

**DEPARTMENT OF THE ARMY
TECHNICAL MANUAL**

**DEPARTMENT OF THE AIR
FORCE TECHNICAL ORDER**

TM 9-1840A

TO 19-75B-15

**ORDNANCE
MAINTENANCE**

ENGINE

(DODGE MODEL T-245)

CLUTCH

(BORG AND BECK MODEL 11828)

DEPARTMENTS OF THE ARMY AND THE AIR FORCE

JUNE 1952

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope and Maintenance Allocation

a. Scope.

- (1) This manual is published for the information and guidance of personnel responsible for field and depot maintenance of this matériel, and contains information on maintenance which is beyond the scope of the tools, equipment, or supplies normally available to using organizations. (TM 9-840 contains operating and lubricating instruction for the matériel and contains all maintenance operations allocated to using organizations in performing maintenance work within their scope.)
- (2) This manual contains a description of and procedures for removal, disassembly, inspection, repair, rebuild and assembly of the engine and clutch used in the $\frac{3}{4}$ -ton 4 x 4 cargo truck M37, command truck M42, ambulance truck M43, and telephone installation, light maintenance, and cable splicing truck V41 () GT. The appendix contains a list of current references, including supply catalogs, technical manuals, and other available publications applicable to the matériel.
- (3) This first-edition manual is published in advance of complete technical review. Any errors or omissions will be brought to the attention of the Chief of Ordnance, Washington 25, D. C., ATTN: ORDFM-Pub.

b. Field and Depot Maintenance Allocation. The publication of instructions for complete disassembly and rebuild is not to be construed as authority for the performance by field maintenance units of those functions which are restricted to depot shops and arsenals. In general, the prescribed maintenance responsibilities will be reflected in the allocation of maintenance parts listed in the appropriate columns of ORD 8 SNL G-741. Instructions for depot maintenance

are to be used by maintenance companies in the field only when the tactical situation makes the repair functions imperative. Supply of parts listed in the depot guide column of ORD 8 SNL G-741 will be made to field maintenance only when the emergency nature of the maintenance to be performed has been certified by a responsible officer of the requisitioning organization. Those operations which can be performed as "emergency field maintenance" are specifically covered as such in this manual.

2. Forms, Records, and Reports

a. General. Responsibility for the proper execution of forms, records, and reports rests upon the officers of all units maintaining this equipment. However, the value of accurate records must be fully appreciated by all persons responsible for their compilation, maintenance, and use. Records, reports, and authorized forms are normally utilized to indicate the quantity, and condition of matériel to be inspected, to be repaired, or to be used in repair. Properly executed forms convey authorization and serve as records for repair or replacement of matériel in the hands of troops and for delivery of matériel requiring further repair to ordnance shops in arsenals, depots, etc. The forms, records, and reports establish the work required, the progress of the work within the shops, and the status of the matériel upon completion of its repair.

b. Authorized Forms. The forms generally applicable to units maintaining this equipment are listed in the appendix. For current and complete listings of all forms, refer to SR 310-20-6. For instructions on use of these forms, refer to FM 9-10.

c. Field Reports and Accidents. The reports necessary to comply with the requirements of the Army safety program are prescribed in detail in the SR 385-10-40 series of special regulations. These reports are required whenever accidents involving injury to personnel or damage to matériel occurs.

d. Report of Unsatisfactory Equipment or Materials. Any suggestions for improvement in design and maintenance of equipment, safety and efficiency of operation, or pertaining to the application of prescribed petroleum fuels, lubricants, and/or preserving materials, will be reported through technical channels as prescribed in SR 700-45-5 to the Chief of Ordnance, Washington 25, D. C., ATTN: ORDFM, using DA AGO Form 468, Unsatisfactory Equipment Report. Such suggestions are encouraged in order that other organizations may benefit.

Note. Do not report all failures that occur. Report only **REPEATED** or **RECURRENT** failures or malfunctions which indicate unsatisfactory design or material. However, reports will always be made in the event that exceptionally costly equipment is involved. Refer to SR 700-45-5 and the printed instructions on DA AGO Form 468.

Section II. DESCRIPTION AND DATA

3. Description

a. The $\frac{3}{4}$ -ton 4 x 4 cargo truck M37, command truck M42, ambulance truck M43, and telephone installation, light maintenance, and cable splicing truck V41 ()GT are equipped with a 6-cylinder, 4-cycle, water cooled "L" head, internal combustion, gasoline engine (figs. 1 through 5). Lubrication of moving parts, in the engine, is accomplished through a "pressure type" lubricating system with pressure being supplied by a gear driven rotor type oil pump. The cooling system is of the pressurized type and circulation is accomplished by a belt driven centrifugal type water pump. Engine temperature is controlled by a thermostat located in the cylinder head water outlet elbow.

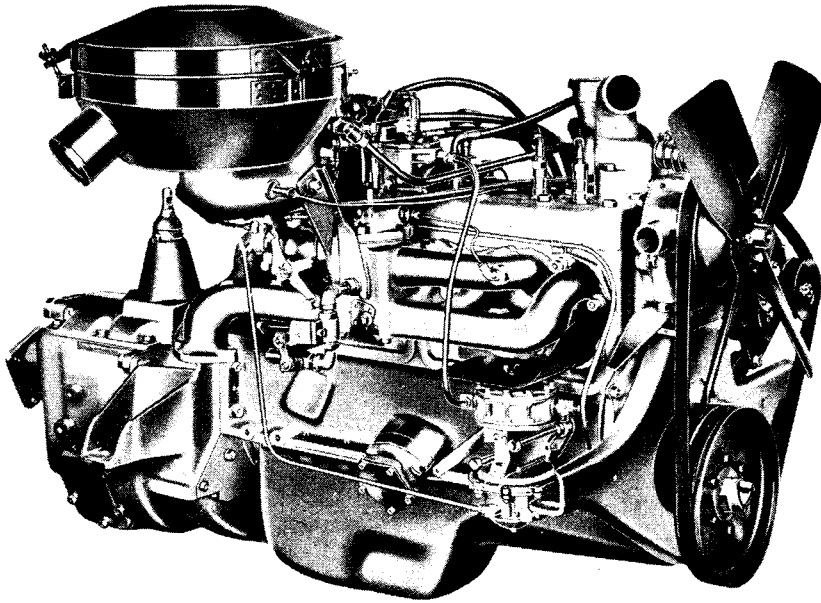
b. A down-draft carburetor provides the correct mixture of fuel and air for each of the cylinders. A governor is built integral with the carburetor, thus providing a means of limiting engine speed. The entire fuel system is equipped with adequate filtering elements to restrict dirt and other foreign particles from entering the combustion chambers.

c. A 24-volt electrical system supplies all electrically operated units with sufficient current to perform duties for which they are intended. The ignition system, generator regulator, starter, generator, and light switches are completely waterproofed by suitable seals and covered cables. The distributor is ventilated from the air cleaner elbow on the carburetor through the use of two lines.

d. All engine accessories are mounted in locations which permit easy accessibility. The generator is mounted on the left front side of the engine. The starter is mounted in the engine bell housing on the left rear side of the engine. The distributor is mounted on the left side of the engine along with the generator regulator, engine oil filter, fuel filter, oil filler pipe, oil pressure sending unit, and engine temperature sending unit. The carburetor, air cleaner, fuel pump, oil pump, intake, and exhaust manifolds are mounted on the right side of the engine.

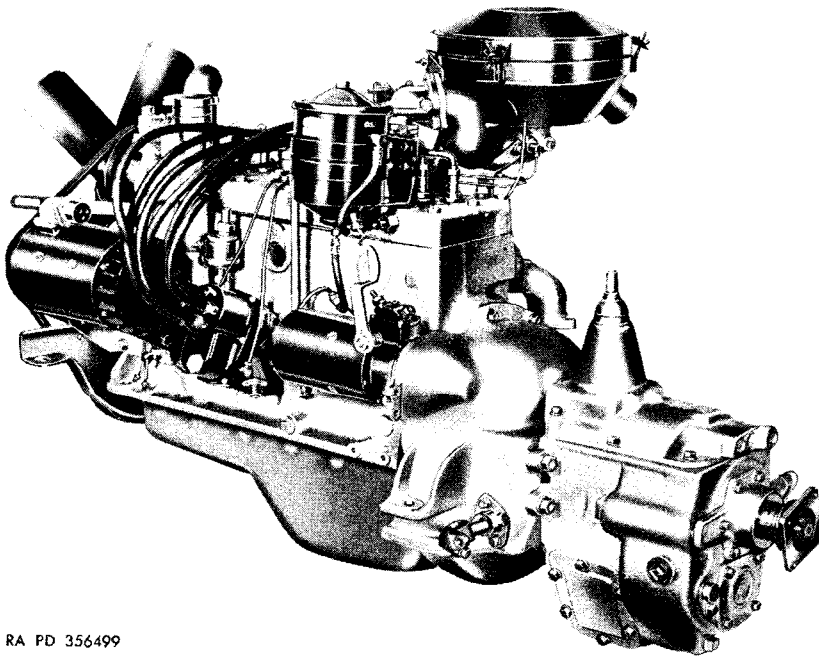
e. The clutch is a single dry-plate type, Borg and Beck Model 11828, enclosed within a steel cover bolted to the flywheel housing.

f. The engine ventilation system for deep water fording consists of the standard crankcase ventilated system with the additional necessary external ventilating lines required for under-water operation or to prevent damage due to condensation.



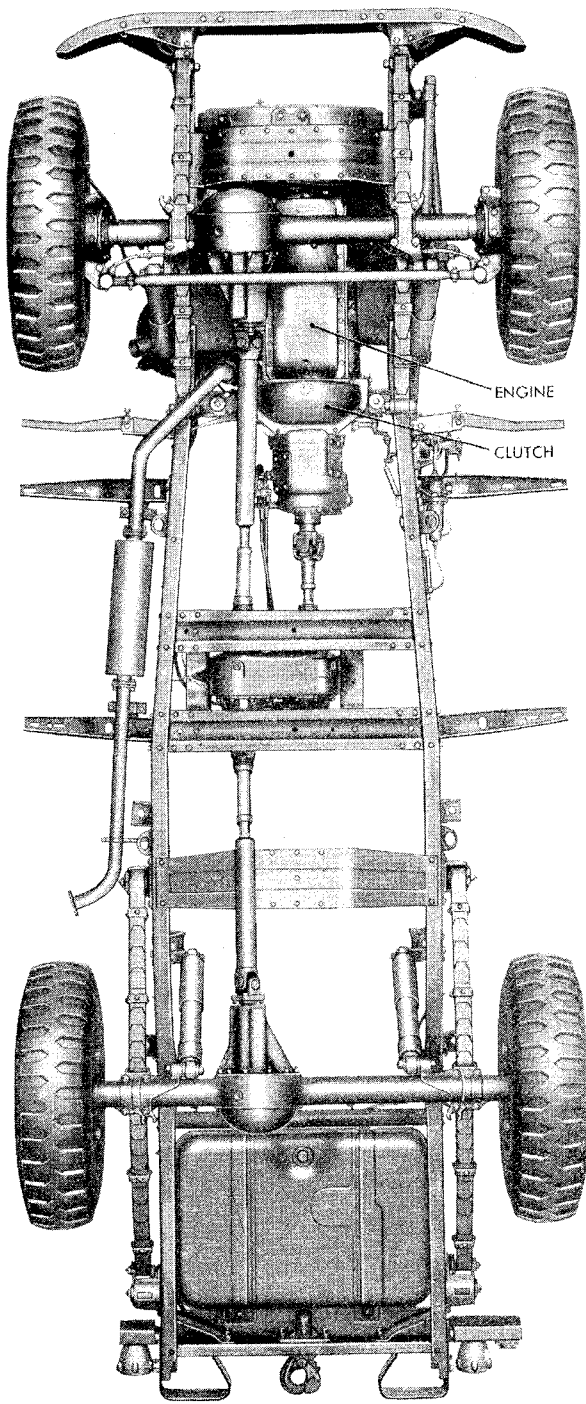
RA PD 356498

Figure 1. Dodge 3/4-ton 4 x 4 power plant—right side.



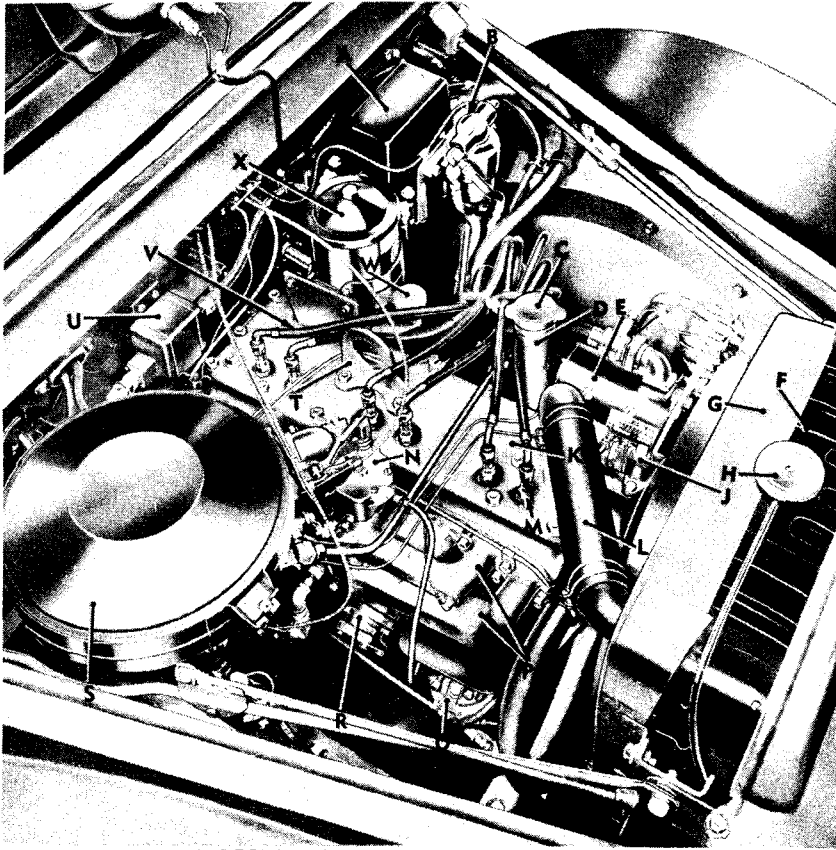
RA PD 356499

Figure 2. Dodge 3/4-ton 4 x 4 power plant—left side.



RA PD 356730

Figure 3. Vehicle with engine and clutch installed.



- A**—REGULATOR, GENERATOR, ASSY-7524309
B—FILTER, FUEL, ASSY-CC-1273852
C—CAP, OIL FILLER, ASSY-CC-1092771
D—PIPE, OIL FILLER, ASSY-7320616
E—GENERATOR, W/O PULLEY, ASSY-7374750
F—RADIATOR, ASSY-7373692
G—SHROUD, FAN-7373693
H—CAP, RADIATOR FILLER NECK, ASSY-B246293
J—ELBOW, WATER PUMP BY-PASS-7706211
K—HEAD, CYLINDER, W/PLUG, ASSY-7374761
L—HOSE, CYLINDER HEAD WATER OUTLET
L—ELBOW TO RADIATOR-33-H-773
M—PLUG, SPARK-7524258
N—CARBURETOR, ASSY-7001053
P—MANIFOLD, EXHAUST AND INTAKE, W/HEAT
P—CONTROL VALVE-CC-1067126
Q—PUMP, FUEL, ASSY-CC-1273865
R—PUMP, OIL, ASSY-7346936
S—SHROUD, AIR CLEANER, ASSY-7705788
T—BRACKET, ENGINE LIFTING-CC-1271277
U—FILTER, IGNITION, ASSY-CC-1268949
V—CABLE, SPARK PLUG, ASSY-7528172
W—GAGE, OIL LEVEL, W/CAP, ASSY-7320592
X—FILTER, OIL, W/CLAMP, ASSY-CC-1270046
- RA PD 356594

Figure 4. Engine compartment—right side.