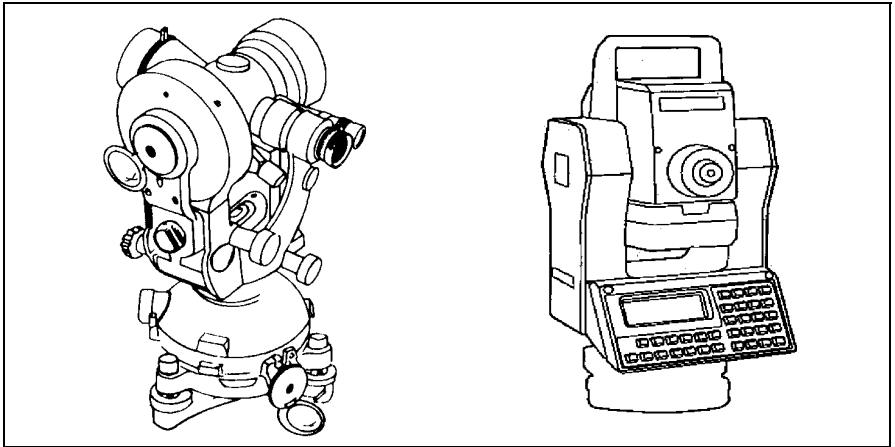


Operator Maintenance on Theodolites



PURPOSE: This graphic training aid (GTA) is derived from information contained in Technical manual (TM) 5-6675-306-14 and TM 5-6675-332-10. When in doubt, consult these TMs.

Operator maintenance is limited to inspecting and cleaning the exposed controls, lenses, and housing unit.

Any deficiencies requiring repair, disassembly, or lubrication of the instrument or accessories will be noted on Department of the Army (DA) Form 2404 and reported to organizational maintenance.

The information presented in this GTA conforms as closely as possible to approved DA doctrine and is intended to complement existing training literature.

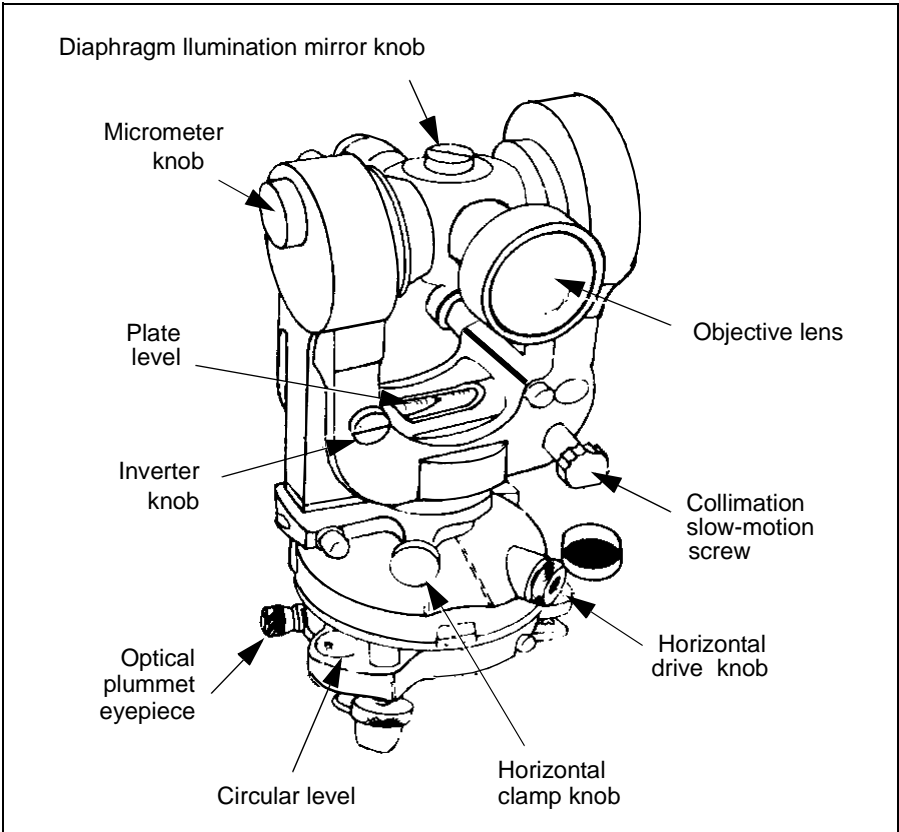
Recommendations for revisions should be addressed to: Commandant, United States Army Engineer School, ATTN: ATZT-DT-WR-E, Fort Leonard Wood, MO 65473-8929.

Headquarters, Department of the Army
February 2001

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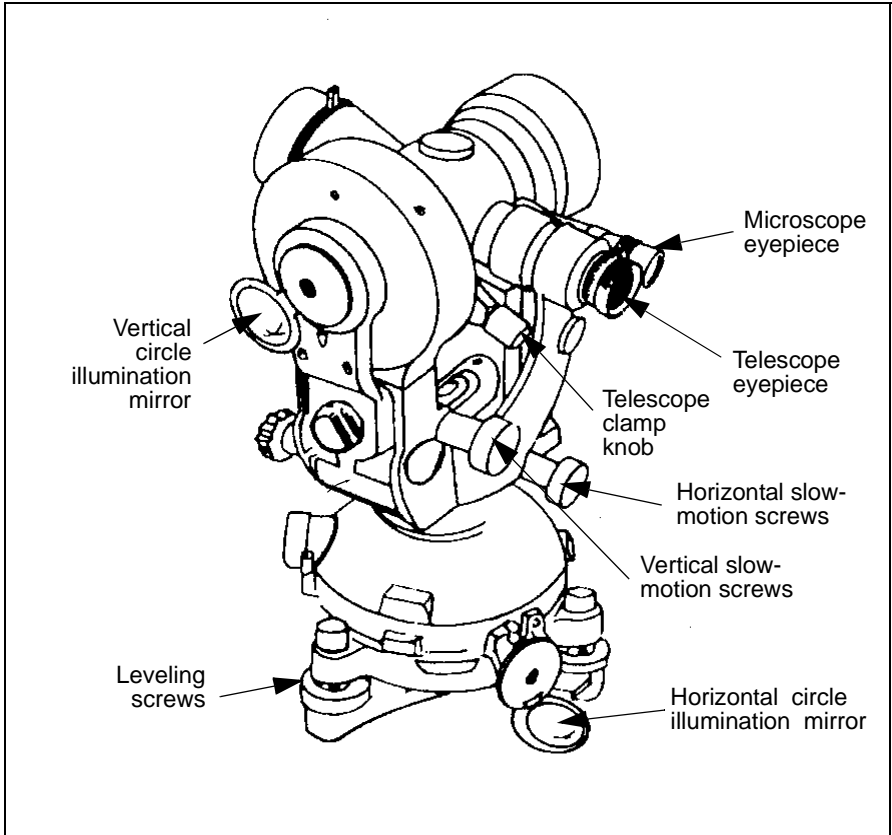
*This publication supersedes GTA 5-2-25, 3 August 1987.



View A

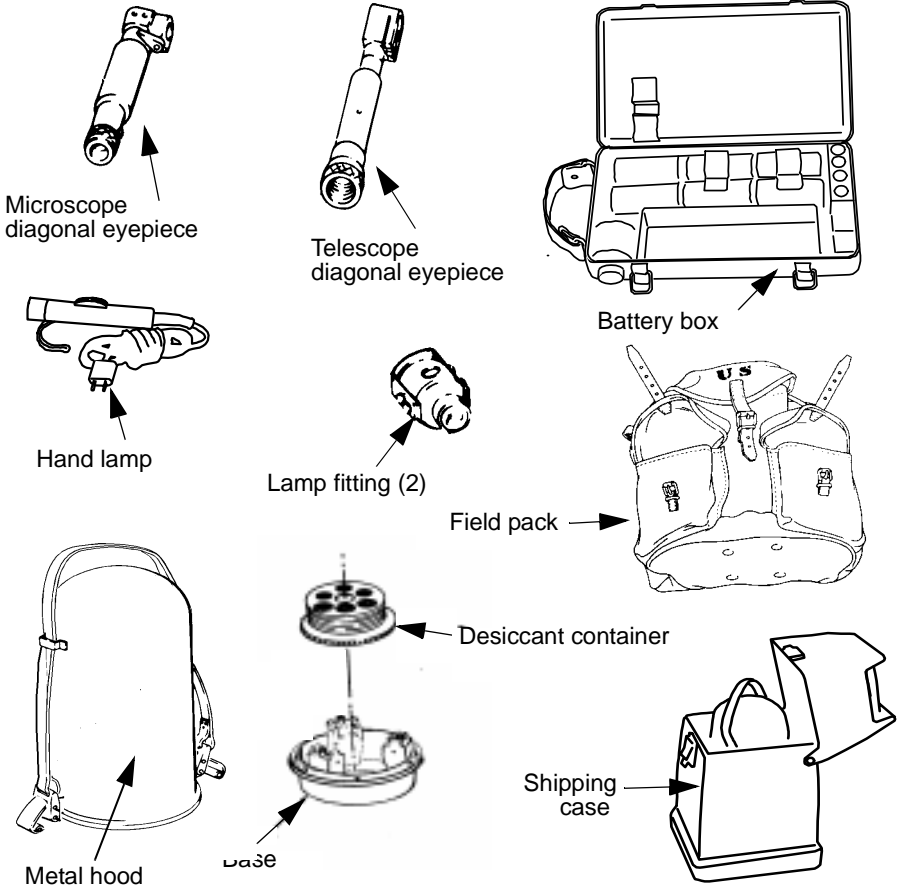
ITEM	GLASS PARTS (lenses, mirrors, level vials)	CLEAN AND INSPECT
1	Objective lens (View A)	1. Check for cracks or separation.
2	Optical plummet eyepiece (View A)	2. Clean.
3	Circular level (View A)	a. Dust off large particles with a camel-hair brush.
4	Plate level (View A)	b. Clean with approved lens tissue or lint-free cloth.
5	Microscope eyepiece (View B)	
6	Telescope eyepiece (View B)	
7	Vertical circle illumination mirror (View B)	
8	Horizontal circle illumination mirror (View B)	

NOTE: Perform all cleaning and inspection steps on each item.



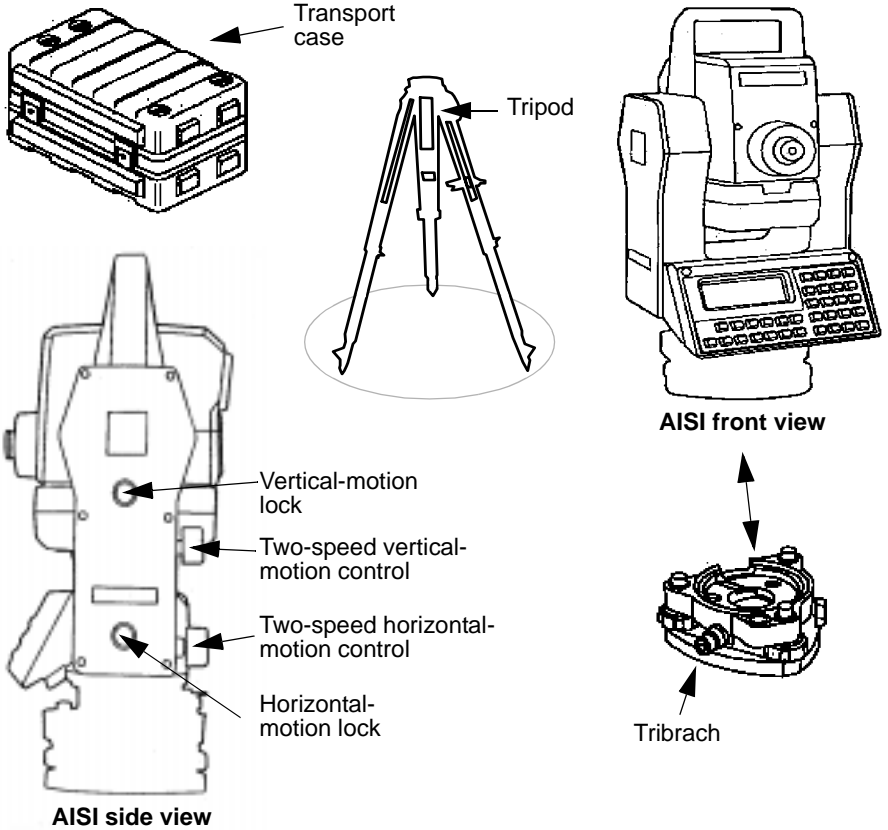
View B

ITEM	OPERATING CONTROL	INSPECT
9	Horizontal drive knob (View A)	1. Ensure that all controls require only light finger pressure to operate. 2. Ensure that all controls operate smoothly, without backlash, through the entire motion range.
10	Horizontal clamp knob (View A)	
11	Collimation slow-motion screw (View A)	
12	Inverter knob (View A)	
13	Micrometer knob (view A)	
14	Diaphragm illumination mirror knob (View A)	
15	Leveling screws (View B)	
16	Horizontal slow-motion screws (View B)	
17	Vertical slow-motion screws (View B)	
18	Telescope clamp knob (View B)	
NOTE: Perform all inspection steps on each item.		



ITEM	DESCRIPTION	PROCEDURE
1	ACCESSORIES (above) Telescope diagonal eyepiece Microscope diagonal eyepiece Hand lamp Battery box Lamp fitting (2)	Clean and inspect for damage.
2	CARRYING CASE (above) Metal hood Desiccant container Base (above)	
3	SHIPPING CASE (above)	
4	FIELD PACK (above)	
NOTE: Perform cleaning and inspection procedure on each item.		

Procedures for the Automated Integrated Survey Instrument (AISI)



ITEM	DESCRIPTION	PROCEDURE
1	Exterior AISI (above)	<ol style="list-style-type: none"> 1. Inventory all components. 2. Wipe dirt and dust from all components with a dry cloth. 3. Inspect the exterior of the AISI for damage or cracks, sand, or dust. 4. Clean the lens and reflectors using a lens cleaning tissue. 5. Set up the AISI and install a good internal battery. 6. Turn on the AISI and verify that it operates.
2	Vertical-motion lock (above)	Ensure that the lock rotates freely and functions properly.
3	Horizontal-motion lock (above)	Ensure that the lock rotates freely and functions properly.

ITEM	DESCRIPTION	PROCEDURE
4	Two-speed vertical-motion control (page 5)	Ensure that the control knob rotates freely and functions properly.
5	Two-speed horizontal-motion control (page 5)	Ensure that the control knob rotates freely and functions properly.
6	Tribrach (page 5)	Inspect the tribrach and the tribrach leveling screws for damage.
7	Tripod (page 5)	<ol style="list-style-type: none"> 1. Inspect the tripod, bayonet screws, and all other screws or nuts for damage. 2. Clean as required.
8	Transport case (page 5)	<ol style="list-style-type: none"> 1. Open the cover and remove the AISI and accessories from the case. 2. Turn the case over and shake out any loose dust or dirt. 3. Check the exterior surface for cleanliness and for dents, scratches, or other damage. 4. Clean as required. 5. Check that the case contains a desiccant.