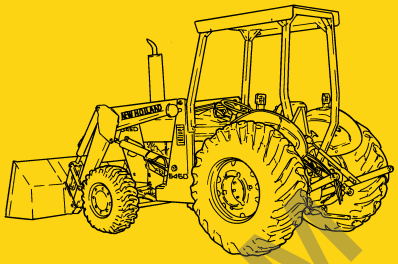
NEW HOLLAND CONSTRUCTION

345D

445D

545D

SERVICE MANUAL



NEW HOLLAND

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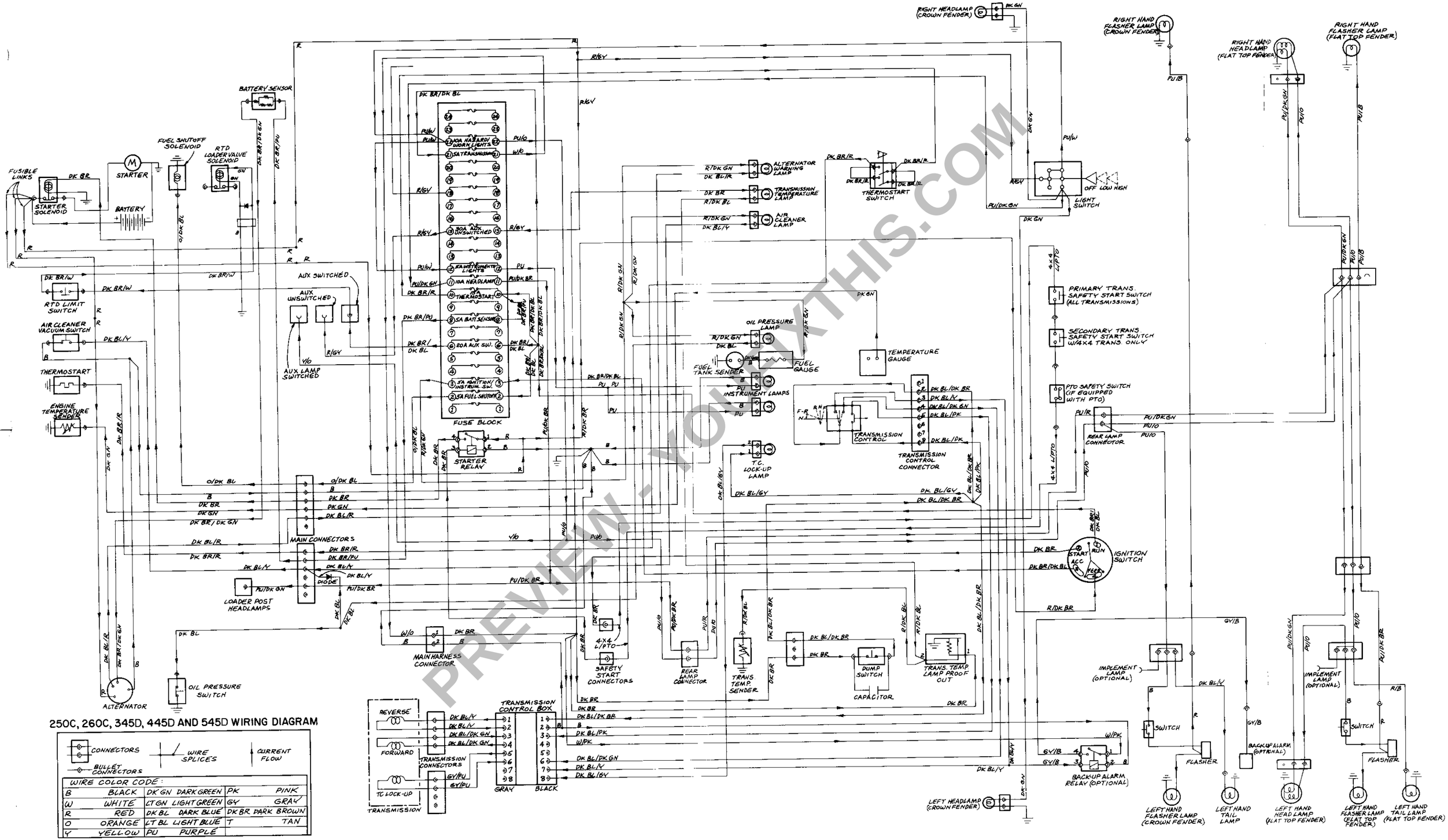
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250C, 260C, 345D, 445D AND 545D WIRING DIAGRAM

CONNECTORS — WIRE SPLICES — CURRENT FLOW — BULLET CONNECTORS

WIRE COLOR CODE:					
B	BLACK	DK GN	DARK GREEN	PK	PINK
W	WHITE	LT GN	LIGHT GREEN	GY	GRAY
R	RED	DK BL	DARK BLUE	DK BR	DARK BROWN
O	ORANGE	LT BL	LIGHT BLUE	T	TAN
Y	YELLOW	PU	PURPLE		

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FIGURE 3-57

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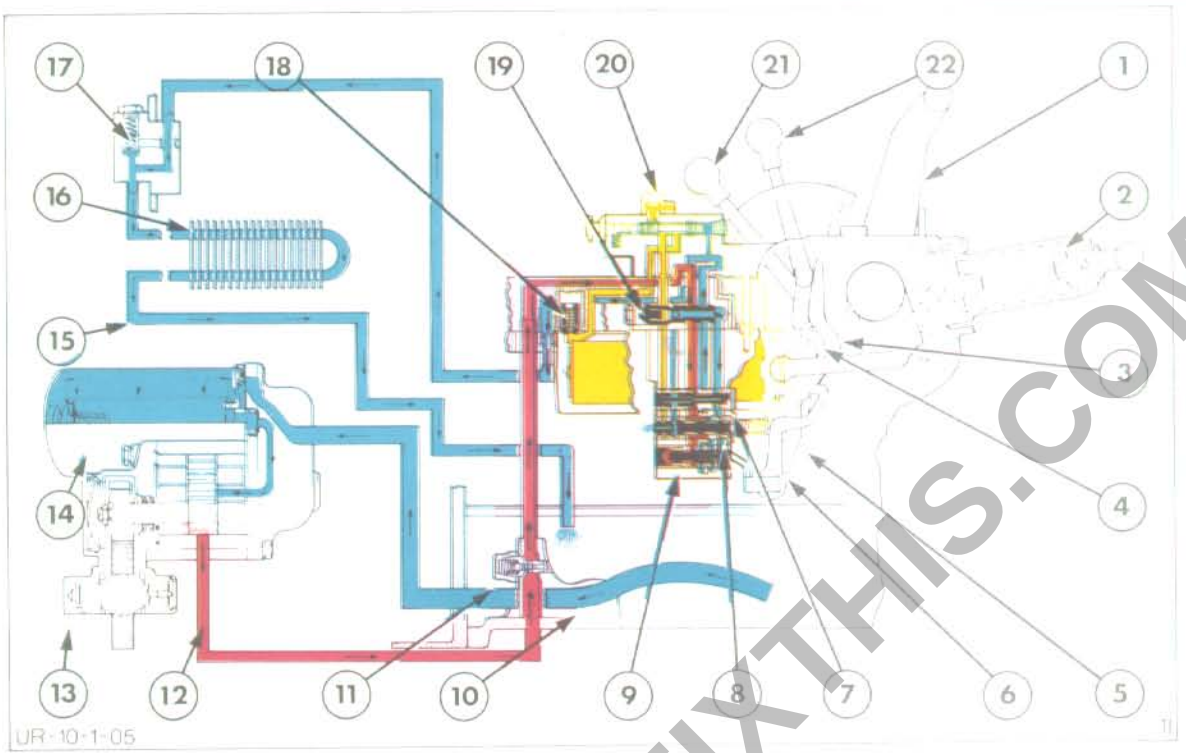


FIGURE 8-5

Oil Flow In Neutral

A Drop port

B Lift port

1 Lift arm
2 Draft control spring
3 Draft lever
4 Position lever
5 Actuating lever
6 Control valve lever
7 Unload valve
8 Control valve
9 Feathering valve
10 Hydraulic pump inlet tube
11 Pressure relief valve
12 Pump pressure tube
13 Engine mounted gear type
14 Micronic intake filter
15 Oil cooler return to sump
16 Oil cooler (where fitted)
17 Cooler valve
18 Lift cylinder safety valve
19 Check valve
20 ASC valve
21 Draft controller
22 Position control lever

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SECTION 1
ENGINE SYSTEMS
3-CYLINDER DIESEL ENGINE
DESCRIPTION AND OPERATION

This Section describes the overhaul and repair of the 3-cylinder direct injection diesel engine.

The engine, Figure 1-1, features a cross flow cylinder head with the inlet and exhaust manifolds on opposite sides of the head. The combustion chamber is formed in the crown of the piston which has three compression and one oil control ring all located above the piston pin with the exception of the Models 260C and 545D, which has two compression and one oil control ring.

The cylinder head assembly incorporates the valves, valve springs and the spring retainers. Valve guides are an integral part of the cylinder head with replaceable valve seats pressed into the valve ports.

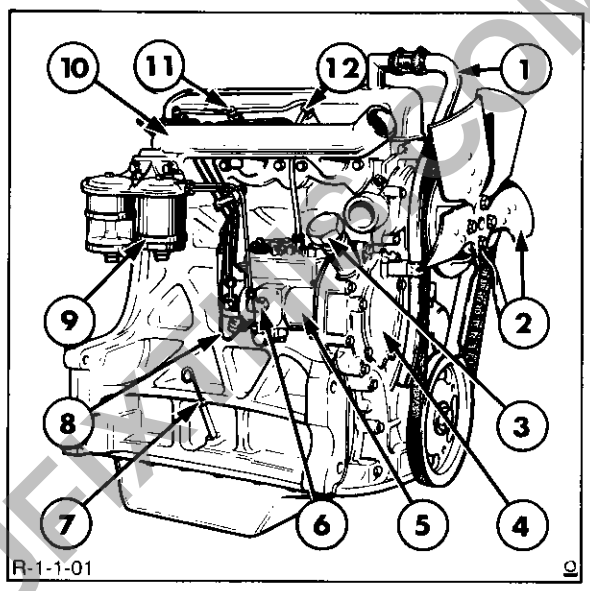


FIGURE 1-1

3-Cylinder Diesel Engine With DPA Distributor Type Fuel Injection Pump

1	Ventilation tube	7	High pressure fuel pipe
2	Fan	8	Starter motor
3	Oil filler cap	9	Fuel filters
4	Timing cover	10	Inlet manifold
5	Injection pump	11	Rocker cover
6	Low pressure fuel inlet	12	Injector

GENERAL SPECIFICATIONS

The following chart shows the 3-cylinder diesel engine options available.

Model	250C, 345D	445D	260C, 545D
No. of Cylinders	3	3	3
Bore	4.4″ (111.8 mm)	4.4″ (111.8 mm)	4.4″ (111.8 mm)
Stroke	4.4″ (106.7 mm)	4.4″ (10.67 mm)	4.4″ (111.8 mm)
Displacement	201 in^3 (3247 cm^3)	201 in^3 (3247 cm^3)	201 in^3 (3247 cm^3)*

*The 260C and 545D uses the headland piston

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The following general nut and bolt installation torque requirements (lubricated) apply to any operation not previously listed.

TORQUE VALUES	lb. ft.	N·m	Kgf m
INCH SERIES			
1/4-20	8	11	1.1
1/4-28	8	11	1.1
5/16-18	14	19	1.9
5/16-24	17	23	2.3
3/8-16	23	31	3.2
3/8-24	33	45	4.6
7/16-14	48	65	6.6
7/16-20	55	75	7.6
1/2-13	65	88	8.9
1/2-20	75	102	10.4
9/16-18	90	122	12.4
5/8-18	138	187	19

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TROUBLESHOOTING

IMPORTANT: When making a repair, the cause of the problem must be investigated and corrected to avoid repeat failures. The following table lists problems and their possible causes with recommended corrective action.

PROBLEM	POSSIBLE CAUSES	CORRECTION
Engine does not develop full power	Clogged air cleaner	Clean or renew element
	Fuel line obstructed	Clean
	Faulty injectors	Clean and reset
	Incorrect valve lash adjustment	Check and reset
	Burnt, worn or sticking valves	Renew valves and/or guides
	Blown head gasket	Check head flatness and fit new gasket
	Incorrect fuel delivery	Check injectors and pump
	Low cylinder compression	Renew piston rings or rebore/resleeve as necessary

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OVERHAUL

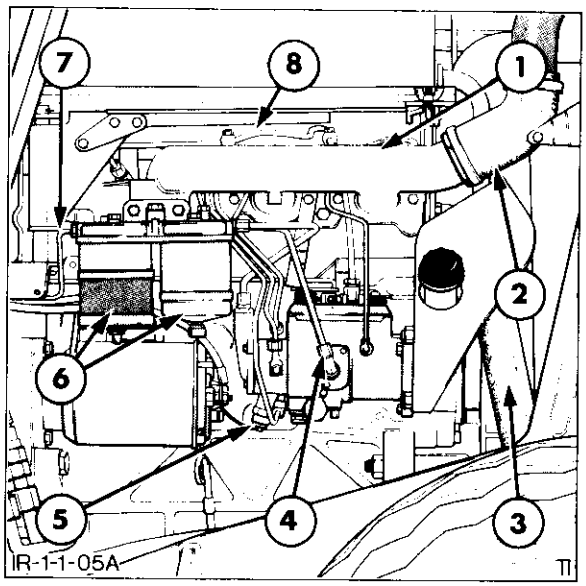


FIGURE 1-5

Engine Assembly Right-Hand

1 Intake manifold
2 Air inlet hose
3 Radiator hose
4 Inj. pump return line
5 Electric fuel shut-off
6 Fuel filters
7 Fuel inlet line
8 Injector leak-off lines

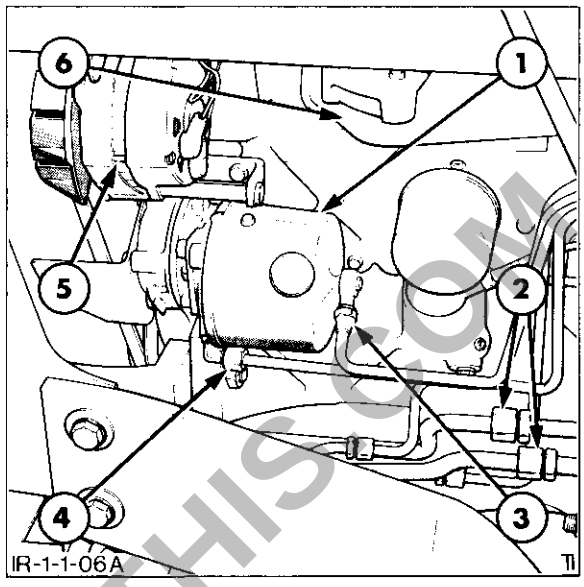


FIGURE 1-6

Engine Assembly Left-Hand

1 Power steering pump
2 Steering cyl. line connections
3 Pump return line
4 Pump pressure line
5 Alternator
6 Exhaust manifold

CYLINDER HEAD, VALVES AND RELATED PARTS

REMOVAL

Refer to Figures 1-5 and 1-6.

NOTE: The cylinder head can be removed with the engine installed in the tractor.

1. Disconnect the battery and remove the battery and battery tray.
2. Drain the coolant from the radiator and engine cylinder block:
   a. Remove the radiator top hose.
3. Remove the vertical exhaust muffler.
4. Remove the left and right hand hood assemblies.
5. Disconnect the air inlet hose at the intake manifold.
6. Shut off the fuel tank tap:
   a. Disconnect the low pressure fuel lines and remove the fuel filters from the inlet manifold and cap the exposed openings.
   b. Disconnect and remove the injector fuel pipes from the fuel injection pump and the injectors. Cap the exposed openings in the pump, injectors and tubes.
   c. Disconnect the thermostart fuel pipe at the intake manifold and plug the exposed openings.
7. Disconnect and remove the rocker cover ventilation tube.
8. Disconnect the cold start equipment and plug the exposed openings (where fitted).
9. Disconnect the alternator, oil pressure, coolant temperature sender, air cleaner restriction indicator, fuel injection pump solenoid, horn and cold start wiring harness connections (where fitted.)

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ENGINE OIL CAPACITIES (Less Oil Filter)

Model	U.S. qts.	Liters	Imp. pts.
250C, 345D, 445D, 260C, and 545D	6	5.65	10

ENGINE OIL CAPACITIES (With Oil Filter)

Model	U.S. qts.	Liters	Imp. pts.
250C, 345D, 445D, 260C, and 545D	7	6.6	11.7

THERMOSTAT

Opening Temperature . . . . . 168° F. (76° C.)

WATER PUMP

Type . . . . . Centrifugal

Drive . . . . . V-Belt

Belt Deflection . . . . . 0.5″ - 0.75″ (12 mm - 19 mm) midway between pulleys.

COOLING SYSTEM CAPACITIES

Model	U.S. qts.	Liters	Imp. pts.
250C, 345D, 445D, 260C, and 545D	11.0	10.4	18.3

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OIL PUMP

Rotor Clearance . . . . . 0.001″ - 0.006″ (0.025 mm - 0.15 mm)

Rotor-to-Pump Housing Clearance . . . . . 0.006″ - 0.011″ (0.15 mm - 0.28 mm)

Rotor End Play . . . . . 0.001″ - 0.0035″ (0.025 mm - 0.089 mm)

Relief Valve Pressure . . . . . 60-70 lbf/in² (4.1 bar - 4.8 bar) (4.2 kg/cm² - 4.9 kg/cm²) at 2000 rev/min

Relief Valve Spring Tension . . . . . 1.07″ (27.2 mm) under 10.7 lb. - 11.9 lb. (4.85 kg - 5.4 kg) load

Temperature	Oil Viscosity and Type	API Classification	Engine Oil & Filter Change Period (hours)
Below -12° C. (10° F.)	Low Ash, SAE 5W Supplement 1 or Low Ash SAE 5W/20	CC	150
	Supplement 1 or SAE 10W-30	CC CD	150 150
-12° C. to 4° C. (10° F. to 40° F.)	Low Ash, SAE 10W Series 3 or SAE 10W-30	CD CD	300 300
0° C. to 32° C. (32° F. to 90° F.)	Low Ash, SAE 20 Series 3 or SAE 10W-30	CD CD	300 300
Above 24° C. (75° F.)	Low Ash, SAE 30 Series	CD	300

NOTE: When using diesel fuel with a sulphur content below 1.0% Series 3 diesel engine oil with an A.P.I. classification of CC may be used instead of CD oil, but the oil and filter change interval must be reduced to 150 hours.

When using diesel fuel with sulphur content between 1% and 1.3% use only oils listed above but reduce the oil and filter change period to every 50 hours.

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INTRODUCTION

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all equipment as well as the personal safety of the individual doing the work. This Service Manual provides general directions for accomplishing service and repair work with tested, effective techniques. Following them will help insure reliability.

There are numerous variations in procedures, techniques, tools, and parts for servicing equipment, as well as in the skill of the individual doing the work. This manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this manual must first establish that he does not compromise his own personal safety nor the safety of others by his choice of methods or tools.

As you read through this manual, you will come across NOTES and WARNINGS. Each one is there for a specific purpose. NOTES are given to prevent you from making an error that could damage the vehicle. WARNINGS remind you to be especially careful in those areas where carelessness can cause personal injury.

Any reference in this manual to right, left, rear, front, top or bottom is as viewed from the operator's seat looking forward towards the loader.

Ford New Holland policy is one of continuous improvement, and the right to change prices, specifications, equipment or design at any time without notice is reserved. All data in this manual is subject to production variations, so overall dimensions and weights should be considered as approximate only, and the illustrations do not necessarily depict the tractor as it is.

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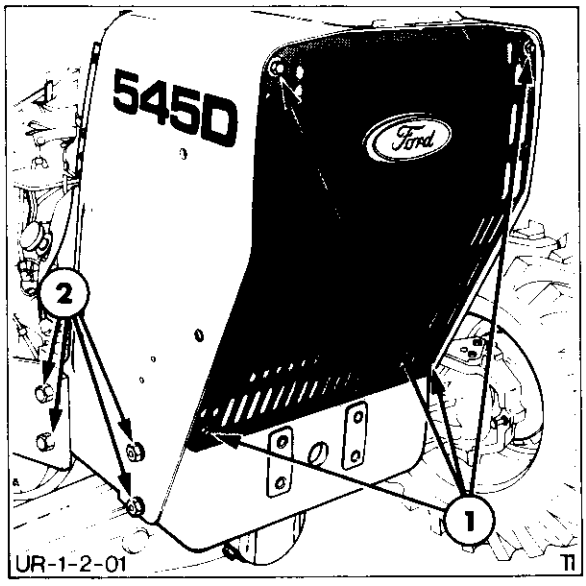


FIGURE 1-71

Radiator Shell And Grille

1 Radiator grille retaining bolts
2 Radiator shell retaining bolts

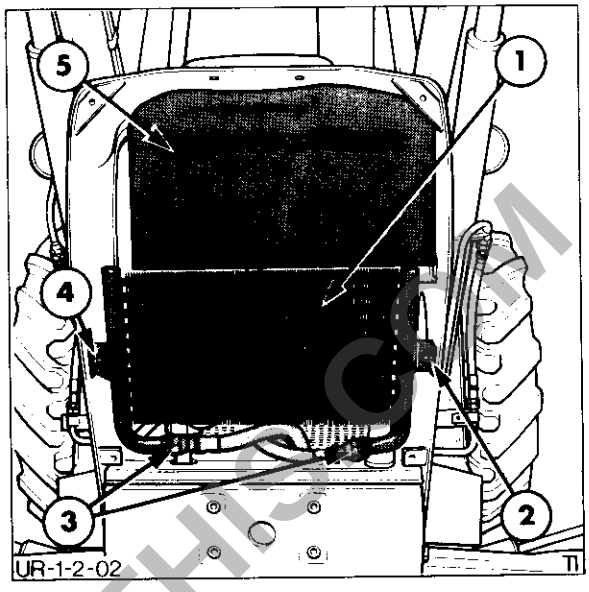


FIGURE 1-72

Transmission Oil Cooler

1 Oil cooler
2 Retaining bolt
3 Hose connections
4 Retaining bolt
5 Hydraulic reservoir

RADIATOR

Removal

1. Drain the cooling system. Remove the radiator pressure cap to speed draining.
2. Remove the exhaust muffler, hood and grille, Figure 1-71.
3. Remove the transmission oil cooler from the radiator shell and plug the exposed openings to prevent entry of dirt, Figure 1-72.
4. Drain the loader hydraulic system through the drain plug located at the bottom of the hydraulic reservoir tank, Figure 1-73.
5. Disconnect the pump inlet line at the pump, by removing the hose clamps at the pump and reservoir outlet adapter, Figure 1-73.
6. Disconnect the oil return line to the reservoir, Figure 1-73.

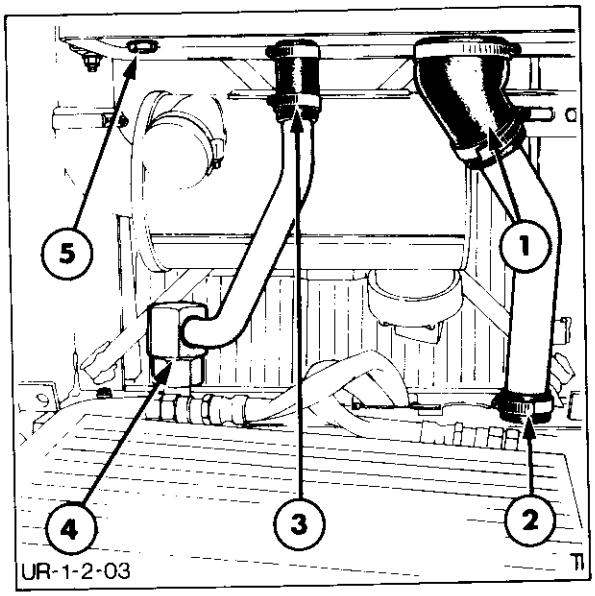


FIGURE 1-73

Hydraulic Oil Reservoir And Air Cleaner

1 Outlet from reservoir
2 Inlet to pump
3 Return to reservoir hose
4 Return to reservoir connector
5 Drain plug

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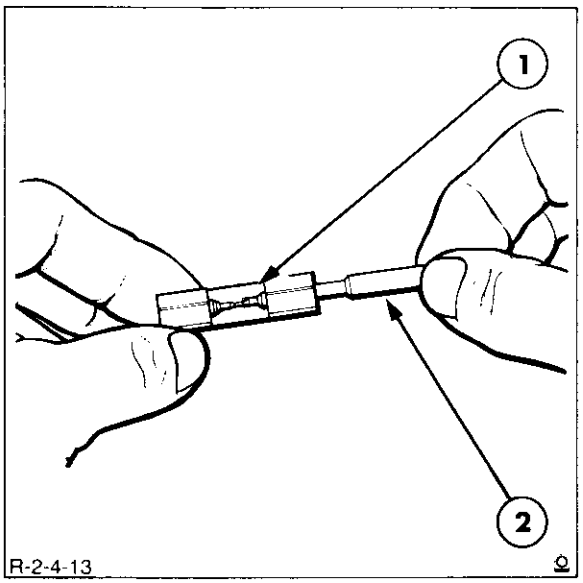


FIGURE 2-35

Cleaning Needle Valve Tip

1 Needle valve scraper
2 Needle valve

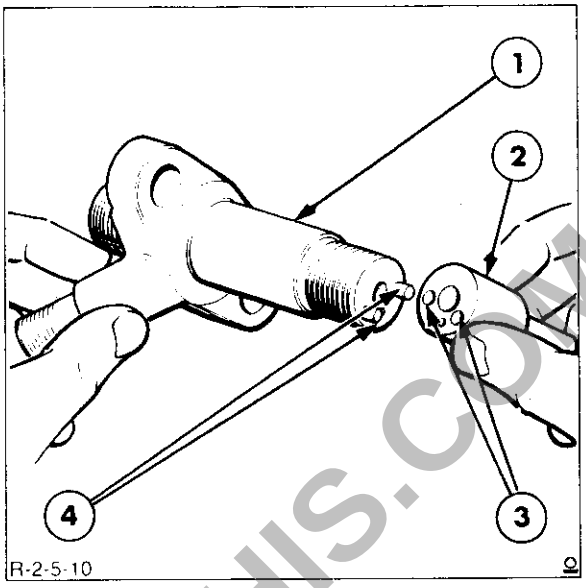


FIGURE 2-36

Assembling The Injector

1 Nozzle holder
2 Nozzle
3 Dowel pin holes
4 Locating dowels

3. Clean the top of the needle valve using a needle valve scraper, Figure 2-35.

4. If the nozzle leak-back test time was less than five seconds or the valve sticks, the valve and nozzle should be lapped together by placing the tip end of the nozzle in a drill chuck having a speed of 450 rev/min or less. Spread a small amount of tallow over the valve surface. Insert the valve into the rotating nozzle, center and apply slight pressure as the chuck turns.

   NOTE: Do not lap the valve for more than five seconds at a time. Allow the parts to cool between lapping.

5. Prior to reassembly, the lift of the injector needle must be rechecked with a dial indicator. Maximum allowable lift is 0.4 mm.

REASSEMBLY

1. Clean all parts in fuel oil prior to reassembly. Rinse all parts in clean fuel oil and assemble the components while still wet.

2. Position the nozzle and valve assembly onto the nozzle holder and ensure the dowel pin holes are correctly located, Figure 2-36. Hold the injector body in the fixture, install the injector nozzle retaining nut with a new washer and tighten to 50 ft. lbs. (70 N·m).

3. Install the spindle, spring disc, spring and adjusting nut. Turn the nut until spring pressure is felt.

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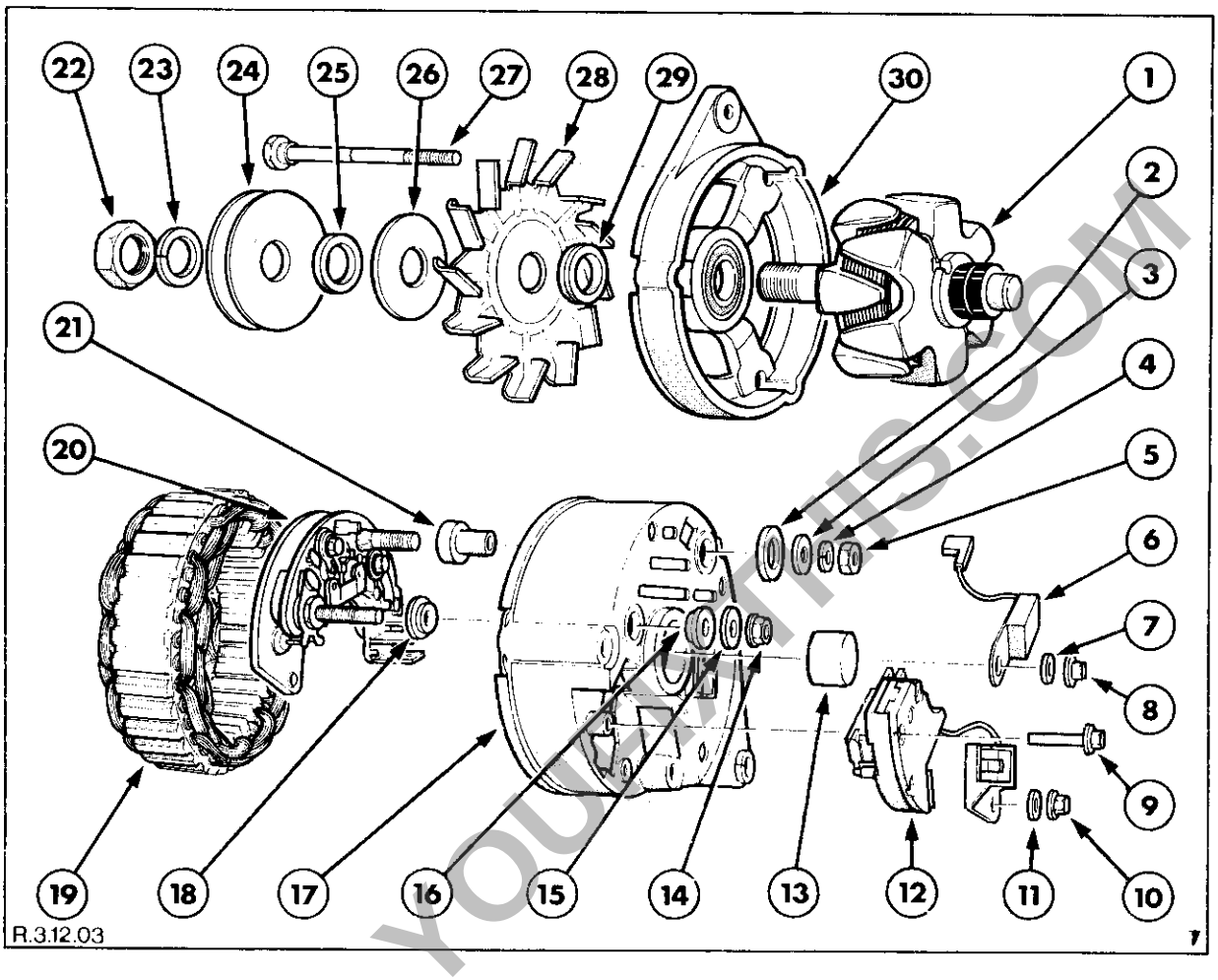


FIGURE 3-46

Alternator Components

1 Rotor
2 Insulator
3 Washer
4 Spring washer
5 Nut
6 Suppressor (where fitted)
7 Washer
8 Nut
9 Bolt
10 Nut
11 Washer
12 Regulator/brushbox
13 Bearing
14 Nut
15 Washer
16 Insulator
17 Rear end bracket
18 Insulator
19 Stator
20 Rectifier
21 Insulator
22 Nut
23 Washer
24 Pulley
25 Spacer
26 Washer
27 Through Bolt
28 Fan
29 Double Spacer
30 End Bracket

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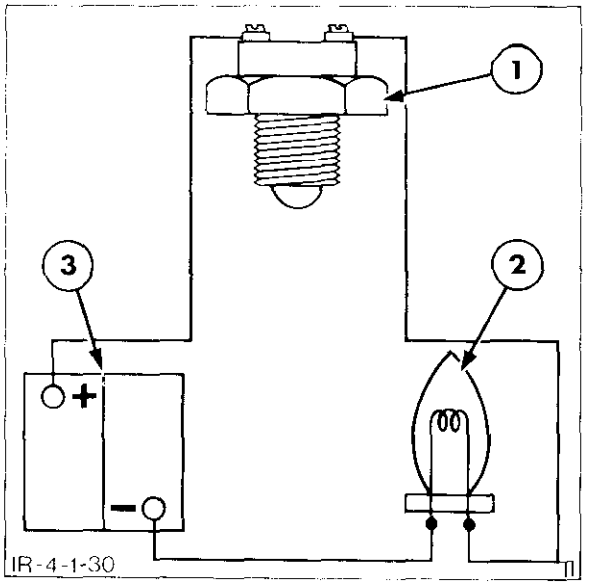


FIGURE 4-28

Safety Start Switch Test

1 Switch
2 Bulb
3 Battery

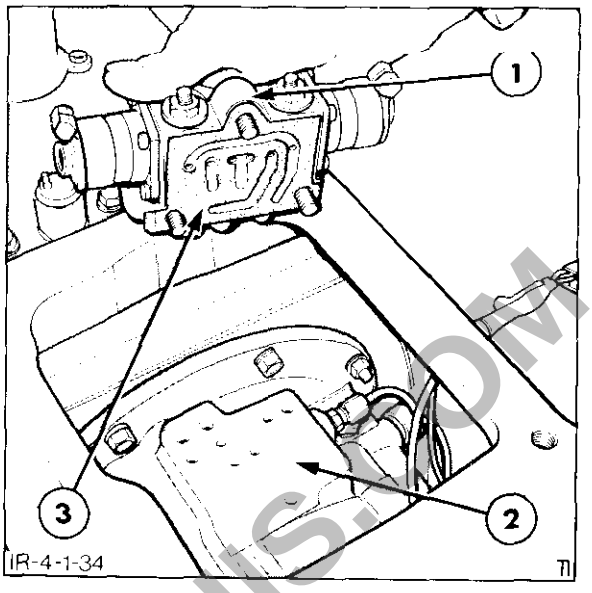


FIGURE 4-29

Solenoid Control Valve Removal

1 Solenoid control valve assembly
2 Oil distributor
3 Gasket

INSPECTION

1. Inspect the conical ends of the switch plungers for nicks or burrs. If nicks or burrs exist that cannot be removed by polishing, install a new plunger.
2. Check the safety start switches for operation by connecting the switch to a suitable bulb and battery as illustrated in Figure 4-28.
3. Depress and then release the operating button. The switch is operating correctly if the light comes on when the button is depressed and goes out when the button is released. If the switch is faulty, install a new switch.

INSTALLATION

1. Install a new O ring seal onto the safety start switches, then install into the transmission top cover and tighten to 25 ft. lbs.
2. Install the steering console lower panel.

SOLENOID CONTROL VALVE

REMOVAL

1. Remove the fuel tank.
2. Remove the steering column assembly as described in Section 7 "Steering Systems."
3. Remove the solenoid control valve wiring harness retaining clips then withdraw the connectors from the control valve solenoids.
4. Remove the solenoid control valve retaining bolts and lift the solenoid control valve from the distributor housing, Figure 4-29.

NOTE: The solenoid valve is serviced as an assembly, therefore, the only check that is possible is to confirm the spool moves freely. Refer to "Component Overhaul" for solenoid control valve inspection.

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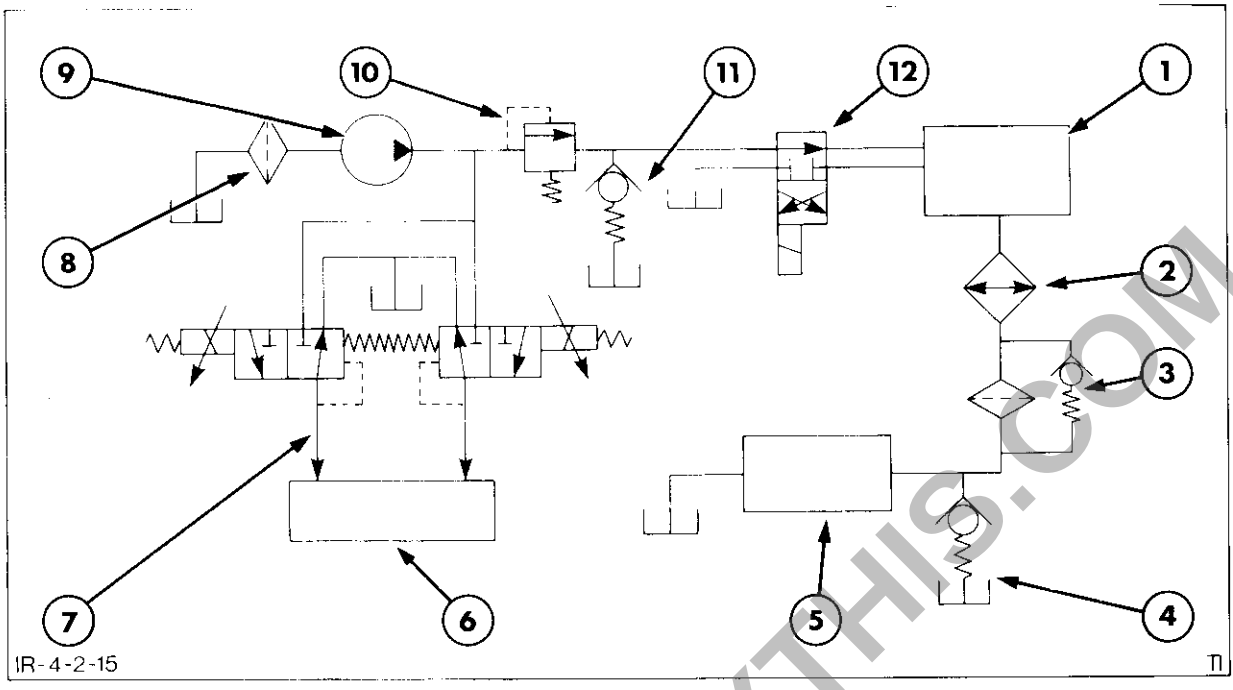


FIGURE 4-110

Transmission Oil Flow Circuit Diagram

1 Torque converter
2 Oil cooler
3 Line filter
4 Cooler line bypass valve
5 Transmission lubrication
6 Hydraulic clutch
7 Solenoid control valve
8 Inlet filter
9 Oil pump
10 Regulating valve
11 Bypass valve
12 Lock-up valve

OIL FLOW

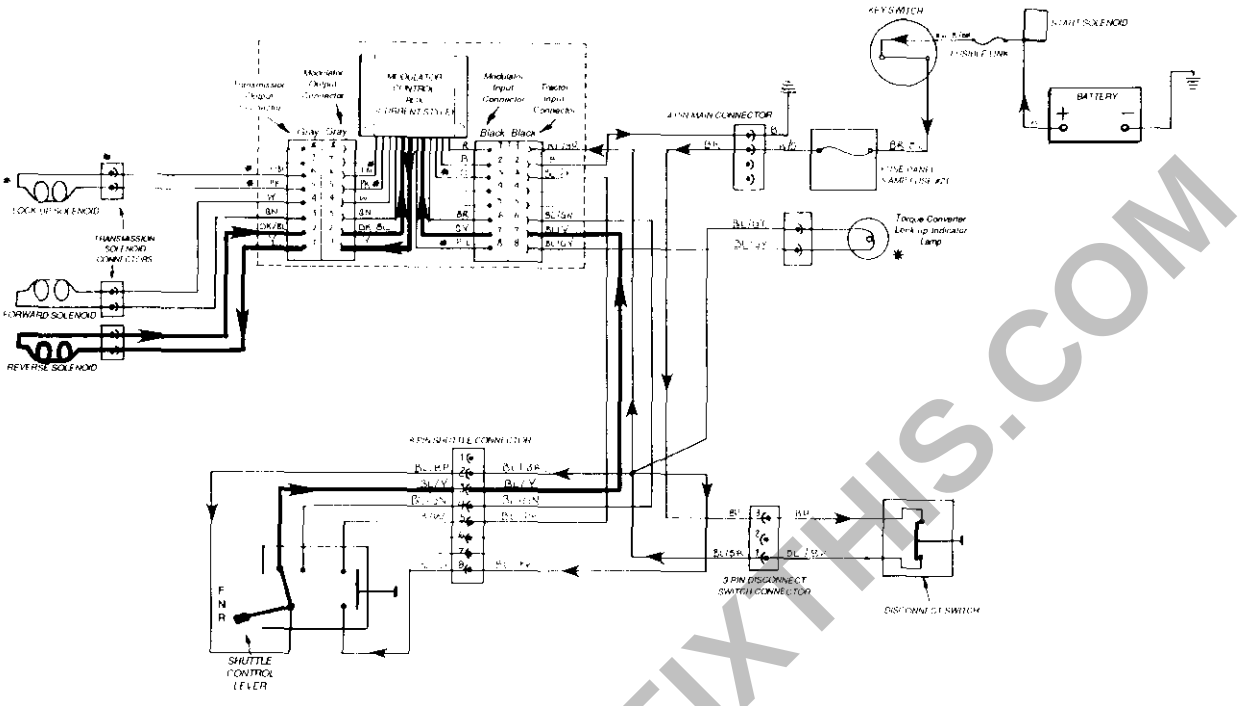
Transmission oil flows from the reservoir to the distributor then to the solenoid control valve assembly as previously described. Oil from the bypass valve flows to the lock-up valve and is then directed via a central drilling in the front input shaft to the torque converter in the normal mode or between the stator support and the torque converter hub into the converter in the lock-up mode, Figures 4-111 and 4-112.

Oil from the torque converter then flows back to the distributor between the stator support and the front input shaft. It is then picked up by the cooler tube on the left-hand side of the transmission case and directed to the cooler.

Oil from the cooler is returned to the transmission via a tube on the left-hand side of the tractor to the oil filter then over the transmission housing and through a tube on the right-hand side of the transmission case.

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* = Only on Units with 8X8 Transmission

This schematic shows units without the fused wire harness. On units equipped with the fused wire harness refer to the fused wire harness schematic which will show the wiring inside the dotted area.

FIGURE 4-199

REVERSE CIRCUIT

The reverse circuit, Figure 4-199, operates similarly to the forward circuit.

Placing the shuttle control lever in the reverse position closes the reverse switch so that power flows through the switch, back through the connector, through the modulator control box black input connector, to the modulator control box.

The input signal is received by the control box at battery voltage. The control box processes the signal and sends a modulated output signal through the control box gray output connector to the reverse solenoid.

The reverse solenoid receives power, but will not operate until the circuit is grounded.

Power passes through the solenoid, back through the control box gray connector, and through the control box to ground.

When the ground circuit is complete, the output signal from the control box increases from 0 volts to battery voltage in approximately 4 seconds, and the transmission reverse clutch pack is gradually engaged.

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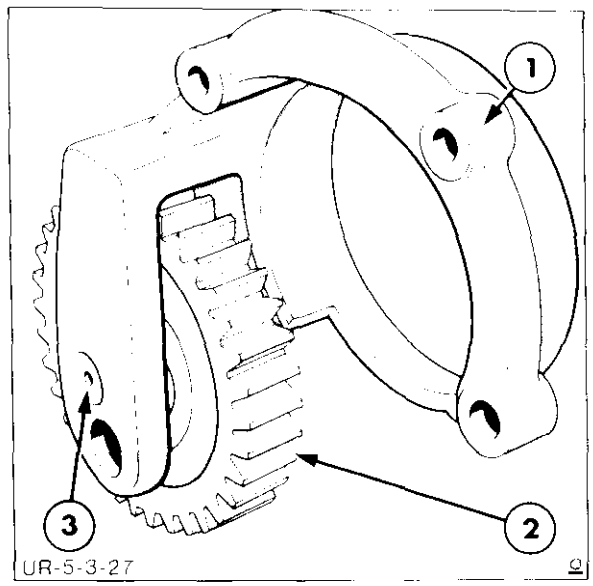


FIGURE 4-252

Front Reverse Idler Gear and Straddle

1. Reverse idler straddle
2. Front reverse idler gear
3. Front reverse idler shaft

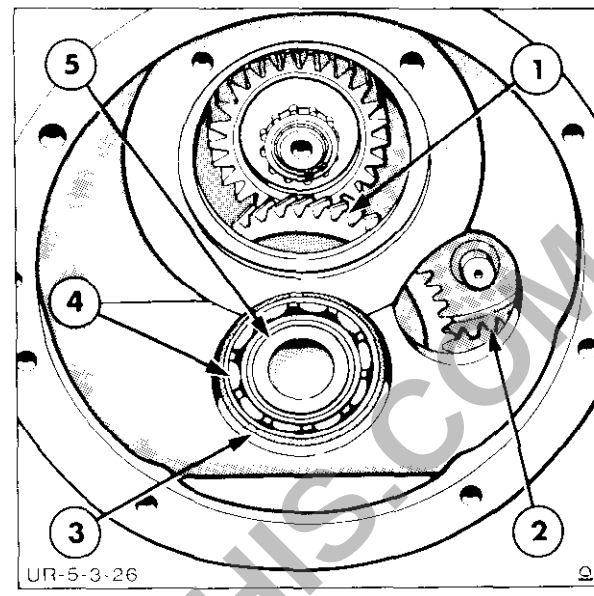


FIGURE 4-253

Countershaft Front Bearing

1. Main gear
2. Front reverse idler gear
3. Snap ring
4. Front bearing
5. Countershaft

Reverse Idler and Transmission Countershaft

1. Install the front reverse idler gear (34-teeth), Figure 4-252, in the straddle and retain it in place by installing the front reverse idler shaft. Be sure the shaft is installed so the flat on one end is toward the front of the straddle.

2. Install the assembled straddle and gear Figure 4-252, in the transmission case so the shaft protrudes through the small opening in the left side of the case webbing and so the flange of the straddle starts into the large opening. Align the bolt holes in the straddle with those in the web

NOTE: In order to get the front reverse idler shaft through the small opening, it will be necessary to turn the straddle upside down so the gear will clear the web that houses the rear reverse idler shaft bushing.

3. If not previously removed, remove the countershaft front bearing snap ring from the transmission case. Position the front bearing in the transmission from the front and gently tap it into place. Install the snap ring. Refer to Figure 4-253.

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DIFFERENTIAL AND DIFFERENTIAL LOCK ASSEMBLY - OVERHAUL

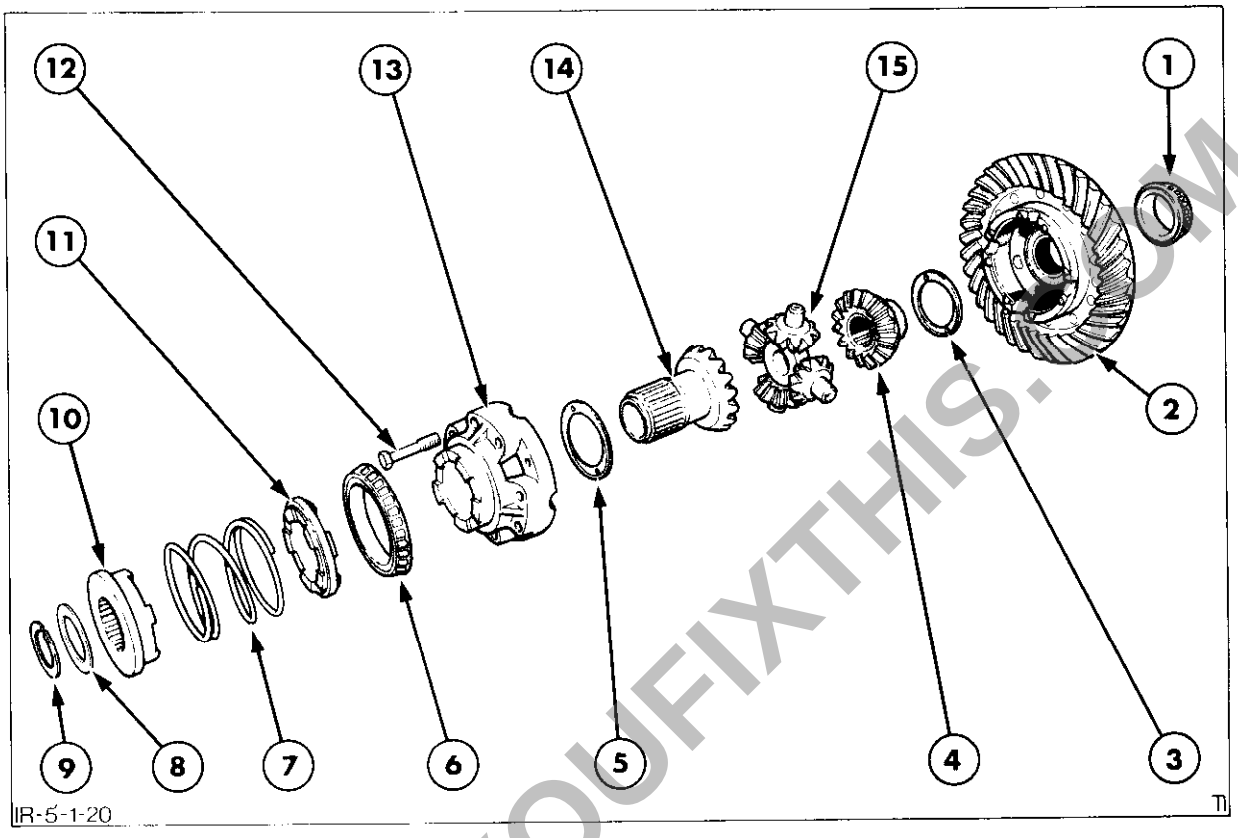


FIGURE 5-20

Differential Assembly - Exploded View

1 Bearing
2 Ring gear
3 Thrust washer
4 Side gear
5 Thrust washer
6 Bearing
7 Spring
8 Stop washer
9 Lock ring
10 Sliding coupling
11 Adaptor
12 Securing bolt
13 Differential case
14 Side gear
15 Pinion gears

REMOVAL

1. Remove the left hand axle housing as described in the "Rear Axle Shaft Assembly" and lift out the differential assembly.

DISASSEMBLY

1. Remove the differential lock ring that secures the sliding coupling to the side gear. Remove the stop washer, sliding coupling, coupling spring and gear case adaptor, Figure 5-20.
2. Mark the two halves of the differential case so that the two halves may be reassembled in the same relative position.
3. Loosen the securing bolts and separate the two halves of the differential case as the bolts are loosened.
4. Remove the bolts which secure the differential ring gear to the differential case and separate the ring gear from the case.

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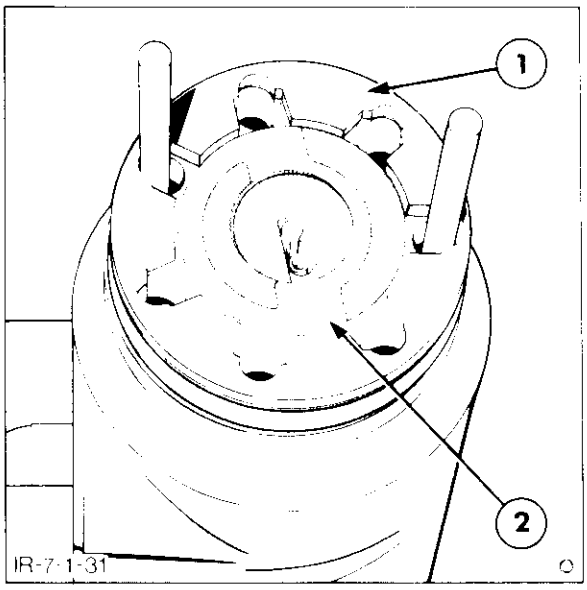


FIGURE 7-31

Commutator Installation

1 Commutator ring
2 Commutator

21. With the counterbore side of the commutator upwards, assembly the commutator into the commutator ring with the slotted hole in the commutator engaging the nose on the drive link. Align the commutator outside diameter concentric with the inside diameter of the commutator ring, Figure 7-31.

22. Install the rotor seal and seal retainer over the metering element allowing the seal and retainer to rest on the housing assembly.

23. Apply a few drops of hydraulic oil on the commutator and manifold.

24. Apply a small amount of clean grease to the washer. Install the washer over the pin in the end cover. The grease should hold the washer to the end cover.

25. Assemble the end cover, with the washer attached, over the assembly posts and onto the steering motor ensuring that the pin is engaged in the center hole of the commutator.

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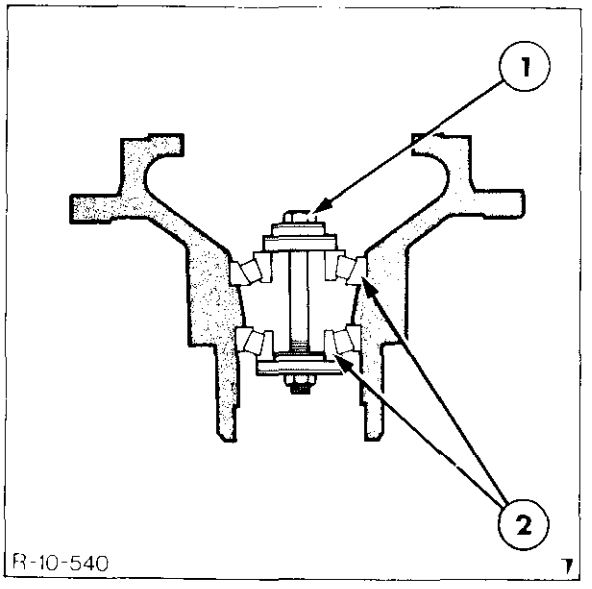


FIGURE 7-110

Pinion Bearings Clamped in Housing

1 Part of pinion setting gauge tool no. FT3135 or FNH04775
2 Pinion bearing assemblies

Calculate the shim thickness as follows:

a. Install the pinion bearings in the differential support housing as shown in Figure 7-110, and lightly clamp the bearings using part of tool No. FT3135 (FNH04775). Make sure the disc part of the tool with the cut-away side is uppermost. Tighten the clamp so that the bearing cones can just be turned by hand - do not overtighten.

b. Install the differential support housing bearing caps (not the bearing tracks) and tighten the cap retaining nuts to 115 ft. lbs. (156 N·m) torque.

c. Using an internal micrometer or vernier gauge, measure the side bearing bore dimension, A, shown in Figure 7- 111.

d. Locate the circular bar of tool No. FT3135 (FNH04775) across the two bearing bores in the support housing, Figure 7-112, and using a depth gauge, measure the dimension B.

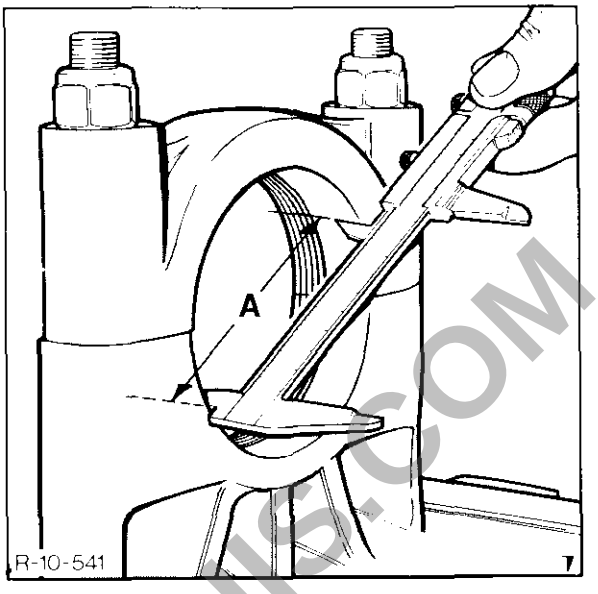


FIGURE 7-111

Measuring Diameter of Differential Support Housing Bearing Bores

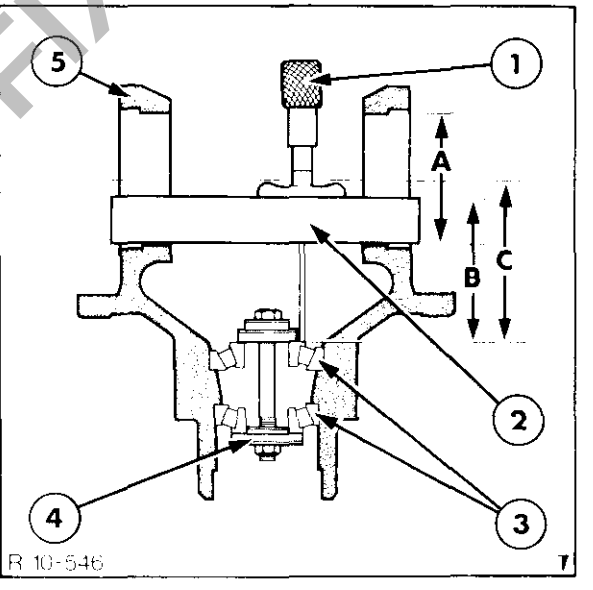


FIGURE 7-112

Measuring Dimension "B"

1 Depth gauge
2 Bar gauge - part of tool no FT3135 or FNH04775
3 Pinion shaft bearings
4 Pinion setting gauge tool no FT3135 or FNH04775
5 Differential support housing

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INSPECTION AND REPAIR

1. Wash all parts in a suitable solvent and dry with a clean lint free cloth or compressed air.
2. Examine linkage components for burrs, wear or damage. Any minor burrs should be removed with a fine abrasive; ensure such parts are thoroughly washed before reassembly.
3. Ensure the springs and spring washer are not chipped, damaged or broken.
4. Confirm the draft lever pivot slides easily in the slotted draft control link.
5. Ensure the position control rollers swing freely from the shaft.
6. Check all rollers are free to revolve.
7. Check all other components for freedom of movement.
8. Replace all O rings and seals.
9. Examine the check valve components and ensure the ball moves freely in the check valve housing.

   IMPORTANT: Ensure the check valve seat is of the correct type and does not incorporate any radial holes between the lands.

REASSEMBLY

Reassembly of the lift cover components follows the disassembly procedure in reverse except for the following:

LIFT CROSS-SHAFT BUSHINGS

1. Lubricate the lift cross-shaft and bushing, then locate the lift cover in the press as shown in Figure 8-39, with bushing locator, Tool No. FT8605 or FNH06209, positioned in the right hand bushing bore.

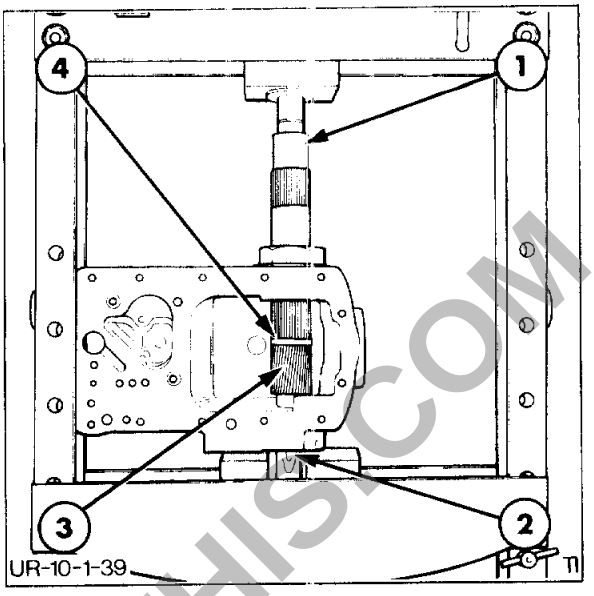


FIGURE 8-39

Installing Cross Shaft Right-Hand Bushing

1 Press
2 Locator tool no. FT8605 or FNH06209
3 Bushing
4 Sleeve

2. Ensure the sleeve remains located adjacent to the squared shoulders at the left hand end of the cross-shaft center splines, then press the cross-shaft through the housing until the sleeve has forced the bushing into the bore and against the locator.
3. Release the press, remove the cross-shaft and locator tool.
4. Remove the sleeve from the cross-shaft.
5. Position the ram arm, spring washer and thrust washer in the lift cover and install the lift cross-shaft with the chamfer at the right hand end of the center splines centering first.
6. Pass the sleeve down the shaft and center the spring washer to enable the sleeve to drop through into the ram arm casting.

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TORQUE SPECIFICATIONS

	Ft. Lbs.	N·m	Kgm
Lift Cylinder Retaining Bolts	75-80	102-109	10.4-11.0
Lift Cover Retaining Bolts	70-85	95-115	9.7-11.7
Accessory Cover Lift Cover Bolts	50-70	68-95	7.0-9.7
Center Bolt	12-15	17-20	1.7-2.1
Control Valve Baffle Plate and Rear Plate Retaining Bolts	24-30	33-41	3.3-4.2
Quadrant Assembly to Quadrant Support Retaining Bolts	23-30	31-41	3.2-4.2
Quadrant Support to Lift Cover Housing Retaining Bolts Control Valve Lever	35-47	48-64	4.8-6.5
Draft Control Spring Housing Bolts	30-50	41-68	4.2-7.0
Check Valve Plug	45-55	61-75	6.2-7.6
Flow Control Plate Retaining Bolts	35-47	48-64	4.8-6.5
Hydraulic Piston Pump Cover Bolts	35-40	48-54	4.8-5.5
Hydraulic Piston Pump Drive Housing Bolts	35-40	48-54	4.8-5.5
Hydraulic Piston Pump Shaft Nut	25-35	34-48	3.5-4.8
Lift Cylinder Safety Valve	75-90	102-122	10.4-12.4
Engine Mounted Gear Pump to Engine Retaining Bolts	26-34	35-46	3.5-4.7
Hydraulic Gear Pump to Transmission Housing Retaining Bolts	43-57	58-77	5.9-7.9
Hydraulic Gear Type Pump Through Bolts	35-40	48-54	4.8-5.5
Draft Control Adjuster Rod Lock Nut	7-10.5	9.5-14	1.0-1.4
Position Control Adjuster Rod Lock Nut	7-10.5	9.5-14	1.0-1.4
Eccentric Adjustable Stop Lock Nut	23-30	33-41	3.2-4.1
Remote Valve			
Spool Centering Spring Retaining Bolt	5-8	7-11	0.7-1.1
Quick Drop Valve Sleeve (Left-Hand Thread)	7-9	9-12	1.0-1.2
Float Valve - Maximum "in" Position Torque	4	5	0.5
Remote Control Valve Retaining Bolts	35-47	47-63	4.8-6.5
Control Lever Retaining Nut	15-21	20-28	2.1-2.9

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FIGURE 8-164

Transmission Dump Switch

1 Dump switch

Transmission Dump Switch (Power Reversing Transmission Only)

The transmission dump (disconnect) switch, Figure 8-164, located on the tractor left side step plate enables drive from the transmission to be engaged/disengaged without the need to move the power reversing lever to neutral. The foot pedal will disengage the transmission when held in the depressed position.

The transmission dump switch feature allows full engine power to be available for operating the loader hydraulics. It is recommended that the foot pedal is used to disengage the transmission at the point of bucket rollback and lift to increase loader productivity.

IMPORTANT: To avoid possible damage to the transmission hydraulic clutches, never use the dump switch control for inching the tractor forward. Inching the tractor forward with the dump switch will cause the clutches to slip excessively and overheat.

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1. Remove the left lower rear hood side cover. It is not necessary to disconnect the electrical connections.
2. Remove the upper rear screw that attaches the modulator control box to the side cover.
3. Cut the mounting tab of the relay as shown and attach the relay to the side cover using the original screw.

   NOTE: Be sure the relay prongs are pointing down so that moisture cannot enter the relay and cause damage.

4. Connect the relay base from the wire harness to the relay.
5. Route the gray/black wire from the relay base along the side of the existing conduit on the transmission and over the left rear axle. Secure the wire with tie straps.

MOUNTING THE BACKUP ALARM

The next step is to mount the backup alarm. The installation will differ slightly depending upon which alarm is to be installed. (i.e. standard alarm or smart alarm).

Refer to schematic, Figure 11-12, for installation details. Use in conjunction with the written instructions.

NOTE: Smart Alarm Installation - When installing a Smart Alarm, the appropriate connectors must be attached to the wires. Attach an eyelet with a 5/16″ hole to the black wire from the alarm. Attach a male bullet connector to the red/white wire. These wires are supplied in the kit.

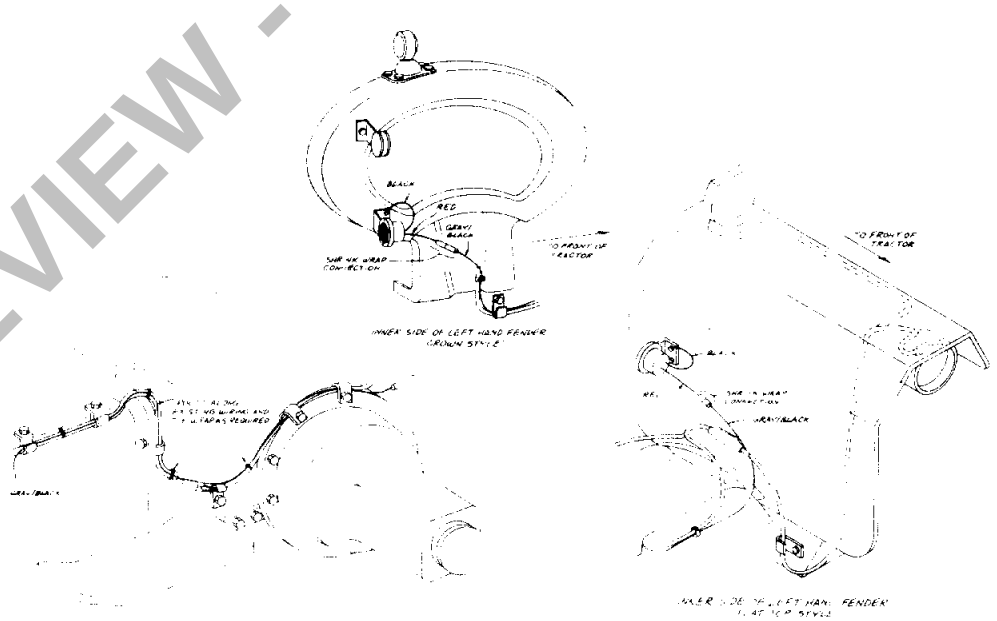
1. Locate and drill two 5/16″ mounting holes in the left-hand fender (crown or flat top fenders).
2. Attach the backup alarm to the fender using the bolts, washers, and the nuts included in the kit.

   NOTE: Attach the black ground wire to one mounting bolt.

3. Connect the gray/black wire to the red/white alarm wire as shown. Use heat shrink to protect the connection.
4. Test the backup alarm for proper operation.

   NOTE: The alarm should operate at maximum volume immediately upon activation. Correct if the alarm is not operating properly.

5. Replace all shields and return the unit to a work-ready condition



MOUNTING THE BACKUP ALARM HORN (TYPICAL INSTALLATION)

FIGURE 11-12

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