WAR DEPARTMENT

DRIVER'S MANUAL

2½ - TON TRUCK, 4 X 2

(Federal)

(X-Extracted from TM 9-821)

April 3, 1943

EXTRACT FROM TECHNICAL MANUAL No. 9-821

WAR DEPARTMENT
Washington, April 3, 1943

2½ TON TRUCK, 4 X 2
(FEDERAL)

PREPARED UNDER THE DIRECTION OF THE CHIEF OF ORDNANCE

(With the cooperation of the Federal Motor Truck Company)

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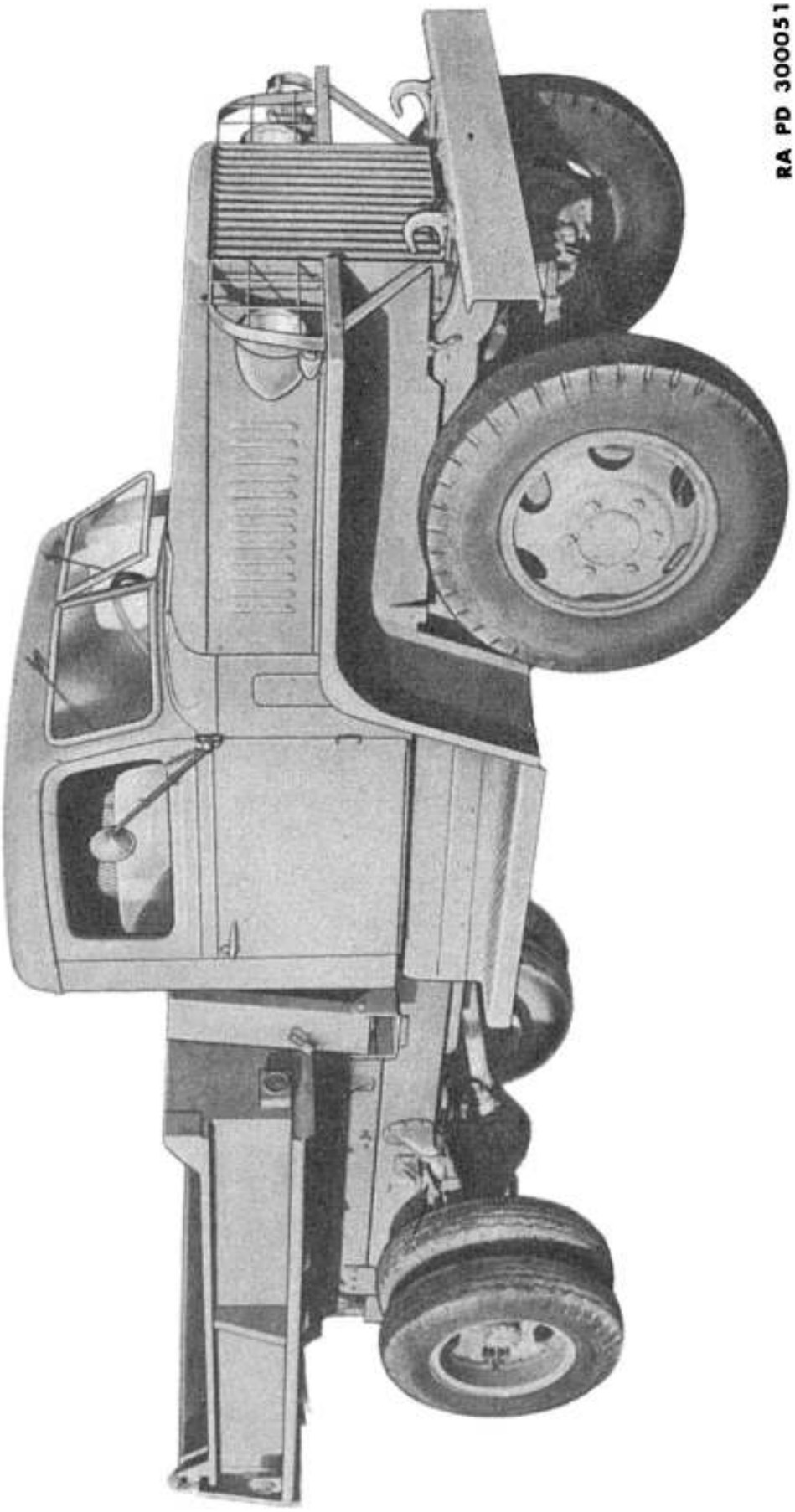
2½ TON TRUCK, 4X2 (FEDERAL)



RA PD 300051

Figure No. 1—2½ Ton Truck 4X2 (Federal)

DRIVER'S MANUAL

Section I

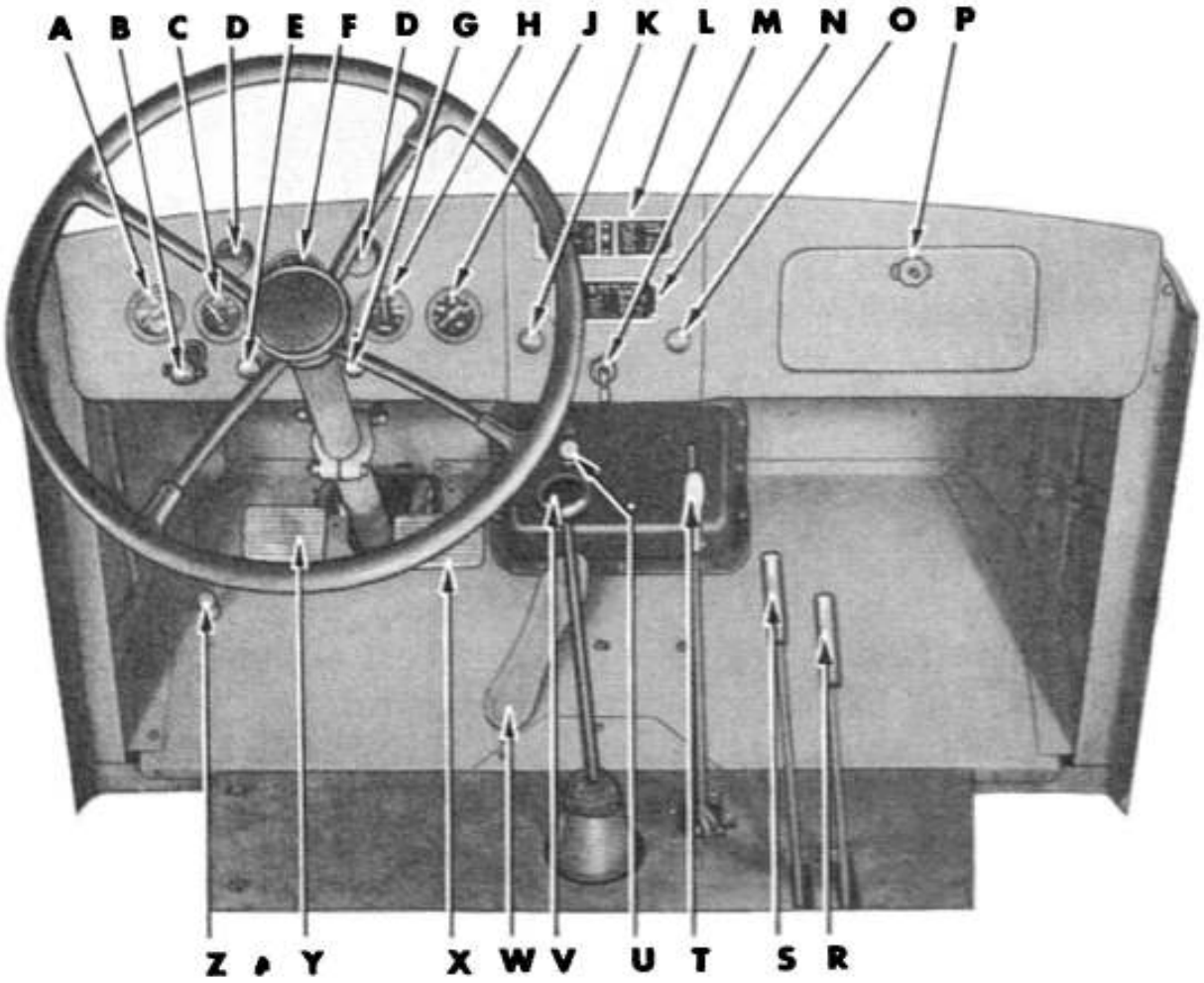
INTRODUCTION

1. SCOPE—This manual is prepared for the driver of the 2½ Ton, 4 X 2, Dump truck. It is a brief summary of the information given by the driver instructor for the safe and effective operation of the truck. See Figure 1.

2. CONTROLS AND LOCATION—a. Controls. Controls and instruments in the driver's compartment are identified and located in Fig. 2. Gear shift arrangement, power take-off lever position, and hoist valve positions are shown in Fig. 3 for the Anthony and the Galion body. Note that all positions are identical for both bodies with the exception of the hoist valve control lever.

b. Caution plates and shifting diagrams. Study the gear shift arrangement, power take-off positions, and note particularly the hoist valve "hold," "raise" and "lower" position for truck you are operating. Note the identity, significance and position of all instruments and controls.

2½ TON TRUCK, 4X2 (FEDERAL)



A—TEMPERATURE GAGE
B—MAIN LIGHT SWITCH
C—FUEL GAGE
D—PANEL LIGHT
E—BLACKOUT DRIVING LIGHT SWITCH
F—SPEEDOMETER
G—PANEL LIGHT SWITCH
H—AMMETER
J—OIL PRESSURE GAGE
K—CHOKE
L—SHIFTING DIAGRAM
M—IGNITION SWITCH
N—CAUTION PLATE
O—THROTTLE
P—GLOVE COMPARTMENT
R—HOIST CONTROL LEVER
S—POWER TAKE-OFF LEVER
T—HAND BRAKE LEVER
U—STARTING MOTOR SWITCH
V—TRANSMISSION SHIFT LEVER
W—ACCELERATOR
X—BRAKE PEDAL
Y—CLUTCH PEDAL
Z—DIMMER SWITCH

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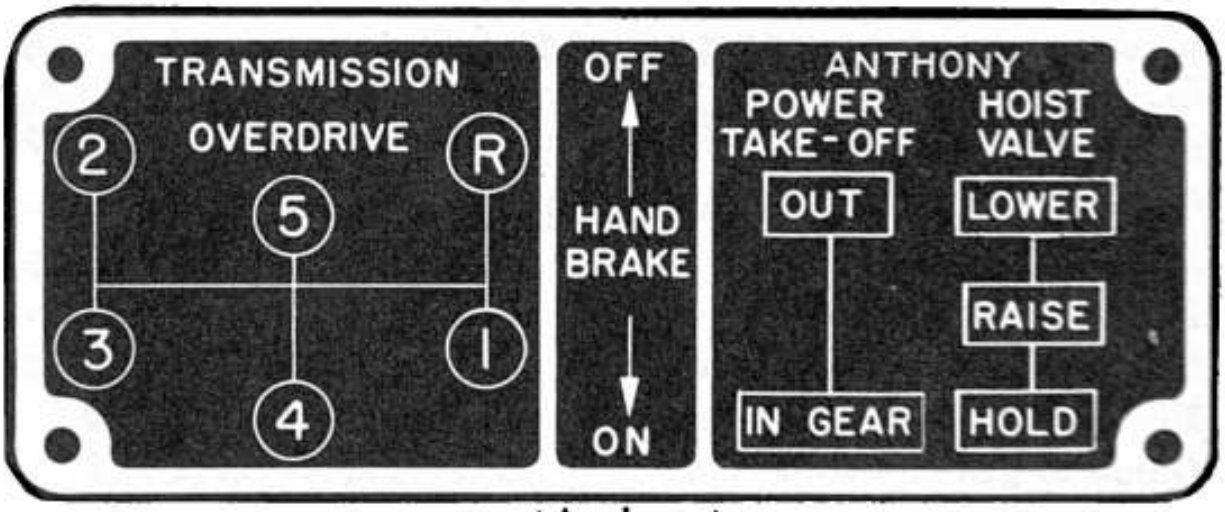
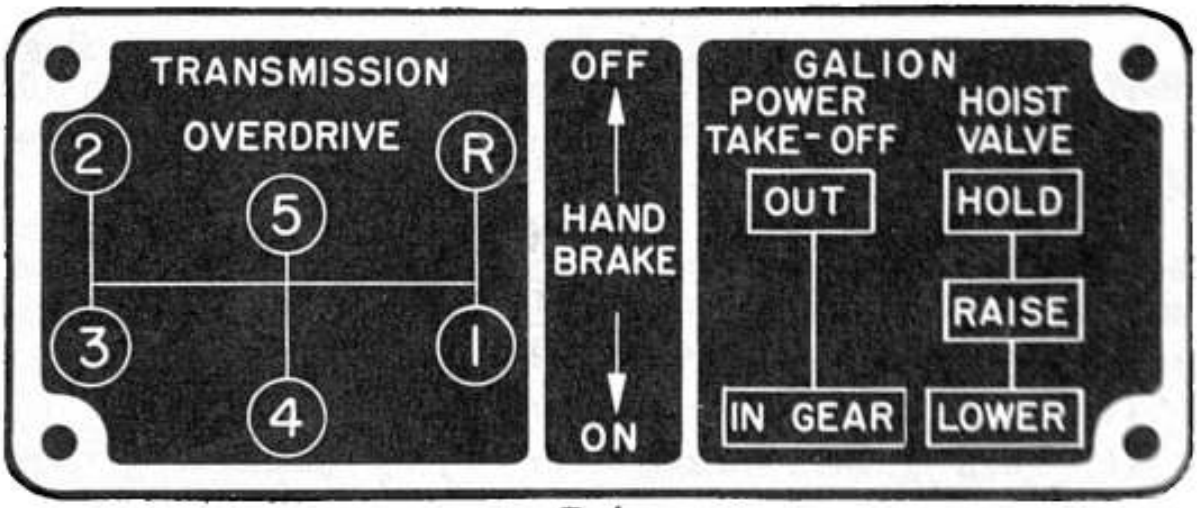
Figure No. 2—Controls and Instruments

INTRODUCTION



(Anthony)



(Galion)

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Figure No. 3—Shifting Diagrams

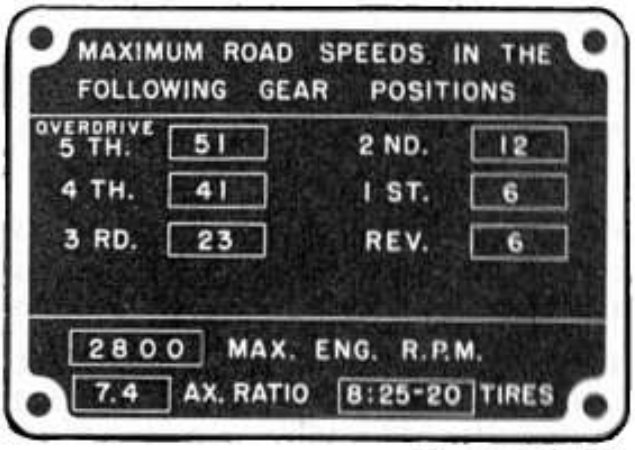

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Figure No. 4—Caution Plate

DRIVER'S MANUAL

Section II

OPERATION

3. HOW TO START THE ENGINE—a. Before starting. Perform the before starting inspection. See Paragraph 10.

b. Starting engine. (1) Pull hand brake lever back and leave applied.

(2) Move transmission shift lever to neutral position. (Refer to Fig. 3, Shifting Diagram). At this point lever should move freely from right to left without effort.

(3) Pull throttle button out about one-half inch.

(4) Pull choke button out about half way.

(5) Turn ignition switch lever to "on" position.

(6) Push down clutch pedal and hold down until engine starts. This is important in cold weather.

(7) Press firmly on starting motor switch until engine starts. This switch should not be engaged for longer than 10 to 15 seconds at a time.

(8) Push in throttle button until engine runs smoothly at a moderate speed. Step on accelerator to speed up if it shows signs of dying.

(9) Release clutch pedal.

(10) Push in choke button when engine is running smoothly and temperature gage indicates approximately 160°F.

(11) With engine running at rapid idle note readings on gages. Ammeter should show charge. After engine has warmed up oil pressure gage should indicate approximately 15 pounds. If pressure fails to show or falls suddenly stop engine at once and report condition.

OPERATION

4. MOVING THE TRUCK—FORWARD—a. General. When time permits allow engine to run for an initial warm up period until temperature gage shows 160°F. If time does not permit this run engine until temperature gage hand starts to move.

b. Shifting up in forward speeds. Truck operates in the same manner as conventional vehicle except that the transmission shift lever has five forward positions (fig. 3). Shifting is accomplished as follows:

(1) Push down clutch pedal.

(2) Refer to shifting diagram (fig. 3) and move gear shift lever as shown to extreme right and pull straight back engaging first speed or low gear.

(3) Gradually speed up engine by depressing foot accelerator pedal. Release clutch pedal gradually from depressed position and smoothly release hand brake. Once practiced a few times this operation becomes automatic and the three actions of accelerating engine, releasing the clutch pedal, and releasing the hand brake all blend smoothly causing the truck to move forward without undue engine stalling and jerking of the truck.

(4) As soon as truck is moving smoothly in first gear (never exceed allowable speed shown on caution plate (fig. 4) for any gear being used) depress clutch pedal and raise foot from accelerator pedal allowing engine to slow down. Refer to shifting diagram (fig. 3) and move shift lever forward from first gear position through neutral position to the extreme left of its travel and then push straight forward engaging second speed gear. Depress accelerator slightly and release clutch pedal gradually allowing engine to pick up the load of pulling the truck.

(5) In like manner as described in (4) above, shift truck successively into third and into fourth speed which is direct drive and is used for normal truck operations.

(6) The overdrive or fifth speed position is reached by shift-

ing from fourth speed following the same steps as just outlined for other shifts, however fifth speed or overdrive is normally reserved for operating on the open road at high speed.

c. Shifting down in forward speeds. When necessitated by driving conditions, transmission may be shifted from higher to lower speeds using the following steps:

(1) Depress clutch pedal and release accelerator pedal and at the same time move shift lever into neutral (central) position.

(2) Release clutch pedal and accelerate to synchronize engine with truck speed. This step will require practice and judgment to acquire the knack of knowing when engine speed is high enough to synchronize gears and avoid clashing as shift is made to lower gear as outlined in next step.

(3) Depress clutch pedal, release accelerator and quickly and positively shift lever to next lower speed position.

(4) Step on accelerator pedal and gradually release clutch pedal. Operation may be continued in this gear or a shift to the next lower gear may be made in like manner.

5. MOVING THE TRUCK—REVERSE—a. Shifting into reverse speed. Transmission can be shifted into reverse speed as follows:

(1) Bring truck to complete stop.

(2) Depress clutch pedal and place transmission shift lever in reverse speed position (fig. 3) by moving lever to extreme right and shifting straight forward.

(3) Accelerate engine and gradually release clutch.

6. GUIDE TO GEAR SHIFTING—a. Forward upward shifts. When traveling on level or rising roadway always make forward upward shifts as soon as truck gains sufficient momentum to enable the engine to handle the load in the next higher speed without "lugging" or "laboring." Never exceed speed shown on caution plate for any gear. It is usually preferable to shift to higher gear at a speed slightly lower than shown on caution plate for the respective gear in which you are running. Most normal load operation will be with transmission in 4th speed or direct drive. The 5th speed or overdrive position is indicated for use where the roadway is open