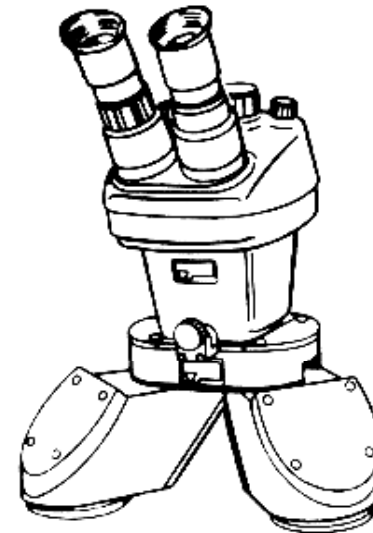


**PREVENTIVE MAINTENANCE
CHECKS AND SERVICES ON THE
ZOOM STEREOSCOPE 95R**



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HEADQUARTERS, DEPARTMENT OF THE ARMY

OCTOBER 1988

The preventive maintenance checks and services in this GTA, if performed correctly, will help keep the zoom stereoscope 95R clean and in good working order.

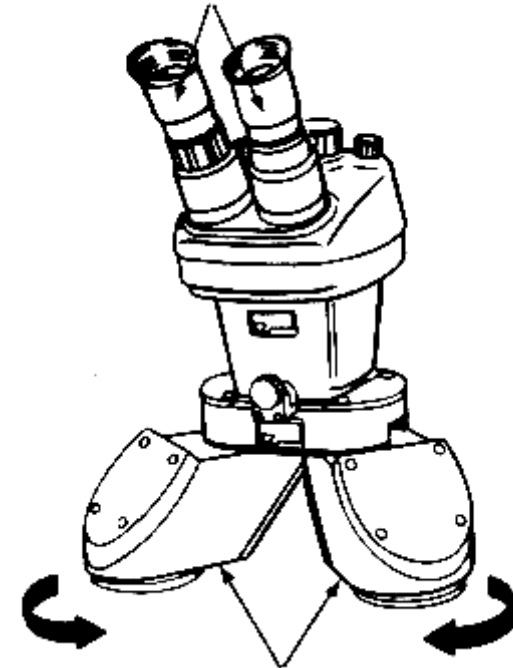
This GTA is a checklist which you can use on the job to make sure that none of the services required on the 95R are missed. You should read this GTA carefully. Do not skip any of the steps.

This publication supports STP 5-81 Q-SM-TG. You will find step-by-step, easy to follow guidance on how to do the operator's task on the zoom stereoscope 95R.

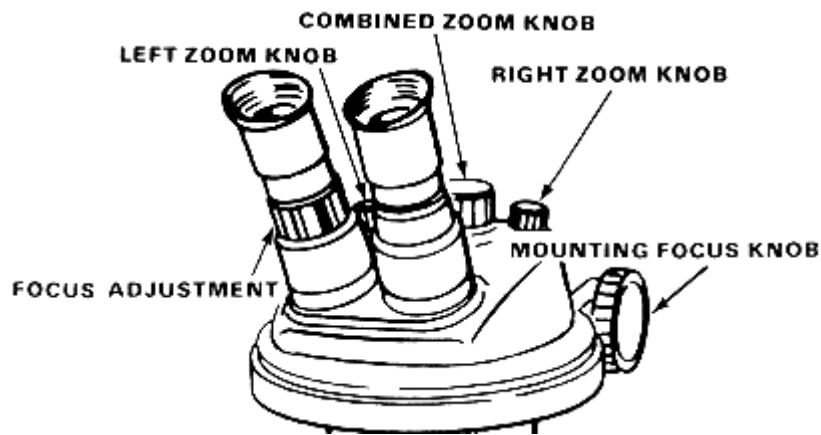
NOTES

Section I. OPERATOR PREVENTIVE MAINTENANCE
CHECKS AND SERVICES

EYEPIECE TUBES



- A. RHOMBOID ARMS. Check for freedom of movement.
- B. EYEPIECE TUBES. Check for freedom of movement.



C. RIGHT, LEFT, AND COMBINED ZOOM KNOBS.

1. Turn the knobs fully to the right.
2. Pull the combined zoom knob up.
3. Rotate the left and right zoom knobs.
4. Observe the left and right images change size.
5. Turn the knobs fully to right.
6. Adjust knobs until the images are equal in size.

D. MOUNTING FOCUS KNOB AND FOCUS ADJUSTMENT.

1. Move the mounting focus knob on optical mount until the right eye image is clearly focused.
2. Move the focus adjustment on the left eyepiece to focus the left eye image.

E. OPTICAL SURFACES.

1. Remove all dust, dirt, and foreign matter from exposed optical surfaces using a watchmaker's blower.
2. Slightly dampen the lens tissue with lens cleaner.
3. Gently wipe the exposed optical surfaces. Use a circular motion starting from the center of glass and working to edge. Use a new tissue for each surface.

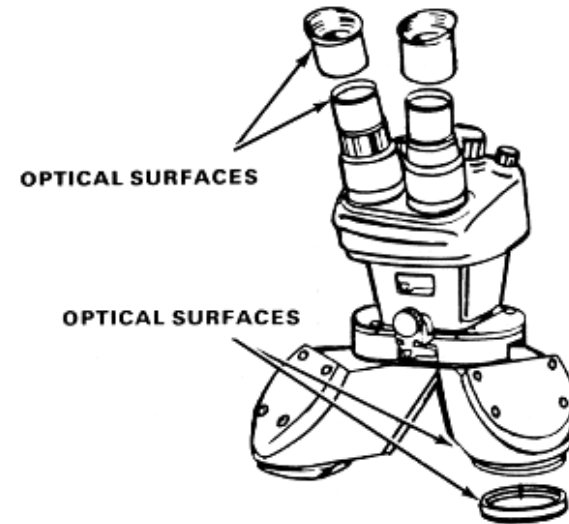
- Place the plastic dust protectors in the eyepiece tube holes.

CAUTION

Failure to use dust protectors may result in loss of optical properties or mechanical problems.

- Loosen the rhomboid lock screw by turning to left until screw threads are clear of the pod.
- Slide the rhomboid free of pod and place the rhomboid in the transport case.
- Unlock the pod from the optical mount by loosening setscrews and lift free.
- Place the stereoscope in the case. Be sure all the components are in the case. Secure the case and store in a designated space.

NOTE: There are no assigned organizational or direct/general support maintenance tasks for this equipment. In the event that the zoom stereoscope must be removed from the section for repair or replacement, pack it in the original manufacturer's case that it came in.



- Dry the clean optical surface with fresh lens tissue, using a circular motion starting from center and working to edge.
- Clean the internal mirror surfaces of the rhomboid assembly with cotton swabs.
- Do not attempt to clean the remaining internal mirror surfaces.

NOTE: Troubleshooting procedures at the operator level are limited to cleaning of optical glass surfaces to obtain clear vision or improve optical performance. Failure of optical system requires zoom stereoscope 95R to be exchanged for an instrument in proper working order.

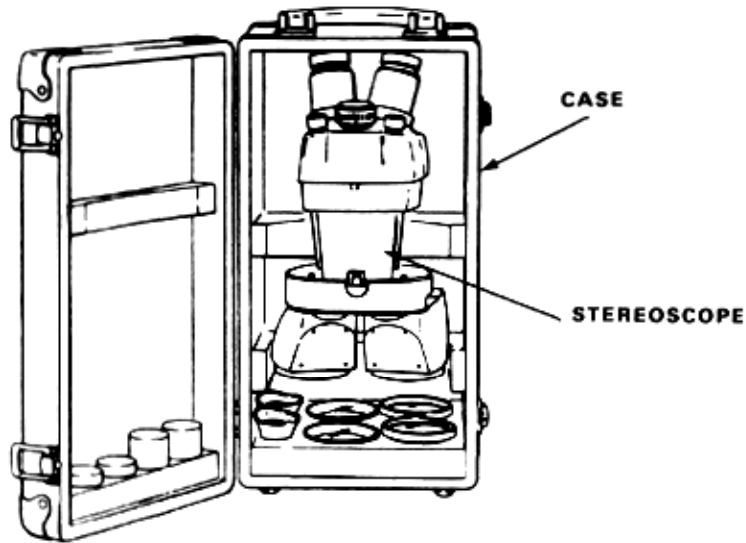
CAUTION

Dirt and dust on optical surfaces will hinder the equipment's performance

- Do not wipe the optical surfaces until dust and foreign matter have been removed.
- Do not touch the optical surfaces with bare fingers.
- Do not use lens tissue containing silicone to clean the optical surfaces.

NOTE: This equipment does not require periodic lubrication.

Section II. OPERATION UNDER USUAL CONDITIONS



A. ASSEMBLY AND PREPARATION

1. Remove the stereoscope case from storage and place on a hard surface.

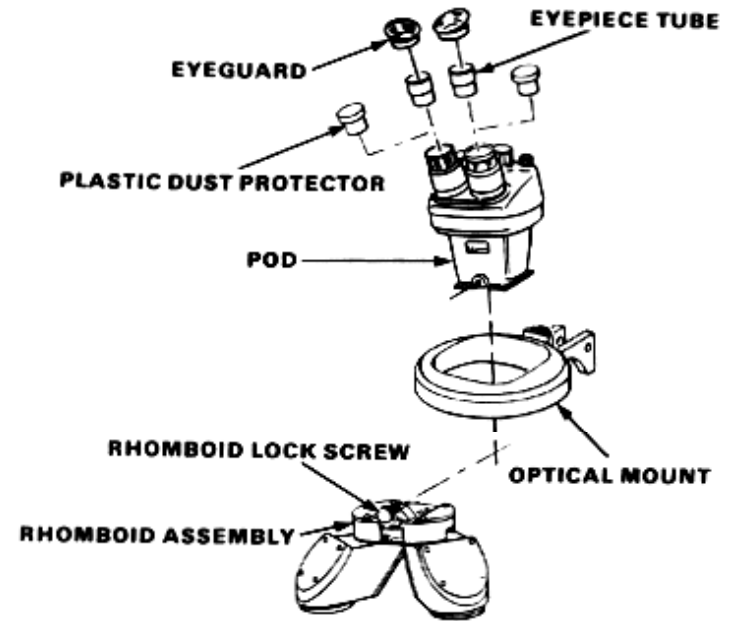
CAUTION

Dirt and dust on optical surfaces will hinder the equipment's performance.

- Do not touch the optical surfaces with bare fingers.
- Do not wipe the optical surfaces until dust and foreign matter have been removed.

2. Remove the stereoscope from case.

D. PREPARATION FOR MOVEMENT.



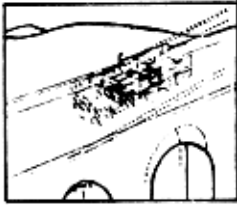
1. Place the transport case on work surface.

CAUTION

- Internal components of the zoom stereoscope are precisely aligned. Protect the instrument from shock, jolts, and sudden or extreme temperature changes to prevent misalignment or damage to equipment. When not in use, the zoom stereoscope should be stored in transport case.
- Do not touch the optical glass surfaces with bare fingers. Fingerprints will cause images to blur.

2. Remove the eyeguards (if installed) and store in case.
 3. Remove the eyepiece tubes, and inspect lenses for dirt, dust, or smudges. Clean, if dirty. Store in transport case.

C. MAGNIFICATION ADJUSTMENT.



1. Set all the zoom knobs to same setting. (Photographs are the same scale.)

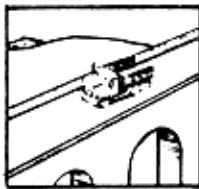
(a) Rotate the zoom knobs fully to the right. Pull up the combined zoom knob.

(b) Set the combined zoom knob to full right and push down.

(c) Rotate the combined zoom knob to change magnification.

2. Change the image size. (Right and left photographic scales are different.)

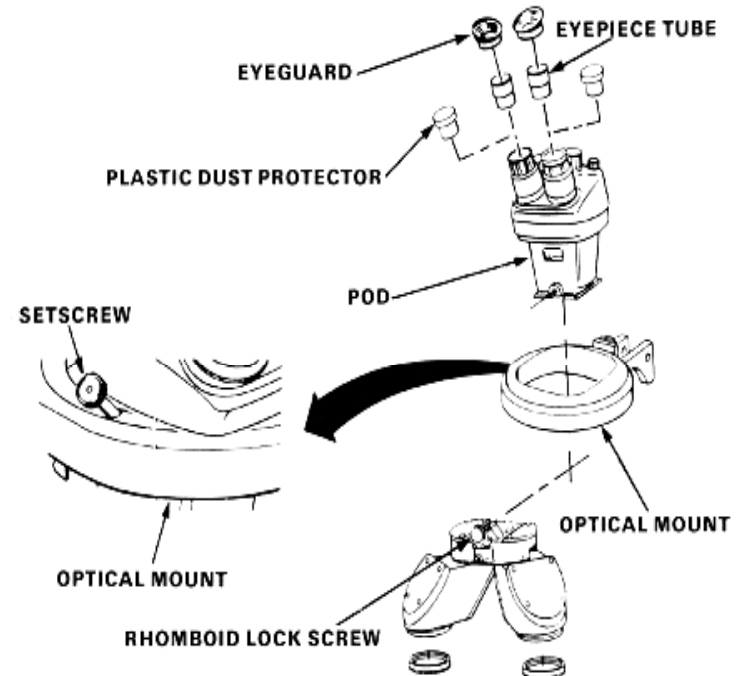
(a) Lift the combined zoom to uppermost limit.



(b) Adjust the left and right zoom knobs until the photographic images are same size.

(c) Adjust each image using pod controls, and rotate each image with the image rotation assembly. When images are equal in size and rotation, the images merge together in an apparent three-dimensional object. Push the combined zoom control knob down.

3. Install the attachment lenses (if required). The 2X attachment lenses double the magnification and halve the field of view.



3. Place the pod into the optical mount with the eyepiece holes toward the operator.

4. Lock the pod into the optical mount by tightening setscrews.

5. Align the rhomboid dovetail on the pod. Slide the rhomboid onto the pod until the rhomboid lock screw contacts the hole.

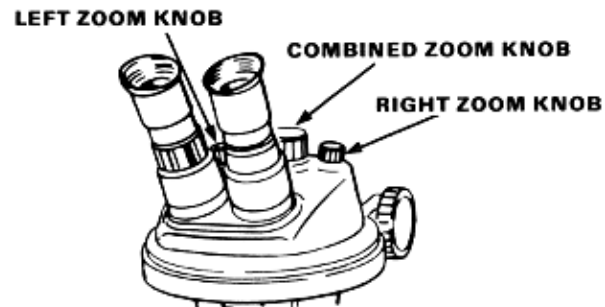
6. Secure the rhomboid to the pod by turning the rhomboid lock screw to the right until finger tight.

7. Select either 10X (short) or 20X (long) eyepiece tubes from the case and place on the work surface.

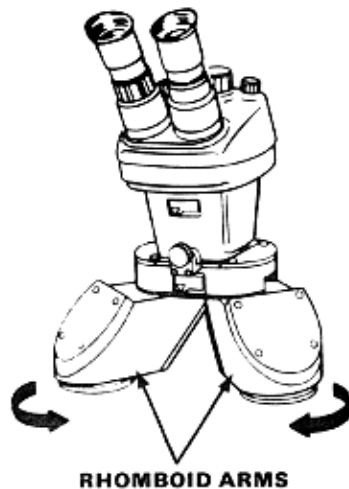
8. Remove two plastic dust protectors from the eyepiece holes in the pod. (Store dust protectors for reuse.) Insert the eyepieces into the eyepiece holes.

9. Install the eyeguards, if desired.

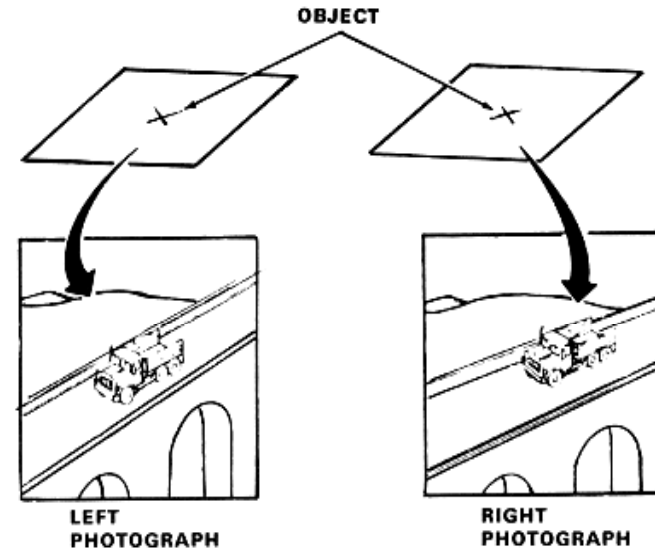
B. OPERATING PROCEDURES (FOCUS).



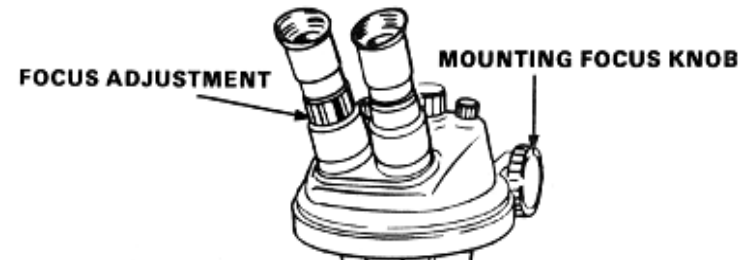
1. Set the right and left individual zoom knobs and combined zoom knob to their midpoint positions.



2. Swing the rhomboid arms together to minimum separation. Place a stereopair of photographs under the rhomboid arms on the work surface.



3. Adjust the rhomboid arms so that object in the left photograph is seen by the left eye and the identical object in the right photograph is seen by the right eye.



4. Turn the mounting focus knob to obtain clear vision in the right eye. Adjust the focus adjustment to obtain clear vision in the left eye.

5. Move the eyepiece tubes toward or away from each other until the two fields of view merge. (Check by closing right, then left eye; the field should be completely visible without head movement.)