

TECHNICAL MANUAL

DIRECT SUPPORT
AND GENERAL SUPPORT
MAINTENANCE MANUAL

PART 5
MAINTENANCE

TURRET
FOR
COMBAT ENGINEER VEHICLE,
M728
(2350-00-795-1797)

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HEADQUARTERS, DEPARTMENT OF THE ARMY

This manual is a reprint including
changes 1-4

OCTOBER 1980

Technical Manual
No. 9-2350-222 -34-2-5

HEADQUARTERS,
DEPARTMENT OF THE ARMY
Washington, D. C., 10 October 1980

**Technical Manual
Direct Support and General Support
Maintenance Manual**

**Part 5
Maintenance**

**TURRET
FOR
COMBAT ENGINEER VEHICLE,
M728
(2350-00-795-1797)**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes 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 directly to:

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Rock Island, IL 61299-6000

A reply will be furnished to you.

*This manual in conjunction with TM 9-2350-222-34-2-1, TM 9-2350-222-34-2-2, TM 9-2350-222-34-2-3, and TM 9-2350-222-34-2-4 supersedes so much of the DS/GS portion of TM 9-2300-378-35/2, January 1968, as pertains to the M728 CEV, so much of the DS/GS Portion of TM 9-2350-222-35/2, October 1965, as pertains to the M728 CEV, and so much of the DS/GS portion of TM 9-2300-378-35/1, January 1968, as pertains to the Slipping Assembly, Turret and Miscellaneous Components for the M728 CEV, including all changes.

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CHAPTER 19
HAND TRAVERSING DRIVE

19-1. MAINTENANCE PROCEDURES INDEX

Equipment Item	Test	Tasks				
		Removal	Installation	Disassembly	Assembly	Repair
1. Hand Traversing Drive	19-2			19-3	19-4	. . .
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5. Output Gear	. . .	19-17	19-18	. . .	. . .	19-19
6. Driveshaft	. . .	19-20	19-21	19-22	19-23	. . .
7. Housing	. . .	19-17	19-18			. . .

19-2. HAND TRAVERSING DRIVE TEST PROCEDURE

TOOLS: Vise

PERSONNEL: One

REFERENCES TM 9-2350-222-20-2-3 for procedure to remove hand traversing drive

EQUIPMENT CONDITION: Hand traversing drive removed (TM-20-2-3)

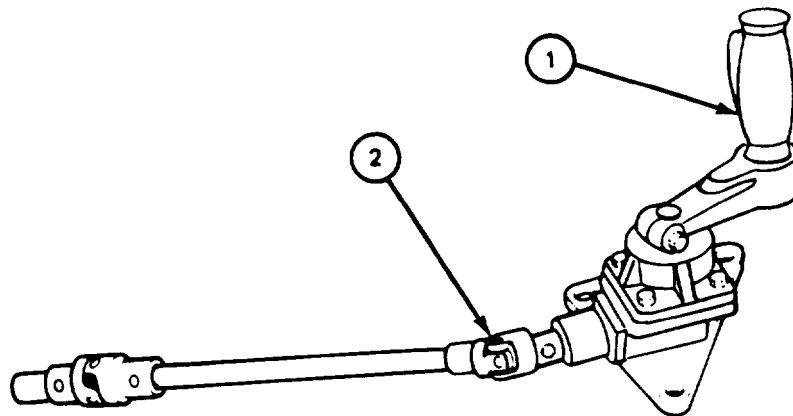
GENERAL INSTRUCTIONS:

NOTE

If normal indication is not obtained, replace bad part listed in Probable Fault column. Refer to section index (para 19-1) for replacement of bad part.

19-2. HAND TRAVERSING DRIVE TEST PROCEDURE (CONT)**FRAME 1**

Step	Procedure	Normal Indication	Probable Fault
1.	Place hand traversing drive (1) housing in vise and allow driveshaft (2) to hang downward.		
2.	Unlock and turn handle (1) clockwise two turns.	Handle (1) turns freely without binding.	Bad output gear or bad drive gear.
3.	Unlock and turn handle (1) counterclockwise two turns.	Handle (1) turns freely without binding.	Bad output gear or bad drive gear.
NOTE If normal indication was obtained in steps 1 and 2, hand traversing drive (1) is good. END OF TASK			



19-3. HAND TRAVERSING DRIVE DISASSEMBLY PROCEDURE

PERSONNEL: One

REFERENCES: TM 9-2350-222-20-2-3 for procedure to remove hand traversing drive

EQUIPMENT CONDITION: Hand traversing drive removed (TM-20-2-3)

PRELIMINARY PROCEDURES: Test hand traversing drive (para 21-2)

FRAME 1	
Step	Procedure
1.	Remove crank handle (para 19-5).
2.	Remove crank arm (para 19-9).
3.	Remove drive gear (para 19-14).
4.	Remove output gear and housing (para 19-17).
5.	Disassemble crank handle (para 19-7).
6.	Disassemble crank arm (para 19-11).
7.	Disassemble driveshaft (para 19-22).
	END OF TASK

19-4. HAND TRAVERSING DRIVE ASSEMBLY PROCEDURE

PERSONNEL: One

FRAME 1	
Step	Procedure
1.	Assemble driveshaft (para 19-23).
2.	Assemble crank arm (para 19-12).
3.	Assemble crank handle (para 19-8).
4.	Install output gear and housing (para 19.18).
5.	Install crank arm (para 19-10).
6.	Install crank handle (para 19-6).
7.	Install drive gear (para 19-15).
	NOTE Follow-on Maintenance Action Required: Test hand traversing drive (para 19-2). END OF TASK

19-5. CRANK HANDLE REMOVAL PROCEDURE

TOOLS: External retaining ring pliers
20 ounce ball peen hammer
1/4" brass drift pin punch
Scraper
Stiff bristled brush
Fine stone

SUPPLIES: Dry cleaning solvent (item 33, App. A)
Crocus cloth (item 7, App. A)

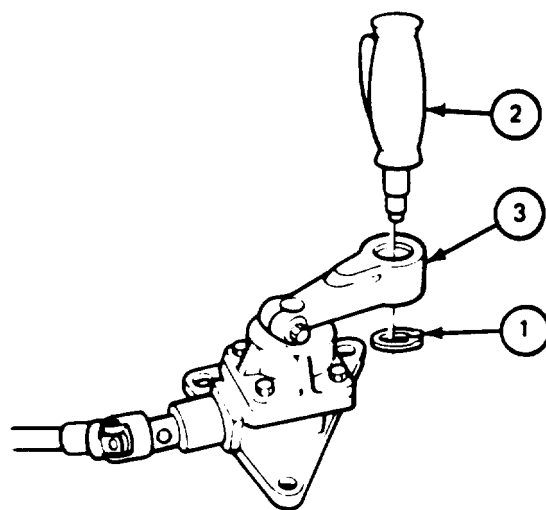
PERSONNEL: One

REFERENCES: TM 5-2350-222-20-2-3 for procedure to remove hand traversing drive
JPG for procedures to:
Use retaining ring pliers
Clean parts
Inspect and repair parts

EQUIPMENT CONDITION: Hand traversing drive removed (TM-20-2-3)

PRELIMINARY PROCEDURES: Test hand traversing drive (para 19-2)

FRAME 1	
Step	Procedure
1.	Using pliers, remove retaining ring (1) that attaches crank handle (2) to crank arm (3) (JPG).
2.	Using hammer and punch, tap crank handle (2) from crank arm (3). Remove crank handle.
	NOTE Follow-on Maintenance Action Required: Clean all parts (JPG). Inspect and repair all parts (JPG). END OF TASK



19-6. CRANK HANDLE INSTALLATION PROCEDURE

TOOLS: External retaining ring pliers
3/32" socket head screw key (Allen wrench)

PERSONNEL: One

REFERENCES: JPG for procedure to use retaining ring pliers

PRELIMINARY PROCEDURES: Assemble crank handle (para 19-8)

FRAME 1

Step	Procedure
1.	Put crank handle (1) in crank arm (2).
2.	Using pliers, attach crank handle (1) to crank arm (2) with retaining ring (3) (JPG).
3.	Using Allen wrench, adjust setscrew (4) so that shaft (5) rests against locking lever (6) when locked to housing (7).
	END OF TASK

19-7. CRANK HANDLE DISASSEMBLY PROCEDURE

TOOLS: 20 ounce ball peen hammer
5/32" drive pin punch
3/32" socket head screw key (Allen wrench)
Vise
Scraper
Stiff bristled brush
Fine stone

SUPPLIES: Dry cleaning solvent (item 33, App. A)
Crocus cloth (item 7, App. A)

PERSONNEL: One

REFERENCES: JPG for procedures to:
Clean parts
Inspect and repair parts

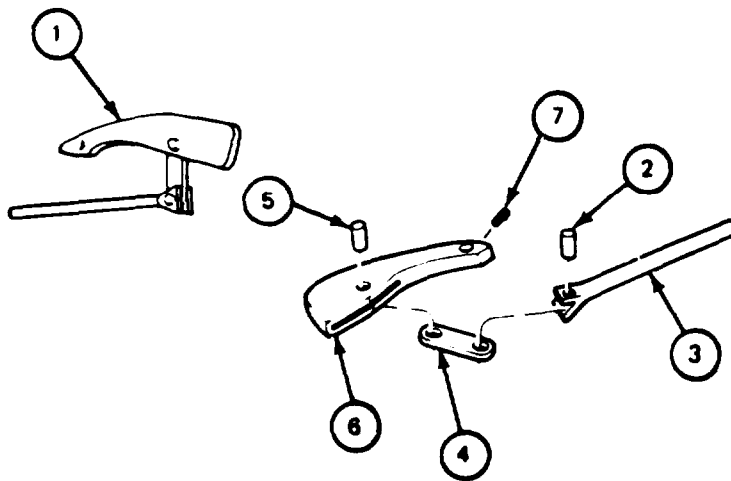
PRELIMINARY PROCEDURES: Test hand traversing drive (para 19-2)
Remove crank handle (para 19-5)

FRAME 1	
Step	Procedure
	NOTE Pin (1) may be located on either end of crank handle (3). - Using hammer and punch, remove pin (1) that attaches lever (2) in crank handle (3). - Remove lever (2) from crank handle (3). GO TO FRAME 2
The diagram illustrates the removal of a pin (1) from a crank handle (3). The crank handle (3) is shown as a cylindrical component with a pin (1) inserted into its end. A lever (2) is attached to the pin (1). The lever (2) is shown in two positions: one where it is attached to the pin (1) and another where it is detached and lying to the left. Arrows point from the numbered circles (1, 2, 3) to their respective components in the diagram.	

19-7. CRANK HANDLE DISASSEMBLY PROCEDURE (CONT)

FRAME 2

Step	Procedure
1. Put lever (1) in vise. 2. Using hammer and punch, remove pin (2) that attaches shaft (3) to link (4). 3. Remove shaft (3). 4. Using hammer and punch, remove pin (5) that attaches link (4) to lever (6). 5. Remove link (4). 6. Using Allen wrench, remove setscrew (7) from lever (6).	NOTE Follow-on Maintenance Action Required: Clean all parts (JPG). Inspect and repair all parts (JPG). END OF TASK



19-8. CRANK HANDLE ASSEMBLY PROCEDURE

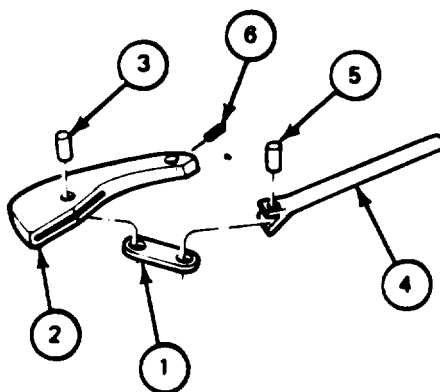
TOOLS: 20 ounce ball peen hammer
 3/32" socket head screw key (Allen wrench)

SUPPLIES: Grease (item 14, App. A)

PERSONNEL: One

FRAME 1

Step	Procedure
1. 2. 3. 4. 5. 6.	Put link (1) in handle lever (2). Using hammer, put in pin (3) that attaches link (1) to handle lever (2). Put shaft (4) on link (1). Using hammer, put in pin (5) that attaches shaft (4) to link (1). Put a light coat of grease on shaft (4). Using Allen wrench, put setscrew (6) in handle lever (2). GO TO FRAME 2



19-8. CRANK HANDLE ASSEMBLY PROCEDURE (CONT)

FRAME 2	
Step	Procedure
1.	Put lever (1) in crank handle (2). Line up hole in lever with hole in crank handle, NOTE Pin (3) may be located on either end of crank handle (2).
2.	Using hammer and punch, put in pin (3) that attaches lever (1) in crank handle (2). NOTE Follow-on Maintenance Action Required: Install crank handle (para 19-6). END OF TASK
