TM 55-1740-200-14

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL DS, AND GS MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

TRACTOR, WHEELED, AIRCRAFT TOWING

HEADQUARTERS, DEPARTMENT OF THE ARMY
MAY 1970

WARNING

PRECAUTIONARY DATA

Personnel performing operations, procedures, and practices which are included or implied in this technical manual shall observe the following warnings. Disregard of these warnings and precautionary information can cause serious injury, death, or destruction of material.

Do not operate the towing tractor while air pressure warning buzzer is sounding. This buzzer denotes insufficient air pressure for braking.

OPERATION. If operating the towing tractor in an enclosed building, ensure exhaust gases are sufficiently ventilated. The exhaust gases contain carbon monoxide which is a colorless, odorless, and poisonous gas.

USING TOXIC/FLAMMABLE MATERIALS. Due to the toxicity and flammability of the solvents and solutions used in the cleaning procedures, adequate ventilation must be provided. Avoid prolonged contact with solutions and chemicals. Do not use drycleaning solvent or flammable cleaners near an open flame or in areas where very high temperature prevail.

FUELS. When handling gasoline, always provide a metal-to-metal contact between the container and tank. This will prevent a spark from being generated as gasoline flows over the metal surfaces.

MAINTENANCE. Prior to performing maintenance on the electrical system, ensure the battery is disconnected.

TECHNICAL MANUAL
No. 55-1740-200-14

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 12 *May* 1970

Operator's, Organizational, DS, and GS Maintenance Manual Including Repair Parts and Special Tools List

TRACTOR, WHEELED, AIRCRAFT TOWING

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CHAPTER 1

INTRODUCTION

SECTION I GENERAL INFORMATION

1–1. SCOPE.

1–2. This publication comprises operation and service instructions for Type MB-4 towing tractor manufactured by The American Coleman Company, Littleton, Colorado 80120, under Model Number G-40. (See figure 1-1.) This manual describes in detail maintenance allocated to the operator, organizational, direct support and general support maintenance personnel by the maintenance allocation chart. Two basic models of the MB-4 towing tractor, part numbers 690-1 B and 690-1 B 1, are included in this manual. Designation codes of C and D are applied to indicate any differences.

1 –3 . PURPOSE OF EQUIPMENT.

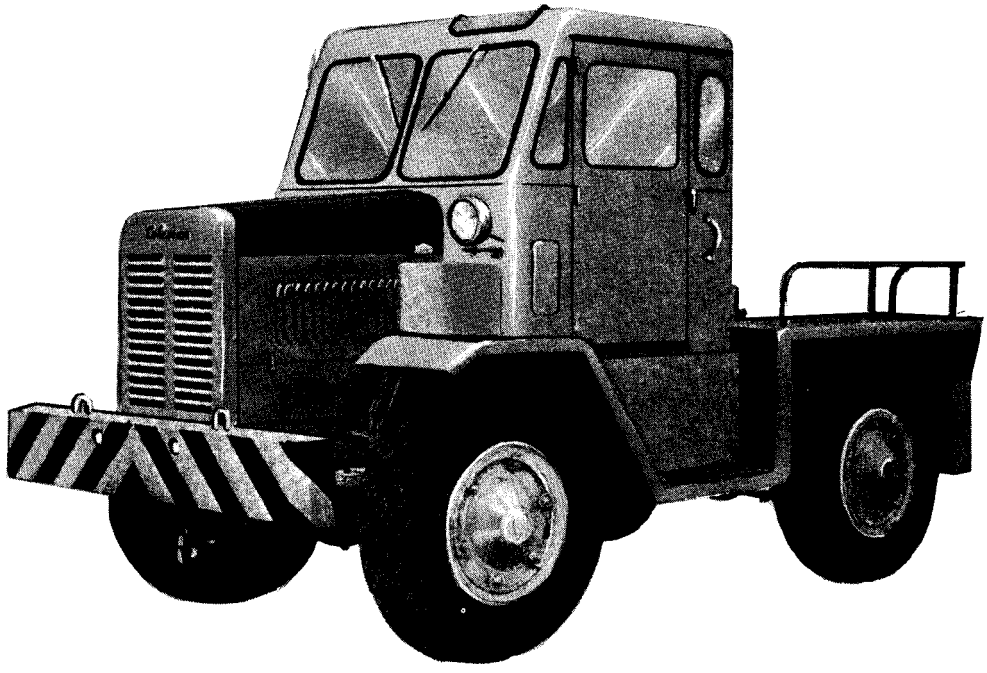
1–4. The towing tractor is an all weather tractor designed to tow and push aircraft weighing up to 100,000 pounds.

1–5. FORMS AND RECORDS.

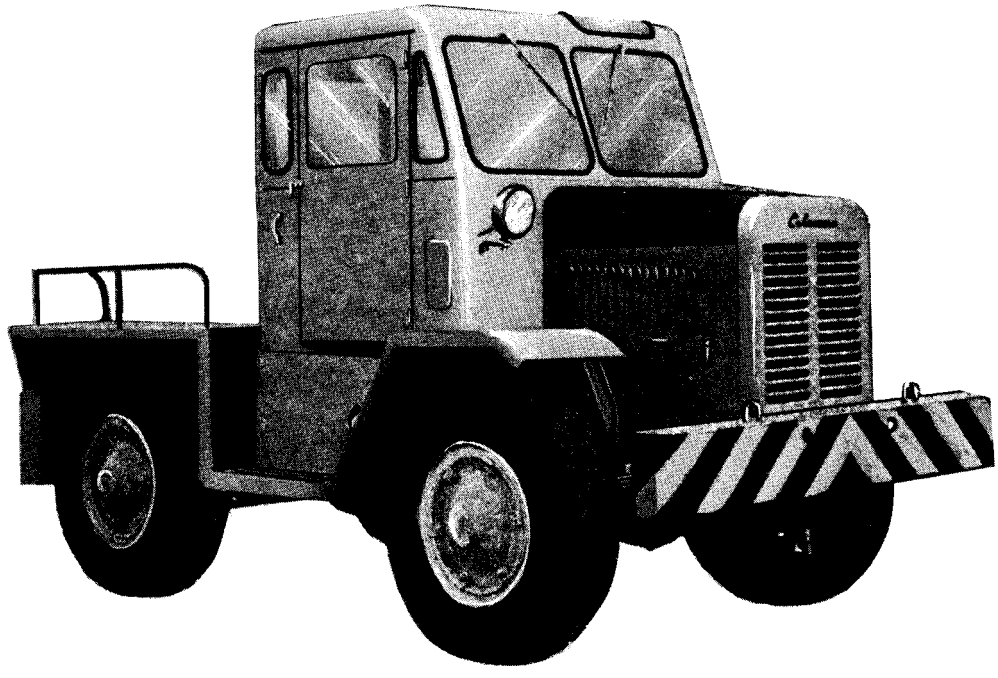
1–6. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750.

1–7. REPORTING OF ERRORS.

1–8. Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028, Recommended Changes to DA Publications, and forwarded direct to: Commanding General, U.S. Army Aviations Systems Command, ATTN: AMSAV-R-M, P.O. Box 209, St. Louis, Missouri 63166.



Front Left Hand View



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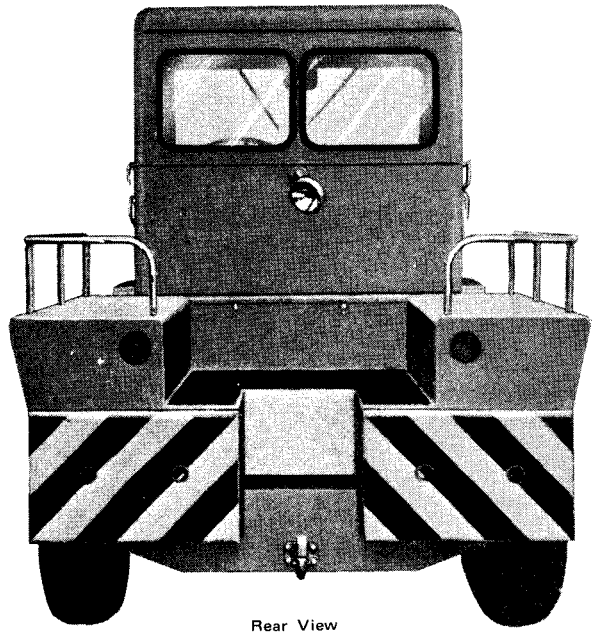
Front Right Hand View

Figure 1-1. Type MB-4 towing tractor (Sheet I of 2)

Front View



Rear View

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Figure 1–1. Type MB-4 towing tractor (Sheet 2 of 2)

SECTION II DESCRIPTION AND LEADING PARTICULARS

1–9. GENERAL DESCRIPTION.

1–10. The tractor is a four-wheel-drive towing tractor powered by a six cylinder industrial engine. The engine output is transferred through the hydraulic transmission, mechanical transmission, and transfer case to the front and rear axles to provide four-wheel-drive at all times. The hydraulic steering system consists of front and rear steering systems controlled independently to provide two-wheel or four-wheel steering control. The hydraulic brake system provides braking on all four wheels. The electrical system powers all electrical components. All systems and components are operated by controls located within the cab.

1–11. COMPONENT DESCRIPTION.

1–12. CAB INSTALLATION.

1–13. The cab (2, figure 1-2) is constructed in two halves, which enables the using activity to remove the upper half cab and the doors during hot weather operation, Both upper and lower half cabs are insulated. The cab is a two-man type with two doors. The door windows are roll-down type, the upper half cab rear window is a sliding type and the windshield is a two-piece stationary type. A plexiglass window is located in the upper front corner above the operator to enable the operator to see above the normal line of vision. The lower half cab is constructed of medium gage steel side panels and heavy gage steel floor plates. The cab floor plates are flush with the door opening and are treated with a non-skid coating. An adjustable, contour seat is provided for the driver; a non-adjustable contour seat is provided for a passenger.

1–14. ENGINE COMPARTMENT HOOD.

1–15. The hood for the engine compartment (1) is constructed of heavy gage steel. It is provided with a non-skid coating for safety purposes. Quick release catches are provided on both sides for easy access. Both side panels are louvered to provide engine ventilation.

1–16. DECK, FENDER AND RUNNING BOARD INSTALLATION.

1–17. REAR DECK. The rear deck (3) is made of heavy gage steel plate for adequate support. A cutout at the rear of the deck serves as an access step to the rear deck and provides a direct line of vision from the operator to the rear pintle hook. The deck has a non-skid coating and provides space for a crew and their tool boxes.

1–18. SIDE DECK SEATS. The side deck seats also serve as rear wheel fenders. A guard rail, on the side and rear of these seats, is provided for personnel safety and serves as a back rest.

1–19. RUNNING BOARDS. The running boards consist of a wide step on each side and supporting panels on the rear of the steps. The steps are made of heavy gage, self-cleaning, non-skid steel. The supporting panels provide a rigid installation and serve as a protection for chassis components.

1–20. FENDERS. The front wheel fenders are made of heavy gage steel to support personnel. A non-skid coating is provided for personnel safety.

1–21. STEERING SYSTEM.

1–22. The tractor is equipped with two types of steering systems (4, figure 1-2) which provide allwheel steering to allow maximum maneuverability in towing operations. (See figure 1-3.)

1–23. FRONT WHEEL STEERING SYSTEM. The front wheel steering system utilizes a conventional steering wheel and column, steering gears, hydraulic assist valve, cylinder, and connecting linkage. This system is a hydraulic, power-assist type with a manual override.

1–24. REAR WHEEL STEERING SYSTEM. The rear wheels are steered by a hydraulic control lever located forward and to the left of the operator. This lever actuates the rear-steer valve and cam assembly and allows the operator to select rear-wheel steering only, coordinated all-wheel steering, or oblique steering. When the lever is released, the rear wheels automatically return to the straight-ahead position.

1–25 . ELECTRICAL SYSTEM.

1–26. The tractor electrical system (5, figure 1-2) is a twelve-volt system. All tractors use a single battery. An engine mounted, belt driven generator charges the battery and has a charge rate, at engine idle speed, adequate to keep the battery charged when all electrical components are in operation. The electrical system on all tractors is radio suppressed in accordance with Military Specification MIL-S-10379. (See figure 1-4 for tractor wiring diagram.)

1. HOOD
2. CAB
3. REAR DECK
4. STEERING SYSTEM
5. ELECTRICAL SYSTEM
6. COOLING SYSTEM
7. FUEL SYSTEM
8. ENGINE ASSEMBLY
9. HYDRAULIC TRANSMISSION
10. MECHANICAL TRANSMISSION
11. TRANSFER TRANSMISSION
12. BRAKE SYSTEM
13. AXLE INSTALLATION
14. FRAME

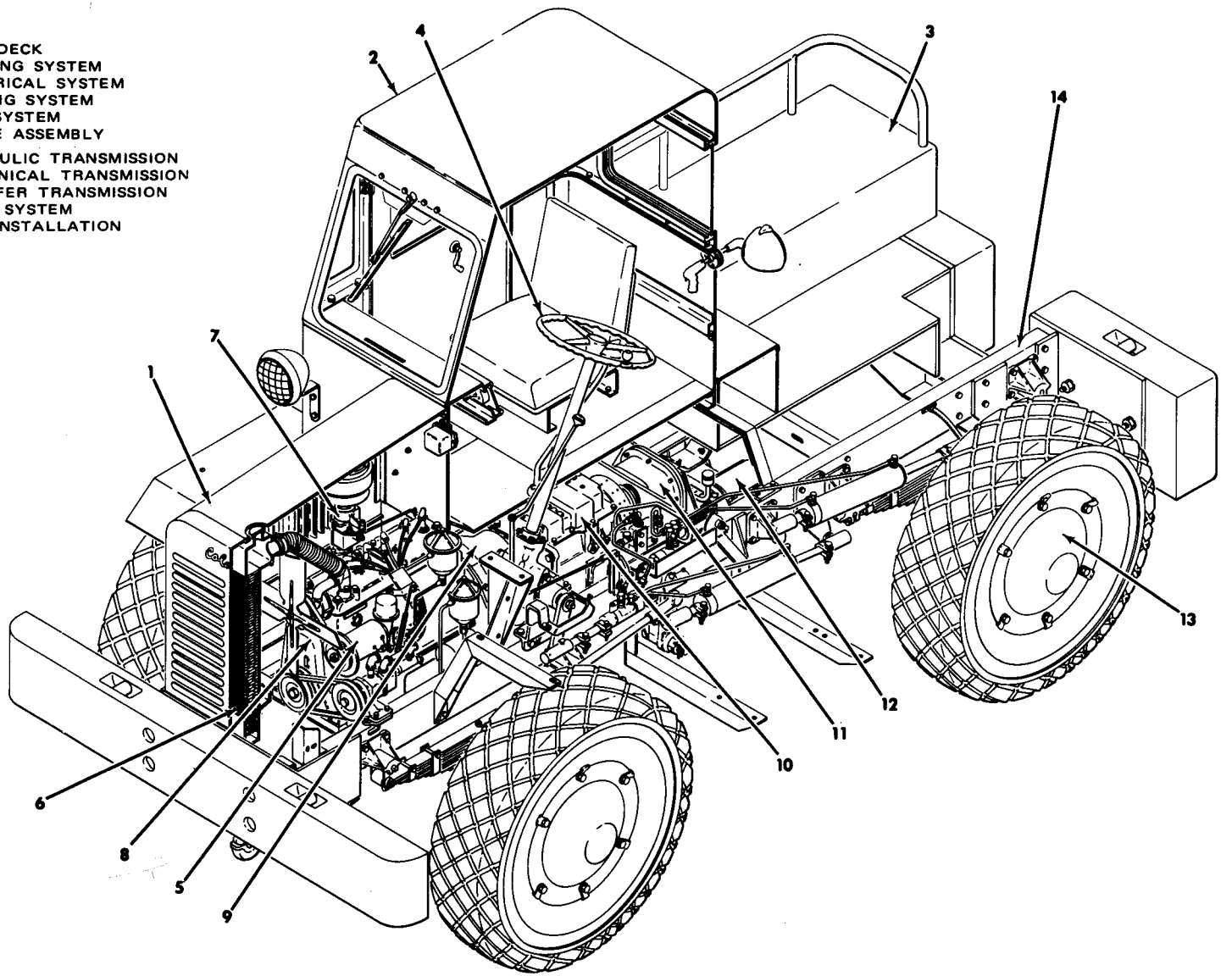

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Figure 1–2. Tractor component description

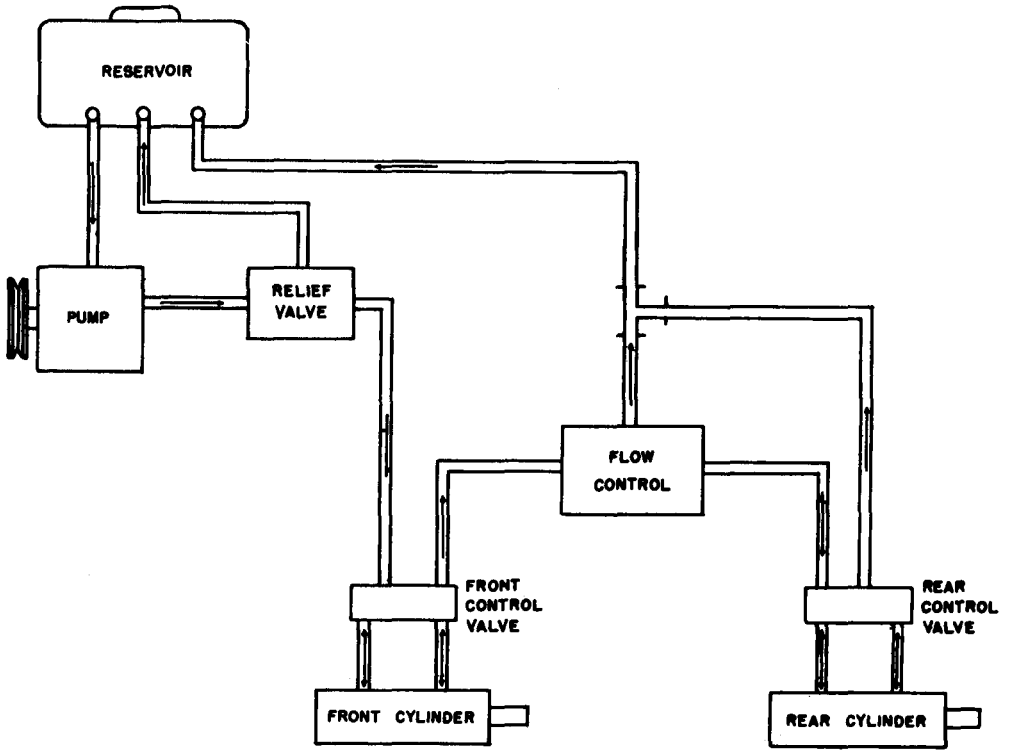

Figure 1-3. Tractor hydraulic steering flow diagram

1 –27. STARTING MOTOR. The starting motor is of the conventional four pole, four brush type and is securely bolted to the hydraulic transmission adapter plate.

1–28. GENERATOR, The large capacity, aircooled, shunt-type generator with automatic cutout, current and voltage regulator keeps the battery charged and maintains proper voltage under normal operating conditions.

1–29. GENERATOR REGULATOR. The generator regulator is mounted on the fire wall and reduces the generator output when the maximum is not needed, thus preventing high voltage and an overcharged battery.

1–30. DISTRIBUTOR. The distributor is mounted on the left side of the crankcase. Distributors on all tractors contain one set of contact points and are driven by a gear on the camshaft.

1–31. IGNITION COIL. The ignition coil transforms battery voltage into high voltage for use by the spark plugs.

1–32. SPARK PLUGS. The six spark plugs are installed on top of the cylinder head and are used to provide a high voltage spark to ignite the fuel and air mixture in the cylinder.

1 –33. FUEL SYSTEM.

1 –34. The fuel supply is contained in a 20 gallon fuel tank (7, figure 1-2) which provides sufficient fuel for eight hours operation. The fuel tank is mounted under the right, center section of the tractor.

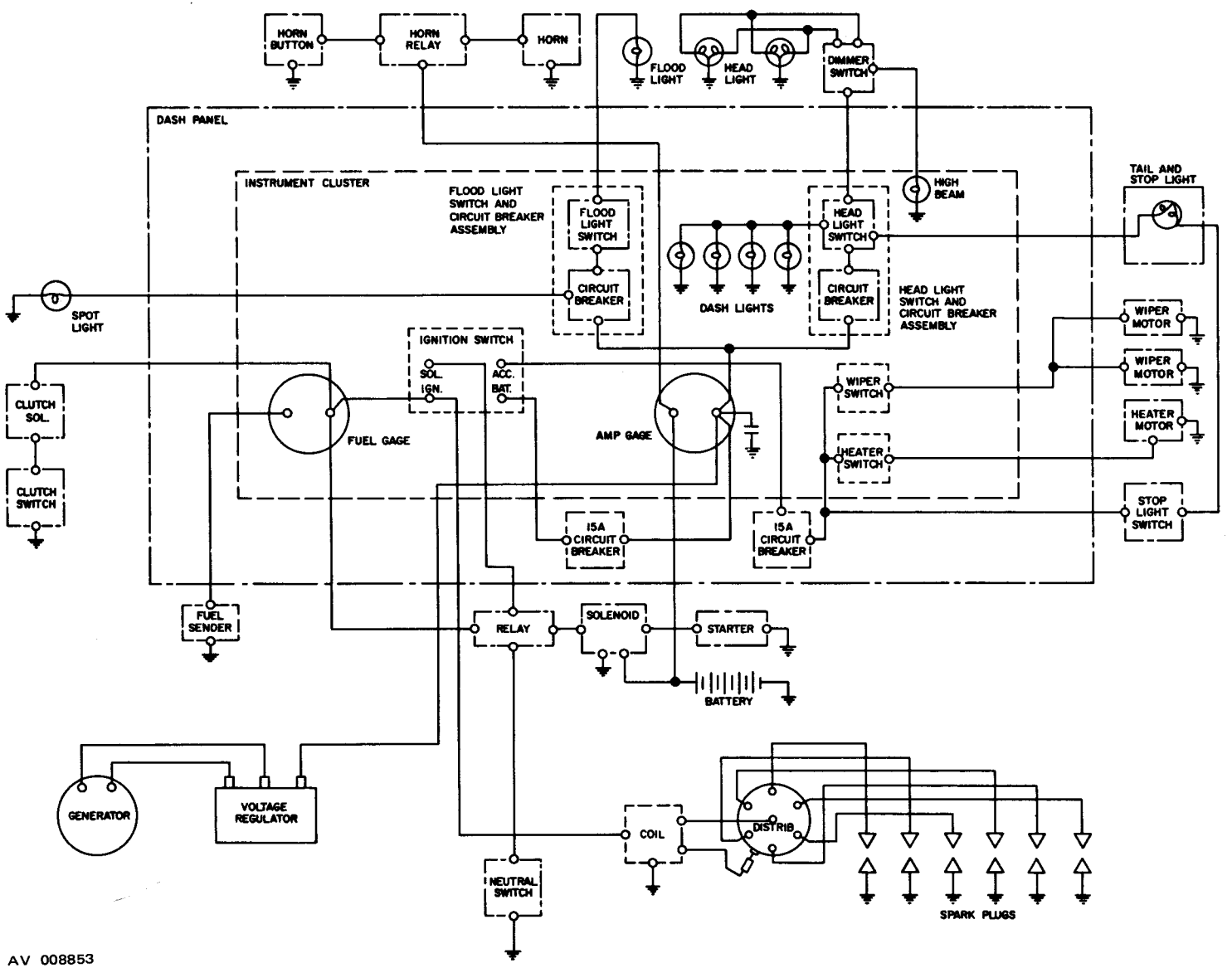

Figure 1–4. Tractor electrical system schematic

1-35. FUEL PUMP. The fuel pump is operated by the engine camshaft eccentric directly contacting the fuel pump rocker arm which in turn actuates the diaphragm. The vacuum created by the diaphragm movement pulls the gasoline from the supply tank, through the inlet valve, and into the fuel chamber. A fuel filter is an integral part of the pump.

1-36. CARBURETOR AND GOVERNOR ASSEMBLY. A single venturi, downdraft-type carburetor is installed on the engine. Fuel is supplied through a float system which consists of a gasoline intake needle, float, and float chamber. An economizer or step-up system provides extra fuel for maximum power under full load operation. The carburetor has a manually-operated choke.

1-37. A velocity type governor is installed on the carburetor. Engine speed is governed by the throttle valve which is closed by the velocity of the fuel-air mixture as it passes through the governor. An accurately calibrated spring system attached to the throttle shaft opposes the unbalanced air velocity force and controls the position of the throttle valve and the maximum speed of the engine. When in proper operating condition, the governor does not affect engine performance below the speed at which it begins to control, and does not affect fuel consumption.

1-38. COOLING SYSTEM.

1-39. The cooling system (6, figure 1-2) has a tube and fin-type radiator which cools the engine. Hydraulic transmission fluid is cooled through the use of separate passages in the lower section of the engine coolant radiator. A radiator shroud encloses the belt-driven fan. The cab heater is connected to a hot water pressure outlet on the water pump. The coolant is returned to a cold water suction inlet on the water pump.

1-40. WATER PUMP. Circulation of the coolant through the engine is accomplished by a centrifugal pump mounted at the front end of the engine. The pump is driven by a V belt from the engine crankshaft.

1-41. PARKING BRAKE INSTALLATION.

1-42. The parking brake (12) is attached to the output shaft of the mechanical transmission. It is an external, contracting band type. The band is cam actuated and is spring loaded for return to normal position.

1-43. PARKING BRAKE LEVER. An overcenter parking brake lever, to the right of the operator's seat, is connected to the parking brake cam by a control rod. Tension can be adjusted by a knob on top of the brake lever.

1-44. ENGINE ASSEMBLY.

1-45. The gasoline engine (8) is a six-cylinder, water-cooled, four-cycle, flat head engine. A positive displacement, gear-type oil pump forces the engine oil through an oil filter to lubricate the engine.

1-46. CRANKSHAFT. The crankshaft is counterweighted and is balanced. The shaft is rifle-drilled for pressure lubrication of all bearings.

1-47. CAMSHAFT. The cast iron alloy camshaft incorporates cam lobes for actuating the valve tappets and an eccentric for operating the fuel pump. The distributor and oil pump are driven by a gear which is an integral part of the shaft. The chain case cover contains an oil seal which prevents leakage of oil at the front of the engine.

1-48. PISTONS. The aluminum alloy pistons are attached to the connecting rods by floating type special casehardened piston pins. Each piston carries two compression rings and two oil rings, all located above the piston pins.

1-49. CYLINDERS. The cylinder block and upper crankcase are contained in a one-piece casting. The cylinder bores are completely surrounded by water jackets which extend the full length of the cylinder walls. The bores are honed to provide the proper piston clearance.

1-50. AIR CLEANER. A heavy duty, oil-bath type air cleaner provides maximum protection against dust, dirt and abrasives entering the engine through the carburetor.

1-51. HYDRAULIC TRANSMISSION.

1-52. The tractor is equipped with a hydraulic transmission (9, figure 1-2) sometimes referred to as a torque converter, located at the rear of the engine and connected to the engine crankshaft. The unit multiplies the engine torque, as required, to prevent engine stall, by adding power during heavy towing operations. It also permits the tractor to move heavy loads with a shock-free start.

1-53. CLUTCH, The hydraulic transmission has an integral hydraulic clutch unit which operates on the same filtered fluid as the transmission. The clutch is operated by a solenoid which is activated by a switch on the mechanical transmission shift lever. The clutch disengages the transmission drive connection permitting manual gear selection.

1-54. MECHANICAL TRANSMISSION.

1-55. The mechanical transmission (10), attached to the rear of the hydraulic transmission, is a standard, commercial, five-speed gearbox with second through fifth gear synchronized. Gear selection is made by manual shift after disengaging the clutch.

1-56. PROPELLER SHAFT INSTALLATION.

1-57. Standard commercial propeller shafts connect the transmission to the transfer case input shaft and connect the front and rear output shafts of the transfer case with the front and rear axles respectively.

1-58. TRANSFER-TRANSMISSION ASSEMBLY.

1-59. The transfer-transmission assembly (11), sometime referred to as the transfer case, is a single-speed gearbox incorporating a manually-locking type center differential between the front and rear output shafts. The center differential action can be locked out by means of a lever located to the driver's right. The transfer-transmission assembly further multiplies the engine torque and transfers it to the front and rear axles through the propeller shafts.

1-60. BRAKE SYSTEM.

1-61. The service brake system (12) uses hydraulically operated brake shoes and incorporates a vacuum booster. The system has sufficient capacity to lock the wheels when the brakes are applied at a maximum speed of 30 mph on dry concrete.

1-62. VACUUM BOOSTER. The vacuum booster is controlled by hydraulic pressure developed within the brake master cylinder of the vehicle.

1-63. AXLE INSTALLATION.

1-64. The front and rear axles (13) are identical, driving, center-point steering type to reduce steering effort. The one-piece axle shaft is easily removed without wheel disassembly to facilitate quick removal of the axle differential carrier assembly, which is a commercial, high-production assembly.

1-65. FRAME AND BRACKETS ASSEMBLY.

1-66. The frame rails (14, figure 1-2) are made of structural channel to provide strength and rigidity for the tractor. Heavy frame end plates provide additional rigidity and stable mounting for the counterweights. Various brackets for frame mounted components are extra heavy to provide required tractor weight, heavy duty service life and stability for mounted components. Medium duty, non-quick release pintle assemblies are mounted on the front and rear of the tractor.

1-67. IDENTIFICATION AND INSTRUCTION PLATES.

1-68. The type MB-4 towing tractor identification plate (figure 1-5) specifies type, capability, Federal stock number and serial number, manufacturer name and address, manufacturer's part number and serial number, contract number, manufactured date, gross weight, maximum speed, maximum drawbar pull, gasoline octane rating, engine oil grade for above and below 32°F stamp impression. The instruction plate provides applicable data.

1-69. DEVIATIONS IN MODELS.

1-70. This manual covers only the type MB-4 Towing Tractor, Model Number G-40, part numbers 690-lB and 690-1B1. Existing unit differences shall be designated C or D code.

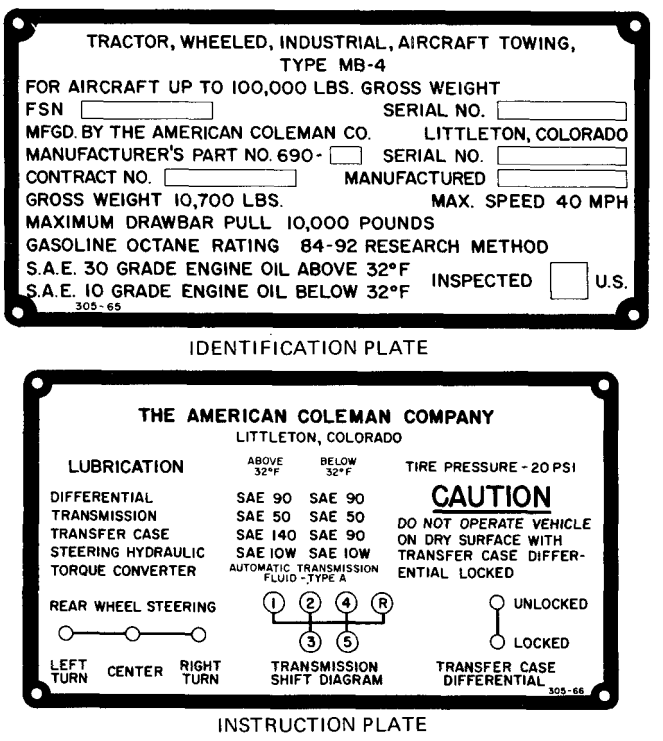

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Figure 1-5. Instruction and identification plates

1-71. LEADING PARTICULARS.

1–72. The leading particulars for the towing tractor are listed in table 1-1.

Table 1–1. Leading Particulars

a. GENERAL.

Type of vehicle	Towing Tractor MB-4
Manufacturer's Model	G40
Gross weight	10,700 lbs
Overall length	161.5 in.
Overall width	79 in.
Overall height	97 in.
Ground clearance under front axle	12 in.
Ground clearance under rear axle	12 in.
Tread between front tires	64 in.
Tread between rear tires	64 in.
Top governed speed	40 mph
Drawbar pull	10,000 lbs
Turning radius, four wheel steer	15 ft

b. ENGINE.

Type	Flat-head
Model	Industrial 30
Fuel	84 to 92 Octane Gasoline
Number of cylinders	6
Firing order	1-5-3-6-2-4
Bore and stroke	3.25 x 4.625
Displacement	230 cu in.
Torque @ 1300 rpm (net)	195 ft-lb
Horse power @ 3000 rpm (net)	93
Oil capacity	5 qts
Pistons:	
Land clearance	0.018 to 0.026 in
Skirt clearance	0.0002 to 0.0012 in.
Overall length	3.5 in.
Piston ring type:	
Top (2)	Compression
Bottom (2)	Oil
Piston ring gap (all)	0.007 to 0.015 in.
Piston ring width:	
Compression	0.094 in.
Oil	0.156 in.
Piston ring clearance:	
Compression (upper)	0.0025 to 0.0040 in.
Compression (lower)	0.0020 to 0.0035 in.
Oil (upper)	0.0010 to 0.0025 in.
Oil (lower)	0.001 to 0.003 in.
Piston pins:	
Diameter	0.86 in.
Length	2.75 in.
Piston clearance	0.0000 to 0.0005 in.
Rod clearance	0.0001 to 0.0002 in.
Connecting rods:	
Journal diameter	2.06 in.
End play	0.006 to 0.011 in.
Standard clearance	0.0010 to 0.0025 in.
Camshaft:	
Drive	Chain
Number of bearings	4
End play	0.002 to 0.006 in.
Clearance	0.002 to 0.004 in.
Crankshaft:	
Number of bearings	4
End play	0.002 to 0.006 in.
Main bearing clearance	0.005 to 0.0015 in.
Valves, intake:	
Head diameter	1.531 in.
Stem diameter	0.340 to 0.341 in.
Length	4.845 in.
Stem clearance	0.001 to 0.003 in.
Maximum allowable	0.010 in.
Guide size	0.342 to 0.343 in.
Valves, exhaust:	
Head diameter	1.407 in.
Stem diameter	0.340 to 0.341 in.
Length	4.78 in.
Stem clearance	0.003 to 0.005 in.
Maximum allowable	0.014 in.
Guide size	0.344 to 0.345 in.
Valve spring free length	2 in.

c. CLUTCH.

Typed	Hydraulic
Operation	Solenoid

d. HYDRAULIC TRANSMISSION.

Model	A731-2
Stall torque ratio	2.20 to 1
Input torque (maximum)	350 ft-lb
Oil capacity	9 qts

Table 1-1. Leading Particulars (Cont.)

e. TRANSMISSION.

Type . . . . Five speed mechanical
Model 540
Gear ratios:
First speed . . . . . .7.41to l
Second speed . . . . . .4.05 to l
Third speed . . . .2.40 to l
Fourth speed . . . .l.48 to l
Fifth speed . . . .1.00 to l
Reverse . . . .7.85 to l
Oil capacity . . . .4-3/4 qts

f. TRANSFER CASE.

Type . . . . . .Manual lock differential
Input torque (maximum) . . . .2500 ft-lb
Ratio . . . .l.6 to l
Oil capacity . . . .5 qts

g. FUEL SYSTEM.

Carburetor:
Type . . . . . .Single barrel downdraft
Governor:
Type . . . . . .Velocity
Setting . . . . . .3000 rpm
Fuel pump:
Type . . . . Diaphragm
Driven by . . . . Camshaft
Pump pressure . . . .3.5 to 4.5 lbs
Air cleaner:
Type . . . . Oil bath
Fuel tank capacity . . . .20 gal

h. COOLING SYSTEM.

Capacity 24qts
Radiator:
Type . . . . Fin and tube
Water pump-generator belt:
Type . . . . . .V-belt

i. ELECTRICAL SYSTEM.

Battery:
Size (Code C) . . . . . .Group 6
(Code D) . . . . Group 8
Voltage 12
Type: . . . . Lead-acid
Number of cells 6
Terminal ground . . . . . .Negative
Generator:
Type . . . .12 volt, DC
Capacity . . . .30 amp
Brushes:
Quantity 2
Spring tension . . . .35 to 530 ozs
Generator regulator:
Air gap:
Cut-out relay . . . .0.025 to 0.027 in.
Voltage regulator . . . .0.048 to 0.052 in.
Current regulator . . . .0.048 to 0.052 in.
Contact point gap . . . .0.015 in.
Distributor:
Contact point gap . . . .0.018 to 0.020 in.
Contact spring tension . . . . . 17 to 20 ozs
Rotation . . . . . .Clockwise
Spark plugs:
Size 14mm
Gap . . . . . 0.035 in.
Starter:
Type . . . . overrunning clutch
Spring tension . . . .42 to 53 ozs
Free-running test:
Voltage 11
Amperage draw (maximum) . . . .78 amps
Speed (minimum) . . . . . .3800 rpm
Stall torque test:
Voltage 4
Amperage draw (maximum) 330
Torque . . . . . .7 ft-lb

j. SERVICE BRAKES.

Type . . . . . .Hydraulic

k. PARKING BRAKE.

Type . . . . . .Mechanical

l. STEERING SYSTEM.

Typed . . . . . .Four wheel hydraulic
Pump:
Type . . . . Belt-driven Vane
Model V214
Delivery . . . . . .6.5 gpm
Rotation . . . . . .Clockwise
Booster cylinder:
Quantity 2
Model C44
Travel length . . . . . .12in.

Table 1-1. Leading Particulars (Cent)

Steering gear:	Differential carrier:
Type . . . . Cam and gear	Ratio . . . . . .6.285 to l
Oil capacity . . . .1.5 pints	Oil capacity . . . . . ll pints
Relief valve:	
Setting . . . .600 psi	n. TIRES.
	Size . . . . . .11.00 x 20
m. FRONT AND REAR AXLES.	Type 8ply
	Inflation pressure . . . . . .20 psi
Type . . . . . .Model 9	Tread . . . . Diamond

SECTION III TEST EQUIPMENT, SPECIAL TOOLS, AND MATERIALS

1-73. TEST EQUIPMENT.

1-74. The test equipment, other than common automotive equipment, required to perform the maintenance procedures prescribed in this technical manual are listed in table 1-2.

Table 1-2. Test Equipment

FIGURE	NOMENCLATURE	PART NUMBER
	Flow Meter	
	Spring Tension Gage	

1-75. SPECIAL TOOLS.

1-76. There are no special tools required to perform the maintenance procedures prescribed in this technical manual.

1-77. MATERIALS.

1-78. All consumable materials required to perform the maintenance procedures prescribed in this technical manual are listed in table 1-3.

Table 1-3. Consumable Materials

ITEM NUMBER	NOMENCLATURE	MILITARY SPECIFICATION
1.	Radiator Coolant	MS-51383A
2.	Anti-Freeze	O-A-548A
3.	Oil, Lubricating	MIL-L-2104
4.	Brake Fluid	VV-B-680
5.	Hydraulic Fluid	W-F-451
6.	Hydraulic Fluid	MIL-H-13910
7.	Lubricant, Gear	WL-765
8.	Lubricating Oil	MIL-L-2105
9.	Lubricating Oil	MIL-L-10324
10.	Hydraulic Fluid Preservative	MIL-H-6083
11.	Corrosion Preventative Compound	MIL-C-83933
12.	Grease	MIL-G-10924
13.	Radiator Cleaner	MIL-C-10597
14.	Rust Inhibitor	O-C-746
15.	Steam Cleaning Compound	MS-36423
16.	Cleaning Compound	P-C-437
17.	Cleaning Compound	MIL-C-20207
18.	Drycleaning Solvent	P-D-680
19.	Kerosene	W-K-211
20.	Trichlorethylene	MIL-T-7003
21.	Decreasing Solvent	MIL-S-11090
22.	Paint Thinner	TT-T-291
23.	Cleaning Compound	P-C-436
24.	Paint Remover	P-R- 191
25.	Talcum, Powdered Technical	ZZ-T-416
26.	Oil, Preservative	MIL-L-644
27.	Detergent, Painted Surface	P-C-431
28.	Oil, Lubricating	MIL-L-2104
29.	Lubricant	MIL-P-197
30.	Leather Dressing Compound	O-L-164
31.	Saddle Soap	P-S-609
32.	Neet’s Foot Oil	C-0888
33.	Water-Proofing-Compound	

CHAPTER 2

OPERATING INSTRUCTIONS

2-1. INTRODUCTION.

2-2. This chapter contains operating instructions for the Type MB-4 towing tractor. The principles of operation precede the operating instructions to provide easier understanding of the tractor operation.

2-3. PRINCIPLES OF OPERATION.

2-4. The operating principles and basic fundamentals with which the operator is familiar have been omitted. Operating procedures of the more complicated components and systems are explained in the following paragraphs.

2-5. ENGINE. The engine operation is the same as any standard, flat-head, six cylinder, internal combustion engine.

2-6. FUEL SYSTEM. Engine fuel is provided by a standard fuel system and regulated by a velocity type governor. The governor is an integral part of the carburetor and regulates fuel supply by closing the throttle valve when fuel-air mixture velocity exceeds the governor setting.

2-7. HYDRAULIC TRANSMISSION. The hydraulic transmission transfers torque to the mechanical transmission through an integral fluid coupling. During normal driving the hydraulic transmission input and output rpm are the same. During heavy pulling the output rpm is much slower than the input rpm. Under these conditions the hydraulic transmission has multiplied torque to transfer full engine power to the transmission and prev!ent engine stall. The hydraulic transmission fluid is cooled by circulation through a heat exchanger located in the radiator.

2-8. CLUTCH. Fluid under pressure is available to the clutch at all times. When the solenoid control switch, located on the gearshift knob, is pressed the solenoid opens a spool valve. With the valve open, oil circulates through and disengages the clutch to allow manual selection of transmission gears.

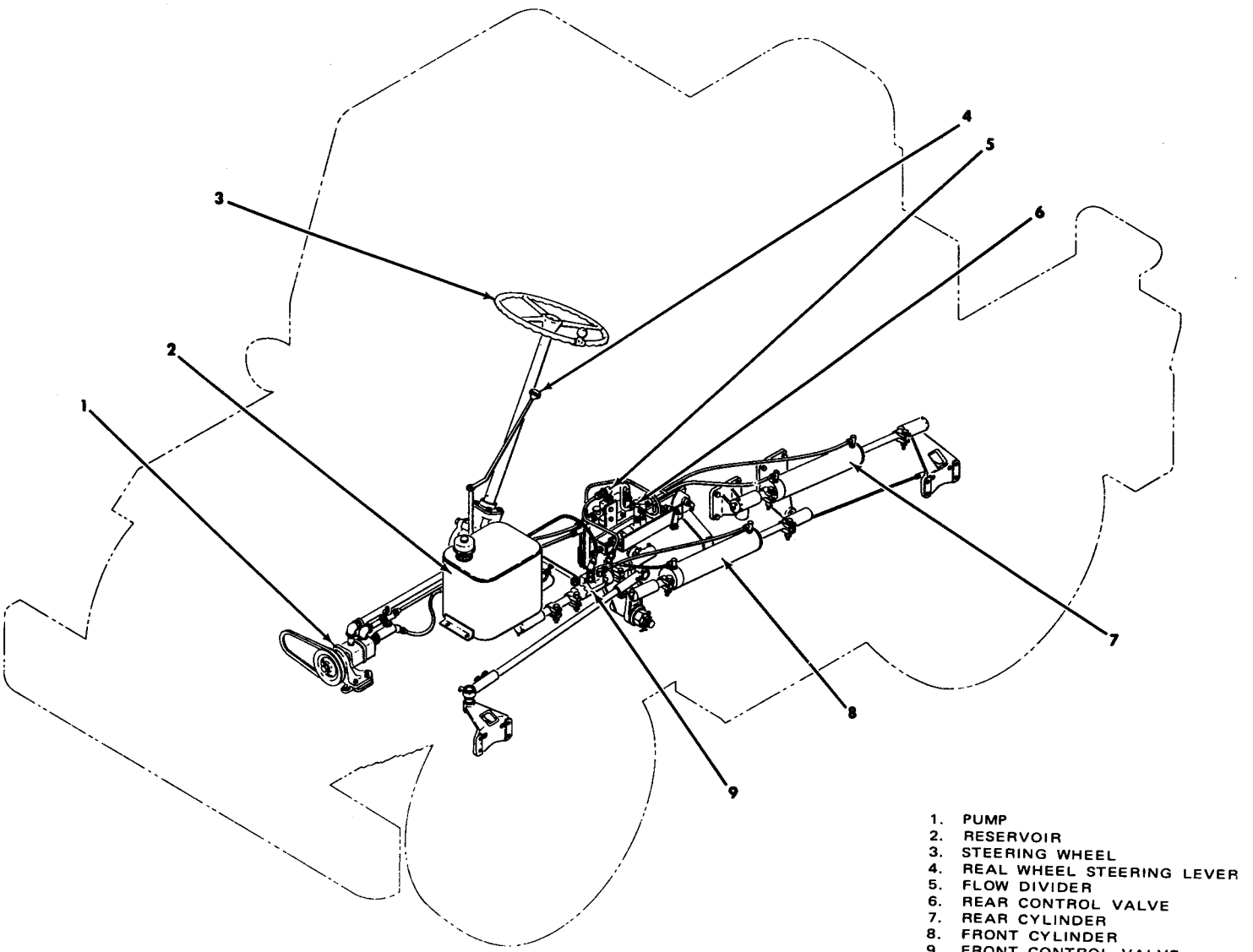
2-9. TRANSMISSION. The transmission is a mechanical synchro-mesh unit with five forward speeds and one reverse speed. Second through fifth gears are synchronized. Gear selection is made manually by the gearshift lever located in the cab.

2-10. TRANSFER CASE. The transfer case transfers transmission output to the front and rear axles with gear reduction. The transfer case is equipped with a differential which may be manually locked in or locked out, depending on road conditions. When one axle loses traction the differential action may be locked out which provides the effect of locking the output shafts together to transmit identical rpm to each axle. Differential action is controlled manually by a lever in the cab and should be used only under slippery road conditions. Because of the differential, the vehicle is in 4-wheel drive at all times.

2-11. AXLES. Propeller shafts connect the identical front and rear axles to the transfer case. Each axle is equipped with a standard differential and heavy duty steerable type wheels. The wheels encase the wheel brake assemblies and provide a mounting surface for the tire assembly.

2-12. STEERING SYSTEM. The hydraulic steering system (figure 2-1) is powered by the engine driven hydraulic pump (1) which pumps fluid from the reservoir (2) directly to the front control valve (9). The front control valve directs fluid to the front cylinder (8) when actuated by the steering wheel (3) and bypasses all other fluid to the flow divider (5). The flow divider sends a maximum of 30 psi to the rear control valve (6), all over 30 psi is returned to the reservoir. The rear control valve directs fluid to the rear cylinder (7) when actuated by the rear wheel steering lever (4). When the steering lever is released, the rear wheels automatically return to the straight ahead position. Although the front and rear control valves are hydraulically connected, front and rear control are completely independent.

2-13. BRAKE SYSTEM. The hydraulic brake system (figure 2-2) is a standard hydraulic system equipped with a vacuum booster unit (6). The booster unit is connected to the intake manifold to obtain the vacuum necessary for proper operation. When the brake pedal (3) is depressed the master cylinder (2) hydraulically opens the air intake valve on the booster unit. When the valve opens, air enters the booster unit through the air cleaner



1. PUMP
2. RESERVOIR
3. STEERING WHEEL
4. REAL WHEEL STEERING LEVER
5. FLOW DIVIDER
6. REAR CONTROL VALVE
7. REAR CYLINDER
8. FRONT CYLINDER
9. FRONT CONTROL VALVE

Figure 2–1. Hydraulic steering system

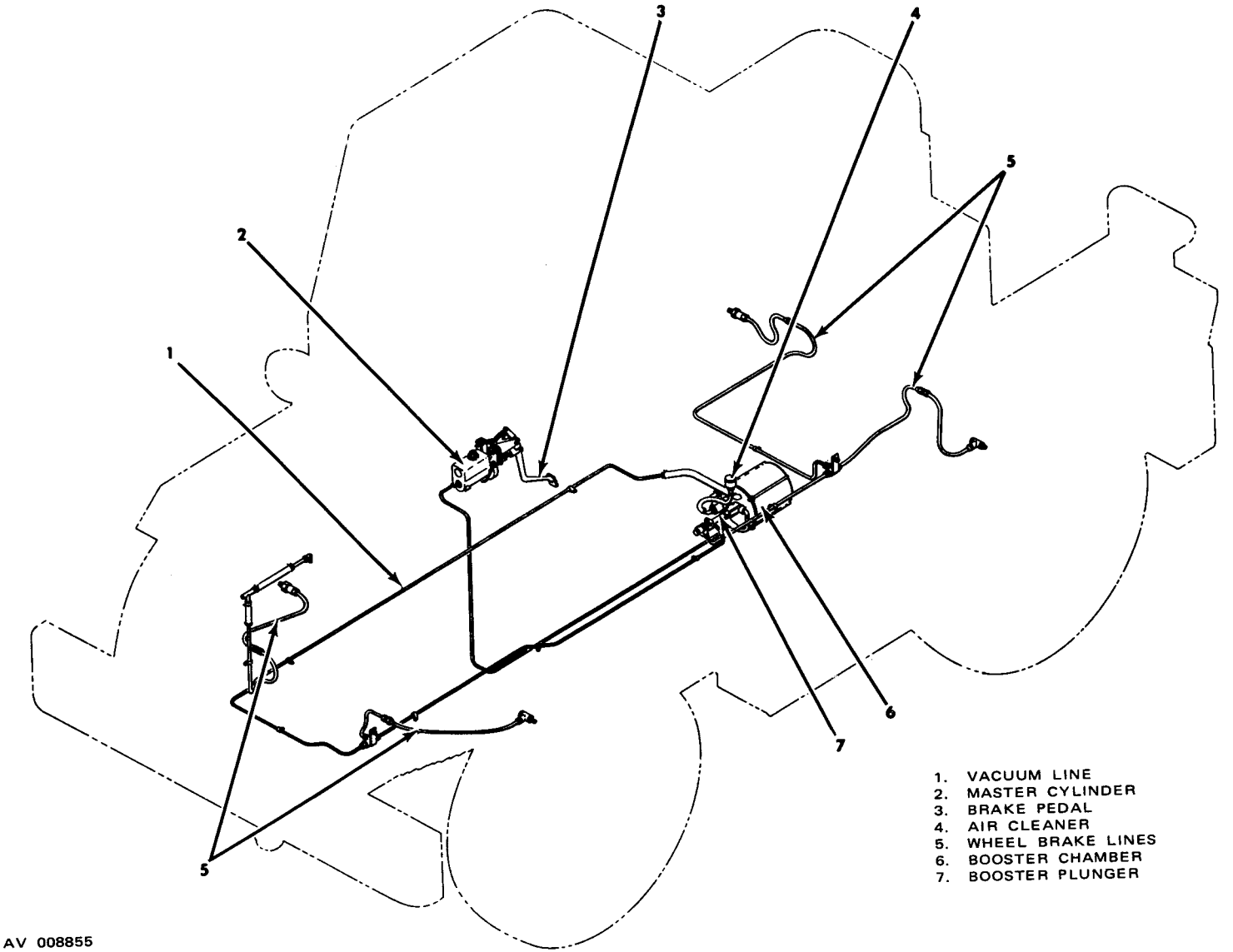


Figure 2–2. Hydraulic brake system

(4) and, because of pressure differential within the chamber, forces the booster plunger (7) forward to hydraulically actuate the wheel cylinders. The booster plunger is spring loaded to return to normal position when the brake pedal is released. If for any reason there should be no vacuum, the system will operate as a conventional hydraulic brake system.

2-14. ELECTRICAL SYSTEM. The tractor electrical system (figure 2-3) is a 12 volt system. Electrical power is produced by the generator (10) and stored in the battery (7). The battery is protected from overcharging by a voltage regulator (1 1). A key operated ignition starter switch controls all circuits, other than horn or lights, energizes the starter motor (9) and provides for accessory operation without engine operation. All circuits, other than the starter motor circuit and clutch actuating circuit are protected by circuit breakers which are automatically reset after circuit overload. The starter motor control is contained within the ignition switch. A spotlight (4), floodlight (5), combined stop, and tailight (6), and headlights (1 and 8) are provided for night operation. The heater fan (2) and windshield wipers (3) are electrically operated. Tractors are radio suppressed in accordance with Military Specification MIL-S-13079 for Non-Tactical Vehicles.

2-15. OPERATING INSTRUCTIONS.

2-16. CONTROLS AND GAGES. Prior to actual tractor operation, the operator shall be familiar with the purpose and use of all controls and gages.

2-17. STEERING WHEEL. Movement of the steering wheel (8, figure 2-4) actuates the front wheels to steer the tractor in the conventional manner.

2-18. REAR WHEEL STEERING LEVER. The rear wheel steering lever (7) controls the rear wheel steering mechanism. By pushing the lever left or right, the rear wheels will be directed right or left thus turning the tractor in the same direction as the motion of the lever. Upon release of the lever, the rear wheels will return to the straight ahead position.

CAUTION

The differential lock lever should be in the rear position only when one axle is slipping. Never drive under good tractive conditions with the lever in the rear position.

2-19. DIFFERENTIAL LOCK LEVER. The differential lock lever (10) controls the differential action of the transfer case. When the lever is in forward position, the differential is unlocked. When in the rear position, the differential is locked.

2-20. PARKING BRAKE. The parking brake lever (1) controls the mechanical brake on the transmission. Pulling the lever up and back applies the brake. In forward position the brake is released. Clockwise rotation of the slack adjustment tip will take up slack.

2-21. TRANSMISSION SHIFT LEVER. The transmission shift lever (5) operates the transmission through five forward speeds and one reverse speed. Gear positions are shown on the instruction plate mounted to the left of the instrument cluster.

2-22. DIMMER SWITCH. Foot operation of the dimmer switch (3) selects high headlight beam or low headlight beam.

2-23. CLUTCH CONTROL. The solenoid valve control switch located on the gearshift knob (6) disengages the clutch when pressed. When pressure is released the clutch will automatically engage.

2-24. BRAKE PEDAL. The brake pedal (2) is used to slow and stop the tractor. Gradual pressure should be applied for smooth operation. The pedal will return to normal position when pressure is released.

2-25. ACCELERATOR. The accelerator pedal (9) actuates the carburetor throttle linkage to increase or decrease engine speed. The accelerator should work smoothly and return to idle position when pressure is released.

2-26. CHOKE CONTROL. The choke control (1, figure 2-5) is used to provide richer fuel mixture during engine warmup or for cold weather starting. To operate the choke, pull control out from the panel as necessary. During engine warmup, adjust choke as required.

2-27. IGNITION STARTER SWITCH. The ignition starter switch (2) is key operated. To actuate the electrical system, insert the key and turn clockwise to the first position. To actuate starter motor, turn clockwise to second position. Upon release, key will return to the first position. To operate accessories only, turn key counterclock wise.

2-28. WINDSHIELD WIPER SWITCH. The windshield wiper switch (3) controls both windshield wipers. Pull switch out to start wipers; push switch in to stop.

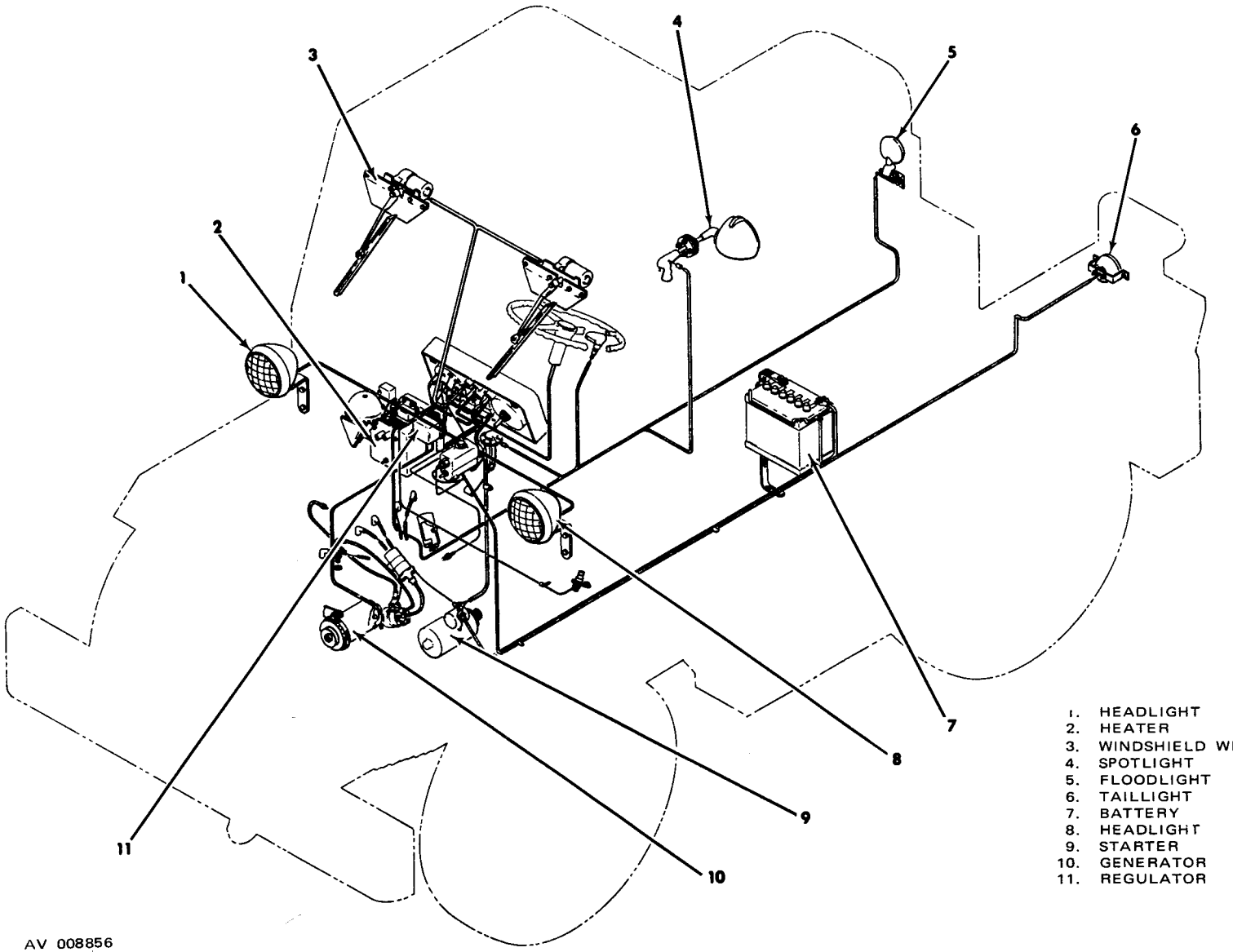
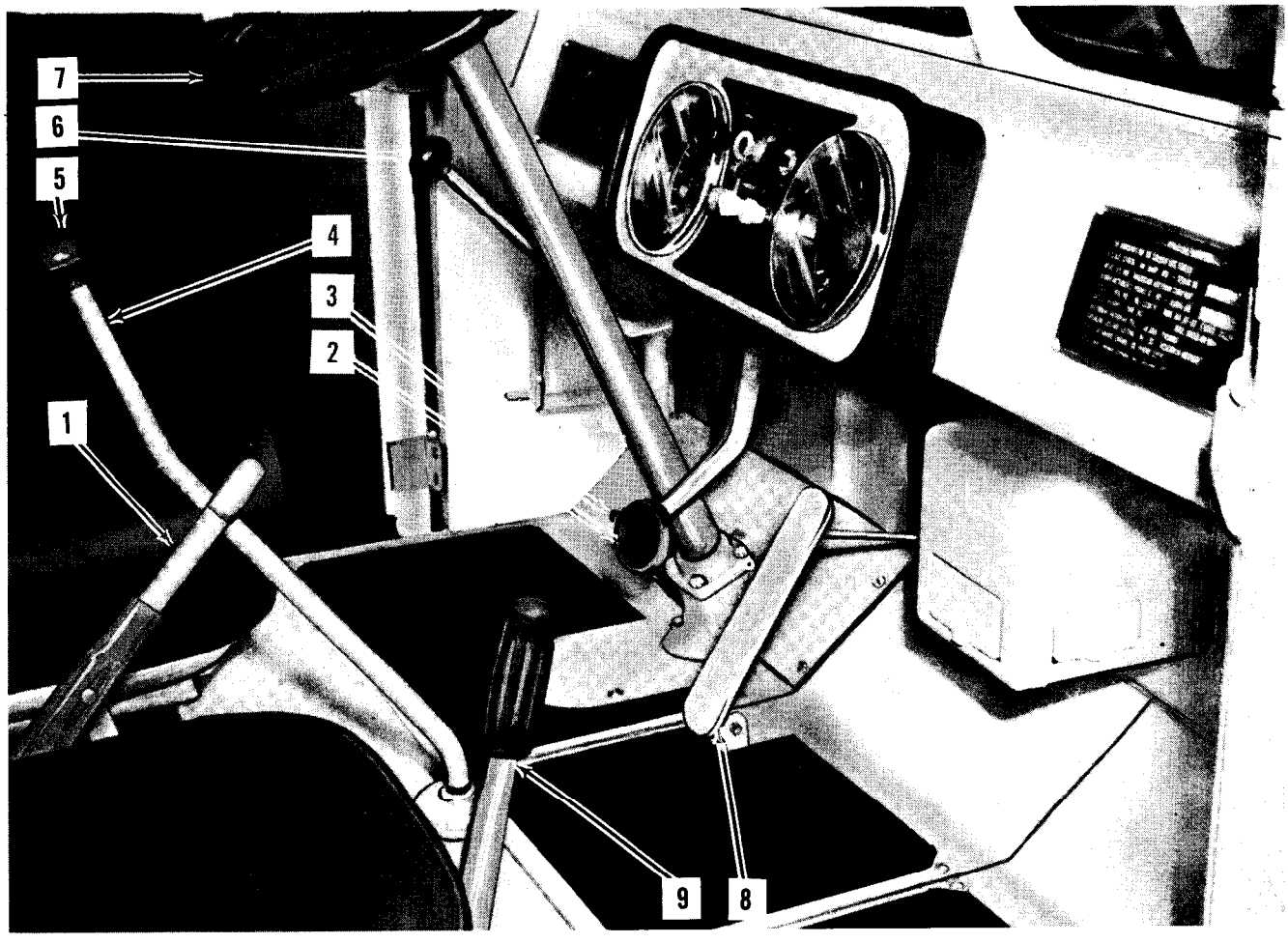


Figure 2–3. Electrical system



1. PARKING BRAKE LEVER
2. BRAKE PEDAL
3. DIMMER SWITCH
4. TRANSMISSION GEAR SHIFT LEVER
5. SOLENOID CONTROL SWITCH
6. REAR WHEEL STEERING LEVER
7. STEERING WHEEL
8. ACCELERATOR PEDAL
9. TRANSFER CASE DIFFERENTIAL LOCK LEVER

AV 008857

Figure 2-4. Tractor manual controls

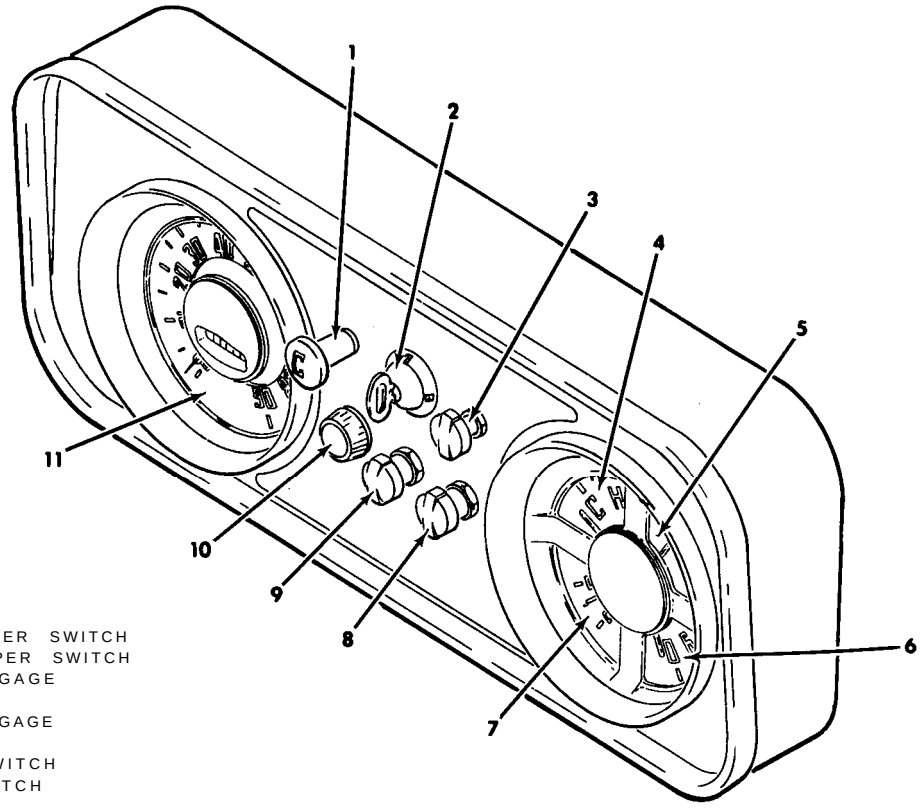
2-29. FLOODLIGHT SWITCH. The floodlight switch (8) controls the rear floodlight. Pull the switch out to turn lamp on; push in to turn lamp off.

2-30. HEADLIGHT SWITCH. The headlight switch (9) controls instrument cluster lights, taillight, and headlights. Pull switch out to first position to turn on instrument lights and the taillight. Clockwise and counterclockwise switch rotation will increase and decrease instrument light brightness as desired. Pull switch out to second position to turn on headlights; instrument lights and taillight will remain on.

2-31. HEATER SWITCH. The heater switch (10) controls the heater fan. Turn the switch clockwise to start the fan. Clockwise and counterclockwise switch rotation will decrease or increase fan speed as desired.

2-32. TEMPERATURE GAGE. The engine temperature gage (4) registers approximate engine temperature. For normal tractor operation, the needle should be in the center 1/2 of the range between C and H..

2-33. FUEL GAGE. The fuel gage (5) registers the approximate fuel level in the 20 gallon, fuel tank.



1. CHOKE
2. IGNITION STARTER SWITCH
3. WINDSHIELD WIPER SWITCH
4. TEMPERATURE GAGE
5. FUEL GAGE
6. OIL PRESSURE GAGE
7. AMMETER
8. FLOODLIGHT SWITCH
9. HEADLIGHT SWITCH
10. HEATER SWITCH
11. SPEEDOMETER

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Figure 2-5. Instrument cluster

2-34. OIL PRESSURE GAGE. The oil pressure gage (6) indicates engine oil pressure. During normal driving operations, the gage should register 30 to 55 pound pressure.

2-35. AMMETER. The ammeter (7) indicates the rate of battery charge or discharge. Ammeter should indicate charge or neutral during normal driving operation.

2-36. SPEEDOMETER. The speedometer (11) indicates forward tractor speed. An odometer registers miles traveled. The high beam indicator light is located at the top of the speedometer face.

2-37. TRACTOR OPERATION.

2-38. PRESTART CHECKS.

2-39. Before starting the tractor engine, conduct the following checks:

a. Check the tires for proper inflation of 20 psi.

b. Check radiator for proper coolant level and remove any outside radiator obstructions.

c. Conduct visual checks for water and oil leaks.

d. Check for proper engine oil and hydraulic oil levels.

e. Turn ignition switch clockwise to first position and check fuel gage for sufficient fuel.

f. Check all lights for proper operation,

2-40. START ENGINE.

2-41. To start the tractor engine proceed as follows:

a. Set parking brake by pulling up and back on parking brake lever.

b. Place transmission in neutral position.

c. Turn ignition key to the second clockwise position and engage starter motor. Adjust choke control as required.

CAUTION

If engine does not start within 30 seconds to a minute, release the ignition switch control. Wait two minutes and attempt engine start. If repeated efforts fail, notify maintenance personnel.

d. Allow engine to operate five to eight minutes. Adjust choke control as required during engine warmup.

e. Check oil pressure gage for a minimum of 30 pounds pressure at engine idle.

f. Check ammeter indication. Ammeter should indicate a high rate of charge immediately after engine start. Charge rate should gradually decrease as battery becomes charged.

g. Check brake operation by pressing brake pedal. The stop light should operate when pedal is pressed.

2-42. FORWARD OPERATION.

2-43. To operate vehicle in forward motion, proceed as follows :

CAUTION

Differential lock lever will be in forward position unless slippery road conditions exist.

a. Select desired gear for each operation; first gear for heavy towing, second or third gear for lighter towing, fourth or fifth gear for road operation. To place in desired gear, press clutch solenoid control switch and place in gear.

CAUTION

To allow fluid pressure to stabilize after disengaging clutch, hesitate for 3 to 5 seconds before start of desired shifting operation.

b. Engage clutch, release parking brake, and press accelerator pedal.

NOTE

During road or highway operation give special attention to load limits and overhead clearances.

c. To shift upward or downward, let up on accelerator pedal, disengage clutch, shift transmission to desired gear, engage clutch and press accelerator pedal.

CAUTION

To allow fluid pressure to stabilize after disengaging clutch, hesitate for 3 to 5 seconds before start of shifting operation.

2-44. REVERSE OPERATION.

2-45. To operate the vehicle in reverse motion proceed as follows:

WARNING

Before shifting into reverse gear, verify area is clear of personnel and obstacles.

a. Disengage clutch and shift transmission into reverse gear.

b. Release parking brake and press accelerator pedal.

CAUTION

Do not shift tractor during towing operation.

2-46. TOWING OPERATION.

2-47. For aircraft towing operation, refer to respective aircraft Organizational Maintenance Manual for proper towing instruction.

2-48. STOP VEHICLE.

2-49. To stop the tractor, observe the following steps:

a. Release the accelerator and allow the engine to slow the vehicle.

b. Press the brake pedal to continue slowing vehicle. Completely stop the vehicle with firm pressure on brake pedal.

c. Place transmission in neutral position and set the parking brake. Turn the ignition switch off and place all switches in OFF position.

d. Close all cab windows.

CHAPTER 3

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

SECTION I PREPARATION FOR USE, STORAGE, AND SHIPMENT

3-1. PREPARATION FOR USE.

3-2. Upon receipt of the towing tractor, the following visual inspections shall be made:

a. Check for broken or cracked glass in windows, lights, and gages.

b. Check for loose, broken, or missing belts.

c. Check radiator for damage. Inspect all water lines for breaks, cracks, and loose connections.

d. Check for oil leaks from brake system, hydraulic steering system, crankcase, and external oil lines.

e. Check for restricted or damaged lines in the brake and steering system. Check for loose connections.

f. Check electrical wiring for breaks, stripped insulation, and loose or damaged connections,

g. Check for components which may have been lost or damaged in shipment.

3-3. SERVICING PRIOR TO USE.

3-4. The following servicing procedures shall be accomplished before the towing tractor is put into service.

3-5. RADIATOR. Check the radiator and prepare as follows:

a. Check outside of radiator for obstructions that may restrict air circulation.

b. Verify radiator drain cock (1, figure 1-2) is closed and engine drain plugs (9) are tight.

c. Remove radiator cap and add coolant (item 1, table 1-3) to proper level. If temperatures below 35° F are expected, add anti-freeze (item 2, table 1–3) as required.

3-6. BATTERY. Prepare the battery for operation as follows:

a. Check electrolyte level in the battery (7). If electrolyte level is low, add distilled water as required. Electrolyte should be approximately 3/8 inch above the separators

b. Check the battery charge. Recharge if necessary.

CAUTION

Check for negative ground when connecting battery. (Refer to table 1-1.)

c. Connect battery cables and tighten securely.

3-7. AIR CLEANER. Prepare the air cleaner as follows:

a. Remove the air cleaner (2, figure 1-2).

b. Check oil level and add oil (item 3, table 1-3) if necessary. Refer to Lubrication Chart.

c. Replace air cleaner and tighten securely.

CAUTION

If brake pedal has more than 3/4 distance travel from the pedal to the floor, brakes must be adjusted.

3-8. BRAKE SYSTEM. Remove the master cylinder cap (6) and check brake fluid level. Add brake fluid (item 4, table 1-3) as required. Verify brake pedal action after replacing cylinder cap.

3-9. FUEL. Fill fuel tank with automotive regular grade gasoline and check fuel level at fuel gage.

3-10. TIRES. Check the tires for proper inflation pressure of 20 psi.

3-11. LUBRICATION. The lubrication of all components shall be checked as follows: (Refer to Lubrication Chart.)

a. Check engine oil dipstick (10, figure 1-3) for proper oil level. Add oil (item 3, table 1-3) as required.

b. Check hydraulic reservoir (8) for proper fluid level. Add oil (item 5, table 1-3) as required. Use hydraulic fluid (item 6, table 1–3) if temperatures range from 0°F (-18°C) to -65°F (-54°C).

c. Check the transfer case (4) for proper oil level. Add oil (item 7, table 1—3) as required.

d. Verify proper oil level in front and rear axle differentials. Add oil (item 8, table 1-3) as required. Use lubricating oil (item 9, table 1-3) if temperatures range from 0°F (-18C) to -65°F (-54°C).

e. Start engine and check engine oil pressure gage for pressure of 40 pounds or more.

f. Check hydraulic transrnission dipstick (5) for proper oil level while the engine is running. Add oil (item 5, table 1-3) as required. Use hydraulic fluid (item 6, table 1-3) if temperatures range from O°F (-18C) to -65°F (-54°C).

g. After normal operating temperature (160°F) has been reached, stop the engine and recheck engine oil level. Add oil (item 3, table 1-3) as required.

3–12. PREPARATION FOR SHIPMENT AND STORAGE.

3-13. Before shipment or storage, the towing tractor shall be given a thorough operational inspection and prepared as follows:

a. Remove the drain plug from the fuel tanks and drain the fuel into a suitable container.

b. Drain the carburetor and fuel lines into a suitable container.

c. Disconnect the battery cables from the battery.

d. Drain the hydraulic system and refill with preservative hydraulic oil.

e. Drain the hydraulic pump and refill with preservative hydraulic oil, (item 10, table 1-3).

f. Drain the engine crankcase and refill with corrosion-preventive compound, (item 11, table 1-3).

g. Cap all inlet and outlet parts.

3-14. LIMITED STORAGE AND SHIPMENT.

3-15. The following criteria shall be adhered to when the towing tractor is placed in limited storage.

a. Locate the tractor so there is sufficient room on all sides to perform inspections and maintenance while it is in storage. Jack up the tractor and lift tires off the surface and place suitable blocks under the frame.

b. Perform a monthly inspection while the equipment is in storage and inspect for evidence of physical damage, such as rusting, accumulation of water, pilferage, or leakage.

3-16. SHIPMENT. The towing tractor is designed to operate in a temperature range of -20°F to 125°F without winterization kit. If shipment will subject the towing tractor to temperatures in excess of this range, a winterization kit shall be installed.

3-1 7. LIFTING THE TOWING TRACTOR.

WARNING

Tractor weight is 5.5 tons. Proper capacity crane should be used.

3-18. The tractor is not equipped with lifting eyes for crane and cable lifting. During tractor lifting by crane use spreader bars to prevent tractor damage. (See figure 3-1.)

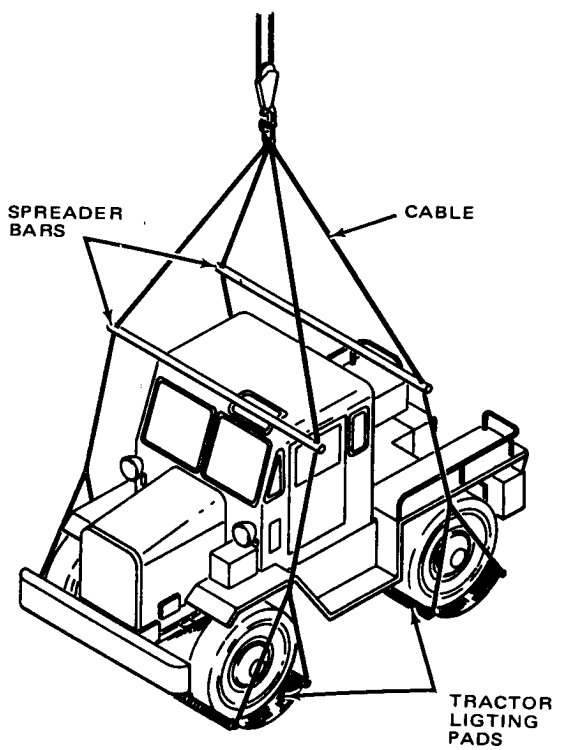

Figure 3-1. Crane lifting method

SECTION II INSTALLATION

Not Applicable

SECTION III INSPECTIONS AND SERVICING

3-19. GENERAL.

3-20. This section contains procedures for servicing and inspecting the towing tract or which, if performed at prescribed intervals, will ensure proper performance in towing operations.

3-21 . INSPECTIONS.

3-22. Table 3-1, Inspection Requirements, gives in tabular form the inspections required to be performed by Organizational Level Maintenance. The table lists the major assemblies to be inspected, the requirements of the inspections, and the frequency of the inspections. The inspections and intervals at which they are to be performed are as follows:

NOTE

All inspections required at each operation shall be reaccomplished during daily, intermediate, and periodic inspections. All daily inspections shall be reaccomplished during intermediate and periodic inspections. All intermediate inspections shall be reaccomplished during periodic inspections.

a. *Each Operation.* Everytime the tractor is operated the inspections noted in this column shall be performed.

Table 3-1. Inspection Requirements

ITEM	MAJOR ASSEMBLY	REQUIREMENT	INSPECTION
1.	Steering System	Check reservoir oil level	Daily
		Check oil lines for loose connections and leaks	Daily
		Check mechanical linkage for loose connections	Intermediate
		Check loose or worn pump drive belt	Daily
		Check steering gear lubricant level	Intermediate
2.	Electrical System	Check for proper operation of lights	Each Operation
		Check for proper operation of controls	Each Operation
		Check battery for proper charge, loose cables and proper electrolyte level	Daily
		Clean and service battery posts and cable connections	Intermediate
		Check for worn or loose generator belt	Daily
		Check for worn generator brushes	Periodic

Table 3-1. Inspection Requirements (Cont)

ITEM	MAJOR ASSEMBLY	REQUIREMENT	INSPECTION
3.	Fuel System	Check fuel level (add if necessary)	Each Operation
		Inspect fuel lines for loose connections and leaks	Daily
		Check air filter	Intermediate
		Tighten carburetor mounting bolts	Periodic
4.	Cooling System	Check radiator water level	Daily
		Check water pump for leaks	Daily
		Check water hoses for leaks	Daily
		Test antifreeze (Winter)	Daily
		Check for loose or worn fan belt	Daily
5.	Brake System	Check brake pedal operation	Each Operation
		Check parking brake operation	Each Operation
		Check master cylinder fluid level	Intermediate
		Check all lines for fluid leaks	Daily
		Check vacuum lines for breaks or loose connections	Intermediate
		Remove and clean air filter	Intermediate
6.	Engine	Check oil pressure gage reading	Each Operation
		Check oil level (add if necessary)	Daily
		Inspect crankcase for oil leaks	Daily
		Check all mounting hardware	Intermediate
7.	Torque Converter	Check fluid lines for leaks and loose connections	Daily
		Check fluid level	Daily
8.	Transmission and Transfer case	Check for oil leaks	Daily
		Check lubricant level	Intermediate
		Check propeller shaft connections	Intermediate
	Axles and Tires	Check tire pressure (20 psi)	Daily
		Check tires for damage and uneven wear	Daily
		Check and tighten mounting nuts	Daily
		Check differential lubrication level	Intermediate

b. *Daily inspection.* The daily inspection is accomplished following the last operation of the day, or preceding the next day's operation. Daily inspection requirements consist of visual examination and operational checks to ensure that the equipment can safely and efficiently perform its assigned mission.

c. *Intermediate inspection.* The intermediate inspection is a combination of daily and intermediate inspection requirements for checking equipment that requires verification of normal operation at frequencies between the daily and periodic inspections. The intermediate inspection is accomplished every three months or 2,000 miles of operation.

d. *Periodic inspection.* The periodic inspection is a thorough and searching inspection of those items subject to failure or discrepancy. The periodic inspection is accomplished every 12,000 miles of operation.

e. *Special inspection.* None required.

3-23. SERVICING.

3-24. The following paragraphs contain servicing instructions required to properly maintain the towing tractor.

3-25. HYDRAULIC PUMP DRIVE BELT ADJUSTMENT. Adjust the hydraulic pump drive belt as follows: (See figure 3-2.)

a. Loosen four pump mounting bolts.

b. Slide the pump away from the engine until the drive belt has no more than 1/2 inch deflection.

c. Hold the pump in the above position and tighten all mounting bolts.

3-26. GENERATOR DRIVE BELT ADJUSTMENT. Adjust the generator drive belt as follows: (See figure 3-3.)

a. Loosen the generator pivot and adjustment bolts.

b. Pull the generator away from the engine until the drive belt has no more than 1/2 inch deflection.

c. Hold the generator in the above position and tighten the adjustment bolt. Tighten both pivot bolts.

3-27. BATTERY. Clean and service the battery as follows:

a. Loosen and remove the battery cables (ground cable first). Clean the battery and cable terminals with water, soda, and soft wire brush.

WARNING

Avoid skin contact with battery corrosion and battery acid. If skin contact occurs, wash immediately with warm soapy water.

b. Apply a light coat of grease (item 12, table 1-3) to battery posts and cable terminals after cables are connected.

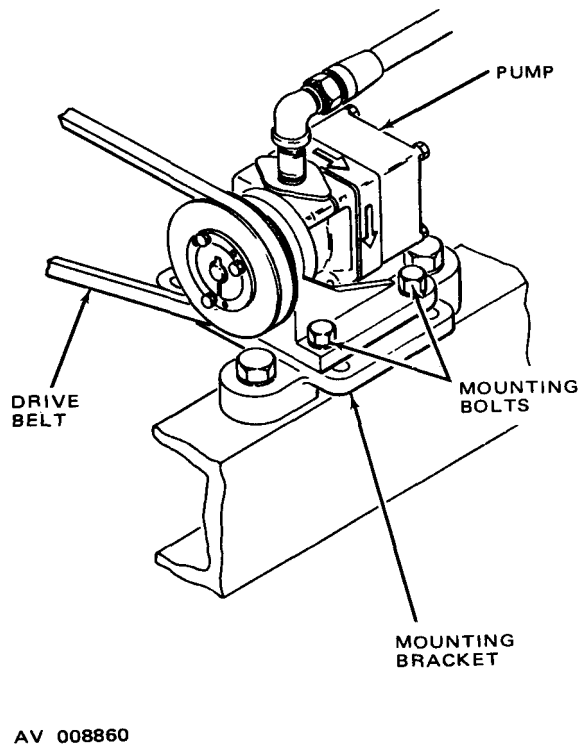

Figure 3-2. Hydraulic pump belt adjustment

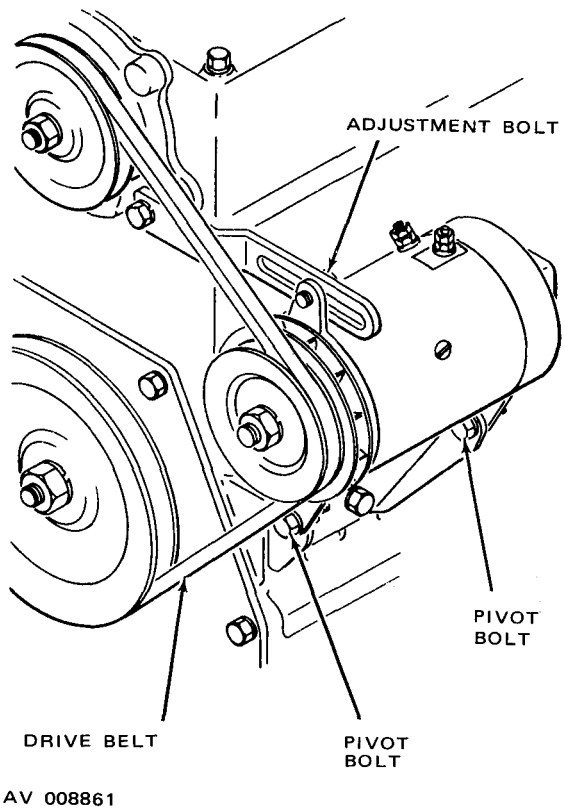

Figure 3-3. Fan and generator belt adjustment

c. Check battery electrolyte with a hydrometer as outlined below. If the reading between cells differs by more than 0.020, replace the battery.

WARNING

All repairs shall be made with the ignition switch in the OFF position and the parking brake set.

Specific Gravity Normal Climate	State of Charge	Specific Gravity Tropical Climate
1.280	Fully Charged	1.225
1.230	75%	1.180
1.180	50%	1.135
1.130	25%	1.090
1.080	Discharged	1.040

NOTE

All hydrometer readings are based on 80°F electrolyte temperature.

3-28. CARBURETOR ADJUSTMENT. Adjust fuel mixture and carburetor linkage as follows: (See figure 3-4.)

a. Start the engine and allow engine to warm up to normal operating temperature.

b. Set idle adjustment screw to maintain 450 to 500 rpm engine idle speed.

c. Adjust the idle mixture screw to the leanest position that will allow maximum steady engine speed. Turn clockwise for lean mixture and counterclockwise for rich mixture.

d. The accelerating pump lever should be placed in proper position in accordance with climate conditions. The short stroke position is for extremely warm weather or for altitudes above 2,500 feet, the medium stroke position is for normal summer weather and the long stroke position is for extremely cold weather operation.

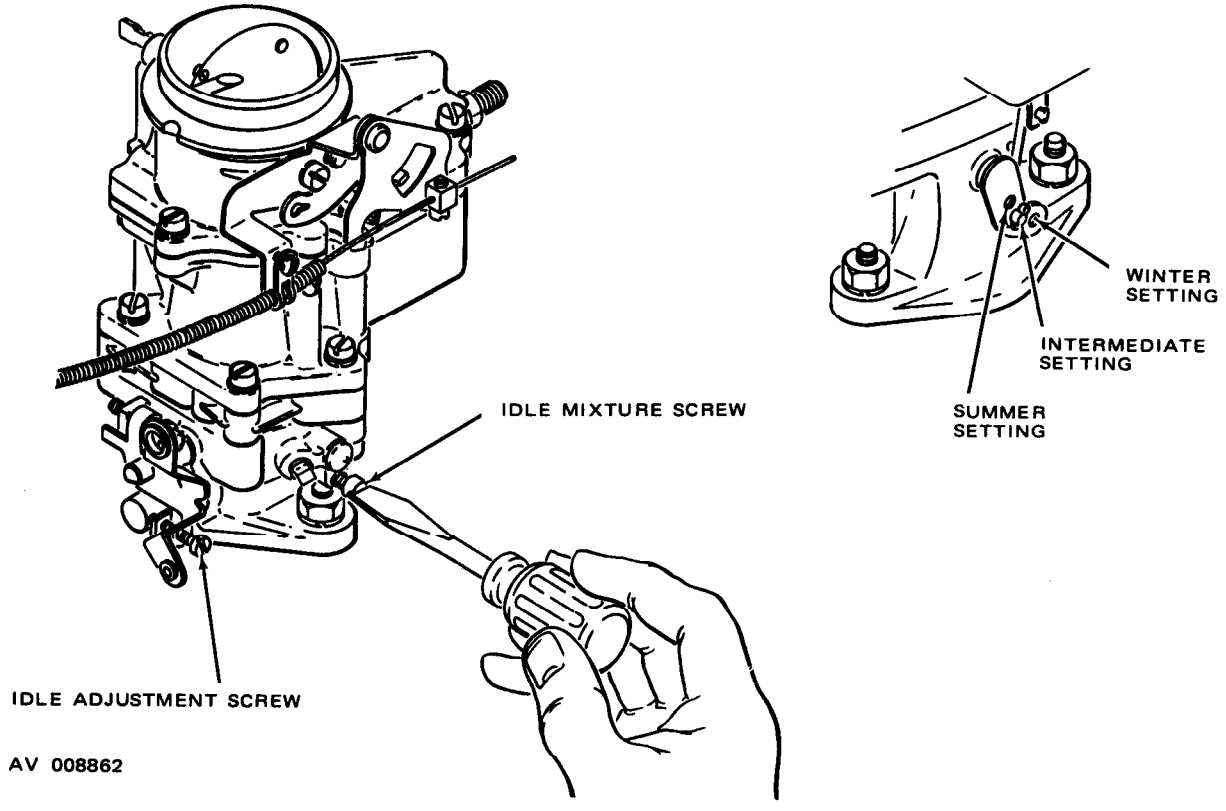

Figure 3-4. Carburetor adjustment

3-29. COOLING SYSTEM. Service the cooling system as follows:

a. Open radiator and engine drain cocks. Drain all coolant and close drain cocks.

b. Fill radiator with water and add cleaner (item 13, table 1-3). Start engine and operate at idle speed for 30 minutes.

c. Check for leaks, defective hoses, and defective radiator cap while engine is operating.

d. Stop engine and drain the radiator and engine. Replace defective components as required. Close drain cocks.

e. Fill radiator with water and rust inhibitor (item 14, table 1-3). If below freezing temperatures are anticipated, add antifreeze (item 2, table 1-3) as required.

3-30. PARKING BRAKE ADJUSTMENT. Adjust the tractor parking brake as follows:

a. Release the lever and turn the adjustment knob (top of lever) counterclockwise until all drag is removed when the brake is applied.

b. With the brake in the released position, turn the adjustment knob clockwise approximately three full turns and apply the brake.

c. Repeat step b until a definite drag is felt when the brake is applied.

SECTION IV PREVENTIVE MAINTENANCE

3-31. GENERAL.

3-32. This section contains the necessary instructions for preventive maintenance on the towing tractor including cleaning, lubrication, and extreme environmental maintenance.

3-33. CLEANING.

3-34. EXTERIOR CLEANING EQUIPMENT.

3-35. An approved steam cleaning machine, using compound (item 16, table 1-3) should be used on the chassis and running gear. To clean the engine, cab, frame and winch, use a suitable spray gun with a mixture of one part cleaning solvent (item 17, table 1-3) with four to nine parts cleaning solvent (item 18, table 1-3) or kerosene (item 19, table 1-3) and clean as follows:

a. Use steam cleaner to clean the chassis and running gear. Do not use excessive steam on rubber tires, seals, hoses, or protective boots.

CAUTION

Avoid directing solvent spray on electrical components.

b. Use the spray gun to clean the cab exterior, engine, transmissions and winch equipment. Allow the solvent to remain on surfaces approximately fifteen minutes.

c. Rinse all components thoroughly with hot water under slight pressure. Use cold water if hot water is unavailable.

3-36. CLEANING EQUIPMENT FOR COMPONENTS AND INDIVIDUAL PARTS.

3-37. Equipment and materials required for cleaning individual components and parts are as follows:

a. Decreasing tank of adequate size to accept large transmission housing and axles.

b. Steel paint scraper and hand or powered wire brushes.

c. Emery paper, crocus cloth and various grades of sand paper.

d. Clean cloths for wiping and wrapping cleaned parts.

e. Trichlorethylene, item 20, table 1–3.

f. Decreasing solvent, item 21, table 1–3.

g. Drycleaning solvent, item 18, table 1-3.

h. Mineral spirits paint thinner, item 22, table 1-3.

i. Cleaning compound, item 23, table 1-3.

j. Alkali-type paint remover, item 24, table 1-3, class 1 and 2.

k. Powdered technical talcum, item 25, table 1-3.

1. Preservative lubricating oil, item 26, table 1-3.

3-38. CLEANING INSTRUCTIONS.

3-39. PAINTED METAL PARTS AND SURFACES. Clean painted metal parts and surfaces as follows:

a. Clean painted surfaces with clear water or a solution of six ounces of painted surface detergent (item 27, table 1-3) to one gallon of water.

b. Clean ferrous metal parts with alkali-type paint remover (item 24, table 1-3) class 1.

3-40. MACHINED METAL PARTS. Machined metal parts should be cleaned as follows:

a. Clean grease or oil from unpainted surfaces with decreasing solvent (item 21, table 1-3) mineral spirits paint thinner (item 22, table 1-3) or drycleaning solvent (item 18, table 1-3).

b. Clean all non-ferrous metal parts with cleaning compound (item 23, table 1-3) or alkali-type paint remover (item 24, table 1-3), class 2.

c. After parts are clean, dry either with a clean, lintless cloth or low pressure air.

d. Coat all polished or machined surfaces with preservative lubricating oil (item 26, table 1-3).

3-41. ANTI-FRICTION TYPE BEARINGS. Anti-friction type bearings must be cleaned with care. Clean bearings as described below.

a. Clean anti-friction bearings (if not of the sealed type) by rotating bearings in mineral spirits paint thinner (item 22, table 1-3) or drycleaning solvent (item 18, table 1-3).

b. If bearings are covered with grease or heavy oil, immerse bearings in OE-10 lubricating oil (item 28, table 1-3) to remove the major portion of the old lubricant.

c. Allow the bearings to drain thoroughly after removal from the oil. Rotate the bearings in mineral spriits paint thinner (item 22, table 1-3) for final cleaning.

CAUTION

Do not spin bearings with air stream. Damage to unlubricated highly polished surfaces may result.

d. Dry bearings with clean dry compressed air taking care not to spin bearings.

e. Lubricate the bearings immediately with lubricant (item 29, table 1-3) and wrap in clean wax paper until required for reassembly.

3-42. ELECTRICAL PARTS. Clean electrical parts with trichlorethylene (item 20, table 1-3). Do not soak electrical components. Dry with low pressure air.

3-43. RUBBER PARTS. Clean rubber parts (other than electrical parts) with soap and water. Wipe dry and apply a coating of talcum (item 25, table 1-3) to preserve the rubber.

3-44. LEATHER PARTS. Leather or imitation leather parts are to be cleaned as follows:

a. Scrape off accumulations of grease and dirt with a piece of wood.

b. Clean with leather dressing compound (item 30, table 1-3) or wash with saddle soap (item 31, table 1–3) and water.

c. Rinse all parts lightly with clean water.

d. While the leather is still damp, apply a coating of neet's foot oil (item 32, table 1-3).

e. Allow water-soaked items to dry in direct sunlight or by artificial light.

3-45. CANVAS. Canvas belts and protective boots should be cleaned as follows:

a. Remove loose dirt with a clean dry brush or with saddle soap (item 31, table 1-3) and water.

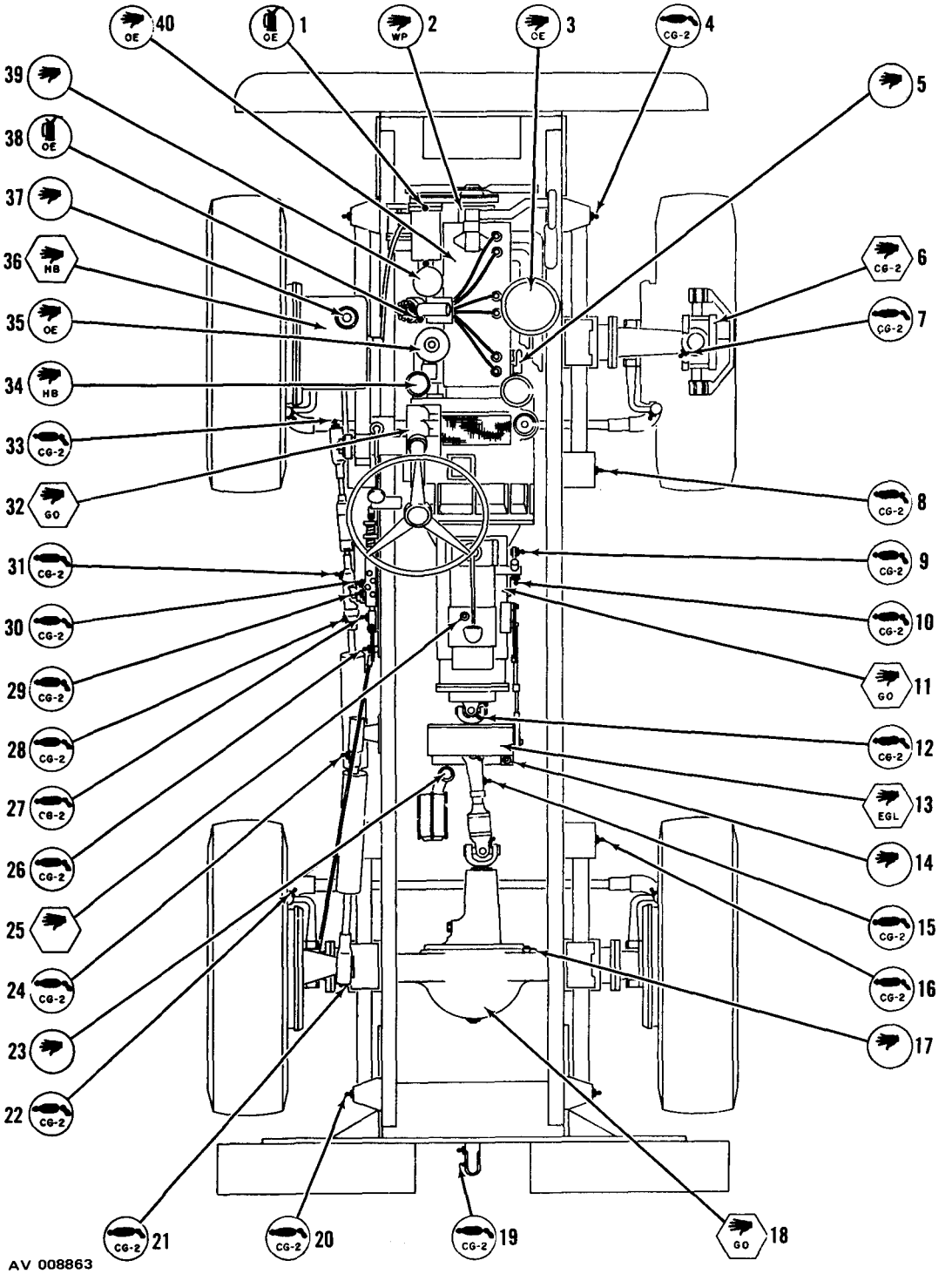

Figure 3-5. Tractor lubrication chart (Sheet 1 of 3)

LEGEND FOR TRACTOR LUBRICATION CHART

1. ENGINE GENERATOR (2 OIL CAPS) (SEE NOTE 5)
2. ENGINE WATER PUMP
3. ENGINE AIR CLEANER (SEE NOTE 3)
4. SPRING SHACKLES (4 FITTINGS)
5. ENGINE CRANKCASE BREATHER (SEE NOTE 3)
6. RADIAL BEARING (8 UNITS)
7. STUB (8 FITTINGS)
8. SPRING ANCHOR (2 FITTINGS)
9. HAND BRAKE PIVOT, FRONT
10. HAND BRAKE PIVOT, REAR
11. TRANSMISSION (SEE NOTE 9)
12. UNIVERSAL JOINT, TRANSMISSION TO TRANSFER CASE (2 FITTINGS)
13. TRANSFER CASE (SEE NOTE 8)
14. TRANSFER CASE BREATHER (SEE NOTE 3)
15. UNIVERSAL JOINTS AND DRIVE SHAFTS (TRANSFER CASE TO DIFFERENTIALS) (6 FITTINGS)
16. SPRING ANCHOR (2 FITTINGS)
17. AXLE HOUSING BREATHERS (2) (SEE NOTE 3)
18. DIFFERENTIALS (2) (SEE NOTE 9)
19. PINTLE HOOKS (4 FITTINGS)
20. SPRING SHACKLES (4 FITTINGS)
21. CYLINDER ROD END
22. STEERING ARMS (4 FITTINGS)
23. VACUUM BRAKE BOOSTER TANK BREATHER (SEE NOTE 3)
24. CYLINDER ROD END
25. TRANSMISSION BREATHER (SEE NOTE 3)
26. REAR STEER CAM PIVOT
27. REAR STEER CAM LINKAGE
28. CYLINDER ROD ENDS (2 FITTINGS)
29. BELLCRANK
30. THE ROD END
31. CYLINDER ROD END
32. STEERING GEAR (SEE NOTE 9)
33. TIE ROD END
34. TORQUE CONVERTER OIL FILTER (SEE NOTE 4)
35. ENGINE OIL FILTER (SEE NOTE 4)
36. HYDRAULIC RESERVOIR (SEE NOTE 7)
37. HYDRAULIC RESERVOIR BREATHER CAP (SEE NOTE 3)
38. DISTRIBUTOR (SEE NOTE 5)
39. ENGINE OIL FILLER CAP (SEE NOTE 3)
40. ENGINE CRANKCASE (SEE NOTE 6)

LUBRICATION NOTES

GENERAL

1. CLEAN FITTINGS, BEFORE LUBRICATING, WITH DRYCLEANING SOLVENT, FEDERAL SPECIFICATION P-S-661. DRY BEFORE LUBRICATING.
2. IF CLIMATE OR OPERATING CONDITIONS REQUIRE EQUIPMENT TO BE LUBRICATED OFTEN TO PREVENT WEAR AND DETERIORATION, THE MAINTENANCE OFFICER WILL TAKE REMEDIAL ACTION AS REQUIRED.

TRACTOR

3. REMOVE, CLEAN AND OIL EACH INTERMEDIATE INSPECTION.
4. CHANGE FILTER ELEMENTS AND CLEAN FILTERS EACH INTERMEDIATE INSPECTION.
5. TWO DROPS OF OIL EACH QUARTERLY INSPECTION.
6. CHANGE OIL EACH INTERMEDIATE INSPECTION.
7. CHECK OIL DAILY AND CHANGE ANNUALLY.
8. CHANGE OIL ANNUALLY.
9. SEASONAL CHANGE AS REQUIRED.

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Figure 3-5. Tractor lubrication chart (Sheet 2 of 3)

SYMBOLS AND TYPES OF LUBRICANTS	TEMPERATURE RANGES AND LUBRICANT SPECIFICATIONS		
	32°F (0°C) AND ABOVE	32°F (0°C) TO 0°F (-18°C)	0°F (-18°C) TO -65°F (-54°C)
CG-2 Grease, Lubricating Automotive and Industrial	CG-2 Federal Specification VV-G-632	CG-2 Federal Specification VV-G-632	CG-2 Federal Specification VV-G-632
CW Lubricating oil, Chain, Wire Rope, Exposed Gear	CW-11-C Federal Specification VV-L-751A	CW-11-B Federal Specification VV-L-751A	CW-11-A Federal Specification VV-L-751A
EGL Lubricant, Enclosed Gear (Straight Mineral Oil)	EGL Federal Specification VV-L-765	EGL Federal Specification VV-L-765	EGL Federal Specification VV-L-765
GO Oil, Gear	GO-90 Military Specification MIL-L-2105	GO-90 Military Specification MIL-L-2105	GOS Military Specification MIL-L-10324
HB Oil Hydraulic (Non-Petroleum Base)	HB Federal Specification VV-F-451A	HB Federal Specification VV-F-451A	HBA Military Specification MIL-H-13910
OE Lubricating Oil, Engine	OE-30 Military Specification MIL-L-2104A	OE-10 Military Specification MIL-L-2104A	OES Military Specification MIL-L-10295
WP Grease, Lubricating Automotive and Industrial (Water Pump)	WP Federal Specification VV-L-632	WP Federal Specification VV-L-632	WP Federal Specification VV-L-632

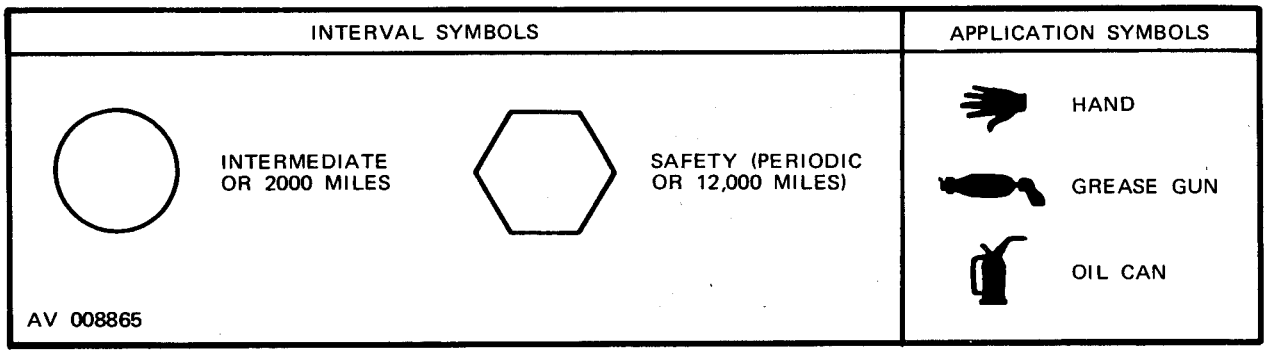


Figure 3-5. Tractor lubrication chart (Sheet 3 of 3)

b. Remove grease or oil with saddle soap (item 31, table 1-3) and water.

c. Rinse thoroughly with clear water and dry for 24 hours.

d. Spray or brush with approved water-proofing compound (item 33, table 1-3).

3-46. LUBRICATION.

3-47. Lubrication instructions for tractor components are covered in lubrication chart (figure 3-5). This figure shows location of lubrication points, types of lubricant, lubricant code, intervals of application and application symbols. Lubrication intervals are based on normal operation. If abnormal conditions exist, more frequent lubrication is required to maintain efficient tractor operation.

3-48. EXTREME ENVIRONMENTAL MAINTENANCE.

3-49. The tractor is designed for operation in temperatures ranging from minus 20°F to plus 125°F without winterizing.

SECTION V OPERATIONAL CHECKOUT

3-50. GENERAL.

3-51. This section includes the minimum operational checkout requirements of the towing tractor, methods of isolating causes of trouble, and nature of adjustments or alignment.

3-52. PERFORMANCE CHECK.

3-53. To ensure that the towing tractor is functioning properly it shall be inspected systematically prior to being put in service. (Refer to Section III).

3-54. Prior to initial operation of the tractor, a check shall be made of the electrical system, hydraulic system, rear axle, hydraulic brake system, transfer case, mechanical transmission, hydraulic transmission, tires, “steering, cooling system, and engine oil. Inspect all parts and assemblies for correct and secure mountings. (Refer to Section III.)

3-55. Defects or unsatisfactory operating characteristics shall be reported and corrected prior to operation. (Refer to TM 38-750 for applicable forms.)

3-56. TROUBLESHOOTING. (Refer to Troubleshooting, paragraph 3-58.)

3-57. ADJUSTMENT AND ALINEMENT. (Refer to Troubleshooting, paragraph 3-58.)

3-58. TROUBLESHOOTING.

3-59. Possible troubles which may effect towing tractor operation are listed in table 3-2. Associated with each trouble are the probable cause and remedy.

Table 3-2. Troubleshooting

TROUBLE	PROBABLE CAUSE	REMEDY
CAB, HOOD, DOORS, AND WINDOWS:		
Operator seat will not adjust	Obstructions under seat	Clear obstructions.
	Dirty rails	Clean rails.
	Mounting brackets too tight	Loosen or adjust brackets.
	Damaged rail or brackets	Notify maintenance personnel.
Vibrating cab sheet metal	Mounting hardware loose	Tighten mounting hardware.
	Sheet metal bent or damaged	Notify maintenance personnel.
Engine hood will not close completely	Latches not secured	Secure latches.
	Bent hood or damaged latches	Notify maintenance personnel
Cab door difficult to close	Door latch damaged or defective	Notify maintenance personnel.
	Door or frame bent or damaged	Notify maintenance personnel.
Cab windows difficult to operate	Door frame bent or damaged	Notify maintenance personnel.
	Window regulator damaged	Notify maintenance personnel.
STEERING SYSTEM:		
Low hydraulic pressure	Low hydraulic fluid	Fill to proper level.
	Loose or worn pump drive belt	Adjust or replace pump drive belt.
	Loose hose connections	Conduct visual check for leaks.
	Defective components	Notify maintenance personnel.
Steering wheel is difficult to turn	Low lubricant in gear housing	Fill to proper level.
	Low hydraulic pressure	Fill to proper level.
Rear wheels fail to steer properly	Low hydraulic pressure	Fill to proper level.
	Defective components	Notify maintenance personnel.

Table 3-2. Troubleshooting (Cont)

TROUBLE	PROBABLE CAUSE	REMEDY
ELECTRICAL SYSTEM:		
Ammeter reading erratic or incorrect	Loose connections	Notify maintenance personnel.
	Defective brushes	Notify maintenance personnel.
	Defective generator or ammeter	Notify maintenance personnel.
Charge rate too high	Defective ammeter	Notify maintenance personnel.
	Defective voltage regulator	Notify maintenance personnel.
Floodlight inoperative	Lamp burned out	Replace lamp.
	Loose connections	Tighten connections.
	Low voltage or no voltage	See electrical system above.
	Defective switch	Notify maintenance personnel.
Stop and taillight inoperative	Lamp burned out	Replace lamp.
	Loose connections	Tighten connections.
	Low voltage or no voltage	See electrical system above.
	Defective control switch	Notify maintenance personnel.
	Defective master cylinder switch	Notify maintenance personnel.
Spotlight inoperative	Cable connector disconnected	Connect connector.
	Lamp burned out	Replace lamp.
	Loose cable connections	Tighten cable connections.
	Low voltage or no voltage	See electrical system above.
	Defective switch	Notify maintenance personnel.
	Loose generator connections	Tighten connections.
	Low engine idle	Adjust carburetor.
	Defective generator	Notify maintenance personnel.

Table 3–2. Troubleshooting (Cont)

TROUBLE	PROBABLE CAUSE	REMEDY
Headlights inoperative	Lamp burned out	Replace lamp.
	Loose connections	Tighten connections.
	Low voltage or no voltage	See electrical system above.
	Defective light switch	Notify maintenance personnel.
One headlight beam inoperative	Defective dimmer switch	Notify maintenance personnel.
	Defective lamp	Replace lamp.
Battery low	Low electrolyte level	Fill battery to proper level.
	Dirty and corroded battery terminals and cables	Service battery.
	Defective battery	Replace battery.
	Low charging rate	See below.
Low charging rate	Loose or worn generator belt	Adjust or replace generator belt.
INSTRUMENT PANEL GAGES AND SWITCHES :		
Gages inoperative	Ignition switch in OFF position	Turn switch ON.
	Loose electrical connections	Notify maintenance personnel.
	Low voltage or no voltage	See electrical system above.
	Defective gages	Notify maintenance personnel.
Switches inoperative	Ignition switch in OFF position	Turn switch ON.
	Loose electrical connections	Notify maintenance personnel.
	Low voltage or no voltage	See electrical system above.
	Defective switches	Notify maintenance personnel.
Horn does not operate	Loose electrical connections	Tighten connections.
	Low voltage or no voltage	See electrical system above.
	Defective horn or horn relay	Notify maintenance personnel.

Table 3–2. Troubleshooting (Cont)

TROUBLE	PROBABLE CAUSE	REMEDY
Speedometer erratic or inoperative	Speedometer drive loose	Tighten drive.
	Defective speedometer drive or speedometer	Notify maintenance personnel.
PARKING BRAKE:		
Parking brake fails to hold	Brake out of adjustment	Adjust brake.
	Defective brake or worn lining	Notify maintenance personnel.
Brake drags or overheats	Brake partially applied	Release brake lever completely.
	Brake improperly adjusted	Notify maintenance personnel.
ENGINE :		
Engine fails to crank	Mechanical transmission not in neutral (Code C2 tractors only)	Place transmission in neutral.
	Loose battery cable connections	Tighten cable connections.
	Discharged or defective battery	Change or replace battery.
	Defective starter circuit fuse	Replace fuse.
	Defective starter motor	Notify maintenance personnel.
Engine cranks but fails to start	Low voltage	Notify maintenance personnel.
	Condensation in distributor	Remove cap and dry distributor.
	Worn or broken rotor	Replace rotor.
	Loose ignition wiring	Tighten all connections.
	Carburetor flooded	Do not attempt restart for two minutes, then continue to crank holding accelerator pedal in full open position.
	Fuel line clogged	Notify maintenance personnel.
Engine operates, transmission engaged and tractor fails to move	Low hydraulic transmission oil level	Add oil to proper level.

Table 3–2. Troubleshooting (Cont)

TROUBLE	PROBABLE CAUSE	REMEDY
Engine oil pressure low (below 30 psi)	Low crankcase oil level	Add oil to proper level.
	External oil leak	Notify maintenance personnel.
	Defective oil pump	Notify maintenance personnel.
Engine overheats	Radiator obstructed	Remove obstructions.
	Low coolant level	Add coolant (include proper amount of antifreeze if required.)
	Loose, worn or broken fan belt	Adjust or replace fan belt.
	Cooling system leak	Notify maintenance personnel.
	Defective pressure cap	Replace pressure cap.
	Defective thermostat	Replace thermostat.
	Timing out of adjustment	Notify maintenance personnel.
Engine runs cold	Defective thermostat	Replace thermostat.
Engine runs irregularly or misfires	Loose ignition wiring	Tighten all loose connections.
	Wet spark plugs	Remove wires and dry the spark plugs .
	Condensation in distributor	Remove cap and dry distributor.
	Worn or broken rotor	Replace rotor.
	Water in fuel	Notify maintenance personnel.
POWER TRAIN:		
Clutch fails to disengage	Low hydraulic transmission fluid	Fill to proper level.
	Loose or broken switch wiring	Notify maintenance personnel.
	Defective switch or defective solenoid	Notify maintenance personnel.
Transmission shifting difficult	Defective hydraulic transmission clutch	Notify maintenance personnel.
	Fast engine idle speed	Adjust carburetor.

Table 3–2. Troubleshooting (Cont)

TROUBLE	PROBABLE CAUSE	REMEDY
Noisy axles or propeller shafts	Low differential lubricant	
	Defective bearings	
WHEELS AND TIRES:		
Tires wearing uneven	Wheels loose	Tighten wheel nuts.
	Low tire pressure	Inflate all tires to 20 psi.
	Improper steering system adjustments	Notify maintenance personnel.
Wheels wander	Wheels loose	Tighten wheel nuts.
	Bent tire rim	Replace tire rim
BRAKE SYSTEM:		
Spongy brake pedal	Air in the system	Notify maintenance personnel.
	Brake out of adjustment	Notify maintenance personnel.
No pedal reserve	Low brake fluid	Add fluid.
	Slow fluid leak	Conduct visual check for leaks. Tighten all loose connections.
	Defective master cylinder	Notify maintenance personnel.
Side/pull	Low tire pressure	Inflate all tires to 20 psi.
	Defective brake	Notify maintenance personnel.
Loss of pressure	Low fluid due to leaks	Conduct visual check for leaks. Tighten loose connections and report other leaks to maintenance personnel.
	Dirty vacuum booster air filter	Clean air filter.
	Leaking vacuum line	Tighten vacuum line connections. Report continued leaking to maintenance personnel.
Binding pedal	Loose master cylinder mounting hardware	Tighten mounting hardware.
	Distorted piston push rod	Notify maintenance personnel.

SECTION VI REPAIR AND REPLACEMENT OF AUTHORIZED PARTS

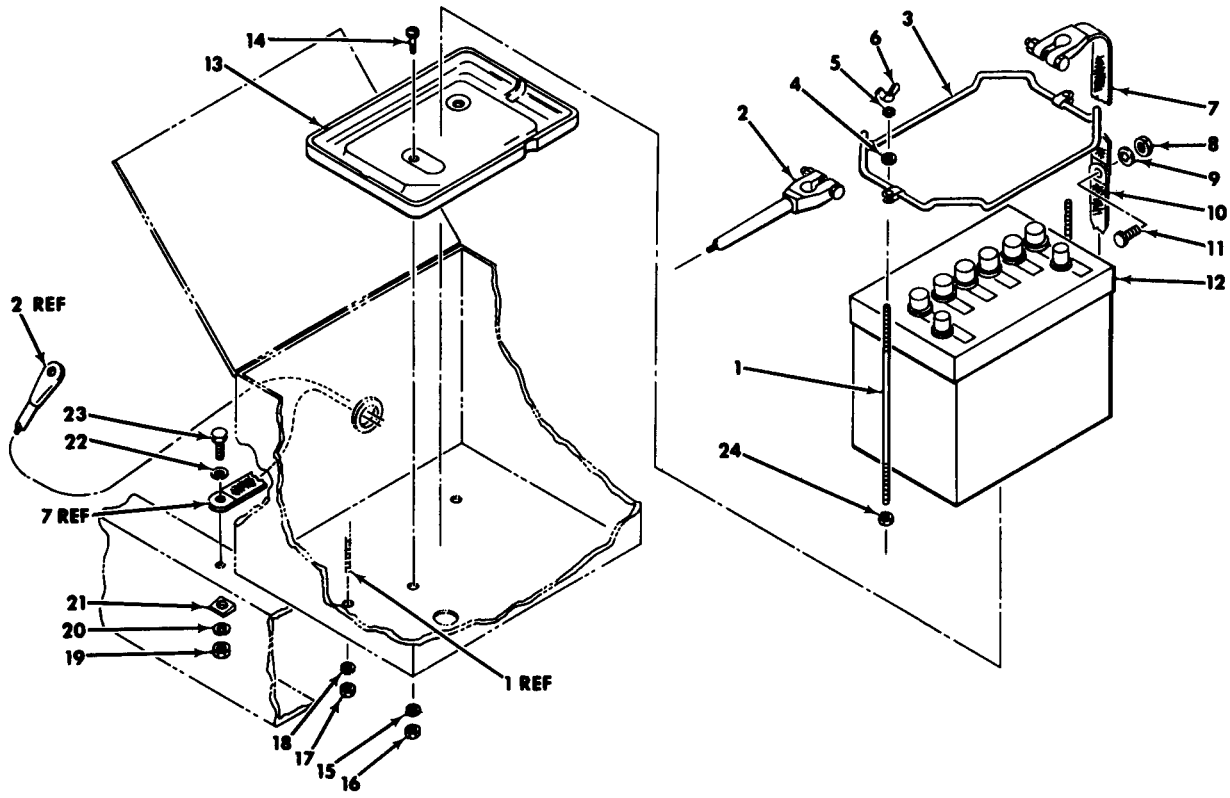
3-60. GENERAL.

3–61. This section presents instructions, as applicable, for removal, repair, lubrication, testing, replacement, and adjustment of components, assemblies, and accessories which fall within the scope of operational maintenance.

3–62. BATTERY.

3–63. REMOVAL. Se figure 3–6 and remove the battery as follows:

a. Remove cable (2) and cable (7). Remove two wing nuts (6), washers (5) and washers (4) and remove holder (3) and battery (12).



1. ROD
2. CABLE
3. HOLDER
4. WASHER
5. WASHER
6. WING NUT
7. CABLE
6. NUT
9. WASHER
10. CABLE
11. SCREW
12. BATTERY
13. TRAY
14. SCREW
15. WASHER
16. NUT
17. NUT
10. WASHER
19. NUT
20. WASHER
21. WEDGE WASHER
22. WASHER
23. SCREW
24. NUT

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Figure 3–6. Battery

b. Remove screw (11), washer (9) and nut (8) and remove cable (7). Remove screw (23), three washers (20, 21 and 22) and nut (19) and remove cable (10).

c. Remove four nuts (17 and 24) and two washers (18) and remove two rods (l). Remove one screw (14), washer (15) and nut (16) and remove tray (13).

3–64. REPLACEMENT. See figure 3–6 and install the tractor battery as follows:

a. Install tray (13) and secure with one screw (14), washer (15) and nut (16). Secure two rods (1) with four nuts (17 and 24) and two washers (18).

b. Attach cable (10) to frame with screw (23), three washers (20, 21 and 22) and nut (19). Connect cable (7) to cable (10) with screw (11), washer (9) and nut (8).

c. Place battery (12) in tray (13) and position battery holder (3) on battery. Secure holder with two wing nuts (6), washers (5) and washers (4). Install ground cable (2) and cable (7) on battery (12) terminal posts.

3–65. HEADLIGHTS.

3–66. REMOVAL. The tractor is equipped with two headlights. Removal of components is the same for both units. See figure 3–7 and remove the headlights and components as follows:

a. Remove screw (5) and remove tim (6). Remove three screws (8) and remove retainer (7).

b. Remove lamp (9) from housing assembly (11). Unplug wiring assembly.

c. Remove nut (1) and washers (2, 3 and 4) and remove housing assembly (11) from bracket.

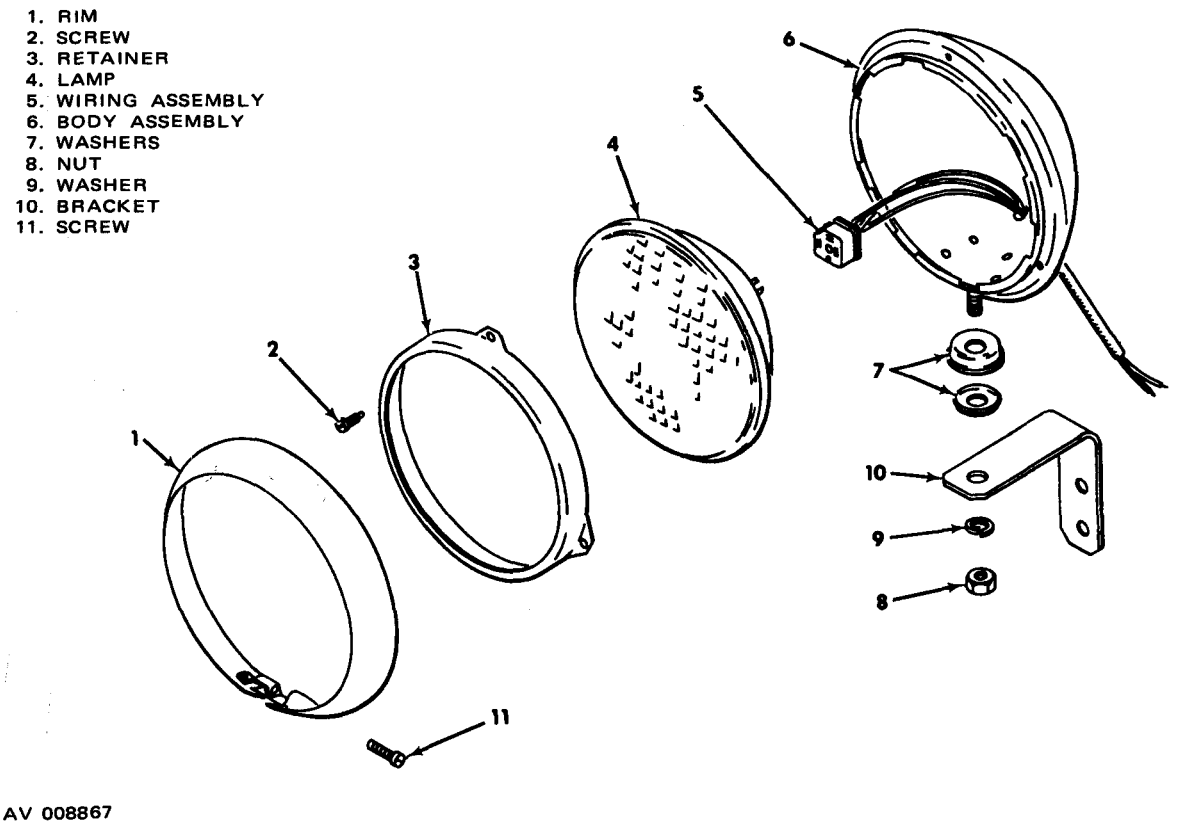


Figure 3–7. Headlight

3-68. REPLACEMENT. Replace headlight and components as follows:

a. Install washers (3 and 4) on housing assembly (11) and secure housing assembly to bracket with washer (2) and nut (l).

b. Install wiring assembly (10) in housing assembly and plug in leads.

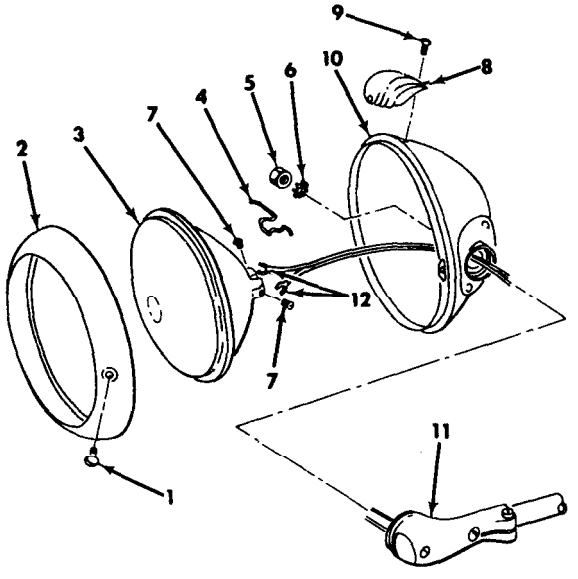
CAUTION

When replacing lamp unit always use proper voltage lamp.

c. Plug lamp (9) in wiring assembly (10). Install retainer (7) and secure with three screws (8). Install rim (6) and secure with screw (5).

3-69. SPOTLIGHT.

3-70. REMOVAL OF LAMP. Remove the spotlight lamp (figure 3-8) as fellows:



1. SCREW
2. RING
3. LAMP
4. CLIPS
5. NUT
6. WASHER
7. SCREWS
8. ORNAMENT
9. SCREW
10. SHELL
11. HOUSING
12. TERMINALS

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Figure 3–8. Spotlight

a. Remove screw (9) and ornament (8). Remove screw (1) and retainer ring (2).

b. Loosen two screws (7) and disconnect terminals (12). Remove four clips (4) and remove lamp unit (3) from retainer ring (2).

c. Remove nut (5) and washer (6) and remove shell (10) from housing (11).

3-71. REPAIR. Replace broken, cracked or burned out lamp unit. Inspect all parts for damage and corrosion. Clean corroded parts and replace non-repairable parts. Inspect threads on all hardware before installation.

3-72. REPLACEMENT. Replace spotlight components as follows:

a. Place terminals (12) through shell (10). Secure shell (10) to housing (11) with washer (6) and nut (5).

CAUTION

When replacing lamp unit always use proper voltage lamp.

b. Install lamp (3) in retainer ring (2) with four clips (4). Secure terminal lugs (12) to lamp with screws (7).

c. Install lamp and ring assembly in housing (10) and secure with screw (1). Install ornament (8) and secure with screw (9).

3-73. FLOODLIGHT.

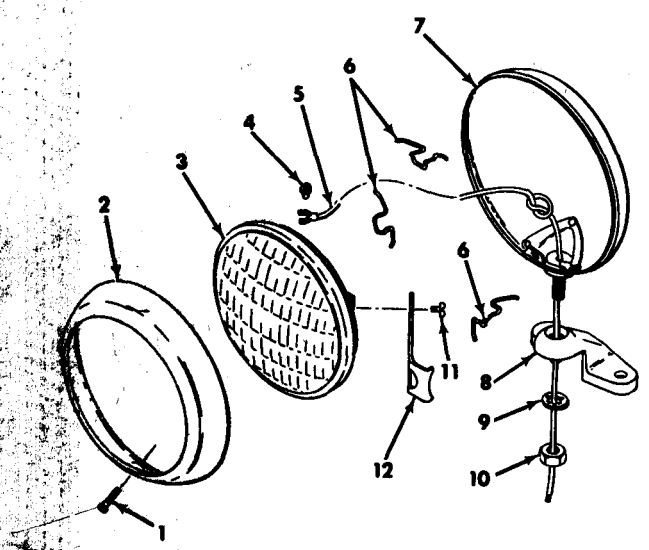
3-74. REMOVAL. Remove the floodlight assembly (figure 3-9) as follows:

a. Remove screw (1) and remove ring (2). Remove three clips (6) and remove lamp (3) from housing (7).

b. Loosen screw (4) and remove terminal (5). Remove screw (11) and grounding bar (12).

c. Remove nut (10) and washer (9) and remove housing (7) from bracket (8).

3-75. REPAIR. Replace broken, cracked or burned out lamp unit. Inspect terminal and ground bar for corrosion, clean if required. Inspect all parts for damage and replace non-repairable parts. Inspect all hardware before installation.



1. SCREW
2. RING
3. LAMP
4. SCREW
5. TERMINAL
6. CLIPS
7. HOUSING
8. BRACKET
9. WASHER
10. NUT
11. SCREW
12. GROUNDING BAR

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Figure 3–9. Floodlight

3–76. REPLACEMENT. Replace the floodlight components as follows:

a. Place wire lead through housing (7) and secure housing to bracket (8) with washer (9) and nut (10).

CAUTION

When replacing lamp unit always select proper voltage lamp.

b. Attach grounding bar (12) to lamp (3) and secure with screw (11). Attach terminal (5) to lamp (3) and tighten screw (4).

c. Install lamp (3) in housing (7) and secure with three clips (6). Install ring (2) and secure with screw (1).

3–77. TAIL AND STOPLIGHT.

3–78. REMOVAL. The tractor is equipped with one tail and stoplight assembly (figure 3–10). Remove the components as follows:

a. Remove two screws (1) and red lens (2) from body assembly (5). Remove lamp (3).

b. Remove clip (4) and remove white lens (6) and gasket (7) from body assembly (5).

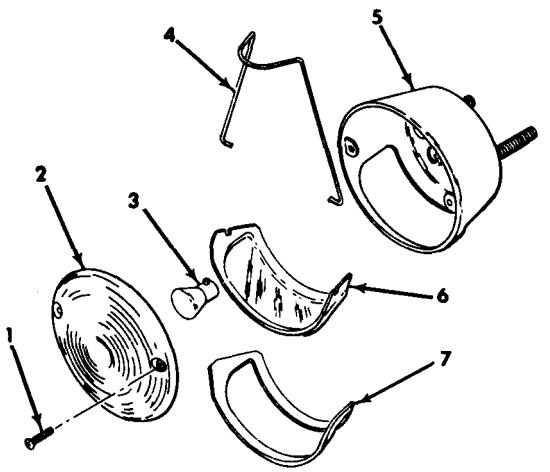
3-79. REPAIR. Replace all cracked or broken lenses. Replace broken or burned out lamp. Inspect gasket for deterioration and replace if necessary. Inspect all screw threads before installation.

3-80. REPLACEMENT. Replace taillight and stoplight components as follows:

a. Install gasket (7) and white lens (6) in body assembly (5) and secure with clip (4).

When replacing lamp always use a 12-volt lamp.

b. Install lamp (3). Install red lens (2) and secure with two screws (l).



1. SCREW
2. RED LENS
3. LAMP
4. CLIP
5. BODY ASSEMBLY
6. WHITE LENS
7. GASKET

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Figure 3-10. Taillight and stoplight

3-8 1. WIPER BLADES.

3-82. REMOVAL. Press retainer pin attaching wiper blade to wiper arm and remove blade and frame. Slide blade out of frame.

3-83. REPLACEMENT. Replace defective blade with a new blade. Slide new blade into frame and reattach to wiper arm utilizing retainer pin removed during removal.

3-84. CARBURETOR AIR CLEANER.

3-85. REMOVAL. The carburetor air cleaner (figure 3-11) shall be removed and cleaned every three months or 2000 miles depending upon operating conditions (excessive dust).

3-86. REPAIR. Empty reservoir oil and clean the filter element and reservoir in drycleaning solvent (item 18, table 1-3). Inspect all mounting hardware for damaged threads before installation.

3-87. REPLACEMENT. Replace the cleaned filter as follows:

a. Fill oil reservoir with clean oil (item 3, table 1-3). (See Lubrication Chart, figure 3-5.)

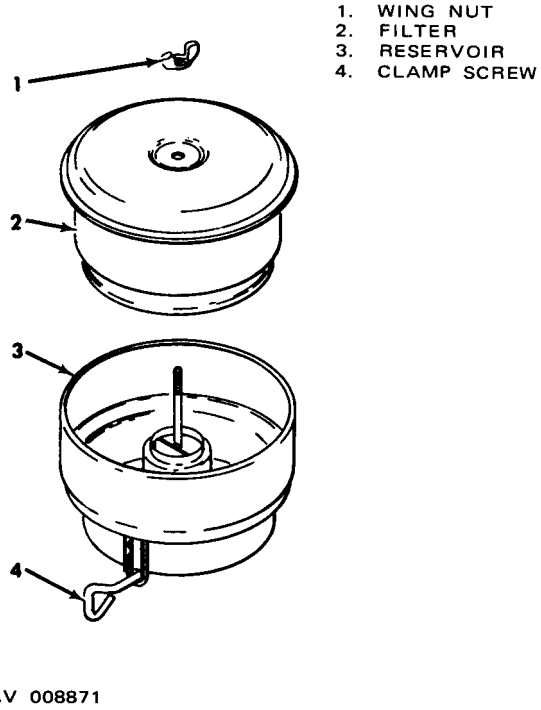


Figure 3-11. Carburetor air cleaner

b. Install clean filter (2) and secure with wing nut (1).

c. Install air cleaner assembly on carburetor and secure by tightening clamp screw (4).

3-88. ENGINE OIL FILTER.

3-89. REMOVAL. The engine oil filter (figure 3-12) shall be replaced when crankcase oil is changed. Remove the falter element as follows:

a. Place a receptacle under the filter, remove drain plug (7) and drain oil from filter housing (6).

b. Remove cover screw (l), washer (2), cover (3) and cover gasket (4). Remove filter element (5).

3-90. REPAIR. Clean filter housing with drycleaning solvent (item 18, table 1-3). Inspect drain plug and cover screw threads before reinstallation.

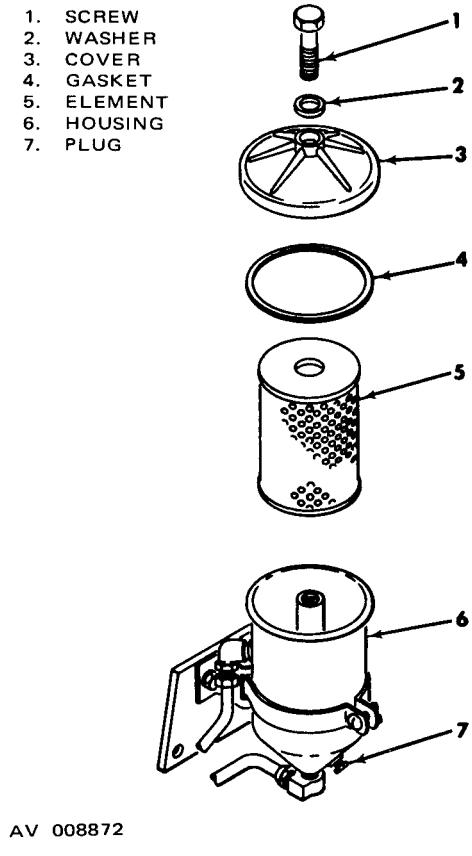


Figure 3-12. Engine oil filter

3–91. REPLACEMENT. Replace old filter with a new fIilter element as follows:

a. Install drain plug (7) and tighten securely. Install new falter element (5) in housing (6).

b. Place new gasket (4) in cover (3) groove and place cover (3) on falter housing (6).

c. Install washer (2) on cover screw (1) and secure cover (3) with cover screw (l).

3-92. HYDRAULIC TRANSMISSION OIL FILTER.

3-93. REMOVAL. The hydraulic transmission falter element (figure 3-13) shall be changed whenever the fluid is changed. Remove the filter element as follows:

a. Place a receptacle under the filter, remove the drain plug (8), and drain oil from filter housing.

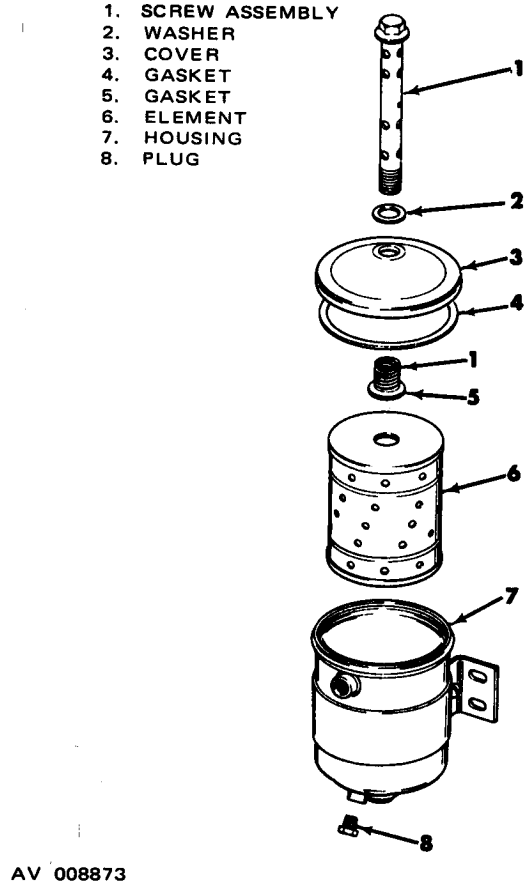


Figure 3-13. Hydraulic transmission oil filter

b. Remove cover screw assembly (1), washer (2), cover (3), and gasket (4). Remove cartridge gasket (5).

c. Lift out filter element (6).

3-94. REPAIR. Clean the housing and cover with drycleaning solvent (item 18, table 1-3). Inspect the cover and screw spring for breaks and distortion. Inspect the drain plug and screw assembly for damaged threads.

3-95. REPLACEMENT. Replace new filter element as follows:

a. Install drain plug (8) in housing (7).

b. Install new filter element (6). Install new gasket (5).

c. Install new gasket (4) with cover (3). Secure with screw assembly (1) and washer (2).

3-96. CRANKCASE BREATHER.

3-97. REMOVAL. The crankcase breather tube (figure 3-14) should be removed and cleaned every three months. Remove the tube as follows:

a. Remove bolt (1) and washer (2).

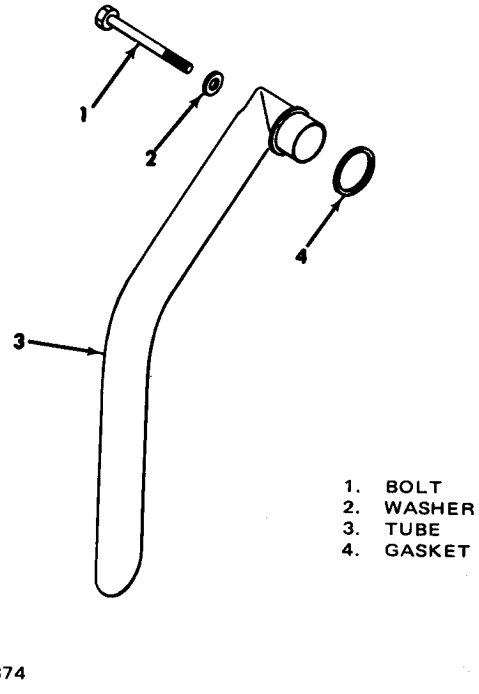


Figure 3–14. Crankcase breather

b. Remove tube (3) from engine block and remove gasket (4) from tube.

3-98. REPAIR. Wash tube in drycleaning solvent (item 18, table 1-3). Inspect bolt for damaged threads.

3-99. REPLACEMENT. Replace components as follows:

a. Install new gasket (4) on tube (3).

Secure tube (3) to engine with washer (2) and bolt

3-100. TIRE AND WHEEL ASSEMBLY.

WARNING

Tractor weight is 10,700 pounds. Use proper capacity jack.

3-101. REMOVAL. Set the parking brake and remove the tire and wheel assembly as follows:

a. Place jack under axle and raise the tractor until the tire just clears ground.

b. Remove six nuts and rim clamps and remove tire and wheel assembly.

3-102. REPLACEMENT. Install tire and wheel assembly as follows:

a. With tractor jacked up, mount tire and wheel assembly.

CAUTION

Care shall be taken to prevent thread damage and keep rim clamps in position while tightening nuts.

b. Install six nuts and rim clamps.

CAUTION

Tighten nuts alternately.

c. Lower tractor and remove jack.

CHAPTER 4
DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

SECTION I PREPARATION FOR MAINTENANCE, STORAGE, AND RESHIPMENT

4-1. PREPARATION FOR MAINTENANCE.

4-2. SPECIAL EQUIPMENT. (Not applicable)

4-3. INSPECTION.

4-4. Before maintenance is begun on newly received towing tractors, refer to Chapter 3, Section III and perform the following inspections.

a. Check for broken glass in windows, lights, and instrument panel.

b. Check for loose, broken, or missing belts.

c. Check radiator for damage. Inspect water lines and pump for breaks, cracks, and loose connections.

d. Check for leakage from brake system, hydraulic steering system, crankcase, and external oil lines.

e. Check for restricted or damaged lines in the brake and steering system.

f. Check electrical" wiring for brakes, stripped insulation, and loose or damaged connections.

g. Check for components which may have been lost or damaged in shipment.

4-5. CLEANING.

4-6. Clean all newly received towing tractors. Refer to Chapter 3, Section IV.

4-7. PREPARATION FOR STORAGE OR RESHIPMENT.

4–8. Prior to storage or reshipment, the towing tractor shall be prepared in accordance with Military Standard MIL-P-116E and marked in accordance with Military Standard MIL-STD-1 29. The following procedures shall be performed.

a. Remove the drain plug from the fuel tanks, and drain fuel into a suitable container.

b. Drain carburetor and fuel lines into suitable container.

c. Disconnect battery cables from battery and wrap the terminals with tape.

d. Drain hydraulic system, and refill with preservative hydraulic oil (item 10, table 1-3).

e. Drain hydraulic pump and refill with preservative hydraulic oil (item 10, table 1-3).

f. Drain engine crankcase and refill with corrosion preventive compound (item 11, table 1-3).

g. Cap all inlet and outlet ports.

SECTION II CHECKOUT AND ANALYSIS

4-9. GENERAL.

4-10. This section contains instructions needed to determine whether the towing tractor, tractor sub-assemblies and systems, meet the minimum performance standards required for operation. Checkout, analysis, inspection, adjustment, and testing procedures are contained in this section and shall be followed when applicable.

4-11. Tables at the end of this section contain specific information on limits, clearances, and torque specifications.

4-12. Parts to be inspected and tested are referenced to item and figure numbers used in disassembly procedures in Chapter 4, Section III.

4-13. CHECKOUT AND ANALYSIS PROCEDURES.

4-14. TOWING TRACTOR.

4-15. INSPECTION. Inspect the towing tractor as follows:

a. Ensure all components are properly lubricated in accordance with lubrication instructions. (Refer to Chapter 3, Section IV.)

b. Check all components for secure mounting.

c. Check all linkage for secure and proper installation.

4–1 6. CHECKOUT. Test the tractor as follows:

a. Start tractor engine and observe operation of all tractor indicating instruments.

If engine oil indicator does not indicate pressure within 30 seconds, stop engine and determine cause.

b. Allow engine to idle until normal operating temperature (160° to 180° F) is reached.

CAUTION

If engine coolant stays below, or rapidly rises above normal temperature range, stop engine and determine cause.

c. With engine operating, check for evidence of oil and coolant leaks.

d. Place drive tractor in rear wheel steer position check for evidence of oil leaks in steering system.

e. Operate the tractor and check operation transmissions and axles.

f. Stop the tractor and check operation of brakes. Station an observer to check operation of stoplight when brakes are actuated.

g. Test operation of all lights. Station an observer to check operation of headlights when dimmer switch is actuated.

h. Conduct all operational checks, (Refer to Chapter 3, Section V.)

4-17. ADJUSTMENT. Adjustments for the complete tractor are covered in the adjustment paragraph for each component.

4-18. UPPER CAB ASSEMBLY.

4-19. INSPECTION. See figure 4-3 and inspect the upper cab assembly as follows:

a. Inspect mirror (12) for cracks or fogging.

b. Inspect all glass for cracks or fogging.

c. Inspect all moulding and weatherstrips for wear or deterioration.

d. Inspect shell (35) for dents, chipped paint or rust.

e. Inspect for loose or missing attaching hardware.

4-20. CHECKOUT. None required.

4-21. ADJUSTMENT. None required.

4-22. LOWER CAB ASSEMBLY.

4-23. INSPECTION. See figure 4–4 and inspect the lower cab as follows:

a. Inspect weatherstrip (13) and moulding (14) for wear or deterioration.

b. Inspect spring (8) for breaks or distortion.

c. Inspect seats (18) for worn or torn covering.

d. Inspect adjustable slide (22) for free and smooth operation.

e. Inspect all identification and instruction plates for legibility.

f. Inspect grommets (49 and 50) for deterioration.

g. Inspect for loose or missing attaching hardware.

4-24. CHECKOUT. Operate ventilator lid and verify smooth operation and tight seal when closed. Move driver seat and check for smooth and free movement.

4-25. ADJUSTMENT. None required.

4-26. ENGINE COMPARTMENT HOOD.

4-27. INSPECTION. See figure 4-5 and inspect the engine compartment hood as follows:

a. Check panels for correctness of fit,

b. Check all components for loose or lost attaching parts.

c. Inspect all sheet metal for chipped paint or rust.

d. Inspect latches (4) for free movement and proper spring tension.

4-28. CHECKOUT. Open, close and latch hood louvered panels (13 and 14) to check for free movement and secure latching.

4-29. ADJUSTMENT. None required.

4-30. DOOR ASSEMBLY.

4-31. INSPECTION. See figure 4-6 and inspect the vehicle door as follows:

a. Inspect window (17) for cracks or fogging.

b. Inspect weatherstrips (23 and 24) for wear or deterioration.

c. Inspect regulator (19) for broken or missing gear teeth.

d. Inspect latch (12) for smooth operation.

e. Inspect for loose or missing attaching hardware.

4-32. CHECKOUT. Operate door window to check for smooth and free operation. Open and close door to test for secure latching.

4-33. ADJUSTMENT. Add or remove shims (11) as required to provide secure door fit when closed.

4-34. DECK, FENDERS AND RUNNING BOARDS.

4-35. INSPECTION. Inspect the rear deck, fenders and running board installation as follows:

a. Inspect for damaged threads in all tapped holes.

b. (Check all panels for correctness of fit.

c. (Check for loose or lost attaching parts.

d. Inspect all sheet metal for dents, chipped paint, and rust.

4-36. CHECKOUT. None required.

4-37. ADJUSTMENT. None required.

4-38. STEERING SYSTEM.

4-39. INSPECTION. See figure 4-8 and inspect the steering system piping as follows:

a. Inspect pump drive belt (13) for breaks or deterioration.

b. Inspect bushing (90) for excessive wear.

c. Inspect stud (56) and bearing (57) for excessive wear.

d. Inspect entire system for loose or missing attaching hardware.

e. Inspect all hose assemblies for breaks or deterioration. Inspect hose ends for stripped or damaged threads.

f. Inspect all couplings, adapters, elbows, etc. for breaks or damaged threads.

4-40. CHECKOUT. Start engine and test operate front and rear steering with tractor stationary. Detailed rear steer testing is outlined in adjustment procedures.

4-41. ADJUSTMENT. See figure 4-1 and adjust the steering system as follows:

a. After steering gear (3), steering column (4) and steering wheel (5) are installed in the tractor, turn the steering wheel (5) to the left as far as it will turn. Turn the steering wheel (5) to the right as far as it will turn, counting the number of turns of the wheel to the closest 1/8 turn. Turn the steering wheel (5) to the left 1/2 the foregoing number of turns and install the steering gear lever (pitman) arm (16) onto the steering gear shaft in a vertical position.

b. Adjust front steering valve and drag link assembly (11) to 22-1/4 inches centers between ball studs before attaching to pitman arm (16) and front steering bell crank (10). To adjust front steering valve and drag link assembly (11) loosen rod ends and lengthen or shorten by turning rod ends on threaded rod as appropriate.

c. Adjust front axle drag link (12) to a length of 36-1/4 inches centers between ball stud of front axle ball stud bracket (13) and ball stud on front steering bell crank (10).

NOTE

This dimension is extremely critical for proper steering.

d. Before installing front steering hydraulic cylinder (9) adjust to 33-1/4 inches between centerlines of anchor bracket ball stud and lower front steering bell crank (10) ball stud with the cylinder (9) piston in the center position.

NOTE

To obtain center position of cylinder (9), extend piston fully and retract 6 inches.

e. Adjust link (2) between cab rear steer lever (1) and cam and valve assembly lever (18), to 16-3/4 inches centerlines of ball joints before installation.

f. Before installing rear steer link assembly (8) between cam (35) and left rear wheel link bracket, adjust to 42 inches centerlines of ball joints.

g. Adjust rear axle hydraulic cylinder (6) to 33-1/4 inches between centerlines of anchor bracket ball stud and rear axle ball stud bracket (7) ball stud with cylinder (6) piston in center position.

NOTE

To obtain center position, extend cylinder (6) piston fully and retract 6 inches.

h. After installation of pitman arm stop bracket (14), and with engine running, steer front wheels only, to full right and full left and adjust pitman arm stop screws (15)

1. Lever
2. Link
3. Gear
4. Column
5. Wheel
6. Cylinder
7. Bracket
8. Link
9. Cylinder
10. Bell Crank
11. Drag Link
12. Drag Link
13. Bracket
14. Bracket
15. Screw
16. Arm
17. Cotter Pin
18. Lever
19. Nut
20. Nut
21. spool
22. Valve
23. Elbow
24. Bushing
25. Spring
26. Clamp
27. Nut
28. Adapter
29. Pin
30. Roller
31. Rod
32. Nut
33. Ball Joint
34. Nut
35. Cam
36. Lever
37. Nut
38. Bracket
39. Spring
40. Spring
41. Pin
42. Cotter Pin
43. Pin

Figure 4-1. Steering system adjustment schematic (sheet 1 of 2)

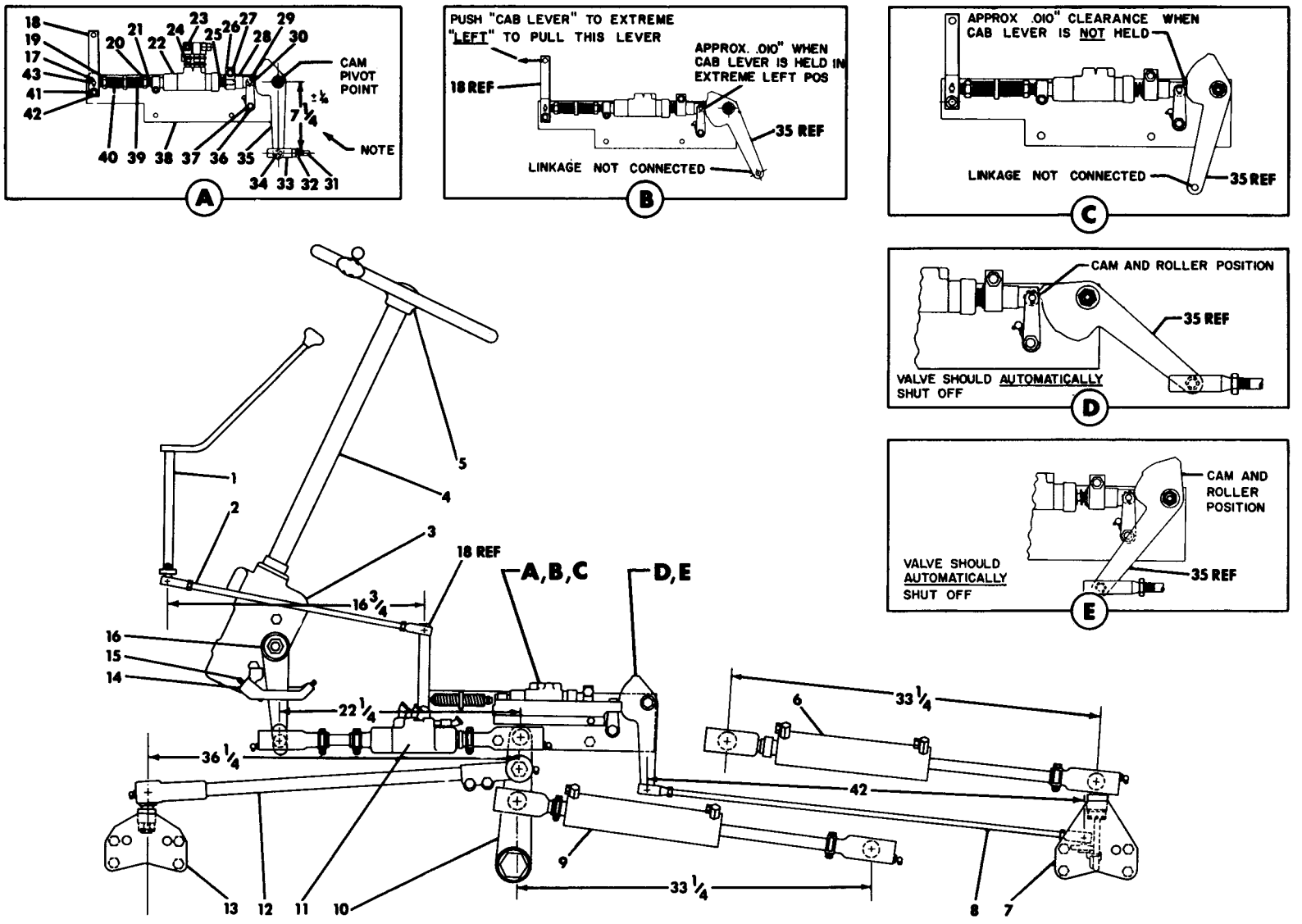


Figure 4—1. Steering system adjustment schematic (sheet 2 of 2)

so that pitman arm contacts stop screws (15) to leave 1/8 inch clearance between the wheel spindle arm and the wheel stub.

WARNING

If pitman arm stop screws (15) are not adjusted to stop wheel turn prior to contact between wheel spindle arm and wheel stub, the spindle arm will become fatigued and cause it to break thereby loosing front wheel steering control.

i. With engine off, place jack under tractor and raise until both rear wheels are clear.

j. Disconnect ball joint (33) by removing nut (34) on lower end of cam lever (35).

k. Measure between the centerline of the cam pivot point and the centerline of the link connecting hole. If distance exceeds 7-1/4 inches remove cam (35), weld link connecting hole closed, and redrill to 7-1/4 inches.

NOTE

On early model tractors this dimension was 7 1/2 ±1/8 inches.

1. With cam lever (35) in position as shown in detail A, measure the distance between adapter (28) and valve (22). Distance should be 1/2 inch. Adjust distance by loosening clamp nut (27) until clamp (26) is free, placing a 9/16 open end wrench on the connecting link wrench flat and turning upward to lengthen or downward to shorten.

NOTE

The wrench used should not be over 3/16 inch thick.

m. Turn nut (20) downward and nut (19) upward until springs (39 and 40) are loose and under no compression.

n. Place cam (35) in position shown in detail B, place cab rear steering lever (1) in extreme left position and check the clearance between cam (35) upper ramp and roller (30). With cam (35) and steering lever (1) held in these positions, adjust nut (20) until clearance is approximately 0.010 inch.

o. Release the cab steering lever (1) and place cam (35) in position as shown in detail C. With the cab lever, free adjust nut (19) until clearance between cam (35) lower ramp and roller (30) is approximately 0.010 inch.

p. Turn cam (35) back and forth between the two positions shown in details B and C and observe the action of spring (25). As the roller (30) comes off the upper cam ramp and onto the lower ramp, spring (25) should extend to return roller (30) to the 0.010 inch clearance setting. Failure of the spring to extend indicates binding of lever (36), caused by insufficient lubricant or nut (37) being too tight, or defective valve (22).

q. Reconnect ball joint (33) but do not install nut (34). Start the tractor engine and verify that the cam (35) automatically returns to the position shown in detail A and that roller (30) stops halfway between the upper and lower ramps on the cam. Check the rear wheels and verify straight-ahead position. If the rear wheels are not in straight-ahead position, shut the engine OFF and lengthen or shorten linkage. Remove ball joint (33), loosen nut (32) and adjust ball joint (33) on rod (31) as required. Reconnect ball joint, start engine and repeat check.

r. When step q is completed, push the cab rear steering lever (1) to the extreme left and carefully observe the cam (35) as it approaches the position shown in detail D. As the roller (30) comes to the end of the curved upper ramp of the cam it moves onto the straight beveled part of the cam, which forces the spring (25) to compress approximately 1/16 inch. This is the automatic valve shutoff in this direction of turn. Failure of the cam to do this indicates one or more of the following problems:

(1) The distance between the cam pivot hole and the linkage hole is greater than the 7-1/4 inches.

(2) This section of cam (35) is badly worn and cam should be replaced,

(3) The roller (30) is badly worn and should be replaced.

s. Push the cab rear steering lever (1) to the extreme right and observe the cam as it approaches the position shown in detail E. As the roller (30) comes to the end of the curved portion of the lower ramp, it moves off onto the straight beveled portion of the cam, allowing spring (25) to extend by approximately 1/16 inch, which is the automatic valve cut-off in this direction of turn. Failure of spring to extend indicates one of the following troubles:

(1) The distance between the cam pivot and the linkage hole is greater than the 7-1/4 inches.

(2) The link lever (36) is binding due to lack of lubricant or the lock nut (37) is too tight.

(3) The valve (22) is sticking and should be repaired.

t. Repeat the procedure outlined in sub-paragraphs r and s and observe the left rear axle springs and the left rear axle brake backing plate as the full turn position of the rear steering system is reached. Any flexing of the rear axle springs or of the brake backing plate indicates that the rear wheels have reached a full turn position prior to the automatic valve shut-off action explained in r and s above. This will cause breakage and failure of rear axle wheel parts, particularly the left rear wheel spindle.

u. Another reaction which can often be observed when the automatic shut-off is not functioning properly is that the front wheels will automatically attempt to steer themselves (if the steering wheel is not held) due to the hydraulic back pressure against the front steering valve. The above actions can be observed by steering the rear wheels until the cam (35) is in position shown in detail E; while holding in this position, insert a screwdriver tip between the roller (30) and the cam (35) causing a slight compression of the spring (25). Notice the severe reaction on the rear wheel parts and the rear axle spring.

NOTE

Failure of the automatic shut-off to function can be caused by any of the items mentioned in sub-paragraphs r and s, or from improper adjustment during steps outlined in subparagraphs n and o of this adjustment procedure.

4-42 . RELIEF VALVE.

4-43. INSPECTION. See figure 4-10 and inspect the relief valve as follows:

a. Inspect spring (15) for breaks or distortion.

b. Inspect ball (13) and ball seat (14) for nicks, scores and excessive wear.

c. Inspect all pipe components for cracks and stripped threads.

4-44. CHECKOUT. Test relief valve in complete steering system, paragraphs 4-35 and 4-55.

4-45. ADJUSTMENT. No adjustment is required for the relief valve.

4-46. FLOW CONTROL VALVE.

4-47. INSPECTION. See figure 4-11 and inspect the flow control valve as follows:

a. Inspect spring (11) for breaks or distortion.

b. Inspect valve (10) for nicks, scores and excessive wear.

c. Inspect all threaded components for damaged or stripped threads.

d. Inspect all fluid passages in body (12) for obstructions.

4-48. CHECKOUT. Test operation of flow control valve in complete steering system, paragraph 4-35.

4-49. ADJUSTMENT. None required.

4-50. FRONT DRAG LINK VALVE.

4-51. INSPECTION. See figure 4-9 and inspect the front drag link valve as follows:

a. Inspect all pipe and threaded components for stripped or damaged threads.

b. Inspect springs (13, 22 and 46) for breaks or distortion.

c. Inspect spool (43) for nicks, burrs and excessive wear.

d. Inspect all fluid passages in body (48) for obstructions.

4-52. CHECKOUT. Test operation of front drag link valve in complete steering system, paragraph 4-35.

4-53. ADJUSTMENT. For adjustment refer to paragraph 4-36.

4-54. REAR CAM AND VALVE ASSEMBLY.

4-55. INSPECTION. See figure 4-12 and inspect the rear cam and valve assembly as follows:

a. Inspect springs (26, 33, and 48) for breaks and distortion.

b. Inspect piston (43) and spool (47) for nicks, burrs and excessive wear.

c. Inspect roller (8) and cam (14) for damage and excessive wear on contact surfaces.

d. Inspect body (61) for restrictions in fluid passages.

e. Inspect all pipe and threaded components for stripped or damaged threads.

4-56. CHECKOUT. Test operation of rear cam and valve assembly in complete steering system paragraph 4-35.

4-57. ADJUSTMENT. Adjust the rear valve and cam assembly as outlined in paragraph 4-36.

4-58. HYDRAULIC PUMP.

4-59. INSPECTION. See figure 4-13 and inspect the hydraulic pump as follows:

a. Inspect spring (4) for breaks or distortion.

b. Inspect bearings (13 and 17) for out-of-round condition, scored surfaces, binding and wear.

c. Inspect vanes (8) for binding in rotor (9), bent edges, burrs or wear.

d. Inspect oil seal (16) for scored surfaces and wear.

e. Inspect housing (18), cover (1) and all moving parts for scored mating surfaces and excessive wear.

4-60. CHECKOUT. Test for free rotation by turning shaft by hand. Install pump in system and connect a flow meter on delivery port, Flow should be approximately 6.5 gpm at fast engine idle. Test pump pressure to 600 psi with gage installed in place of plug (4, figure 4-10).

4-61. ADJUSTMENT. Adjust the hydraulic pump drive belt for 1/2 inch deflection. (Refer to Chapter 3, Section III.)

4-62. BOOSTER CYLINDER.

4-63. INSPECTION. See figure 4-14 and inspect the booster cylinder as follows:

a. Inspect ball socket springs (12 and 18) for breaks or distortion.

b. Inspect ball seats (11 and 17) and piston (38) for nicks, burrs and excessive wear.

c. Inspect tube (39) for dents and breaks.

d. Inspect all threaded components for stripped or damaged threads.

4-64. CHECKOUT. Move rod (34) manually and check for ease of movement. Test operation of booster cylinder in complete steering system, paragraph 4-35.

4-65. ADJUSTMENT. For adjustment refer to paragraph 4-36.

4-66. STEERING GEAR.

4-67. INSPECTION. See figure 4-15 and inspect the steering gear as follows:

a. Inspect contacts on terminal (6) for pits or corrosion.

b. Inspect cable (7) for frayed or worn insulation.

c. Inspect springs (4 and 27) for breaks or distortion.

d. Inspect bearings (24 and 29) for out-of-round condition, scored surfaces, binding or wear.

e. Inspect lever shaft (25) for damaged or stripped spline.

f. Inspect bushings (42) for out-of-round condition, nicks and scores.

g. Inspect cam (39) for damaged surface, nicks and scores.

h. Inspect housing (44) and cover (20) for cracks and damaged threads in tapped holes.

4-68. CHECKOUT. Check for ease of movement.

4-69. ADJUSTMENT. Add or remove shims (32, 33, and 34) as required for adjustment of end play and to compensate for wear.

4-70. ELECTRICAL SYSTEM.

4-71. INSPECTION. See figure 4-16 and inspect the electrical system installation as follows:

a. Inspect all wiring and wiring harnesses for corroded or loose terminals, frayed insulation, torn wrapping or exposed wires.

b. Inspect wiper blade (68) and arm (69) for wear and deterioration and damage.

c. Inspect fuel tank sender (64) for proper movement of float mechanism.

d. Inspect all other components in accordance with the following individual component procedures.

e. Check all components for loose or missing attaching parts.

4-72. CHECKOUT. Retest operation of all electrical components after complete assembly and installation.

4-73. ADJUSTMENT. All adjustments are outlined under individual component adjustment procedures.

4-74. DISTRIBUTOR.

4-75. INSPECTION. See figure 4-17 and inspect the distributor as follows:

a. Inspect springs (2 and 23) for breaks or distortion.

b. Inspect contact set (11) for pits and burns.

c. Inspect distributor shaft (32) and bushings (47) for nicks, burrs, and excessive wear.

4-76. CHECKOUT. Test and time the distributor by actual engine operation.

4-77. ADJUSTMENT. Position cam (21) so rubbing block of contact set (11) is on high spot of cam (21). Loosen screw (12) and adjust contact set point gap to 0.01 8–0.020 inch. Tighten screw (12). Attach spring scale to contact set breaker arm and read spring tension at right angles to contact surface. Loosen screw (8) and adjust breaker arm spring to 17-20 ounces spring tension. Tighten screw (8).

4-78. STARTER.

4-79. INSPECTION. See figure 4-19 and inspect the starter as follows:

a. Inspect brush springs (7) for breaks or distortion.

b. Inspect springs (17 and 29) for breaks or distortion.

c. Inspect pinion (30) for cracked or broken teeth.

d. Inspect brushes (33) for wear.

e. Inspect armature (32) shaft and bushings (5 and 20) for nicks, burrs, and excessive wear.

f. Inspect all non-metallic components for deterioration.

4-80. CHECKOUT. Manually operate fork (22) and check for free movement of pinion assembly. Test starter after installation by actual operation.

4-81. ADJUSTMENT. None required.

4-82. GENERATOR.

4-83. INSPECTION. See figure 4-18 and inspect the generator as follows:

a. Inspect drive belt for breaks and deterioration.

b. Inspect pulley (1) for bent or broken fan blades.

c. Inspect bearing (12) for nicks, scores, and binding.

d. Inspect bushing (27) and armature (18) shaft for nicks, burrs and excessive wear.

e. Inspect brushes (19) for wear.

4-84. CHECKOUT. Test generator charge rate.

4-85. ADJUSTMENT. Adjust the generator drive belt for 1/2 inch deflection. (Refer to Chapter 3, Section III.)

4-86. WINDSHIELD WIPER (Code Cl).

4-87. INSPECTION. See figure 4-20 and inspect the windshield wiper as follows:

a. Inspect brushes (5 and 11) for excessive wear.

b. Inspect springs (6) for breaks, expansion and fatigue.

c. Inspect gaskets (18 and 21) and felt washer (40) for breaks or deterioration.

d. Inspect driver (36) for worn spline.

e. Inspect gear and shaft (25) for broken, missing or excessively worn teeth.

4-88. CHECKOUT. Check windshield wiper for proper operation.

4-89. ADJUSTMENT. Pin (41) is normally in the middle hole in bracket for a medium stroke. For a shorter and faster wiper stroke install pin (41) in the upper hole. Do not use the lower position as the wiper stroke will exceed the windshield area.

4-90. WINDSHIELD WIPER (Code C2 and D).

4-91. INSPECTION. See figure 4-21 and inspect the windshield wiper as follows:

a. Inspect brushes (9) for excessive wear.

b. Inspect springs (10) for breaks, distention and fatigue.

c. Inspect gaskets (22 and 18) and felt washer (43) for breaks or deterioration.

d. Inspect driver (39) for worn spline.

e. Inspect gear (27) for broken, missing, or excessively worn teeth.

4-92. CHECKOUT. Check windshield wiper for proper operation.

4-93. ADJUSTMENT. Pin (44) is normally in the middle hole in bracket for a medium stroke. For a shorter and faster wiper stroke install pin (44) in the upper hole. Do not use the lower position as the wiper stroke will exceed the windshield area.

4-94. STOPLIGHT-TAILLIGHT.

4-95. INSPECTION. See figure 4-22 and inspect the stoplight-taillight as follows:

a. Inspect for broken or missing lens (1 and 5).

b. Inspect lamp (3) for broken or burned coil,

c. Inspect gasket (6) for deterioration.

4-96. CHECKOUT. Turn ignition switch to ON position and pull headlight switch out to verify taillight operation. Press brake pedal to verify stoplight operation.

4-97. ADJUSTMENT. None required.

4-98. FLOODLIGHT.

4-99. INSPECTION. See figure 4-23 and inspect the floodlight as follows:

a. Inspect lamp unit (5) for cracks and foggy condition.

b. Inspect ground bar (4) and housing (10) for corrosion.

c. Inspect cable (9) for corroded terminal and frayed or worn insulation.

d. Inspect housing (10) for dents and exterior damage.

4-100. CHECKOUT. Turn ignition switch to ON position and pull floodlight switch out to verify floodlight operation.

4-101. ADJUSTMENT. Loosen nut (7), position floodlight in desired direction and tighten nut.

NOTE

Floodlight cannot be rotated without loosening the securing nut.

4-102. HEADLIGHT.

4-103. INSPECTION. See figure 4-24 and inspect the headlight assembly as follows:

a. Inspect lamp unit (9) for cracks or foggy condition.

b. Inspect socket and lead assembly (10) for frayed or worn insulation and cracked or damaged socket.

4-104. CHECKOUT. Turn ignition switch to ON position and pull headlight switch out to verify headlight operation. Actuate dimmer switch to verify bright and dim beam operation.

4-105. ADJUSTMENT; Loosen nut (1) and set headlight. Adjust screws (8) for beam position.

4-106. SPOTLIGHT.

4-107. INSPECTION. See figure 4-25 and inspect the spotlight as follows:

a. Inspect lamp unit (26) for cracks or foggy condition indicating burned out unit.

b. Inspect spring (31) for distortion or fatigue.

c. Inspect post (27), tube and gear (38), gear (14) and pinion (8) for broken, missing or excessively worn teeth.

d. Inspect non-metallic washers (32 and 46) and gasket (53) for breaks or deterioration.

e. Inspect toggle (10) and switch (13) for broken terminals and proper toggle lever operation.

4-108. CHECKOUT. Switch toggle to verify spotlight operation. Rotate handle to verify proper positioning control.

4-109. ADJUSTMENT. None required.

4-110. CHECKOUT. Test the battery specific gravity. (Refer to Chapter 3, Section III.)

4-111. ADJUSTMENT. None required.

4-112. INSTRUMENT PANEL.

4-113. INSPECTION. See figure 4-26 and inspect the instrument panel as follows:

a. Inspect all connectors (9, Typ.) for cracks and loose conductors.

b. Inspect lead assemblies (10, 11, Typ.) for proper socket spring tension, worn insulation and corroded or missing terminals.

c. Inspect gage cluster (17) for burned out lamps (12, Typ.) broken or missing glass and damaged or corroded terminals.

d. Inspect speedometer (18) for burned out lamps, broken or missing glass and damaged or stripped cable connector threads.

e. Inspect all switches for damaged cases and damaged or corroded terminals.

4-114. CHECKOUT. Test operation of all switches and indicators when tract or is fully assembled.

4-115. ADJUSTMENTS. None required.

4-116. CAB HEATER.

4-117. INSPECTION. See figure 4-27 and inspect the cab heater as follows:

a. Inspect hoses (23 and 24) for leaks and deterioration.

b. Inspect hose (2), elbow (3) and grommet (15) for breaks and deterioration.

c. Inspect fan (9) for broken or bent blades.

d. Inspect core assembly (8) for leaks and obstructions.

e. Inspect wiring for worn or frayed insulation and broken or corroded terminals.

4-118. CHECKOUT. Operate heater and check for leaks. Check for heat, proper air flow, and excessive operating noise.

4-119. ADJUSTMENT. None required.

4-120. FUEL SYSTEM.

4-121. INSPECTION. See figure 4-28 and inspect the fuel system as follows:

a. Inspect hose (14) for leaks or damaged threads.

b. Inspect all linkage for distortion.

c. Inspect tube (12) for breaks or restrictions.

d. Inspect tank (7) for dents or leaks.

e. Inspect cap (6) for deteriorated seal.

f. Inspect spring (38) for breaks or distortion.

g. Inspect for loose or missing hardware.

4-122. CHECKOUT. Check entire system for leaks.

4-123. ADJUSTMENT. No adjustments other than linkage are required for the fuel system.

4-124. FUEL PUMP.

4-125. INSPECTION. See figure 4-29 and inspect the fuel pump as follows:

a. Inspect hose and tube for restrictions and breaks.

b. Inspect springs (12 and 21) for breaks or distortion.

c. Inspect diaphragm assembly (15) for broken and weak spring.

d. Inspect filter (22) and bowl (20) for cracks.

e. Inspect all fuel passages for obstructions.

4-126. CHECKOUT. None required.

4-127. ADJUSTMENT. None required.

4-128. CARBURETOR.

4-129. INSPECTION. See figure 4-30 and inspect the carburetor as follows:

a. Inspect float (14) for evidence of gasoline in float or leaks.

b. Inspect shutter valve (6) for bends or damaged edges.

c. Inspect springs (5, 18, 25 and 46) for breaks or distortion.

d. Inspect jets (19, 33 and 34), needle assembly (36) and screw (45) for damage to control surfaces.

4-130. CHECKOUT. Test operate the carburetor.

4-131. ADJUSTMENT. Adjust the carburetor feed and idle speed. (Refer to Chapter 3, Section III.)

4-132. GOVERNOR.

4-133. INSPECTION. See figure 4-31 and inspect the governor as follows:

a. Inspect filter (25) for cleanliness.

b. Check piston rod (21), valve shaft (12) and bearings (13 and 23) for nicks, scores and excessive wear.

c. Inspect shutter valve (5) for bends or damaged edges.

d. Inspect spring assembly (17) for breaks and distortion.

e. Inspect body (26) passages for obstructions.

4-134. CHECKOUT. None required.

4-135. ADJUSTMENT. Adjust governor to 3000 rpm by turning cap (14) counter-clockwise to increase and clockwise to decrease speed.

4-136. RADIATOR.

4-137. INSPECTION. See figure 4-32 and inspect the radiator system as follows:

a. Inspect all hoses for leaks, cracks or deterioration.

b. Inspect radiator cap (18) for worn or deteriorated seal.

c. Inspect radiator (19) for cracks, dents, leaks, damage to fins or tube restrictions.

d. Inspect non-metallic washers (16) for deterioration.

e. Inspect for loose or missing hardware.

4-138. CHECKOUT. Fill system with coolant and inspect entire system for leaks.

4-139. ADJUSTMENT. None required.

4-140. ENGINE COOLING.

4-141. INSPECTION. See figure 4–33 and inspect the engine cooling group as follows:

a. Inspect fan (1) for broken or bent blades.

b. Inspect drive belt (4) for breaks or deterioration.

c. Inspect thermostat (14) for proper spring operation.

d. Inspect hose (8) for breaks or deterioration.

e. Inspect water pump impeller (22) and shaft (27) for nicks, burrs and excessive wear.

f. Inspect housings (10 and 28) for breaks and cracks.

4-142. CHECKOUT. Check engine temperature gage after fifteen minutes running time. Temperature should not exceed 180° F.

4-143. ADJUSTMENTS. No adjustments are required for the engine cooling group. Fan belt adjustment is covered under generator belt adjustment.

4-144. PARKING BRAKE AND DIFFERENTIAL LOCKOUT LEVERS.

4-145. INSPECTION. See figures 4-34 and 4-35 and inspect the parking brake installation as follows:

a. Inspect all linkage for distortion.

b. Inspect brake drum (30, figure 4-35) for heavy scores or excessive wear.

c. Inspect springs (8 and 11) for breaks or distortion.

d. Inspect lining (18) for excessive wear.

4-146. CHECKOUT. Park tractor on slight slope and engage brake. Brake should hold vehicle with no noticeable movement.

4-147. ADJUSTMENT. Adjust parking brake tension after installation. (Refer to Chapter 3, Section III.)

4-148. ENGINE OILING.

4-149. INSPECTION. See figure 4-36 and inspect the oiling group as follows:

a. Inspect all hose for breaks, leaks and deterioration.

b. Inspect all tubes for breaks and restrictions.

c. Inspect relief valve spring (29) for breaks and distortion.

d. Inspect oil pan (45) for dents and leaks.

e. Inspect all oil passages for obstructions.

f. Inspect all pipe and threaded components for damaged or stripped threads.

4-150. CHECKOUT. Start engine and verify engine oil pressure of 30 to 55 psi.

4-151. ADJUSTMENT. None required.

4-152. ENGINE.

4-153. INSPECTION. See figure 4–38 and inspect the engine as follows:

a. Inspect all brackets for bends or breaks.

b. Inspect all machined surfaces of engine block (66) for scores, ridges and other defects.

c. Inspect block (66) and head (11) for cracks.

d. Inspect all tapped holes for stripped or damaged threads.

e. Inspect all threaded components for damaged threads.

4-154. CHECKOUT. Check for proper engine compression.

4-155. ADJUSTMENTS. No adjustments are required for the engine except as shown for individual components in following paragraphs.

4-156. HYDRAULIC TRANSMISSION.

4-157. INSPECTION. See figure 4-37 and inspect the hydraulic transmission as follows:

a. Inspect valve tubing for breaks, restrictions and damaged connections.

b. Inspect all seals for damage or excessive wear.

c. Inspect bushings for scores or excessive wear.

d. Inspect springs for breaks or distortion.

e. Inspect ring gear for cracked, missing or worn teeth or distortion.

4-158. CHECKOUT. Test operate the hydraulic transmission while installed in tractor.

4-159. ADJUSTMENT. All hydraulic transmission adjustments are accomplished during reassembly.

4-160. MECHANICAL TRANSMISSION,

4-161. INSPECTION. See figure 4-37 and inspect the mechanical transmission as follows:

a. Inspect all springs for breaks or distortion.

b. Inspect housing for worn or damaged machined surfaces and bearing bores.

4-162. CHECKOUT. Test operate the mechanical transmission while installed in tractor.

4-163. ADJUSTMENT. All mechanical transmission adjustments are accomplished during reassembly.

4-164. TRANSMISSION PROPELLER SHAFT.

4-165. INSPECTION. See figure 4-39 and inspect the propeller shaft as follows:

a. Inspect roller bearings for damaged rollers or binding.

b. Inspect cross (10 and 12) bearing surfaces for scores or excessive wear.

c. Inspect yokes (1 and 2) for broken, cracked or excessively worn spline teeth.

4-166. CHECKOUT. None required.

4-167. ADJUSTMENT. None required.

4-168. AXLE PROPELLER SHAFT.

4-169. INSPECTION. See figure 4-40 and inspect the axle propeller shaft as follows:

a. Inspect roller bearings (4) for damaged rollers or binding.

b. Inspect spider (7) bearing surfaces for scores or excessive wear.

c. Inspect yoke (11) and shaft (12) for cracked, broken or excessively worn spline teeth.

4-170. CHECKOUT. Check propeller shaft for shaft slip .

4-171. ADJUSTMENT. None required.

4-172. TRANSFER TRANSMISSION.

4-173. INSPECTION. See figure 4-41 and inspect the transfer transmission as follows:

a. Inspect all splines for cracked, chipped or worn splines.

b. Inspect all gear shafts for out-of-round conditions or excessive wear.

c. Inspect transmission case for cracks and worn or damaged machined surfaces and bearing bores.

4-174. CHECKOUT. Test operate the transfer transmission while installed in tractor.

4-175. ADJUSTMENT. All transfer transmission adjustments are accomplished during reassembly.

4-176. BRAKE SYSTEM.

4-177. INSPECTION. See figure 4-42 and inspect the brake system as follows:

a. Inspect vacuum booster air filter (65) obstruction.

b. Inspect spring (8) for breaks and distortion.

c. Inspect brake pedal lever (4) for cracked or lever.

d. Inspect tube clips (35) for missing or damaged clips.

e. Inspect all metal tubes for breaks or restrictions.

f. Inspect all hose assemblies for wear, deterioration or stripped threads on couplings.

g. Inspect all tube fittings for cracked or damaged threads.

h. Inspect complete system for loose or missing hardware.

4-178. CHECKOUT. Apply brakes and ensure no leakage from the complete brake system.

4-179. ADJUSTMENT. All adjustments required for the brake system are outlined under individual component adjustment paragraphs.

4-180. MASTER CYLINDER.

4-181. INSPECTION. See figure 4-43 and inspect the master cylinder as follows:

a. Inspect spring (7) for breaks or distortion.

b. Inspect boot (1) and cups (4 and 6) for wear or deterioration.

c. Inspect piston (5) and body (10) for nicks, scores or excessive wear.

d. Inspect body (10) fluid passages for obstructions.

4-182. CHECKOUT. Apply brakes and verify proper cylinder operation and no leakage.

4-183. ADJUSTMENT. None required.

4-184. VACUUM BOOSTER.

4-185. INSPECTION. See figure 4-44 and inspect the vacuum booster as follows:

a. Inspect all non-metallic components for deterioration or excessive wear.

b. Inspect pistons (17 and 45) and valve ball (15) for nicks, burrs and excessive wear.

c. Inspect springs (4, 14, 29, 37, and 52) for breaks or distortion.

d. Inspect all oil passages for obstructions.

e. Inspect shell (64) for dents.

4-186. CHECKOUT. Start engine and apply and release brakes to verify proper and prompt operation. Apply brakes and verify no leakage from vacuum booster.

4-187. ADJUSTMENT. None required

4-188. BRAKE ADJUSTMENT. Adjust the wheel brakes as follows:

a. Jack up each tractor wheel to be adjusted.

b. Adjust cam nut until slight drag can be felt while revolving wheel.

c. Turn cam nut back until no drag can be felt while revolving wheel.

4-189. AXLE DIFFERENTIAL.

4-190. INSPECTION. See figure 4-45 and inspect the axle differential as follows:

a. Inspect all bearings for nicks, burrs, binding or excessive wear.

b. Inspect all gears for cracked, broken or excessively worn teeth.

c. Inspect gear (35), shaft (20) and yoke (4) for bent, broken or worn spline teeth.

d. Inspect seal (5) for deterioration or excessive wear.

4-191. CHECKOUT. Test operate the axle differential while installed in tractor.

4-192. ADJUSTMENT. Adjustment of axle differential is accomplished during reassembly.

4-193. HUB ASSEMBLY.

4-194. INSPECTION. Refer to figure 4-47 and inspect the hub assembly as follows:

a. Inspect axle shaft for cracked or twisted spline.

b. Inspect all bearings for burrs, nicks, binding or excessive wear.

c. Inspect all bushings for out-of-round or excessive wear.

d. Inspect springs (34 and 47) for breaks or distortion.

e. Inspect brake linings (35) for excessive wear.

f. Inspect brake drum (18) for deep scores or excessive wear.

4-195. CHECKOUT. Test operate the hub assembly while installed in tractor.

4-196. PIVOT BEARING ADJUSTMENT. Adjust the axle assembly pivot bearings as follows: (See figure 4-47).

a. Jack up the wheel to be adjusted.

NOTE

Centerline of pivot bearings should be kept as close to perpendicular as possible to eliminate the off-center weight effect of the wheel.

b. Remove the rim and wheel cover (1) from hub (25) and remove the axle shaft (2). Disconnect the tie rod.

c. Drive wedge (77) with drift pin until a light drag can be felt when turning hub (22) as in steering action and no play can be felt when holding the top and bottom of hub (22) and alternately pushing and pulling in opposite directions with each hand.

d. Attach a spring scale to steering arm (66) and simulate steering action in both directions by pulling on scale. Lock wedge (77) by tightening screw (73). Scale reading should not exceed 14 pounds of even pull.

4-197. FRAME AND BRACKETS ASSEMBLY.

4-198. INSPECTION. See figure 4-49 and inspect the frame and brackets as follows:

a. Inspect spring assembly for cracked or damaged leaf springs (63 through 73), bushings (62) and rollers (54).

b. Inspect frame rails and all brackets, bushings and braces for cracks, breaks or distortion.

c. Inspect entire assembly for loose or missing attaching hardware.

d. Inspect spring (10) for breaks or distortion.

e. Inspect pin (9), latch (11) and lock (7) for excessive wear, rust or corrosion.

f. Inspect muffler (123) for cracks, rust and corrosion.

g. Inspect exhaust pipe (121) for cracks, rust and corrosion.

4-199. CHECKOUT. Start tractor engine and check for exhaust leaks or excessive vibration of all components.

4-200. ADJUSTMENTS. None required.

4-201. TORQUE TABLES. The following tables, 4-1 through 4-5, list torque specifications for towing tractor components.

Table 4-1. Standard Torque Specifications

SIZE NUT OR BOLT	TORQUE (FT-LB)	SIZE NUT OR BOLT	TORQUE (FT-LB)	SIZE NUT OR BOLT	TORQUE (FT-LB)
1/4-20	3-9	7/16-20	57-61	3/4-10	240-250
1/4-28	8-10	1/2-13	71-75	3/4-16	290-300
5/16-18	13-17	1 /2-20	80-90	7/8-9	410-420
5/16-24	15-19	9/16-12	90-100	7/8-14	475-485
3/8-16	30-35	9/16-18	107-117	1-8	580-590
3/8-24	35-39	5/8-11	137-147	1-14	585-595
7/16-14	46-50	5/8-18	168-178		

Table 4-2. Tractor Engine Torque Specifications

LOCATION	TORQUE (FT-LB)
Main Bearing Cap Bolt	80-85
Connecting Rod Nut	45-50
Crankshaft Starting Jaw	108 minimum
Cylinder Head Bolt	65-70
Manifold Bolt and Nut	15-20
Spark Plug	30-32
Oil Pump Mounting Bolt	20-25
Fuel Pump Mounting Bolt	15-20
Carburetor to Manifold Nut	7
Exhaust Pipe Flange Nut	40
Fan Attaching Bolt	15-18

Table 4–3. Mechanical Transmission Torque Specifications

LOCATION	TORQUE (FT-LB)
Drive Gear Retainer Screw	15-25
Front Countershaft Retainer Screw	15-25
Front Countershaft Bearing Washer Screw	12-22
Flange Nut	125
Mainshaft Rear Retainer Screw..	20-40
Rear Countershaft Retainer Screw	20-40
Reverse Idler Shaft Lock crew..	20-40
Bar Brake Screw	70-110
Bell Housing Screw	70-110
Brake Link Shoulder Screw	25-45

Table 4-4. Hydraulic Transmission Torque Specifications

LOCATION	TORQUE (FT-LB)
Companion Flange Yoke	175
Adapter Flange Bolts	105
Bearing Retainer Cap Screws	180 inch-pounds
Hydraulic Transmission Flange Bolts.	105
Front Oil Pump Housing to Hydraulic Clutch Housing Screws and Oil Strainer Screws ..<.....	14-16
Oil Pressure Line Take-off and Hydraulic Transmission Line Fitting.	10-12
Hydraulic Clutch Housing to Hydraulic Transmission Housing Screws	40
Converter Housing and Plate to Threaded Block Bolt	30
Converter Housing to Aluminum Plate Bolt	30
Crankshaft Stud Nut	55
Filter Plug	45-50

Table 4–5. Axle Torque Specifications

LOCATION	TORQUE (FT-LB)
Drive Pinion Nut	585-595
Differential Carrier to Axle Housing	46-50
Differential Bearing Cap to Carrier	240-250
Ring Gear to Differential Case...	57-61

4-202. MANUFACTURERS FITS, TOLERANCES AND DIMENSIONS TABLE. The following table includes fits, tolerances, and dimensions specified by the manufacturer. The table shows the component and point of measurement and is broken down into minimum dimension, desired dimension, maximum dimension, and additional wear allowance.

Table 4-6. Manufacture's Fits, Tolerances and Dimensions

COMPONENT	POINT OF MEASUREMENT	MINIMUM INCHES	DESIRED INCHES	MAXIMUM INCHES	ADDITIONAL ALLOWABLE WEAR OR CLEARANCE
Tractor Engine	Piston:				
	Piston land clearance	0.028		0.033	
	Clearance (top of skirt)	0.0015		0.0020	
	Length (overall)		3.687		
	Piston Pins:				
	Diameter		0.86		
	Length		2.75		
	Clearance in piston	0.0000		0.0005	
	Clearance in rod	0.0001		0.0002	
	Piston Rings:				
	Ring gaps (all)	.007		.015	
	Compression ring width		0.094		
	Oil ring width		0.156		
	Side clearance (upper)	0.0025		0.0040	
	Side clearance (2)	0.0020		0.0035	
	Side clearance (3 and 4)	0.0010		0.0025	
	Tappets:				
	Stem diameter		0.625		
	Clearance in block	0.0002		0.0010	
	Valves:				
	Head diameter				
	Intake		1.531		
	Exhaust		1.407		
	Length (overall)				
	Intake		4.845		
	Exhaust		4.78		
	Stem diameter				
	Intake	0.340		0.341	
	Exhaust	0.340		0.341	
	Stem to guide clearance				
	Intake	0.001		0.003	
	Exhaust	0.003		0.005	

Table 4-6. Manufacture's Fits, Tolerances and Dimensions (Cont)

COMPONENT	POINT OF MEASUREMENT	MINIMUM INCHES	DESIRED INCHES	MAXIMUM INCHES	ADDITIONAL ALLOWABLE WEAR OR CLEARANCE
	Face angle				
	Intake		45°		
	Exhaust		45°		
	Valve tappet clearance-cold		0.014		
	Valve Guides:				
	Standard size valves				
	Intake	0.342		0.343	
	Exhaust	0.344		0.345	
	Valve Springs:				
	Free length				
	Intake		2.0		
	Exhaust		2.0		
	Camshaft				
	End play	0.002		0.006	
	Clearance	0.002		0.004	
	Diameter and length				
	Number 1		2.00x1.09		
	Number 2		1.98x1.84		
	Number 3		1.94x1.84		
	Number 4		1.25x1.25		
	Crankshaft:				
	End play	0.002		0.006	
	Main bearing clearance	0.0005		0.0015	
	Connecting Rods:				
	Journal Diameter		2.06		
	Connecting Rod Bearings:				
	End play	0.006		0.011	
	Clearance	0.0010		0.0025	
Voltage Regulator	Current Regulator:				
	Air gap	0.048		0.052	
	Voltage Regulator:				
	Air gap		0.048		
	Point gap		0.015		
Distributor	Breaker point gap	0.018	0.020		
	Dwell angle	38°		40°	

Table 4-6. Manufacture's Fits, Tolerances and Dimensions (Cont)

COMPONENT	POINT OF MEASUREMENT	MINIMUM INCHES	DESIRED INCHES	MAXIMUM INCHES	ADDITIONAL ALLOWABLE WEAR ON CLEARANCE
Starting Motor	Armature end play	0.005		0.030	
	Armature run out		0.003		
	Pinion to thrust washer clearance	0.015		0.030	
Generator	Armature end play	0.003		0.010	
	Commutator run out		0.005		
Water Pump	Shaft end play	0.0005		0.005	
Oil Pump	Shaft end play	0.003		0.010	
	Outer rotor and body clearance			0.008	

SECTION III. REPAIR PROCEDURES

4-203. GENERAL.

4-204. This section contains instructions for removal and complete disassembly of all assemblies of the towing tractor covered by this manual. (See figure 4-2.) During disassembly of the tractor and tractor components, all lock wires, lockwashers, cotter pins, gaskets, and preformed packings removed shall be discarded. Complete disassembly shall not be performed if serviceability of assembled parts can be determined in accordance with checkout and analysis criteria (Chapter 4, Section II).

4-205. **REMOVAL AND DISASSEMBLY.**

4-206. UPPER CAB ASSEMBLY.

4-207. REMOVAL. See figure 4-3 and remove the upper cab assembly as follows:

1. Nameplate
2. Hood
3. Nameplate
4. Grille assembly
5. Screw
6. Washer
7. Nut
8. Cab assembly
9. Steering system
10. Bracket
11. Screw
12. Washer
13. Washer
14. Nut
15. Electrical system
16. Cooling system
17. Cab assembly
18. Deck assembly
19. Fuel system
20. Engine, transverter, and transfer case assembly
21. Brake assembly
22. Propeller shaft
23. Propeller shaft
24. Axle assembly.
25. Frame assembly

Figure 4–2. Towing tractor - exploded view (Sheet 1 of 2)

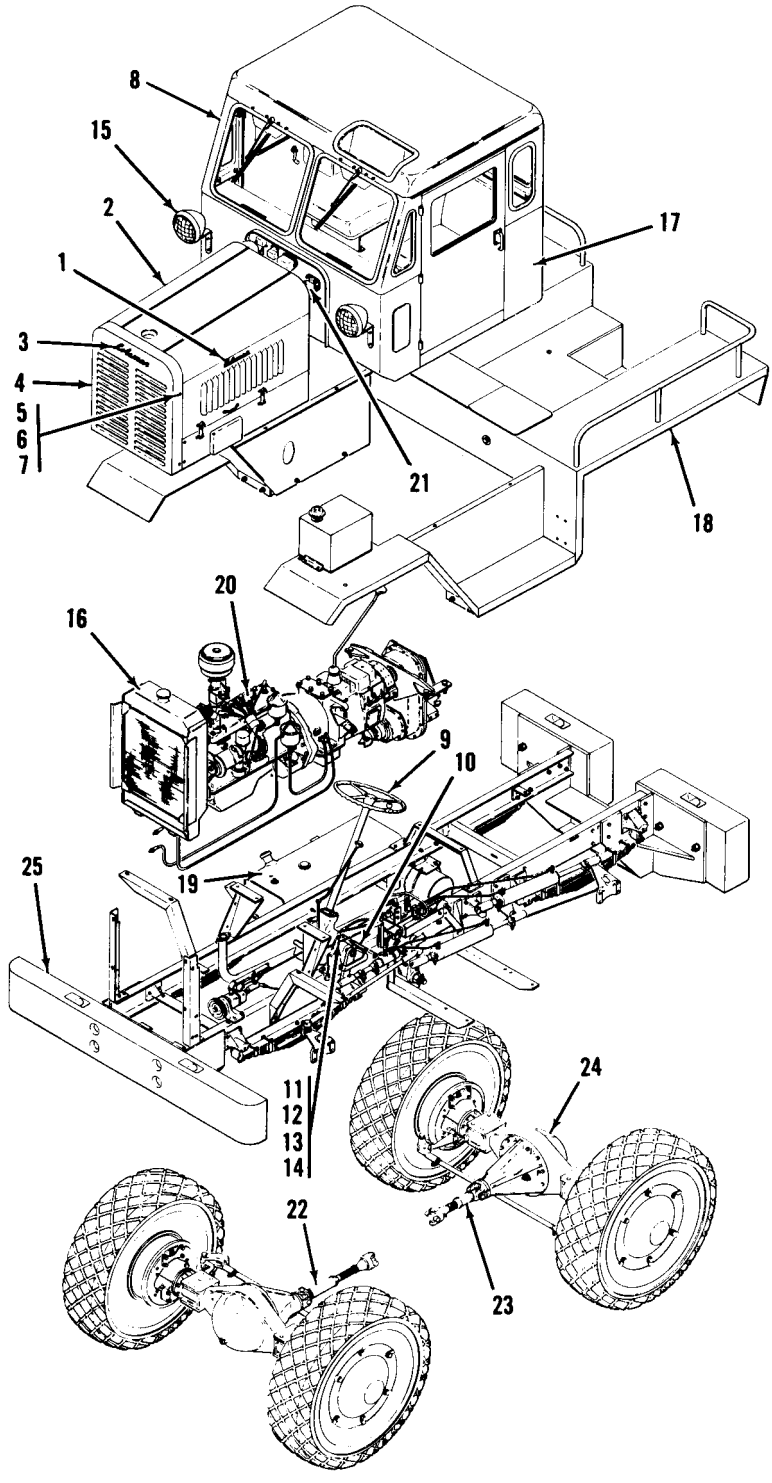


Figure 4-2. Towing tractor - exploded view (Sheet 2 of 2)

a. Remove twelve screws (8), washers (9), and nuts (10). Remove six hinge springs (11) and two door assemblies (7).

b. Remove 24 screws (1), 48 washers (2), 24 washers (3), 24 nuts (4), and remove cab assembly.

4-208. DISASSEMBLY. Disassemble the upper cab assembly as follows:

a. Remove nut and washer and remove mirror (12). Remove screw (14), washer (15) and nut (16) and remove bracket (13).

b. Remove finger lift (17). Remove three screws (19), washers (20), and nuts (21) then remove channel (18). Remove weatherstrip (22) from channel (18). Remove two glasses (23) and remove weatherstripping (24, 25 and 26).

c. Remove two channels (28) and two glasses (27). Remove channel (30) and plexiglass (29). Remove two channels (34) and two glasses (33). Remove two channels (32) and two glasses (31) from shell (35).

4-209. LOWER CAB ASSEMBLY.

4-210. REMOVAL. See figure 4-4 and remove the lower cab assembly as follows:

a. Remove two screws (70), nuts (73), washers (72) and springs (71).

b. Remove four screws (67), washers (68), and nuts (69) then remove cab assembly from frame.

4-211. DISASSEMBLY. See figure 4-4 and disassemble the lower cab assembly as follows:

a. Remove two screws (2), washers (3), and nuts (4) then remove handle (1). Remove nut (7) and rivet (6). Remove plunger (5) and spring (8).

b. Remove three screws (10), washers (11), and nuts (12) then remove door (9). Remove weatherstrips (13) from door (9). Remove twelve screws (15), washers (16), and nuts (17) then remove retainer (14).

c. Remove four screws (19), washers (20), and nuts (21). Remove passenger seat (18). Remove eight nuts (24) and washers (25). Remove driver seat (18) and two seat adjusters (22 and 23). Remove eight screws (27), washers (28), and nuts (29) then remove two seat bases (26).

d. Remove screw (31), washer (32), and nut (33) then remove firewall brace (30). Remove eight screws (39), washers (40 and 41), and nuts (42) then remove two handles (38).

e. Remove eight screws (45), washers (46), and nuts (47). Remove four brackets (43 and 44) and two tubes (48).

f. Remove four grommets (49 and 50). Remove four screws (75) and remove two door strikers (74).

g. Remove four screws (35) and instruction plate (34). Remove four screws (37) and identification plate (36). Remove two screws (53) and hydraulic transmission access cover (52) from toe board (59).

1. Screw
2. Washer
3. Washer
4. Nut
5. Gasket
6. Gasket
7. Door
8. Screw
9. Washer
10. Nut
11. Spring
12. Mirror
13. Bracket
14. Screw
15. Washer
16. Nut
17. Finger lift
18. Channel assembly
19. Screw
20. Washer
21. Nut
22. Weather strip
23. Glass
24. Weather strip
25. Weather strip
26. Weather strip
27. Glass
28. Rubber channel
29. Plexiglass
30. Rubber channel
31. Glass
32. Rubber channel
33. Glass
34. Rubber channel
35. Shell

Figure 4-3. Upper cab assembly (Sheet 1 of 2)

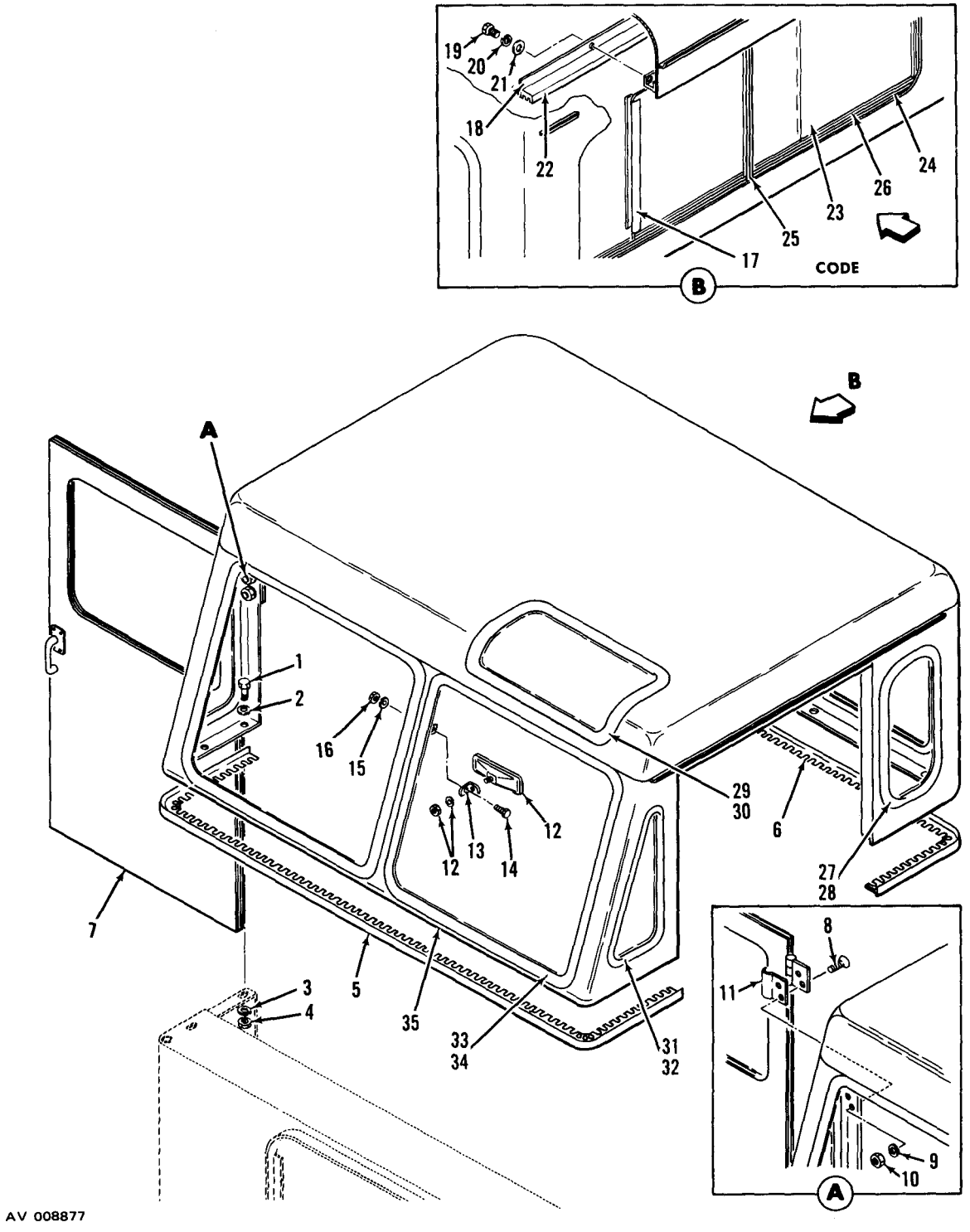


Figure 4-3. Upper cab assembly (Sheet 2 of 2)

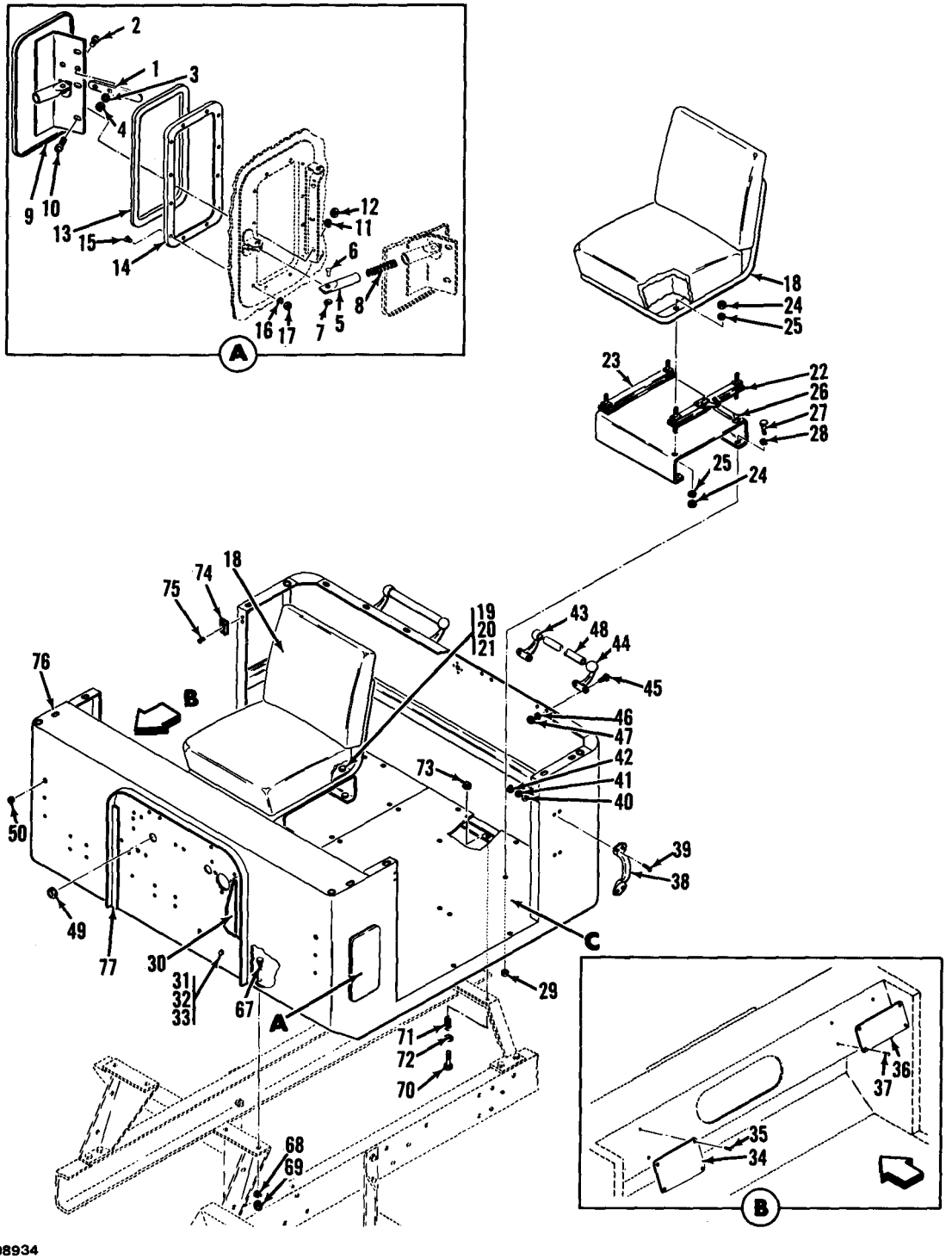
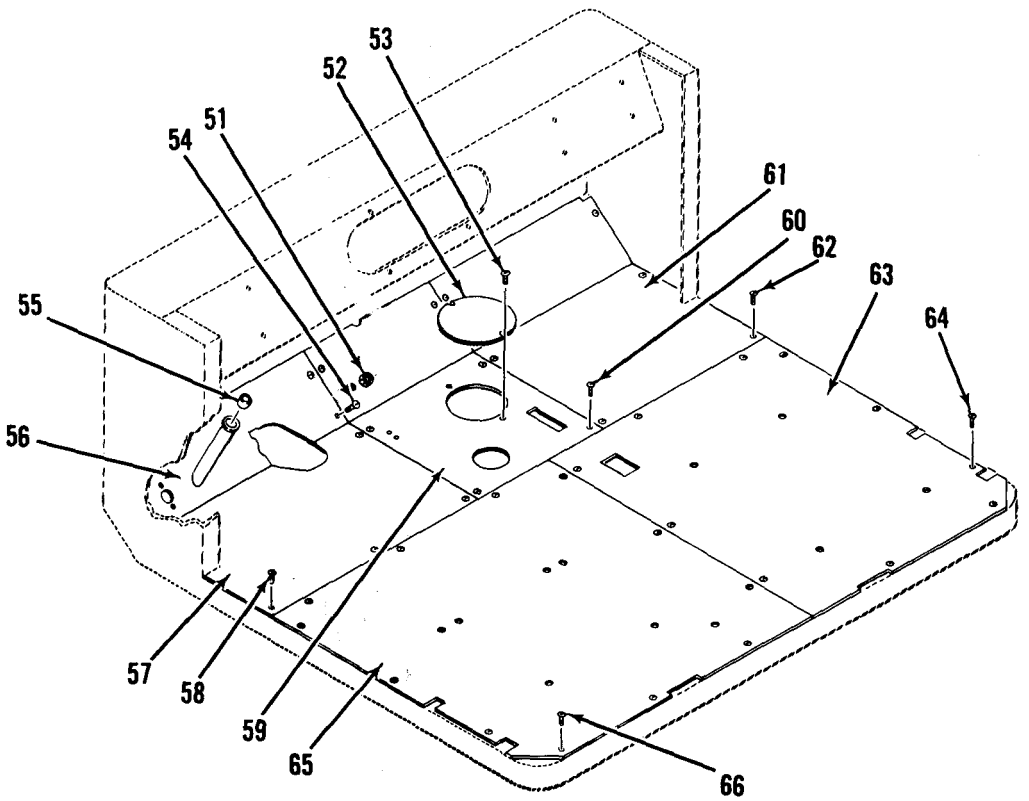


Figure 4-4. Lower cab assembly (Sheet 1 of 2)



AV 008878

1. Handle
2. Screw
3. Washer
4. Nut
5. Plunger
6. Rivet
7. Nut
8. Spring
9. Door
10. Screw
11. Washer
12. Nut
13. Weather strip
14. Retainer
15. Screw
16. Washer
17. Nut
18. Seat
19. Screw
20. Washer
21. Nut
22. Seat adjuster
23. Seat adjuster
24. Nut
25. Washer
26. Base
27. Screw
28. Washer
29. Nut
30. Brace
31. Screw
32. Washer
33. Nut
34. Plate
35. Screw
36. Plate
37. Screw
38. Handle
39. Screw
40. Washer
41. Washer
42. Nut
43. Bracket
44. Bracket
45. Screw
46. Washer
47. Nut
48. Tube
49. Grommet
50. Grommet
51. Nut
52. Cover
53. Screw
54. Screw
55. Bushing
56. Panel
57. Panel
58. Screw
59. Panel
60. Screw
61. Panel
62. Screw
63. Floor
64. Screw
65. Floor
66. Screw
67. Screw
68. Washer
69. Nut
70. Screw
71. Spring
72. Washer
73. Nut
74. Strike
75. Screw
76. Cab weldment
77. Webbing

Figure 4-4. Lower cab assembly (Sheet 2 of 2)

h. Remove bushing (55). Remove four screws (54) and left floor panel (56). Remove five screws (58) and left floor panel (57). Remove six screws (60) and center floor panel (59). Remove six screws (62) and right floor panel (61).

i. Remove ten screws (64) and remove right floor plate (63). Remove twelve screws (66) and remove left floor plate (65).

4-212. ENGINE COMPARTMENT HOOD.

4-213. REMOVAL. See figure 4-5 and remove the engine compartment hood as follows:

a. Unhook four fasteners (4). Remove eight screws (1), washer (2), and nuts (3). Remove side panels (6 and 7).

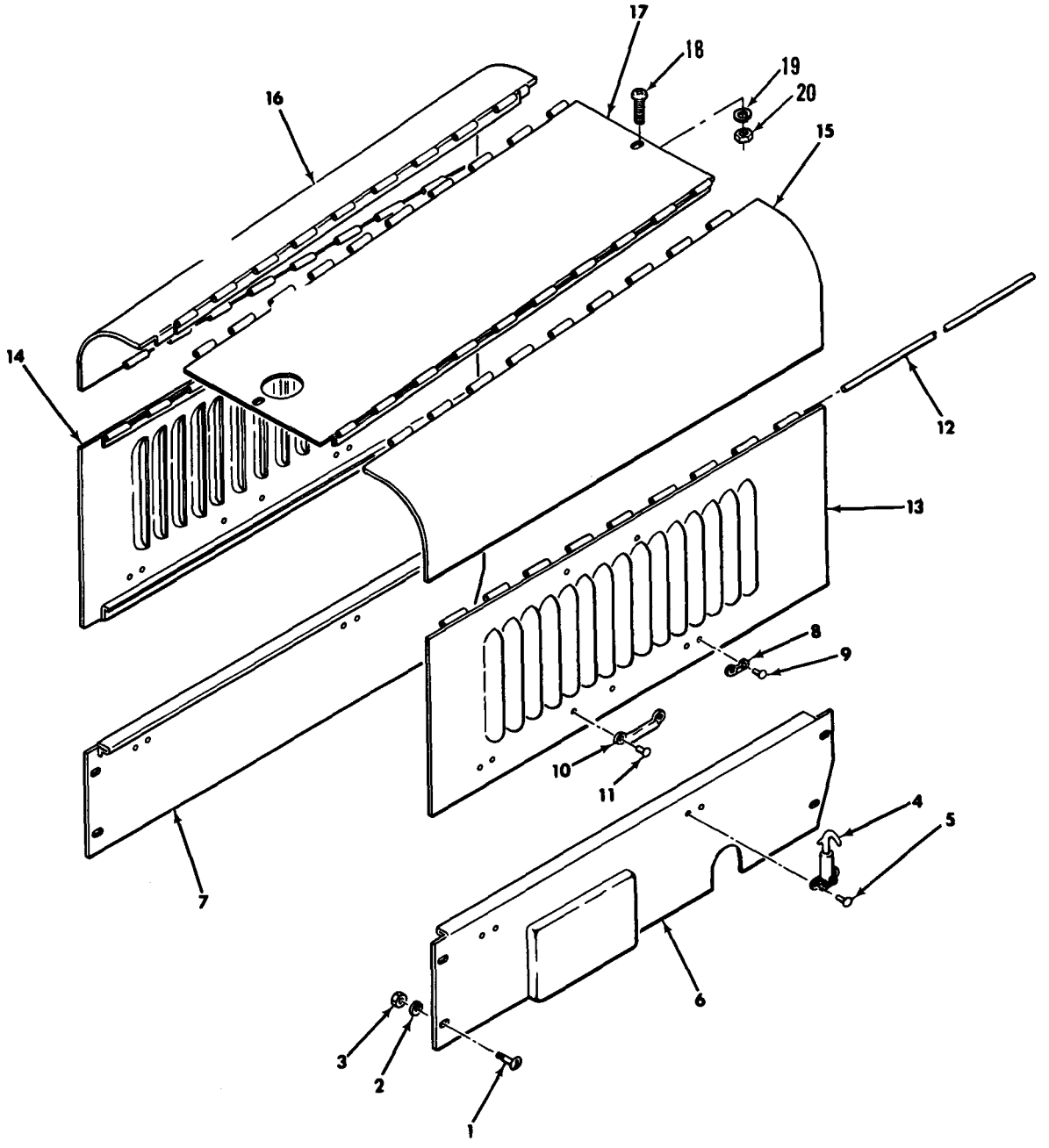


Figure 4-5. Hood assembly (Sheet 1 of 2)

1. Screw
2. Washer
3. Nut
4. Fastener
5. Rivet
6. Panel
7. Panel
8. Strike
9. Rivet
10. Handle
11. Rivet
12. Rod
13. Panel
14. Panel
15. Panel
16. Panel
17. Panel
18. Screw
19. Washer
20. Nut

Figure 4–5. Hood assembly (Sheet 2 of 2)

b. Remove two screws (18), washers (19), and nuts (20). Remove hood assembly.

4-214. DISASSEMBLY. Disassemble the hood as follows:

a. Remove eight rivets (5, figure 4–5) and remove four fasteners (4) from two panels (6 and 7).

b. Remove eight rivets (9) and remove four catches (8). Remove four rivets (11) and remove two handles (10).

c. Remove four rods (12) and remove two louvered panels (13 and 14) and two" curved panels (15 and 16) from center panel (17).

4-215. DOOR ASSEMBLY.

4-216. REMOVAL. See figure 4-6 and remove the door assembly as outlined in paragraph 4-207a.

4-217. DISASSEMBLY. Disassemble the vehicle door as follows:

a. Remove screw (2, figure 4-6), washer (3), handle (1), spring (4), and plate (5). Remove four screws (6) and nuts (7) then remove latch (12), shims (11), and handle assembly. Remove retaining ring (8) and shaft (9) from plate (10).

b. Remove nine screws (14), washers (15), washers (16). Remove interior panel assembly. Remove glass (17) and channel (18). Remove six screws (20), washers (21), nuts (22). Remove regulator (19) from panel (13).

c. Remove weatherstrips (23 and 24). Remove four screws (26), two screws (27), six washers (28), six nuts (29). Remove three hinges (25) and shims (30) from exterior panel (31).

4-218. DECK, FENDERS, AND RUNNING BOARDS.

4-219. REMOVAL. Refer to figure 4-7 and remove the deck, fenders, and running boards as follows:

a. Remove two screws (20), washers (22), and nuts (24). Remove two screws (21), washers (23), and nuts (25). Remove front fender (19).

b. Remove two screws (37), washers (38), and nuts (40) then remove plate cover (36). Remove four screws (31), washers (32), and nuts (33). Remove two screws (13), washers (15), and nuts (17) then remove running board (30).

c. Remove grommet (10). Remove eight nuts (2) and washers (3) and remove two hand rails (1).

d. Remove two screws (6) and nuts (8) and remove catch (4) and spacer (9) from box.

e. Remove eight screws (12), four wedge washers (14), eight washers (15) and nuts (17) and remove rear deck.

4-220. DISASSEMBLY. None required.

4-221. STEERING SYSTEM.

4-222. REMOVAL. See figure 4-8 and remove steering system piping and components as follows:

NOTE

Provide proper receptacle and drain hydraulic fluid prior to removal.

a. Remove three hose assemblies (1, 4 and 5), one adapter (2), two unions (6) and three elbows (3 and 7). Remove breather (11). Remove four screws (8), washers (9) and nuts (10) and remove reservoir tank (12).

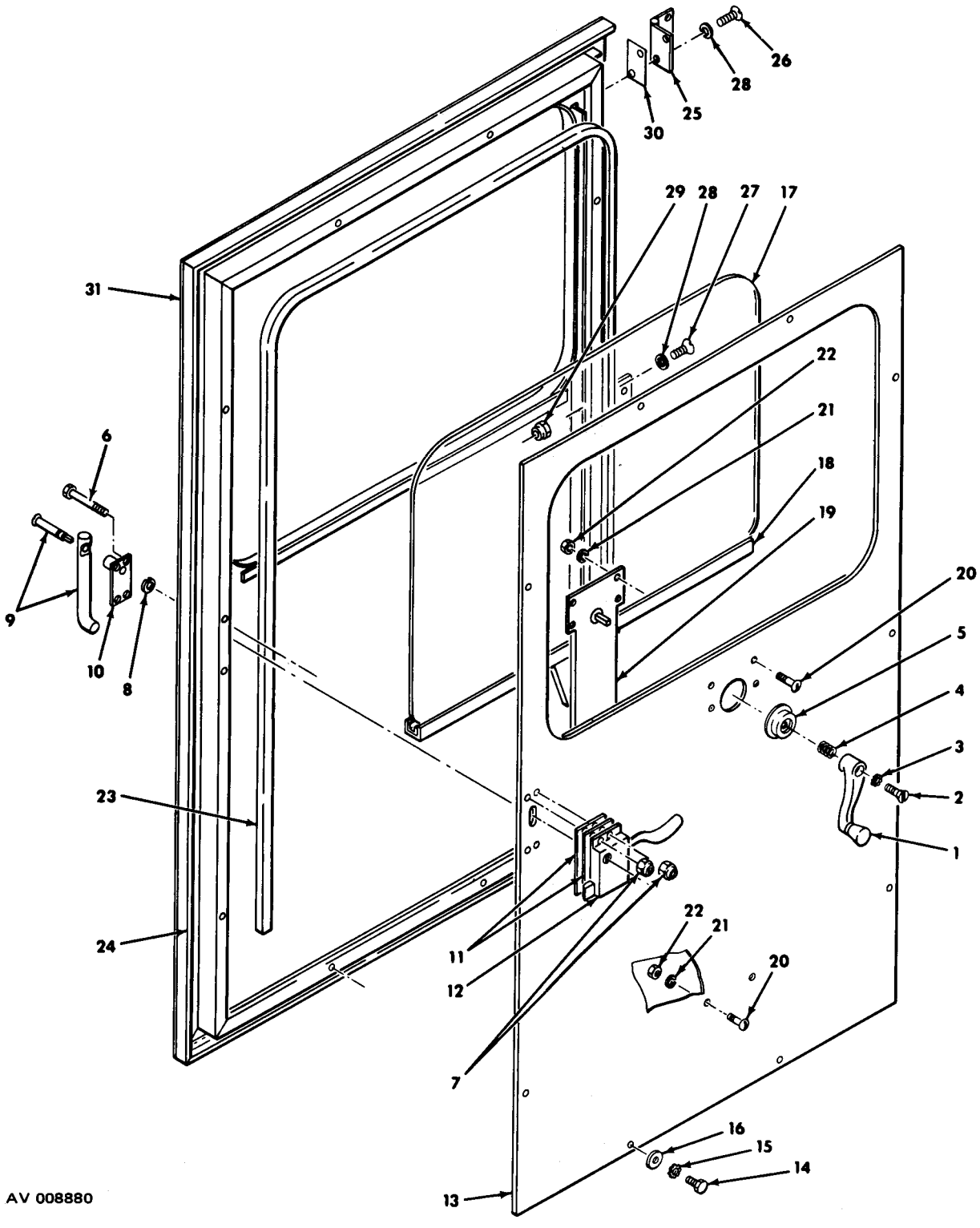


Figure 4–6. Door assembly (Sheet 1 of 2)

1. Handle
2. Screw
3. Washer
4. Spring
5. Escutcheon plate
6. Screw
7. Nut
8. Ring
9. Shaft
10. Plate
11. Shim
12. Larch
13. Panel
14. Screw
15. Washer
16. Washer
17. Glass
18. Channel
19. Regulator
20. Screw
21. Washer
22. Nut
23. Weather strip
24. Weather strip
25. Hinge
26. Screw
27. Screw
28. Washer
29. Nut
30. Shim
31. Panel

Figure 4–6. Door assembly (Sheet 2 of 2)

b. Remove hydraulic pump (21) as outlined in paragraph 4-236.

c. Remove hose (26) and remove valve and fitting (27). Remove valve and fitting (32) as outlined in paragraph 4-230.

d. Remove front drag link valve (37) as outlined in paragraph 4-224.

e. Remove and disassemble the tie rod ends as outlined in paragraph 4-239.

f. Remove two screws (61), screws (62), four washers (63), and two nuts (64) then remove bracket (60). Remove two hose assemblies (65 and 66). Remove booster cylinders as outlined in paragraph 4-242.

g. Remove five cotter pins (69), nuts (70) and ball studs (68). Remove two nuts (71) and washers (72). Remove link assembly. Remove two joints (73) and nuts (74) from link (75).

h. Remove two screws (77), washers (78), and nuts (79) then remove bracket (76). Remove four screws (81 and 82), washers (83), and two nuts (84) then remove bracket (80).

i. Remove lubrication fitting (85), cotter pin (87), nut (88), spacer (89), and pin (86) then remove bellcrank (91). Remove bushing (90) from bellcrank (91).

j. Remove two nuts (92) and washer (93). Remove rear steering link assembly. Remove two ball joints (94) and nuts (95) from rod (96). Remove knob (97) and pin (98). Remove lever (99) and shaft (100).

k. Remove shield (101) and cam and valve assembly (105) as outlined in paragraph 4-233.

1. Remove knob (109) and remove steering column and gear (110) as outlined in paragraph 4-245.

4-223. DISASSEMBLY. None required.

4-224. FRONT DRAG LINK VALVE.

4-225. REMOVAL. See figures 4-8 and 4-9 and remove the front drag link valve as follows:

a. See figure 4-8 and remove two clamps (33). Remove four hose assemblies (26, 29, 34 and 35) and union (36).

b. See figure 4-9 and remove two cotter pins (5). Loosen two plugs (11 and 20) and remove valve.

4-226. DISASSEMBLY. See figure 4-9 and disassemble the front drag link valve as follows:

a. Remove three elbows (1), two couplings (2), and two nipples (3 and 4) from valve body (48).

b. Remove two lubrication fittings (6). Remove two screws (8 and 17), washers (9 and 18) and nuts (10 and 19). Remove two clamps (7 and 16).

c. Remove two plugs (11 and 20), four ball seats (12 and 21), two springs (13 and 22), and two spring seats (12 and 14) from housing (15 and 24).

d. Remove screw (27), clamp (26), washer (28), and nut (29), and remove plug (30) from reducer (31). Remove packing (32) and cover (33).

e. Remove two retaining rings (34) and one slotted washer (35). Remove two washers (38), packings (37), retainers (39), springs (40), and retainers (39). Remove one packing (38) from each retainer (39 and 41).

f. Remove spool (43) and remove two plugs (42) from spool (43). Remove spring plug (44), spring (46), and ball (47) from valve body (48). Remove packing (45) from plug (44).

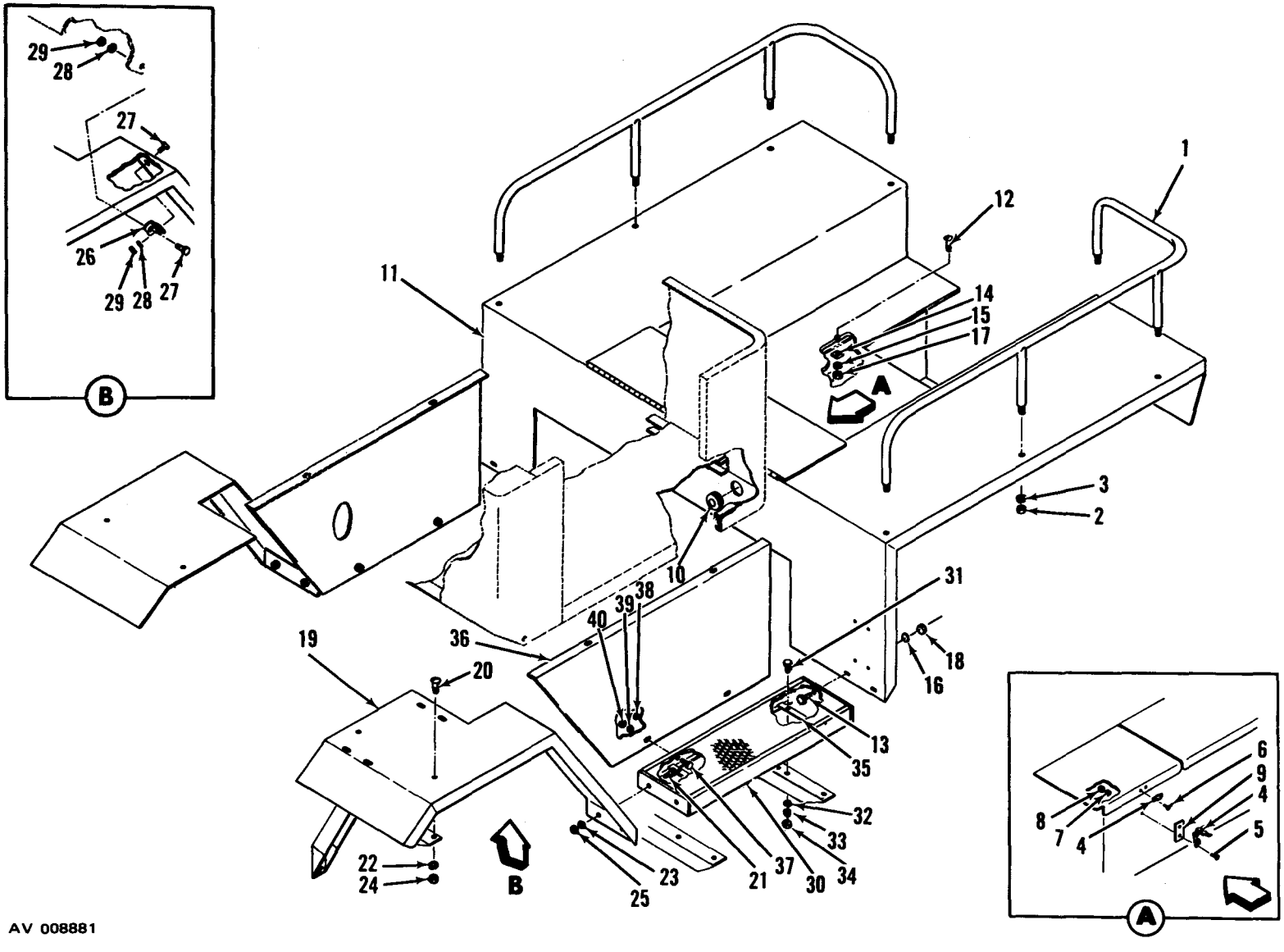


Figure 4–7. Deck, fender, and running board assembly (Sheet 1 of 2)

1. Rail
2. Nut
3. Washer
4. Catch
5. Screw
6. Screw
7. Washer
8. Nut
9. Spacer
10. Grommet
11. Deck weldmen
12. Screw
13. Screw
14. Washer
15. Washer
16. Washer
17. Nut
18. Nut
19. Fender
20. Screw
21. Screw
22. Washer
23. Washer
24. Nut
25. Nut
26. Bracket
27. Screw
28. Washer
29. Nut
30. Running board
31. Screw
32. Washer
33. Nut
34. Washer
35. Clamp
36. Plate
37. Screw
38. Washer
39. Washer
40. Nut

Figure 4-7. Deck, fender, and running board assembly (Sheet 1 of 2)

4-227. RELIEF VALVE.

4-228. REMOVAL. See figure 4-8 and remove the relief valve as follows:

NOTE

Provide proper receptacle and drain hydraulic reservoir prior to valve removal.

a. Remove connecting hoses (26 and 5).

b. Remove valve (27) from pump (21).

4-229. DISASSEMBLY. See figure 4–10 and disassemble the relief valve as follows:

a. Remove bushing (1), elbow (2), and nipple (3). Remove two elbows (5), plug (4), cross (6), and nipple (7).

b. Remove packing (10) from bushing (9). Remove bushing (9) with piston attached from body (21). Remove nut (8) from thread part of piston (11). Remove packing (12) from piston (11) remove bushing (9) completely from piston.

c. Remove two seats (14) and balls (13) on spring (15) from body. Disassemble two seats (14), balls (13), and springs (15).

d. Remove packing (17) and restrictor (16) from valve body (21) and disassemble. Remove valve from valve body (21). Remove packings (17 and 19) and retainers (18) next to packing (19).

4-230. FLOW CONTROL VALVE.

4-231. REMOVAL. Remove the flow control valve as follows:

a. See figure 4-8 and remove four hose assemblies (4, 28, 29 and 30) and union (31).

b. See figure 4-11 and remove two screws (2), two screws (3), four washers (4), and nuts (5). Remove assembled valve and bracket (1) from tractor.

4-23 2. DISASSEMBLY. See figure 4-11 and disassemble the flow control valve as follows:

a. Remove tee (6), two elbows (7), and three bushings (8).

b. Remove retaining ring (9) and remove valve (10) and spring (11) from valve body (12).

4-233. REAR CAM AND VALVE ASSEMBLY.

4-234. REMOVAL. See figure 4-8 and remove the rear cam and valve assembly as follows:

a. Remove clamp (33) and four hose assemblies (28, 30, 65, and 66). Remove two screws (102), washers (103), and nuts (104) and remove shield (101).

b. Remove nut (92) and washer (93). Remove two screws (106), washers (107), and nuts (108) and remove cam and valve assembly (105).

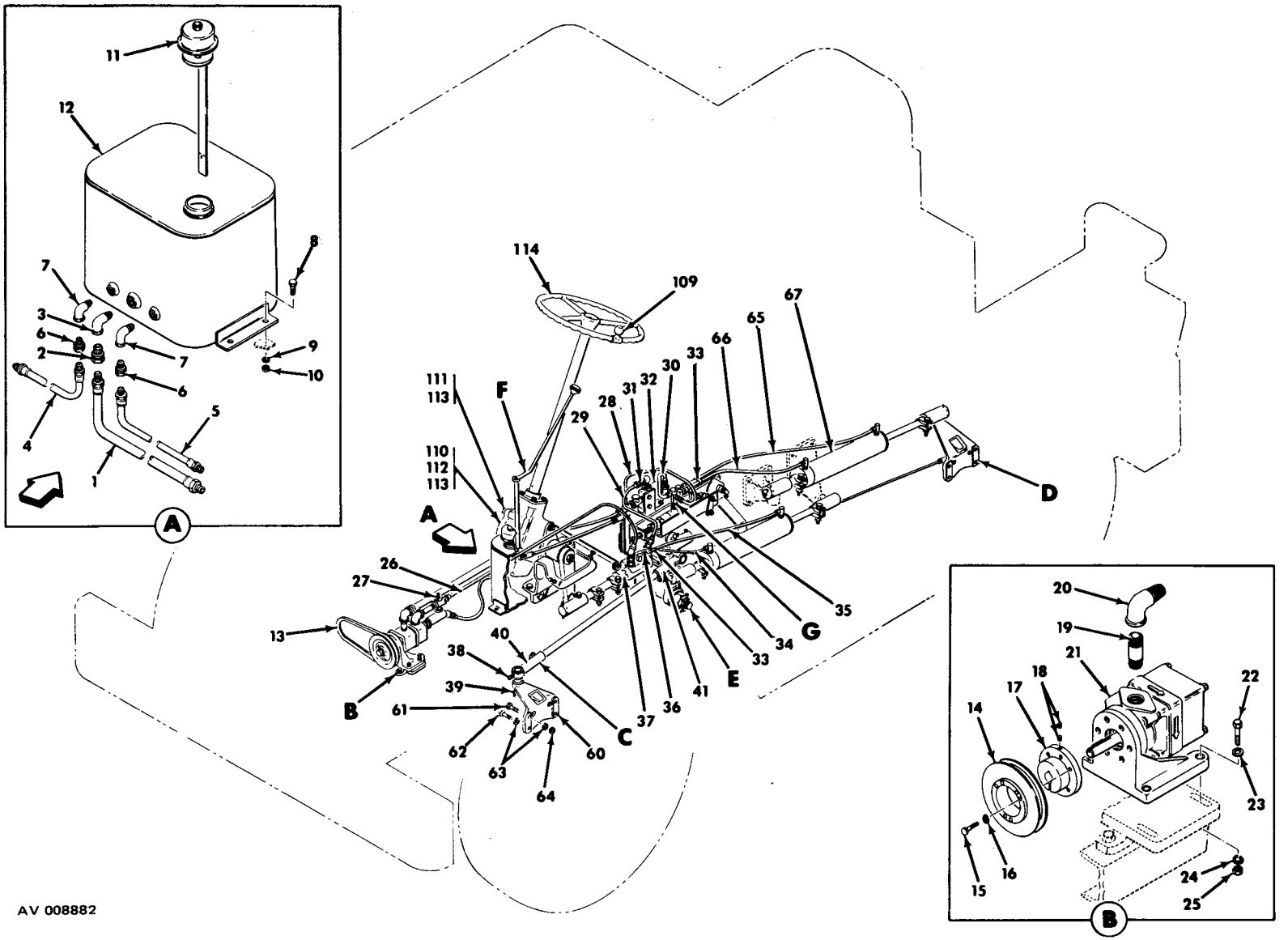


Figure 4—8. Steering system (Sheet 1 of 3)

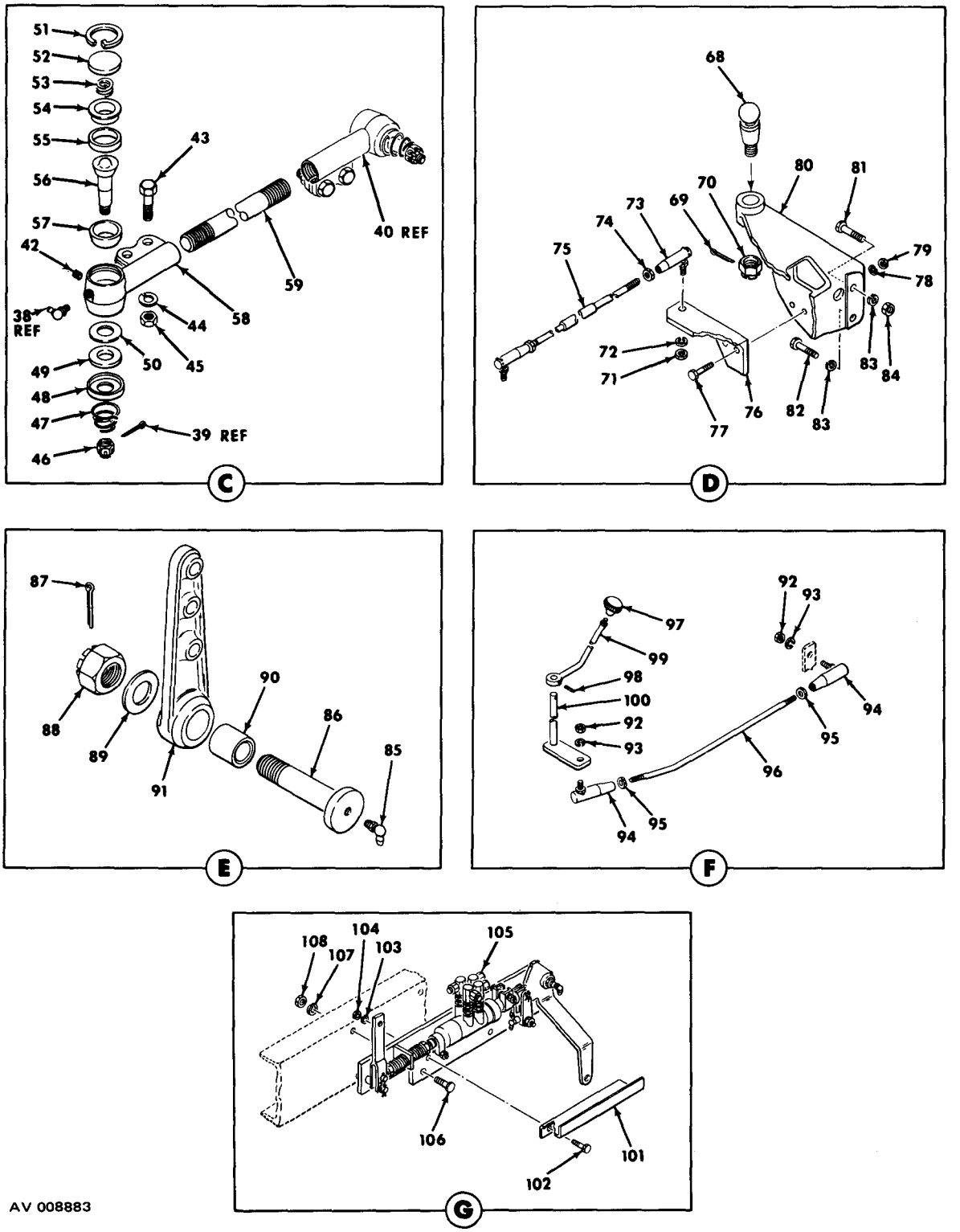


Figure 4–8. Steering system (Sheet 2 of 3)

1. Hose assembly
2. Adapter
3. Elbow
4. Hose assembly
5. Hose assembly
6. Union
7. Elbow
8. Screw
9. Washer
10. Nut
11. Breather
12. Tank
13. V-belt
14. Pulley
15. Screw
16. Washer
17. Adapter
18. Screw
19. Nipple
20. Elbow
21. Pump
22. Screw
23. Washer
24. Washer
25. Nut
26. Hose assembly
27. Valve and fitting
28. Hose assembly
29. Hose assembly
30. Hose assembly
31. Union
32. Valve and fitting
33. Clamp
34. Hose assembly
35. Hose assembly
36. Union
37. Front valve drag link assembly
38. Fitting
39. Pin
40. Tie rod end
41. Tie rod end
42. Plug
43. Bolt
44. Washer
45. Nut
46. Nut
47. Spring
48. Dust cover
49. Packing
50. Washer
51. Ring
52. Plug
53. Spring
54. Seat
55. Packing
56. Stud
57. Bearing
58. Body
59. Drag link
60. Bracket
61. Screw
62. Screw
63. Washer
64. Nut
65. Hose assembly
66. Hose assembly
67. Cylinder assembly
68. Stud
69. Pin
70. Nut
71. Nut
72. Washer
73. Ball joint
74. Nut
75. Link
76. Bracket
77. Screw
78. Washer
79. Nut
80. Bracket
81. Screw
82. Screw
83. Washer
84. Nut
85. Fitting
86. Pin
87. Pin
88. Nut
89. Spacer
90. Bushing
91. Bellcrank
92. Nut
93. Washer
94. Ball joint
95. Nut
96. Rod
97. Knob
98. Pin
99. Steering lever
100. Shaft
101. Shield
102. Screw
103. Washer
104. Nut
105. Cam and valve assembly
106. Screw
107. Washer
108. Nut
109. Knob
110. Steering gear
111. Screw
112. Screw
113. Washer
114. Steering wheel

Figure 4-8. Steering system (Sheet 3 of 3)

4-235. DISASSEMBLY. See figure 4-12 and disassemble the rear cam and valve assembly as follows:

a. Remove cotter pin (1) and pin (2). Remove three cotter pins (3), washer (4), pin (7), roller (8) and bearing (9). Remove lever (5) and assembled valve.

b. Remove two lubrication fittings (6). Remove nut (11) and lever (10). Remove nut (12) and cam (14). Remove bushing (13) from cam (14).

c. Remove nut (16) and washer (17) and remove stud (15). Remove nut (19) and washer (20) and remove pin (18) from support (21).

d. Remove four elbows (22 and 23) and three unions (24). Remove two nuts (25), springs (26) and one rod (27). Remove one screw (29), washer (30), and nut (31) and remove clamp (28).

e. Remove adapter (32), boot (34) and cap (35). Remove one bolt (37), washer (38), and nut (39) and remove clamp (36) from cap (40).

f. Remove two rings (41) and two glands (43). Remove packing (42) from each piston. Remove two packings (44), one plug (45) and two pins (46) from spool (47).

g. Remove spring (48), ring (49), three bushings (50, 52 and 54), two spacers (51 and 53) and sleeve (55) from valve body (61). Remove plug (57), spring (59) and ball (60). Remove pin (58) and packing (56) from plug (57).

4-236. HYDRAULIC PUMP.

4-237. REMOVAL. See figure 4-8 and remove the hydraulic pump as follows:

NOTE

Provide proper receptacle and drain hydraulic reservoir prior to pump removal.

a. Remove hose (1), elbow (20) and pipe nipple (19). Loosen four screws (22) and remove drive belt (13). Remove three screws (15) and washers (16) and remove pulley (14).

b. Loosen two screws (18) and remove pulley adapter (17). Remove four screws (22), washers (23), washers (24) and nuts (25) and remove pump (21).

4-238. DISASSEMBLY. See figure 4-13 and disassemble the hydraulic pump as follows:

a. Remove four screws (2) and pump cover (1). Remove packing (3) from cover (l). Remove spring (4), plate (5) and rotor (9). Remove ten vanes (8) from rotor (9).

b. Remove rotor ring (7) and remove two alinement pins (6) and packing (3) from ring (7).

c. Remove two bolts (11) and remove bracket (10). Remove seal (12), bearing (13), key (14), drive shaft (15), seal (16), and bearing (17) from pump body (18).

4-239. TIE ROD ENDS.

4-240. REMOVAL. See figure 4-8 and remove the tie rod ends as follows:

a. Remove lubrication fittings (38), cotter pins (39) and nuts (46).

b. Loosen bolts (43) and unscrew tie rod ends from rod (59).

4-241. DISASSEMBLY. See figure 4-8 and disassemble the tie rod ends as follows:

a. Remove spring (47), dust shield (48), packing (49) and washer (50) from body (58).

b. Remove retaining ring (51) and remove plug (52), spring (53), spring seat (54), packing (55), ball stud (56) and bearing (57) from body (58).

c. Remove two bolts (43), washers (44), nuts (45) and one pipe plug (42) from body (58).

4-242. BOOSTER CYLINDER.

4-243. REMOVAL. See figure 4-14 and remove the front and rear booster cylinders as follows:

a. Remove inlet and outlet hose assemblies and two cotter pins (5).

b. Loosen plugs (10 and 16) until socket assemblies come free of ball studs. Remove both cylinders.

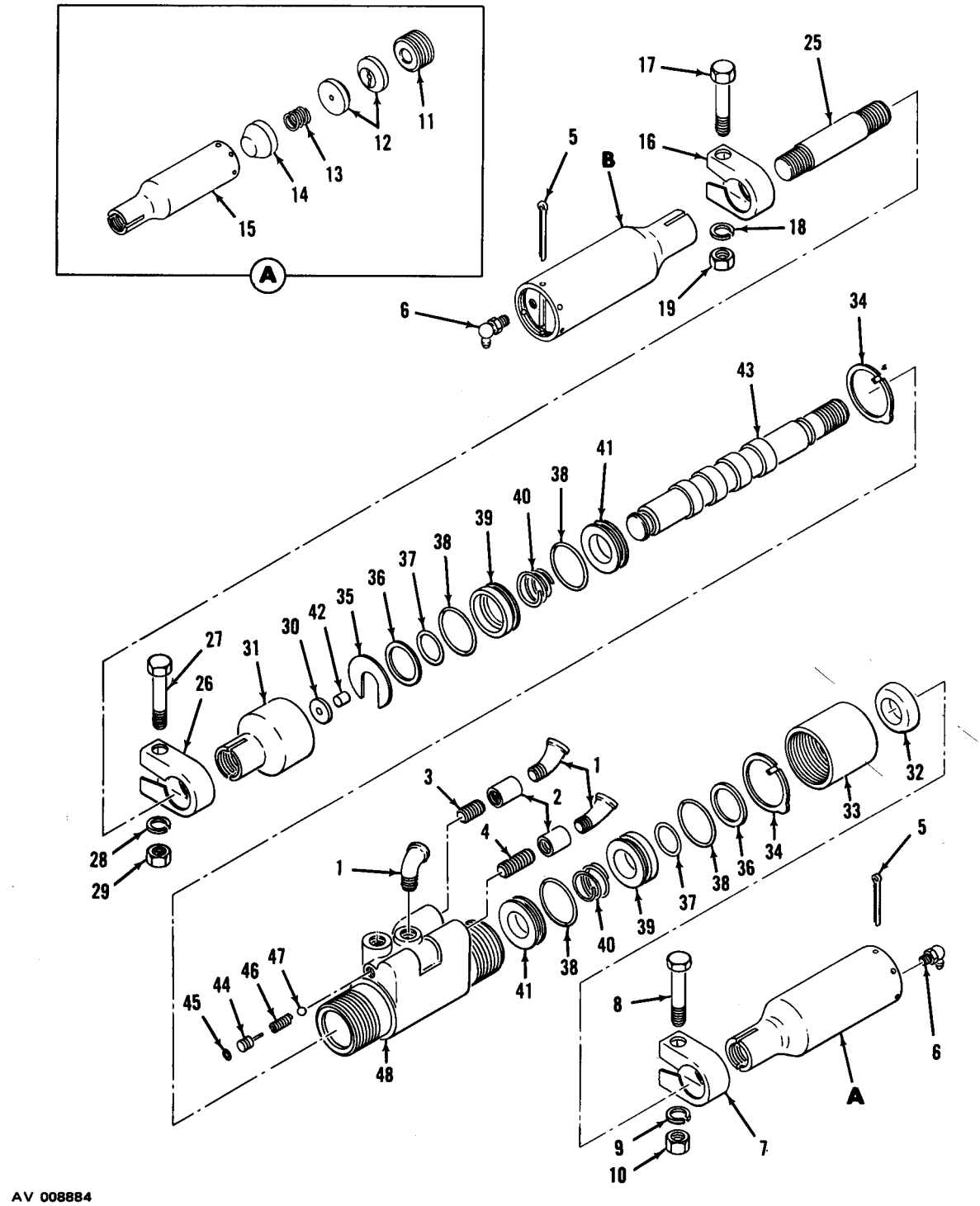
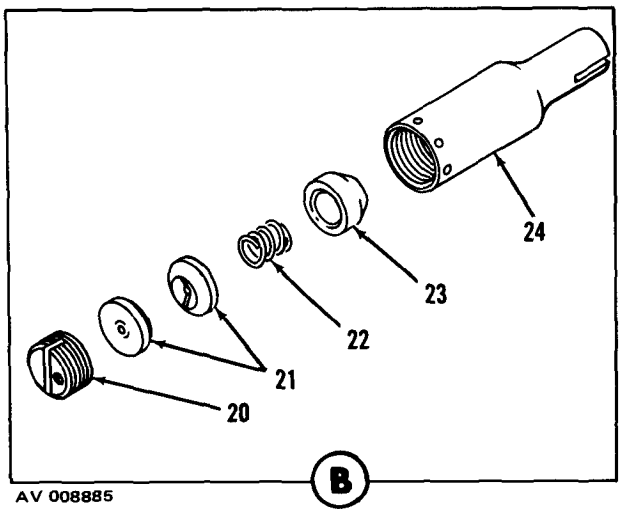
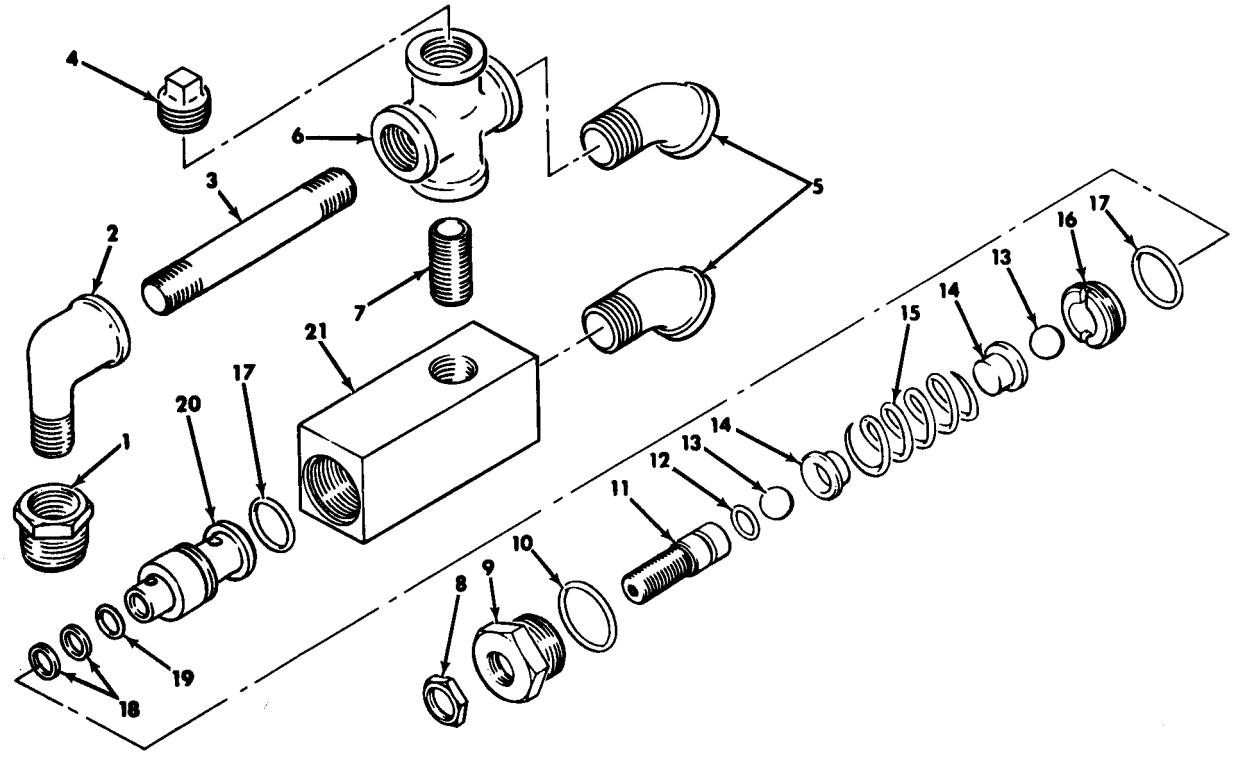


Figure 4-9. Front valve drag link assembly (Sheet 1 of 2)



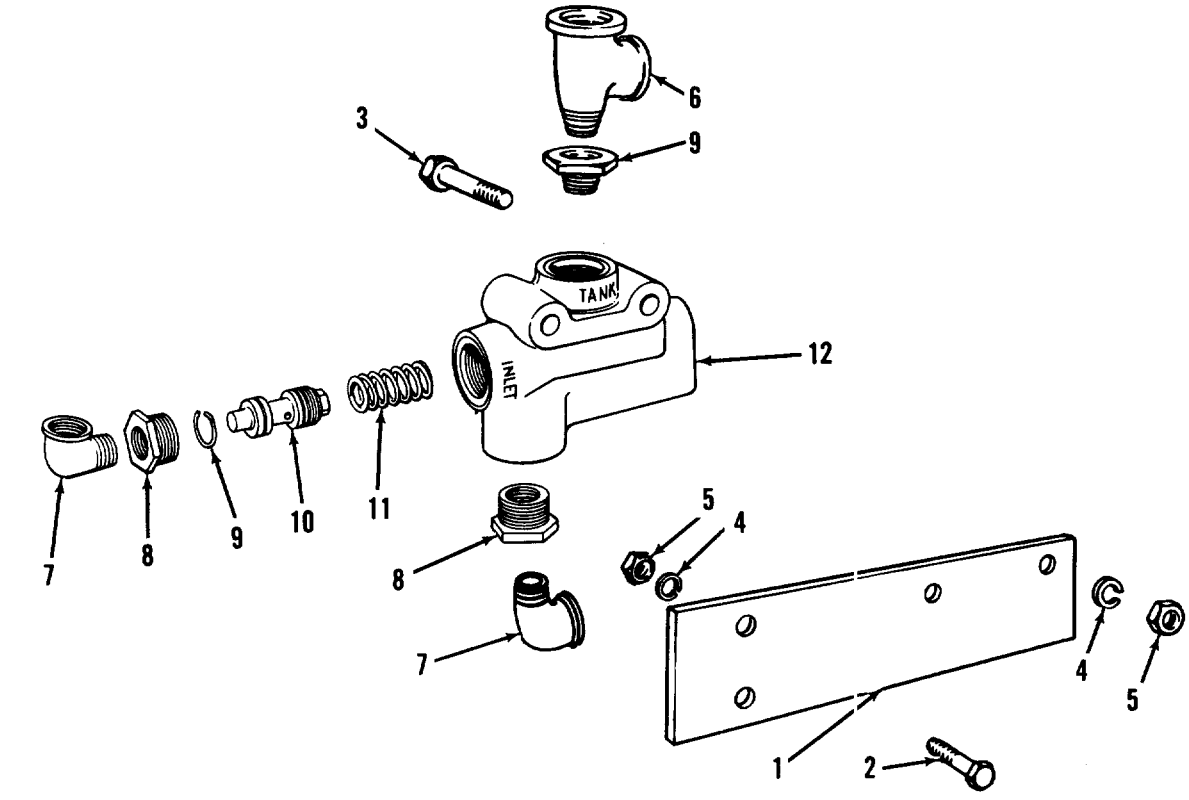
1. Elbow
2. Coupling
3. Nipple
4. Nipple
5. Pin
6. Fitting
7. Clamp
8. Screw
9. Washer
10. Nut
11. Plug
12. Seat
13. Spring
14. Seat
15. Housing
16. Clamp
17. Screw
18. Washer
19. Nut
20. Plug
21. Seat
22. Spring
23. Seat
24. Housing
25. Adapter
26. Clamp
27. Screw
28. Washer
29. Nut
30. Plug
31. Reducer
32. Packing
33. Cover
34. Ring
35. Washer
36. Washer
37. Packing
38. Packing
39. Retainer
40. Spring
41. Retainer
42. Plug
43. spool
44. Plug
45. Packing
46. Spring
47. Ball
48. Body

Figure 4-9. Front valve drag link assembly (Sheet 2 of 2)



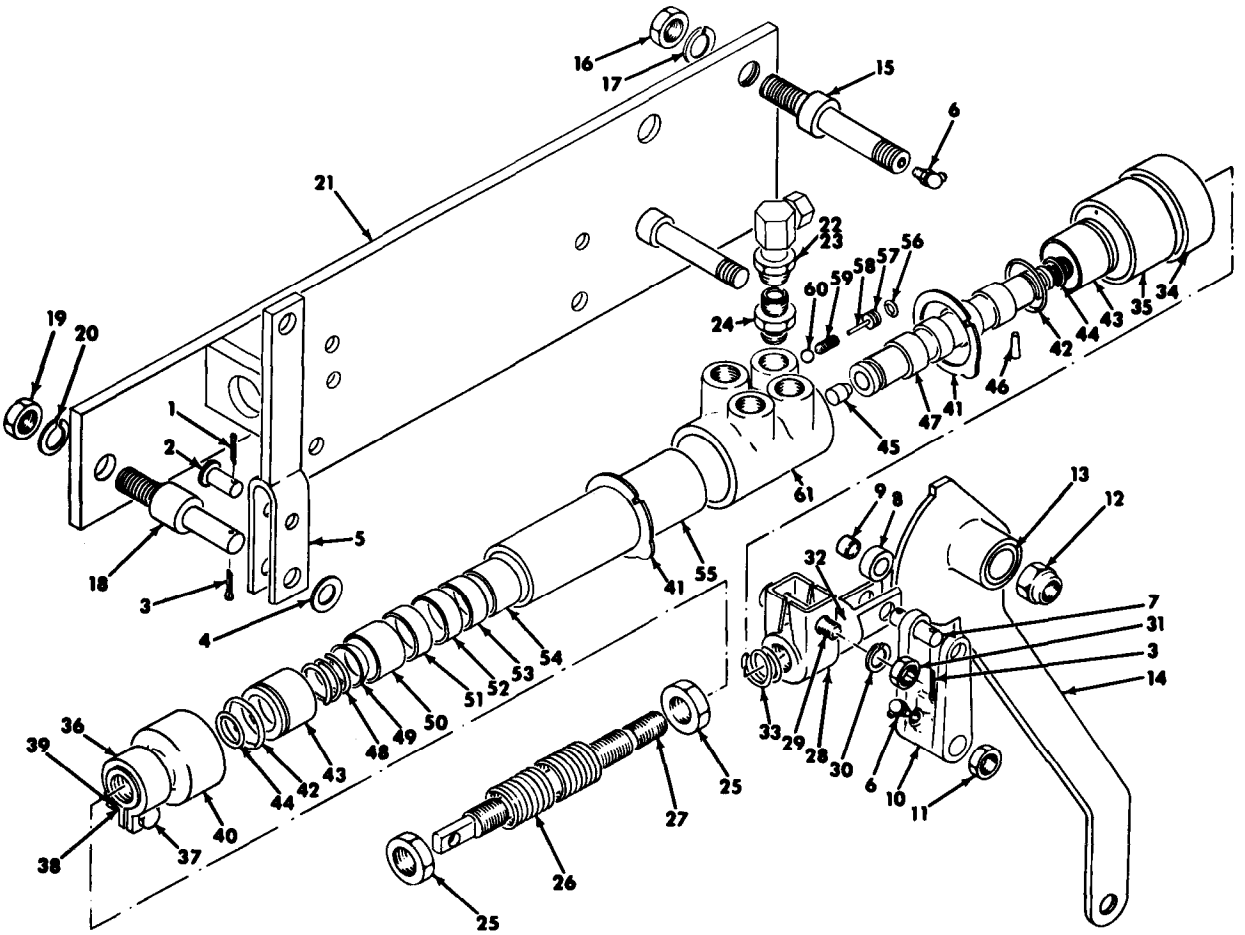
1. Bushing
2. Elbow
3. Nipple
4. Plug
5. Elbow
6. Cross
7. Nipple
8. Nut
9. Bushing
10. Packing
11. Piston
12. Packing
13. Ball
14. Seat
15. Spring
16. Restrictor
17. Packing
18. Retainer
19. Packing
20. Valve
21. Valve body

Figure 4-10. Relief valve assembly



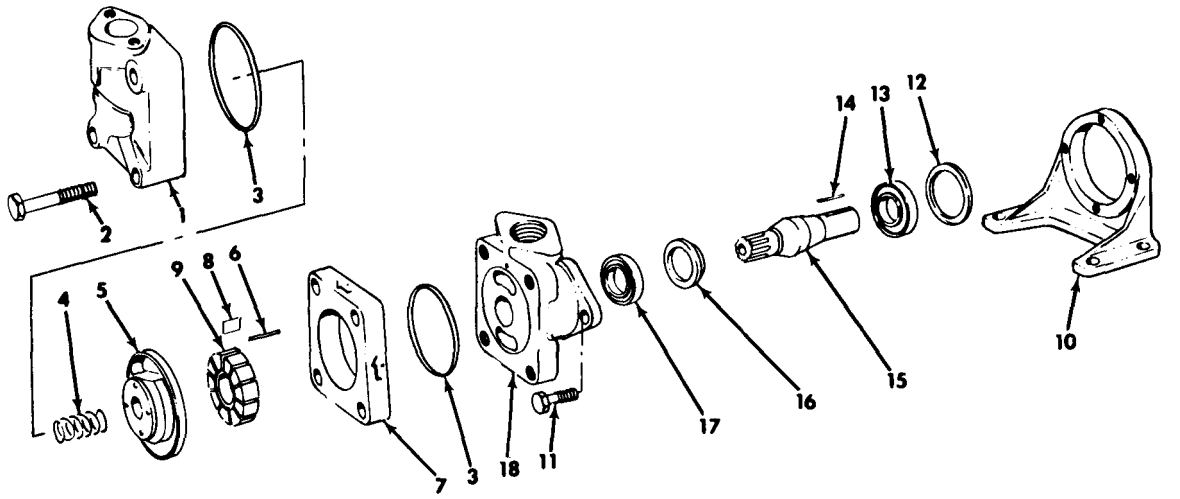
1. Bracket
2. Screw
3. Screw
4. Washer
5. Nut
6. Tee
7. Elbow
8. Bushing
9. Ring
10. Valve Assembly
11. Spring
12. Valve Body

Figure 4–11. Flow control valve assembly



1. Pin
2. Pin
3. Pin
4. Washer
5. Lever
6. Fitting
7. Pin
8. Roller
9. Bearing
10. Lever
11. Nut
12. Nut
13. Bushing
14. Cam
15. Stud
16. Nut
17. Washer
18. Pin
19. Nut
20. Washer
21. Support
22. Elbow
23. Elbow
24. Union
25. Nut
26. Spring
27. Spool
28. Clamp
29. Screw
30. Washer
31. Nut
32. Adapter
33. Spring
34. Boot
35. Cover
36. Clamp
37. Bolt
38. Washer
39. Nut
40. Cover
41. Ring
42. Packing
43. Retainer
44. Packing
45. Plug
46. Pin
47. Spool
48. Spring
49. Ring
50. Bushing
51. Spacer
52. Bushing
53. Spacer
54. Bushing
55. Sleeve
56. Packing
57. Plug
58. Pin
59. Spring
60. Ball
61. Body

Figure 4-12. Rear cam and valve assembly



1. Cover
2. Screw
3. Packing
4. Spring
5. Plate
6. Pin
7. Ring
8. Vane kit
9. Rotor
10. Bracket
11. Bolt
12. Ring
13. Bearing
14. Key
15. Shaft
16. Seal
17. Bearing
18. Body

Figure 4-13. Hydraulic pump

4-244. DISASSEMBLY. See figure 4-14 and disassemble the booster cylinders as follows:

a. Remove two elbows (1), bushings (2) and preformed packings (3). Remove two lubrication fittings (4). Remove two screws (7), washers (8) and nuts (9) and remove two clamps (6).

b. Remove one plug (10), two seats (11), one spring (12) and retainer (13) from housing (14). Remove socket (15). Remove one plug (16), two seats (17), one spring (18) and retainer (19) from housing (20).

c. Remove screw (22), washer (23) and nut (24) and remove clamp (21). Remove four screws (26) and washers (27) and remove cover (25).

d. Remove retaining ring (28) or retainer (33). Remove backup rings and packings (29, 30, and 31). Remove rod and piston assembly from cylinder (39).

e. Remove cotter pin (35), nut (36), rod (34), and two rings (37) from piston (38).

4-245. STEERING GEAR.

4-246. REMOVAL. See figure 4-15 and remove the steering gear as follows:

a. Disconnect the front drag link valve as outlined in paragraph 4-224.

b. Remove nut (22), washer (23), and steering arm (26).

c. See figure 4-8 and remove two screws (111 and 112), two washers (113), and steering gear (110).

4-247. DISASSEMBLY. See figure 4-15 and disassemble the steering gear as follows:

NOTE

Provide proper receptacle, remove drain plugs (14) and drain housing before disassembly.

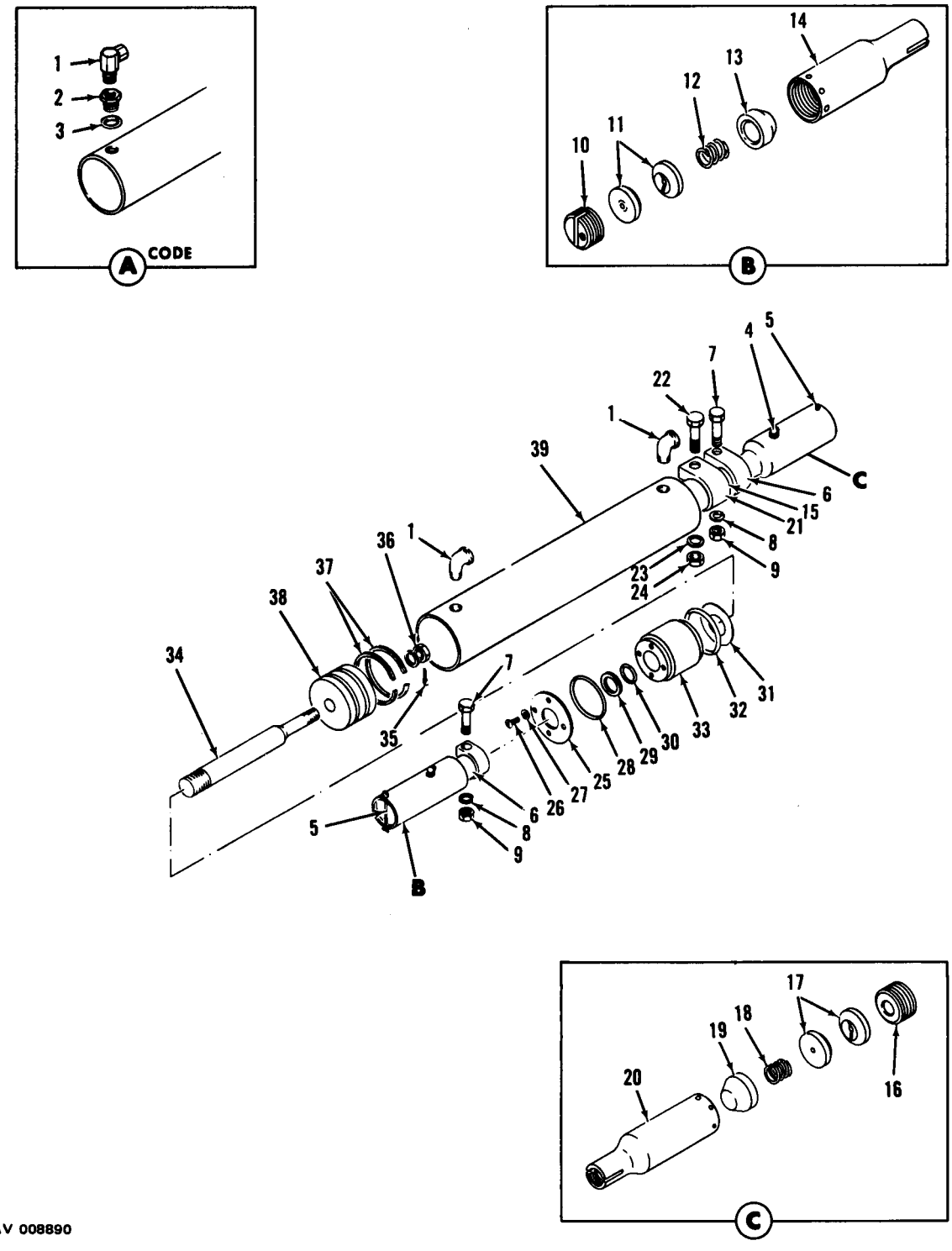


Figure 4–14. Booster cylinders (Sheet 1 of 2)

1. Elbow
2. Bushing
3. Packing
4. Fitting
5. Pin
6. Clamp
7. Screw
8. Washer
9. Nut
10. Plug
11. Seat
12. Spring
13. Retainer
14. Housing
15. Socket assembly
16. Plug
17. Seat
18. Spring
19. Retainer
20. Housing
21. Clamp
22. Screw
23. Washer
24. Nut
25. Cover
26. Screw
27. Washer
28. Ring
29. Packing
30. Packing
31. Packing
32. Ring
33. Retainer
34. Rod
35. Pin
36. Nut
37. Ring
38. Piston
39. Cylinder

Figure 4-14. Booster cylinders (Sheet 2 of 2)

a. Remove rubber cover (1). Push horn button (2), turn one-third turn and remove button (2), cup (3), spring (4) and contact (5).

b. Remove three screws (10) and remove plate (9) and cable assembly. Remove terminal (6), ferrule (8), washer (12) and spring (11) from cable (7).

c. Remove nut (35) and remove wheel (13), spring (27) and spring seat (28). Remove bearing (29), and tubes (30 and 40).

d. Remove ten screws (15 and 16) and washers (17) and remove cover (20) and gasket (21). Remove nut (18) and setscrew (19) from cover (20). Remove levershaft (25), remove two bearings (24) from levershaft (25).

e. Remove four screws and washers and remove cover (31) and shims (32, 33, 34) from housing (44). Remove two retaining rings (36), rings (37) and 28 balls (38) from cam (39).

f. Remove seal (41), two bearings (42) and cover (43) from housing (44).

4-248. ELECTRICAL SYSTEM.

4-249. DISTRIBUTOR.

4-250. REMOVAL. See figure 4-16 and remove the distributor as follows:

a. Remove six spark plug wires (5, 6 and 7).

b. Remove screw (14) and remove distributor (13).

4-251. DISASSEMBLY. See figure 4-17 and disassemble the distributor as follows:

a. Unclip the distributor cap. Remove cap and remove plunger (1) and spring (2) from cap (3). Remove rotor (4) and plate (5).

b. Remove two screws (6) and washers (7) and remove breaker plate assembly. Remove screw (8), washer (9) and lock plate (10). Remove two screws (12) and washer (13) and remove contact set (11). Remove two screws (15 and 16) and washer (17) and remove capacitor (14) from plate (18).

c. Remove felt wick (19) and retaining ring (20) and remove cam (21) and spacer (22). Remove two springs (23) and weights (24) from shaft (32).

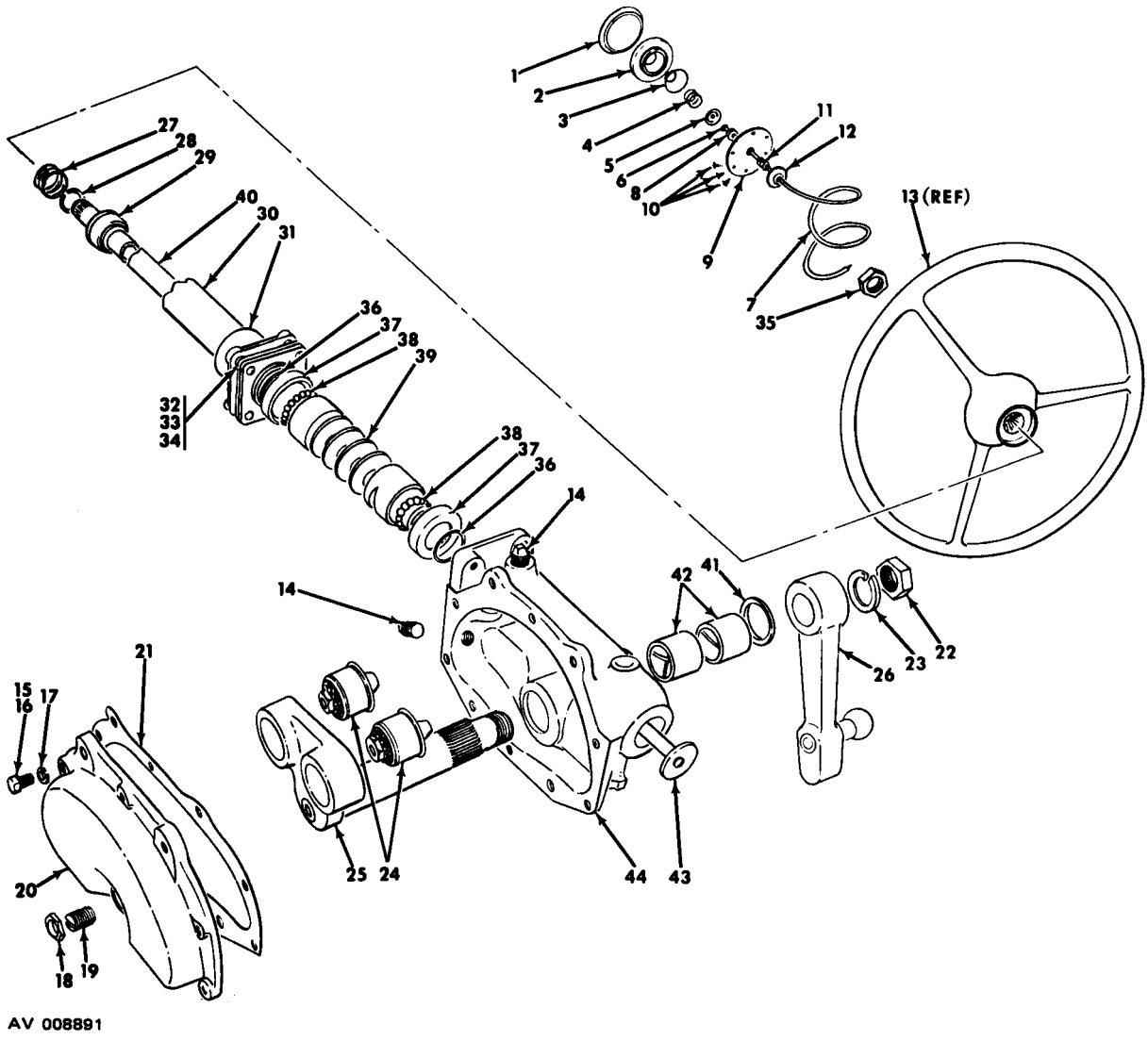
d. Remove two nuts (36), three washers (37, 38 and 39) and washer (40). Remove terminal screw (41), terminal (42), insulator (43) and washer (44).

e. Remove pin (30) and collar (31) and remove drive shaft (32) and thrust washer (35). Remove screw (27) and two washers (28 and 29) and remove advance arm (26).

f. Remove oiler (45) and wick (46). Remove two bearings (47) from base (48).

4-252. IGNITION COIL.

4-253. REMOVAL. See figure 4-16 and remove two nuts (16), washers (17), and remove coil (15).



1. Cover
2. Button
3. Cup
4. Spring
5. Contact
6. Terminal
7. Cable
8. Ferrule
9. Plate assembly
10. Screw
11. Spring
12. Washer
13. Wheel
14. Plug
15. Screw
16. Screw
17. Washer
18. Nut
19. Setscrew
20. Cover
21. Gasket
22. Nut
23. Washer
24. Bearing
25. Levershaft
26. Arm
27. Spring
28. Seat
29. Bearing
30. Tube
31. Cover
32. Shim
33. Shim
34. Shim
35. Nut
36. Ring
37. Ring
38. Ball
39. Cam
40. Tube
41. Seal
42. Bearing
43. Cover
44. Housing

Figure 4-15. Steering gear

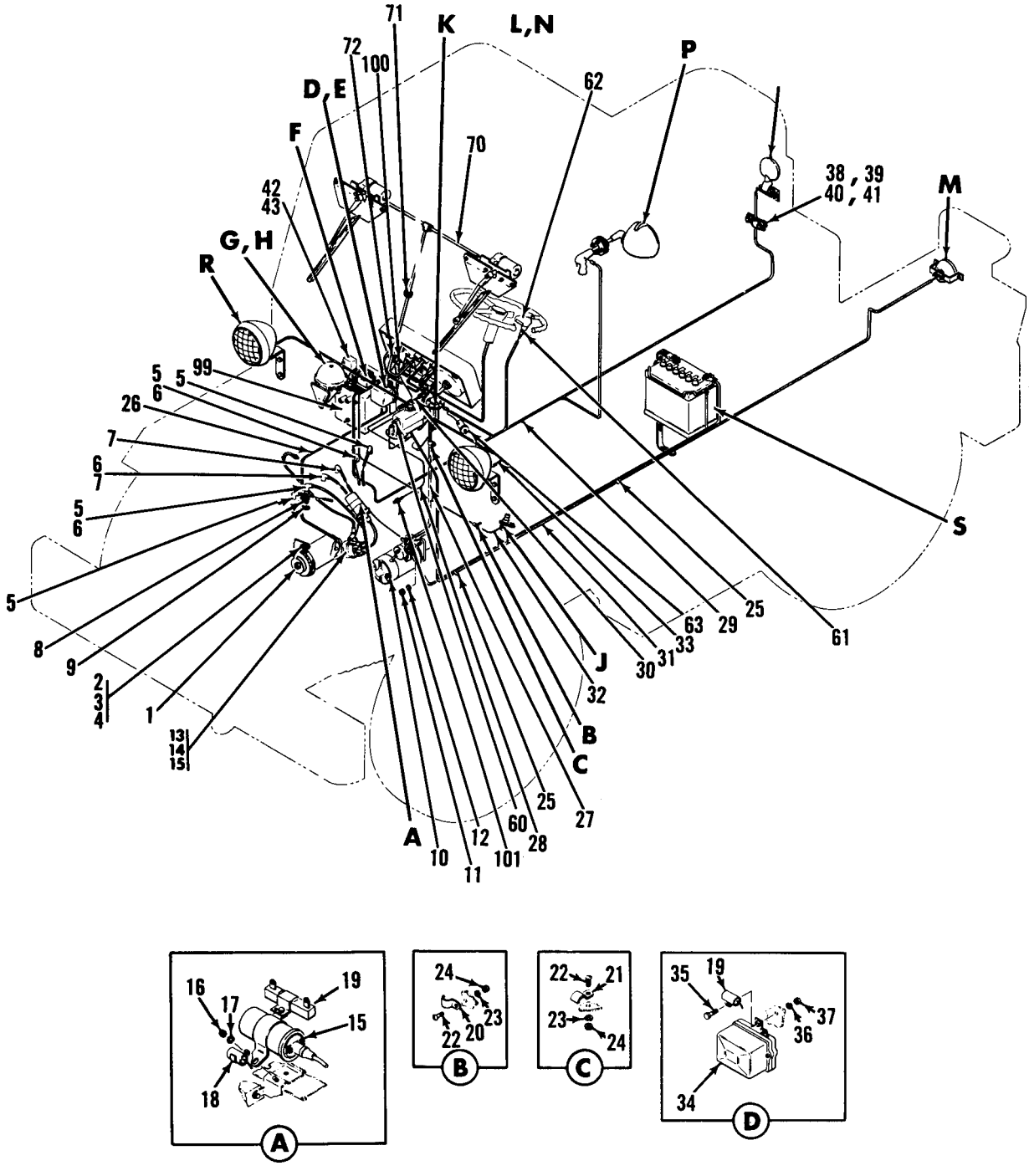


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Figure 4–16. Electrical system (Sheet 1 of 4)

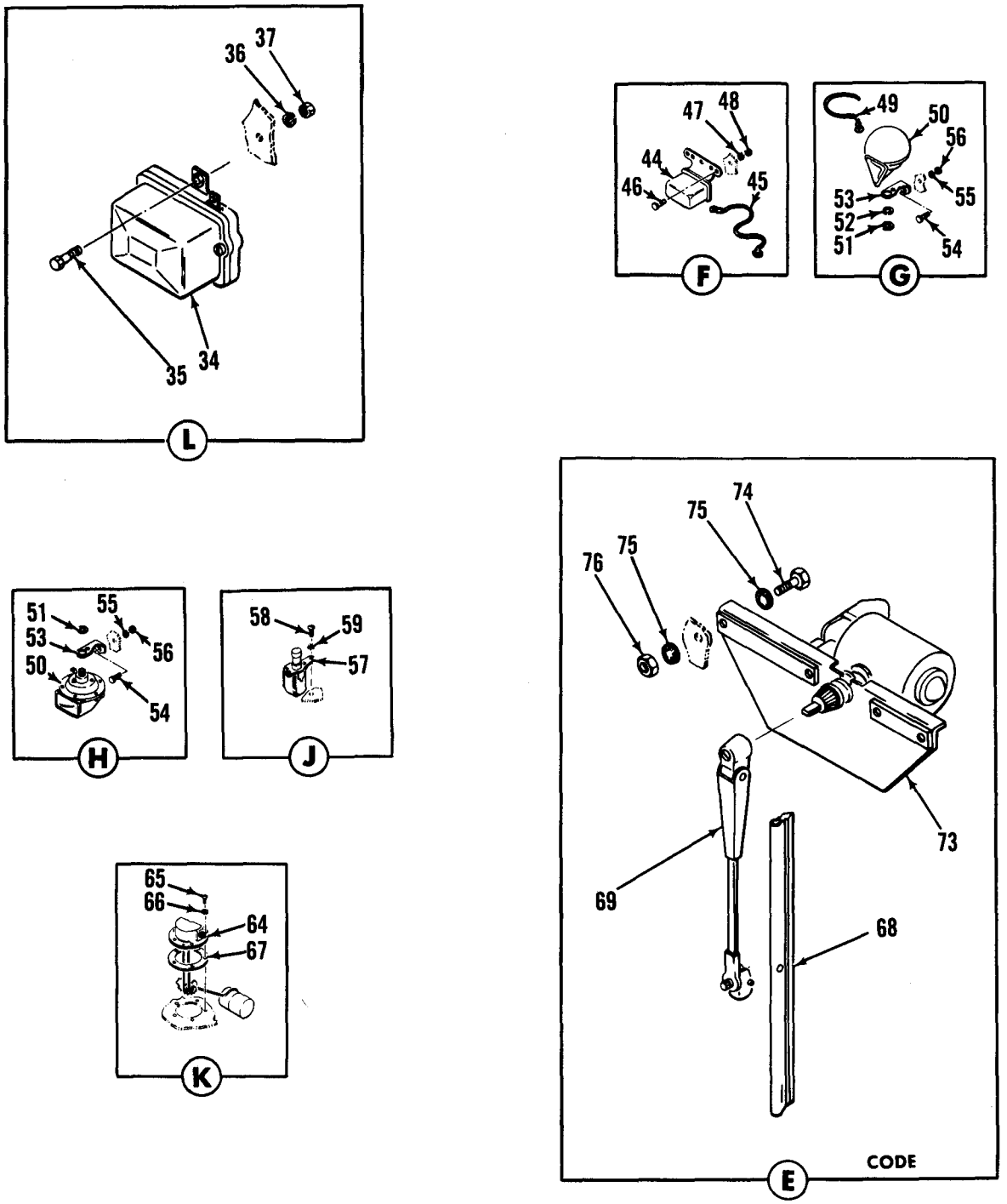


Figure 4–16. Electrical system (Sheet 2 of 4)

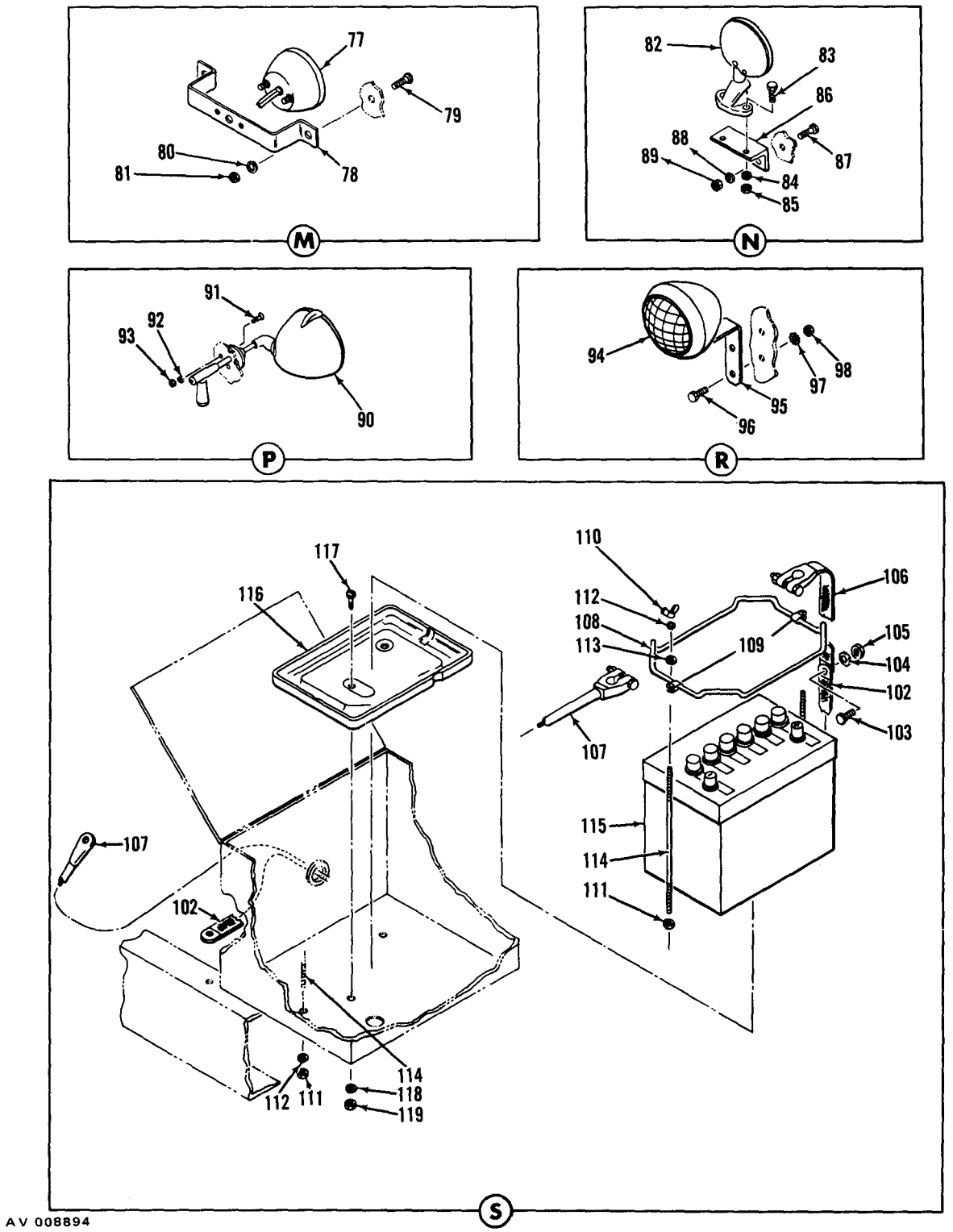


Figure 4-16. Electrical system (Sheet 3 of 4)

1. Generator
2. Screw
3. Washer
4. Nut
5. Wire
6. Wire
7. Wire
8. Spark Plug
9. Gasket
10. Starter
11. Nut
12. Washer
13. Distributor
14. Screw
15. Coil
16. Nut
17. Washer
18. Capacitor
19. Resistor
20. Strap
21. Strap
22. Screw
23. Washer
24. Nut
25. Clip
26. Wiring harness
27. Wiring harness
28. Wiring harness
29. Wiring harness
30. Wiring harness
31. Wiring harness
32. Wiring harness
33. Wiring harness
34. Regulator
35. Screw
36. Washer
37. Nut
38. Clamp
39. Screw
40. Nut
41. Screw
42. Relay
43. Nut
44. Relay
45. Wire
46. Screw
47. Washer
48. Nut
49. Wire
50. Horn
51. Nut
52. Washer
53. Bracket
54. Screw
55. Washer
56. Nut
57. Switch
58. Screw
59. Washer
60. Switch
61. Nut
62. Knob and switch assembly
63. Switch
64. Transmitter
65. Screw
66. Washer
67. Gasket
68. Blade
69. Arm
70. Wire assembly
71. Grommet
72. Wire
73. Bracket and motor assembly
74. Screw
75. Washer
76. Nut
77. Stoplight-taillight
78. Bracket
79. Screw
80. Washer
81. Nut
82. Floodlight
83. Screw
84. Washer
85. Nut
86. Bracket
87. Screw
88. Washer
89. Nut
90. Spotlight assembly
91. Screw
92. Washer
93. Nut
94. Headlight assembly
95. Bracket
96. Screw
97. Washer
98. Nut
99. Heater
100. Tube assembly
101. Adapter
102. Lead
103. Screw
104. Washer
105. Nut
106. Cable
107. Cable
108. Hold down rod
109. Clip
110. Nut
111. Nut
112. Washer
113. Washer
114. Stud
115. Battery
116. Tray
117. Screw
118. Washer
119. Nut

Figure 4-16. Electrical system (Sheet 4 of 4)

4-254. VOLTAGE REGULATOR.

4-255. REMOVAL. See figure 4-16. Disconnect wires from terminals and remove three screws (35), washers (36), nuts (37), and remove regulator (34).

4-256. GENERATOR.

4-257. REMOVAL. See figure 4-16 and remove the generator as follows:

a. Disconnect wires from terminals.

b. Remove two screws (2), washers (3) and nuts (4) and remove generator (1).

4-258. DISASSEMBLY. See figure 4-18 and disassemble the generator as follows:

a. Remove nut (2) and washer (3). Remove pulley (1) and key (4). Remove two bolts (5) and washers (6) and remove front and rear end bell assemblies.

b. Remove two screws (20) washers (21), and remove two brushes (19), two arms (22) and two springs (23). Remove oiler (24), wick (25) and wick spring (26) from end bell. Remove bearing (27) from end bell (28).

c. Remove three screws (7) and washers (8), two washers (9), retainer (10), gasket (11), bearing (12) and retainer (13) from end bell (15). Remove oilcup (14) from end bell (15).

d. Remove armature (18) and remove retainer (16) and retaining ring (17) from armature shaft. Remove screw (29) and washer (30) from frame (46).

e. Remove four nuts (32 and 35), four washers (33 and 36), two washers (34 and 37) and washers (38). Remove two screws (40) and remove two pole shoes (43) and coils (44 and 45).

4-259. STARTER.

4-260. REMOVAL. See figure 4-16 and remove two nuts (11) and washers (12). Remove starter (10).

4-261. DISASSEMBLY. See figure 4-19 and disassemble the starter as follows:

a. Remove two bolts (2) and washers (3). Remove end bell (1) and remove bushing (5) and felt pad (4) from end bell (1). Remove two thrust washers (6) and brush holder (8). Remove brushes and four springs (7) from holder (8).

b. Remove one nut (9) and washer (10). Remove screw (12), lock washer (13), two screws (14) and washers (15) and remove solenoid (11). Remove grommet (16) from solenoid (11). Remove core (18), spring (17) and boot (19).

c. Remove pinion housing (23). Remove pin (21), fork (22) and bushing (20) from housing (23).

d. Remove step washer (24), retaining ring (25), assembled pinion and clutch, and bushing (31) from armature (32). Remove retaining ring (27), washer (28) and spring (29) from pinion (30).

e. Remove screw (34) and brush set (33). Remove four screws (36), four pole shoes (35) and four coils (37) from frame (38).

4-262. WINDSHIELD WIPER (Code Cl).

4-263. REMOVAL. See figure 4–16. Remove one nut and washer and remove wiper blade (68) and wiper arm (69). Remove four screws (74), eight washers (75), and four nuts (76) and remove wiper motor (73).

4-264. DISASSEMBLY. See figure 4-20 and disassemble the windshield wiper as follows:

a. Remove three screws (1) and washers (2). Remove nut (23) and washer (24) and remove motor assembly from bracket assembly.

b. Remove two screws (3) and washers (4). Remove cap assembly from motor. Remove brush (5) and two springs (6) from cap (7).

c. Remove two screws (14) and washers (15). Loosen screw (16) and remove motor lug. Remove capacitor (13) and gasket (18). Remove brush (11) and housing (12).

d. Remove four screws (20) and remove cover (19), gasket (21) and radio suppression plate (22). Remove gear (25) and washer (26) from housing (27).

e. Remove nut (34), washer (35), driver (36), boot (37), nut (38), washer (39) and felt washer (40) from shaft (44). Remove two screws (32) and washers (33) and remove assembled parts from bracket (45).

f. Remove two spring clips (28) and washers (29). Remove connecting link (31) from arm (30) and pin (41). Remove nut (42) and washer (43). Remove pin (41) from shaft (44).

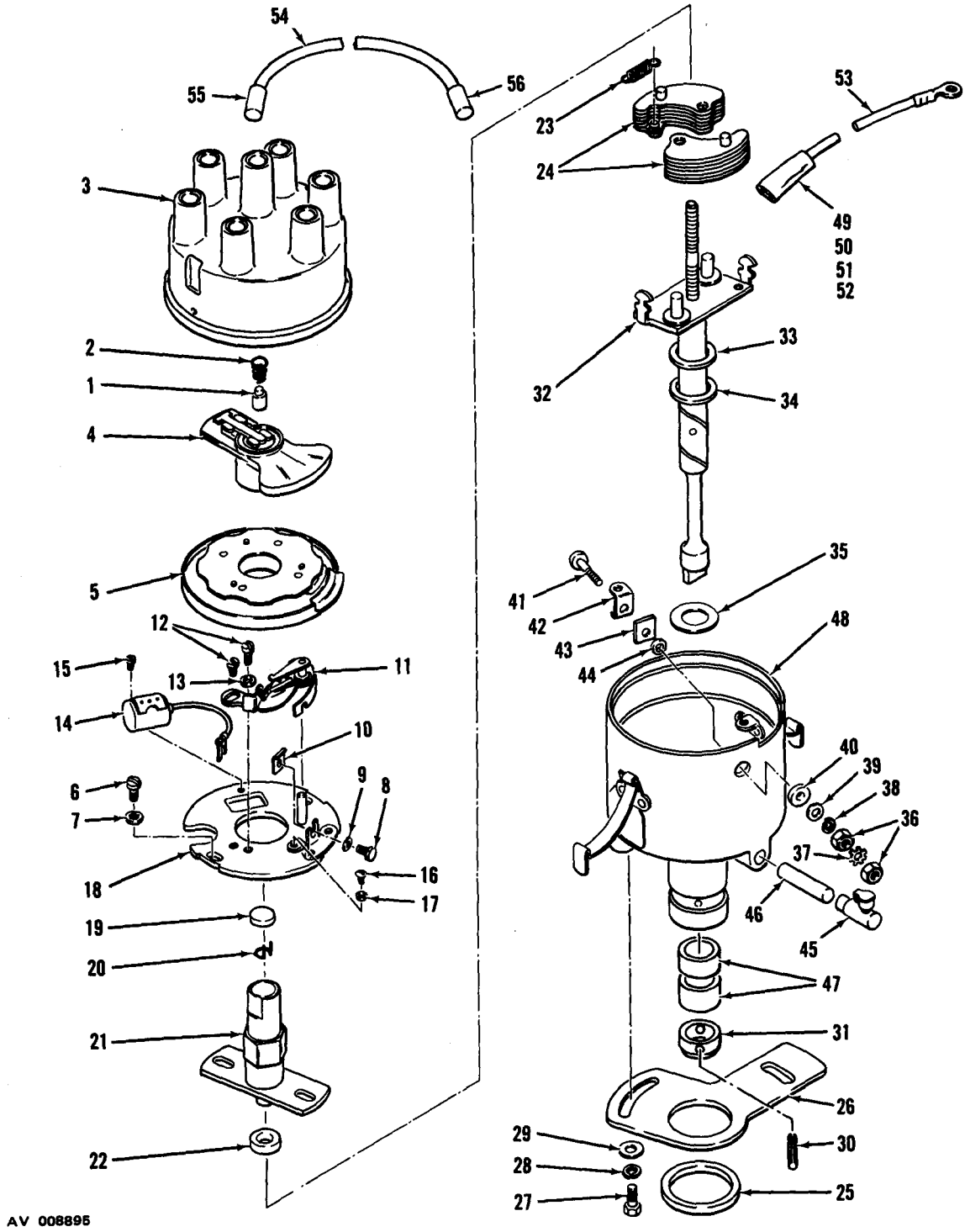


Figure 4–17. Distributor (Sheet 1 of 2)

1. Contact
2. Spring
3. Cap
4. Rotor
5. Plate
6. Screw
7. Washer
8. Screw
9. Washer
10. Plate
11. Contact set
12. Screw
13. Washer
14. Capacitor
15. Screw
16. Screw
17. Washer
18. Plate
19. Wick
20. Ring
21. Cam
22. Spacer
23. Spring set
24. Weight
25. Packing
26. Arm
27. Screw
28. Washer
29. Washer
30. Pin
31. Collar
32. Shaft
33. Washer
34. Washer
35. Washer
36. Nut
37. Washer
38. Washer
39. Washer
40. Washer
41. Screw
42. Terminal
43. Plate
44. Washer
45. Oiler
46. Wick
47. Bearing
48. Base
49. Terminal
50. Sleeve
51. Washer
52. Nipple
53. Wire assembly
54. Wire assembly
55. Terminal
56. Terminal

Figure 4-17. Distributor (Sheet 2 of 2)

4-265. WINDSHIELD WIPER (Codes C2 and D).

4-266. REMOVAL. See figure 4-16 and remove the windshield wiper as outlined in paragraph 4–263.

4-267. DISASSEMBLY. See figure 4-21 and disassemble the windshield wiper as follows:

a. Remove three screws (1) and washers (2). Remove nut (24), washer (25) and remove motor assembly from bracket assembly.

b. Remove two screws (4) and washers (5) and remove cap (3). Remove thrust disk (6) and spring disk (7) from cap (3). Remove armature (8).

c. Remove two screws (20) and screw (21) and remove cover (19). Loosen screw (16) and remove lead. Remove gasket (22). Remove two screws (14) and washers (15) and remove capacitor (13) and gasket (18). Remove screw (16) and washer (17) from capacitor (13).

d. Remove housing (12). Remove two brushes (9), two springs (10) and plate (11) from housing (12). Remove plate (23), nut (26), gear (27), shaft (28) and washer (29) from housing (30).

e. Remove nut (37), washer (38), driver (39), boot (40), nut (41), washer (42) and washer (43) from shaft (47). Remove two screws (35) and washers (36) and remove assembled parts from bracket (48).

f. Remove two retaining clips (31) and washers (32). Remove connecting link (34) from arm (33) and pin (44). Remove nut (45), washer (46) and pin (44) from shaft (47).

4-268. STOPLIGHT-TAILLIGHT.

4-269. REMOVAL. Refer to Chapter 3, Section VI for removal instructions.

4-270. DISASSEMBLY. See figure 4-22 and disassemble the stoplight-taillight as follows:

a. Remove two screws (2) and remove red lens (l). Remove lamp (3). Remove retaining clip (4).

b. Remove white lens (5) and gasket (6). Remove lead (7) from body (8).

4-271. FLOODLIGHT.

4-272. REMOVAL. Refer to Chapter 3, Section VI for removal instructions.

4-273. DISASSEMBLY. See figure 4-23 and disassemble the floodlight as follows:

a. Remove nut (7) and washer (8) and remove bracket (6) from housing (10).

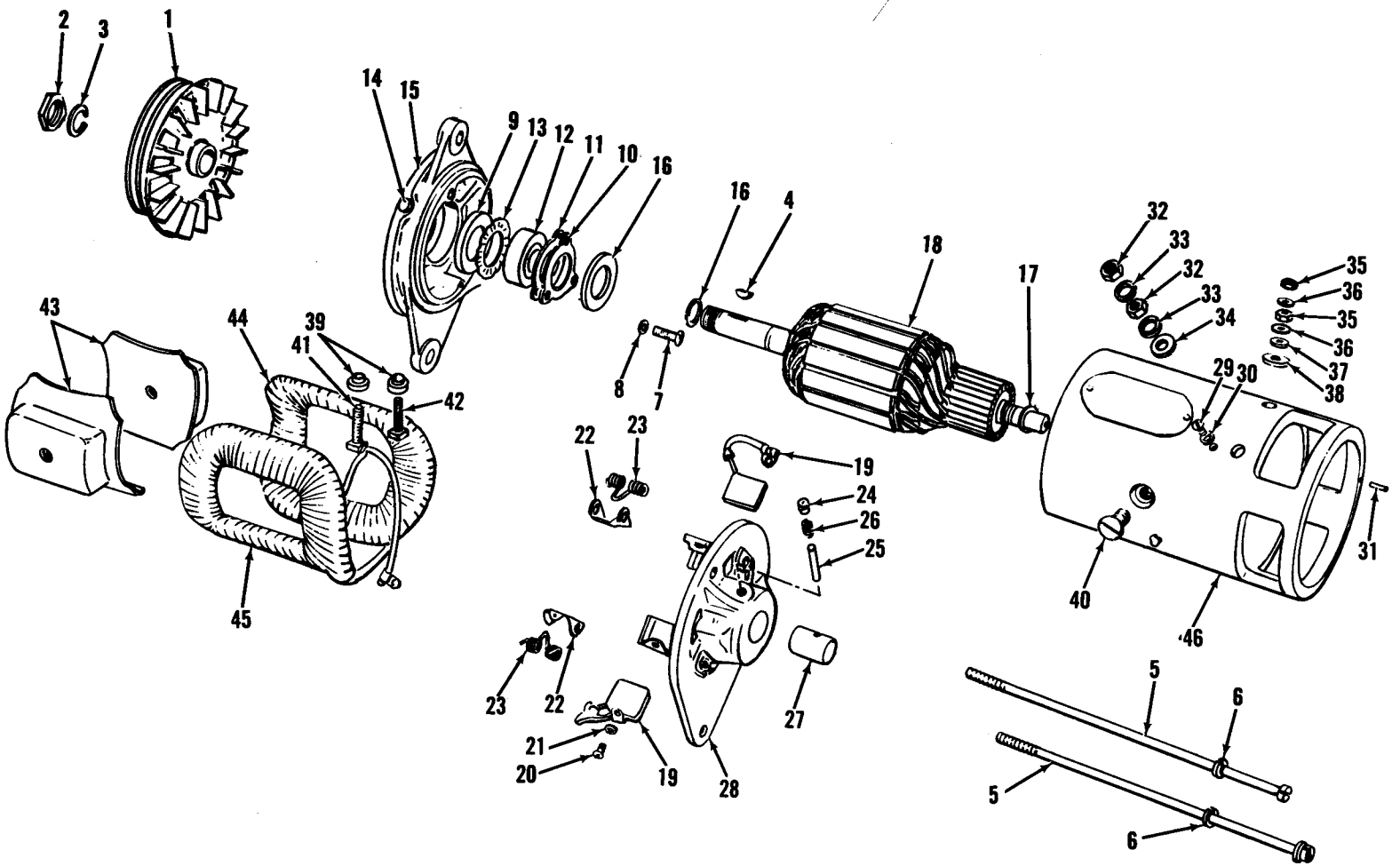


Figure 4–18. Generator (Sheet 1 of 2)

1. Pulley
2. Nut
3. Washer
4. Key
5. Kit
6. Washer
7. Screw
8. Washer
9. Washer
10. Retainer
11. Gasket
12. Bearing
13. Retainer
14. Oil cup
15. End bell
16. Retainer
17. Ring
18. Armature
19. Brush Set
20. Screw
21. Washer
22. Arm
23. Spring
24. Oiler
25. Wick
26. Spring
27. Bearing
28. End bell
29. Screw
30. Washer
31. Pin
32. Nut
33. Washer
34. Washer
35. Nut
36. Washer
37. Washer
38. Washer
39. Insulator
40. Screw
41. Stud
42. Stud
43. Shoe
44. Coil
45. Coil
46. Frame

Figure 4-18. Generator (Sheet 2 of 2)

b. Remove screw (2) and lift assembled lamp from housing (10). Loosen screw and remove cable (9) from assembled lamp.

c. Remove three clips (3) and remove lamp (5) from ring (1). Remove screw and ground bar (4) from lamp (5). Remove wire assembly (9) from housing (1 O).

4-274. HEADLIGHT.

4-275. REMOVAL. Refer to Chapter 3, Section VI for removal instructions.

4-276. DISASSEMBLY. See figure 4-24 and disassemble the headlight as follows:

a. Remove nut (1) and three washers (2, 3 and 4). Remove screw (5) and rim (6).

b. Remove three screws (8) and retainer (7). Remove lamp (9) and unplug wiring assembly (10). Remove wiring assembly (10) from body (11).

4-277. SPOTLIGHT.

4-278. REMOVAL. Refer to Chapter 3, Section VI for removal instructions.

4-279. DISASSEMBLY. See figure 4-25 and disassemble the spotlight as follows:

a. Remove screw (2), lower handle (1) and upper handle (3). Remove nut (4), washer (5), washer (6), adapter (7) and pinion (8).

b. Remove screw (9) and toggle switch (10). Remove screw (12) and cap (11). Remove two screws (19) and strap (18). Remove screw (15), switch (13) and gear (14) from housing (20).

c. Remove screw (22) and ornament (21). Remove screw (24) and lift ring and lamp from shell (33). Remove four clips (25) and remove ring (23) from lamp (26).

d. Remove nut (28), washer (29) and shell (33). Remove bushing (30), spring (31) and washer (32) from post assembly (27).

e. Remove pin (36), setscrew (37) and post assembly (27) from housing (39). Remove screw (35) and plug (34); slide tube and gear (38) from housing (39). Remove screws (40 and 41) and slide tubes (42 and 43) from housing (39).

4-280. lNSTRUMENT PANEL.

4-281. REMOVAL. See figure 4-26 and remove the instrument panel as follows:

a. Remove shaft assembly (13) from speedometer. Disengage sensor unit from the engine. Disconnect choke cable from the carburetor. Remove two screws (1) and four washers (2). Remove two screws (3), four washers (4) and two nuts (5).

NOTE

Sensor unit is a permanent part of gage cluster (17). Extreme care should be used when removing sensor wire through the firewall.

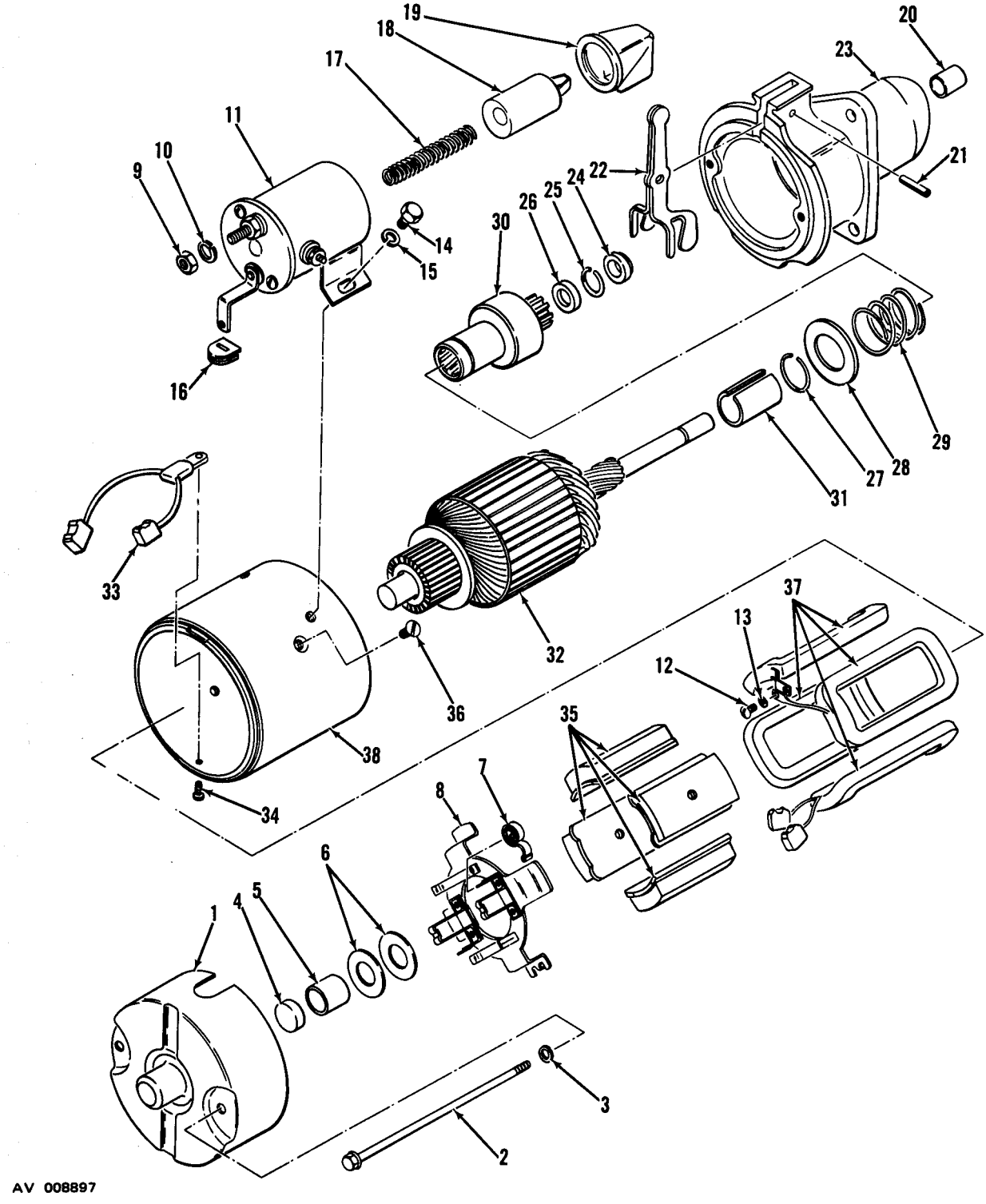


Figure 4-19. Starter (Sheet 1 of 2)

1. End bell
2. Bolt
3. Washer
4. Pad
5. Bushing
6. Washer
7. Spring
8. Holder
9. Nut
10. Washer
11. Solenoid
12. Screw
13. Washer
14. Screw
15. Washer
16. Grommet
17. Spring
18. Core assembly
19. Boot
20. Bushing
21. Pin
22. Fork
23. Housing
24. Washer
25. Ring
26. Ring
27. Ring
28. Washer
29. Spring
30. Pinion assembly
31. Bushing
32. Armature
33. Brush
34. Screw
35. Pole shoe
36. Screw
37. Coil assembly
38. Frame

Figure 4-19. Starter (Sheet 2 of 2)

b. Carefully remove the instrument panel from the dashboard. Provide proper support while removing terminal wires from the back of the instrument panel.

4-282. DISASSEMBLY. See figure 4-26 and disassemble the instrument panel as follows:

a. Remove four connectors (9) and five lights (5) and lead assemblies. Remove lamps from socket and lead assemblies.

b. Remove six nuts (15), washers (16) and spacers (14). Remove cluster gage (17) and speedometer (18). Remove four screws (25), eight washers (26) and four nuts (27). Remove circuit breakers (23 and 24).

c. Unscrew three knobs and remove three retaining nuts. Remove wiper switch (20), floodlight switch (19) and headlight switch (22).

d. Pull off knob, remove nut and remove heater switch. Remove the choke retaining nut from the back.

4-283. CAB HEATER.

4-284. REMOVAL. See figure 4-27 and remove the cab heater as follows:

NOTE

Provide proper receptacle and drain radiator coolant before removing heater.

a. Remove four clamps (22) and remove two hoses (23 and 24). Remove valve (21) from engine. Remove clamp (1) and hose (2).

b. Disconnect leads from switch (16). Remove three nuts (6) and washers (7) and remove heater from tractor cab.

4-285. DISASSEMBLY. See figure 4-27 and disassemble the cab heater as follows:

a. Remove four screws (5) and remove front panel (4). Slide the core assembly (8) and bottom panel (11) out of housing (20).

b. Remove setscrew (10) and fan (9). Remove two nuts (13) and washers (14) and remove motor (12). Remove rubber grommet (15), rubber elbow (3) and plug (17).

c. Remove four rivets (19) and remove two doors (18) from housing (20).

4-286. FUEL SYSTEM.

4-287. REMOVAL. See figure 4-28 and remove the fuel system as follows:

a. Remove spring (38). Remove two nuts (33) and washers (34) and remove connecting rod. Remove two ball joints (35) and nuts (36) from rod (37). Remove two nuts (50) and washers (51) and remove connecting rod. Remove two ball joints (52) and nuts (53) from rod (54).

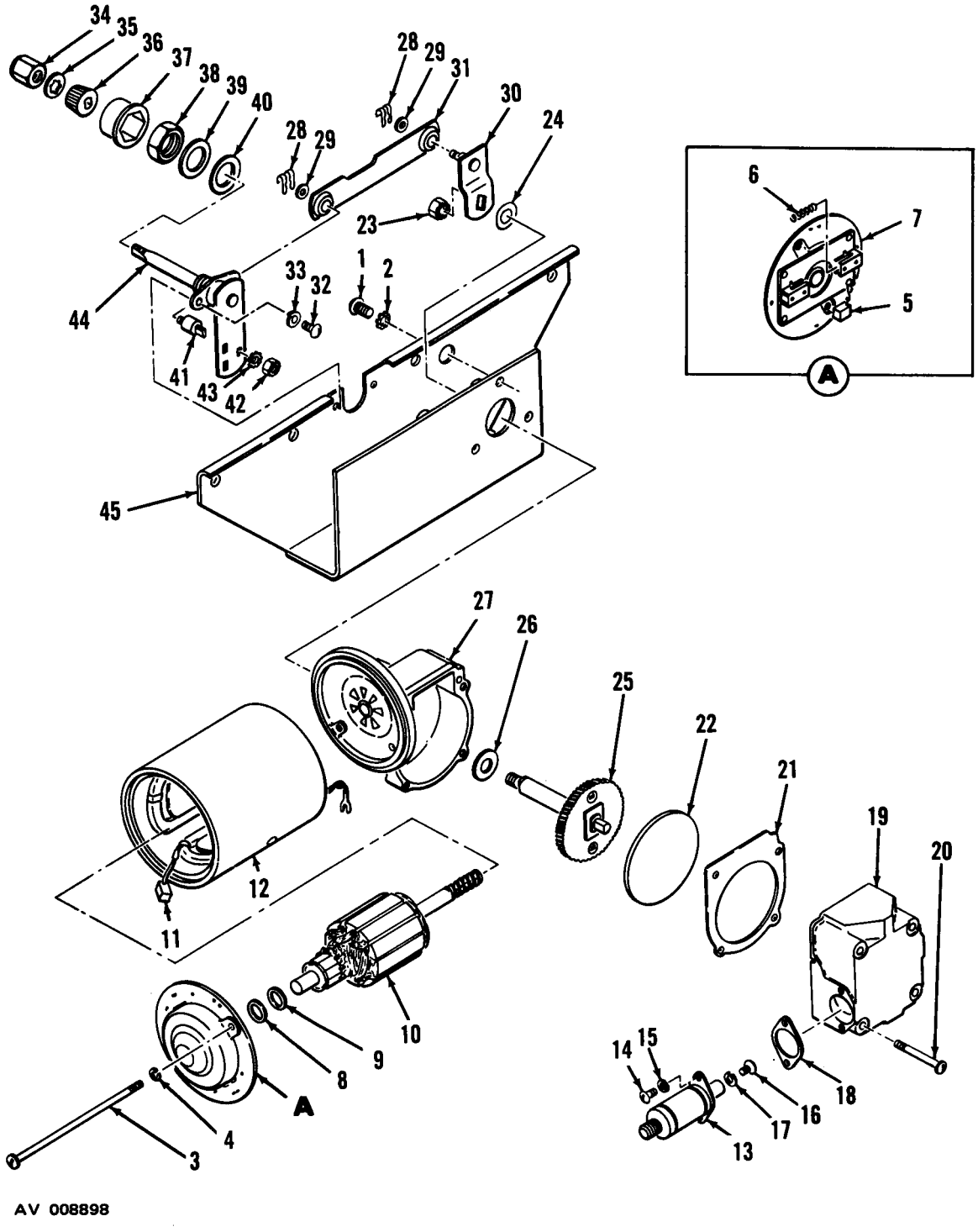


Figure 4-20. Windshield wiper (Code C1) Sheet 1 of 2)

1. Screw
2. Washer
3. Screw
4. Washer
5. Brush
6. Spring
7. Cap assembly
8. Disk
9. Disk
10. Armature
11. Brush
12. Housing assembly
13. Capacitor
14. Screw
15. Washer
16. Screw
17. Washer
18. Gasket
19. Cover
20. Screw
21. Gasket
22. Plate
23. Nut
24. Washer
25. Gear and shaft assembly
26. Washer
27. Housing assembly
28. Clip
29. Washer
30. Arm assembly
31. Link
32. Screw
33. Washer
34. Nut
35. Washer
36. Driver
37. Boot
38. Nut
39. Washer
40. Washer
41. Pin
42. Nut
43. Washer
44. Shaft
45. Bracket

Figure 4-20. Windshield wiper (Code CI) (Sheet 2 of 2)

b. Remove two cotter pins (56) and remove pin (57) and pedal (55). Remove two screws (59), washers (60) and nuts (61) and remove hinge plate (58).

c. Remove two screws (40), washers (41) and nuts (42). Loosen two screws (43) and remove two levers (39) and spacers (44). Remove shaft (45). Remove four screws (47), washers (48) and nuts (49) and remove bracket (46).

4-288. DISASSEMBLY. None required.

4-289. FUEL PUMP.

4-290. REMOVAL. See figure 4-28 and remove the fuel pump as follows:

a. Remove adapter (13), hose (14) and elbow (15).

b. Remove two screws (17) and washers (18) and remove fuel pump (16).

4-291. DISASSEMBLY. See figure 4-28 and disassemble the fuel pump as follows:

a. Remove elbow (62), line (66), line (63) and connector (64). Remove wing nut (2, figure 4–29), washer (3) and shield (l). Remove nut (5), two washers (6) and stud (4).

b. Remove gasket (7). Remove plug (9); remove clip (8) and slide pin (10) out of body (13). Remove lever (11) and spring (12).

c. Remove retainer assembly (27) and remove bowl (20), spring (21), filter (22) and gasket (23) from housing (24).

d. Remove five screws (14) and remove body (13) and diaphragm (15). Remove two screws (7) and remove housing (16) and diaphragm (15) from housing (24).

4-292. CARBURETOR.

4-293. REMOVAL. See figure 4-28 and remove the carburetor as follows:

a. Remove air cleaner (19) and gasket (20).

b. Remove two nuts (25) and washers (24) and remove carburetor (21), gasket (26), governor (27) and gasket (28).

4-294. DISASSEMBLY. See figure 4-30 and disassemble the carburetor as follows:

a. Remove spring (5). Remove screw (1) and nut (2). Remove two screws (4) and remove bracket (3). Remove two screws (7) and remove valve (6) and lever (8).

b. Remove four screws (10) and remove horn assembly (9) and gasket (11). Remove ring (12) and float (14), remove pin (13) from float (14). Remove tube and plug assembly (15), piston (16), spring (18) and jet (19). Remove gaskets (17 and 20) from piston (16) and jet (19).

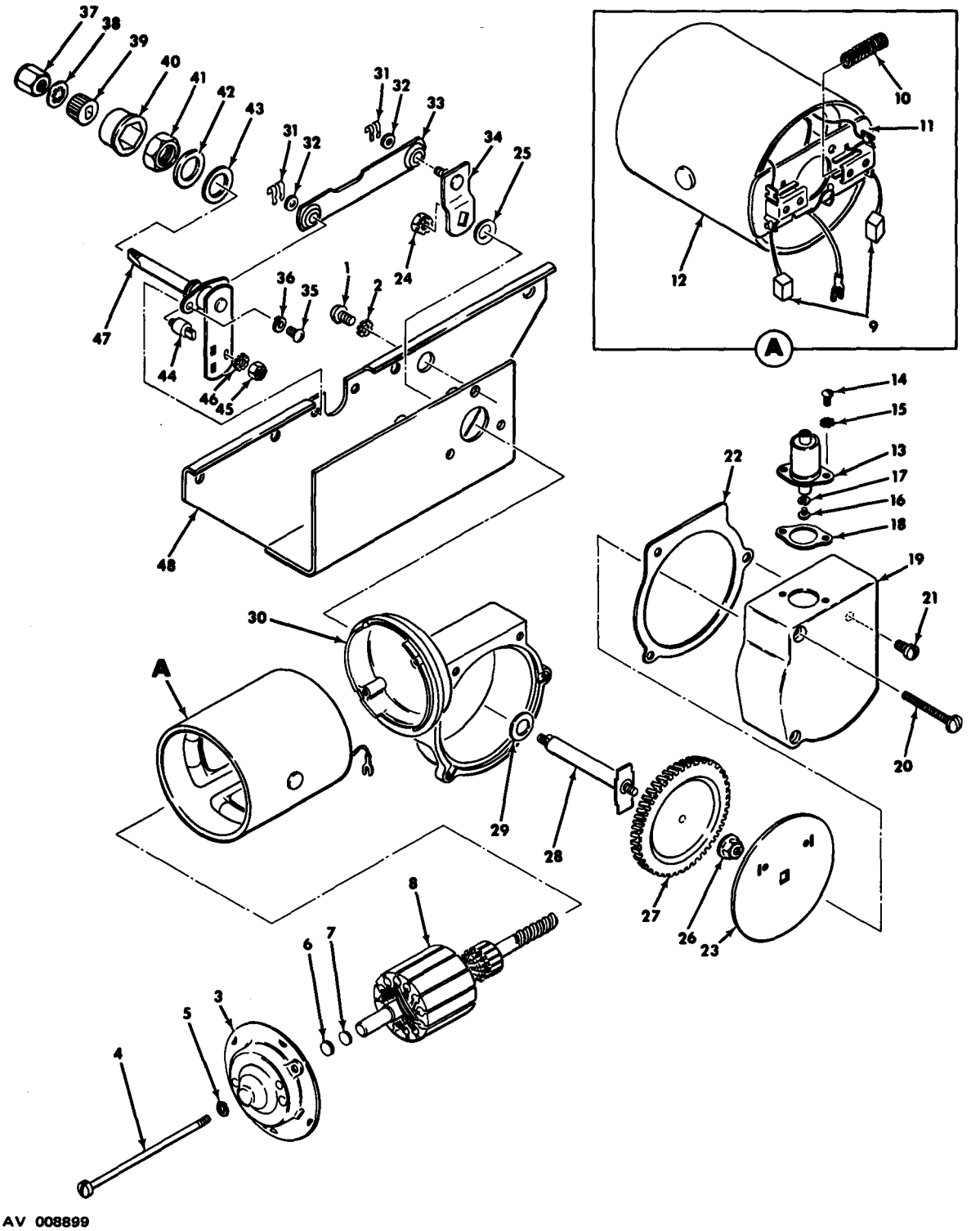
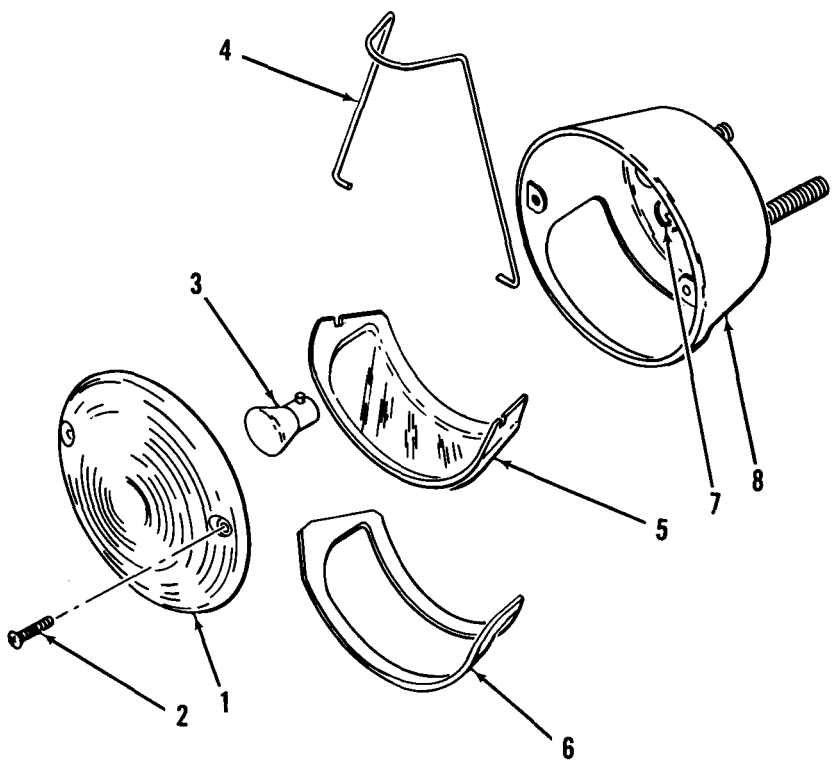


Figure 4-21. Windshield wiper (Code C2 and D) (Sheet 1 of 2)

1. Screw
2. Washer
3. Cap
4. Screw
5. Washer
6. Disk
7. Disk
8. Armature
9. Brush
10. Spring
11. Plate assembly
12. Housing assembly
13. Capacitor
14. Screw
15. Washer
16. Screw
17. Washer
18. Gasket
19. Cover
20. Screw
21. Screw
22. Gasket
23. Plate
24. Nut
25. Washer
26. Nut
27. Gear
28. Shaft
29. Washer
30. Housing assembly
31. Clip
32. Washer
33. Arm assembly
34. Link
35. Screw
36. Washer
37. Nut
38. Washer
39. Driver
40. Boot
41. Nut
42. Washer
43. Washer
44. Pin
45. Nut
46. Washer
47. Shaft
48. Bracket

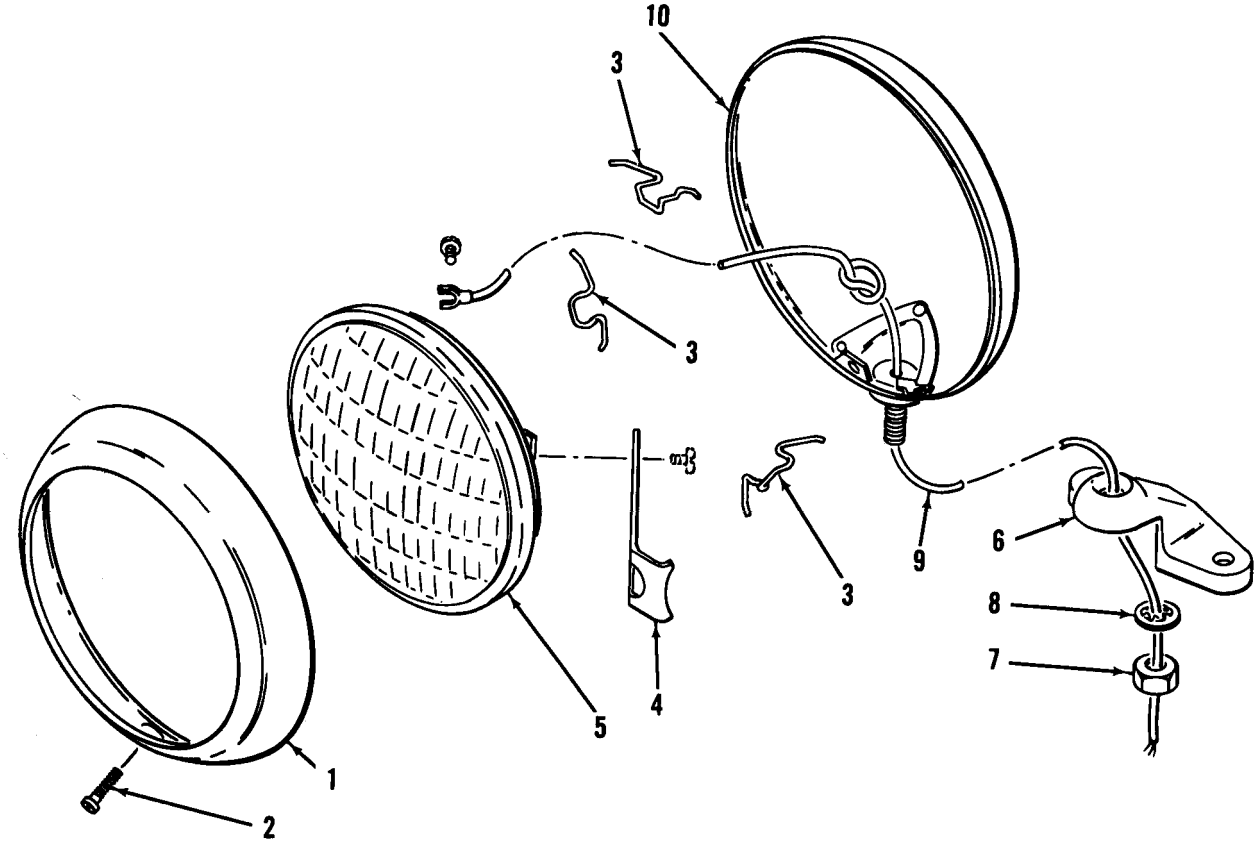
Figure 4–21. Windshield wiper (Code C2 and D) (Sheet 2 of 2)



AV 008900

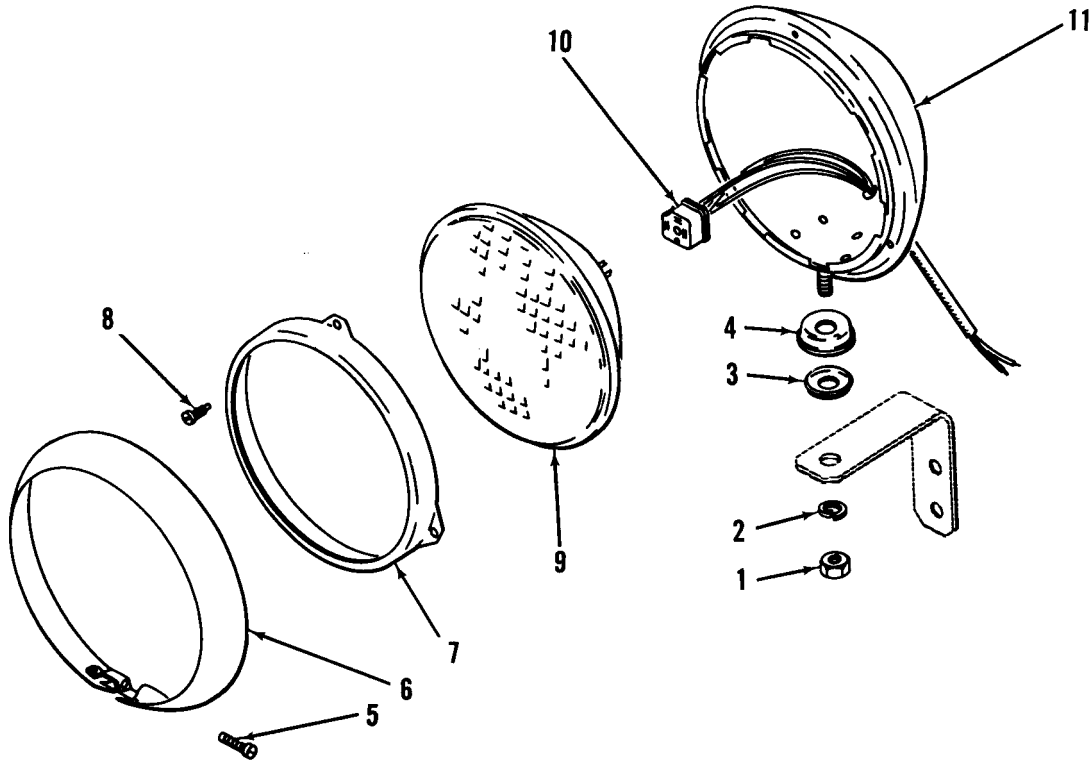
1. Lens
2. Screw
3. Lamp
4. Clip
5. Lens
6. Gasket
7. Lead assembly
8. Body assembly

Figure 4–22. Stoplight-Taillight



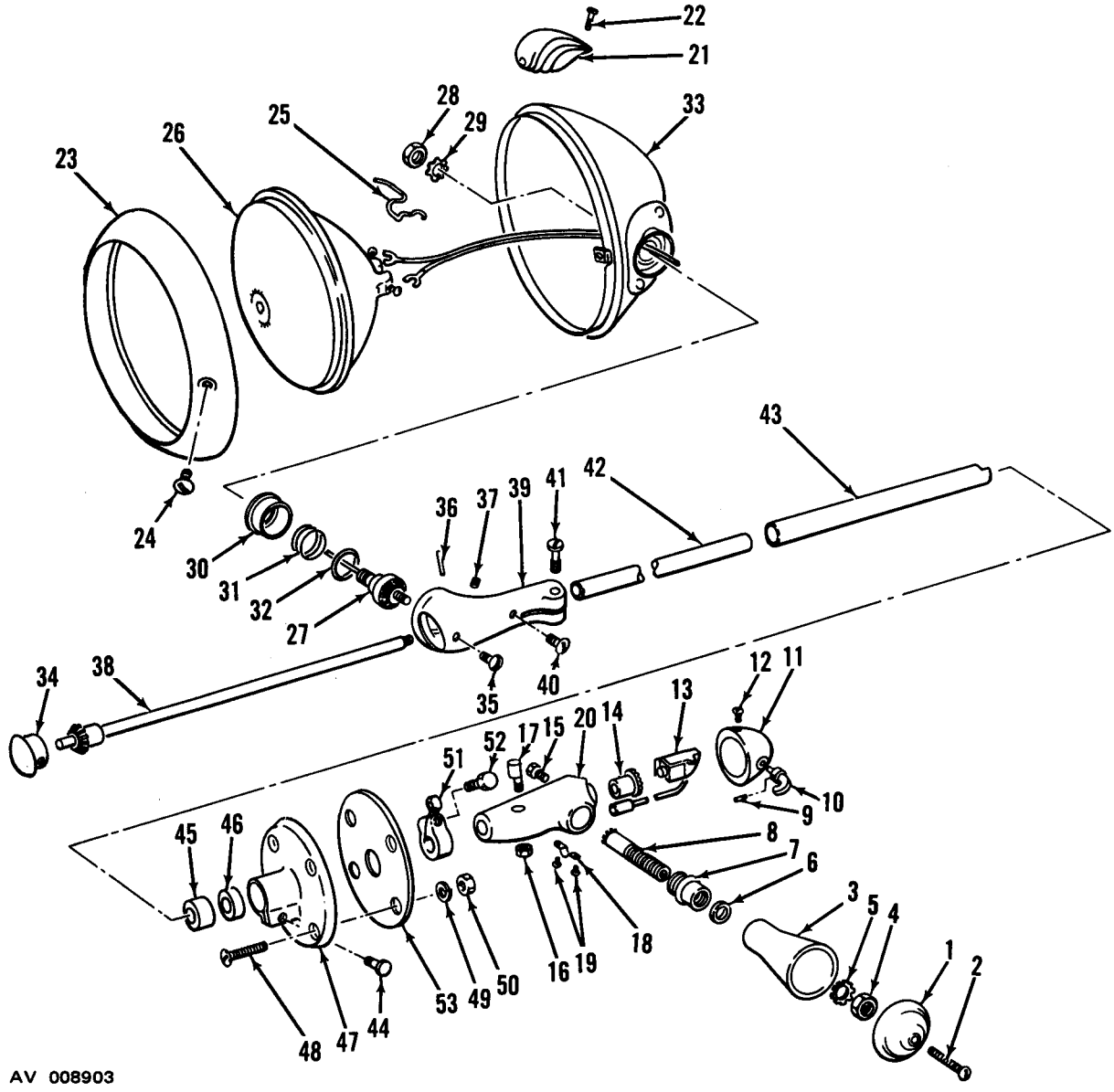
1. Door
2. Screw
3. Clip
4. Bar
5. Lamp
6. Bracket
7. Nut
8. Washer
9. Wire assembly
10. Housing

Figure 4-23. Floodlight



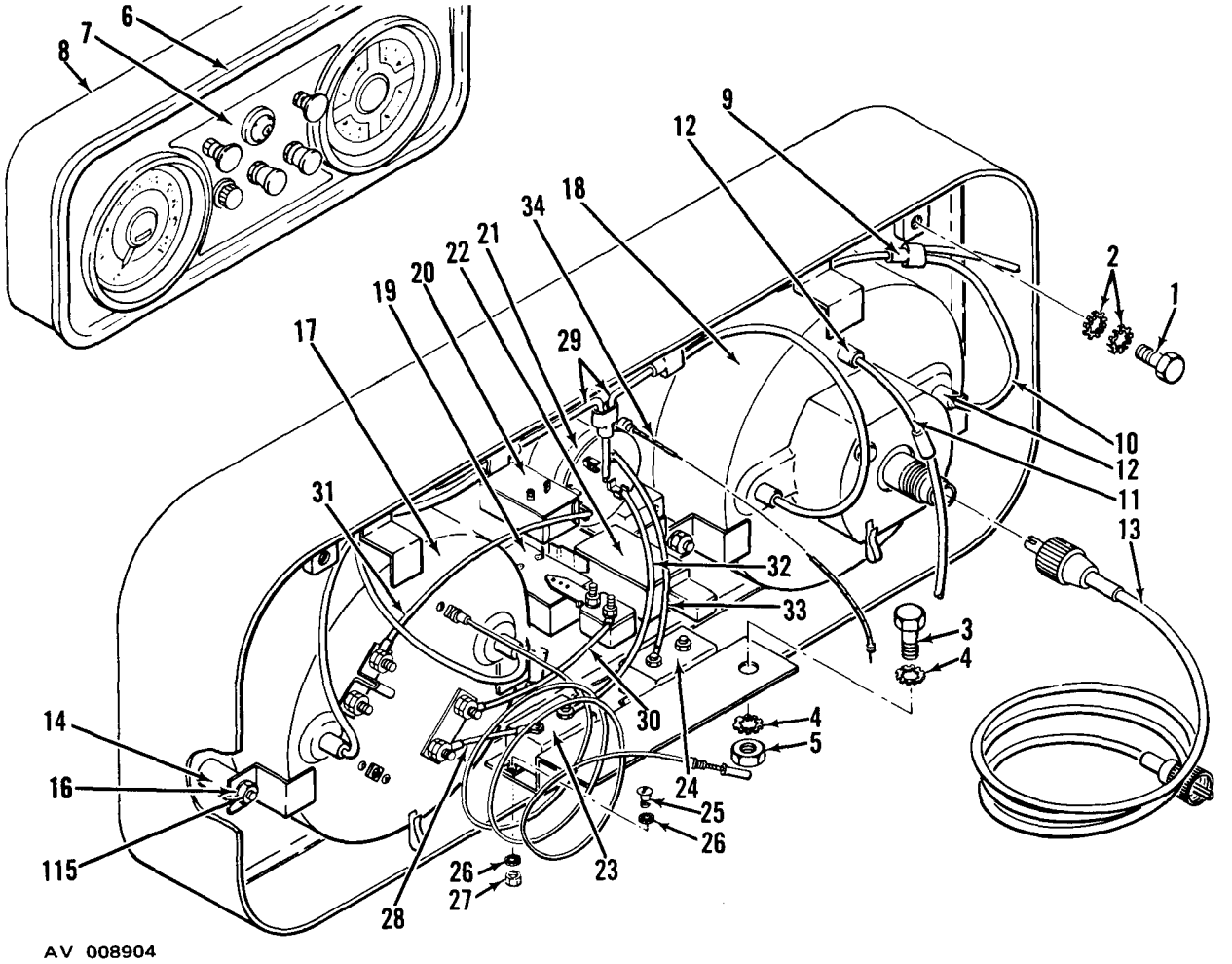
1. Nut
2. Washer
3. Washer
4. Washer
5. Screw
6. Rim
7. Retainer
8. Screw
9. Lamp
10. Wiring assembly
11. Body assembly

Figure 4-24. Headlight



1. Handle
2. Screw
3. Handle
4. Nut
5. Washer
6. Washer
7. Adapter
8. Pinion
9. Screw
10. Switch
11. Cap
12. Screw
13. Switch
14. Gear
15. Screw
16. Nut
17. Wedge
18. Strap
19. Screw
20. Housing
21. Ornament
22. Screw
23. Ring
24. Screw
25. Spring
26. Lamp
27. Post assembly
28. Nut
29. Washer
30. Bushing
31. Spring
32. Washer
33. Shell
34. Plug
35. Screw
36. Pin
37. Setscrew
38. Tube and gear
39. Housing
40. Screw
41. Screw
42. Tube
43. Tube
44. Screw
45. Felt
46. Washer
47. Bracket
48. Screw
49. Washer
50. Nut
51. Bracket
52. Screw
53. Pad

Figure 4-25. Spotlight assembly



1. Screw
2. Washer
3. Screw
4. Washer
5. Nut
6. Rubber
7. Plate
8. Housing
9. Connector
10. Socket and lead
11. Light
12. Crystal unit
13. Shaft assembly
14. Spacer
15. Nut
16. Washer
17. Cluster
18. Speedometer
19. Switch
20. Switch
21. Switch
22. Switch
23. Circuit breaker
24. Circuit breaker
25. Screw
26. Washer
27. Nut
28. Wire assembly
29. Wire assembly
30. Wire assembly
31. Wire assembly
32. Wire assembly
33. Wire assembly
34. Control assembly

Figure 4-26. Instrument Panel

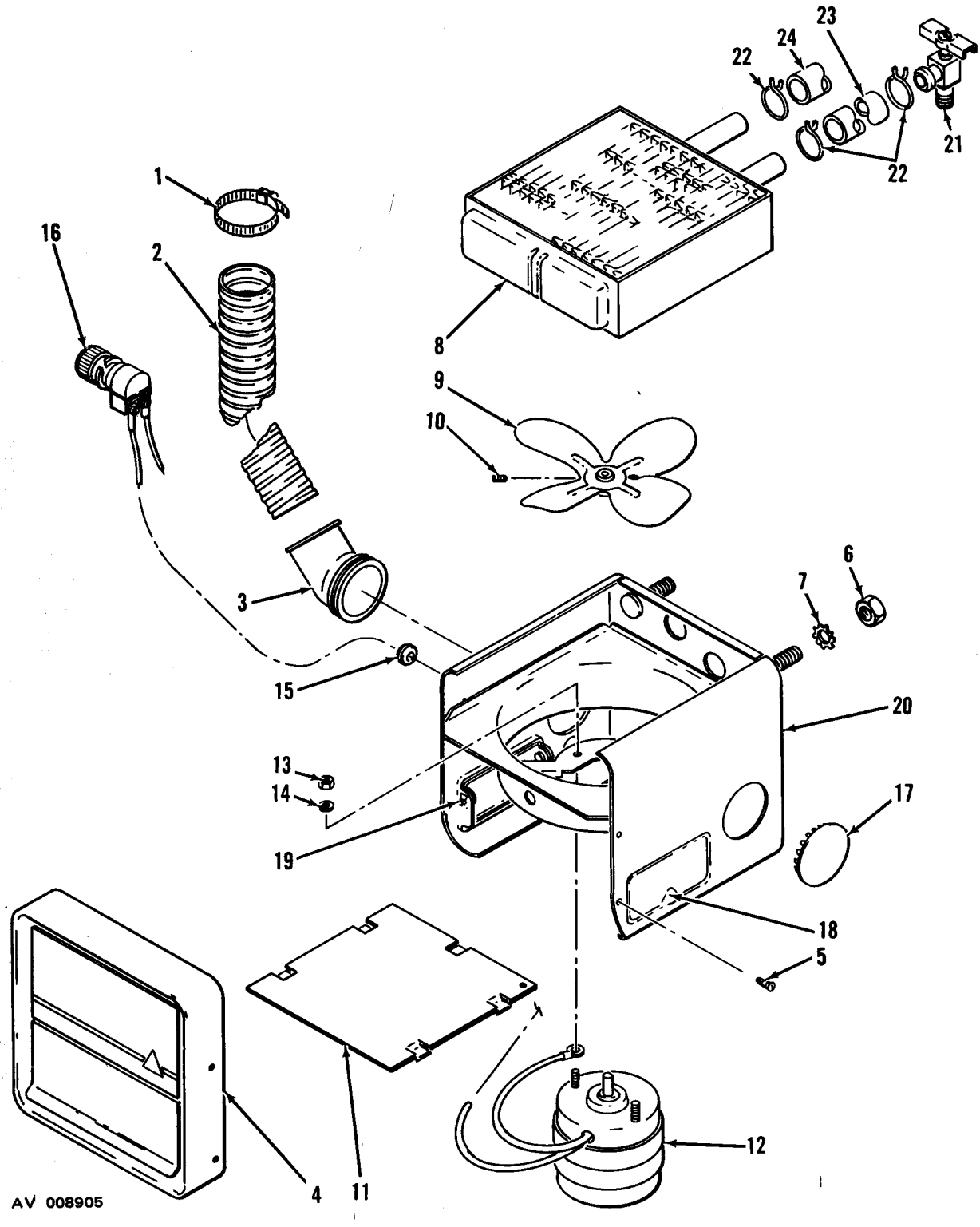


Figure 4-27. Cab heater (Sheet 1 of 2)

1. Clamp
2. Hose
3. Elbow
4. Front assembly
5. Screw
6. Nut
7. Washer
8. Core assembly
9. Fan
10. Setscrew
11. Panel
12. Motor
13. Nut
14. Washer
15. Grommet
16. Switch
17. Plug
18. Door
19. Rivet
20. Casing assembly
21. Valve
22. Clamp
23. Hose
24. Hose

Figure 4-27. Cab heater (Sheet 2 of 2)

c. Remove clip (21) and link (22). Remove link (24), retainer (23), spring (25) and plunger (26). Remove retaining ring (28) and spring (27) from plunger (26). Remove plug (30) and two balls (29 and 31).

d. Remove plug (32) and pump jet (33). Remove metering jet (34) and gasket (35). Remove needle assembly (36) and gasket (37). Remove plug (38) and tube (39). Remove two screws (41) and remove body (40), insulator (43) and two gaskets (42),

e. Remove two screws (47 and 49), nut (50) and lever (48), Remove plug (44), screw (45) and spring (46). Remove two screws (52) and remove valve (51) and lever (53) from flange (54).

4-295. GOVERNOR.

4-296. REMOVAL. See figure 4-28 and remove the governor as outlined in paragraph 4-293b.

4-297. DISASSEMBLY. See figure 4-31 and disassemble the governor as follows:

a. Remove two screws (2 and 3) and remove cover (1) and gasket (4). Remove two screws (6) and washers (7) and remove valve (5). Remove two clips (8 and 9) and remove shaft assembly. Remove pin (10) and cam (11) from shaft (12).

b. Remove cap (14), screw (16) and spring assembly (17). Remove bushing (15) from screw (16). Remove plug (18) and rod (21). Remove clip (19) and piston (20) from rod (21).

c. Remove plug (22) and two bearings (13 and 23) from body (26). Remove two covers (24) and filter (25) from body (26).

4-298. FUEL TANK.

4-299. REMOVAL. See figure 4-28 and remove the fuel as follows:

a. Remove adapter (1) and elbow (2).

b. Provide a proper receptacle, remove plug (3) and drain tank (7). Remove four nuts (5), two straps (4) and tank (7).

4-300. DISASSEMBLY. None required.

4-301. COOLING SYSTEM.

4-302. RADIATOR.

4-303. REMOVAL. See figure 4-32 and remove the radiator as follows:

a. Remove radiator cap (18). Provide proper receptacle; open drain valve (8) and allow all coolant to drain.

b. Remove two clamps (3) and remove hose (4). Remove adapter (1) and elbow (2). Remove four clamps (5) and remove two hoses (6).

c. Remove four screws (9), washers (11) and nuts (13). Remove drain cock (8). Remove two screws (14), four washers (15 and 16) and two nuts (17) and remove radiator (19).

4–304. DISASSEMBLY. None required.

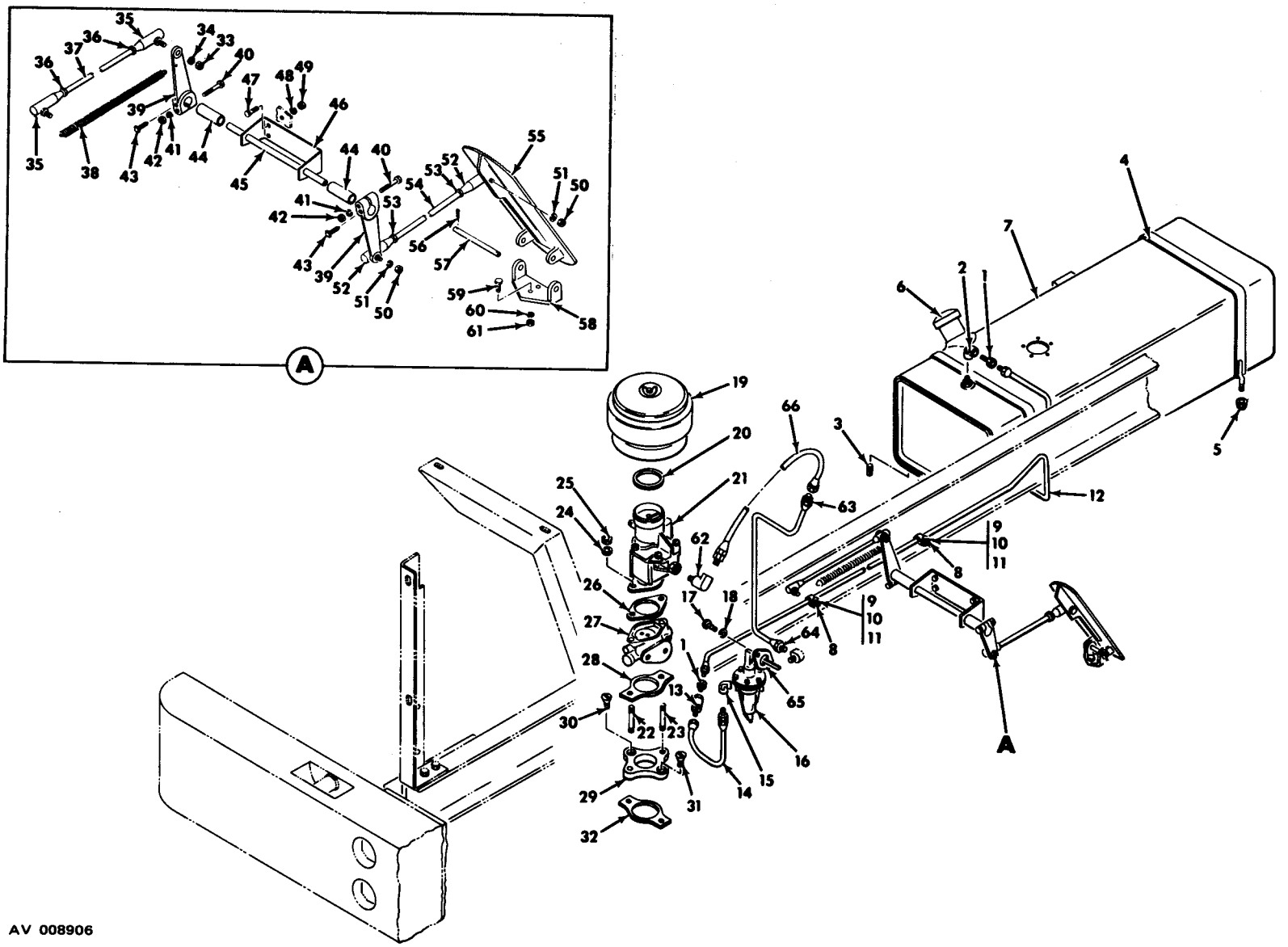


Figure 4–28. Fuel system (Sheet 1 of 2)

1. Adapter
2. Elbow
3. Plug
4. Strap
5. Nut
6. Cap
7. Tank
8. Clamp
9. Screw
10. Washer
11. Nut
12. Tube assembly
13. Adapter
14. Hose assembly
15. Elbow
16. Pump assembly
17. Screw
18. Washer
19. Air cleaner
20. Washer
21. Carburetor assembly
22. Stud
23. Stud
24. Washer
25. Nut
26. Gasket
27. Governor
28. Gasket
29. Adapter
30. Adapter
31. Screw
32. Gasket
33. Nut
34. Washer
35. Ball joint
36. Nut
37. Rod
38. Spring
39. Lever
40. Screw
41. Washer
42. Nut
43. Setscrew
44. Spacer
45. Shaft
46. Bracket
47. Screw
48. Washer
49. Nut
50. Nut
51. Washer
52. Ball joint
53. Nut
54. Rod
55. Pedal
56. Pin
57. Pin
58. Plate
59. Screw
60. Washer
61. Nut
62. Elbow
63. Line assembly
64. Connector
65. Gasket
66. Line assembly

Figure 4-28. Fuel system (Sheet 2 of 2)

4-305. ENGINE COOLING GROUP.

4-306. REMOVAL. See figure 4-33 and remove the engine cooling components as follows:

a. Remove two clamps (9) and hose (8). Remove two screws (11) and remove housing (10), two gaskets (12 and 13) and thermostat (14).

b. Remove belt (4). Remove four screws (2) and washers (3) and remove fan (1) and pulley (5). Remove pin (7) and hub (6). Remove four screws (15) and remove pump assembly and gasket (16).

c. Remove three screws (18), and one washer (19) and remove plate (17) and gasket (20). Remove impeller (22) and thrower (26). Remove retaining ring (23), washer (25) and seal (25) from impeller (22). Remove clip (21) and shaft (27) from pump housing (28).

4-307. DISASSEMBLY. None required.

4-308. PARKING BRAKES.

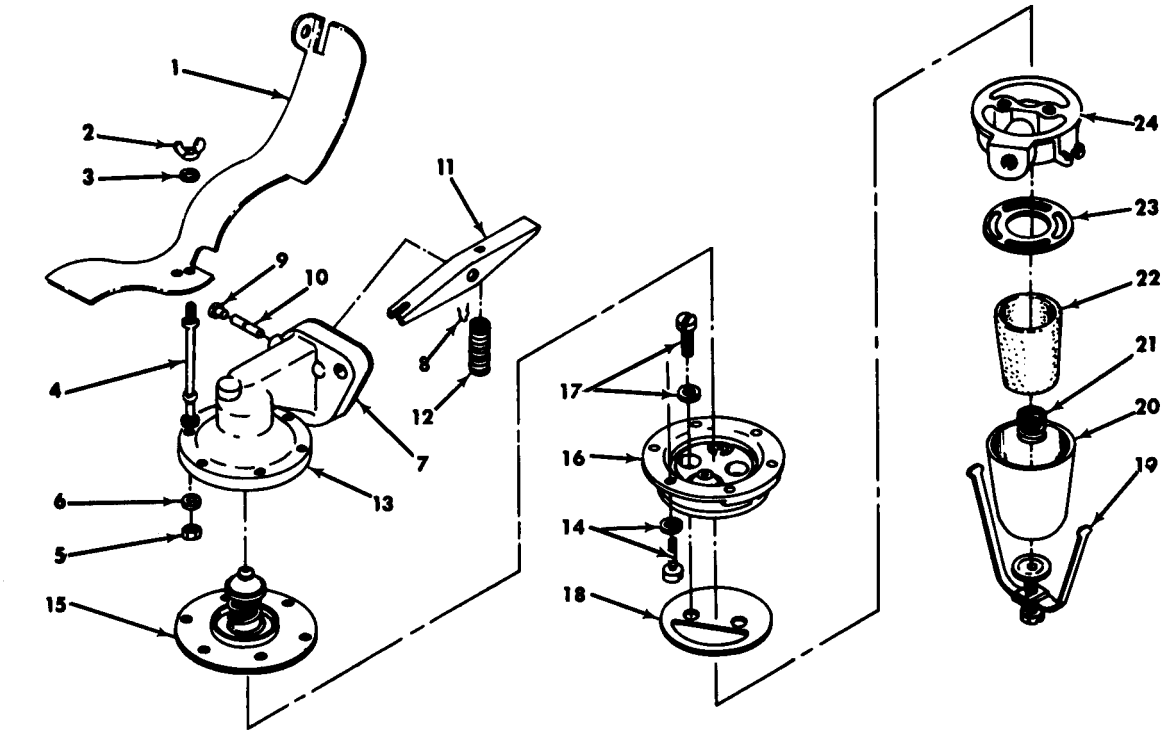
4-309 . PARKING BRAKE AND DIFFERENTIAL LOCKOUT LEVERS.

4-310. REMOVAL. See figure 4-34 and remove the parking brake and differential lockout levers as follows:

a. Remove two cotter pins (7) and two pins (8) and remove link assembly. Remove two clevis (9) and two nuts (10) from rod (11). Remove two cotter pins (12) and two pins (13) and remove link assembly. Remove two clevis (14 and 15) and two nuts (16) from rod (17).

b. Remove rubber grip (1) and lubrication fitting (2). Remove cotter pin (4), washer (5) and spring (6) and remove differential lockout lever (3) from bracket (47).

c. Remove cotter pin (19) and washer (20) and remove lever (18) from bracket (50). Remove four screws (51) and four washers (52) and remove bracket (50).



1. Shield
2. Nut
3. Washer
4. Stud
5. Nut
6. Washer
7. Gasket
8. Clip
9. Plug
10. Pin
11. Lever
12. Spring
13. Body
14. Screw and washer assembly
15. Diaphragm assembly
16. Housing assembly
17. Screw and lockwasher assembly
18. Diaphragm
19. Retainer and screw assembly
20. Bowl
21. Spring
22. Element
23. Gasket
24. Housing

Figure 4-29. Fuel Pump

d. Remove two cotter pins (21) and two pins (22) and remove link assembly. Remove two clevis (23 and 24) and nut (25) from rod (26). Remove two screws (27), washers (28) and nuts (29) and remove parking brake lever. Remove two screws (48) and washers (49) and remove bracket (47).

4-311. DISASSEMBLY. See figure 4-34 and disassemble the parking brake lever as follows:

a. Remove cap (30), washer (31) and base (32). Remove retaining ring (37) and remove pin (35) and two washers (36). Remove tube (34) and remove adjusting screw (33) from tube (34).

b. Remove retaining ring (40) and pin (39) and remove bellcrank (38) and two spacers (44) from bracket (46). Remove pin (41), link (42), spacer (43) and bushing (45) from bellcrank (38).

4-312. PARKING BRAKE LINING.

4-313. REMOVAL. See figure 4-35 and remove the parking brake components as follows:

a. Remove the transmission propeller shaft as outlined in paragraph 4-587.

b. Remove two cotter pins (1) and pins (2) and remove two links (3) and levers (4). Remove two nuts (5), one washer (6), one washer (7), one spring (8) and remove special bolt (9), cam shoe (10) and two springs (11).

c. Remove screw (17), spring (21), screw (12) and two nuts (13) and remove brake band assembly. Remove 28 rivets (19) and remove lining (18) from brake band (20). Remove screws (23) and washers (24) and remove bracket (22) from transmission (32). Remove screws (15) and washers (16) and remove bracket (14) from transmission (32).

4-314. DISASSEMBLY. None required.

4-315. OILING GROUP.

4-316. REMOVAL. See figures 4-36 and 4-37 and remove the oiling components as follows:

NOTE

Provide proper receptacle and drain engine and hydraulic transmission oil.

a. Remove two hoses (18 and 17, figure 3-37) and one tube (19). Remove two unions (16), elbows (15) and reducer (14). Remove four screws (8, figure 4-36), washers (9), washers (10) and nuts (11) to detach hydraulic transmission oil filter.

b. Remove cover screw assembly (25, figure 4-37), washer (26), cover (27), gasket (29) and gasket (30) from housing (32). Withdraw filter element (28). Remove plug (31) and bracket assembly (33) as necessary.

c. Remove two tubes (1 and 2, figure 4-36) and remove three elbows (3) and one elbow (4). Remove screw (13), washer (14), washer (15) and nut (16) and remove engine oil filter.

d. Remove screw (18), washer (19), cover (17) and gasket (21). Remove filter element (20), spring assembly (22) and plug (23) from housing (24). Remove two screws (8), washers (9), washers (10) and nuts (11) and remove clamp (12). Remove two screws (5) and washers (6) and remove bracket (7).

e. Remove oil indicator (25) and tube (26). Remove plug (27), gasket (28), spring (29) and plunger (30). Remove five screws (35) and remove plate (34), gasket (36) and shaft (41). Remove pin (40) and rotor (39) from shaft (41). Remove two screws (31) and washers (32) and remove pump housing (42) and gasket (33). Remove pin (38) and gear (37) from housing (42).

f. Remove plug (43) and gasket (44). Remove 20 screws (46) and remove pan (45) and four gaskets (47, 48 and 49). Remove cotter pin (51) and remove strainer (50), adapter (52) and pipe (53). Remove two screws (58) and washers (59) and remove seal plate (57). Remove tube (55), two nuts (54) and adapters (56).

4-317. DISASSEMBLY. None required.

4-318. ENGINE AND TRANSMISSION ASSEMBLY.

4-319. REMOVAL. See figure 4-37 and remove the engine, hydraulic transmission, transmission and transfer case as follows:

NOTE

Provide proper receptacles and drain all coolant and lubricant before engine or transmission removal. Verify all electrical, water and oil connections are removed.

NOTE

Provide adequate support for mechanical transmission (50) before removing engine and hydraulic transmission unit.

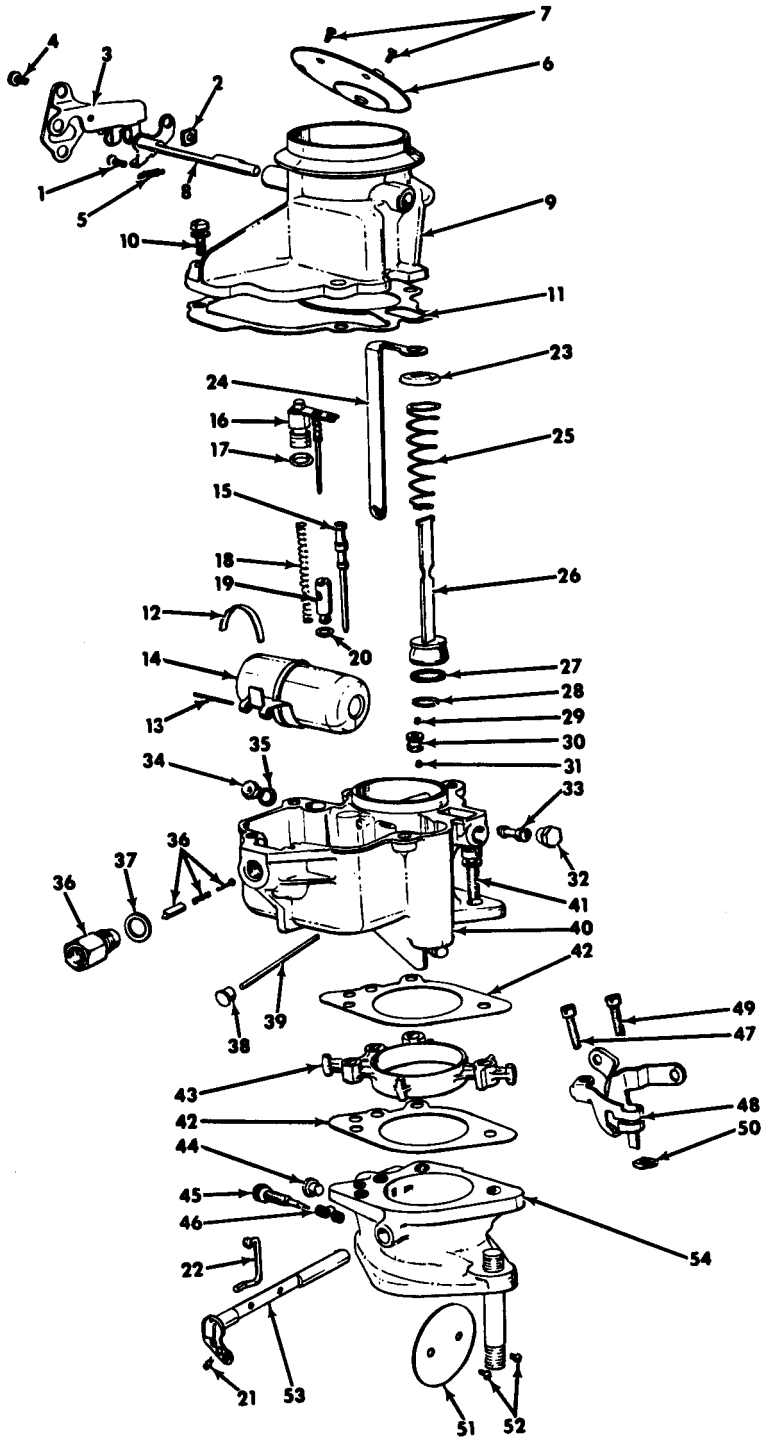


Figure 4-30. Carburetor (Sheet 1 of 2)

1. Screw
2. Nut
3. Bracket
4. Screw
5. Spring
6. Valve
7. Screw
8. Lever assembly
9. Horn assembly
10. Screw and washer
11. assembly
11. Gasket
12. Ring
13. Pin
14. Float
15. Tube and plug assembly
16. Piston assembly
17. Gasket
18. Spring
19. Jet
20. Gasket
21. Clip
22. Link
23. Retainer
24. Link
25. Spring
26. Plunger assembly
27. Spring
28. Ring
29. Ball
30. Plug
31. Ball
32. Plug
33. Jet
34. Jet
35. Gasket
36. Needle and seat assembly
37. Gasket
38. Plug
39. Tube
40. Body
41. Screw and washer assembly
42. Gasket
43. Insulator
44. Plug
45. Screw
46. Spring
47. Screw
48. Lever
49. Screw
50. Nut
51. Valve
52. Screw
53. Lever assembly
54. Flange

Figure 4-30. Carburetor (Sheet 2 of 2)

a. Remove two screws (l), washers (2), insulators (3), seats (4), nuts (6), and insulator (5). Attach lifting cable to engine lifting brackets. Remove four screws (55), and washers (56), and remove engine (37) and hydraulic transmission (41).

b. Remove mechanical transmission (50) and propeller shaft. (See figure 4-39.)

c. Remove six screws (7), washers (8), four wedge washers (9) and six nuts (10) and remove transfer transmission (57) and two support brackets (11).

4-320. DISASSEMBLY. None required.

4-321 . ENGINE.

4-322. REMOVAL. See figure 4-37 and remove the engine as outlined in paragraph 4-318.

4-323. DISASSEMBLY. See figure 4-38 and disassemble the engine as follows:

a. Remove the engine cooling group (1) as outlined in paragraph 4-306.

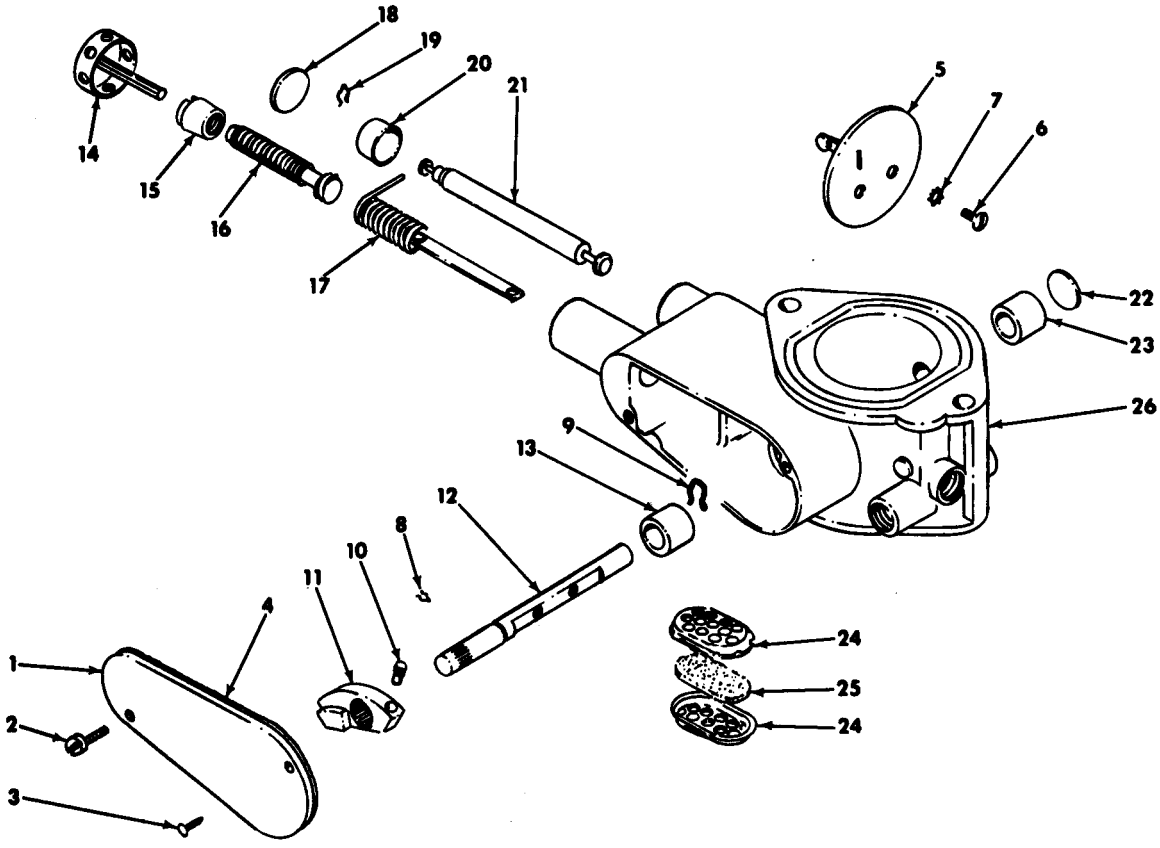
b. Remove four nuts (5) and washers (4) and remove two lifting brackets (2). Remove screw (6), washer (7), plug (8), screw (9) and nut (10). Remove four screws (12) and fifteen bolts (13) and remove head (11) and gasket (14). Remove four studs (3) from head (11).

c. Remove breather cap (15) and two tubes (16 and 17). Remove two screws (19) and washers (20) and remove bracket (18). Remove screw (60), washer (61), tube (59) and gasket (62).

d. Remove the manifold assembly (63).

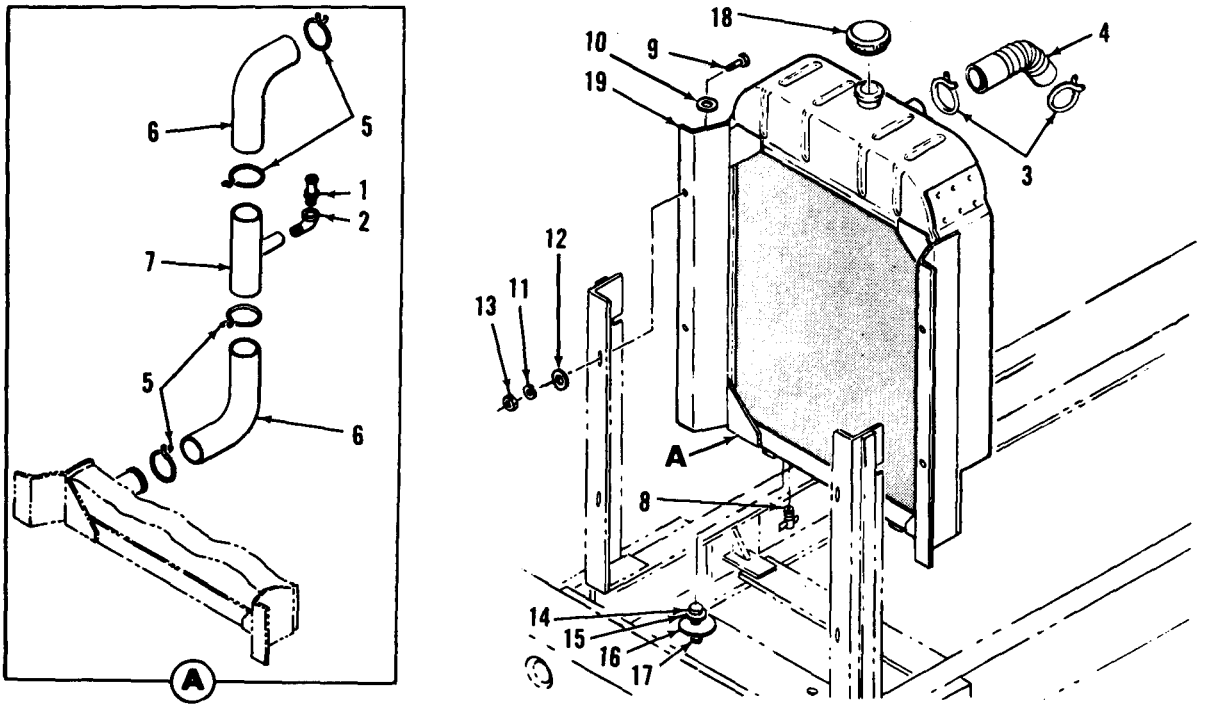
e. Remove crankshaft screw (21) and washer (22). Remove six bolts (24) and washers (25) and remove pulley (23), hub (26) and key (27). Remove three screws (28), washers (30) and nuts (32). Remove eight screws and washer (29) and remove timing chain cover (35) and gasket (36). Remove seal retainer (32) and seal (52) from cover (35).

f. Remove timing chain (40) and sprocket (41) and key (42). Remove three screws (38) and washers (39) and remove sprocket (37), hub (43) and key (44). Remove two screws (46) and washers (47) and remove plate (45). Remove five screws (49) and washers (50) and remove plate (48) and gasket (51). Remove pin (52) and oil tube (53).



1. Cover
2. Screw
3. Screw
4. Gasket
5. Valve
6. Screw
7. Washer
8. Clip
9. Clip
10. Pin
11. Cam
12. Shaft
13. Bearing
14. Cap
15. Bushing
16. Screw
17. Spring assembly
18. Plug
19. Clip
20. Piston
21. Rod
22. Plug
23. Bearing
24. Cover
25. Disk
26. Body

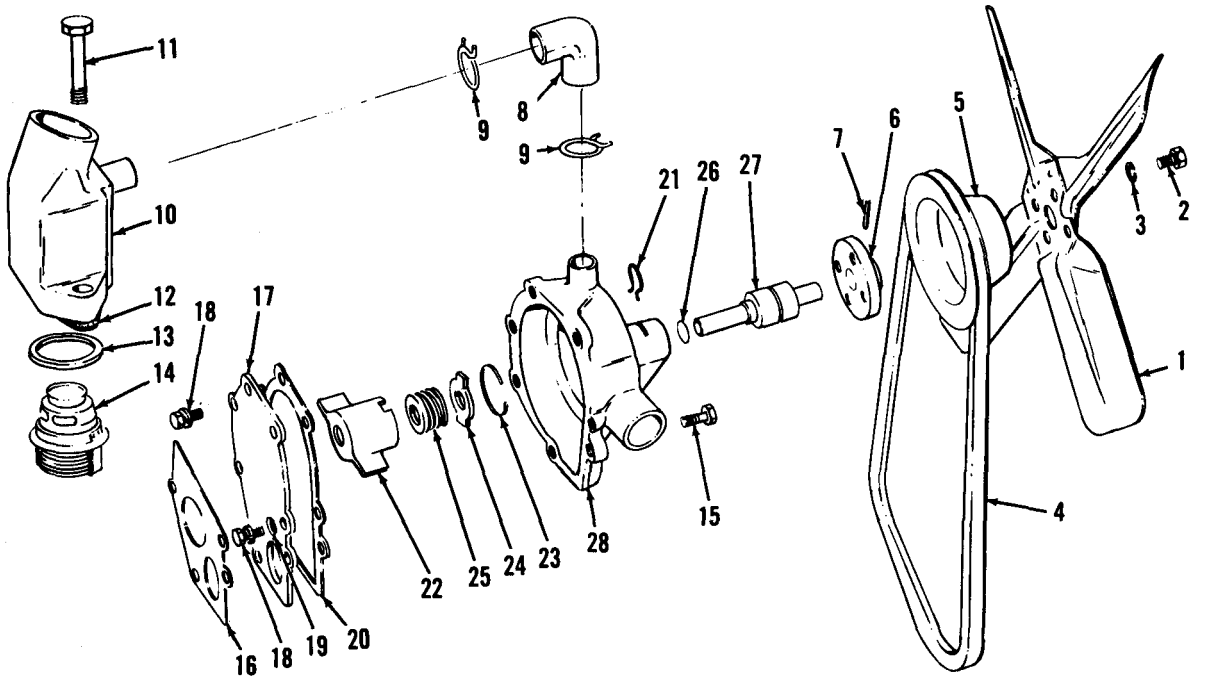
Figure 4-31. Governor



AV 008910

1. Adapter
2. Elbow
3. Clamp
4. Hose
5. Clamp
6. Hose
7. Tube
8. Cock
9. Screw
10. Washer
11. Washer
12. Washer
13. Nut
14. Screw
15. Washer
16. Washer
17. Nut
18. Cap
19. Radiator

Figure 4-32. Radiator



1. Fan
2. Screw
3. Washer
4. Belt
5. Pulley
6. Hub
7. Pin
8. Hose
9. Clamp
10. Housing
11. Screw
12. Gasket
13. Gasket
14. Thermostat
15. Bolt
16. Gasket
17. Plate
18. Screw and washer assembly
19. Washer
20. Gasket
21. Clip
22. Impeller
23. Ring
24. Washer
25. Seal assembly
26. Thrower
27. Shaft and bearing
28. Housing

Figure 4-33. Engine cooling group

4-324. HYDRAULIC TRANSMISSION.

4-325. REMOVAL. See figure 4-37 and remove the hydraulic transmission as follows:

NOTE

Provide proper receptacle and drain all oil. Provide adequate support for engine and mechanical transmission.

a. Remove four screws (43) and remove plate (42). Rotate drive plate to aline hex-head screws with opening and remove four screws from drive plate.

b. Remove four screws (48) and washers (49). Remove three screws (45). Remove four screws and washers attaching the mechanical transmission to the hydraulic transmission. Place automotive jack under hydraulic transmission.

c. Remove transmission propeller shaft as outlined in paragraph 4-331. Slide mechanical transmission to the rear until hydraulic transmission is free.

NOTE

Hydraulic transmission is floating free. Do not tilt housing forward during removal.

d. Remove thrust washer and hydraulic transmission from inside hydraulic transmission housing. Remove plug from hydraulic transmission and drain hydraulic transmission. Remove eight screws, washers, and nuts attaching drive plate to spur gear and remove drive plate assembly and flange.

e. Remove one screw (46) and washer (47) and remove adapter plate (44). Remove retaining ring, gear, and thrust washer from mechanical transmission input shaft.

4-326. DISASSEMBLY. None required.

4-327. MECHANICAL TRANSMISSION.

4-328. REMOVAL. See figure 4-37 and remove the mechanical transmission as follows:

NOTE

Provide proper receptacle and drain transmission lubricant.

a. Place automotive jack under the transmission. Remove the propeller shaft as outlined in paragraph 4-330.

b. Remove cover (51), seat (52), spring (53) and lever (54). Remove four screws (55) and washers (56).

c. Slide the transmission and jack straight back six inches and lower the jack slightly. Move the transmission and jack to the left in order to clear clutch hydraulic transmission housing. Remove transmission and gasket.

4-329. DISASSEMBLY. None required.

4-330. TRANSMISSION PROPELLER SHAFT.

4-331. REMOVAL. See figure 4-39 and remove the transmission propeller shaft as follows:

a. Remove four bolts (8) and remove four bearings (9) and universal coupling (13).

b. Remove eight bolts (3) and remove four plates (5), bearing straps (6) and bearings (11).

c. Remove yoke (1) and remove dust cap (7) from yoke (1). Remove four nuts, washers and spacers and remove yoke (2) from parking brake drum.

4-332. DISASSEMBLY. None required.

4-333. AXLE PROPELLER SHAFT.

4-334. REMOVAL. See figure 4-40 and remove the front and rear axle propeller shafts as follows:

a. Remove sixteen screws (2) and washers (3) and remove eight straps (1).

b. Remove eight bearings (4) and remove two spiders (7), yoke (11) and shaft (12). Remove four packings (5), and four packing retainers (6) from each spider (7). Remove grease fitting (10), retainer packing (8) and felt (9) from yoke (11).

4-335. DISASSEMBLY. None required.

4-336. TRANSFER TRANSMISSION.

4-337. REMOVAL. Remove the transfer transmission as follows:

a. Remove the axle propeller shafts as outlined in paragraph 4-333.

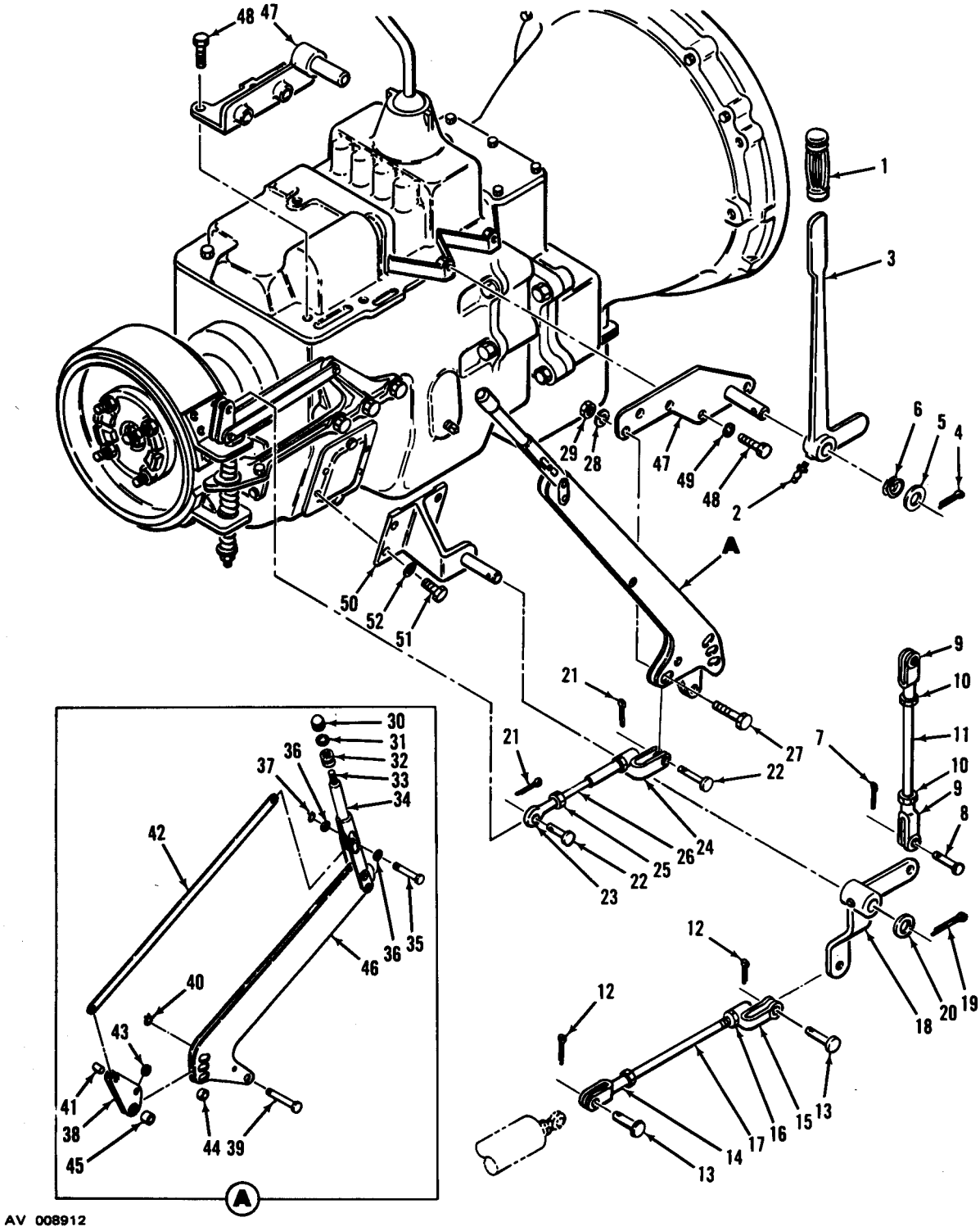


Figure 4-34. Parking brake and differential lockout levers (Sheet 1 of 2)

1. Grip
2. Fitting
3. Lever
4. Pin
5. Washer
6. Spring
7. Pin
8. Pin
9. Clevis
10. Nut
11. Rod
12. Pin
13. Pin
14. Clevis
15. Clevis
16. Nut
17. Rod
18. Bell crank
19. Pin
20. Washer
21. Pin
22. Pin
23. Clevis
24. Clevis
25. Nut
26. Rod
27. Screw
28. Washer
29. Nut
30. Knob
31. Washer
32. Base
33. Stud
34. Tube
35. Pin
36. Washer
37. Ring
38. Bellcrank
39. Pin
40. Ring
41. Pin
42. Link
43. Spacer
44. Spacer
45. Bushing
46. Bracket assembly
47. Bracket
48. Screw
49. Washer
50. Bracket
51. Screw
52. Washer

Figure 4-34. Parking brake and differential lockout levers (Sheet 2 of 2)

b. Remove transmission propeller shaft as outlined in paragraph 4-330.

c. Remove transfer transmission mounting bolts and remove the transmission.

4-338. DISASSEMBLY. See figure 4-41 and disassemble the transfer transmission as follows:

a. Remove two nuts (23) and yokes (24).

b. Remove four screws (27) and washers (28) and remove cap (26) and gasket (29). Remove seal (25) from cap (26). Remove washer (30) and bearing (31). Remove two screws (33) and washers (34) and remove plate (32) and gasket (35).

c. Loosen setscrew (63) and screw (64). Remove retaining ring (65). Remove four screws (37), four screws (38) and eight washers (39). Remove housing (36), gasket (40), gear (67) and fork (66).

d. Remove screw (l), nut (2), spring (3), pilot (4) and ball (5). Remove bar (8) and remove eyebolt (6) and nut (7) from bar (8). Remove three screws (10) and washers (11) and remove boss (9).

e. Remove sleeve (41) and speedometer gear (42). Remove four screws (43) and washers (44) and remove housing (46) and gasket (47). Remove bushing (45) from housing (46).

f. Remove four screws (49) and washers (50) and remove plate (48) and gasket (51). Remove six screws (54) and washers (55) and remove three brackets (52 and 53).

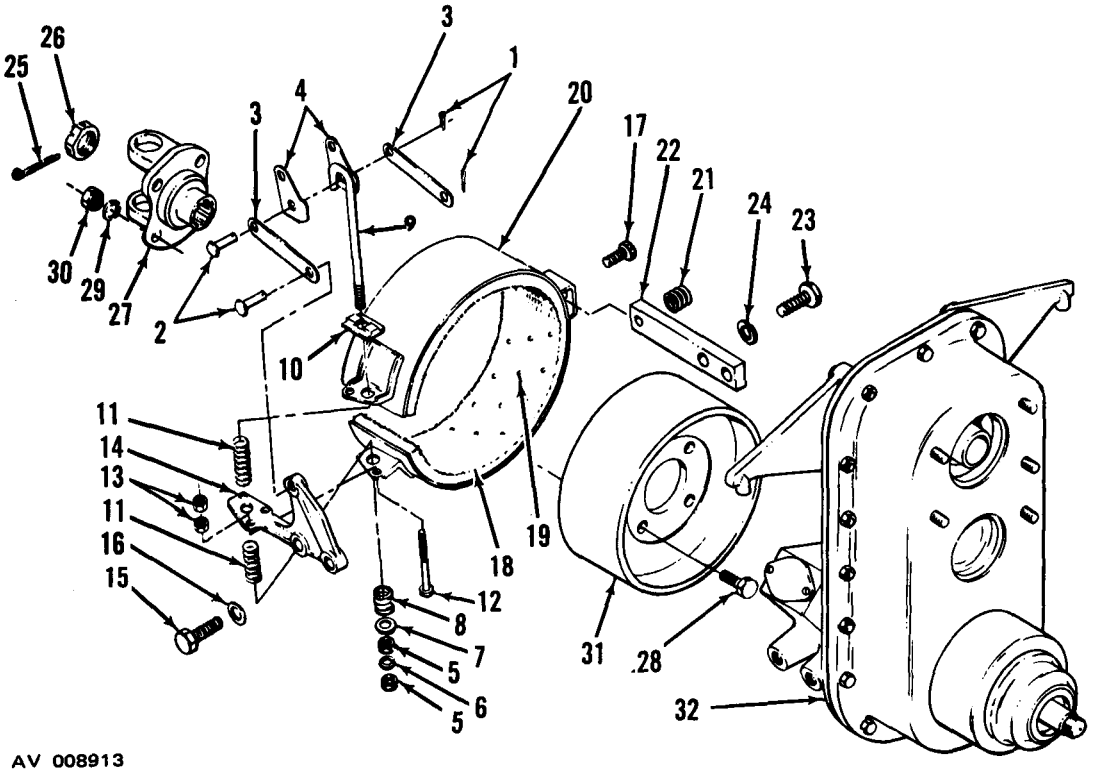
g. Remove four screws (14) and washers (15) and remove carrier (13) and gasket (16). Remove seal (12) from carrier (13). Remove seven screws (20) and washers (21) and remove housing (19), gasket (22) and washer (18).

h. Remove screws (73) and washers (74) and remove cover (72) and gasket (79).

i. Remove four screws (59) and washers (60) and remove adapter (58), gasket (61), and seal (62).

j. Remove breather (76) and plug (78) from housing (75).

k. Remove four nuts (71) and remove cross member (68), four washers (70) and screws (69) from housing (75). Remove spacer (80).



1. Pin
2. Pin
3. Link
4. Cam lever
5. Nut
6. Washer
7. Washer
8. Spring
9. Bolt
10. Shoe
11. Spring
12. Screw
13. Nut
14. Bracket
15. Screw
16. Washer
17. Screw
18. Lining
19. Rivet
20. Brake bank
21. Spring
22. Bracket
23. Screw
24. Washer
25. Pin
26. Nut
27. Yoke
28. Screw
29. Washer
30. Nut
31. Brake drum
32. Transfer tranmission

Figure 4-35. Parking break lining

1. Tube assembly
2. Tube assembly
3. Elbow
4. Elbow
5. Screw
6. Washer
7. Bracket
8. Screw
9. Washer
10. Washer
11. Nut
12. Clamp
13. Screw
14. Washer
15. Washer
16. Nut
17. Cover
18. Screw
19. Washer
20. Element
21. Gasket
22. Cup and spring
23. Plug
24. Housing
25. Indicator
26. Tube
27. Plug
28. Gasket
29. Spring
30. Plunger
31. Screw
32. Washer
33. Gasket
34. Plate
35. Screw and washer
36. Gasket
37. Gear
38. Pin
39. Rotor set
40. Pin
41. Shaft
42. Housing
43. Plug
44. Gasket
45. Oil pan
46. Screw and washer assembly
47. Gasket
48. Gasket
49. Gasket
50. Strainer
51. Pin
52. Adapter
53. Pipe
54. Nut
55. Tube
56. Adapter
57. Plate
58. Screw
59. Washer

Figure 4-36. Oiling group (Sheet 1 of 2)

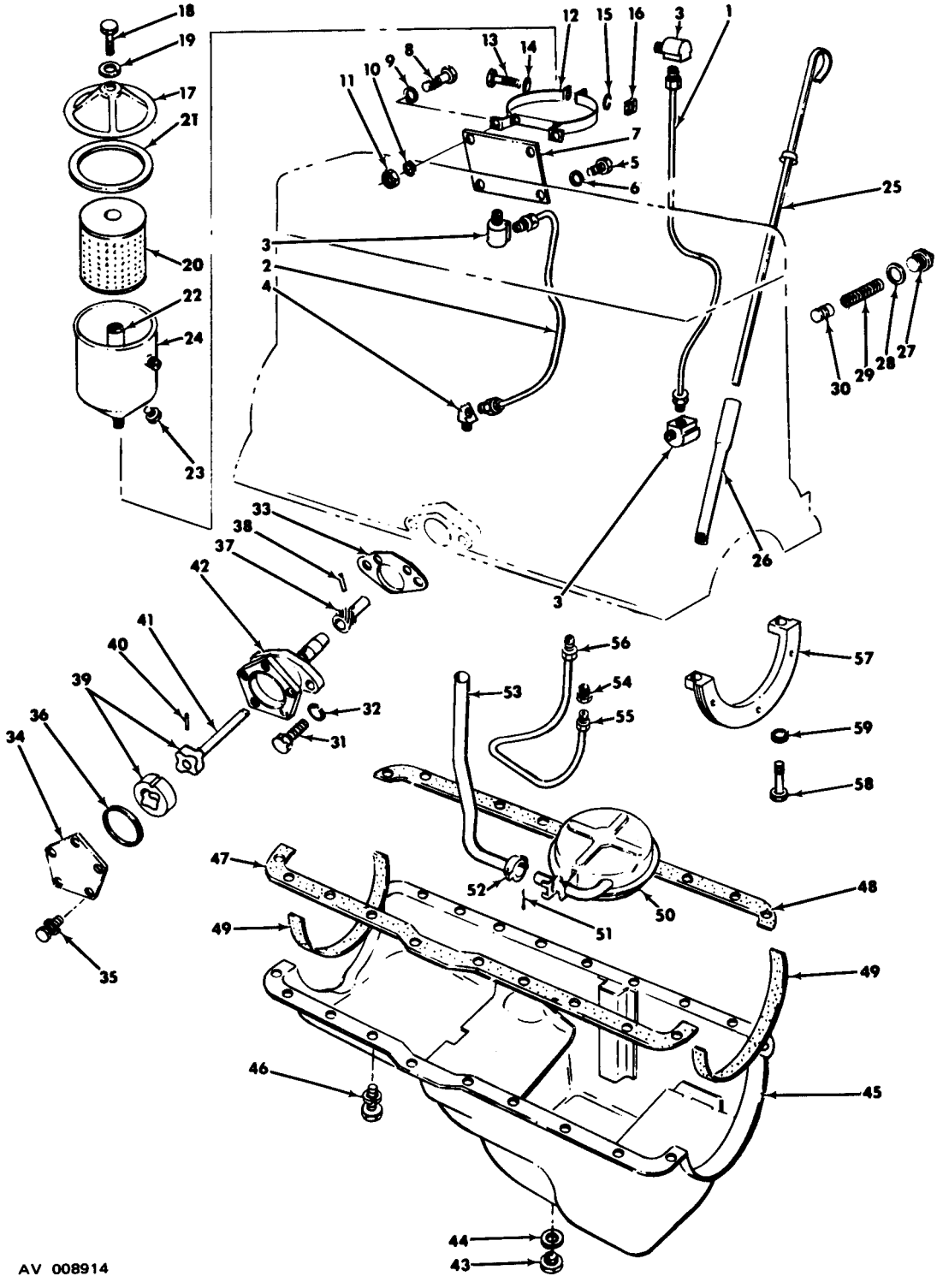


Figure 4-36. Oiling group (Sheet 2 of 2)

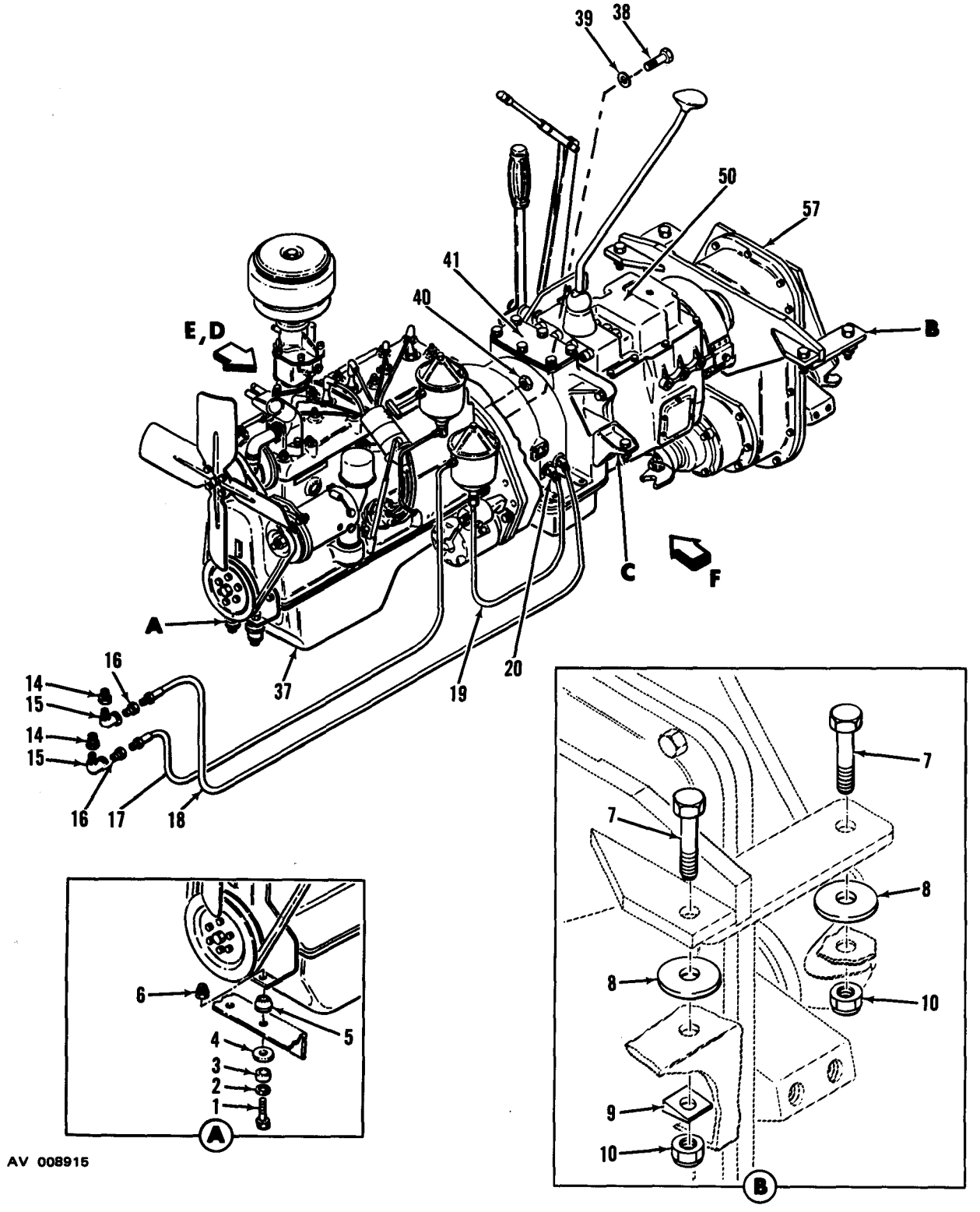


Figure 4-37. *Engine and transmission (Sheet 1 of* 3)

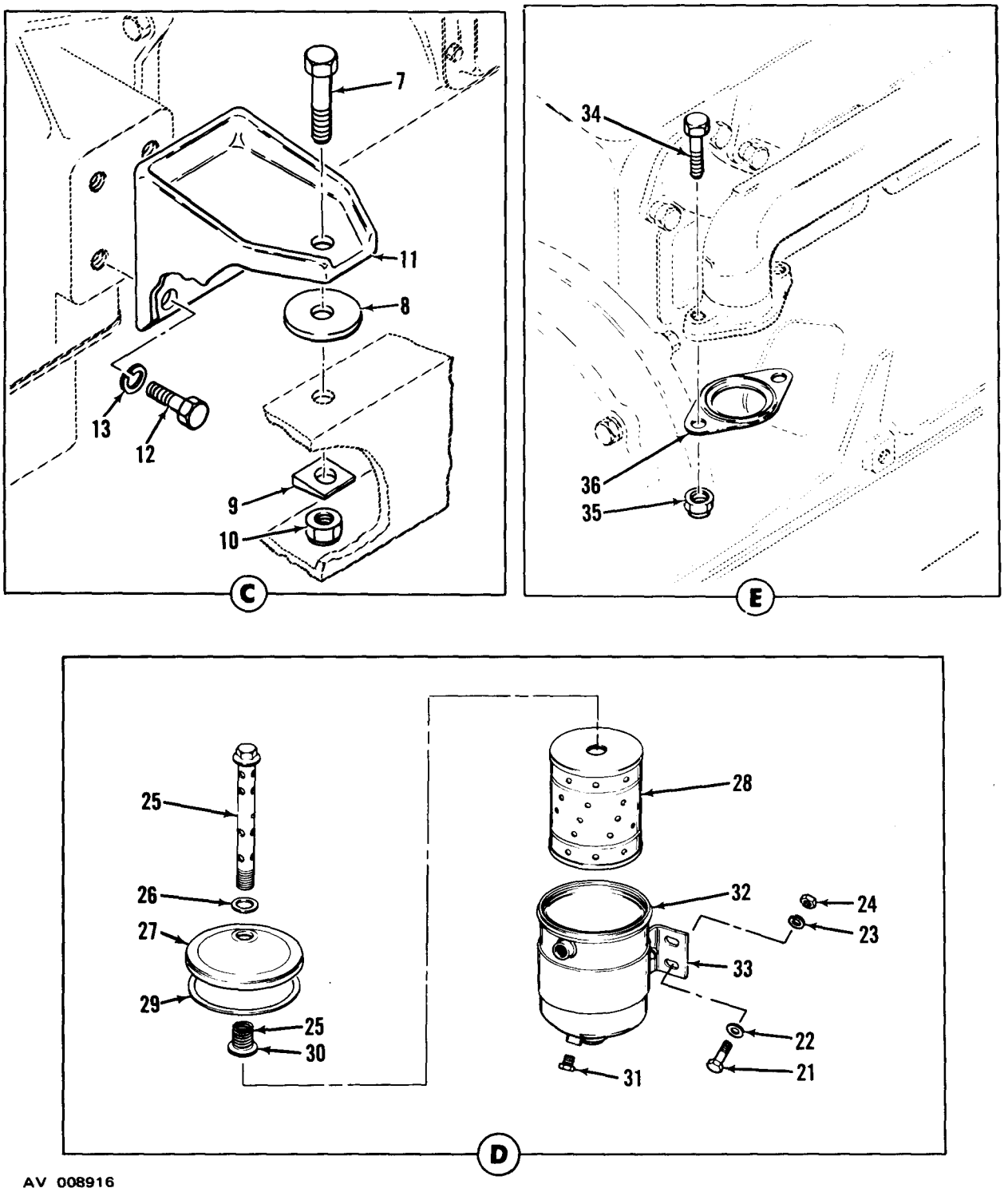
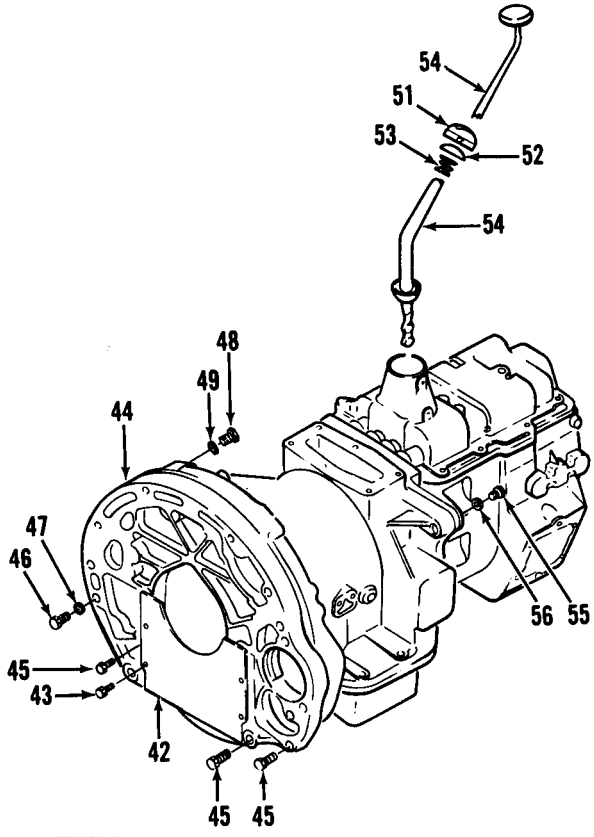


Figure 4-37. Engine and transmission (Sheet 2 of 3)



1. Screw
2. Washer
3. Insulator
4. Seat
5. Insulator
6. Nut
7. Screw
8. Washer
9. Washer
10. Nut
11. Bracket
12. Screw
13. Washer
14. Reducer
15. Elbow
16. Union
17. Hose assembly
18. Hose assembly
19. Tube assembly
20. Elbow
21. Screw
22. Washer
23. Washer
24. Nut
25. Screw assembly
26. Washer
27. Cover
28. Element
29. Gasket
30. Gasket
31. Plug
32. Housing
33. Bracket assembly
34. Screw
35. Nut
36. Gasket
37. Engine
38. Screw
39. Washer
40. Nut
41. Hydraulic transmission
42. Cover
43. Screw
44. Plate
45. Screw
46. Screw
47. Washer
48. Screw
49. Washer
50. Transmission
51. Cover
52. Seat
53. Spring
54. Lever
55. Thumbscrew
56. Washer
57. Transmission and handbrake assembly

Figure 4-37. Engine and transmission (Sheet 3 of 3)

4-339. BRAKE SYSTEM.

4-340. REMOVAL. Refer to figure 4-42 and remove the brake system tubing and components as follows:

a. Remove nut (2) and washer (3) and remove pad (l). Remove spring (8). Remove two cotter pins (5) and two pins (6 and 7) and remove lever (4). Remove rod assembly and remove clevis (13) and nut (14) from rod (15). Remove rod (16).

b. Remove brakeline (17) and remove bolt (19), washer (20), connector (21) and gasket (22) from cylinder (23). Remove plug (18) and gasket (20). Remove three screws (24) washers (25) and nuts (26) and remove cylinder (23). Remove four screws (10), washers (11) and nuts (12) and remove bracket (9) and bracket (28) and spacer.

c. Remove six clamps (29) and remove three hoses (30, 32 and 61) and check valve (31). Remove two clamps (63) and remove hose (64). Remove two tubes (17 and 43). Remove three nuts (74) and washers (75) and remove vacuum booster (73).

d. Remove bolt (67), gasket (68), fitting (69) and gasket (70) from booster (73). Remove elbow (62), bushing (71) and gasket (72) from booster (73). Remove nut (66) and air cleaner (65).

e. Remove two screws (36), washers (37) and nuts (38) and remove two clamps (35). Remove six loop clamps (39). Remove six tubes (40, 41, 42, 44, 45 and 60). Remove four hose assemblies (52) and remove four nuts (50) and washers (51).

f. Remove tube (33) and elbow (34). Remove two gaskets (53), adapters (54) and gaskets (55). Remove two bolts (56), gaskets (57), fittings (58) and gaskets (59). Remove two screws (47), washers (48) and nuts (49) and remove two tees (46).

4-341. DISASSEMBLY. None required.

4-342. MASTER CYLINDER.

4-343. REMOVAL. Remove the master cylinder as outlined in paragraph 4–340b.

4-344. DISASSEMBLY. Refer to figure 4-43 and disassemble the master brake cylinder as follows:

a. Remove filler cap (8) and washer (9). Remove boot (l). Remove clip (2), washer (3) and piston assembly.

b. Remove cup (4) from piston (5). Remove cup (6) and spring (7) from cylinder (10).

4-345 . VACUUM BOOSTER.

4-346. REMOVAL. Remove the vacuum booster assembly as outlined in paragraph 4-340c.

4-347. DISASSEMBLY. Refer to figure 4-44 and disassemble the vacuum booster assembly as follows:

a. Remove two clamps (30) and remove hose (31) and tube assembly (32). Remove plug (33). Remove retaining ring (26) and remove cover (27), washer (25) and spring (29). Remove five screws (35) and washers (36). Remove body and poppets (34), spring (37), diaphragm (38), gasket (39) and fitting (42). Remove two cups (44), piston (45), packing (43), retaining ring (40) and washer (41) from fitting (42).

b. Remove two bleeder valves (1) and remove plug (2) and gasket (7). Remove retaining ring (6), washer (5), spring (4) and check valve (3) from cap (2). Remove tube (8) and remove packing (10), washers (11), and nut (9) from tube (8).

c. Remove retaining ring (12) and remove retainer (13), spring (14), ball (15), cup (16) and piston (17). Remove pin (19) and retaining ring (18) and remove washer (20), spring (21), sleeve (22), retainer (23), cup (24), and washer (25).

d. Remove four nuts (48), washers (47) and bolts (46) and remove plate (50), spring (52) and piston assembly. Remove seal (49) and ring (51) from plate (50).

e. Remove nut (53) and remove plate (56), retaining ring (54), wick (55), plate (57), packing (58), seal (59), plate (60) and washer (61) from rod (62). Remove plug (63) from shell (64).

4-348. AXLE DIFFERENTIAL.

4-349. REMOVAL. Remove the axle differential as outlined in paragraph 4–352.

4-350. DISASSEMBLY. See figure 4-45 and disassemble the axle differential as follows:

a. Remove cotter pin (1) and nut (2) and remove washer (3), yoke (4), seal (5) and spacer (6).

b. Remove screw (24) and remove retainer nut (25), two bearings (26), and cup (27).

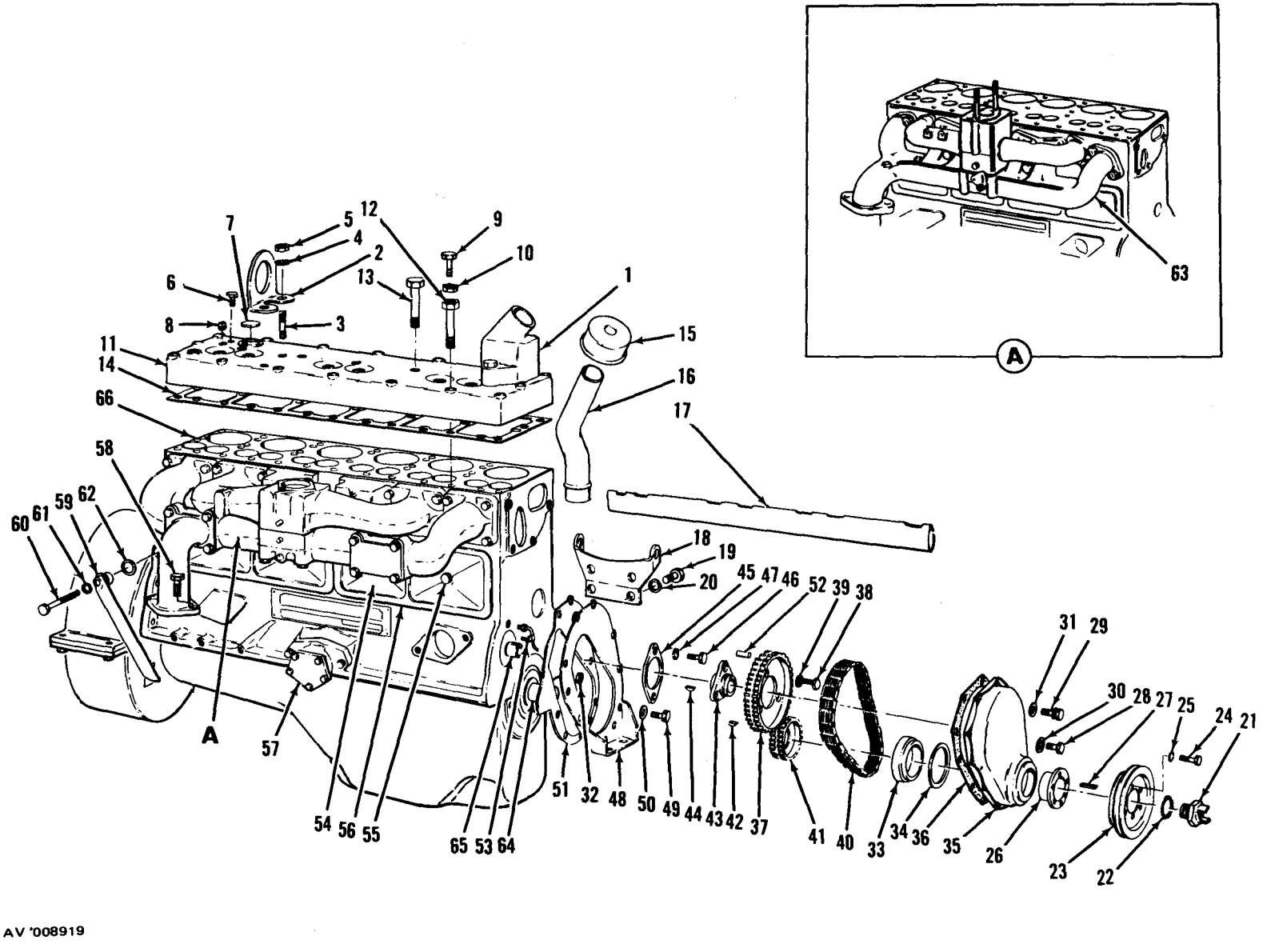


Figure 4—38. Engine (Sheet 1 of 2)

1. Cooling group
2. Bracket
3. Stud
4. Washer
5. Nut
6. Screw
7. Washer
8. Plug
9. Screw
10. Nut
11. Head assembly
12. Screw
13. Bolt
14. Gasket
15. Cap
16. Tube
17. Tube
18. Bracket
19. Screw
20. Washer
21. Screw
22. Washer
23. Pulley
24. Bolt
25. Washer
26. Hub
27. Key
28. Screw
29. Screw and washer assembly
30. Washer
31. Gasket
32. Nut
33. Seal
34. Gasket
35. Cover
36. Gasket
37. Sprocket wheel
38. Screw
39. Washer
40. Chain
41. Sprocket wheel
42. Key
43. Hub
44. Key
45. Plate
46. Screw
47. Washer
48. Plate
49. Screw
50. Washer
51. Gasket
52. Pin
53. Tube
54. Cover
55. Screw
56. Gasket
57. Oiling group
58. Screw
59. Tube
60. Screw
61. Washer
62. Gasket
63. Manifold assembly
64. Crankshaft and piston group
65. Camshaft and valve group
66. Engine block

Figure 4–38. Engine (Sheet 2 of 2)

4-351. AXLE ASSEMBLY.

4-352. REMOVAL. Refer to figure 4-46 and remove the axle installation as follows:

NOTE

Tractor weight is 10,700 pounds. Provide proper capacity jack when raising tractor.

a. Remove axle propeller shaft as outlined in paragraph 4–333.

b. Remove two grease fittings (13), nuts (14) and bolts (15) and remove tie rod assembly. Remove two screws (17), washers (18) and nuts (19) and remove two clevis (16) from rod (20).

c. Remove two nuts (1), washers (2) and grommets (3) and remove shock absorber assembly. Remove two grommets (3) and washers (2) from shock absorber (4).

NOTE

Provide proper receptacle and drain differential lubricant.

d. Remove four screws (30), eight screws (31) and twelve washers (32) and remove differential (29) and gasket (33).

e. Place automotive jack under the tractor and raise the tractor until the tires are clear. Remove seven screws (22), one screw (23), eight washers (24) and nuts (25) and remove the hub assembly (21).

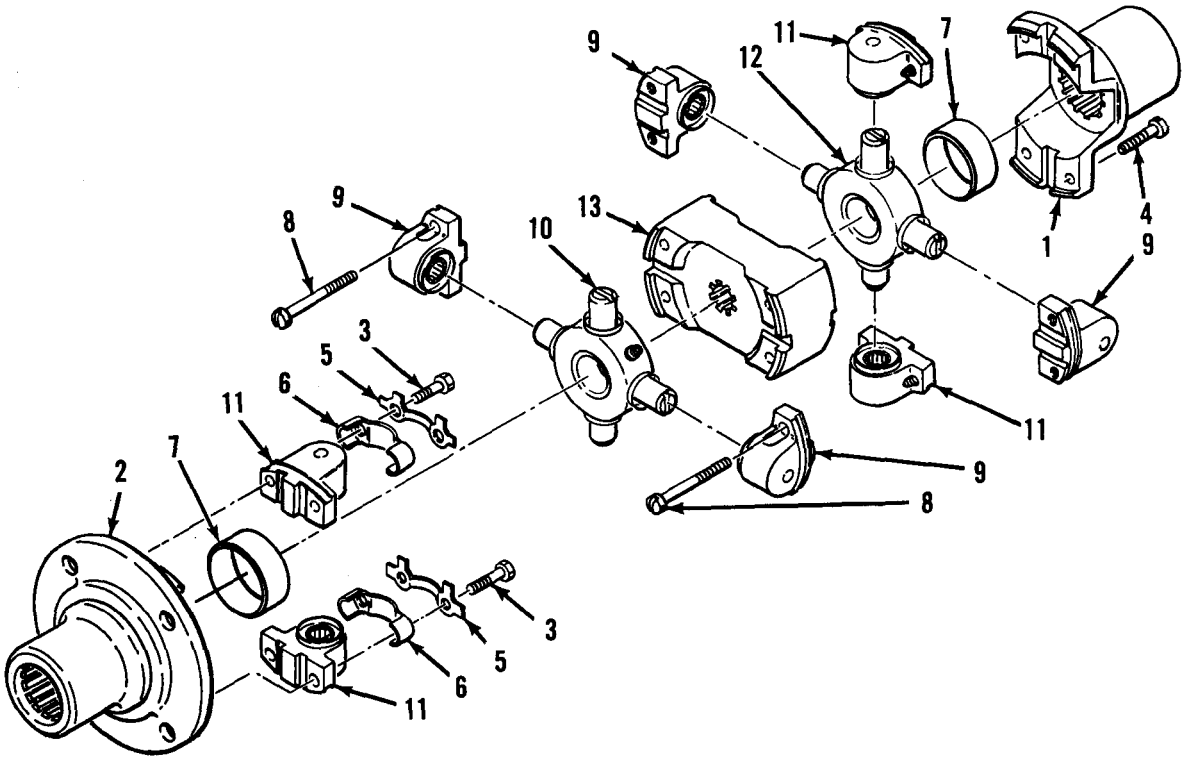
f. Remove sixteen nuts (9), sixteen washers (10) and eight studs (11) and remove axle housing (37), bracket (11) and pad (12). Remove nut (6) and washer (7) and remove bumper (5) from bracket (11). Remove pin (38), two seals (34), plug (36) and vent (35) from housing (37).

4-353. DISASSEMBLY. None required.

4-354. HUB ASSEMBLY.

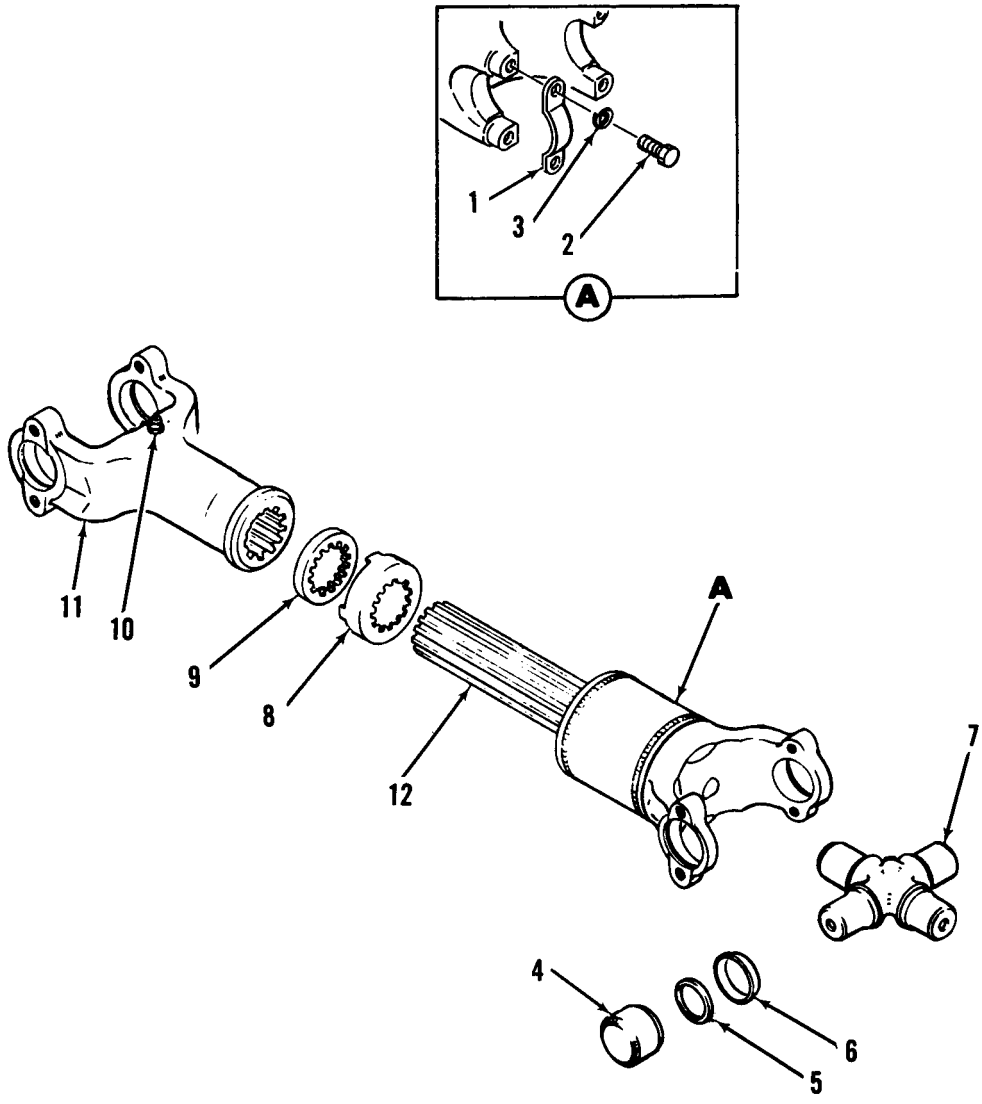
4-355. REMOVAL. Remove the hub assembly as outlined in paragraph 4-352.

4-356. DISASSEMBLY. Refer to figure 4-47 and disassemble the hub assembly as follows:



1. Yoke
2. Yoke
3. Bolt
4. Bolt
5. Locking plate
6. Strap bearing
7. Cap
8. Bolt
9. Bearing assembly
10. Cross
11. Bearing assembly
12. Cross
13. Coupling

Figure 4-39. Transmission propeller shaft



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1. Strap
2. Screw
3. Washer
4. Bearing assembly
5. Packing
6. Retainer
7. Spider
8. Retainer packing
9. Felt
10. Fitting
11. Yoke assembly
12. Shaft assembly

Figure 4-40. Axle propeller shaft

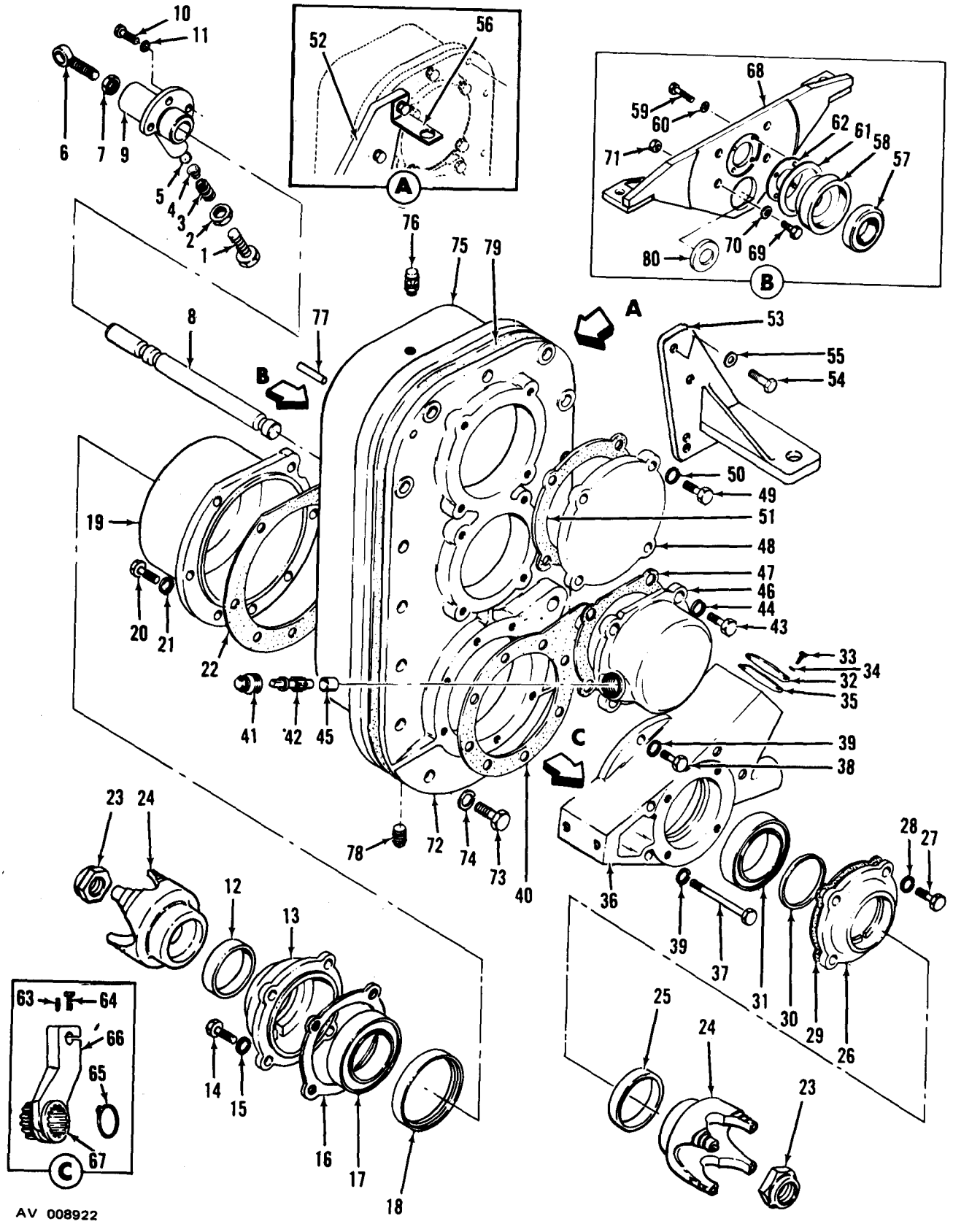


Figure 4-41. Transfer transmission (Sheet 1 of 2)

1. Screw
2. Nut
3. Spring
4. Pilot
5. Ball
6. Bolt
7. Nut
8. Bar
9. Boss
10. Screw
11. Washer
12. Seal
13. Carrier
14. Screw
15. Washer
16. Shim set
17. Bearing
18. Washer
19. Housing
20. Screw
21. Washer
22. Gasket
23. Nut
24. Yoke
25. Seal
26. Cap
27. Screw
28. Washer
29. Gasket
30. Spacer
31. Bearing
32. Plate
33. Screw
34. Washer
35. Gasket
36. Housing
37. Screw
38. Screw
39. Washer
40. Gasket
41. Sleeve
42. Gear
43. Screw
44. Washer
45. Bushing
46. Housing
47. Gasket
48. Plate
49. Screw
50. Washer
51. Gasket
52. Bracket
53. Bracket
54. Screw
55. Washer
56. Bracket
57. Bearing
58. Adapter
59. Screw
60. Washer
61. Gasket
62. Seal
63. Setscrew
64. Screw
65. Ring
66. Fork
67. Gear
68. Crossmember
69. Screw
70. Washer
71. Nut
72. Cover
73. Screw
74. Washer
75. Housing
76. Breather
77. Pin
78. Plug
79. Gasket
80. Spacer

Figure 4-41. Transfer transmission (Sheet 2 of 2)

a. Remove cover (1). Remove eight screws (28, figure 4-46) and bushings (29) and remove axle shaft (27). Remove two plugs (2, figure 4-47) and pins (3) and remove yoke and ring assembly. Remove two spring pins (4) and pins (5) and remove yoke (6) from ring (9). Remove two bushings (7) and two bushings (8) from ring (9).

b. Remove eight screws (11), two lock plates (10) and two shims (14) and remove plate (12) and hub (22). Remove two bearings (15), cups (16) and spacer (17). Remove twelve screws (19) and remove drum (18) from hub (22). Remove two pins (20) and six studs (21) from hub (22).

c. Remove two screws (42) and washers (43) and remove the cylinder assembly. Remove two rods (41), boots (44), pistons (45), cups (46) and springs (47) from cylinder (49). Remove valve (48) from cylinder (49).

d. Remove spring (34). Remove two split washers (30), four flat washers (32) and two spring washers (31). Remove two split washers (33) and remove two shoe assemblies.

e. Remove four screws (25), washers (27) and nuts (28). Remove four screws (24), washers (26) and nuts (29) and remove shield (23). Remove two screws (50) and washers (51) and remove the plate assembly. Remove two nuts (39) and washers (40) and remove two pins (38). Remove two bolts (58), cams (56) and springs (57). Remove four pins (53) and collars (54) and remove bracket (52). Remove four pins (55) and clinch nuts (59) from plate (60).

f. Remove two screws (61), two screws (62), four washers (63) and four nuts (64) and remove arm (66). Remove bushing (65) from arm (66). Remove wedge (77), cap (78), two bearings (79) and cup (80) and remove spindle (76) from stud (82).

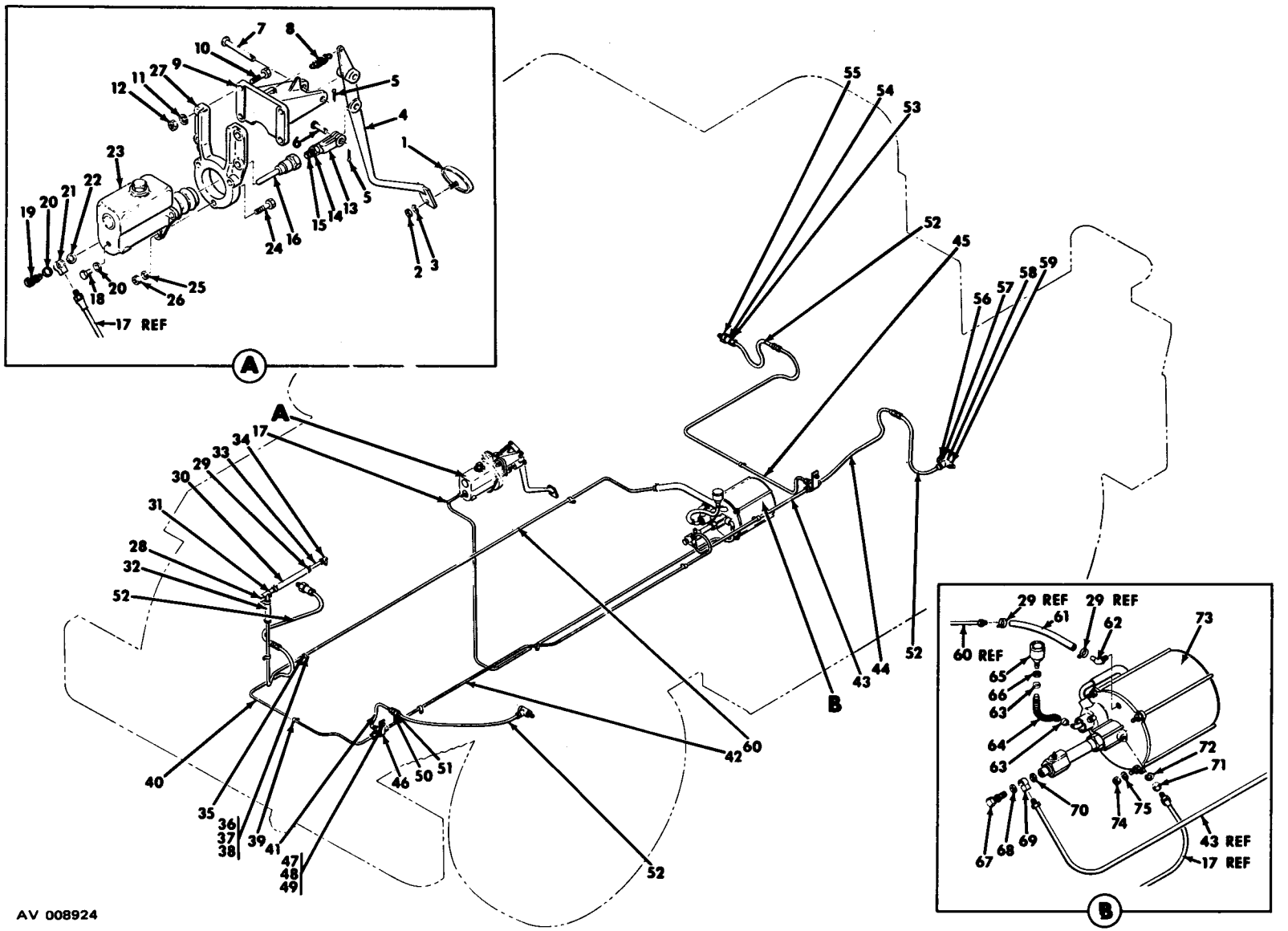


Figure 4–42. Brake system (Sheet 1 of 2)

1. Pad
2. Nut
3. Washer
4. Lever
5. Pin
6. Pin
7. Pin
8. Spring
9. Bracket
10. Screw
11. Washer
12. Nut
13. Clevis
14. Nut
15. Rod
16. Push rod
17. Brake line assembly
18. Plug
19. Bolt
20. Washer
21. Connector
22. Gasket
23. Cylinder assembly
24. Screw
25. Washer
26. Nut
27. Spacer
28. Bracket
29. Clamp
30. Hose
31. Valve
32. Hose
33. Tube
34. Elbow
35. Strap
36. Screw
37. Washer
38. Nut
39. Clamp
40. Tube assembly
41. Tube assembly
42. Tube assembly
43. Tube assembly
44. Tube assembly
45. Tube assembly
46. Tee
47. Screw
48. Washer
49. Nut
50. Nut
51. Washer
52. Hose assembly
53. Gasket
54. Adapter
55. Gasket
56. Bolt
57. Gasket
58. Fitting
59. Gasket
60. Vacuum tube valve
61. Hose
62. Elbow
63. Clamp
64. Hose
65. Air cleaner
66. Nut
67. Bolt
68. Washer
69. Connector
70. Gasket
71. Adapter
72. Gasket
73. Booster assembly
74. Nut
75. Washer

Figure 4-42. Brake system (Sheet 2 of 2)

g. Remove clamp (70). Remove six screws (68) and washers (69) and remove two boot retainers (71) and boot (67) from spindle (76). Remove screw (73), nut (75), washer (74) and packing (72) from spindle (76). Remove grease fitting (81) from stub (82).

4-357. WHEEL ASSEMBLY.

4-358. REMOVAL. Remove wheel assembly; refer to Chapter 3, Section VI

4-359. DISASSEMBLY. See figure 4-48 and disassemble as follows:

NOTE

Deflate tire if not already deflated.

a. Remove nut (1) and clamp (2) from flange (3).

b. Remove flange (3) from base (4).

c. Remove deflated tire (7), tube (6) and flap (5).

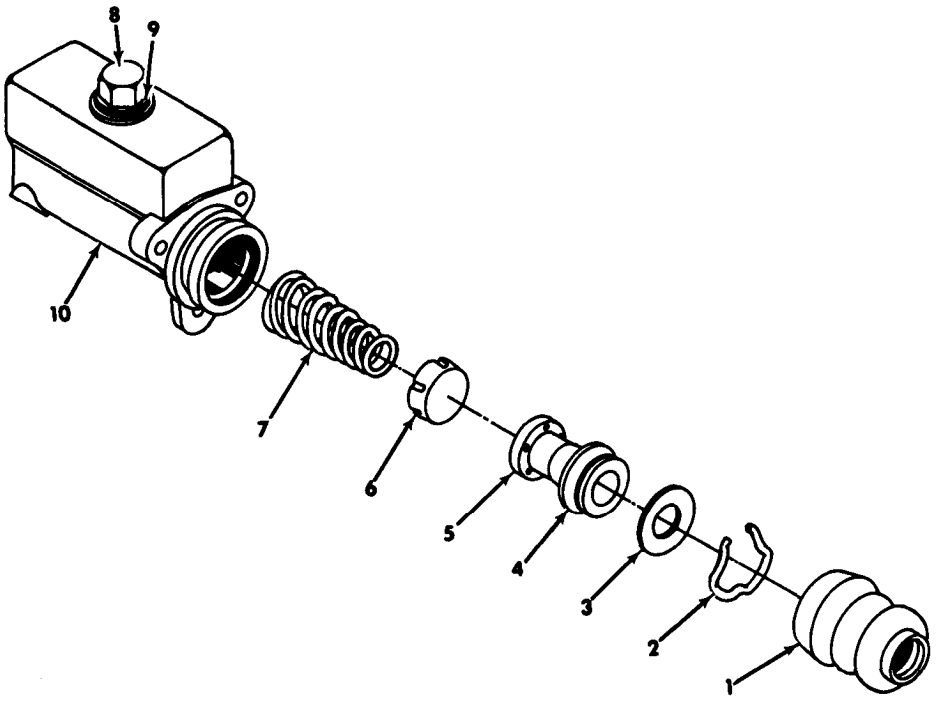
4-360. FRAME AND BRACKETS ASSEMBLY.

4-361. REMOVAL. Not applicable.

4-362. DISASSEMBLY. See figure 4-49 and disassemble the frame assembly as follows:

a. Remove eight screws (1), washers (2), and nuts (3) and remove two pintle assemblies from frame plates (28 and 154). Remove two fittings (4) from pins (6 and 9). Remove two retaining rings (5) and pin (6) and remove lock assembly from hook (12). Remove two retaining rings (8) and pin (9) and remove spring (10) and latch (11) from lock (7).

b. Remove four screws (14), washers (15), and nuts (16) and remove counterweight (13). Remove four screws (18), washers (19), and nuts (20) and remove two counterweights (17).



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1. Boot
2. Clip
3. Washer
4. Cup
5. Piston
6. Cup
7. Spring
8. Cap
9. Washer
10. Cylinder

Figure 4–43. Master cylinder

c. Remove setscrew (21) from bracket (111). Remove two screws (24), wedge washers (25), washers (26), and nuts (27) and remove grill brackets (22 and 23). Remove eight screws (29), washers (30), and nuts (31) and remove frame plate (28).

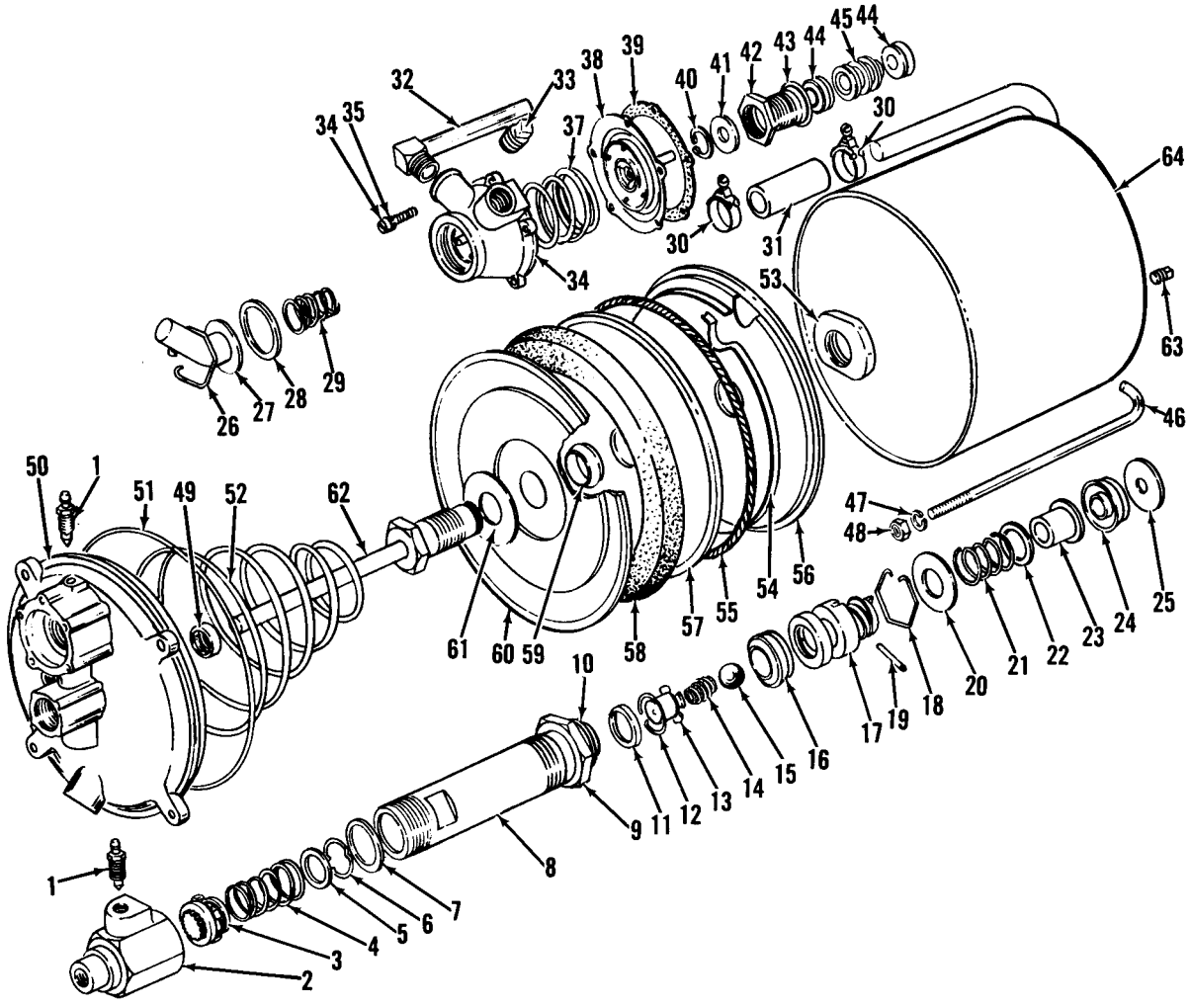
d. Remove two screws (33 and 34), wedge washers (35), washers (36), and nuts (37) and remove mounting bracket (32). Remove two screws (39), washers (40), and nuts (41) and remove crossmember (38). Remove four screws (43), washers (44), and nuts (45) and remove two fender brackets (42).

e. Remove twelve lubrication fittings (46) from shackle pins (47). Remove twelve screws (48 and 49), washers (50) and nuts (51) and remove twelve shackle pins (47). Remove four spring assemblies and spring shackles (53). Remove four bushings (52) from four spring shackles (53).

f. Remove four screws (55), nuts (56), and tubes (54) from clips (59 and 60). Remove bolt (57) and nut (58) from eleven leaf springs (63, 64, 65, 66, 67, 68, 69, 70, 71, 72, and 73). Remove two rivets (61) and remove two alinement clips (60) from leaf spring (69). Remove two rivets (61) and remove two alinements clips (59) from leaf spring (66). Remove two bushings (62) from leaf spring (63).

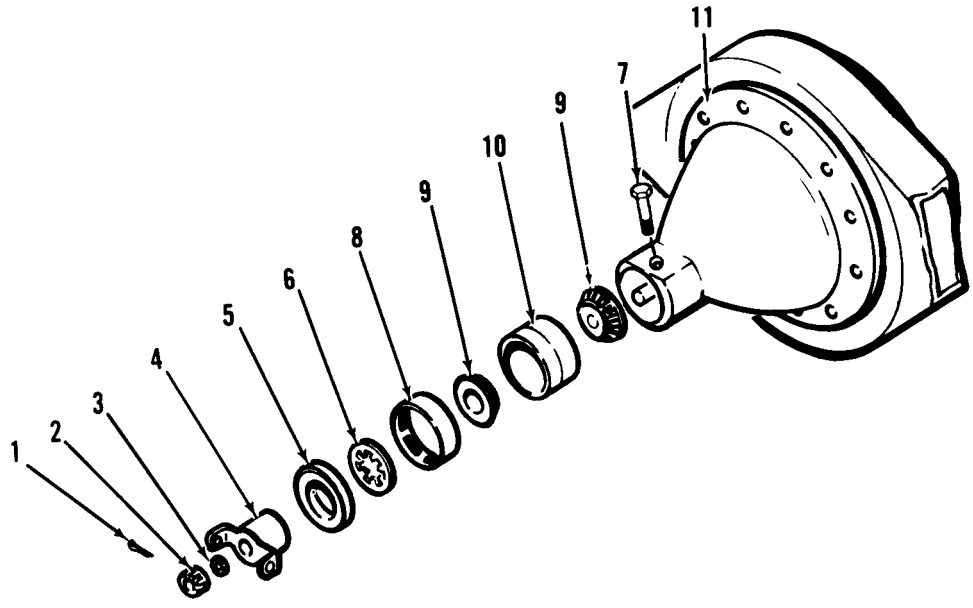
g. Remove eight screws (75 and 76), washers (77), and nuts (78) and remove four spring shackle brackets (74) and bracket (79). Remove eight screws (81 and 82), washers (83) and nuts (84) and remove four spring brackets (80) and crossmember (85).

h. Remove four screws (88), wedge washers (89), washers (90), and nuts (91) and remove cab supports (86 and 87).



1. Bleeder valve
2. Cap
3. Check valve
4. Spring
5. Washer
6. Ring
7. Gasket
8. Tube
9. Nut
10. Packing
11. Washer
12. Ring
13. Retainer
14. Spring
15. Bearing
16. Cup
17. Piston
18. Ring
19. Pin
20. Washer
21. Spring
22. Sleeve
23. Retainer
24. Cup
25. Washer
26. Ring
27. Cover
28. Gasket
29. Spring
30. Clamp
31. Hose
32. Elbow
33. Plug
34. Body and poppets
35. Screw
36. Washer
37. Spring
38. Diaphragm assembly
39. Gasket
40. Ring
41. Washer
42. Fitting
43. Packing
44. Cup
45. Piston
46. Bolt
47. Washer
48. Nut
49. Seal
50. End plate
51. Ring
52. Spring
53. Nut
54. Ring
55. Wick
56. Plate
57. Plate
58. Packing
59. Seal
60. Plate
61. Washer
62. Push rod assembly
63. Plug
64. Cylinder shell

Figure 4-44. Vacuum booster



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1. Pin
2. Nut
3. Washer
4. Yoke
5. Seal
6. Spacer
7. Screw
8. Nut
9. Cone and rollers
10. Cup
11. Housing

Figure 4-45. Axle differential

1. Nut
2. Washer
3. Grommet
4. Shock absorber
5, Bumper
6. Nut
7. Washer
8. Nut
9. Washer
10. Stud
11. Bracket
12. Pad
13. Fitting
14. Nut
15. Bolt
16. Clevis
17. Screw
18. Washer
19. Nut
20. Tie rod
21. Wheel assembly
22. Screw
23. Screw
24. Washer
25. Nut
26. Shaft
27. Screw
28. Bushing
29. Differential
30. Screw
31. Screw
32. Washer
33. Gasket
34. Seal
35. Vent
36. Plug
37, Housing
38. Pin

Figure 4-46. Axle assembly (Sheet 1 of 2)

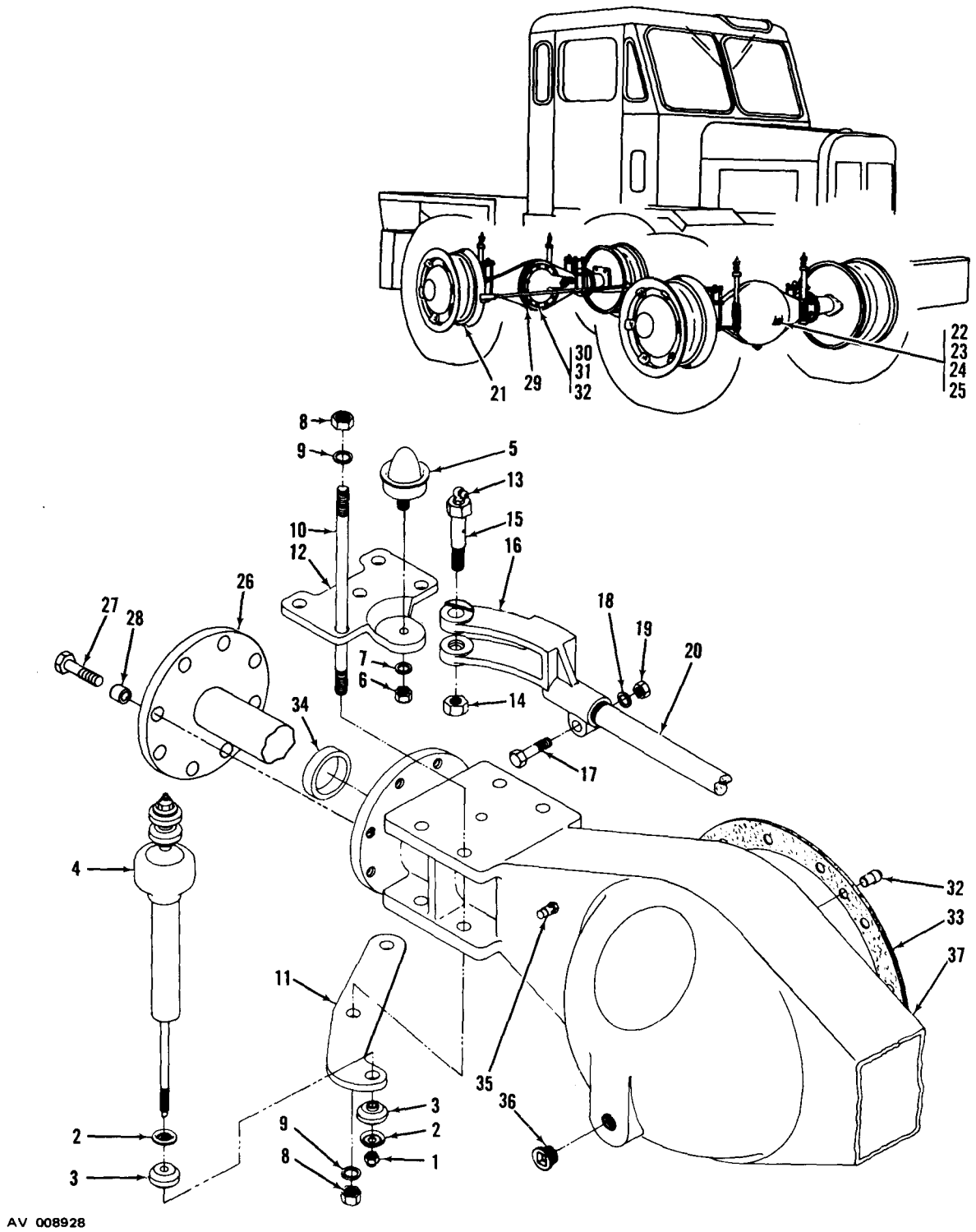


Figure 4-46. Axle assembly (Sheet 2 of 2)

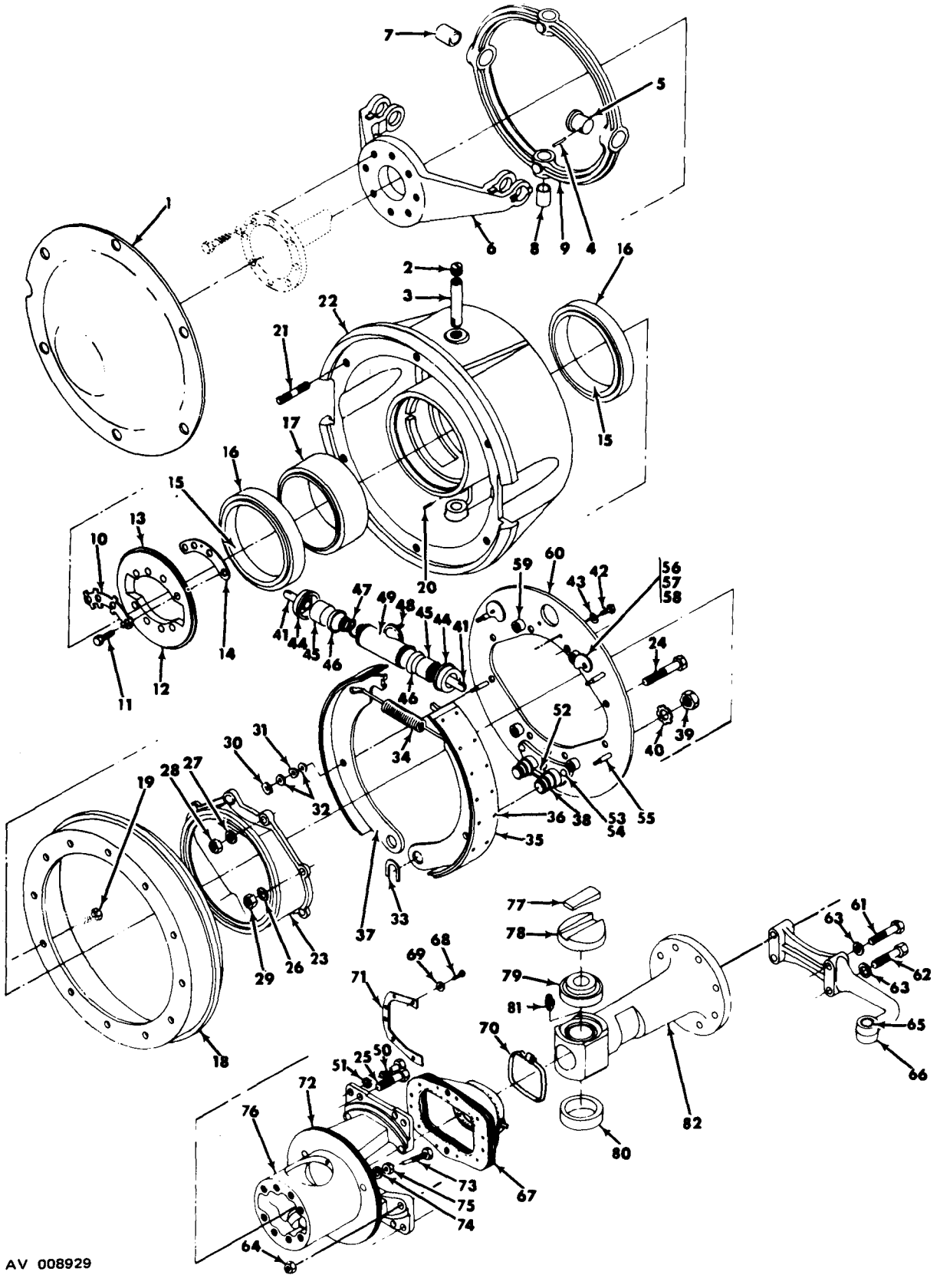


Figure 4-47. Hub assembly (Sheet 1 of 2)

1. Cover
2. Plug
3. Pin
4. Pin
5. Pin
6. Yoke
7. Bushing
8. Bushing
9. Ring
10. Plate
11. Screw
12. Plate
13. Packing
14. Shim set
15. Cone and rollers
16. Cup
17. Ring
18. Brake drum
19. Screw
20. Pin
21. Stud
22. Hub
23. Shield
24. Screw
25. Screw
26. Washer
27. Washer
28. Nut
29. Nut
30. Washer
31. Washer
32. Washer
33. Washer
34. Spring
35. Lining
36. Rivet
37. Brake shoe
38. Pin
39. Nut
40. Washer
41. Push rod
42. Screw
43. Washer
44. Boot
45. Piston
46. Cup
47. Spring
48. Bleeder valve
49. Cylinder
50. Screw
51. Washer
52. Bracket
53. Pin
54. Collar
55. Pin
56. Cam
57. Spring
58. Bolt
59. Nut
60. Plate
61. Screw
62. Screw
63. Washer
64. Nut
65. Bushing
66. Arm
67. Boot
68. Screw
69. Washer
70. Clamp
71. Retainer
72. Packing
73. Setscrew
74. Washer
75. Nut
76. Spindle
77. Wedge
78. Cap
79. Cone and rollers
80. Cup
81. Fitting
82. Stub

Figure 4-47. Hub assembly (Sheet 2 of 2)

i. Remove screw (92), washer (93), and nut (94) and remove bracket assembly (98). Remove two screws (95), washers (96) and nuts (97) from bracket (98). Remove five screws (100 and 101), two washers (93), five washers (103) and nuts (104) and remove steering gear bracket (99).

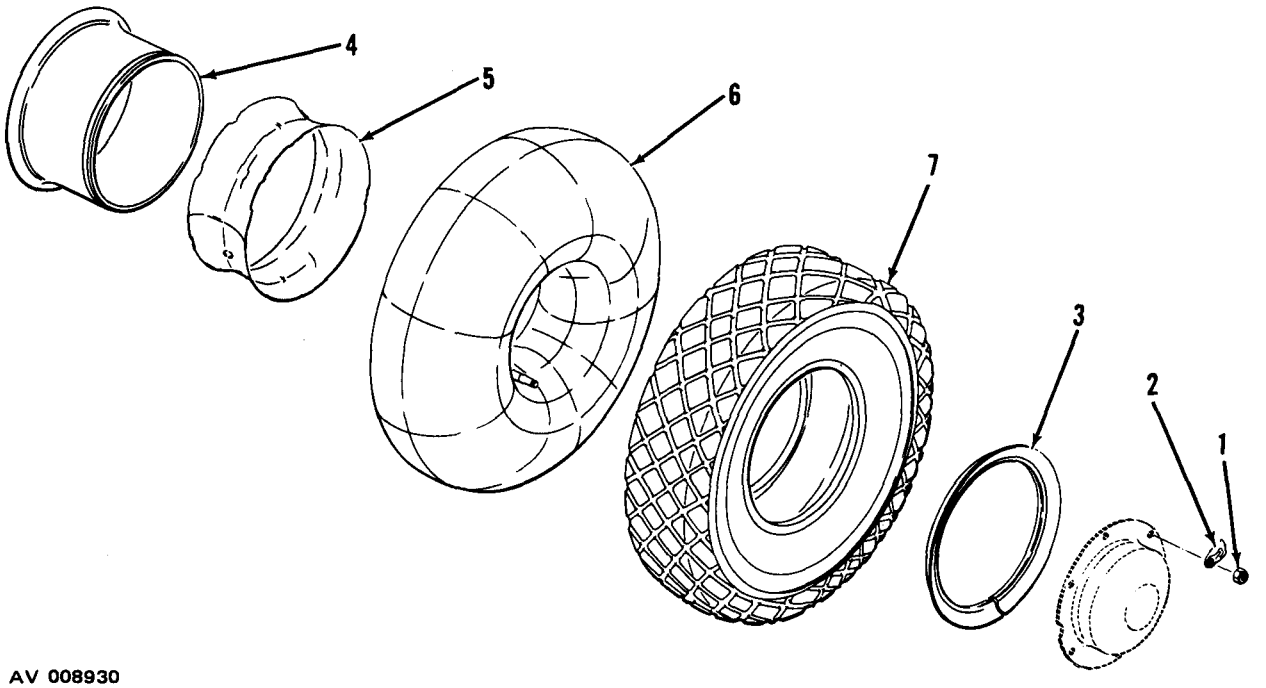
j. Remove eight screws (108), washers (109), and nuts (110) and remove two step supports (105) and two supports (106 and 107). Remove five screws (112 and 113), two wedge washers (114), five washers (115), and nuts (116) and remove steering bracket (111).

k. Remove two nuts (117), washers (118), one U bolt (119) and clamp (120).

1. Remove pipe plug (122) from spark arrestor (123). Remove two nuts (126), washers (125) and loop clamp (124) and remove spark arrestor (123). Remove two screws (128), washers (129), and nuts (130) and remove mounting bracket (127). Remove four screws (132), wedge washers (134), washers (135), and nuts (136) and remove cab support (131).

m. Remove four screws (138), washers (139), and nuts (140) and remove mounting bracket (137) and support bracket (141). Remove four screws (143 and 144), washers (145), and nuts (146) and remove mounting brackets (142, 147, and 148). Remove eight screws (150), washers (151), and nuts (152) and remove four shock absorber brackets (149). Remove two grommets (153) from frame.

n. Remove four screws (159), washers (160), and nuts (161) and remove bracket (158). Remove eight screws (155), washers (156), and nuts (157) and remove frame plate (154) from rails (163).



1. Nut
2. Clamp
3. Flange
4. Base
5. Flap
6. Inner tube
7. Tire

Figure 4-48. Wheel assembly

4-363. CLEANING.

4-364. All items removed during disassembly which are to be reused shall be cleaned using approved cleaning solvents and procedures. (Refer to Chapter 3, Section IV.)

4-365. REPAIR PROCEDURES.

4-366. GENERAL.

4-367. The following paragraphs contain all necessary instructions for repair of the components and assemblies of the towing tractor covered by this manual.

4-368. Many repair parts for the tractor are provided in the form of kits. An assembly or component having kitted repair parts will be noted in the repair paragraph for the assembly. Presence of a new part in the applicable kit eliminates the necessity of repairing or reusing the equivalent part removed from the assembly being overhauled.

4-369. All parts which are removed in the process of disassembly shall be replaced with all like parts furnished in the kit. If an installed part is not defective, however, it need not be removed solely for the purpose of replacement by a corresponding kitted part.

4-370. .4 majority of the repair functions for the towing tractor are limited to replacing worm or otherwise defective parts as disclosed by inspection of the items.

4-371 . UPPER CAB ASSEMBLY.

4-372. REPAIR. Refer to paragraph 4-19 for inspection and repair the upper cab in accordance with the following procedures. (See figure 4-3.)

a. Remove dents and rust from shell, repaint chipped and rusted areas.

b. Replace cracked or fogged mirrors.

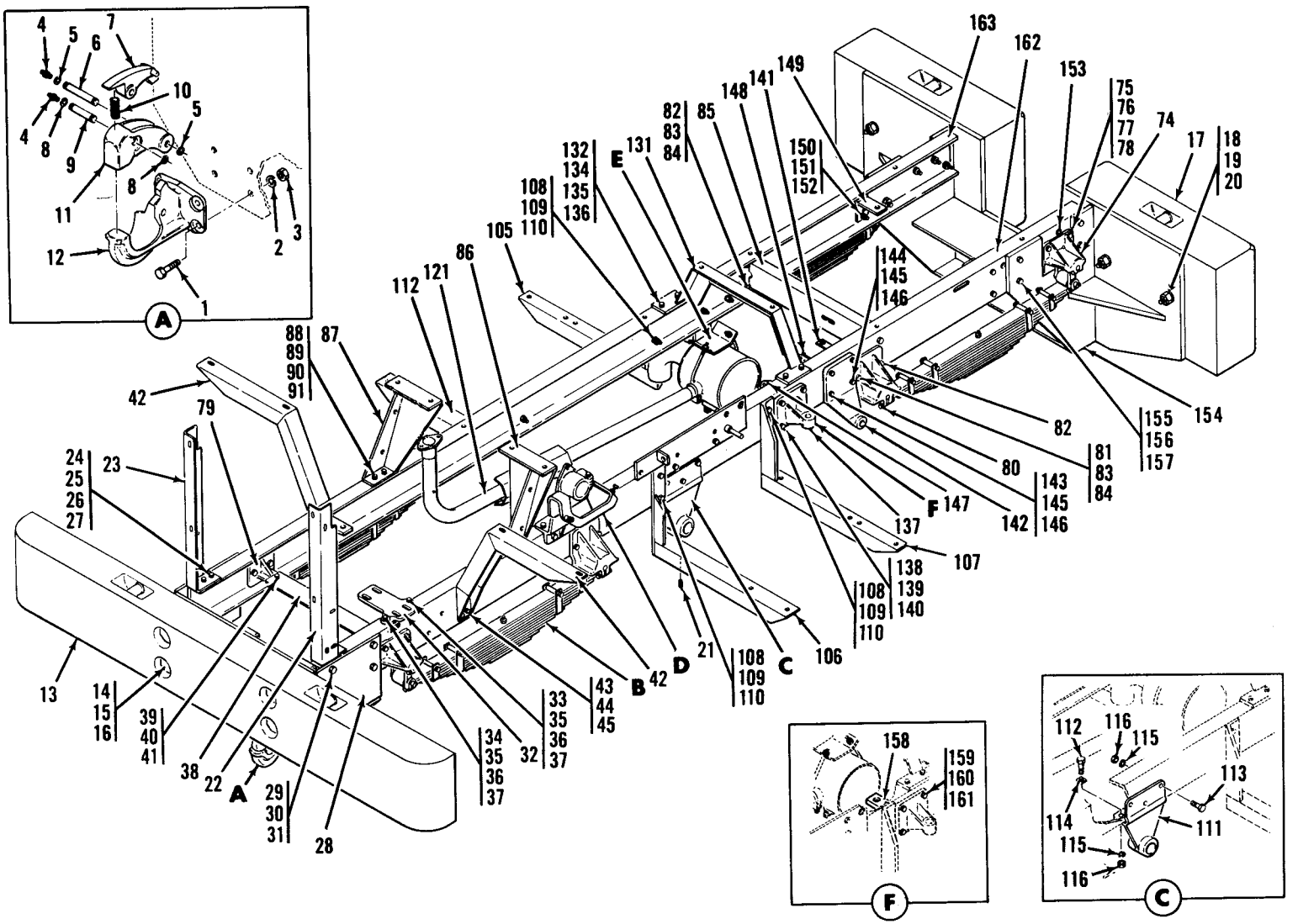


Figure 4-49. Frame assembly (Sheet 1 of 4)

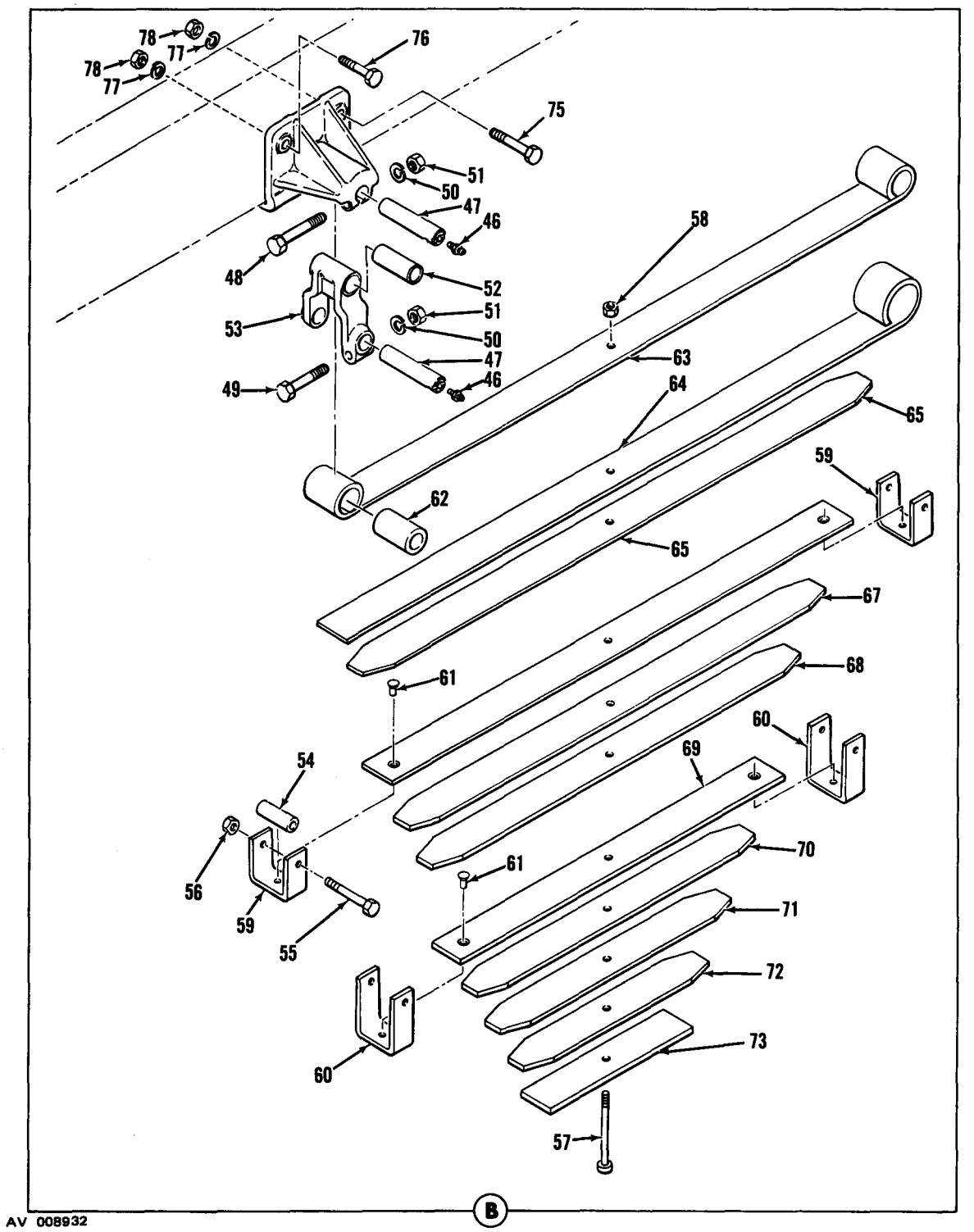


Figure 4-49. Frame assembly (Sheet 2 of 4)

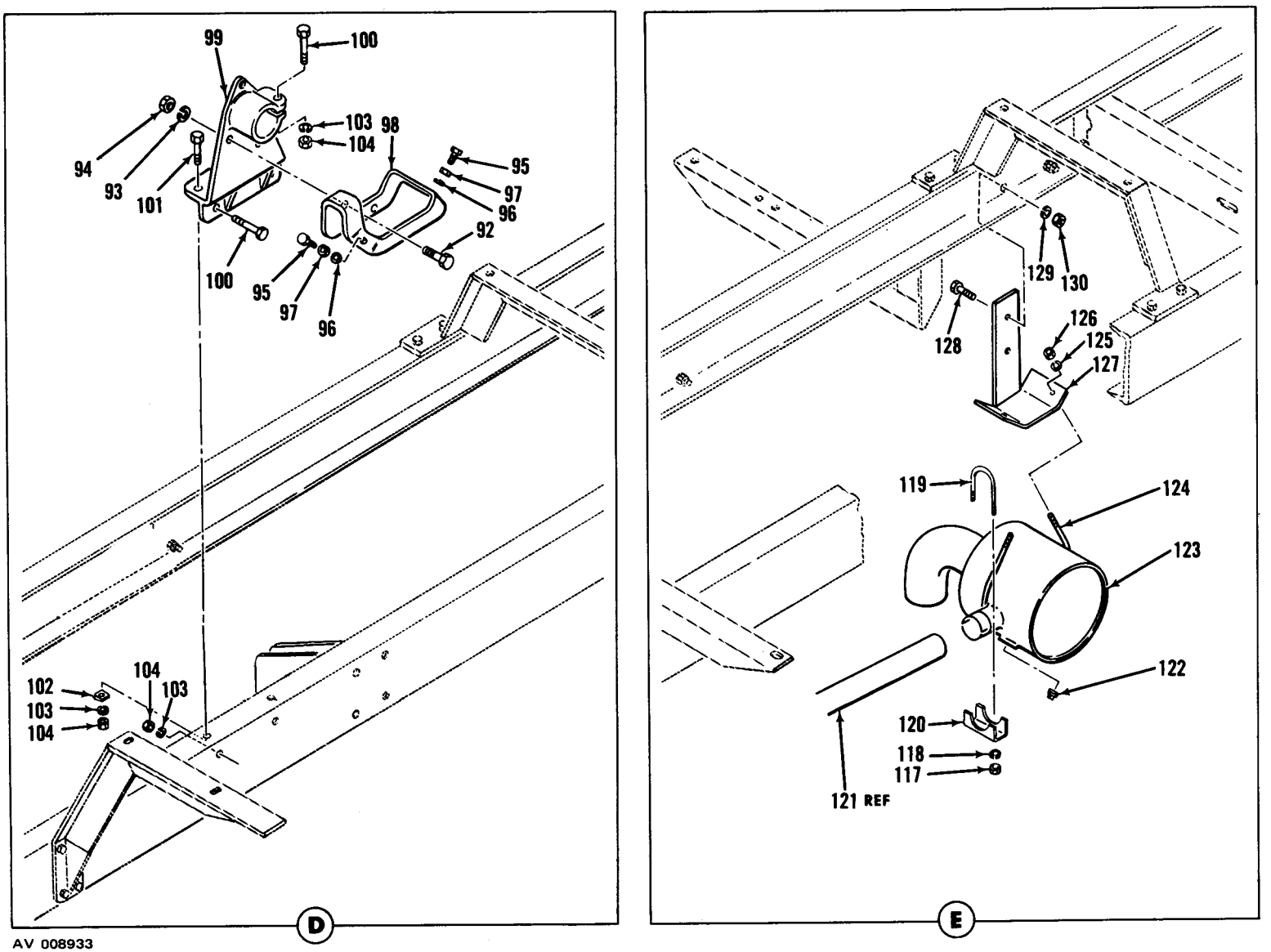


Figure 4-49. Frame assembly (Sheet 3 of 4)

1. Screw
2. Washer
3. Nut
4. Fitting
5. Ring
6. Pin
7. Lock
8. Ring
9. Pin
10. Spring
11. Latch
12. Hook
13. Counterweight
14. Screw
15. Washer
16. Nut
17. Counterweight
18. Screw
19. Washer
20. Nut
21. Setscrew
22. Bracket
23. Bracket
24. Screw
25. Washer
26. Washer
27. Nut
28. Plate
29. Screw
30. Washer
31. Nut
32. Bracket
33. Screw
34. Screw
35. Washer
36. Washer
37. Nut
38. Crossmember
39. Screw
40. Washer
41. Nut
42. Bracket
43. Screw
44. Washer
45. Nut
46. Fitting
47. Pin
48. Screw
49. Screw
50. Washer
51. Nut
52. Bushing
53. Shackle
54. Tube
55. Screw
56. Nut
57. Bolt
58. Nut
59. Clip
60. Clip
61. Rivet
62. Bushing
63. Spring
64. Spring
65. Spring
66. Spring
67. Spring
68. Spring
69. Spring
70. Spring
71. Spring
72. Spring
73. Spring
74. Bracket
75. Screw
76. Screw
77. Washer
78. Nut
79. Bracket
80. Bracket
81. Screw
82. Screw
83. Washer
84. Nut
85. Crossmember
86. Support
87. Support
88. Screw
89. Washer
90. Washer
91. Nut
92. Screw
93. Washer
94. Nut
95. Screw
96. Washer
97. Nut
98. Bracket
99. Bracket
100. Screw
101. Screw
102. Washer
103. Washer
104. Nut
105. Support
106. Support
107. Support
108. Screw
109. Washer
110. Nut
111. Bracket
112. Screw
113. Screw
114. Washer
115. Washer
116. Nut
117. Nut
118. Washer
119. Bolt
120. Clamp
121. Pipe assembly
122. Plug
123. Spark arrestor
124. Clamp
125. Washer
126. Nut
127. Bracket
128. Screw
129. Washer
130. Nut
131. Support
132. Screw
133. Screw
134. Washer
135. Washer
136. Nut
137. Bracket
138. Screw
139. Washer
140. Nut
141. Bracket
142. Bracket
143. Screw
144. Screw
145. Washer
146. Nut
147. Bracket
148. Bracket
149. Bracket
150. Screw
151. Washer
152. Nut
153. Grommet
154. Plate
155. Screw
156. Washer
157. Nut
158. Bracket
159. Screw
160. Washer
161. Nut
162. Rail
163. Rail

Figure 4-49. Frame assembly (Sheet 4 of 4)

c. Replace cracked or fogged glass.

d. Replace worn or deteriorated weather stripping and moulding.

e. Replace missing attaching hardware.

f. Replace nonrepairable parts.

g. Reassemble in accordance with paragraph 4–468.

4-373. LOWER CAB ASSEMBLY

4-374. REPAIR. Refer to paragraph 4-23 for inspection and repair the lower cab in accordance with the following procedures. (See figure 4-4.)

a. Replace worn or deteriorated ventilator moulding and gasket.

b. Replace broken or distorted ventilator latch spring.

c. Clean all instruction plates; replace illegible plates.

d. Repair torn or cut seat coverings.

e. Remove dents and repaint chipped or rusted areas.

f. Replace missing attaching hardware.

g. Clean and retap dirty or damaged threaded holes.

h. Replace nonrepairable parts.

i. Reassemble in accordance with paragraph 4–471.

4-375 . ENGINE COMPARTMENT HOOD.

4-376. REPAIR. Refer to paragraph 4-27 for inspection and repair the hood in accordance with the following procedures. (See figure 4-5.)

a. Straighten minor dents in top and side panels.

b. Replace broken latches.

c. Straighten or replace bent hinge pins.

d. Reassemble in accordance with paragraph 4–474.

4-377. DOOR ASSEMBLY.

4-378. REPAIR. Refer to paragraph 4-31 for inspection and repair the door in accordance with the following procedures. (See figure 4-6.)

a. Replace worn or deteriorated weatherstripping.

b. Replace cracked or fogged glass.

c. Replace broken or damaged regulator and door latch.

d. Remove minor dents and paint chipped and rusted areas.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraph 4-477.

4-379. DECK, FENDERS, AND RUNNING BOARDS.

4-380. REPAIR. Refer to paragraph 4-35 for inspection and repair in accordance with the following procedures. (See figure 4-7.)

a. Remove dents and repaint chipped or rusted areas.

b. Clean and retap dirty or damaged threaded holes.

c. Replace nonrepairable parts.

d. Install in accordance with paragraph 4–481.

4-381 . STEERING SYSTEM.

4-382. REPAIR. Refer to paragraph 4-39 for inspection and repair the steering system in accordance with the following procedures. (See figure 4-8.)

a. Straighten bent or distorted rods and drag links.

b. Replace damaged or scored bushings.

c. Replace broken or damaged hose assemblies.

d. Replace defective flow divider.

NOTE

Do not attempt to repair a defective flow divider.

e. Replace clogged or damaged grease fittings.

f. Clean clogged hydraulic tank breather.

g. Replace clogged filter element.

h. Replace damaged or worn ball seat spring and seats.

i. Replace nonrepairable parts.

j. Install in accordance with paragraph 4-484.

4-383. RELIEF VALVE.

4-384. REPAIR. Refer to paragraph 4-42 for inspection and repair the relief valve in accordance with the following procedures. (See figure 4-10.)

a. Replace broken or distorted springs.

b. Remove nicks and scores from balls and ball seats with crocus cloth.

c. Replace worn or deteriorated rubber components.

d. Replace pipe components having stripped or damaged threads.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraph 4–489.

4-385. FLOW CONTROL VALVE ASSEMBLY.

4-386. REPAIR. Refer to paragraph 4-47 for inspection and repair the flow control valve in accordance with the following procedures. (See figure 4-11.)

a. Replace broken or distorted spring.

b. Remove nicks and scores from valve with fine handstone.

c. Replace nonrepairable parts.

d. Reassemble in accordance with paragraph 4–492.

4-387. FRONT DRAG LINK VALVE.

4-388. REPAIR. Refer to paragraph 4-50 for inspection and repair the front drag link valve in accordance with the following procedures. (See figure 4-9.)

a. Replace pipe components having stripped or damaged threads.

b. Replace broken or distorted springs.

c. Remove nicks and burrs from spool with crocus cloth.

d. Replace damaged or missing hardware.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraph 4–486.

4-389. REAR CAM AND VALVE ASSEMBLY.

4-390. REPAIR. Refer to paragraph 4-55 for inspection and repair the rear cam and valve assembly in accordance with the following procedures. (See figure 4-12.)

a. Repair the rear cam and valve assembly using the procedures in paragraph 4-388 a. through c.

b. Reassemble in accordance with paragraph 4-495.

4-391. HYDRAULIC PUMP.

4-392. REPAIR. Refer to paragraph 4-59 for inspection and repair hydraulic pump in accordance with the following procedures. (See figure 4-13.)

a. Replace worn cracked or frayed drive belt.

b. Replace broken or distorted springs.

c. Replace all vanes when any vane is bent or broken.

d. Replace nonrepairable parts.

e. Reassemble in accordance with paragraph 4–498.

4-393. BOOSTER CYLINDER.

4-394. REPAIR. Refer to paragraph 4-63 for inspection and repair the booster cylinder in accordance with the following procedures. (See figure 4-14.)

a. Replace broken or distorted springs.

b. Replace broken or distorted retaining rings.

c. Remove nicks and burrs from piston and ball seats with crocus cloth or handstone.

d. Replace worn or deteriorated rubber components.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraph 4-501.

4-395. STEERING GEAR.

4-396. REPAIR. Refer to paragraph 4-67 for inspection and repair the steering gear in accordance with the following pocedures. (See figure 4-15.)

Repair corroded or slightly pitted contacts.

b. Repair frayed or worn cable.

c. Replace worn or deteriorated rubber components.

d. Replace broken or distorted springs.

e. Retap damaged threads in gear housing.

f. Remove nicks and scores from cam with crocus cloth or handstone.

g. Replace levershaft and pitman arm if splines are damaged.

h. Remove nicks and scores from bushings with crocus cloth or handstone.

i. Replace nonrepairable parts.

j. Reassemble in accordance with paragraph 4–504.

4-397. ELECTRICAL SYSTEM.

4-398. REPAIR. Refer to paragraph 4-71 for inspection and repair the electrical system in accordance with the following procedures. (See figure 4-16.)

a. Replace corroded, rusted or broken terminals.

b. Repair worn or broken wire leads.

c. Replace worn or frayed wiring harness.

d. Replace worn or deteriorated rubber components.

e. Replace damaged or missing attaching hardware.

f. Replace all nonrepairable parts.

g. Install in accordance with paragraph 4–511.

4-399. DISTRIBUTOR.

4-400. REPAIR. Refer to paragraph 4-74 for inspection and repair the distributor in accordance with the following procedures. (See figure 4-17.)

a. Replace distorted or broken springs.

b. Repair corroded or slightly pitted contact points.

c. Replace if excessively burned.

d. Remove nicks and burrs from distributor shaft with crocus cloth.

e. Repair frayed or worn leads.

f. Replace broken or deteriorated nonmetallic components.

g. Replace nonrepairable parts.

h. Reassemble in accordance with paragraph 4-513.

4-403. GENERATOR.

4-404. REPAIR. Refer to paragraph 4-83 for inspection and repair the generator in accordance with the following procedures. (See figure 4-18.)

a. Replace worn or deteriorated drive belt.

b. Straighten bent fan blades.

c. Replace worn bearings.

d. Remove nicks and burrs from armature shaft with crocus cloth.

e. Replace worn brushes, repair broken or frayed leads.

f. Replace nonrepairable parts.

g. Reassemble in accordance with paragraph 4–516.

4-401. STARTER.

4-402. REPAIR. Refer to paragraph 4-79 for inspection and repair the starter in accordance with the following procedures. (See figure 4-19.)

a. Replace all brush springs if any spring is distorted or broken.

b. Replace distorted or broken pinion spring.

c. Replace cracked or broken pinion gear.

d. Replace deteriorated nonmetallic components.

e. Replace worn brushes, repair broken or frayed leads.

f. Replace nonrepairable parts.

g. Reassemble in accordance with paragraph 4-519.

4-405. WINDSHIELD WIPER.

4-406. REPAIR. Refer to paragraphs 4-87 and 4-91 for inspection and repair the windshield wiper in accordance with the following procedures. (See figures 4-20 and 4-21.)

a. Replace worn or broken wiper arm.

b. Replace worn brushes.

c. Replace weak or broken springs.

d. Replace nonrepairable parts.

e. Reassemble in accordance with paragraph 4–522 (Code Cl) or paragraph 4-525 (Codes C2 and D).

4-407. STOPLIGHT – TAILLIGHT.

4-408. REPAIR. Refer to paragraph 4-95 for inspection and repair the stoplight – taillight in accordance with the following procedures. (See figure 4-22.)

a. Straighten minor dents in housing.

b. Replace cracked or broken lens.

c. Replace broken or burned out lamps.

d. Replace nonrepairable parts.

e. Reassemble in accordance with paragraph 4–528.

4-409. FLOODLIGHT.

4-410. REPAIR. Refer to paragraph 4-99 for inspection and repair the floodlight in accordance with the following procedures. (See figure 4-23.)

a. Straighten minor dents in shell.

b. Clean corroded ground bar.

c. Repair broken or frayed cable.

d. Replace broken or burned out lamp unit.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraph 4-531.

4-411. HEADLIGHT.

4-412. REPAIR. Refer to paragraph 4-103 for inspection and repair the headlight in accordance with the following procedures. (See figure 4-24.)

a. Replace broken or burned out lamp unit.

b. Replace deteriorated moulding.

c. Replace damaged socket and cable assembly.

d. Replace nonrepairable parts.

e. Reassemble in accordance with paragraph 4-534.

4-413. SPOTLIGHT.

4-414. REPAIR. Refer to paragraph 4-107 for inspection and repair the spotlight in accordance with the following procedures. (See figure 4-25.)

a. Replace broken or burned out lamp unit.

b. Repair frayed or worn cable.

c. Straighten minor dents in rim or shell.

d. Replace defective switch.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraph 4-537.

4-415. INSTRUMENT PANEL.

4-416. REPAIR. Refer to paragraph 4-113 for inspection and repair the instrument panel in accordance with the following procedures. (See figure 4-26.)

a. Straighten minor dents in panel housing.

b. Replace damaged or deteriorated moulding.

c. Repair or replace damaged or worn leads.

d. Replace burned out bulbs.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraph 4-540.

4-417. CAB HEATER.

4-418. REPAIR. Refer to paragraph 4-117 for inspection and repair the cab heater in accordance with the following procedures. (See figure 4-27.)

a. Straighten minor dents in housing and front panel.

b. Straighten bent fan blades.

c. Repair leaks in core assembly.

d. Replace darnaged or deteriorated hose.

e. Repair frayed or broken wiring.

f. Replace nonrepairable parts.

g. Reassemble in accordance with paragraph 4-543.

4-419. FUEL SYSTEM.

4-420. REPAIR. Refer to paragraph 4-121 for inspection and repair the fuel system in accordance with the following procedures. (See figure 4-28.)

a. Straighten bent tubing.

b. Straighten bent or restricted choke cable.

c. Repair leaks in fuel tank.

d. Replace nonrepairable parts.

e. Install fuel system in accordance with paragraph 4-547.

4-421. FUEL PUMP ASSEMBLY

4-422. REPAIR. Refer to paragraph 4-125 for inspection and repair the fuel pump in accordance with the following procedures. (See figure 4-29.)

a. Clean restricted lines and hoses, replace if broken.

b. Replace weak or broken springs.

c. Replace diaphragm assembly if spring is weak.

d. Clean filter and bowl, replace if cracked or broken.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraph 4–549.

4-423. CARBURETOR.

4-424. REPAIR. Refer to paragraph 4-129 for inspection and repair the carburetor in accordance with the following procedures. (See figure 4-30.)

a. Replace all gaskets and rubber components.

b. Clean all fuel jets and needles; replace if damaged.

c. Replace distorted or broken springs.

d. Clean all fuel passages.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraph 4-552.

4-425. GOVERNOR.

4-426. REPAIR. Refer to paragraph 4-133 for inspection and repair the governor in accordance with the following procedures. (See figure 4-31.)

a. Clean air filter element.

b. Remove nicks and burrs from piston rod and valve shaft with crocus cloth.

c. Replace broken or distorted spring assembly.

d. Clean all passages in body.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraph 4–55.

4-427. COOLING SYSTEM.

4-428. RADIATOR.

4-29. REPAIR. Refer to paragraph 4-137 for inspection and repair the radiator in accordance with the following procedures. (See figure 4-32.)

a. Replace broken or deteriorated hoses.

b. Repair radiator leaks, straighten minor dents.

c. Replace worn or deteriorated mounts.

d. Replace nonrepairable parts.

e. Install the radiator in accordance with paragraph 4-562.

4-430. ENGINE COOLING GROUP.

4-431. REPAIR. Refer to paragraph 4-141 for inspection and repair the engine cooling group in accordance with the following procedures. (See figure 4-33.)

a. Straighten bent fan blades.

b. Replace water pump seals and gaskets.

c. Remove nicks and burrs from impeller and shaft with crocus cloth.

d. Replace deteriorated or worn fan belt.

e. Replace nonrepairable parts.

f. Install in accordance with paragraph 4-565.

4-432. PARKING BRAKE AND DIFFERENTIAL LOCKOUT LEVERS.

4-433. REPAIR. Refer to paragraph 4-145 for inspection and repair the parking brake and differential lockout levers in accordance with the following procedures. (See figures 4-34 and 4-35.)

a. Turn the brake drum to remove deep scores.

b. Replace broken or distorted springs.

c. Replace worn brake lining.

d. Straighten bent linkage, levers and brackets.

e. Replace nonrepairable parts.

f. Reassemble in accordance with paragraphs 4–567 and 4-571.

4-434. OILING GROUP.

4-435. REPAIR. Refer to paragraph 4-149 for inspection and repair the engine oiling in accordance with the following procedures. (See figure 4-36.)

a. Replace all filter elements.

b. Clean all oil lines, replace broken or deteriorated hose.

c. Replace all gaskets and rubber components.

d. Clean all oil passages.

e. Replace broken or distorted relief valve spring.

f. Replace nonrepairable parts.

g. Install in accordance with paragraph 4-574.

4-436. ENGINE.

4-437. REPAIR. Refer to paragraph 4-153 for inspection and repair the engine and transmission in accordance with the following procedures. (See figures 4-37 and 4-38.)

a. Straighten bent or distorted brackets.

b. Remove dents from covers and tubes.

c. Replace all missing hardware.

d. Replace nonrepairable parts.

e. Reassemble in accordance with paragraph 4–579.

4-438. HYDRAULIC TRANSMISSION.

4-439. REPAIR. Refer to paragraph 4-157 for inspection and repair the hydraulic transmission in accordance with the following procedures. (See figure 4-37.)

a. Straighten bent or restricted valve tubing.

b. Replace all worn or damaged seals.

c. Replace distorted springs and retaining rings.

d. Remove nicks and scores from bushings with crocus cloth

e. Replace nonrepairable parts.

f. Install in accordance with paragraph 4-583.

4-440. MECHANICAL TRANSMISSION.

4-441. REPAIR. Refer to paragraph 4-161 for inspection and repair the mechanical transmission in accordance with the following procedures. (See figure 4-37.)

a. Replace all broken or distorted springs.

b. Install in accordance with paragraph 4-586.

4-442. TRANSMISSION PROPELLER SHAFT.

4-443. REPAIR. Refer to paragraph 4-165 for inspection and repair the transmission propeller shaft in accordance with the following procedures. (See figure 4-39.)

a. Remove nick and scores from spider bearing surfaces with fine handstone.

b. Remove light scores from bearings with crocus cloth.

c. Replace nonrepairable parts.

d. Install in accordance with paragraph 4–589.

4-444. AXLE PROPELLER SHAFTS.

4-445. REPAIR. Refer to paragraph 4-169 for inspection and repair the axle propeller shafts in accordance with the following procedures. (See figure 4-40.)

a. Repair the axle propeller shafts using the procedures in paragraph 4-443 a. through c.

b. Install in accordance with paragraph 4-592.

4-446. TRANSFER TRANSMISSION.

4-447. REPAIR. Refer to paragraph 4-173 for inspection and repair the transfer transmission in accordance with the following procedures. (See figure 4-41.)

a. Replace external seals and gaskets.

b. Reassemble in accordance with paragraph 4-594.

4-448. BRAKE SYSTEM.

4-449. REPAIR. Refer to paragraph 4-177 for inspection and repair the brake system in accordance with the following procedures. (See figure 4-42.)

a. Clean vacuum booster air filter.

b. Replace distorted pedal return spring.

c. Straighten brake pedal lever.

d. Replace or straighten bent tube clips.

e. Replace all restricted tubes.

f. Replace deteriorated or broken hoses.

g. Replace damaged fittings.

h. Replace nonrepairable parts.

i. Install in accordance with paragraph 4-598.

4-450. Refer to paragraph 4-458 for repair instructions on brake drums and brake shoes.

4-451. MASTER CYLINDER

4-452. REPAIR. Refer to paragraph 4-181 for inspection and repair the master cylinder in accordance with the following procedures. (See figure 4-43.)

a. Repair master cylinder by installing kit components.

b. Replace complete cylinder assembly if kit installation fails to provide proper operation.

c. Reassemble in accordance with paragraph 4-600.

4-453. VACUUM BOOSTER.

4-454. REPAIR. Refer to paragraph 4-185 for inspection and repair the vacuum booster in accordance with the following procedures. (See figure 4-44.)

a. Replace all broken or distorted springs.

b. Replace all deteriorated nonmetallic components.

c. Remove nicks and burrs from pistons and valve ball with crocus cloth.

d. Clean all oil passages.

e. Remove minor dents from shell.

f. Replace nonrepairable components.

g. Reassemble in accordance with paragraph 4-603.

4-455. AXLE DIFFERENTIAL.

4-456. REPAIR. Refer to paragraph 4-189 for inspection and repair the axle differential in accordance with the following procedures. (See figures 4-45 and 4-46.)

a. Remove nicks and scores from bearing surfaces with crocus cloth.

b. Replace worn or damaged seal.

c. Replace differential as a unit if any damage to gears, bearings, or shafts is evident.

d. Reassemble in accordance with paragraph 4-606.

4-457. HUB ASSEMBLY.

4-458. REPAIR. Refer to paragraph 4-194 for inspection and repair the hub assembly in accordance with the following procedures. (See figure 4-47.)

a. Replace damaged or twisted axle shaft.

b. Remove nicks and scores from bearing surfaces with crocus cloth.

c. Replace all worn or damaged bushings.

d. Replace broken or distorted springs.

e. Replace worn brake linings.

f. Turn brake drum to remove deep scores.

g. Replace gears if teeth are cracked, missing or worn.

h. Replace nonrepairable parts.

i. Reassemble in accordance with paragraph 4-612.

4-459. FRAME AND BRACKETS ASSEMBLY.

4-460. REPAIR. Refer to paragraph 4-197 for inspection and repair the frame and brackets assembly in accordance with the following procedures. (See figure 4-49.)

a. Replace all cracked, broken, or worn components of the spring assembly.

b. Weld all broken or cracked angles, brackets, and beams.

c. Replace all missing attaching hardware.

d. Replace nonrepairable parts.

e. Reassemble in accordance with paragraph 4–618.

4-461. LUBRICATION.

4-462. Lubrication requirements to be accomplished during repairs actions are indicated in Chapter 4, Section IV, Reassembly and Alinement, as appropriate. For general lubrication information on the towing tractor, refer to Chapter 3, Section IV. (See figure 3-5.)

4-463. TESTING.

4-464. No specific tests or calibrations are required prior to component reassembly. For component acceptability criteria, refer to Chapter 4, Section II, Checkout and Analysis.

SECTION IV REASSEMBLY AND ALINEMENT

4-465. GENERAL.

4-466. This section contains instructions for reassembly and installation of the components removed and disassembled to facilitate repair. When necessary, alinement procedures, which are to be accomplished during reassembly, are specified. Lubrication required during reassembly is included in reassembly procedures.

4-467. UPPER CAB ASSEMBLY.

4-468. REASSEMBLY. See figure 4-3 and reassemble the upper half cab as follows:

a. Install two channels (32) and two glasses (31) in shell (35). Insert two channels (34) and two glasses (33). Install channel (30) and plexiglass (29). Install two channels (28) and two glasses (27).

b. Install weather stripping (24, 25, and 26) and insert two glasses (23). Insert weather strip (22) in channel (18). Secure channel (18) to cab with three screws (19), washers (20), and nuts (21). Install finger lift (17) on glasses (23).

c. Secure bracket (13) to cab with screw (14), washer (15) and nut (16). Attach mirror (12) to bracket (13) with nut (16) and washer.

4-469. INSTALLATION. See figure 4-3 and install the upper cab assembly as follows:

a. Lift upper half cab onto the tractor. Secure cab with 24 screws (1), 48 washers (2), 24 washers (3), and 24 nuts (4).

b. Install right and left door assemblies with six hinge springs (11), twelve screws (8), washers (9), and nuts (10).

4-470. LOWER CAB ASSEMBLY.

4-471. REASSEMBLY. See figure 4-4 and reassemble the lower half cab as follows:

a. Install left floor plate (65) with twelve screws (60). Install right floor plate (63) with ten screws (64).

b. Secure right floor panel (61) with six screws (62). Secure center floor panel (59) with six screws (60). Secure left floor panel (57) with five screws (58). Secure left floor panel (56) with four screws (54). Install bushing (55)

c. Attach hydraulic transmission access cover (52) to toe board (59) with two screws (53). Attach identification plate (36) with four screws (37). Attach instruction plate (34) with four screws (35).

d. Install two door strikers (74) with four screws (75). Install four grommets (49 and 50).

e. Assemble four brackets (43 and 44) to two tubes (48) and secure with eight screws (45), washers (46) and nut (47).

f. Secure two handles (38) to cab with eight screws (39), washers (40 and 41) and nuts (42). Install firewall brace (30) with screw (31), washer (32), and nut (33).

g. Secure two seat bases (26) with eight screws (27), washers (28), and nuts (29). Install two seat adjusters (22 and 23) and driver seat (18) with eight nuts (24) and washers (25). Install passenger seat (18) with four screws (19), washers (20) and nuts (21).

h. Secure retainer (14) with twelve screws (15), washers (16), and nuts (17). Secure weatherstrip (13) to door (9). Install lid with three screws (10), washers (11), and nuts (12).

i. Assemble spring (8) and plunger (5) and secure with rivet (6) and nut (7). Secure handle (1) to door (9) with two screws (2), washers (3), and nuts (4).

4-472. INSTALLATION. See figure 4-4 and install the lower half cab as follows:

a. Attach cab assembly to frame with four screws (67), washers (68), and nuts (69).

b. Install two springs (71), washers (72), nuts (73) and screws (70).

4-473. ENGINE COMPARTMENT HOOD.

4-474. REASSEMBLY. See figure 4-5 and reassemble the engine compartment hood as follows:

a. Assemble two curved panels (15 and 16) to center panel (17) with two rods (12). Assemble two louvered panels (13 and 14) to panels (15 and 16) with two rods (12).

b. Attach two handles (10) to two panels (13 and 14) with four rivets (11). Secure four catches (8) with eight rivets (9).

c. Secure four fasteners (4) to two panels (6 and 7) with eight rivets (5).

4-475. INSTALLATION. Install the engine compartment hood as follows:

a. Install hood assembly on tractor and secure with two screws, washers and nuts.

b. Install two side panels (6 and 7) with eight screws (l), washers (2), and nuts (3).

4-476. DOOR ASSEMBLY.

4-477. REASSEMBLY. See figure 4-6 and reassemble the vehicle door as follows:

a. Install three hinges and shims (25 and 30) on the exterior panel (31) with two screws (27), four screws (26), six washers (28) and six nuts (29). Install weather strips (23 and 24).

b. Install regulator (19) on panel (13) with six screws (20), washers (21) and nuts (22). Insert channel (18) and glass (17). Secure interior panel assembly with nine screws (14), washers (15) and washers (16).

c. Assemble plate (10), shaft (9) and secure with retaining ring (8). Install handle assembly, shims (11) and latch (12) with four screws (6) and nuts (7). Attach plate (5), spring (4) and handle (1) to panel assembly and secure with screw (2) and washer (3).

4-478. INSTALLATION. See figure 4-6 and install the vehicle door as outlined in paragraph 4-469.

4-479. REAR DECK, FENDERS AND RUNNING BOARDS.

4-480. REASSEMBLY. None required.

4-481. INSTALLATION. See figure 4-7 and install the rear deck, fenders and running boards as follows:

a. Install rear deck and secure with eight screws (12), four wedge washers (14), eight washers (15) and nuts (17).

b. Attach spacer (9) and catch (4) to box with two screws (5), washers (7), and nuts (8). Secure catch (4) with two screws (6).

c. Install two hand rails (1) with eight nuts (2) and washers (3). Install grommet (10).

d. Secure running board (30) with two screws (13), washers (15), and nuts (17). Install four screws (31), washers (32) and nuts (33). Attach top plate (36) with two screws (37), washers (38), and nuts (40).

e. Secure front fender (19) with two screws (21), washers (23), and nuts (25). Install two screws (20) washers (22), and nuts (24).

4-482. STEERING SYSTEM.

4-483. REASSEMBLY. None required.

4-484. INSTALLATION. See figure 4-8 and install steering system piping and components as follows:

a. Install steering column and gear (110) as outlined in paragraph 4-246. Install knob (109) on steering wheel.

b. Install cam and valve assembly (105) and shield (101) as outlined in paragraph 4-496.

c. Assemble shaft (100) and steering (99) with pin (98). Screw knob (97) on lever (99). Assemble two nuts (95) and ball joints (94) on rod (96). Attach rear steering link assembly to shaft (100) and cam and valve assembly (105) with two nuts (92) and washers (93).

d. Install bushing (90) in bellcrank (91). Assemble bellcrank (91) to bellcrank bracket with pin (86), spacer (89), nut (88), and cotter pin (87). Install lubrication fitting (85) in pin (86).

e. Secure bracket (80) with four screws (81 and 82), washers (83), and two nuts (84). Secure bracket (76) with two screws (77), washers (78), and nuts (79).

f. Assemble two nuts (74) and ball joints (73) on rod (75). Attach link assembly to cam and valve assembly and bracket (76) with two nuts (71), and washers (72). Secure five ball studs (68) with two nuts (71), and washers (72). Secure five ball studs (68) with nuts (70) and cotter pins (69).

g. Install two booster cylinders (67) as outlined in paragraph 4-502. Install two hose assemblies (65 and 66). Attach bracket (60) with screws (61 and 62), four washers (63), and two nuts (64).

h. Reassemble and install the tie rod ends as outlined in paragraphs 4-507 and 4-508.

i. Install front drag link valve (37) as outlined in paragraph 4-487.

j. Install valve and fitting (32) as outlined in paragraph 4-493. Install valve and fitting (27) and hose (26).

k. Install hydraulic pump (21) as outlined in paragraph 4-499.

l. Secure reservoir tank (12) on tractor fender with four screws (8), washers (9), and nuts (10). Install breather (11) on reservoir tank (12). Install three elbows (3 and 7), two unions (6), one adapter (2), and three hose assemblies (1, 4, and 5).

4-485. FRONT DRAG LINK VALVE.

4-486. REASSEMBLY. See figure 4-9 and reassemble the front drag link valve as follows:

a. Install packing (45) on plug (44). Insert ball (47), spring (46), and plug (44) into valve body (48). Install two plugs (42) in spool (43). Slide spool into body (48).

b. Install one packing (38) on each retainer (39 and 41). Assemble two retainers (41), springs (40), retainers (39), packings (37), and washers (36) in body (48). Install slotted washer (35) on spool (43).

c. Install two retaining rings (34). Insert plug (30) in reducer (31). Screw cover (33) and reducer (31) on body (48) and lock in place with retaining rings (34). Install packing (32). Attach clamp (26) to reducer (34) with screw (27), washer (28), and nut (29), Screw rod (25) into reducer (31) and tighten screw (27).

d. Assemble two seats (12 and 14), springs (13 and 22), four ball seats (12 and 21) and two plugs (11 and 20) in housings (15 and 24).

e. Attach two clamps (7 and 16) to housings (15 and 24) with two screws (8 and 17), washers (9 and 18) and nuts (10 and 19). Install two lubrication fittings (6). Screw two socket assemblies on valve assembly and tighten screws (8 and 17).

f. Install two nipples (3 and 4), couplings (2), and three elbows (1) in valve body (48).

4-487. INSTALLATION. Install the front drag link valve as follows:

a. See figure 4-9 and install drag link valve on ball studs. Adjust plugs (11 and 20) in socket assemblies. Install cotter pin (5) in each socket assembly.

b. See figure 4-8 and install union (36) and four hose assemblies (26, 29, 34, and 35). Install two clamps (33).

4-488 . RELIEF VALVE.

4-489. REASSEMBLY. See figure 4-10 and reassemble the relief valve as follows:

a. Install two packings (17 and 19) on valve (20). Install retainers (18) next to packing (19). Insert valve into valve body (21). Assemble packing (17) and restrictor (16) in valve body (21).

b. Assemble two seats (14) and balls (13) on spring (15) and insert into body (21). Install packing (12) on piston (11) and screw piston (11) completely in to cap (9).

c. Install packing (10) on cap (9). Install cap (9) with piston (11) into body (21). Install nut (8) onto threaded part of piston (11).

d. Install nipple (7), cross (6), plug (4), and two elbows (5). Install nipple (3), elbow (2), and bushing (1).

4-490. INSTALLATION. See figure 4-8 and install the relief valve as follows:

a. Connect relief valve (27) to hydraulic pump (21). Install two hose assemblies (5 and 26).

4-491. FLOW CONTROL VALVE.

4-492. REASSEMBLY. See figure 4-11 and reassemble the flow control valve as follows:

a. Assemble spring (11), valve (10), and retaining ring (9) in valve body (12).

b. Install three bushings (8), two elbows (7), and one tee (6).

4-493. INSTALLATION. Install the flow control valve as follows:

a. See figure 4-11 and install assembled valve and bracket (1) on tractor with four screws (2 and 3), washers (4), and nuts (5).

b. See figure 4-8 and install union (31) and four hose assemblies (4, 28, 29 and 30).

4-494. REAR STEER CAM AND VALVE ASSEMBLY.

4-495. REASSEMBLY. See figure 4-12 and reassemble the rear cam and valve assembly as follows:

a. Assemble pin (58) and packing (56) on plug (57). Install ball (60), spring (59), and plug (57) in valve body (61). Slide sleeve (55) into valve body (61).

b. Assemble three bushings (54, 52 and 50), two spacers (53 and 51), ring (49), and spring (48) in sleeve (55). Assemble two pins (46), one plug (45), and two packings (44) to spool (47). Slide spool into sleeve (55). Install two packings (42) on two glands (43) and insert one gland in each end of sleeve (55).

c. Slide two rings (41) on each end of sleeve (55). Attach clamp (36) on cap (40) with bolt (37), washer (38), and nut (39). Install two covers (40 and 35), one boot (34), spring (33) and adapter (32). Lock caps (40 and 35) with tabs of ring (41).

d. Attach clamp (28) on adapter (32) with screw (29), washer (30), and nut (31). Assemble two springs (26) and two nuts (25) on spool (27). Install rod in cap (40). Install three unions (24) and four elbows (22 and 23) in valve body (61).

e. Secure pin (18) on support (21) with nut (19) and washer (20). Secure stud (15) on support (21) with nut (16) and washer (17).

f. Install bushing (13) in cam (14). Secure cam on support (21) stud with nut (12). Secure lever (10) on support (21) with nut (11). Install two lubrication fittings (6).

g. Secure cam end of assembled valve, bearing (9) and roller (8) on lever (10) with pin (7) and two cotter pins

(3). Install lever (5) with cotter pin (3) and washer (4). Secure lever end of assembled valve with cotter pin (1) and pin (2).

4-496. INSTALLATION. See figure 4-8 and install the rear cam and valve assembly as follows:

a. Install cam and valve assembly (105) and secure with two screws (106), washers (107) and nuts (108). Install washer (93) and nut (92).

b. Secure shield (101) with two screws (102), washers (103) and nuts (104). Install four hose assemblies (28, 30, 65 and 66) and clamp (33).

4-497. HYDRAULIC PUMP.

4-498. REASSEMBLY. See figure 4-13 and reassemble the hydraulic pump as follows:

a. Install bearing (17), seal (16), drive shaft (15), bearing (13) and ring (12) in pump body (18). Insert key (14) in shaft (15). Secure bracket (10) to pump body (18) with two bolts (11).

b. Install two alinement pins (6) and packing (3) in rotor ring (7). Insert ten vanes (8) in rotor (9). Install packing (3) in pump cover (1). Assemble rotor ring (7), rotor (9), plate (5), spring (4), and pump cover (1) to pump body (18) and secure with four screws (2).

4-499. INSTALLATION. See figure 4-8 and install the hydraulic pump as follows:

a. Attach hydraulic pump (21) to bracket with four screws (22), washers (23), washers (24), and nuts (25). Install pulley adapter (17) on pump (21) and secure with two setscrews (18).

b. Attach pulley (14) to adapter (17) with three screws (15) and washers (16). Install and adjust drive belt (13), Tighten four screws (22). Install pipe nipple (19), elbow (20) and hose (1) on pump (21).

4-500. BOOSTER CYLINDER.

4-501. REASSEMBLY. See figure 4-14 and reassemble the booster cylinders as follows:

a. Install two rings (37) on piston (38). Secure piston to rod (34) with cotter pin (35), nut (36).

b. Insert rod and piston assembly into cylinder (39). Assemble backup ring (32) and packings (29, 30, and 31) on retainer (33). Install retainer (33) and retaining ring (28) in cylinder (39).

c. Secure cover (25) to retainer (33) with four screws (26) and washers (27). Attach clamp (21) to tube assembly with one screw (22) washer (23) and nut (24).

d. Assemble one retainer (19), spring (18), two seats (17) and one plug (16) in housing (20). Install socket (15). Assemble one retainer (13), spring (12), two seats (11), and one plug (10) in housing (14).

e. Attach two clamps (6) to housing (20 and 14) with two screws (7), washers (8), and nuts (9). Install two lubrication fittings (4). Screw two housing assemblies on threaded rod (34) and socket (15) and tighten two screws (7). Install two packings (3), bushings (2), and elbows (l).

4-502. INSTALLATION. See figure 4-14 and install the front and rear booster cylinders as follows:

a. Install socket assemblies of both cylinders on ball studs. Adjust plugs (10 and 16) in socket assemblies. Install cotter pin (5) in each socket assembly.

b. Install inlet and outlet hose assemblies.

4-503. STEERING GEAR.

4-504. REASSEMBLY. See figure 4-15 and reassemble the steering gear as follows:

a. Place cover (43), two bearings (42), and seal (41) in housing (44).

b. Place 28 balls (38) in two rings (37). Secure cup (37) on cam (39) with retaining rings (36). Slide cam assembly into housing (44):

c. Install shims (32, 33 and 34) and cover (31) on housing (44) and secure with four screws and washers.

d. Insert two bearings (24) in levershaft (25) and install levershaft. Assemble setscrew (19), nut (18) and cover (20). Install gasket (21) and cover (20) and secure with ten screws (15 and 16) and washers (17).

e. Assemble tubes (30 and 40) and bearing (29). Install spring seat (28), spring (27), and steering wheel (13). Secure wheel with nut (35).

f. Assemble washer (12), spring (11), plate (9), ferrule (8) and terminal (6) on cable (7). Insert cable assembly in steering wheel (13) and secure with three screws (10).

g. Install contact (5), spring (4) and cup (3). Place horn button (2) on wheel (13). Push button and turn one-third turn to secure. Install cover (1).

4-505. INSTALLATION. Install the steering gear as follows:

a. See figure 4-8 and install steering gear (110). Secure with two screws (111 and 112) and washers (113).

b. See figure 4-15 and secure steering arm (26) with nut (22) and washer (23).

c. Connect the front drag link valve as outlined in paragraph 4-487.

4-506. TIE ROD ENDS.

4-507. REASSEMBLY. See figure 4-8 and reassemble the tie rod ends as follows:

a. Assemble two bolts (43), washers (44), nuts (45) and one pipe plug (42) in body (58).

b. Assemble bearing (57), ball stud (56), packing (55), spring seat (54), spring (53), plug (52) and retaining ring (51) in body (58).

c. Install washer (50), packing (49), dust shield (48), and spring (47) in body (58).

4-508. INSTALLATION. See figure 4-8 and install the tie rod ends as follows:

a. Screw tie rod ends on rod (59) and tighten bolts (43).

b. Install nuts (46), cotter pins (39) and lubrication fittings (38).

4-509. ELECTRICAL SYSTEM.

NOTE

Spray all terminals and wire repairs to protect against fungus in accordance with MIL-V-1 73.

4-510. REASSEMBLY. None required.

4-511. INSTALLATION. See figure 4-16 and install the electrical system wiring and components as follows:

NOTE

Replace corroded washers and reinstall as shown in figure 4–16 to comply with MIL-S-10379 radio suppression requirements for non-tactical vehicles.

a. Install adapter (101) and oil pressure tube assembly (100).

b. Install battery (115) as outlined in Chapter 3, Section VI. Install cab heater (99) as outlined in paragraph 4-544.

c. Secure bracket (95) to cab with two screws (96), washers (97) and nuts (98). Attach headlight (94) to bracket (95) with one nut and washer.

d. Install spotlight (90) as outlined in paragraph 6-91 with screws (91), washers (92) and nuts (93).

e. Secure bracket (86) with two screws (87), washers (88) and nuts (89). Attach floodlight (82) to bracket (86) with two screws (83), washers (84), and nuts (85).

f. Secure bracket (78) with two screws (79), washers (80) and nuts (81). Attach taillight (77) to bracket (78) with two nuts (81) and washers (80).

g. Install bracket and motor assembly (73) and secure with four screws (74), eight washers (75), and four nuts (76). Install wiper blade (68) on arm (69) and attach arm to wiper motor (73) with one nut and washer.

h. Install gasket (67) and transmitter (64) and secure with five screws (65) and washers (66). Install neutral switch (63). Install knob (62) and lock nut (61). Install brake switch (60). Secure dimmer switch (57) with two screws (58) and washers (59).

i. Attach bracket (53) to firewall with screw (54), washer (55), and nut (56). Secure horn (50) to bracket (53) with nut (51) and washer (52). Secure relay (44) with two screws (46), washers (47), and nuts (48). Attach solenoid (42) with nut (43).

j. Install regulator (34) and secure with three screws (35), washers (36) and nuts (37).

k. Install capacitors (18) and secure retaining straps (20 and 21) with screw (22), washer (23), and nut (24). Attach coil (15) to engine with two nuts (16) and washers (17). Secure starter motor (10) on flywheel housing with two nuts (11) and washers (12).

1. Install distributor (13) on engine block and secure with screw (14). Place six spark plug gaskets (9) on six spark plugs (8) and install spark plugs in engine head. Install six spark plug wires (5, 6 and 7).

m. Install generator (1) on generator bracket and secure with two screws (2), washers (3), and nuts (4).

n. Install and connect to wiring harnesses (33). Install and connect seven wiring harnesses (26, 27, 28, 29, 30, 31 and 32). Secure wiring harnesses with eight clips (25).

4-512. DISTRIBUTOR.

4-513. REASSEMBLY. See figure 4-17 and reassemble the distributor as follows:

a. Install two sleeve bearings (47) in base (48). Install wick (46) and oiler (45). Place thrust washer (35) on drive shaft (32). Install shaft (32) in base (48) and secure with collar (31) and pin (30).

b. Install washer (44) in base (48). Install terminal (42), washer (40) and plate (43) with screw (41). Secure with washers (37, 38 and 39) and nuts (35). Install advance arm (26) and secure with screw (27) and two washers (28 and 29).

c. Install two weights (24) and attach two springs (23) to the shaft plate and weights (24). Install spacer (22) and cam (21) and secure with retaining ring (20). Install wick (19).

d. Install contact set (11) and secure with two screws (12), washer (13), screw (8), washer (9) and lock plate (10). Install capacitor (14) and secure with two screws (15 and 16) and washer (17). Install assembled plate (18) and secure with two screws (6) and washers (7).

e. Install plate (5) and rotor (4). Assemble cap (3), spring (2) and plunger (1). Install assembled cap and secure with two clips.

4-514. INSTALLATION. See figure 4-16 and install the distributor as outlined in paragraph 4-511l.

4-515. GENERATOR.

4-516. REASSEMBLY. See figure 4-18 and reassemble the generator as follows:

a. Install pins (31) and insulators (39) in frame (46). Assemble studs (41 and 42) to coils (44 and 45). Install coils and two pole shoes (43) in frame (46) and secure with two screws (40).

b. Assemble washers (38), two washers (34 and 37), four washers (33 and 36) and four nuts (32 and 35). Install one screw (29) and washer (30).

c. Assemble retainer (16) and retaining ring (17) on armature shaft and install armature (18).

d. Install retainer (13), bearing (12), gasket (11), retainer (10) and two washers (9) in end bell (15) and secure with three screws (7) and washers (8). Insert oil cup (14) in end bell (15).

e. Install bushing (27) in end bell (28). Install oiler (24), wick (25) and wick spring (26) in end bell (28). Assemble two springs (23), two arms (22) and two brushes (19) on end bell (28) and attach brush leads with two screws (20) and washers (21).

f. Assemble front and rear end bell assemblies and secure with two bolts (5) and washers (6). Insert key (4) in armature shaft and install pulley (1). Secure pulley with nut (2) and washer (3).

4-517. INSTALLATION. See figure 4–16 and install the generator as outlined in paragraph 4–511m.

4-518. STARTER.

4-519. REASSEMBLY. See figure 4-19 and reassemble the starter as follows:

a. Install four coils (37) and four pole shoes (35) in frame (38) and secure with four screws (36). Attach brush set (33) with screw (34).

b. Assemble spring (29), washer (28) and retaining ring (27) on pinion (30). Install bushing (31), assemble pinion and clutch, retaining ring (25) and step washer (24) on armature (32).

c. Assemble bushing (20) fork (22) and pin (21) on pinion housing (23) and install housing on frame (38).

d. Install boot (19), spring (17), core (18) and grommet (16) on solenoid (11). Install solenoid and secure with three screws (14 and 12) and three washers (15 and 13). Install one nut (9) and washer (10).

e. Assemble four brushes and springs (7) on brush holder (8). Install holder and two thrust washers (6). Assemble felt pad (4) and bushing (5) on end bell (1). Install end bell and secure with two bolts (2) and washers (3).

4-520. INSTALLATION. See figure 4-16 and install the starter as outlined in paragraph 4-51lk.

4-521. WINDSHIELD WIPER (Code C1).

4-522. REASSEMBLY. See figure 4-20 and reassemble the windshield wiper as follows:

a. Install shaft (44) and bracket (45) and pin (41). Secure pin (41) with washer (43) and nut (42). Assemble arm (30) and connecting link (31) on pin (41). Install washers (29) and two spring clips (28).

b. Assemble parts to bracket (45) with two screws (32) and washers (33). Install felt washer (40), washer (39), nut (38), boot (37), driver (36), washer (35) and nut (34).

c. Insert washer (26) and gear (25) in housing (27). Install washer (24) and nut (23). Secure radio suppression plate (22), gasket (21) and cover (19) to housing (27) with four screws (20).

d. Assemble brush (11) in housing (12). Install gasket (18) and capacitor (13). Insert motor lug and tighten screw (16) and washer (17). Secure capacitor (13) with two screws (14) and washers (15).

e. Install cap (7), two springs (6) and brush (5). Install cap assembly on motor and secure with two screws (3) and washers (4).

f. Install bracket assembly on motor assembly and secure with three screws (1) and washers (2).

4-523. INSTALLATION. See figure 4-16 and install the windshield wiper as outlined in paragraph 4-51lg.

4-524. WINDSHIELD WIPER (Codes C2 and D).

4-525. REASSEMBLY. See figure 4-21 and reassemble the windshield wiper as follows:

a. Install shaft (47) and pin (44). Secure pin (44) with washer (46) and nut (45). Assemble arm (33) and connecting link (34) on pin (44). Install washers (32) and two spring clips (31).

b. Secure parts to bracket (48) with two screws (35) and washers (36). Install felt washer (43), washer (42), nut (41), boot (40), driver (39), washer (38) and nut (37).

c. Install washer (29), shaft (28), gear (27), nut (26) and plate (23) in housing (30). Insert plate (11), two springs (10) and two brushes (9) in housing (12) and install housing.

d. Install washer (17) and screw (16) on capacitor (13). Install gasket (18) and capacitor (13) and secure with two screws (14) and washers (15). Install gasket (22). Insert lead and tighten screw (16) and washer (17). Secure cover (19) on housing with two screws (20) and screw (21).

e. Install armature (8). Insert spring disk (7) and thrust disk (6) in cap (3). Install cap assembly on motor and secure with two screws (4) and washers (5).

f. Attach bracket assembly on motor assembly with three screws (1) and washers (2).

4-526. INSTALLATION. See figure 4-16 and install the windshield wiper as outlined in paragraph 4-51lg.

4-527. STOPLIGHT – TAILLIGHT.

4-528. REASSEMBLY. See figure 4-22 and reassemble the taillight as follows:

a. Insert lead (7) in body (8). Assemble gasket (6), white lens (5) and clip (4) in body (8).

b. Insert lamp (3) in body (8). Install red lens (1) with two screws (2).

4-529. INSTALLATION. See figure 4-16 and install the taillight as outlined in paragraph 4-511f.

4-530. FLOODLIGHT.

4-531. REASSEMBLY. See figure 4-23 and reassemble the floodlight as follows:

a. Install wire (9) in housing (10). Install bracket (6) on housing (10) with washer (8) and nut (7).

b. Attach ground bar (4) to lamp (5) with screw. Assemble lamp (5) on door (1) with three clips (3).

c. Install wire (9) and screw on assembled lamp. Secure assembled lamp to housing (10) with screw (2).

4-532. INSTALLATION. See figure 4-16 and install the floodlight as outlined in paragraph 4-51le.

4-533. HEADLIGHT.

4-534. REASSEMBLY. See figure 4-24 and reassemble the headlight as follows:

a. Install wiring (10) in body (11). Plug lamp (9) in wiring (10) and insert lamp (9) in body (11). Install retainer (7) and secure with three screws (8).

b. Install rim (6) and secure with screw (5). Install three washers (2, 3 and 4) and nut (l).

4-535. INSTALLATION. See figure 4-16 and install the headlight as outlined in paragraph 4-511c.

4-536. SPOTLIGHT.

4-537. REASSEMBLY. See figure 4-25 and reassemble the spotlight as follows:

a. Slide tubes (42 and 43) in housing (39) and secure with screws (40 and 41). Slide tube and gear (38) in housing (39) and install plug (34) and screw (35). Install post assembly (27), setscrew (37) and pin (36) in housing (39).

b. Assemble washer (32), spring (31) and bushing (30) to post (27). Install washer (29) and nut (28) on shell (33).

c. Assemble ring (23) and four lock springs (25) on lamp (26). Install ring (23), lamp (26) and screw (24) in shell (33). Attach ornament (21) to shell with screw (22).

d. Insert gear (14), switch (13) and screw (15) in housing (20). Install strap (18) with two screws (19). Secure cap (11) with screw (12). Attach switch toggle (10) with setscrew (9).

e. Install pinion (8), adapter (7), washer (6), washer (5) and nut (4). Secure handle (upper) (3) and handle (lower) (1) with screw (2).

4-538. INSTALLATION. Install the spotlight as follows:

a. Install pad (53), mounting bracket (47) and bracket (51). Install washers (49), screws (48) and nuts (50), Install washer (46) and felt (45).

b. Slide assembled light in mounting bracket (47) and secure with two screws (52 and 44). Slide assembled handle on tube (43). Install wedge (17) and nut (16).

4-539. INSTRUMENT PANEL.

4-540. REASSEMBLY. See figure 4-26 and reassemble the instrument panel as follows:

a. Install rubber (special shaped section) (6) and nameplate (7) on housing.

b. Secure lock switch (21) with nut. Slide choke cable through front of housing (8) and secure with retaining nut on rear of housing. Install heater switch and secure with nut and slide knob into place.

c. Install headlight switch (22), switch (19) and wiper switch (20). Install three retaining nuts and screw three knobs into place.

d. Install circuit breakers (23 and 24) and secure with four screws (25), eight washers (26) and four nuts (27). Install speedometer (18) and gage cluster (17) and secure with six spacers (14), washers (16) and nuts (15).

e. Attach capacitor on frame gage cluster (17). Install lamps (12) in five socket and lead assemblies (29). Install socket and wire assemblies and four connectors (9).

4-541. INSTALLATION. Install the instrument cluster as follows:

CAUTION

Ensure leads from battery are connected to battery terminal on circuit breakers and ammeter terminal closest to the oil indicator.

a. Provide proper support for instrument cluster while installing terminal wires on back of cluster. Carefully install instrument cluster into instrument panel.

CAUTION

Sensor unit is a permanent part of gage cluster. Extreme care should be used when installing wire through the firewall.

b. Install four washers (4), two screws (3) and two nuts (5). Install four washers (2) and two screws (l). Connect choke cable to the carburetor. Attach sensing unit to the engine. Install shaft assembly (13) in speedometer (18).

4-542. CAB HEATER.

4-543. REASSEMBLY. See figure 4-27 and reassemble the cab heater as follows:

a. Install plug (17), grommet (15) and elbow (3) in casing (20). Attach two doors (18) with four rivets (19).

b. Install motor (12) in housing and secure with two nuts (13) and washers (14). Attach fan (9) with setscrew (10). Install bottom panel (11).

c. Slide core assembly (8) in casing (20) and secure front assembly (4) with four screws (5).

4-544. INSTALLATION. Install the cab heater as follows:

a. Install heater in cab with three nuts (6) and washers (7). Attach wire leads to switch (16).

b. Secure hose (2) with clamp (l). Install valve (21) on engine. Install two hoses (23 and 24) on heater and secure with four clamps (22).

4-545 . FUEL SYSTEM.

4-546. REASSEMBLY. None required.

4-547. INSTALLATION. See figure 4-28 and install the fuel system linkage, and components as follows:

a. Secure bracket (46) to cab fire wall with four screws (47), washers (48) and nuts (49). Slide shaft (45) into bracket (46). Assemble two spacers (44) and levers (39) on shaft (45) and tighten two set screws (43). Install two screws (40), washers (41), and nuts (42) in levers (39).

b. Attach hinge plate (58) to cab floor with two screws (59), washers (60), arid nuts (61). Secure pedal (55) to plate (58) with two cotter pins (56) and pin (57).

c. Assemble two nuts (53) and ball joints (52) on rod (54). Connect rod to pedal (55) and lever (39) with two nuts (50) and washers (51). Assemble two nuts (36) and ball joints (35) on rod (37). Connect rod to lever (39) and carburetor (21) with two nuts (33) and washers (34). Install spring (38).

4-548 . FUEL PUMP.

4-549. REASSEMBLY. See figure 4-29 and reassemble the fuel pump as follows:

a. Assemble housing (24) and diaphragm (15) to housing (16) with two screws and lock washers (17). Secure diaphragm (15) and housing (16) to body (13) with five screws and washers (14).

b. Insert gasket (23) in housing (24). Insert spring (21) and filter (22) in bowl (20). Secure bowl to housing (24) with retainer assembly (19).

c. Position spring (12) and lever (11) in body (13) and secure with pin (10), plug (9), and clip (8). Install gasket (7).

d. Secure stud (4) in body (13) with nut (5) and two washers (6). Attach shield (1) to stud (4) with wing nut (2) and washer (3). Assemble elbow tube hose and elbow to pump assembly.

4-550. INSTALLATION. See figure 4-28.

a. Secure fuel pump (16) and tubing with two screws (17) and washers (18).

b. Install elbow (15), hose (14), and adapter (13).

4-551. CARBURETOR.

4-552. REASSEMBLY. See figure 4-30 and reassemble the carburetor as follows:

a. Insert lever (53) in flange (54). Secure valve (51) to lever (53) with two screws (52). Secure lever (48) on lever (53) with screw (49) and nut (50). Install screw (47), spring (46), adjusting screw (45), and plug (44).

b. Assemble two gaskets (42), insulator (43), and body (40) to flange (54) with two screws (41). Install tube (39) and plug (38). Install gasket (37) and needle assembly (36). Install gasket (35) and metering jet (34). Install pump jet (33) and plug (32).

c. Install two balls (29 and 31) and plug (30). Assemble spring (27) and retaining ring (28) in plunger (26). Assemble spring (25), retainer (23), and link (24) to plunger (26) and insert plunger assembly in body (40). Connect link (24) to lever (53) with link (22) and clip (21).

d. Install gaskets (17 and 20) on piston (16) and jet (19). Insert jet (19), spring (18), piston (16), and tube and plug assembly (15) in body (40). Insert pin (13) in float (14). Install float and ring (12) in body (40). Secure gasket (11) and intake horn assembly (9) to body (40) with four screws and washers (10).

e. Insert lever (8) in horn assembly (9). Secure valve (6) to lever (8) with two screws (7). Attach bracket (3) with two screws (4). Install screw (l), and nut (2), and spring (5) in bracket (3).

4-553. INSTALLATION. See figure 4-28. Install carburetor (21) on adapter (29) and secure with two nuts (25) and washers (24). Install gasket (20) and air cleaner (19) on carburator (21).

4-554. GOVERNOR.

4-555. REASSEMBLY. See figure 4-31 and reassemble the governor as follows:

a. Install disk (25), two covers (24), two bearings (13 and 23), and plug (22) in body (26).

b. Assemble piston (20) and clip (19) on rod (21). Insert rod and plug (18) in body (26). Install bushing (15) on screw (16). Insert spring assembly (17), screw (16), and cap (14) in body (26).

c. Secure cam (11) on shaft (12) with pin (1O). Insert shaft assembly and secure with two clips (8 and 9). Attach valve (5) to shaft (12) with two screws (6) and washers (7). Install gasket (4) and secure cover (1) with two screws (2 and 3).

4-556. INSTALLATION. See figure 4-28.

a. Install two studs (22 and 23) in adapter (29). Attach adapter and gasket (32) to intake manifold with two screws (30 and 31).

b. Assemble gasket (28), governor (27), gasket (26).

4-557. FUEL TANK.

4-558. INSTALLATION. See figure 4-28 and install as follows:

a. Install fuel tank (7) and secure with two straps (4) and four nuts (5).

b. Install plug (3) and filler cap (6) in tank (7).

4-559. COOLING SYSTEM.

4-560. RADIATOR.

4-561. REASSEMBLY. None required.

4-562. INSTALLATION. See figure 4-32 and install the cooling system components as follows:

a. Install radiator (19) and secure with two screws (14), four washers (15 and 16), and two nuts (17). Install four screws (9), washers (11), and nuts (13). Install drain cock (8) in radiator (19).

b. Install two hoses (6) and connector (7) and secure with four clamps (5). Assemble elbow (2) and adapter (1) to connector (7).

c. Install top hose (4) and secure with two clamps (3). Fill radiator with coolant and install radiator cap (18).

4-563. ENGINE COOLING GROUP.

4-564. REASSEMBLY. None required.

4-565. INSTALLATION. See figure 4–33 and install the engine cooling components as follows:

a. Insert shaft (27) in pump housing (28) and secure with clip (21). Assemble seal assembly (25), washer (24), and retaining ring (23) in impeller (22). Install thrower (26) and impeller (22) on shaft (27). Attach gasket (20) and plate (17) to housing (28) with three screws (18), and one washer (19).

b. Install gasket (16) and pump assembly to engine block with four screws (15). Install thermostat (14), two gaskets (12 and 13) and housing (10). Secure housing to engine head with two screws (11). Install hose (8) and two clamps (9).

c. Secure hub (6) to shaft with pin (7). Attach pulley (5) and fan (1) to pump assembly with four screws (2) and washers (3). Install belt (4).

4-566. PARKING BRAKE AND DIFFERENTIAL LOCKOUT LEVERS.

4-567. REASSEMBLY. See figure 4-34 and reassemble the parking brake lever as follows:

a. Assemble bushing (45), spacer (43), link (42) and pin (41) to bellcrank (38). Install two spacers (44) and bellcrank (38) on bracket (46) and secure with pin (39) and retaining ring (40).

b. Install adjusting screw (33) in tube (34) and insert tube in bracket assembly (46). Secure tube (34) with pin (35), two washers (36), and retaining ring (37). Install base (32), washer (31) and cap (30).

4-568. INSTALLATION. Install the parking brake and differential lockout levers as follows:

a. Attach bracket (47) to transmission with two screws (48) and washers (49). Secure parking brake lever to bracket (47) with two screws (27) washers (28), and nuts (29). Assemble nut (25) and two clevis (23 and 24) to rod (26). Install link assembly and secure with two pins (22) and cotter pins (21).

b. Attach bracket (50) to transmission with four screws (51), and four washers (52). Secure bellcrank (18) to bracket (50) with cotter pin (19) and washer (20).

c. Install differential lockout lever (3) and spring (6) on bracket (47) and secure with cotter pin (4) and washer (5). Install lubrication fitting (2) and rubber grip (1) on lever (3).

d. Assemble two nuts (16) and two clevis (14 and 15) to rod (17). Attach link assembly with two cotter pins (12) and pins (13). Assemble two nuts (10), and two clevis (9) to rod (11). Attach link assembly with two cotter pins (7) and pins (8).

4-569. PARKING BRAKE LINING.

4-570. REASSEMBLY. None required.

4-571. INSTALLATION. See figure 4-35 and install the parking brake components as follows:

a. Secure bracket (14) to transmission (32) with screws (15) and washers (16). Secure bracket (22) with screws (23) and washers (24). Attach lining (18) to brake band (20) with 28 rivets (19). Secure brake band assembly and spring (21) with screw (17 and 12) and two nuts (13).

b. Assemble two springs (11), cam shoe (10) special bolt (9), spring (8), and washer (7) on brake band (20) and secure with two nuts (5) and washer (6). Assemble two levers (4) and links (3) on bolt (9) with two pins (2) and cotter pins (l).

c. Install yoke (27) on brake drum (31) with four screws (28), washers (29) and nuts (30). Secure yoke and drum assembly to transmission shaft with nut (26) and cotter pin (25). Install the rear axle propeller shaft as outlined in paragraph 4–592.

d. Install the transmission propeller shaft as outlined in paragraph 4–589.

4-572. OILING GROUP.

4-573. REASSEMBLY. None required.

4-574. INSTALLATION. See figure 4-36 and install the engine oiling components as follows:

a. Install two adapters (56), nuts (54), and tube (55) in engine block. Attach seal plate (57) with two screws (58) and washers (59). Install pipe (53), adapter (52), and strainer (50). Secure strainer with cotter pin (51). Assemble three gaskets (47, 48 and 49) and oil pan (45) to engine block with 20 screws and washers (46). Install gasket (44) and plug (43) in pan (45).

b. Secure rotor (39) to shaft (41) with pin (40). Insert shaft (41) into housing (42). Secure gear (37) to shaft (41) with pin (38). Install gasket (36) and attach plate (34) to housing (42) with five screws and washers (35). Install gasket (33) and insert oil pump assembly in engine block. Secure pump with two screws (31) and washers (32). Assemble plunger (30), spring (29), gasket (28) and plug (27) in engine block. Install tube (26) and oil level indicator (25).

c. Attach bracket (7) with two screws (5) and washers (6). Secure clamp (12) to bracket (7) with two screws (8), washers (9), washers (10), and nuts (11). Assemble plug (23), cup and spring (22), and filter (20) in housing (24). Install gaskets (21) and secure cover (17) to housing (24) with screw (18) and washer (19).

d. Insert engine oil filter in clamp (12) and secure with screw (13), two washers (14 and 15), and nut (16). Install elbow (4), three elbows (3), and two tubes (1 and 2).

e. Attach housing (24) and bracket assembly (7) to engine with four screws (8), washers (9), washers (10) and nuts (11). Install two adapters (14, figure 4-37), elbows (15) and nut (16). Install two hoses (18) and tube assembly (19).

f. Install filter (28). Install cover screw assembly (25), washer (26), cover (27), gasket (29), gasket (30). Ensure gasket (29) seats properly. Install drain plug (23).

4-575. ENGINE AND TRANSMISSION ASSEMBLY.

4-576. REASSEMBLY. None required.

4-577. INSTALLATION. See figure 4–37 and install the engine, hydraulic transmission, transmission and transfer case as follows:

a. Attach two support brackets (11) to hydraulic transmission (41) with eight screws (12) and washers (13). Install transfer transmission (57) and secure four screws (7), washer (8 and 9), and nuts (10).

b. Install propeller shaft (figure 4-39) and mechanical transmission (50).

c. Assemble hydraulic transmission (41) to engine (37). Attach lifting cable to engine lifting brackets. Lift hydraulic transmission and engine assembly in place and secure with four screws (55) and washers (56). Install two screws (l), washers (2), insulators (3), seats (4), insulators (5), and nuts (6). Install two screws (7), washers (8), wedge washers (9), and nuts (10).

4-578. ENGINE.

4-579. REASSEMBLY. Refer to figure 4-38 and reassemble the engine as follows:

a. Install oil tube (53) and pin (52). Secure gasket (51) and plate (48) to engine block with five screws (49) and washers (50). Secure plate (45) with two screws (46) and washers (47). Insert key (44) in camshaft (65) and key (42) in crankshaft (64). Install hub (43) and sprocket (41). Place timing chain (35) on sprockets (37 and 41) and secure sprocket (37) to hub (43) with three screws (38) and washers (39).

b. Insert seal (33) and seal gasket (34) in cover (35). Secure gasket (36) and cover (35) to engine with eight screws (29), three screws (28), washers (30), one gasket (31), and three nuts (32). Insert key (27) in crankshaft (64). Install hub (26) and attach pulley (23) to hub (36) with six bolts (24) and washers (25). Install washer (22) and crankshaft screw (21).

c. Install the manifold assembly (85).

d. Attach gasket (62) and tube (59) to engine block with screw (60) and washer (61). Secure generator bracket (18) with two screws (19) and washers (20). Insert two tubes (16 and 17) in engine block. Install breather cap (15) on tube (16).

e. Assemble gasket (14) and head (11) on engine block (66) and secure with four screws (12) and fifteen bolts (13). Install four studs (3) in head (11). Install screw (9) and nut (10) in screw (12). Install plug (8), washer (7), and screw (6). Secure two lifting brackets (2) with four nuts (5) and washers (4).

f. Install the engine cooling group (1) as outlined in paragraph 4-565.

4-580. INSTALLATION. Refer to figure 4-37 and install the engine as outlined in paragraph 4-577.

4-581 . HYDRAULIC TRANSMISSION.

4-582. REASSEMBLY. None required.

4-583 . INSTALLATION. See figure 4-37 and hydraulic transmission as follows:

a. Attach adapter plate (44) to engine with screw (48) and washer (49). Attach drive plate a-rid flange with eight screws (13), washers (14), and nuts (15).

CAUTION

Provide proper support for transmission when installing. Hydraulic transmission is not securely attached. Do not tilt forward when installing.

b. Install hydraulic transmission and thrust washer on shaft so converter shaft notches engage lugs on pump rotor. Slide unit forward and aline housing with plate (44) using guide pins.

Do not force unit. Hydraulic transmission may become disengaged from pump rotor. If assembled with unit not engaged, serious damage will result.

c. Secure housing with three screws and washers (45), four screws (48) and four washers (49).

d. Rotate plate to aline hydraulic transmission bosses with holes in flange. Install four screws, rotating plate each time to aline flange hole with adapter plate opening. Attach plate (42) with four screws and washers (43).

e. Secure thrust washer (43) and gear to mechanical transmission input shaft with retaining ring.

f. Attach hydraulic transmission to mechanical transmission with four screws (55) and lockwashers (56).

4-584. MECHANICAL TRANSMISSION.

4-585. REASSEMBLY. None required.

4-586. INSTALLATION. See figure 4-37 and install the mechanical transmission as follows:

NOTE

Install hydraulic transmission thrust washer, gear and retaining ring on shaft before installation.

a. Provide proper support for transmission and aline front plate with hydraulic transmission. Secure gasket and the mechanical transmission with four screws (55) and washers (56).

b. Install lever (54), spring (53) and spring seat (52) and secure with cover (51).

C. Install transmission propeller shaft as outlined in paragraph 4-589.

4-587. TRANSMISSION PROPELLER SHAFT.

4-588. REASSEMBLY. None required,

4-589. INSTALLATION. See figure 4-39 and install the transmission propeller shaft as follows:

a. Attach yoke (1) to parking brake drum with four nuts, washers, and spacers. Insert dust cap (14) in yoke (15) and slide yoke on transmission shaft.

b. Insert bearings (11) on cross (12) and secure to yokes (1 and 2) with eight bolts (3 and 4), four lock plates (5), and bearing straps (6).

c. Insert bearings (9) on cross (10). Attach universal joints assemblies to universal coupling (13) with four bolts (8),

4-590. AXLE PROPELLER SHAFT.

4-591. REASSEMBLY. None required.

4-592. INSTALLATION. See figure 4-40 and reinstall the front and rear axle propeller shaft as follows:

a. Install felt (9), ret airier packing (8), and lubrication fitting (10) on yoke (11). Assemble four packing retainers (6) and four packings (5). Assemble shaft (12), yoke (11), two spiders (7) and eight bearings (4).

b. Install propeller shaft and secure eight straps (1) with sixteen screws (2) and washers (3).

4-593. TRANSFER TRANSMISSION.

4-594. REASSEMBLY. See figure 4-41 and reassemble the transfer transmission as follows:

a. Install plug (78), pin (77), and breather (76) in housing (75).

b. Install spacer (80). Attach cross member (68) with four nuts (71), washers (70) and screws (69). Assemble seal (62) gasket (61), and adapter (58) with four screws (59) and washers (60).

c. Install gasket (79) and cover (72) on housing (75) and secure with screws (73) and washers (74).

d. Attach gasket (22) and housing (19) to housing (75) with seven screws (20) and washers (21). Install bearing (17), washer (18), and seal (12) in carrier (13). Attach shim (16) and carrier (13) with four screws (14) and washers (15).

e. Secure three brackets (52, 53, and 56) with six screws (54) and washers (55). Attach gasket (51) and plate (48) to cover (72) with four screws (49) and washers (50).

f. Install bushing (45) in housing (46). Attach gasket (47) and housing (46) with four screws (43) and washers (44). Install speedometer gear (42) and sleeve (41) in housing (46).

g. Attach boss (9) with three screws (10) and washers (11). Assemble nut (7) and eyebolt (6) in bar (8) and insert bar in housing (75). Install ball (5), pilot (4), spring (3), nut (2), and screw (1) in boss (9).

h. Install gear (67), fork (66) and retaining ring (65). Lock bar (8) to fork (66) with setscrew (63) and screw (64). Secure housing (36) and gasket (40) with eight screws (37 and 38) and washers (39).

i. Install bearing (31) and washer (30) in housing (36). Attach cap (26) and gasket (29) with four screws (27) and washers (28). Install seal (25) and secure yoke (24) with nut (23). Attach gasket (35) and washer (34) to housing (36) with two screws (33) and washers (34).

4-595. INSTALLATION. Install the transfer transmission as follows:

a. Install transfer transmission on mounting brackets and secure mounting bolts.

b. Install the axle propeller shafts as outlined in paragraph 4-592.

4-596. BRAKE SYSTEM.

4-597. REASSEMBLY. None required.

4-598. INSTALLATION. See figure 4-42 and install the brake system tubing and components as follows:

a. Install two tees (46) and secure with two screws (47), washers (48), and nuts (49). Attach two gaskets (59), fittings (58) and gaskets (57) with two bolts (56). Install two gaskets (55), adapters (54), and gaskets (53). Install elbows (34) and tube (33).

b. Secure four hose assemblies (52) in adapters (54) and fittings (58). Secure hose assemblies to frame with four washers (51) and nuts (50). Install six tube assemblies (40, 41, 42, 44, 45 and 60). Install six loop clamps (39). Secure two straps (35) with two screws (36), washers (37) and nuts (38).

c. Attach air cleaner (65) to bracket with nut (66). Install gasket (72), bushing (71) and elbow (62) in vacuum booster (73). Attach gasket (70), fitting (69), and washer (68) to booster (73) with bolt (67).

d. Secure vacuum booster to brackets with three nuts (74) and washers (75). Install tube (43). Secure hose (64) with two clamps (63). Install three hoses (30, 32 and 61) and check valve (31) and secure with six hose clamps (29). Install bracket (28).

e. Assemble spacer (27) and bracket (9) with four screws (10), washers (11), and nuts (12). Install master cylinder (23) with three screws (24), washers (25) and nuts (26). Install washer (20) and plug (18) in cylinder (23). Attach gasket (22), connector (21), and gasket (20) with bolt (19). Install brake line (17).

f. Install push rod (16). Assemble nut (14) and clevis (13) to rod (15). Install rod assembly. Attach lever (4) with two pins (6 and 7) and cotter pins (5). Install spring (8). Secure pad (1) to lever (4) with nut (2) and washer (3).

4-599. MASTER CYLINDER.

4-600. REASSEMBLY. See figure 4-43 and reassemble the master cylinder as follows:

a. Install cup (4) on piston (5). Insert spring (7), cup (6) and piston assembly in cylinder (10).

b. Install washer (3), clip (2), and boot (l). Install washer (9) and filler cap (8).

4-601. INSTALLATION. Install the master cylinder as outlined in paragraph 4–598.

4-602. VACUUM BOOSTER.

4-603. REASSEMBLY. See figure 4-44 and reassemble the vacuum booster assembly as follows:

a. Install plug (63) in shell (64). Install wick (55) and retaining ring (54) on plate (56). Assemble washer (61), plate (60), seal (59), packing (58), plate (57), and plate (56) on rod (62) and secure with nut (53). Insert piston assembly in shell (64).

b. Install ring (51) and seal (49) in plate (50). Insert spring (52) in shell (64) and install plate (50) with four bolts (46), washers (47) and nuts (48).

c. Install two cups (44) on piston (45). Assemble piston assembly, packing (43), washers (41) and retaining ring (40) in fitting (42). Install sleeve assembly gasket (39), diaphragm (38), spring (37), and body and poppets (34), in plate (50) and secure with five screws (35) and washers (36).

d. Install spring (29), gasket (28) cover (27) and retaining ring (26) in valve body (34). Install plug (33) and tube assembly (32). Install hose (31) and secure with two clamps (30).

e. Insert washer (25), cup (24), retainer (23), sleeve (22), spring (21), washers (20) and retaining ring (18) in plate (50). Install cup (16) on piston (17). Assemble ball (15), spring (14), retainer (13) and retaining ring (12) in piston (17). Attach piston assembly to rod (62) with pin (19).

f. Install nut (9) and two packings (10 and 11) on tube (8). Slide tube (8) over piston assembly and screw into plate (50).

g. Assemble check valve (3), spring (4), washer (5), and retaining ring (6) in plug (2). Install washer (7) in plug (2) and screw plug on tube (8). Install two bleeder valves (1).

4-604. INSTALLATION. Install the vacuum booster assembly as outlined in paragraph 4-598.

4-605 . AXLE DIFFERENTIAL.

4-606. REASSEMBLY. See figure 4-45 and reassemble . the axle differential as follows:

a. Assemble bearings (26) in cup (27) and install in housing (11). Install retainer nut (25) in housing and secure with screw (24).

b. Install spacer (6), seal (5), yoke (4), and washer (3) and secure with nut (2) and cotter pin (1).

4-607. INSTALLATION. Install the axle differential as outlined in paragraph 4-609.

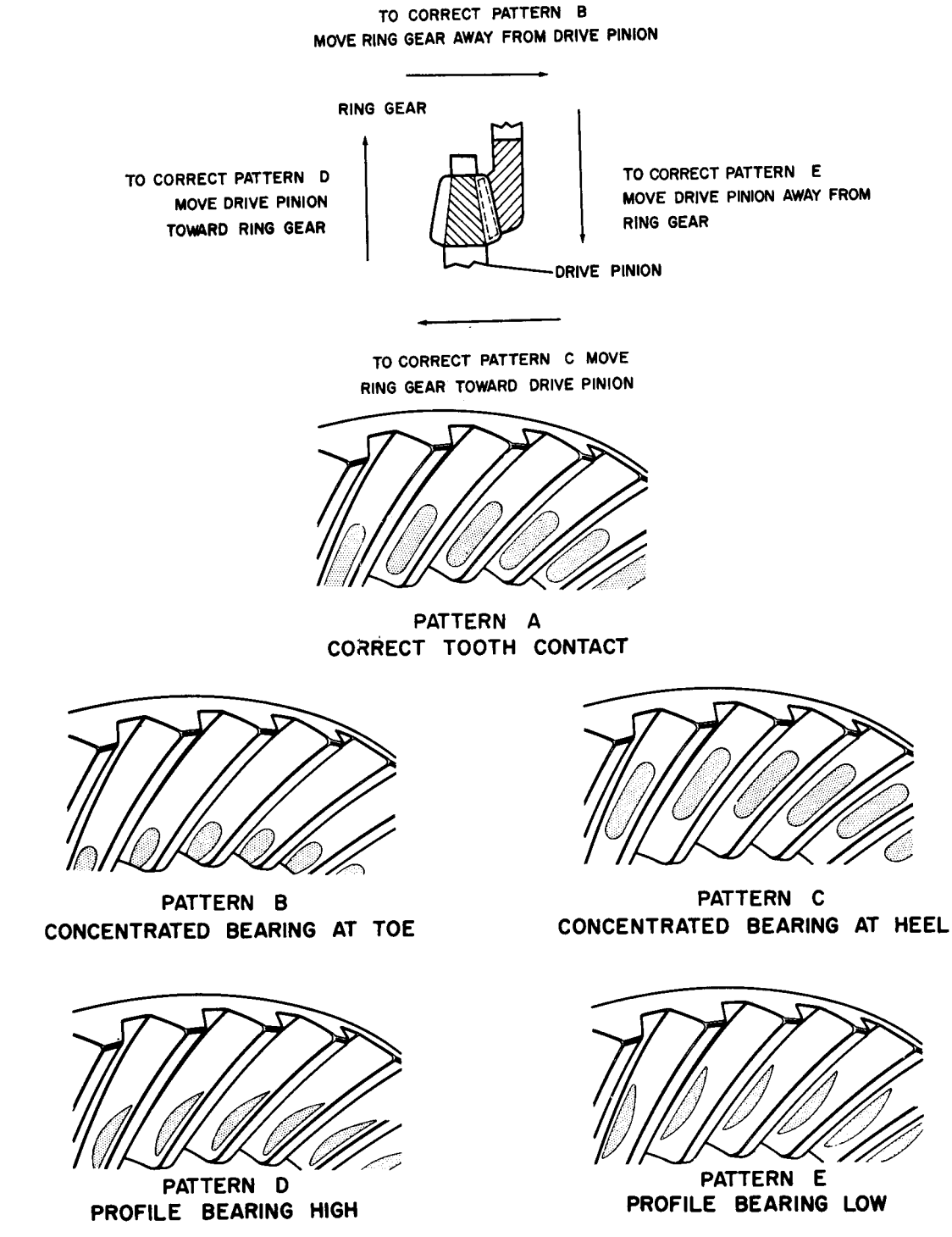


Figure 4-50. Correct and incorrect tooth contact patterns

4-608. AXLE ASSEMBLY.

4-609. REASSEMBLY. See figure 4-46 and reassemble the axle installation as follows:

a. Install plug (36), vent (35), two seals (34), pin (38), and gasket (33) on axle housing (37). Attach bumper (5) to bracket (11) with nut (6) and washer (7). Assemble axle housing (37), bracket (11) and pad (12) to spring assembly with eight studs (10), sixteen washers (9) and nuts (8).

b. Place differential (29) in housing (37) and secure with four screws (30), eight screws (31), and twelve washers (32). Install wheel assembly (21) on housing (37) and secure with seven screws (22), one screw (23), eight washers (24), and nuts (25). Install shafts (26) and secure with bushings (28), screws (27) and lock wire. Install cover.

4-610. INSTALLATION. Not required.

4-611. HUB ASSEMBLY.

4-612. REASSEMBLY. See figure 4-47 and reassemble the hub assembly as follows:

a. Install four nuts (59) and pins (55) into backing plate (60). Assemble two cam bolts (58), springs (57) and cams (56) and secure two anchor pins (38) with two nuts (39) and washers (40) to plate (60). Attach bracket (52) to plate (60) with four pins (53) and collars (54). Assemble spring (47), two cups (46), piston (45) and boots (44) in cylinder (49). Attach cylinder assembly to plate (60) with two screws (42) and washers (43). Insert two push rods (41) in cylinder assembly. Install bleeder valve (48) in wheel cylinder (49).

b. Attach lining (35) to brake shoe (37) with fourteen rivets (36). Secure two shoe assemblies to pins (55 and 38), with two split washers (33), eight washers (32), four spring washers (31) and four split washers (30). Install spring (34).

c. Attach dust shield (23) to plate (60) with eight screws (24 and 25), washers (26 and 27) and nuts (28 and 29). Install bushing (65) into arm (66) and install arm (66) onto plate (60) with screws (61 and 62), washers (63) and nuts (64) which attach through plate (60), spindle (76) and shield (23). Install two screws (50) and washers (51) in plate (60) and spindle (76) assembly.

d. Install lower bearing (79) in spindle (76). Install packing (72) on spindle (76) groove with lip towards back of wheel. Assemble retainers (71) and boot (67) to spindle (76) with twelve screws (68) and washers (69). Install clamp (70).

e. Install two lubrication fittings (81) in stub (82). Place lower cup (80) over lower bearing (79) in spindle (76) and place spindle (76) on wheel stub (82).

NOTE

Tilt back of spindle (76) up to get the cup (80) lined up with the cup seat in the underside of stub (82).

CAUTION

If following action of placing a C clamp on bottom of spindle does not result in cap (78) being even with spindle (76) barrel, components are not properly alined. Remove clamp and repeat reassembly procedures checking for proper alinement and seating of bearings.

f. Place screw jack under barrel of spindle (76) slightly back of bearing (79) location and elevate jack until cup (80) is completely seated in stub (82). Seat top cup (80) in top of stub (82). Place upper bearing (79) into cap (78) and insert this assembly into hole in top of spindle (76) by placing a large C clamp on bottom of spindle (76) and top of cap (78) and tighten clamp until cap (78) is even with surface of spindle (76). Place wedge (77) into slot of cap (78) with round surface of wedge (77) upward and with thin part of wedge (77) pointing outward.

g. Start bearing (15) over spindle (76) barrel until it is approximately over center of cap (78). Remove C clamp. Install ring (17) in the same manner as bearing (15) and press both back on spindle (76) until bearing (15) is solid against spindle (76) flange.

h. Insert small drift pin through adjusting screw (73) hole in spindle (76) and drive wedge (77) forward until it feels solid.

NOTE

Do not drive wedge (77) forward so that bearing (15) and ring (17) are moved. See Chapter 4, Section I, for final pivot bearing adjustment.

i. Press cups (16) into hub (22) from front and rear of hub (22). Install six pins (20) in hub (22). Install two studs (21) in hub (22). Install brake drum (18) onto hub

(22) with twelve screws (19). Place hub (22) over spindle (76) rotating it back and forth carefully over packing (72). Press outer bearing (15) onto spindle (76) barrel. Install screw (73), nut (75) and washer (74).

j. Install packing (13) in groove of plate (12) with lip towards outside of wheel. Install shims (14), plate (12) and lock plate (10) using screws (11).

NOTE

Do not bend ears of lock plate (10) until after adjustment.

k. With hub (22) at right angles to stub (82) to rotate hub (22). The bearings (15) are properly adjusted when there is only a slight drag when rotating hub (22) and when no end play can be felt when pushing hub (22) in and out. If there is not a slight drag, add shims (14) and if there is too much drag, remove shims (14).

1. Press bushings (7 and 8) into ring (9). Assemble yoke (6) to ring (9) with pins (5) and spring pins (4).

NOTE

Ensure the beveled side of pin (3) is away from yoke (6) and towards the back of hub (22).

m. Install yoke (6) and ring (9) assembly into hub (22) with pins (3) and secure with plugs (2). Ensure the slot in pin (3) is in line with stud (21).

4-613. INSTALLATION. Install the hub assemblies as outlined in paragraph 4-609.

4-614. WHEEL ASSEMBLIES.

4-615. REASSEMBLY. See figure 4-48 and reassemble the wheel assemblies as follows:

a. Install tire (7) over rim (4). Insert flap (5) into tire (7) and around rim (4). Insert inner tube, partially inflated, into tire.

b. Press tire (7) down around rim and install flange (3). Ensure flange (3) is securely seated before inflating tire. Inflate tire to proper pressure of 20 psi.

4-616. INSTALLATION. Install the wheel assemblies as outlined in Chapter 3, Section VI.

4-617. FRAME AND BRACKETS ASSEMBLY.

4-618. REASSEMBLY. See figure 4-49 and reassemble the frame assembly as follows:

a. Assemble frame plate (154) to frame rails (163) and secure with eight screws (155) washers (156), and nuts (157). Attach bracket (158) to frame with four screws (159), washers (160) and nuts (161).

b. Insert two grommets (153) in frame. Install four shock absorber brackets (149) and secure each with two screws (150), washers (151), and nuts (152). Secure mounting brackets (142, 147 and 148) with four screws (143 and 144), washers (145), and nuts (146). Attach support bracket (141) and mounting bracket (137) with four screws (148), washers (139) and nuts (140).

c. Install cab support (131) and secure with four screws (132), wedge washers (134), washers (135), and nuts (136). Attach mounting bracket (127) with two screws (128), washers (129), and nuts (130). Install spark arrestor (123) and secure with one loop clamp (124), two washers (125) and nuts (126). Install pipe plug (122) in spark arrestor (123).

d. Slide exhaust pipe assembly into spark arrestor (123) and secure with clamp, U bolt (119), two washers (118) and nuts (117).

e. Secure steering bracket (111) with five screws (112 and 113), two wedge washers (114), five washers (115), and nuts (116). Install two step supports (105) and two supports (106) and (107). Secure each with two screws (108), washers (109), and nuts (110).

f. Attach steering gear bracket (99) with five screws (100 and 101), two washers (93), five washers (103) and nuts (104). Assemble two screws (95) washers (96), and nuts (97) to bracket (98) and secure bracket assembly with one screw (92), washer (93) and nut (94).

g. Attach cab supports (86 and 87) with four screws (88), wedge washers (89), washers (90) and nuts (91).

h. Install crossmember (85) and four spring brackets (80) and secure each with two screws (81 and 82), washers (83), and nuts (84). Install bracket (79) and four spring shackle brackets (74) and secure each with two screws (75 and 76), washers (77) and nuts (78).

i. Insert two bushings (62) in leaf spring (63). Attach two alinement clips (59) to leaf spring (66) with rivets (61) Attach two alinernent clips (60) to leaf spring (69)

with rivets (61). Assemble eleven leaf springs (73, 72, 71, 70, 69, 68, 67, 66, 65, 64, and 63) with bolt (57) and nut (58). Insert four tubes (54) in clips (59 and 60) and secure with four screws (55) and nuts (56).

j. Insert four bushings (52) in four spring shackles (53). Install and connect four spring assemblies and four spring shackles (53) with twelve shackle pins (47). Secure shackle pins with twelve screws (48 and 49), washers (50), and nuts (51). Install twelve lubrication fittings (46) in shackle pins (47).

k. Attach two fender brackets (42) with four screws (43), washers (44), and nuts (45). Secure crossmember (38) with two screws (39), washers (40), and nuts (41). Secure mounting brackets (32) with two screws (33 and 34), wedge washers (35), washers (36) and nuts (37).

l. Install frame plate (28) on frame and secure with eight screws (29), washers (30), and nuts (31). Attach grill brackets (22 and 23) with two screws (24) wedge washers (25), washers (26), and nuts (27). Install setscrew (21) in steering bracket (111).

m. Install two rear counterweights (17) and secure with four screws (18), washers (19), and nuts (20). Install one front counterweight (13) and secure with four screws (14), washers (15), and nuts (16).

n. Insert spring (10) and latch (11) into lock (7). Slide pin (9) into lock (7) and secure with two retaining rings (8). Install lock assembly on hook (12). Slide pin (6) into hook (12) secure with two retaining rings (5). Install two fittings (4) in pins (6 and 9). Attach two pintle assemblies on frame plates (28 and 154) with eight screws (1) washers (2) and nuts (3).

4-619. INSTALLATION. None required.

SECTION V ILLUSTRATED PARTS BREAKDOWN

4-620. GENERAL.

4-621. This section consists of a comphrensive listing of all parts of the towing tractor affected by repair procedures outlined in this technical manual.

4-622. ILLUSTRATED PARTS BREAKDOWN.

4-623. Table 4-7, Illustrated Parts Breakdown, lists all parts by assembly groups. The table is divided into the following columns:

a. *Figure and Index.* This column lists the figure and index numbers of the parts. The figure numbers refer to figures in Chapter 4, Section III.

b. *Part Number.* This column lists the part number of each part.

c. Description. This column lists the complete nomenclature for each part. It is arranged in major assemblies with attaching parts noted.

d. *Quantity Per Assembly*. This column lists the number of each part required per tractor.

e. Usable On Code. This column uses the codes, C, C1, C2, and D, to differentiate those parts which are used on only specific tractors.

Table 4-7. Illustrated Parts Breakdown

FIGURE & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	QTY PER ASSY	USABLE ON CODE
4-2-	690-1B	TRACTOR ASSEMBLY, Towing	1	C
	690-1B1	TRACTOR ASSEMBLY, Towing	1	D
-1	211-54	NAMEPLATE	2	
		(ATTACHING PARTS)		
	C12003-012-1	. NUT, Sheet spring (46384)	2	
-2	650-85	HOOD, Engine compartment	1	
-3	211-53	NAMEPLATE	1	
		(ATTACHING PARTS)		
	C12003-012-1	. NUT, Sheet spring (46384)	3	
-4	650-86	GRILLE ASSEMBLY	1	
	COML	. . WEBBING, Textile, 1/8 x 1 x 32 Textile,l/8xlx32	1	
		(ATTACHING PARTS)		
-5	MS35221-96	SCREW, Machine, truss hd 5/16-18 x 3/4	4	
-6	MS35338-45	. WASHER, Lock	4	
-7	MS51967-5	NUT, Plain, hex	4	
-8	650-97	CAB ASSEMBLY, Upper	NP	C1
	650-221	CAB ASSEMBLY, Upper	NP	C2,D
-9	649-115	STEERING SYSTEM	NP	
-10	195-1713	BRACKET, Steering gear support	1	
		(ATTACHING PARTS)		
-11	MS90726-116	. SCREW, Cap, hex hd Cap, hex hd	1	
-12	MS35338-48	. WASHER, Lock	1	
-13	MS27183-18	. WASHER, Flat	1	
-14	MS51968-14	. NUT, Plain, hex Plain, hex	1	
-15	549-119	ELECTRICAL SYSTEM	NP	
	549-215	ELECTRICAL SYSTEM SYSTEM	NP	
-16	529-14	COOLING SYSTEM	NP	
-17	650-169	CAB ASSEMBLY, Lower Lower	NP	
-18	650-50	DECK ASSEMBLY ASSEMBLY	1	
-19	559-12	FUEL SYSTEM SYSTEM	1	
-20	509-133	ENGINE, TRANSVERTER, AND TRANSFER CASE ASSEMBLY	NP	
-21	639-28	BRAKE ASSEMBLY, Service	1	
-22	580-41	PROPELLER SHAFT, Front	1	
-23	580-42	PROPELLER SHAFT, Rear	1	
-24	668-40	AXLE ASSEMBLY	NP	
-25	610-81	FRAME ASSEMBLY	NP	
4-3-	650-97	CAB ASSEMBLY, Upper Upper	REF	C1
	650-221	CAB ASSEMBLY, Upper Upper	REF	C2,D
		(ATTACHING PARTS)		
-1	MS90725-8	. SCREW, Cap, hex hd Cap, hex hd	24	
-2	MS27183-10	. WASHER, Flat	48	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	QTY PER ASSY	USABLE ON CODE
1-3-3	MS35338-44	. WASHER, Lock	24	
-4	MS35690-405	. NUT, Plain, hex ---*---	24	
-5	70-50	GASKET, Front, side	2	
	70-51	GASKET, Front Front	1	
-6	70-52	GASKET, Rear, Rear, side	2	
	70-53	GASKET, Rear	1	
-7	650-88	DOOR, Cab, vehicle, vehicle, RH	1	
	650-89	DOOR, Cab, vehicle, vehicle, LH (ATTACHING PARTS)	1	
-8	MS35190-291	. SCREW, Machine, flat hd hd	6	
-9	MS35336-27	. WASHER, Lock, ctsk, shakeproof	6	
-10	COML	NUT, Self-locking, hex 1/4-20 ---*---	6	
-11	16184	SPRING, Hinge (95993)	6	
-12	EX98	MIRROR, Rearview (70330) (Includes nut and lockwasher)	1	
-13	195-903	BRACKET, Angle (ATTACHING PARTS)	1	
-14	MS90726-6	. SCREW, Cap, hex hd hd	1	
-15	MS35338-44	. WASHER, Lock	1	
-16	MS35690-425	. NUT, Plain, hex ---*---	1	
-17	651-466	FINGER LIFT, Glass	1	
	651-477	TAPE, Textile	1	
-18	650-103	CHANNEL ASSEMBLY, Upper rear (ATTACHING PARTS)	1	
-19	MS35222-63	. SCREW, Machine, hex hd, 10-32 x 1/2 1/2	3	
-20	MS35338-43	. WASHER, Lock	3	
-21	COML	NUT, Plain, hex 10-32 ---*---	3	
-22	651-476	WEATHER STRIP	1	
-23	651-471	GLASS, Laminated, flat, rear	2	
-24	651-448	WEATHER STRIP STRIP	2	
-25	651-478	WEATHER STRIP STRIP	1	
-26	651-479	WEATHER STRIP STRIP	1	
-27	651-308	GLASS, Laminated, flat, rear side	2	
-28	651-309	RUBBER CHANNEL	2	
-29	651-312	PLASTIC SHEET	1	
-30	651-313	RUBBER CHANNEL CHANNEL	1	
-31	651-306	GLASS, Laminated, flat, front side	2	
-32	651-307	RUBBER CHANNEL CHANNEL	2	
-33	651-304	GLASS, Laminated, flat, windshield	2	
-34	651-305	RUBBER CHANNEL (95993) (95993)	2	
-35	651-483	SHELL, Cab Cab	1	C1
	651-1041	SHELL, Cab Cab	1	C2,D

Table 4–7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-4-	650-169	CAB ASSEMBLY, Lower	REF	
-1	651-336	HANDLE, Ventilator door	2	
		(ATTACHING PARTS)		
-2	COML	SCREW, Machine, rd hd 10-32 x 3/8	2	
-3	MS35338-43	. WASHER, Lock	2	
-4	MS35650-102	. NUT, Plain, hex	2	
		----*----		
-5	651-335	PLUNGER, Spring	2	
		(ATTACHING PARTS)		
-6	MS20613-6P6	RIVET, Round hd 3/16 x 1/2 Round hd 3/16 x l/2	1	
-7	COML	NUT, Sheet spring 3/16 Sheet spring 3/16	1	
		----*----		
-8	218-9	SPRING, Helical, compressor	2	
-9	651-334	LID, Ventilator	2	
		(ATTACHING PARTS)		
-10	COML	SCREW, Machine, rd hd hd 10-32 x 3/8 x 3/8	3	
-11	MS35338-43	. WASHER, Lock	3	
-12	MS35650-102	NUT, Plain, hex	3	
		----*----		
-13	651-338	WEATHER STRIP (95993)	2	
-14	651-337	MOULDING, Ventilator	2	
		(ATTACHING PARTS)		
-15	MS35222-63	. SCREW, Machine, truss hd hd 10-32 x 1/2 l/2	12	
-16	MS35338-43	. WASHER, Lock	12	
-17	MS35650-102	NUT, Plain, hex	12	
		----*----		
-18	651-806	SEAT ASSEMBLY	2	
		(ATTACHING PARTS)		
-19	MS90726-34	. SCREW, Cap, hex hd (RH hd (RH seat only)	4	
-20	MS35338-26	. WASHER, Lock	4	
-21	MS51968-5	NUT, Plain, hex	4	
		----*----		
-22	AVM9573	SLIDE, Seat (70523)	1	
-23	AVM9574	SLIDE, Seat (70523)	1	
		(ATTACHING PARTS)		
-24	MS51968-5	. NUT, Plain, hex	4	
-25	MS35338-45	WASHER, Lock	4	
		----*----		
-26	651-805	BASE, Seat Seat	2	
		(ATTACHING PARTS)		
-27	MS90726-32	. SCREW, Cap, hex hd Cap, hex hd	4	
-28	MS35338-45	. WASHER, Lock Lock	4	
-29	MS35690-524	. NUT, Plain, hex Plain, hex	4	
		----*----		
-30	195-928	BRACE, Firewall	1	
		(ATTACHING PARTS)		
-31	MS35296-60	. SCREW, Cap, hex hd Cap, hex hd	1	
-32	MS35338-46	. WASHER, Lock	1	
-33	MS5	NUT, Plain, hex	1	
		----*----		

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
I-4-34	305-66	PLATE, Instruction	1	
		(ATTACHING PARTS)		
-35	MS24621-29	. SCREW, Tapping, pan hd	4	
		---*---		
-36	305-65	PLATE, Identification	1	
		(ATTACHING PARTS)		
-37	MS24621-29	. SCREW, Tapping, pan hd	1	
		---*---		
-38	651-340	HANDLE, Bow	2	
		(ATTACHING PARTS)		
-39	MS35190-291	. SCREW, Machine	4	
-40	MS27183-10	. WASHER, Flat	4	
-41	MS35338-44	. WASHER, Lock	4	
-42	MS35690-405	. NUT, Plain, hex	4	
		---*---		
-43	195-1102	BRACKET, Handle, RH	2	
-44	195-1103	BRACKET, Handle, LH	2	
		(ATTACHING PARTS)		
-45	COML	. SCREW, Machine, truss hd 5/16-18 x 3/4	2	
-46	MS27183-12	. WASHER, Flat	2	
-47	MS51967-5	. NUT, Plain, hex	2	
		---*---		
-48	651-460	TUBE, Steel	2	
-49	5589292	. GROMMET, Rubber (24617)	2	
-50	MS35489-49	. GROMMET, Rubber	2	
-51	MS35691-21	. NUT, Plain, hex	1	
-52	201-64	COVER, Access	1	
		(ATTACHING PARTS)		
-53	COML	SCREW, Machine, truss hd 5/16-18 x 3/4	2	
		---*---		
	651-424	TOE BOARD, Left	1	
		(ATTACHING PARTS)		
-54	COML	SCREW, Machine, truss hd 5/16-18 x 3/4	4	
		---*---		
-55	198-3	. . BUSHING, Sleeve	2	
-56	NO NUMBER	. . TOE BOARD	NP	
-57	651-535	TOE BOARD, Left intermediate	1	
		(ATTACHING PARTS)		
-58	COML	SCREW, Machine, truss hd 5/16-18 x 3/4	5	
		---*---		
-59	651-884	TOE BOARD, Center	1	
		(ATTACHING PARTS)		
-60	COML	SCREW, Machine, truss hd 5/16-18 x 3/4	6	
		---*---		
-61	651-323	TOE BOARD, Right	1	
		(ATTACHING PARTS)		
-62	COML	SCREW, Machine, truss hd 5/16-18 x 3/4	6	
		---*---		

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-4-63	651-883	FLOOR, Cab, right	1	
		(ATTACHING PARTS)		
-64	COML	SCREW, Machine, truss hd 5/16-18 x 3/4	10	
		---*---		
-65	651-882	FLOOR, Cab, left	1	
		(ATTACHING PARTS)		
-66	COML	SCREW, Machine, truss hd 5/16-18 x 3/4	12	
		---*---		
	651-289	CAB SHELL, Lower	1	
		(ATTACHING PARTS)		
-67	MS90726-60	. SCREW, Cap, hex hd	4	
-68	MS35338-46	WASHER, Lock	4	
-69	MS51968-8	. NUT, Plain, hex	4	
-70	MS90726-68	. SCREW, Cap, hex hd	2	
-71	218-6	SPRING, Helical, compression	2	
-72	MS27183-14	. WASHER, Flat	2	
-73	COML	NUT, Lock 3/8-24	2	
	MS90726-32	. SCREW, Cap, hex hd	4	
	MS51967-5	. NUT, Plain, hex	4	
	MS35338-26	. WASHER, Lock	4	
		---*---		
-74	211-92	. . STRIKE, Catch	2	
		(ATTACHING PARTS)		
-75	MS35190-289	. . SCREW, Machine, flat hd	2	
	COML	. . NUT, Lock 1/4-20	2	
		---*---		
-76	NO NUMBER	. . CAB WELDMENT, Lower	NP	
-77	COML	WEBBING, Textile, 1/8 x 1 x 65	1	
4-5-	650-85	HOOD, Engine Compartment	REF	C, D
		(ATTACHING PARTS)		
-1	COML	SCREW, Truss hd 5/16-18 x 3/4	10	
-2	MS35338-45	. WASHER, Lock	10	
-3	MS51967-5	. NUT, Plain, hex	10	
		---*---		
-4	750015	FASTENER, Cylinder, spring loaded (57733)	4	
		(ATTACHING PARTS)		
-5	MS20613-8P8	. RIVET, Solid, rd hd 1/4 x 1/2	2	
		---*---		
-6	651-287	PANEL, Side, LH	1	
-7	651-288	PANEL, Side, RH	1	
-8	750512	STRIKE, Catch (57733)	4	
		(ATTACHING PARTS)		
-9	COML	RIVET, Solid, rd hd 1/4 x 1/2	2	
		---*---		

Table 4-7. illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-5-10	752000	HANDLE, Bow (57733)	2	
		(ATTACHING PARTS)		
-11	MS20613-6P8	RIVET, Solid, rd hd 3/16 x 1/2	2	
		---*---		
-12	651-354	ROD, Straight, headless	4	
-13	651-284	PANEL, Hood, lower left	1	
	651-348	. . PANEL	NP	
	651-347	. . LEAF, Butt	NP	
-14	651-285	PANEL, Hood, lower right	1	
	651-349	. . PANEL	NP	
	651-341	. . LEAF, Butt	NP	
-15	651-282	PANEL, Hood, upper left	1	
	651-351	. . PANEL	NP	
	651-350	. . LEAF, Butt	NP	
-16	651-283	PANEL, Hood, upper right	1	
	651-352	. . PANEL	NP	
	651-350	. . LEAF, Butt	NP	
-17	651-281	PANEL, Hood, center	1	
	651-353	. . PANEL	NP	
	651-347	. . LEAF, Butt	NP	
4-6-	650-88	DOOR, Cab, vehicle, LH	REF	
	650-89	DOOR, Cab, vehicle, RH	REF	
-1	14211	HANDLE, Window regulator	1	
		(ATTACHING PARTS)		
-2	COML	SCREW, Machine, oval hd, 1/4-20 x 3/4	1	
-3	MS35336-27	WASHER, Lock	1	
		...*...		
-4	218-7	SPRING, Escutcheon	1	
-5	651-296	ESCUTCHEON PLATE	1	
		---*---		
	650-155	HANDLE ASSEMBLY, LH (KF)	1	
	650-154	HANDLE ASSEMBLY, RH (KF)	1	
		(ATTACHING PARTS)		
-6	MS90725-16	SCREW, Cap, hex hd	4	
-7	COML	NUT, Self-locking, hex 1/4-20	4	
		---*---		
-8	651-796	. . RING, Retaining	1	
-9	650-153	. . SHAFT, Handle	1	
-10	651-801	. . FLANGE, Handle, LH	1	
	651-800	. . FLANGE, Handle, RH	1	
-11	216-24	SHIM, Latch (KF)	2	
-12	650-157	LATCH, Rim, LH (KF)	1	
	650-156	LATCH, Rim, RH (KF)	1	
-13	650-159	PANEL, Interior, LH	1	
	650-160	PANEL, Interior, RH	1	

Tsble 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
1-6-		(ATTACHING PARTS)		
-14	COML	SCREW, Machine, hex hd, 10-24 x 3/8	9	
-15	MS35335-32	. WASHER, Lock	9	
-16	MS27183-9	. WASHER, Flat	9	
		---*---		
-17	651-327	GLASS, Laminated, flat	1	
-18	651-294	CHANNEL, Lift, glass	1	
	651-326	TAPE, Textile	1	
-19	651-295	REGULATOR, Window, hand operated	1	
		(ATTACHING PARTS)		
-20	MS35267-263	. SCREW, Machine, pan hd	6	
-21	MS35338-43	. WASHER, Lock	6	
-22	MS35650-302	. NUT, Plain, hex	6	
		---*---		
-23	651-293	STRIP, WEATHER	2	
-24	651-292	STRIP, WEATHER	1	
-25	651-298	HINGE, Butt, LH	3	
	651-330	HINGE, Butt, RH	3	
		(ATTACHING PARTS)		
-26	MS35239-90	. SCREW, Machine, flat hd (Used on top and bottom hinge only)	2	
-27	MS35190-290	. SCREW, Machine, flat hd (Used on center hinge only)	2	
-28	MS35336-27	. WASHER, Lock	2	
-29	COML	NUT, Self-locking, hex, 1/4-20	2	
		----*----		
-30	216-23	SHIM, Hinge	3	
-31	650-151	PANEL, Exterior, LH	1	
	650-152	PANEL, Exterior, RH	1	
	70-29	WEATHER STRIP (95993)	1	
	70-30	WEATHER STRIP (95993)	1	
1-7-	650-50	DECK ASSEMBLY	REF	
-1	651-259	RAIL, LH	1	
	651-258	RAIL, RH	1	
		(ATTACHING PARTS)		
-2	MS51968-20	. NUT, Plain, hex	4	
-3	MS35338-50	. WASHER, Lock	4	
		----*----		
	219-22	. . STUD WELDING	4	
-4	15250C	CATCH, Lid (14608)	2	
		(ATTACHING PARTS)		
-5	MS35221-31	. SCREW, Machine, rd hd, 6-32 x 5/8	2	
-6	MS35221-26	. SCREW, Machine, rd hd, 6-32 x 1/4	2	
-7	MS35338-41	. WASHER, Lock	4	
-8	MS35649-262	. NUT, Plain, hex	2	
		----*----		

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-7-9	217-360	SPACER, Catch	2	
-10	23050	GROMMET, Rubber (70485)	1	
-11	651-274	DECK WELDMENT	1	
		(ATTACHING PARTS)		
-12	MS90726-65	. SCREW, Cap, hex hd	4	
-13	MS35296-32	. SCREW, Cap, hex hd	4	
-14	COML	WASHER, Wedge, 3/8	4	
-15	MS35338-46	. WASHER, Lock	4	
-16	MS35338-45	. WASHER, Lock	4	
-17	MS51968-5	. NUT, Plain, hex	4	
-18	MS35690-524	. NUT, Plain, hex	4	
		----*----		
-19	651-256	FENDER, Front, LH	1	
	651-257	FENDER, Front, RH	1	
		(ATTACHING PARTS)		
-20	MS35221-67	. SCREW, Machine, truss hd 3/8-16 x 1	2	
-21	MS90726-32	. SCREW, Cap, hex hd	2	
-22	MS35338-46	. WASHER, Lock	2	
-23	MS35338-45	. WASHER, Lock	2	
-24	MS51967-8	. NUT, Plain, hex	2	
-25	MS35690-524	. NUT, Plain, hex	2	
		----*----		
-26	195-1772	BRACKET, Fender to cab, LH	1	
	195-903	BRACKET, Fender to cab, RH	1	
		(ATTACHING PARTS)		
-27	MS90725-8	. SCREW, Cap, hex hd	2	
-28	MS35338-44	. WASHER, Lock	2	
-29	MS35690-405	. NUT, Plain, hex	2	
		----*----		
-30	651-253	RUNNING BOARD	2	
		(ATTACHING PARTS)		
-31	MS90726-36	. SCREW, Cap, hex hd	4	
-32	MS35338-45	. WASHER, Lock	4	
-33	MS35690-524	. NUT, Plain, hex	4	
-34	MS27183-13	. WASHER, Flat	4	
		----*----		
-35	199-18	CLAMP, Running board	4	
-36	651-269	PLATE, Cover, LH	1	
	651-270	PLATE, Cover, RH	1	
		(ATTACHING PARTS)		
-37	MS90726-58	. SCREW, Cap, hex hd	4	
-38	MS27183-15	. WASHER, Flat	4	
-39	MS35338-46	. WASHER, Lock	4	
-40	MS51968-5	. NUT, Plain, hex	4	
		....*...		

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-8-	649-115	STEERING SYSTEM	REF	
-1	640-71	HOSE ASSEMBLY, Rubber	1	
-2	16M16UFS	. ADAPTER, Straight, pipe to hose (70434)	1	
-3	COML	ELBOW, Pipe, 90°, 1NPT	1	
-4	640-75	HOSE ASSEMBLY, Rubber	1	
-5	640-72	HOSE ASSEMBLY, Rubber	1	
-6	6M6UFS	UNION, Pipe to hose (70434)	2	
-7	COML	ELBOW, Pipe, 90°, 3/8 NPT	2	
	642-52	TANK, Oil hydraulic system	1	
		(ATTACHING PARTS)		
-8	MS90726-58	. SCREW, Cap, hex hd	4	
-9	MS35338-46	. WASHER, Lock	4	
-10	MS51968-8	. NUT, Plain, hex	4	
		----*---		
-11	642-80	. . CAP, Breather	1	
-12	NO NUMBER	. . TANK	NP	
-13	B225	BELT, V (24161)	1	
-14	1B5. 4QD	. PULLEY, Groove (24161)	1	
		(ATTACHING PARTS)		
-15	MS90725-111	. SCREW, Cap, hex hd	3	
-16	MS35338-44	. WASHER, Lock	3	
		----*---		
-17	190-117	ADAPTER, Pulley (Includes 3/16 in. key)	1	
		(ATTACHING PARTS)		
-18	COML	SCREW, Cap, hex hd, socket 1/4-20 x 1	2	
		----*----		
-19	COML	NIPPLE, Pipe, 1 NPT x 3	1	
-20	COML	. ELBOW, Pipe, 1 NPT x 90°	1	
-21	V214-5-1C12	. PUMP, Hydraulic (62983)	1	
		(ATTACHING PARTS)		
-22	MS90726-64	. SCREW, Cap, hex hd	4	
-23	MS15795-214	WASHER, Flat	4	
-24	MS35338-46	. WASHER, Lock	4	
-25	MS51968-8	. NUT, Plain, hex	4	
		----*----		
-26	640-73	HOSE ASSEMBLY, Rubber	1	
-27	640-69	VALVE ASSEMBLY, Relief	1	
-28	640-77	HOSE ASSEMBLY, Rubber	1	
-29	640-74	HOSE ASSEMBLY, Rubber	1	
-30	640-76	HOSE ASSEMBLY, Rubber	1	
-31	6M6UFS	UNION, Pipe to hose (70434)	2	
-32	640-70	VALVE ASSEMBLY, Flow control	1	
-33	5912	CLAMP, Loop (81646)	2	
-34	640-124	HOSE ASSEMBLY, Rubber	1	
-35	640-175	HOSE ASSEMBLY, Rubber	1	
-36	6M4UFS	UNION, Pipe to hose (70434)	2	
-37	640-59	FRONT VALVE DRAG LINK ASSEMBLY	1	
	640-63	DRAG LINK ASSEMBLY, Steering	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	QTY PER ASSY	USABLE ON CODE
4-8-38	MS15003-6	. . FITTING, Lubrication	2	
-39	MS9245-70	. . PIN, Cotter	2	
-40	642-63	. . TIE ROD END, Steering	1	
-41	L20SV6053A12	. . TIE ROD END, Steering (98349)	1	
-42	COML	. . . PLUG, Pipe, 1/8 (Used on 642-63)	1	
	642-68	. . . TIE ROD END (Used on 642-63)	NP	
	NO NUMBER	. . . TIE ROD END (Used on L20SV163A12)	NP	
-43	L8MN3	. . . . BOLT, Machine (59875)	2	
-44	L8DW9	. . . . WASHER, Lock (98349)	2	
-45	L8MN43	. . . . NUT, Plain, hex (98349)	2	
-46	L10MN3	. . . . NUT, Castellated, hex (98349)	1	
-47	L15SM23	. . . . SPRING, Helical, torsion (98349)	1	
-48	L20VC15	. . . . SHIELD, Dust cover (59875)	1	
-49	L14DM158	. . . . PACKING, Preformed (98349)	1	
-50	L14DW23X1	. . . . WASHER, Flat (98349)	1	
-51	L29RL5000	. . . . RING, Retaining (98349)	1	
-52	L27VP70	. . . . PLUG, Spring (98349)	1	
-53	L22SN5000	. . . . SPRING, Helical, compression (98349)	1	
-54	L20VR5000	. . . . SEAT, Spring (98349)	1	
-55	L27GR5000	. . . . PACKING, Preformed (98349)	1	
-56	L20VS5050	. . . . STUD, Ball (98349)	1	
-57	L20VB5040X1	. . . . BEARING, Plain, spherical (98349)	1	
-58	642-69	. . . . BODY, Rod end (Used on 642-63)	NP	
	NO NUMBER	. . . . BODY, Rod end (98349)	NP	
-59	642-62	. . ROD, Straight, threaded	1	
-60	195-594	BRACKET, Ball stud	1	
		(ATTACHING PARTS)		
-61	MS35296-115	. SCREW, Cap, hex hd	2	
-62	MS90726-113	. SCREW, Cap, hex hd	2	
-63	MS35338-48	. WASHER, Lock	4	
-64	MS51968-14	. NUT, Plain, hex	2	
		...*...		
-65	640-174	HOSE ASSEMBLY, Rubber	1	
-66	640-123	. HOSE ASSEMBLY, Rubber	1	
-67	640-176	. CYLINDER ASSEMBLY, Booster	2	
-68	219-27	STUD, Ball	5	
		(ATTACHING PARTS)		
-69	MS9245-49	. PIN, Cotter	1	
-70	COML	NUT, Castle, 3/4-16	1	
		...*...		
	640-62	. LINK ASSEMBLY, Cam	1	
		(ATTACHING PARTS)		
-71	MS51968-14	. NUT, Plain, hex	2	
-72	MS51968-14	. WASHER, Lock	2	
		----*----		
-73	642-135	. . JOINT, Ball	2	
-74	MS35691-37	. . NUT, Plain, hex	2	
-75	642-58	. . ROD, Stepped	1	
-76	642-55	BRACKET, Link	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-8-		(ATTACHING PARTS)		
-77	MS90726-62	. SCREW, Cap, hex hd	2	
-78	MS35338-46	. WASHER, Lock	2	
-79	MS51968-8	. NUT, Plain, hex	2	
		----*----		
-80	195-668	BRACKET, Ball stud	1	
		(ATTACHING PARTS)		
-81	MS35296-115	. SCREW, Cap, hex hd	2	
-82	MS35296-113	. SCREW, Cap, hex hd	2	
-83	MS35338-48	. WASHER, Lock	4	
-84	MS51968-14	. NUT, Plain, hex	2	
		----*----		
-85	MS15003-6	FITTING, Lubrication	1	
-86	247-22	PIN, Straight headed	1	
		(ATTACHING PARTS)		
-87	MS24665-518	. PIN, Cotter, 3/16 x 2-1/2	1	
-88	268-3	NUT, Castle	1	
-89	217-369	SPACER, Bell crank	AR	
		----*----		
	642-54	BELL CRANK, Steering	1	
-90	197-32	. . BUSHING, Sleeve	1	
-91	38-113	. . BELL CRANK	NP	
	640-68	LINK ASSEMBLY, Rear steer	1	
		(ATTACHING PARTS)		
-92	MS51968-14	. NUT, Plain, hex	2	
-93	MS35338-29	. WASHER, Lock	2	
		----*----		
-94	642-135	. . JOINT, Ball	2	
-95	MS35691-37	. . NUT, Plain, hex	2	
-96	642-67	. . ROD, Threaded end	1	
	640-67	LEVER, ASSEMBLY, Rear steer	1	
-97	642-78	. . KNOB	1	
-98	52-040-187-1375	. . PIN, Spring (72962)	1	
-99	642-73	. . LEVER, Rear steer	1	
-100	642-77	. . SHAFT, Rear steer	1	
-101	642-66	SHIELD, Cam and valve	1	
		(ATTACHING PARTS)		
-102	MS9072-6	. SCREW, Cap, hex hd	2	
-103	MS35338-44	. WASHER, Lock	2	
-104	MS35690-405	NUT, Plain, hex	2	
		----*----		
-105	640-61	CAM AND VALVE ASSEMBLY, Rear steer	1	
		(ATTACHING PARTS)		
-106	258-19	SCREW, Cap, hex hd	2	
-107	MS35338-29	. WASHER, Lock	2	
-108	MS51968-14	NUT, Plain, hex	2	
		----*----		
-109	814	KNOB, Spinner (05687)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-8-110	640-82	STEERING GEAR (Altered from 77640 P/N TA67363)	1	
		(ATTACHING PARTS)		
-111	MS90725-111	SCREW, Cap, hex hd	1	
-112	MS35295-114	SCREW, Cap, hex hd	1	
-113	MS35338-48	WASHER, Lock	2	
		----*----		
-114	404453	STEERING WHEEL (77915)	1	
4-9-	640-59	DRAG LINK ASSEMBLY, Front valve	REF	
-1	COML	ELBOW, Pipe, street, 3/8 NPT - 45°	3	
-2	COML	COUPLING, Pipe, 3/8 NPT	2	
-3	COML	NIPPLE, Pipe, 3/8 NPT x 1-1/2	1	
-4	COML	NIPPLE, Pipe, 3/8 NPT x 2	1	
-5	COML	PIN, Cotter, 1/8 x 2-1/2	2	
-6	MS15003-6	FITTING, Lubrication	2	
	403576A1-500	SOCKET AND CLAMP ASSEMBLY (77640)	1	
	475156A1	. . CLAMP ASSEMBLY, Loop	1	
-7	475156	. . . CLAMP, Loop (77640)	NP	
		(ATTACHING PARTS)		
-8	MS35296-116	. . . SCREW, Cap, hex hd	1	
-9	MS35338-48	. . . WASHER, Lock	1	
-10	MS51968-14	. . . NUT, Plain, hex	1	
		----*----		
	403576-500	. . SOCKET ASSEMBLY (77640)	1	
-11	403546	. . . PLUG, End (77640)	1	
-12	403489	. . . SEAT, Ball (77640)	2	
-13	401218	. . . SPRING, Helical, compression (77640)	1	
-14	403544	. . . SEAT, Spring (77640)	1	
-15	NO NUMBER	. . . HOUSING, Socket	NP	
	403572A1-425	SOCKET AND CLAMP ASSEMBLY (77640)	1	
	475156A1	. . CLAMP ASSEMBLY, Loop	1	
-16	475156	. . . CLAMP, Loop (77640)	NP	
		(ATTACHING PARTS)		
-17	MS35496-116	. . . SCREW, Cap, hex hd	1	
-18	MS35338-48	. . . WASHER, Lock	1	
-19	MS51968-14	. . . NUT, Plain, hex	1	
		---*---		
	403572-425	. . SOCKET ASSEMBLY (77640)	1	
-20	403690	. . . PLUG, End (77640)	1	
-21	403651	. . . SEAT, Ball (77640)	2	
-22	401266	. . . SPRING, Helical, compression (77640)	1	
-23	403178	. . . SEAT, Spring (77640)	1	
-24	NO NUMBER	. . . HOUSING, Socket	NP	
-25	642-39	ROD, Threaded end	1	
	V200014	VALVE ASSEMBLY (77640)	1	
	475149A1	. . CLAMP ASSEMBLY (77640)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABI ON COD
4-9-26	475149	. . . CLAMP, Loop (77640)	1	
		(ATTACHING PARTS)		
-27	021170	. . . SCREW, Cap, hex hd (77640)	1	
-28	028146	. . . WASHER, Lock (77640)	1	
-29	025073	. . . NUT, Plain, hex (77640)	1	
		----*----		
	V206001	. . REDUCER, End cover (77640)	1	
-30	402146	. . . PLUG, End cover (77640)	1	
-31	NO NUMBER	. . . REDUCER	NP	
-32	032187	. . PACKING, Preformed (77640)	1	
-33	V206002	. . COVER, End (77640)	1	
-34	V206000	. . RING, Retaining (77640)	2	
-35	028199	. . WASHER, Slotted (77640)	1	
-36	028198	. . WASHER, Flat (77640)	2	
-37	AN6227B20	. . PACKING, Preformed	2	
-38	AN6227B24	. . PACKING, Preformed	4	
-39	V205002	. . RETAINER, Packing (77640)	2	
-40	401176	. . SPRING, Helical, compression (77640)	2	
-41	V205502	. . RETAINER, Packing (77640)	2	
	V204002	. . SPOOL, Valve (77640)	NP	
-42	V204500	. . . PLUG, End (77640)	NP	
-43	NO NUMBER	. . . SPOOL	NP	
-44	036079	. . PLUG, Machine thread (77640)	1	
-45	AN6227B5	. . PACKING, Preformed	1	
-46	415039	. . SPRING, Helical, compression (77640)	1	
-47	400053	. . BALL, Bearing (77640)	1	
-48	V202012	. . BODY, Valve (77640)	NP	
4-10-	640-69	VALVE ASSEMBLY, Relief	REF	
-1	COML	BUSHING, Pipe, 1/2 NPT to 3/8 NPT	1	
-2	COML	ELBOW, Pipe, 3/8 NPT to 90°	1	
-3	COML	NIPPLE, Pipe, 3/8 NPT x 4	1	
-4	COML	PLUG, Pipe, 3/8 NPT	1	
-5	COML	ELBOW, Pipe, 3/8 NPT 45°	2	
-6	COML	CROSS, Pipe, 3/8 NPT	1	
-7	COML	NIPPLE, Pipe, 3/8 NPT x 1	1	
	1L31 P3-15S	. VALVE, Relief (96259)	1	
-8	162003	. . NUT, Plain, hex (96259)	NP	
-9	272001	. . BUSHING, Machine thread (96259)	NP	
-10	133117	. . PACKING, Preformed (96259)	NP	
-11	212054	. . PISTON, Adjusting (96259)	NP	
-12	131108	. . PACKING, Preformed (96259)	NP	
-13	101024	. . BALL, Bearing (96259)	NP	
-14	342016	. . SEAT, Spring (96259)	NP	
-15	331088	. . SPRING, Helical, compression (96259)	NP	
-16	212053	. . RESTRICTOR, Fluid flow (96259)	NP	
-17	134106	. . PACKING, Preformed (96259)	NP	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-10-18	141012	. . RETAINER, Packing (96259)	NP	
-19	132107	. . PACKING, Preformed (96259)	NP	
-20	974072	. . VALVE, Honed (96259)	NP	
-21	981051	. . VALVE BODY (96259)	NP	
4-11-	640-70	VALVE ASSEMBLY, Flow control	REF	
-1	195-915	BRACKET, Valve	1	
		(ATTACHING PARTS)		
-2	MS35296-34	. SCREW, Cap, hex hd	2	
-3	MS90726-41	. SCREW, Cap, hex hd	2	
-4	MS35338-45	. WASHER, Lock	4	
-5	MS35690-524	. NUT, Plain, hex	4	
		---*---		
-6	COML	TEE, Pipe, 3/8 NPT	1	
-7	COML	ELBOW, Pipe, street, 3/8 NPT 90°	1	
-8	COML	. BUSHING, Pipe, 1/2 NPT to 3/8 NPT	3	
	FM3-08P020-100-10	. VALVE, Flow control (62983)	1	
-9	230661	. . RING, Retaining (62983)	1	
-10	232795	. . VALVE ASSEMBLY (62983)	1	
-11	239766	. . SPRING, Helical, compression (62983)	1	
-12	NO NUMBER	. . VALVE BODY (62983)	NP	
4-12-	640-61	CAM AND VALVE ASSEMBLY, Rear steer	REF	
-1	MS9245-28	. PIN, Cotter	1	
-2	COML	PIN, Straight, headed, 3/8 x 1-1/4	1	
-3	MS9245-46	. PIN, Cotter	3	
-4	MS15795-819	. WASHER, Flat	1	
-5	642-50	LEVER, Rear steer valve	1	
-6	MS15003-6	. FITTING, Lubrication	2	
-7	642-44	PIN, Straight, headless	1	
	642-42	ROLLER AND BUSHING ASSEMBLY	1	
-8	642-43	. . ROLLER	NP	
-9	A560-7	. . BUSHING, Sleeve (70417)	1	
-10	642-40	LINK, Idler	1	
		(ATTACHING PARTS)		
-11	MS21044N8	. NUT, Self-locking, hex	1	
		---*---		
	642-46	CAM AND BUSHING ASSEMBLY	1	
		(ATTACHING PARTS)		
-12	MS21044N10	. NUT, Self-locking, hex	1	
		---*---		
-13	A714-4	. . BUSHING, Sleeve (70417)	2	
-14	642-45	. . CAM	NP	
-15	642-47	STUD, Shouldered	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	QTY PER ASSY	USABLE ON CODE
4-12-		(ATTACHING PARTS)		
-16	MS51968-20	. NUT, Plain, hex	1	
-17	MS35338-50	. WASHER, Lock ----*----	1	
-18	642-56	PIN, Shoulder, headless (ATTACHING PARTS)	1	
-19	MS51968-20	. NUT, Plain, hex	1	
-20	MS35338-50	. WASHER, Lock ----*----	1	
-21	642-49	SUPPORT, Cam and valve	1	
-22	6MA6UFS	ELBOW, Pipe (70434)	2	
-23	6MA4UFS	ELBOW, Pipe (70434)	2	
-24	4M6UFS	. UNION, Pipe (70434)	3	
-25	MS21083N12	. NUT, Plain, hex	2	
-26	218-8	SPRING, Helical, compression	2	
-27	642-57	ROD, Threaded end	1	
	475156A1	CLAMP ASSEMBLY, Loop	1	
-28	475156	. . CLAMP, Loop (77640) (ATTACHING PARTS)	1	
-29	MS35296-116	. . SCREW, Cap, hex hd	1	
-30	MS35338-48	. . WASHER, Lock	1	
-31	MS51968-14	. . NUT, Plain, hex ----*----	1	
-32	642-41	ADAPTER	1	
-33	218-12	SPRING, Helical, compression	1	
	640-64	VALVE ASSEMBLY	1	
-34	402156	. . BOOT, Dust and moisture seal (77640)	1	
-35	V166006	. . CAP, End (77640)	1	
	475148A1	. . CLAMP ASSEMBLY, Loop (77640)	1	
-36	475148	. . . CLAMP, Loop (77640) (ATTACHING PARTS)	NP	
-37	021175	. . . BOLT, Machine, hex hd (77640)	1	
-38	028038	. . . WASHER, Lock (77640)	1	
-39	025028	. . . NUT, Plain hex (77640) ----*----	1	
-40	V166005	. . CAP, End (77640)	1	
-41	V166003	. . RING, Retaining (77640)	2	
-42	032200-19	. . PACKING, Preformed (77640)	2	
-43	V165002	. . GLAND (77640)	2	
-44	032200-12	. . PACKING, Preformed (77640)	2	
-45	V164500	. . PLUG (77640)	1	
	642-65	. . SPOOL ASSEMBLY	1	
-46	247-34	. . . PIN, Taper	2	
-47	V164001	. . . SPOOL	NP	
-48	401186	. . SPRING, Helical, compression (77640)	1	
-49	642-70	. . RING, Reaction	1	
-50	V162506	. . BUSHING, Sleeve (77640)	1	
-51	V162507	. . SPACER, Sleeve (77640)	1	
-52	V162508	. . BUSHING, Sleeve (77640)	1	

Table 4-7. Illustrated Parts Braakdown (Cont)

FIGURE & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	QTY PER ASSY	USABLE ON CODE
4-12-53	V162515	. . SPACER, Sleeve (77640)	1	
-54	V162509	. . BUSHING, Sleeve (77640)	1	
-55	V162512	. . SLEEVE, Body (77640)	1	
-56	032200-5	. . PACKING, Preformed (77640)	1	
-57	036078	. . PLUG (77640)	1	
-58	040048	. . PIN, Straight, headless (77640)	1	
-59	415039	. . SPRING, Helical, compression (77640)	1	
-60	400053	. . BALL, Bearing (77640)	1	
-61	V162019	. . BODY, Valve (77640)	1	
4-13-	V214-5-1C12	PUMP, Centrifugal (62983)	REF	
-1	129343	COVER, Pump (62983)	1	
		(ATTACHING PARTS)		
-2	131485	SCREW, Cap, hex hd (62983)	4	
		---*---		
-3	237325	PACKING, Preformed (62983 and 63977) (KFP)	2	
-4	114139	SPRING, Helical, compression (62983)	1	
-5	131317	PLATE, Pressure (62983)	1	
-6	2161	PIN, Straight, headless (62983)	2	
-7	114173	RING, Rotor (62983) (KFP)	1	
-8	912031	KIT, Vane (62983) (KFP)	1	
-9	172302	ROTOR, Pump (62983) (KFP)	1	
-10	126315	MOUNTING, Pump (62983)	1	
		(ATTACHING PARTS)		
-11	1273	BOLT, Machine (62983)	2	
		---*---		
-12	109975	RING, Retaining (62983)	1	
-13	98574	BEARING, Ball, annular (62983)	1	
-14	5881	KEY, Machine (62983)	1	
-15	116644	SHAFT, Drive (62983)	1	
-16	229236	SEAL, Plain, encased (62983)	1	
-17	1703	BEARING, Ball, annular (62983)	1	
-18	119375	. BODY, Pump (62983)	1	
	912064	KIT, Cartridge (62983) (F)	1	
4-14-	640-176	CYLINDER ASSEMBLY, Booster	REF	
-1	600-6-4	ELBOW, Pipe (70434)	2	
-2	A878-6	. BUSHING, Pipe (70434)	2	
-3	MS28778-6	. PACKING, Preformed	2	
-4	MS15003-6	. FITTING, Lubrication	2	
-5	COML	. PIN, Cotter, 1/8 x 2-1/2	2	
	403576A1-400	. SOCKET AND CLAMP ASSEMBLY (77640)	1	
	475156A1	. . CLAMP ASSEMBLY, Loop	1	
-6	475156	. . . CLAMP, Loop (77640)	NP	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-14-		(ATTACHING PARTS)		
-7	MS35296-116	. . . SCREW, Cap, hex hd	1	
-8	MS35338-48	. . . WASHER, Lock	1	
-9	MS51968-14	. . . NUT, Plain, hex	1	
		----*----		
	403576-400	. . SOCKET ASSEMBLY (77640)	1	
-10	403546	. . . PLUG, End (77640)	1	
-11	403489	. . . SEAT, Ball (77640)	2	
-12	401218	. . . SPRING, Helical, compression (77640)	1	
-13	403544	. . . RETAINER, Spring (77640)	1	
-14	NO NUMBER	. . . HOUSING, Socket	NP	
-15	403387	SOCKET ASSEMBLY (77640)	1	
-16	403168	. . PLUG, End (77640)	1	
-17	403166	. . SEAT, Ball (77640)	2	
-18	401188	. . SPRING, Helical, compression (77640)	1	
-19	403164	. . RETAINER, Spring (77640)	1	
-20	403367	. . HOUSING, Socket (77640)	NP	
	C44522A1-1200	. CYLINDER, Booster (77640)	1	
	475152A1	. . CLAMP ASSEMBLY (77640)	1	
-21	475152	. . . CLAMP, Loop (77640)	1	
		(ATTACHING PARTS)		
-22	MS35296-167	. . . SCREW, Cap, hex hd	1	
-23	MS35338-50	. . . WASHER, Lock	1	
-24	MS51968-20	. . . NUT, Plain, hex	1	
		----*----		
-25	402199	. . COVER, End (77640)	1	
		(ATTACHING PARTS)		
-26	113956	. . SCREW, Machine, rd hd (77640)	4	
-27	103319	. . WASHER, Lock (77640)	4	
		...*...		
-28	401236	. . RING, Retaining (77640)	1	
	C445507S1	. . RETAINER AND SEAL ASSEMBLY (77640)	1	
-29	032225	. . . PACKING, Preformed (77640)	1	
-30	AN6227B19	. . . PACKING, Preformed	1	
-31	032201-8	. . . PACKING, Preformed (77640)	1	
-32	032254	. . . RING, Backup (77640)	1	
-33	C445507	. . . RETAINER, Seal (77640)	1	
	C444003A1-1856	. . PISTON AND ROD ASSEMBLY (77640)	1	
-34	C444102-1856	. . . ROD, Threaded end (77640)	1	
		(ATTACHING PARTS)		
-35	MS9245-66	. . . PIN, Cotter	1	
-36	MS21044N12	. . . NUT, Self-locking, hex	1	
		----*----		
-37	C446002	. . . RING, Piston (77640)	2	
-38	C444003	. . . PISTON (77640)	1	
-39	C443809A1-1843	. . CYLINDER (77640)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
1-15-	640-82	GEAR, Steering	REF	
	465379	BUTTON ASSEMBLY, Horn (77640)	1	
-1	450066	. . COVER, Button (77640)	1	
-2	450029	. . BUTTON, Horn (77640)	1	
-3	029037	. . CUP, Contact (77640)	1	
-4	401081	. . SPRING, Helical, compression (77640)	1	
-5	029031	. . CAP, Contact (77640)	1	
	451774-60	. . CABLE ASSEMBLY, Horn (77640)	1	
-6	032089	. . . TERMINAL (77640)	1	
-7	451987-60	. . . CABLE, Horn (77640)	1	
-8	051036	. . FERRULE, Insulating (77640)	1	
-9	454895	. . PLATE ASSEMBLY, Base (77640) (ATTACHING PARTS)	1	
-10	148595	. . SCREW, Wood (77640) ----*----	3	
-11	401082	. . SPRING, Helical, compression (77640)	1	
-12	029039	. . RETAINER, Spring (77640)	1	
-13	404453	WHEEL, Steering (77640)	REF	
-14	COML	. PLUG, Pipe, 3/8 NPT	2	
	TA665000S1	. COVER ASSEMBLY (77640) (ATTACHING PARTS)	1	
-15	MS90725-64	. SCREW, Cap, hex hd	6	
-16	MS90725-60	. SCREW, Cap, hex hd	4	
-17	MS35338-46	. WASHER, Lock ----*----	10	
-18	025031	. . NUT, Plain, hex (77640)	1	
-19	021065	. . SETSCREW (77640)	1	
-20	TA665000	. . COVER, Side (77640)	1	
-21	TA669000	. . GASKET, Cover (77640)	1	
	TA664000A1S-725	. LEVERSHAFT ASSEMBLY (77640)	1	
-22	E61P	. . NUT, Plain, hex (77640)	1	
-23	121326	. . WASHER, Lock (77640)	1	
	TA664000A1-725	. . LEVERSHAFT AND BEARING (77640)	1	
-24	044981	. . . BEARING AND STUD ASSEMBLY (77640)	2	
-25	TA664000-725	. . . LEVERSHAFT (77640)	1	
-26	434339-30	. ARM, Steering gear (77640)	1	
	8734-25-13-16	. TUBE AND COVER ASSEMBLY (77640)	1	
	096088S1-2525	. . TUBE ASSEMBLY (77640)	1	
	065996	. . . BEARING UNIT (77640)	1	
-27	401105	. . . . SPRING, Helical, compression (77640)	1	
-28	028104	. . . . SEAT, Spring (77640)	1	
-29	065997	. . . . BEARING (77640)	1	
-30	096088-25-1-4	. . . TUBE (77640)	NP	
-31	TA666000	. . COVER (77640)	1	
-32	033042	SHIM (77640)	AR	
-33	033036	SHIM (77640)	AR	
-34	033037	SHIM (77640)	AR	
	TA663001A1-3625	. CAM AND TUBE ASSEMBLY (77640)	1	
-35	C20	. . NUT, Plain, hex (77640)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-15-36	400005	. . RING, Retaining (77640)	2	
-37	400020	. . CUP, Bearing (77640)	2	
-38	AN216-3-24	. . BALL, Bearing (77640)	28	
-39	TA663001	. . CAM (77640)	NP	
-40	091120-2718	. . TUBE, Wheel (77640)	NP	
	640-84	HOUSING ASSEMBLY	NP	
-41	032164	. . SEAL, Oil (77640)	1	
-42	068006	. . BUSHING, Sleeve (77640)	2	
-43	402109A1-1300	. . COVER, End (77640)	1	
-44	641-33	. . HOUSING	NP	
4-16-	549-119	ELECTRICAL SYSTEM	REF	C1
	549-215	ELECTRICAL SYSTEM	REF	C2, D
-1	GJC7401S	GENERATOR, Engine accessory (19728)	1	
		(ATTACHING PARTS)		
-2	MS90726-36	. SCREW, Cap, hex hd	2	
-3	MS35338-45	. WASHER, Lock	2	
-4	MS35690-524	. NUT, Plain hex	2	
		----*----		
-5	2585165	WIRE, Spark plug, No. 1, 2, 5, and 6 (12204)	4	
-6	2585165	WIRE, Spark plug, No. 3 (12204)	1	
-7	2585165	WIRE, Spark plug, No. 4 (12204)	1	
-8	14R8	SPARK PLUG (19728)	6	
-9	P744 -	GASKET, 14MM (19728)	6	
-10	1889100	STARTER, Engine, electrical (74865)	1	
		(ATTACHING PARTS)		
-11	MS35690-724	. NUT, Plain, hex	2	
-12	MS35338-47	. WASHER, Lock	2	
		----*----		
-13	IAD4039-1	DISTRIBUTOR, Ignition system (19728)	1	
		(ATTACHING PARTS)		
-14	957471	SCREW, Assembled washer (19728)	1	
		----*----		
	119243	WIRE, High tension, coil to distributor (74865)	1	
	676872	TERMINAL, Distributor (74865)	2	
	211311	WIRE, Primary, coil to distributor (74865)	1	
	200156	TERMINAL LUG (74865)	1	
	200393	TERMINAL LUG (74865)	1	
-15	200622	. COIL, Ignition (19728)	1	
	MS35335-19	. WASHER, Lock	5	
	MS35338-32	. WASHER, Lock	6	
	MS35335-91	. WASHER, Lock	1	
	MS35338-26	. WASHER, Lock	2	
	MS35690-405	. NUT, Plain, hex	4	
	MS35650-102	. NUT, Plain, hex	2	
	MS35649-282	. NUT, Plain, hex	1	
	MS35295-10	. SCREW, Cap hex hd	2	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-16-		(ATTACHING PARTS)		
-16	MS51968-2	. NUT, Plain, hex	2	
-17	MS35338-6	. WASHER, Lock	2	
		....*...		
-18	1091629	CAPACITOR, Fixed, paper dielectric (12204)		
-19	2275590	RESISTOR, Primary (74865)	1	
-20	3161	STRAP, Retaining (13445)	2	
-21	3162	STRAP, Retaining (13445)	1	
		(ATTACHING PARTS)		
-22	COML	SCREW, Machine, rd hd, 10-32 x 3/4	1	
-23	MS35338-43	. WASHER, Lock	1	
-24	MS35690-101	. NUT, Plain, hex	1	
		....*....		
-25	1491	CLIP, Spring tension (71730)	8	
-26	540-14	WIRING HARNESS, Generator	1	
-27	540-20	WIRING HARNESS	1	C1
	540-84	WIRING HARNESS	1	C2, D
-28	540-21	WIRING HARNESS	1	D
	540-43	WIRING HARNESS	1	C1
	540-86	WIRING HARNESS	1	C2, D
-29	540-42	WIRING HARNESS	1	C1
	540-85	WIRING HARNESS	1	C2, D
-30	540-22	WIRING HARNESS	1	
-31	540-18	WIRING HARNESS	1	
-32	540-15	WIRING HARNESS	1	
-33	540-17	WIRING HARNESS	2	
-34	VB04202R	. REGULATOR, Engine generator (19728)	1	
		(ATTACHING PARTS)		
-35	MS90725-6	. SCREW, Cap, hex hd	3	
-36	MS35338-6	. WASHER, Lock	3	
-37	MS35690-404	. NUT, Plain, hex	3	
		....*....		
-38	120	CLAMP, Loop (76369)	1	C2, D
		(ATTACHING PARTS)		
-39	COML	. SCREW, Machine rd hd, 10-32 x 3/8	1	C2, D
-40	MS35650-302	. NUT, Plain, hex	1	C2, D
-41	MS35295-8	. SCREW, Cap hex hd	2	
	MS35335-32	. WASHER, Lock	1	C2, D
	COML	SCREW, Machine rd hd, 10-32 x 3/8	7	
	COML	SCREW, Machine rd hd, 1/4-20 x 1/2	1	
	COML	WASHER, Flat, 3/16	3	
		....*...		
-42	RAG4001	. RELAY, Solenoid (19728)	1	
	CS64-12-180Y3	. WIRE ASSEMBLY, Relay to relay	1	
		(ATTACHING PARTS)		
-43	MS35691-21	. NUT, Plain, hex, jam	1	
		....*....		
-44	1116781	RELAY, Solenoid (16764)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-16-45	CS66-16-300B3	. WIRE, Electrical, Horn button to relay	1	
		(ATTACHING PARTS)		
-46	MS35295-6	. SCREW, Cap, hex hd	2	
-47	MS35338-6	. WASHER, Lock	2	
-48	MS35690-404	. NUT, Plain, hex	2	
		----*----		
-49	540-82	WIRE, Electrical	1	
-50	9000304	HORN, Electrical (16764)	NP	C1
	9000514	HORN, Electrical (16764) (KF)	1	C2, D
		(ATTACHING PARTS)		
-51	MS35690-404	. NUT, Plain, hex	1	C1
	1958668	NUT, Special (16764) (KF)	1	C2, D
-52	MS35338-6	. WASHER, Lock	2	C1
	2965728	TERMINAL (16764) (KF)	1	C2, D
		----*----		
-53	1932029	BRACKET, Horn (16764)	NP	C1
	1958667	BRACKET, Horn (16764) (KF)	1	C2, D
		(ATTACHING PARTS)		
-54	MS90725-6	. SCREW, Cap, hex hd	2	C1
	MS90725-6	. SCREW, Cap, hex hd	1	C2, D
-55	MS35338-6	. WASHER, Lock	2	C1
	COML	WASHER, Lock, internal-external tooth, 1/4	1	C2, D
-56	MS35690-404	. NUT, Plain, hex	2	C1
	MS35690-405	. NUT, Plain, hex	2	C2, D
		----*----		
-57	7768	SWITCH, Beam selecting, headlamp (13445)	1	
		(ATTACHING PARTS)		
-58	COML	SCREW, Machine, rd hd, 1/4-20 x 3/4	2	
-59	COML	WASHER, Lock, internal-external tooth 1/4	2	
		----*----		
-60	8628	SWITCH, Pressure (13445)	1	
-61	873622	NUT, Lock (12603)	1	
-62	541-21	KNOB AND SWITCH ASSEMBLY, Gearshift	1	
-63	13904	SWITCH, Pressure (79575)	1	C2, D
64	1518767	TANK UNIT (70040)	1	
		(ATTACHING PARTS)		
-65	COML	. SCREW, Machine, rd hd, 10-32 x 3/8	5	
-66	MS35335-32	. WASHER, Lock	5	
		----*----		
-67	1515832	GASKET, Tank unit (70040)	1	
-68	M874-44	BLADE, Windshield wiper (60703)	2	
-69	88080-67	. ARM, Windshield wiper (60703)	2	
-70	CS67-16-250Y	. WIRE ASSEMBLY, Connector to wipers	2	
-71	MS35489-62	. GROMMET, Rubber		
-72	CS66-14-310Y	. WIRE, Electrical, wiper switch to connector	1	
-73	541-20	BRACKET AND MOTOR ASSEMBLY, Windshield wiper	2	C1
	541-27	BRACKET AND MOTOR ASSEMBLY, Windshield wiper	2	C2, D

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-16-		(ATTACHING PARTS)		
-74	MS90725-6	. SCREW, Cap, hex hd	4	
-75	MS35335-19	. WASHER, Lock	8	
-76	MS35690-405	. NUT, Plain, hex	4	
		—*—		
-77	200-2-6-049	. STOPLIGHT-TAILLIGHT, Vehicular (75 175)	1	
-78	195-896	BRACKET, Stoplight-taillight	1	
		(ATTACHING PARTS)		
-79	MS35295-6	. SCREW, Cap, hex hd	2	
-80	MS35335-19	. WASHER, Lock	4	
-81	MS35690-404	. NUT, Plain, hex	2	
		—*—		
-82	882-2-3-049	. FLOODLIGHT, Electric (75175)	1	
		(ATTACHING PARTS)		
-83	MS35295-6	. SCREW, Cap, hex hd	2	
-84	MS35335-19	. WASHER, Lock	4	
-85	MS35690-404	. NUT, Plain, hex	2	
		*——		
-86	195-529	BRACKET, Floodlight	1	
		(ATTACHING PARTS)		
-87	MS90725-8	. SCREW, Cap, hex hd	2	
-88	MS35335-19	. WASHER, Lock	4	
-89	MS35690-404	. NUT, Plain, hex	2	
		*——		
-90	275	SPOTLIGHT ASSEMBLY (78977)	1	
		(ATTACHING PARTS)		
-91	COML	SCREW, Machine, oval hd, 10-32 x 1	3	
-92	MS35338-43	. WASHER, Lock	4	
-93	MS35650-102	. NUT, Plain, hex	4	
		—*—		
-94	926470	HEADLIGHT ASSEMBLY (73331)	2	
-95	195-877	BRACKET, Headlight	2	
		(ATTACHING PARTS)		
-96	MS35296-34	. SCREW, Cap, hex hd	2	
-97	MS35335-34	. WASHER, Lock	2	
-98	MS35690-524	. NUT, Plain, hex	2	
		—*—		
-99	669-415	. HEATER, Vehicular compartment	1	
	CS57-16-70B	. WIRE ASSEMBLY, Heater switch to breaker	1	
	CS54-14-30M	. WIRE ASSEMBLY, Headlight connector to connector	1	
	CS66-16-50B	. WIRE ASSEMBLY, Headlight switch to connector	1	
	CS69-12-280G3	. WIRE ASSEMBLY, Relay to transmission	1	
	CS58-14-40M	. WIRE ASSEMBLY, Breaker to breaker	1	
	540-90	. WIRE ASSEMBLY	1	
	CS70-12-440G3	. WIRE ASSEMBLY, Shift switch to transmission	1	
	CS58-14-100P	. WIRE ASSEMBLY	1	
-100	530-14	. TUBE ASSEMBLY, Oil pressure gage	1	
	181D 1/8	. . NUT, Tube, coupling	2	
	188D 1/8P x 1/8T	. . ADAPTER, Straight	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-16-	FN04-02NB	. . ADAPTER, Straight	1	
	COML	. . TUBE, Copper 1/8 OD x 2	1	
	213-4FN	. . ADAPTER, Straight	1	
	44FNx48	. . HOSE ASSEMBLY, Rubber	1	
-101	859151	ADAPTER, Switch (70040)	1	
-102	7-8-4	LEAD, Electrical (71730)	1	
		(ATTACHING PARTS)		
-103	MS90726-60	. SCREW, Cap, hex hd	1	
-104	MS35335-12	. WASHER, Lock	2	
-105	MS35690-624	. NUT, Plain, hex	1	
		----*----		
-106	6-24	CABLE, Starter (71730)	1	
-107	540-13	CABLE, Starter	1	
-108	3238A	RETAINER, Battery (79550)	1	
-109	410911	CLIP	2	
		(ATTACHING PARTS)		
-110	MS35425-25	. NUT, Plain, wing	2	
-111	MS35690-604	. NUT, Plain, hex	4	
-112	MS35338-46	. WASHER, Lock	4	
-113	MS21306-1	. WASHER, Flat	2	
-114	192-187	STUD, Plain	2	
		----*----		
-115	24S70	BATTERY, Storage, 12V (81287)	1	C
	8D204	BATTERY, Storage, 12V (81287)	1	D
-116	541-3	TRAY, Battery	1	C
	651-1152	TRAY, Battery and hold down	1	D
		(ATTACHING PARTS)		
-117	COML	SCREW, Machine, truss hd, 5/16-18 x 1	2	
-118	MS35338-26	. WASHER, Lock	2	
-119	MS35690-505	. NUT, Plain, hex	2	
	549-2	HORN KIT (F)	1	C2
		----*----		
4-17-	IAD4039-1	DISTRIBUTOR, Ignition system (19728)	REF	
	IGC1107S	CAP, Ignition distributor (19728)	1	
-1	IG514	. . CONTACT, Plunger (19728)	1	
-2	IG515A	. . SPRING, Helical compression (19728)	1	
-3	NO NUMBER	. . CAP	NP	
-4	IGS1016B	ROTOR, Ignition distributor (19728)	1	
-5	IAD2015	PLATE, Seal (19728)	1	
	IAD2004	PLATE ASSEMBLY, Breaker (19728)	1	
		(ATTACHING PARTS)		
-6	8X2878	. SCREW, Machine, fillister hd (19728)	2	
-7	MS35333-5	. WASHER, Lock	2	
		---*---		
-8	MS35190-235	. . SCREW, Machine, hex hd	1	
-9	8X353	. . WASHER, Flat (19728)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-17-10	IG676	. . PLATE, Lock (19728)	1	
-11	IGS2224L	. . CONTACT SET, Breaker (19728)	1	
		(ATTACHING PARTS)		
-12	MS35265-40	. . SCREW, Machine, fillister hd	2	
-13	8X350	. . WASHER, Flat (19728)	1	
		.---*---.		
-14	IBB2042SS1	. . CAPACITOR, Fixed, paper (19728)	1	
		(ATTACHING PARTS)		
-15	8X1546	. . SCREW, Machine, fillister hd (19728)	1	
		.---*---.		
-16	8X301	. . SCREW, Machine, rd hd (19728)	1	
-17	12X194	. . WASHER, Flat (19728)	1	
-18	IAD1004	. . PLATE, Breaker (19728)	1	
-19	IGH28	WICK, Felt (19728)	1	
-20	IG680	. RING, Retaining (19728)	1	
-21	IAD1100RH	. CAM, Ignition distributor (19728)	1	
-22	IGS99	SPACER, Cam (19728)	1	
-23	IG636HS	. SPRING SET, Helical compression (19728)	1	
-24	IGC2168R	. WEIGHT, Governor (19728)	2	
-25	1678388	PACKING, Performed (74865)	1	
-26	IGS114	ARM, Advance (19728)	1	
		(ATTACHING PARTS)		
-27	MS90725-5	. SCREW, Machine, hex hd	1	
-28	12X199	WASHER, Lock (19728)	1	
-29	SW634	WASHER, Flat (19728)	1	
		.---*---.		
-30	X3859	PIN, Spring (19728)	1	
-31	IGB199	COLLAR, Shaft (19728)	1	
-32	IGS1113RE	. SHAFT, Drive (19728)	1	
-33	IA010	WASHER, Thrust (19728)	1	
-34	IA011	WASHER, Thrust (19728)	1	
-35	IG90	WASHER, Thrust (19728)	1	
	IAD2021	BASE ASSEMBLY, Distributor (19728)	1	
-36	8X173	. . NUT, Plain, hex (19728)	2	
-37	MS35335-32	. . WASHER, Lock	1	
-38	12X196	. . WASHER, Lock (19728)	1	
-39	8X3792	. . WASHER, Flat (19728)	1	
-40	IGL9	. . WASHER, Nonmetallic (19728)	1	
-41	IGL8B	. . SCREW, Machine, special (19728)	1	
-42	IAD7	. . TERMINAL, Lug (19728)	1	
-43	IAD8	. . PLATE, Insulator (19728)	1	
-44	IAD10	. . WASHER, Nonmetallic (19728)	1	
-45	8X1590	. . OILER, Self-feeding (19728)	1	
-46	IGS117	. . WICK, Felt (19728)	1	
-47	IG579A	. . BEARING, Sleeve (19728)	2	
-48	NO NUMBER	. . BASE, Distributor (19728)	NP	
-49	676872	TERMINAL	2	
-50	1345631	SLEEVE	1	
-51	1345632	WASHER	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-17-52	150834	NIPPLE	2	
-53	1109243	WIRE ASSEMBLY	1	
-54	211311	WIRE ASSEMBLY	1	
-55	200156	TERMINAL	1	
-56	200393	TERMINAL	1	
4-18-	GJC7401S	GENERATOR, Engine accessory (19728)	REF	
-1	1402510	PULLEY, Groove (74865)	1	
		(ATTACHING PARTS)		
-2	GBM21B	NUT, Plain, hex (19728)	1	
-3	12X864	WASHER, Lock (19728)	1	
		----*----		
-4	MS35756-8	. KEY, Woodruff, No. 5	1	
	GJC1111	END BELL, Electrical rotating equipment (19728)	1	
		(ATTACHING PARTS)		
-5	GY20S	KIT, Bolt (19728)	1	
-6	12X199	WASHER, Lock (19728)	2	
		----*----		
-7	GGW52	. . SCREW, Machine, rd hd (19728)	3	
-8	12X196	. . WASHER, Lock (19728)	3	
-9	GG164	. . WASHER, Felt (19728)	2	
-10	GJC27	. . RETAINER, Bearing (19728)	1	
-11	GEE27	. . GASKET, Retainer (19728)	1	
-12	X295	. . BEARING, Ball, annular (19728)	1	
-13	GBM128	. . RETAINER, Felt washer (19728)	2	
-14	X489	. . OILER, Self-feeding (19728)	1	
-15	GGW111	. . END BELL (19728)	NP	
-16	GR32	RETAINER (19728)	1	
-17	GAR171	. RING, Retaining (19728)	1	
-18	GJC2030F	. ARMATURE, Generator (19728)	1	
-19	1843156	BRUSH SET, Electrical contact (74865)	1	
		(ATTACHING PARTS)		
-20	8X305	SCREW, Machine, rd hd (19728)	2	
-21	12X195	WASHER, Lock (19728)	2	
		----*----		
	GJC2002	END BELL, Electrical rotating equipment (19728)	1	
-22	GJC35	. . ARM, Electrical brush (19728)	2	
-23	GJC42	. . SPRING, Brush (19728)	2	
-24	8X3279	. . OILER, Self-feeding (19728)	1	
-25	GJC46	. . WICK, Felt (19728)	1	
-26	GJC28	. . SPRING, Wick (19728)	1	
-27	GJC38A	. . BEARING, Sleeve (19728)	1	
-28	NO NUMBER	. . END BELL (19728)	NP	
-29	MS35107-26U	. SCREW, Machine, rd hd	1	
-30	12X196	WASHER, Lock (19728)	1	
	GJC2045	FRAME AND FIELD ASSEMBLY (19728)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-18-31	MN21	. . PIN, Dowel (19728)	2	
-32	8X1063	. . NUT, Plain, hex (19728)	2	
-33	12X199	. . WASHER, Lock (19728)	2	
-34	SW634	. . WASHER, Flat (19728)	1	
-35	8X1377	. . NUT, Plain, hex (19728)	2	
-36	12X196	. . WASHER, Lock (19728)	2	
-37	GGU31	. . WASHER, Flat (19728)	1	
-38	GGU30	. . INSULATOR, Washer (19728)	1	
-39	GGU32	. . INSULATOR, Bushing (19728)	2	
	GJC1005A	. . COIL ASSEMBLY, Field (19728)	1	
		(ATTACHING PARTS)		
-40	GK38C	. . SCREW, Machine, flat hd (19728)	1	
		---*---		
-41	GGU27	. . . STUD, Field terminal (19728)	1	
-42	GGU28	. . . STUD, Armature terminal (19728)	1	
-43	NO NUMBER	. . . SHOE, Pole	NP	
-44	GJC1008A	. . . COIL, Field, left (19728)	NP	
-45	GJC1007A	. . . COIL, Field, right (19728)	NP	
-46	NO NUMBER	. . FRAME (19728)	NP	
4-19-	1889100	STARTER, Electrical engine (74865)	REF	C, D
-1	1889363	END BELL, Electrical rotating equipment (74865)		
		(ATTACHING PARTS)		
-2	1889080	BOLT, Machine, hex hd (74865)	2	
-3	MS35337-63	. WASHER, Lock	2	
		---*---		
-4	NO NUMBER	. PAD, Felt (74865)	NP	
-5	NO NUMBER	. BUSHING, Sleeve (74865)	NP	
-6	2240529	WASHER, Thrust (74865)	AR	
	2084666	SPRING SET, Coil (74865)	1	
-7	636841	. . SPRING, Coil (74865)	NP	
-8	1889044	. HOLDER, Brush (74865)	1	
-9	MS35649-282	. NUT, Plain, hex	1	
-10	1889104	WASHER, Lock (74865)	1	
-11	2642222	RELAY-SOLENOID (74865)	1	
		(ATTACHING PARTS)		
-12	121832	SCREW, Machine, rd hd (74865)	1	
-13	121841	WASHER, Lock (74865)	1	
-14	180014	SCREW, Cap, hex hd (74865)	2	
-15	120380	WASHER, Lock (74865)	2	
		---*---		
-16	1889362	GROMMET, Rubber (74865)	1	
-17	1889152	SPRING, Helical, compression (74865)	1	
-18	1889151	CORE ASSEMBLY, Solenoid (74865)	1	
-19	1889147	BOOT, Dust and moisture seal (74865)	1	
	1889066	HOUSING ASSEMBLY, Pinion (74865)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-19-20	2098986	. . BUSHING, Sleeve (74865)	1	
-21	456098	. . PIN, Straight, headless (74865)	1	
-22	2084093	. . FORK, Shifting (74865)	1	
-23	2095752	. . HOUSING, Pinion (74865)	1	
-24	1752367	WASHER, Step (74865)	1	
-25	1752375	RING, Retaining (74865)	1	
-26	2448804	RING, Packing (74865)	1	
	2642506	CLUTCH ASSEMBLY (74865)	1	
-27	2095350	. . RING, Retaining (74865)	1	
-28	1889114	. . WASHER, Flat (74865)	1	
-29	1889133	. . SPRING, Helical, compression (74865)	1	
-30	2095188	. . PINION ASSEMBLY (74865)	NP	
-31	NO NUMBER	. BUSHING, Sleeve (74865)	NP	
-32	1889079	ARMATURE (74865)	1	
	1889065	FRAME AND FIELD ASSEMBLY (74865)	1	
-33	2240749	. . BRUSH (74865) (KF)	NP	
		(ATTACHING PARTS)		
-34	NO NUMBER	. . SCREW, Machine, phillips hd (74865)	NP	
		---*---		
-35	NO NUMBER	. . POLE SHOE (74865)	NP	
		(ATTACHING PARTS)		
-36	NO NUMBER	. . SCREW, Machine, flat hd (74865)	NP	
		...*...		
-37	2084088	. . COIL ASSEMBLY (74865)	1	
-38	NO NUMBER	. . FRAME (74865)	NP	
	2240529	KIT, Thrust washer (74865) (F)	1	
	2525529	KIT, Brush (74865) (F)		
4-20-	541-20	BRACKET AND MOTOR ASSEMBLY, Windshield Wiper	REF	C1
	WWC12J2655	. MOTOR, Windshield wiper, electric (01843)	NP	
		(For replacement order WWC12K2655)		
		(ATTACHING PARTS)		
-1	COML	SCREW, Machine, rd hd 1/4-28 x 5/8	3	
-2	COML	WASHER, Lock, external tooth, 1/4	3	
		---*---		
	CP7284	. . CAP ASSEMBLY, Commutator end (01843)	1	
		(ATTACHING PARTS)		
-3	SC30766	. . SCREW, Machine (01843)	2	
-4	WA5-4CA	. . WASHER, Lock (01843)	2	
-5	BR7210186	. . . BRUSH, Commutator (01843)	1	
-6	SP7233	. . . SPRING, Helical, compression (01843)	2	
-7	NO NUMBER	. . . CAP ASSEMBLY, Riveted (01843)	NP	
-8	DC721001	. . DISK, Thrust (01843)	1	
-9	DC722	. . DISK, Spring (01843)	1	
-10	AT721004	. . ARMATURE (01843)	1	
-11	BR7210186	. . BRUSH, Commutator (01843)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
1-20-12	NO NUMBER	. . HOUSING ASSEMBLY, Motor (01843)	NP	
-13	CW721001	. . CAPACITOR, Fixed, paper (01843)	1	
		(ATTACHING PARTS)		
-14	COML	. . SCREW, Machine, rd hd 8-32 x 5/16	2	
-15	COML	. . WASHER, Lock no. 8	2	
		---*---		
-16	COML	. . SCREW, Machine, rd hd 10-24 x 5/16	1	
-17	MS35338-43	. . WASHER, Lock	1	
-18	GA7221	. . GASKET, Capacitor (01843)	1	
-19	NO NUMBER	. . COVER, Radio shield (01843)	NP	
		(ATTACHING PARTS)		
-20	SC3055-1	. . SCREW, Machine, special (01843)	4	
		---*---		
-21	GA7220	. . GASKET, Cover (01843)	1	
-22	NO NUMBER	. . PLATE, Radio suppression (01843)	NP	
-23	NT1155	. . NUT, Extended washer, hex (01843)	1	
-24	WA1793	. . WASHER, Thrust (01843)	1	
-25	SH721070A	. . GEAR AND SHAFT ASSEMBLY (01843)	1	
-26	WA1794	. . WASHER, Flat (01843)	1	
-27	NO NUMBER	. . HOUSING ASSEMBLY, Drive end (01843)	NP	
-28	SP7211	. . CLIP, Retaining (01843)	2	
-29	WA1654	. . WASHER, Flat (01843)	2	
-30	LE721125A1	. . ARM ASSEMBLY, Drive (01843)	1	
-31	LE721014	. . LINK, Connector (01843)	1	
	88830-27J	. . BODY AND SHAFT ASSEMBLY (60703)	1	
		(ATTACHING PARTS)		
-32	COML	. . SCREW, Machine, rd hd 10-32 x 3/8	2	
-33	MS35338-15	. . WASHER, Lock	2	
		---*---		
-34	75206-2J	. . . NUT, Plain, cap (60703)	1	
-35	COML	. . . WASHER, Lock, internal star 5/16	1	
-36	86325-1J	. . . DRIVER (60703)	1	
-37	86509	. . . BOOT, Dust (60703)	1	
-38	80894-2MJ	. . . NUT, Plain, hex (60703)	1	
-39	82468-2J	. . . WASHER, Flat (60703)	1	
-40	82468-1	. . . WASHER, Nonmetallic (60703)	1	
-41	79025-37J	. . . PIN, Crank (60703)	1	
		(ATTACHING PARTS)		
-42	COML	. . . NUT, Plain, hex 1/4-20	1	
-43	COML	. . . WASHER, Lock, internal star 1/4	1	
		---*---		
-44	88830-27J	. . . SHAFT (60703)	1	
-45	195-1345	BRACKET, Windshield wiper	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-21-	541-27	BRACKET AND MOTOR ASSEMBLY, Windshield wiper . .	REF	C2, D
	WWC12K2655	. MOTOR, Windshield wiper, electric (01843)	1	
		(ATTACHING PARTS)		
-1	COML	. SCREW, Machine, rd hd 1/4-28 x 5/8	3	
-2	MS35335-19	. WASHER, Lock	3	
		----*--		
-3	CP721048A2	. . CAP, Motor (01843)	1	
		(ATTACHING PARTS)		
-4	SC3076-7	. . SCREW, Machine (01843)	2	
-5	WA5-4CA	. . WASHER, Lock (01843)	2	
		----*----		
-6	DC721001	. . DISK, Thrust (01843)	1	
-7	DC722	. . DISK, Spring (01843)	1	
-8	AT721062A	. . ARMATURE (01843)	1	
	BH721010A	. . PLATE ASSEMBLY, Commutator (01843)	1	
-9	BR7210186	. . . BRUSH, Commutator (01843)	2	
-10	SP7233	. . . SPRING, Helical, compression (01843)	2	
-11	NO NUMBER	. . . PLATE ASSEMBLY, Riveted (01843)	NP	
-12	NO NUMBER	. . HOUSING ASSEMBLY, Motor (01843)	NP	
-13	CW721001	. . CAPACITOR, Fixed, paper (01843)	1	
		(ATTACHING PARTS)		
-14	COML	. . SCREW, Machine, rd hd 8-32 x 5/16	2	
-15	MS35335-91	. . WASHER, Lock	2	
		----*----		
-16	COML	. . SCREW, Machine, rd hd 10-24 x 5/16	1	
-17	MS35338-43	. . WASHER, Lock	1	
-18	GA7221	. . GASKET, Capacitor (01843)	1	
-19	CV721009-1	. . COVER, Radio shield (01843)	1	
		(ATTACHING PARTS)		
-20	SC3055-1	. . SCREW, Machine, special (01843)	2	
-21	SC3055-2	. . SCREW, Machine, special (01843)	1	
		----*----		
-22	GA721005	. . GASKET, Cover (01843)	1	
-23	NO NUMBER	. . PLATE (01843)	NP	
	GE721018A4	. . GEAR AND SHAFT ASSEMBLY (01843)	1	
		(ATTACHING PARTS)		
-24	NT1155	. . NUT, Extended washer (01843)	1	
-25	WA1793	. . WASHER, Thrust (01843)	1	
		----*---		
-26	NO NUMBER	. . . NUT, Self-locking (01843)	NP	
-27	NO NUMBER	. . . GEAR, Helical (01843)	NP	
-28	NO NUMBER	. . . SHAFT (01843)	NP	
-29	WA1794	. . WASHER, Flat (01843)	1	
-30	NO NUMBER	. . HOUSING ASSEMBLY, Drive end (01843)	NP	
-31	SP7211	. . CLIP, Retaining (01843)	2	
-32	WA1654	. . WASHER, Flat (01843)	2	
-33	LE721125A1	. . ARM ASSEMBLY, Drive (01843)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-21-34	LK721014	. . LINK, Connector (01843)	1	
	NO NUMBER	. . BODY AND SHAFT ASSEMBLY (60703) (ATTACHING PARTS)	1	
-35	SC1427	. . SCREW, Assembled washer (01843)	2	
-36	MS35338-43	. . WASHER, Lock ...*...	2	
-37	75026-2	. . . NUT, Plain, cap (60703)	1	
-38	MS35334-20	. . . WASHER, Lock	1	
-39	86325-1	. . . DRIVER (60703)	1	
-40	86509	. . . BOOT, Dust (60703)	1	
-41	80894-2	. . . NUT, Plain, hex (60703)	1	
-42	82468-2R	. . . WASHER, Flat (60703)	1	
-43	82468-1	. . . WASHER, Nonmetallic (60703)	1	
-44	79025-37	. . . PIN, Crank (60703) (ATTACHING PARTS)	1	
-45	MS35690-404	. . . NUT, Plain	1	
-46	MS35334-1	. . . WASHER ----*----	1	
-47	88830-27	. . . SHAFT (60703)	1	
-48	195-1345	BRACKET. Windshield wiper	1	
4-22-	200-2-6-049	STOPLIGHT-TAILLIGHT, Vehicular (75 175) (See figure 16 for NHA)	REF	
-1	3286	LENS, Taillight (75175) (ATTACHING PARTS)	1	
-2	31875	SCREW, Machine (75175) ...*...	2	
-3	1034	LAMP, Incandescent (24446)	1	
-4	35378	CLIP, Retaining (75175)	1	
-5	35377	LENS, License plate (75175)	1	
-6	35376	GASKET, Lens (75175)	1	
-7	88135	LEAD ASSEMBLY (75175)	1	
-8	87676	BODY ASSEMBLY (75175)	1	
4-23-	882-2-3-049	FLOODLIGHT, Electric (75175)	REF	
-1	32506	DOOR, Lamp (75175) (ATTACHING PARTS)	1	
-2	MS24629-26	. SCREW, Machine ----*----	1	
-3	32420	CLIP, Lamp (75175)	3	
-4	32419	BAR, Grounding (75175)	1	
-5	4411	LAMP, Incandescent (24446)	1	
-6	32575-1	BRACKET, Mounting (75175) (ATTACHING PARTS)	1	
-7	6485	NUT, Plain, hex (75175)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-23-8	6853	WASHER, Lock (75175)	1	
		---*---		
-9	9565	WIRE ASSEMBLY (75175)	1	
-10	87781-5	HOUSING, Floodlight (75175)	1	
4-24-	926470	HEADLIGHT (73331)	REF	
-1	271501	. NUT, Plain, hex (73331)	1	
-2	AN935-716	. WASHER, Lock (73331)	1	
-3	912663	WASHER, Special (73331)	1	
-4	918526	WASHER, Special (73331)	1	
	5933771	RIM ASSEMBLY, Headlight (73331)	1	
-5	922690	. . SCREW, Machine (73331)	1	
-6	NO NUMBER	. . RIM, Headlight (73331)	NP	
-7	5934150	RETAINER, Lamp (73331)	1	
		(ATTACHING PARTS)		
-8	924552	SCREW, Machine (73331)	3	
		---*---		
-9	5956007	LAMP, Incandescent (73331)	1	
-10	5937134	WIRING ASSEMBLY (73331)	1	
-11	5937133	BODY ASSEMBLY (73331)	NP	
4-25-	275	SPOTLIGHT ASSEMBLY (78977)	REF	
	6701	HANDLE AND HOUSING ASSEMBLY (78977)	1	
	6750	. HANDLE ASSEMBLY (78977)	1	
-1	6350A	. . . HANDLE, Lower (78977)	1	
		(ATTACHING PARTS)		
-2	COML	. . . SCREW, Machine, oval hd 6-32 x 1-1/2	1	
		---*---		
-3	6450	. . . HANDLE, Upper (78977)	1	
		(ATTACHING PARTS)		
-4	MS51968-8	. . . NUT, Plain, hex	1	
-5	MS35335-35	. . . WASHER, Lock	1	
		---*---		
-6	3089	. . . WASHER, Nonmetallic (78977)	1	
-7	6123	. . . ADAPTER, Handle (78977)	1	
-8	6122	. . . PINION, Handle (78977)	1	
-9	6051A	. . SCREW, Machine, special (78977)	1	
-10	6151	. . TOGGLE, Switch (78977)	1	
-11	6002	. . CAP, Switch (78977)	1	
		(ATTACHING PARTS)		
-12	6030	. . SCREW, Machine, special (78977)	2	
		---*---		
-13	6453E	. . SWITCH, Trigger (78977)	1	
-14	6405	. . GEAR, Worm (78977)	1	
-15	COML	. . SCREW, Machine, oval hd 6-32 x 5/16	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
1-25-16	3035A	. . NUT, Plain, hex (78977)	1	
-17	6035	. . WEDGE (78977)	1	
-18	6010	. . STRAP, Retaining (78977)	1	
		(ATTACHING PARTS)		
-19	3039	. . SCREW, Machine, special (78977)	2	
		----*----		
-20	6001	. . HOUSING, Handle (78977)	1	
	6570U12	HEAD ASSEMBLY (78977)	1	
-21	6295	. . ORNAMENT (78977)	1	
		(ATTACHING PARTS)		
-22	6296	. . SCREW, Tapping (78977)	1	
		....*....		
-23	6467U	. . RING, Head (78977)	1	
		(ATTACHING PARTS)		
-24	6471	. . SCREW, Machine, special (78977)	1	
		---*---		
-25	6498	. . SPRING, Lock (78977)	4	
-26	6446A	. . LAMP, Incandescent (78977)	1	
-27	6403A	. . POST ASSEMBLY, Head (78977)	1	
		(ATTACHING PARTS)		
-28	MS35691-21	. . NUT, Plain, hex	1	
-29	MS35335-35	. . WASHER, Lock	1	
		----*----		
-30	6421	. . BUSHING, Hd, post (78977)	1	
-31	6473	. . SPRING, Helical, compression (78977)	1	
-32	3026	. . WASHER, Nonmetallic (78977)	1	
-33	6568U	. . SHELL, Lamp (78977)	1	
-34	6424	PLUG, Housing (78977)	1	
		(ATTACHING PARTS)		
-35	6441	. SCREW, Machine (78977)	1	
-36	MS3567 1-23	. PIN, Grooved, headless	1	
-37	6141B	SETSCREW (78977)	1	
-38	6427B	TUBE AND GEAR (78977)	1	
-39	6100	HOUSING, Head (78977)	1	
		(ATTACHING PARTS)		
-40	COML	SCREW, Machine, oval hd 6-32 x 5/16	1	
-41	6040A	SCREW, Machine (78977)	1	
		....*...		
-42	6428B	TUBE, Intermediate (78977)	1	
-43	6029B	TUBE, Outside (78977)	1	
		(ATTACHING PARTS)		
-44	MS90725-7	. SCREW, Cap, hex hd	1	
		----*----		
-45	3062	FELT, Preformed (78977)	1	
-46	7026	WASHER, Nonmetallic (78977)	1	
-47	100	BRACKET, Mounting (78977)	1	
		(ATTACHING PARTS)		
-48	COML	. SCREW, Machine, pan hd 10-32 x 1-1/4	4	
-49	MS35338-43	. WASHER, Lock	4	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	QTY PER ASSY	USABLE ON CODE
4-25-50	MS35650-302	. NUT, Plain ---*---	4	
-51	7S	BRACKET, Spotlight (78977) (ATTACHING PARTS)	1	
-52	MS90725-10	. SCREW, Cap, hex hd ---*---	1	
-53	7015	GASKET (78977)	1	
4-26-	530-12	INSTRUMENT PANEL (ATTACHING PARTS)	1	
-1	MS90725-32	. SCREW, Cap, hex hd	2	
-2	MS35335-34	WASHER, Lock	4	
-3	MS35295-6	. SCREW, Cap, hex hd	2	
-4	MS35335-19	. WASHER, Lock	4	
-5	MS35690-404	. NUT, Plain, hex ---*---	2	
-6	60-1	. . RUBBER, Special shaped section	1	
-7	305-32	. . PLATE, Identification	1	
-8	531-4	. . HOUSING, Instrument panel	NP	
-9	1461C	CONNECTOR, Receptacle, electrical (71730)	7	
	1461B	CONNECTOR, Receptacle, electrical	14	
-10	541-2	SOCKET AND LEAD	4	
-11	1584145	SOCKET AND LEAD (70040)	1	
-12	53	LAMP, Incandescent, 12V (24446)	5	
-13	530-7650	SHAFT ASSEMBLY, Flexible	1	
-14	217-459	SPACER, Sleeve (ATTACHING PARTS)	6	
-15	MS35649-202	. NUT, Plain, hex	1	
-16	MS35335-32	. WASHER, Lock ---*---	1	
-17	6406645	CLUSTER, Gage (70040)	1	
-18	1582657	SPEEDOMETER (70040)	1	
-19	5050	SWITCH, Push-pull (13445)	1	
-20	SW701	SWITCH, Wiper (01843)	1	
-21	1116543	SWITCH, Lock, ignition (16764)	1	
-22	71016	SWITCH, Push-pull (13445)	1	
-23	30055-15	CIRCUIT BREAKER, 15 Amp (13445)	1	
-24	30055-30	CIRCUIT BREAKER, 30 Amp (13445) (ATTACHING PARTS)	1	
-25	COML	. SCREW, Machine, rd hd, 10-32 x 3/8	2	
-26	MS35335-32	. WASHER, Lock	4	
-27	MS35650-102	NUT, Plain, hex ---*---	2	
-28	CS58-14-50BL	. WIRE ASSEMBLY	1	
-29	CS54-16-20B	. WIRE ASSEMBLY	2	
-30	CS64-12-60W	. WIRE ASSEMBLY	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	QTY PER ASSY	USABLE ON CODE
4-26-31	CS64-10-70W	. WIRE ASSEMBLY	1	
	CS66-16-60B	. WIRE ASSEMBLY, Heater switch to connector	1	
	CS57-14-110Y	. WIRE ASSEMBLY, Heater switch to circuit breaker	1	
-32	CS57-14-70BL	. WIRE ASSEMBLY	1	
-33	CS57-14-70B	. WIRE ASSEMBLY	1	
-34	551-11	CONTROL ASSEMBLY, Push-pull	1	
4-27-	669-415	HEATER, Vehicular compartment	REF	
-1	5912	CLAMP, Hose (81646)	1	
-2	669-410	HOSE, Air duct	1	
-3	60396G1	ELBOW, Rubber (46522)	1	
	60076G1	HEATER, Vehicular compartment (46522)	1	
-4	60600G1	. . FRONT ASSEMBLY (46522)	1	
		(ATTACHING PARTS)		
-5	1061-0006-06-13	. . SCREW, Machine (46522)	4	
		---*---		
	60048G1-1	. . . FRONT SUBASSEMBLY (46522)	1	
	60043G1-1	. . . DOOR ASSEMBLY (46522)	1	
-6	45-5618-13	. . NUT, Plain, hex (46522)	3	
-7	565613	. . WASHER, Lock (46522)	3	
-8	60526G1	. . CORE ASSEMBLY (46522)	1	
-9	60000G11	. . IMPELLER, Fan, centrifugal (46522)	1	
		(ATTACHING PARTS)		
-10	3180-1032-04-12	. . SETSCREW (46522)	1	
		---*---		
-11	60455G1-2	. . PANEL, Bottom (46522)	1	
-12	60529G2	. . MOTOR, Direct current (46522)	1	
		(ATTACHING PARTS)		
-13	MS35649-282	. . NUT, Plain, hex	2	
-14	MS35338-42	. . WASHER, Lock	2	
		---*--		
-15	60828G1	. . GROMMET, Rubber (46522)	1	
-16	60481G1	. . SWITCH, Rotary (46522)	1	
-17	51020	. . PLUG, Expansion (61864)	1	
	60527G1-2	. . CASING ASSEMBLY, Back (46522)	1	
-18	60487G1	. . . DOOR, Side (46522)	2	
		(ATTACHING PARTS)		
-19	COML	. . . RIVET, Split 1/8 x 3/8	2	
		---*---		
-20	NO NUMBER	. . . CASING ASSEMBLY, Weldment (46522)	NP	
-21	60453G1	. . VALVE, Shut-o ff (46522)	1	
-22	60509G1	. . CLAMP, Hose (46522)	4	
-23	669-48	HOSE, Rubber	1	
-24	669-49	HOSE, Rubber	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-28-	559-12	FUEL SYSTEM	REF	
-1	48W1/8PX5/16T	. ADAPTER, Straight, Pipe to tube (30327)	1	
-2	100B1-4	ELBOW, Pipe (30327)	1	
-3	COML	Plug, Pipe, 1/2 NPT	1	
	551-8	TANK ASSEMBLY, Fuel, engine	1	
		(ATTACHING PARTS)		
-4	551-7	STRAP, Fuel tank	2	
-5	COML	NUT, Self-locking, hex, 5/16-18	4	
		----*----		
-6	CC497	. . CAP, Fuel tank (81118)	1	
-7	4312	. . TANK, Fuel	NP	
-8	120	CLAMP, Loop (76369)	2	
		(ATTACHING PARTS)		
-9	COML	. SCREW, Machine, rd hd, 10-32 x 1	1	
-10	MS35338-43	. WASHER, Lock	1	
-11	MS35650-302	. NUT, Plain, hex 10-32	1	
		----*----		
-12	551-12	TUBE ASSEMBLY	1	
	41W5/16	. . COUPLING, Tube	2	
	NO NUMBER	. . TUBE, Steel 5/16 od x .028 x 53	NP	
-13	103B1/8	ADAPTER, Straight, pipe to hose (30327)	1	
-14	U12FT	. HOSE ASSEMBLY, Rubber (30327)	1	
-15	49W1/8PX1/4T	. ELBOW, Pipe (30327)	1	
-16	M857SA	PUMP ASSEMBLY, Fuel (71500)	1	
		(ATTACHING PARTS)		
-17	MS90725-35	. SCREW, Cap, hex hd	2	
-18	MS35338-45	. WASHER, Lock	2	
		...*...		
-19	1738429	AIR CLEANER, Intake (12204)	1	
-20	952062	GASKET, Air cleaner (12204)	1	
-21	E7T2	CARBURETOR ASSEMBLY, Float (71500)	1	
		(ATTACHING PARTS)		
-22	113247	STUD (74865)	1	
-23	564375	STUD (74865)	1	
-24	MS35338-46	. WASHER, Lock	2	
-25	MS51968-5	. NUT, Plain, hex	2	
		----*---		
-26	22835	GASKET, Carburetor (75300)	1	
-27	650-238D	GOVERNOR, Engine (75300)	1	
-28	562221	GASKET, Governor (74865)	1	
-29	920248	ADAPTER, Governor (74865)	1	
		(ATTACHING PARTS)		
-30	133906	SCREW, Machine (74865)	1	
-31	133911	SCREW, Machine (74865)	1	
		----*----		
-32	662811	GASKET, Adapter (74865)	1	
	550-10	LINK ASSEMBLY, Throttle	1	
		(ATTACHING PARTS)		
-33	MS51968-2	. NUT, Plain, hex	2	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-28-34	MS35338-6	WASHER, Lock	2	
		-*-		
-35	B107	BALL JOINT (78643)	2	
-36	MS51968-2	NUT, Plain, hex	2	
-37	551-10	ROD, Threaded end	1	
-38	218-378	SPRING, Helical, extension	1	
-39	192-755	LEVER, Cross shaft	2	
		(ATTACHING PARTS)		
-40	MS35295-12	SCREW, Cap, hex hd	1	
-41	MS35338-6	WASHER, Lock	1	
-42	MS51968-2	NUT, Plain, hex	1	
-43	COML	SETSCREW, 5/16-18 x 1/2	1	
		-*-		
-44	217-354	SPACER, Sleeve	2	
-45	205-73	SHAFT, Straight, headless	1	
-46	195-823	BRACKET, Throttle	1	
		(ATTACHING PARTS)		
-47	MS35295-6	SCREW, Cap, hex hd	4	
-48	MS35338-6	WASHER, Lock	4	
-49	MS35690-404	NUT, Plain, hex	4	
		-*-		
	550-9	LINK ASSEMBLY, Pedal	1	
		(ATTACHING PARTS)		
-50	MS51968-2	NUT, Plain, hex	2	
-51	MS35338-6	WASHER, Lock	2	
		-*-		
-52	B107	BALL JOINT (78643)	2	
-53	MS51968-2	NUT, Plain, hex	2	
-54	551-9	ROD, Threaded end	1	
-55	631-23	PEDAL, Control	1	
		(ATTACHING PARTS)		
-56	MS9245-45	PIN, Cotter	2	
-57	247-3398	PIN, Straight, headless	1	
		-*-		
-58	631-24	PLATE, Hinge	1	
		(ATTACHING PARTS)		
-59	MS35295-6	SCREW, Cap, hex hd	2	
-60	MS35338-6	WASHER, Lock	2	
-61	MS35690-404	NUT, Plain, hex	2	
		-*-		
-62	1075152	ELBOW (74865)	1	
-63	687687	LINE ASSEMBLY, Gas (74865)	1	
-64	137406	CONNECTOR (74865)	1	
-65	1313836	GASKET (74865)	1	
-66	1316664	LINE ASSEMBLY, Flex (74865)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	QTY PER ASSY	USABLE ON CODE
4-29-	M857SA	PUMP ASSEMBLY, Fuel (71500)	REF	
	NO NUMBER	. SHIELD AND LINE ASSEMBLY, Fuel pump (74865)	NP	
-1	1071656	. . SHIELD, Heat (74865)	1	
		(ATTACHING PARTS)		
-2	MS35426-1	. . NUT, Plain, wing	1	
-3	86-9	. . WASHER, Lock (71500)	1	
		----*----		
-4	M71A32	. . STUD, Heat shield (71500)	1	
		(ATTACHING PARTS)		
-5	M105A39	. . NUT, Plain, hex (71500)	2	
-6	86-9	. . WASHER, Lock (71500)	1	
		----*----		
-7	M121-133	GASKET (71500) (KF)	1	
-8	M150A18	CLIP, Spring (71500)	1	
-9	11B29	PLUG (71500) (KF)	1	
-10	M150-152	PIN, Straight, headless (71500)	1	
-11	M177-63	LEVER, Cam (71500)	1	
-12	M61-415	SPRING, Helical, compression (71500) (KF)	1	
-13	M0764	BODY, Pump (71500)	1	
		(ATTACHING PARTS)		
-14	M101-303S	. SCREW AND WASHER ASSEMBLY (71500)	5	
		----*----		
-15	M203-16S	DIAPHRAGM ASSEMBLY (71500) (KF)	1	
-16	M80-326S	HOUSING ASSEMBLY (71500)	1	
		(ATTACHING PARTS)		
-17	M101-265S	. SCREW AND LOCKWASHER ASSEMBLY (71 500)	2	
		----*----		
-18	M203-38	DIAPHRAGM (71500) (KF)	1	
-19	F63-146S	RETAINER AND SCREW ASSEMBLY (7 1500)	1	
-20	F2341	BOWL, Filter (71500)	1	
-21	F61-621	SPRING, Helical, compression (71500)	1	
-22	F30-60	ELEMENT, Filter (71500)	1	
-23	F23A20	GASKET, Filter (71500)	1	
-24	M118-94	. HOUSING (71500)	1	
	1450023	PARTS KIT, Fuel pump (74865) (F)	1	
4-30-	E7T2	CARBURETOR ASSEMBLY, Float (71500)	REF	
-1	224549	SCREW, Machine (74865)	1	
-2	105A8	NUT, Plain, square (71500)	1	
-3	62-77S	BRACKET, Choke tube (71500)	1	
		(ATTACHING PARTS)		
-4	105-11	SCREW, Machine (71500)	2	
		----*----		
-5	61-119	SPRING, Helical, extension (71500)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
1-30-6	7-105S	VALVE, Choke (71500)	1	
		(ATTACHING PARTS)		
-7	39-11	SCREW, Machine (71500)	2	
		----*----		
-8	14-292S	LEVER ASSEMBLY, Choke (71500)	1	
-9	6-637S	HORN ASSEMBLY, Air (71500)	1	
		(ATTACHING PARTS)		
-10	101-150S	SCREW AND WASHER ASSEMBLY (71500)	4	
		----*----		
-11	121-69	GASKET, Air horn (71500) (KF)	1	
-12	63-24	RETAINER, Pin (71500) (KF)	1	
-13	24-23	PIN, Straight, headless (71500)	1	
-14	21-123S	FLOAT (71500)	1	
-15	123-31S	TUBE, Idle orifice (71500) (KF)	1	
-16	160-46S	PISTON ASSEMBLY, Step-up (71500) (KF)	1	
-17	20-146	GASKET (71500)	1	
-18	61-135	SPRING, Helical, compression (71500) (KF)	1	
-19	149-56S	JET, Step-up (71500) (KF)	1	
-20	20-51	GASKET (71500) (KF)	1	
-21	150A13	CLIP, Spring (71500) (KF)	1	
-22	117-62	LINK, Pump (71500) (KF)	1	
-23	63-46	RETAINER, Spring (71500)	1	
-24	117-70	LINK, Pump (71500) (KF)	1	
-25	61-145	SPRING, Helical, compression (71500) (KF)	1	
-26	64-60S	PLUNGER ASSEMBLY, Pump (71500) (KF)	1	
-27	61-157	SPRING, Plunger (71500)	1	
-28	63-37	RING, Retaining (71500) (KF)	1	
-29	116-13	BALL, Bearing (71500) (KF)	1	
-30	11B17	PLUG Check (71500)	1	
-31	116-18	BALL, Bearing (71500) (KF)	1	
-32	11B138	PLUG (71500) (KF)	1	
-33	48-75	JET, Pump (71500)	1	
-34	224-13S	JET, Metering, standard (71500) (KF)	1	
	224-14S	JET, Metering, 5% lean (71500)	AR	
	224-15S	JET, Metering. 10% lean (71500)	AR	
	224-12S	JET, Metering, 15% lean (71500)	AR	
-35	651183	GASKET (74865)	1	
-36	25-350S	NEEDLE AND SEAT ASSEMBLY (7 1500) (KF)	1	
-37	20-31	GASKET (71500)	1	
-38	11B103	PLUG (71500) (KF)	1	
-39	145-13	TUBE, Vent (71500) (KF)	1	
-40	NO NUMBER	. BODY, Carburetor (71500)	NP	
		(ATTACHING PARTS)		
-41	101-145S	SCREW AND WASHER ASSEMBLY (71500)	2	
		----*----		
-42	121-160	GASKET (71500) (KF)	2	
-43	183-64	INSULATOR (71500)	1	
-44	11B108	PLUG (71500) (KF)	1	
-45	30A37	SCREW, Idle adjustment (71500)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-30-46	61-84	SPRING, Helical, compression (71500)	1	
-47	101279	SCREW, Machine (74865)	1	
-48	4-431S	LEVER, Throttle (71500)	1	
		(ATTACHING PARTS)		
-49	101-164	SCREW, Machine (71500)	1	
-50	105A28	NUT, Plain, square (71500)	1	
		----*----		
-51	2-87	VALVE, Throttle (71500)	1	
		(ATTACHING PARTS)		
-52	39-11	SCREW, Machine (71500)	2	
		----*----		
-53	3-452S	LEVER ASSEMBLY, Throttle (71500)	1	
-54	1-1164S	. FLANGE (71500)	1	
	1534P	PARTS KIT, Carburetor (71500) (F)	1	
4-31-	650-238D	GOVERNOR, Engine (75300)	REF	
-1	22032	COVER, Body (75300)	1	
		(ATTACHING PARTS)		
-2	H6321	SCREW, Machine (75300)	1	
-3	21124	SCREW, Drive (75300)	1	
		----*----		
-4	27894	GASKET, Cover (75300)	1	
-5	25055	VALVE (75300)	1	
		(ATTACHING PARTS)		
-6	25590	SCREW, Machine (75300)	2	
-7	25600	WASHER, Lock (75300)	2	
		----*----		
-8	22027	CLIP, Spring (75300)	1	
	27656	SHAFT AND BEARING ASSEMBLY (75300)	1	
-9	22110	. . CLIP, Spring (75300)	1	
	27657	. . SHAFT ASSEMBLY (75300)	1	
-10	22026	. . . PIN, Cam (75300)	1	
-11	27586	. . . CAM (75300)	1	
-12	24896	. . . SHAFT, Valve (75300)	1	
-13	24891	. . BEARING, Roller (75300)	1	
-14	22311	CAP, Adjusting screw (75300)	1	
	25072-9	SCREW ASSEMBLY, Speed adjusting (75300)	1	
-15	23908-9	. . BUSHING (75300)	1	
-16	24924-10	. . SCREW, Adjusting (75300)	1	
-17	24903	SPRING ASSEMBLY (75300)	1	
-18	23927	PLUG (75300)	1	
	27158	PISTON ASSEMBLY (75300)	1	
-19	22027	. . CLIP, Spring (75300)	1	
-20	24918	. . PISTON (75300)	1	
-21	25088	. . ROD, Piston (75300)	1	
	27095	BODY ASSEMBLY (75300)	1	
-22	25512	. . PLUG (75300)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
1-31-23	24891	. . BEARING, Roller (75300)	1	
-24	22107	. . COVER, Filler (75300)	2	
-25	22108	. . DISK (75300)	1	
-26	27084	. . BODY (75300)	1	
1-32-	529-14	COOLING SYSTEM	REF	
-1	COML	ADAPTER, Pipe to tube 1/2 NPT x 1/2	1	
-2	COML	ELBOW, Pipe 3/8 NPT x 90°	1	
-3	A40	CLAMP, Hose (14608)	2	
-4	SF84	HOSE, Rubber (83397)	1	
-5	A30	CLAMP, Hose (14608)	1	
-6	521-55	HOSE, Rubber	2	
-7	521-48	TUBE, Connector	1	
-8	103647	COCK, Drain (74865)	1	
	521-50	RADIATOR, Engine coolant	1	
		(ATTACHING PARTS)		
-9	MS35295-32	. SCREW, Cap, hex hd	4	
-10	MS27183-13	. WASHER	4	
-11	MS35338-45	. WASHER, Lock	4	
-12	MS15795-213	. WASHER, Flat	4	
-13	MS51967-5	. NUT, Plain, hex	4	
-14	MS90726-64	. SCREW, Cap, hex hd, 3/8-24 x 1-1/2	2	
-15	MS27183-14	. WASHER, Flat, 3/8	2	
-16	238-3715	WASHER, Flat	2	
-17	COML	NUT, Self-locking, hex, 3/8-24	2	
		----*----		
-18	AAX0005	. . CAP, Radiator (78225)	1	
-19	NO NUMBER	. . RADIATOR	NP	
1-33-	NO NUMBER	COOLING GROUP, Engine	REF	
-1	1507129	FAN, Engine cooling (12204)	1	
		(ATTACHING PARTS)		
-2	180084	SCREW, Cap, hex hd (74865)	4	
-3	120214	WASHER, Lock (74865)	4	
		----*----		
-4	1116202	BELT, V (74865)	1	
-5	1566943	PULLEY, Groove (74865)	1	
-6	1639944	HUB, Fan (12204)	1	
		(ATTACHING PARTS)		
-7	136301	PIN, Straight, headless (12204)	1	
		----*----		
-8	918494	HOSE, Preformed (12204)	1	
-9	870469	CLAMP, Hose (12204)	2	
-10	1116319	HOUSING, Thermostat (74865)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
1-33-		(ATTACHING PARTS)		
-11	179846	SCREW, Cap, hex hd (74865)	2	
		----*----		
-12	50082	GASKET (74865)	1	
-13	863220	GASKET (74865)	1	
-14	1672621	THERMOSTAT, Flow control, 160°F (74865)	AR	
	1407937	THERMOSTAT, Flow control, 180°F (74865)	AR	
	1752677	PUMP ASSEMBLY, Water (74865)	1	
		(ATTACHING PARTS)		
-15	189301	BOLT, Machine (12204)	1	
	179846	. SCREW, Cap, hex hd (74865)	1	
	MS90725-62	. SCREW, Cap, hex hd	1	
		----*----		
-16	1326325	. . GASKET (12204)	1	
-17	1326323	. . PLATE, Cover (74865)	1	
		(ATTACHING PARTS)		
-18	180018	. . SCREW AND WASHER ASSEMBLY (74865)	3	
-19	51019	. . WASHER, Lock (74865)	1	
		----*----		
-20	1326324	. . GASKET (74865)	1	
-21	678630	. . CLIP, Retaining (74865)	1	
-22	1116658	. . IMPELLER, Pump (74865)	1	
-23	600811	. . RING, Retaining (74865)	1	
-24	1674679	. . WASHER, Retaining (74865)	1	
-25	1243631	. . SEAL ASSEMBLY, Water pump (74865)	1	
-26	676564	. . THROWER, Shaft (74865)	1	
-27	1671145	. . SHAFT AND BEARING (74865)	1	
-28	1671135	. . HOUSING, Pump (74865)	1	
1-34-	NO NUMBER	PARKING BRAKE AND DIFFERENTIAL LOCKOUT LEVERS		
-1	79-2	GRIP, Handle	1	
-2	MS15003-1	. FITTING, Lubrication, 1/8 NPT	2	
-3	192-149	LEVER, Differential lock	1	
		(ATTACHING PARTS)		
-4	MS9245-83	. PIN, Cotter	1	
-5	MS27183-22	. WASHER, Flat	1	
		----*----		
-6	202306	SPRING, Helical, compression (12603)	1	
	209-66	LINK ASSEMBLY	1	
		(ATTACHING PARTS)		
-7	MS9245-63	. PIN, Cotter	2	
-8	2708-1/2-6A	. PIN, Straight, headed (71843)	2	
		----*----		
-9	2708-6A	. . CLEVIS, Rod end (71843)	2	
-10	MS35691-37	. NUT, Plain, hex	2	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-34-11	192-444	ROD, Threaded end	1	
	209-65	LINK ASSEMBLY	1	
		(ATTACHING PARTS)		
-12	MS9245-63	PIN, Cotter	2	
-13	2708-1/2-6A	PIN, Straight, headed (71843)	2	
		---*---		
-14	2708-6A	CLEVIS, Rod end (71843)	1	
-15	2699-6A	CLEVIS, Rod end (71843)	1	
-16	MS35691-37	NUT, Plain, hex	2	
-17	192-443	ROD, Threaded end	1	
-18	192-150	BELL CRANK	1	
		(ATTACHING PARTS)		
-19	MS9245-66	PIN, Cotter	1	
-20	MS27183-22	WASHER, Flat	1	
		---*---		
	209-64	LINK ASSEMBLY	1	
		(ATTACHING PARTS)		
-21	MS9245-63	PIN, Cotter	2	
-22	2708-1/2-6A	PIN, Straight, headed (71843)	2	
		---*---		
-23	201583	CLEVIS, Rod end (12603)	1	
-24	2699-6A	CLEVIS, Rod end (71843)	1	
-25	MS35691-21	NUT, Plain, hex	2	
-26	192-442	ROD, Threaded end	1	
	7143A428	LEVER, Parking brake (92867)	1	
		(ATTACHING PARTS)		
-27	MS90726-65	SCREW, Cap, Hex hd	2	
-28	MS35338-46	WASHER, Lock	2	
-29	MS51968-8	NUT, Plain, hex	2	
		---*---		
-30	468	CAP, Knob (92867)	1	
-31	MS35338-45	WASHER, Lock	1	
-32	469	BASE, Knob (92867)	1	
-33	425	STUD, Adjusting (92867)	1	
-34	140C2183A	TUBE, Adjusting (92867)	1	
		(ATTACHING PARTS)		
-35	144C	PIN, Grooved (92867)	1	
-36	MS15795-12	WASHER, Flat	2	
-37	MS16633-31	RING, Retaining	1	
		---*---		
-38	0194	BELL CRANK (92867)	1	
		(ATTACHING PARTS)		
-39	173A	PIN, Grooved (92867)	1	
-40	MS16633-31	RING, Retaining	1	
		---*---		
-41	172A	PIN, Straight, headless (92867)	1	
-42	432	LINK (92867)	1	
-43	395	SPACER, Sleeve (92867)	1	
-44	374	SPACER, Sleeve (92867)	2	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-34-45	176C	. . BUSHING, Sleeve (92867)	1	
-46	NO NUMBER	. . BRACKET ASSEMBLY (92867)	NP	
-47	195-1662	BRACKET, Lever	1	
		(ATTACHING PARTS)		
-48	MS35297-62	. SCREW, Cap, hex hd	2	
-49	MS35338-46	. WASHER, Lock	2	
-50	195-1661	BRACKET, Bell crank	1	
		(ATTACHING PARTS)		
-51	MS90725-60	. SCREW, Cap, hex hd	4	
-52	MS35338-46	. WASHER, Lock	4	
		----*----		
4-35-	NO NUMBER	PARKING BRAKE LINING		C,D
-1	MS9245-68	. PIN, Cotter	2	
-2	657929	PIN, Straight, headed (74865)	2	
-3	567320	LINK (74865)	2	
-4	580045	. LEVER, Cam (74865)	2	
-5	MS51967-11	. NUT, Plain, hex	2	
-6	MS35338-47	. WASHER, Lock	1	
-7	103343	WASHER, Flat (74865)	1	
-8	1789581	SPRING, Helical, compression (74865)	1	
-9	583443	BOLT, Adjusting (74865)	1	
-10	572243	SHOE, Cam lever (74865)	1	
-11	566729	SPRING, Helical, compression (74865)	2	
-12	585121	. SCREW, Cap, hex hd (74865)	1	
-13	MS35690-404	. NUT, Plain, hex	2	
-14	583440	BRACKET, Brake (74865)	1	
-15	179910	. SCREW, Cap, hex hd (74865)	3	
-16	MS35338-49	. WASHER, Lock	3	
	583436	BRAKE BAND AND LINING ASSEMBLY (74865)	1	
		(ATTACHING PARTS)		
-17	596694	SCREW, Cap, hex hd (12204)	1	
		----*----		
-18	572167	. . LINING, Friction (12204)	1	
		(ATTACHING PARTS)		
-19	136497	. . RIVET, Solid (74865)	28	
		...*...		
-20	NO NUMBER	. . BRAKE BAND	NP	
-21	38901	SPRING, Helical, compression (43477)	1	
-22	583441	BRACKET, Anchor (74865)	1	
		(ATTACHING PARTS)		
-23	179908	. SCREW, Cap, hex hd (74865)	3	
-24	MS35338-49	. WASHER, Lock	3	
		----*----		
-25	MS9245-70	. PIN, Cotter	1	
-26	268-4	NUT, Castle	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	QTY PER ASSY	USABLE ON CODE
4-35-27	581-103	YOKE, Universal (ATTACHING PARTS)	1	
-28	1665241	SCREW, Cap, hex hd (74865)	4	
-29	120384	. WASHER, Lock (12204)	4	
-30	MS51968-14	. NUT, Plain, hex ....*...	4	
-31	1665239	BRAKE DRUM (74865)	1	
-32	579-1464	TRANSMISSION ASSEMBLY, Transfer	1	
4-36-	NO NUMBER	OILING GROUP, Engine	NP	
-1	861607	TUBE ASSEMBLY, Metal (74865)	1	
-2	1125267	TUBE ASSEMBLY, Metal (74865)	1	
-3	225810	ELBOW, Pipe, 90° (12204)	3	
-4	125859	ELBOW, pipe, 45 ° (74865)	1	
	N1503	FILTER, Fluid (81321) (ATTACHING PARTS)	1	
-5	179837	SCREW, Cap, hex hd (74865)	2	
-6	MS35338-46	. WASHER, Lock ....*....	2	
	1320517	. . CLAMP AND BRACKET ASSEMBLY (74865)	1	
-7	1313781	. . . BRACKET, Mounting (74865) (ATTACHING PARTS)	1	
-8	181635	. . . SCREW, Cap, hex hd (74865)	2	
-9	MS27183-14	. . . WASHER, Flat	2	
-10	MS35338-46	. . . WASHER, Lock	2	
-11	120369	. . . NUT, Plain, hex (74865) ....*....	2	
-12	1320517	. . . CLAMP, Oil Filter (74865) (ATTACHING PARTS)	NP	
-13	155348	. . . SCREW, Cap, hex hd (74865)	1	
-14	NO NUMBER	. . . WASHER, Flat	NP	
-15	MS35337-6	. . . WASHER, Lock	1	
-16	MS35690-408	. . . NUT, Square ....*....	1	
	NO NUMBER	. . FILTER ASSEMBLY, Oil	NP	
-17	1323881	. . . COVER, Oil filter (74865) (ATTACHING PARTS)	1	
-18	1323882	. . . SCREW, Cap, hex hd (74865)	1	
-19	1323884	. . . WASHER, Nonmetallic (74865) ....*....	1	
-20	P70FF	. . . ELEMENT, Oil filter (81321)	1	
-21	852750	. . . . GASKET (12204)	1	
-22	1323883	. . . CUP AND SPRING (74865)	1	
-23	NO NUMBER	. . . PLUG, Drain	NP	
-24	NO NUMBER	. . . HOUSING, Oil filter	NP	
-25	1125411	INDICATOR, Oil, level (74865)	1	
-26	1788394	TUBE, Gage rod (74865)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-36-27	618621	PLUG, Machine treaded (74865)	1	
-28	618622	GASKET (74865)	1	
-29	1119996	SPRING, Helical, compression (74865)	1	
-30	1142998	PLUNGER, Relief valve (74865)	1	
	1314607	PUMP ASSEMBLY, Oil (12204)	1	
		(ATTACHING PARTS)		
-31	271494	SCREW, Cap, hex hd (74865)	2	
-32	MS35338-46	. WASHER, Lock	2	
		---*---		
-33	695442	. . GASKET (74865) (KFP)	1	
-34	1124724	. . PLATE, Cover (74865)	1	
		(ATTACHING PARTS)		
-35	180018	. . SCREW AND WASHER ASSEMBLY (74865)	5	
		----*----		
-36	1124984	. . GASKET (74865) (KFP)	1	
-37	601268	. . GEAR, Helical (74865)	1	
		(ATTACHING PARTS)		
-38	1316559	. . PIN, Grooved (12204)	1	
		----*----		
	1316143	. . ROTOR ASSEMBLY, Oil pump (74865)	1	
-39	NO NUMBER	. . . ROTOR SET	NP	
		(ATTACHING PARTS)		
-40	867386	. . . PIN, Grooved (12204)	1	
		----*----		
-41	NO NUMBER	. . . SHAFT, Straight	NP	
-42	1314611	. . HOUSING, Oil pump (74865)	1	
-43	50722	PLUG, Pipe (12204)	1	
-44	105456	GASKET (74865)	1	
-45	1533958	OIL PAN, Engine crankcase (74865)	1	
		(ATTACHING PARTS)		
-46	MS90725-32	. SCREW AND WASHER ASSEMBLY (96906)	20	
		----*----		
-47	600758	GASKET (12204)	1	
-48	600759	GASKET (74865)	1	
-49	866680	GASKET (74865)	2	
-50	862831	STRAINER, Oil (74865)	1	
		(ATTACHING PARTS)		
-51	119209	PIN, Cotter (74865)	1	
		----*----		
-52	1852207	ADAPTER, Oil strainer (74865)	1	
-53	1679129	PIPE, Oil pump (74865)	1	
-54	137400	NUT, Tube (74865)	2	
-55	1555519	TUBE, Steel (74865)	1	
-56	425223	ADAPTER, Tube (12204)	2	
-57	1115100	PLATE, Oil seal (74865)	1	
		(ATTACHING PARTS)		
-58	435104	SCREW, Cap, hex hd	2	
-59	120380	WASHER, Lock (74865)	2	
		----*----		
	933438	GASKET SET (12204)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-37-	509-133	ENGINE AND TRANSMISSION ASSEMBLY	REF	
-1	MS90726-168	. SCREW, Cap, hex hd	2	
-2	MS27183-21	. WASHER, Flat	2	
-3	59T6039A	. INSULATOR (23040)	2	
-4	78-6048A	. SEAT, Mount (23040)	2	
-5	51T6038A	. INSULATOR (23040)	2	
-6	COML	. NUT, Self-locking, hex, 5/8-18	2	
-7	MS90726-141	. SCREW, Cap, hex hd	6	
-8	238-3715	WASHER, Nonmetallic	6	
-9	238-29	WASHER, Wedge	4	
-10	COML	NUT, Self-locking, hex, 9/16-18	6	
-11	195-1724	BRACKET, Engine mounting	2	
		(ATTACHING PARTS)		
-12	MS35295-111	. SCREW, Cap, hex hd	4	
-13	MS35338-48	. WASHER, Lock	4	
		---*---		
-14	COML	REDUCER, 3/4 NPT to 1/2 NPT	2	
-15	COML	ELBOW, Pipe, 90° 3/8 NPT	2	
-16	6M6UFSF	. UNION, Straight (70434)	2	
-17	640-253	HOSE ASSEMBLY, Oil	1	
-18	640-252	HOSE ASSEMBLY, Oil	1	
-19	2407400	TUBE ASSEMBLY, Oil (74865)	1	
-20	137425	. ELBOW, Pipe, 45° (74865)	2	
	1677920	. FILTER ASSEMBLY, Oil (74865)	1	
		(ATTACHING PARTS)		
-21	MS35296-60	. SCREW, Cap, hex hd	4	
-22	MS15795-14	. WASHER, Flat	4	
-23	MS35338-46	. WASHER, Lock	4	
-24	MS51968-5	. NUT, Plain, hex	4	
		...*...		
-25	1677229	. . SCREW ASSEMBLY, Cover (74865)	1	
-26	1677227	. . WASHER, Cover screw (74865)	1	
-27	NO NUMBER	. . COVER, Oil filter (74865)	NP	
-28	1677225	. . ELEMENT, Filter (74865)	1	
-29	1677226	. . GASKET, Cover (74865)	1	
-30	1677228	. . GASKET, Cartridge (74865)	1	
-31	25795	. . PLUG, Drain (81321)	1	
-32	NO NUMBER	. . HOUSING, Oil filter (74865)	NP	
-33	2407379	. . BRACKET ASSEMBLY, Mounting (74865)	1	
-34	MS90726-89	. SCREW, Cap, hex hd	2	
-35	272890	NUT, Self-locking, hex	2	
-36	1636571	. GASKET, Exhaust pipe (74865)	1	
-37	IND30-2530-1	. ENGINE, Gasoline (74865)	1	C
	IND30-1627-1	. ENGINE, Gasoline (74865)	1	D
		(ATTACHING PARTS)		
-38	MS35295-62	. SCREW, Cap, hex hd	12	B
-39	MS35338-46	. WASHER, Lock	12	B
-40	675594	NUT, Plain, hex (74865)	2	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-37-41	6-882J	TRANSMISSION, Hydraulic (74865)	1	C
	NO NUMBER	. TRANSMISSION, Hydraulic (74865)		D
-42	2400453	. . COVER, Plate (74865)	1	
		(ATTACHING PARTS)		
-43	6024015	. . SCREW, Assembled washer (74865)	4	
		----*----		
-44	2400561	. . PLATE, Adapter (74865)	1	
		(ATTACHING PARTS)		
-45	2124410	. . SCREW, Assembled washer (74865)	3	C
	6024862	. . SCREW, Assembled washer (74865)	4	D
-46	MS35295-113	. . SCREW, Cap, hex hd	4	C
	9418680	. . SCREW, Cap, hex hd (74865)	3	D
-47	MS35338-48	. . WASHER, Lock	4	C
	6022190	. . WASHER, Lock (74865)	3	D
-48	9418208	. . SCREW, Cap, hex hd (74865)	1	C
-49	115314	. . WASHER, Lock (74865)	1	C
		----*----		
-50	2407885	TRANSMISSION, Mechanical, 5 speed (74865)	1	
-51	1936220	. . COVER, Retaining (74865)	1	
-52	1936218	. . SEAT, Spring (74865)	1	
-53	1936219	. . SPRING, Helical, compression (74865)	1	
-54	1664680	. . LEVER, Gearshift (74865)	1	
-55	180218	. . SCREW, Cap, hex hd (74865)	4	
-56	MS35338-30	. . WASHER, Lock	4	
-57	NO NUMBER	. TRANSMISSION AND HANDBRAKE ASSEMBLY, Transfer	NP	
	1677224	PARTS KIT, Oil filter (74865)	1	
4-38-	IND30-2530-1	ENGINE, Gasoline (74865)	REF	C
	IND30-1627-1	ENGINE, Gasoline (74865)	REF	D
-1	NO NUMBER	. COOLING GROUP, Engine	NP	
-2	1111735	BRACKET, Lifting (74865)	2	
		(ATTACHING PARTS)		
-3	640723	. STUD, Recessed (74865)	2	
-4	MS27183-16	. WASHER, Flat	2	
-5	601014	NUT, Plain (74865)	2	
		----*----		
-6	MS35295-12	. SCREW, Cap, hex hd	1	
-7	1319068	WASHER, Flat (74865)	1	
-8	112304	. PLUG (24617)	1	
-9	MS35296-34	. SCREW, Cap, hex hd	1	
-10	MS35690-524	. NUT, Plain, hex	1	
-11	1613004	HEAD ASSEMBLY, Engine (74865)	1	
		(ATTACHING PARTS)		
-12	682857	SCREW, Cap, hex hd (12204)	4	
-13	666014	BOLT, Self-locking (12204)	15	
		----*----		

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-38-14	1326319	GASKET, Head (74865) (KF)	1	
-15	1316371	CAP, Breather (12204)	1	
-16	871863	TUBE, Bent, steel (12204)	1	
-17	637432	TUBE, Water distribution (74865)	1	
-18	195-904	BRACKET, Generator	1	
		(ATTACHING PARTS)		
-19	MS90725-6	. SCREW, Cap, hex hd	4	
-20	MS35338-44	. WASHER, Lock	4	
		---*---		
-21	1821177	SCREW, Crankshaft (74865)	1	
-22	1855561	WASHER, Crankshaft (12204)	1	
-23	1719381	PULLEY, Groove (74865)	1	
		(ATTACHING PARTS)		
-24	181573	BOLT, Machine (12204)	6	
-25	120214	WASHER, Lock (74865)	6	
		---*---		
-26	677540	. HUB, Pulley (74865)	1	
-27	MS20066-230	. KEY, Machine	1	
	1402956	COVER, Timing chain (74865)	1	
		(ATTACHING PARTS)		
-28	181595	SCREW, Cap, hex hd (74865)	3	
-29	1343212	SCREW AND WASHER ASSEMBLY (74865)	8	
-30	1123372	WASHER, Flat (74865)	3	
-31	114622	GASKET (12204)	1	
-32	120308	NUT, Plain, hex (74865)	3	
		---*---		
-33	1551061	. . SEAL, Oil (74865)	1	
-34	1487595	. . GASKET, Oil seal (74865)	1	
-35	NO NUMBER	. . COVER, Timing chain	NP	
-36	1122450	GASKET, Cover (74865) (KFP)	1	
-37	1946959	SPROCKET WHEEL (12204)	1	
		(ATTACHING PARTS)		
-38	601766	SCREW, Cap, hex hd (74865)	3	
-39	120214	WASHER, Lock (74865)	3	
		---*---		
-40	1946957	CHAIN, Roller (74865)	1	
-41	1946958	. SPROCKET WHEEL, Crankshaft (12204)	1	
-42	MS35756-15	. KEY, Woodruff	1	
-43	1489998	HUB, Sprocket (74865)	1	
-44	120051	KEY, Woodruff (12204)	1	
-45	600786	PLATE, Thrust sprocket wheel (74865)	1	
		(ATTACHING PARTS)		
-46	179816	SCREW, Cap, hex hd (74865)	2	
-47	120214	WASHER, Lock (74865)	2	
		---*---		
-48	688195	PLATE, Chain, case cover (74865)	1	
		(ATTACHING PARTS)		
-49	179816	SCREW, Cap, hex hd (74865)	4	
	113912	SCREW, Cap, hex hd (74865)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-38-50	120214	WASHER, Lock (74865)	5	
		....*...		
-51	695441	GASKET, Plate (12204) (KFP)	1	
-52	1122532	PIN, Straight, headless (74865)	2	
-53	600787	TUBE, Oil (74865)	1	
		(ATTACHING PARTS)		
	180022	SCREW, Cap, hex hd (74865)	1	
	120520	CLIP, Spring (12204)	1	
		....*....		
-54	600881	COVER, Valve spring (74865)	2	
		(ATTACHING PARTS)		
-55	693958	SCREW, Cap, hex hd (74865)	2	
		....*....		
-56	871934	. GASKET (74865)	2	
-57	NO NUMBER	. OILING GROUP, Engine	NP	
-58	MS90726-89	. SCREW, Cap, hex hd	2	
-59	868454	TUBE, Vent (74865)	1	
		(ATTACHING PARTS)		
-60	MS90725-46	. SCREW, Cap, hex hd	1	
-61	MS35338-45	. WASHER, Lock	1	
		....*....		
-62	24436	GASKET (74865)	1	
-63	1677248	MANIFOLD ASSEMBLY (74865)	1	
	2125335	. ENGINE BLOCK ASSEMBLY (74865)	1	
-64	NO NUMBER	. . CRANKSHAFT AND PISTON GROUP	NP	
-65	NO NUMBER	. . CAMSHAFT AND VALVE GROUP	NP	
-66	NO NUMBER	. . ENGINE BLOCK, Gasoline	NP	
	1752440	PARTS KIT, Engine gasket (12204) (F)	1	
	1325976	PARTS KIT, Valve grind (74865) (F)	1	
	980583	PARTS KIT, Valve cover gasket (74865)	1	
4-39-	583-8	PROPELLER SHAFT, Transmission	1	
-1	581-102	YOKE, Universal	1	
-2	581-103	YOKE, Universal	1	
		(ATTACHING PARTS)		
-3	7457J	BOLT, Machine (76260) (581-103 only)	4	
-4	3544J	BOLT, Internal, wrenching (76260) (581-102 only)	4	
-5	7456J	LOCKING PLATE, Bolt (76260)	2	
		....*...		
-6	7455J	STRAP, Bearing (76260)	2	
-7	8719J	. CAP, Dust, propeller shaft (76260)	2	
	2A17435-1	. UNIVERSAL JOINT ASSEMBLY, Double (76260)	1	
-8	5492J	. BOLT, Internal, wrenching (76260)	4	
	114-5100A	. . SPIDER ASSEMBLY (76260)	1	
-9	NO NUMBER	. . . BEARING ASSEMBLY	NP	
-10	NO NUMBER	. . . CROSS, Spider	NP	
	114-5101A	. . SPIDER AND BEARING (76260)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-39-11	NO NUMBER	. . . BEARING ASSEMBLY	NP	
-12	NO NUMBER	. . . CROSS, Spider	NP	
-13	5491J	. . COUPLING, Universal joint (76260)	1	
4-40	580-41	PROPELLER SHAFT, Front	REF	C,D
	580-42	PROPELLER SHAFT, Rear	REF	C,D
-1	055-6	STRAP, Lock (99453)	4	
		(ATTACHING PARTS)		
-2	S53-13	. SCREW, Cap, hex hd (99453)	2	
-3	MS35338-45	. WASHER, Lock	2	
		...*...		
	R55-55-2	SPIDER AND BEARING ASSEMBLY (99453)	2	
-4	R55-37	. . BEARING ASSEMBLY (99453)	4	
	R55-35	. . SPIDER ASSEMBLY, Universal joint (99453)	1	
-5	D96-25	. . . PACKING, Preformed (99453)	4	
-6	055-26-1	. . . RETAINER, Packing (99453)	4	
-7	R55-5	. . . SPIDER, Universal joint (99453)	1	
-8	R55-9	CAP, Dust (99453)	1	
-9	R55-10	WASHER, Nonmetallic (99453)	1	
-10	X21	FITTING, Lubrication (99453)	1	
-11	R55-44-1	. YOKE ASSEMBLY, Sleeve (99453)	1	
-12	R55-7-2-1/2-12	. SHAFT ASSEMBLY, Slip (Used on rear shaft)	1	
	R55-3-2-1/2-12	. SHAFT ASSEMBLY, Slip (Used on front shaft)	1	
4-41-	579-1464	TRANSMISSION ASSEMBLY, Transfer	REF	
-1	278-3224	SCREW, Cap, hex hd	1	
-2	MS35691-53	. NUT, Plain, hex	1	
-3	218-1535	SPRING, Helical, compression	1	
-4	213-3238	PILOT, Locking ball	1	
-5	COML	BALL, Bearing, 9/16	1	
	192-42	BAR ASSEMBLY, Shift	1	
-6	253-2	. . BOLT, Eye	1	
-7	MS35691-29	. . NUT, Plain, hex	1	
-8	192-182	. . BAR, Shift	1	
-9	194-4216	. BOSS, Differential lock	1	
		(ATTACHING PARTS)		
-10	MS35295-60	. SCREW, Cap, hex hd	3	
-11	MS35338-46	. WASHER, Lock	3	
		---*---		
-12	30101	SEAL, Plain, encased (76680)	1	
-13	201-62	CARRIER, Lower rear bearing	1	
		(ATTACHING PARTS)		
-14	MS35295-111	. SCREW, Cap, hex hd	4	
-15	MS35338-48	. WASHER, Lock	4	
		---*---		

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-41-16	216-18	SHIM SET (KFP)	1	
	VS427-6	. . SHIM, 0.020 (79150)	2	
	VS427-10	. . SHIM, 0.007 (79150)	4	
	VS427-4	. . SHIM, 0.005 (79150)	4	
-17	6309	BEARING, Ball, annular (29337)	1	
-18	217-3124	WASHER, Recessed	1	
-19	208-5	HOUSING, Differential	1	
		(ATTACHING PARTS)		
-20	MS35295-60	. SCREW, Cap, hex hd	7	
-21	MS35338-46	. WASHER, Lock	7	
		----*---		
-22	70-9	GASKET, Housing (KFP)	1	
-23	49NTE2018	. NUT, Self-locking (72962)	2	
-24	R55-1-240	YOKE, Universal (99453)	2	
-25	30101	SEAL, Plain, encased (76680)	1	
-26	201-63	CAP, Bearing	1	
		(ATTACHING PARTS)		
-27	MS35295-62	. SCREW, Cap, hex hd	4	
-28	MS35338-46	WASHER, Lock	4	
		----*----		
-29	70-3235	GASKET, Cap (KFP)	1	
-30	217-269	WASHER, Flat	AR	
-31	309KG	BEARING, Ball, annular (21335)	1	
-32	201-22	PLATE, Cover	1	
		(ATTACHING PARTS)		
-33	COML	. SCREW, Machine, rd hd, 1/4-20 x 1/2	2	
-34	MS35338-6	. WASHER, Lock	2	
		----*----		
-35	70-44	GASKET, Plate (KFP)	1	
-36	208-4	HOUSING, Differential	1	
		(ATTACHING PARTS)		
-37	MS90725-74	. SCREW, Cap, hex hd	4	
-38	MS35295-60	SCREW, Cap, hex hd	4	
-39	MS35338-46	. WASHER, Lock	8	
		----*----		
-40	70-11	GASKET, Housing (KFP)	1	
-41	90103	ADAPTER, Speedometer (57733)	1	
-42	448307	GEAR, Speedometer (57733)	1	
	572-29	COVER, Bearing	1	
		(ATTACHING PARTS)		
-43	MS35295-60	SCREW, Cap, hex hd	4	
-44	MS35338-46	. WASHER, Lock	4	
		----*----		
-45	1870	. . BUSHING, Sleeve (57733)	1	
-46	NO NUMBER	. . HOUSING, Bearing	NP	
-47	70-26	GASKET, Housing (KFP)	1	
-48	201-18	PLATE, Cover	1	
		(ATTACHING PARTS)		
-49	MS35295-60	SCREW, Cap, hex hd	4	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-41-50	MS35338-46	. WASHER, Lock	4	
		----*----		
-51	70-12	GASKET, Plate (KFP)	1	
-52	195-1708	BRACKET, Mounting, LH	1	
-53	195-1709	BRACKET, Mounting, RH	1	
		(ATTACHING PARTS)		
-54	MS90725-115	. SCREW, Cap, hex hd	6	
-55	MS35338-48	. WASHER, Lock	6	
		----*----		
-56	195-852	BRACKET, Angle	1	
-57	216W	BEARING, Ball annular (21335)	1	
-58	205-159	GEAR, Spur	1	
-59	309KG	BEARING, Ball, annular (21335)	1	
-60	190-122	ADAPTER, Shaft	1	
		(ATTACHING PARTS)		
-61	MS90725-34	. SCREW, Cap, hex hd	4	
-62	MS35338-45	. WASHER, Lock	4	
		----*----		
-63	70-56	GASKET, Adapter	1	
-64	50520	SEAL, Plain, encased (76680)	1	
-65	205-82	GEAR, Helical	1	
		(ATTACHING PARTS)		
-66	MS90726-87	. SCREW, Cap, hex hd	1	
-67	MS35338-47	. WASHER, Lock	1	
-68	238-7	WASHER, Flat	1	
		----*----		
-69	217-275	SPACER, Gear	1	
-70	310K	. BEARING, Ball, annular (21335)	2	
-71	MS35756-6	. KEY, No. 3, 1/8 x 1/2. (96906)	1	
-72	205-29	GEAR, Spur	1	
-73	COML	. SETSCREW, Square hd, 3/8-16 x 3/4	1	
-74	MS35295-62	. SCREW, Cap, hex hd	1	
-75	MS16624-177	. RING, Retaining	2	
-76	572-16	FORK, Shift	1	
-77	209-36	GEAR, Lock	1	
-78	493	CUP, Tapered roller bearing (60038)	1	
-79	498	CONE AND ROLLERS, Tapered roller bearing (60038)	1	
-80	205-32	GEAR, Spur	1	
-81	245-5530	KEY, Woodruff	2	
-82	205-60	SHAFT, Shouldered	1	
	572-36	CAGE ASSEMBLY, Differential	1	
-83	207-107	. . CAGE HALF, Long	NP	
		(ATTACHING PARTS)		
-84	257-21	. . BOLT, Machine	8	
		----*----		
-85	207-3086	. . CAGE HALF, Short	NP	
-86	205-11	GEAR, Bevel (KFP)	2	
-87	238-41	WASHER, Thrust	2	
-88	238-55	WASHER, Thrust (KF)	4	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-41-89	205-1	GEAR, Bevel (KFP)	4	
-90	221-1	SPIDER, Differential	1	
-91	205-61	SHAFT, Lower, rear	1	
-92	3984	CONE AND ROLLERS, Tapered roller bearing (60038)	1	
-93	3920	CUP, Tapered roller bearing (60038)	1	
-94	195-1707	CROSSMEMBER, Transfer transmission (ATTACHING PARTS)	1	
-95	MS35296-166	. SCREW, Cap, hex hd	4	
-96	238-28	WASHER, Flat	4	
-97	COML	NUT, Self-locking, hex 5/8-18	4	
		----*----		
	570-281	HOUSING AND COVER ASSEMBLY, Transfer transmission	1	
-98	201-134	. . COVER, Transfer transmission (ATTACHING PARTS)	NP	
-99	MS35295-111	. . SCREW, Cap, hex hd	9	
-100	MS35338-48	. . WASHER, Lock	9	
		----*----		
-101	208-34	. . HOUSING, Transfer transmission	NP	
-102	222-1	BREATHER (96606)	1	
-103	246-566	PIN, Straight, headless	2	
-104	COML	PLUG, Pipe, 1/2 NPT	2	
-105	70-10	. . GASKET, Cover (KFP)	1	
-106	190-121	. SPACER, Ring	1	
	579-326	PARTS KIT, Shim and gasket (96606) (F)	1	
	572-45	PARTS KIT, Differential	1	
4-42-	639-28	BRAKE SYSTEM	REF	
-1	668919	PAD, Pedal (12204) (ATTACHING PARTS)	1	
-2	MS35690-524	. NUT, Plain, hex	1	
-3	MS35338-45	. WASHER, Lock	1	
		----*----		
-4	192-142	LEVER, Brake pedal (ATTACHING PARTS)	1	
-5	MS9245-63	. PIN, Cotter	2	
-6	2708-1/2-6A	. PIN, Straight, headed (71843)	1	
-7	247-27	PIN, Straight, headed	1	
		----*----		
-8	218-5	SPRING, Helical, extension	1	
-9	195-526	BRACKET, Lever (ATTACHING PARTS)	1	
-10	MS90726-65	. SCREW, Cap, hex hd	4	
-11	MS35338-46	. WASHER, Lock	4	
-12	MS51968-5	. NUT, Plain, hex	4	
		----*----		

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-42-	209-32	LINK ASSEMBLY, Master cylinder	1	
-13	200-21	. . CLEVIS, Rod end	1	
-14	MS35691-924	. . NUT, Plain, hex	1	
-15	209-31	. . ROD, Straight, threaded	1	
-16	FC1320	PUSH ROD (63477)	1	
-17	639-57	. BRAKE, Line assembly	1	
	NO NUMBER	. . TUBE, Steel, 1/4 x .028 x 108	NP	
	FC2577	. . NUT, Tube	2	
-18	FC996	PLUG, Pipe (63477)	1	
-19	FC673	BOLT, Fluid pressure line (63477)	1	
-20	FC603	GASKET (63477)	2	
-21	FC2678	FITTING, Hydraulic (63477)	1	
-22	B2808-95	GASKET (16128)	1	
-23	FE2652	CYLINDER ASSEMBLY, Hydraulic brake (63477)	1	
		(ATTACHING PARTS)		
-24	MS90726-68	. SCREW, Cap, hex hd	3	
-25	MS35338-46	. WASHER, Lock	3	
-26	MS35690-924	. NUT, Plain, hex	3	
		...*...		
-27	217-170	SPACER, Brake cylinder	1	
-28	373711	BRACKET, Mounting (06848)	1	
-29	BK10508	CLAMP, Hose (06848)	6	
-30	639-532	HOSE, Rubber	1	
-31	BK22109	VALVE, Check (06848)	1	
-32	639-54	HOSE, Rubber	1	
-33	COML	. TUBE, Aluminum, 1/2 OD x 2-1/2	1	
-34	69 F3/8Px1/2T	. ELBOW, Pipe (30327)	1	
-35	125	CLAMP, Loop (76369)	2	
		(ATTACHING PARTS)		
-36	COML	SCREW, Machine, rd hd, 10-32 x 1	1	
-37	MS35338-43	. WASHER, Lock	1	
-38	MS35650-302	. NUT, Plain, hex	1	
		...*...		
-39	1491	CLAMP, Loop (71730)	6	
-40	639-510	TUBE ASSEMBLY, Metal	1	
-41	639-59	TUBE ASSEMBLY, Metal	1	
-42	639-58	TUBE ASSEMBLY, Metal	1	
-43	639-511	TUBE ASSEMBLY, Metal	1	
-44	639-512	TUBE ASSEMBLY, Metal	1	
-45	639-513	TUBE ASSEMBLY, Metal	1	
-46	FC3933	TEE, Pipe (63477)	2	
		(ATTACHING PARTS)		
-47	MS35296-32	. SCREW, Cap, hex hd	1	
-48	MS35338-45	. WASHER, Lock	1	
-49	MS35690-524	. NUT, Plain, hex	1	
		....*....		
-50	MS35691-53	. NUT, Plain, hex	4	
-51	MS35333-46	. WASHER, Lock, internal tooth	4	
-52	FC4751	HOSE ASSEMBLY, Rubber (63477)	4	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-42-53	FC3878	GASKET (63477)	2	
-54	FC3963	ADAPTER, Straight (63477)	2	
-55	FC602	GASKET (63477)	2	
-56	FC1030	BOLT, Fluid pressure line (63477)	2	
-57	FC603	GASKET (63477)	2	
-58	FC33479	FITTING, Hydraulic (63477)	2	
-59	FC602	GASKET (63477)	2	
-60	639-55	TUBE ASSEMBLY, Aluminum	1	
-61	639-56	HOSE, Rubber	1	
-62	BK11015	ELBOW, Pipe (06848)	1	
-63	BK12300	CLAMP, Hose (06848)	2	
-64	374464	HOSE, Rubber (06848)	1	
-65	BK22506	AIR CLEANER (06848)	1	
		(ATTACHING PARTS)		
-66	188S30	NUT, Lock (06848)	1	
		---*---		
-67	FC673	BOLT, Fluid pressure line (63477)	1	
-68	371721	WASHER, Flat (06848)	1	
-69	FC3836	FITTING, Hydraulic (63477)	1	
-70	33757	GASKET (63477)	1	
-71	373710	BUSHING, Pipe (06848)	1	
-72	33757	GASKET (06848)	1	
-73	374980	BOOSTER ASSEMBLY, Vacuum brake (06848)	1	
		(ATTACHING PARTS)		
-74	901626K6	NUT, Plain, hex (06848)	3	
-75	901008	WASHER, Lock (06848)	3	
		---*---		
4-43-	FE2652	CYLINDER ASSEMBLY, Hydraulic brake (63477)	REF	
		(See figure 53 for NHA)		
-1	FC1331	BOOT, Dust (63477) (KF)	1	
-2	FC1330	CLIP, Retaining (63477) (KF)	1	
-3	103974	WASHER, Flat (12603)	1	
	FC1338	PISTON ASSEMBLY (63477) (KF)	1	
-4	FD1387	. . CUP, Hydraulic brake cylinder (63477)	1	
-5	NO NUMBER	. . PISTON	NP	
-6	FD962	CUP, Hydraulic brake cylinder (63477) (KFP)	1	
-7	FC10065	SPRING, Helical, compression (63477)	1	
-8	FC18299	CAP, Filler (63477)	1	
-9	FC5922	. WASHER, Nonmetallic (63477)	1	
-10	NO NUMBER	. CYLINDER, Hydraulic brake (63477)	1	
	FC8448	PARTS KIT, Hydraulic brake cylinder (63477) (F)	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-44-	374980	BOOSTER ASSEMBLY, Vacuum brake (06848)	REF	
-1	375397	BLEEDER VALVE (06848)	2	
-2	373896	CAP (06848)	1	
-3	377361	CHECK VALVE, Residual (06848)	1	
-4	373628	SPRING, Helical, compression (06848)	1	
-5	373630	WASHER, Flat (06848)	1	
-6	374407	RING, Retaining (06848)	1	
-7	373888	GASKET, Copper (06848)	1	
-8	375038	TUBE, Cylinder (06848) (KF)	1	
-9	375037	NUT, Tube (06848) (KF)	1	
-10	375036	PACKING, Preformed (06848) (KF)	1	
-11	373907	WASHER, Nonmetallic (06848)	1	
	373881	PISTON ASSEMBLY, Hydraulic (06848)	1	
-12	373932	. . RING, Retaining (06848)	1	
-13	373875	. . RETAINER, Ball (06848)	1	
-14	373876	. . SPRING, Helical, compression (06848)	1	
-15	909679	. . BEARING, Ball (06848)	1	
-16	373884	. . CUP, Hydraulic brake cylinder (06848)	1	
-17	NO NUMBER	. . PISTON, Hydraulic	NP	
-18	377320	RING, Retaining (06848)	1	
-19	376182	PIN, Straight, headless (06848)	1	
-20	375880	WASHER, Stop (06848)	1	
-21	377634	SPRING (06848)	1	
-22	377636	SLEEVE (06848)	1	
-23	377635	RETAINER (06848)	1	
-24	375429	CUP, Hydraulic brake cylinder (06848)	1	
-25	373929	WASHER, Flat (06848)	1	
-26	373919	RING, Retaining (06848)	1	
-27	373915	ADAPTER, Hose (06848)	1	
-28	378773	GASKET (06848)	1	
-29	373924	SPRING, Helical, compression (06848)	1	
-30	376206	CLAMP, Hose (06848)	2	
-31	374934	HOSE, Rubber (06848)	1	
-32	373905	ELBOW (06848)	1	
-33	COML	PLUG, Pipe, 3/8 NPT	1	
-34	373914	VALVE BODY (06848)	1	
		(ATTACHING PARTS)		
-35	COML	SCREW, Machine, rd hd, 4-32 x 9/16	5	
-36	MS35338-2	. WASHER, Lock	5	
		----*----		
-37	373878	SPRING, Helical, compression (06848)	1	
-38	373908	DIAPHRAGM ASSEMBLY (06848)	1	
-39	373923	GASKET (06848)	1	
-40	907671	RING, Retaining (06848)	1	
-41	379310	WASHER, Stop (06848)	1	
-42	373886	FITTING, Valve (06848)	1	
-43	374915	PACKING, Preformed (06848)	1	
	373889	PISTON ASSEMBLY (06848)	NP	
-44	374224	. . CUP, Hydraulic piston (06848)	2	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-44-45	373890	. . PISTON, Valve (06848)	1	
	374974	END PLATE ASSEMBLY (06848)	1	
		(ATTACHING PARTS)		
-46	373933	BOLT, Hook (06848)	4	
-47	901008	. WASHER, Lock (06848)	4	
-48	901626K6	. NUT, Plain, hex (06848)	4	
		----*----		
-49	372301	. . SEAL, Leather (06848)	1	
-50	NO NUMBER	. . END PLATE	NP	
-51	374552	PACKING, Preformed (06848)	1	
-52	373856	SPRING, Helical, compression (06848)	1	
	373931	PISTON ASSEMBLY (06848)	NP	
-53	373920	. . NUT, Push rod (06848)	1	
-54	373032	. . RING, Retaining (06848)	1	
-55	372995	. . PACKING, Felt (06848)	1	
-56	373900	. . PLATE, Retainer (06848)	1	
-57	373901	. . PLATE, Piston (06848)	1	
-58	BK16272	. . PACKING, Leather (06848)	1	
-59	373902	. . SEAL (06848)	1	
-60	373899	. . PLATE, Piston (06848)	1	
-61	373898	. . WASHER, Stop (06848)	1	
-62	373926	. . PUSH ROD ASSEMBLY (06848)	1	
-63	94S1	PLUG, Pipe (06848)	1	
-64	373903	. CYLINDER, SHELL (06848)	1	
	375091	PARTS KIT, Nut and seal (06848) (F)	1	
4-45-	600-205	DIFFERENTIAL, Driving axle (See figure 57 for NHA)	REF	C, D
-1	MS9245-71	. PIN, Cotter	1	
-2	595988	NUT, Castellated, hex (12204)	1	
-3	571301	WASHER, Flat (12204)	1	
-4	R55-1-101	YOKE, Universal (99453)	1	
-5	587541	SEAL, Plain encased (12204)	1	
-6	587548	SPACER, Yoke (12204)	1	
-7	103388	PIN, Cotter (12204)	2	
-8	587533	PIN, Straight, headless (12204)	2	
-9	NO NUMBER	. CAP, Bearing, LH	NP	
-10	NO NUMBER	. CAP, Bearing, RH	NP	
		(ATTACHING PARTS)		
-11	587528	SCREW, Cap, hex hd (12204)	2	
-12	138561	WASHER, Lock (12204)	2	
		----*----		
-13	595987	ADJUSTER, Bearing (12204)	2	
-14	28920	CUP, Tapered roller bearing (60038)	2	
-15	28985	CONE AND ROLLERS, Tapered roller bearing (60038)	2	
	594707	GEAR AND PINION SET (12204)	1	
		(ATTACHING PARTS)		
-16	567223	SCREW, Cap, hex hd (12204)	12	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-45-17	587537	PLATE (12204)	6	
-18	271506	NUT, Plain, hex (12204)	12	
		----*--		
-19	594677	. . GEAR, Bevel	NP	
-20	594680	. . PINION, Drive	NP	
-21	49585	CONE AND ROLLERS, Tapered roller bearing (60038)	1	
-22	49520	CUP, Tapered roller bearing (60038)	1	
-23	588896	WASHER, Flat, 0.175 (12204)	AR	
	588897	WASHER, Flat, 0.177 (12204)	AR	
	588898	WASHER, Flat, 0.179 (12204)	AR	
	588899	WASHER, Flat, 0.181 (12204)	AR	
	587552	WASHER, Flat, 0.183 (12204)	AR	
	587553	WASHER, Flat, 0.185 (12204)	AR	
	587554	WASHER, Flat, 0.187 (12204)	AR	
	587555	WASHER, Flat, 0.189 (12204)	AR	
	587556	WASHER, Flat, 0.191 (12204)	AR	
	1792363	WASHER, Flat, 0.1935 (12204)	AR	
-24	102883	SCREW, Retainer (12204)	1	
-25	587557	NUT, Bearing retainer (12204)	1	
	587545	. BEARING ASSEMBLY (12204)	1	
-26	NO NUMBER	. . CONE AND ROLLERS, Tapered roller bearing	NP	
-27	NO NUMBER	. . CUP, Tapered roller bearing (12204)	NP	
-28	426767	NUT, Plain, hex (12204)	1	
-29	587539	SETSCREW (12204)	1	
-30	587538	PAD, Thrust (12204)	1	
-31	141270	PIN, Straight, headless (12204)	1	
-32	1266216	SHAFT, Straight (12204)	1	
-33	1092007	GEAR, Bevel (12204)	2	
-34	1092009	WASHER, Thrust (12204)	2	
-35	1092939	GEAR, Bevel (12204)	2	
-36	1092011	WASHER, Thrust (12204)	2	
-37	1266215	HOUSING, Differential (12204)	1	
-38	594685	CARRIER, Differential (12204)	1	
4-46-	668-40	AXLE ASSEMBLY	REF	C, D
	10035	SHOCK ABSORBER ASSEMBLY (27942)	2	
-1	COML	. . NUT, Self-locking, hex, 3/8-24	1	
-2	70821	. . WASHER, Retaining (27942)	2	
-3	70014	. . GROMMET, Rubber (92850)	2	
-4	NO NUMBER	. . SHOCK ABSORBER (27942)	NP	
-5	7RC3020	BUMPER, Rubber (23040)	2	
		(ATTACHING PARTS)		
-6	MS51968-5	. NUT, Plain, hex	1	
-7	MS35338-46	. WASHER, Lock	1	
		----*----		
-8	MS51968-20	. NUT, Plain, hex	16	
-9	MS35338-50	. WASHER, Lock	16	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-46-10	254-6	STUD, Plain, threaded end	8	
-11	195-520	BRACKET, Shock absorber	2	
-12	210-40	PAD, Spring	2	
	668-37	. AXLE ASSEMBLY	1	
-13	MS15003-6	. . FITTING, Lubrication	2	
-14	COML	. . NUT, Self-locking, hex, 3/4-16	2	
-15	258-15	. . BOLT, Machine	2	
-16	200-27	. . CLEVIS, Rod end, LH	1	
	200-28	. . CLEVIS, Rod end, RH	1	
		(ATTACHING PARTS)		
-17	MS35296-114	. . SCREW, Cap, hex hd	1	
-18	MS35338-48	. . WASHER, Lock	1	
-19	MS51968-14	. . NUT, Plain, hex	1	
		----*----		
-20	192-184	. . TIE ROD, Steering	1	
-21	609-3176	. . WHEEL ASSEMBLY, LH	2	
	609-2119	. . WHEEL ASSEMBLY, RH	2	
		(ATTACHING PARTS)		
-22	COML	. . SCREW, Cap, hex hd, 1/2-20 x 2-1/4	7	
-23	601-1	. . SCREW, Cap, hex hd	1	
-24	MS35338-48	. . WASHER, Lock	8	
-25	MS51968-14	. NUT, Plain, hex	8	
		----*----		
-26	597-30	SHAFT, Axle	2	
		(ATTACHING PARTS)		
-27	COML	SCREW, Cap, hex hd, drilled, 1/2-20 x 1-1/4	8	
-28	197-14	BUSHING, Tapered	8	
		---*----		
-29	600-205	DIFFERENTIAL, Driving axle	1	
		(ATTACHING PARTS)		
-30	MS35295-90	. SCREW, Cap, hex hd	4	
-31	MS35295-87	. SCREW, Cap, hex hd	8	
-32	MS35338-47	. WASHER, Lock	12	
		----*---		
-33	1089494	GASKET (12204)	1	
-34	50455	SEAL, Plain, encased (76680)	2	
-35	222-1	VENT, Housing	1	
-36	COML	PLUG, Pipe, 3/4 NPT, ctsk	2	
-37	207-93	HOUSING, Axle	1	
-38	246-8254	. . PIN, Dowel	2	
4-47-	609-3176	WHEEL ASSEMBLY, Left	REF	
	609-2119	WHEEL ASSEMBLY, Right	REF	
-1	201-41	COVER, Wheel	1	
-2	COML	PLUG, Pipe 1/2 NPT, ctsk	2	
-3	247-3508	PIN, Straight, headless	2	
	600-140	YOKE AND RING ASSEMBLY, Service	1	

Table 4-7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	DESCRIPTION 1 2 3 4 5 6 7	QTY PER ASSY	USABLE ON CODE
4-47-4	59-040-187-1750	. . PIN, Spring (72962)	2	
-5	247-58	. . PIN, Straight, headed	2	
-6	605-10	. . YOKE, Universal	1	
	601-15	. . RING ASSEMBLY, Universal	1	
-7	P112-8	. . . BUSHING, Sleeve (71366)	2	
-8	P75-12	. . . BUSHING, Sleeve (71366)	2	
-9	595-2	. . . RING, Universal	NP	
	600-202	LOCK PLATE ASSEMBLY, Service	1	
-10	211-28	. . PLATE, Locking	NP	
		(ATTACHING PARTS)		
-11	MS35295-111	. . SCREW, Cap, hex hd	4	
		----*----		
-12	601-19	PLATE, Adjusting	1	
-13	74-9	PACKING, Preformed (Use kit 599-57)	NP	
-14	216-2471	SHIM SET	2	
-15	36690	CONE AND ROLLERS, Tapered roller bearing (60038)	2	
-16	36620	CUP, Tapered roller bearing (60038)	2	
-17	199-21	RING, Clamp, pivot bearing	1	
-18	598-2867	BRAKE DRUM	1	
		(ATTACHING PARTS)		
-19	COML	SCREW, Cap, self-locking, 3/8-16 x 1	12	
		...*...		
	600-152	HUB ASSEMBLY, Wheel	1	
-20	247-5021	. . PIN, Straight, headless	2	
-21	ST69	. . STUD, Plain (73842)	6	
-22	604-12	. . HUB, Wheel	NP	
-23	596-3	SHIELD, Dust	1	
		(ATTACHING PARTS)		
-24	MS35296-7	. SCREW, Cap, hex hd	4	
-25	MS35296-36	. SCREW, Cap, hex hd	4	
-26	MS35338-6	. WASHER, Lock	4	
-27	MS35338-45	. WASHER, Lock	4	
-28	MS35690-524	. NUT, Plain, hex	4	
-29	MS51968-2	. NUT, Plain, hex	4	
		...*...		
-30	FC4395	WASHER, Split (63477)	4	
-31	1729T228	WASHER, Spring tension (78500)	4	
-32	F18788	WASHER, Flat (63477)	8	
-33	FC779	WASHER, Split (63477)	2	
-34	FC2208	. SPRING, Helical, extension (63477)	1	
	A7-3722M169	. BRAKE SHOE, Internally actuated (78500)	2	
-35	2740Z390	. . LINING, Friction (78500) (Kit 2000W153)	1	
		(ATTACHING PARTS)		
-36	COML	. . RIVET, Tubular, No. 7-6 (Kit 2000W153)	14	
		----*----		
-37	A3722M169	. . BRAKE SHOE (78500)	NP	

Table 4–7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-47-38	1759A27	PIN, Anchor (78500)	2	
		(ATTACHING PARTS)		
-39	MS35690-1224	. NUT, Plain, hex	1	
-40	MS35335-40	. WASHER, Lock, external tooth	1	
		----*----		
-41	1745B2	PUSH ROD (78500)	2	
	FD4419	CYLINDER ASSEMBLY, Wheel (63477)	1	
		(ATTACHING PARTS)		
-42	MS35295-58	. SCREW, Cap, hex hd hd	2	
-43	MS35338-46	. WASHER, Lock Lock	2	
		----*----		
-44	FD368	. . BOOT, Dust and moisture moisture seal (63477) (Kit FC3619).	2	
-45	FC1311E	. . PISTON, Hydraulic brake (63477)	2	
-46	FC857	. . CUP, Hydraulic brake cylinder (63477) (Kit FC3619) .	2	
-47	FC860	. . SPRING, Helical, compression (63477) (Kit FC3619) .	2	
-48	FC11410	BLEEDER VALVE (63477)	1	
-49	NO NUMBER	. CYLINDER, Wheel	1	
	600-137	PLATE ASSEMBLY, Brake backing	1	
		(ATTACHING PARTS)		
-50	MS35296-111	. SCREW, Cap, hex hd (RH hd (RH wheel only)	2	
-51	MS35338-48	. WASHER, Lock (RH wheel only)	2	
		----*----		
-52	601-123	. . BRACKET, Anchor pin	1	
		(ATTACHING PARTS)		
-53	C6LB-R10-8	. . PIN, Rivet (29666)	4	
-54	2LC-R10	. . COLLAR, Rivet (29666)	4	
		----*----		
-55	FC4399	. . PIN, Shoulder, headless (63477)	4	
-56	601-87	. . CAM, Adjusting	2	
-57	FC592	. . SPRING, Helical, compression (63477)	2	
-58	FC2270	. . BOLT, Cam (63477)	2	
-59	S0820-1	. . NUT, Clinch (46384)	4	
-60	211-55	. . PLATE, Backing	NP	
	640-262	ARM ASSEMBLY, Steering	1	
		(ATTACHING PARTS)		
-61	MS35296-118	. SCREW, Cap, hex hd hd	2	
-62	MS35296-117	. SCREW, Cap, hex hd hd	2	
-63	MS35338-48	. WASHER, Lock	4	
-64	MS51968-14	NUT, Plain, hex	2	
		----*---		
-65	A64GP	. . BUSHING, Sleeve (75174)	1	
-66	641-56	. . ARM, Steering	NP	
-67	601-106	BOOT, Dust and moisture seal	1	
		(ATTACHING PARTS)		
-68	MS35223-61	. SCREW, Machine	12	
-69	MS35335-32	. WASHER, Lock	12	
		----*---		
-70	5656	CLAMP, Loop (81646)	1	
-71	601-23	RETAINER, Boot	2	

Table 4–7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-47-72	74-8	PACKING, Preformed (Use Kit 599-57)	NP	
	600-151	SPINDLE ASSEMBLY, Wheel, service	1	
-73	278-2893	. . SETSCREW	1	
-74	MS15795-16	. . WASHER, Flat	1	
-75	MS35690-724	. . NUT, Plain, hex	1	
-76	606-5	. . SPINDLE, Wheel	NP	
-77	224-5	WEDGE, Adjusting	1	
-78	201-59	CAP, Pivot bearing	1	
-79	43125	CONE AND ROLLERS, Tapered roller bearing (60038)	2	
-80	43312	CUP, Tapered roller bearing (60038)	2	
-81	MJ15003-1	FITTING, Lubrication	2	
-82	607-13	. STUB, Wheel	1	
	FC3619	PARTS KIT, Wheel cylinder (63477)	1	
	599-57	PARTS KIT, Wheel seal	1	
	2000W153	PARTS KIT, Friction lining (78500)	1	
4-48-	7520LBD	RIM ASSEMBLY (73842)	4	
		(ATTACHING PARTS)		
-1	NU65	NUT, Clamp (73842)	6	
-2	CL49	CLAMP, Rim (73842)	6	
		---*---		
-3	R8020LW	. . FLANGE, Side (73842)	1	
-4	B7520LBD	. . BASE, Rim (73842)	1	
-5	NO NUMBER	. FLAP, Tire, 11.00 x 20 (73842)	4	
-6	NO NUMBER	. INNER TUBE, Pneumatic, 11.00 x 20 (73842)	4	
-7	NO NUMBER	. TIRE, Pneumatic, earthmover, 11.00 x 20-8PR (73842)	4	
4-49-	610-81	FRAME ASSEMBLY	REF	C, D
	T60A0	PINTLE ASSEMBLY, Towing (74410)	2	
		(ATTACHING PARTS)		
-1	MS35296-114	. SCREW, Cap, hex hd	4	
-2	MS35338-48	. WASHER, Lock	4	
-3	MS51968-14	. NUT, Plain, hex	4	
		---*---		
-4	767	. . FITTING, Lubrication (74410)	2	
	T62-0-1	. . LATCH ASSEMBLY (74410)	1	
		(ATTACHING PARTS)		
-5	T104	. . RING, Retaining (74410)	2	
-6	T64-0	. . PIN, Straight, headless (74410)	1	
		---*---		
-7	T63-0	. . . LOCK, Pintle (74410)	1	
		(ATTACHING PARTS)		
-8	T104	. . . RING, Retaining (74410)	2	

Table 4–7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-49-9	T67-0	. . . PIN, Straight, headless (74410)	1	
		---*---		
-10	78	. . . SPRING, Helical, compression (744 10)	1	
-11	T62-0	. . . LATCH (7441 0)	1	
-12	T60-0	. . HOOK, Pintle (74410)	1	
-13	36-43	COUNTERWEIGHT, Front	1	
		(ATTACHING PARTS)		
-14	COML	. SCREW, Cap, hex hd, 1-14 x 6-1/2	4	
-15	MS35338-15	. WASHER, Lock	4	
-16	COML	NUT, Plain, hex, 1-14	4	
		---*---		
-17	36-42	COUNTERWEIGHT, Rear	2	
		(ATTACHING PARTS)		
-18	COML	SCREW, Cap, hex hd, 1-14 x 8-1/2	2	
-19	MS35338-15	WASHER, Lock	2	
-20	COML	NUT, Plain, hex, 1-14	2	
		---*---		
-21	MS51054-21	. SETSCREW, Square hd	1	
-22	195-901	BRACKET, Grill, LH	1	
-23	195-902	BRACKET, Grill, RH	1	
		(ATTACHING PARTS)		
-24	MS35296-38	. SCREW, Cap, hex hd	2	
-25	COML	WASHER, Wedge, 5/16	2	
-26	MS35338-45	. WASHER, Lock	2	
-27	MS35690-524	. NUT, Plain, hex	2	
		---*---		
-28	211-75	PLATE, Frame	1	
		(ATTACHING PARTS)		
-29	MS35296-162	. SCREW, Cap, hex hd	8	
-30	MS35338-50	. WASHER, Lock	8	
-31	MS51968-20	. NUT, Plain, hex	8	
		---*---		
-32	195-534	BRACKET, Mounting	1	
		(ATTACHING PARTS)		
-33	MS35296-116	. SCREW, Cap, hex hd	1	
-34	MS35296-115	. SCREW, Cap, hex hd	1	
-35	COML	WASHER, Wedge, 1/2	2	
-36	MS35338-48	. WASHER, Lock	2	
-37	MS51968-14	. NUT, Plain, hex	2	
		---*---		
-38	195-509	CROSSMEMBER	1	
		(ATTACHING PARTS)		
-39	MS35296-113	SCREW, Cap, hex hd	2	
-40	MS35338-48	. WASHER, Lock	2	
-41	MS51968-14	. NUT, Plain, hex	2	
		---*---		
-42	195-506	BRACKET, Fender	2	
		(ATTACHING PARTS)		
-43	MS35296-62	. SCREW, Cap, hex hd	2	

Table 4–7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-49-44	MS35338-46	. WASHER, Lock	2	
-45	MS51968-5	. NUT, Plain, hex ...*...	2	
-46	MS15003-6	. FITTING, Lubrication	12	
-47	247-28	PIN, Shackle (ATTACHING PARTS)	12	
-48	MS35296-91	. SCREW, Cap, hex hd (Used on 4 shackles only)	1	
-49	MS35296-90	. SCREW, Cap, hex hd (Used on 8 shackles only)	1	
-50	MS35338-47	. WASHER, Lock	1	
-51	MS35690-724	. NUT, Plain hex ...*...	1	
	623-10	SHACKLE ASSEMBLY, Spring	4	
-52	197-19	. . BUSHING, Sleeve	1	
-53	NO NUMBER	. . SHACKLE, Spring	NP	
	620-12	SPRING ASSEMBLY, Leaf	4	
-54	COML	. . TUBE, Steel, 31/64 OD x 13/32 ID x 2 (ATTACHING PARTS)	4	
-55	MS35295-69	. . SCREW, Cap, hex hd	1	
-56	MS35690-604	. . NUT, Plain, hex ---*---	1	
-57	COML	. . BOLT, Machine, 3/8-24 x 4	1	
-58	MS51968-5	. . NUT, Plain, hex	1	
-59	622-44	. . ALIGNMENT CLIP, Spring	2	
-60	622-45	. . ALIGNMENT CLIP, Spring (ATTACHING PARTS)	2	
-61	COML	. . RIVET, Solid, 1/4 x 5/8 ...*...	1	
-62	COML	. . BUSHING, Sleeve, bronze, 3/4 ID x 1 OD x 2	2	
-63	621-167	. . SPRING, Leaf	1	
-64	621-168	. . SPRING, Leaf	1	
-65	621-169	. . SPRING, Leaf	1	
-66	621-170	. . SPRING, Leaf	1	
-67	621-171	. . SPRING, Leaf	1	
-68	621-172	. . SPRING, Leaf	1	
-69	621-173	. . SPRING, Leaf	1	
-70	621-174	. . SPRING, Leaf	1	
-71	621-175	. . SPRING, Leaf	1	
-72	621-176	. . SPRING, Leaf	1	
-73	621-179	. . SPRING, Leaf	1	
-74	195-514	BRACKET, Spring shackle (ATTACHING PARTS)	4	
-75	MS35296-15	. SCREW, Cap, hex hd (Used on 2 brackets only)	1	
-76	MS35296-113	. SCREW, Cap, hex hd (Used twice on 2 brackets only)	2	
-77	MS35338-48	. WASHER, Lock	2	
-78	MS51968-14	. NUT, Plain, hex ---*---	2	
-79	195-510	BRACKET, Crossmember	2	

Table 4–7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-49-80	195-515	BRACKET, Spring	4	
		(ATTACHING PARTS)		
-81	MS35296-113	. SCREW, Cap, hex hd	1	
-82	MS35296-114	. SCREW, Cap, hex hd	1	
-83	MS35338-48	. WASHER, Lock	2	
-84	MS51968-14	. NUT, Plain, hex	2	
		----*----		
-85	195-528	CROSSMEMBER, Frame	1	
-86	195-910	SUPPORT, Cab, LH	1	
-87	195-911	SUPPORT, Cab, RH	1	
		(ATTACHING PARTS)		
-88	MS35296-64	. SCREW, Cap, hex hd	2	
-89	COML	WASHER, Wedge, 3/8	2	
-90	MS35338-46	. WASHER, Lock	2	
-91	MS51968-5	. NUT, Plain, hex	2	
		----*----		
	195-916	BRACKET ASSEMBLY, Steering stop	1	
		(ATTACHING PARTS)		
-92	MS35296-113	. SCREW, Cap, hex hd	1	
-93	MS35338-48	. WASHER, Lock	1	
-94	MS51968-14	. NUT, Plain, hex	1	
		----*----		
-95	MS90726-65	. . SCREW, Cap, hex hd	2	
-96	MS35338-46	. . WASHER, Lock	2	
-97	MS51968-8	. . NUT, Plain, hex	2	
-98	NO NUMBER	. . BRACKET	NP	
-99	195-513	BRACKET, Steering gear	1	
		(ATTACHING PARTS)		
-100	MS35296-114	. SCREW, Cap, hex hd	3	
-101	MS35296-113	. SCREW, Cap, hex hd	2	
-102	COML	. WASHER, Wedge, 1/2	2	
-103	MS35338-48	. WASHER, Lock	5	
-104	MS51968-14	. NUT, Plain, hex	5	
		----*----		
-105	195-503	SUPPORT, Step	2	
-106	195-953	SUPPORT, Step	1	
-107	195-504	SUPPORT, Step	1	
		(ATTACHING PARTS)		
-108	MS35296-113	. SCREW, Cap, hex hd	2	
-109	MS35338-48	. WASHER, Lock	2	
-110	MS51968-14	. NUT, Plain, hex	2	
		----*----		
-111	195-512	BRACKET, Steering	1	
		(ATTACHING PARTS)		
-112	MS35296-114	. SCREW, Cap, hex hd	2	
-113	MS35296-113	. SCREW, Cap, hex hd	3	
-114	COML	. WASHER, Wedge, 1/2	2	
-115	MS35338-48	. WASHER, Lock	5	

Table 4–7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-49-116	MS51968-14	. NUT, Plain, hex	5	
		----*---		
	X18	CLAMP ASSEMBLY (76110)	1	
-117	MS51967-5	. . NUT, Plain, hex	2	
-118	MS35338-45	. . WASHER, Lock	2	
-119	25-018	. . BOLT, U (76110)	1	
-120	28-018	. . CLAMP (76110)	NP	
-121	669-555	PIPE ASSEMBLY, Exhaust	1	
-122	COML	PLUG, Pipe, 1-1/2 NPT	1	
-123	669-521	SPARK ARRESTOR	1	
		(ATTACHING PARTS)		
-124	199-19	. CLAMP, Loop	1	
-125	MS35338-45	. WASHER, Lock	2	
-126	MS35690-524	. NUT, Plain, hex	2	
		----*----		
-127	195-530	BRACKET, Mounting	1	
		(ATTACHING PARTS)		
-128	MS35296-113	. SCREW, Cap, hex hd	2	
-129	MS35338-48	. WASHER, Lock	2	
-130	MS51968-14	. NUT, Plain, hex	2	
		----*---		
-131	195-527	SUPPORT, Cab	1	
		(ATTACHING PARTS)		
-132	MS35296-64	. SCREW, Cap, hex hd	3	
-133	MS35296-65	. SCREW, Cap, hex hd	1	
-134	COML	. WASHER, Wedge, 3/8	4	
-135	MS35338-46	. WASHER, Lock	4	
-136	MS51968-5	. NUT, Plain, hex	4	
		---*---		
-137	195-670	BRACKET, Mounting	1	
		(ATTACHING PARTS)		
-138	MS35296-15	. SCREW, Cap, hex hd	4	
-139	MS35338-48	. WASHER, Lock	4	
-140	MS51968-14	. NUT, Plain, hex	4	
		----*---		
-141	195-852	BRAKET, Support	1	
-142	195-669	BRACKET, Mounting	1	
		(ATTACHING PARTS)		
-143	MS35296-114	. SCREW, Cap, hex hd	2	
-144	MS35296-113	. SCREW, Cap, hex hd	2	
-145	MS35338-48	. WASHER, Lock	4	
-146	MS51968-14	. NUT, Plain, hex	4	
		----*---		
-147	195-907	BRACKET, Mounting	1	
-148	195-912	BRACKET, Mounting	1	
-149	195-518	BRACKET, Shock absorber	4	
		(ATTACHING PARTS)		
-150	MS35296-64	. SCREW, Cap, hex hd	2	
-151	MS35338-46	. WASHER, Lock	2	

Table 4–7. Illustrated Parts Breakdown (Cont)

FIGURE & INDEX NO.	PART NO.	1 2 3 4 5 6 7 DESCRIPTION	QTY PER ASSY	USABLE ON CODE
4-49-152	MS51968-5	. NUT, Plain, hex ....*...	2	
-153	807	GROMMET, Rubber (70485)	2	
-154	211-27	PLATE Frame	1	
		(ATTACHING PARTS)		
-155	MS35296-162	. SCREW, Cap, hex hd	8	
-156	MS35338-50	. WASHER, Lock	8	
-157	MS51968-20	. NUT, Plain, hex ....*...	8	
-158	195-1669	BRACKET, Mounting	2	
		(ATTACHING PARTS)		
-159	MS35296-115	. SCREW, Cap, hex hd	4	
-160	MS35338-48	. WASHER, Lock	4	
-161	MS51968-14	. NUT, Plain, hex ....*...	4	
-162	611-243	RAIL, Frame, LH	1	
-163	611-244	RAIL, Frame, RH	1	

APPENDIX A
REFERENCES

MIL-P-116E	Methods of Preservation	MIL-STD-129	Marking for Shipment and Storage
MIL-S-10379	General Requirements for Vehicles (and Vehicular Subassemblies) Radio Interference Suppression	TM 38-750	Army Equipment Record System

APPENDIX B

BASIC ISSUE ITEMS LIST

B-1. SCOPE.

B-2. This appendix lists items which accompany the towing tractor or are required for installation, operation, or operator's maintenance.

NOTE

No parts are required for use by the user of the towing tractor, TM 55-1740-200-14.

APPENDIX C
MAINTENANCE ALLOCATION CHART

C-1. PURPOSE.

The purpose of the maintenance allocation chart is to provide all activities with maintenance functions to be performed at each level of maintenance.

C-2. DEFINITIONS.

a. *Column 1, Group Number.* Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. *Column 2, Functional Group.* Column 2 lists the noun names of components, assemblies, subassemblies, and modules on which maintenance is authorized.

c. *Column 3, Maintenance Functions.* Maintenance functions will be limited to and defined as follows:

(1) *Inspect.* To determine serviceability of an item by comparing its physical, mechanical, and electrical characteristics with established standards.

(2) *Test.* To verify serviceability and to detect electrical or mechanical failure by use of test equipment.

(3) *Service.* To clean, to preserve, to charge, and to add fuel, lubricants, cooling agents, and air. If it is desired that elements, such as painting and lubricating, be defined separately, they may be so listed.

(4) *Adjust.* To rectify to the extent necessary to bring into proper operating range.

(5) *Align.* To adjust specified variable elements of an item to bring to optimum performance.

(6) *Calibrate.* To determine the corrections to be made in the readings of instruments or test equipment used in precise measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared with the certified standard.

(7) *Install.* To set up for use in an operational environment such as an emplacement, site, or vehicle.

(8) *Replace.* To replace unserviceable items with serviceable assemblies, subassemblies, or parts.

(9) *Repair.* To restore an item to serviceable condition. This includes, but is not limited to, inspection, cleaning, preserving, adjusting, replacing, weldlng, riveting, and strengthening.

(10) *Overhaul.* To restore an item to a completely serviceable condition as prescribed by maintenance serviceability standards prepared and published for the specific item to be overhauled.

(11) *Rebuild.* To restore an item to a standard as nearly as possible to original or new condition in appearance, performance, and life expectancy. This is accomplished through complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements (items) using original manufacturing tolerances and specifications, and subsequent reassembly of the item.

(12) *Symbols.* The symbol O, F, H, or D placed in the appropriate column indicates the level responsible for performing that particular maintenance function. The symbol "%%" which applies to organizational maintenance indicates the level responsible for performing that particular maintenance function may be performed provided' it is specifically authorized by the direct support maintenance officer. Use of the symbol will apply only to replacement of major assemblies and time-consuming operations which are within the capabilities of organization, but over which control by the commodity commands is considered essential. In no case will the direct support maintenance officer require the accomplishment of a "%%" maintenance function by an organization or unit, and in no case will a "%%" function authorize stockage of parts at organizational level.

d. *Column 4, Tools and Equipment.* This column will be used to specify, by code, those tools and test equipment required to perform the designated function.

e. *Column 5, Remarks.* Self-explanatory.

C-3. GENERAL.

a. A maintenance function assigned to a maintenance level, which for any reason is beyond its capability, becomes the responsibility of the next higher maintenance level.

b. The authority to perform a maintenance function does not constitute authority to requisition or otherwise secure necessary repair parts specified in current supply directives.

C-4. DEVIATIONS.

a. Normally, there will be no deviations from the assigned maintenance level. In cases of operational necessity, a maintenance-function assigned to a maintenance level may, on a one-time basis and at the request of the lower maintenance level, be authorized to the lower maintenance level by the maintenance officer of the level to which the function assigned.

b. The furnishing of special tools, equipment, and the like, required by the lower maintenance level to perform this function, will be the responsibility of the level to which the function is assigned.

C-5. ADDITIONAL INFORMATION.

a. Changes in the maintenance allocation chart will be base d on continuing evaluation and analysis by responsible technical personnel and on Maintenance Request Forms DA 2407 received from field activities.

b. All maintenance prescribed herein will be performed in accordance with applicable publications.

c. In any instance of conflict with current tool and equipment lists or current supply manuals, this maintenance allocation chart will be the final authority. Each such instance should be promptly reported by Maintenance Request Form DA 2407.

MAINTENANCE ALLOCATION CHART
FOR
TOWING TRACTOR TYPE MB-4
(AR 310-3)

(1) GROUP NO.	(2) FUNCTIONAL GROUP	(3) MAINTENANCE FUNCTION											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
00	Tractor, Aircraft Towing													
01	CAB Assy	O			F				H	F				
	HOOD Assy	O			O				H	F				
	DOOR Assy	O			F				H	F				
	Deck & Running Board	O			F				H	F				
	Fenders & Grille Assy	O			F				H	F				
02	Steering System													
	Tank Hyd.	O		O					H	H				
	Valve Assys	F							H	H				
	Pump	F		F					H	H				
	Hoses	F							F					
	Drag Link Assy	F		F					H	H				
	Tie Rod	F		F					H	H				
	Booster Cylinder	F		F					H	H				
	Steering Gear	F		F					H	H				
03	Electrical System													
	Distributor	F		F	F				F	H				
	Coil	F							F					
	Wiring	F							H	F				
	Regulator	F			F				F					
	Relays	F			F				F					
	Horn	F							F					
	Switches	F							F					
	Starter	F		F					H	H				
	Generator	F		F					H	H				
	Brushes	F							F					
	Wiper System	F			F				H	H				
	Blades	O							O					
	Lights	O				F			O	F				
	Battery	O		O					O					
	Instrument Panel	F							H	F				
	Cabin Heater	F							F	F				
04	Fuel System													
	Pump	F							F	F				
	Carburetor and Governor	F			F				H	H				

MAINTENANCE ALLOCATION CHART
FOR
TOWING TRACTOR TYPE MB-4

(AR 310-3)

(1) GROUP NO.	(2) FUNCTIONAL GROUP	(3) MAINTENANCE FUNCTION										(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL		
04	Tank	I		O					H	F			
05	Cooling System												
	Fan	I							H				
	Radiator	I		O					F	H			
	Hoses	I							F				
	Thermostat	I							F				
	Pump, Water	I		F	F				H	H			
	Fan Belt	I			O				F				
06	Parking Brake												
	Linings	I			F				H				
	Lever & Linkage	C			F				F	F			
07	Oiling Group												
	Gage Rod	C							F				
	Oil Pump	C							H	H			
	Oil Filters	I							F				
08	Engine Assy	I		O	F				H	H			
09	Hyd Transmission	I		F	F				H	H			
10	Mech Transmission	I		F	F				H	H			
11	Propeller Shaft Inst												
	Universal Joints	I		F					H				
	Shafts	I		F					H				
12	Transfer Transmission	I		F	F				H	H			
13	Brake, System												
	Lever Pedal	O		F					F	F			
	Link Assy	I		F					F	F			
	Master Cyl	I		F					F	F			
	Wheel Cyl	I							H	H			
	Booster Assy	I		F					H	H			

MAINTENANCE ALLOCA ON CHART
FOR
TOWING TRACTOR TY E MB-4
(AR 310-3)

(1) GROUP NO.	(2) FUNCTIONAL GROUP	(3) MAINTENA CE FUNCTION											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
13														
	Brake Shoe	F			F				H					
	Brake Drums	F							H	H				
14	Differential Install.	F		F					H	H				
15	Axle Installation	F							H	H				
16	Frame & Brackets Assy	F							H	F				

APPENDIX D
REPAIR PARTS AND SPECIAL TOOLS LIST

(Current as of)

Section I. INTRODUCTION

D1. SCOPE.

This listing includes those items required for the performance of organization, direct support and general support maintenance of the type MB-4 aircraft towing tractor.

D2. GENERAL.

This Repair Parts and Special Tools List is divided into the following sections:

a. *Basic Issue Items – Section II.* (Not applicable.)

b. *Maintenance and Operating Supplies – Section III.* (Not applicable.)

c. *Prescribed Load Allowance – (PLA) Section IV.* (Not applicable.)

d. *Repair Parts – Section V – (ORG).* A list of repair parts authorized for the performance of maintenance or organizational level in alphabetical sequence within each functional group.

e. *Special Tools, Test and Support Equipment – Section VI – (ORG).* (Not applicable.)

f. *Repair Parts – Section VII (D/S, G/S).* A list of repair parts authorized for the performance of maintenance at the direct support, general support, and depot level in alphabetical sequence within each functional group.

g. *Special Tools, Test and Support Equipment – Section VIII (D/S, G/S).* (Not applicable.)

h. *Index – Section IX.* This section is divided into the following parts:

(1) *Federal Stock Number Index.* A list of Federal stock numbers in ascending numerical sequence appearing in all listings cross-referenced to figure and item number.

(2) *Reference Number Index.* A list of reference numbers in alpha-numeric sequence appearing in all listings cross-referenced to manufacturer's code and figure and item number.

D3. EXPLANATION OF COLUMNS.

The following provides an explanation of columns in the tabular list in sections V and VII.

a. *Source, Maintenance, and Recoverability Codes (SMR).*

(1) *Source Code.* Indicates the selection status and source for the listed item. Source codes used are:

Code	Explanation
P	Repair Parts. Special Tools and Test Equipment supplied from the GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.
P2	Repair Parts, Special Tools and Test Equipment which are procured and stocked for insurance purposes because the combat or military essentiality of the end item dictates that a minimum quantity be available in the supply system.

Code	Explanation
P9	Assigned to items which are NSA design controlled: unique repair part, special tools, test, measuring and diagnostic equipment, which are stocked and supplied by the Army COMSEC Logistic System and which are not subject to the provisions of AR 380-41.
P10	Assigned to items which are NSA design controlled: special tools, test, measuring and diagnostic equipment for COMSEC support, which are accountable under the provisions of AR 38041, and which are stocked and supplied by the Army COMSEC Logistic System.
M	Repair Parts, Special Tools and Test Equipment which are not procured or stocked, as such, in the supply system but are to be manufactured at indicated maintenance levels.
A	Assemblies which are not procured or stocked as such, but are made up of two or more units. Such component units carry individual stock numbers and descriptions, are procured and stocked separately and can be assembled to form the required assembly at indicated maintenance categories.
X	Parts and assemblies that are not procured or stocked because the failure rate is normally below that of the applicable end item of component. The failure of such part or assembly should result in retirement of the end item from the supply system.
X1	Repair Parts which are not procured or stocked. The requirement for such items will be filled by the next higher assembly or component.
X2	Repair Parts. Special Tools, and Test Equipment which are not stocked and have no foreseen mortality. The indicated maintenance category requiring such repair parts will attempt to obtain the parts through cannibalization or salvage, the item may be requisitioned with exception data, from the end item manager, for immediate use.
G	Major assemblies that are procured with PEMA funds for initial issue only as exchange assemblies at DSU and GSU level. These assemblies will not be stocked above the DS and GS level or returned to depot supply level.
NOTE :	Cannibalization or salvage may be used as a source of supply for any items source coded above except those coded X1 and aircraft support items as restricted by AR 700-42.

(2) *Maintenance Code.* Indicates the lowest category of maintenance authorized to install the listed item. Maintenance codes used are:

Code C – Crew or Operator Maintenance.
Code O – Organizational Maintenance.
Code F – Direct Support Maintenance.
Code H – General Support Maintenance.

(3) *Recoverability Code.*

R – Applied to repair parts, (assemblies and components) special tools and test equipment which are considered economically reparable at direct and general support maintenance levels. When the item is no longer economically repairable, it is normally disposed of at the GS level. When supply considerations dictate, some of

these repair parts may be listed for automatic return to supply for depot level repair as set forth in AR 710-50. When so listed, they will be replaced by supply on an exchange basis."

"S''- Repair Parts, Special Tools, Test Equipent and assemblies which are economically reparable at DSU and GSU activities and which normally are furnished by supply on an exchange basis. When items are determined by a GSU to be uneconomically reparable, they will be evacuated to a depot for evaluation and analysis before final disposition.

'"T" - Higher dollar value recoverable repair parts, special tools and test equipment which are subject to special handling and are issued on an exchange basis. Such items will be repaired or overhauled at depot maintenance activities only. No repair may be accomplished at lower levels.

"U" - Repair Parts, Special Tools and Test Equipment specifically selected for salvage by reclamation units because of precious metal content, critical materiels, high dollar value or reusable casings or castings.

b. *Federal Stock Number.* Indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. *Description.* Indicates the Federal item name and any additional description of the item required. Multiple application of an item is also listed within this column, quantities appearing before each application. A part number subcolumn indicates the manufacturer's reference number or identification number of the item, followed by the applicable five-digit Federal supply code for manufacturer's in parentheses.

d. *Unit of Measure (MEAS).* A *2* character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. *Quantity Incorporated in Unit.* Indicates the quantity of the items per end item in relation to each major subassembly. A "V" appearing in this column in-lieu of a quantity indicates that a definite quantity cannot be indicated.

f. *15-Day Organizational Maintenance Allowance.*

(1) The allowance column is divided into four subcolumns. Indicated in each subcolumn opposite the first appearance of each item is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have an entry of REF in the allowance column. Items authorized for use as required but not for initial stockage are identified "with an asterisk (*) in the allowance column.

(2) The quantitative allowances for organizational level of maintenance represents one initial prescribed load for a 15-day period for the number of equipments supported. Units and organizations authorized additional prescribed loads will multiply the number of prescribed loads authorized by the quantity of repair parts reflected in the appropriate density column to obtain the total quantity of repair parts authorized.

(3) Organizational units providing maintenance for more than 100 of these equipments shall determine the total quantity of parts required by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths and multiplying the decimal factor by the parts quantity authorized in the 50-100 allowance column. Example: authorized allowance for 51-100 is 12; for 140 equipments multiply 12 by 1.40 or 16.80 rounded off to 17 parts required.

(4) Subsequent changes to allowances will be limited as follows: No change in the range of items is authorized. If additional items are considered necessary, recommendations should be forwarded to U.S. Army Aviation Systems Command for exception or revision to the allowance list. Revisions to the range of items authorized will be made by the U.S. Army Aviation Systems Command based upon engineering experience, demand data or TAERS information.

g. *30-Day DS/GS Maintenance Allowance.*

(1) The allowance column is divided into three subcolurnns. Indicated in each subcolumn, opposite the first appearance of each item, is the total quantity of items authorized for the number of equipment supported. Subsequent appearances of the same item will have an entry of REF in the allowance column. Items authorized for use as required but not for initial stockage are identified with an asterisk (*) in the allowance column.

(2) The quantitative allowance for DS/GS levels of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

(3) Determination of the total quantity of parts required for maintenance of more than 100 of these

equipments can be accomplished by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column. Example: authorized allowance for 51-100 equipments is 40; for 150 equipments multiply 40 by 1.50 or 60 parts required.

h. *1-Year Allowances per 100 Equipment/Contingency Pkmning Purposes.* When applicable, indicates opposite the first appearance of each item the total quantity required for distribution and contingency planning purposes. The range of items indicates total quantities of all authorized items required to provide for adequate support of 100 equipments for one year. Items authorized for use as required but not for initial stockage are identified with an asterisk (*) in the allowance column.

i. *Depot Maintenance Allowance per 100 Equipments.* Indicates opposite the first appearance of each item the total quantity authorized for depot maintenance of 100 equipments. Subsequent appearances of the same item will have and entry of REF in the allowance column. Items authorized for use as required but not for initial stockage are identified with an asterisk (*) in the allowance column.

j. *Illustration.* This column is divided as follows:

(1) *Figure Number.* Indicates the figure number of the illustration in which the item is shown.

(2) *Item Number.* Indicates the call-out number used to reference the item in the illustration.

D4. How to Locate Repair Parts

a. When Federal Stock Number or reference number is unknown:

(1) First. Find the exploded view illustration of the assembly or subassembly to which the repair part belongs.

(2) Second. Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(3) Third. Using the Repair Part Listing, find the figure and item number listed in the illustration column.

b. When Federal Stock Number or reference number is known:

(1) First. Using the index of Federal Stock Numbers and reference numbers find the pertinent Federal Stock Number or reference number. This index is in ascending FSN sequence followed by a list of reference numbers in ascending alpha-numeric sequence, cross--referenced to the illustration figure number and item number.

(2) Second. Using the Repair Parts Listing, find the figure and item number listed in the illustration column referenced in the index of Federal Stock Numbers and reference numbers.

D5. FEDERAL SUPPLY CODES FOR MANUFACTURERS.

CODE	VENDOR'S NAME AND ADDRESS
01843	American Bosch Div. American Bosch Arms Corp. Springfield, Mass. 01107
06848	Bendix Products Div. Bendix Aviation Corp. South Bend, Ind. 46620
12204	Chrysler Corp. Detroit, Mich. 48231
13445	Cole Hersee Co. Boston, Mass. 02127
14608	Corbin Cabinet Lock Div. The American Hardware Corp. New Britain, Corm. 06050
16128	Gichner Mobile Systems Inc. 6701 Amendale Rd. Beltsville, Mo. 20705
16764	Delco-Remy Division General Motors Corp. Anderson, Ind. 46011
19728	The Prestolite Company Toledo, Ohio 43601
23040	Ford Motor Co. Livonia, Mich. 48151
24446	General Electric Co. 11 River Road Schenectady, N.Y. 12305

CODE	VENDORS NAME AND ADDRESS
30327	Imperial Brass Mfg. Co. Chicago, Illinois 60648
43477	Nichols and Stone Co. 232 Sherman St. Gardener, Mass. 01441
46522	Hupp Corporation Cleveland, Ohio 44110
48873	Prestolite Battery Co. Toledo, Ohio 43601
57733	Stewart-Warner Corp. Chicago, Ill. 60614
60038	Timken Roller Bearing Co. Canton, Ohio 44706
60703	Trico Products Corp. Buffalo, N.Y. 14203
62983	Vickers Inc. Detroit, Mich. 48084
63477	Wagner Electric Corp. St. Louis, Mo. 63133
70040	AC Spark Plug Div. General Motors Corp. Flint, Mich. 48556
70417	Amplex Div. Chrysler Corp. Detroit, Mich. 48231
70434	Anchor Coupling Co. Inc. Libertyville,Ill.60048
70523	Atwood Vacuum Machine co. Rockford, Ill. 61101
71366	Bunting Brass and Bronze Co Toledo, Ohio 43601
7 1500	Carter Carburetor Div. ACF Industries Inc. St. Louis. Mo. 63107
7 1730	The Crescent Co. Pawtucket, R.I. 02862

CODE	VENDOR'S NAME AND ADDRESS
71843	Cleveland Forge Works Div. Porter H.K. Co. of Delaware Cleveland, Ohio 44104
72962	Elastic Stop Nut Corp. of America Union, N.J. 07083
73331	Guide Lamp Div. General Motors Corp. Anderson, Ind. 46011
73842	Goodyear Tire & Rubber Co. Akron, Ohio 44316
74865	Chrysler Corp. Marine and Industrial Engine Div. Detroit, Mich. 48040
75175	K. D. Lamp Div. Northeast Capital Corp. Cincinnati, Ohio 45210
75300	King-Seely Corp. Ann Arbor, Mich. 48106
76260	Mechanics Universal Joint Div. Borg Warner Corp. Rockford, Ill. 61101
76369	Minerallac Electric Co. Chicago, Ill. 60607
76680	National Seal Div. Federal-Mogul-Bower Bearings Inc. Redwood City, Calif. 94061
77640	Ross Gear and Tool Co. Layfayette, Ind. 47902
78500	North American Rockwell Corp. Ashtabula, Ohio 44004
78977	Unity Mfg. Co. Chicago, 111.60610
79550	Whitaker Cable Corp. North Kansas City, Mo., 64116
79575	Wico Special Products Division West Springfield, Mass. 01089

CODE	VENDOR'S NAME AND ADDRESS
80049	Department of the Air Force Washington, D.C.
88044	Aeronautical Standards Group, Dept. of Navy and Air Force
92867	Orscheln Brake Lever Mfg. Moberly, Mo. 65270
95993	Crenlo, Inc. Rochester, Minnesota 55901
96259	Fluid Controls Inc. Mentor, Ohio 44060
	American Coleman Co. Littleton, Colorado 80120

CODE	VENDORS NAME AND ADDRESS
96906	Military Standard Promulgated by Standardization Div., Directorate of Logistic Services, DSA
98126	Freedman Seating Co. 2021 Lee St. Evanston, Ill. 60202
98349	Thompson Ramo Wooldridge Inc. Van Dyke Plant Warren, Mich. 48092
99453	Cleveland Steel Products Corp. Cleveland, Ohio 4142

(1) (A) SOURCE CODE	(1) (B) MAINT. CODE	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	REFERENCE NUMBER AND MFG CODE		(3) DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 15-DAY ORG MAINT ALW. (A) 1-5	(B) 6-20	(C) 21-50	(D) 51-100	(7) ILLUSTRATION (A) FIG. NO.	(B) ITEM NO.
P	O	R	1740-134-1053	690-1B1	(96606)	TRACTOR, WHEELED, AIRCRAFT TOWING	EA	1	*	*	*	*	1-1	
P	O	R	1740-865-9705	690-1B	(96606)	TRACTOR, WHEELED, AIRCRAFT TOWING	EA	1	*	*	*	*	1-1	
						SECTION V REPAIR PARTS (Organizational)								
						GROUP 01 CAB ASSEMBLY								
P	O		5310-584-5272	MS35338-48	(96906)	WASHER, LOCK	EA	2	*	*	*	*	4-2	12
P	O		5310-809-4058	MS27183-10	(96906)	WASHER, FLAT	EA	V	*	*	*	*	4-3	2
P	O		5310-934-9751	MS35650-302	(96906)	NUT, PLAIN, HEXAGON	EA	V	*	*	*	*	4-4	4
X2	O		2540-311-4200	75200	(57732)	HANDLE, HOOD	EA	1	*	*	*	*	4-5	10
						GROUP 02 STEERING SYSTEM								
P	O		2530-593-4114	642-66	(96606)	SHIELD, REAR STEERING	EA	1	*	*	*	*	4-8	101
						GROUP 03 ELECTRICAL SYSTEM								
P	O		5307-579-5397	192-187	(96606)	STUD, PLAIN	EA	2	*	*	*	*	3-6	1
P	O		6220-939-4468	926470	(96606)	HEADLIGHT	EA	2	*	*	*	*	3-7	
P	O		2540-064-4765	M874-44	(60703)	BLADE, WINDSHIELD WIPER	EA	2	*	*	*	*	4-16	68
P	O		2540-064-4769	88080-67	(60703)	ARM, WINDSHIELD WIPER	EA	2	*	*	*	*	4-16	69
P	O		6220-903-8586	200-2-6-049	(75175)	STOPLIGHT, TAILLIGHT	EA	1	*	*	*	*	4-16	77
P	O		6220-984-1324	882-2-3-049	(75175)	FLOODLIGHT	EA	1	*	*	*	*	4-16	82
P	O		6220-961-0783	275	(78997)	SPOTLIGHT	EA	1	*	*	*	*	4-16	90
P	O		5310-865-6073	MS21306-1	(96906)	WASHER, FLAT	EA	2	*	*	*	*	4-16	113
P	O		6220-942-2678	3286	(75175)	LENS, STOPLIGHT-TAILLIGHT	EA	1	*	*	*	*	4-22	1
P	O		6240-295-1184	1034	(24446)	LAMP, INCANDESCENT	EA	1	*	*	*	*	4-22	3
P	O		6220-959-8018	35377	(75175)	LENS, STOPLIGHT-TAILLIGHT	EA	1	*	*	*	*	4-22	5
P	O		6220-959-8021	35376	(75175)	GASKET	EA	1	*	*	*	*	4-22	6
P	O		6240-836-2079	4411	(24446)	LAMP, INCANDESCENT	EA	1	*	*	*	*	4-23	5
X2	O		6220-959-8028	32575-1	(75175)	BRACKET, FLOODLIGHT	EA	1						
X2	O		6220-039-6973	5933771	(73331)	MOULDING ASSEMBLY	EA	1	*	*	*	*	4-24	
P	O		6240-681-1638	5956007	(73331)	LAMP, INCANDESCENT	EA	1	*	*	*	*	4-24	9
P	O		5310-934-9751	MS35650-302	(96906)	NUT, PLAIN, HEXAGON	EA	V	*	*	*	*	4-25	50
P	O		6220-217-9149	7015	(78977)	PAD	EA	1	*	*	*	*	4-25	53

(1) (A) SOURCE CODE	(1) (B) MAINT. CODE	(1) (C) REC. CODE	(2) FEDERAL STOCK NUMBER	(3) REFERENCE NUMBER AND MFG CODE		DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 15-DAY ORG MAINT ALW. (A) 1–5	(B) 6–20	(C) 21–50	(D) 51–100	(7) ILLUSTRATION (A) FIG. NO.	(B) ITEM NO.
						GROUP 04 FUEL SYSTEM								
X2	O		5330-246-2906	952062	(12204)	WASHER, NONMETALLIC	EA	1					4–28	20
P	O		5315-582-3026	247-3398	(96606)	PIN, STRAIGHT, HEADED	EA	1	*	*	*	*	4–28	57
X2	O		2910-593-4125	631-24	(96606)	PLATE, HINGE, THROTTLE	EA	1					4–28	58
						GROUP 05 COOLING SYSTEM								
P	O		2930-715-7562	521-50	(96606)	CAP, RADIATOR	EA	1	*	*	*	*	4–32	18
						GROUP 06 PARKING BRAKE								
X2	O		5340-530-5544	79-2	(96606)	GRIP, HANDLE	EA	1					4–34	1
P	O		5355-668-1925	468	(92867)	KNOB	EA	1	*	*	*	*	4–34	30
						GROUP 07 OILING GROUP								
P	O		2805-633-0023	1125411	(74865)	INDICATOR, OIL LEVEL	EA	1	*	*	*	*	4–36	25
						GROUPS 08, 09, 10 ENGINE, HYDRAULIC TRANSMISSION, AND MECHANICAL TRANSMISSION								
P	O		5355-668-5363	469	(92867)	KNOB	EA	1	*	*	*	*	4–37	
						GROUP 13 BRAKE SYSTEM								
P	O		2540-611-7659	668919	(12204)	PAD, PEDAL	EA	1	*	*	*	*	4–42	1
P	O		5330-811-0934	B2808-95	(16128)	GASKET	EA	1	*	*	*	*	4–42	22

(1) SOURCE MAINT. AND RECOV CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	(3) REFERENCE NUMBER AND MFR CODE		DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
						SECTION VII REPAIR PARTS (DS/GS) GROUP 01 CAB ASSEMBLY									
X2	F		2420-592-3706	650-86	(96606)	GRILL ASSEMBLY	EA	1						4-2	4
P	O		5310-584-5272	MS35338-48	(96906)	WASHER, LOCK	EA	2	*	*	*			4-2	12
X2	H		2520-033-9371	580-41	(96606)	PROPELLER SHAFT, FRONT	EA	1						4-2	22
X2	H		2520-033-9370	580-42	(96606)	PROPELLER SHAFT, REAR	EA	1						4-2	23
P	O		5310-809-4058	MS27183-10	(96906)	WASHER, FLAT	EA	V	*	*	*			4-3	2
P	F		2420-608-8088	16184	(95993)	SPRING, HINGE	EA	1	*	*	*			4-3	11
X2	H		2540-322-2653	651-466	(96606)	FINGER, LIFT GLASS	EA	1						4-3	17
X2	H		2420-612-9389	650-103	(96606)	CHANNEL ASSEMBLY	EA	1						4-3	18
X2	H		2420-525-4318	651-312	(96606)	ROOF, PLEXIGLASS	EA	1						4-3	29
X2	F		2590-924-2125	651-424	(96606)	PANEL ASSEMBLY, CABIN FLOOR	EA	1						4-4	
P	O		5310-934-9751	MS35650-302	(96606)	NUT, PLAIN, HEXAGON	EA	V	*	*	*			4-4	4
P	F		2540-601-9686	651-335	(96606)	PLUNGER, VENT LOCK	EA	1	*	*	*			4-4	5
P	F		2420-507-0447	651-334	(96606)	DOOR VENTILATOR	EA	1	*	*	*			4-4	9
X2	F		2420-601-9685	651-337	(96606)	RETAINER	EA	1						4-4	14
P	H		2540-942-5386	250E	(98126)	SEAT ASSEMBLY	EA	1	*	*	*			4-4	18
X2	F		2540-942-2617	AVM9573	(70523)	. SEAT ADJUSTER (RH)	EA	1						4-4	22
X2	F		2540-758-6460	AVM9574	(70523)	. SEAT ADJUSTER (LH)	EA	1						4-4	23
X2	F		2540-942-2616	651-805	(96606)	. SEAT BASE	EA	1						4-4	26
X2	F		5340-584-3854	651-340	(96606)	HANDLE, BOW	EA	1						4-4	38
X2	F		2590-924-2128	651-820	(96606)	PANEL, CAB FLOOR	EA	1						4-4	59
X2	F		2420-601-9688	651-287	(96606)	PANEL, SIDE (LH)	EA	1						4-5	6
X2	F		2420-601-9681	651-288	(96606)	PANEL, SIDE (RH)	EA	1						4-5	7
X2	O		2540-311-4200	752000	(57733)	HANDLE, HOOD	EA	1						4-5	10
X2	F		2420-594-7447	651-284	(96606)	PANEL ASSEMBLY (LH)	EA	1						4-5	13
X2	F		2420-594-7446	651-285	(96606)	PANEL ASSEMBLY (RH)	EA	1						4-5	14
X2	F		2420-594-7444	651-282	(96606)	PANEL ASSEMBLY, UPPER LEFT	EA	1						4-5	15
X2	F		2420-594-7445	651-283	(96606)	PANEL ASSEMBLY, UPPER RIGHT	EA	1						4-5	16
X2	F		2420-592-3705	651-281	(96606)	PANEL ASSEMBLY, HOOD	EA	1						4-5	17
P	F		5340-974-4700	650-154	(96606)	HANDLE ASSEMBLY (RH)	EA	1	*	*	*			4-6	
P	F		5340-974-4701	650-155	(96606)	HANDLE ASSEMBLY (LH)	EA	1	*	*	*			4-6	
P	F		2540-507-2412	14211	(95993)	HANDLE, WINDOW REGULATOR	EA	1	*	*	*			4-6	1
X2	F		5340-941-3739	218-7	(96606)	SPRING, ESCUTCHEON	EA	1						4-6	4
X2	F		5340-576-1543	651-296	(96606)	ESCUTCHEON PLATE	EA	1						4-6	5
P	F		5340-950-3333	651-796	(96606)	RING, RETAINING	EA	1	*	*	*			4-6	8
P	F		2590-924-2131	650-153	(96606)	SHAFT AND HANDLE ASSEMBLY	EA	1	*	*	*			4-6	9

(1) SOURCE MAINT. AND RECOV CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	REFERENCE NUMBER AND MFR CODE	(3) DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
P	F		5340-033-9322	651-801 (96606)	PLATE, ESCUTCHEON	EA	1	*	*	*			4-6	10
P	F		5340-063-9799	650-157 (96606)	LATCH, RIM (LH)	EA	1	*	*	*			4-6	12
P	F		5340-063-9797	650-156 (96606)	LATCH, RIM (RH)	EA	1	*	*	*			4-6	12
X2	H		2540-592-3769	651-294 (96606)	CHANNEL ASSEMBLY, REGULATOR	EA	1						4-6	18
X2	H		2540-562-1916	14208 (95993)	REGULATOR, VEHICLE	EA	1						4-6	19
P	F		2540-845-0557	651-293 (96606)	STRIP, WEATHER	EA	1	*	*	*			4-6	23
P	F		5340-647-2384	651-298 (96606)	HINGE, BUTT (LH)	EA	1	*	*	*			4-6	25
P	F		5340-647-2417	651-330 (96606)	HINGE, BUTT (RH)	EA	1	*	*	*			4-6	25
P	F		5340-820-8547	15250C (14608)	CATCH, LUGGAGE	EA	2	*	*	*			4-7	4
X2	F		2420-601-9679	651-256 (96606)	FENDER, FRONT (RH)	EA	1						4-7	19
X2	F		2420-601-9689	651-257 (96606)	FENDER, FRONT (LH)	EA	1						4-7	19
P	F		5310-732-0558	MS51967-8 (96906)	NUT, PLAIN, HEXAGON	EA	1	*	*	*			4-7	24
P	F		5305-225-3839	MS90725-8 (96906)	SCREW, CAP, HEXAGON	EA	1	*	*	*			4-7	27
P	F		5310-582-5965	MS35338-44 (96906)	WASHER, LOCK	EA	1	*	*	*			4-7	28
X2	F		2590-925-8175	651-253 (96606)	RUNNING BOARD ASSEMBLY	EA	1						4-7	30
X2	F		2420-601-9691	651-269 (96606)	PLATE, COVER (LH)	EA	1						4-7	36
X2	F		2420-601-9690	651-270 (96606)	PLATE, COVER (RH)	EA	1						4-7	36
					GROUP 02 STEERING SYSTEM									
P	F		2530-506-9425	640-71 (96606)	HOSE ASSEMBLY, RUBBER	EA	1	*	*	*			4-8	1
P	F		2530-506-9440	640-75 (96606)	HOSE ASSEMBLY, RUBBER	EA	1	*	*	*			4-8	4
P	F		2530-506-9441	640-72 (96606)	HOSE ASSEMBLY, RUBBER	EA	1	*	*	*			4-8	5
X1				114173 (92983)	HOUSING, ROTOR, HYDRAULIC		1						4-8	
X2	H		2530-592-5259	642-52 (96606)	RESERVOIR, HYDRAULIC	EA	1						4-8	
P	F		2590-561-6667	642-80 (96606)	BREATHER	EA	1	*	*	*			4-8	11
P	F		2530-965-6495	1B5-4QD (24161)	PULLEY, GROOVE	EA	1	*	*	*			4-8	14
P	F		2530-942-5400	190-117 (96606)	ADAPTER, PUMP	EA	1	*	*	*			4-8	17
P	H		4320-561-6213	V214-5-1C12 (62983)	PUMP, ROTARY, POWER	EA	1	*	*	*			4-8	21
P	F		2530-506-9442	640-73 (96606)	HOSE ASSEMBLY, RUBBER	EA		*	*	*			4-8	26
X2	H		2530-942-5398	640-69 (96606)	VALVE AND FITTING	EA	1						4-8	27
P	H		2530-506-9494	640-77 (96606)	HOSE ASSEMBLY, REAR	EA	1	*	*	*			4-8	28
P	H		2530-506-9446	640-74 (96606)	HOSE ASSEMBLY, REAR	EA	1	*	*	*			4-8	29
P	H		2530-506-9495	640-76 (96606)	HOSE ASSEMBLY, FLOW	EA	1	*	*	*			4-8	30
X2	H		2530-942-5399	640-70 (96606)	VALVE AND FITTING	EA	1						4-8	32
P	F		2530-592-5265	640-124 (96606)	HOSE ASSEMBLY, RUBBER	EA	1	*	*	*			4-8	34
P	H		2530-818-9411	640-175 (96606)	HOSE ASSEMBLY, RUBBER	EA	1	*	*	*			4-8	35
P	H		2530-562-0932	642-63 (96606)	TIE ROD END, STEERING	EA	1	*	*	*			4-8	40
P	H		2530-967-2057	L20SV6053A12 (98349)	TIE ROD END, STEERING	EA	1	*	*	*			4-8	41
X2	H		2520-942-2637	640-262 (96606)	ARM ASSEMBLY, STEERING	EA	1						4-8	
P	H		2530-601-2924	L15SM23 (98349)	SPRING	EA	1	*	*	*			4-8	17

(1) SOURCE MAINT. AND RECOV CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	(3) REFERENCE NUMBER AND MFR CODE		DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
P	H		2530-942-5393	L14DM158	(98349)	DUST COVER	EA	2	*	*	*			4-8	48
P	H		2530-499-9274	L20VC15	(59875)	COVER, STEERING DRAG	EA	1	*	*	*			4-8	48
P	H		5340-948-1099	L29RL5000	(98349)	RING, RETAINING	EA	1	*	*	*			4-8	51
P	H		2530-942-2763	L22SN5000	(98349)	SPRING	EA	1	*	*	*			4-8	53
P	H		3120-904-6089	L20VB5040X1	(98349)	BEARING, PLAIN, SPHERICAL	EA	1	*	*	*			4-8	57
P	H		2530-506-9419	642-62	(96606)	DRAG LINK, STEERING	EA	1	*	*	*			4-8	59
P	H		2530-802-4200	640-174	(96606)	HOSE ASSEMBLY, RUBBER	EA	1	*	*	*			4-8	65
P	H		2530-942-5394	640-176	(96606)	CYLINDER ASSEMBLY	EA	1	*	*	*			4-8	67
P	H		2530-592-5264	640-62	(96606)	LINK ASSEMBLY, CAM	EA	1	*	*	*			4-8	
P	H		2530-906-7304	642-135	(96606)	. JOINT, BALL	EA	1	*	*	*			4-8	73
P	H		2530-593-4113	642-58	(96606)	. LINK, CAM	EA	1	*	*	*			4-8	75
P	H		2530-525-4375	642-54	(96606)	BELLCRANK	EA	1	*	*	*			4-8	
P	H		2530-472-8166	197-32	(96606)	BUSHING, SLEEVE	EA	1	*	*	*			4-8	90
P	F		2530-592-5263	640-68	(96606)	DRAG LINK, STEERING	EA	1	*	*	*			4-8	
X2	H		2530-593-4116	640-67	(96606)	LEVER ASSEMBLY, REAR	EA	1						4-8	96
X1				642-78	(96606)	KNOB		1						4-8	97
X1				642-73	(96606)	STEERING LEVER, REAR		1						4-8	99
P	O		2530-593-4114	642-66	(96606)	SHIELD, REAR, STEERING	EA	1	*	*	*			4-8	101
X2	H		2530-555-0768	640-82	(96606)	STEERING GEAR	EA	1						4-8	110
P	H		2530-593-4111	642-39	(96606)	ADAPTER, DRAG LINK	EA	1	*	*	*			4-9	25
P	H		2530-136-2069	1L31P3-15S	(96606)	VALVE, RELIEF	EA	1	*	*	*			4-10	
P	H		2590-924-2129	195-915	(96606)	BRACKET, FLOW CONTROL	EA	1	*	*	*			4-11	1
P	H		2530-978-0436	FM3-08P020-100-10	(96606)	VALVE, PRESSURE	EA	1	*	*	*			4-11	
P	H		2530-591-0287	642-50	(96606)	LEVER, REAR STEERING	EA	1	*	*	*			4-12	5
P	H		5315-561-9090	642-44	(96606)	PIN, STRAIGHT, HEADLESS	EA	1	*	*	*			4-12	7
P	H		2530-506-9505	642-42	(96606)	ROLLER AND BUSHING	EA	1	*	*	*			4-12	
X1				A560-7	(70417)	BEARING, SLEEVE		1						4-12	9
P	H		2590-506-9496	642-40	(96606)	LEVER, REMOTE CONTROL	EA	1	*	*	*			4-12	10
P	H		2530-525-4394	642-46	(96606)	CAM	EA	1	*	*	*			4-12	
P	H		5307-561-5467	642-47	(96606)	STUD, SHOULDERED	EA	1	*	*	*			4-12	15
P	H		5315-530-5753	642-56	(96606)	PIN, STRAIGHT, HEADLESS	EA	1	*	*	*			4-12	18
P	H		2530-593-4115	642-49	(96606)	SUPPORT, CAM AND VALVE	EA	1	*	*	*			4-12	21
P	H		5310-939-0783	MS21083N12	(96606)	NUT, SELF-LOCKING, HEXAGON	EA	1	*	*	*			4-12	25
P	H		2530-506-9533	218-8	(96606)	SPRING, HELICAL, COMPRESSION	EA	1	*	*	*			4-12	26
P	H		2530-592-5262	642-57	(96606)	SPOOL, VALVE RETURN	EA	1	*	*	*			4-12	27
P	H		2530-592-5258	642-41	(96606)	ADAPTER, REAR STEERING	EA	1	*	*	*			4-12	32
X2	H		2530-506-9509	218-12	(96606)	SPRING, HELICAL, COMPRESSION	EA	1						4-12	33
P	H		2530-525-4397	640-64	(96606)	VALVE ASSEMBLY	EA	1	*	*	*			4-12	
X1				402156	(77640)	BOOT, DUST AND MOISTURE SEAL		1						4-12	34
X1				V166006	(77640)	COVER		1						4-12	35
X1				V166005	(77640)	COVER		1						4-12	40
X1				V165002	(77640)	RETAINER, PACKING		1						4-12	43
X1				401186	(77640)	SPRING, HELICAL, COMPRESSION		1						4-12	48

(1) SOURCE MAINT. AND RECOV CODE			(2)	(3)			(4)	(5)	(6) 30-DAY DS/GS MAINT ALW			(7)	(8)	(9) ILLUSTRATION	
(A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER AND MFR CODE		DESCRIPTION	UNIT OF MEASURE	QTY INC IN UNIT	(A) 1-20	(B) 21-50	(C) 51-100	1-YR ALW PER 100 EQUIP CNTGSY	DEPOT MAINT ALW PER 100 EQUIP	(A) FIG NO	(B) ITEM NO
X1				642-70	(96606)	RING, REACTION		1						4-12	49
X1				036078	(77640)	PLUG		1						4-12	57
X1				129343	(62983)	COVER, HYDRAULIC PUMP		1						4-13	1
P	H		2530-292-4407	114139	(62983)	SPRING, HELICAL, COMPRESSION	EA	1	*	*	*			4-13	4
P	H		2590-355-4430	131317	(62983)	PLATE, PRESSURE, HYDRAULIC	EA	1	*	*	*			4-13	5
X1				912031	(62983)	VANE KIT, HYDRAULIC		1						4-13	8
X2	H		2530-355-4423	126315	(62983)	BRACKET, VANE PUMP	EA	1						4-13	10
P	H		5340-359-4042	109975	(62983)	RING, RETAINING	EA	1	*	*	*			4-13	12
P	H		3110-109-1123	98574	(62983)	BEARING, BALL, ANNULAR	EA	1	*	*	*			4-13	13
P	H		2530-359-4445	116644	(62983)	SHAFT	EA	1	*	*	*			4-13	15
P	H		5330-941-0137	229236	(62983)	SEAL, SHAFT	EA	1	*	*	*			4-13	16
P	H		3110-144-8505	1703	(62983)	BEARING, BALL, ANNULAR	EA	1	*	*	*			4-13	17
P	H		2530-355-4419	119375	(62983)	BODY, HYDRAULIC PUMP	EA	1	*	*	*			4-13	18
P	H		4320-215-1422	912064	(62983)	REPAIR KIT, PUMP, HYDRAULIC	EA	1	*	*	*			4-13	
P	H		4720-435-7572	A878-6	(70434)	BUSHING, PIPE	EA	1	*	*	*			4-14	2
P	H		2530-525-4387	465379	(77640)	BUTTON ASSEMBLY, HORN	EA	1	*	*	*			4-15	
X1				450066	(77640)	. COVER, HORN BUTTON		1						4-15	1
X1				450029	(77640)	. BUTTON, HORN		1						4-15	2
X1				029037	(77460)	. CONTACT, ELECTRICAL		1						4-15	3
X1				401081	(77460)	. SPRING, HELICAL COMPRESSION		1						4-15	4
X1				029031	(77640)	. CONTACT, ELECTRICAL		1						4-15	5
X2	F		2590-569-3685	454895	(77640)	. BASE PLATE ASSEMBLY	EA	1						4-15	9
X2	F		2530-290-5462	401082	(77640)	. SPRING, HELICAL, COMPRESSION	EA	1						4-15	11
X2	F		5310-735-1273	029039	(77640)	. WASHER, SHOULDERED	EA	1						4-15	12
X2	H		2530-752-1484	TA665000	(77640)	COVER	EA	1						4-15	20
P	H		2530-752-1485	TA669000	(77640)	GASKET	EA	1						4-15	21
X1			E61P	E61P	(77640)	NUT, PLAIN, HEXAGON		1						4-15	22
P	H		2530-924-8742	096088S1-2525	(77640)	TUBE ASSEMBLY	EA	1	*	*	*			4-15	
X1				065996	(77640)	BEARING UNIT, STEERING		1						4-15	
X2	H		2530-925-8181	8734-25-13-16	(77640)	TUBE AND COVER ASSEMBLY	EA	1						4-15	26
P	H		2530-525-4384	TA664000A1S-725	(77640)	LEVERSHAFT ASSEMBLY	EA	1	*	*	*			4-15	
X1				401105	(77640)	SPRING, HELICAL COMPRESSION		1						4-15	27
X1				028104	(77640)	SEAT, SPRING, BEARING		1						4-15	28
X1				065997	(77640)	BEARING, BALL, STEERING		1						4-15	29
X2	H		2530-752-1465	TA666000	(77640)	COVER	EA	1						4-15	31
X2	F		2530-592-5261	TA663001A1-3625	(77640)	CAM AND WHEEL TUBE	EA	1						4-15	
X1				400005	(77640)	RING, RETAINING		1						4-15	36
X1				400020	(77640)	RING, BEARING, OUTER		1						4-15	37
P	H		2530-219-9557	068006	(77640)	BEARING, SLEEVE	EA	1	*	*	*			4-15	42

(1) SOURCE MAINT. AND RECOV CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	REFERENCE NUMBER AND MFR CODE	(3) DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
					GROUP 03 ELECTRICAL SYSTEM									
P	O		5307-579-5397	192-187 (96606)	STUD, PLAIN	EA	2	*	*	*			3-6	1
P	O		6220-939-4468	926470 (96606)	HEADLIGHT	EA	1	*	*	*			3-7	
X2	F		2590-940-0422	3238A (79550)	HOLD-DOWN ROD	EA	1						3-9	1
P	F		6620-564-9304	530-14 (96606)	TUBE ASSEMBLY, OIL PUMP	EA	1	*	*	*			4-16	
P	O		6620-961-0783	275 (78977)	SPOTLIGHT	EA	1	*	*	*			4-16	4
P	F		2920-951-0710	1889100 (74865)	STARTER, ENGINE, ELECTRICAL	EA	1	*	*	*			4-16	10
P	F		2920-038-4447	200622 (48873)	COIL, IGNITION	EA	1	*	*	*			4-16	15
P	F		5910-050-2023	1091629 (12204)	CAPACITOR, FIXED, PAPER	EA	3	*	*	*			4-16	18
P	F		5905-894-7305	2095501 (74865)	RESISTOR, ELECTRICAL	EA	1	*	*	*			4-16	19
P	F		5905-894-7305	2275590 (12204)	RESISTOR, ELECTRICAL	EA	1	*	*	*			4-16	19
X2	F			1491 (71730)	CLIP, SPRING	EA	8						4-16	25
X2	H		2590-942-2618	540-14 (96606)	WIRE ASSEMBLY, GENERATOR	EA	1						4-16	26
X2	H		2590-942-2619	540-84 (96606)	WIRE ASSEMBLY, AMMETER	EA	1						4-16	27
X2	H		2590-942-2620	540-86 (96606)	WIRE ASSEMBLY	EA	1						4-16	
X2	H		2590-942-2621	540-85 (96606)	WIRE ASSEMBLY	EA	1						4-16	
X2	H		2590-942-2622	540-22 (96606)	WIRE ASSEMBLY, TAILLIGHT	EA	1						4-16	30
X2	H		2590-942-2624	540-15 (96606)	WIRE ASSEMBLY, HEADLIGHT	EA	1						4-16	32
X2	H		2590-942-2623	540-18 (96606)	WIRE ASSEMBLY, SWITCH	EA	1						4-16	33
P	H		2920-088-4749	VB04202R (19728)	REGULATOR, ENGINE	EA	1	*	*	*			4-16	34
P	H		2920-941-6031	RAG4001 (19728)	RELAY, SOLENOID	EA	1	*	*	*			4-16	42
P	H		5945-642-1995	1116781 (16764)	RELAY, ARMATURE	EA	1	*	*	*			4-16	44
X2	F		2590-627-8991	9000514 (16764)	HORN, ELECTRICAL	EA	1						4-16	
X2	F		2590-942-5390	1958667 (16764)	BRACKET ASSEMBLY	EA	1						4-16	
P	F		2590-578-2028	7768 (13445)	SWITCH, BEAM SELECTION	EA	1	*	*	*			4-16	57
P	F		5930-679-9956	8628 (13445)	SWITCH, PRESSURE	EA	1	*	*	*			4-16	60
P	F		5930-954-5864	541-21 (96606)	SWITCH, PUSH	EA	1	*	*	*			4-16	62
P	F		5930-929-3111	13904 (79575)	SWITCH, ELECTRICAL	EA	1	*	*	*			4-16	63
X2	F		6680-585-5779	1518767 (70040)	TRANSMITTER, LIQUID	EA	1						4-16	64
P	F		5330-449-6532	1515832 (70040)	GASKET	EA	1	*	*	*			4-16	67
P	O		2540-064-4765	M874-44 (60703)	BLADE, WINDSHIELD, WIPER	EA	2	*	*	*			4-16	68
P	O		2540-064-4769	88080-67 (60703)	ARM, WINDSHIELD, WIPER	EA	2	*	*	*			4-16	69
X2	F		2540-033-9381	195-1345 (96606)	BRACKET, WINDSHIELD	EA	1						4-16	73
P	O		6220-903-8586	200-2-6-049 (75175)	STOP LIGHT, TAILLIGHT	EA	1	*	*	*			4-16	77
P	O		6220-984-1324	882-2-3-049 (75175)	FLOODLIGHT, ELECTRICAL	EA	1	*	*	*			4-16	82
P	O		6220-961-0783	275 (78997)	SPOTLIGHT	EA	1	*	*	*			4-16	90
P	F		4730-608-1777	859151 (70040)	ADAPTER, BUSHING	EA	1	*	*	*			4-16	101
X2	F		2590-942-5388	540-13 (96606)	STARTER, CABLE	EA	1						4-16	107
X2	F		2590-940-0422	3238A (79550)	ROD, HOLD DOWN	EA	1						4-16	108
P	O		5310-865-6073	MS21306-1 (96906)	WASHER, FLAT	EA	2	*	*	*			4-16	113

(1) SOURCE MAINT. AND RECOV CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	REFERENCE NUMBER AND MFR CODE		(3) DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
X2	H		6140-903-8587	541-3	(96606)	TRAY, BATTERY	EA	1						4-16	116
X2	H		2920-360-8106	1AD2004	(19728)	PLATE, IGNITION CONTACT	EA	1						4-17	
X1				GJC1111	(19728)	HEAD ASSEMBLY, GENERATOR		1						4-18	
P	H		2920-624-8717	1402510	(74865)	PULLEY, GROOVE	EA	1	*	*	*			4-18	1
X1				MS35756-8	(96906)	KEY WOODRUFF		1						4-18	4
X1				X295	(19728)	BEARING, BALL, ANNULAR		1						4-18	12
X1				X489	(19728)	CUP, OIL, LUBRICATING		1						4-18	14
X1				GR32	(19728)	RETAINER, GENERATOR		1						4-18	16
X1				GJC2030F	(19728)	ARMATURE, GENERATOR		1						4-18	18
P	F		5977-710-2044	1843156	(74865)	BRUSH SET, ELECTRICAL	EA	1	*	*	*			4-18	19
P	F		2920-791-8226	GJC42	(19728)	SPRING, HELICAL, TORSION	EA	2	*	*	*			4-18	23
P	H		5330-291-4812	GGU30	(19728)	WASHER, NONMETALLIC	EA	1	*	*	*			4-18	38
X1				GGU32	(19728)	INSULATOR, BUSHING		2						4-18	39
P	H		5940-504-4137	GBU27	(19728)	TERMINAL, STUD	EA	1	*	*	*			4-18	41
X1				GGU28	(19728)	TERMINAL, STUD		1						4-18	42
X2	H		2920-976-0539	2642506	(74865)	CLUTCH ASSEMBLY, STARTER	EA	1						4-19	
X2	H		2920-976-0539	1889129	(86403)	CLUTCH ASSEMBLY, STATION	EA	1						4-19	
P	H		5310-835-2042	2240529	(74865)	WASHER, SPECIAL	EA	1	*	*	*			4-19	6
P	F		2920-088-4766	2642222	(74865)	SOLENOID, ELECTRICAL	EA	1	*	*	*			4-19	11
P	F		2920-111-6573	2525529	(74865)	STARTER, BRUSHES	EA	1	*	*	*			4-19	33
X1				DC722	(01843)	DISK, SOLID, PLAIN		1						4-20	9
P	F		2540-567-9288	SP7211	(01843)	SPRING, CLIP, CONNECT	EA	2	*	*	*			4-20	28
X2	F		2540-973-3446	86509	(60703)	BOOT, DUST AND MOIST	EA	1						4-20	37
P	F		2540-903-9696	WWC12K2655	(01843)	MOTOR, WINDSHIELD WIPER	EA	1	*	*	*			4-21	
X1				GE721018A4	(01843)	GEAR AND SHAFT ASSEMBLY		1						4-21	
P	O		6220-942-2678	3286	(75175)	LENS, STOP LIGHT-TAILLIGHT	EA	1	*	*	*			4-22	1
P	O		6240-295-1184	1034	(24446)	LAMP, INCANDESCENT	EA	1	*	*	*			4-22	3
P	O		6220-959-8018	35377	(75175)	LENS, STOP LIGHT-TAILLIGHT	EA	1	*	*	*			4-22	5
P	O		6220-959-8021	35376	(75175)	GASKET	EA	1	*	*	*			4-22	6
P	O		6240-836-2079	4411	(24446)	LAMP, INCANDESCENT	EA	1	*	*	*			4-23	5
X2	O		6220-959-8028	32575-1	(75175)	BRACKET, FLOODLIGHT	EA	1						4-23	6
X2	O		6220-039-6973	5933771	(73331)	MOULDING ASSEMBLY	EA	1						4-24	
P	O		6240-681-1638	5956007	(73331)	LAMP, INCANDESCENT	EA	1	*	*	*			4-24	9
X2	F		6220-732-0807	6750	(78977)	HANDLE ASSEMBLY, SPOTLIGHT	EA	1						4-25	
P	F		5930-392-5002	6151	(78977)	SWITCH ASSEMBLY, TOGGLE	EA	1	*	*	*			4-25	10
P	F		5930-694-1860	6453E	(78977)	SWITCH ASSEMBLY, SPOTLIGHT	EA	1	*	*	*			4-25	13
P	O		5310-934-9751	MS35650-302	(96906)	NUT, PLAIN, HEXAGON	EA	V	*	*	*			4-25	50
P	O		6220-?17-9149	7015	(78977)	PAD	EA	1	*	*	*			4-25	53
X2	H		2510-602-1282	530-12	(96606)	PANEL ASSEMBLY, INSTRUMENT	EA	1						4-26	
X2	F		2590-507-5553	541-2	(96606)	. SOCKET AND LEAD ASSEMBLY	EA	4						4-26	10
X2	F			1584145	(70040)	. LIGHT	EA	1						4-26	11
P	F		5955-563-0649	53	(24446)	. CRYSTAL UNIT, QUARTZ	EA	5	*	*	*			4-26	12
P	F		6680-556-1984	1582657	(70040)	. SPEEDOMETER	EA	1	*	*	*			4-26	18
P	F		5930-849-1046	5050	(13445)	. SWITCH, ELECTRICAL	EA	1	*	*	*			4-26	19
P	F		5930-174-5885	SW701	(01843)	. SWITCH, PUSH-PULL	EA	1	*	*	*			4-26	20
P	F		2920-344-9940	71016	(13445)	. SWITCH, HEADLAMP	EA	1	*	*	*			4-26	22
P	F		5925-615-7071	30055-15	(13445)	. CIRCUIT BREAKER	EA	1	*	*	*			4-26	23

(1) SOURCE MAINT. AND RECOV. CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	(3) REFERENCE NUMBER AND MFR CODE		DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
P	F		5925-710-6864	30055-30	(13445)	. CIRCUIT BREAKER	EA	1	*	*	*			4-26	24
P	F		2540-506-9534	551-11	(96606)	. CONTROL ASSEMBLY, PUSH	EA	1	*	*	*			4-26	34
X2	F		2540-784-4218	600076G1	(46522)	HEATER, VEHICULAR	EA	1						4-27	
P	F		4720-541-7293	669-410	(96606)	. HOSE, AIRDUCT	EA	1	*	*	*			4-27	2
P	F		2540-176-3290	60396G1	(46522)	. ELBOW, RUBBER	EA	1	*	*	*			4-27	3
X2	F		2540-942-5384	60000G11	(46522)	. FAN ASSEMBLY	EA	1						4-27	9
P	F		6105-950-6975	60529G2	(46522)	. MOTOR, DIRECT CURRENT	EA	1	*	*	*			4-27	12
						GROUP 04 FUEL SYSTEM									
X2	H		2910-592-3774	551-8	(96606)	TANK, FUEL, ENGINE	EA	1						4-28	7
P	F		4720-562-5895	U12FT	(30327)	HOSE ASSEMBLY, NONMETALLIC	EA	1	*	*	*			4-28	14
P	F		2910-342-6732	M857SA	(71500)	PUMP, FUEL, CAM ACTUATOR	EA	1	*	*	*			4-28	16
X2	O		5330-246-2906	952062	(12204)	WASHER, NONMETALLIC	EA	1						4-28	20
P	H		2910-358-4540	E7T2	(71500)	CARBURETOR, FLOAT	EA	1	*	*	*			4-28	21
P	H		5307-637-1485	564375	(74865)	STUD, PLAIN	EA	1	*	*	*			4-28	23
P	H		2990-354-2767	22835	(75300)	GASKET	EA	1	*	*	*			4-28	26
X2	H		2910-593-4123	550-10	(96606)	LINK ASSEMBLY	EA	1						4-28	
P	F		2590-506-9101	218-378	(96606)	SPRING, HELICAL	EA	1	*	*	*			4-28	38
X2	F		2910-425-6597	192-755	(96606)	LEVER, REMOTE CONTROL	EA	2						4-28	39
P	O		5315-582-3026	247-3398	(96606)	PIN, STRAIGHT, HEADED	EA	1	*	*	*			4-28	57
X2	O		2910-593-4125	631-24	(96606)	PLATE, HINGE, THROTTLE	EA	1						4-28	58
P	F		2910-358-4675	1450023	(74865)	PARTS KIT, ENGINE FUEL	EA	1	*	*	*			4-29	
P	H		2910-366-6525	C116A	(82272)	BALL, CHECK	EA	1	*	*	*			4-30	
X2	H		5340-366-6538	63-24	(71500)	RING RETAINING	EA	1	*	*	*			4-30	12
P	H		2910-353-7831	21-123S	(71500)	FLOAT, CARBURETOR	EA	1	*	*	*			4-30	14
X2	H		2910-358-5595	123-31S	(71500)	TUBE AND PLUG ASSEMBLY	EA	1						4-30	15
X2	H		2805-358-5128	160-46S	(71500)	PISTON	EA	1						4-30	16
X2	H		2910-335-5658	61-135	(71500)	SPRING, CARBURETOR	EA	1						4-30	18
P	H		5340-489-5934	150A13	(71500)	CLIP, RETAINING	EA	1	*	*	*			4-30	21
X2	H		5340-366-6552	61-145	(71500)	SPRING	EA	1						4-30	25
X2	H		2910-366-6553	61-157	(71500)	SPRING	EA	1						4-30	27
P	H		3110-100-6162	116-13	(71500)	BALL, BEARING	EA	1	*	*	*			4-30	29
X2	H		2910-366-6562	48-75	(71500)	JET, PUMP	EA	1						4-30	33
X2	H		2910-366-6533	224-13S	(71500)	JET, MAIN	EA	1						4-30	34
P	H		5330-460-3790	651183	(74865)	WASHER, NONMETALLIC	EA	1	*	*	*			4-30	35
X2	F		5305-366-6546	30A37	(71500)	SCREW, CARBURETOR	EA	1						4-30	45
P	H		2910-353-7823	1534	(71500)	PARTS KIT, CARBURETOR	EA	1	*	*	*			4-30	
X2	H		2910-466-6034	25055	(75300)	VALVE, GOVERNOR	EA	1						4-31	5
P	H		5340-598-2891	22027	(75300)	CLIP, RETAINING	EA	1	*	*	*			4-31	8
X2	H		2990-499-8455	22311	(75300)	CAP	EA	1						4-31	14
						GROUP 05 COOLING SYSTEM									
P	F		2930-715-7562	521-50	(96606)	RADIATOR, ENGINE COOLING	EA	1	*	*	*			4-32	

(1) SOURCE MAINT. AND RECOV CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	REFERENCE NUMBER AND MFR CODE	(3) DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
P	F		2930-845-1546	SF84 (46522)	HOSE, RUBBER	EA	1	*	*	*			4-32	4
P	F		2930-845-5362	521-55 (96606)	HOSE, PREFORMED	EA	2	*	*	*			4-32	6
P	O		2930-288-6441	521-40 (96606)	CAP, RADIATOR	EA	1	*	*	*			4-32	18
P	H		6620-314-4566	1407937 (12204)	THERMOSTAT, FLOW	EA	1	*	*	*			4-33	
P	H		2930-623-5700	1752677 (74865)	PUMP ASSEMBLY, WATER	EA	1	*	*	*			4-33	
P	F		3030-540-2511	1116202 (74865)	BELT, V	EA	1	*	*	*			4-33	4
P	F		4720-289-0082	918494 (12204)	HOSE, PREFORMED	EA	1	*	*	*			4-33	8
P	F		4730-289-2330	870469 (12204)	CLAMP, HOSE	EA	2	*	*	*			4-33	9
P	F		2930-244-8159	50082 (74865)	GASKET	EA	1	*	*	*			4-33	12
P	F		5330-588-9189	863220 (74865)	GASKET	EA	1	*	*	*			4-33	13
P	H		2930-215-5121	1326325 (12204)	GASKET	EA	1	*	*	*			4-33	16
					GROUP 06 PARKING BRAKE									
X2	O		5340-530-5544	79-2 (96606)	GRIP, HANDLE	EA	1						4-34	1
X2	H		2520-506-9535	192-149 (96606)	LEVER, DIFFERENTIAL	EA	1						4-34	3
P	H		2520-033-9377	209-66 (96606)	ROD ASSEMBLY, LOCK	EA	1	*	*	*			4-34	
P	H		2520-506-9541	192-150 (96606)	BELL, CRANK	EA	1	*	*	*			4-34	18
X2	H		5340-427-4561	2699-6A (71843)	CLEVIS, ROD END	EA	1						4-34	24
P	H		2530-033-9379	209-64 (96606)	ROD ASSEMBLY, LINK	EA	1	*	*	*			4-34	
P	H		2530-052-4372	7143A428 (92867)	LEVER ASSEMBLY, BRAKE	EA	1	*	*	*			4-34	
P	O		5355-668-1925	468 (92867)	KNOB	EA	1	*	*	*			4-34	30
X2	H		2530-535-7222	140C2183A (92867)	TUBE ASSEMBLY, ADJUSTING	EA	1						4-34	34
X2	H		5315-507-5457	144C (92867)	PIN, GROVE, HEADED	EA	1						4-34	35
X2	H		2520-033-9376	195-1662 (96606)	BRACKET, DIFFERENTIAL	EA	1						4-34	47
X2	H		2520-033-9375	195-1661 (96606)	BRACKET, BELLCRANK	EA	1						4-34	50
X2	F		2530-942-5401	567320 (74865)	LINK, TRANSMISSION	EA	2						4-35	3
X2	H		2530-170-1900	580045 (74865)	CAM	EA	2						4-35	4
X2	H		2520-083-5393	1789581 (74865)	SPRING, HELICAL, COMPRESSION	EA	1						4-35	8
X2	H		5306-626-9613	583443 (74865)	BOLT, ADJUSTING	EA	1						4-35	9
X2	H		2530-359-0875	572243 (12204)	SHOE, BRAKE	EA	1						4-35	10
X2	H		2530-083-2350	583440 (74865)	BRACKET, BRAKE LOCATE	EA	1						4-35	14
X2	H		5305-735-1258	596694 (12204)	SCREW BRAKE BAND	EA	1						4-35	17
P	H		2530-454-0980	572167 (12204)	LINING	EA	1	*	*	*			4-35	18
X2	H		2530-664-4344	38901 (43477)	SPRING, HELICAL, COMPRESSION	EA	1						4-35	21
X2	H		2530-942-5402	583441 (74865)	BRACKET, ANCHOR	EA	1						4-35	22
P	H		5305-942-8684	1665241 (74865)	SCREW, SPECIAL	EA	4	*	*	*			4-35	28
X2	H		2530-942-5422	1665239 (74865)	BRAKE DRUM ASSEMBLY	EA	4						4-35	31
P	H		2520-061-1016	579-1464 (96606)	TRANSFER TRANSMISSION	EA	1	*	*	*			4-35	32
					GROUP 07 OILING GROUP									
P	H		2805-624-5339	1314607 (74865)	PUMP, OIL	EA	1	*	*	*			4-36	
P	H		2805-888-0961	933438 (12204)	GASKET SET, OIL PAN	EA	1	*	*	*			4-36	
X2	H		2940-358-2161	1313781 (74865)	BRACKET	EA	1						4-36	7

(1) SOURCE MAINT. AND RECOV. CODE			(2)			(3)	(4)	(5)	(6) 30-DAY DS/GS MAINT ALW			(7)	(8)	(9) ILLUSTRATION	
(A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER AND MFR CODE		DESCRIPTION	UNIT OF MEASURE	QTY INC IN UNIT	(A) 1-20	(B) 21-50	(C) 51-100	1-YR ALW PER 100 EQUIP CNTGSY	DEPOT MAINT ALW PER 100 EQUIP	(A) FIG NO	(B) ITEM NO
P	H		5306-775-9486	181635	(74865)	SCREW, CAP, HEXAGON	EA	2	*	*	*			4-36	8
X2	F		5305-776-3745	1323882	(74865)	SCREW, CAP, HEXAGON	EA	1						4-36	18
P	F		2940-358-2734	1323884	(74865)	GASKET	EA	1	*	*	*			4-36	21
P	F		5330-292-7254	852750	(74865)	WASHER, NONMETALLIC	EA	1	*	*	*			4-36	19
P	O		2805-633-0023	1125411	(74865)	INDICATOR, OIL LEVEL	EA	1	*	*	*			4-36	25
P	H		5330-199-5742	618622	(74865)	GASKET	EA	1	*	*	*			4-36	28
P	H		2805-251-1156	601268	(74865)	GEAR, HELICAL	EA	1	*	*	*			4-36	37
P	H		5315-298-1665	867386	(12204)	PIN, GROOVED, HEADLESS	EA	1	*	*	*			4-36	40
P	H		2805-888-0961	933438	(12204)	GASKET SET, OIL PAN	EA	1	*	*	*			4-36	
						GROUPS 08, 09, 10 ENGINE, HYDRAULIC TRANSMISSION AND MECHANICAL TRANSMISSION									
P	O		5355-668-5363	469	(92867)	KNOB	EA	1	*	*	*			4-37	
X2	H		2990-561-6191	78-6048A	(23040)	SEAT, ENGINE, DYNAFOCAL	EA	2						4-37	4
P	F		2990-706-6528	51T-6038A	(23040)	INSULATOR, ENGINE, MOUNT	EA	2	*	*	*			4-37	5
P	F		2990-706-6528	B6038C	(23040)	INSULATOR, ENGINE, MOUNT	EA	2	*	*	*			4-37	5
P	H		2520-088-3860	640-253	(96606)	HOSE ASSEMBLY, RUBBER	EA	1	*	*	*			4-37	17
P	H		2520-087-9329	640-252	(96606)	HOSE ASSEMBLY, RUBBER	EA	1	*	*	*			4-37	18
P	F		2990-171-3690	1636571	(12204)	GASKET	EA	1	*	*	*			4-37	36
P	H		2520-135-8868	6-882J	(74865)	TRANSMISSION, HYDRAULIC	EA	1	*	*	*			4-37	41
P	H		2520-883-0864	2407885	(74865)	TRANSMISSION, MECHANICAL	EA	1	*	*	*			4-37	50
X2	H		2815-591-8521	1613004	(74865)	HEAD ASSEMBLY, ENGINE	EA	1						4-38	11
P	H		5306-374-3904	692857	(12204)	BOLT, EXTERNALLY RELEASE	EA	4	*	*	*			4-38	12
P	H		5306-374-3894	666014	(12204)	BOLT, EXTERNALLY RELEASE	EA	15	*	*	*			4-38	13
P	H		2805-301-2936	1326319	(74865)	GASKET	EA	1	*	*	*			4-38	14
X2	F		2805-275-3012	1316371	(12204)	BREATHER	EA	1						4-38	15
P	F		2805-342-7457	1325976	(74865)	GASKET SET	EA	1	*	*	*			4-38	
X2	H		2805-594-4713	195-904	(96606)	BRACKET, GENERATOR	EA	1						4-38	18
				120214	(74865)	WASHER, LOCK								4-38	25
X2	H		2805-173-0081	677540	(12204)	HUB, FAN DRIVE PULLEY	EA	1						4-38	26
P	H		5330-670-0421	1551061	(74865)	SEAL, OIL	EA	1	*	*	*			4-38	33
P	H		2805-633-0022	1487595	(74865)	GASKET	EA	1	*	*	*			4-38	34
P	H		5306-366-6429	601766	(12204)	BOLT, MACHINE	EA	3	*	*	*			4-38	38
P	H		2805-870-7272	1946957	(74865)	CHAIN, ROLLER	EA	1	*	*	*			4-38	40
P	H		2805-870-7273	1946958	(74865)	SPROCKET WHEEL, CRANKSHAFT	EA	1	*	*	*			4-38	41
P	H		5340-597-7932	120520	(12204)	CLAMP, LOOP	EA	1	*	*	*			4-38	
P	H		5306-775-9485	180022	(74865)	SCREW, CAP, HEXAGON	EA	1	*	*	*			4-38	
P	H		5305-362-1247	693958	(12204)	THUMBSCREW	EA	2	*	*	*			4-38	55
P	H		2805-173-1709	871934	(74865)	GASKET	EA	2	*	*	*			4-38	56
P	H		2805-342-7457	1325976	(74865)	PARTS KIT, VALVE GRIND	EA	1	*	*	*			4-38	
						GROUP 11 PROPELLER SHAFTS INSTALLATION									
X2	H		2520-080-8337	538-8	(96606)	UNIVERSAL JOINT	EA	1						4-39	

(1) SOURCE MAINT. AND RECOV CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	REFERENCE NUMBER AND MFR CODE		(3) DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
				7457J	(76260)	BOLT, MACHINE								4-39	3
P	H		5306-529-1732	3544J	(76260)	BOLT, MACHINE	EA	4	*	*	*			4-39	4
P	H		2520-064-131	7456J	(76260)	LOCKING PLATE NUT	EA	2	*	*	*			4-39	5
P	H		2520-974-8898	7455J	(76260)	STRAP, BEARING	EA	2	*	*	*			4-39	6
P	H		5306-538-6001	5492J	(76260)	BOLT, INTERNAL WRENCHING	EA	4	*	*	*			4-39	8
P	H		2520-905-4209	114-5100A	(76260)	SPIDER ASSEMBLY	EA	1	*	*	*			4-39	
P	H		2520-714-7988	114-5101A	(76260)	SPIDER AND BEARING	EA	1	*	*	*			4-39	
P	F		2520-609-7109	055-6	(99453)	CAP, PILLOW BLOCK	EA	4	*	*	*			4-40	1
P	F		2520-967-1140	R55-55-2	(99453)	SPIDER AND BEARING	EA	2	*	*	*			4-40	
P	F		2520-592-3767	R55-9	(99453)	RETAINER, PACKING	EA	1	*	*	*			4-40	8
P	F		5330-576-8426	R55-10	(99453)	FELT, MECHANICAL	EA	1	*	*	*			4-40	9
						GROUP 12 TRANSFER TRANSMISSION									
P	H		5306-550-0593	253-2	(96606)	BOLT, EYE	EA	1	*	*	*			4-41	6
P	F		5330-530-1614	30101	(76680)	SEAL, PLAIN, ENCASED	EA	1	*	*	*			4-41	12
P	H		2520-525-4405	70-9	(96606)	GASKET	EA	1	*	*	*			4-41	22
P	H		5310-942-5313	49NTE2018	(72962)	NUT, SELF-LOCKING	EA	2	*	*	*			4-41	23
X2	H		2520-540-7020	R55-1-240	(99453)	YOKE, UNIVERSAL JOINT	EA	2						4-41	24
P	H		2520-525-4403	70-3235	(96606)	GASKET	EA	1	*	*	*			4-41	29
P	H		5340-506-9116	217-269	(96606)	SPACER, RING	EA	V	*	*	*			4-41	30
P	H		2520-081-4886	70-44	(96606)	GASKET	EA	1	*	*	*			4-41	35
X2	H		2520-525-4430	90103	(57733)	SLEEVE, SPEEDOMETER	EA	1						4-41	41
P	H		6680-661-9380	1870	(57733)	BUSHING, SLEEVE	EA	1	*	*	*			4-41	45
P	H		2520-525-4416	70-12	(96606)	GASKET	EA	1	*	*	*			4-41	51
						GROUP 13 BRAKE SYSTEM									
P	O		2540-611-7659	668919	(12204)	PAD, PEDAL	EA	1	*	*	*			4-42	1
X2	F		2530-136-7266	192-142	(96606)	LEVER, BRAKE	EA	1						4-42	4
P	F		2530-506-9345	218-5	(96606)	SPRING, HELICAL, EXTENSION	EA	1	*	*	*			4-42	8
X2	F		2530-196-6251	195-526	(96606)	BRACKET, PEDAL	EA	1						4-42	9
P	F		2530-506-8811	209-32	(96606)	LINK ASSEMBLY, MASTER CYLINDER	EA	1	*	*	*			4-42	
P	P		2530-462-2529	FC1320	(63477)	PUSH ROD, HYDRAULIC	EA	1	*	*	*			4-42	16
P	F		2530-942-5403	639-57	(96606)	BRAKE LINE ASSEMBLY	EA	1	*	*	*			4-42	17
P	F		4730-754-0152	FC673	(63477)	BOLT, FLUID	EA	2	*	*	*			4-42	19
P	H		5310-209-1761	FC603	(63477)	WASHER, FLAT	EA	1	*	*	*			4-42	20
P	F		4730-827-7098	FC2678	(63477)	CONNECTOR, MULTIPLE	EA	1	*	*	*			4-42	21
P	O		5330-811-0934	B2808-95	(16128)	GASKET	EA	1	*	*	*			4-42	22
P	F		2530-391-3994	FE2652	(63477)	CYLINDER ASSEMBLY, HYDRAULIC	EA	1	*	*	*			4-42	23
P	F		2530-378-6580	BK22109	(06848)	VALVE, STOP CHECK	EA	1	*	*	*			4-42	31
P	F		5340-247-5042	125	(76369)	STRAP, RETAINING	EA	1	*	*	*			4-42	35
P	F		4730-164-0697	FC3933	(63477)	TEE	EA	2	*	*	*			4-42	46
P	F		2530-618-4318	FC4751	(63477)	HOSE ASSEMBLY, RUBBER	EA	4	*	*	*			4-42	52
P	F		2530-431-2970	FC3963	(63477)	ADAPTER, INLET, WHEEL	EA	2	*	*	*			4-42	54
P	F		4730-274-5601	FC1030	(63477)	BOLT, FLUID PASSAGE	EA	2	*	*	*			4-42	56

(1) SOURCE MAINT. AND RECOV CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	REFERENCE NUMBER AND MFR CODE		(3) DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
P	F		2530-940-0414	FC33479	(63477)	FITTING, INLET	EA	2	*	*	*			4-42	58
P	F		2530-942-5407	639-55	(96606)	VACUUM TUBE VALVE	EA	1	*	*	*			4-42	60
P	F		2530-311-8896	374464	(06848)	HOSE, RUBBER	EA	1	*	*	*			4-42	64
P	F		2530-618-4194	BK22506	(06848)	AIR CLEANER, INTAKE	EA	1	*	*	*			4-42	65
P	F		2530-526-5159	371721	(06848)	WASHER, FLAT	EA	1	*	*	*			4-42	68
P	F		4730-341-2980	FC3836	(63477)	CONNECTOR, MULTIPLE	EA	1	*	*	*			4-42	69
P	F		4730-391-3589	373710	(06848)	ADAPTER, STRAIGHT, TUBE	EA	1	*	*	*			4-42	71
P	H		2530-920-5641	374980	(06848)	BOOSTER ASSEMBLY	EA	1	*	*	*			4-42	73
P	F		2530-294-6747	375397	(06848)	BOOT, DUST	EA	1	*	*	*			4-43	1
P	F		2530-353-2988	FC18299	(63477)	CAP	EA	1	*	*	*			4-43	8
P	F		5330-291-4645	FC5922	(63477)	WASHER, NONMETALLIC	EA	1	*	*	*			4-43	9
P	F		2530-028-3340	FC8448	(63477)	PARTS KIT, HYDRAULIC	EA	1	*	*	*			4-43	
P	H		2530-294-6747	375397	(06848)	BLEEDER VALVE, HYDRAULIC	EA	1	*	*	*			4-44	1
P	H		2530-215-7372	377361	(06848)	CHECK VALVE	EA	1	*	*	*			4-44	3
P	H		5310-391-3663	373630	(06848)	WASHER	EA	1	*	*	*			4-44	5
P	H		5340-350-5998	374407	(06848)	RING, RETAINING	EA	1	*	*	*			4-44	6
P	H		2530-391-3610	373888	(06848)	GASKET	EA	1	*	*	*			4-44	7
P	H		2530-215-7362	373881	(06848)	PISTON	EA	1	*	*	*			4-44	
P	H		2530-559-3941	373884	(06848)	CUP, COMPRESSION	EA	1	*	*	*			4-44	16
P	H		5340-576-2705	377320	(06848)	RING, RETAINING	EA	1	*	*	*			4-44	18
P	H		5310-391-3667	375880	(06848)	WASHER	EA	1	*	*	*			4-44	20
P	H		2530-391-3600	375429	(06848)	CUP	EA	1	*	*	*			4-44	24
P	H		5340-391-3651	373919	(06848)	RING, RETAINING	EA	1	*	*	*			4-44	26
P	H		2530-391-3599	373915	(06848)	COVER	EA	1	*	*	*			4-44	27
P	H		4730-391-3605	373905	(06848)	ELBOW	EA	1	*	*	*			4-44	32
X2	H		2530-525-7065	373914	(06848)	BODY AND POPPETS	EA	1						4-44	34
P	H		5340-391-3655	373878	(06848)	SPRING	EA	1	*	*	*			4-44	37
P	H		2530-391-3608	373923	(06848)	GASKET	EA	1	*	*	*			4-44	39
P	H		5340-391-3650	907671	(06848)	RING, RETAINING	EA	1	*	*	*			4-44	40
P	H		2530-576-3808	374224	(06848)	CUP, COMPRESSION	EA	2	*	*	*			4-44	44
P	H		2530-714-7644	373890	(06848)	PISTON, RELAY VALVE	EA	1	*	*	*			4-44	45
P	H		5340-391-3647	374552	(06848)	RING	EA	1	*	*	*			4-44	51
X2	H		5340-391-3656	373856	(06848)	SPRING	EA	1						4-44	52
P	H		9390-270-2456	372995	(06848)	WICK	EA	1	*	*	*			4-44	55
P	H		5330-215-7379	BK16272	(06848)	PACKING	EA	1	*	*	*			4-44	58
P	H		2530-097-2959	373902	(06848)	SEAL, PLAIN	EA	1	*	*	*			4-44	59
P	H		2530-604-9892	375091	(06848)	PARTS KIT, AIR, HYDRAULIC	EA	1	*	*	*			4-44	
						GROUP 14 DIFFERENTIAL INSTALLATION									
P	H		2520-540-8040	R55-1-101	(99453)	YOKE, UNIVERSAL JOINT	EA	1	*	*	*			4-45	4
P	H		5330-050-0148	587541	(12204)	SEAL, PLAIN, ENCASED	EA	1	*	*	*			4-45	5
						GROUP 15 AXLE INSTALLATION									
X2	H		2540-591-0288	195-520	(96606)	BRACKET, SHOCK ABSORBER	EA	2						4-46	11

(1) SOURCE MAINT. AND RECOV CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	REFERENCE NUMBER AND MFR CODE		(3) DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
X2	H		2520-506-9106	210-40	(99606)	PAD, SPRING	EA	2						4-46	12
P	H		5306-576-2551	258-15	(96606)	BOLT, MACHINE	EA	2	*	*	*			4-46	15
P	H		5340-558-9473	200-27	(96606)	CLEVIS, ROD END	EA	1	*	*	*			4-46	16
P	H		5340-558-9475	200-28	(96606)	CLEVIS, ROD END	EA	1	*	*	*			4-46	16
P	H		2530-506-9337	192-184	(96606)	TIE ROD, STEERING	EA	1	*	*	*			4-46	20
P	H		2520-561-6666	597-30	(96606)	SHAFT, AXLE AUTOMOTIVE	EA	2	*	*	*			4-46	26
P	H		5340-942-5327	197-14	(96606)	BUSHING, TAPERED	EA	8	*	*	*			4-46	28
P	H		5330-558-1889	50455	(76680)	SEAL, PLAIN, ENCASED	EA	1	*	*	*			4-46	34
P	H		5315-941-3771	247-58	(96606)	PIN, GROOVED, HEADED	EA	2	*	*	*			4-47	5
X2	H		2530-506-9110	605-10	(96606)	YOKE, UNIVERSAL	EA	1						4-47	6
X2	H		2530-525-4370	601-15	(96606)	RING, UNIVERSAL	EA	1						4-47	
P	H		3120-580-1663	P112-8	(71366)	BUSHING, SLEEVE	EA	2	*	*	*			4-47	7
P	H		2520-759-4752	600-202	(96606)	PLATE ASSEMBLY, LOCK	EA	1	*	*	*			4-47	10
P	H		2530-506-9296	211-28	(96606)	PLATE, LOCKING	EA	1	*	*	*			4-47	10
X2	H		2530-525-4369	601-19	(96606)	PLATE, ADJUSTING	EA	1						4-47	12
P	H		2530-507-2413	216-2471	(96606)	SHIM SET	EA	2	*	*	*			4-47	14
P	H		3110-227-2286	36690	(60038)	CONE AND ROLLERS	EA	1	*	*	*			4-47	15
P	H		3110-516-5482	36620	(60038)	CUP, TAPERED	EA	2	*	*	*			4-47	16
P	H		2530-525-4367	199-21	(96606)	RING, CLAMP	EA	1	*	*	*			4-47	17
X2	H		2530-506-9336	598-2867	(96606)	BRAKE DRUM	EA	1						4-47	18
P	H		5315-584-0289	247-5021	(96606)	PIN, STRAIGHT, HEADLESS	EA	2	*	*	*			4-47	20
P	H		5307-989-6078	ST69	(73842)	STUD, PLAIN	EA	6	*	*	*			4-47	21
P	H		5315-516-0353	FC4395	(63477)	PIN, LOCK	EA	4	*	*	*			4-47	30
P	H		5340-215-7371	FC2208	(63477)	SPRING, HELICAL, EXTENSION	EA	1	*	*	*			4-47	34
X2	H		2530-506-9334	A7-3722M169	(78500)	BRAKE SHOE, INTERNAL	EA	2						4-47	37
P	H		2530-942-5411	1759A27	(78500)	PIN, ANCHOR	EA	2	*	*	*			4-47	38
X2	H		2530-525-4363	600-137	(96606)	PLATE ASSEMBLY	EA	1						4-47	
P	H		5315-516-0355	FC4399	(63477)	PIN, SHOULDER, HEADLESS	EA	4	*	*	*			4-47	55
P	H		2520-942-5421	601-106	(96606)	BOOT, DUST AND MOISTURE SEAL	EA	1	*	*	*			4-47	67
X2	H		2530-506-9301	601-23	(96606)	RETAINER, BOOT	EA	1						4-47	71
X2	H		2520-942-2637	640-262	(96606)	ARM ASSEMBLY	EA	1						4-47	
X2	H		2530-525-4361	600-151	(96606)	SPINDLE ASSEMBLY	EA	1						4-47	
P	H		2530-506-9335	224-5	(96606)	WEDGE, ADJUSTING	EA	1	*	*	*			4-47	77
P	H		2530-525-4366	201-59	(96606)	CAP, PIVOT BEARING	EA	1	*	*	*			4-47	78
P	H		3110-142-4357	43125	(60038)	CONE AND ROLLERS, TAPERED	EA	2	*	*	*			4-47	79
P	H		3110-100-0585	43312	(60038)	CUP, TAPERED ROLLER	EA	2	*	*	*			4-47	80
X2	H		2530-525-4365	607-13	(96606)	STUB, WHEEL	EA	1						4-47	82
P	H		2530-529-4209	FC3619	(63477)	PARTS KIT	EA	1	*	*	*			4-47	
P	H		5330-961-7033	599-57	(96606)	SEAL	EA	1	*	*	*			4-47	
						GROUP 16 FRAME AND BRACKETS ASSEMBLY									
				623-10	(96606)	SHACKLE ASSEMBLY								4-49	
P	H		3120-133-6616	197-19	(96606)	BUSHING, SLEEVE	EA	1	*	*	*			4-49	52
X2	H		2420-325-4314	620-12	(96606)	SPRING ASSEMBLY, LEAF	EA	4						4-49	
P	H		2420-816-5090	621-167	(96606)	SPRING, LEAF	EA	1	*	*	*			4-49	63

(1) SOURCE MAINT. AND RECOV CODE (A) SOURCE CODE	(B) MAINT LEVEL	(C) REC CODE	(2) FEDERAL STOCK NUMBER	(3) REFERENCE NUMBER AND MFR CODE		DESCRIPTION	(4) UNIT OF MEASURE	(5) QTY INC IN UNIT	(6) 30-DAY DS/GS MAINT ALW (A) 1-20	(B) 21-50	(C) 51-100	(7) 1-YR ALW PER 100 EQUIP CNTGSY	(8) DEPOT MAINT ALW PER 100 EQUIP	(9) ILLUSTRATION (A) FIG NO	(B) ITEM NO
X2	H		1740-246-7231	195-514	(96606)	BRACKET, SPRING	EA	4						4-49	74
X2	H		2420-592-3707	195-515	(96606)	BRACKET, SPRING	EA	4						4-49	80
X2	H		2590-924-2130	195-916	(96606)	BRACKET ASSEMBLY	EA	1						4-49	
X2	H		2420-608-8087	195-513	(96606)	BRACKET, STEERING	EA	1						4-49	99
X2	H		2420-594-7448	195-512	(96606)	BRACKET, STEERING	EA	1						4-49	111
P	H		2990-806-4911	669-521	(96606)	MUFFLER, EXHAUST	EA	1	*	*	*			4-49	123
P	F		5305-582-8324	MS35296-65	(96906)	SCREW, CAP	EA	1	*	*	*			4-49	133
X2	H		1740-246-7232	195-518	(96606)	BRACKET, TOP SHOCK ABSORBER	EA	4						4-49	149

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STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
1740-246-7231	4-49	74
1740-246-7232	4-49	149
1740-865-9705	4-2	
2420-325-4314	4-49	52
2420-507-0447	4-4	9
2420-525-4316	4-6	7
2420-525-4317	4-6	7
2420-525-4318	4-3	29
2420-592-3705	4-5	17
2420-592-3706	4-2	4
2420-592-3707	4-49	80
2420-594-7444	4-5	14
2420-594-7445	4-5	16
2420-594-7446	4-5	13
2420-594-7447	4-5	13
2420-594-7448	4-49	111
2420-601-9679	4-7	19
2420-601-9681	4-5	7
2420-601-9685	4-4	14
2420-601-9688	4-5	6
2420-601-9689	4-7	19
2420-601-9690	4-7	36
2420-601-9691	4-7	36
2420-608-8087	4-49	99
2420-608-8088	4-3	11
2420-612-9389	4-3	18
2420-816-5090	4-19	63
2510-602-1282	4-16	
	4-26	
2520-033-9370	4-2	23
2520-033-9371	4-2	22
2520-033-9375	4-34	50
2520-033-9376	4-34	47
2520-033-9377	4-34	
2520-061-1016	4-35	32
2520-064-0131	4-39	5
2520-080-8337	4-40	
2520-081-4886	4-41	35
2520-083-5393	4-35	8
2520-087-9329	4-37	17
2520-088-3860	4-37	17
2520-135-8868	4-37	41
2520-506-9106	4-46	12
2520-506-9535	4-34	3
2520-506-9541	4-34	18
2520-525-4403	4-41	29
2520-525-4405	4-41	22

STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
2520-525-4416	4-41	51
2520-525-4430	4-41	41
2520-540-7020	4-41	24
2520-540-8040	4-45	4
2520-561-6666	4-46	26
2520-592-3767	4-40	8
2520-609-7109	4-40	1
2520-714-7988	4-39	
2520-759-4752	4-47	10
2520-883-0864	4-37	50
2520-905-4209	4-39	
2520-942-2637	4-8	
2520-942-3421	4-47	70
2520-967-1140	4-40	
2520-974-8898	4-39	6
	4-8	
2530-028-3340	4-43	
2530-033-9379	4-34	
2530-052-4372	4-34	
2530-083-2350	4-35	14
2530-097-2959	4-44	59
2530-136-2069	4-10	
2530-136-7266	4-42	4
2530-170-1900	4-35	4
2530-196-6251	4-42	8
2530-215-7362	4-44	
2530-219-9557	4-15	42
2530-290-5462	4-15	11
2530-292-4407	4-13	4
2530-294-6747	4-44	1
2530-311-8896	4-42	64
2530-353-2988	4-43	8
2530-355-4419	4-13	18
2530-355-4423	4-13	10
2530-359-0875	4-35	10
2530-359-4445	4-13	15
2530-378-6580	4-42	31
2530-391-3599	4-44	27
2530-391-3600	4-44	24
2530-391-3608	4-44	39
2530-391-3610	4-44	7
2530-391-3994	4-42	23
2530-431-2970	4-42	54
2530-454-0980	4-35	18
2530-462-2529	4-42	16
2530-472-8166	4-8	90
2530-506-8811	4-42	

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STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
2530-506-9301	4-47	6
2530-506-9296	4-47	3
2530-506-9301	4-47	73
2530-506-9334	4-47	37
2530-506-9335	4-47	79
2530-506-9336	4-47	18
2530-506-9345	4-42	8
2530-506-9419	4-8	59
2530-506-9425	4-8	1
2530-506-9440	4-8	4
2530-506-9441	4-8	5
2530-506-9442	4-8	26
2530-506-9446	4-8	29
2530-506-9494	4-8	28
2530-506-9495	4-8	30
2530-506-9505	4-12	
2530-506-9509	4-12	33
2530-506-9533	4-12	26
2530-507-2413	4-47	14
2530-525-4363	4-47	52
2530-525-4365	4-47	84
2530-525-4367	4-47	20
2530-525-4369	4-47	16
2530-525-4370	4-47	
2530-525-4375	4-8	
2530-525-4384	4-15	
2530-525-4387	4-15	
2530-525-4394	4-12	
2530-525-4397	4-12	
2530-525-7065	4-44	34
2530-526-5159	4-42	68
2530-529-4209	4-47	
2530-535-7222	4-34	34
2530-555-0768	4-8	110
2530-559-3941	4-44	16
2530-562-0932	4-8	40
2530-576-3808	4-44	44
2530-591-0287	4-12	5
2530-592-5258	4-12	32
2530-592-5259	4-8	
2530-592-5261	4-15	
2530-592-5262	4-12	27
2530-592-5263	4-8	
2530-592-5264	4-8	
2530-592-5265	4-8	31
2530-593-4111	4-9	25
2530-593-4113	4-8	75
2530-593-4114	4-8	101
2530-593-4115	4-12	21
2530-593-4116	4-8	96
2530-601-2924	4-8	47
2530-604-9892	4-44	
2530-618-4194	4-42	65
2530-618-4318	4-42	52
2530-664-4344	4-35	21
2530-714-7644	4-44	45
2530-752-1465	4-15	31
2530-752-1484	4-15	20
2530-752-1485	4-15	21
2530-942-5400	4-8	17
2530-802-4200	4-8	65
2530-818-9411	4-8	35
2530-906-7304	4-8	73
2530-920-5641	4-42	73
2530-924-8742	4-15	
2530-940-0414	4-42	58
2530-942-2763	4-8	53
2530-942-5393	4-8	48
2530-942-5394	4-8	67
2530-942-5398	4-8	27
2530-942-5399	4-8	32
2530-942-5400	4-8	17
2530-942-5401	4-35	3
2530-942-5402	4-35	22
2530-942-5403	4-42	17
2530-942-5407	4-42	60
2530-942-5411	4-47	38
2530-942-5422	4-35	31
2530-965-6495	4-8	14
2530-967-2057	4-8	41
2530-968-0436	4-11	
2540-033-9381	4-16	73
2540-064-4765	4-16	68
2540-064-4769	4-16	69
2540-176-3290	4-27	9
2540-311-4200	4-5	10
2540-322-2653	4-3	17
2540-506-9534	4-26	34
2540-507-2412	4-6	1
2540-562-1916	4-6	19
2540-567-9288	4-20	28
2540-591-0288	4-46	11
2540-592-3769	4-6	18
2540-601-9686	4-4	5

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STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
2540-611-7659	4-42	1
2540-758-6460	4-4	23
2540-784-4218	4-27	
2540-845-0557	4-6	23
2540-903-9696	4-21	
2540-942-2616	4-4	26
2540-942-2617	4-4	22
2540-942-5384	4-27	9
2540-942-5386	4-4	18
2540-973-3446	4-20	37
2590-215-4048	4-15	3
2590-355-4430	4-13	5
2590-506-9101	4-28	38
2590-506-9496	4-12	10
2590-507-5553	4-26	10
2590-561-6667	4-8	11
2590-569-3685	4-15	9
2590-578-2028	4-16	57
2590-627-8991	4-16	
2590-924-2125	4-4	
2590-924-2128	4-4	59
2590-924-2129	4-11	1
2590-924-2130	4-49	
2590-924-2131	4-6	9
2590-925-8175	4-7	30
2590-940-0422	4-16	108
2590-942-2618	4-16	26
2590-942-2619	4-16	27
2590-942-2620	4-16	
2590-942-2621	4-16	
2590-942-2622	4-16	32
2590-942-2623	4-16	33
2590-942-2624	4-16	30
2590-942-5388	4-16	107
2590-942-5390	4-16	
2805-173-0081	4-38	26
2805-173-1709	4-38	56
2805-251-1156	4-36	37
2805-275-3012	4-38	15
2805-301-2936	4-38	14
2805-342-7457	4-38	
2805-358-5128	4-30	16
2805-517-0425	4-38	
2805-594-4713	4-38	18
2805-624-5339	4-36	
2805-633-0022	4-38	34
2805-633-0023	4-36	25

STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
2805-870-7272	4-38	40
2805-870-7273	4-38	41
2805-888-0961	4-36	
2815-591-8521	4-38	11
2910-335-5658	4-30	18
2910-342-6732	4-28	16
2910-353-7831	4-30	14
2910-358-4540	4-28	21
2910-358-4675	4-29	
2910-358-5595	4-30	15
2910-366-6525	4-30	
2910-366-6533	4-30	34
2910-366-6553	4-30	27
2910-366-6562	4-30	33
2910-425-6597	4-28	39
2910-466-6034	4-31	5
2910-592-3774	4-28	7
2910-593-4123	4-28	
2910-593-4125	4-28	58
2920-038-4447	4-16	15
2920-088-4749	4-16	44
2920-088-4766	4-19	11
2920-344-9940	4-26	22
2920-360-8106	4-17	
2920-624-8717	4-18	1
2920-791-8226	4-18	23
2920-941-6031	4-16	42
2920-951	4-16	10
2920-976-0539	4-19	
2930-215-5121	4-33	16
2930-244-8159	4-33	12
2930-288-6441	4-32	18
2930-623-5700	4-33	
2930-715-7562	4-32	
2930-845-1546	4-32	4
2930-845-5362	4-32	6
2940-358-2161	4-36	7
2940-358-2734	4-36	21
2990-111-6573	4-19	
2990-171-3690	4-37	36
2990-354-2767	4-28	26
2990-499-8455	4-31	14
2990-561-6191	4-37	4
2990-706-6528	4-37	5
2990-806-4911	4-49	123
3030-540-2511	4-33	4
3110-100-0585	4-47	80

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STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
311-100-6162	4-30	29
3110-109-1123	4-13	12
3110-142-4357	4-47	79
3110-144-8505	4-13	17
3110-227-2288	4-47	18
3110-516-5482		16
3120-133-6616	4-49	52
3120-580-1663	4-47	7
3120-904-6089	4-8	57
4320-215-1422	4-13	
4320-561-6213	4-8	21
4720-289-0082	4-33	8
4720-435-7572	4-14	2
4720-541-7293	4-27	2
4720-562-5895	4-28	14
4730-164-0697	4-42	46
4730-274-5601	4-42	56
4730-289-2330	4-33	9
4730-341-2980	4-42	69
4730-391-3589	4-42	71
4730-391-3605	4-44	32
4730-608-1777	4-16	101
4730-754-0152	4-42	19
4730-827-7098	4-42	21
5305-225-3839	4-7	27
5305-362-1247	4-38	55
5305-366-6546	4-30	45
5305-735-1258	4-35	17
5305-776-3745	4-36	18
5305-942-8684	4-35	28
5306-366-6429	4-38	38
5306-374-3894	4-38	13
5306-374-3904	4-38	12
5306-529-1732	4-39	4
5306-538-6001	4-39	8
5306-550-0593	4-41	6
5306-576-2551	4-46	15
5306-775-9485	4-38	
5306-775-9486	4-36	8
5307-561-5467	4-12	15
5307-579-5397	3-6	1
5307-637-1485	4-28	23
5307-989-6078	4-47	21
5310-209-1761	4-42	20
5310-391-3663	4-44	5
5310-391-3667	4-44	20
5310-582-5965	4-7	28

STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5310-584-5272	4-2	12
5310-732-0558	4-7	24
5310-735-1273	4-15	12
5310-809-4058	4-3	2
5310-835-2042	4-19	6
5310-865-6073	4-16	113
5310-934-9751	4-25	50
5310-939-0783	4-12	25
5310-942-5313	4-41	23
5315-298-1665	4-36	40
5315-507-5457	4-34	35
5315-516-0353	4-47	30
5315-516-0355	4-47	55
5315-530-5753	4-12	18
5315-561-9090	4-12	7
5315-582-3026	4-28	57
5315-584-0289	4-47	20
5315-941-3771	4-47	5
5330-050-0148	4-45	5
5330-199-5742	4-36	28
5330-215-7379	4-44	58
5330-246-2906	4-28	20
5330-291-4645	4-43	9
5330-291-4812	4-18	38
5330-292-7254	4-36	19
5330-449-6532	4-16	67
5330-460-3790	4-30	35
5330-530-1614	4-41	12
5330-558-1889	4-46	34
5330-576-8426	4-40	9
5330-588-9189	4-33	13
5330-670-0421	4-38	34
5330-811-0934	4-42	22
5330-941-0137	4-13	16
5330-961-7033	4-47	
5340-033-9322	4-6	10
5340-063-9797	4-6	12
5340-063-9799	4-6	12
5340-215-7371	4-47	37
5340-247-5042	4-42	35
5340-350-5998	4-44	6
5340-359-4042	4-13	12
5340-366-6538	4-30	12
5340-366-6552	4-30	25
5340-391-3647	4-44	51
5340-391-3650	4-44	40
5340-391-3651	4-44	26

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STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
5340-391-3655	4-44	37
5340-391-3656	4-44	52
5340-427-4561	4-34	24
5340-489-5934	4-30	21
5340-506-9116	4-41	30
5340-530-5544	4-34	1
5340-558-9473	4-46	16
5340-558-9475	4-46	16
5340-576-1543	4-6	
5340-576-2705	4-44	18
5340-584-3854	4-4	38
5340-597-7932	4-38	
5340-598-2891	4-31	8
5340-647-2384	4-6	25
5340-647-2417	4-6	25
5340-820-8547	4-7	4
5340-941-3739	4-6	4
5340-942-5327	4-46	28
5340-948-1099	4-8	51
5340-950-3333	4-6	8
5340-974-4700	4-6	5
5340-974-4701	4-6	
5355-668-1925	4-34	30
5355-668-5363	4-37	
5905-894-7305	4-16	19
5910-050-2023	4-16	18
5925-615-7071	4-26	23
5925-710-6864	4-26	24
5930-174-5885	4-26	20
5930-392-5002	4-25	10
5930-679-9956	4-16	60
5930-694-1860	4-25	13
5930-849-1046	4-26	19
5930-929-3111	4-16	63
5930-954-5864	4-16	62
5940-504-4137	4-18	39
5945-642-1995	4-16	44
5955-563-0649	4-26	12
5977-710-2044	4-18	23
6105-950-6975	4-27	12
6140-903-8587	4-16	116
6220-039-6973	4-24	
6220-217-9149	4-25	53
6220-732-0807	4-25	
6220-903-8586	4-16	77
6220-939-4468	3-7	
6220-942-2678	4-22	1
6220-959-8018	4-22	5
6220-959-8021	4-22	6
6220-959-8028	4-23	6
6220-961-0783	4-16	90
6220-984-1324	4-16	82
6240-295-1184	4-22	3
6240-681-1638	4-24	9
6240-836-2079	4-23	5
6620-314-4566	4-33	
6620-564-9304	4-16	
6680-556-1984	4-26	18
6680-585-5779	4-16	64
6680-661-9380	4-41	45
9390-270-2456	4-44	55

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REFERENCE NUMBER	MFG. CODE	FIG. NO.	ITEM NO.
AVM9573	70523	4-4	22
AVM9574	70523	4-4	23
A560-7	70417	4-12	9
A7-3722M169	78500	4-47	37
A878-6	70434	4-14	2
BK1	06848	4-44	58
BK22109	06848	4-42	31
BK22506	06848	4-42	65
B2808-95	16128	4-42	22
		4-42	55
		4-42	59
B6038C	23040	4-37	5
C116A	82272	4-30	
DC722	01843	4-20	9
E61P	77640	4-15	22
E7T2	71500	4-28	21
FC1030	63477	4-42	56
FC1320	63477	4-42	16
FC	63477	4-43	8
FC2208	63477	4-47	34
FC2678	63477	4-42	21
FC33479	63477	4-42	58
FC3619	63477	4-47	
FC3836	63477	4-42	69
FC3933	63477	4-42	46
FC3963	63477	4-42	54
FC4395	63477	4-47	30
FC4399	63477	4-47	55
FC4751	63477	4-42	52
FC5922	63477	4-43	9
FC603	63477	4-42	20
FC673	63477	4-42	19
FC8448	63477	4-43	
FE2652	63477	4-42	23
FM3-08P020-100-1	62983	4-11	
GE721018A4	01843	4-21	
GGU27	19728	4-18	41
GGU28	19728	4-18	42
GGU30	19728	4-18	38
GGU32	19728	4-18	39
GJC1111	19728	4-18	
GJC2030F	19728	4-18	18
GJC42	19728	4-18	23
GR32	19728	4-18	16
L14DM158	98349	4-8	49
L15SM23	98349	4-8	47
L20SV6053A12	98349	4-8	41

REFERENCE NUMBER	MFG. CODE	FIG. NO.	ITEM NO.
L20VB5040X1	98349	4-8	57
L22SN5000	98349	4-8	53
L29RL5000	98349	4-8	51
MS21083N12	96906	4-12	25
MS21306-1	96906	4-16	113
MS27183-10	96906	4-3	2
MS35296-65	96906	4-49	133
MS35338-44	96906	4-7	28
MS35338-48	96906	4-2	12
MS35650-302	96906	4-4	4
MS35650-302	96906	4-25	50
MS35756-8	96906	4-18	4
MS51967-8	96906	4-7	24
MS90725-8	96906	4-7	27
M857SA	71500	4-28	16
M874-44	60703	4-16	68
P112-8	71366	4-47	7
RAG4001	19728	4-16	42
R55-1-101	99453	4-45	4
R55-1-240	99453	4-41	24
R55-10	99453	4-40	9
R55-55-2	99453	4-40	
R55-9	99453	4-40	8
SF84	83397	4-32	4
SP7211	01843	4-20	28
ST69	73842	4-47	21
SW701	01843	4-26	20
TA663001A1-3625	77640	4-15	
TA664000A1S-725	77649	4-15	
TA665000	77640	4-15	20
TA666000	77640	4-15	31
TA669000	77640	4-15	21
U12FT	30327	4-28	14
VB0420	19728	4-16	34
V165002	77640	4-12	43
V1	77640	4-12	40
V1	77640	4-12	35
V214-5-1C12	62983	4-8	21
WWC12K2655	01843	4-21	
X295	19728	4-18	12
X489	19728	4-18	14
028104	77640	4-15	28
029031	77640	4-15	5
029037	77640	4-15	3
029039	77640	4-15	12
036078	77640	4-12	57
055-6	99453	4-40	1

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REFERENCE NUMBER	MFG CODE	FIG. NO.	ITEM NO.
065996	77640	4-15	
065997	77640	4-15	29
068006	77640	4-15	42
096088S1	77640	4-15	
1AD2004	19728	4-17	
1B5-4QD	24161	4-8	14
1L31P3-15S	96259	4-10	
1ND30-2530-1	74865	4-38	
1034	24446	4-22	3
1091629	12204	4-16	18
109975	62983	4-13	12
1116202	74865	4-33	4
1116781	16764	4-16	44
1125411	74865	4-36	25
114-5100A	76260	4-39	
114-5101A	76260	4-39	
114139	62983	4-13	4
114173	92983	4-8	
116-13	71500	4-30	29
116644	62983	4-13	15
119375	62983	4-13	18
120214	74865	4-38	25
		4-38	39
		4-38	47
		4-38	50
120520	12204	4-38	
123-31 S	71500	4-30	15
125	76369	4-42	35
126315	62983	4-13	10
129343	62983	4-13	1
131317	62983	4-13	5
1313781	74865	4-36	7
1314607	74865	4-36	
1316371	12204	4-38	15
1323882	74865	4-36	18
1323884	74865	4-36	19
1325976	74865	4-38	
1326319	74865	4-38	14
1326325	12204	4-33	16
13904	79575	4-16	63
140C2183A	92867	4-34	34
1402510	74865	4-18	1
1407937	74865	4-33	
14208	95993	4-6	19
14211	95993	4-6	1
144C	92867	4-34	35
1450023	74865	4-29	

REFERENCE NUMBER	MFG. CODE	FIG. NO.	ITEM NO.
1487595	74865	4-38	34
1491	71730	4-16	25
150A13	71500	4-30	21
1515832	70040	4-16	67
1518767	70040	4-16	64
15250C	14608	4-7	4
1534	71500	4-30	
1551061	74865	4-38	33
1582657	70040	4-26	18
1584145	70040	4-26	11
160-46S	71500	4-30	16
1613004	74865	4-38	11
16184	95993	4-3	11
1636571	12204	4-37	36
1665239	74865	4-35	31
1665241	74865	4-35	28
1703	62983	4-13	17
1752677	74865	4-33	
1759A27	78500	4-47	38
1789581	74865	4-35	8
180022	74865	4-38	
181635	74865	4-36	8
1843156	74865	4-18	19
1870	57733	4-41	45
1889100	74865	4-16	10
1889129	86403	4-19	
190-117	96606	4-8	17
192-142	96606	4-42	4
192-149	96606	4-34	3
192-150	96606	4-34	18
192-184	96606	4-46	20
192-187	96606	3-6	1
192-755	96606	4-28	39
1946957	74865	4-38	40
1946958	74865	4-38	41
195-1345	96606	4-16	73
195-1661	96606	4-34	50
195-1662	96606	4-34	47
195-512	96606	4-49	111
195-513	96606	4-49	99
195-514	96606	4-49	74
195-515	96606	4-49	80
195-518	96606	4-49	149
195-520	96606	4-46	11
195-526	96606	4-42	9
195-904	96606	4-38	18
195-915	96606	4-11	1

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REFERENCE NUMBER	MFG. CODE	FIG. NO.	ITEM NO.
195-916	96606	4-49	
1958667	16764	4-16	
197-14	96606	4-46	28
197-19	96606	4-49	52
197-32	96606	4-8	90
199-21	96606	4-47	17
200-2-6-049	75175	4-16	77
200-27	96606	4-46	16
200-28	96606	4-46	16
200622	48873	4-16	15
201-59	96606	4-47	78
209-32	96606	4-42	
209-64	96606	4-34	
209-66	96606	4-34	
2095501	74865	4-16	19
21-123S	71500	4-30	14
210-40	96606	4-46	12
211-28	96606	4-47	10
216-2471	96606	4-47	14
217-269	96606	4-41	30
218-12	96606	4-12	33
218-378	96606	4-28	38
218-5	96606	4-42	8
218-7	96606	4-6	4
218-8	96606	4-12	26
22027	75300	4-31	8
22311	75300	4-31	14
224-13S	71500	4-30	34
224-5	96606	4-47	77
2240529	74865	4-19	6
22835	75300	4-28	26
2275590	12204	4-16	19
229236	62983	4-13	16
2407885	74865	4-37	50
247-3398	96606	4-28	57
247-5021	96606	4-47	20
247-58	96606	4-47	5
250E	98126	4-4	18
25055	75300	4-31	5
2525529	74865	4-19	
253-2	96606	4-41	6
258-15	96606	4-46	15
2642222	74865	4-19	11
2642506	74865	4-19	
2699-6A	71843	4-34	24
275	78997	4-16	90
30A37	71500	4-30	45
30055-15	13445	4-26	23
30055-30	13445	4-26	24
30101	76680	4-41	12
3238A	79550	4-16	108
32575-1	75175	4-23	6
3286	75175	4-22	1
35376	75175	4-22	6
35377	75175	4-22	5
3544J	76260	4-39	4
36620	60038	4-47	16
36690	60038	4-47	18
371721	06848	4-42	68
372995	06848	4-44	55
373630	06848	4-44	5
373710	06848	4-42	71
373856	06848	4-44	52
373878	06848	4-44	37
373881	06848	4-44	
373884	06848	4-44	16
373888	06848	4-44	7
373890	06848	4-44	45
373902	06848	4-44	59
373905	06848	4-44	32
373914	06848	4-44	34
373915	06848	4-44	27
373919	06848	4-44	26
373923	06848	4-44	39
374224	06848	4-44	44
374407	06848	4-44	6
374464	06848	4-42	64
374552	06848	4-44	51
374980	06848	4-42	73
375091	06848	4-44	
375397	06848	4-44	1
375429	06848	4-44	24
375880	06848	4-44	20
37597	06848	4-44	1
377320	06848	4-44	18
377361	06848	4-44	3
38901	43477	4-35	21
400005	77640	4-15	36
400020	77640	4-15	37
401081	77640	4-15	4
401082	77640	4-15	11
401105	77640	4-15	27
401186	77640	4-12	48
402156	77640	4-12	34

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43312	60038	4-47	80
4411	24446	4-23	5
450029	77640	4-15	2
450066	77640	4-15	1
454895	77640	4-15	9
465379	77640	4-15	
468	92867	4-34	30
469	92867	4-37	
48-75	71500	4-30	33
49NTE2018	72962	4-41	23
50082	74865	4-33	12
50455	76680	4-46	34
5050	13445	4-26	19
51	23040	4-37	5
521-40	96606	4-32	18
521-50	96606	4-32	
521-55	14608	4-32	6
53	24446	4-26	12
530-12	96606	4-16	
530-14	96606	4-16	
540-13	96606	4-16	107
540-15	96606	4-16	32
540-18	96606	4-16	33
540-22	96606	4-16	30
540-84	96606	4-16	27
540-85	96606	4-16	
540-86	96606	4-16	
541-2	96606	4-26	10
541-21	96606	4-16	62
541-3	96606	4-16	116
5492J	76260	4-39	8
550-10	96606	4-28	
551-11	96606	4-26	34
551-8	96606	4-28	7
564375	74865	4-28	23
567320	74865	4-35	3
572167	12204	4-35	18
572243	12204	4-35	10
579-1464		4-35	32
580-41	96606	4-2	22
580-42	96606	4-2	23
580045	74865	4-35	4
583-8	96606	4-39	
583440	74865	4-35	14
583441	74865	4-35	22
583443	74865	4-35	9

REFERENCE NUMBER	MFG. CODE	FIG. NO.	ITEM NO.
587541	12204	4-45	5
5933771	73331	4-24	
5956007	73331	4-24	9
596694	12204	4-35	17
597-30	96606	4-46	26
598-2867	96606	4-47	18
599-57	96606	4-47	
6-882J	74865	4-37	41
600-151	96606	4-47	
600-202	96606	4-47	
60000G1	46522	4-27	9
60076G1	46522	4-27	
601-106	96606	4-47	67
600-137	96606	4-47	
601-15	96606	4-47	
601-19	96606	4-47	12
601-23	96606	4-47	71
601268	74865	4-36	37
601766	12204	4-38	38
60396G1	46522	4-27	3
605-10	96606	4-47	6
60529G2	46522	4-27	12
607-13	96606	4-47	82
61-135	71500	4-30	18
61-145	71500	4-30	25
61-157	71500	4-30	27
6151	78977	4-25	10
618622	74865	4-36	28
620-12	96606	4-49	
621-167	96606	4-49	63
623-10	96606	4-49	
63-24	71500	4-30	12
631-24	96606	4-28	58
639-55	96606	4-42	60
639-57	96606	4-42	17
640-124	96606	4-8	34
640-174	96606	4-8	65
640-175	96606	4-8	35
640-176	96606	4-8	67
640-252	96606	4-37	18
640-253	96606	4-37	17
640-262	96606	4-47	
640-62	96606	4-8	
640-64	96606	4-12	
640-67	96606	4-8	96
640-68	96606	4-8	
640-69	96606	4-8	27

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640-71	96606	4-8	1
640-72	96606	4-8	5
640-73	96606	4-8	26
640-74	96606	4-8	29
640-75	96606	4-8	4
640-76	96606	4-8	30
640-77	96606	4-8	28
640-82	96606	4-8	110
642-135	96606	4-8	73
		4-8	94
642-39	96606	4-9	25
642-40	96606	4-12	10
642-41	96606	4-12	32
642-42	96606	4-12	
642-44	96606	4-12	7
642-46	96606	4-12	
642-47	96606	4-12	15
642-49	96606	4-12	21
642-50	96606	4-12	5
642-52	96606	4-8	
642-54	96606	4-8	
642-56	96606	4-12	18
642-57	96606	4-12	27
642-58	96606	4-8	75
642-62	96606	4-8	59
642-63	96606	4-8	40
642-66	96606	4-8	101
642-70	96606	4-12	49
642-73	96606	4-8	99
642-78	96606	4-8	97
642-80	96606	4-8	11
6453E	78977	4-25	13
650-103	96606	4-3	18
650-153	96606	4-6	9
650-154	96606	4-6	
650-155	96606	4-6	
650-156	96606	4-6	12
650-157	96606	4-6	12
650-86	96606	4-2	4
650-88	96606	4-6	7
650-89	96606	4-6	7
651-253	96606	4-7	30
651-256	96606	4-7	19
651-257	96606	4-7	19
651-269	96606	4-7	36
651-270	96606	4-7	36

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651-281	96606	4-5	17
651-282	96606	4-5	15
651-283	96606	4-5	16
651-284	96606	4-5	13
651-285	96606	4-5	14
651-287	96606	4-5	6
651-288	96606	4-5	7
651-293	96606	4-6	23
651-294	96606	4-6	18
651-296	96606	4-6	5
651-298	96606	4-6	25
651-312	96606	4-3	29
651-330	96606	4-6	25
651-334	96606	4-4	9
651-335	96606	4-4	5
651-337	96606	4-4	14
651-340	96606	4-4	38
651-424	96606	4-4	
651-466	96606	4-3	17
651-796	96606	4-6	8
651-801	96606	4-6	10
651-805	96606	4-4	26
651-884	96606	4-4	59
651183	74865	4-30	35
666014	12204	4-38	13
668919	12204	4-42	1
669-410	96606	4-27	2
669-521	96606	4-49	123
6750	78977	4-25	
677540	12204	4-38	26
690-1	96606	4-2	
690-1B1	96606	4-2	
692857	12204	4-38	12
693958	12204	4-38	55
70-12	96606	4-41	51
70-3235	96606	4-41	29
70-44	96606	4-41	35
70-9	96606	4-41	22
7015	78977	4-25	53
71016	13445	4-26	22
7143A428	92867	4-34	
7455J	76260	4-39	6
7456J	76260	4-39	5
7457J	76260	4-39	3
752000	57733	4-5	10
7768	13445	4-16	57
78-6048A	23040	4-37	4

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79-2	96606	4-34	1
852750	74865	4-36	21
859151	70040	4-16	101
8628	13445	4-16	60
863220	74865	4-33	13
86509	60703	4-20	37
867386	12204	4-36	40
870469	12204	4-33	9
871934	74865	4-38	56
8734-25-13-16	77640	4-15	26
88080-67	60703	4-16	69
882-2-3-049	75175	4-16	82
9000514	16764	4-16	
90103	57733	4-41	41
907671	06848	4-44	40
912031	62983	4-13	8
912064	62983	4-13	
918494	12204	4-33	8
926470	96606	3-7	
933438	12204	4-36	
952062	12204	4-28	20
98574	62983	4-13	13

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W. C. WESTMORELAND,
General, ***United States Army,***
Chief of Staff.

Official:
KENNETH G. WICKHAM,
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