DEPARTMENT OF THE ARMY
TECHNICAL MANUAL

DEPARTMENT OF THE AIR
FORCE TECHNICAL ORDER

TM 9-8012
TO 36A5-2-41

OPERATION
AND ORGANIZATIONAL
MAINTENANCE

1/4-TON 4 x 4
UTILITY TRUCK
M38

DEPARTMENTS OF THE ARMY AND THE AIR FORCE

JANUARY 1956

of the transmission and extends into the driver's compartment.

d. Transfer. To supplement the gear ratio of the transmission, a two-speed transfer is mounted on the rear of the transmission. The transfer provides additional gear reduction for negotiating difficult terrain, a power-take-off for the winch, and a means of transmitting power to the front axle. The transfer is manually operated by the driver through a set of transfer gearshift levers on top of the transfer. The levers extend into the driving compartment to the right of the transmission gearshift lever.

e. Front Axle and Suspension. The front axle is a full-floating, single-reduction-type with hypoid drive gears. Incorporated in the front axle are constant velocity-type universal joints at the steering knuckles. A propeller shaft provides a connection from the front axle to the transfer for the transmission of power. Power through the transfer is controlled by a transfer gearshift lever in the driving compartment. Suspension of the front axle consists of two semielliptic springs, shackled to the frame at the front of the spring, secured to the frame at the rear of the spring by pivot bolts, and attached to the front axle by U-bolts.

f. Rear Axle and Suspension. The rear axle is a semifloating, single-reduction-type with hypoid drive gears. The rear axle is connected to the transfer by a propeller shaft for the transmission of power. Suspension of the rear axle consists of two semielliptic springs shackled to the frame at the rear of the spring, secured to the frame at the front of the spring by pivot bolts, and attached to the rear axle by U-bolts.

g. Brake Systems. The service brakes are actuated hydraulically using full-floating brake shoes. Service brakes are on all four wheels and are operated by the brake pedal in the driving compartment. The hand brake is a mechanical brake at the rear of the transfer and is operated by pulling the hand brake handle outward from the instrument panel. A ratchet holds the handle in a locked position which can be released by a quarter turn in either direction.

h. Electrical System. The electrical system furnishes current for ignition, lights, sending units, etcetera. Current is generated by a 24-volt, belt-driven generator, and stored in two 12-volt storage batteries connected in series.

5. Name, Data, Caution, and Instruction Plates

a. Name and Data Plates.

(1) *Vehicle identification plate* (fig. 4). The vehicle identification plate is located on the instrument panel at the right of the instrument cluster. The plate includes ve-

Section II. LUBRICATION AND PAINTING

66. Lubrication Order

Lubrication Order 9–8012 (figs. 14 and 15) prescribes cleaning and lubricating procedures as to locations, intervals, and proper materiels for this vehicle. The official lubrication order will be carried with the vehicle at all times. In the event the vehicle is received without a copy, the using organization shall immediately requisition one. See DA Pam 310–4 for lubrication order of current date. Lubrication which is to be performed by ordnance maintenance personnel is listed on the lubrication order in the "NOTES" (fig. 15), and in a few instances are contained in the pertinent section.

67. General Lubrication Instructions

a. General. Any special lubricating instructions required for specific mechanisms or parts are covered in the pertinent sections.

b. Usual Conditions. Service intervals specified on the lubrication order are for normal operation and where moderate temperature, humidity, and atmospheric conditions prevail.

c. Lubrication Equipment. Organizational maintenance tool sets contain lubrication equipment adequate for maintenance. Clean this equipment both before and after use. Operate the lubricating guns carefully and in such a manner as to insure a proper distribution of the lubricant.

d. Points of Application.

(1) Lubrication points are shown in figures 16 through 19 and are referenced to the lubrication order. Clean fittings and surrounding surfaces as prescribed in lubrication general notes (fig. 14).

(2) A ¾-inch red circle should be painted around all lubricating fittings, oil can points, and refill plug holes.

(3) Clean and lubricate unsealed bearings as in (*a*), (*b*), and (*c*) below.

(*a*) Wash all the old lubricant out of the bearings and from the inside of the hubs with volatile mineral spirits or dry-cleaning solvent and dry the parts thoroughly.

Caution: Bearings must not be dried or spun with compressed air. See TM 37–265 for care and maintenance of bearings.

all of these checks that are pertinent to any item (including supporting, attaching, or connecting members) will be performed automatically, as general procedures, in addition to any specific procedures given.

(1) Inspection for "good condition" is usually visual inspection to determine if the unit is safe or serviceable. "Good condition" is explained further as meaning: not bent or twisted, not chafed or burned, not broken or cracked, not bare or frayed, not dented or collapsed, not torn or cut and not deteriorated.

(2) Inspection of a unit to see if it is "correctly assembled or stowed" is usually a visual inspection to see if the unit is in its normal position in the vehicle and if all its parts are present and in their correct relative positions.

(3) Inspection of a unit to see if it is "secure" is usually a visual, hand-feel, pry-bar, wrench, or screwdriver inspection for looseness in the unit. This inspection will include any brackets, lockwashers, locknuts, locking wires, and cotter pins as well as any connecting tubes, hoses or wires.

(4) "Excessively worn" is understood to mean worn beyond serviceable limits, or likely to fail if not replaced before the next scheduled inspection. Excessive wear of mating parts or linkage connections is usually evidenced by too much play (lash or lost motion). It includes illegibility as applied to markings, data and caution plates, and printed matter.

(5) Where the instruction "tighten" appears in the procedures, it means tighten with a wrench, even if the item appears to be secure.

(6) Such expressions as "adjust if necessary" or "replace if necessary" are not used in the specific procedures. It is understood that whenever inspection reveals the need of adjustments, repairs, or replacements, the necessary action will be taken.

74. Cleaning

a. General. Any special cleaning instructions required for specific mechanisms or parts are contained in the pertinent section. General cleaning instructions are as shown in (1) through (5) below.

(1) Nameplates, caution plates, and instruction plates made of steel rust very rapidly. When they are found to be in a rusty condition, they should be thoroughly cleaned and heavily coated with an application of lacquer.

Interval		Procedure
"C" (every 1,000 miles)	"D" (6 months or 6,000 miles whichever occurs first)	
		MAINTENANCE OPERATION—Continued
	35	*Spark plugs—clean and adjust, distributor, cap, rotor, points, shaft, advance unit, coil and wiring, ignition timing.* Remove and inspect spark plugs (par. 145). Inspect distributor cap, rotor, and breaker points and test operation of centrifugal and vacuum advance mechanism by hand. Test distributor shaft for looseness by hand feel. Test ignition coil and distributor capacitor with high-tension ignition-circuit tester, if available, according to instructions accompanying the test instrument. Using neon timing light, observe if ignition timing (figs. 58 and 59) is correct (par. 142) and if spark advances automatically as engine is accelerated. Test generator regulator with a low-voltage circuit tester following instructions accompanying the test instrument.
	35	Clean spark plugs and adjust gaps (par. 145). Check distributor breaker points and adjust gap (par. 143), (figs. 57 and 61). If points are badly pitted, replace both points and capacitor.
	36	*Manifold and heat control.* Inspect these items. Look particularly for signs of leakage at manifold gaskets. If heat control is automatic, see if shaft operates freely and if bimetal spring controls it properly. If it is manually controlled, check seasonal adjustment.
37	37	*Carburetor, choke, throttle, linkage fuel filter and lines.* Inspect these items noticing particularly if the shafts and linkage operate freely and are not excessively worn. Observe if the choke valve plate opens fully when the choke control is released and if the throttle valve plate opens fully when the accelerator is fully depressed.
	37	Make an engine vacuum test (par. 79*c*(6)), and adjust carburetor idle mixture (par. 129). Test fuel pump pressure (par. 79*b* (2)).

(6) *Faulty engine vacuum.* Peform engine vacuum test as follows—disconnect fuel and vacuum pump vacuum line at elbow located on exhaust manifold, and install vacuum gage adapter in elbow (fig. 22). Start engine and run at idling speed until minimum operating temperature (160° F.) is reached. Make sure the carburetor is adjusted properly. Adjust if necessary (par. 127). With engine operating at normal idling speed, vacuum gage should show a reading of 18 to 21 inches of mercury. A pointer fluctuating between 10 and 15 inches of mercury may indicate a leaking valve or defective cylinder-head gasket. An abnormally low reading with the pointer steady may indicate a leak at the carburetor. Accelerate and decelerate engine rapidly. Vacuum should drop to approximately 2 inches of mercury with rapid acceleration, and should rise to 24 inches of mercury as acceleration is decreased quickly.

Note. Above readings are for sea level operation. Vacuum readings will be lowered approximately 1 inch of mercury for 1,000 feet increase in altitude.

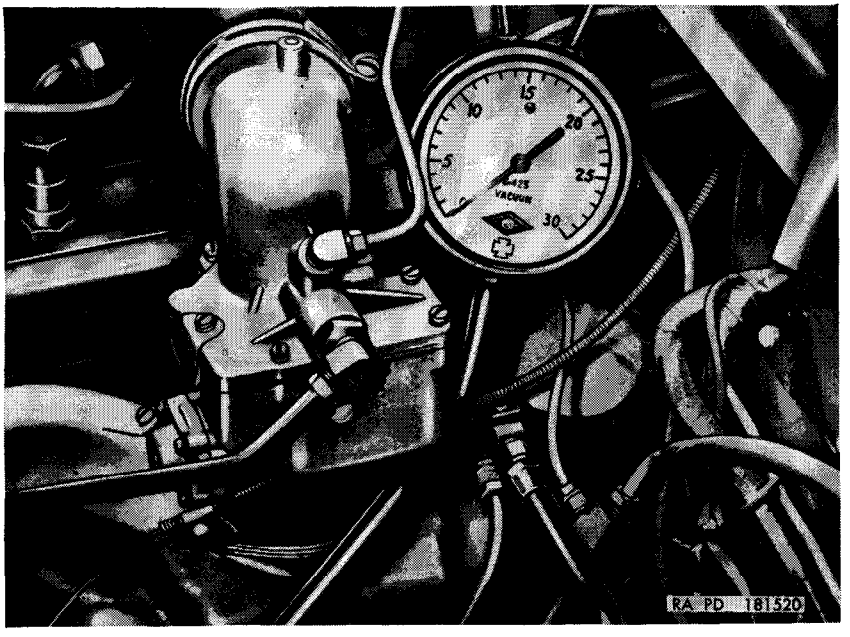

Figure 22. Testing engine vacuum.

d. Fuel Mixture Too Rich.

(1) *Incorrect carburetor adjustment.* Adjust carburetor (par. 129).

graph 163 for location of cables. Inspect cables for frayed insulation, cracks, breaks, or loose connections. Repair cables if necessary.

(2) *Faulty oil pressure sending unit.* Test sending unit by substitution. Obtain a sending unit which is known to be operative. Remove sending unit (par. 188) from vehicle and install sending unit to be used for test. If, with engine running, pressure gage now registers, old sending unit was faulty.

(3) *Faulty oil pressure gage.* Test gage by substitution. Obtain a gage which is known to be operative. Remove gage (par. 177) and install gage which is to be used for test. If, with engine running, gage now registers, old gage was faulty.

e. Speedometer.

(1) *Speedometer fails to show either speed or mileage or pointer fluctuates.*

(*a*) *Kinked or broken flexible shaft assembly or core.* Refer to ordnance maintenance personnel.

(*b*) *Binding in speedometer.* Disconnect flexible shaft at speedometer. Obtain a short piece of flexible shaft core about 2 or 3 inches long with a tip to fit the speedometer socket. Insert the piece of core into speedometer socket and spin core between the thumb and forefinger in the proper direction to cause speedometer pointer to indicate speed on speedometer dial. If there is a tendency for the speedometer to bind, replace speedometer (par. 178).

(2) *Speedometer fails to show either speed or mileage or pointer will not return to zero.* Faulty speedometer. Replace speedometer (par. 178).

f. Headlight High Beam Indicator Light.

(1) *Fails to light.*

(*a*) *Lamp burned out.* Replace lamp (par. 179).

(*b*) *Faulty wiring.* Refer to paragraph 163 for correct cable and connection. Inspect cable for frayed insulation, cracks, breaks, or loose connections. Tighten connections or repair if necessary.

(2) *Lamp flickers.* Loose cable connections or lamp loose in socket. Tighten lamp and cable connections.

g. Headlight Dimmer Switch.

(1) *Fails to operate.*

(*a*) *Loose cable connections or faulty wiring.* Refer to paragraph 163 for correct cables and connections. Inspect cables for frayed insulation, cracks, or breaks.

(2) *Improper front wheel alinement.* Check front wheel alinement and correct if necessary (par. 234).
(3) *Bent wheel.* Replace any bent or distorted wheels (par. 256).
(4) *Damaged or improperly adjusted front hub bearings.* Inspect hub bearings and adjust or replace if necessary (par. 225).
(5) *Wheel stud nuts loose.* Tighten stud nuts (par. 256).
(6) *Wheel out of balance.* Remove (par. 256) and remount tire in a different position. If trouble is not corrected, replace wheel (par. 256) or tire (par. 257).

b. Wheel Wobbles.
(1) *Bent wheel.* Replace any bent or damaged wheels (par. 256).
(2) *Damaged or improperly adjusted front hub bearings.* Adjust or replace hub bearings (par. 225).
(3) *Wheel loose on hub.* Tighten stud nuts (par. 256).
(4) *Wheel out of balance.* Remove (par. 256) and remount tire in different position. If trouble is not corrected, replace wheel (par. 256) or tire (TM 21–300).

c. Wheel Pounds.
(1) *Damaged or improperly adjusted front hub bearings.* Adjust or replace hub bearings (par. 225).
(2) *Bent wheel.* Replace any bent or damaged wheels (par. 256).
(3) *Damaged tire.* Inspect tire for breaks or bulges, replace tire (TM 21–300), if necessary.

98. Springs and Shock Absorbers

a. Insufficient Flexibility.
(1) *Lack of lubrication.* Lubricate in accordance with paragraph 66.
(2) *Frozen spring shackles.* Free shackle and lubricate (par. 66).
(3) *Faulty shock absorbers.* Disconnect shock absorbers (par. 253) and test action by compressing lower section into upper section. If little or no effort is necessary to compress shock absorbers, replace (par. 253).

b. Excessive Flexibility.
(1) *Over lubrication.* Clean excess lubricant from springs and lubricate in accordance with paragraph 66.
(2) *Faulty shock absorbers.* Refer to *a*(3) above.
(3) *Broken spring leaves.* Inspect springs for evidence of broken leaves. Replace springs (par. 252) if necessary.

(3) Place the mounting bracket (on engine) (K), with oil filter assembly over cylinder-head studs 9, 10, and 15 (fig. 25) and screw nuts on studs fingertight.

(4) Place the lifting hook (A) over the cylinder-head studs 1, 2, and 7 (fig. 25) and screw 7/16-inch nuts on studs fingertight.

(5) Position the air intake pipe with vent valve and bracket assembly (B) in the vehicle. Slide the control valve hose (H) onto the hose connection on the crankcase oil filler pipe assembly (S) and place the air intake pipe bracket (R) over the No. 5 stud (fig. 25) and screw 7/16-inch nut on stud fingertight. Tighten the hose clamp screw (J) securing the control valve hose (H) to the filler pipe. Slide the air intake pipe hose onto the carburetor and the air cleaner. Secure the hose clamp screws (G, fig. 23) at each end of the pipe assembly.

(6) Slide the air cleaner control valve control wire (C) into the air cleaner control valve control wire swivel (G) on the control valve lever (E). Make sure deep-water fording vent valve control (H, fig. 7) on instrument panel is pushed all the way in. Position control valve lever with the swivel toward the front of the vehicle. Tighten the set screw (F) securing the control wire to the swivel.

(7) Tighten all cylinder-head stud nuts to torque of 65–75 pound-feet in the sequence shown in figure 25 to secure the cylinder head to the cylinder block and the mounting bracket (on engine), lifting hook, and air intake pipe bracket to the cylinder head.

(8) Install the 5/16 x 5/8 flat washer screw (L) through the crankcase oil filler pipe support bracket into the mounting bracket (on engine) (K) and tighten.

(9) Clean, adjust, and install the spark plugs and connect the spark plug cables (par. 145). Connect the water temperature sending unit cable (N) by pushing the connector plug on the end of the cable into the sending unit receptacle and turning the connector clockwise to secure it to the sending unit.

(10) Position the vent line (Q), between the distributor and the air intake pipe with vent valve and bracket assembly (B), in place and screw the nuts on both ends of the line into the fittings. Position the vacuum hose (F, fig. 23), between the distributor and the tee (H, fig. 23), in place with clip (D, fig. 23) over cylinder-head stud

the head. Screw the oil filter outlet flexible oil line elbow, with flexible oil line, into the oil filter head with cartridge at the position indicated by an arrow pointing to the outside edge of the head.

(2) Put the oil filter assembly into the mounting bracket (on oil filter) but do not tighten the screw and nut in the bracket. Position the mounting bracket (on oil filter) on the mounting bracket (on engine). Place a $1\frac{1}{32}$-inch flat washer on each of the two $\frac{5}{16}$–10 x $\frac{5}{8}$ (Acme) flat washer screws. Put the screws through the holes in the mounting bracket (on oil filter) and screw into the J-type speed nuts on mounting bracket (on engine). Position the oil filter in the mounting bracket, alining the inlet fitting on the oil filter with the inlet flexible oil line, and tighten the screw and nut securing the mounting bracket to the oil filter assembly.

(3) Connect the inlet flexible oil line to the oil filter by screwing the nut on the end of the line into the fitting on the oil filter. Connect the outlet flexible oil line to the timing gear cover assembly by screwing the nut on the end of the line into the fitting in the cover.

(4) Start the engine and run it for a few minutes to fill the oil filter assembly and check for oil leaks around the flexible oil line connections and the filter.

Note. The oil filter inlet flexible oil line is slack enough to permit the engine fan blast to force the line into constant contact with the manifold elbow. To prevent damage by burning, move the oil filter clockwise within its mounting bracket to shorten the line enough to keep it clear of the manifold elbow.

111. Oil Filter Head With Cartridge Assembly (fig. 30)

a. Removal.

(1) Disconnect the oil filter inlet flexible oil line assembly and fitting from the oil filter head with cartridge assembly by unscrewing the nut from the fitting and unscrewing the fitting from the head. Disconnect the oil filter outlet flexible oil line assembly by unscrewing the nut from the fitting on the timing gear cover assembly. Remove the oil filter outlet flexible oil line assembly and elbow from the head with cartridge assembly by unscrewing the elbow from the head.

(2) Remove six bolts and nuts securing the head and the reinforcing ring to the sump and lift the head with cartridge assembly out of the sump.

(11) Remove plain nut, bolt, flat washer, and plain washer securing the case support insulator, case support insulator snubber (C, fig. 36), and case support insulator retaining cup in position and remove insulator, snubber, and cup.

(12) Remove the cotter pin and clevis pin from the clutch control lever tube cable adjustable yoke (fig. 32) and disconnect yoke from the control lever tube.

(13) Unhook and remove the brake pedal retracting spring (Q, fig. 36).

(14) For vehicles equipped with winch and power-take-off, unscrew the knob from the power-take-off gearshift control lever (HH, fig. 7). Unscrew the four screws from the grommet retaining plate (NN, fig. 7) and slide the plate and the grommets (LL and MM, fig. 7) up off the gearshift lever. Remove the four screws from the power-take-off shift lever plate and lift the plate with gearshift lever out of the power-take-off.

f. Operations Under Vehicle.

Note. The key letters noted in parentheses are in figure 36, except where othewise indicated.

(1) Remove the plain nuts, plain washers, lockwashers and carriage bolts securing the skid plate to engine rear support cross member (F) and remove skid plate.

(2) Loosen the adjusting nut securing the engine stay cable (H) and lift cable end out of bracket (G).

(3) Remove the two self-locking nuts from the studs on the rear mounting support cushion (L) to loosen cushion from the engine rear support cross member (F).

(4) Remove the four plain nuts, flat washers, and lockwashers from bolts (D) securing the engine rear support cross member (F) to the vehicle frame and remove the cross member.

(5) Unhook and remove the cable retracting spring (R).

(6) Remove the plain nut and bolt securing the cable housing clamp (J) to the rear mounting bracket (K).

(7) Remove the cotter pin and clevis pin securing the hand brake rod end yoke (N) to the operating lever (M). Spread open the clip securing the hand brake cable to bell housing and slide cable out of clip.

(8) Disconnect speedometer cable (E) from the speedometer driven gear sleeve (fig. 90).

(9) Remove the four nuts and lockwashers securing the universal joint (A), located at the front of the rear propeller

(10) Screw the nut on the master cylinder vent line (F) into tee (E).
(11) Screw the nut on the windshield wiper vent line (B) into tee (E) and slide windshield wiper hose (A) over vent line.
(12) Connect battery-to-battery ground cable to battery "A" located in the engine compartment.

f. Operations at Front of Vehicle.
(1) Secure radiator to vehicle frame cross member by installing two $1\frac{1}{32}$-inch flat washers and $\frac{7}{16}$-inch nuts on radiator holddown studs (fig. 41).
(2) Install radiator guard (par. 263).

g. Final Operations.
(1) Open fuel shutoff valve (P, fig. 34) by turning valve handle counterclockwise.
(2) Tighten engine stay cable (H, fig. 36) adjusting nut, located at engine side of bell housing, until cable is taut.
(3) Fill cooling system (par. 121).
(4) Install hood (par. 261).
(5) Fill crankcase with correct grade of lubricant (par. 68).
(6) Fill transmission and transfer with correct grade of lubricant (par. 68).
(7) Start engine and check for fuel, oil, or water leaks.
(8) Make a record of replacement on DA Form 478.

Section VII. COOLING SYSTEM

120. Description and Data

a. Description.
(1) *General.* The cooling system (fig. 39) is fully sealed and pressurized. The system consists of a water pump, water pump bypass, fan, drive belts, radiator, thermostat, and connecting hose. Water is drawn down through the radiator to the bottom thence through the water outlet hose to the water pump which forces it through the cylinder block, cylinder head, and the water inlet hose to the top of the radiator. Air, for cooling the water, is drawn through the radiator by the fan. Correct operating temperature is maintained by the thermostat.
(2) *Radiator* (figs. 31 and 32). The radiator is the cellular-type, with upper and lower tanks. The filler cap has a spring-loaded seal to maintain a pressure of approximately $4\frac{1}{2}$ psi when the engine is running. The cap seal acts as a safety valve by lifting off its seat to relieve excessive pressure.

type, sealed at all control and adjustment points. The float chamber is also fully sealed. The carburetor assembly is mounted over the center of the intake manifold.

(4) *Fuel and vacuum pump* (fig. 32). The fuel and vacuum pump is the diaphragm-type, providing constant flow of fuel to the carburetor when the engine is running. The vacuum pump is incorporated to assist the windshield wiper motor action. The pump used in early model vehicles was equipped with a hand priming lever for manually pumping fuel to the carburetor.

(5) *Fuel shutoff valve* (P, fig. 34). The fuel shutoff valve is located at the left of the steering gear assembly. This valve shuts off the fuel supply from the fuel tank to the fuel pump.

(6) *Fuel tank and cap* (fig. 50). The fuel tank is located on the left side of the vehicle, under the driver's seat. The filler cap is located in a recess in the left side of the body panel. The fuel tank level sending unit assembly is located on top of the fuel tank. The fuel filter assembly is located in the top of the fuel tank. The fuel tank is equipped with a relief pressure valve which will permit pressure to build up in the tank to a maximum of 4 psi. The cap (fig. 5) is a solid-type pressure cap designed for use only with this vehicle and should not be interchanged with the vented-type pressure cap, used with ¾-ton trucks, which open and release excess pressure. The solid-type cap used with truck M38 (fig. 5) has a cup about 3½ inches in diameter, inside of the shell, with a rivet in the center of the cup and a safety chain *riveted* about 1 inch off center. The vented-type filler cap used on the ¾-ton trucks is of a spoke-like design, has a 3½-inch diameter cup inside the cap with a vent hole approximately ¼-inch in diameter in the center, and a fastener *stamped* out to which a chain clip is attached. The cap used on the truck M38 is marked either embossed letters or decalcomania with the word pressurized and instructions to open slowly while the vented-type cap is stamped with the words PRESSURE CAP.

(7) *Lines and fittings* (fig. 52). Fittings and solid and flexible lines connect the various parts of the system. Vent lines from the fuel tank and carburetor are connected directly to the air cleaner assembly.

the lever of the cross shaft with lever and bracket assembly (T) from the top. Place a No. 10 lockwasher over the stud and install a No. 10 nut.

h. Throttle Control Assembly.

(1) *Adjustment.* Push the throttle control (BB, fig. 7) all the way into the instrument panel. Loosen the bolt (A) in the hand throttle control wire stop with bolt assembly (B). Slide the stop up to the pivot on the throttle valve shaft lever (Q), slide the stop away from the lever slightly, and tighten the bolt.

(2) *Removal.*

(*a*) Loosen the bolt (A) in the hand throttle control wire stop with bolt assembly (B) and slide the stop off the wire. Loosen the bolt and nut in the choke control conduit clamp (F).

(*b*) Unscrew the lockwasher nut (J) from the throttle control assembly on the reverse side of the instrument panel.

(*c*) Pull the throttle control assembly out of the pivot of the throttle valve shaft lever, the clamp (F), the grommet (G) in the dash, the lockwasher nut (J), and the instrument panel.

(3) *Installation.*

(*a*) Push the end of the throttle control assembly (H) through the hole in the instrument panel part way and slide the $\frac{3}{8}$-inch lockwasher nut (J) over the end of the control.

(*b*) Push the end of the control through the grommet (G), the choke control conduit clamp (F), and the pivot on the throttle valve shaft lever (Q).

(*c*) Screw the $\frac{3}{8}$-inch lockwasher nut (J) onto the throttle control assembly on the reverse side of the instrument panel. Leave a little slack in the throttle control assembly between the instrument panel and the choke control conduit clamp (F) and tighten the bolt and nut in the clamp.

(*d*) Slide the hand throttle control wire stop with bolt (B) over the end of the control wire and adjust ((1) above).

i. Choke Control Assembly.

(1) *Adjustment.* Loosen the screw (D) in the pivot (C) on the choke valve shaft lever (E). Push the choke control assembly (CC, fig. 7) all the way into the instrument panel. Push the lever (E) of the choke valve shaft to-

d. Fuel Line (Fuel Tank-To-Tank Elbow).

(1) *Removal.* Unscrew the nut on the rear of the fuel line (B) from the elbow (D). Unscrew the nut on the front end of the fuel line (fig. 50) from the fuel filter assembly. Bend the clip (fig. 50) securing the fuel line to the tank and remove the line by pulling it through the floor pan from the top.

(2) *Installation.* Position the fuel line (fig. 50) in the vehicle by inserting through the floor pan from the top. Screw the nut on the front end of the line into the fuel filter assembly, and bend the clip on the top of the tank down over the fuel line. Screw the nut on the rear end of the fuel line (B) onto the elbow (D). On early production vehicles, install fuel and vent lines as described in (*a*) through (*c*) below, to prevent chafing by the driver's seat frame support gusset.

(*a*) Bend fuel and vent lines upward, at fuel tank, so that vent line will locate above the fuel line (fig. 48).

(*b*) Bend fuel and vent lines away from seat frame support gusset and against fuel tank after the lines are connected to the fuel tank.

(*c*) Secure lines together with friction tape at point of contact with fuel tank to prevent chafing.

e. Fuel Line (Fuel and Vacuum Pump-To-Carburetor Assembly).

(1) *Removal.* Unscrew the nuts (W and Y) on the ends of of the fuel line (X), from the elbow on the pump, and the elbow on the carburetor assembly, and remove the line.

(2) *Installation.* Position the fuel line (X) between the fuel and vacuum pump and the carburetor assembly. Screw the nuts (W and Y) on the ends of the line into the elbow on the carburetor and the elbow on the fuel and vacuum pump respectively.

f. Fuel Shutoff Valve.

(1) *Removal.* Unscrew the nut (L) on the front end of the fuel line (J) from the connector (M), and unscrew the connector from the shutoff valve (N). Unscrew the shutoff valve from the pipe tee (P).

(2) *Installation.* Screw the shutoff valve (N) into the pipe tee (P) with shutoff valve handle at the top. Screw the connector (M) into the shutoff valve. Position the fuel line (J) in the connector (M) and screw the nut (L) into the connector.

e. Loosen the mounting clamp screw located under the distributor with coil assembly toward the rear of the distributor mounting bracket. Turn the distributor counterclockwise until the distributor points are closed, and the distributor rotor is pointed to the No. 1 position (*b* above). Turn the distributor clockwise slowly until the points start to open. Tighten the mounting clamp screw. The ignition timing is now roughly adjusted.

f. Be sure that the rubber gasket (fig. 56) is seated in its groove. Position the distributor cover and cap assemblies over the gasket and secure with six No. 10 x $1\frac{1}{16}$ lockwasher screws (fig. 55).

g. Unscrew the terminal nut securing the spark plug cable assembly to No. 1 spark plug (fig. 59). Push the timing light adapter (fig. 59) over the spark plug and connect the No. 1 cable to the adapter. Connect one terminal of the timing light to the adapter and the other terminal to ground at any convenient place on the engine.

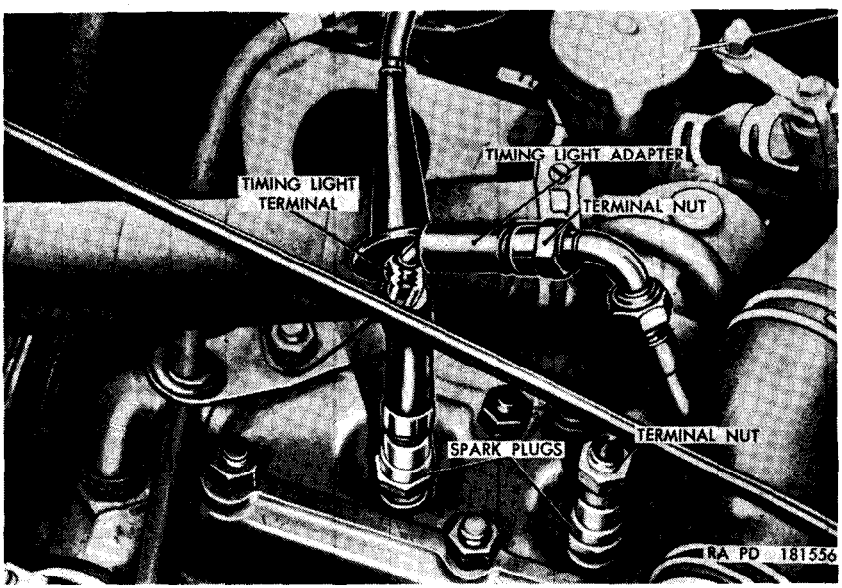

Figure 59. Timing light adapter—installed.

h. Start the engine and run it at idle speed. Direct the beam from the timing light toward the timing marks (fig. 58). Loosen the mounting clamp screw under the distributor with coil assembly and turn the distributor until the timing marks appear together. When the timing marks appear together, tighten the mounting clamp screw.

149. Starter Switch Assembly

a. Removal. Loosen the nut securing the battery-to-starter cable No. 82 terminal to the positive terminal of battery "B" (fig. 62) and remove the cable, from the terminal stud. Remove the terminal nut and lockwasher securing the battery-to-starter cable (fig. 63), generator regulator cable, and auxiliary power receptacle cable, if used, to the starter switch terminal, and remove the cables. Remove the nut and lockwasher from the terminal stud (fig. 63) on the starter assembly. Remove the nut and lockwasher from the terminal stud (fig. 63) on the starter switch assembly, and remove the switch-to-terminal stud connector (fig. 63). Remove four bolts and lockwashers securing the starter switch assembly to the starter assembly and remove the starter switch assembly.

b. Installation. Place the starter switch assembly on the starter assembly and install four No. 10 x 5/8 bolts and lockwashers holding switch to starter. Place the switch-to-terminal stud connector (fig. 63) over the terminal studs on the starter and starter switch. Install the 7/16-inch nuts and lockwashers securing the connector to the terminal studs. Place the battery-to-starter cable, generator regulator cable, and the auxiliary power receptacle cable, if used, on the starter switch terminal. Install 7/16-inch lockwasher and terminal nut. Insert the battery-to-starter cable through the grommet in the battery box and place the terminal over the positive terminal stud on battery "B" (fig. 62). Install the 5/16-inch lead-coated nut securing the battery-to-starter cable to the terminal. Coat terminal with artillery and automotive grease (GAA) and check the operation of the starter switch assembly. If the switch does not make contact so that starter operates, adjust (*c* below).

c. Adjustment. Loosen the jamnut (fig. 63) on the setbolt in the drive pinion shifting yoke shifting lever. Depress the starter pedal as far as possible. Adjust the setbolt in or out until the starter switch makes a good contact, and tighten the jamnut. Release the starter pedal, wait a few seconds, and try the pedal again. If adjustment is correct, the starter will operate properly.

150. Auxiliary Power Receptacle and Cable Assembly

a. Removal.

(1) Unscrew the lockwasher bolt in the starter support from the support and the commutator end head assembly and remove the bolt, two internal- and external-teeth lock-

(5) Remove the terminal nut and disconnect the battery-to-starter cable from the clamp-type terminal on the positive post.
(6) Remove two wing nuts securing the hold-down frame and remove the frame.
(7) Remove the battery (*c*(5) above).

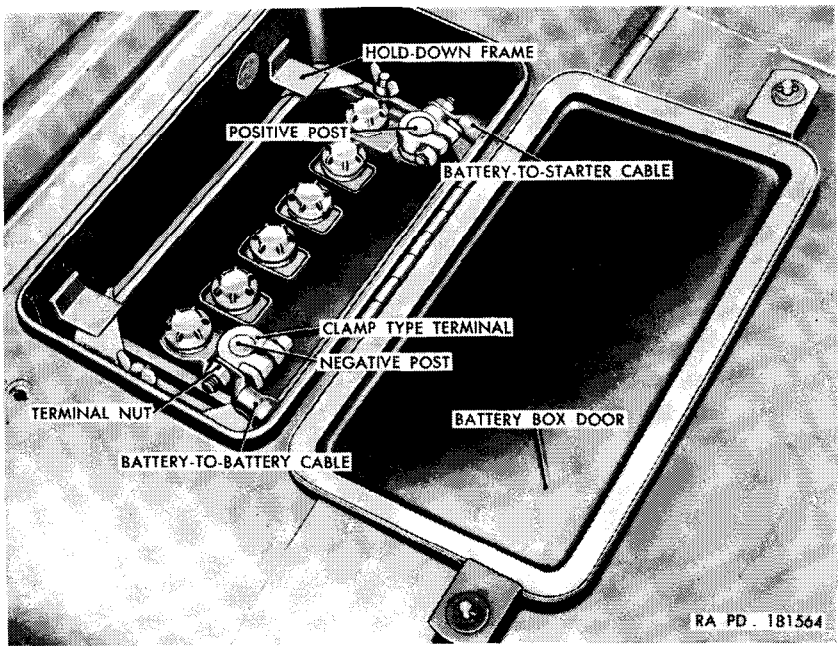

Figure 69. Battery "B" located in cowl.

f. Battery "B" Installation (fig. 69).
(1) Lower the battery into the cowl (see Note in *d*(1) above).
(2) Install the hold-down frame and secure with two $\frac{5}{16}$-inch wing nuts.
(3) Connect the battery-to-starter cable to the clamp-type terminal on the positive post and secure with a $\frac{3}{8}$-inch terminal nut.
(4) Connect the battery-to-battery cable to the clamp-type terminal on the negative post and secure with a $\frac{3}{8}$-inch terminal nut.
(5) Close the battery box door and secure by turning the wing nuts one-quarter turn.
(6) Connect the ground cable to battery "A" (*d*(4) above).
(7) Check polarity (*g* below).

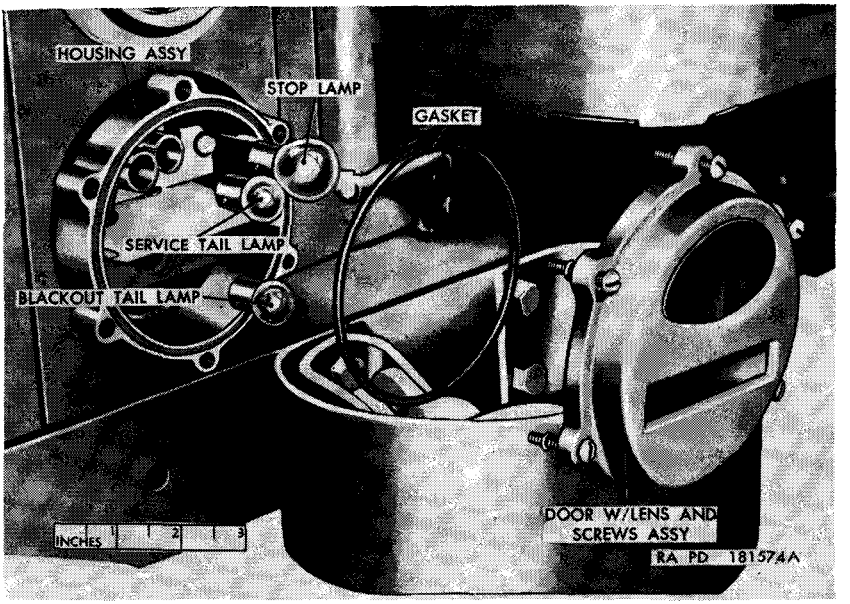

Figure 78. Service taillight and stoplight assembly—partially exploded view.

are located adjacent to the left edge of the rear seat in the passenger compartment. Remove the guard from the left rear wheel housing. Disconnect the three taillight and stoplight cable connectors (fig. 79). Remove two bolts and lockwashers securing the service taillight and stoplight assembly to the service taillight and stoplight bracket and remove the assembly.

(3) *Installation.* Place the service taillight and stoplight assembly in position on the service taillight and stoplight bracket and secure with two $\frac{3}{8}$ x $\frac{5}{8}$ bolts and lockwashers. Connect the taillight and stoplight cable connectors in accordance with the numbers on the cables. Place the taillight and trailer connection guard in position inside the left rear wheel housing. Start the two $\frac{1}{4}$ x $\frac{5}{8}$ lockwasher screws through the body left rear panel and into the guard. Start the two $\frac{1}{4}$ x $\frac{5}{8}$ lockwasher screws through the body side panel and into the guard. Tighten all four screws.

161. Instrument Panel Lights

Refer to paragraph 39 for description and location, and paragraph 165 for removal and installation of the instrument panel lights.

shaft (E). Loosen the setscrew (T) securing the universal joint assembly (K) on the rear end of hanger bearing shaft (E).

(2) Unscrew the bolt (J) securing the hanger bearing brace (H) to the flywheel housing (F), and remove the bolt and lockwasher. Unscrew the bolt (G) securing the hanger bearing assembly (U) to the flywheel housing, and remove the bolt and lockwasher.

(3) Pull the rear end of hanger bearing shaft (E) and key out from the universal joint assembly (K). Pull the front end of hanger bearing shaft (E) and key out from the universal slip joint assembly (K) and remove from the vehicle.

b. Installation.

(1) Line up the front end of hanger bearing shaft (E) with the universal slip joint assembly (D), position the key in the shaft with the keyway in the joint, and slide the shaft and key into the joint. Line up the rear end of hanger bearing shaft (E) with the universal joint assembly (K), position the key in the shaft with the keyway in the joint, and slide the shaft and key into the joint.

(2) Position the hanger bearing assembly (U) on the flywheel housing (F). Place a $\frac{9}{16}$-inch lockwasher over the $\frac{9}{16}$ x 1½ bolt (G) and insert the bolt through the hole in the hanger bearing and screw the bolt into the flywheel housing. Place a $\frac{7}{16}$-inch lockwasher over the $\frac{7}{16}$ x 1½ bolt (J), insert the bolt through the hanger bearing brace (H), and screw the bolt into the flywheel housing.

(3) Tighten the setscrews (T and V) securing the universal slip joint assembly (D) and the universal joint assembly (K) to the hanger bearing shaft.

Section XV. INSTRUMENT CLUSTER, INSTRUMENTS, GAGES, SWITCHES, SENDING UNITS, AND HORN

172. General

a. Instrument Cluster (fig. 83). The speedometer, ammeter, oil pressure gage, water temperature gage, fuel gage, two instrument panel lights, and headlight high beam indicator light are mounted in the instrument panel mounting plate located in the instrument panel. This assembly is referred to as the instrument cluster. The location and function of the various units in the instrument cluster are described in paragraphs 25, 26, 29, 30, 31, 39, and 40.

c. Replacement of Stoplight Switches.

(1) To replace old-type switch 7760414 with new-type switch 7388813, sever the electric cables from the old-type switch as close as possible to the switch body and strip these cable ends to permit the installation of two male terminals 572929, the waterproof cable connector grommet 573005, the grommet adapting bushing 572999, and the female Y connector waterproof shell 573008. Utilizing this modified portion of the old-type switch and two electrical connector terminal sleeves 573000, connect the new-type switch to the chassis harness.

(2) To replace new-type switch 7388813 with old-type switch 7760414, cut the male waterproof cable connector shell 573010 and the female waterproof cable connector shell 573007 off the old-type switch. Replace with the male waterproof connector shell 573009, utilizing the terminals, grommets, and bushings of the old-type switch. Connect the chassis harness to the old-type stoplight switch.

187. Water Temperature Sending Unit
(fig. 87)

a. Removal. Disconnect cable No. 33 from the water temperature sending unit. Unscrew sending unit from cylinder head.

b. Installation. Screw sending unit into cylinder head. Connect cable No. 33 to the sending unit.

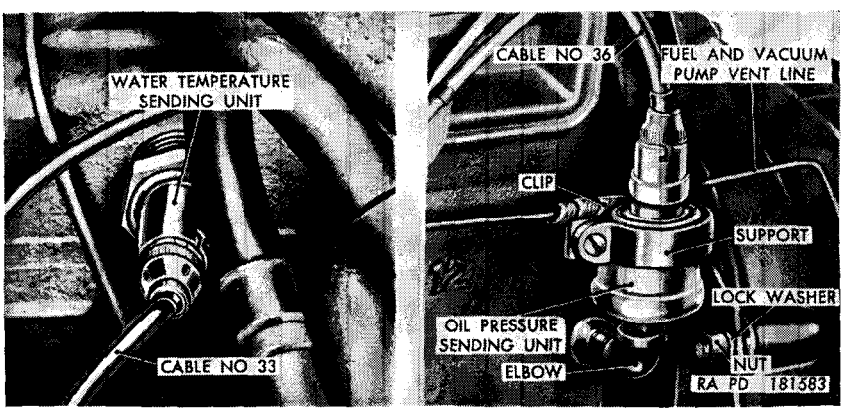

Figure 87. Water temperature and oil pressure sending units—installed.

188. Oil Pressure Sending Unit
(fig. 87)

a. Removal. Disconnect cable No. 36 from oil pressure sending unit. Remove the nut and bolt from the clip securing the fuel and

(2) Remove the four nuts from the two U-bolts holding the universal joint assembly to the front axle end yoke. Remove the two U-bolts and remove the front propeller shaft with universal joint assemblies from the vehicle.

b. Remove Rear Propeller Shaft with Universal Joint Assemblies (fig. 92).

(1) Remove the four nuts from the two U-bolts holding the universal joint to the rear axle end yoke. Remove the two U-bolts and separate the joint from the yoke.

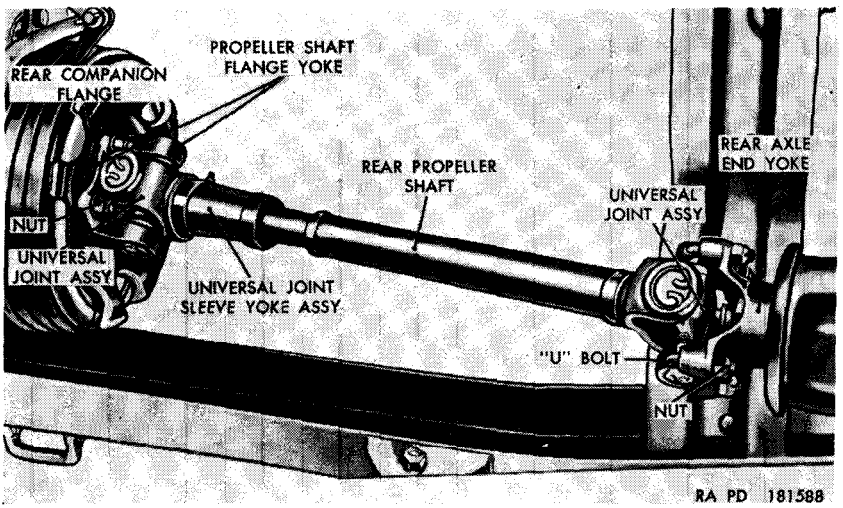

Figure 92. Rear propeller shaft with universal joint assemblies—installed.

(2) Remove the four nuts and lockwashers holding the propeller shaft flange yoke to the rear companion flange and remove the rear propeller shaft with universal joint assemblies from the vehicle.

c. Install Front Propeller Shaft with Universal Joint Assemblies (fig. 91).

(1) Position the universal joint assembly, on the end of the front propeller shaft, on the front axle end yoke. Install the two U-bolts over the ends of the universal joint and through the holes in the yoke, and secure in place with four $\frac{5}{16}$-inch nuts.

(2) Position the universal joint assembly, on the end of the universal joint sleeve yoke assembly, on the transfer front axle output shaft yoke. Install the two U-bolts over the ends of the universal joint and through the holes in the yoke, and secure in place with four $\frac{5}{16}$-inch nuts.

(4) Position the bearing shims and bearing retainer over the axle shaft, alining the drain holes in the retainer and shims with the drain hole in the axle housing flange (fig. 96). Insert two of the six 3/8 x 1¼ bolts through the axle housing flange from the inner side and through the shims and retainer to maintain the alinement.

(5) Position the service brake backing plate and attached brake parts on the axle housing flange and aline the drain hole with the drain hole (fig. 95) in the flange.

(6) Position one brake grease protector gasket, axle shaft grease retainer assembly, second brake grease protector gasket, and the brake grease protector (fig. 95) on the two 3/8 x 1¼ bolts protruding through the backing plate, alining the drain holes in the gaskets and protector and the drain passage in the retainer with the drain hole in the backing plate.

(7) Install the four remaining 3/8 x 1¼ bolts through the axle housing flange, and install six 3/8-inch lockwashers and 3/8-inch plain nuts (fig. 95).

(8) Position the hub and drum assembly (fig. 94) on the axle shaft and aline the keyway in the hub with the keyway in the axle shaft. Insert the key into the keyways and tap key and hub and drum assembly into position on the axle shaft.

(9) Install the axle shaft washer and axle shaft nut (fig. 94) on the axle shaft. Tighten the nut and secure in position with a 1/8 x 1½ cotter pin. Position the hub cap (fig. 94) over the axle shaft and tap cap into position on the hub.

(10) Position the brake line (fig. 95) in its opening in the service brake backing plate and tighten the nut securing the line to the plate.

(11) Install the wheel (par. 256).

(12) Remove the safety stands or blocking and lower the wheels to the ground.

(13) Bleed the brake system (par. 246).

216. Rear Axle Shaft Bearings

a. Adjustment. Place a jack under the axle and raise vehicle until wheels are clear of ground. Test axle shaft end play by grasping wheel and moving in and out. If the bearings are correctly adjusted, end play will be just perceptible. If end play is not correct proceed as shown in (1) through (13) below.

(4) Position remover and replacer 41–R–2374–845 and screw 41–S–1047–330 (fig. 102) in the hub and drive out hub inner bearing cup. Reverse the hub, position remover and replacer 41–R–2374–845 and screw 41–S–1047–330 in hub and drive out hub outer bearing cup.

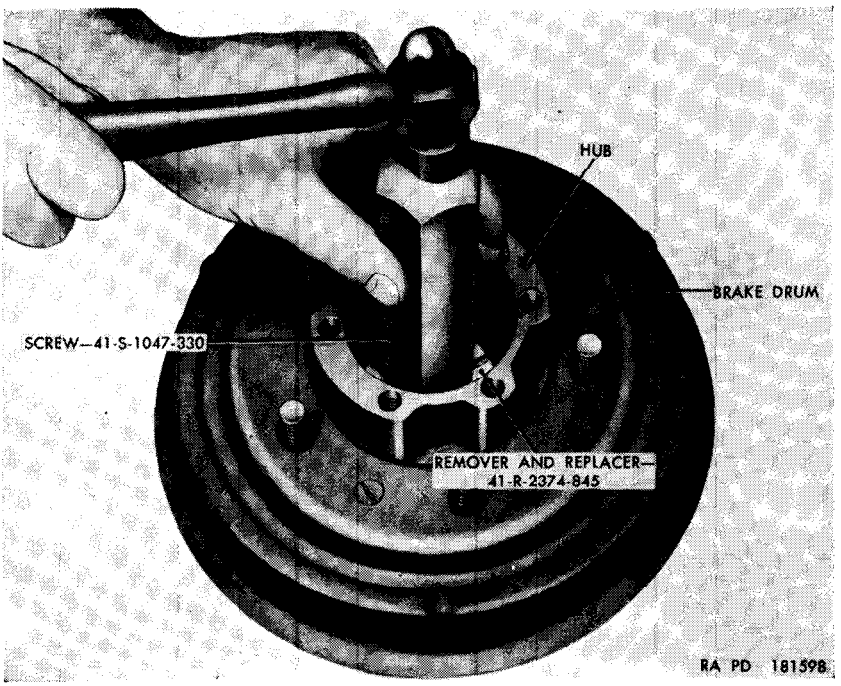

Figure 102. Removing front hub bearing cup with remover and replacer 41–R–2374–845 and screw 41–S–1047–330.

c. Cleaning and Packing. Clean all lubricant from front hub inner and outer bearing cups and cones with dry-cleaning solvent or volatile mineral spirits. Pack bearing cones (par. 67).

d. Installation.

(1) Position the hub outer bearing cup (fig. 99) in the brake drum side of the hub. Install the remover and replacer 41–R–2374–845 and screw 41–S–1047–330 (fig. 102) in the hub and drive cup into position.

(2) Position the hub inner bearing cup (fig. 99) in the brake assembly side of the hub. Install the remover and replacer 41–R–2374–845 and screw 41–S–1047–330 (fig. 102) in the hub and drive cup into position.

(3) Position the hub inner bearing cone (fig. 99) in the hub with the small end of the bearing cone taper facing toward the brake drum.

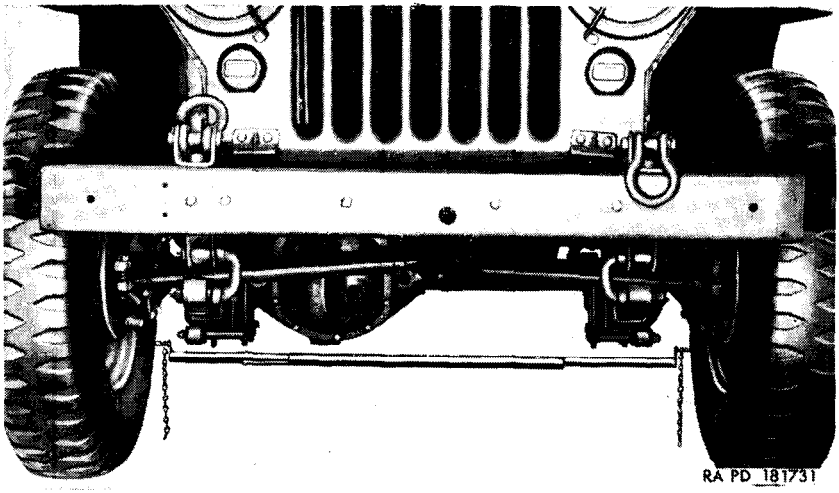

Figure 109. Toe-in gage in place behind axle.

c. If toe-in is not correct, loosen the nut and screw securing the right tie rod end clamp (fig. 110) and turn tie rod to obtain correct adjustment. Make sure that clamp nuts and screws are tightened after adjustment has been made.

235. Steering Tie Rod With Ends Assemblies (fig. 110)

a. Removal.

(1) Place the vehicle on a hard level surface and apply the hand brake.

(2) Remove the cotter pin and nut securing the right end of the left tie rod with ends assembly to the left of the right tie rod with ends assembly.

(3) Using a suitable puller, separate the two tie rod ends.

Note. Do not hammer on the tie rod ends to separate them.

(4) Remove the cotter pin and nut securing the left tie rod with ends assembly to the left steering knuckle arm.

(5) With a suitable puller, separate the tie rod end from the arm and remove the left tie rod with ends assembly.

(6) Remove the cotter pin and nut securing the right tie rod with ends assembly to the bellcrank.

(7) Using a suitable puller, separate the right tie rod end from the bellcrank.

(8) Remove the cotter pin and nut securing the right tie rod with ends assembly to the right steering knuckle arm.

(9) Using a suitable puller, separate the tie rod end from the arm and remove the right tie rod with ends assembly.

the direction necessary to adjust the operating length of the bolt so that the brake pedal free travel will be one-half inch. After pedal free travel has been adjusted, tighten the locknut (E).

b. Brake Adjustment (Minor).

(1) Raise the vehicle until the tires are clear of the floor and support the vehicle with safety stands. Fill the master cylinder assembly (T, fig. 114) to within one-half inch of top of reservoir.

Note. Do not adjust brakes when brake drums are hot.

(2) Loosen the nut (fig. 115) on the shoe adjusting eccentric. Place a wrench on the shoe adjusting eccentric so that the wrench extends upward. Rotate the wheel and turn the shoe adjusting eccentric, moving the wrench handle away from the axle until a slight drag of the drum on the brake shoe is felt. Back off the eccentric until drag is no longer felt and the wheel turns freely. Hold the shoe adjusting eccentric in this position with the wrench and tighten the nut. Rotate the wheel again to make sure that the wheel still turns freely. Repeat the operation on the other three wheels. Remove the vehicle from the safety stands.

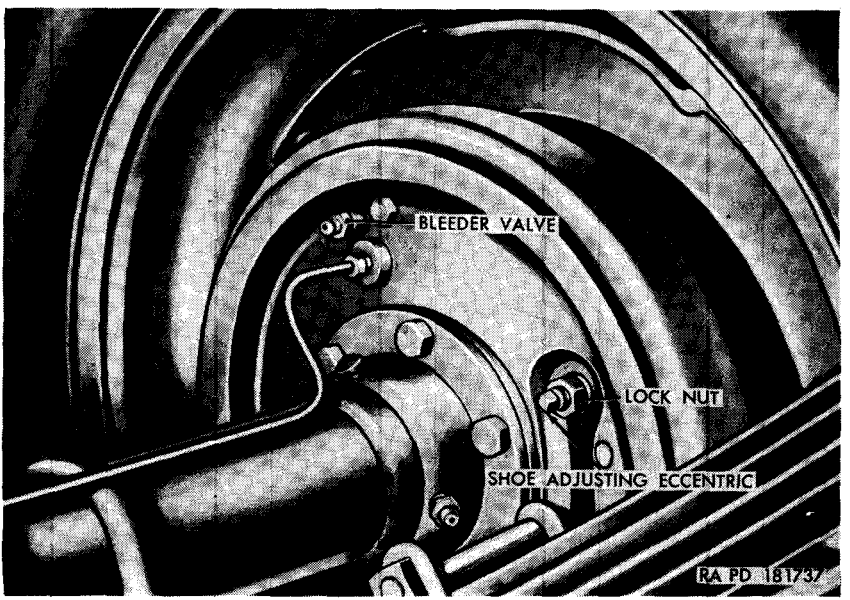

Figure 115. Brake shoe adjusting eccentric and bleeder valve.

the two nuts on the solid lines into the tee. Bleed the lines (par. 246).

(2) *Rear axle tee* (fig. 117).

(*a*) *Removal.* Unscrew the nuts on the two solid lines from the rear axle tee (D). Unscrew the lockwasher bolt holding the tee to the bracket on the rear axle. Unscrew the tee from the end of the flexible line and remove the tee and the copper gasket.

(*b*) *Installation.* Place the copper gasket on the end of the flexible line and screw the rear axle tee (D) onto the end of the line. Position the tee on the bracket on the rear axle and secure in place with the ¼ x ⅞ lockwasher bolt. Screw the nuts on the two solid lines into the tee. Bleed the lines (par. 246).

(3) *Master cylinder outlet fitting* (fig. 114).

(*a*) *Removal.* Remove the master cylinder shield (par. 244*a*(1)). Unscrew the nut on the end of the master cylinder front line assembly (K) and the nut on the end of the master cylinder rear line assembly (H) from the outlet fitting (R). Disconnect the cable (L) from the stoplight hydraulic switch assembly (N) at the connector (M). Unscrew the outlet fitting bolt (P) with switch; remove the bolt, outlet fitting bolt gasket (Q), outlet fitting (R), and outlet fitting gasket (S) from the master cylinder assembly (T).

(*b*) *Installation.* Put a new outlet fitting bolt gasket (Q), the outlet fitting (R), and a new outlet fitting gasket (S) onto the outlet fitting bolt (P) in the order named. Screw the bolt into the master cylinder assembly (T) fingertight. Screw the nut on the end of the master cylinder front line assembly (K) into the outlet fitting. Screw the nut on the end of the master cylinder rear line assembly (H) into the outlet fitting. Tighten the outlet fitting bolt (P). Attach the connector (M) to the stoplight hydraulic switch assembly (N). Install the master cylinder shield (par. 244*b*(5)). Fill the master cylinder and bleed the brakes (par. 246).

246. Bleed Brakes

Note. The key letters noted in parentheses are in figure 114, except where otherwise indicated.

a. Remove Inspection Cover. Remove the four bolts and lockwashers from the brake master cylinder inspection cover (fig. 35). Remove the inspection cover and gasket. Reach through the inspection hole and clean the area around the filler cap assembly (W).

(1) Replace any tire with noticeable cut on tread or side wall. Return old tire to ordnance maintenance unit for repair. If uneven wear is indicated, check toe-in adjustment (par. 234). If incorrect toe-in is not the cause, report to ordnance maintenance personnel.

(2) Check pressures when tires are cold. Dismount any tire showing unusual pressure loss and examine tire tube for cause. Repair tire tube or replace tube or tire if necessary.

(3) Inflate all tires to equal pressures, as unequal pressures will affect steering and braking adversely. Inflate tires to pressures designated in paragraph 254*b*. Underinflated tires are easily damaged. Install all valve caps to prevent air loss.

c. Tire Rotation. To maintain equal wear, rotate tires in accordance with the tire rotation plan, shown in figure 123, at intervals of approximately 2,000 miles, if the tactical situation permits.

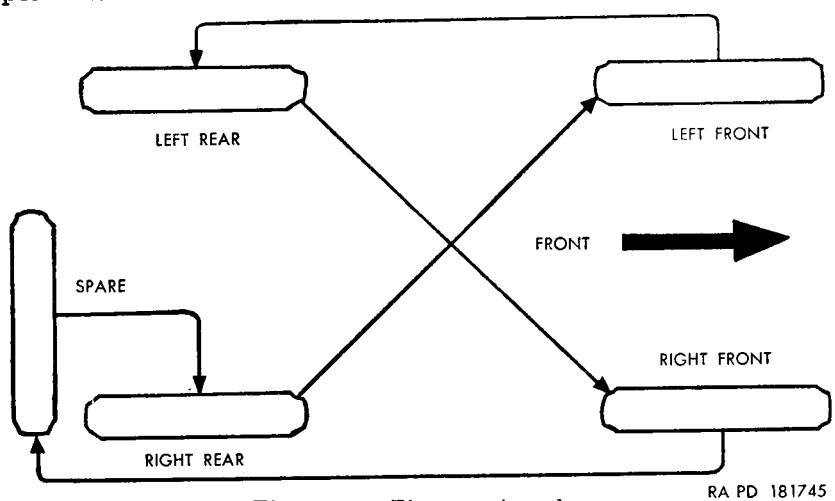

Figure 123. Tire rotation plan.

d. Tire Replacement. Make certain that a replacement tire is of the same design, size, and tread as the tires on the vehicle. Tires of different design or tread sometimes have different rolling diameters, causing excessive scuffing in use.

256. Wheels

a. Removal. Loosen five hub nuts (left side vehicle, clockwise—right side, counterclockwise). Jack up vehicle until tire clears the ground (fig. 124). Block other wheels to prevent vehicle from rolling (fig. 125). Remove five hub nuts and remove wheel.

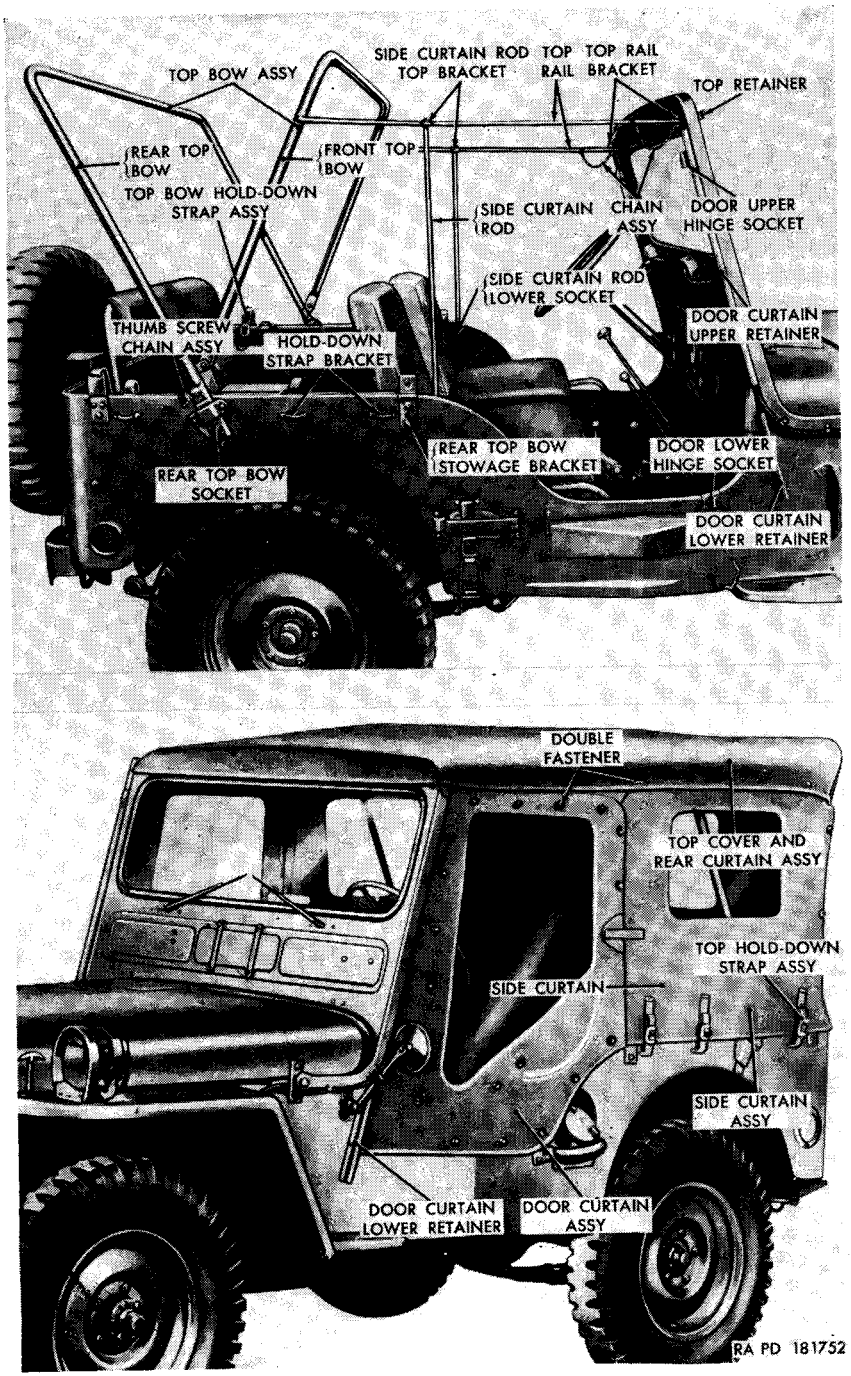

Figure 130. Top cover and rear curtain assembly, side curtains, door curtains, and top bow assembly.

water may be used. However, continuous use of water with high mineral content will eventually cause damage to batteries and should be avoided.

(2) *Specific gravity.* Batteries operating in torrid climates should have a weaker electrolyte than for temperate climates. Instead of 1.280 specific gravity as issued, the electrolyte (sulphuric acid sp gr 1.280) should be diluted to 1.200 to 1.240 specific gravity (TM 8–2857). This is the correct reading for fully-charged batteries. This procedure will prolong the life of the negative plates and separators. Batteries should be recharged at about 1.160 specific gravity.

(3) *Self-discharge.* A battery will self-discharge at a greater rate if left standing for long periods at high temperatures. This must be considered when operating in torrid zones. If necessary to park for several days, remove the battery and store in a cool place.

Note. Do not store acid-type storage batteries near stacks of tires, as the acid fumes have a harmful effect on rubber.

c. Chassis and Body.

(1) In hot, dry climates, a careful watch must be kept for evidence of the presence of moths and termites.

(2) In hot, damp climates, corrosive action will occur on all parts of the vehicle and will be accelerated during the rainy season. Evidence will appear in the form of rust and paint blisters on metal surfaces and mildew, mold, or fungus growth on wood, fabrics, leather, and glass.

(3) Protect all exposed exterior painted surfaces from corrosion by touchup painting and keep a film of engine lubricating oil (OE-10) on unfinished exposed metal surfaces. Cables and terminals should be protected by ignition-insulation compound.

(4) Make frequent inspections of idle, inactive vehicles. Remove corrosion from exterior metal surfaces with abrasive paper or cloth and apply a protective coating of paint, oil, or suitable rust preventive.

275. Maintenance After Fording

a. General. Although the vehicle unit housings are sealed to prevent the free flow of water into the housings, it must be realized that, due to the necessary design of these assemblies, some water may enter, especially during submersion. The following services should be accomplished on all vehicles which have been exposed to some depth of water or completely submerged,

and nail to car floor with ten thirtypenny nails; locate a cleat on each lower cleat and nail with ten thirtypenny nails as shown in detail 4, figure 136.

(2) *Wheel side cleats "J" (2 x 4, lgh 4 in. longer than distance between outer face of cleats "H," four rqr per vehicle).* Locate a cleat "J" against inside or outside of wheels as shown in detail 4, figure 136, and nail each end to cleats "H" with three twentypenny nails.

(3) *Intermediate cleats "K" (2 x 4, eight rqr per vehicle).* Locate a cleat "K" on top of cleats "H," with end flush against cleat "J," and nail to cleats "H" with two twentypenny nails as shown in detail 4, figure 136.

Note. If flatcar is too narrow, cleats "J" will be placed on the inside of wheels and cleats "K" will be placed on the outside of cleats "J". If flatcars are wide enough, cleats "J" will be placed on the outside of wheels and cleats "K" will be on the inside of cleats "J".

(4) *Upper cleat "L" (2 x 4, lgh to equal cleats "H", four rqr per truck).* Locate a cleat "L" across cleats "J" and nail to cleats "J" and "K" with three twentypenny nails at each end as shown in detail 4, figure 136.

(5) *End cleats "M" (2 x 4 x 18, total of eight rqr).* Locate a cleat "M" on car floor at each end of load, with end flush against cleat "H," near each side of car, and secure with four thirtypenny nails. Locate one cleat "M" on top of each lower cleat and secure with four thirtypenny nails as shown in detail 4, figure 136.

281. Marking

a. Identification marking will be stamped on metal tags after which tags will be dipped in ordnance yellow paint, and securely attached with soft wire on the front and rear of each vehicle. Marking will consist of nomenclature, stock number, gross weight, cubage, and shipping dimensions.

b. Processing directive (identifying number), symbol of installation performing processing, and date processed, will be stenciled with gasoline-soluble white or yellow paint on the inside surface of the windshield, opposite to the driver.

c. The complete coded oversea address (where applicable) will be stenciled in an unobstructed location (front and rear) with gasoline-soluble paint (white or yellow on OD surfaces). The stenciling will be in letters not more than 1½ inches nor less than ¾ inch high. An equilateral triangle (ordnance yellow) not more than 3 inches nor less than 1½ inches high will be stenciled on each vehicle adjacent to the oversea address.

d. Marking of boxed items will be in accordance with TM 9–1005.

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