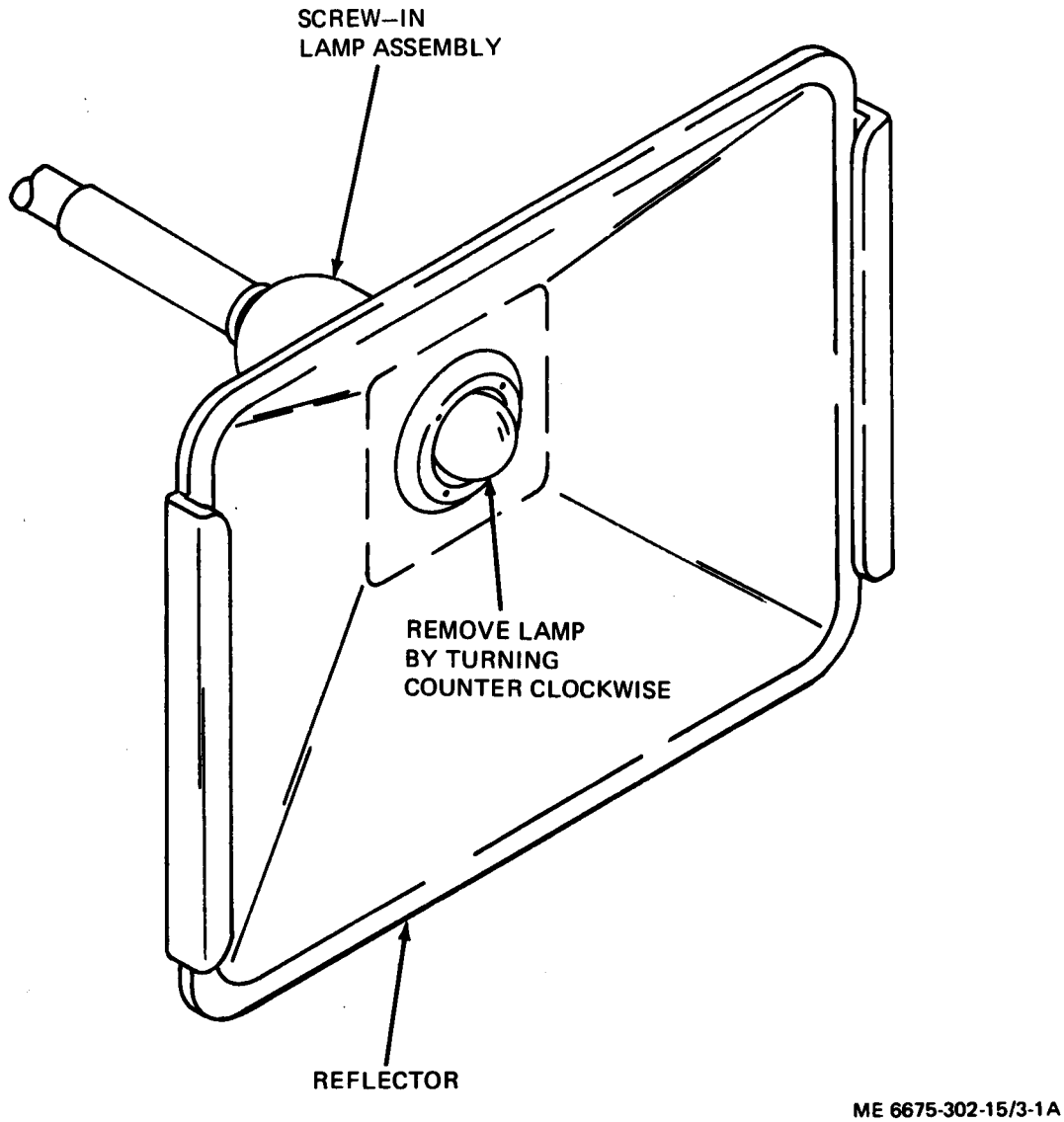


Figure 3-2. Lamp, model USATS-79 screw-in lamp, removal and instdlation

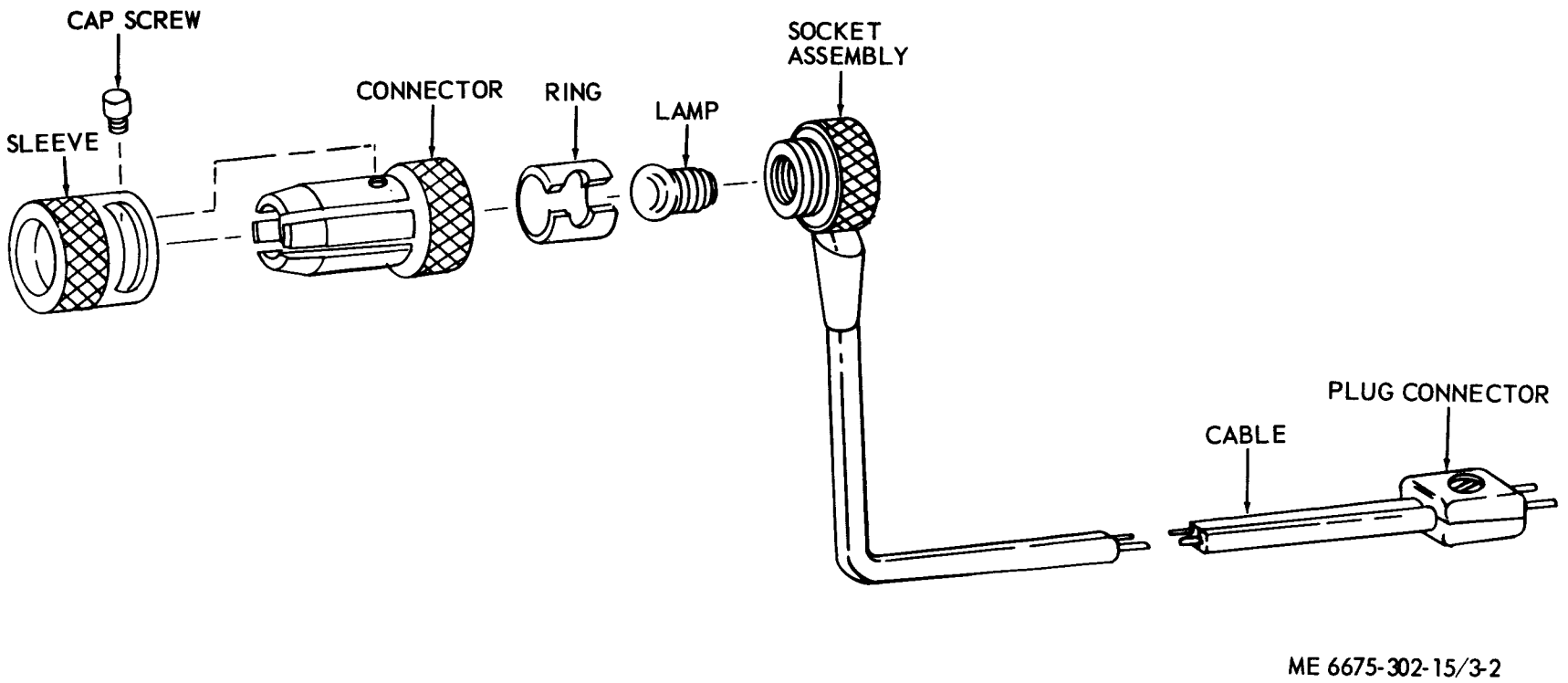


Figure 3-3. Eyepiece adapter assemnbly, disassembly and reassembly, models 242406 or USATS-79

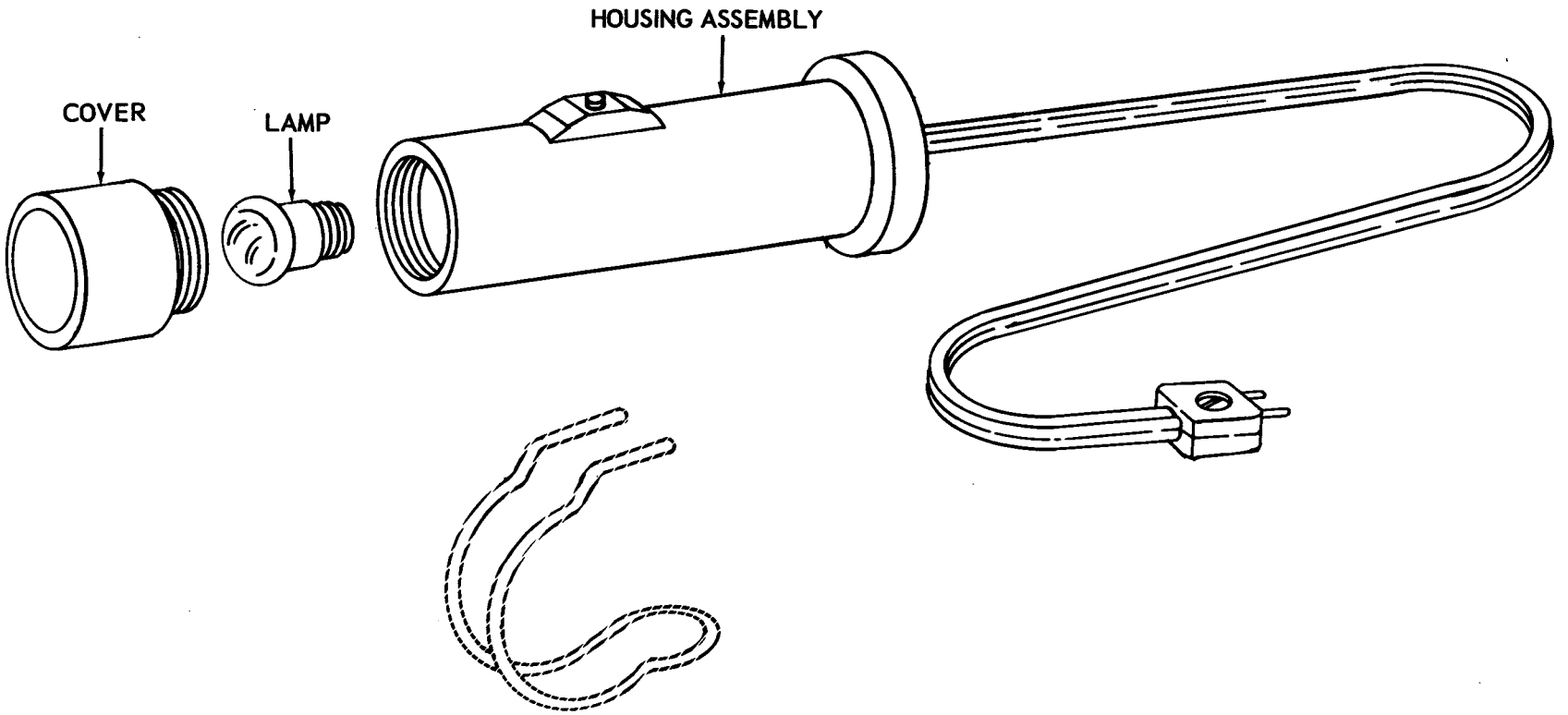


Figure 3-4. Handlamp assembly, model 242406, lamp replacement

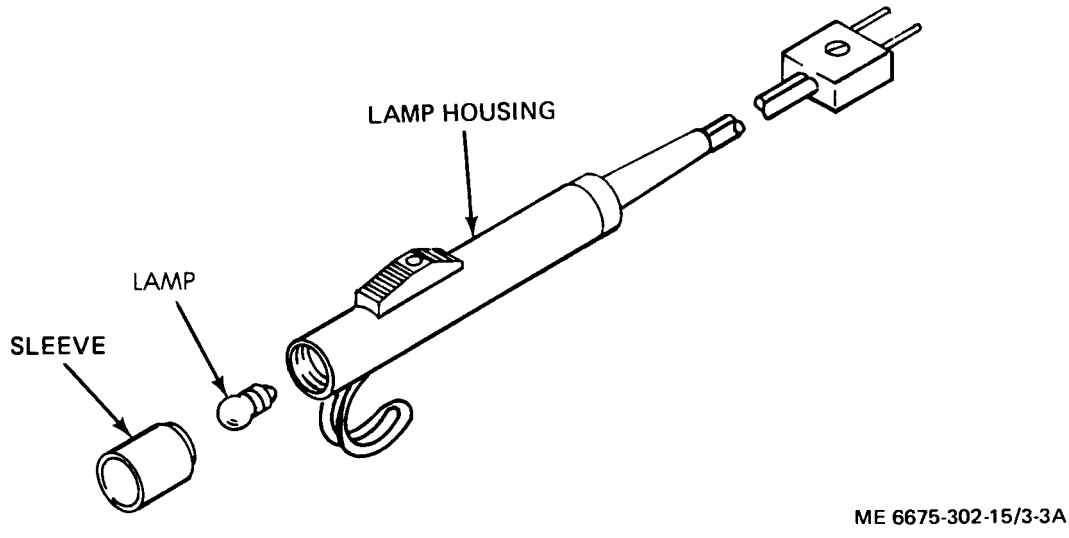


Figure 3-5. Hand lamp assembly, model USATS-79, lamp replacement

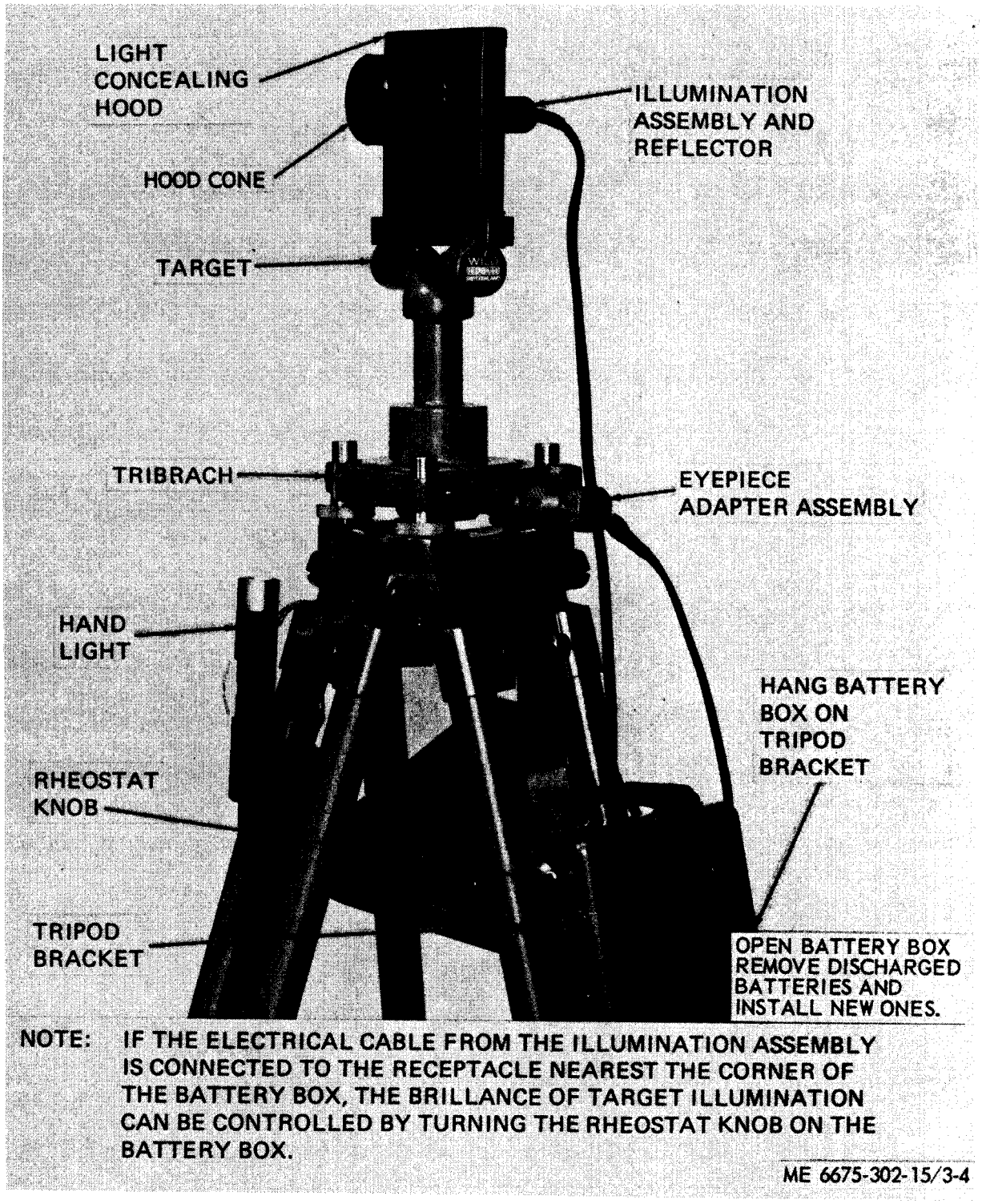


Figure 3-6. Battery box, battery replacement, model 242406

Section V. TROUBLESHOOTING

3-11. General. Troubleshooting procedures in Table 3-2 section provide operator/crew personnel with tabular information for diagnosing and correcting unsatisfactory operation or failure of the illumination system (model 242406) or screw-in lamp assembly (model USATS-79). Following each malfunction are tests or inspections and corrective actions required to correct the malfunction.

Table 3-2. Troubleshooting

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
1. LAMP IN ILLUMINATION SYSTEM DEFECTIVE
Step 1. Check for defective lamp. Replace defective lamp (para 3-7).
Step 2. Check for discharged batteries. Replace defective batteries (para 3-10).

CHAPTER 4
ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIAL

Refer to paragraph 2-1 for inspecting and servicing the equipment,

Section II. MOVEMENT TO A NEW WORKSITE

Refer to paragraph 2-5 for moving the equipment to a new worksite and refer to paragraph 2-6 for reinstallation after movement.

Section III. REPAIR PARTS, TOOLS AND EQUIPMENT

4-1. Special Tools and Equipment. Special tools required for organizational maintenance on the target set are listed in table 4-1 and appendix E.

4-2. Special Tools.

Table 4-1 Special Tools

Item	NSN	Fig. No.	Use
Screwdriver, flat tip	5120-00-446-2860	2-3	Circular level adjustment.
Pin, adjusting	6675-00-353-4103	2-3	Adjust tribrach and theodolite adjusting screws.
Wrench, tripod (Model 242406)	5120-00-378-9520	2-3	Tripod leg adjustment, removal and installation.
Key, socket head screw (Model USATS-79	512041-011-8393	2-4	Tripod leg adjustment, removal and installation.

4-3. Repair Parts. Organizational maintenance repair parts are listed and illustrated in appendix E.

Section IV. LUBRICATION INSTRUCTIONS

Refer to paragraph 3-3 for lubrication instructions for the target set.

Section V. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

4-4. General. To insure that the target set is ready for operation at all times, it must be inspected systematically so that the defects may be discovered and corrected before they result in serious damage or failure. Defects discovered during operation of the unit shall be noted for future corrections, to be made as soon as an operation has ceased. Stop operation which would damage the

equipment if operation were to continue. All deficiencies and shortcomings shall be recorded together with the corrective action taken on DA Form 2404, Equipment Inspection and Maintenance Worksheet, at the earliest opportunity. When performing your Before Operation (B) and During Operation (D) PMCS, always keep in mind the CAUTIONS and WARNINGS. After operation, be sure to perform your (A) PMCS. If your equipment fails to operate, troubleshoot with proper equipment. Report any deficiencies using the proper forms, see TM 38-750.

4-5. Preventive Maintenance Checks and Services. Refer to Table 4-2 for Preventive Maintenance Checks and Services.

a. Item Number Column. Checks and services are numbered in chronological order regardless of interval. This column will be used as a source of item numbers for the TM item number column on DA Form 2404 in recording results of PMCS.

b. Deleted.

Table 4-2. Organizational Preventive Maintenance Check and Services

Legend

W--Weekly	**Q--Quarterly**	**A--Annually**	**H--Hours**
M--Monthly	**S--Semiannually**	**B--Biennially**	**MI--Miles**

Item No.	Interval								Item To Be Inspected	Procedure	For Readiness Reporting, Equipment Is Not Ready/ Available If
	W	M	Q	S	A	B	H	MI			
1			●						Accessory case	Check for serviceability and presence of components.	
2			●						Battery box	Check for serviceability and presence of components. Check batteries and wiring for serviceability. Check rheostat for tight and clean connections and proper operation.	Faulty batteries
3			●						Hand lamp	Check for serviceability and proper operation.	Defective lamp
4			●						Tripod	Check for serviceability.	
5			●						All components	Check for proper function, alignment, adjustment, and calibration.	
6			●						Surveying set	Make all necessary adjustment and operational tests. Lubricate target set.	

c. Item to be Inspected Column. The items listed in this column are divided into groups and identifies the items to be inspected.

d. Procedures Column. This column contains a brief description of the procedure by which the check is to be performed.

e. Equipment will be Reported Not Ready/ Available Column. This column will contain the criteria which will cause the equipment to be classified as Not Ready/Available because of inability to perform its primary mission.

NOTE

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shutdown.

Section VI. ORGANIZATIONAL MAINTENANCE OF THE TARGET SET

4-6. Illumination Assembly (Model 242406) or Screw-In Lamp Assembly (Model USATS-79).

a. General The illumination assembly consists of an incandescent lamp and cable assembly. The cable assembly is the intermediate between the battery box and the reflector.

b. Removal.

(1) Remove male plug end of the cable assembly from female receptacle on the battery box.

(2) Remove the lamp holder end of the cable assembly from the reflector (fig. 4-1 for model 242406, and fig. 4-2 for model USATS-79).

c. Cleaning and inspection.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59C).

(1) Clean all parts with cleaning solvent and dry thoroughly.

(2) Inspect for broken or frayed wire, defective lamp and damage. Replace all defective parts.

d. Installation. Reassemble and install as illustrated in figure 4-1 (model 242406), or figure 4-2 (model USATS-79).

4-7. Reflector.

a. Removal.

(1) Remove the reflector from the rear side of the target (fig. 4-1 for model 242406 or fig. 4-2 for model USATS-79).

(2) Remove the illumination assembly (model 242406), or screw-in lamp assembly (model USATS-79).

b. Cleaning and Inspecting.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59C).

(1) Clean the reflector with cleaning solvent and dry thoroughly.

(2) Inspect for poor reflective surface, paint if required.

c. Installation.

(1) Install the illumination assembly (model 242406), or screw-in lamp assembly (model USATS-79).

(2) Install the reflector, figure 4-1 (model 242406) or figure 4-2 (model USATS-79).

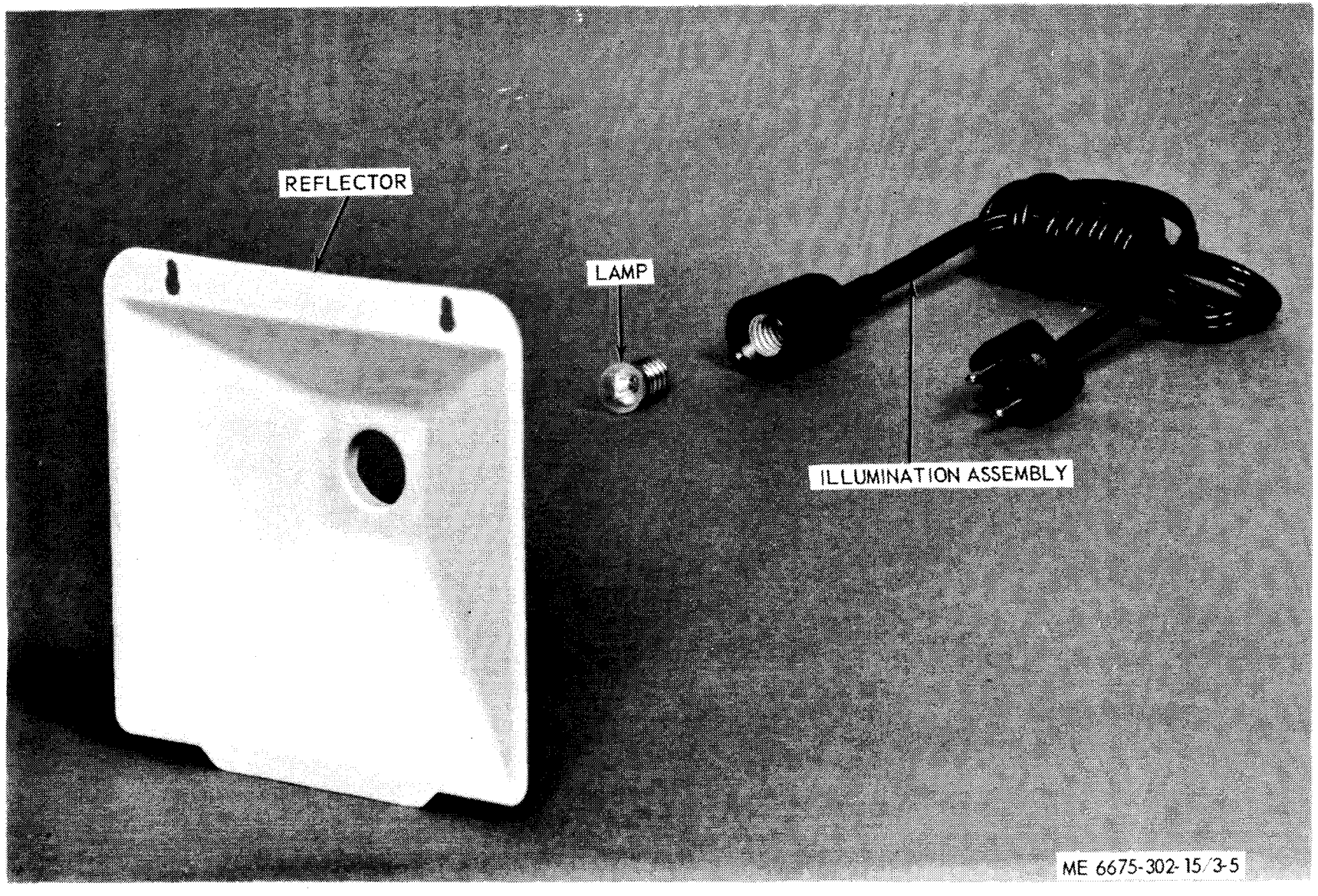


Figure 4-1. Illumination assembly and reflector, model 242406

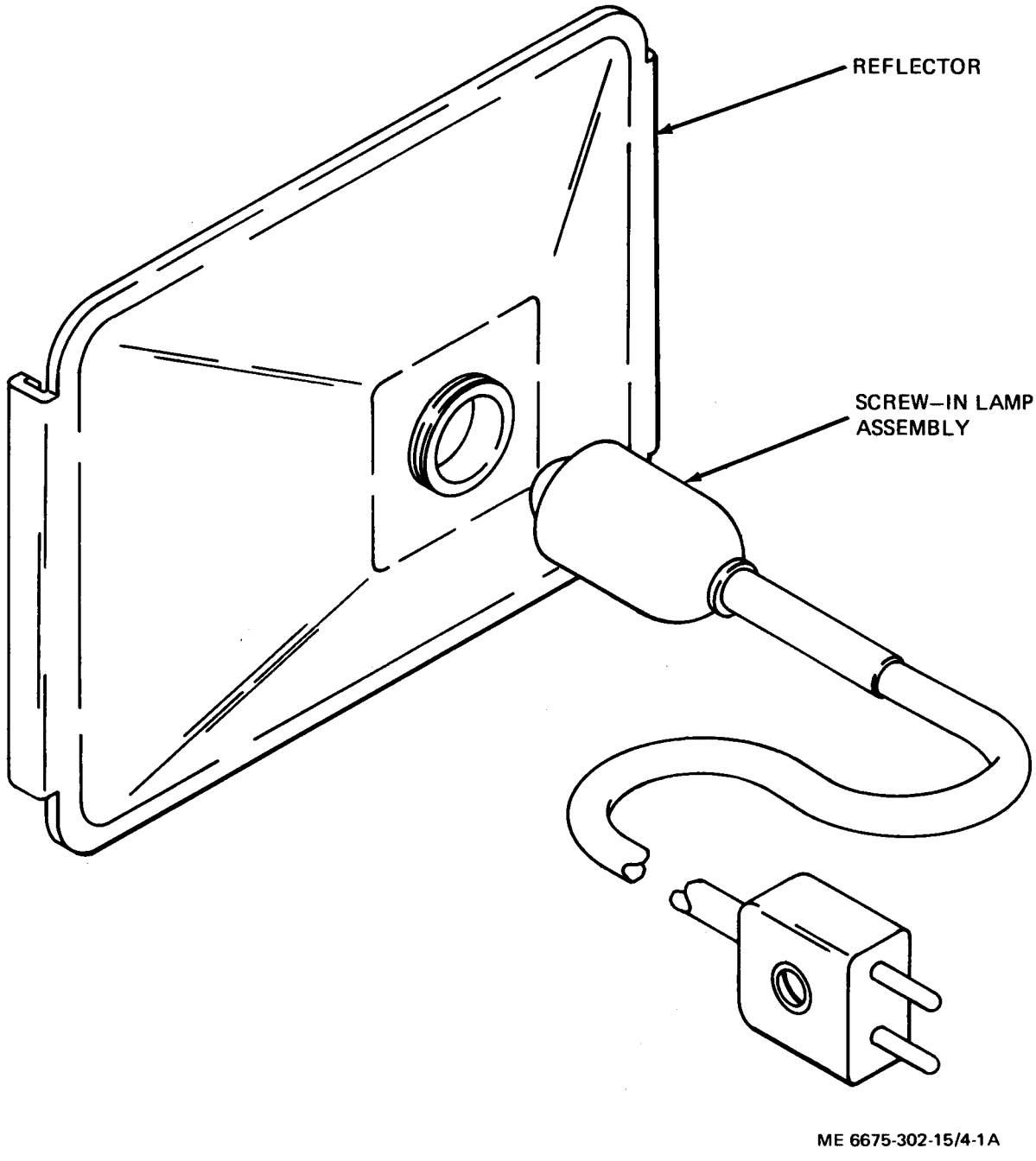


Figure 4-2. Screw-in lamp assembly and reflector, model USATS-79

4-8. Light Concealing Hood (Model 242406 Only).

a. General. The light concealing hood (fig. 4-3) consists of a bracket, barrel, spring clip and cotter pin hinge, This assembly slides over the target to confine all light at one point during night operations.

b. Removal.

(1) Release spring clip from target.

(2) Remove bracket by sliding bracket over the top of target.

(3) Remove barrel from bracket with a twist-like turn.

C. Cleaning and Inspecting.

(1) Brush all dirt, dust, and foreign matter from the bracket and hood.

(2) Inspect for breaks or other damage; repaint worn spots.

d. Installation. Reassemble and install as illustrated in figure 4-3.

4-9. Light Concealing Hood (Model USATS-79 Only).

a. General. The light concealing hood (fig. 4-4) is a single piece of molded rubber which slides over the target plate to limit stray light during night operations.

b. Removal. Slide the light concealing hood up and off the target plate (fig. 4-4).

c. Cleaning and Inspection.

(1) Brush all dirt, dust, and foreign matter from the light concealing hood.

(2) Inspect for breaks, cracks, or' other damage.

d. Installation. Install light concealing hood (figure 4-4).

4-10. Tribrach Assembly.

a. General. The tribrach assembly consists of the tribrach, leveling screw, optical plummet, circular level, and base plate assemblies. The tribrach assembly facilitates quick and accurate installation and removal of a target assembly to a preleveled base attached to a tripod head; thus, enabling the operator to shift the instrument between established stations, without having to level or realine the target assembly each time it is moved.

b. Removal. Refer to figure 4-3 for model 242406, or figure 4-4 for model USATS-79, and remove the tribrach assembly as follows:

(1) Loosen the tribrach lock screw. Rotate the tribrach lock lever counterclockwise, and remove the target assembly from the tribrach assembly. (If target assembly is not mounted, see (2) below).

(2) Unscrew the bridge screw (43, fig. 4-5 for model 242406, or 11, fig. 4-6 for model USATS-79), and remove the tribrach assembly from the tripod.

c. Cleaning and Inspection. Brush all dirt, dust, and foreign matter from the tribrach components. Wipe all surfaces clean with a soft, lint-free cloth moistened with an approved cleaning solvent. Thoroughly clean all bearing surfaces on which the tapered locking wedges ride. Inspect the three leveling screws for improper operation. They should turn smoothly and evenly, yet require a moderate amount of force exerted by thumb and forefinger, to turn without backlash. Lubricate bearing surfaces sparingly before reassembling the tribrach assembly to the theodolite. Replace a defective tribrach assembly.

d. Installation. Reverse the procedures described in b, above.

4-11. Tripod Assembly.

a. General. The tripod is equipped with extension legs and consists of the tripod head, tripod leg assemblies, and the cover plate. A plumb bob and tripod wrench' on model 242406 or key, socket screwhead on model USATS-79 are kept in the tripod accessory case, which is mounted on one of the tripod legs. The plumb bob is used along with the tripod to center the instrument exactly over the station point, On model 242406 the tripod wrench is used to tighten or loosen the clamping screws located under the tripod head that secures the tripod leg assemblies in position. On model USATS-79 the key, socket screwhead performs the same function as the tripod wrench.

b. Disassembly. On model 242406 refer to figure 4-5 and disassemble the tripod; on model USATS-79 refer to figure 4-6.

c. C1eaning and Inspection.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59C).

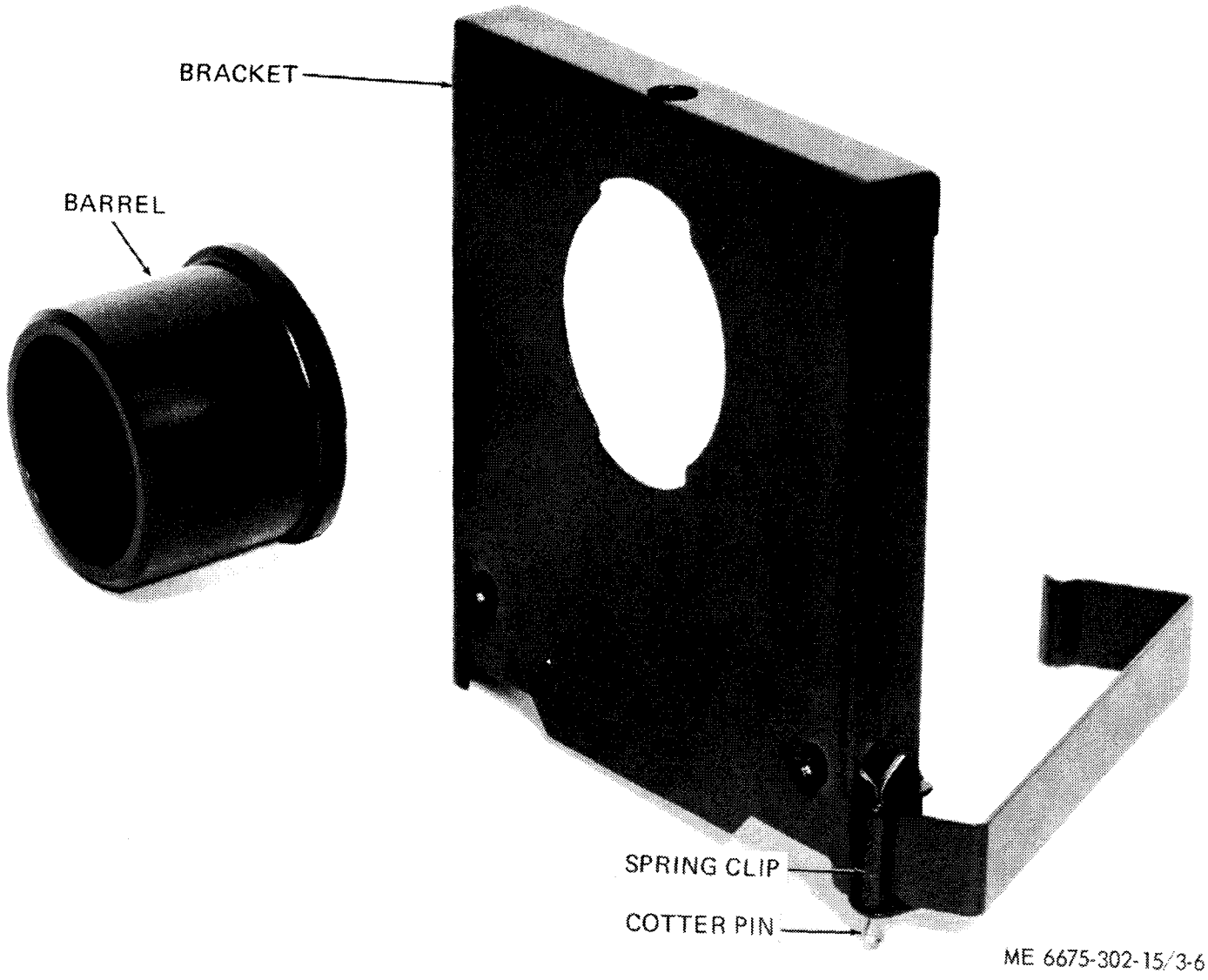


Figure 4-3. Light concealing hood, model 242406

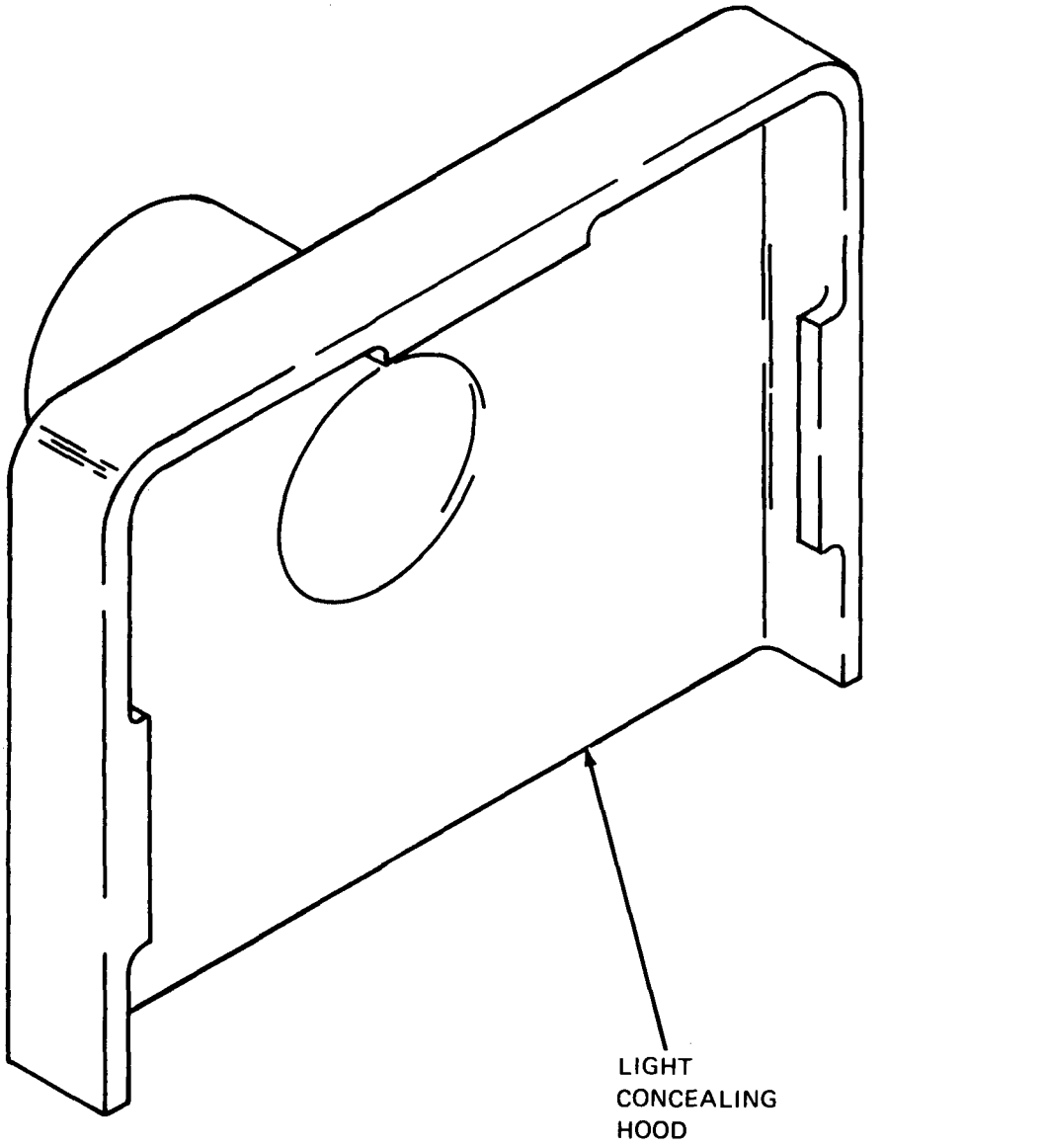


Figure 4-4. Light concealing hood, model USATS-79

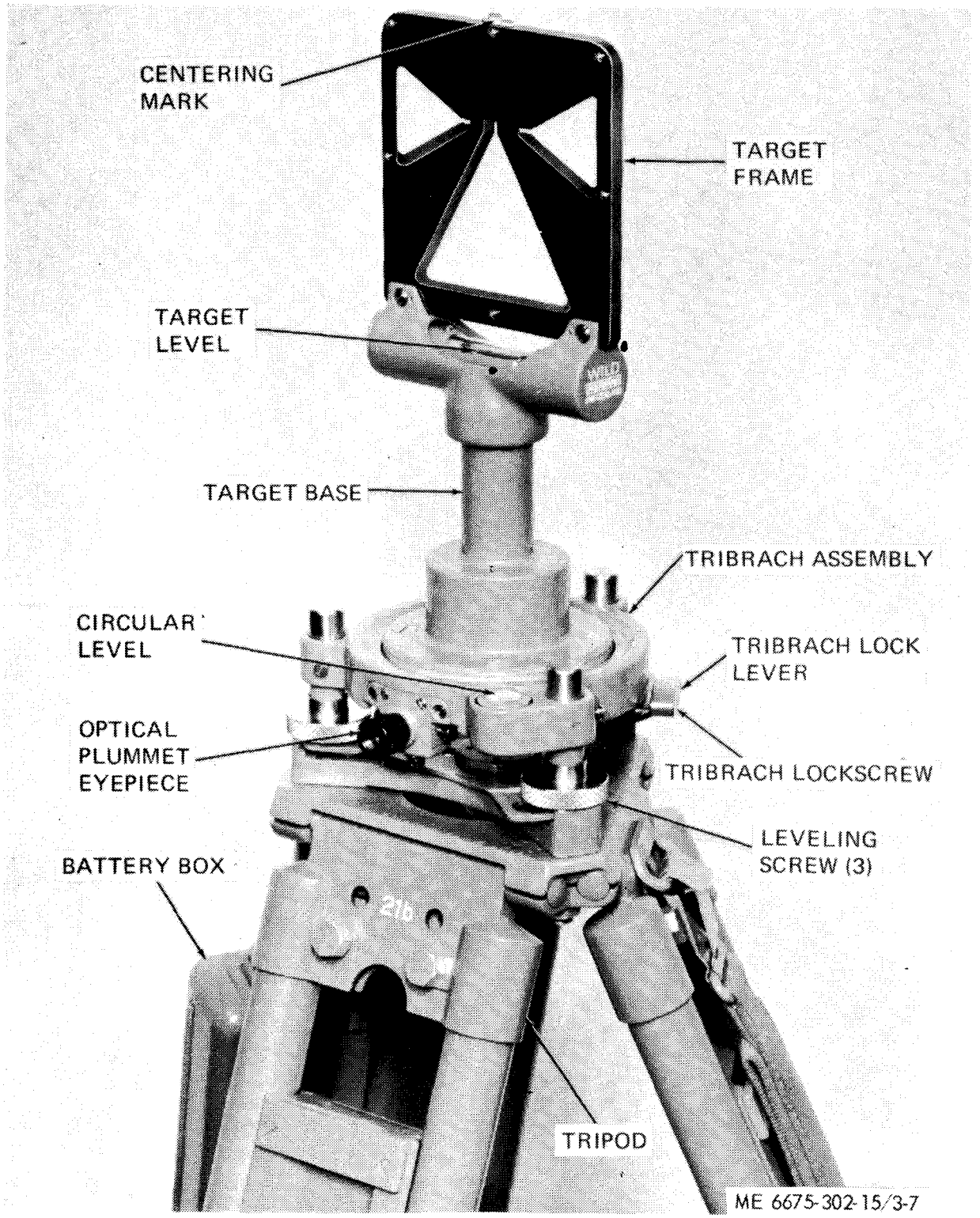


Figure 4-5. Tribrach assembly, removal and installation, model 242406

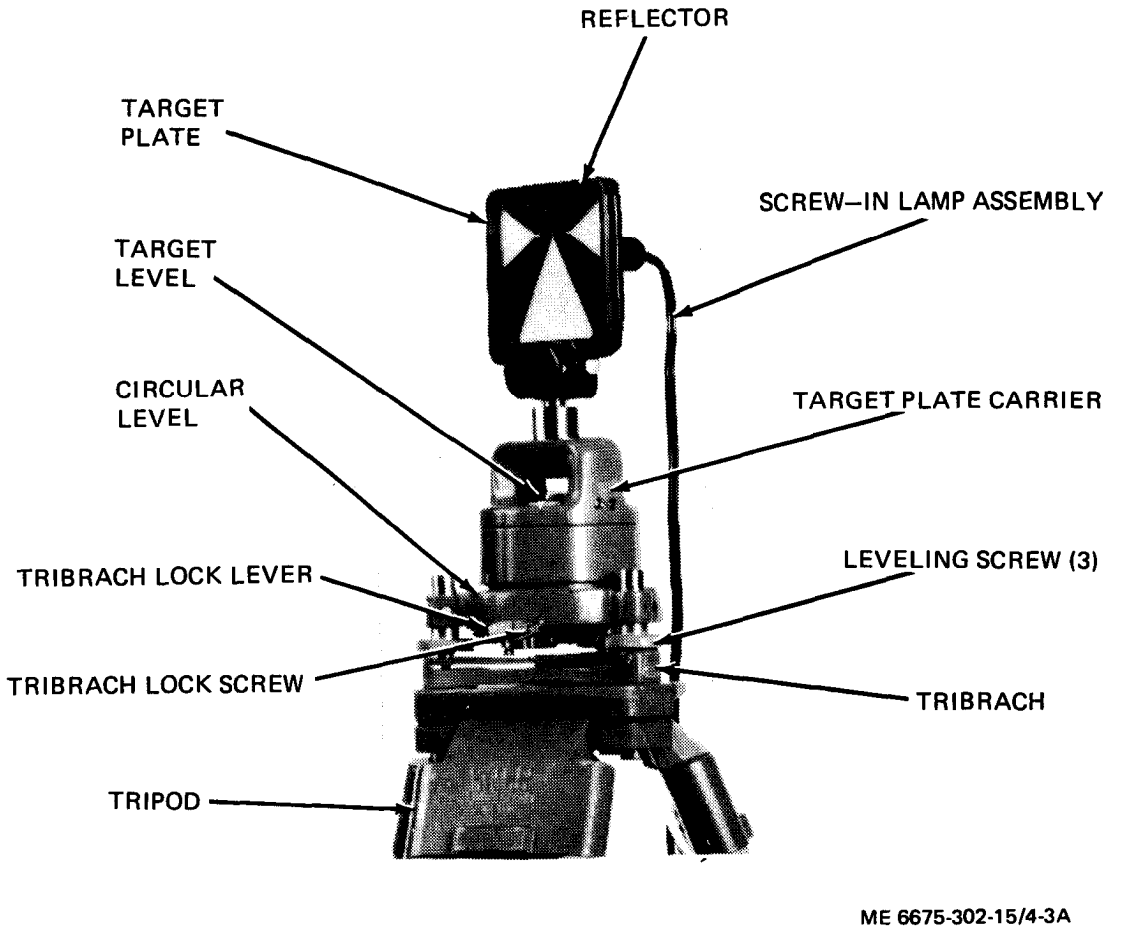
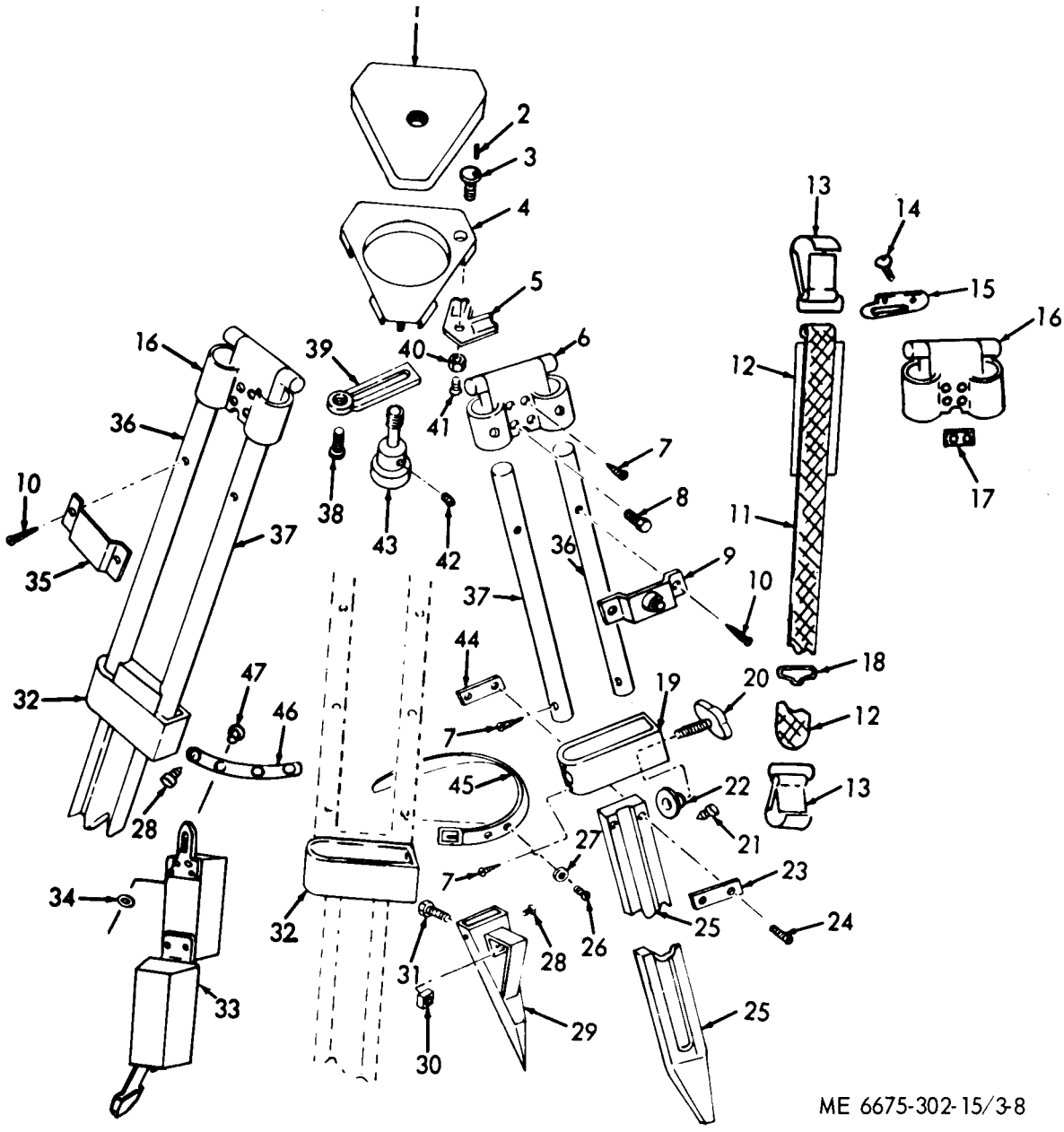


Figure 4-6. Tribrach assembly, removal and installation model USATS-79



1. Cover
2. Pin (3)
3. Screw (3)
4. Head
5. Clamp (3)
6. Housing
7. Head screw (6)
8. Bolt (6)
9. Bracket
10. Screw (2)
11. Sling
12. Sling
13. Hook (2)
14. Screw (2)
15. Belt loop
16. Leg clamp (2)
17. Lock plate
18. Buckle
19. Clamp
20. Thumbscrew
21. Screw (6)
22. Clamp plate
23. Plate (3)
24. Screw (6)
25. Leg (3)
26. Screw (2)
27. Washer (2)
28. Screw (6)
29. Shoe (3)
30. Nut (3)
31. Screw (3)
32. Clamp (2)
33. Tool kit
34. Washer (4)
35. Bracket
36. Leg, L.H. (3)
37. Leg, R.H. (3)
38. Screw
39. Bridge
40. Nut (3)
41. Leveling screw (3)
42. Screw
43. Screw
44. Plate (3)
45. Strap
46. Bracket (2)
47. Rivet (4)

Figure 4-7. Tripod assembly, model 242406, exploded view

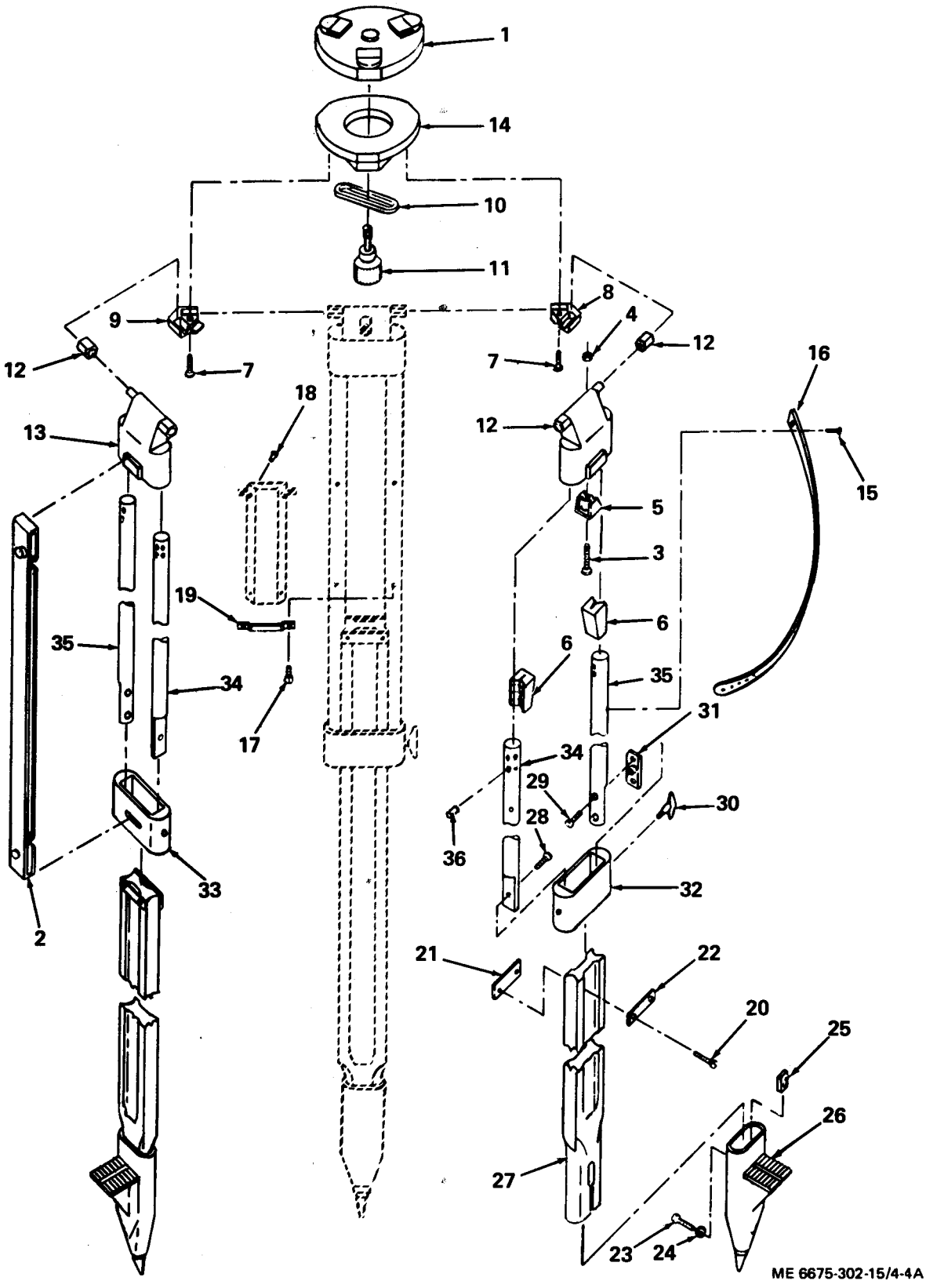


Figure 4-8. Tripod assembly, model USATS-79, exploded view

Legends for Figure 4-8

1. Head cover
2. Carrying strap
3. Screw (3)
4. Nut (3)
5. Wedge (3)
6. Pressure wedge (6)
7. Screw (3)
8. Clamp jaw (2)
9. Clamp jaw
10. Bridge
11. Central fixing screw
12. Bearing (6)
13. Leg holder (3)
14. Head plate
15. Screw (2)
16. Leather strap
17. Screw (4)
18. Rivet (4)
19. Bracket (2)
20. Screw (6)
21. Stop plate (3)
22. Stop plate (3)
23. Screw (3)
24. Washer (3)
25. Nut (3)
26. Tripod shoe (3)
27. Lower leg (3)
28. Screw (3)
29. Screw (6)
30. Wing screw (3)
31. Clamp plate (3)
32. Clamp band (2)
33. Clamp band
34. Wood dowel (3)
35. Wood dowel (3)
36. Pin (24)

(1) Clean all parts with cleaning solvent and dry thoroughly. Clean the wooden parts with a soft cloth moistened with water and dry thoroughly. Clean the strap with saddle soap.

(2) Inspect the tripod leg housings and cover for burs, cracks, wear, and damage. Inspect the clamps, shoes, and battery box bracket, for cracks, breaks, and wear.

(3) Inspect the strap and accessory case for cuts, wear, and damaged seams. Inspect the wooden legs for cracks, splits, wear and warping.

(4) Remove all burrs and minor scratches. Straighten minor dents and bends. Varnish the wooden legs if the protective coating is worn or damaged. Paint all exposed metal surfaces.

(5) Replace all defective parts that cannot be repaired.

d. Reassembly. Refer to figure 4-7 (model 242406), or figure 4-8 (model USATS-79), and reassemble the tripod assembly.

4-12. Plumb Bob.

a. Disassembly. Refer to figure 4-9 (model 242406), or figure 4-10 (model USATS-79) and disassemble the plumb bob.

b. Cleaning, Inspection and Repair.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59 C).

(1) Clean all metal parts with cleaning solvent, and dry thoroughly.

(2) Inspect the bayonet tube (model 242406), or bayonet socket and knurled nut (model USATS-79 only), and ring, slide, and plumb bob for signs of wear, cracks, or breaks. Inspect the lugs on the bayonet tube or bayonet socket for burrs. Inspect the cord for wear.

(3) Remove all burrs and replace damaged or defective parts. Use serviceable cord (model 242406), or string (model USATS-79) when reassembling the plumb bob.

c. Reassembly. Refer to figures 4-9 or 4-10, and reassemble the plumb bob.

4-13. Tripod Wrench (Model 242406), and Key, Sockethead Screw (Model USATS-79). Remove tripod wrench (model 242406), or key, sockethead screw (model USATS-79) from tripod accessory case. Clean wrench or key thoroughly. Inspect wrench or key for wear, burrs, cracks or breaks. Remove minor burrs from wrench or key. Check the fit of the wrench or key on the tripod head bolts. Replace wrench or key if defective or damaged. Stow wrench or key in the tripod case.

4-14. Carrying Case. Check locking device, handle and hinge for damaged, missing or loose parts on model 242406. Replace damaged or missing parts and tighten loose parts. Refer to figure 4-11 on model 242406. Replace damaged case, figure 4-12 on model USATS-79.

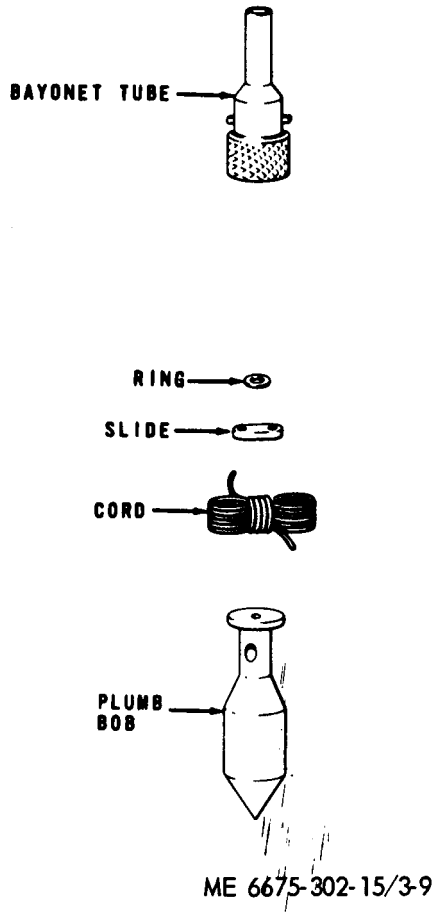
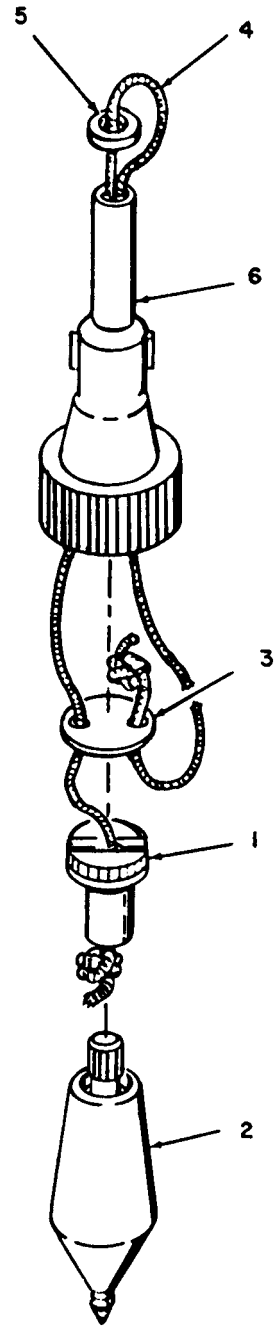


Figure 4-9. Plumb bob, model 242406, exploded view



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1. Knurled nut
2. Plumb bob
3. Adjuster slide
4. String
5. Ring
6. Bayonet socket

Figure 4-10. Plumb bob, model USATS-79, exploded view

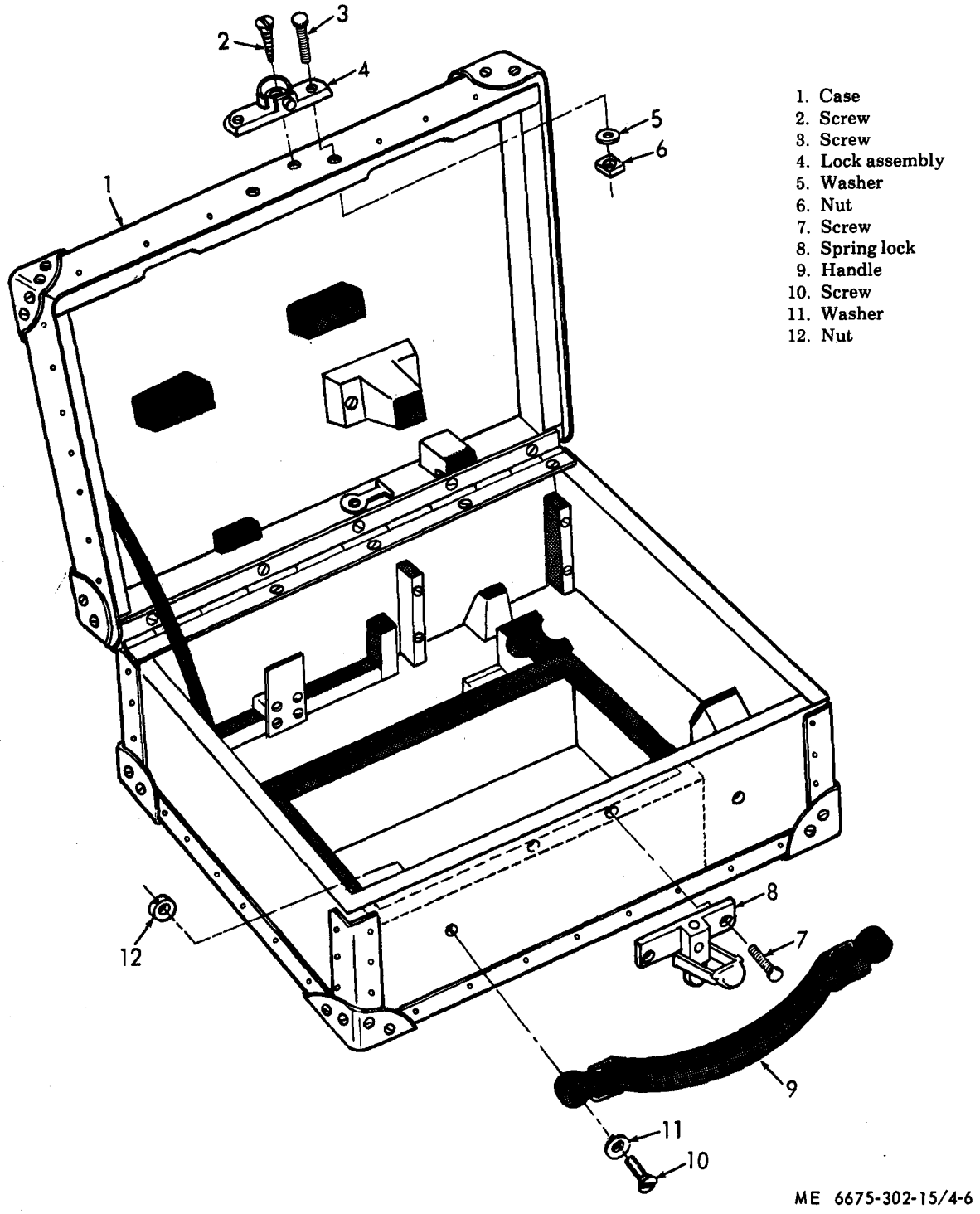


Figure 4-11. Target set, carrying case, model 242406

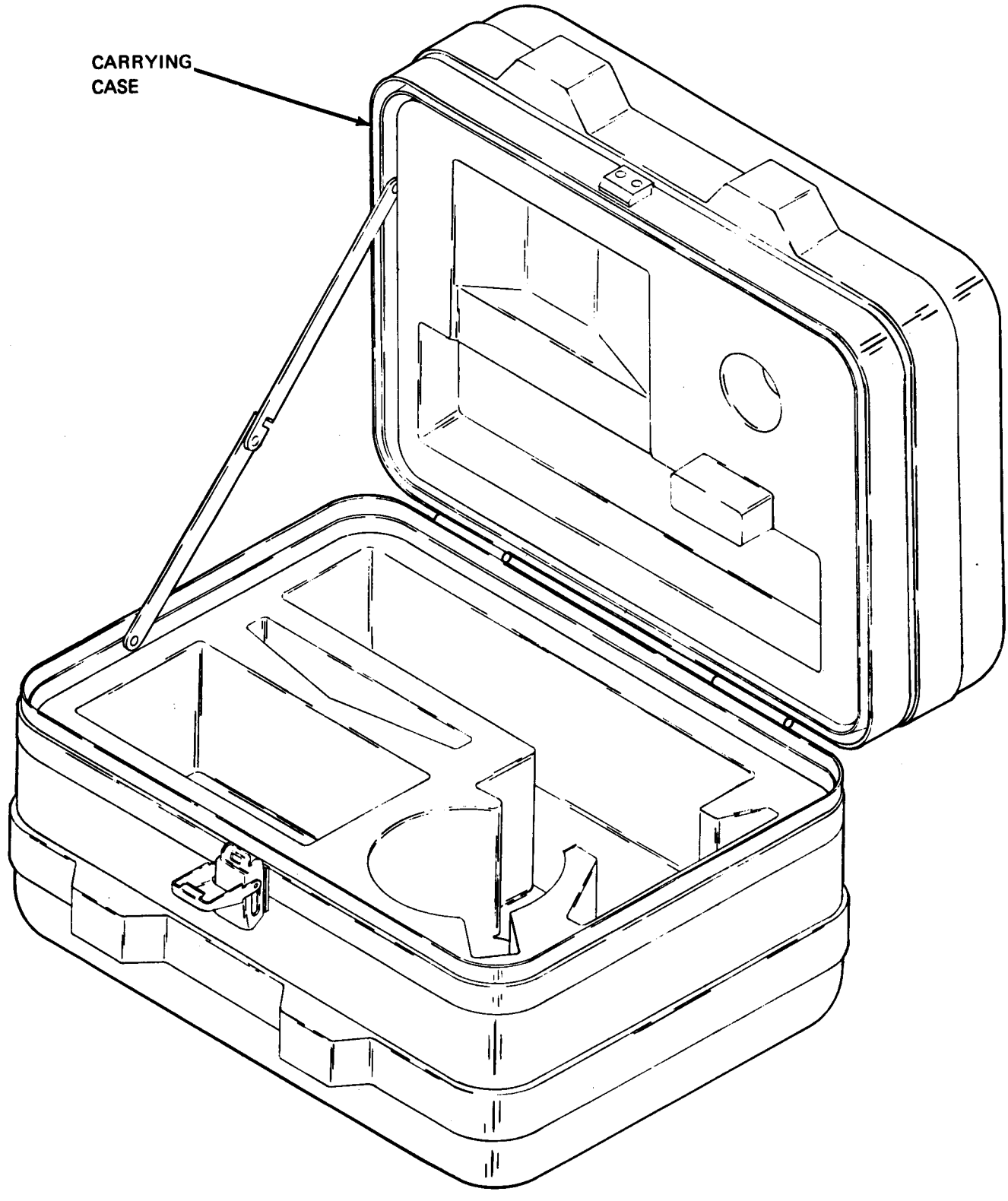


Figure 4-12. Target set, carrying case, model USATS-79

SECTION VII. TROUBLESHOOTING

4-15. General. Troubleshooting procedures on the target in Table 4-1 provides organizational maintenance personnel tabular information for diagnosing and correcting unsatisfactory operation or failure of the leveling screws, circular level, and the target level. Following each malfunction, are tests or inspections and corrective actions required to correct the malfunction.

Table 4-3. Troubleshooting

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
1. Tripod legs will not lock in position.
Step 1. Check for defective or loose leg clamping screw.
Replace defective leg clamping screws.
Step 2. Tighten loose leg clamping screws (para 4-11).
2. Target set frame, model 242406, or target plate carrier, model USATS-79 does not seat properly on tribrach.
Replace target set frame, model 242406, or target plate carrier on model USATS-79 (para 4-10).

CHAPTER 5
DIRECT AND GENERAL SUPPORT AND DEPOT MAINTENANCE INSTRUCTIONS

Section I. REPAIR PARTS, SPECIAL TOOLS AND EQUIPMENT

5-1. Special Tools and Equipment. No special tools or equipment are required by direct and general support and depot maintenance personnel to perform maintenance on the surveying target set.

5-2. Maintenance Repair Parts. Direct and general support and depot maintenance repair parts and special tools lists are listed and illustrated in appendix E.

Section II. TROUBLESHOOTING

5-3. General. Troubleshooting procedures on the target set in Table 5-1 section provides Direct Support and General Support and Depot Maintenance personnel with tabular information for diagnosing and correcting unsatisfactory operation or failure of the leveling screws, circular level, and target level. Following each malfunction, are tests or inspections and corrective actions required to correct the malfunction.

Table 5-1. Troubleshooting

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
1. Leveling screws won't hold level.
Step 1. Check for worn leveling screws (Model 242406), or foot screws (Model USATS-79). Replace leveling screws (para 5-7).
Step 2. Check for proper adjustment of leveling screws (para 5-7). Adjust leveling screws.
2. Circular level bubble does not stay in center.
Step 1. Circular level out of adjustment. Adjust circular level (para 5-8).
3. Target level bubble does not stay in center.
Step 1. Check circular level adjustment. Adjust circular level (para 8).
Step 2. Target level assembly out of adjustment. Adjust target level assembly (para 5-13 for Model 242406 or para 5-14 for Model USATS-79).
Step 3. Check for defective vial. Replace vial (para 5-8).

Section III. REPAIR OF TRIBRACH ASSEMBLY

5-5. General. The tribrach assembly consists of the base plate, leveling screws, circular level, optical plumbing device, and tribrach, which form a leveling base between the target set and the tripod head. The base plates provide a means for securing the theodolite to the tripod, with the utilization of the tripod bridge screw. Leveling is accomplished by means of the leveling screws. Precise location of the target set over the station point is verified by sighting through the optical plumbing eyepiece.

5-6. Base Plate.

a. Removal.

(1) Remove the tribrach assembly (para. 4-9).

(2) Refer to figure 5-1 for model 242406. On model USATS-79 the base plate is removed during disassembly.

b. Disassembly. Refer to figure 5-2 for model 242406, or figure 5-3 for model USATS-79.

c. Cleaning, Inspection and Repair.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P.D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59C).

(1) Clean all parts using cleaning solvent and dry thoroughly.

(2) Inspect the base plate and the spring plate for dents, cracks, breaks, and burrs. Inspect all threaded parts and hardware for worn or damaged threads.

(3) Remove all burrs and minor dents.

(4) Replace all defective parts that cannot be repaired.

d. Reassembly. Refer to figure 5-2 for model 242406 or figure 5-3 for model USATS-79, and reassemble the base plate.

e. Installation. Refer to figure 5-1 for model 242406, and install the base plate. On model USATS-79, the base plate is installed during reassemby.

5-7. Leveling Screws (Model 242406), and Foot Screws (Model USATS-79).

a. Removal and Disassembly.

(1) Remove the base plate (para 5-6).

(2) Refer to figure 5-4 on model 242406, remove and disassemble the leveling screws. On model USATS-79 refer to figure 5-5 and remove the footscrew assembly.

b. Cleaning, Inspection and Repair.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59 C).

(1) Clean all parts using cleaning solvent and dry thoroughly.

(2) Inspect the spindles for bends. Inspect all threaded parts for worn or damaged threads.

(3) Replace all defective parts that cannot be repaired.

c. Reassembly and Installation.

(1) Refer to figure 5-4 on model 242406 then reassemble and install the leveling screws. On model USATS-79 refer to figure 5-5 then reassemble and install the footscrew assembly.

(2) Install the base plate (para 5-6).

d. Adjustment. Loosen the adjusting screw and turn leveling screw (model 242406), figure 5-4. On model USATS-79 refer to figure 5-5 and tighten the adjusting screw.

5-8. Circular Level.

a. Removal and Disassembly.

(1) Remove the base plate (para 5-6).

(2) On model 242406 refer to figure 5-6, remove and disassemble the circular level.

(3) On model USATS-79 refer to figure 5-10 and remove the circular level.

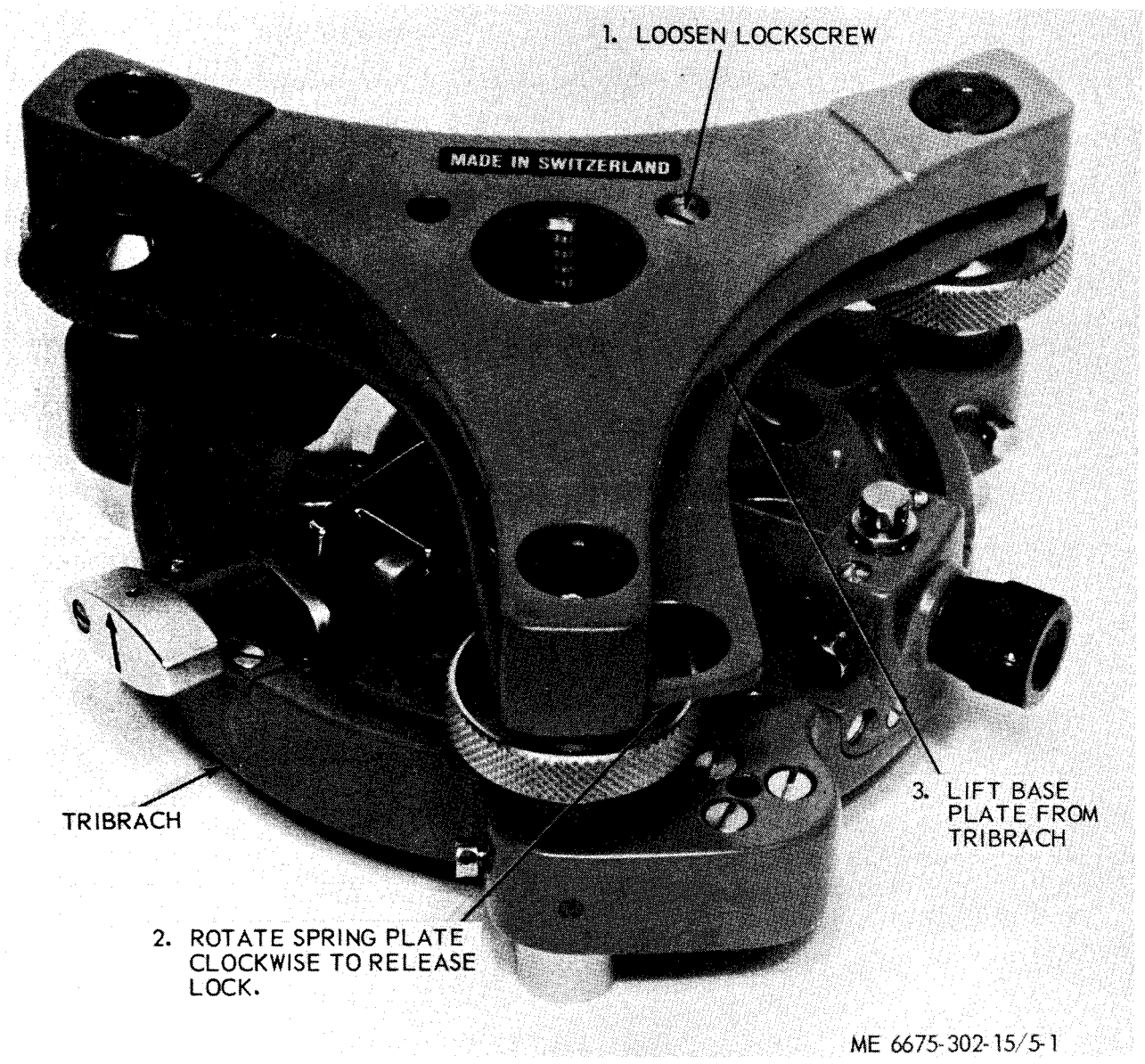
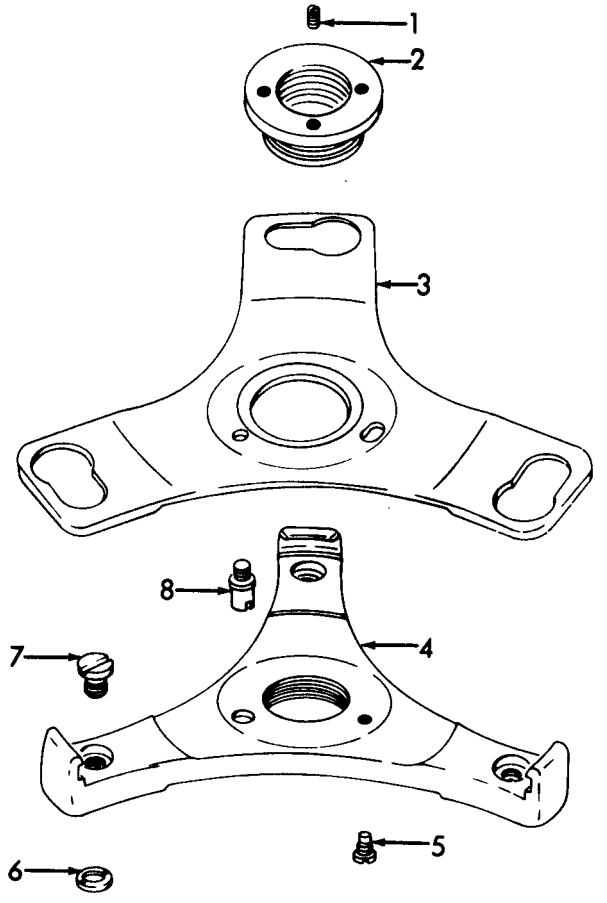
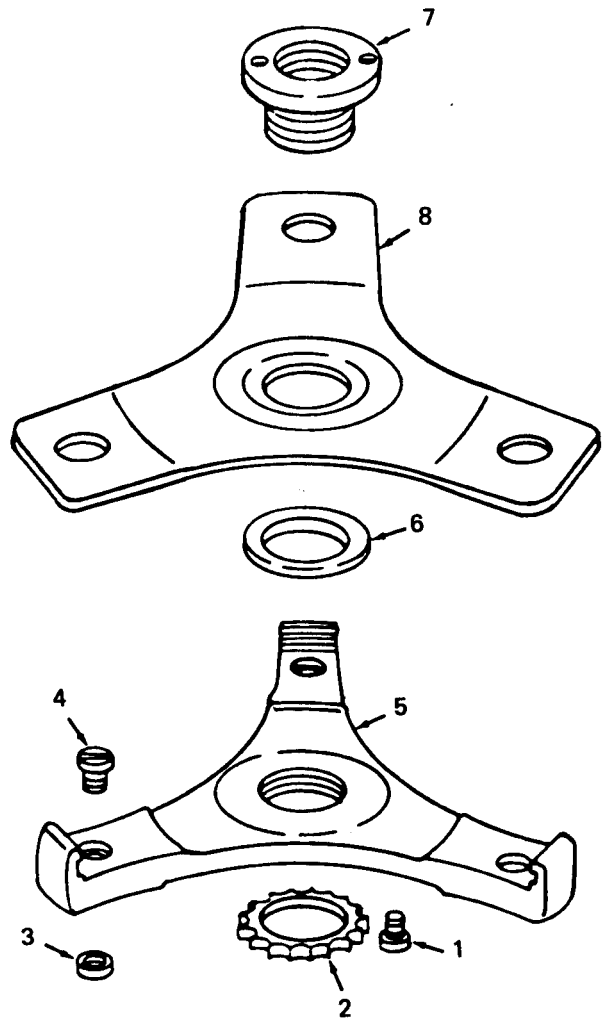


Figure 5-1. Baseplate, removal and installation, model 242406



1. Setscrew
2. Nut
3. Plate spring
4. Plate base
5. Screw quick
6. Nut
7. Bearing
8. Screw lock

Figure 5-2. Baseplate assembly, model 242406, exploded view



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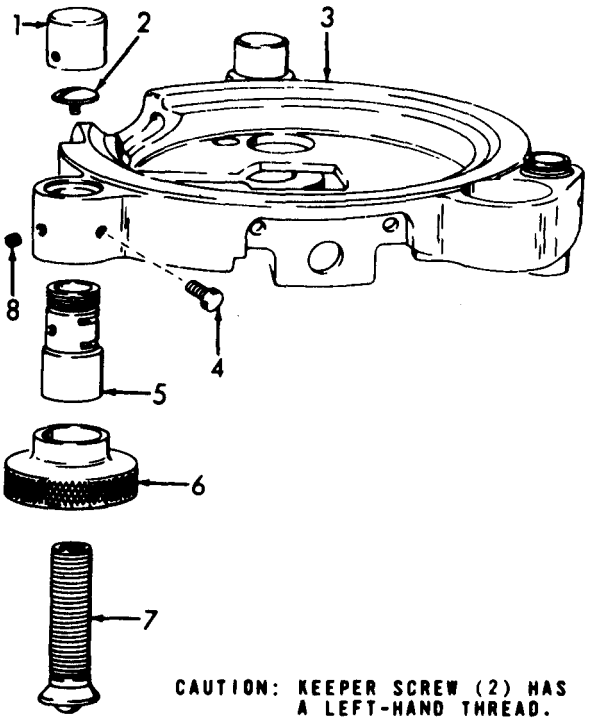
1. Screw
2. Lock ring
3. Nut (3)
4. Bearing (3)
5. Base plate
6. Lock ring
7. Center nut
8. Spring plate

Figure 5-3. Baseplate assembly, model USATS-79, exploded view



1. Dust cover (3)
2. Stopscrew (3)
3. Tribrach
4. Adjusting screw (3)
5. Adjusting nut (3)
6. Milled knob (3)
7. Screw (3)
8. Setscrew (3)

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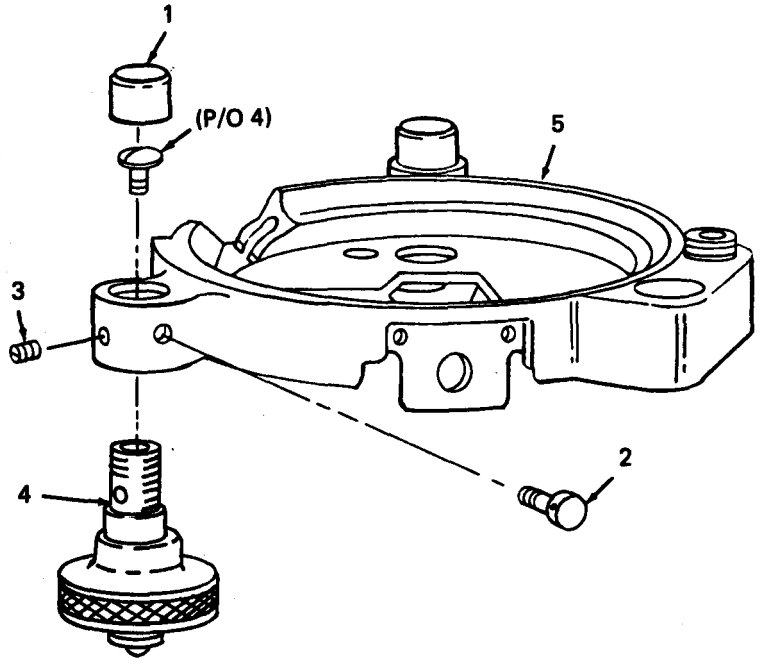
Figure 5-4. Leveling screw, model 242406 or USATS-79, exploded view



1. Cap (3)
2. Adjusting screw (3)
3. Setscrew (3)
4. Footscrew assembly (3)
5. Tribrach

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Figure 5-5. Foot screw assembly, model USATS-79, exploded view

b. Cleaning Inspection and Repair.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59C).

(1) Clean all parts using cleaning solvent and dry thoroughly. Wipe the level vial with lens tissue or lens cloth.

(2) Inspect the level vial for cracks, scratches, and broken vial tip. Inspect the mount and base for bends, burrs and cracks. Inspect the springs for cracks. Inspect all threaded parts for worn or defective threads.

c. Reassembly and Installation.

(1) On model 242406 refer to figure 5-6 and reassemble and install the circular level. On model USATS-79 refer to figure 5-10 and install the circular level.

(2) Install the base plate (para 5-6).

d. Adjustment. If the level bubble is not centered in the vial, the circular level is out of adjustment. Tighten or loosen the three adjusting screws (7, fig. 5-6 for model 242406 or 14, fig. 5-10 for model USATS-79).

5-9. Optical Plummet.

a. Removal and Disassembly.

(1) Remove the base plate (para 5-6).

(2) Refer to figure 5-7 for model 242406, or figure 5-8 for model USATS-79, remove and disassemble the optical plummet.

b. Cleaning, Inspection and Repair.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59C).

(1) Clean all metal parts with cleaning solvent and dry thoroughly. Clean lenses and prism with lens tissue or a lens cloth.

(2) Inspect the lenses and prism for scratches, chips, cracks, and etching. Inspect the housings, bracket, mount, milled collar, and stop, for dents, burrs, cracks, and breaks.

(3) Replace all defective parts that cannot be repaired.

c. Reassembly and Installation.

(1) Refer to figure 5-7 for model 242406 or figure 5-8 for model USATS-79, to reassemble and install the optical plummet.

(2) Install the base plate (para 5-6).

5-10. Tribrach Lock Plate and Tribrach.

a. Removal end Disassembly.

(1) Remove the base plate (para 5-6).

(2) Remove the leveling screws (para 5-7).

(3) Remove the circular level (para 5-8).

(4) Remove the optical plummet (para 5-9).

(5) Refer to figure 5-9 for model 242406 or figure 5-10 for model USATS-79, and remove; disassemble the tribrach lock plate from the tribrach.

b. Cleaning, Inspection and Repair.

WARNING

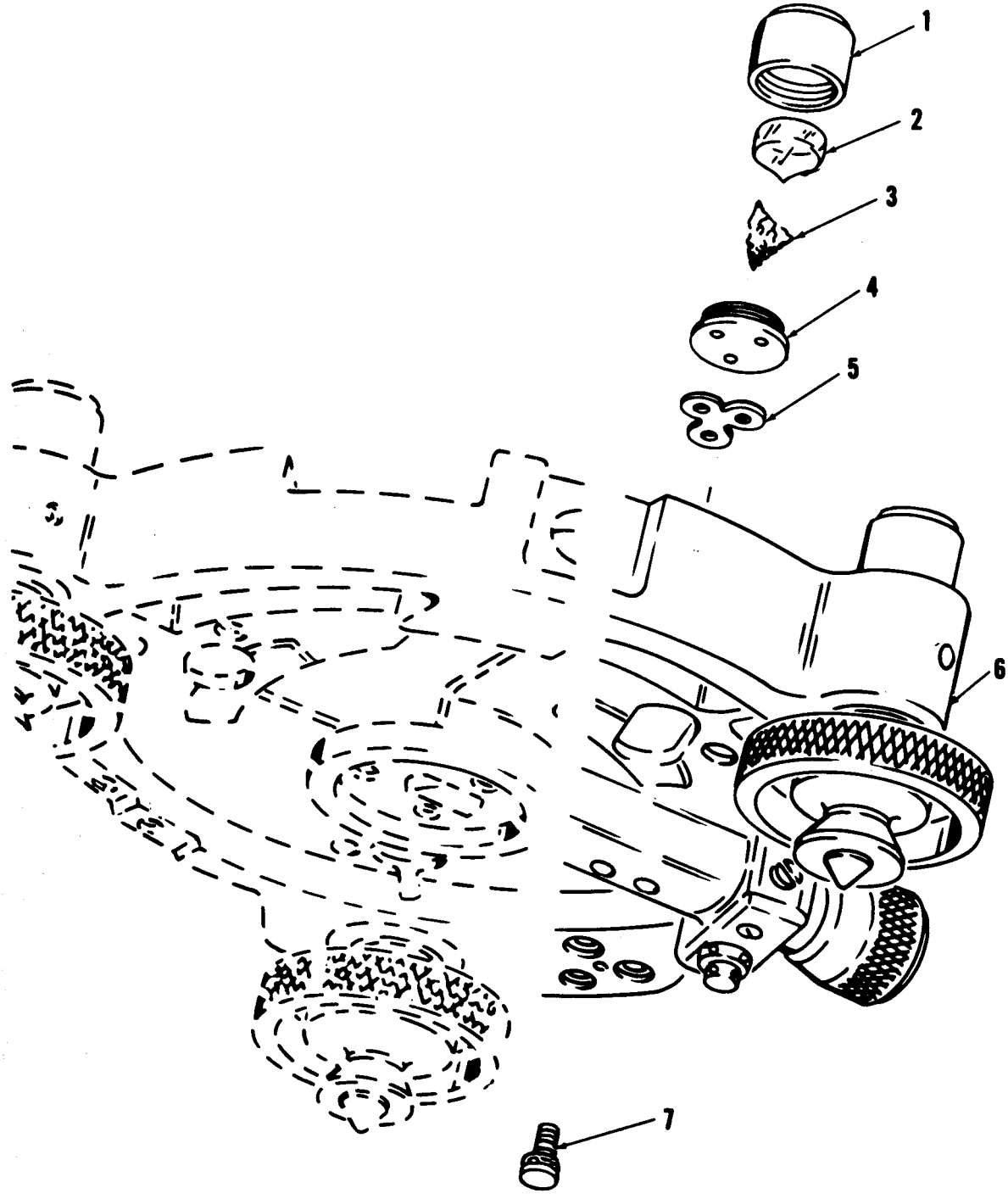
Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59 C).

(1) Clean all metal parts using cleaning solvent and dry thoroughly.

(2) Inspect the lock plate, stop plate, and lever, for bends, cracks, burns, and excessive wear. Inspect the tribrach for cracks, burrs, and defective casting. Inspect all threaded parts for worn or damaged threads.

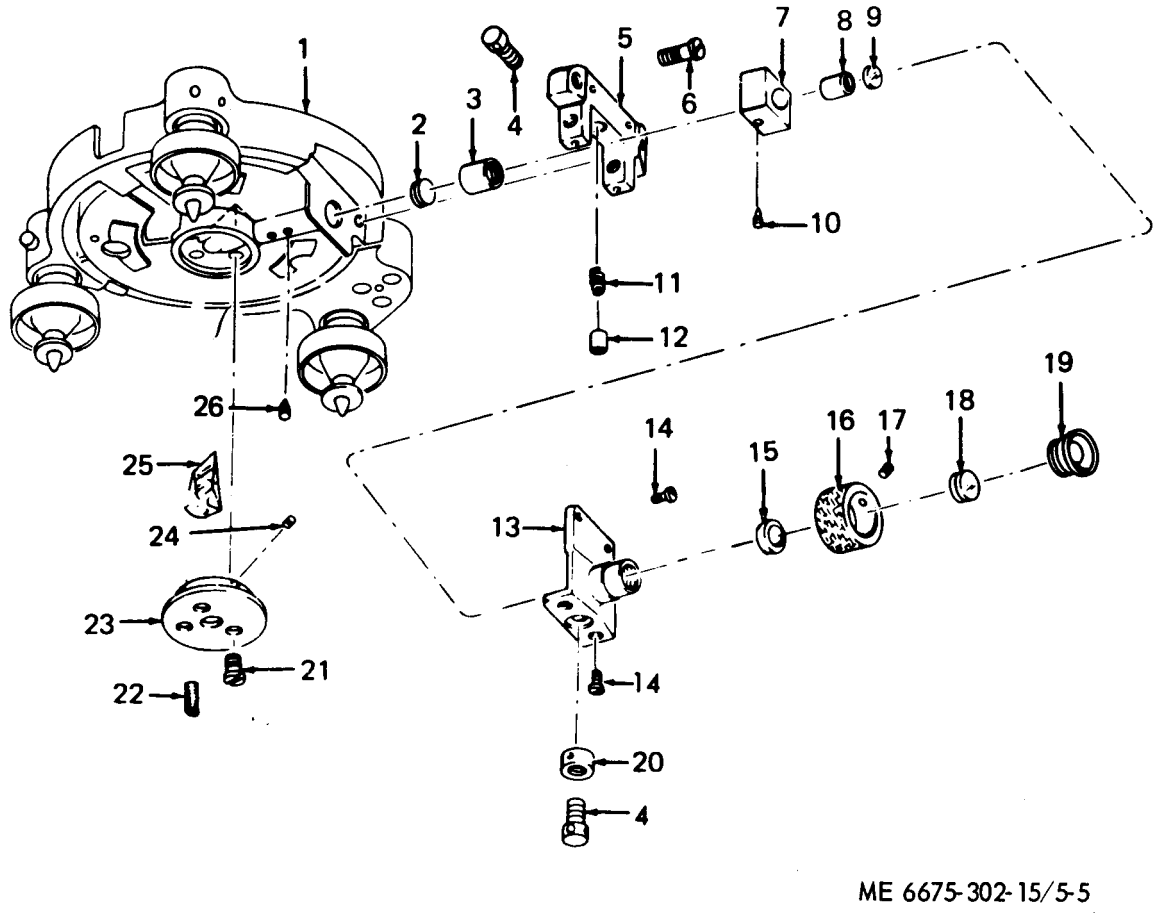
(3) Remove all burrs and straighten minor bends.

(4) Replace all defective parts that cannot be repaired.



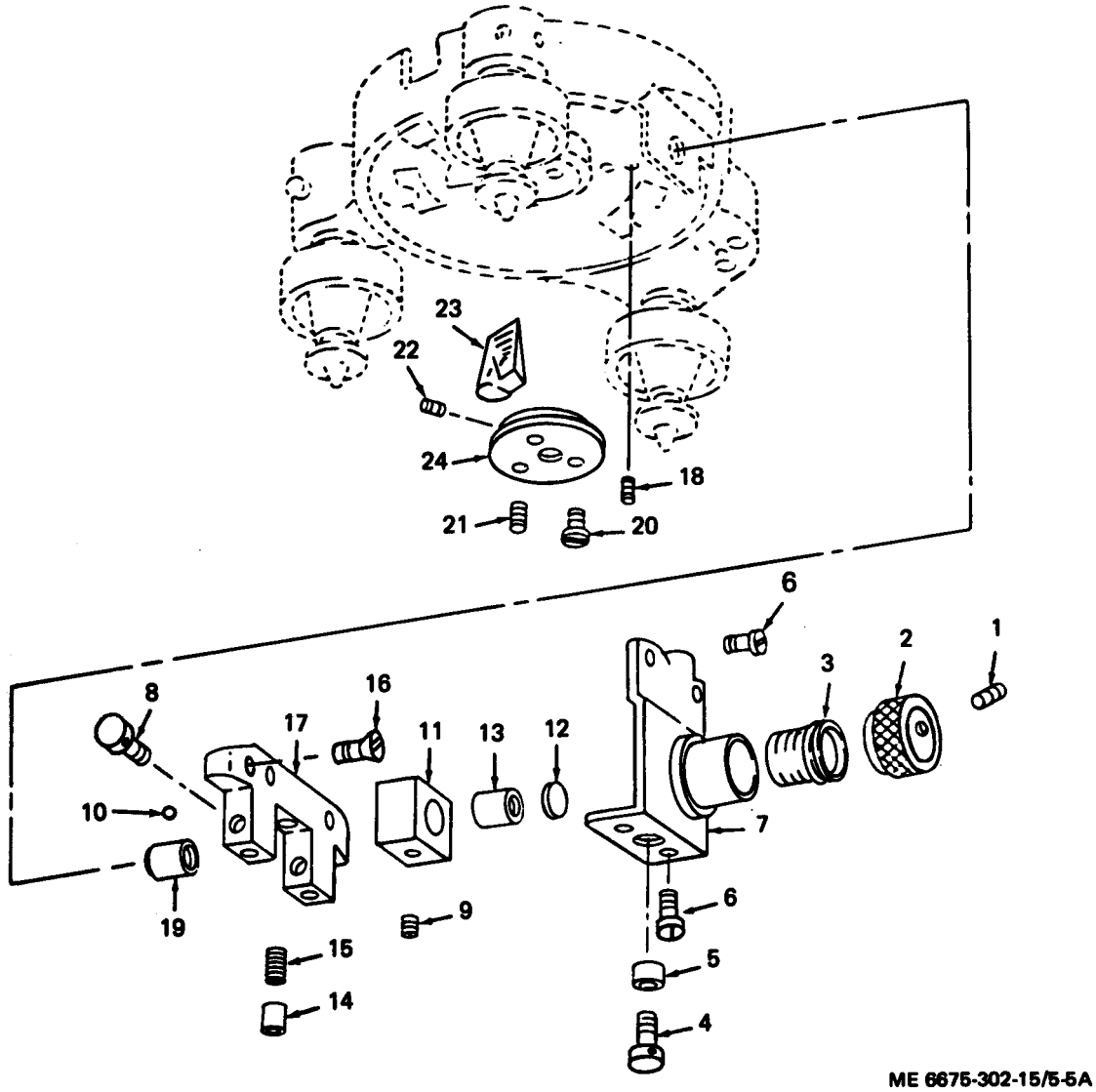
1. Leveling housing
2. Circular level vial
3. Plaster
4. Level base
5. Spring washer
6. Tribrach
7. Machine screw (3)

Figure 5-6. Circular level, model 242406, exploded view



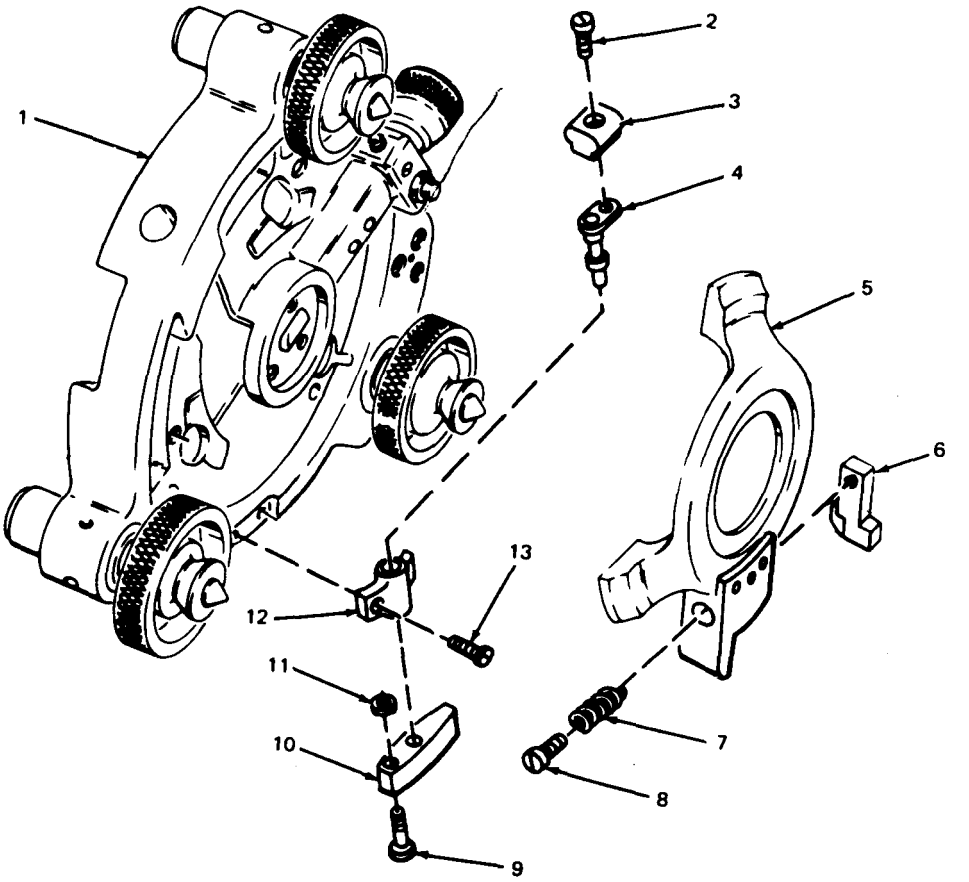
1. Tribrach
2. Lens assembly
3. Objective housing
4. Adjusting screw (2)
5. Spring housing
6. Screw (2)
7. Reticle sleeve
8. Reticle houeing
9. Opticle plummet reticle
10. Setscrew
11. Spring
12. Spring sleeve
13. Eyepiece
14. Machine screw (2)
15. Stop collar
16. Milled collar
17. Setscrew
18. Lene assembly
19. Locknut
20. Locknut
21. Machine screw (3)
22. Machine screw (3)
23. Priem housing
24. Setscrew
25. Prism
26. Setscrew

Figure 5-7. Optical plummet, model 242406, exploded view



1. Setscrew (3)
2. Knurled ring
3. Eyepiece
4. Adjusting screw
6. Nut
6. Screw (4)
7. Eyepiece mount
8. Adjusting screw(2)
9. Setscrew
10. Ball (2)
11. Adjusting block
12. Reticle
13. Reticle mount
14. Spring housing
15. Spring
16. Screw (2)
17. Flange
18. Setecrew
19. Objective assembly
20. Screw (3)
21. Setscrew
22. Setscrew
23. Prism
24. Prism mount

Figure 5-8. Optical plummet, model USATS-79, exploded view



1. Base casting
2. Machine screw
3. Check clamp
4. Locking lever
5. Lock plate
6. Stop
7. Spring
8. Machine screw
9. Machine screw
10. Lock knob
11. Nut
12. Bearing
13. Machine screw (2)

Figure 5-9. Tribrach lockplate, model 242406, exploded view

c. Reassembly and installation.

(1) Refer to figure 5-9 (model 242406) or figure 5-10 (model USATS-79).

(2) Install the optical plummet (para 5-9).

(3) Install the circular level (para 5-8).

(4) Install the leveling screws (para 5-7).

(5) Install the base plate (para 5-6).

Section IV. REPAIR OF TARGET ASSEMBLY (MODEL 242406)

5-11. General. On model 242406 the target assembly consists of a target frame, a target level, a base with 3 feet for clamping to the tribrach, a base sleeve, and a bracket. Refer to section V for repair of the target assembly on model USATS-79.

5-12. Target Frame.

a. Removal.

(1) Refer to paragraph 4-10, and remove the target assembly from the tribrach.

(2) Refer to (5) and (6), figure 5-11, and remove the frame from the target assembly.

b. Disassembly, Repair and Reassembly.

(1) Refer to figure 5-12, and disassemble the frame assembly.

(2) Refer to figure 5-12, and reassemble the frame assembly.

c. Installation. Reverse the procedures in a, above.

5-13. Target Level (Model 242406).

a. Removal. Refer to (17), figure 5-11, and remove the level assembly from the target asssembly.

b. Disassembly, Repair and Ressembly.

(1) Refer to figure 5-13 and disassemble the level assembly.

(2) Replace defective parts with serviceable parts.

(3) Refer to figure 5-13 and reassemble the level assembly.

c. Installation. Refer to figure 5-11 and install the level assembly on the bracket.

d. Adjustment. If, after the circular level has been adjusted (para 5-8), the target level bubble is far off center, the target level is out of adjustment. Tighten or loosen the adjusting screw (9, fig. 5-13) bring the bubble to center.

5-14. Target Base.

a. Removal.

(1) Refer to paragraph 4-10 and remove the target assembly from the tribrach.

(2) Refer to figure 5-11 and remove the base from the sleeve.

b. Disassembly, Replacement, and Reassembly.

(1) Refer to figure 5-11 and disassemble the base (11, 12, 13 and 14).

(2) Replace defective parts with serviceable ones.

(3) Refer to figure 5-11 and reassemble the base.

c. Installation. Reverse the procedures in a, above.

5-15. Base Sleeve.

a. Removal.

(1) Remove the base (para 5-14).

(2) Refer to figure 5-11 and remove the setscrew (10).

b. Disassembly, Replacement and Reassembly.

(1) Remove the sleeve (8), spring (16), and nut (15), figure 5-11 from the bracket shaft.

(2) Replace defective parts with serviceable parts,

(3) Refer to figure 5-11 and reassemble the sleeve.

c. Installation.

(1) Install the sleeve on the bracket shaft and retain with screw (10), figure 5-11.

(2) Install the base (para 5-14).

5-16. Bracket.

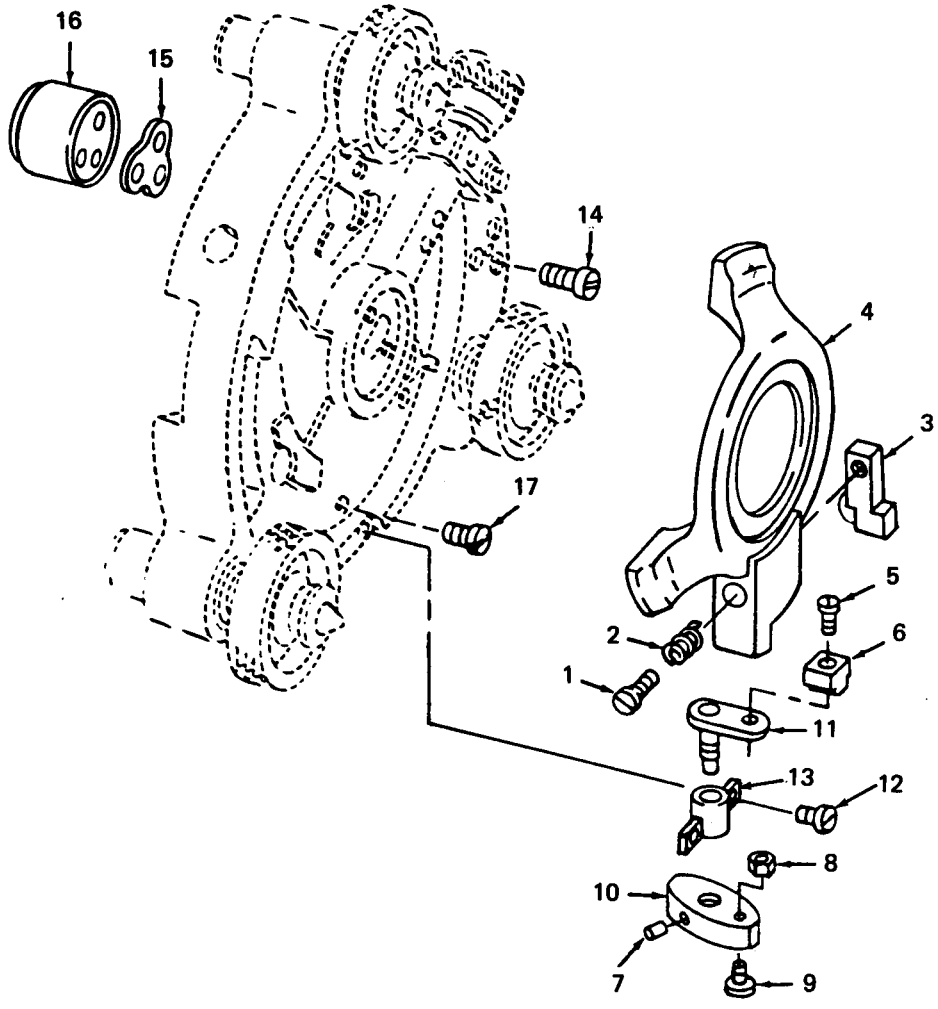
a. Removal.

(1) Remove the target frame (para 5-12).

(2) Remove the target level assembly (para 5-13).

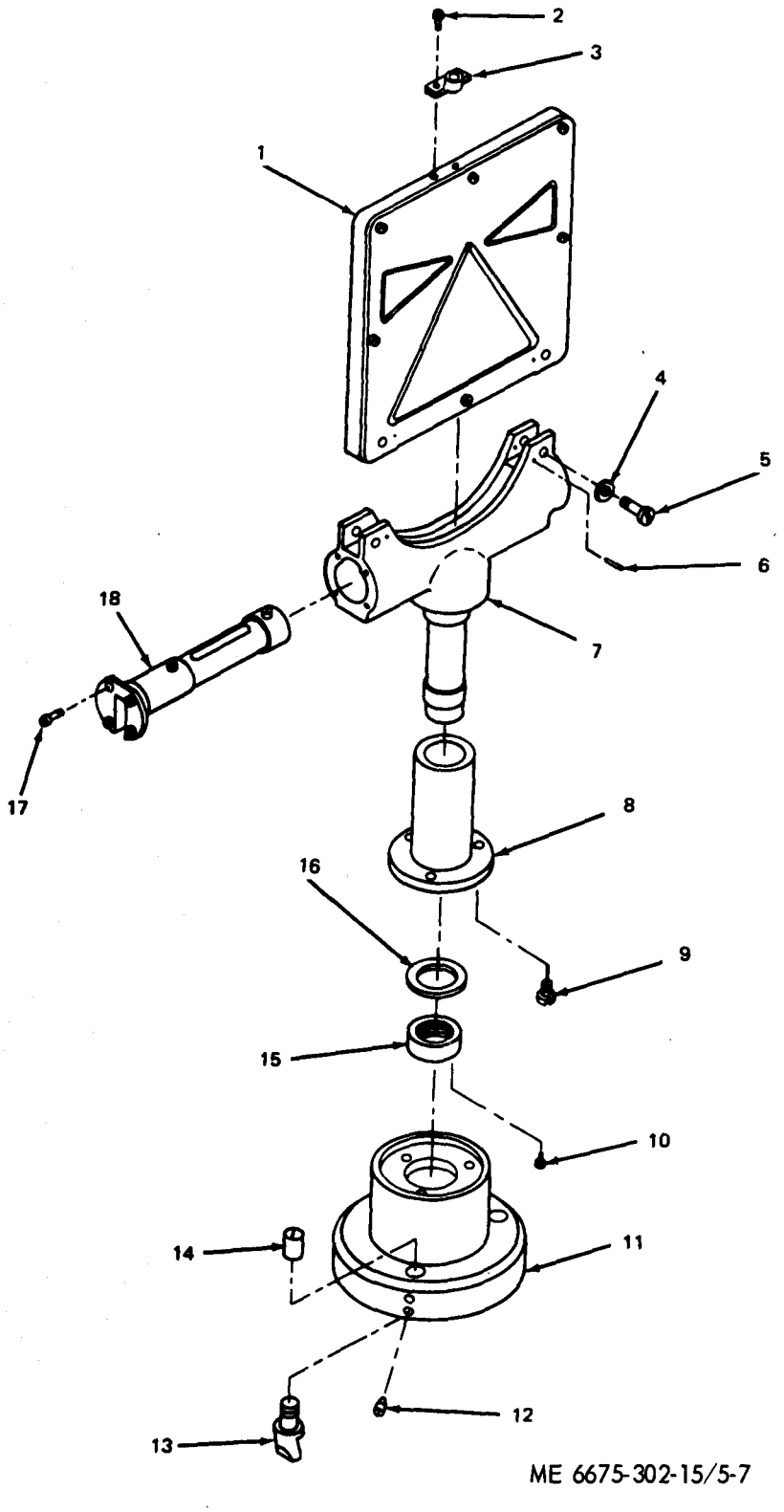
(3) Remove the target base (para 5-14).

(4) Remove the sleeve (para 5-15).



1. Screw
2. Spring
3. Plate
4. Lock plate
5. Screw
6. Pivot
7. Pin
8. Nut
9. Screw
10. Lever knob
11. Locking lever
12. Screw (2)
13. Lever bearing
14. Screw (3)
15. Cloverleaf spring
16. Circular level
17. Screw

Figure 5-10. Tribrach lockplate and circular level, model USATS-79, exploded view



1. Target frame assembly
2. Machine screw (2)
3. Center
4. Washer
5. Machine screw
6. Pin (2)
7. Bracket
8. Sleeve
9. Machine screw (3)
10. Screw
11. Base
12. Setscrew (6)
13. Clutch bolt (3)
14. Lock nut
15. Nut
16. Spring
17. Machine screw (4)
18. Target level assembly

Figure 5-11. Target assembly, model 242406, exploded view

b. Disassembly, Replacement and Reassembly.

(1) Refer to figure 5-11 and disassemble the bracket (4 thru 7).

(2) Replace defective parts with serviceable parts.

(3) Refer to figure 5-11 and reassemble the bracket (4 thru 7).

c. Installation.

(1) Install the sleeve (para 5-15).

(2) Install the target base (para 5-14).

(3) Install the target level assembly (para 5-13).

(4) Install the target frame (para 5-12).

Section V. REPAIR OF TARGET ASSEMBLY (MODEL USATS-79)

5-17. General. On model USATS-79 the target assembly consists of a target plate and a target plate carrier incorporating a target level and three feet for clamping to the tribrach. Refer to section IV for repair of the target assembly for model 242406.

5-18. Target Plate.

a. Removal.

(1) Refer to paragraph 4-9 and remove the target assembly from the tribrach.

(2) Refer to figure 5-14 and remove the target plate from the target plate carrier.

b. Disassembly. Refer to figure 5-15 and disassemble the target plate.

c. Cleaning Inspection and Repair.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent 100F to 138F (38C to 59C).

(1) Clean all metal parts with cleaning solvent and dry thoroughly. Clean mask with lens tissue or lens cloth.

(2) Inspect cover plate, target frame and plunger for cracks, dents, breaks and burrs. inspect spring for cracks. Inspect all threaded parts for worn or damaged threads.

(3) Remove all burrs and minor dents.

(4) Replace all defective parts that cannot be repaired.

d. Reassembly. Refer to figure 5-15 and reassemble the target plate.

e. Installation.

(1) Refer to figure 5-14 and install the target plate on the target plate carrier.

(2) Refer to paragraph 4-9 and install the target assembly on the tribrach.

5-19. Target Plate Carrier

a. Removal and Disassembly.

(1) Remove the target assembly, paragraph 5-18.

(2) Refer to figure 5-16 and disassemble the target plate carrier.

b. Cleaning, Inspection and Repau.

WARNING

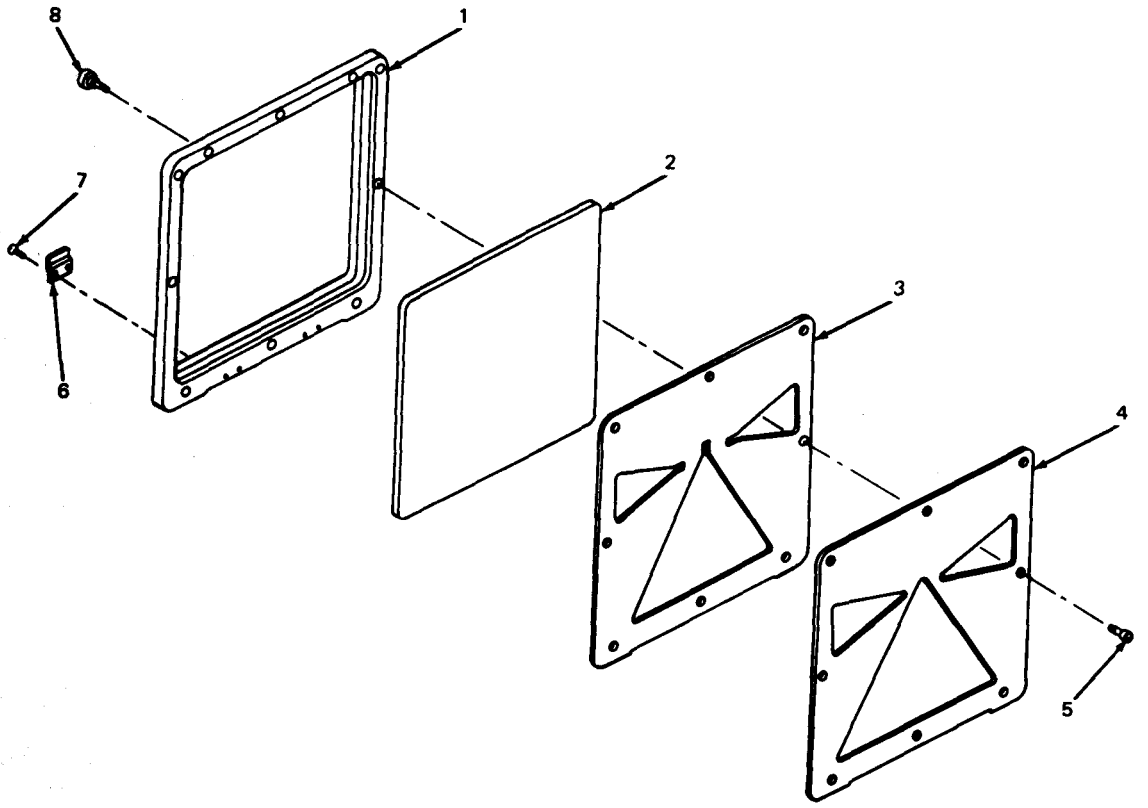
Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potential ly dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59C).

(1) Clean all metal parts with cleaning solvent and dry thoroughly. Wipe target level with lens tissue or lens cloth.

(2) Inspect level housing, carrier housing and centering flange for dents, cracks, breaks and burrs. Inspect springs for cracks. Inspect target level and plastic tube for cracks and scratches.

(3) Remove all burs and minor dents.

(4) Replace all defective parts that cannot be repaired.



1. Frame
2. Glass plate
3. Mask
4. Cover plate
5. Machine screw (6)
6. Brace (2)
7. Machine screw (4)
8. Pivot

Figure 5-12. Target frame, model 242406, exploded view

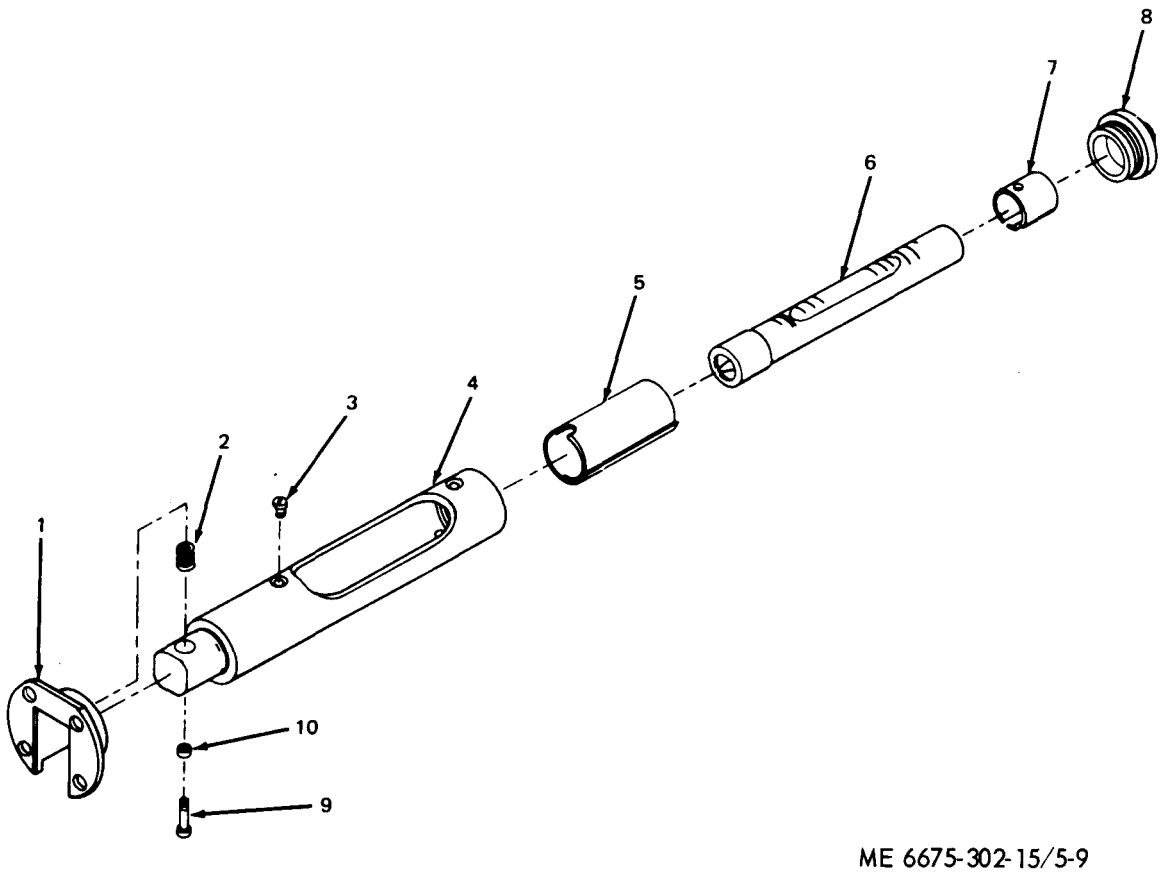
c. Reassembly. Refer to figure 5-16 and reassemble the target plate carrier.

d. Installation.

(1) Refer to figure 5-14 and install the target plate on the target plate carrier.

(2) Install the tribrach assembly paragraph 4-9.

e. Adjustment. If, after the circular level has been adjusted (para 5-8), the target level bubble is far off center, the target level is out of adjustment. Tighten or loosen the adjusting screw (13, fig. 5-16) to bring the bubble to center.



1. Bracket
2. Spring
3. Machine screw (2)
4. Housing
5. Plastic cover
6. Level vial
7. Cap
8. Bearing
9. Adjusting screw
10. Washer

Figure 5-13. Target level assembly, model 242406, exploded view

c. Reassembly. Refer to figure 5-16 and reassemble the target plate carrier.

d. Installation.

(1) Refer to figure 5-14 and install the target plate on the target plate carrier.

(2) Install the tribrach assembly paragraph 4-9.

e. Adjustment. If, after the circular level has been adjusted (para 5-8), the target level bubble is far off center, the target level is out of adjustment, Tighten or loosen the adjusting screw (13, fig. 5-16) to bring the bubble to center.

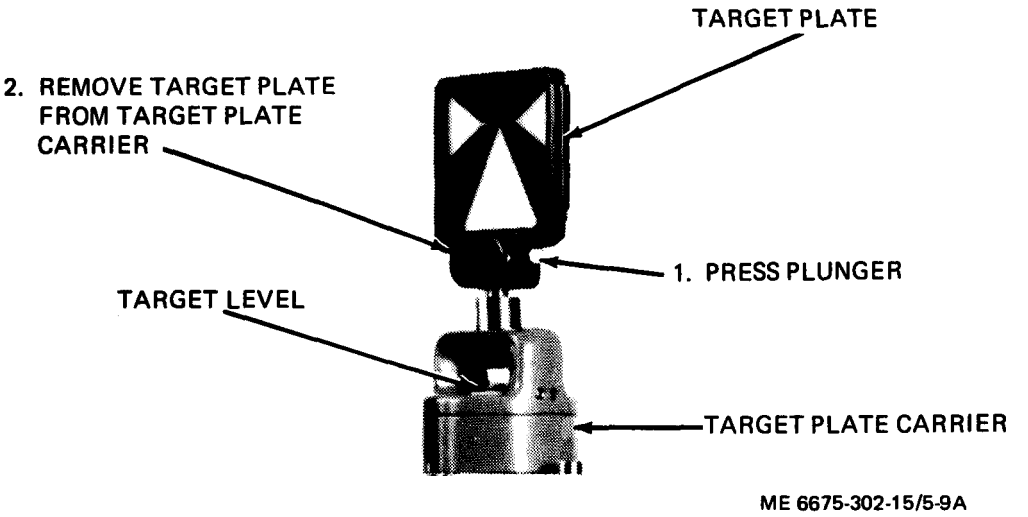


Figure 5-14. Target plate, model USATS-79, removal and installation

Section VI. REPAIR OF BATTERY BOX, HAND LAMP AND ELECTRICAL CABLE, AND EYEPIECE ADAPTER ASSEMBLY

5-20. General. The illumination system consists of a battery box, with a rheostat to control the intensity of light illuminating the target. A hand lamp that plugs into the battery box is also provided for general external lighting purposes. An eyepiece adapter fits over the eyepieces and provides illumination for the optical plummet.

5-21. Battery Box.

a. Disassembly. Refer to figure 5-17 for model 242406 or figure 5-18 for model USATS-79, and disassemble the battery box.

b. Cleaning, Inspection and Repair.

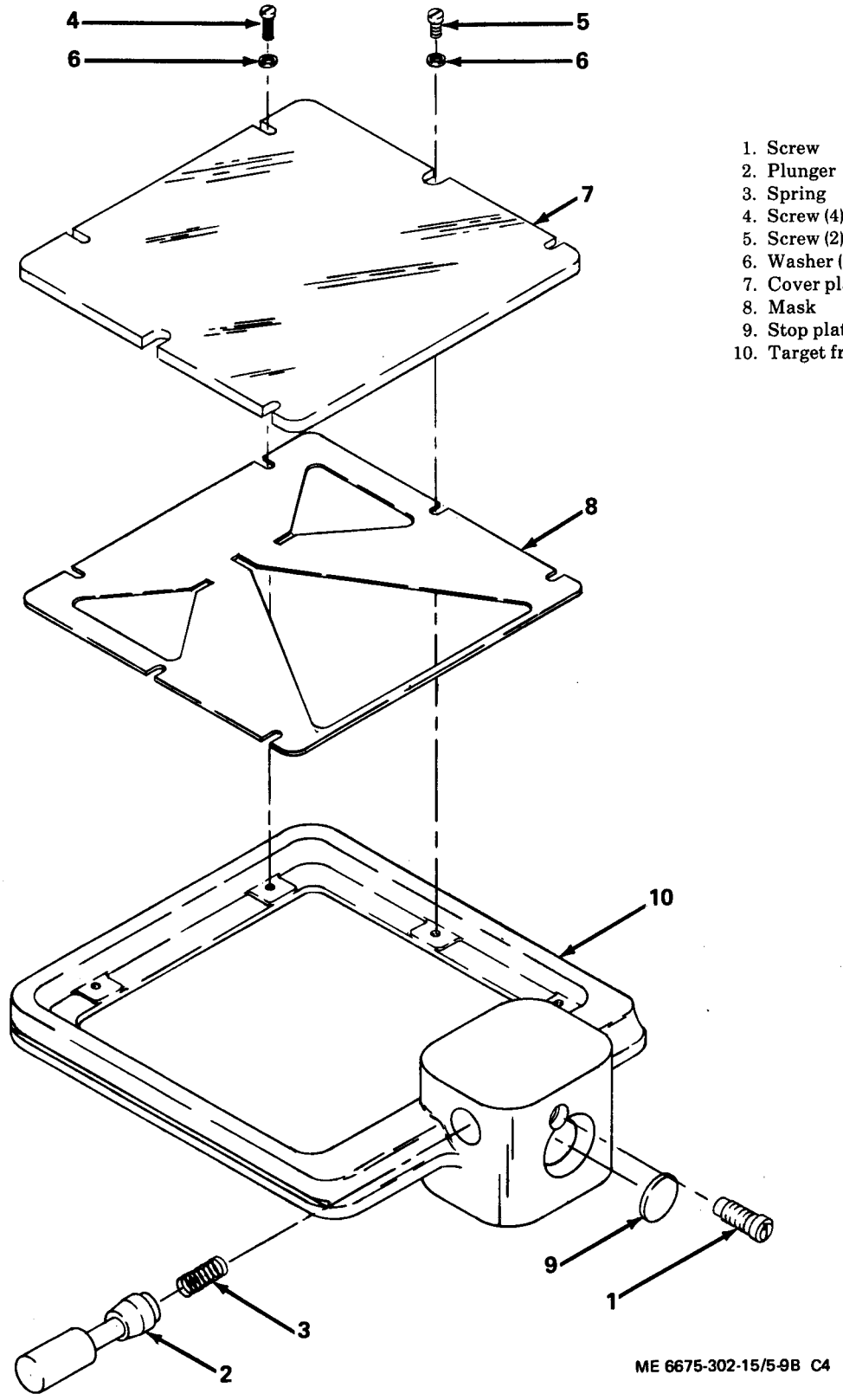
WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59C).

(1) Clean all metal parts with cleaning solvent and dry thoroughly. Wipe all corrosion from terminals and contacts. Wipe dirt and foreign matter from cables, lamp trunk, springs, washers, and rheostat.

(2) Inspect the cables and contacts for cracked, swollen, or damaged insulation, broken wires, and defective terminals. Inspect the springs for bends, breaks, and fatigue.

(3) Inspect the lamp trunk for cracks and other damage. Inspect the rheostat for improper operation and other damage. Inspect the sockets for cracks and wear. Inspect the springs for bends, and fatigue. Inspect the contacts and slide lever for wear, burrs, and bends.



1. Screw
2. Plunger
3. Spring
4. Screw (4)
5. Screw (2)
6. Washer (6)
7. Cover plate
8. Mask
9. Stop plate
10. Target frame

Figure 5-15. Target plate, model USATS-79, exploded view

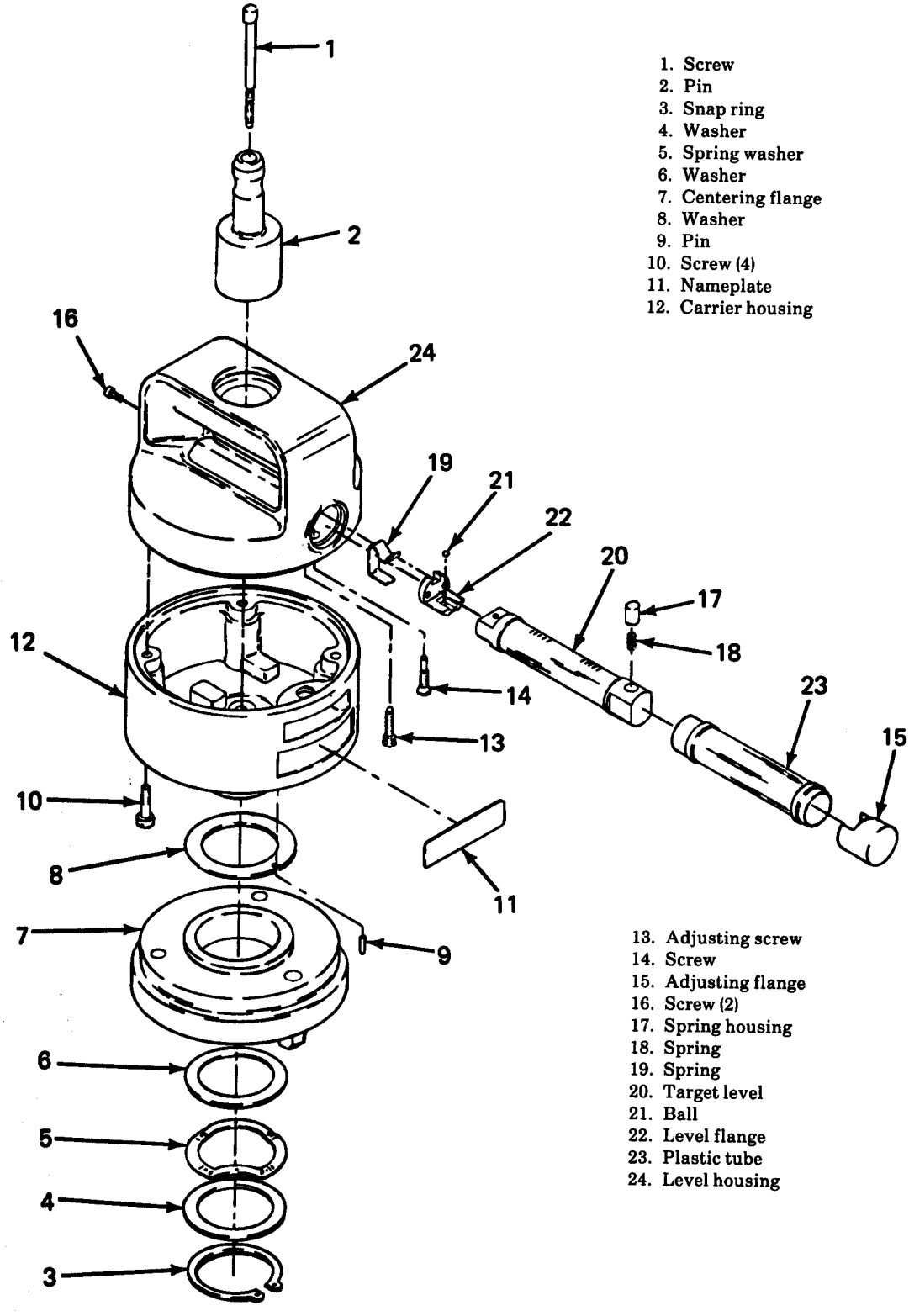


Figure 5-16. Target plate carrier, model USATS-79, exploded view

(4) Inspect the battery box for dents, cracks, and defective mounting bracket, clamps, and carrying strap.

(5) Remove all burrs and straighten minor dents. Replace all defective parts that cannot be repaired.

c. Reassembly. Refer to figure 5-17 for model 242406 or figure 5-18 for model USATS-79.

5-22. Hand Lamp and Electrical Cable.

a. General. When not in use, the hand lamp and electrical cable are stowed in the battery box.

b. Disassembly. Refer to figure 5-19, model 242406 or figure 5-20, model USATS-79.

c. Cleaning, Inspection and Repair.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 100F to 138F (38C to 59C).

(1) Clean all metal parts with cleaning solvent and dry thoroughly.

(2) Inspect the lamps for defects. Inspect all electrical contacts for breaks, wear, and corrosion.

(3) Inspect insulation for cracks, wear, and damage. Inspect the electrical cable for breaks and frayed insulation. Inspect the cable connectors for breaks and defective terminals.

(4) Inspect the housing and body for dents, rust, burns, and other defects.

(5) Remove all burns and straighten minor dents. Replace all defective parts that cannot be repaired.

d. Reassembly. Refer to figure 5-19 (model 242406) or figure 5-20 (model USATS-79) and reassemble the hand lamp and electrical cable.

5-23. **Eyepiece Adapter Assembly.**

a. General. When not is use, the eyepiece adapter assembly is stowed in the accessory case.

b. Disassembly. Refer to figure 5-12 and disassemble the eyepiece adapter assembly.

c. Cleaninng, Inspection and Repair.

WARNING

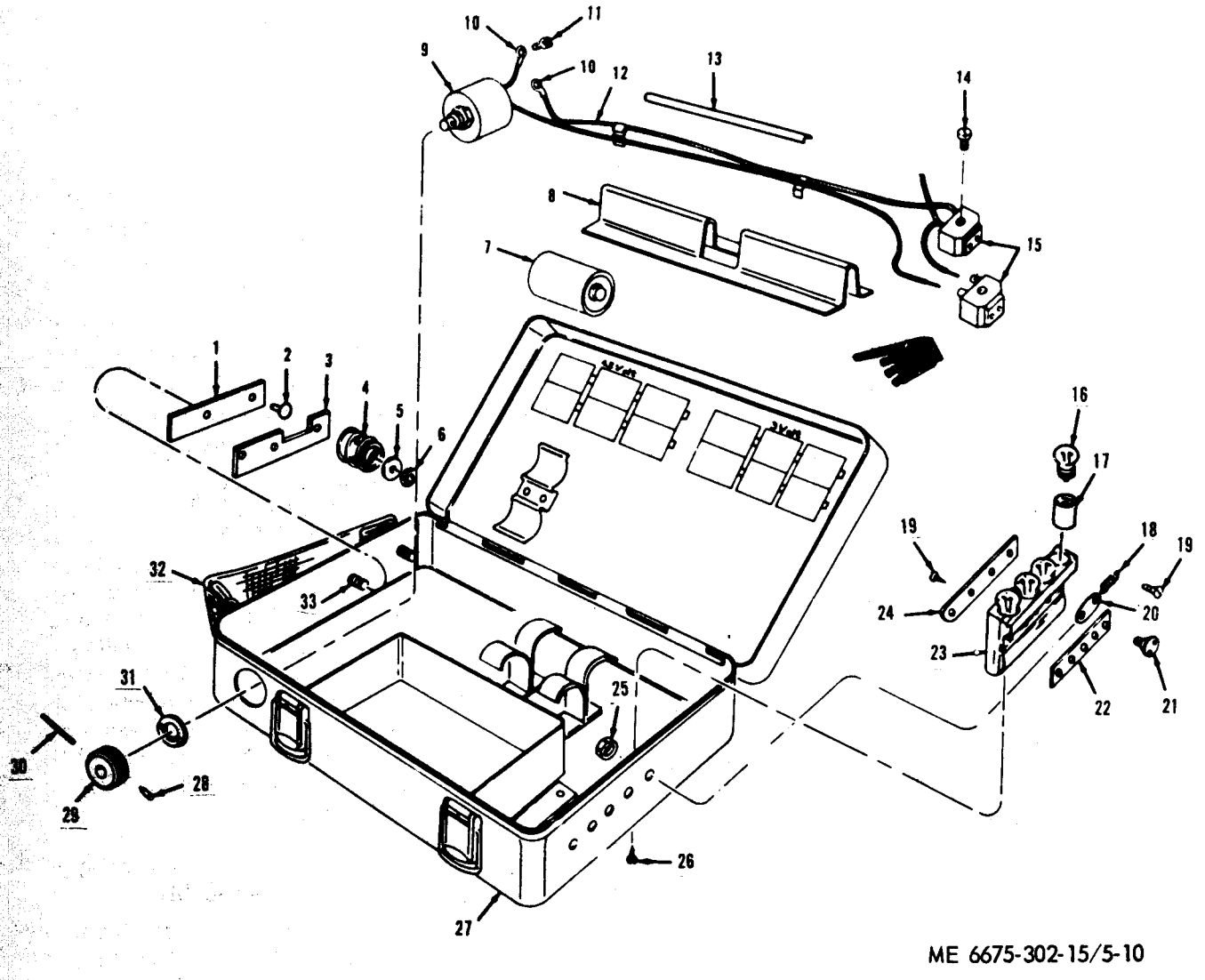
Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (Fed. Spec. P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point 'of solvent is lOOF to 138F (38C to 59 C).

(1) Clean all metal parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect the lamp for defects. Inspect the contact springs for bends, wear, and fatigue. Inspect the insulators for wear and damage.

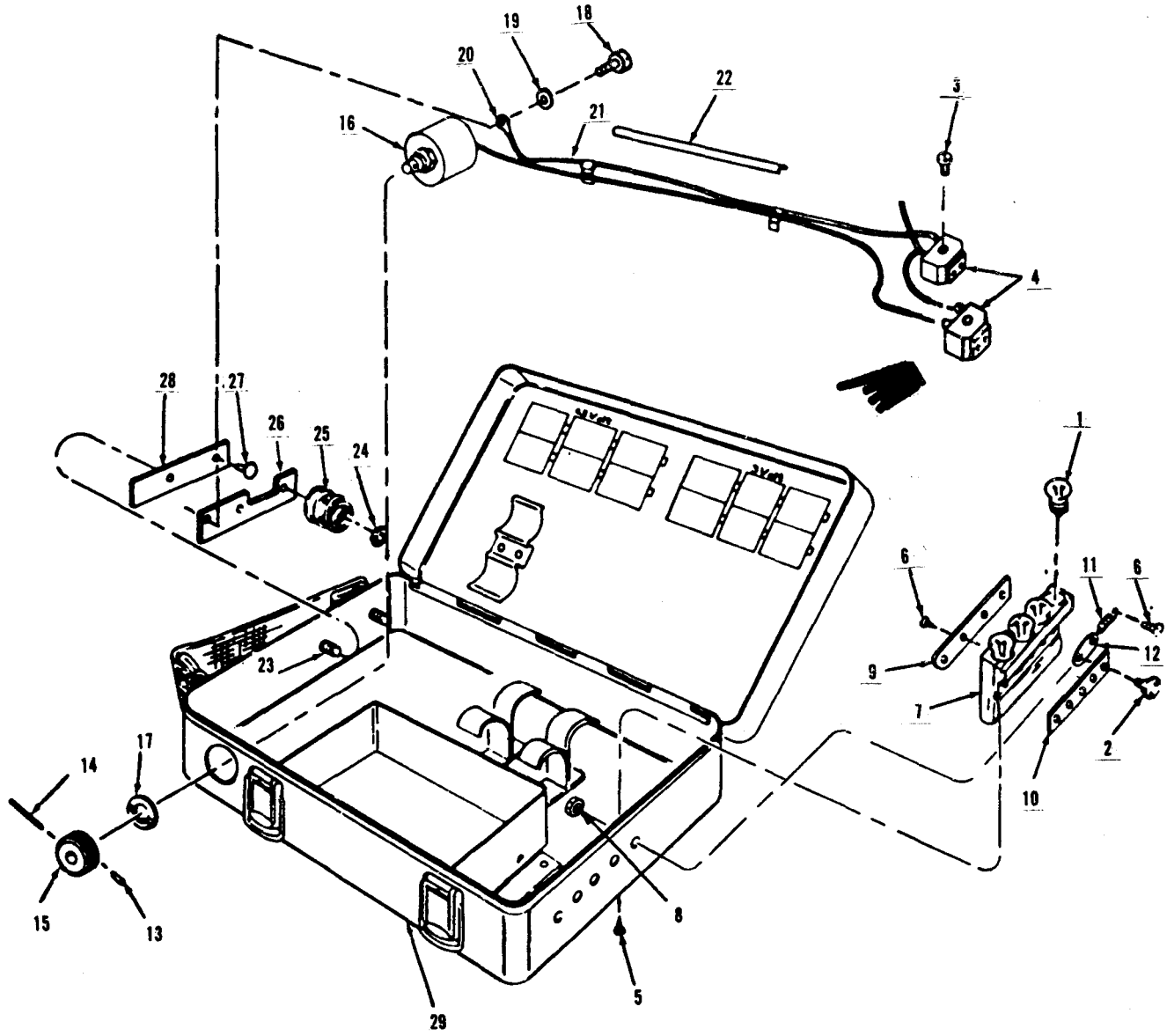
(3) Replace all defective parts that cannot be repaired.

d. Reassembly. Refer to figure 5-21 and reassemble the eyepiece adapter assembly.



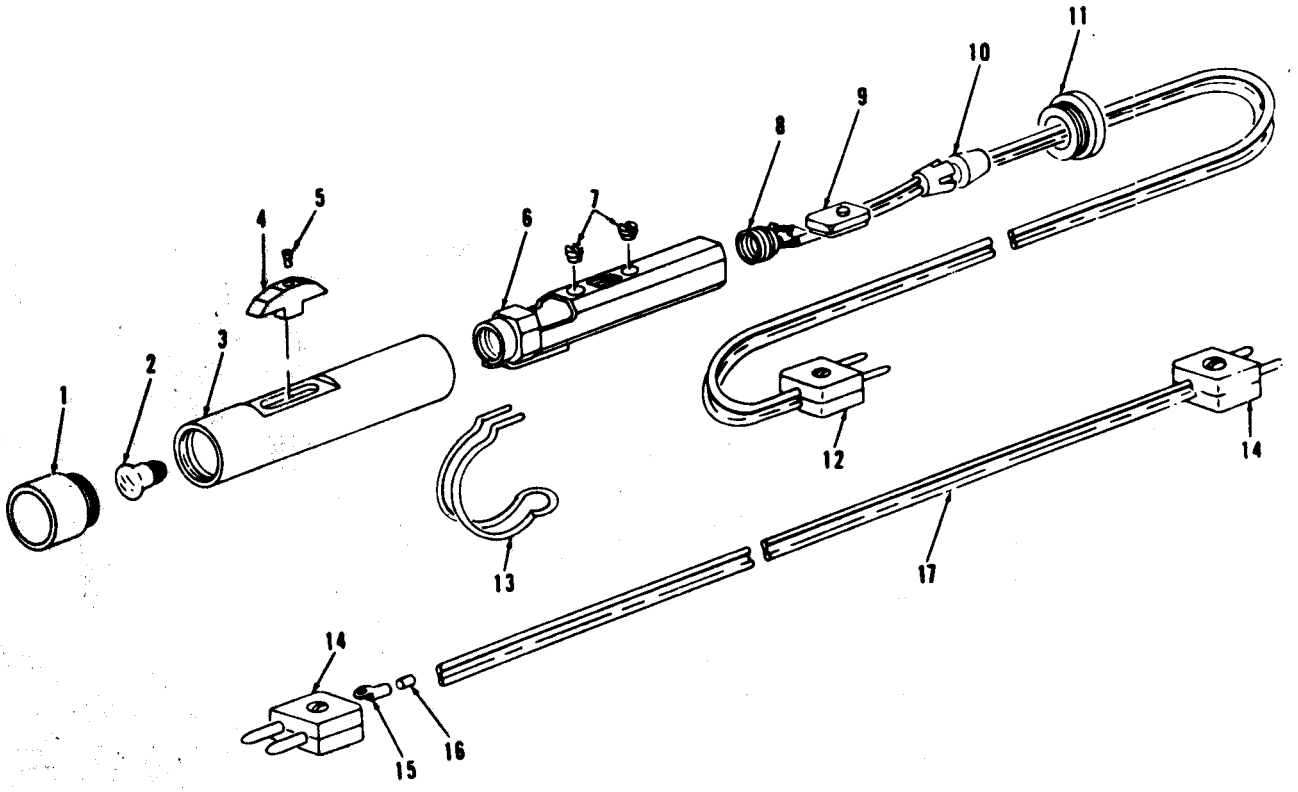
1. Insulator plate
2. Rivet(2)
3. Contact plate
4. Contact spring (2)
5. Washer (2)
6. Nut (2)
7. Battery (4)
8. Insulator tube
9. Rehostat
10. Cable clip (2)
11. Machine screw
12. Electric cable
13. Insulation
14. Screw (2)
15. Electrical plug (2)
16. Incandescent lamp (4)
17. Lamp socket
18. Cover plate spring
19. Woodscrew (3)
20. Contact
21. Knob
22. Cover plate
23. Wood trunk
24. Contact plate
25. Nut
26. Woodscrew (2)
27. Battery box
28. Setscrew
29. Rheostat knob
30. Pin
31. Washer
32. Handle strap
33. Screw (2)

Figure 5-17. Battery box, model 242406, exploded view



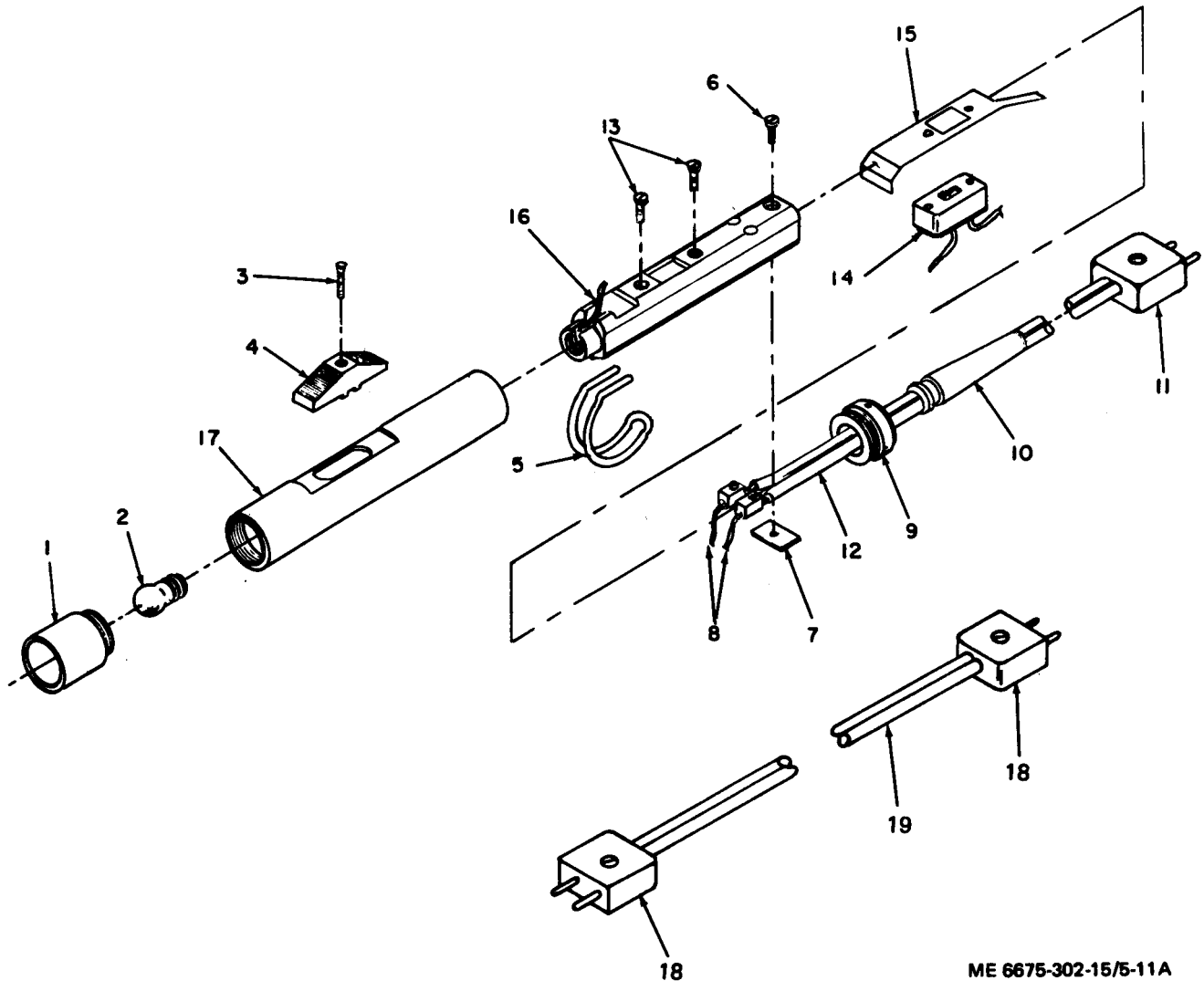
Deleted
1. Bulb (4)
2 . Knob
3. Screw (2)
4. Plug (2)
5. Screw (2)
6. Screw (3)
7. Wooden
8. Nut
9. Contact plate
10. Cover plate
11. Cover plate spring
12. Connector plate
13. Setscrew
14. Pin
15. Knob
16. Potentiometer
17. Washer
18. Screw
19. Spring washer
20. Cable clip
21. Cable
22. Insulation tube
23. Screw (2)
24. Nut (2)
25. Contact spring (2)
26. Contact plate
27. Rivet (2)
28. Insulation plate
26. Battery box

Figure 5-18. Battery box, model USATS-79, exploded view



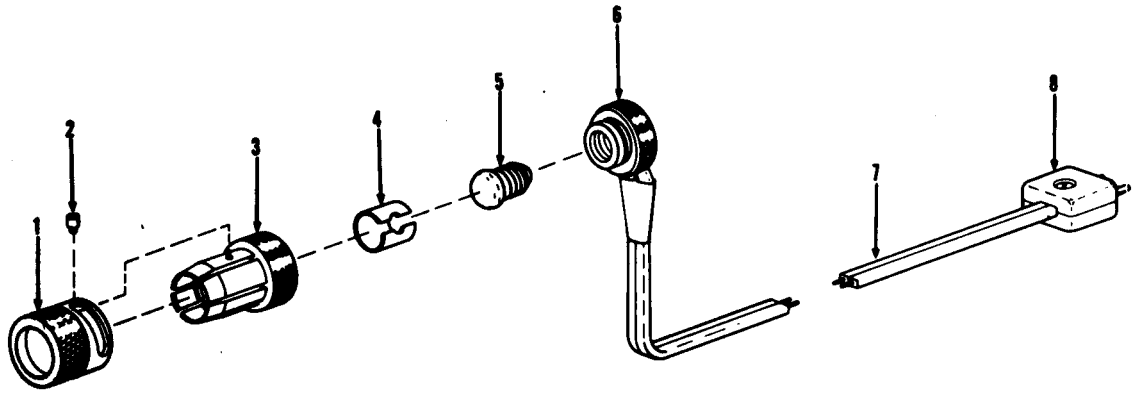
1. End cover
2. Incandescant lamp
3. Lamp housing
4. Slide switch
5. Machine screw
6. Insulator bushing
7. Maschine screw (2)
8. Lampholder
9. Slide switch
10. Cable assembly
11. Cover
12. Electrical plug connector
13. Hook
14. Electrical plug connector (2)
15. Tubular contact (4)
16. Insulating tube (4)
17. Electrical cable

Figure 5-19. Hand lamp and electrical cable, model 242406, exploded view



1. Sleeve
2. Bulb
3. Screw
4. Switch slide
5. Hook
6. Screw
7. Plate
8. Copper wire (2)
9. End cover
10. Sleeve
11. Plug
12. Cable
13. Screw (2)
14. Switch
15. Contact spring
16. Insulation housing
17. Lamp housing
18. Plug (2)
19. Cable

Figure 5-20. Hand lamp and electrical cable, model USATS-79, exploded view



ME 6675-302-15/5-12

1. Sleeve
2. Capscrew
3. Connector
4. Ring
5. Incandescent light
6. Socket assembly
7. Cable
8. Electric plug connector

Figure 5-21. Eyepiece adapter assembly, model 242406 or USATS-79, exploded view

CHAPTER 6
SHIPMENT, ADMINISTRATIVE STORAGE AND INSTRUCTIONS FOR DESTRUCTION OF MATERIEL TO PREVENT ENEMY USE

Section I. SHIPMENT AND ADMINISTRATIVE STORAGE

6-1. Preparation of Equipment for Shipment.

a. General. Instructions for preparation of the target set for domestic shipment are provided in this paragraph. Preservation and packaging shall be accomplished in a sequence that will not require the operation of previously preserved components.

b. Inspection. Perform a complete inspection of the target set (para 2-1).

c. Preservation. Clean, paint, preserve and weatherproof in accordance with applicable requirements of TM 740-90-1.

NOTE

It is not necessarily to coat the instrument surfaces with preservatives if the instrument is to be placed in its carrying case and shipping case.

d. Marking. Marking will conform to MIL-STD-129. Fragile labels will be affixed to at least three (3) surfaces of the target set shipping case.

e. Disassembly and Packing. Disassemble and pack the accessories (reverse the instructions in para 2-1) in the shipping cases. Refer to TM 38-320 for guidance in selections, fabrication and packing of the containers.

6-2. Loading Equipment for Shipment. Refer to carrier rules and regulations, and load and secure the target set accordingly.

6-3. Administrative Storage. Both models of target sets must be kept in their carrying case while they are not in use. The carrying case is the only authorized storage container used for the target set and should be stored in a dry, clean area at all times. Refer to TM 740-90-1 (Administrative Storage of Equipment) for preparation, care, and removal of equipment in administrative storage.

Section II. DESTRUCTION OF MATERIEL TO PREVENT ENEMY USE

6-4. General. When capture or abandonment of the target set to an enemy is imminent, the responsible unit commander must make the decision either to destroy the equipment or to render it inoperative. Based on this decision, orders are issued which cover the desired extent of destruction. Whatever method of demolition is employed, it is essential to destroy the same vital parts of all target sets and all corresponding repair parts.

6-5. Demolition to Render the Target Set Inoperative.

a. Mechnical Means. Using a hammer, wrecking bar, or other suitable tool, break all lenses, level vials, target plate, target base (model 242406), or target plate carrier (model USATS-79), reflector, illumination assembly (model 242406), screw-in lamp assembly (model USATS-79), battery box, and accessory case. Rip the field pack apart.

b. Burning. Pack fuel-soaked rags, canvas, or other flammable material around the uncased target set, tripod, battery box, field pack and accessory case, and ignite.

c. Submersion. Remove the target set from the carrying case and submerge it and all of its components in water.

APPENDIX A
REFERENCES

A-1. Lubrication.

C9100IL	Fuels, Lubricants, Oils and Waxes

A-2. Painting.

TM 43-0139	Painting Instructions for Field Use

A-3. Maintenance.

TM 38-750	The Army Maintenance Management System (TAMMS)
TM 5-6675-302-14&P	Operator's, Organizational, Direct Support and General Support Maintenance Manual, Including Repair Parts and Special Tools List; Target Set, Azimuth Laying (Wild Heerbrugg Model 242406) NSN 6675-00-065-7502 and (Wild Heerbrugg Model USATS-79) NSN 6675-01-115-0404

A-4. Shipment and Storage.

TM 740-90-1	Administrative Storage of Equipment

APPENDIX B
COMPONENTS OF END ITEMS LIST

Section I. INTRODUCTION

B-1. Scope. This appendix lists Integral Components of and Basic Issue Items (BII) for the target set, azimuth laying to help you inventory items required for safe and efficient operation.

B-2. General. The components of end item list are divided into the following sections:

a. Section II. Integral Components of the End Item. These items, when assembled, comprise the target set, azimuth laying and must accompany it whenever it is transferred or turned in. These illustrations will help you identify these items.

b. Section III. Basic Issue Items. These are minimum essential items required to place the target set, azimuth laying in operation, to operate it and to perform emergency repairs. Although shipped separately packed, they must accompany the target set, azimuth laying during operation and whenever it is transferred between accountable officers. The illustrations will assist you with hard-to-identify items. This manual is your authority to requisition replacement BII based on Table(s) of Organization and Equipment (TOE)/Modification Table of Organization and Equipment (MTOE) authorization of the end item.

B-3. Explanation of Columns.

a. Illustration. This column is divided as follows.

(1) Figure Number. Indicates the figure number of the illustration on which the items is shown (if applicable).

(2) Item Number. The number used to identify item called out in the illustration.

b. National Stock Number (NSN). Indicates the national stock number assigned to the end item which will be used for requisitioning.

c. Part Number (P). Indicates the primary number used by the manufacturer which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards and inspection requirements to identify an item or range of items.

d. Description. Indicates the federal item name and if required, a minimum description to identify the item.

e. Location. The physical location of each item listed is given in this column. The lists are designated to inventory all items in one area of the major item before moving onto an adjacent area.

f. Usable on Code. Model 242406-CCQ; Model USATS-79-DGF.

g. Quantity Required (Qty Reqd). This column lists the quantity of each item required for a complete major item.

h. Quantity. This column is left blank for use during inventory. Under the received column, list the quantity you actually receive on your major item. The date columns are for use when you inventory the major item at a later date, such as for shipment to another site.

SECTION II. INTEGRAL COMPONENTS OF END ITEM (MODEL 242406)

(1) ILLUSTRATION (A) FIGURE NO.	(B) ITEM NO.	(2) NATIONAL STOCK NO.	(3) PART NO. & FSCM	(4) DESCRIPTION	(5) LOCATION	(6) USABLE ON CODE	(7) QTY REQD	(8) QUANTITY RCVD	DATE	DATE
1-2		6675-00-065-8525	Z22SXT21-405	ILLUMINATION ASSEMBLY W/REFLECTOR		CCQ	1			
1-3		6675-00-065 8524	XT21-404 (89905)	TARGET ASSEMBLY		CCQ	1			
1-3		6675-00-065-8527	GDF2-000-000-68(89905)	TRIBRACH ASSEMBLY		CCQ	1			
4-6		6675-00-486-3780	XT21-406	CASE, CARRYING		CCQ	1			
				BATTERY BOX ASSY CONTAIN-ING THE FOL-LOWING:						
2-3		6675-00-997-4340	GEB8-000-000-66(89905)	BOX ASSY, BATTERY		CCQ	1			
2-5		6675-00-961-9686	10102202 (89905)	ADAPTER AS SEMBLY, EYEPIECE		CCQ	1			
2-3		6675-00-997-4335	GEB1-000-000-66	LAMP AS-SEMBLY, HAND		CCQ	1			
2-3		6675-00-997-4341	GEB11-000-000 66(89905)	CABLE ASSEMBLY, CONNECTING		CCQ	1			
				TRIPOD ASSY, EXTENSION LEG,CONSIST-ING OF:		CCQ	1			
2-4		6675-00-641-3572	21B000-000-66(89905)	TRIPOD ASSY		CCQ	1			
2-2		6675-00-937-3838	2A20A(89905)	ACCESSORY CASE		CCQ	1			
2-2		5210-00-353-4130	2A001-000 (89905)	PLUMB BOB ASSY W/ADJUSTOR		CCQ	1			

SECTION II. INTERGRAL COMPONENTS OF END ITEM (MODEL USATS-79)

(1) ILLUSTRATION (A) FIGURE NO.	(B) ITEM NO.	(2) NATIONAL STOCK NO.	(3) PART NO. & FSCM	(4) DESCRIPTION	(5) LOCATION	(6) USABLE ON CODE	(7) QTY REQD	(8) QUANTITY RCVD DATE	DATE	DATE
5-3			367555 (89905)	TARGET PLATE ASSEMBLY		DGF	1			
5-14			319350 (89905)	TARGET PLATE CARRIER		DGF	1			
4-4			394984 (89905)	LIGHTCONCEAL-ING HOOD		DGF	1			
1-4			368435 (89905)	REFLECTOR		DGF	1			
4-6			319606 (89905)	TRIBRACH ASSEMBLY		DGF	1			
4-12			398474 (89905)	CASE, TARGET SET		DGF	1			
				BATTERY BOX ASSY CON-TAINING THE FOLLOWING:						
2-6			308574 (89905)	BOX ASSY, BATTERY		DGF	1			
5-8		6675-00-961-9686	10102202 (09786)	ADAPTE ASSY, EYEPIECE		DGF	1			
5-20			369364 (89905)	HANDLAMP ASSY		DGF	1			
2-9			199895 (89905)	LAMP ASSY, SCREW-IN		DGF	1			
5-20			198826 (89905)	CABLE ASSY		DGF	1			
				TRIPOD ASSY, EXTENSION LEG, CONSISTING OF:						
4-8			312994 (89905)	TRIPOD ASSY		DGF	1			
4-10			319010 (89905)	PLUMB BOB ASSY		DGF	1			
2-4			319164 (89905)	CASE, ACCESSORY		DGF	1			

SECTION III. BASIC ISSUE ITEMS

(1) ILLUSTRATION (A) FIGURE NO.	(B) ITEM NO.	(2) NATIONAL STOCK NO.	(3) PART NO. & FSCM	(4) DESCRIPTION	(5) LOCATION	(6) USABLE ON CODE	(7) QTY REQD	(8) QUANTITY RCVD	DATE	DATE
				TM5-6675-302-14&P, OPERATOR, ORGANIZATIONAL,DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS			1			
2-3		6240-00-120-0140	GEG3-2 (89905)	LAMPS		CCQ	4			
2-9		6240-00-859-5936	166370 (89905)	LAMPS		DGF	4			

APPENDIX C
ADDITIONAL AUTHORIZATION LIST

Section I. INTRODUCTION

C-1. Scope. This appendix lists additional items you are authorized for the support of the target set, azimuth laying.

C-2. General. This list identifies items that do not have to accompany the target set, azimuth laying and that do not have to be turned in with it. These items are authorized to you by CTA, MTOE, TDA or JTA.

C-3. Explanation of Listing. National stock number, descriptions and quantities are provided to help you identify and request the additional items you require to support this equipment. Usable On codes are not applicable.

Section II ADDITIONAL AUTHORIZATION LIST

(1) NATIONAL STOCK NUMBER	(2) PART NUMBER & FSCM	(3) DESCRIPTION	(4) USABLE ON CODE	(5) U/M	(6) QTY AUTH
6135-00-120-1020		BA30 (81349) Battery, Dry, 1.5 volts		EA	8

APPENDIX D
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

D-1. General.

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

b. The Maintenance Allocation Chart (MAC) in 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 tools and test equipment required for each maintenance function as referenced from Section II.

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

D-2. Maintenance Functions.

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate, or replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), and item, or system.

j. Overhaul. That maintenance effort (services/actions) necessary to restore an item to a completely serviceable operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipments/ components.

D-3. Column Entries Used in the MAC.

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2, Component/Assembly, Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see paragraph D-2.)

d. Column 4, Maintenance Level. Column 4 specifies, by listing of a work time figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform the maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work time figures will be shown for each level. The number of manhours specified by the work time figure represents the average time required to restore an item (asssembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

C	**Operator or crew**
O	**Organization maintenance**
F	**Direct support maintenance**
H	**General support maintenance**
D	**Depot maintenance**

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets, (not individual tools) tools, test, and support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall contain a letter code in alphabetical order which shall be keyed to the remarks contained in Section IV.

D-4. Column Entries Used in Tool and Test Equipment Requirements.

a. Column 1, Tool or Test Equipment Reference Code. The tool and test equipment reference code correlates with a maintenance function on the identified end item or component.

b. Column 2, Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature. Name or identification of the tool or test equipment.

d. Column 4, National/NATO Stock Number. The National or NATO stock number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number.

D-5. Explanation of Columns in Section IV.

a. Reference Code. The code scheme recorded in column 6, Section II.

b. Remarks. This column lists information pertinent to the maintenance function being performed as indicated on the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART FOR TARGET SET, AZIMUTH LAYING

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Category C	O	F	H	D	(5) Tools and Equipment	(6) Remarks
01	Target Assembly								
	Target	Inspect	0.1						A
		Service	0.1						
		Replace		0.2					
		Repair		0.4					
	Target Frame & Level Assembly	Inspect	0.1						A
		Service	0.1						
		Replace				0.2			
		Repair				0.5			
	Hood & Reflector	Service	0.1						A
		Replace		0.1					
02	Tribrach Assembly								
	Tribrach	Inspect		0.1				1,2	A
		Service	0.1						
		Replace		0.2					
		Repair					1.5		
	Level Assembly	Inspect	0.1						AC
		Adjust	0.1				0.5		
		Replace					0.5		
		Repair							
03	Battery Box Assembly								
	Battery Box	Inspect	0.2						A
		Service	0.1						
		Replace		0.2					
		Repair			0.3				
	Adapter Assembly	Inspect	0.1						A
		Service	0.1						
		Replace		0.1					
		Repair			0.2				
	Lamp Assembly Hand	Inspect	0.1						A
		Service	0.1						
		Replace		0.1					
		Repair			0.2				
	Illumination Assembly	Inspect	0.1						A
		Service	0.1						
		Replace		0.1					
		Repair			0.2				
04	Tripod Assembly								
	Tripod	Inspect	0.1						A
		Service	0.1						
		Replace		0.1					
		Repair		0.3					

Section II. MAINTENANCE ALLOCATION CHART (CONT)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Category					(5) Tools and Equipment	(6) Remarks
			C	O	F	H	D		
04(Cont)	Plumb Bob Assembly	Replace Repair		0.1 0.2					A
05	Case								
	Case Carrying	Inspect Service Replace Repair	0.1 0.1	 0.2 0.2					A

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR TARGET SET, AZIMUTH LAYING

(1) Reference Code	(2) Maintenance Level	(3) Nomenclature	(4) National/NATO Stock Number	(5) Tool Number
1	0	Screw Driver, Flat TIP	5120-00-446-2860	
2	0	Pin Adjusting	6675-00-353-4103	

APPENDIX E
REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

E-1. Scope.

This manual lists spares and repair parts; special tools; special test, measurement, and diagnostic equipment required for performance of organizational, direct support, and general support depot maintenance of the Target Set. It authorizes the requisitioning and issue of spares and repair parts as indicated by the source and maintenance codes.

E-2. General. This Repair Parts and Special Tools List is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending numeric sequence, with the parts in each group listed in figure and item number sequence. Bulk materials are listed in NSN sequence.

b. Section III. Special Tools List. (Not Applicable).

c. Section IV. National Stock Number and Part Number Index. A list, in National Item Identification Number (NIIN) sequence, of all National Stock Numbers (NSN) appearing in the listings, followed by a list in alphanumeric sequence of all parts numbers appearing in the listings. National stock numbers and part numbers are cross--referenced to each illustration figure and item number appearance. This index is followed by a cross-reference list of reference designators to figure and items numbers.

E-3. Explanation of Columns.

a. Illustration. This column is divided as follows:

(1) Figure Number. Indicates the figure number of the illustration on which the item is shown.

(2) Item Number. The number used to identify item called out in the illustration.

b. Source, Maintenance and Recoverability (SMR) Codes.

(1) Source Code. Source codes indicate the manner of acquiring support items for maintenance, repair or overhaul of end items. Source codes are entered in the first and second positions of the Uniform SMR code format as follows:

Code	*Definition*
PA	Item procured and stocked for anticipated or known usage.
PB	Item procured and stocked for insurance purposes because essentiality dictates that a minimum quantity be available in the supply system.
PC	Item procured and stocked and which otherwise would be coded PA except that it is deteriorative in nature.
PD	Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent or additional initial issues or outf ittings. Not subject to automatic replenishment.
PE	Support equipment procured and stocked for initial issue or outfitting to specified maintenance repair activities.
PF	Support equipment which will not be stocked but which will be centrally procured on demand.
PG	Item procured and stocked to provide for sustained support for the life of the equipment. It is applied to an item peculiar to the equipment which, because of probable discontinuance or shutdown of production facilities, would prove uneconomical to reproduce at a later time.

Code	Definition
KD	An item of depot overhaul/repair kit and not purchased separately. Depot kit defined as a kit that provides items required at the time of overhaul or repair,
KF	An item of maintenance kit and not purchased separately. Maintenance kit defined as a kit that provides an item that can be replaced at organizational or intermediate levels of maintenance.
KB	Item included in both a depot overhaul repair kit and a maintenance kit.
MO	Item to be manufactured or fabricated at the organizational level.
MF	Item to be manufactured or fabricated at the direct support maintenance level.
MH	Item to be manufactured or fabricated at the general support maintenance level.
MD	Item to be manufactured or fabricated at the depot support maintenance level.
AO	Item to be assembled at organizational level.
AF	Item to be assembled at the direct support maintenance level.
AH	Item to be assembled at general support maintenance level.
AD	Item to be assembled at depot maintenance level.
XA	Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
XB	Item is not procured or stocked. If not available through salvage, requisition.
XC	Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
XD	A support item that is not stocked. When required, item will be procured through normal supply channels.

NOTE

Cannibalization or salvaging may be used as a source of supply for any items source coded above except those coded XA and XD.

(2) Maintenance Code. Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the Uniform SMR Code format as follows:

(a) The maintenance code entered in the third position will indicate the lowest maintenance level authorized to remove, replace, and use the support item. The maintenance code entered in the third position will indicate one of the following levels of maintenance.

Code	*Application/Explanation*
C	Crew or operator maintenance performed within organizational maintenance.
O	Support item is removed, replaced, used at the organizational level.
F	Support item is removed, replaced, used at the direct support level.
H	Support item is removed, replaced, used at the general support level.
D	Support items that are removed, replaced, used at depot, mobile depot, or specialized repair activity only.

(b) The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes:

Code	*Application/Explanation*
O	The lowest maintenance level capable of complete repair of the support item is the organizational level.
F	The lowest maintenance level capable of complete repair of the support item is the direct support level.
H	The lowest maintenance level capable of complete repair of the support item is the general support level,
D	The lowest maintenance level capable of complete repair of the support item is the depot level.
L	Repair restricted to designated, Specialized Repair Activity.

Code	*Application/Explanation*
Z	Nonreparable. No repair is authorized.
B	No repair is authorized. The item may be reconditioned by adjusting, lubricating, etc., at the user level. No parts or special tools are procured for the maintenance of this item.

(3) Recoverability Code. Recoverability codes are assigned to support items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the Uniform SMR Code format as follows:

Recoverability Code	*Definition*
Z	Nonreparable item. When unserviceable, condemn and dispose at the level indicated in position 3.
O	Reparable item. When uneconomically reparable, condemn and dispose at organizational level.
F	Reparable item. When uneconomically reparable, condemn and dispose at the direct support level.
H	Reparable item. When uneconomically reparable, condemn and dispose at the general support level.
D	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level.
L	Reparable item. Repair, condemnation, and disposal not authorized below depot/specialized repair activity level.
A	Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material or hazardous material). Refer to appropriate manuals directives for specific instructions.

c. ***National Stock Number.*** Indicates the National stock number assigned to the item and which will be used for requisitioning purposes.

d. Part Number. Indicates the primary number used by the manufacturer which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE

When a stock numbered item is requisitioned, the repair part received may have a different part number than the part being replaced.

e. Federal Supply Code for Manufacturer (FSCM). The FSCM is a 5 digit numeric code listed in SB 708-42 which is used to identify the manufacturer, distributor, or Government agent y, etc.

f. Description. Indicates the Federal item name and if required, a minimum description to identify the item. Items that are included in kits and sets are listed below the name of the kit or set, with the quantity of each item in the kit or set indicated in the quantity incorporated in unit column. When the part to be used differs between serial numbers of the same model, the effective serial numbers are shown as the last line of the description. In the Special Tools List, the initial basis of issue (BOI) appears as the last line in the entry for each special tools, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased accordingly.

g. Unit of Measure (U). Indicates the standard of the basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr, etc.). When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

h. Quantity Incorporated in Unit. Indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable (e.g., shims, spacers, etc.).

E-4. Special Information.

a. Repair parts kits and gasket sets appear as the last entries in the repair parts listing for the figure in which its parts are listed as repair parts.

b. Identification of the usable on codes included in the description column of this publication are:

Code	*Used On*
CCQ	Model 242406
DGF	Model USATS-79

Items not coded are applicable to all models.

E-5. How to Locate Repair Parts.

a. When National Stock Number or Part Number is Unknown:

(1) First. Using the table of contents, determine the functional group within which the repair part belongs. This is necessary since illustrations are prepared for functional groups, and listings are divided into the same groups.

(2) Second. Find the illustration covering the functional group to which the repair part belongs.

(3) Third. Identify the repair part on the illustration and note the illustration figure number and item number of the repair part.

(4) Fourth. Using the Repair Parts Listing, find the figure and item number noted on the illustration.

b. When National Stock Number or Part Number is Known.

(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent National sotck number or part number, This index is in NIIN sequence followed by a list of part numbers in alphanumeric sequence, cross--referenced to the illustration figure number and item number.

(2) Second. After finding the figure and item number, locate the figure and item number in the repair parts list.

E-6. Abbreviations.

Abbreviations	*Explanation*
ASSY	**Assembly(ies)**
FT	**Feet (foot)**
HD	**Head**
HEX	**Hexagon**
IN	**Inch(es)**
LG	**Long(length)**
NO	**Numbers(s)**

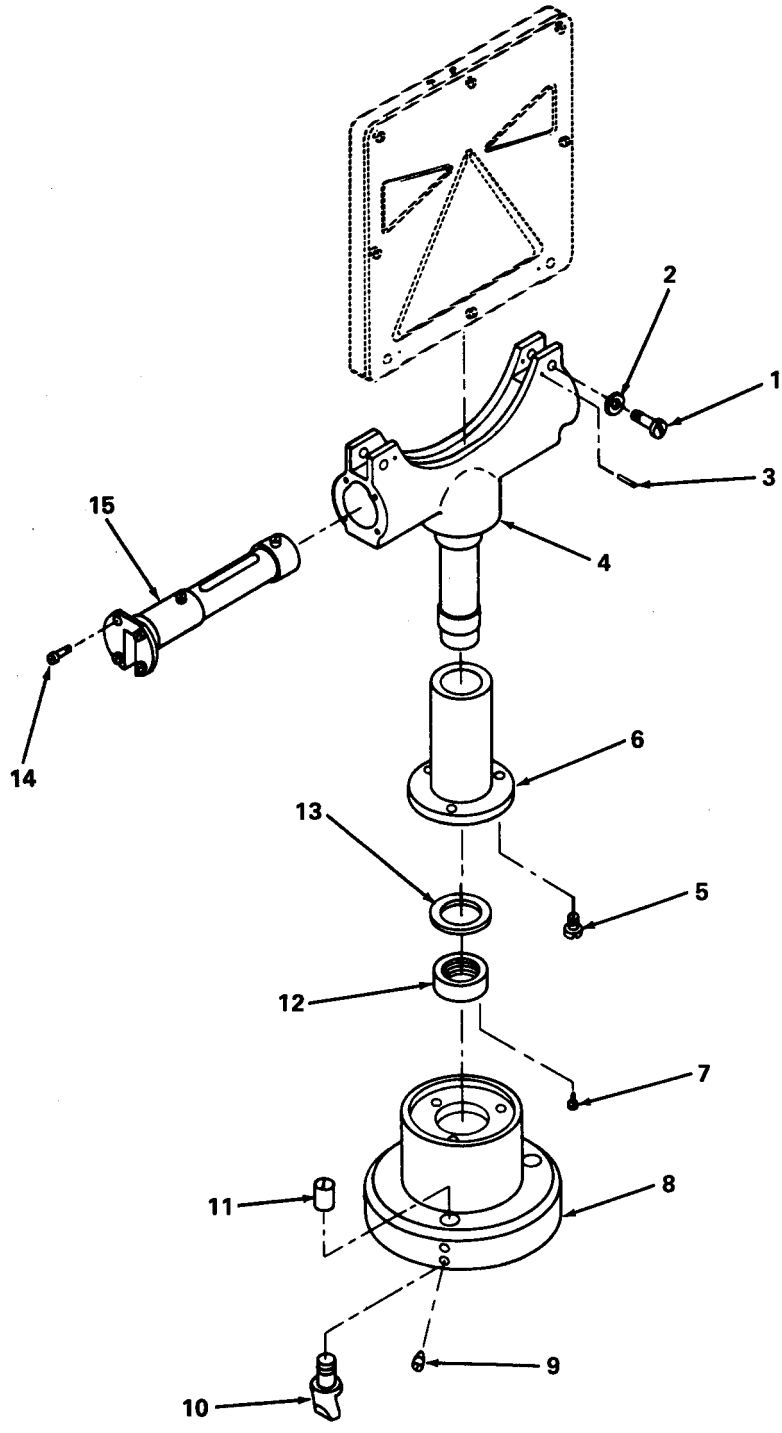


Figure E-1. Target Assembly, model 242406

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 01 - TARGET ASSEMBLY			
E1		XBHZZ		201119	89905	TARGET ASSEMBLY	CCQ	EA	1
E1	1	XBHZZ		DIN85-3X10	89905	.SCREW, MACHINE	CCQ	EA	2
E1	2	XBHZZ		DIN6798-33-2	89905	.WASHER	CCQ	EA	2
E1	3	XBHZZ		WN24-140-1-5X12	89905	.PIN	CCQ	EA	2
E1	4	XBHZZ		GZM1-03750	89905	.BRACKET	CCQ	EA	1
E1	5	XBHZZ		DIN84-3X7	89905	.SCREW,MACHINE	CCQ	EA	3
E1	6	XBHZZ		GZM1-06010	89905	.SLEEVE	CCQ	EA	1
E1	7	XBHZZ		WN21-500-14X2X4	89905	.SCREW	CCQ	EA	1
E1	8	XBHZZ		GZM1-07750	89905	.BASE	CCQ	EA	1
E1	9	XBHZZ		DIN553-2-6X3	89905	.SETSCREW	CCQ	EA	6
E1	10	XBHZZ		T16-04020	89905	.BOLT,CLUTCH	CCQ	EA	3
E1	11	XBHZZ		GZM1-07020	89905	.NUT,LOCK	CCQ	EA	1
E1	12	XBHZZ		GZM1-06020	89905	.NUT	CCQ	EA	1
E1	13	XBHZZ		GZM1-06030	89905	.SPRING	CCQ	EA	1
E1	14	XBHZZ		WN21-570-23-2X4	89905	.SCREW,MACHINE	CCQ	EA	4
E1	15	XBHZZ		GZM1-04000	89905	.LEVEL ASSEMBLY,TARGE	CCQ	EA	1

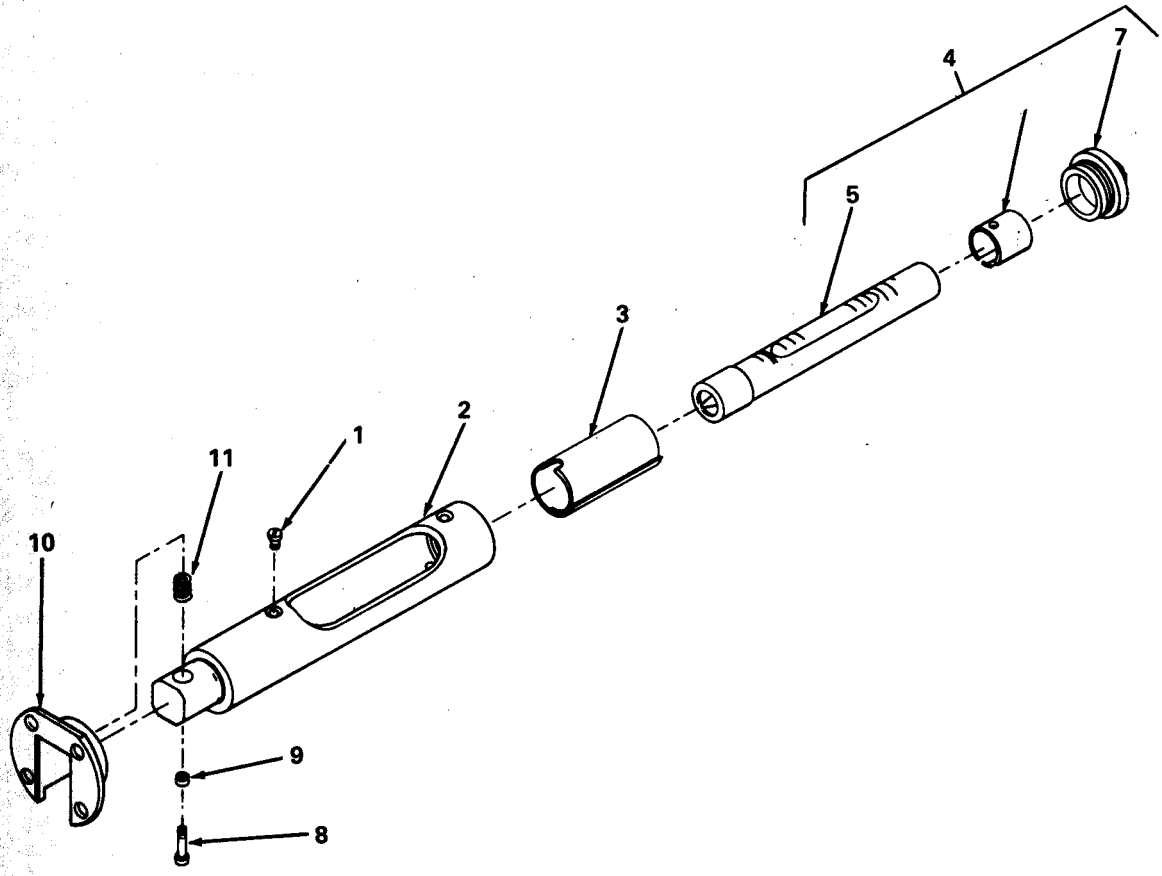


Figure E2. Level assembly, model 242406

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E2	1	XBHZZ		WN21-570-21-2X3-2	89905	..SCREW,MACHINE	CCQ	EA	2
E2	2	XBHZZ		T16-16016	89905	..HOUSING	CCQ	EA	1
E2	3	XBHZZ		T1A05060	89905	..COVER,PLASTIC	CCQ	EA	1
E2	4	XBHZZ		GZM1-04100	89905	..VIAL ASSEMBLY,LEVEL	CCQ	EA	1
E2	5	XAHZZ		GZM1-04010	89905	...VIAL,LEVEL	CCQ	EA	2
E2	6	XAHZZ		T1A05020	89905	..CAP	CCQ	EA	2
E2	7	XBHZZ		T16-16020	89905	...BEARING	CCQ	EA	1
E2	8	XBHZZ		WN21-616-3X15-2	89905	..SCREW,ADJUSTING	CCQ	EA	1
E2	9	XBHZZ		NT1-666	89905	..WASHER	CCQ	EA	1
E2	10	XBHZZ		GZM1-05010	89905	..BRACKET	CCQ	EA	1
E2	11	XBHZZ		T1A14020	89905	..SPRING	CCQ	EA	1

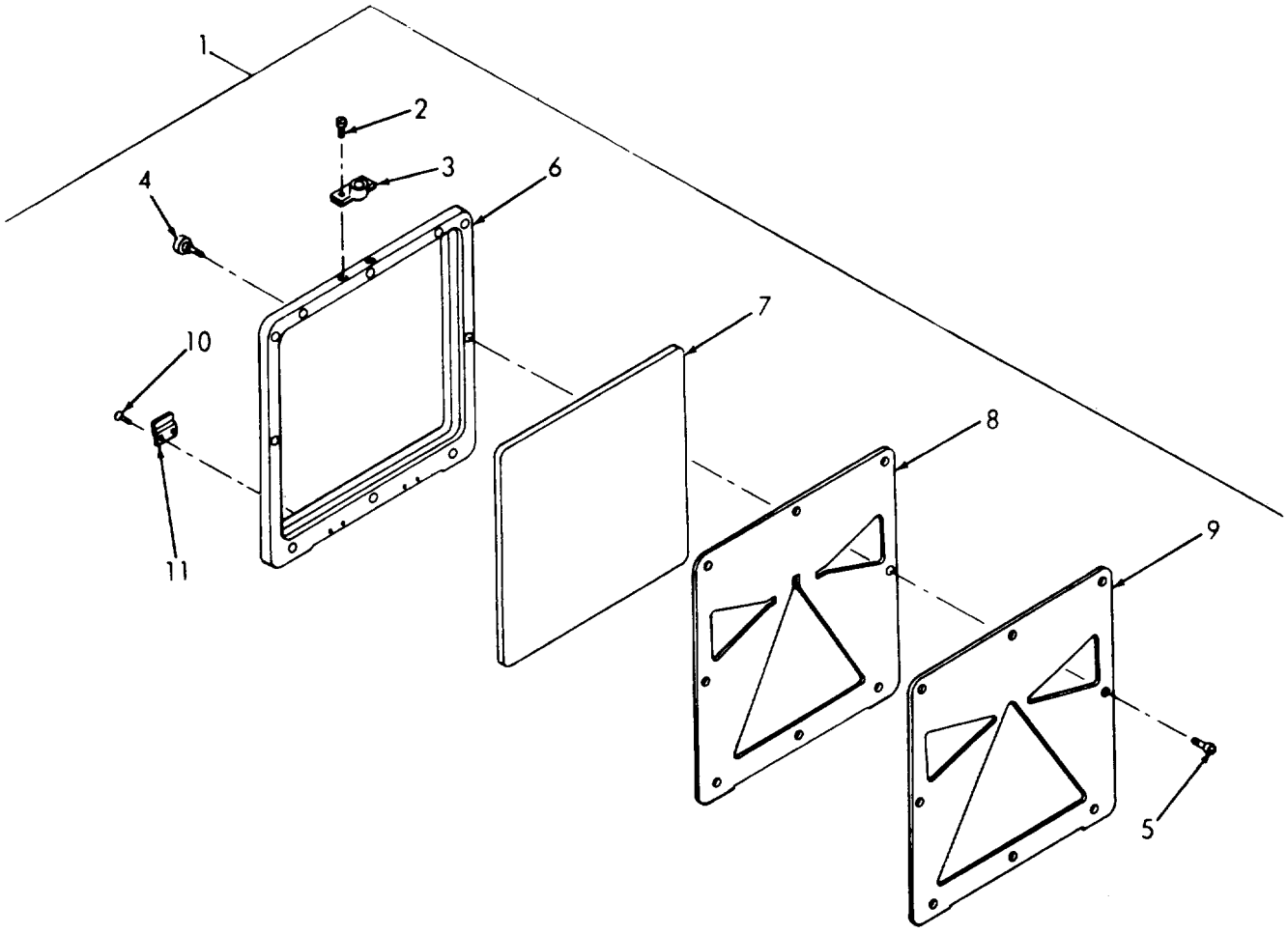


Figure E3. Target frame, model 242406

*U.S. GOVERNMENT PRINTING OFFICE: 1982-564-029/1321

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E3	1	XBHZZ		GZM1-02000	89905	.TARGET FRAME ASSEMBLY	CCQ	EA	1
E3	2	XBHZZ		DIN920-1-7X4	89905	..SCREW,MACHINE	CCQ	EA	2
E3	3	XBHZZ		GZM1-02040	89905	..CENTER	CCQ	EA	1
E3	4	XBHZZ		GZM1-01021	89905	..PIVOT	CCQ	EA	2
E3	5	XBHZZ		WN21-570-27-2X6	89905	..SCREW,MACHINE	CCQ	EA	6
E3	6	XBHZZ		GZM1-01750	89905	..FRAME	CCQ	EA	1
E3	7	XBHZZ		GZM1-02010	89905	..PLATE,GLASS	CCQ	EA	1
E3	8	XBHZZ		GZM1-02020	89905	..MASK	CCQ	EA	1
E3	9	XBHZZ		GZM1-02030	89905	..PLATE,COVER	CCQ	EA	1
E3	10	XBHZZ		WN21-630-23-2X4-5	89905	..SCREW,MACHINE	CCQ	EA	4
E3	11	XBHZZ		GZM1-01-30	89905	..BRACE	CCQ	EA	2

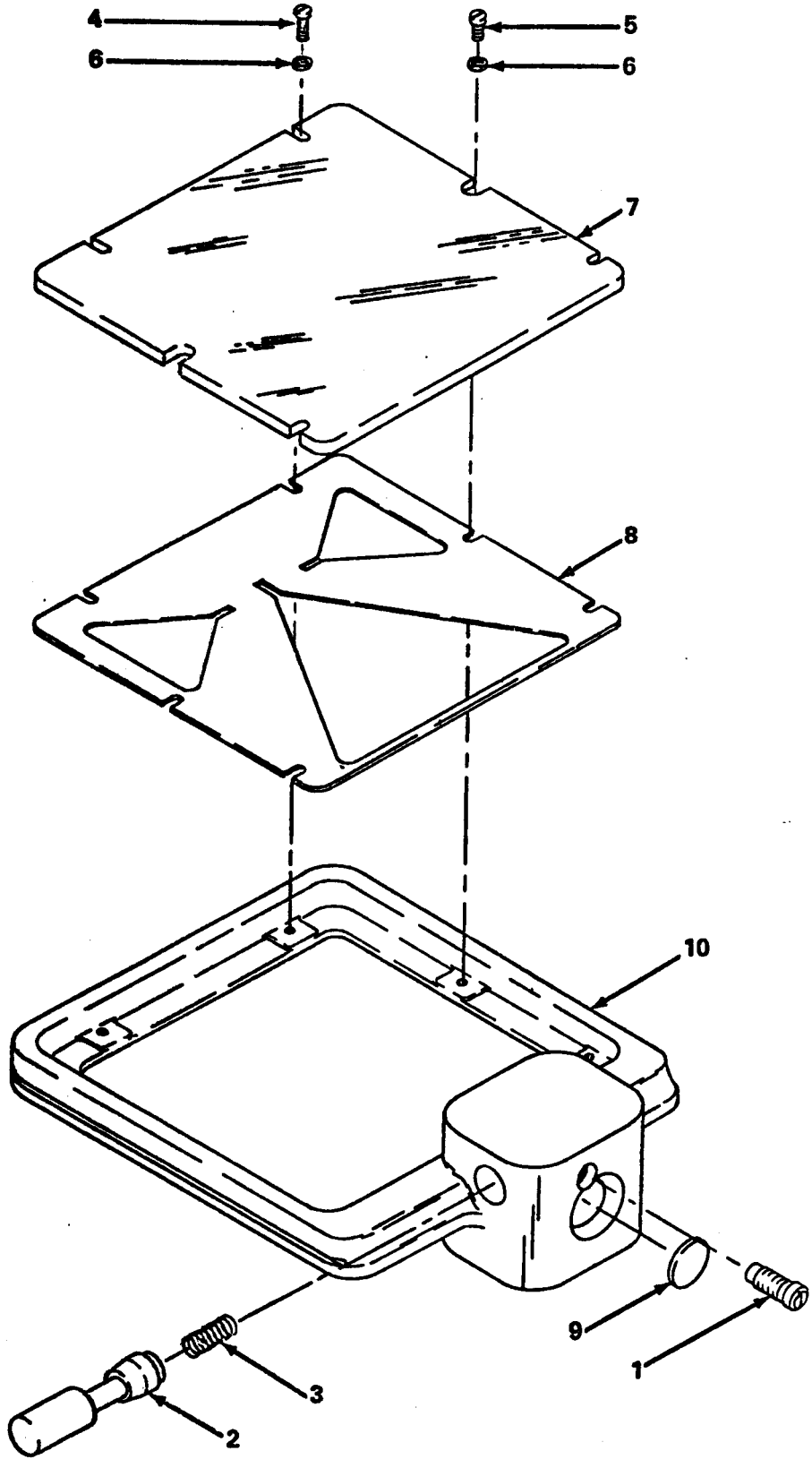


Figure E4. Target plate, model USATS-79

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E4		XBOOZ		367555	89905	PLATE,TARGET	DGF	EA	1
E4	1	XBOZZ		377734	89905	.SCREW	DGF	EA	1
E4	2	XBOZZ		377735	89905	.PLUNGER	DGF	EA	1
E4	3	XBOZZ		131683	89905	.SPRING	DGF	EA	1
E4	4	XBOZZ		296944	89905	.SCREW,MACHINE	DGF	EA	4
E4	5	XBOZZ		323091	89905	.SCREW,MACHINE	DGF	EA	2
E4	6	XBOZZ		224971	89905	.WASHER	DGF	EA	6
E4	7	XBOZZ		358857	89905	.PLATE,COVER	DGF	EA	1
E4	8	XBOZZ		358856	89905	.MASK	DGF	EA	1
E4	9	XBOZZ		252806	89905	.PLATE,STOP	DGF	EA	1
E4	10	XBHZZ		358855	89905	.FRAME,TARGET	DGF	EA	1

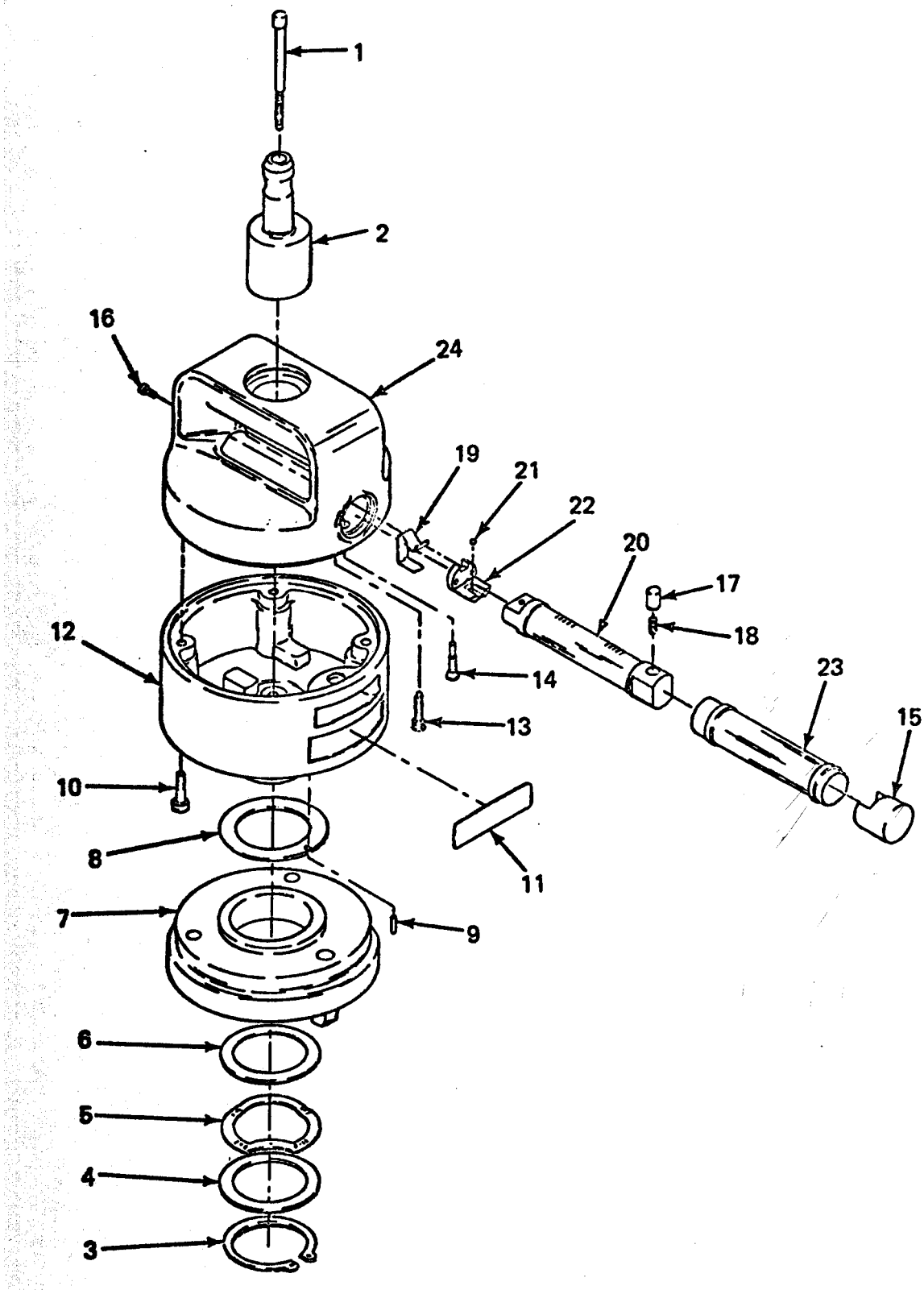


Figure E5. Target plate carrier, model USATS-79

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E5		XBHHH		319350	89905	CARRIER, TG PLATE	DGF	EA	1
E5	1	XBHZZ		361187	89905	.SCREW,MACHINE	DGF	EA	1
E5	2	XBHZZ		358853	89905	.PIN	DGF	EA	1
E5	3	XBHZZ		247370	89905	.RING,SNAP	DGF	EA	1
E5	4	XBHZZ		272014	89905	.WASHER	DGF	EA	1
E5	5	XBHZZ		271947	89905	.WASHER,SPRING	DGF	EA	1
E5	6	XBHZZ		272012	89905	.WASHER	DGF	EA	1
E5	7	XBHZZ		319351	89905	.FLANGE,CENTERING	DGF	EA	1
E5	8	XBHZZ		377763	89905	.WASHER	DGF	EA	1
E5	9	XBHZZ		356461	89905	.PIN	DGF	EA	1
E5	10	XBHZZ		175356	89905	.SCREW,MACHINE	DGF	EA	4
E5	11	XBHZZ		208754	89905	.PLATE,NAME	DGF	EA	1
E5	12	XBHZZ		319342	89905	.HOUSING,CARRIER	DGF	EA	1
E5	13	XBHZZ		358844	89905	.SCREW,ADJUSTING	DGF	EA	1
E5	14	XBHZZ		183631	89905	.SCREW,MACHINE	DGF	EA	1
E5	15	XBHZZ		319346	89905	.FLANGE,ADJUSTING	DGF	EA	1
E5	16	XBHZZ		362481	89905	.SCREW,MACHINE	DGF	EA	2
E5	17	XBHZZ		130286	89905	.HOUSING,SPRING	DGF	EA	1
E5	18	XBHZZ		130287	89905	.SPRING	DGF	EA	1
E5	19	XBHZZ		353070	89905	.SPRING	DGF	EA	1
E5	20	PAHZZ		358845	89905	.LEVEL,TUBULAR	DGF	EA	1
E5	21	XBHZZ		166952	89905	.BALL,4MM	DGF	EA	1
E5	22	XBHZZ		353067	89905	.FLANGE,LEVEL	DGF	EA	1
E5	23	XBHZZ		353065	89905	.TUBE,PLASTIC	DGF	EA	1
E5	24	XBHZZ		319345	89905	.HOUSING,LEVEL	DGF	EA	1

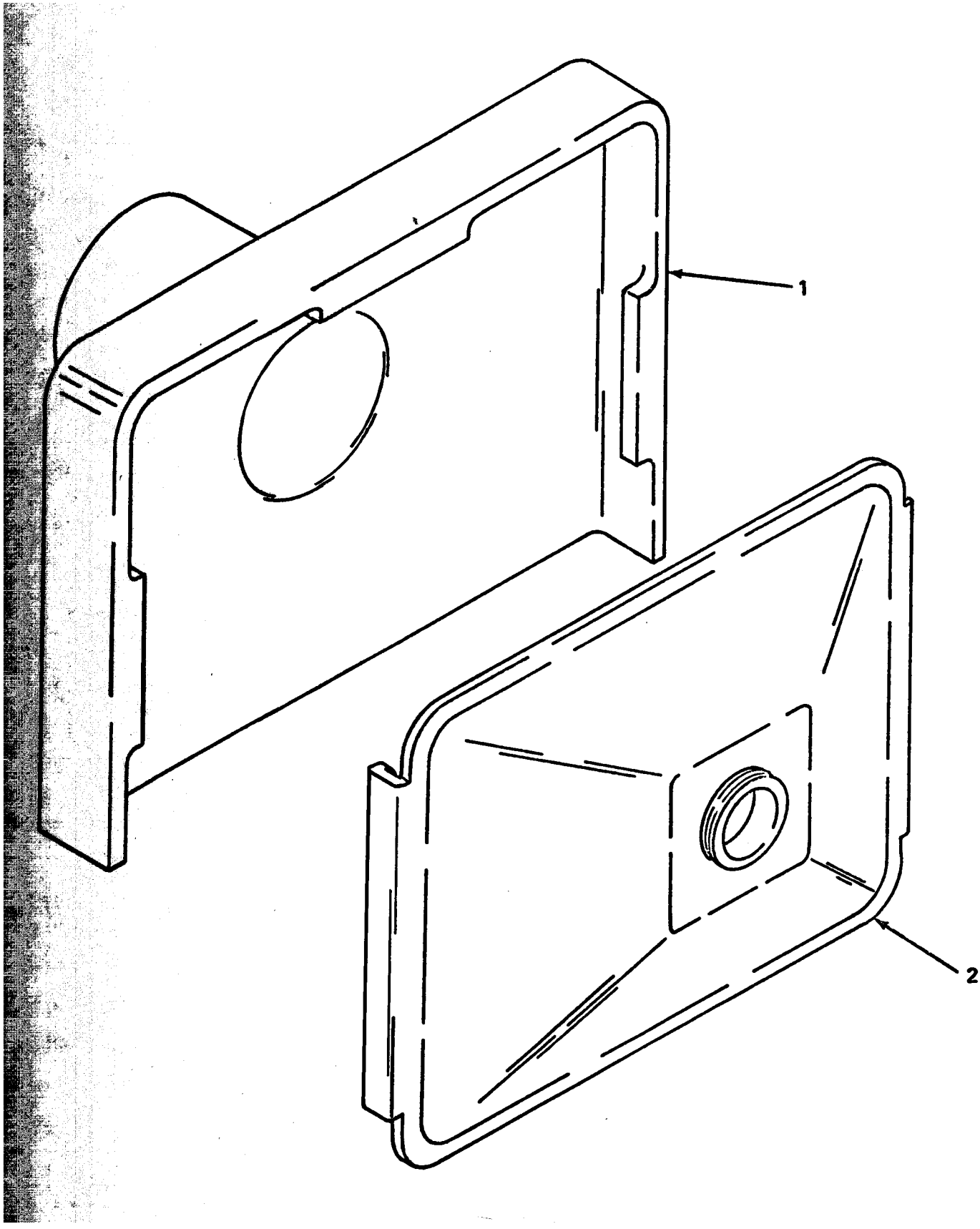


Figure E6. Lighthood and reflector, model USATS-79

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E6	1	PAOZZ	6675-01-169-0859	10394848	18876	HOOD,LIT CONCEALING	DGF	EA	1
E6	2	XBOZZ		368435	89905	REFLECTOR	DGF	EA	1

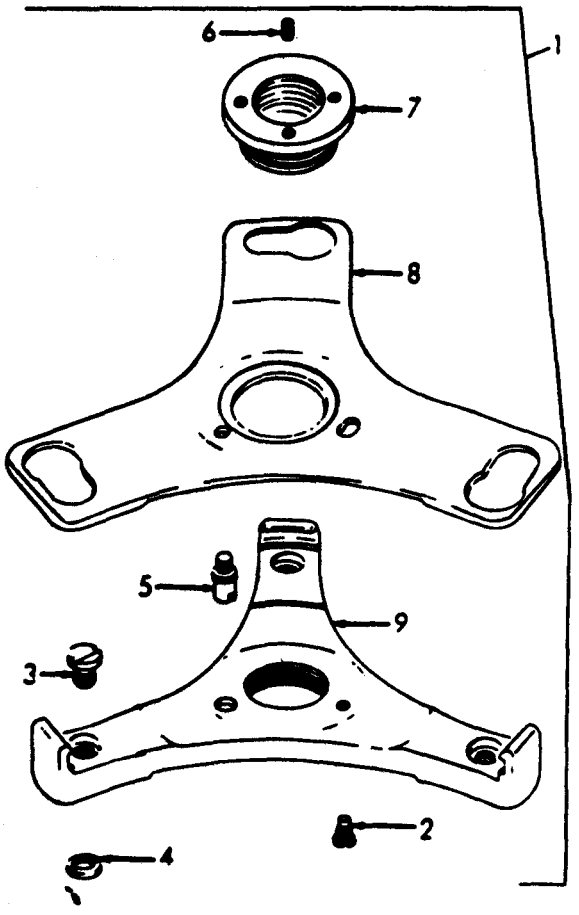


Figure E7. Baseplate-GDF2

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 02 - TRIBRACH ASSEMBLY			
E7		XBDZZ		GDF2-000-000-68	89905	TRIBACH ASSEMBLY	CCQ	EA	1
E7	1	XBDZZ		T21-480000-68	89905	.BASE PLATE ASSEMBLY	CCQ	EA	1
E7	2	XBDZZ		WN21-155-10-4X3 X3	89905	..SCREW	CCQ	EA	1
E7	3	PADZZ	6675-00-378-9440	NT3-323	89905	..PAD,LEVELING,SCREW	CCQ	EA	3
E7	4	XBDZZ	5310-00-378-9441	NT3-324	89905	..NUT,LOCK	CCQ	EA	3
E7	5	PADZZ	5305-00-353-4088	NT2-154	89905	..SCREW,LOCK	CCQ	EA	1
E7	6	XBDZZ		DIN553-2X6	89905	..SETSCREW	CCQ	EA	1
E7	7	XBDZZ		T21-241	89905	..NUT,CENTER	CCQ	EA	1
E7	8	XBDZZ		NT2-152	89905	..PLATE,SPRING	CCQ	EA	1
E7	9	XBDZZ		NT2-1518	89905	..PLATE,BASE	CCQ	EA	1

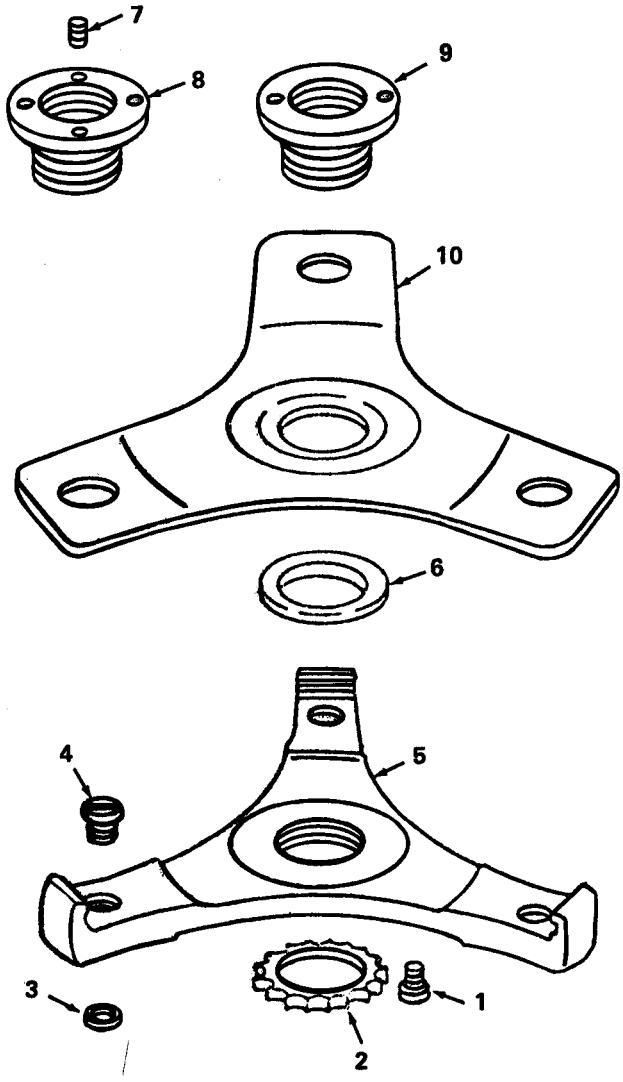


Figure E8. Baseplate-GDF6

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E8		XBDDZ		314519	89905	TRIBACH	CCQ	EA	1
E8		XBODD		319606	89905	TRIBACH GDF-6	DGF	EA	1
E8	1	XBDZZ		162567	89905	.SCREW,MACHINE		EA	1
E8	2	XBFZZ		356048	89905	.RING,LOCK		EA	1
E8	3	XBDZZ		130378	89905	.NUT,LOCK		EA	3
E8	4	XBDZZ		130373	89905	.PAD,LEVELING,SCREW	CCQ	EA	3
E8	5	XBDZZ		314514	89905	.PLATE ASSEMBLY,BASE	CCQ	EA	1
E8	5	XBDZZ		335524	89904	.PLATE,BASE	DGF	EA	1
E8	6	XBDZZ		135901	89905	.NUT,LOCK		EA	1
E8	7	XBDZZ		163809	89905	.SETSCREW	CCQ	EA	1
E8	8	XBDZZ		312964	89905	.NUT,CARRIER	CCQ	EA	1
E8	9	XBDZZ		153329	89905	.NUT,CENTER	DGF	EA	1
E8	10	XBDZZ		314522	89905	.PLATE,SPRING		EA	1

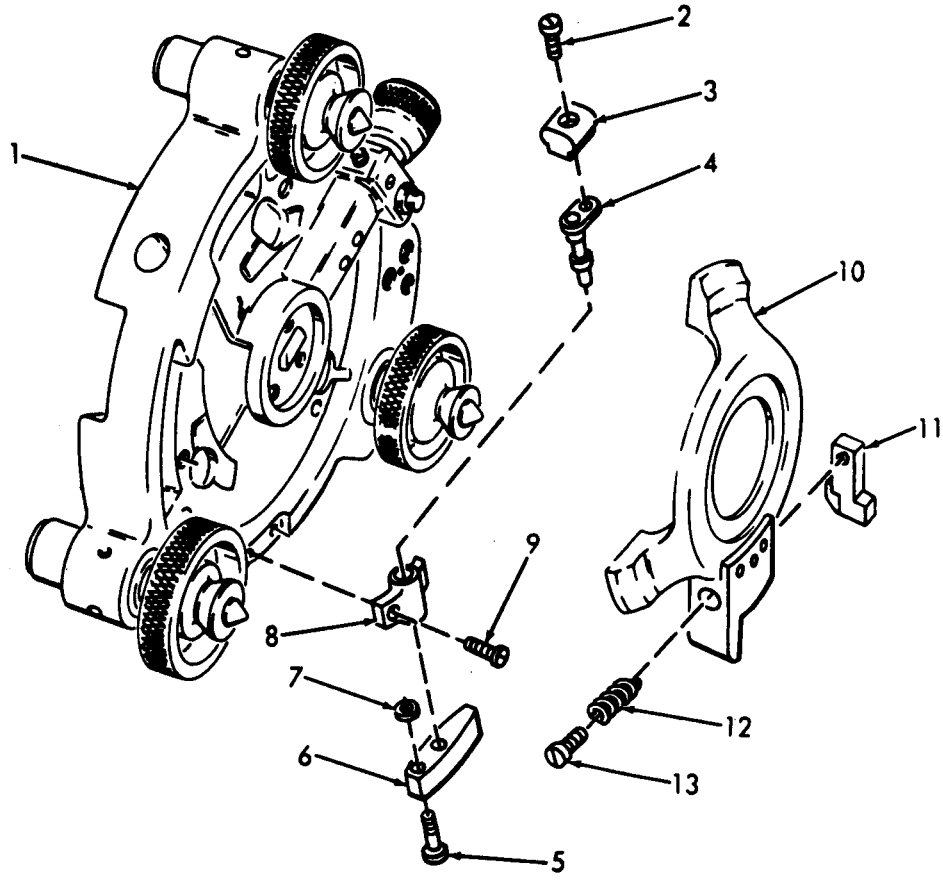


Figure E9. Locking plate and lock knob -GDF2

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E9		XBDZZ		XT21-103-68	89905	.TRIBACH SUBASSEMBLY	CCQ	EA	1
E9	1	XBDZZ		GDF2-003-100	89905	..BASE,CASTING	CCQ	EA	1
E9		XBDZZ		GDF2-002-000-68	89905	..LOCKING LEVER	CCQ	EA	1
E9	2	XADZZ		WN21-561-4-3-5X 4-5	89905	...SCREW,MACHINE	CCQ	EA	1
E9	3	XADZZ		GDF1-002-040	89905	...CLAMP,CHUCK	CCQ	EA	1
E9	4	XADZZ		GDF2-002-020	89905	...LEVER,LOCKING	CCQ	EA	1
E9	5	XADZZ		DIN920-3X7	89905	...SCREW,MACHINE	CCQ	EA	1
E9	6	XBDZZ		GDF1-002-030	89905	...KNOB,LOCK	CCQ	EA	1
E9	7	XADZZ		GDF1-002-050	89905	...NUT	CCQ	EA	1
E9	8	XADZZ		GDF2-002-010	89905	...BEARING	CCQ	EA	1
E9	9	XBDZZ		WN21-550-66-2-6X 7-3	89905	..SCREW,MACHINE	CCQ	EA	1
E9		XBDZZ		GDF2-001-000	89905	..PLATE ASSEMBLY	CCQ	EA	1
E9	10	XBDZZ		GDF2-001-100	89905	...PLATE,LOCK	CCQ	EA	1
E9	11	XADZZ		GDF2-001-030	89905	...STOP	CCQ	EA	1
E9	12	XBDZZ		GDF1-001-040	89905	...SPRING	CCQ	EA	1
E9	13	XADZZ		WN21-561-8-4X 9-5	89905	...SCREW,MACHINE	CCQ	EA	1

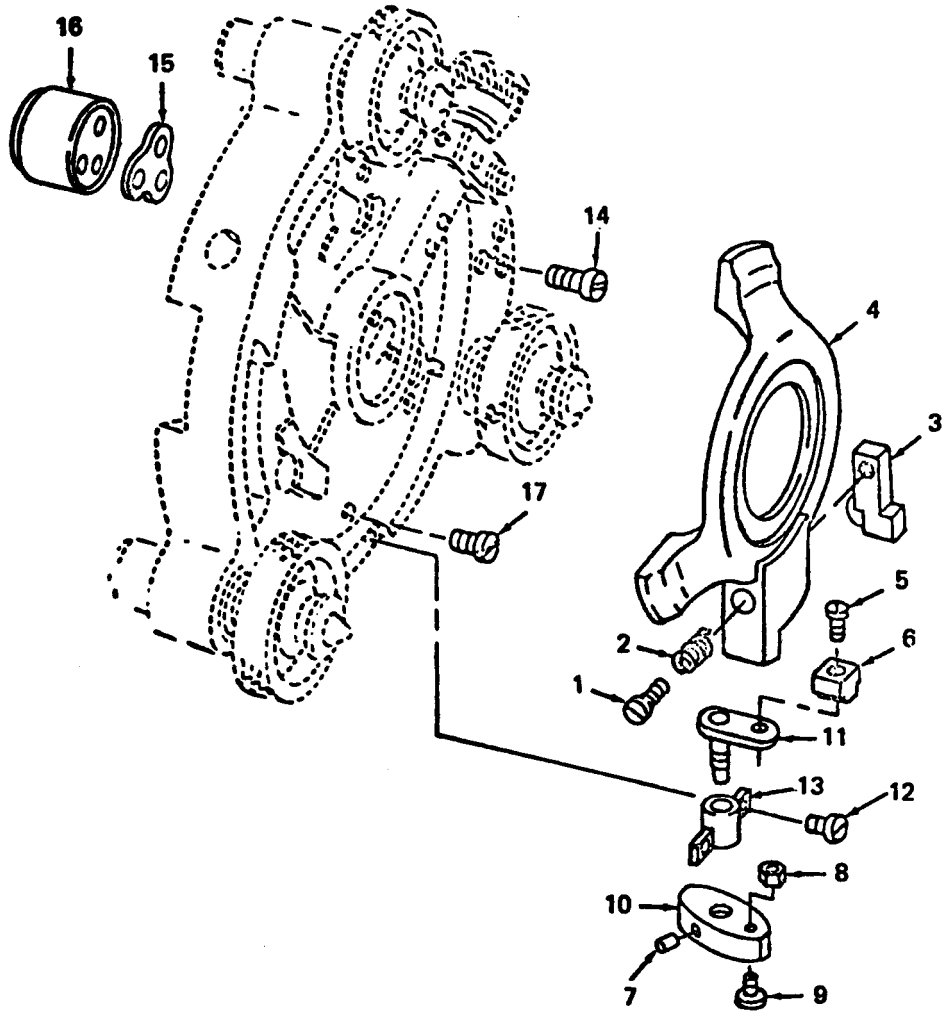


Figure E10. Locking plate and lock knob -GDF6

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E10	1	XBFZZ		161784	89905	..SCREW,MACHINE	CCQ	EA	1
E10	2	XBFZZ		234075	89905	..SPRING	CCQ	EA	1
E10	3	XAFZZ		153317	89905	..STOP		EA	1
E10	4	XAFZZ		153333	89905	..PLATE,LOCK		EA	1
E10	5	XBFZZ		161780	89905	..SCREW,MACHINE		EA	1
E10	6	XAFZZ		278150	89905	..CHUCK,CLAMP		EA	1
E10	7	XBFZZ		162437	89905	..PIN		EA	1
E10	8	XBFZZ		252888	89905	..NUT		EA	1
E10	9	XBFZZ		161034	89905	..SCREW,MACHINE		EA	1
E10	10	XBFZZ		149679	89905	..KNOB,LOCK		EA	1
E10	11	XAFZZ		153319	89905	..LEVER,LOCKING		EA	1
E10	12	XBFZZ		170908	89905	..SCREW,LOCK		EA	2
E10	13	XAFZZ		314529	89905	..BEARING		EA	1
E10	14	XBFZZ		162681	89905	..SCREW,MACHINE		EA	3
E10	15	XBFZZ		135959	89905	..WASHER,SPRING		EA	1
E10	16	XBFZZ		335104	89905	..VIAL,LEVEL,CIRCULAR		EA	1
E10	17	XBFZZ		171274	89905	..SCREW,MACHINE		EA	1

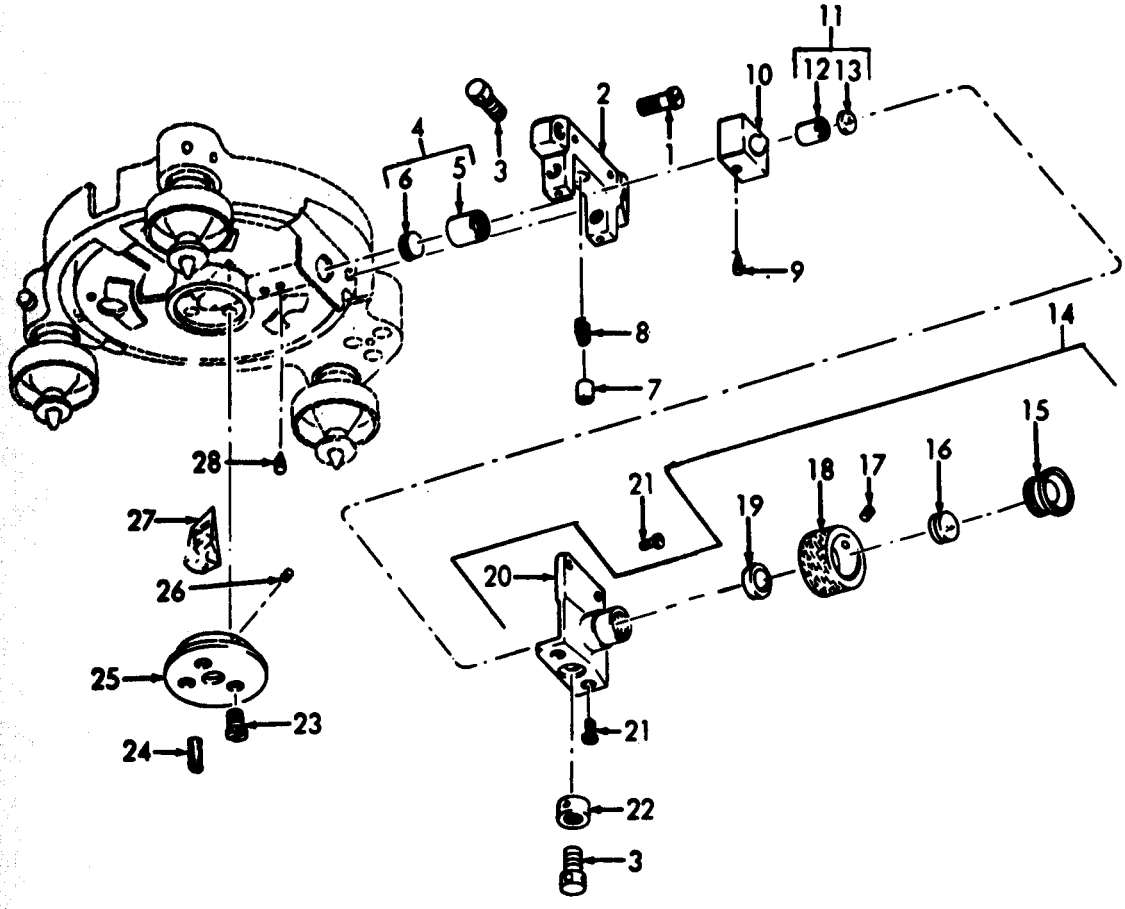


Figure E11. Tribrach optical components-GDF2

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E11	1	XBDZZ		DIN85-2-6X6	89905	..SCREW	CCQ	EA	3
E11	2	XBDZZ		T21-43	89905	..HOUSING,SPRING	CCQ	EA	1
E11	3	XBDZZ		WN21-601-9-4X0-35X8	89905	..SCREW,ADJUSTING	CCQ	EA	3
E11	4	XBDZZ		T21-37000	89905	..OBJECTIVE ASSEMBLY	CCQ	EA	1
E11	5	XBDZZ	6675-00-378-9466	T2-453A	89905	..HOUSING,OBJECTIVE	CCQ	EA	1
E11	6	XADZZ		T2-421F	89905	..LENS ASSEMBLY	CCQ	EA	1
E11	7	XBDZZ	6675-00-378-9475	T2-468	89905	..SLEEVE,SPRING	CCQ	EA	1
E11	8	XBDZZ	6675-00-378-9473	T2-464	89905	..SPRING	CCQ	EA	1
E11	9	XBDZZ		WN21-500-3-1-7X1-5	89905	..SETSCREW	CCQ	EA	1
E11	10	XBDZZ		T21-46	89905	..SLEEVE,RETICLE	CCQ	EA	1
E11	11	XBDZZ		T21-38000-68	89905	..RETICLE ASSEMBLY	CCQ	EA	1
E11	12	XADZZ		T21-47	89905	..HOUSING,RETICLE	CCQ	EA	1
E11	13	XADZZ		15270-13	89905	..RETICLE	CCQ	EA	1
E11	14	XBDZZ		T21-39001-68	89905	..EYEPIECE ASSEMBLY	CCQ	EA	1
E11		XBDZZ		T21-40A	89905	..HOUSING,LENS	CCQ	EA	1
E11	15	XADZZ		T21-39A	89905	..LOCKNUT	CCQ	EA	1
E11	16	XBDZZ		T21-23F	89905	..LENS ASSEMBLY	CCQ	EA	1
E11	17	XBDZZ		DIN553-1-7X3	89905	..SETSCREW	CCQ	EA	1
E11	18	XBDZZ		T21-49A	89905	..COLLAR,MILLED	CCQ	EA	1
E11	19	XBDZZ		T21-48A	89905	..COLLAR,STOP	CCQ	EA	1
E11	20	XADZZ		T21-44A	89905	..MOUNT,EYEPIECE	CCQ	EA	1
E11	21	XBDZZ		DIN85-2X5	89905	..SCREW,MACHINE	CCQ	EA	4
E11	22	XBDZZ	5310-00-378-9474	72-467A	89905	..NUT,LOCK	CCQ	EA	1
E11	23	XBDZZ		DIN85-2-6X6	89905	..SCREW,MACHINE	CCQ	EA	3
E11	24	XBDZZ		WN21-500-9-2X1-5	89905	..SCREW,MACHINE	CCQ	EA	1
E11	25	XBDZZ		GDF2-003-020	89905	..HOUSING,PRISM	CCQ	EA	1
E11	26	XBDZZ	6675-00-862-2584	DIN551-2X4	89905	..SETSCREW	CCQ	EA	1
E11	27	XBDZZ		T21-41	89905	..PRISM	CCQ	EA	1
E11	28	XBDZZ	5305-00-378-9538	DIN553-2X2	89905	..SETSCREW	CCQ	EA	1

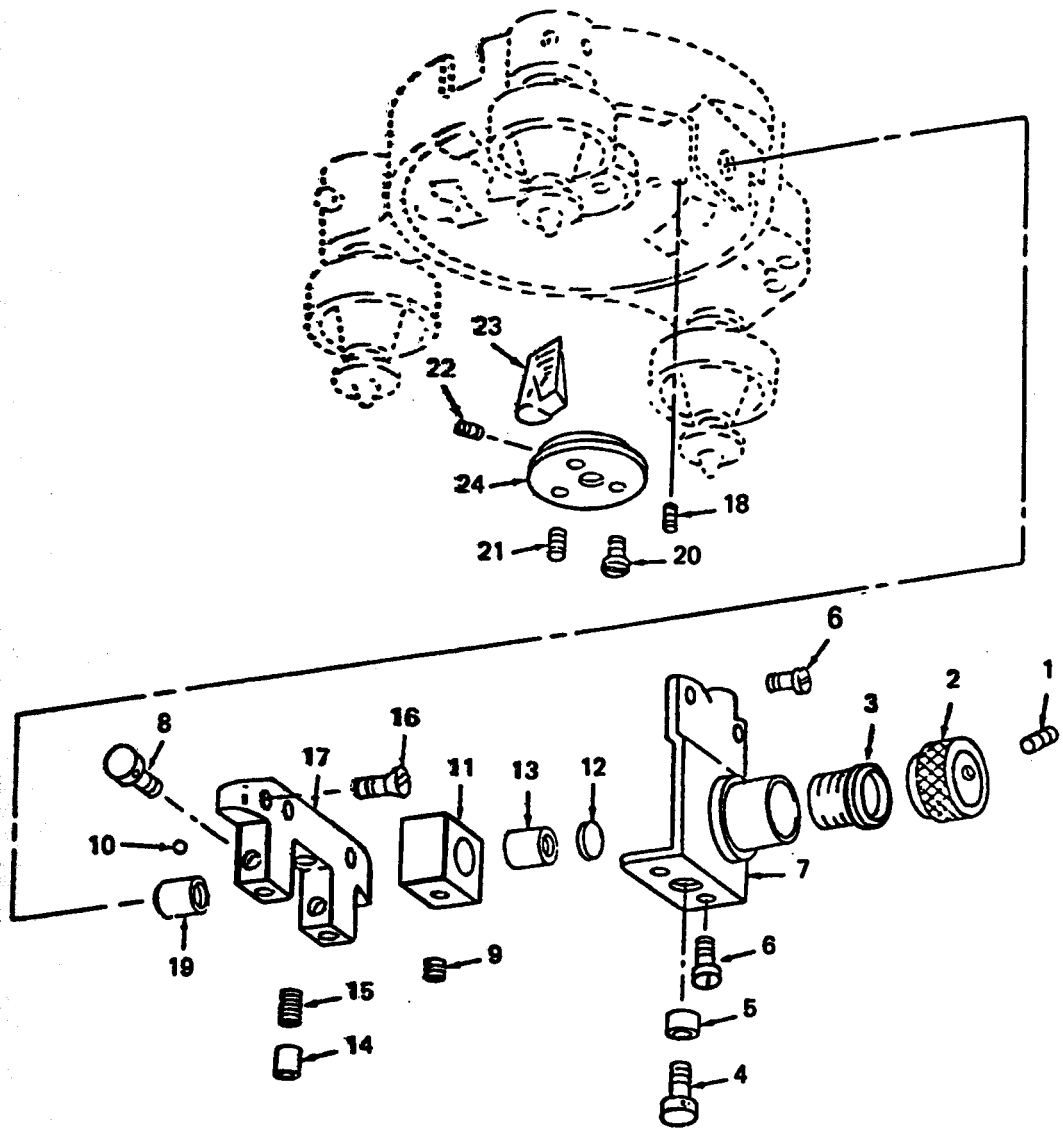


Figure E12. Tribrach optical components-GDF6

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E12	1	XBDZZ		163790	89905	..SETSCREW	CCQ	EA	3
E12	1	XBDZZ		163788	89905	..SCREW,EYEPIECE	DGF	EA	3
E12	2	XBDZZ		171924	89905	..RING,KNURLED		EA	1
E12	3	XBDZZ		214254	89905	..EYEPIECE		EA	1
E12	4	XBDZZ		162368	89905	..SCREW,ADJUSTING		EA	1
E12	5	XBDZZ		136145	89905	..NUT,CHECK,OPTICAL		EA	1
E12	6	XBDZZ		162882	89905	..SCREW,MACHINE		EA	4
E12	7	XBDZZ		314520	89905	..MOUNT,EYEPIECE		EA	1
E12	8	XBDZZ		162368	89905	..SCREW,ADJUSTING		EA	2
E12	9	XBDZZ		170554	89905	..SETSCREW		EA	1
E12	10	XBDZZ		315061	89905	..BALL	DGF	EA	2
E12	11	XBDZZ		107304	89905	..BLOCK,ADJUSTING		EA	1
E12	12	XBDZZ		114571	89905	..RETICLE,OPT	CCQ	EA	1
E12	12	XBDZZ		243023	89905	..RETICLE,OPT PLM	DGF	EA	1
E12	13	XBDZZ		107305	89905	..MOUNT,RETICLE		EA	1
E12	14	XBDZZ		136146	89905	..HOUSING,SPRING		EA	1
E12	15	XBDZZ		136144	89905	..SPRING		EA	1
E12	16	XBDZZ		162092	89905	..SCREW,MACHINE		EA	2
E12	17	XBDZZ		314521	89905	..FLANGE		EA	1
E12	18	XBDZZ		163807	89905	..SCREW,HORIZONTAL		EA	1
E12	19	XBDZZ		316114	89905	..OBJECTIVE ASSEMBLY	CCQ	EA	1
E12	19	XBDZZ		184093	89905	..OBJECTIVE ASSEMBLY	DGF	EA	1
E12	20	XBDZZ		162913	89905	..SCREW,MACHINE		EA	3
E12	21	XBDZZ		175232	89905	..SETSCREW		EA	1
E12	22	XBDZZ		163660	89905	..SCREW HOUSING		EA	1
E12	23	XBDZZ		107300	89905	..PRISM,OPT PLM		EA	1
E12	24	XBDZZ		314528	89905	..MOUNT,PRISM		EA	1

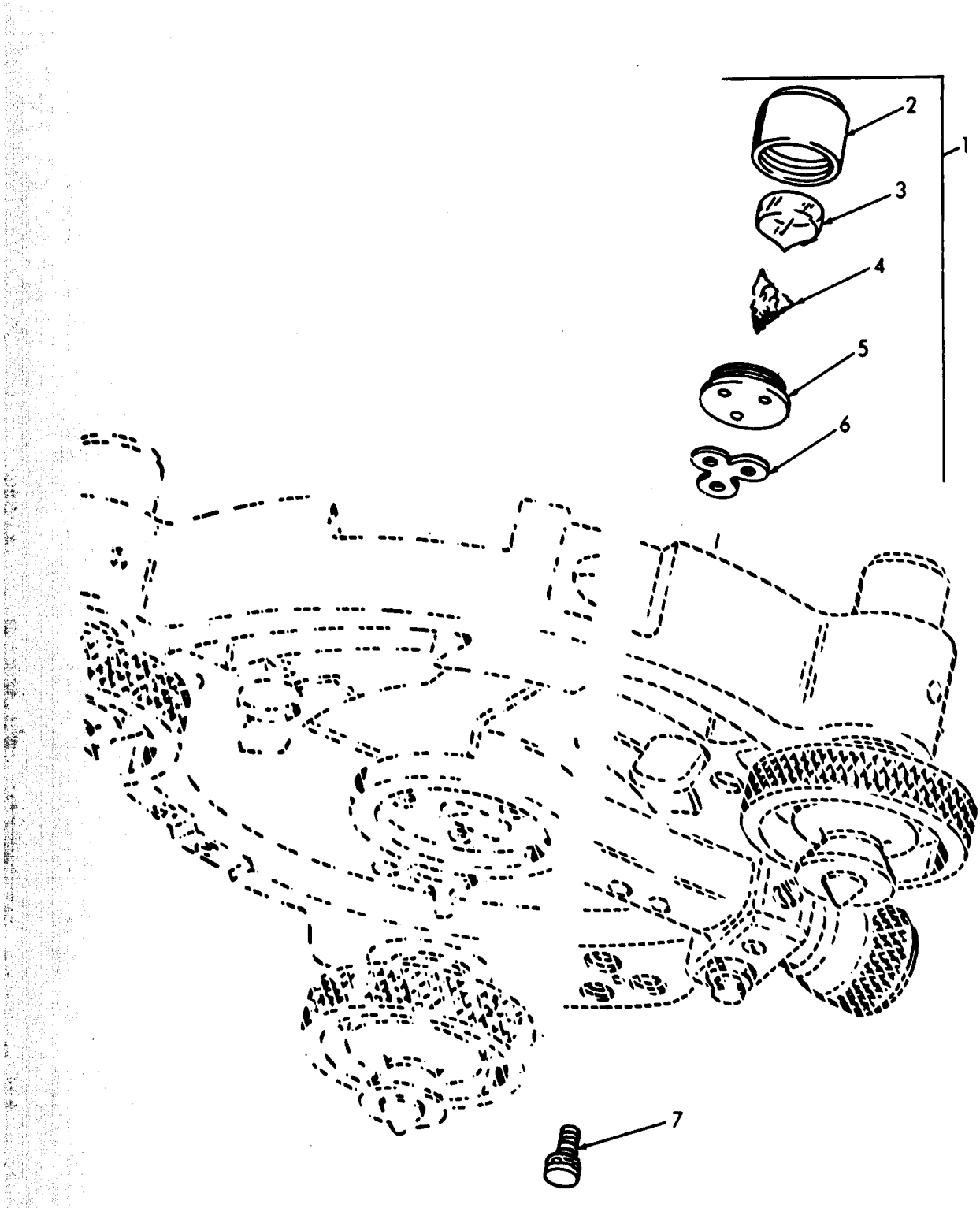


Figure E13. Level, circular, model 242406

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E13	1	PAHZZ	6675-00-127-2856	NK01-05001-T2-68	89905	..LEVEL ASSEMBLY,CIRCULAR	CCQ	EA	1
E13	2	XAHZZ		NK01-05020	89905	...HOUSING,LEVEL	CCQ	EA	1
E13	3	XAHZZ		T21-232A	89905	...VIAL	CCQ	EA	1
E13	4	XAHZZ	5610-00-161-2672	SSP00402	89905	...PLASTER GYPSUM	CCQ	EA	1
E13	5	XAHZZ		NK01-05010	89905	...BASE,LEVEL	CCQ	EA	1
E13	6	XAHZZ		T1A39070	89905	...WASHER,SPRING	CCQ	EA	1
E13	7	XAHZZ		DIN84-3X7	89905	...SCREW,MACHINE	CCQ	EA	1

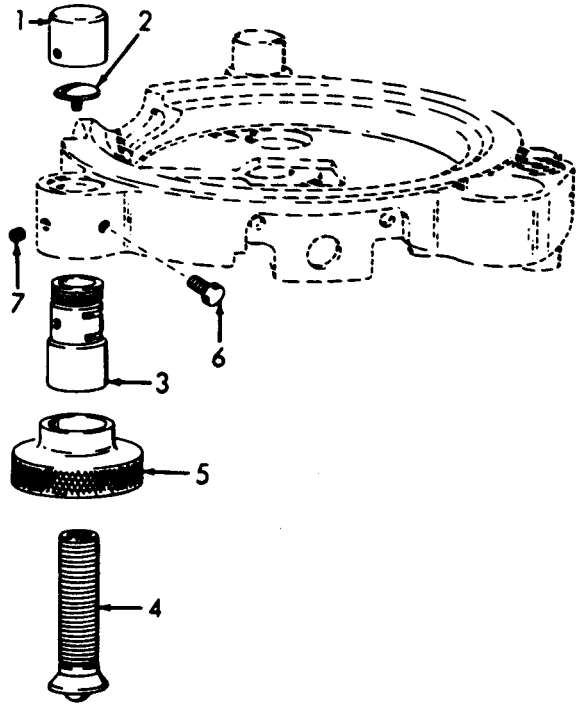


Figure E14. Footscrew, leveling-GDF2

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E14		PADZZ	5305-00-126-5372	T21-47000-68	89905	..SCREW ASSEMBLY	CCQ	EA	3
E14	1	XBDZZ		T1A39080	89905	...COVER,DUST	CCQ	EA	3
E14		XADZZ		T1A27200	89905	...SCREW,LEVELING	CCQ	EA	3
E14	2	XADZZ		WN21-570-46-3LX5	89905	....SCREW,STOP	CCQ	EA	3
E14	3	XADZZ		T1A27030	89905	....NUT,ADJUSTABLE	CCQ	EA	3
E14	4	XADZZ		T1A271000	89905	....SCREW	CCQ	EA	3
E14	5	XADZZ		NA2-02030	89905	...KNOB,MILLED	CCQ	EA	3
E14	6	XBDZZ		WN21-600-10-3X5	89905	..SCREW,ADJUSTING	CCQ	EA	3
E14	7	XBDZZ		DIN553-3X4	89905	..SETSCREW	CCQ	EA	3

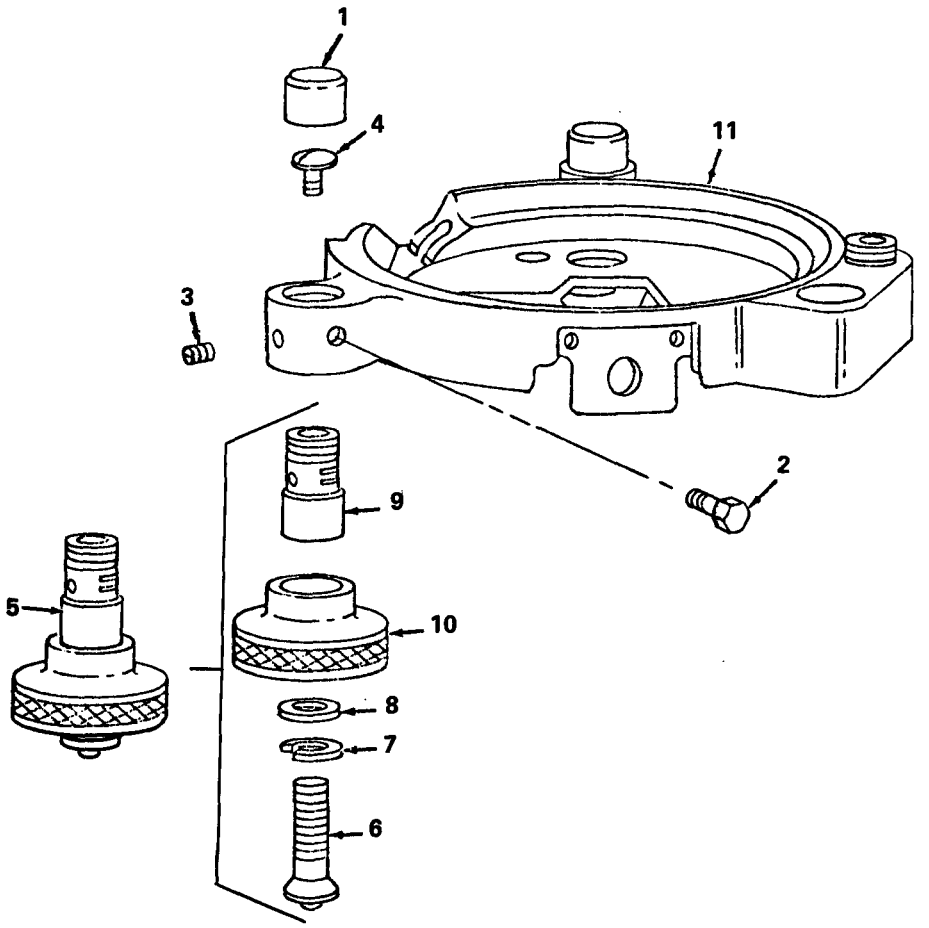


Figure E16. Footscrew and tribrach -GDF6

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E15	1	XBDZZ		135960	89905	.CAP		EA	3
E15	2	XBFZZ		162254	89905	.SCREW,ADJUSTING	CCQ	EA	3
E15	2	XBDZZ		162253	89905	.SCREW,ADJUSTING	DGF	EA	3
E15	3	XBFZZ		314526	89905	.SCREW,LEVELING	CCQ	EA	3
E15	3	XBDZZ		163856	89905	.SETSCREW	DGF	EA	3
E15	4	XBFZZ		161975	89905	.SCREW,STOP		EA	3
E15	5	XBDZZ		326265	89905	.FOOTSCREW ASSEMBLY	DGF	EA	3
E15	5	XBFZZ		314515	89905	.FOOTSCREW ASSEMBLY	CCQ	EA	3
E15	6	XDFZZ		215825	89905	..SCREW,MACHINE	CCQ	EA	1
E15	7	XBFZZ		215824	89905	..WASHER	CCQ	EA	1
E15	8	XBFZZ		215823	89905	..WASHER	CCQ	EA	1
E15	9	XBFZZ		311133	89905	..NUT,ADJUSTABLE	CCQ	EA	1
E15	10	XBFZZ		129831	89905	..KNOB,MILLED	CCQ	EA	1
E15	11	XBODD		314527	89905	.TRIBRACH		EA	1

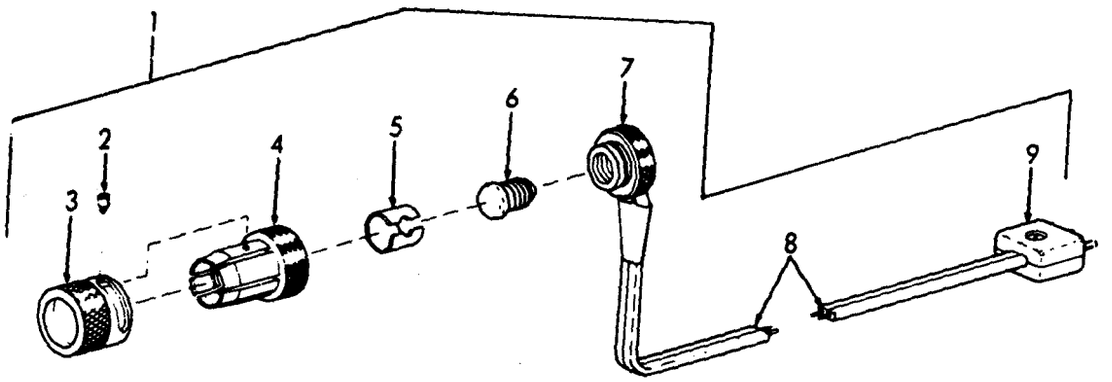


Figure E16. Adapter, eyepiece

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
						GROUP 03 - BATTERY BOX ASSEMBLY			
E16	1	XBOFF	6675-00-961-9686	10102202	09786	ADAPTER ASSEMBLY, EYEPIECE		EA	1
E16	2	XBFZZ		10102206	09786	.SCREW,CAP		EA	1
E16	3	XBFZZ		10102203	09783	.SLEEVE		EA	1
E16	4	XBFZZ		10102204	09786	.CONNECTOR		EA	1
E16	5	XBFZZ	1440-00-077-8703	10102205	09786	.RING		EA	1
E16	6	PAOZZ	6240-00-120-0140	HEG3-2	89905	.LAMP,INCANDESCENT		EA	1
E16	6	PAFZZ	6240-00-269-0929	MS15611-5	96906	.LAMP,INCANDESCENT	CCQ	EA	1
E16	7	XBFZZ		10010896	09786	.SOCKET ASSEMBLY	DGF	EA	1
E16	8	XBFZZ	6150-00-127-2861	10194010	09786	.CABLE		EA	1
E16	9	XBOZZ		GEB5-000-000	89905	.CONNECTOR, PLUG, ELECTRIC	CCQ	EA	1
E16	9	XBFZZ		193179	89905	.PLUG,MALE	DGF	EA	1

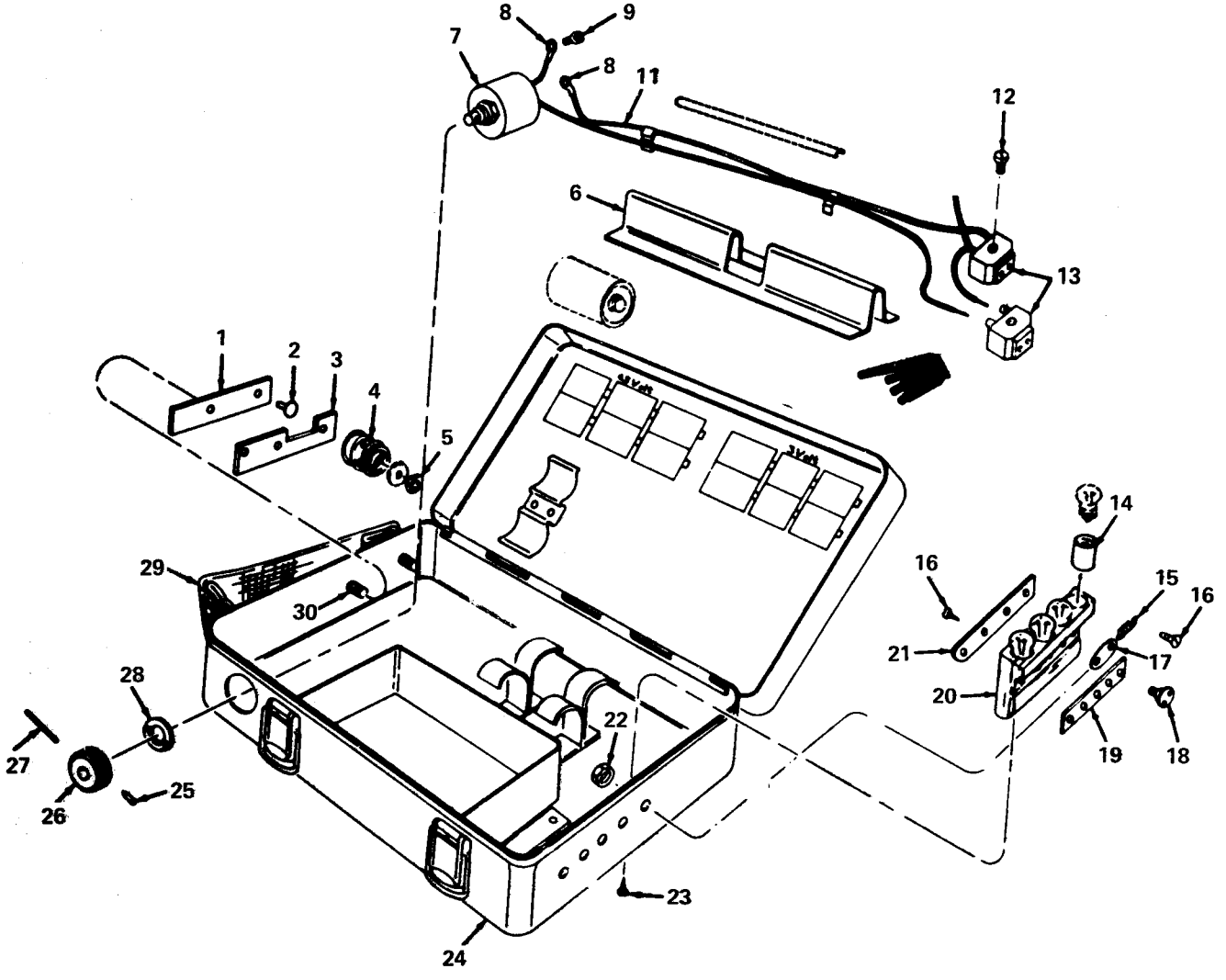


Figure E17. Box, battery, model 242406

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E17		XBOZZ	6675-00-490-9376	GE88-000-000-66	89905	BOX ASSEMBLY	CCQ	EA	1
E17	1	XBFZZ		EB306A	89905	.PLATE,INSULATION	CCQ	EA	1
E17	2	XBFZZ		DIN660-3X5	89905	.RIVET	CCQ	EA	2
E17	3			EB307A	89905	.PLATE,CONTACT	CCQ	EA	1
E17	4	XBFZZ		M225-0215	89905	.SPRING,CONTACT	CCQ	EA	1
E17	5	XBFZZ		DIN934M3	89905	.NUT	CCQ	EA	2
E17	6	XBFZZ		HEI1-28-11	89905	.TUBE,INSULATION	CCQ	EA	2
E17	7			HEW2-36	89905	.RHEOSTAT	CCQ	EA	1
E17	8	XBFZZ		HEK1-1	89905	.CLIP,CABLE	CCQ	EA	2
E17	9	XBFZZ	5305-00-378-9550	DIN85-2-6X4	89905	.SCREW,MACHINE	CCQ	EA	1
E17	11	XBFZZ		HED1-112-9	89905	.CABLE,ELECTRIC	CCQ	FT	1
E17	12	XBFZZ		WN21-550-2-6X8-8	89905	.SCREW	CCQ	EA	2
E17	13	XBFZZ		GEB9-000-000	89905	.PLUG,ELECTRIC	CCQ	EA	2
E17	14	XBFZZ		G1-199	89905	.SOCKET,LAMP	CCQ	EA	4
E17	15	XBFZZ	6130-00-831-0183	EB315	89905	.SPRING	CCQ	EA	1
E17	16	XBFZZ	6675-00-446-1997	VSM12801-2X7	89905	.SCREW,WOOD	CCQ	EA	3
E17	17	XBFZZ		EB316	89905	.CONTACT	CCQ	EA	1
E17	18	XBFZZ		EB303	89905	.KNOB	CCQ	EA	1
E17	19	XBFZZ		EB302	89905	.PLATE,COVER	CCQ	EA	1
E17	20	XBFZZ		EB311A	89905	.TRUNK,WOOD	CCQ	EA	1
E17	21	XBFZZ		EB3278	89905	.PLATE,CONTACT	CCQ	EA	1
E17	22	XBFZZ		DIN439BM2-6	89905	.NUT	CCQ	EA	1
E17	23	PAFZZ	6675-00-446-1986	VSM12801-2-3X12	89905	.SCREW,WOOD	CCQ	EA	2
E17	24	XAFZZ		EB301D6B	89905	.BOX,BATTERY	CCQ	EA	1
E17	25	XBFZZ		DIN551-3X6	89905	.SETSCREW	CCQ	EA	1
E17	26	XBFZZ		EB310	89905	.KNOB,RHEOSTAT	CCQ	EA	1
E17	27	XBFZZ		WN24-120-1-5X18	89905	.PIN	CCQ	EA	1
E17	28	XBFZZ		EB309	89905	.WASHER	CCQ	EA	1
E17	29	XBFZZ		HDB6-1	89905	.STRAP,HANDLE	CCQ	EA	1
E17	30	XBFZZ		DIN87-3X8	89905	.SCREW	CCQ	EA	2

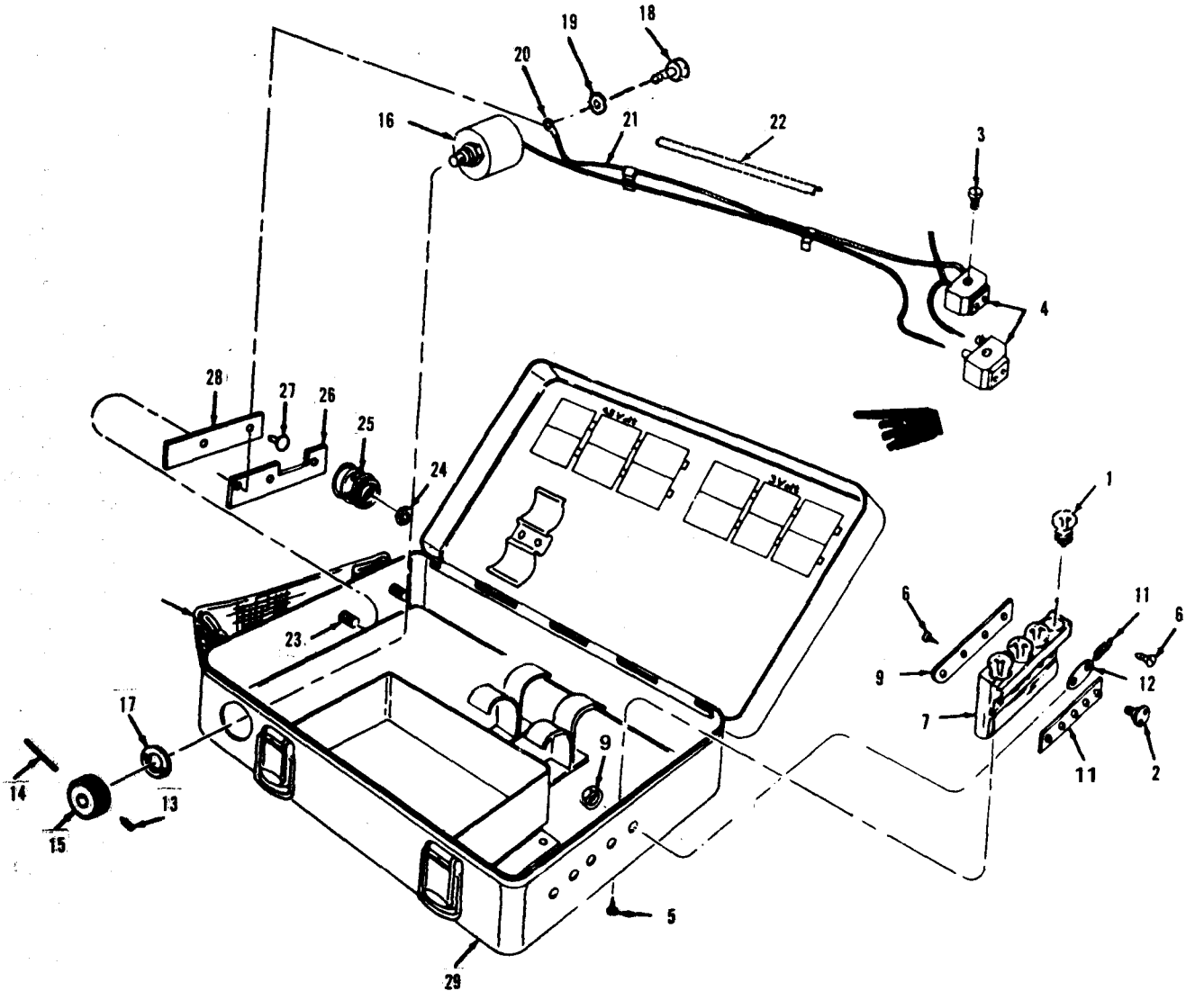


Figure E18. Box, battery, model USATS-79

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E18		XBDFF		308574	89905	BOX ASSEMBLY, BATTERY	DGF	EA	1
E18	1	PADZZ	6240-00-859-5936	166370	89905	.LAMP,INCANDESCENT	DGF	EA	4
E18	2	XBFZZ		122335	89905	.KNOB,PLATE,COVER	DGF	EA	1
E18	3	XBFZZ		170920	89905	.SCREW,MACHINE	DGF	EA	2
E18	4	XBFZZ		122284	89905	.PLUGELECTRICAL	DGF	EA	2
E18	5	XBFZZ	5305-01-016-9309	198390	89905	.SCREW	DGF	EA	2
E18	6	XBFZZ	5305-01-015-6507	198389	89905	.SCREW	DGF	EA	3
E18	7	XBFZZ		310439	89905	.BLOCK,WOODEN	DGF	EA	1
E18	8	XBFZZ		198387	89905	.NUT	DGF	EA	1
E18	9	XBFZZ		122345	89905	.PLATE,CONTACT	DGF	EA	1
E18	10	XBFZZ		122334	89905	.PLATE,COVER	DGF	EA	1
E18	11	XBFZZ		122343	89905	.SPRING,.PLATE,CVR	DGF	EA	1
E18	12	XBFZZ		122344	89905	.PLATE,CONNECTOR	DGF	EA	1
E18	13	XBFZZ		212167	89905	.SETSCREW	DGF	EA	1
E18	14	XBFZZ		333357	89905	.PIN	DGF	EA	1
E18	15	XBFZZ		122339	89905	.KNOB,RHEOSTAT	DGF	EA	1
E18	16	PAFZZ	5905-00-118-4625	329903	89905	.RESISTOR,VARIABLE	DGF	EA	1
E18	17	XBFZZ		122338	89905	.WASHER	DGF	EA	1
E18	18	XBFZZ		198386	89905	.SCREW,MACHINE	DGF	EA	1
E18	19	XBFZZ		176063	89905	.WASHER,SPRING	DGF	EA	1
E18	20	XBFZZ		167456	89905	.CLIP,CABLE	DGF	EA	1
E18	21	XBFZZ		188790	89905	.CABLE,ELEC, 0.6M	DGF	FT	1
E18	22	XBFZZ		189189	89905	.TUBE,INSUL, 0.17M	DGF	EA	1
E18	23	XBFZZ		212163	89905	.SCREW,MACHINE	DGF	EA	2
E18	24	XBFZZ		193248	89905	.NUT	DGF	EA	2
E18	25	XBFZZ		124724	89905	.SPRING,CONTACT	DGF	EA	2
E18	26	XBFZZ	6135-01-026-8168	122337	89905	.PLATE,CONTACT	DGF	EA	1
E18	27	XBFZZ		198388	89905	.RIVET	DGF	EA	2
E18	28	XBFZZ		122336	89905	.PLATE,INSULATION	DGF	EA	1
E18	29	XBOFZ		311718	89905	.BOX,BATTERY	DGF	EA	1

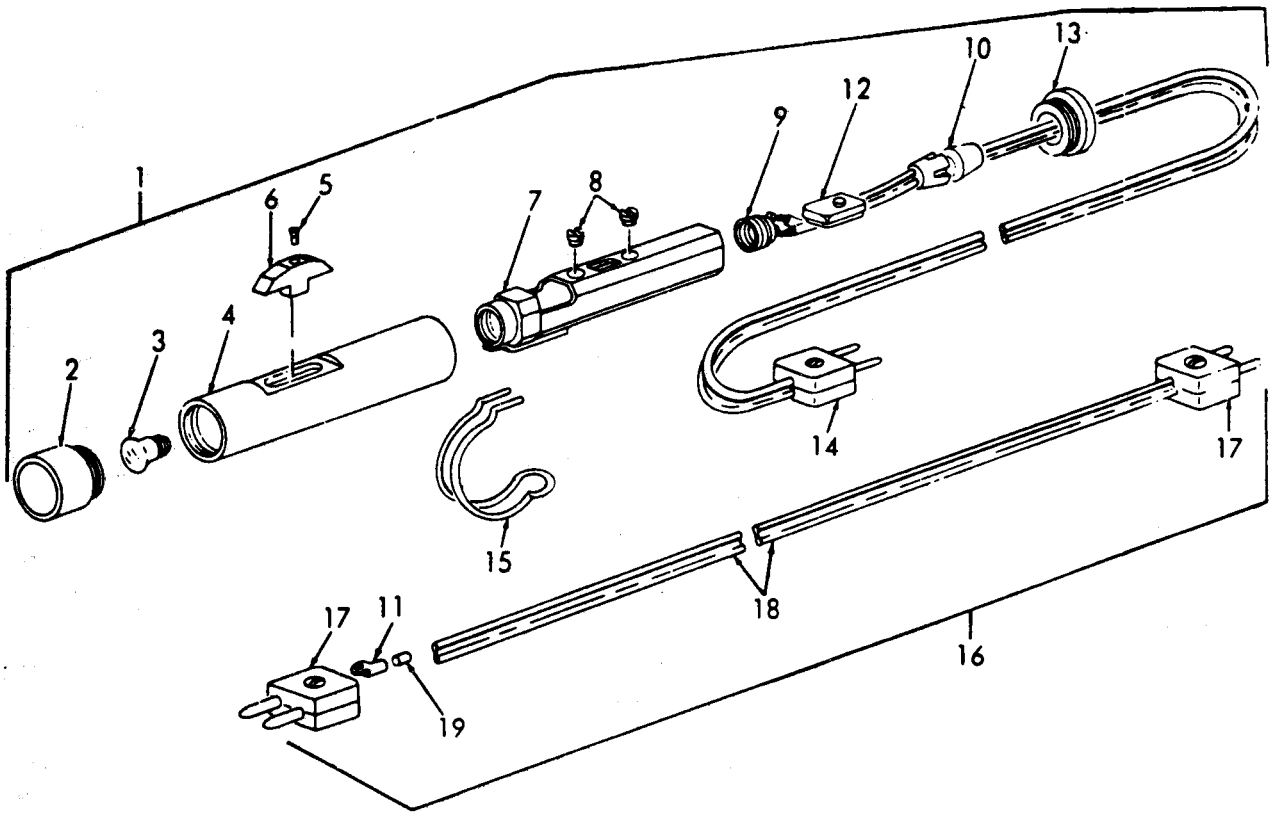


Figure E19. Lamp, hand, model 242406

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E19	1	XBOZZ		GEB1-000-000-66	89905	LAMP ASSEMBLY	CCQ	EA	1
E19	2	XAFZZ		GEB1-00-030	89905	.COVER,END	CCQ	EA	1
E19	3	PAOZZ	6240-00-120-0140	HEG3-2	89905	.LAMP,INCANDESCENT	CCQ	EA	1
E19	4	XAFZZ		GEB1-00-020	89905	.HOUSING,LAMP	CCQ	EA	1
E19	5	XBFZZ		DIN91-2-6X5	89905	.SCREW,MACHINE	CCQ	EA	1
E19	6	XBFZZ		HES1-62-17	89905	.SWITCH,SLIDE	CCQ	EA	1
E19	7	XAFZZ		GEB1-00-010	89905	.BUSHING,INSULATOR	CCQ	EA	1
E19	8	XBFZZ		DIN84-2-6X6	89905	.SCREW,MACHINE	CCQ	EA	2
E19		XBFZZ		GEB1-01000	89905	.CABLE ASSEMBLY	CCQ	EA	1
E19	9	XAFZZ		HEG4-38	89905	..LAMPHOLDER	CCQ	EA	1
E19	10	XAFZZ		GEB1-01010	89905	..CABLE,SPECIAL	CCQ	EA	1
E19	11	XAFZZ		HEK1-16-1	89905	..CONTACT,TUBULAR	CCQ	EA	2
E19	12	XBFZZ		HES1-61-1	89905	.SWITCH,SLIDE	CCQ	EA	1
E19	13	XAFZZ		GEB1-00-050	89905	.COVER	CCQ	EA	1
E19	14	XAFZZ		GEB5-000-000	89905	.CONNECTOR,PLUG	CCQ	EA	1
E19	15	XAFZZ		GEB1-00-040	89905	.HOOK	CCQ	EA	1
E19	16	PAOZZ	6675-00-997-4341	GEB11-000-000-66	89905	CABLE ASSEMBLY	CCQ	EA	1
E19	17	XAFZZ		GEB5-000-000	89905	.CONNECTOR,PLUG	CCQ	EA	2
E19	18	XAFZZ		HED1-297	89905	.CABLE,ELECTRIC	CCQ	EA	1
E19	19	XAFZZ		HEK116-2	89905	.TUBE,INSULATING	CCQ	EA	4

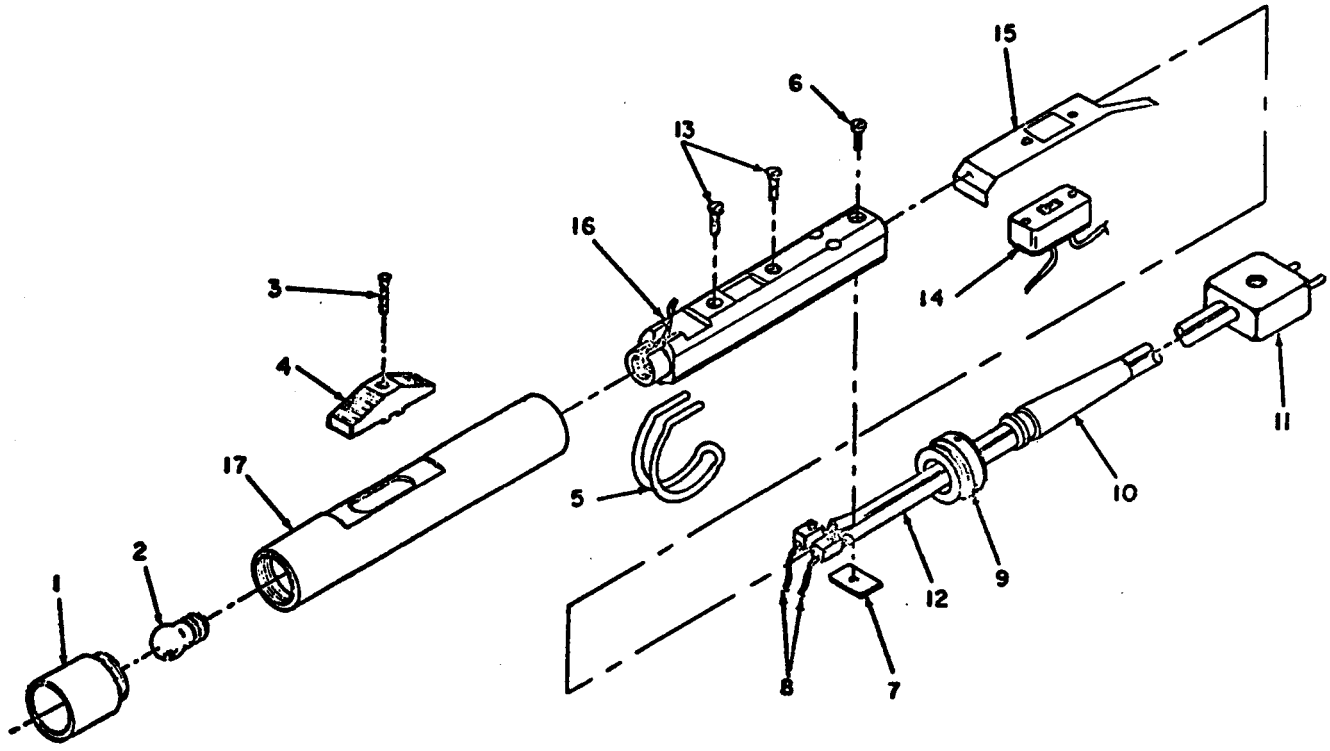


Figure E20. Lamp, hand, model USATS-79

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E20		PAOZZ	6230-01-092-6654	369364	89905	HANDLAMP	DGF	EA	1
E20	1	XBFZZ		101615	89905	.SLEEVE	DGF	EA	1
E20	2	PAFZZ	6240-00-859-5936	166370	89905	.LAMP,INCANDESCENT	DGF	EA	1
E20	3	XBFZZ		247837	89905	.SCREW,MACHINE	DGF	EA	1
E20	4	XBFZZ		308519	89905	.SLIDE,SWITCH	DGF	EA	1
E20	5	XBFZZ		215103	89905	.HOOK	DGF	EA	1
E20	6	XBFZZ		176032	89905	.SCREW,MACHINE	DGF	EA	1
E20	7	XBFZZ		112298	89905	.PLATE	DGF	EA	1
E20	8	XBFZZ		196329	89905	.WIRE,COPPER	DGF	EA	2
E20	9	XBFZZ		105392	89905	.COVER,END	DGF	EA	1
E20	10	XBFZZ		800206	89905	.SLEEVE	DGF	EA	1
E20	11	XBFZZ		193179	89905	.PLUG,ELECTR,MALE	DGF	EA	1
E20	12	XBFZZ		108140	89905	.CABLE,ELEC, 1.6M	DGF	FT	1
E20	13	XBFZZ		176045	89905	.SCREW,MACHINE	DGF	EA	2
E20	14	XBFZZ		377846	89905	.SWITCH	DGF	EA	1
E20	15	XBFZZ		101584	89905	.SPRING,CONTACT	DGF	EA	1
E20	16	XBFZZ		108637	89905	.HOUSING,INSULATION	DGF	EA	1
E20	17	XBFZZ		215105	89905	.HOUSING,LAMP	DGF	EA	1

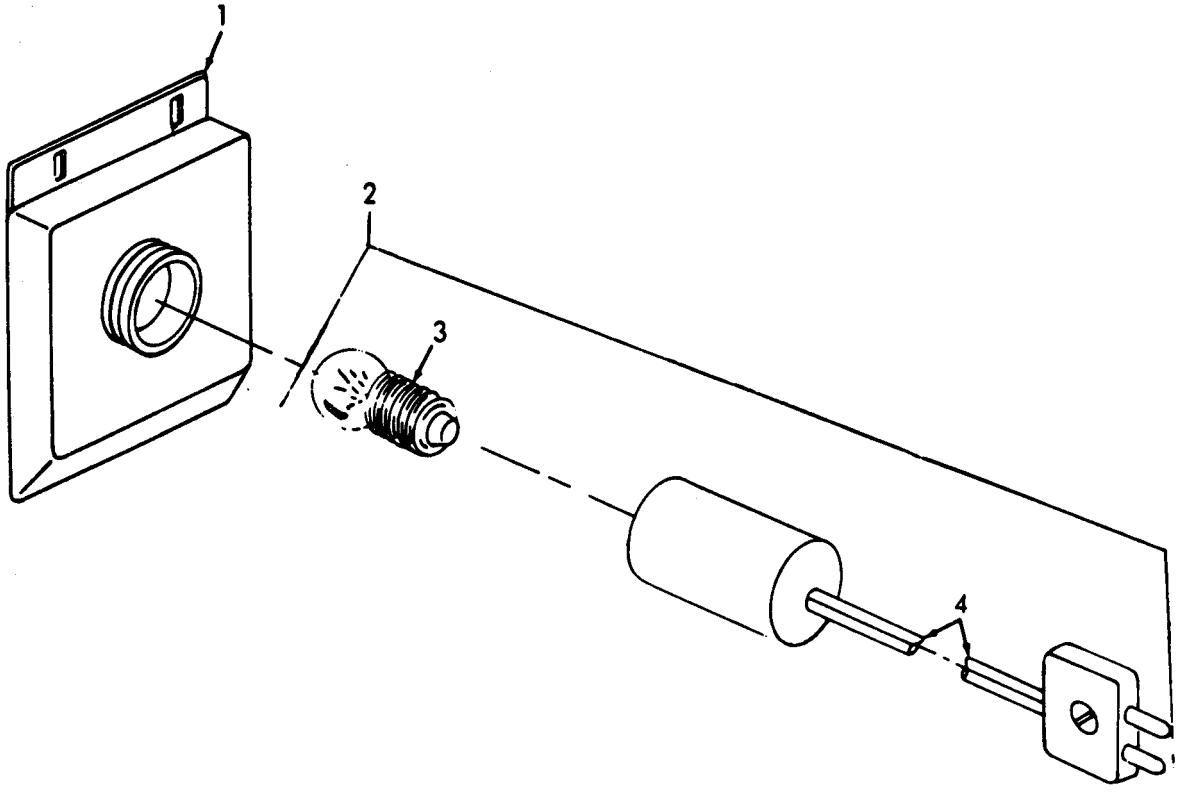


Figure E21. Reflector and illumination, model 242406

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E21	1	XBOZZ		242-929	89905	REFLECTOR ASSEMBLY	CCQ	EA	1
E21		XAOZZ		124051	89905	.REFLECTOR	CCQ	EA	1
E21	2	XBOZZ		199895	89905	ILLUMINATION ASSEMBLY	CCQ	EA	1
E21	3	PAOZZ	6240-00-120-0140	HEG3-2	89905	.LAMP,INCANDESCENT	CCQ	EA	1
E21	4	XAFZZ		HED1-297	89905	.CABLE,ELECTRIC	CCQ	EA	1
E21		XAFZZ		GEB5-000-000	89905	.CONNECTOR,PLUG	CCQ	EA	1
E21		XAFZZ		EB222	89905	.HOUSING,LAMP	CCQ	EA	1
E21		XAFZZ		EB223	89905	.INSULATION	CCQ	EA	1
E21		XAFZZ		HE11-18-9	89905	.SLEEVE,CABLE	CCQ	EA	1
E21		XAFZZ		HEK1-16-2	89905	.SLEEVE	CCQ	EA	2
E21		XAFZZ		EB224	89905	.SOCKET,LAMP	CCQ	EA	1
E21		PAOZZ	6135-00-120-1020	BA30	89905	BATTERY,DRY	CCQ	EA	4

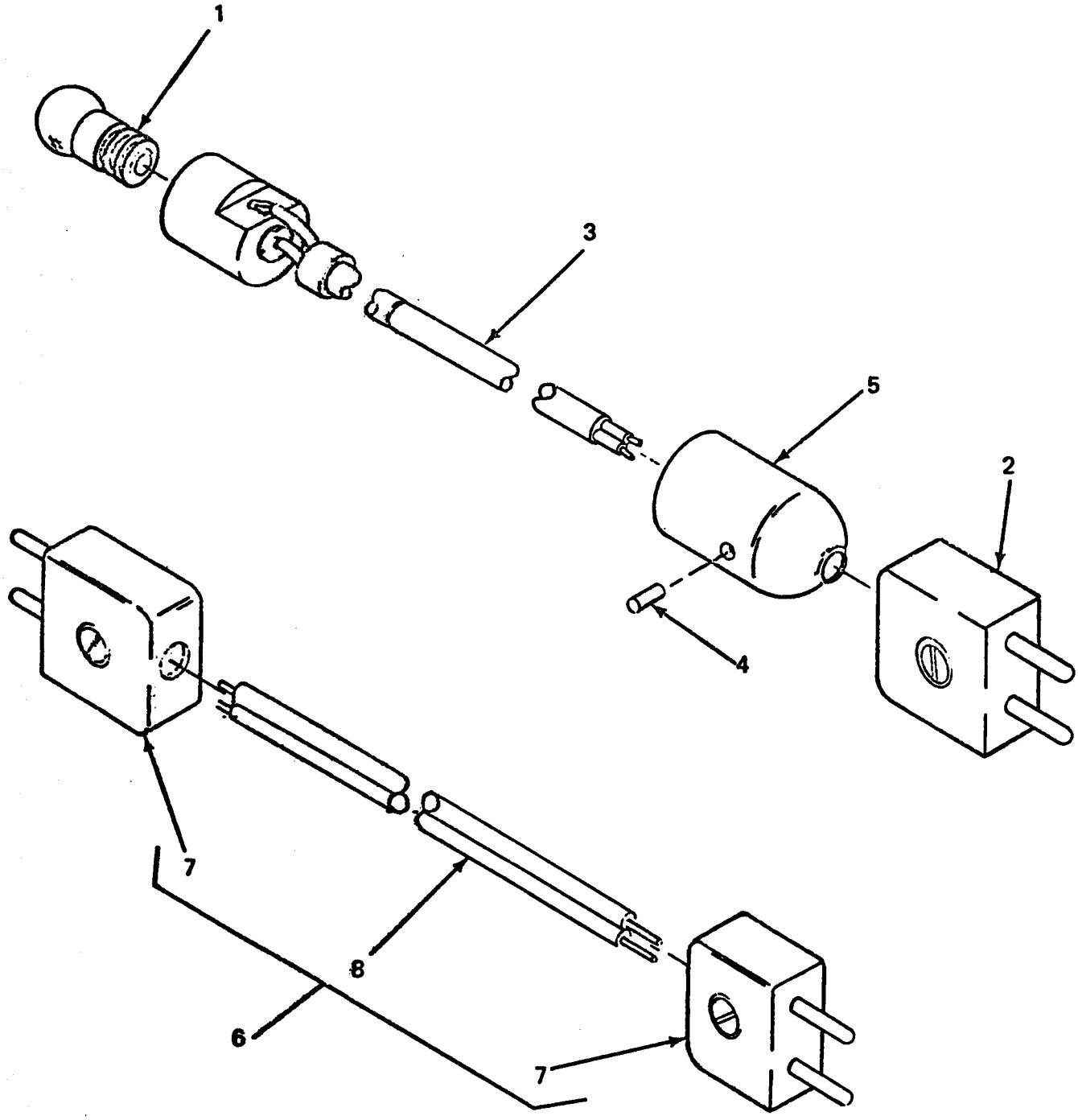


Figure E22. Lamp and connection cable model USATS-79

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E22		PAOFF		199895	89905	LAMP ASSY, SCREW-IN	DGF	EA	1
E22	1	PAFZZ	6240-00-859-5936	166370	89905	.LAMP,INCANDESCENT	DGF	EA	1
E22	1	XBFZZ		193179	89905	.PLUG,ELECTRIC	DGF	EA	1
E22	3	XBFZZ		349532	89905	.CABLE ASSY, EL, 1M	DGF	FT	1
E22	4	XBFZZ		184772	89905	.PIN,CYLINDRICAL	DGF	EA	1
E22	5	XBFZZ		349534	89905	.HOUSING,LAMP	DGF	EA	1
E22	6	PAFFZ	6675-00-997-4341	198826	89905	CABLE ASSEMBLY,SPEC	DGF	EA	1
E22	7	XBFZZ		193179	89905	.PLUG,MALE	DGF	EA	2
E22	8	XBFZZ		193807	89905	.CABLE,ELEC,0.8M	DGF	FT	3

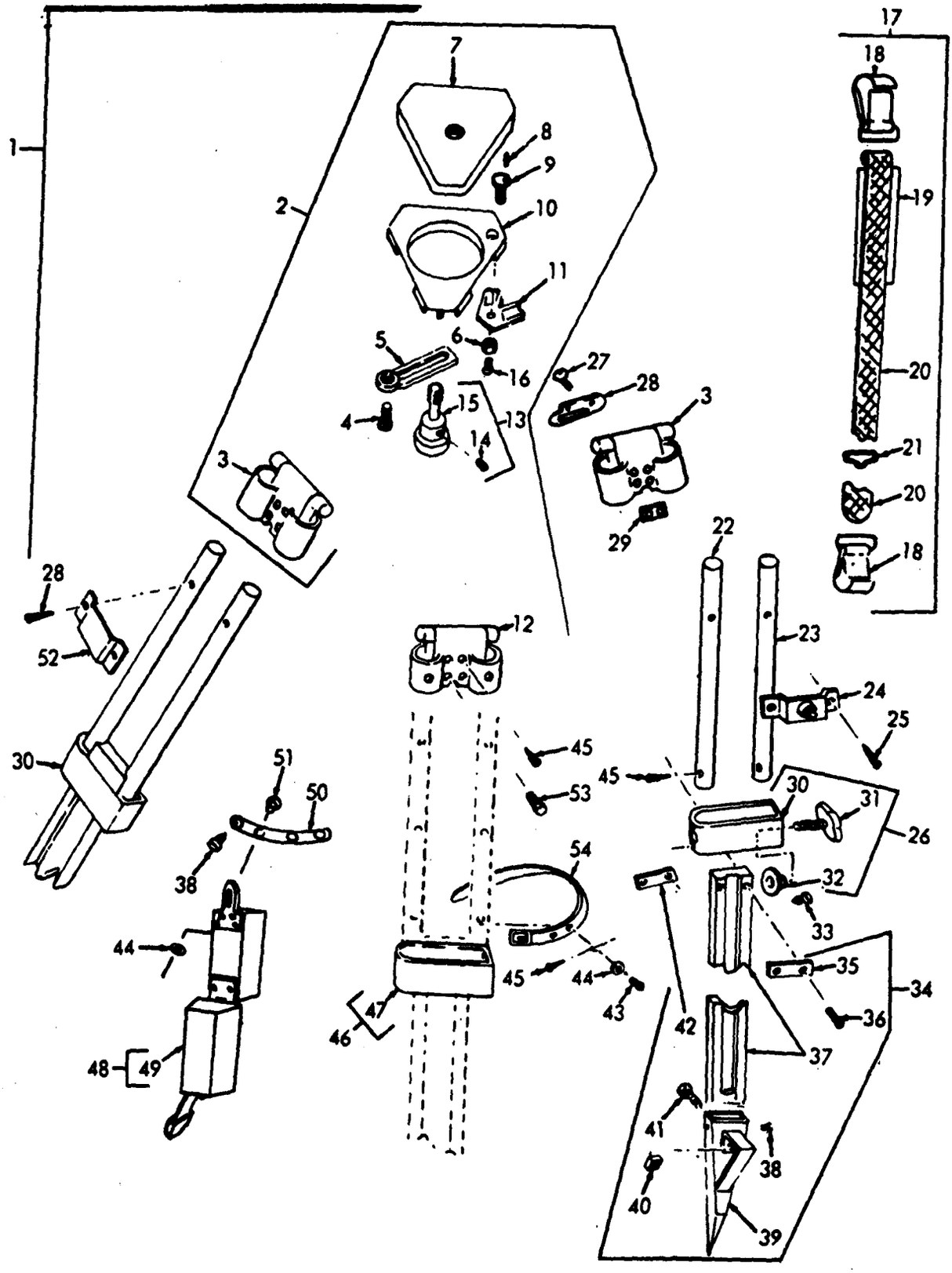


Figure E23. Tripod, model 242406

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 04 - TRIPOD ASSEMBLY			
E23	1	XBOZZ		21B000-000-66	89905	TRIPOD ASSEMBLY	CCQ	EA	1
E23	2	XBOZZ		21A008-000-66	89905	.HEAD ASSEMBLY	CCQ	EA	1
E23	3	XBOZZ		3A11	89905	..HOUSING,LEG	CCQ	EA	2
E23	4	XBOZZ		WN21-561-12-6X3	89905	..SCREW,MACHINE	CCQ	EA	1
E23	5	XBOZZ		3A52B	89905	..BRIDGE	CCQ	EA	1
E23	6	XBOZZ		1A6ALA	89905	..NUT,HEXAGON	CCQ	EA	3
E23	7	XBOZZ		3A63A	89905	..COVER	CCQ	EA	1
E23	8	XBOZZ		WN24-140-2-5X6	89905	..PIN	CCQ	EA	3
E23	9	XBOZZ		2A36B	89905	..SCREW	CCQ	EA	3
E23	10	XBOZZ		3A50B51A	89905	..HEAD ASSEMBLY	CCQ	EA	1
E23	11	XBOZZ		3A51A	89905	..CLAMP	CCQ	EA	3
E23	12	XBOZZ		15100-21	89905	..HOUSING,LEG	CCQ	EA	1
E23	13	XBOZZ		2A08100-66	89905	..SCREW,CENTRAL	CCQ	EA	1
E23	14	XBOZZ		DIN551-2-6X3	89905	...SETSCREW	CCQ	EA	1
E23	15	PAOZZ	6675-00-996-3694	1A37	89905	...SCREW,FIXING	CCQ	EA	1
E23	16	XBOZZ		WN21-570-46-3LX5	89905	..SCREW,STOP	CCQ	EA	3
E23	17	XBOZZ		15100-11	89905	..SLING ASSEMBLY	CCQ	EA	1
E23	18	XBOZZ		HDH1-5	89905	...HOOK,SPRING	CCQ	EA	2
E23	19	XBOZZ		HDB6-3110	89905	...SLING,CARRYING	CCQ	EA	1
E23	20	XBOZZ		HDB6-2-10	89905	...SLING,CARRYING	CCQ	EA	1
E23	21	XBOZZ		HDS7-27	89905	...BUCKLE	CCQ	EA	1
E23	22	XBOZZ		21B12	89905	..LEG,WOOD	CCQ	EA	1
E23	23	XBOZZ		21B13A	89905	..LEG,WOOD	CCQ	EA	3
E23	24	XBOZZ		21B52S	89905	..BRACKET	CCQ	EA	1
E23	25	XBOZZ		VSM12801-3X20	89905	..SCREW,WOOD	CCQ	EA	4
E23	26	XBOZZ		21B002-000-66	89905	..CLAMP ASSEMBLY	CCQ	EA	1
E23	27	XBOZZ		DIN88-4X8	89905	...SCREW	CCQ	EA	2
E23	28	XBOZZ		15100-22	89905	...LOOP,BELT	CCQ	EA	1
E23	29	XBOZZ		15100-23	89905	...PLATE,LOCK	CCQ	EA	1
E23	30	XBOZZ		15100-31	89905	...CLAMP	CCQ	EA	1
E23	31	XBOZZ		16B13LA	89905	...NUT,WING	CCQ	EA	1
E23	32	XBOZZ		21B33	89905	...PLATE,CLAMP	CCQ	EA	1
E23	33	XBOZZ		DIN87-4X15	89905	..SCREW	CCQ	EA	6
E23	34	XBOZZ		21B001-000	89905	..LEG ASSEMBLY	CCQ	EA	3
E23	35	XBOZZ		21B14A	89905	...PLATE,STOP	CCQ	EA	1
E23	36	XBOZZ		DIN87-4X30	89905	...SCREW,MACHINE	CCQ	EA	2
E23	37	XBOZZ		21B11A	89905	...LEG,WOOD	CCQ	EA	1
E23	8	PAOZZ	5305-00-418-9676	VSM12802-2-6X12	89905	...SCREW,WOOD	CCQ	EA	4
E23	39	XBOZZ		21B18S	89905	...SHOE,TRIPOD	CCQ	EA	1
E23	40	XBOZZ		2A04060	89905	...NUT	CCQ	EA	1
E23	41	XBOZZ		WN21-540-2-8X30-5	89905	...SCREW,MACHINE	CCQ	EA	1
E23	42	XBOZZ		21B15A	89905	...PLATE,STOP	CCQ	EA	1

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E23	43	XBOZZ	6675-00-804-7341	VSM12800-3-5X18	89905	..SCREW,WOOD	CCQ	EA	2
E23	44	XBOZZ		DIN433-4-3	89905	..WASHER	CCQ	EA	2
E23	45	XBOZZ	6675-00-804-7342	VSM12802-2-6X18	89905	..SCREW,WOOD	CCQ	EA	12
E23	46	XBOZZ		21B002-000	89905	..CLAMP ASSEMBLY	CCQ	EA	2
E23	47	XBOZZ		21B32AS	89905	...CLAMP	CCQ	EA	1
E23		XBOZZ		16B13LA	89905	...NUT,WING	CCQ	EA	1
E23		XBOZZ		21B 3	89905	...PLATE,CLAMP	CCQ	EA	1
E23	48	XBOZZ		21A007000-66	89905	..KIT ASSEMBLY	CCQ	EA	1
E23	49	XBOZZ		2A20A	89905	...KIT,TOOL	CCQ	EA	1
E23	50	XBOZZ		2A23A	89905	...BRACKET	CCQ	EA	2
E23	51	XBOZZ		DIN7331A4X11X10	89905	...RIVET	CCQ	EA	4
E23	52	XBOZZ		21B19	89905	..BRACKET	CCQ	EA	1
E23	53	XBOZZ		WN21-540-1-8X17	89905	..SCREW,HEXAGON	CCQ	EA	6
E23	54	XBOZZ		21B16	89905	..STRAP,LEATHER	CCQ	EA	1

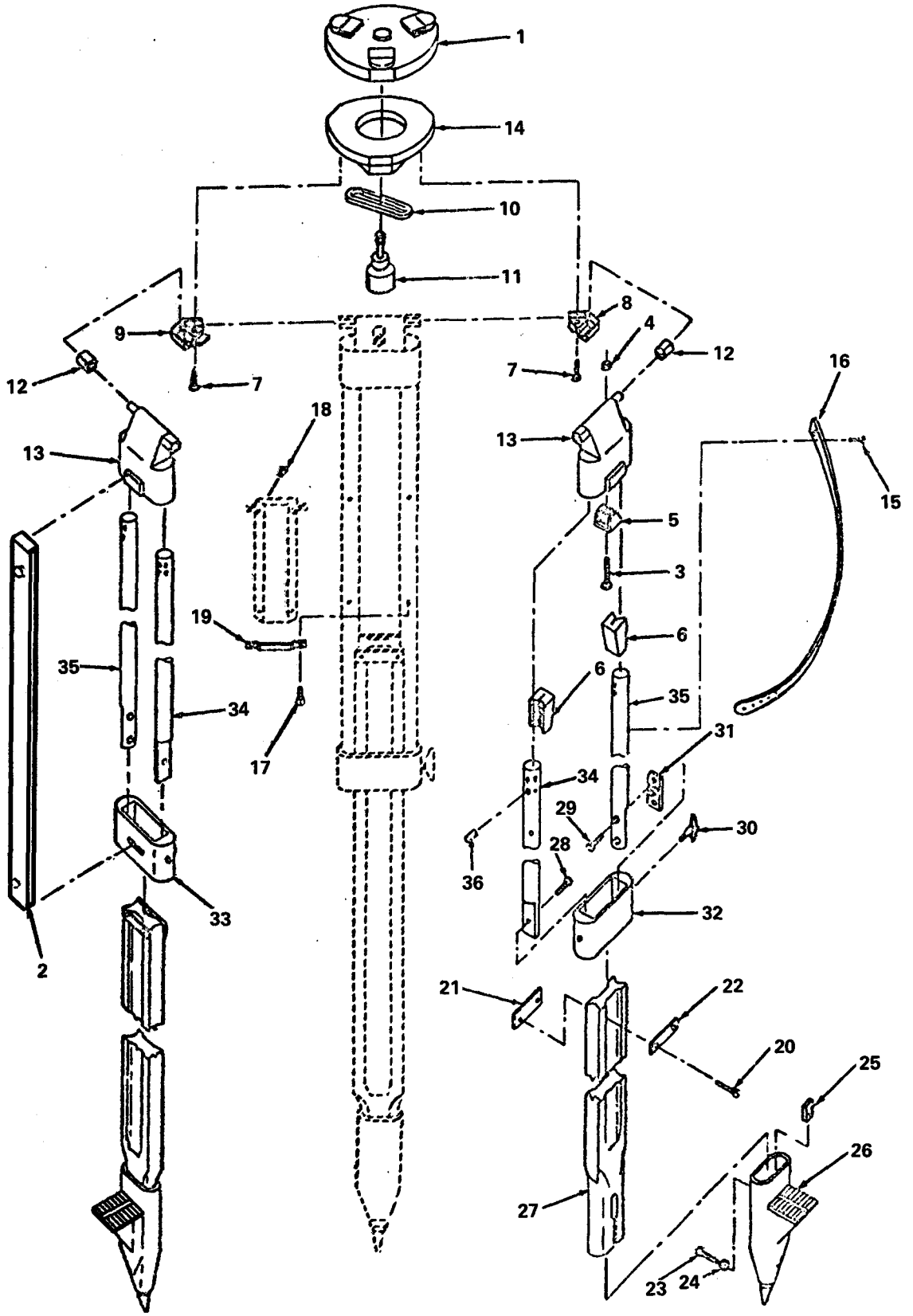


Figure E24. Tripod-GST20-1

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E24		PAOOO		312994	89905	TRIPOD GST 20-1	CCQ,DGF	EA	1
E24	1	XBFZZ		319062	89905	.COVER,PLSTC, TRP HD	CCQ, DGF	EA	1
E24	2	XBFZZ	6675-01-025-5899	315010	89905	.STRAP,CARRYING	CCQ, DGF	EA	1
E24	3	XBFZZ		208818	89905	.SCREW,MACHINE	CCQ,DGF	EA	3
E24	4	XBFZZ		312946	89905	.NUT	CCQ, DGF	EA	3
E24	5	XBOZZ		271993	89905	.WEDGE	CCQ, DGF	EA	3
E24	6	XBOZZ		350956	89905	.WEDGE, PRESSURE	CCQ, DGF	EA	6
E24	7	XBOZZ		235978	89905	.SCREW, MACHINE	CCQ, DGF	EA	3
E24	8	XBOZZ		319014	89905	.JAW,CLAMP	CCQ, DGF	EA	2
E24	9	XBOZZ		319016	89905	.JAW,CLAMP	CCQ, DGF	EA	1
E24	10	XBOZZ		377796	89905	.BRIDGE	DGF	EA	1
E24	10	XBOZZ		271991	89905	.WASHER	CCQ	EA	1
E24	11	XBOZZ	6675-01-092-5715	319019	89905	.ADJUSTMENT .SCREW,CE	CCQ, DGF	EA	1
E24	12	XBOZZ		271990	89905	.BEARING	CCQ, DGF	EA	6
E24	13	XBOZZ		319034	89905	.LEGHOLDER	CCQ	EA	3
E24	13	XBOZZ		319035	89905	.HOLDER, LEG	DGF	EA	3
E24	14	XBOZZ		319012	89905	.PLATE,HEAD,TRIPOD	CCQ	EA	3
E24	14	XBOZZ		377792	89905	.PLATE, HEAD	DGF	EA	1
E24	15	XBOZZ		346286	89905	.SCREW, WOOD	CCQ, DGF	EA	2
E24	16	XBOZZ		112537	89905	.STRAP, LEATHER	CCQ, DGF	EA	1
E24	17	XBOZZ		346285	89905	.SCREW, WOOD	CCQ, DGF	EA	4
E24	18	XBOZZ		161337	89905	.RIVET	CCQ, DGF	EA	4
E24	19	XBOZZ		284791	89905	.BRACKET	CCQ, DGF	EA	2
E24	20	XBOZZ		361106	89905	.SCREW	CCQ	EA	6
E24	20	XBOZZ		383868	89905	.SCREW, MACHINE	DGF	EA	6
E24	21	XBOZZ		319023	89905	.PLATE, STOP	CCQ, DGF	EA	3
E24	22	XBOZZ		319025	89905	.PLATE, STOP	CCQ, DGF	EA	3
E24	23	XBOZZ		235978	89905	.SCREW, MACHINE	CCQ, DGF	EA	3
E24	24	XBOZZ		323373	89905	.WASHER, FLAT	CCQ, DGF	EA	3
E24	25	XBOZZ		272091	89905	.NUT	CCQ, DGF	EA	3
E24	26	XBOZZ		319087	89905	.SHOE, TRIPOD	CCQ, DGF	EA	3
E24	27	XBOZZ		319047	89905	.LEG, LOWER	CCQ, DGF	EA	3
E24	28	XBOZZ		235976	89905	.SCREW, MACHINE	CCQ, DGF	EA	3
E24	29	XBOZZ		265535	89905	.SCREW,MACHINE	CCQ, DGF	EA	6
E24	30	XBOZZ		323172	89905	.SCREW,WING	CCQ, DGF	EA	3
E24	31	XBOZZ		169625	89905	.PLATE,CLAMP	CCQ, DGF	EA	3
E24	32	XBOZZ		319028	89905	.BAND, CLAMP	CCQ, DGF	EA	2
E24	33	XBOZZ		319031	89905	.BAND, CLAMP	CCQ, DGF	EA	1
E24	34	XBOZZ		319040	89905	.DOWEL WOOD	CCQ, DGF	EA	3
E24	35	XBOZZ		319042	89905	.DOWEL WOOD	CCQ, DGF	EA	3
E24	36	XBOZZ		364657	89905	.PIN, CYLINDRICAL	DGF	EA	24

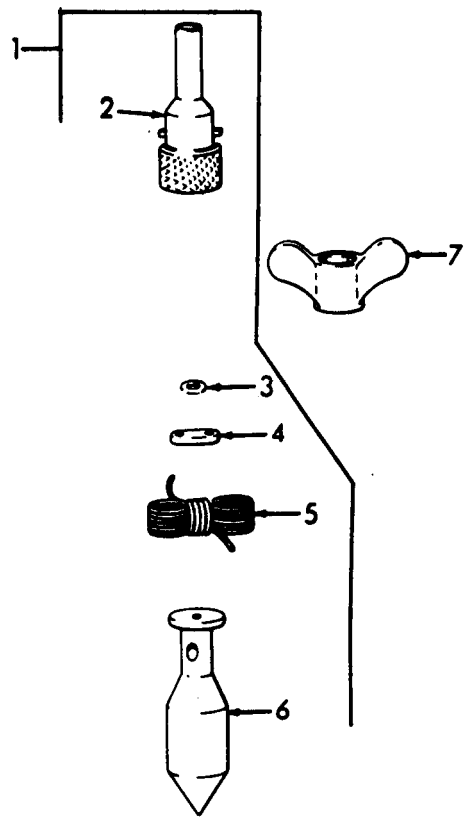


Figure E25. Plumb bob, model 242406

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E25	1	XBOZZ		2A001-000	89905	..PLUMB BOB ASSEMBLY	CCQ	EA	1
E25	2	XAOZZ		2A07060	89905	...SOCKET,BAYONET	CCQ	EA	1
E25	3	XBOZZ		2A07070	89905	...RING	CCQ	EA	1
E25	4	XBOZZ		2A07040	89905	...SLIDE,ADJUSTER	CCQ	EA	1
E25	5	XBOZZ		2A07050	89905	...STRING	CCQ	FT	7
E25	6	XAOZZ		2A07101	89905	...PLUMB BOB	CCQ	EA	1
E25	7	PAOZZ	5120-00-429-2949	3A29	89905	...WRENCH	CCQ	EA	1

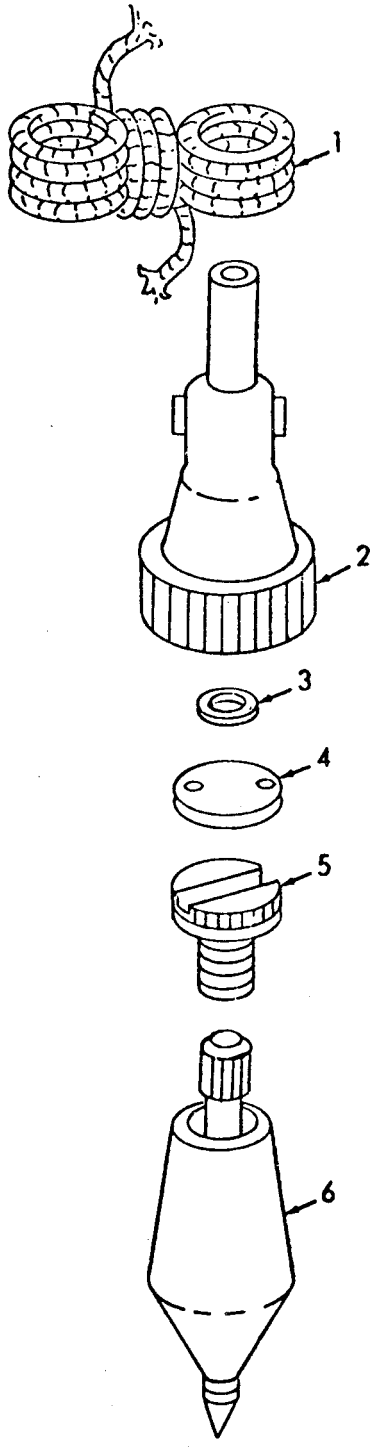


Figure E26. Plumb bob-GST20-1

(1) ILLUSTRATION (A) FIG NO	(B) ITEM NO	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
E26		PAOOZ	5210-01-031-9185	319010	89905	.PLUMBOB ASSEMBLY	CCQ, DGF	EA	1
E26	1	XBOZZ		269587	89905	..STRING, 2.3 M	CCQ, DGF	EA	1
E26	2	XBOZZ		296630	89905	..SOCKET, BAYONET	CCQ, DGF	EA	1
E26	3	XBOZZ		352825	89905	..RING	CCQ, DGF	EA	1
E26	4	XBOZZ		352916	89905	..SLIDE, ADJUSTER	CCQ, DGF	EA	1
E26	5	XBOZZ		296670	89905	..NUT, KNURLED	CCQ, DGF	EA	1
E26	6	XBOZZ		296672	89905	..PLUMBOB	CCQ, DGF	EA	1

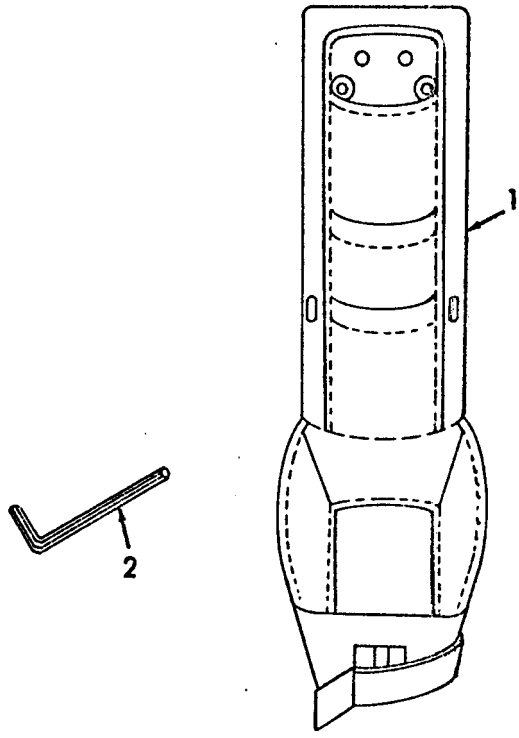


Figure E27. Tripod accessory case

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E27	1	XBOZZ		319164	89905	.CASE, ACCESSORY	CCQ, DGF	EA	1
E27	2	PAOZZ	5120-01-011-8393	166494	89905	.KEY,STOCKET HEAD SCR	CCQ, DGF	EA	1

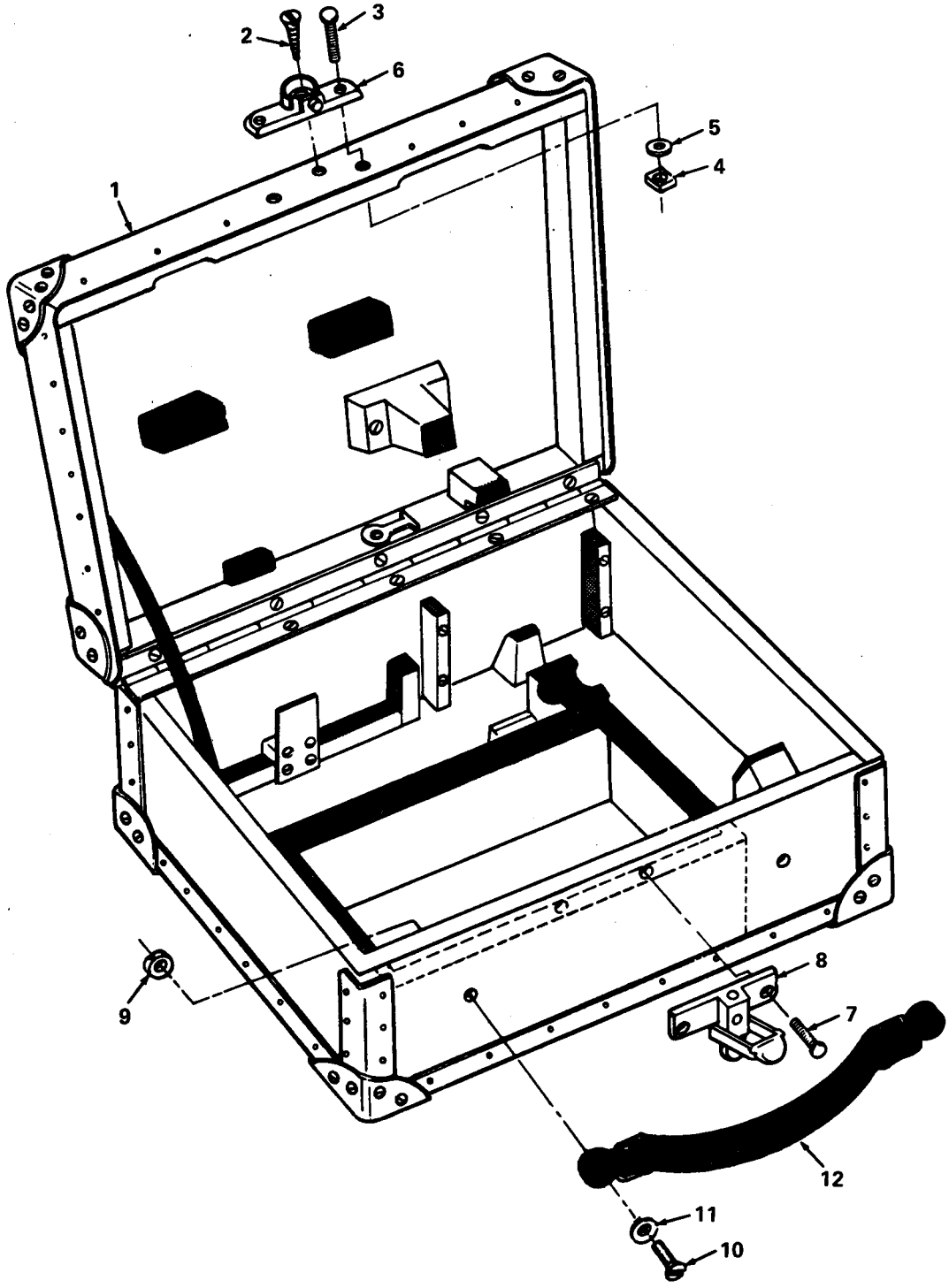


Figure E28. Case, carrying

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)		(7)	(8)
(A) FIG NO	(B) ITEM NO	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
E28	1	XBOZZ		398474	89905	CASE, TARGET SET	DGF	EA	1
E28	1	XBOZZ		311699	89905	CASE,CARRYING	CCQ	EA	1
E28	2	XBOZZ		SCH2-15	89905	.SCREW,WOOD	CCQ	EA	1
E28	3	XBOZZ		SCH2-14	89905	.SCREW	CCQ	EA	2
E28	4	XBOZZ		ACH2-11	89905	.NUT,PLAIN,SQUARE	CCQ	EA	5
E28	5	PAOZZ	5310-00-753-4020	QQ-5-766CLASS4	97496	.WASHER,FLAT	CCQ	EA	5
E28	6	XBOZZ		SCH2-20	89905	.LOCK ASSEMBLY	CCQ	EA	1
E28	7	XBOZZ		SCH2-9	89905	.SCREW	CCQ	EA	3
E28	8	XBOZZ		SCH2-7	89905	.SPRING,LOCK	CCQ	EA	1
E28	9	XBOZZ		DIN546M5	89905	.NUT,ROUND	CCQ	EA	2
E28	10	XBOZZ		DIN88-5X20	89905	.SCREW,MACHINE	CCQ	EA	2
E28	11	XBOZZ		ZV15	89905	.WASHER	CCQ	EA	2
E28	12	XBOZZ		ZV14	89905	.HANDLE	CCQ	EA	1

STOCK NUMBER	FIGURE NO	ITEM NO
1440-00-077-8703	E16	5
5905-00-118-4625	E17	7
5905-00-118-4625	E18	16
6240-00-120-0140	E16	6
6240-00-120-0140	E19	3
6240-00-120-0140	E21	3
6135-00-120-1020	E21	
5305-00-126-5372	E14	
6675-00-127-2856	E13	1
6150-00-127-2861	E16	8
5610-00-161-2672	E13	4
6240-00-269-0929	E16	6
5305-00-353-4088	E7	5
6675-00-378-9440	E7	3
5310-00-378-9441	E7	4
6675-00-378-9466	E11	5
6675-00-378-9473	E11	8
5310-00-378-9474	E11	22
6675-00-378-9475	E11	7
5305-00-378-9538	E11	28
5305-00-378-9550	E17	9
5305-00-418-9676	E23	38
5120-00-429-2949	E25	7
6675-00-446-1986	E17	23
6675-00-446-1997	E17	16
6675-00-490-9376	E17	
6675-00-804-7341	E23	43
6675-00-804-7342	E23	45
6130-00-831-0183	E17	15
6240-00-859-5936	E18	1
6240-00-859-5936	E20	2
6240-00-859-5936	E22	1
6675-00-862-2584	E11	26
5935-00-951-2019	E17	3
6675-00-961-9686	E16	1
6675-00-996-3694	E23	15
6675-00-997-4340	E17	
6675-00-997-4341	E19	16
6675-00-997-4341	E22	6
5120-01-011-8393	E27	2
5305-01-015-6507	E18	6
5305-01-016-9309	E18	5
6675-01-025-5899	E24	2
6135-01-026-8168	E18	26
5210-01-031-9185	E26	
6675-01-092-5715	E24	11
6230-01-092-6654	E20	
6675-01-169-0859	E6	1

PART NUMBER	FSCM	FIG NO	ITEM NO
ACH2-11	89905	E28	4
BA30	83642	E21	
DIN433-4-3	89905	E23	44
DIN439BM2-6	89905	E17	22
DIN546M5	89905	E28	9
DIN551-2-6X3	89905	E23	14
DIN551-2X4	89905	E11	26
DIN551-3X6	89905	E17	25
DIN553-1-7X3	89905	E11	17
DIN553-2-6X3	89905	E1	9
DIN553-2X2	89905	E11	28
DIN553-2X6	89905	E7	6
DIN553-3X4	89905	E14	7
DIN660-3X5	89905	E17	2
DIN6798-33-2	89905	E1	2
DIN7331A4X11X10	89905	E23	51
DIN84-2-6X6	89905	E19	8
DIN84-3X7	89905	E1	5
DIN84-3X7	89905	E13	7
DIN95-2-6X4	89905	E17	9
DIN85-2-6X6	89905	E11	1
DIN85-2-6X6	89905	E11	23
DIN85-2X5	89905	E11	21
DIN85-3X10	89905	E1	1
DIN87-3X8	89905	E17	30
DIN87-4X15	89905	E23	33
DIN87-4X30	89905	E23	36
DIN88-4X8	89905	E23	27
DIN88-5X20	89905	E28	10
DIN91-2-6X5	89905	E19	5
DIN920-1-7X4	89905	E3	2
DIN920-3X7	89905	E9	5
DIN934M3	89905	E17	5
EB222	89905	E21	
EB223	89905	E21	
EB224	89905	E21	
EB301D6B	89905	E17	24
EB302	89905	E17	19
EB303	89905	E17	18
EB306A	89905	E17	1
EB307A	89905	E17	3
EB309	89905	E17	28
EB310	89905	E17	26
EB311A	89905	E17	20
EB315	89905	E17	15
EB316	89905	E17	17
EB327B	89905	E17	21
GDF1-001-040	89905	E9	12
GDF1-002-030	89905	E9	6
GDF1-002-040	89905	E9	3
GDF1-002-050	89905	E9	7
GDF2-000-000-68	89905	E7	
GDF2-001-000	89905	E9	
GDF2-001-030	89905	E9	11
GDF2-001-100	89905	E9	10
GDF2-002-000-68	89905	E9	
GDF2-002-010	89905	E9	8
GDF2-002-020	89905	E9	4
GDF2-003-020	89905	E11	25
GDF2-003-100	89905	E9	1
GEB1-00-010	89905	E19	7
GEB1-00-020	89905	E19	4
GEB1-00-030	89905	E19	2
GEB1-00-040	89905	E19	15
GEB1-00-050	89905	E19	13
GEB1-000-000-66	89905	E19	1
GEB1-01000	89905	E19	
GEB1-01010	89905	E19	10
GEB11-000-000-66	89905	E19	16
GEB5-000-000	89905	E16	9
GEB5-000-000	89905	E19	14
GEB5-000-000	89905	E19	17
GEB5-000-000	89905	E21	
GEB9-000-000	89905	E17	13
GE88-000-000-66	89905	E17	
GZM1-01-30	89905	E3	11
GZM1-01-21	89905	E3	4
GZM1-01750	89905	E3	6
GZM1-02000	89905	E3	1
GZM1-02010	89905	E3	7
GZM1-02020	89905	E3	8
GZM1-02030	89905	E3	9
GZM1-02040	89905	E3	3
GZM1-03750	89905	E1	4
GZM1-04000	89905	E1	15
GZM1-04010	89905	E2	5
GZM1-04100	89905	E2	4
GZM1-05010	89905	E2	10
GZM1-06010	89905	E1	6
GZM1-06020	89905	E1	12
GZM1-06030	89905	E1	13
GZM1-07020	89905	E1	11
GZM1-07750	89905	E1	8
G1-199	89905	E17	14
HDB6-1	89905	E17	29
HDB6-2-10	89905	E23	20
HDB6-3110	89905	E23	19
HDH1-5	89905	E23	18
HDS7-27	89905	E23	21
HED1-112-9	89905	E17	11
HED1-297	89905	E19	18
HED1-297	89905	E21	4
HEG3-2	89905	E16	6
HEG3-2	89905	E19	3
HEG3-2	89905	E21	3
HEG4-38	89905	E19	9
HEI1-28-11	89905	E17	6
HEK1-1	89905	E17	8
HEK1-16-1	89905	E19	11
HEK1-16-2	89905	E21	
HEK116-2	89905	E19	19
HES1-61-1	89905	E19	12
HES1-62-17	89905	E19	6

PART NUMBER	FSCM	FIG NO	ITEM NO
HEW2-36	89905	E17	7
HE11-28-9	89905	E21	
MS15611-5	96906	E16	6
M225-0215	89905	E17	4
NA2-02030	89905	E14	5
NK01-05001-T2-68	89905	E13	1
NK01-05010	89905	E13	5
NK01-05020	89905	E13	2
NT1-666	89905	E2	9
NT2-1518	89905	E7	9
NT2-152	89905	E7	8
NT2-154	89905	E7	5
NT3-323	89905	E7	3
NT3-324	89905	E7	4
SCH2-14	89905	E28	3
SCH2-15	89905	E28	2
SCH2-20	89905	E28	6
SCH2-7	89905	E28	8
SCH2-9	89905	E28	7
SSP00402	89905	E13	4
T1A05020	89905	E2	6
T1A05060	89905	E2	3
T1A14020	89905	E2	11
T1A27030	89905	E14	3
T1A27l000	89905	E14	4
T1A27200	89905	E14	
T1A39070	89905	E13	6
T1A39080	89905	E14	1
T16-04020	89905	E1	10
T16-16016	89905	E2	2
T16-16020	89905	E2	7
T2-421F	89905	E11	6
T2-453A	89905	E11	5
T2-464	89905	E11	8
T2-468	89905	E11	7
T21-23F	89905	E11	16
T21-232A	89905	E13	3
T21-241	89905	E7	7
T21-37000	89905	E11	4
T21-38000-68	89905	E11	11
T21-39A	89905	E11	15
T21-39001-68	89905	E11	14
T21-40A	89905	E11	
T21-41	89905	E11	27
T21-43	89905	E11	2
T21-44A	89905	E11	20
T21-46	89905	E11	10
T21-47	89905	E11	12
T21-48A	89905	E11	19
T21-480000-68	89905	E7	1
T21-49A	89905	E11	18
VSM12800-3-5X18	89905	E23	43
VSM12801-2-3X12	89905	E17	23
VSM12801-2X7	89905	E17	16
VSM12801-3X20	89905	E23	25
VSM12802-2-6X12	89905	E23	38
VSM12802-2-6X18	89905	E23	45
WN21-155-10-4X3X3	89905	E7	2
WN21-500-14X2X4	89905	E1	7
WN21-500-3-1-7X1-5	89905	E11	9
WN21-500-9-2X1-5	89905	E11	24
WN21-540-1-8X17	89905	E23	53
WN21-540-2-8X30-5	89905	E23	41
WN21-550-66-2-6X7-3	89905	E9	9
WN21-550-70-2-6X8-8	89905	E17	12
WN21-561-12-6X3-2	89905	E23	4
WN21-561-4-3-5X4-5	89905	E9	2
WN21-561-8-4X9-5	89905	E9	13
WN21-570-21-2X3-2	89905	E2	1
WN21-570-23-2X4	89905	E1	14
WN21-570-27-2X6	89905	E3	5
WN21-570-46-3LX5	89905	E14	2
WN21-570-46-3LX5	89905	E23	16
WN21-600-10-3X5	89905	E14	6
WN21-601-9-4X0-35X8	89905	E11	3
WN21-616-3X15-2	89905	E2	8
WN21-630-23-2X4-5	89905	E3	10
WN24-120-1-5X18	89905	E17	27
WN24-140-1-5X12	89905	E1	3
WN24-140-2-5X6	89905	E23	8
XT21-103-68	89905	E9	
ZV14	89905	E28	12
ZV15	89905	E28	11
1A37	89905	E23	15
1A6ALA	89905	E23	6
10010896	09786	E16	7
10102202	09786	E16	1
10102203	09786	E16	3
10102204	09786	E16	4
10102205	09786	E16	5
10102206	09786	E16	2
101584	89905	E20	15
101615	89905	E20	1
10194010	09786	E16	8
10394848	18879	E6	1
150392	89905	E20	9
107300	89905	E12	23
107304	89905	E12	11
107305	89905	E12	13
108140	89905	E20	12
108637	89905	E20	16
112298	89905	E20	7
112537	89905	E24	16
114571	89905	E12	12
122284	89905	E18	4
122334	89905	E18	10
122335	89905	E18	2
122336	89905	E18	28
122337	89905	E18	26
122338	89905	E18	17
122339	89905	E18	15
122343	89905	E18	11
122344	89905	E18	12
122345	89905	E18	9
124051	89905	E21	
124724	89905	E18	25
129831	89905	E15	10
130286	89905	E5	17
130287	89905	E5	18
130373	89905	E8	4
130378	89905	E8	3
131683	89905	E4	3
135901	89905	E8	6
135959	89905	E10	15
135960	89905	E15	1
136144	89905	E12	15
136145	89905	E12	5
136146	89905	E12	14
149679	89905	E10	10
15100-11	89905	E23	17
15100-21	89905	23	12
15100-22	89905	E23	28
15100-23	89905	E23	29
15100-31	89905	E23	30
15270-13	89905	E11	13
153317	89905	E10	3
153319	89905	E10	11
153329	89905	E8	9
153333	89905	E10	4
16B13LA	89905	E23	
16B13LA	89905	E23	31
161034	89905	E10	9
161337	89905	E24	18
161780	89905	E10	5
161784	89905	E10	1
161975	89905	E15	4
162092	89905	E12	16
162253	89905	E15	2
162254	89905	E15	2
162368	89905	E12	4
162368	89905	E12	8
162437	89905	E10	7
162567	89905	E8	1
162681	89905	E10	14
162882	89905	E12	6
162913	89905	E12	20
163660	89905	E12	22
163788	89905	E12	1
163790	89905	E12	1
163807	89905	E12	18
163809	89905	E8	7
163856	89905	E15	3
166370	89905	E18	1
166370	89905	E20	2
166370	89905	E22	1
166494	89905	E27	2
166952	89905	E5	21
167456	89905	E18	20
169625	89905	E24	31
170554	89905	E12	9
170908	89905	E10	12
170920	89905	E18	3
171274	89905	E10	17
171924	89905	E12	2
175232	89905	E12	21

PART NUMBER	FSCM	FIG NO	ITEM NO
175356	89905	E5	10
176032	89905	E20	6
176045	89905	E20	13
176063	89905	E18	19
183631	89905	E5	14
184093	89905	E12	19
184772	89905	E22	4
188790	89905	E18	21
189189	89905	E18	22
193179	89905	E16	9
193179	89905	E20	11
193179	89905	E22	2
193179	89905	E22	7
193248	89905	E18	24
193807	89905	E22	8
196329	89905	E20	8
198386	89905	E18	18
198387	89905	E18	8
198388	89905	E18	27
198389	89905	E18	6
198390	89905	E18	5
198826	89905	E22	6
199895	89905	E21	2
199895	89905	E22	
2A001-000	89905	E25	1
2A04060	89905	E23	40
2A07040	89905	E25	4
2A07050	89905	E25	5
2A07060	89905	E25	2
2A07070	89905	E25	3
2A07101	89905	E25	6
2A08100-66	89905	E23	13
2A20A	89905	E23	49
2A23A	89905	E23	50
2A36B	89905	E23	9
201119	89905	E1	
208754	89905	E5	11
208818	89905	E24	3
21A00/000-66	89905	E23	48
21A008-000-66	89905	E23	2
21B000-000-66	89905	E23	1
21B001-000	89905	E23	34
21B002-000	89905	E23	46
21B002-000-66	89905	E23	26
21B11A	89905	E23	37
21B12	89905	E23	22
21B13A	89905	E23	23
21B14A	89905	E23	35
21B15A	89905	E23	42
21B16	89905	E23	54
21B18S	89905	E23	39
21B19	89905	E23	52
21B32AS	89905	E23	47
21B33	89905	E23	
21B33	89905	E23	32
21B52S	89905	E23	24
212163	89905	E18	23
212167	89905	E18	13
214254	89905	E12	3
215103	89905	E20	5
215105	89905	E20	17
215823	89905	E15	8
215824	89905	E15	7
215825	89905	E15	6
224971	89905	E4	6
234075	89905	E10	2
235976	89905	E24	28
235978	89905	E24	7
235978	89905	E24	23
242-929	89905	E21	1
243023	89905	E12	12
247370	89905	E5	3
247837	89905	E20	3
252806	89905	E4	9
252888	89905	E10	8
265535	89905	E24	29
269587	89905	E26	1
271947	89905	E5	5
271990	89905	E24	12
271991	89905	E24	10
271993	89905	E24	5
272012	89905	E5	6
272014	89905	E5	4
272091	89905	E24	25
278150	89905	E10	6
284791	89905	E24	19
296630	89905	E26	2
296670	89905	E26	5
296672	89905	E26	6
296944	89905	E4	4
3A11	89905	E23	3
3A29	89905	E25	7
3A50B51A	89905	E23	10
3A51A	89905	E23	11
3A52B	89905	E23	5
3A63A	89905	E23	7
308519	89905	E20	4
308574	89905	E18	
310439	89905	E18	7
311133	89905	E15	9
311699	89905	E28	1
311718	89905	E18	29
312946	89905	E24	4
312964	89905	E8	8
312994	89905	E24	
314514	89905	E8	5
314515	89905	E15	5
314519	89905	E8	
314520	89905	E12	7
314521	89905	E12	17
314522	89905	E8	10
314526	89905	E15	3
314527	89905	E15	11
314528	89905	E12	24
314529	89905	E10	13
315010	89905	E24	2
315061	89905	E12	10
316114	89905	E12	19
319010	89905	E26	
319012	89905	E24	14
319014	89905	E24	8
319016	89905	E24	9
319019	89905	E24	11
319023	89905	E24	21
319025	89905	E24	22
319028	89905	E24	32
319031	89905	E24	33
319034	89905	E24	13
319035	89905	E24	13
319040	89905	E24	34
319042	89905	E24	35
319047	89905	E24	27
319062	89905	E24	1
319087	89905	E24	26
319164	89905	E27	1
319342	89905	E5	12
319345	89905	E5	24
319346	89905	E5	15
319350	89905	E5	
319351	89905	E5	7
319606	89905	E8	
323091	89905	E4	5
323172	89905	E24	30
323373	89905	E24	24
326265	89905	E15	5
329903	89905	F18	17
333357	89905	E18	15
335104	89905	E10	16
335524	89904	E8	5
346285	89905	E24	16
346286	89905	E24	14
349532	89905	E22	3
349534	89905	E22	5
350956	89905	E24	6
352825	89905	E26	3
352916	89905	E26	4
353065	89905	E5	23
353067	89905	E5	22
353070	89905	E5	19
356048	89905	E8	2
356461	89905	E5	9
358844	89905	E5	13
358845	89905	E5	20
358853	89905	E5	2
358855	89905	E4	10
358856	89905	E4	8
358857	89905	E4	7
361106	89905	E24	20
361187	89905	E5	1
362481	89905	E5	16
364657	89905	E24	36
367555	89905	E4	
368435	89905	E6	2

PART NUMBER	FSCM	FIG. NO.	ITEM NO.
369364	89905	E20	
377734	89905	E4	1
377735	89905	E4	2
377763	89905	E5	8
377792	89905	E24	14
377796	89905	E24	10
377846	89905	E20	14
383868	89905	E24	20
398474	89905	E28	1
72-467A	89905	Ell	22
800206	89905	E20	10

APPENDIX F
EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

F-1. Scope. This appendix lists expendable supplies and materials you will need to operate and maintain the target set, azimuth laying. These items are authorized to you by CTA50-970, Expendable Items (except Medical, Class V, Repair Parts and Heraldic Items).

F-2. Explanation of Columns.

a. Column 1 - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material.

b. Column 2- Level. This column identifies the lowest level of maintenance that requires the listed item.

c. Column 3- National Stock Number. This is the national stock number assigned to the item; use it to request or requisition the item.

d. Column 4- Description. Indicates the federal item name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parenthesis, if applicable.

e. Column 6- Unit of Measure (U). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., each (es), inch (in), pair (pr), etc.). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE SUPPLES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C	6810-00-223-2739	Acetone, Technical, 1 pt can Fed Spec MMM-A-185	PT
2	C	6850-00-664-5683	Cleaning Solvent, Fed Spec P-D-680	QT
3	C	7920-00-401-8034	Cloth, lint free, nonabrasive, General Purpose, Part No. 1001	BX
4	C	9150-00-985-7244	Grease, Instrument and, Aircraft (GIA) MIL-G-23827	TW
5	C	6640-00-597-6745	Paper, Lens Tissue (4 in. x 6 in.) 50 sheets	PK
6	C	9150-00-252-6382	Lubricating Oil Watchmaking	BT
7	C	5120-01-018-5908	Orange Sticks 13218E3063 (97403)	PK

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Circular Level Screw Adjustment	2-10b
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Additional Authorization List	C-1
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C	
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D	
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By Order of the Secretary of the Army:

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

Official:

ROBERT M. JOYCE
Brigadier General, United States Army
The Adjutant General

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RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)
PFC JOHN DOE
COA, 3d ENGINEER BN
FT. LEONARDWOOD, MO 63108

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 5-6675-302-14&P	25 Feb 82	Target Set, Azimuth Laying, Wild Heerbrugg Model

BE EXACT. . .PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.
6	2-1 a		
B1		4-3	
125	line 20		

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

In line 6 of paragraph 2-1a the manual states the engine has 6 Cylenders. The engine on my set only has 4 Cylenders. Change the manual to show 4 Cylenders.

Callout 16 on figure 4-3 is pointing at a bolt. In key to figure 4-3, item 16 is called a shim - Please Correct one or the other.

I ordered a gasket, item 19 on figure B-16 by NSN 2910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is wrong. Please give me a good NSN

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER
JOHN DOE, PFC (268) 317-7111

SIGN HERE: John Doe
JOHN DOE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

DRSTS-M Overprint 1, 1 Nov 80

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

TEAR ALONG PERFORATED LINE

TEAR ALONG PERFORATED LINE

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN. . JOT DOWN THE DOPE ABOUT IT ON THIS FORM, CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 5-6675-302-14&P	25 Feb 82	Target Set, Azimuth Laying, Wild Heerbrugg Model

BE EXACT. . .PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE:

DA FORM 1 JUL 79 2028-2

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REVERSE OF DA FORM 2028-2 Reverse of DRSTS-M Overprint 1, 1 Nov 80

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ST. LOUIS, MO 63120

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.365	metric tons	short tons	1.102
pound-inches	mewton-meters	.11375			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

PIN: 050677-004