

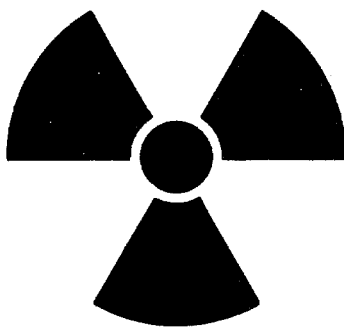
**TECHNICAL MANUAL  
ORGANIZATIONAL AND DIRECT SUPPORT  
MAINTENANCE MANUAL  
NIGHT VISION SIGHTS,  
INDIVIDUAL SERVED WEAPON  
AN/PVS-2  
(NSN 5855-00-087-2947),  
AN/ PVS-2A  
(NSN 5855-00-179-3708),  
AND AN/PVS-2B  
(NSN 5855-00-760-3869)**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**NOVEMBER 1977**

**WARNING**



STD- RW-2

**RADIOACTIVE MATERIAL**

**THORIUM 232**

1 THE OPTICAL GLASS IN THE NIGHT VISION SIGHT MAY CONTAIN THORIUM AND PRESENT A POSSIBLE EYE HAZARD A GREEN KNURLED RING, JUST FORWARD OF THE EYESHIELD, INDICATES THAT THE NIGHT VISION SIGHT IS SAFE TO USE.

2 DISPOSAL WILL BE AS RADIOACTIVE WASTE IN ACCORDANCE WITH AR 755-15.

**WARNING**

THE IMAGE INTENSIFIER ASSEMBLY PHOSPHOR SCREENS CONTAIN TOXIC MATERIAL IF AN ASSEMBLY BECOMES BROKEN, USE EXTREME CARE TO AVOID INHALATION OF THE PHOSPHOR MATERIAL OR ALLOW IT TO COME IN CONTACT WITH THE MOUTH OR AN OPEN SKIN WOUND.

**ORGANIZATIONAL AND DIRECT SUPPORT MAINTENANCE MANUAL**

**NIGHT VISION SIGHTS, INDIVIDUAL SERVED WEAPON**

**AN/PV-S-2 (NSN 5855-00-087-2947),**

**AN/PVS-2A (NSN 5855-00-179-3708), AND**

**AN/PVS-2B (NSN 5855-00-760-3869)**

**REPORTING OF ERRORS**

You can improve this manual by recommending improvements using DA Form 20282 (Test) located in the back of the manual. Simply tear out the self-addressed form, fill it out as shown on the sample, fold it where shown, and drop it in the mail.

If there are no blank DA Form 20282 (Test) in the back of your manual, use the standard DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forward to Commander, US Army Electronics Command, ATTI\*:

DRSELMAQ, Fort Monmouth, NJ 07703.

In either case a reply will be furnished direct to you.

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\*This manual, together with TM 11-5855-203-10, 29 August 1974, and TM 11-5855-203-23P, supersedes TM 11-5855-203-13, 10

April 1967, including all changes.

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## CHAPTER 1

## INTRODUCTION

## Section I. GENERAL

**1-1. Scope**

a. This manual contains organizational and direct support (DS) maintenance instructions for Night Vision Sights, Individual Served Weapon AN/PVS2, AN/PVS2A, and AN/PVS2B. It includes basic functioning, troubleshooting, and removal and replacement procedures for parts available at the organizational and DS categories of maintenance. An asterisk in parentheses (\*) after the nomenclature is used to indicate all models of the equipment. Hereafter, the AN/PVS2(\*) will be referred to as the night vision sight.

b. The maintenance allocation chart (MAC) is in appendix B.

c. Operating instructions and tabulated data are in TM 11585520310.

**1-2. Maintenance Forms and Records** Maintenance forms and records that you are required to use are explained in TM 38750.

**1-3. Indexes of Publications**

a. DA Pam 3104. Refer to the latest issue of DA Pam 3104 to see if there are new editions, changes, or additional publications pertaining to the night vision sight.

b. DA Pam 3107. Refer to DA Pam 3107 to determine whether there are modification work orders (MWO's) pertaining to the night vision sight.

**1-4. Administrative Storage**

Refer to TM 740901 for administrative storage instructions.

**1-5. Reporting Equipment Improvement Recommendations (EIR).**

EIR's will be prepared using DA Form 2407, (Maintenance Request). Instructions for preparing EIR's are provided in TM 38750, the Army Maintenance Management System. EIR's should be mailed direct to Commander, US Army Electronics Command, ATTN: DRSELMAQ, Fort Monmouth, NJ 07703. A reply will be furnished direct to you.

**1-6. Destruction of Night Vision Sight to Prevent Enemy Use**

Refer to TM 7502442 for instructions on destroying the night vision sight to prevent enemy use.

## Section II. SERVICE UPON RECEIPT OF AN/PVS-2(\*)

**1-7. Damage Report**

Inspect the night vision sight for damage incurred during shipment. Report any damage in accordance with TM 38750.

**1-8. Completeness**

Check the night vision sight against the component listing in the operator's manual and the packing slip to see if the shipment is complete.

Report all discrepancies in accordance with TM 38750. Place the night vision sight in service even though a minor assembly or part that does not affect proper functioning is missing.

**1-9. Modifications**

Check to see whether the night vision sight has

been modified. A night vision sight which has been modified will have the MWO number near the nomenclature plate. Check to see whether all currently applicable MWO's have been applied. A green knurled ring between the eyepiece assembly and the eyeshield indicates that shielding against radiation from the eyepiece assembly has been installed in accordance with MWO 115800210301.

**1-10. Serviceability**

Refer to TB 11580021224 for procedures to check the serviceability of the night vision sight.

Section III. BASIC FUNCTIONING

1-11. Power Supply  
(fig. 11).

a. *General.* When the power switch is set to the on position, the 6.75volt battery energizes the oscillator. The oscillator supplies 2800 volts ac (alternating current) to the voltage multiplier on the image intensifier assembly. The voltage multiplier insures that each of the three stages of the image intensifier assembly receives the required dc (direct current) voltage for operation. In the AN/PVS2B, the oscillator is built into the image intensifier assembly. An automatic brightness control (ABC) adapter replaces the oscillator to provide electrical continuity.

b. *Current Flow.* Current flow through the night vision sight is given below.

- (1) From battery to power switch.
- (2) From power switch to oscillator contact spring.

- (3) From oscillator contact spring to oscillator contact assembly.
- (4) From oscillator contact assembly to oscillator.
- (5) From oscillator to oscillator ground and to image intensifier assembly.
- (6) From image intensifier assembly to contact spring.
- (7) From contact spring to main body (ground).
- (8) From main body (ground) to battery cap.
- (9) From battery cap to cap spring.
- (10) From cap spring to batter.

**NOTE**

In the AN/PVS2B the oscillator is replaced by the ABC adapter.

Figure 11. Electrical diagram.

spring.  
1-2

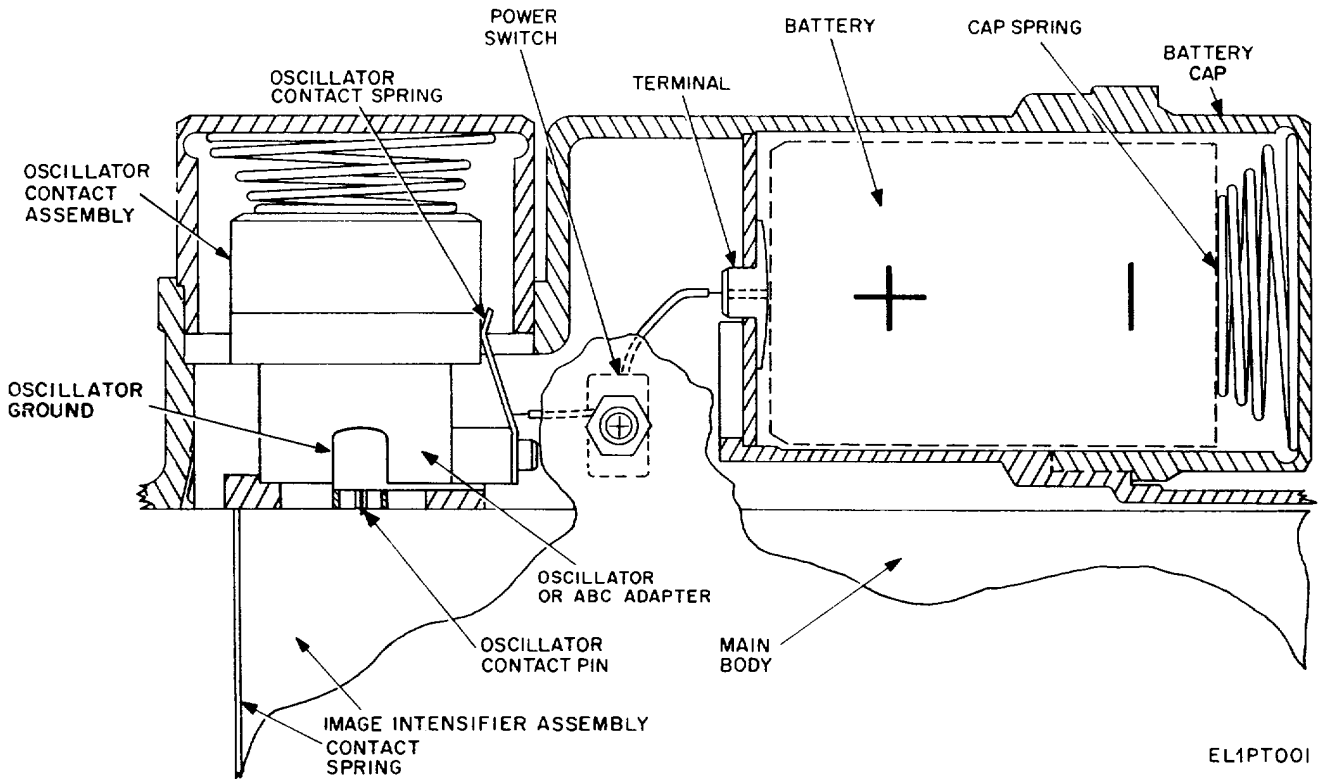


Figure 1-1. Eletrical Diagram

**1-12. Objective Lens Assembly**  
(fig 1-2)

The objective lens assembly collects available reflected scene illumination and focuses it on the front screen of the image intensifier assembly.

Under nighttime illumination conditions, this image is very dim and not visible to the naked eye. The image is focused for different distances by varying the position of the objective lens assembly relative to the image intensifier.

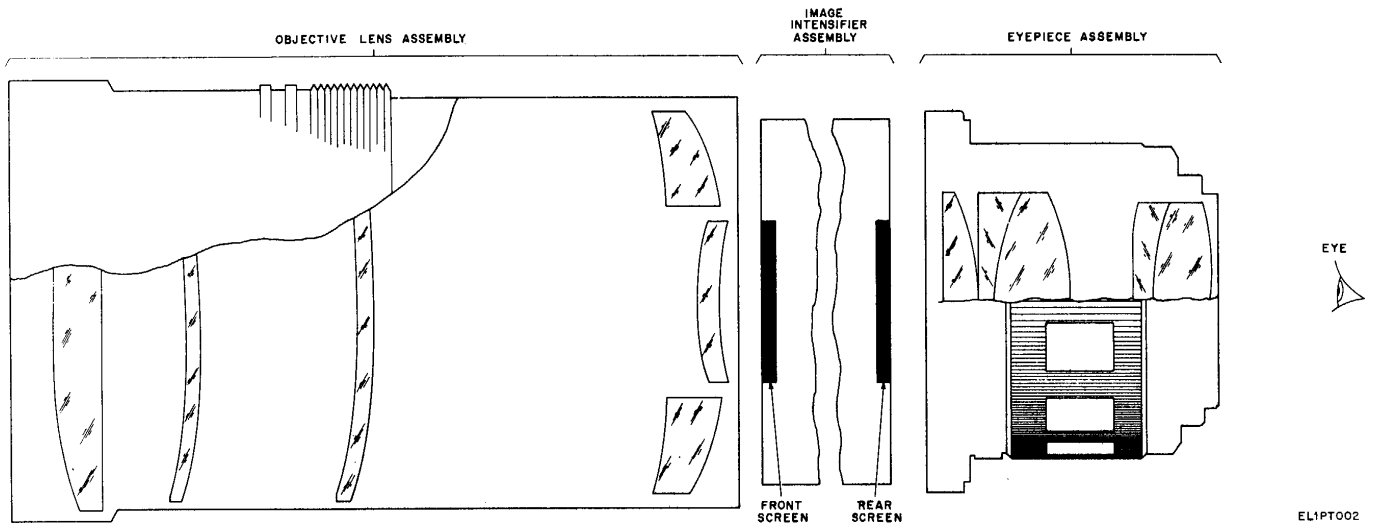


Figure 1-2. Optical diagram.  
1-4

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**1-13. Image Intensifier Assembly**

(fig. 1-2)

The image intensifier assembly receives the dim image from the objective lens assembly, amplifies it, and displays the image on the rear screen. The brightness of the image is amplified enough so that it is visible to the naked eye. The image intensifier assembly also contains provisions for automatic brightness control to permit viewing under changing light conditions without apparent change to the scene brightness.

**1-14. Eyepiece Assembly**

(fig. 1-2)

The eyepiece assembly magnifies the image displayed on the rear screen of the image intensifier and focuses it on the user's eye. The eyepiece contains provisions for a plus or minus four diopter adjustment to accommodate the sight to a user who is near or farsighted. The eyepiece and objective lens assemblies are purged with dry nitrogen to prevent lens fogging.

CHAPTER 2

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. GENERAL

**2-1. Maintenance Operators and Repair Parts**

Refer to the maintenance allocation chart (MAC) in appendix B for a summary of the maintenance operations you are authorized to perform. Refer to TM 11585520330P for repair parts.

**2-2. Repainting and Lubrication**

*a. Repainting.* Refer to TB 430118 for repainting and touchup instructions.

*b. Lubrication.* No lubrication is required for organizational maintenance.

Section II. PREVENTIVE MAINTENANCE AND TROUBLESHOOTING

**2-3. Preventive Maintenance Checks and Services (PMCS)**

Preventive maintenance is the systematic care, service, and inspection of equipment to assure the equipment is serviceable and to prevent the oc-

currence of trouble. Preventive maintenance checks and services (table 2-1) lists checks to be performed monthly, in addition to the daily checks listed in TM 11-5855-203-10. Record all checks in accordance with TM 38-750.

Table 2-1. Organizational Monthly Preventive Maintenance Checks and Services

Total task hours required: .2

SEQUENCE NUMBER	ITEM TO BE INSPECTED PROCEDURE	WORK TIME (TENTHS OF AN HOUR)
1	<p>CASE, CY-6302</p> <p>Clean the exposed surfaces of the case and cushions with a cloth (dampen with water if necessary) Allow the cushions to dry thoroughly before use.</p>	0.1
2	<p>CARRYING STRAP</p> <p>Examine for evidence of rotting or weakening of the canvas by pulling or stretching. To prevent the formation of mildew, air the strap for several hours. Clean by scrubbing with a dry, stiff brush. If water is necessary to remove dirt, it must not be used until all mildew has been removed. Remove oil and grease by scrubbing with mild soap and warm water. Rinse well with clear water and allow to dry thoroughly.</p> <p style="text-align: center;"><b>NOTE</b></p> <p>Do not use strong soap or detergent as it may weaken or remove fungus resistant chemicals in the canvas.</p>	0.1

**2-4. Organizational Troubleshooting**

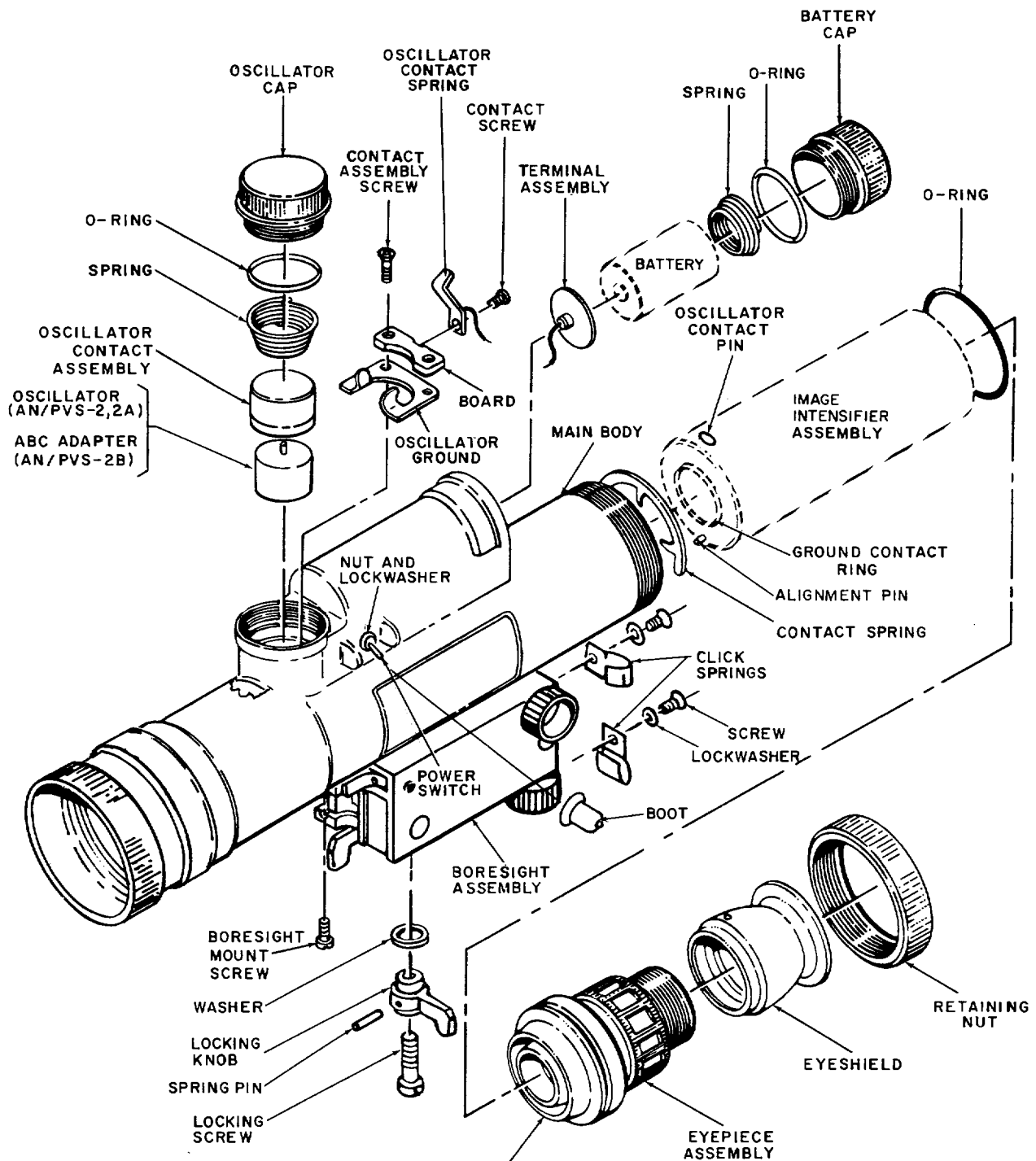
Troubleshooting by the organizational maintenance man is limited to replacement of items covered in paragraphs 25 through 29. If inspection reveals deficiencies that cannot be corrected by the procedures given, higher category of maintenance is required.

**2-5. Removal and Replacement of Eyeshield**  
(fig. 21)

Replace the eyeshield when it is torn, cracked, or unserviceable.

*a. Removal.* Remove the eyeshield by unthreading it counterclockwise from the eyepiece assembly.

*b. Replacement.* Thread the eyeshield to the eyepiece assembly by turning it clockwise.



**WARNING**

THE GREEN ADAPTER RING ON THE EYEPIECE ASSEMBLY CONTAINS A RADIATION SHIELD. THE ADAPTER RING IS SEALED AND IS NOT TO BE REMOVED.

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Figure 2-1. Night vision sight, subassembly, exploded view.

**2-6. Removal and Replacement of Boresight Assembly**

(fig. 2-1)

Replace the boresight assembly when it is damaged or defective.

*a. Removal.* Remove the boresight assembly by removing two boresight mount screws.

*b. Replacement.* Replace the boresight assembly by reversing the above procedure.

**2-7. Removal and Replacement of Battery Cap and O- Ring**

(fig. 2-1)

*a. Inspection.*

(1) Remove the battery cap, and check for cracks or other mechanical damage.

(2) Check the O-ring for damage or deterioration.

(3) Check the spring and the interior of the cap for evidence of corrosion.

*b. Repair.*

(1) Replace the O-ring if damaged or deteriorated. Lubricate the O-ring with grease (MILG4343) before installation.

(2) Remove corrosion from the spring and cap.

(3) Replace the battery cap if unserviceable.

*c. Replacement.* Before replacing the battery cap, clean it and remove all evidence of corrosion from the battery housing section of the main body.

**2-8. Click Springs**

(fig. 2-1)

Replace the click springs when they are worn or damaged by removing the screws, lockwasher and click spring from the boresight assembly.

**2-9. Lens Cap**

(fig. 3-1)

Replace the lens cap when it no longer fits properly, admits too much light for daylight operation, or becomes unusable.

**2-10. Case CY6302**

*a. Case CY6302.* Replace the case when it is damaged beyond use.

*b. Cushions.* Replace the cushions when they become damaged, deteriorated, or worn beyond use.

CHAPTER 3

DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

Section I. GENERAL

**3-1. Maintenance Operations**

Refer to the maintenance allocation chart (MAC) in appendix B for a summary of the maintenance operations you are authorized to perform. The MAC also lists the tools and test equipment required for DS maintenance.

**3-2. Testing**

Perform an operational test in accordance with TB

11580021224 whenever the image intensifier assembly, objective lens assembly, eyepiece assembly, or electrical components have been replaced or repaired. Table 3-1 lists troubles, possible causes, and corrective actions.

Table 3-1. Direct Support Troubleshooting

Trouble	Possible cause	Corrective action
1. Image blurred	Defective oscillator	Replace oscillator (para 3-5).
	Defective eyepiece assembly	Replace eyepiece assembly (para 3-10).
	Defective image intensifier assembly	Replace image intensifier assembly (para 3-13).
	Defective objective lens assembly	Replace objective lens assembly (para 3-8).
2. Weak or no illumination of image intensifier assembly	Defective oscillator	Replace oscillator (para 3-5).
	Defective image intensifier assembly	Replace image intensifier assembly (para 3-13).
	Defective oscillator contact assembly	Replace oscillator contact assembly (para 3-11).
	Defective contact spring	Replace contact spring (para 3-12).
	No electrical continuity	Check continuity (para 3-3).
	Defective power switch	Replace power switch (para 3-7).

**3-3. Continuity Check**

(fig. 11).

The wiring and power switch may be checked for continuity with a multimeter as follows:

- a. Remove the battery.
- b. Remove the oscillator or ABC adapter (para 35 or 36).
- c. Place the power switch in the up position.

d. Check for continuity (O ohm) from the terminal (battery side) to the oscillator contact spring.

e. If the continuity check reveals an open circuit, the power switch must be removed and the individual wires and power switch must be checked for continuity.

Section II. REMOVAL AND REPLACEMENT

**CAUTION**

THE SCREWS IN THE NIGHT VISION SIGHT ARE SEALED WITH A SEALING COMPOUND. DISSOLVE THIS SEALING COMPOUND WITH A SUITABLE SOLVENT (KETONE) BEFORE ATTEMPTING TO REMOVE THE SCREWS. RESEAL WITH LOC-

TITE SEALANT (MIL-S-22473B) (NSN 8030-00-926-8953), OR EQUIVALENT, WHEN REASSEMBLING.

**3-4. Night Vision Sight Subassembly**

(fig 2-1)

a. *General.* Direct support maintenance on the sight subassembly, other than testing, consists of

removing and replacing mechanical, electrical, and optical assemblies. These procedures are given in paragraphs 3-5 through 3-14.

*b. Repair.* Replace the main body when inspection reveals dents, breakage, or other damage.

**3-5. Oscillator (AN/PVS2, AN/PVS2A)**

(fig. 2-1)

*a. Removal.*

(1) Remove the oscillator cap from the main body by turning the cap counterclockwise. (The oscillator cap and O-ring are identical with the battery cap and O-ring.)

(2) Remove the oscillator contact assembly from the oscillator.

(3) Remove the oscillator from the main body.

*b. Testing.* The only method of testing for a defective oscillator is by substitution of a known good oscillator.

*c. Replacement.* Install the oscillator contact assembly on the oscillator. Install the oscillator and oscillator cap.

**3-6. ABC Adapter (AN/PVS2B)**

(fig. 21)

*a. General.* On the AN/PVS2B, the oscillator is built into the image intensifier assembly and the ABC adapter takes the place of the oscillator.

*b. Removal.* Refer to paragraph 35a.

*c. Testing.* Check the ABC adapter for continuity (O ohm).

*d. Replacement.* Install the oscillator contact assembly on the ABC adapter. Install the ABC adapter and oscillator cap.

**3-7. Power Switch**

(fig. 21)

*a. Removal*

(1) Remove the oscillator (para 3-5) or ABC adapter (para 36).

(2) Remove two contact assembly screws.

(3) Remove the boot (AN/PVS2 only) from the power switch.

(4) Remove the nut and lockwasher from the power switch.

(5) Remove the power switch from the main body through the opening in the oscillator end.

(6) Unsolder the wire leads if testing reveals the switch to be defective.

*b. Testing.* Check for continuity (OO ohm) between the switch terminals with the switch in the on position.

*c. Replacement.* Replace the power switch by reversing the procedures given in a above.

**3-8. Objective Lens Assembly**

(fig. 3-1)

*a. Removal.*

(1) Remove the three setscrews (setscrews are not used on all assemblies).

(2) Unscrew the objective lens assembly from the main body by turning counterclockwise.

*b. Inspection.*

(1) Inspect O-ring for damage or deterioration.

(2) Inspect lenses for scratches or breaks.

(3) Visually inspect the interior of the lens assembly for damage or condensation.

(4) Inspect the exterior of the lens assembly for damage.

*c. Repair.*

(1) Replace the O-ring when damaged or deteriorated. Lubricate the O-ring with grease (MILG4343).

(2) If inspection reveals any damage or condensation, replace the objective lens assembly.

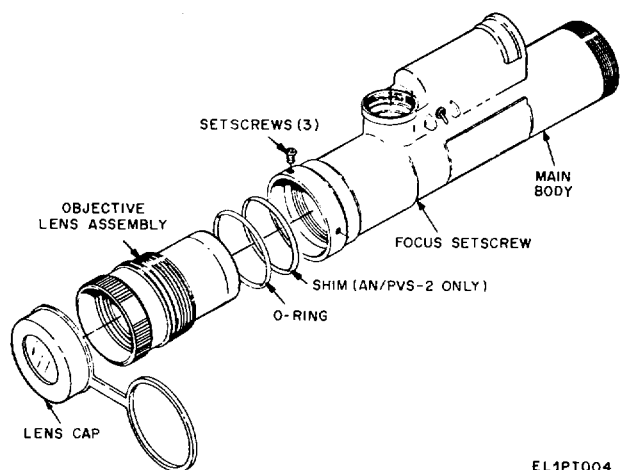
*d. Replace.*

(1) Lubricate the O-ring with grease (MILG4343).

(2) On the AN/PVS2, screw the new objective lens assembly into the main body without removing the existing shims. Use a star or distant object (300 meters) to check infinity focus. If infinity focus cannot be obtained, remove the shims and reinsert the objective lens assembly. If infinity focus still cannot be obtained, replace the shims and repeat the procedure with another objective lens assembly.

(3) On the AN/PVS2A, and AN/PVS2B, screw the new objective lens assembly into the main body. Use a star or distant object (300 meters) to check infinity focus. If infinity focus cannot be obtained, loosen the focus setscrew located on the bottom of the main body. Adjust the objective lens assembly to a position just beyond the infinity focus position. Tighten the focus setscrew.

(4) Install the three setscrews, if used.



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Figure 3-1. Objective lens assembly.

**3-9. Terminal Assembly**

(fig. 2-1)

**a. Removal**

- (1) Remove the battery.
- (2) Remove the oscillator or ABC adapter (para 3-5 or 3-6).
- (3) Remove the two contact assembly screws.
- (4) Remove the power switch (para 3-7).
- (5) Remove sealing compound from around the edge of the terminal assembly and then force it out with pressure from the oscillator opening.

**b. Replacement.** Replace the terminal assembly by reversing the procedures given in a above.

**3-10. Eyepiece Assembly**

(fig. 2-1)

**a. Removal.**

- (1) Remove the retaining nut from the main body by turning it counterclockwise.
- (2) Carefully slide the eyepiece assembly from the main body.

**b. Inspection.**

- (1) Inspect the exterior of the eyepiece assembly for mechanical damage.
- (2) Inspect the threaded parts for burred or damaged threads.
- (3) Inspect the lenses for scratches or breaks.
- (4) Inspect the vinyl surfaces for damage.
- (5) Inspect the O-ring for damage or deterioration.

(6) Visually inspect the interior of the eyepiece assembly for condensation.

**c. Cleaning.**

- (1) Clean the vinyl surfaces on the eyepiece assembly with lens tissue, wet with alcohol.
- (2) Polish the vinyl surfaces with clean lens tissue.

**d. Repair.**

- (1) Replace the O-ring when damaged or deteriorated. Lubricate with grease (MILG4343).
- (2) Remove burrs from threads with a small file or emery cloth.
- (3) Replace the eyepiece assembly when inspection reveals condensation or damage.

**e. Replacement.**

- (1) Lubricate the O-ring with grease (MILG4343).
- (2) Set the sight on the objective lens (vertical position).
- (3) Position the eyepiece assembly with the diopter scale in line with the battery housing.
- (4) Carefully push the eyepiece assembly into the main body until it contacts the image intensifier assembly. Be careful not to pinch the O-ring.
- (5) Lubricate the threads of the retaining nut with grease (MILG4343).

(6) Position the retaining nut over the eyepiece assembly and thread it clockwise onto the main body. Hand-tighten only.

**3-11. Oscillator Contact Assembly**

(fig. 2-1)

**a. Removal**

- (1) Remove the oscillator cap from the main body by turning it counterclockwise.
- (2) Remove the oscillator contact assembly from the oscillator or the ABC adapter.

**b. Inspection.** Inspect the contact ring and oscillator pin connector for evidence of corrosion.

**c. Testing.** Check for continuity between the contact ring and oscillator pin connector with a multimeter.

**d. Repair.** The oscillator contact assembly is a non-reparable item and must be replaced if unserviceable.

**e. Replacement.** Replace the oscillator contact assembly by reversing the procedure given in a above.

**3-12. Contact Assembly**

(fig. 2-1)

**a. Removal**

- (1) Remove the oscillator or ABC adapter (para 3-5).
- (2) Remove the two contact assembly screws.
- (3) Unsolder the wire from the oscillator contact spring.

**b. Repair.** Replace defective parts as required.

**c. Replacement.** Replace the contact assembly by reversing the procedures given in a above.

**3-13. Image Intensifier Assembly**

(fig. 2-1)

**a. Testing.** The only method of testing for a defective image assembly is by substitution of a known good image intensifier assembly.

**b. Removal.****CAUTION**

DO NOT ATTEMPT TO REMOVE THE IMAGE INTENSIFIER ASSEMBLY FROM THE MAIN BODY UNTIL THE OSCILLATOR OR ABC ADAPTER HAS BEEN REMOVED TO INSURE THAT DAMAGE TO THE IMAGE INTENSIFIER ASSEMBLY DOES NOT OCCUR.

(1) Remove the oscillator or ABC adapter (para 3-5).

(2) Remove the eyepiece assembly (para 3-10).

**NOTE**

GENTLY STRIKE THE BATTERY COMPARTMENT WITH YOUR HAND. DO NOT ALLOW THE IMAGE INTENSIFIER ASSEMBLY TO FALL.

**WARNING**

THE IMAGE INTENSIFIER ASSEMBLY PHOSPHOR SCREENS CONTAIN TOXIC MATERIAL. IF AN ASSEMBLY BECOMES BROKEN, BE EXTREMELY CAREFUL TO AVOID INHALATION OF THE PHOSPHOR MATERIAL OR ALLOW IT TO COME IN CONTACT WITH THE MOUTH OR OPEN WOUND.

(3) Carefully remove the image intensifier assembly from the main body.

**CAUTION**

THE IMAGE INTENSIFIER ASSEMBLY NORMALLY WILL HAVE A RESIDUAL HIGH-VOLTAGE CHARGE. THIS CHARGE MUST BE REMOVED. FOLLOW THE PROCEDURE GIVEN IN (4) AND (5) BELOW.

(4) Carefully touch the oscillator contact pin on the image intensifier assembly to the main body until the charge is removed.

(5) Carefully touch the ground contact ring on the image intensifier assembly to the main body until the charge is removed. Do not damage the end of the image intensifier assembly.

(6) Remove the contact spring.

*c. Cleaning.*

(1) Make sure that glass faces ground contact ring, and vinyl surfaces are free of oil, fingerprints, and all forms of foreign matter.

(2) Remove any oil, dirt, or corrosion from the contact spring.

*d. Replacement.*

(1) Install the contact spring in the main body. Insure that the contact fingers are facing out and the space in the ring is centered on the slot in the main body flange.

(2) Carefully insert the image intensifier assembly, with alignment pin first, into the main body.

(3) Rotate the image intensifier assembly slightly to be sure that the alignment pin slips into the slot on the main body flange.

(4) Install the oscillator or ABC adapter (para 3-5).

(5) Install the eyepiece assembly (para 3-10).

**3-14. Lock Knobs**

(fig. 2-1)

a. Removal Remove spring pin, unthread locking screw and remove locking knob and washer.

b. Replacement.

(1) Assemble locking knob, washer and locking screw on boresight mount assembly.

(2) Align hole in locking knob with hole in locking screw and insert spring pin.

**3-15. Mount Assemblies**

The M14, M16, and M67 mount assemblies are repaired by replacing hardware. Refer to TM 11-5855-203-23P for illustrated breakdown of each assembly.



## APPENDIX A

## REFERENCE

---

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	U.S. Army Equipment Index of Modification Work Orders.
TB 11-5800-212-24	Procedure for Determining Serviceability of Night Vision Sight, Individual Served Weapon AN/PVS-2 and AN/PVS-2A; Night Vision Sight, Crew Served Weapons AN/TVS-2, AN/TVS-2A, and AN/TVS-2B; Night Vision Sights, Miniaturized AN/PVS-3 and AN/PVS-3A; and Night Vision Sight, Tripod Mounted AN/TVS-4 and AN/TVS-4A.
TB 43-0118	Field Instructions for Painting and Preserving Electronics Command Equipment Including Camouflage Pattern Painting of Electrical Equipment Shelters.
TM 11-5855-203-10	Operator's Manual for Night Vision Sight, Individual Served Weapon AN/PVS-2, AN/PVS-2A, and AN/PVS-2B.
TM 11-5855-203-23	Direct Support Maintenance Repair Parts and Special Tools List for Night Vision Sights, Individual Served Weapon AN/PVS-2, AN/PVS-2A and AN/PVS-2B.
TM 38-750	The Army Maintenance Managements System (TAMMS).
TM 740-90-1	Administrative storage of Equipment.
TM 750-244-2	Procedures for Destruction of Electronics Materiel to Prevent Enemy Use (Electronics Command).

## APPENDIX B

## MAINTENANCE ALLOCATION

## Section I. INTRODUCTION

**B-1. General**

This appendix provides a summary of the maintenance operations for AN/PVS-2, AN/PVS-2A, and AN/PVS-2B. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

**B-2. Maintenance Function**

Maintenance functions will be limited to and defined as follows:

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 to 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, preserve, drain, paint, or to replenish fuel/lubricants/hydraulic fluids or compressed air supplies.

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

e. **Align.** To adjust specified variable elements of an item to 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 equipment used in precision measurement. Consists of the comparison 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, module (component or assembly) in a manner to allow the proper functioning of the equipment/system.

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

i. **Repair.** The application of maintenance services (inspect, test, service, adjust, align, calibrate, 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/assembly, end item or system.

j. **Overhaul** That periodic maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (e.g., 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 services/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 equipment/components.

**B-3. Column Entries**

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 noun 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.

d. **Column 4, Maintenance Category.** Column 4 specifies, by the listing of a "worktime" 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 that maintenance function at the indicated category of maintenance. If the number or complexity of the task within the

listed maintenance function vary at different maintenance categories, appropriate "worktime" figures will be shown for each category. The number of man-hours specified by the "worktime" figure represents the average time required to restore an item (assembly, 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. Subcolumns of column 4 are as follows:

C- Operator/Crew  
 O- Organizational  
 F- Direct Support  
 H- General Support  
 D- Depot

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

#### **B-4. Tool and Test Equipment Requirements (Table 1)**

a. Tool or Test Equipment Reference Code. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

b. Maintenance Category. The codes in this column indicate the maintenance category allocated the tool or test equipment.

c. Nomenclature. This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

d. National/NATO Stock Number. This column lists the National/NATO stock number of the specific tool or test equipment.

e. Tool Number. This column lists the manufacturer's part number of the tool followed by the Federal Supply Code for manufacturers (5-digit) in parentheses.

**(Next printed page is B-3.)**

**SECTION II MAINTENANCE ALLOCATION CHART  
FOR  
NIGHT VISION SIGHTS, INDIVIDUAL SERVED WEAPON  
AN/PVS-2, AN/PVS-2A, AND AN/PVS-2B**

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT
			C	O	F	H	D	
00	NIGHT VISION SIGHT, INDIVIDUAL SERVED WEAPON AN/PVS2, AN/PVS-2A, AND AN/PVSB	Inspect Test Service Install Replace Overhaul	0.1  0.4 0.1   	    0.5 1.0	0.2     	      	1     2.0 3 - 29	
01	CASE, NIGHT VISION SIGHT CY6302/PVS	Inspect Service Replace Repair	0.1 0.1   	   0.1 0.3	     	      	      	
02	IMAGE INTENSIFIER ASSEMBLY	Inspect Replace Repair Overhaul	    	    	0.1 0.2  	    	18 29 1.0	
03	NGHT VISION SIGHT SUBASSMBLY	Inspect Test Service Install Replace Repair Overhaul	0.1  0.1 0.1   	      	0.2    0.5 0.5	      	1    2 3 - 29	
0301	BORESIGHT ASSEMBLY	Inspect Replace Repair Overhaul	0.1    	   0.1  	   0.3  	    	2 10, 19	
0302	EYEPIECE ASSEMBLY	Inspect Replace Repair Repair Overhaul	    	    	0.1 0.2 0.1  	    	9,15,21,22,23,26,27,29 1.0 1.0	
030201	MAIN BODY ASSEMBLY	Replace Repair	  	  	  	1.0 0.7 0.5	3 -29	
0303	LENS ASSEMBLY, OBJECTIVE	Inspect  Repair- Repair	    	    	0.1 0.2 0.1  	    	5,6,7,8,11,12,13,16,21, 22,23,24,25,26,27,29 1.0	
04	ADAPTER ASSEMBLY M16	Overhaul Replace Repair	   	  0.1  	   0.3	    	    	
05	MOUNT ASSEMBLY M14	Replace Repair	  	  	  	  	  	
06	MOUNT, TELESCOPE M67	Replace Repair	  	  	  	  	  	

- 1) By replacement of units 01,04,05, and 06.
- 2) By replacement of cushion only.
- 3) By replacement of 0302 and 0303.-
- 4) By replacement of O-ring.
- 5) By replacement of module 030201.

**Table 1. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR**

NIGHT VISION SIGHTS, INDIVIDUAL SERVED WEAPON  
AN/PVS-2, AN/PVS-2A, AND AN/PVS-2B

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	F,D	LTIMETER TS-352/U	6625-00-242-5023	MILM4269(81349)
2	F,D	TOOL KIT, ELECTRONIC EQUIPENT TK-100/G	5180-00-605-0079	PPL863(80063)
3	o	FIURE, HARNESS ASSEMBLY		SDB69-6061
4	D	TOOL, GRIPPING		1786GW
5	D	WRENCH, SPANNER	5961-00-921-3778	SA787(14099)
6	D	WREN, SPANNER	6695-00-137-2265	SA788(14099)
7	D	LOADING TOOL, CONE		SDB67-6071
8	D	LOADING TOOL, CELL	5120-00-629-3310	AT823 (79318)
9	D	WRENCH, SPANNER		SDD69-6010
10	D	FIXTURE, BORESIGHT CLICK TEST		SDB70-6521
11	D	FIXTURE, PRIMARY MIRROR ALIGNMENT		AF818
12	D	FIXTURE, SECONDARY MIRROR ALIGNMENT		AF819
13	D	FIXTURE, PURGE		HF822
14	D	PANEL, PUGE		
15	D	FIXTURE, SI-		
16	D	FIXTURE, OBJECTIVE CARRIAGE		1127290-1
17	D	ADAPTER, TRIPOD MOUNT		SDB72-6016
18	-D	MOUNT, ADAPTER BASE		SDB68-6532-1
19	D	ADAPTER, BORESIGHT KNOB TORQUE WRENCH 13/16 INCH SKET, 12 IH BY 1 INCH DRIE.		
20	D	OSCILLATOR, TESTER		(S/N101)
21	D	TEST TUNNEL LENGTH 50 M, WIDTH 4 HEIGHT 8 FT. MIN. LIGHT TIGHT, BLACK NON-REFLECTIVE FINISH		
22	D	CONTROLIABLE, LOW LEVEL LIGHT SYSTEM LIGHT CONTROLABLE 1 X 10 <sup>-5</sup> TO 1 X 10 <sup>-1</sup> FOOT CANDLES		
23	D	TARGET SIMILAR TO 1951 AIR FORCE TARGET, 30% CONTRAST, 33% REFLECTANCE, 14 PATTERNS		
24	D	POWER SUPPLY		SM1602AMX
25	D	TARGET, BORESIGHT CLICK TEST		
26	D	16 INCH COLLIMATOR	389500-989-3418	D278(20263)
27	D	OPTICAL TEST BENCH		1127250-1
28	D	TARGET, RUNOUT TEST		
29	D	IMMERSION TEST TANK 3 FT BY 1-1/2 FT BY 4 DEEP (MINIMUM)		

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USAES (2)	(1 cy each unit)
USAICS (3)	11-500 (AA-AC)
MAAG (1)	29134
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NG: State AG (3)

USAR: None

For explanation of abbreviations, used see AR 310-50..

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