D25, DX25, D29, DX29, D33, DX33
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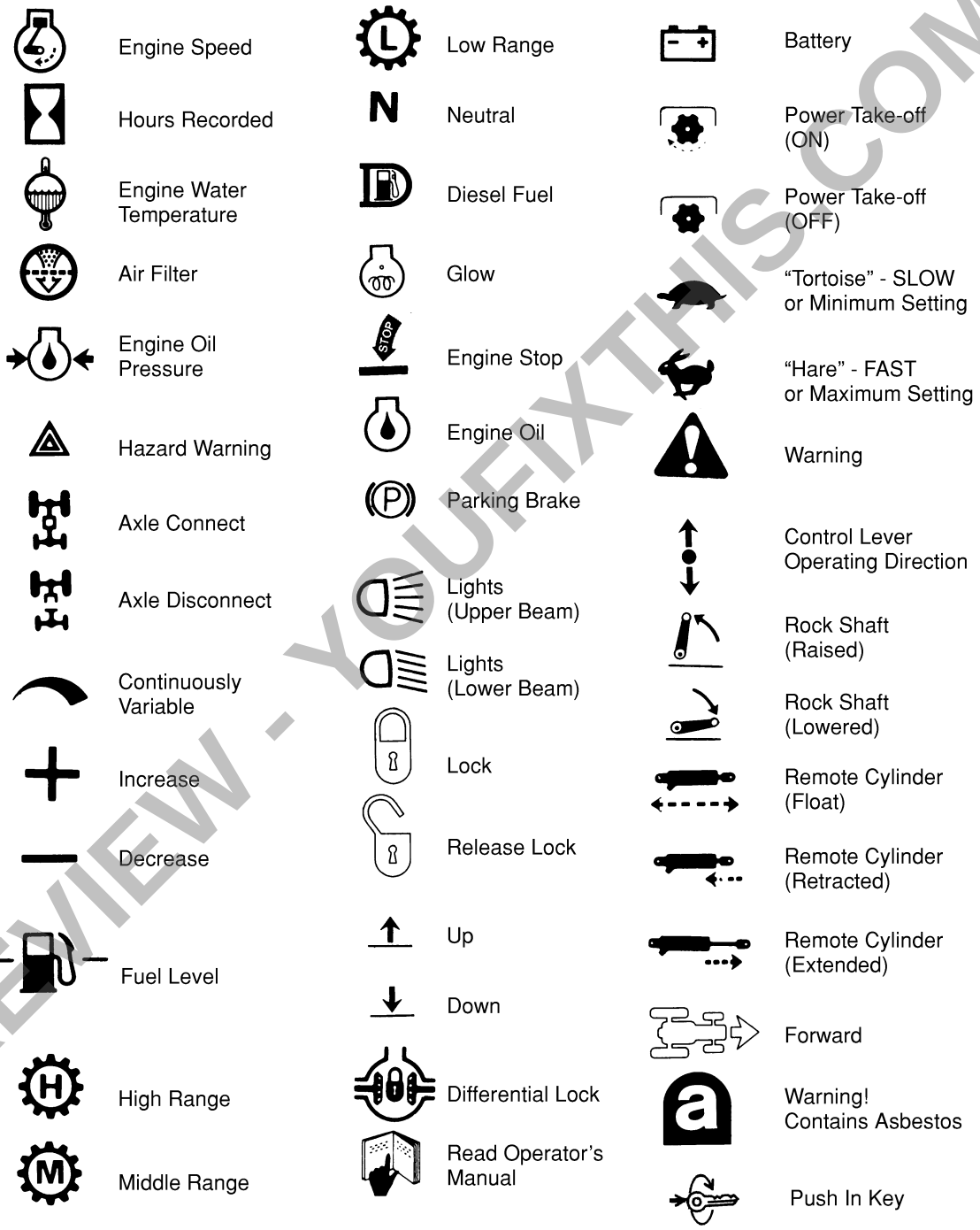
SECTION 55 – ELECTRICAL

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INTERNATIONAL SYMBOLS

As a guide to the operation of your tractor, various international symbols have been used on instruments and controls. These symbols are depicted and described below.



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	Model DX25—Hydrostatic	Model DX29—Hydrostatic	Model DX33—Hydrostatic
WHEEL TREAD SETTINGS:			
FRONT:			
Agricultural:			
FWD	1102 mm (43.4″)	1102 mm (43.4″)	1102 mm (43.4″)
Turf:			
FWD	1151 mm (45.3″)	1151 mm (45.3″)	1151 mm (45.3″)
Industrial:			
FWD	1151 mm (45.3″)	1151 mm (45.3″)	1151 mm (45.3″)
REAR:			
Agricultural . . . . . (FWD)	1088 mm - 1217 mm (42.8″-47.9″)	1088 mm - 1217 mm (42.8″-47.9″)	1088 mm - 1217 mm (42.8″-47.9″)
Turf . . . . . (FWD)	1119 mm-1184 mm (44.1″-46.6″)	1119 mm-1184 mm (44.1″-46.6″)	1119 mm-1184 mm (44.1″-46.6″)
Industrial . . . . . (FWD)	1184 mm (46.6″)	1184 mm (46.6″)	1184 mm (46.6″)
WEIGHT:			
With ROPS:			
FWD	1124.5 kg (2474 lbs.)	1124.5 kg (2474 lbs.)	1131.3 kg (2514 lbs.)

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ADJUSTMENTS

FRONT TIRE INFLATION PRESSURES		
Tire Type	**Tire Size**	**Inflation Pressure**
Agricultural: 2WD FWD	5.50-16, 4PR, F2 7-14, 4PR, R1	1.7-2.8 bar (24-40 PSI) 0.6-1.8 bar (8-26 PSI)
Turf: 2WD FWD	23 X 8.50-12, 4PR, R3 25 X 8.50-14, 4PR, R3	0.6-15 bar (8-22 PSI) 0.6-15 bar (8-22 PSI)
Industrial (R4)	25 X 8.50-14, 6PR, R4	0.6-2.2 bar (8-32 PSI)
REAR TIRE INFLATION PRESSURES		
Agricultural	11.2-24, 4PR, R1	0.8-1.2 bar (12-18 PSI)
Turf	13.6-16, 4PR, R3	0.8-1.0 bar (12-14 PSI)
Industrial (R4)	15-19.50, 6PR, R4	0.8-1.4 bar (12-20 PSI)

NOTE: *Do not underinflate or overinflate tires. Do not exceed maximum inflation pressure listed.*

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	Model D25—Gear	Model D29—Gear	Model D33—Gear
WHEEL TREAD SETTINGS:			
FRONT:			
Agricultural:			
2WD	1016 mm - 1074 mm (40.0″-42.3″)	1016 mm - 1074 mm (40.0″-42.3″)	1016 mm - 1074 mm (40.0″-42.3″)
FWD	1102 mm (43.4″)	1102 mm (43.4″)	1102 mm (43.4″)
Turf:			
2WD	1082 mm (42.6″)	1082 mm (42.6″)	1082 mm (42.6″)
FWD	1151 mm (45.3″)	1151 mm (45.3″)	1151 mm (45.3″)
Industrial:			
FWD	1151 mm (45.3″)	1151 mm (45.3″)	1151 mm (45.3″)
REAR:			
Agricultural (2WD & FWD)	1087 mm-1217 mm (42.8″-47.9″)	1087 mm-1217 mm (42.8″-47.9″)	1087 mm-1217 mm (42.8″-47.9″)
Turf (2WD & FWD)	1120 mm-1183 mm (44.1″-46.6″)	1120 mm-1183 mm (44.1″-46.6″)	1120 mm-1183 mm (44.1″-46.6″)
Industrial (2WD & FWD)	1183 mm (46.6″)	1183 mm (46.6″)	1183 mm (46.6″)
WEIGHT:			
With ROPS:			
2WD	1002.7 kg (2206 lbs.)	1002.7 kg (2206 lbs.)	1010.7 kg (2246 lbs.)
FWD	1060.8 kg (2304 lbs.)	1060.8 kg (2304 lbs.)	1054.8 kg (2344 lbs.)

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INSTRUCTION DECALS - DX25, DX29, DX33

Range Selector Lever (Hydrostatic)
PART NO: 86532896
LOCATION: Left-Hand POD Top



Position Control Lever
PART NO: 86571897
LOCATION: Right-Hand POD Top

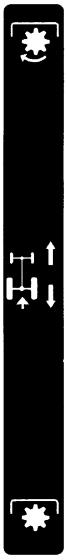


Operating Remote Control Valve-Single Spool
PART NO: 86532910
LOCATION: Right-Hand POD Top

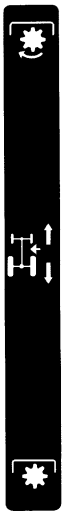




Front-Wheel Drive Control Lever
PART NO: 86532900
LOCATION: Left-Hand POD Top



PTO Control Lever (Rear)
PART NO: 86532898
LOCATION: Left-Hand POD Top



PTO Control Lever (Mid)
PART NO: 86532899
LOCATION: Left-Hand POD Top

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PROBLEM	POSSIBLE CAUSE	CORRECTION
Poor engine idling	Improper injection timing	Correct the injection timing
	Air in injection pump	Purge air from the system
	Improper governor adjustment	Adjust the governor
Oil pressure warning light fails to operate	Bulb burnt out	Replace the bulb
	Oil pressure sensor is faulty	Replace oil pressure sensor
	Warning light circuit faulty	Replace warning light circuit
Engine knocks	Diluted or thin oil	Change engine oil and filter
	Insufficient oil supply	Check engine oil level
	Low oil pressure	Inspect lube system for restrictions
	Worn crankshaft thrust bearing	Replace relief valve
	Excessive flywheel runout	Replace thrust bearing
	Excessive connecting rod or main bearing clearance	Replace flywheel Replace bearings
	Seized bearing	Replace bearing and affected component if necessary
	Clogged oil passage	Clean out oil passages
	Bent or twisted connecting rod	Replace connecting rod
	Crankshaft journals out of round	Rework or replace crankshaft
	Excessive piston to cylinder bore clearance	Replace piston with correct oversized piston
	Excessive piston ring side clearance	Replace piston rings
	Broken or damaged ring	Replace piston ring
	Excessive piston pin clearance	Replace piston pin or bushing
	Seized piston	Replace piston and, if necessary, engine block
	Piston pin retainer loose or missing	Replace retainer
	Improper valve lash adjustment	Adjust valve lash to specification
	Worn valve lifter	Replace valve lifter
	Excessive timing gear backlash	Replace all timing gears

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MINIMUM HARDWARE TIGHTENING TORQUES

IN FOOT POUNDS (NEWTON-METERS) FOR NORMAL ASSEMBLY APPLICATIONS

INCH HARDWARE AND LOCKNUTS

NOMINAL SIZE	SAE GRADE 2		SAE GRADE 5		SAE GRADE 8		LOCKNUTS		NOMINAL SIZE
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	GR.B w/GR5 BOLT	GR.C w/GR8 BOLT	
1/4	55* (6.2)	72* (8.1)	86* (9.7)	112* (13)	121* (14)	157* (18)	61* (6.9)	86* (9.8)	1/4
5/16	115* (13)	149* (17)	178* (20)	229* (26)	250* (28)	324* (37)	125* (14)	176* (20)	5/16
3/8	17 (23)	22 (30)	26 (35)	34 (46)	37 (50)	48 (65)	19 (26)	26 (35)	3/8
7/16	27 (37)	35 (47)	42 (57)	54 (73)	59 (80)	77 (104)	30 (41)	42 (57)	7/16
1/2	42 (57)	54 (73)	64 (87)	83 (113)	91 (123)	117 (159)	45 (61)	64 (88)	1/2
9/16	60 (81)	77 (104)	92 (125)	120 (163)	130 (176)	169 (229)	65 (88)	92 (125)	9/16
5/8	83 (112)	107 (145)	128 (174)	165 (224)	180 (244)	233 (316)	90 (122)	127 (172)	5/8
3/4	146 (198)	189 (256)	226 (306)	293 (397)	319 (432)	413 (560)	160 (217)	226 (306)	3/4
7/8	142 (193)	183 (248)	365 (495)	473 (641)	515 (698)	667 (904)	258 (350)	364 (494)	7/8
1	213 (289)	275 (373)	547 (742)	708 (960)	773 (1048)	1000 (1356)	386 (523)	545 (739)	1

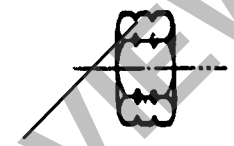
NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION
CAP SCREWS AND CARRIAGE BOLTS



SAE GRADE 2 — SAE GRADE 5 — SAE GRADE 8 — REGULAR NUTS — SAE GRADE 5 HEX NUTS — SAE GRADE 8 HEX NUTS

LOCKNUTS



GRADE IDENTIFICATION
GRADE A NO NOTCHES
GRADE B ONE CIRCUMFERENTIAL NOTCH
GRADE C TWO CIRCUMFERENTIAL NOTCHES



GRADE IDENTIFICATION
GRADE A NO MARKS
GRADE B THREE MARKS
GRADE C SIX MARKS
MARKS NEED NOT BE LOCATED AT CORNERS



GRADE A NO MARK
GRADE B LETTER B
GRADE C LETTER C
GRADE IDENTIFICATION

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	Model DX25—Hydrostatic	Model DX29—Hydrostatic	Model DX33—Hydrostatic
TIRES			
FRONT:			
Agricultural:			
FWD	7-14, 4PR, R1	7-14, 4PR, R1	7-14, 4PR, R1
Turf:			
FWD	25 X 8.50-14, 4PR, R3	25 X 8.50-14, 4PR, R3	25 X 8.50-14, 4PR, R3
Industrial:			
FWD	25 X 8.50-14, 6PR, R4	25 X 8.50-14, 6PR, R4	25 X 8.50-14, 6PR, R4
REAR:			
Agricultural	11.2-24, 4PR, R1	11.2-24, 4PR, R1	11.2-24, 4PR, R1
Turf	13.6-16, 4PR, R3	13.6-16, 4PR, R3	13.6-16, 4PR, R3
Industrial	15-19.50, 6PR, R4	15-19.50, 6PR, R4	15-19.50, 6PR, R4
WHEEL BOLT TORQUES			
Front Wheel—			
Disc-to-Hub:			
FWD	122 N·m (90 ft. lbs.)	122 N·m (90 ft. lbs.)	122 N·m (90 ft. lbs.)
Rear Wheel—			
Disc-to Rim & Disc-to Axle	169 N·m (125 ft. lbs.)	169 N·m (125 ft. lbs.)	169 N·m (125 ft. lbs.)
ROPS ATTACHING BOLT TORQUES			
ROPS to Rear Axle .	54 N·m (40 ft. lbs.)	54 N·m (40 ft. lbs.)	54 N·m (40 ft. lbs.)
Seat Belt	47.4 N·m (35 ft. lbs.)	47.4 N·m (35 ft. lbs.)	47.4 N·m (35 ft. lbs.)

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PRECAUTIONARY STATEMENTS

PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements ("**DANGER**", "**WARNING**", and "**CAUTION**") followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.

⚠ DANGER ⚠

This word "DANGER" indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.

⚠ WARNING ⚠

This word "WARNING" indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.

⚠ CAUTION ⚠

This word "CAUTION" indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also used to alert against unsafe practices. The color associated with Caution is YELLOW.

FAILURE TO FOLLOW THE "DANGER", "WARNING", AND "CAUTION" INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

MACHINE SAFETY

The precautionary statement ("**IMPORTANT**") is followed by specific instructions. This statement is intended for machine safety.

IMPORTANT: *The word "IMPORTANT" is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.*

INFORMATION

NOTE: *Instructions used to identify and present supplementary information.*

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SECTION 10 – ENGINE

Chapter 1 – Engine

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Section	Description	Page
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	Special Tools	10-11
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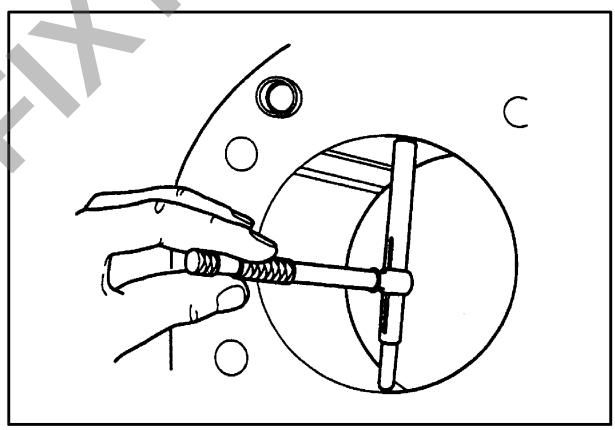
CYLINDER HEAD ASSEMBLY

1. Insert each valve in the guide from which it was removed and lightly lap the valve to be sure of an even seat around the valve face. Remove the valve and remove all traces of lapping compound.
2. Install new intake valve seals on the valve guides using a suitable driver.
3. Using a spring compressor, assemble the valves, springs, retainers, and keepers.

CYLINDER BLOCK

1. Inspect the cylinder block top face for cracks, damage, and warping in the same way as for the cylinder head. Replace the cylinder block if warp is greater than 0.12 mm (0.005I).
2. Visually inspect the cylinder bore. There should be no scoring, rust, or corrosion.
3. Using a telescoping gauge in line with the crankshaft, measure the inside diameter of the top of the bore (approximately 1.0 mm [0.39I] Model D25, DX25, D29, DX29, and 1.5 mm [0.59I] Model D33, and DX33 below the top of the block).
4. Repeat this measurement at right angles to the crankshaft at the same distance.
5. In line with the crankshaft at the bottom of the bore, measure (approximately 100 mm [3.9I] Model D25, DX25, D29, DX29, and 117 mm [4.6″] Model D33 and DX33) from the top of the cylinder.
6. Repeat this measurement at right angles to the crankshaft at the same distance.
7. If any of the measurements taken indicate worn or damaged cylinder bores, the cylinders must be bored and oversize pistons installed, or replace the block. Pistons are available in 0.5 mm (0.020I) and 1.0 mm (0.40I) oversize. Bore and hone the cylinder to obtain a piston wall clearance of 0.038 - 0.064 mm (0.0015 - 0.0025I).

NOTE: *If the cylinder bore measures 85.19 mm (3.354I) replace the block.*



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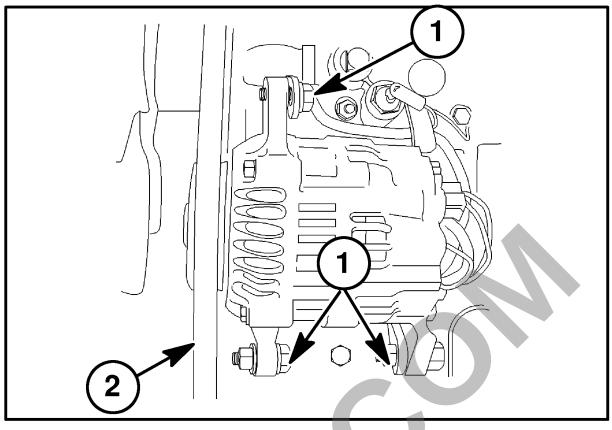
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WATER PUMP

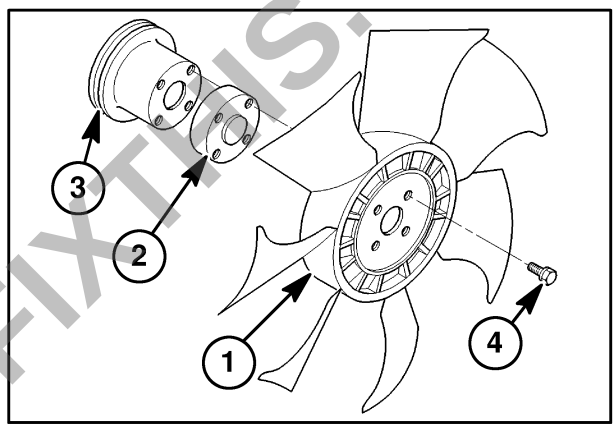
Removal

1. Remove the radiator assembly. See “Radiator Removal” discussed previously in this section.
2. Loosen the alternator mounting bolts, 1, and adjusting bracket and remove the drive belt, 2.



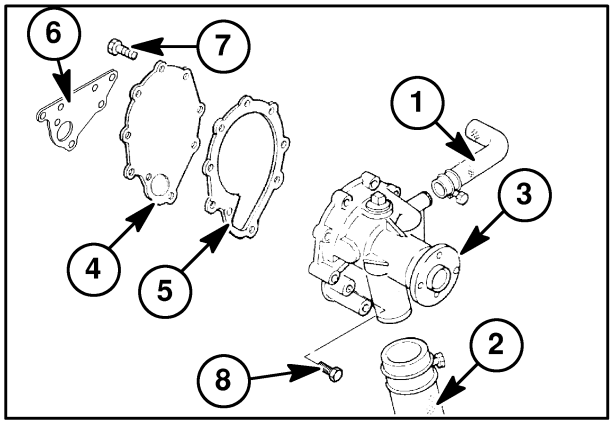
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3. Remove the attaching bolts, 4, cooling fan, 1, fan holder, 2, and pulley, 3.



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4. Remove the bypass hose, 1, and lower radiator hose, 2, from the water pump, 3.
5. Remove the water pump retaining bolts, 8, and remove the water pump, 3, and gasket, 5, from engine.
6. Remove the water pump mounting plate, 4, and gasket, 6.



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1. Bypass Hose
2. Lower Radiator Hose
3. Water Pump
4. Mounting Plate
5. Gasket
6. Gasket, Mounting Plate
7. Retaining Bolt, (Mounting Plate)
8. Water Pump Retaining Bolt

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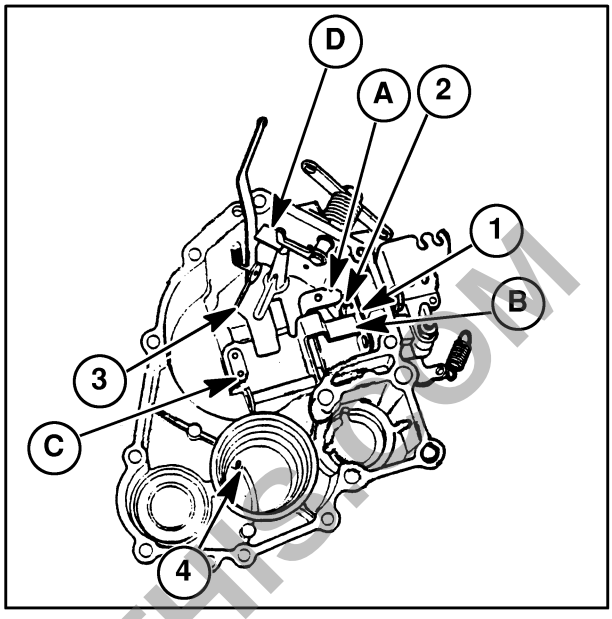
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NOTE: *The aligning of the slot in the lever with the groove in the arm properly indexes the lever and attaching cables to the internal linkage.*

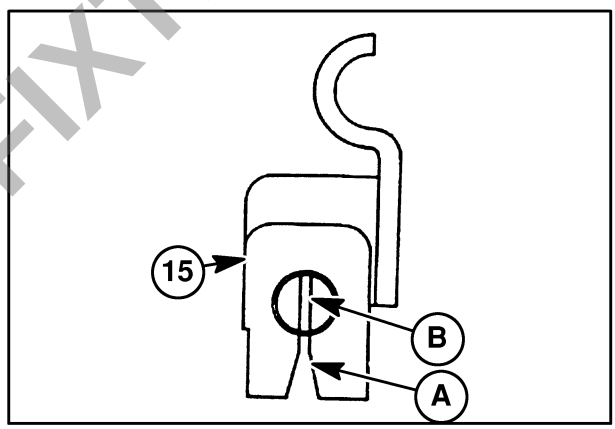
6. Install dampner spring, 5, onto linkage arm and timing cover. The long leg of the spring is inserted into the timing cover.

NOTE: *When installing timing case onto engine block, make sure dampner spring stays in retaining hole of case. Also, have the manual shutoff lever, D, located on the backside of the linkage of arm assembly, 3.*

NOTE: *Make sure dowel, 4, aligns with guide hole, 2, on the oil pump cover.*



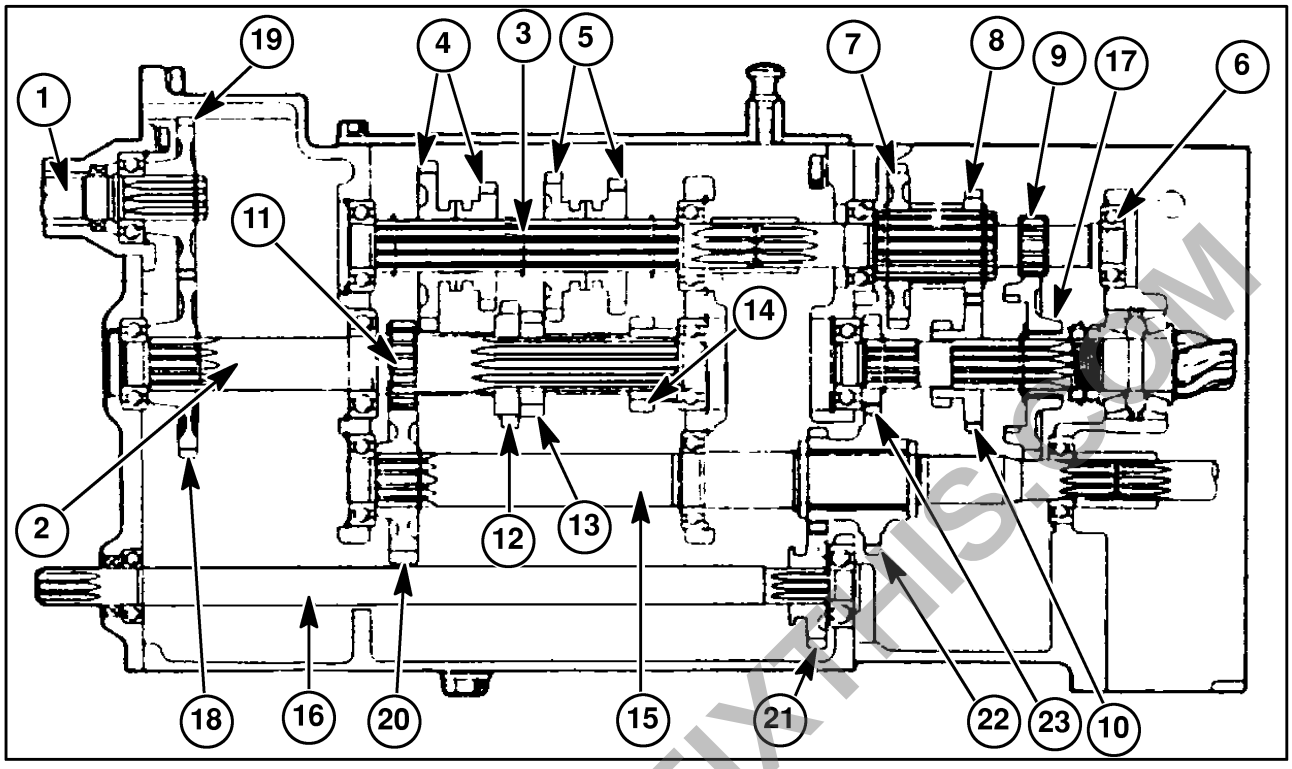
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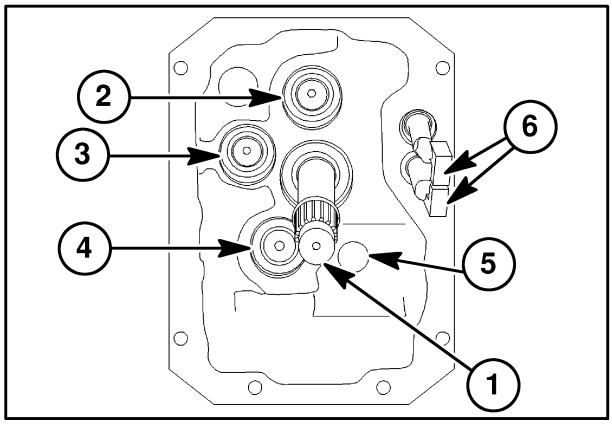
6

9 x 3 Gear Transmission with a Single Clutch

1. Input Shaft
2. Countershaft
3. Front Main Shaft
4. Sliding Gear (1-3) (31T or 33T – 23T)
5. Sliding Gear (2-R) (27T-24T)
6. Rear Main Shaft
7. High Range Gear (36T)—Fixed
8. Mid-Range Gear (24T)—Fixed
9. Low Range Gear (11T)—Fixed
10. Sliding Gear (High, Middle, Low) (17T-29T)
11. 1st Gear (14T)—Fixed
12. 3rd Gear (22T)—Fixed
13. 2nd Gear (18T)—Fixed
14. Reverse Gear (16T)—Fixed
15. PTO Countershaft
16. 4WD Drive Shaft
17. Low Range Gear (42T)—Fixed
18. Counter Gear (42T or 44T)
19. Fixed Gear (31T)
20. PTO Fixed Gear (30T)
21. FWD Sliding Gear (26T)
22. FWD Counter Gear (21T - 32T)
23. FWD Fixed Gear (20T)

Figure 6 provides a cross-sectional view of a transmission with gear identification. Figures 8 through 19 show the nine forward and three reverse power flows through the transmission.

Figure 7, shows location of the transmission shafts when tractor is split at the clutch and transmission housing.



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1. Countershaft
2. Main Shaft
3. Reverse Idler Shaft
4. PTO Countershaft
5. FWD Shaft
6. Main Gear Shift Rod

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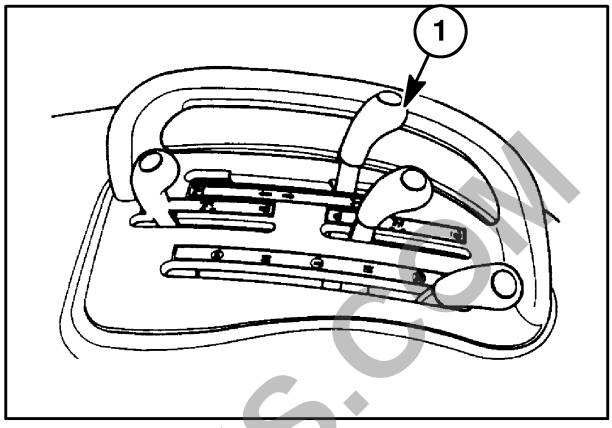
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OVERHAUL

REMOVAL

Remove the axle as an assembly from the tractor. See “FWD Front Axle Removal,” in this section.

NOTE: *Prior to removal of the axle from the support, check the axle pivot end play. See “Inspection,” discussed later in this section.*



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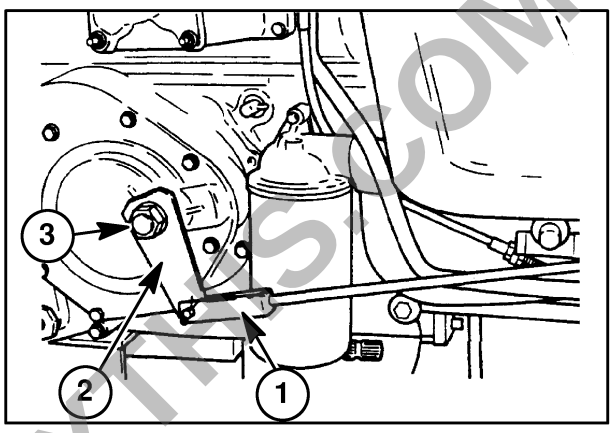
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BRAKES AND FINAL PINION OVERHAUL

REMOVAL

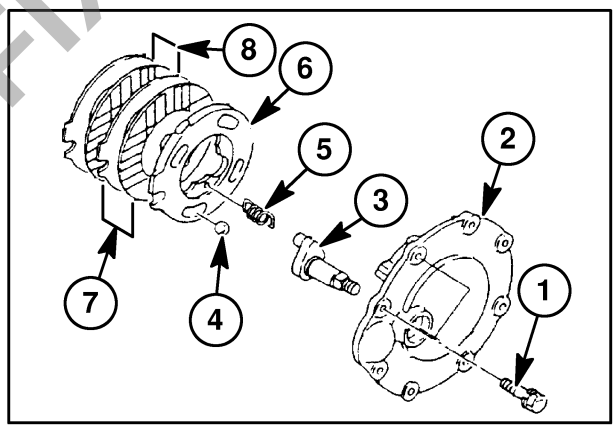
The brakes may be serviced without removing the rear axle housing from the differential center housing assembly. The rear axle housing must be removed to service the final pinion.

1. Disconnect the brake rod clevis, 1, at the brake cover lever, 2. Remove the lever, 2, from the cam shaft, 3.



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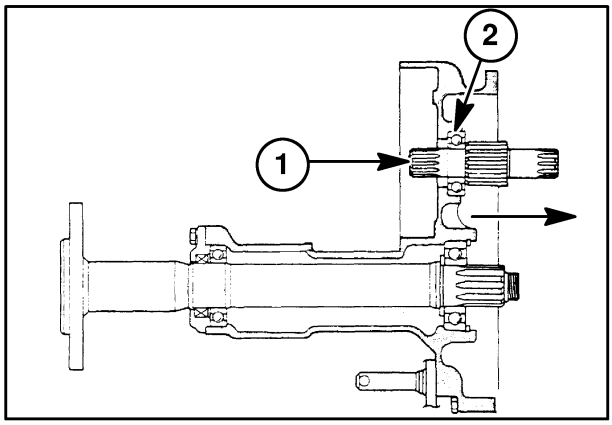
2. Remove the cover bolts, 1, and remove the cover, 2.
3. Remove the cam, 3, three springs, 5, four balls, 4, and actuator plate, 6.
4. Remove the brake disc, 7, and stators, 8, from the final pinion shaft.



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NOTE: *The axle housing must be removed from the tractor prior to pinion shaft removal. See "Differential - Removal," as discussed earlier in this section.*

5. If the final pinion is to be removed, gently drive the final drive pinion-11T, 1, and bearing, 2, out of the housing.



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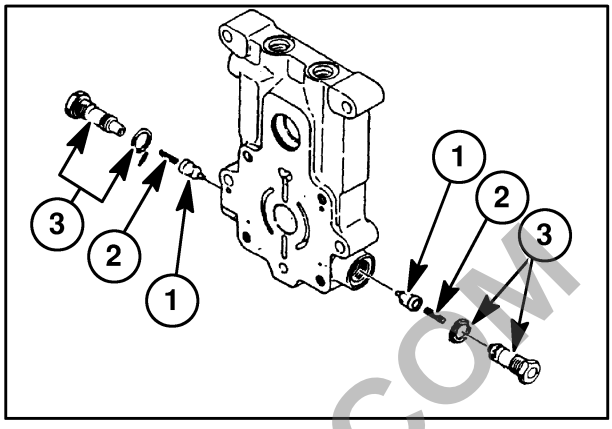
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PORT BLOCK

Neutral and Feed Valves

Two sets of neutral, 3, and feed (check) valves, 1, are utilized in the hydrostatic transmission unit. One set functions for forward travel and the other for reverse travel. The neutral valves operate (close off flow) at 34.4 - 37.2 bar (498 - 540 PSI).



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Disassembly

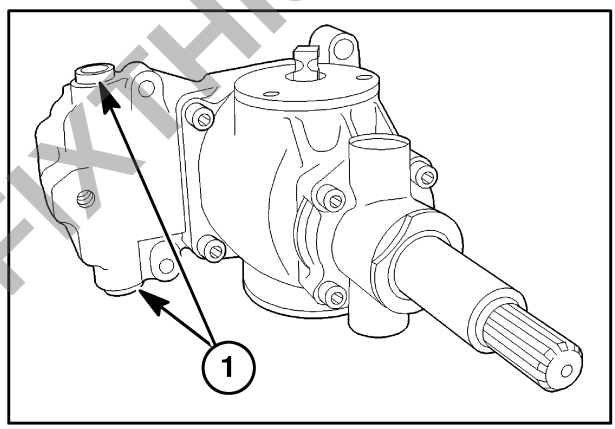
1. Remove the neutral valve assembly, 3, from the housing.
2. Remove the feed (check) valve spring, 2, and poppet, 1.

Inspection

1. Inspect the feed (check) valve poppet for excess wear or scoring. Check the poppet in the bore for a sticking or binding condition.
2. Inspect feed valve springs for wear, distortion, or other damage.

NOTE: *If the feed valve poppet or spring indicates signs of damage, replace the neutral valve as an assembly.*

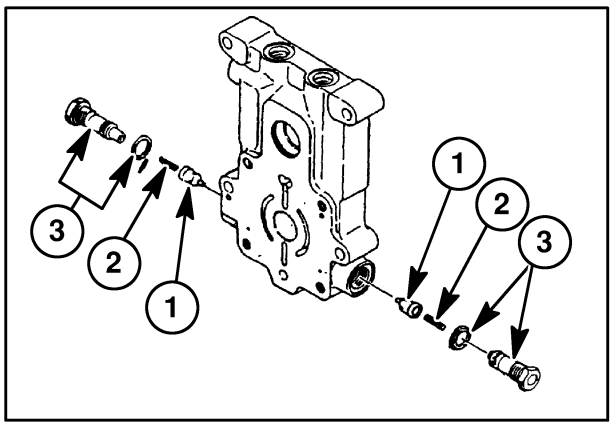
3. If hydraulic tests indicate faulty neutral valve operation, replace the neutral valve as an assembly.



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Assembly

1. Install the feed valve spring, 2, and poppet, 1, onto the end of the neutral valve, 3 and install the assembly in the port block.
2. Tighten the neutral valve to 36.75 ± 2.45 N·m (27.12 ± 1.80 ft. lbs.).



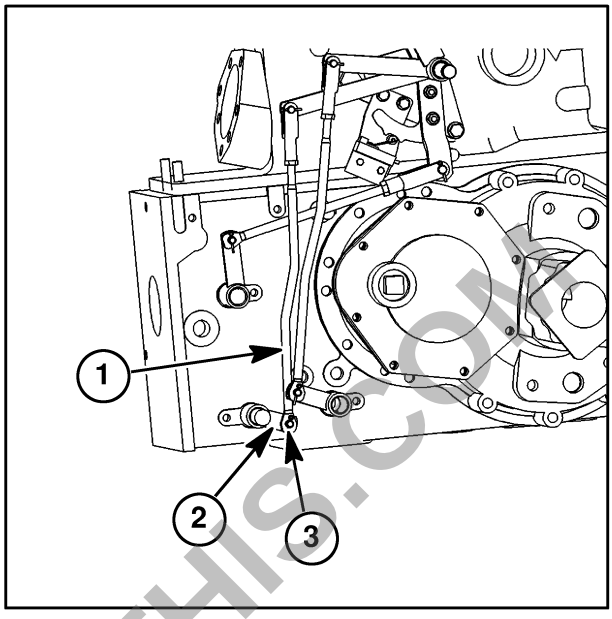
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POWER TAKE-OFF SHIFTER REMOVAL

1. Remove left side rear tire.
2. Disconnect and remove the link, 1, and rear change lever, 2, by removing cotter pin, 3.



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1. Rear PTO Link
2. Rear Change Lever
3. Cotter Pin

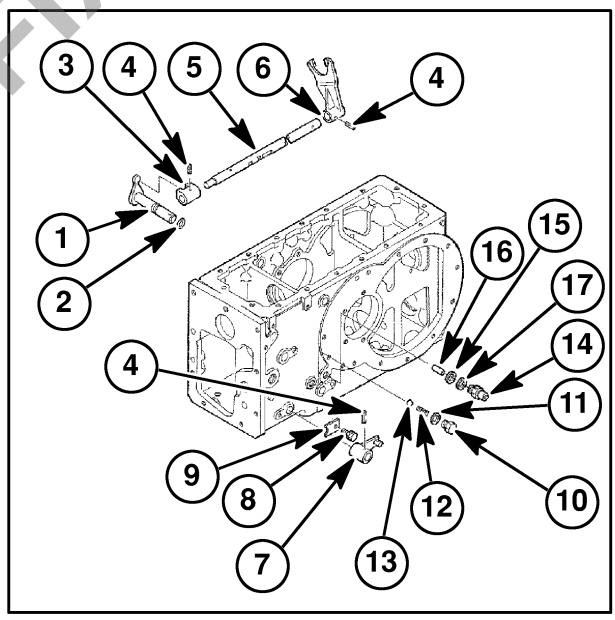
3. Drive the roll pin, 4, out of the change lever, 7, and remove the lever.
4. Remove retaining plate, 9, and remove the shift arm, 1.

NOTE: *Must remove mid-PTO countershaft to remove PTO shift arm, 1.*

5. Remove rear PTO safety switch, 14, washer, 15, pin, 16, and shims, 17.
6. Remove the bolt, 10, and remove the detent spring, 12, detent ball, 13, and seal washer, 11.

NOTE: *Use care to not lose the detent spring as it will be expelled with considerable force when the bolt is removed.*

7. Drive out the roll pin, 4, and remove boss, 3, from the shifter rod, 5.
8. Drive the roll pin, 4, out of the shifter fork, 6, and remove the shifter fork.
9. Slide the shift rail, 5, out the front of the case.



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1. Shift Arm
2. O ring
3. Shifter Boss
4. Roll Pin
5. Shifter Rod
6. Shifter Fork
7. Change Lever
8. Bolt
9. Plate
10. Bolt
11. Seal Washer
12. Detent Spring
13. Detent Ball
14. PTO Safety Switch
15. Seal Washer
16. Pin
17. Shim - 0.008″ 0.02″

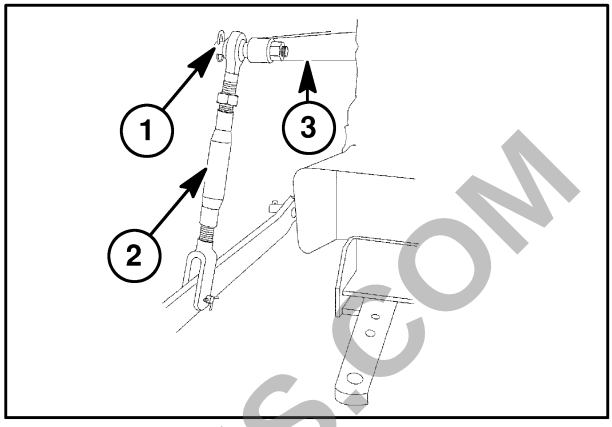
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OVERHAUL

LIFT CYLINDER REMOVAL

1. Before removing the lift cover assembly, discharge the fluid from the lift cylinder by lowering the lift links to their lowest position.
2. Disconnect the wiring harness at the fenders.
3. Remove the clevis pins, 1, and disconnect the position control rods, 2, from the lift arms, 3, on both sides.
4. Remove the seat and seat suspension.

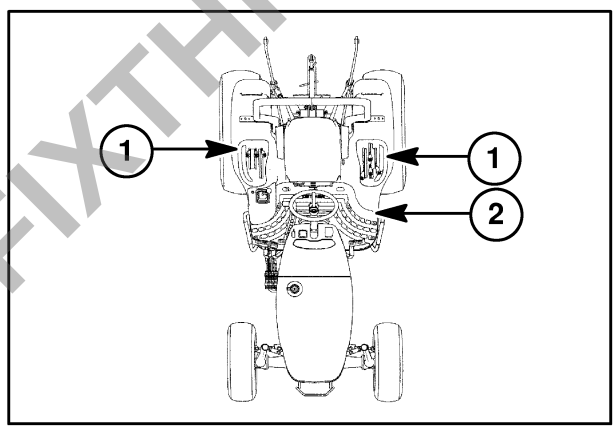


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5. Remove the control shift cover, left-hand and hydraulic control lever guides, 1.

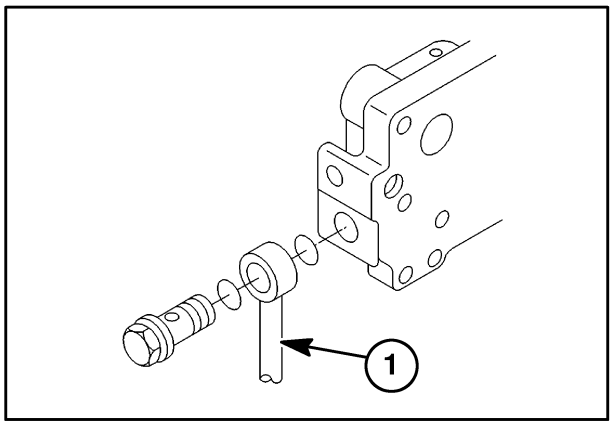
NOTE: *Bolts of different lengths are used at various locations. Observe the bolt lengths as removed for ease of assembly.*

6. Remove the floor mat, 2.
7. Remove the right-hand and left-hand fender assemblies.



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8. Disconnect the high-pressure line, 1, from the lift cover.

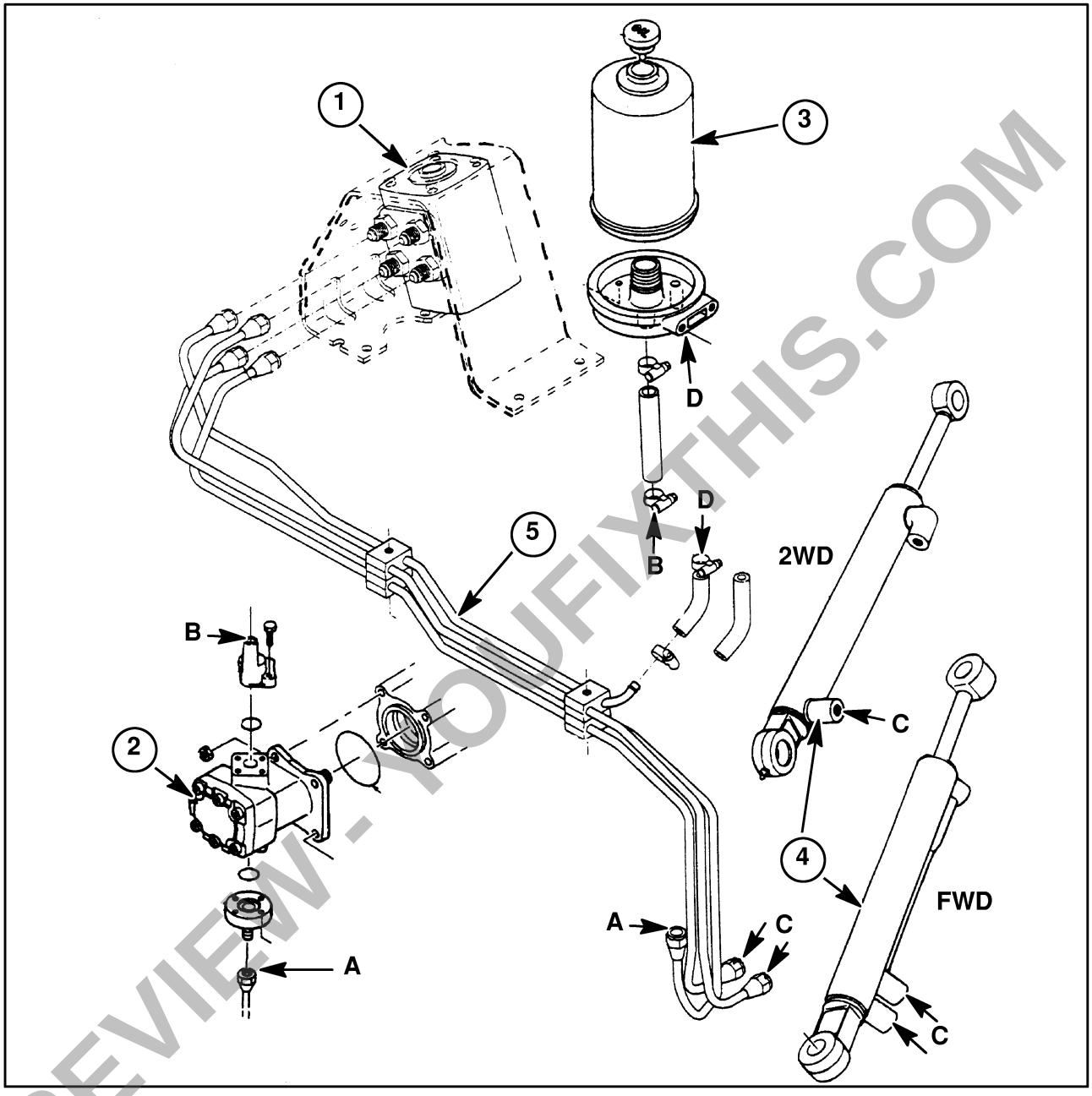


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DESCRIPTION AND OPERATION



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DESCRIPTION

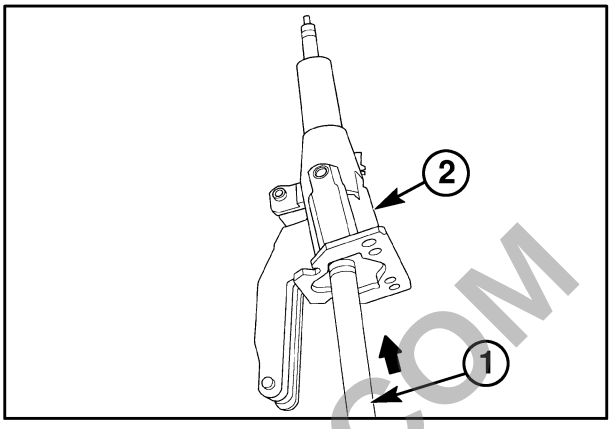
The power steering system described in this Section is standard equipment for all model tractors. The power steering is a fully hydraulic system.

The power steering system consists of a power steering control motor, 1, pump, 2, reservoir, 3, cylinder assembly, 4, and tubing, 5.

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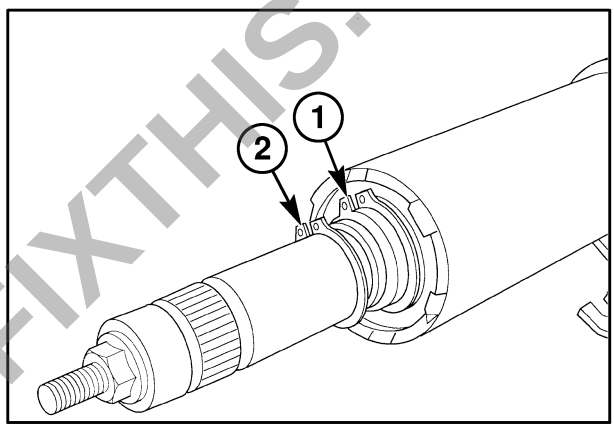
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4. Insert the shaft assembly, 1, into the housing, 2, until it seats on the bearings inside the housing.



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5. Install the large snap ring, 1, and the small snap ring, 2.



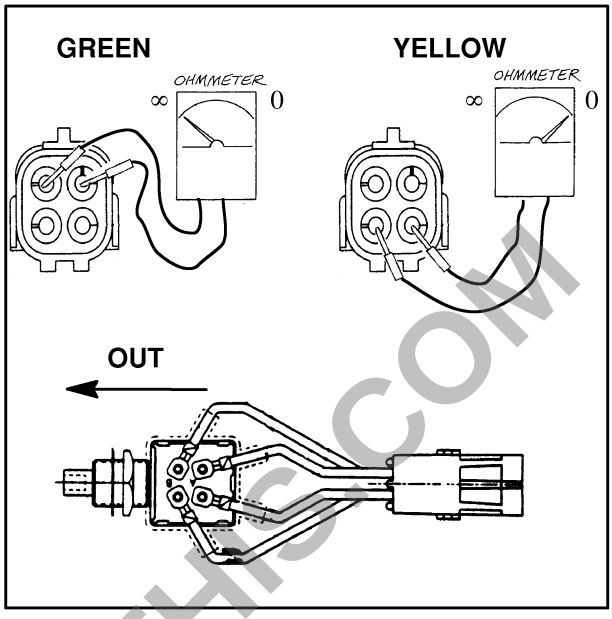
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Mid PTO Safety Switch Testing
Use an ohmmeter to test the mid PTO safety switch.

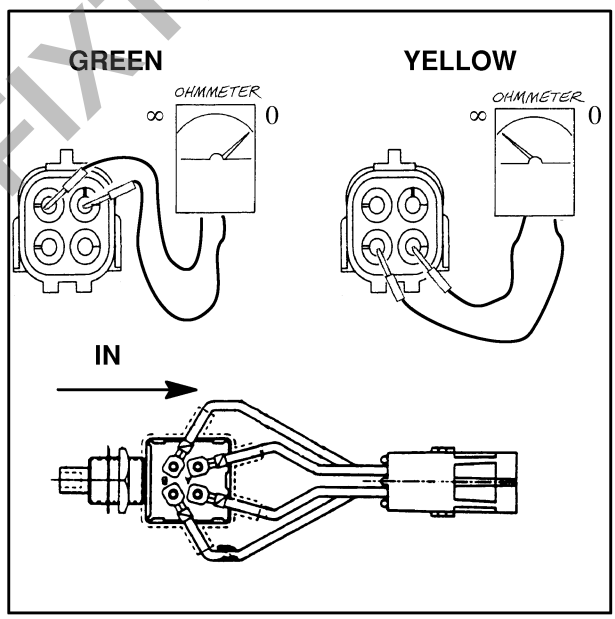
- With the button in the “OUT” position, continuity will not exist across terminals A and B (green leads).
- With the button in the “OUT” position, there will be continuity across terminals D and C (yellow leads).



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- With the button in the “IN” position, there will be continuity between terminals A and B (green leads).
- With the button in the “IN” position, continuity will not exist between terminals C and D (yellow leads).

If test results are not as outlined above, replace the mid PTO safety switch.



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DX SERIES LIGHTING CIRCUIT

Front Work Lights

1. Current flow starts at the battery positive (+) terminal and is transferred to the starter battery terminal by the positive (+) battery cable.
2. From the starter, current flows to the main (30 amp) fuse. The main fuse supplies current to the (B+) battery terminal of the engine start switch through terminal (A) of the engine start switch connector and the F6 (15 amp) fuse.
3. When the engine start switch is in the (RUN) position, current is transferred from the (B+) terminal to the (ACC) terminal. From there current travels to the (B) terminal of switch connector. From the (B) terminal, current travels to the F3 (20-amp) fuse and the F4 (15 amp) fuse.
4. The F3 (20-amp) fuse provides current to terminal 2 of the main light switch. The F6 (15 amp) fuse provides current to terminal 1 of the hazard flasher. Current from terminal 1 is transferred to terminal 2 of the hazard flasher. From terminal 2 of the hazard flasher, current travels to terminal 2 of the hazard flasher switch.
5. When the main light switch is in the ON position, current is transferred from terminal 2 to pin 8 of the instrument panel and terminals 3 and 6 of the light switch. From terminal 3, current then travels to the four front work lights. The ground circuit to the four front work lights is completed through the hood harness to the left hand side of the engine block, allowing the lights to illuminate.
6. From terminal 6, current is sent to the switch light and through splice D to pin 23 of the instrument panel and through splice G to the left and right tail lamp assemblies when the main light switch is in either the panel light or work light position. The right and left rear lamp assemblies ground circuit is completed by the wire harness to the left hand side of the HPL cover, allowing the lights to illuminate.

NOTE: *A green light illuminates in the switch when it is placed in either the panel light or work light positions.*

7. The F4 (15 amp) fuse supplies current to the optional rear work light. The optional rear work light ground circuit is completed at the left hand side of the HPL cover.

Hazard Lights

NOTE: *The hazard lights illuminate when the hazard light switch is in the ON position, regardless of the position of the starter switch.*

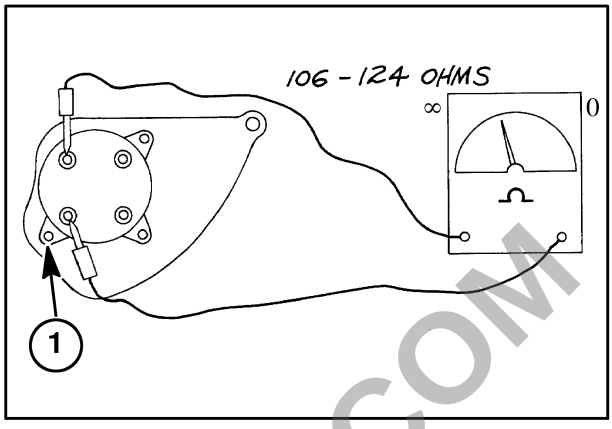
1. When the hazard flasher switch is in the ON position, current is transferred from terminal 2 to terminal 6. Terminal 6 then transfers the current to terminal 3 of the hazard flasher switch and through splice F to the right and left hazard lamps. Terminal 3 provides current through splice G to pins 9 and 19 of the instrument panel. The right and left hazard lamps ground circuits are completed at the left hand side of the HPL cover.

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Testing with gauge removed from the instrument panel

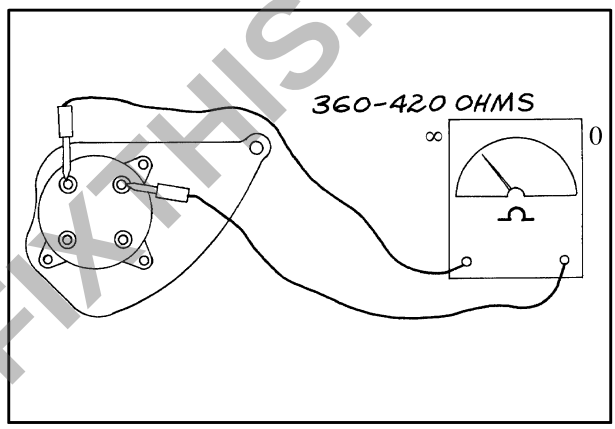
1. Viewing the gauge from the rear, orientate the three mounting tabs, 1, on the gauge as follows, upper right, lower right and lower left respectively.
2. Using an ohmmeter, measure the resistance between the upper left and lower left pin sockets. Do not touch the case with the leads when making this measurement. The measured resistance between the sockets should be between 106 to 124 ohms.



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3. Using an ohmmeter, measure the resistance between the upper left and upper right pin sockets. Do not touch the case with the leads when making this measurement. The measured resistance between the sockets should be 360 to 420 ohms.

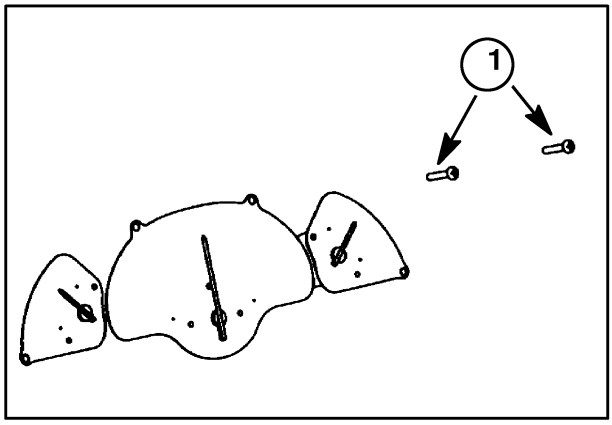
   If the resistance measured, is outside the ranges, or a open circuit is measured, the temperature gauge should be replaced.



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TACHOMETER REMOVAL

Remove the retaining screws, 1, from the tachometer face. Using a long bladed screwdriver and working through the opening provided by the removal of the temperature or fuel gauge, pry the tachometer pot from the connecting pins and remove the tachometer assembly from the panel.



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