

TECHNICAL MANUAL

CHAPTERS 13 AND 14

MAINTENANCE INSTRUCTIONS

13-1

FOLDOUTS

EQUIPMENT LOCATION DIAGRAMS
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**DIRECT SUPPORT
AND GENERAL SUPPORT
MAINTENANCE MANUAL**

**PART 3
MAINTENANCE**

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

This copy is a reprint which includes current pages from Changes 1 and 2.
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Technical Manual
No. 9-2350-222-34-2-3

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

Technical Manual

Direct Support and General Support
Maintenance Manual

Part 3
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.

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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 9-2350-222-34-2-4, and TM 9-2350-222-34-2-5 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 Slipring Assembly, Turret and Miscellaneous Components for the M728 CEV, including all changes.

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CHAPTER 13

POWER PACK

Section 1. SCOPE

13-1. LIST OF EQUIPMENT ITEMS CONTAINED IN THIS CHAPTER

Section	Equipment Item	Paragraph
2	Power Pack	13-2
3	Manual Elevation Accumulator	13-7
4	Hydraulic Riser	13-11
5	Shuttle Valve	13-18
6	Relief Valve (Early Model)	13-25
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11	Hydraulic Pump and Motor Mount	13-52
12	(Deleted)	
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Section 2. POWER PACK

13-2. MAINTENANCE PROCEDURES INDEX

Equipment Item	Removal	Tasks		
		Installation	Disassembly	Assembly
Power Pack	13-3	13-4	13-5	13-6

13-3. POWER PACK REMOVAL PROCEDURE

TOOLS: 3/16 in. socket head screw key (Allen wrench)
 6 in. extension (1/2 in. drive)
 3/4 in. socket (1/2 in. drive)
 1/2 in. drive ratchet
 Adjustable hook spanner wrench
 9/16 in. open end wrench
 11/16 in. open end wrench
 13/16 in. open end wrench (late model)
 5/8 in. open end wrench (early model)
 3/4 in. open end wrench (early model)
 7/8 in. open end wrench
 1 in. open end wrench
 1-1/8 in. open end wrench
 Hoist
 Slip joint pliers with plastic jaws (connector pliers)

SUPPLIES: Wood block (4 in. x 4 in. x 18 in.) (two) To support power pack after removal
 Wood block (2 in. x 2 in. x 6 in.) (two) To place under electric motor
 Wood block (2 in. x 6 in. x 12 in.) (two) To support power pack in and out Of vehicle
 Caps and plugs
 Lint-free cloths and rags (item 21, App. A)
 Masking tape (item 36, App. A)
 Pencil
 Rope (3/4 in. diameter x 20 feet long)

PERSONNEL: Three

REFERENCES: JPG for procedure to:
 Tag hydraulic-tubes
 Disconnect electrical connectors
 TM 9-2350-222-20-2-3 for procedures to:
 Drain turret hydraulic system
 Remove gunner's control box and bracket
 Remove gunner's seat
 Remove gunner's footrest

EQUIPMENT LOCATION INFORMATION:

EQUIPMENT	FOLDOUT	CALLOUT
Driver's Master Control Panel	FO-3	11
Main Accumulator	FO-1	16
Gunner's Control Handles	FO-1	25
Power Pack	FO-1	15
Gunner's Control	FO-1	4

13-3. POWER PACK REMOVAL PROCEDURE (CONT)

EQUIPMENT CONDITION: Driver's master control panel MASTER BATTERY switch set to OFF
Turret hydraulic system drained (TM 20-2-3)
Gunner's control box (switch box) and bracket removed (TM-20-2-3)
Gunner's seat removed (TM-20-2-3)
Gunner's footrest removed (TM-20-2-3)

GENERAL INSTRUCTIONS:

CAUTION

Hydraulic parts must be protected from dirt after removal.
Dirt can damage hydraulic parts. Lint-free cloths, caps,
and plugs should be used to keep hydraulic parts clean.

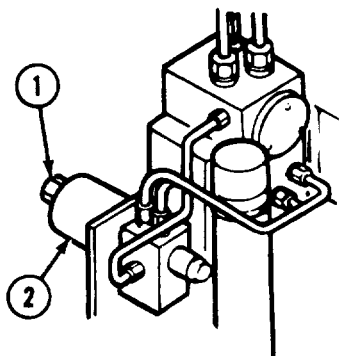
13-3. POWER PACK REMOVAL PROCEDURE (CONT)

FRAME 1	
STEP	PROCEDURE
1.	Using Allen wrench remove two screws (1) and two lockwashers (2) that attach control levers (3) to commander's control shafts (4).
	2.
	Remove two control levers (3) from control shafts (4).
	GO TO FRAME 2

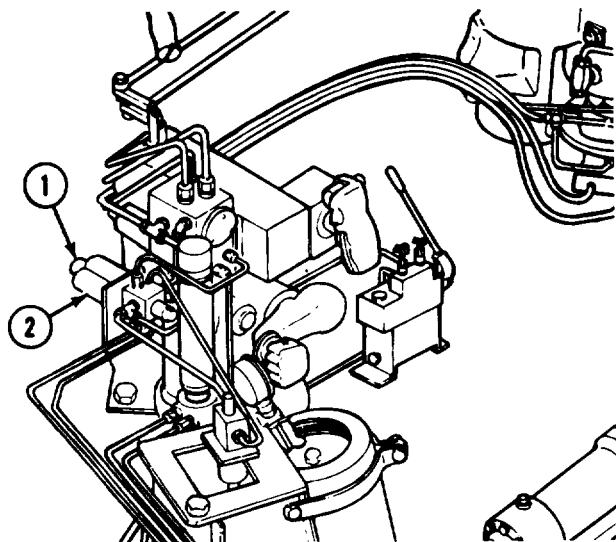
The diagram illustrates the removal of control levers from the gunner's control handle. It shows a side view of the handle assembly. A large curved arrow points from the control levers (3) towards the screws (1) and lockwashers (2) being removed. The control shafts (4) are also indicated. The label 'GUNNER'S CONTROL HANDLE' is at the bottom.

13-3. POWER PACK REMOVAL PROCEDURE (CONT)

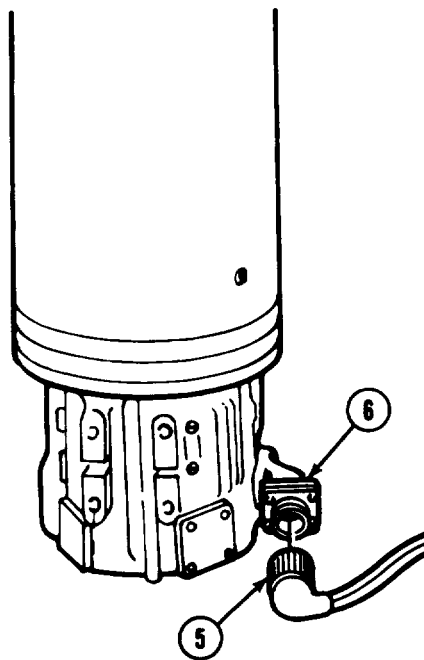
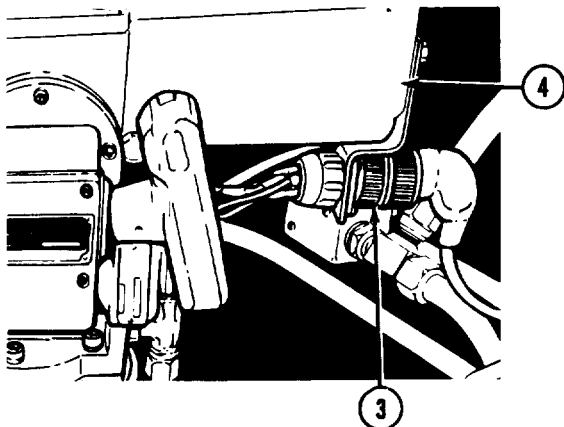
FRAME 2	
STEP	PROCEDURE
1.	Disconnect electrical connector (1) from deck clearance valve solenoid (2) (JPG).
2.	Using pliers, disconnect electrical connector (3) from bottom of gunner's control (4) (JPG).
3.	Using spanner wrench, disconnect electrical connectors (5) from power pack motor (6) (JPG).
	GO TO FRAME 3 (EARLY MODEL)
	GO TO FRAME 4.1 (LATE MODEL)



EARLY MODEL



LATE MODEL



13-3. POWER PACK REMOVAL PROCEDURE (CONT)

FRAME 3	
STEP	PROCEDURE
1.	Using 3/4 inch and 1 inch open end wrenches, disconnect two tubes (1 and 2) from power pack. Tag tubes (JPG).
2.	Using 5/8 inch and 11/16 inch open end wrenches, disconnect seven tubes (3 thru 9) from power pack. Tag tubes (JPG).
	GO TO FRAME 4

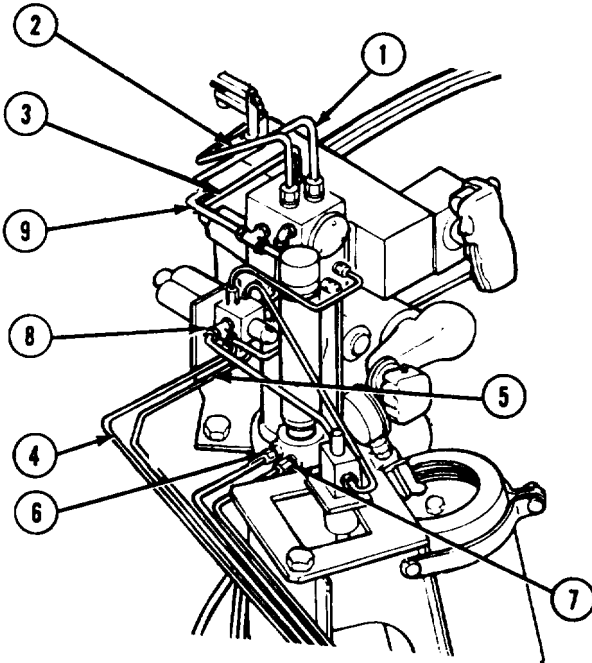
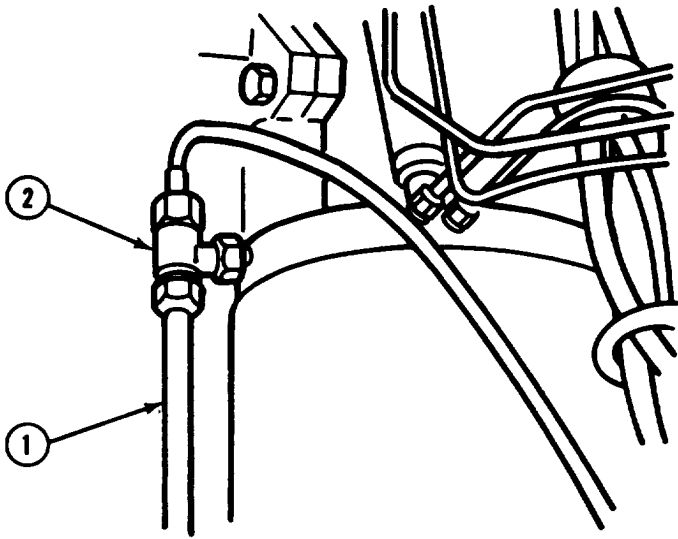


Diagram illustrating the power pack assembly (EARLY MODEL) with numbered callouts 1 through 9 pointing to various tubes and components.

EARLY MODEL

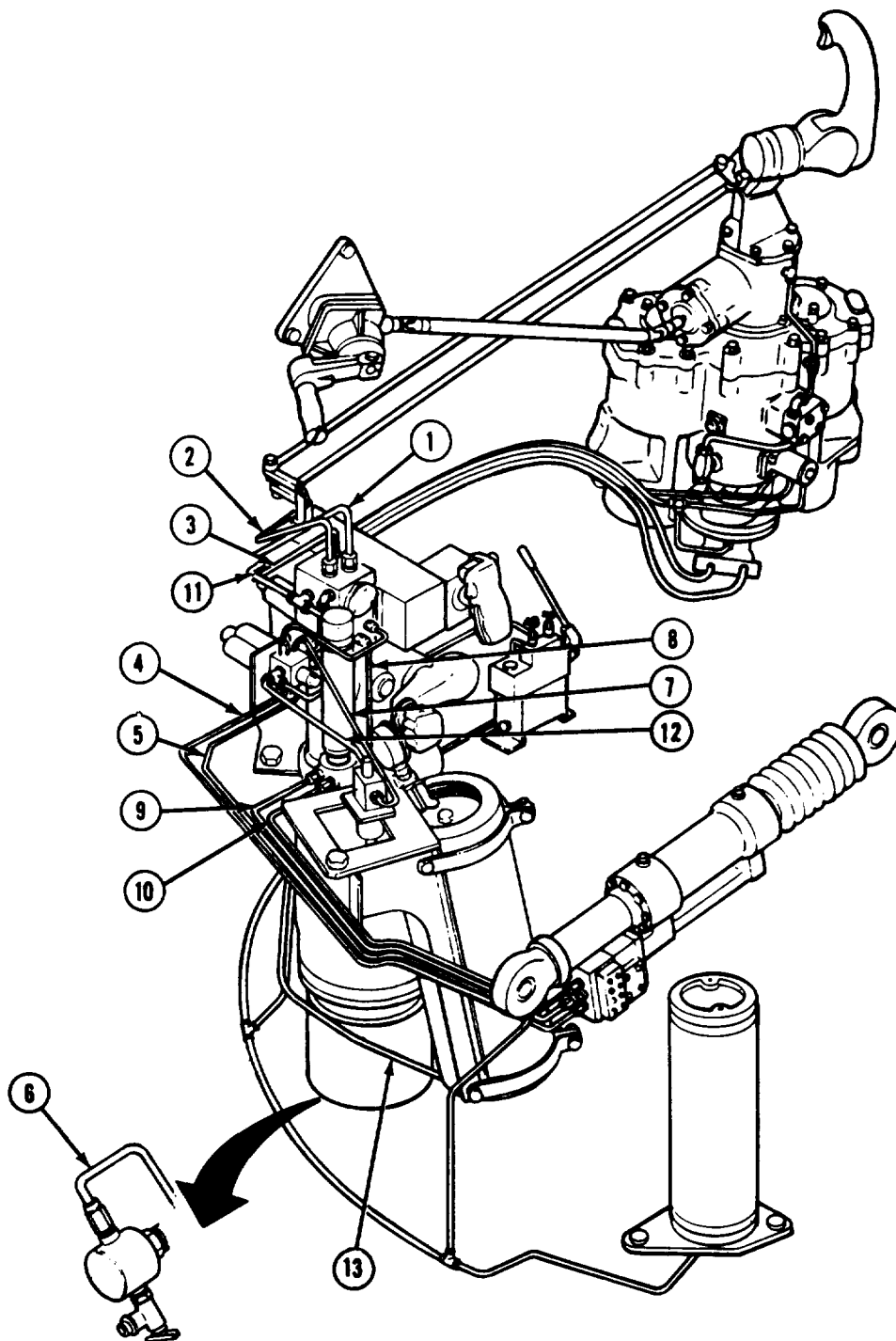
13-3. POWER PACK REMOVAL PROCEDURE (CONT)

FRAME 4	
STEP	PROCEDURE
1.	Using 1-1/8 inch open end wrench, disconnect tube (1) from relief valve (2). Tag tube (JPG). GO TO FRAME 6
 The diagram shows a mechanical assembly with two vertical tubes. Tube (1) is on the left and tube (2) is on the right. They are connected to a common horizontal pipe. A curved tube branches off from the horizontal pipe. In the background, there are other components, including what appears to be a relief valve and some wiring or hoses.	
EARLY MODEL	

13-3. POWER PACK REMOVAL PROCEDURE (CONT)

FRAME 4.1

STEP	PROCEDURE
1. 2. 3. 4. 5. 6.	Remove any tube holders, if necessary, that hold tube assemblies to equipment (TM- 20-2-3-1, Maintenance Procedure Index). Using 7/8 inch wrench on tube assembly nuts and 1-1/8 inch wrench on nipples, disconnect tubes (1 and 2). Tag lines (JPG). Using 9/16 inch wrench on tube assembly nuts and 11/16 inch wrench on nipples, disconnect tubes (3 thru 7). Tag lines (JPG). Using 9/16 inch wrench on tube assembly nuts and 13/16 inch wrench on reducers, disconnect tubes (8 thru 10). Tag lines (JPG). Using 9/16 inch wrench on tube assembly nuts, disconnect tubes (11 and 12) from tees. Tag lines (JPG). Using 1 inch wrench on tube assembly nuts, disconnect tube (13) from elbow. Tag line (JPG). GO TO FRAME 5



LATE MODEL