TM 9-2320-363-34-2

VOLUME NO. 2

TECHNICAL MANUAL

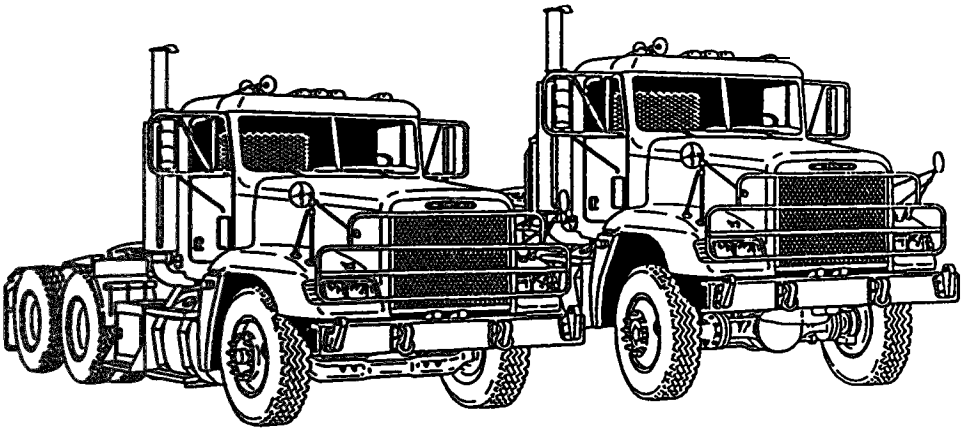
DIRECT AND GENERAL SUPPORT MAINTENANCE MANUAL FOR

TRUCK, TRACTOR, LINE HAUL 52,000 GVWR, 6 X 4, M915A2

(NSN 2320-01-272-5029)

TRUCK, TRACTOR, LIGHT EQUIPMENT TRANSPORTER (LET) 68,000 GVWR, 6 X 6, W/WINCH, M916A1

(NSN 2320-01-272-5028)



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HEADQUARTERS, DEPARTMENT OF THE ARMY JUNE 1992

Technical Manual
No.9-2320-363-34-2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 17 June 1992

DIRECT AND GENERAL SUPPORT MAINTENANCE MANUAL

FOR

TRUCK, TRACTOR, LINE HAUL: 52,000 GVWR, 6 X 4, M915A2
(NSN 2320-01-272-5029)

TRUCK TRACTOR LIGHT EQUIPMENT TRANSPORTER (LET)
68,000 GVWR, 6 X 6, W/WINCH, M916A1
(NSN 2320-01-272-5028)

TRUCK TRACTOR LIGHT EQUIPMENT TRANSPORTER (LET)
68,000 GVWR, 6 X 6, W/WINCH, M916A2
(NSN 2320-01-431-1163)

TRUCK, DUMP, HEAVY, CHASSIS
68,000 GVWR, 6 X 6, 14 CU YD, ON-OFF HIGHWAY
M917A1 (NSN 3805-01-431-1165)
M917A1 W/MCS (NSN 3805-01-432-8249)

VOLUME 2 OF 2

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 at the back of this manual direct to: Commander, US Army Tank-automotive and Armaments Command, ATTN: AMSTA-AC-NML, Rock Island, IL 61299-7630. A reply will be furnished to you. You may also provide DA Form 2028-2 information to TACOM via datafax or e-mail. TACOM's datafax number for AMSTA-AC-NML is DSN 793-0726 or Commercial (309) 782-0726 and the e-mail address is: amsta-ac-nml@ria-emh2.army.mil.

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CHAPTER 12
ENGINE, FUEL, AND COOLING SYSTEM REPAIR INSTRUCTIONS

OVERVIEW

This chapter illustrates and describes procedures for maintenance of the engine, fuel, and cooling system.

Section I. ENGINE REPAIR

OVERVIEW

This section illustrates and describes procedures for maintenance of the engine and related parts. A list of tasks contained in this section is shown below.

ENGINE INSTALLATION/REMOVAL FROM REPAIR STAND

This task covers: a. Installation b. Removal

INITIAL SETUP

Tools and Special Equipment:

Tool Kit, SC 5180-90-CL-N05
Adapter Plates, J35635-A
Load Rotor, J36130-812
Adapter Plate, J35636

Personnel Required: (2)

References:

TM 9-2320-363-20

Equipment Condition:

Reference	Condition Description
TM 9-2320-363-20	Fuel Pump Removed
TM 9-2320-363-20	Air Compressor Removed
TM 9-2320-363-20	Starter Removed
TM 9-2320-363-20	STE/ICE Differential Switch Removed

Equipment Condition (Cont):

Reference	Condition Description
TM 9-2320-363-20	Fuel Filter Adapters Removed
TM 9-2320-363-20	Electronic Control Module Removed

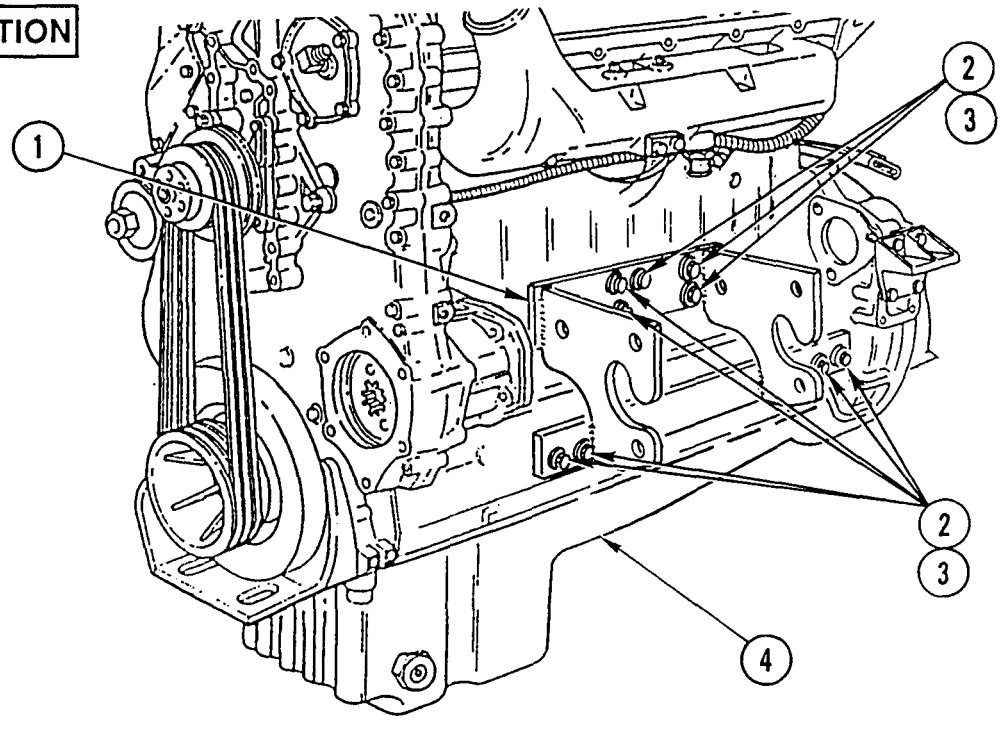
General Safety Instructions:

WARNING

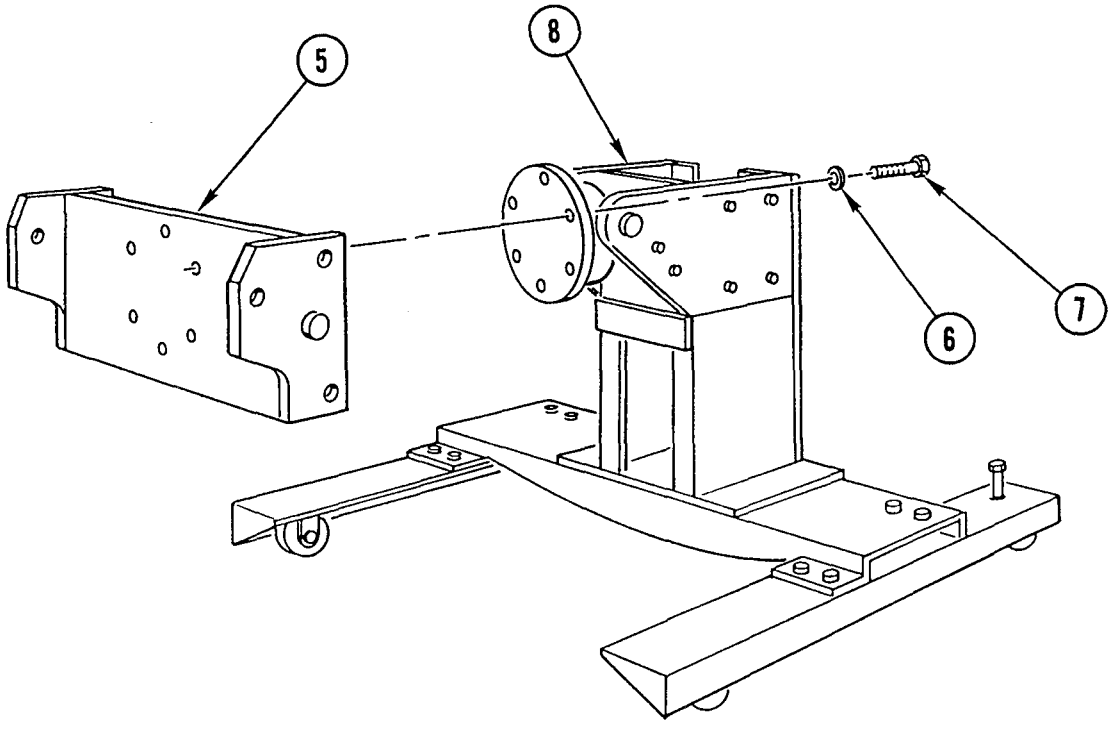
Engine weighs 2,850 lb (1294 kg). Use hoist with lifting capacity of 5,000 lb (2270 kg) to lift and support engine. Failure to do so could result in injury to personnel.

ENGINE INSTALLATION/REMOVAL FROM REPAIR STAND (CONT)

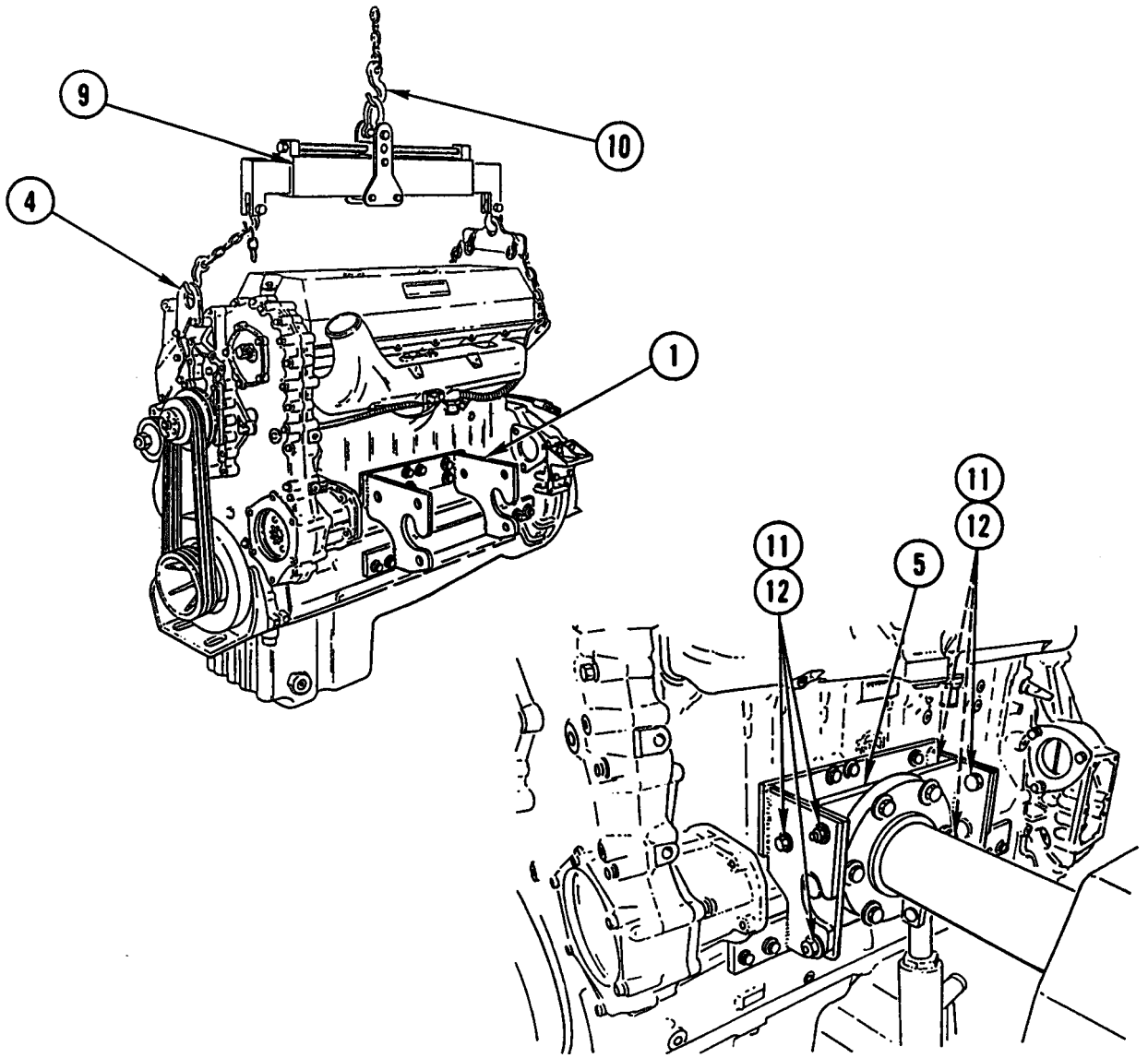
INSTALLATION



1. INSTALL ENGINE HOLDING FIXTURE (1), NINE WASHERS (2), AND NINE SCREWS (3) ON LEFT SIDE OF ENGINE (4).



2. INSTALL ADAPTER PLATE (5), SIX WASHERS (6), AND SIX SCREWS (7) ON ENGINE STAND (8).



3. INSTALL LOAD ROTOR (9) ON HOIST (10).

WARNING

Engine weighs 2,850 lb (1294 kg). Use hoist with lifting capacity of 5,000 lb (2270 kg) to lift and support engine. Failure to do so could result in injury to personnel.

4. ATTACH LOAD ROTOR (9) TO ENGINE (4).

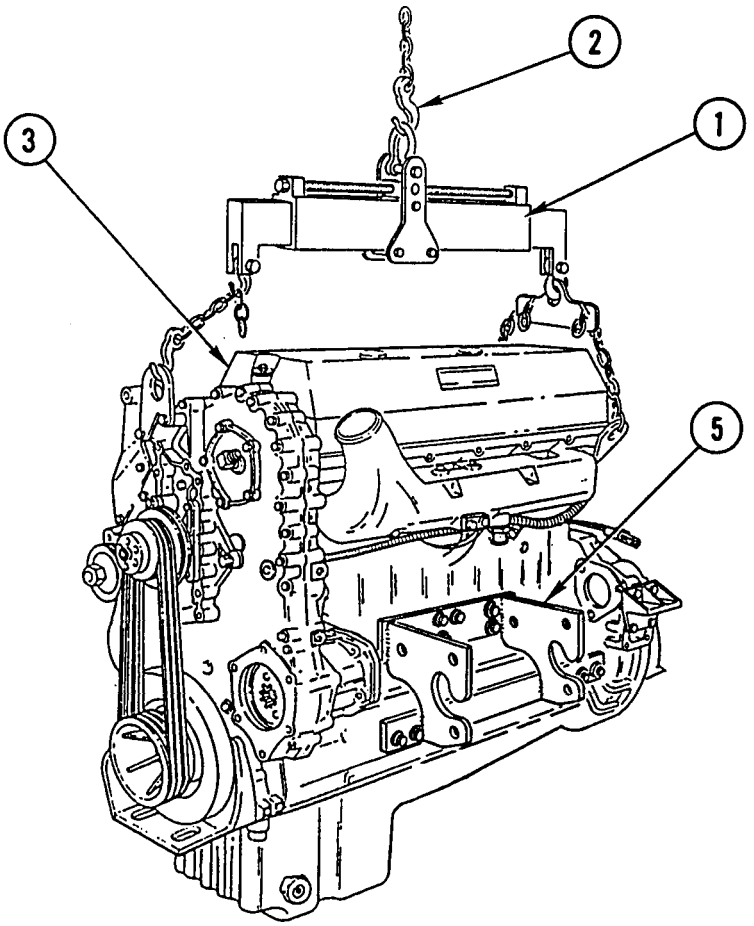
5. LIFT ENGINE (4) AND ATTACH ENGINE HOLDING FIXTURE (1) TO ADAPTER PLATE (5) USING SIX SCREWS (11) AND SIX NUTS (12).

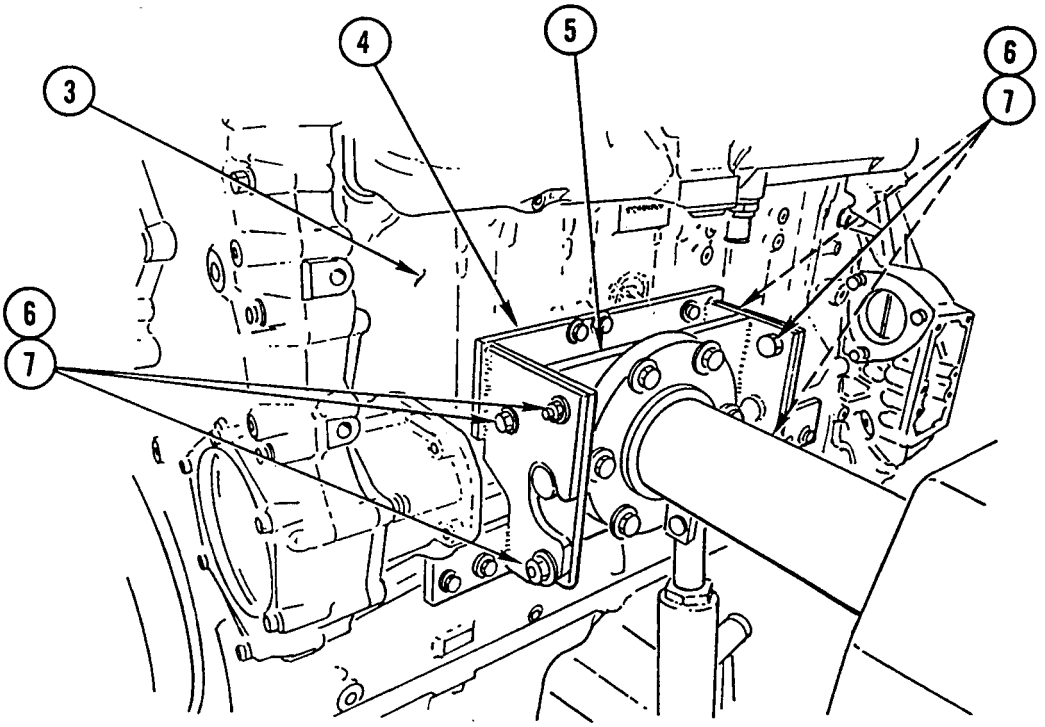
6. REMOVE LOAD ROTOR (9) FROM ENGINE (4).

7. REMOVE LOAD ROTOR (9) FROM HOIST (10).

ENGINE INSTALLATION/REMOVAL FROM REPAIR STAND (CONT)

REMOVAL



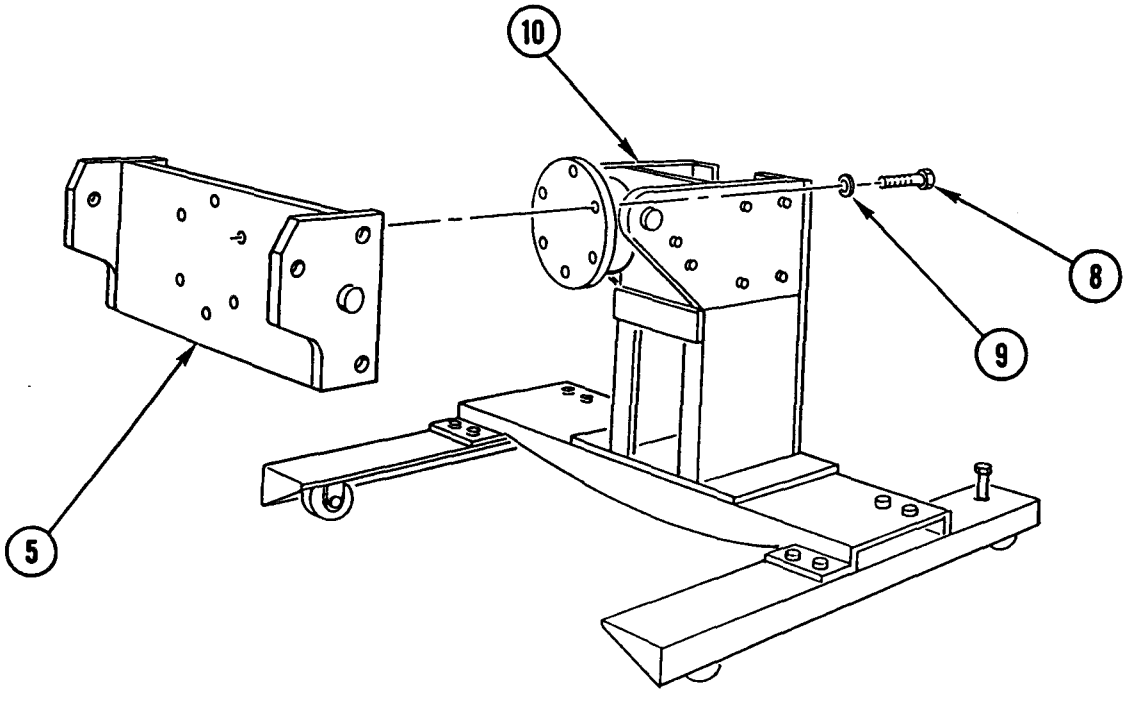


1. INSTALL LOAD ROTOR (1) ON HOIST (2).

WARNING

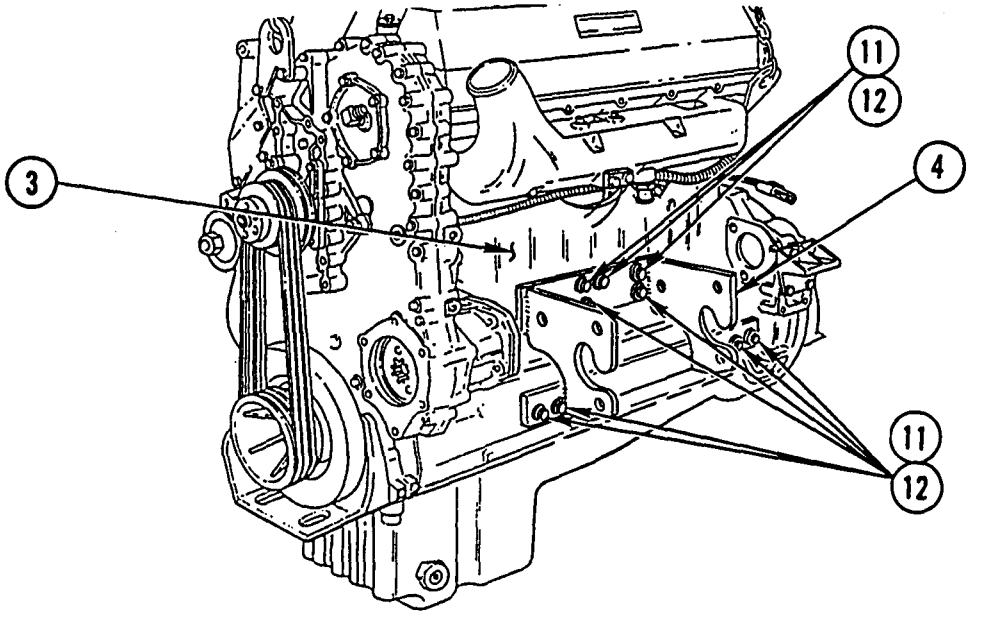
Engine weighs 2,850 lb (1294 kg). Use hoist with lifting capacity of 5,000 lb (2270 kg) to lift and support engine. Failure to do so could result in injury to personnel.

2. ATTACH LOAD ROTOR (1) TO ENGINE (3).
3. REMOVE ENGINE HOLDING FIXTURE (4) FROM ADAPTER PLATE (5) BY REMOVING SIX NUTS (6) AND SIX SCREWS (7).
4. LOWER ENGINE (3).
5. REMOVE LOAD ROTOR (1) FROM ENGINE (3).
6. REMOVE LOAD ROTOR (1) FROM HOIST (2).



7. REMOVE SIX SCREWS (8), SIX WASHERS (9), AND ADAPTER PLATE (5) FROM ENGINE STAND (10).

ENGINE INSTALLATION/REMOVAL FROM REPAIR STAND (CONT)



8. REMOVE NINE SCREWS (11), NINE WASHERS (12), AND ENGINE HOLDING FIXTURE (4) FROM ENGINE (3).

NOTE

Follow-on Maintenance:
Install electronic control module (TM 9-2320-363-20).
Install fuel filter adapters (TM 9-2320-363-20).
Install STE/ICE differential switch (TM 9-2320-363-20).
Install starter (TM 9-2320-363-20).
Install air compressor (TM 9-2320-363-20).
Install fuel pump (TM 9-2320-363-20).

CYLINDER HEAD REPAIR

This task covers: a. Disassembly b. Inspection c. Cleaning d. Repair/Assembly

INITIAL SETUP

Tools and Special Equipment:

Shop Equipment, SC 4910-95-CL-A31
Tool Kit, SC 5180-90-CL-N05
Shop Equipment, SC 5180-95-CL-A62
Shop Equipment, SC 4910-95-CL-A63
Valve Seat Remover, J23479-460
Valve Seat installer, J33190
Valve Seat Collet, J23479-29
Valve Seat Installer, J34983
Cylinder Head Adapter Plate, J35636
Cylinder Block Adapter Plate, J35635-A
Dowel Installer Set, J36224
Plug Installer Set, J35653
Driver Handle, J7079-2
Valve Guide Remover, J34696-B
Valve Guide Installer, J33191 -A
Injector Tube Reconditioning Set, J33880
Pressure Test Kit, J36223-C
Cylinder Head Lifter, J35641
Spring Compressor, J35580

Materials/Parts:

Kit, Intake Valve (12)	P/N 23501576
Kit, Exhaust Valve (12)	P/N 23507504
Insert, Intake Valve (12)	P/N 8929127
Insert, Exhaust Valve (12)	P/N 8929126
Guide, Valve (24)	P/N 8929631
Key, Valve (48)	P/N 0984-C
Seal, Guide (24)	P/N 85.0691-9
Oil, Lubricating	Appendix B, Item 37

Materials/Parts (Cent):

Compound, Pipe Sealing	Appendix B, Item 15
Oil, Cutting	Appendix B, Item 36
Dye, Prussian Blue	Appendix B, Item 17
Sealant, Non-Hardening	Appendix B, Item 51

Equipment Condition:

Reference	Condition Description
Page 3-80	Cyiinder Head Removed

General Safety Instructions:

WARNING

- Valve guide is removed from cylinder head under force. Position heavy block of wood at angle, beneath guide, to deflect valve guide and prevent personal injury.
- To prevent injury, compressed air will not exceed 30 psi (207 kPa). Use only with effective chip guarding and personal protective equipment, goggles, shield, and gloves.

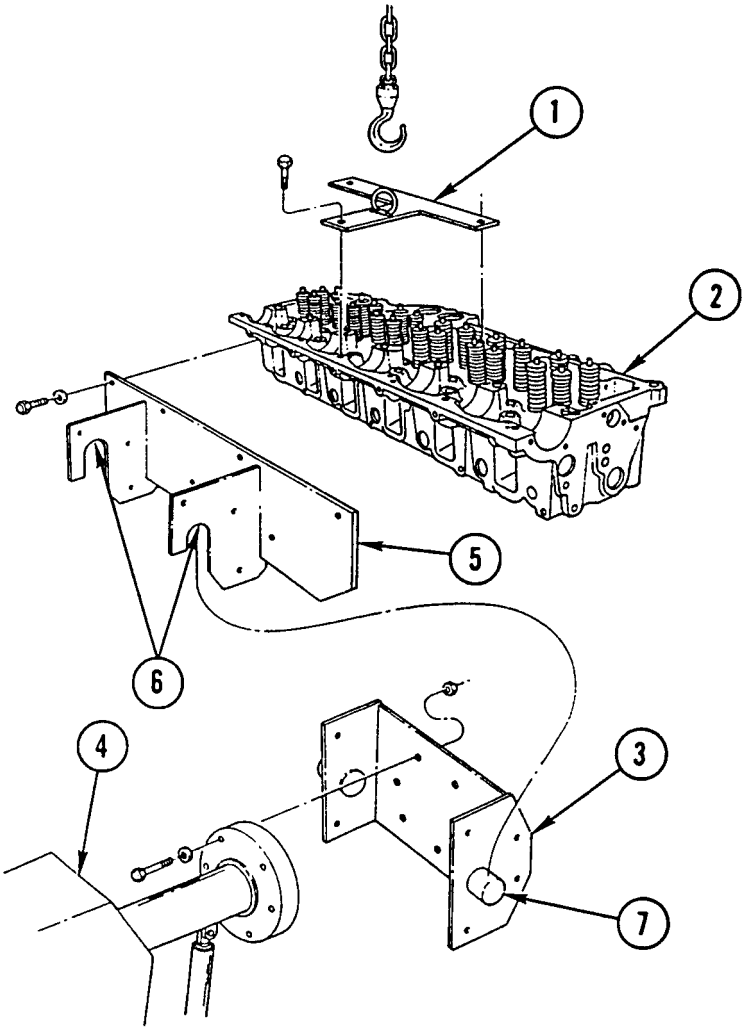
CYLINDER HEAD REPAIR (CONT)

General Safety Instructions (Cont):

WARNING

- Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water.

DISASSEMBLY



1. USING HARDWARE PROVIDED WITH CYLINDER HEAD LIFTER (1), INSTALL CYLINDER HEAD LIFTER (1) ON CYLINDER HEAD (2).

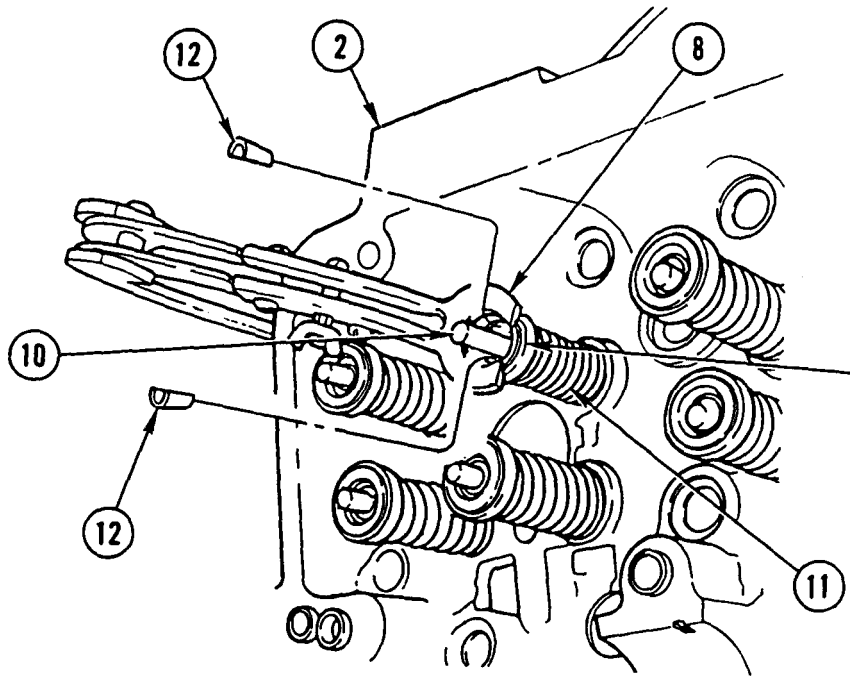
2. USING HARDWARE PROVIDED WITH ENGINE STAND ADAPTER PLATE (3), BOLT PLATE (3) TO ENGINE STAND (4).

3. USING BOLTS PROVIDED WITH ENGINE STAND ADAPTER PLATE (3), INSTALL CYLINDER HEAD ADAPTER PLATE (5) TO CYLINDER HEAD (2).

4. USING SUITABLE LIFTING DEVICE, LIFT AND MOUNT CYLINDER HEAD (2) AND ADAPTER PLATE (5) TO ENGINE STAND ADAPTER PLATE (3) BY ENGAGING SLOTS (6) IN CYLINDER HEAD ADAPTER PLATE (5) TO DOWELS (7) ON ENGINE STAND ADAPTER PLATE (3).

5. USING SIX BOLTS AND SIX NUTS PROVIDED WITH ENGINE STAND ADAPTER PLATE (3), SECURE ADAPTER PLATE (3) AND CYLINDER HEAD ADAPTER PLATE (5) TOGETHER.

6. REMOVE CYLINDER HEAD LIFTER (1).



7. POSITION CYLINDER HEAD (2) IN VERTICAL POSITION.

8. WITH LEGS OF VALVE SPRING COMPRESSOR JAW (8) ON VALVE ROTATOR (9) SURROUNDING STEM OF VALVE (10), WITH BOTTOM OF COMPRESSOR AGAINST FACE OF VALVE, COMPRESS VALVE SPRING (11).

9. REMOVE AND DISCARD VALVE KEYS (12).