TC30 REPAIR MANUAL
COMPLETE CONTENTS

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The following pages are the collation of the contents pages from each section and chapter of the TC30 Tractor Repair manual. Complete Repair part # 87021725.

The sections used through out all New Holland product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Repair manual and which sections are in each book.

The sections listed above are the sections utilized for the TC30 Tractors.

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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 be 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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SPECIFICATIONS

	Model TC30
ENGINE	
Type	Diesel
Engine Gross Horsepower	22.4 kw (30.0)
Cylinders	3
Bore	84 mm (3.31″)
Stroke	90 mm (3.54″)
Displacement	1.496 L (91.3 cu. in.)
Compression Ratio	22.2:1
Firing Order	1-2-3
Low Idle Speed	850/950 RPM
Maximum Speed:	
High Idle	2800 RPM
Rated	2600 RPM
Valve Clearance (Cold):	
Intake	0.20 mm (0.008″)
Exhaust	0.20 mm (0.008″)
CAPACITIES	
Fuel Tank	27.0 liters/ 7.1 U.S. gals.
Cooling System	4.0 liters/ 4.2 U.S. qts
Engine Crankcase:	
With Filter	4.0 liters/ 4.2 U.S. qts
Rear Axle & Transmission (Includes Hydraulics)	
9x3 (Gear)	32.5 liters/ 8.6 gals.
HST	33.3 liters/ 8.8 gals.
Power Steering	1.6 liters/ 1.7 U.S. qts.
Front Axle Final Reduction	0.8 liters/ 0.85 U.S. qts.
Differential Gear Case	1.4 liters/ 1.5 U.S. qts.

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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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CAMSHAFT	TC30
Cam Height - Valve mm (in.)	
Standard	34.065 - 34.12 (1.341 - 1.343)
Minimum	33.7 (1.327)
Bend in mm (in.)	
Standard	0.03 (0.001)
Maximum	0.1 (0.004)
Cam Height - Fuel mm (in.)	
Standard	41.94 - 42.06 (1.651 - 1.656)
Minimum	41.8 (1.646)
VALVES	**TC30**
Stem Diameter - Intake in mm (in.)	
Standard	6.955 - 6.97 (0.2738 - 0.2744)
Minimum	6.89 (0.271)
Stem Diameter - Exhaust in mm (in.)	
Standard	6.94 - 6.95 (0.273 - 0.274)
Minimum	6.84 (0.269)
Guide Clearance-Intake in mm (in.)	
Standard	0.03 - 0.06 (0.001 - 0.002)
Maximum	0.2 (0.008)
Guide Clearance-Exhaust in mm (in.)	
Standard	0.04 - 0.065 (0.002 - 0.003)
Maximum	0.25 (0.010)
Valve Margin in mm (in.)	
Standard	0.925 - 1.075 (0.0364 - 0.0423)
Maximum	0.5 (0.0197)
Valve Lash in mm (in.)	0.2(0.008)
Valve Spring-Free Height in mm (in.)	
Standard	35 (1.378)
Minimum	33.5 (1.319)

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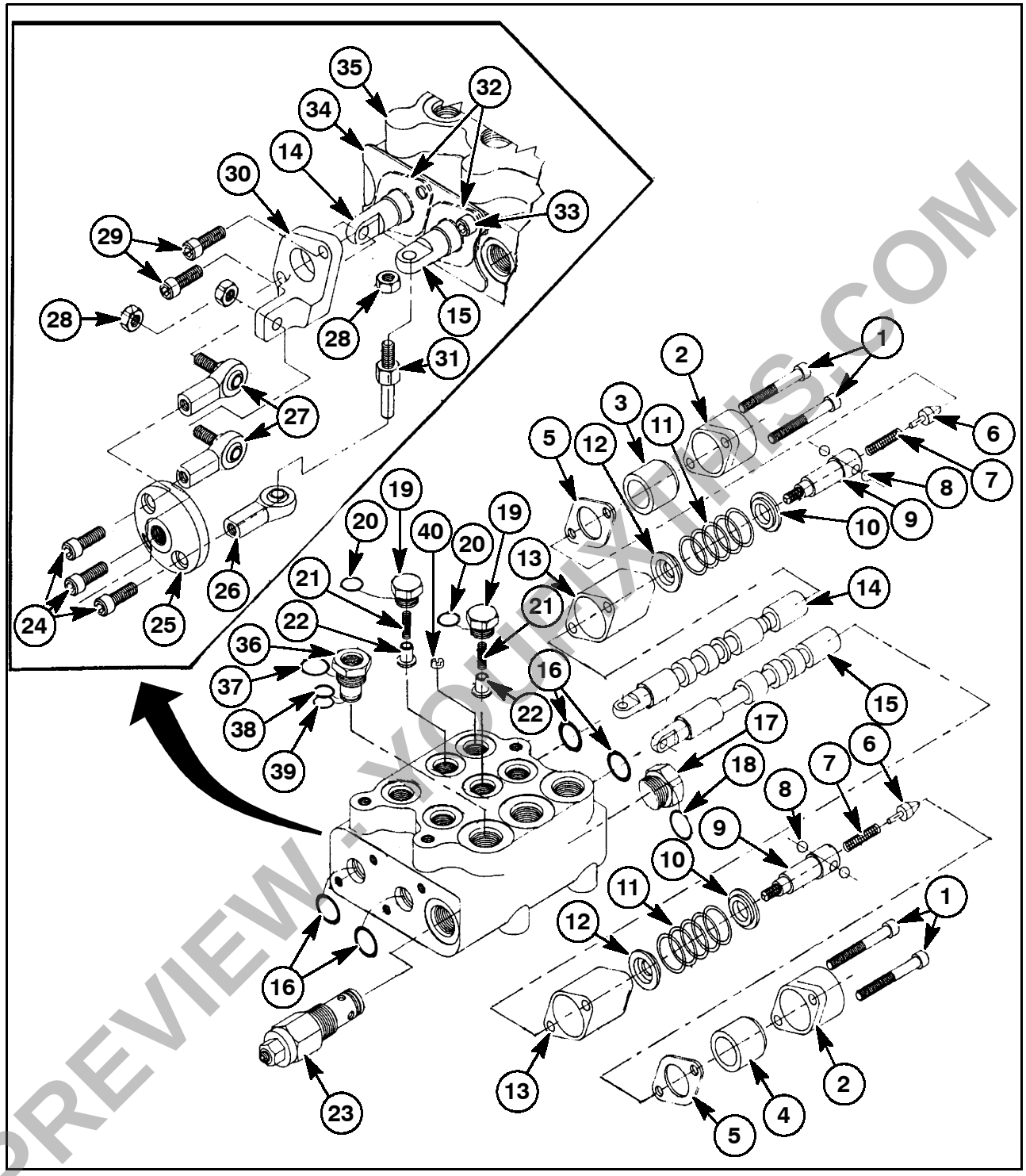
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TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTION
Engine does not develop full power	Clogged air cleaner	Inspect and replace air cleaner if necessary
	Fuel line obstructed	Check for crimped fuel line. Inspect fuel filter for cleanliness
	Improper injection timing	Repair/ replace components as required
	Improper nozzle injection pressure and angle	Check injection timing Inspect for proper injection pressure an angle
	Low cylinder compression	Check engine compression
	Insufficient fuel injection	Repair at authorized shop
	Improper valve lash adjustment	Adjust valves to correct tolerances
	Burned, worn or sticking valves	Inspect and replace as necessary
	Blown head gasket	Replace head gasket
	Worn or sticking piston rings	Overhaul as necessary
	Faulty engine stop solenoid	Replace stop solenoid
Low oil pressure	Engine oil level low	Fill to proper level
	Wrong grade of oil	Replace with correct grade oil
	Clogged oil pump filter	Change oil and filter
	Faulty oil pressure relief valve	Replace relief valve
	Worn oil pump drive shaft gears, or broken oil pipe	Inspect oil system and components. Replace defective components
	Excessive main or connecting rod bearing clearances	Replace bearings or shaft if necessary
	Oil pump axial clearance not properly set	Check pump clearance and shim as needed to proper tolerance
Engine will not stop	Faulty engine stop solenoid	Replace the stop solenoid
	Faulty starter switch	Replace starter switch

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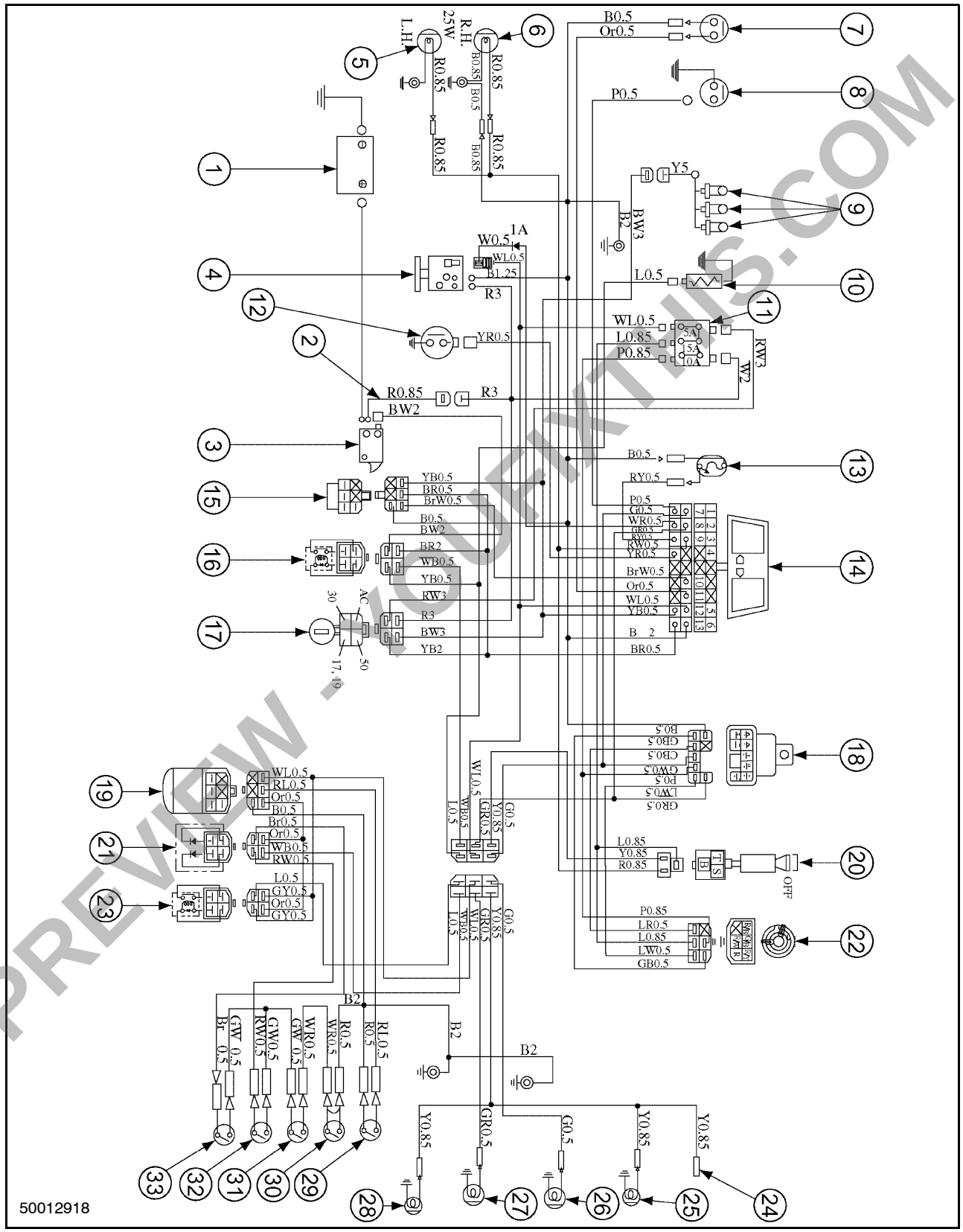
1. Cap Screws
2. End Cap
3. Float Detent Sleeve
4. Float Detent Sleeve
5. Retainer
6. Poppet
7. Detent Spring
8. Detent Balls
9. Detent Retainer
10. Washer
11. Spring
12. Stop Cup
13. Spacer
14. Float Spool
15. REGEN Spool
16. O ring
17. Plug
18. O ring
19. Check Plug
20. O ring
21. Spring
22. Load Check Poppet
23. Relief Valve Assembly
24. Cap Screw
25. Flange
26. Rod End
27. Rod End Assemblies
28. Nuts
29. Cap Screw
30. Clevis
31. Spool Stud
32. Retaining Plate
33. Cap Screws
34. Mounting Plate
35. Valve Body
36. Power Beyond Outlet Connector
37. O ring
38. Backup Washer
39. O ring
40. Orifice - 2.75 mm (0.108″) hole

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ELECTRICAL DIAGRAMS

TC30 Complete Schematic



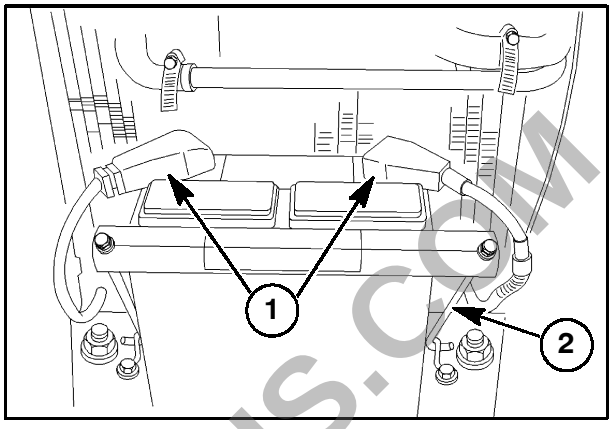
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ENGINE OVERHAUL

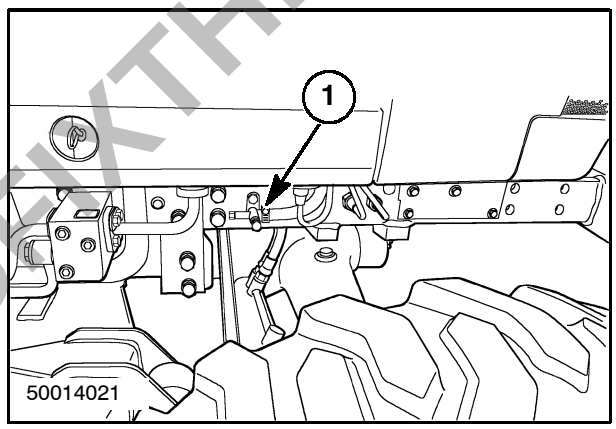
ENGINE DISASSEMBLY

1. Disconnect the battery leads, 1, and battery hold down bracket, 2, to remove the battery.
2. Remove tractor hood and side panels.



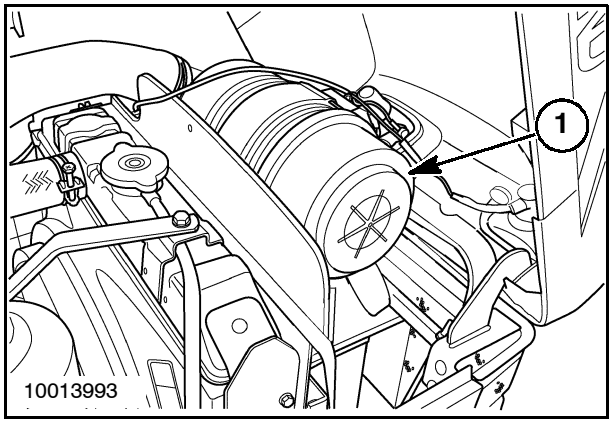
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3. Turn coolant tap bolt, 1, counterclockwise to drain fluid. Remove the radiator assembly. See “Radiator Removal”, discussed later in this section.



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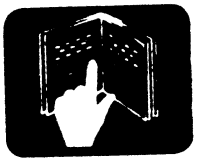
4. Remove the air cleaner assembly, 1, along with the air cleaner hoses.



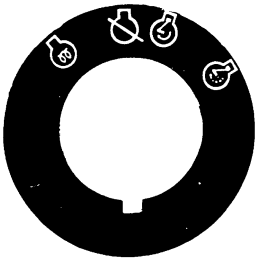
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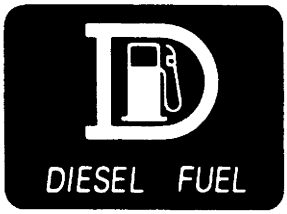
Hyd. Manifold Operation
(See Operator's Manual)
PART NO: SBA390198320
LOCATION:
Right-Hand Side of Hyd.
Manifold/Air Filter Cap



Starter Switch
PART NO: SBA390194290
LOCATION: Starter Switch,
Right Side of Instrument Panel



Engine Oil
PART NO: SBA390230220
LOCATION: Engine Oil
Filler Cap



Diesel Fuel
PART NO: SBA390198340
LOCATION: Under the Fuel Fill Lid



Coupler-Extending
(With double spool control valve)
PART NO: 86532920



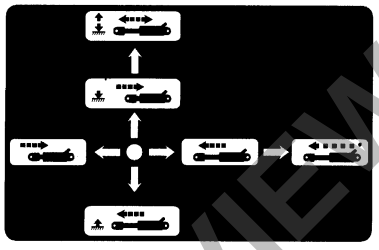
Coupler-Retracting
(With double spool control valve)
PART NO: 86532919



Coupler-Extending
(With double spool control valve)
PART NO: 86532921



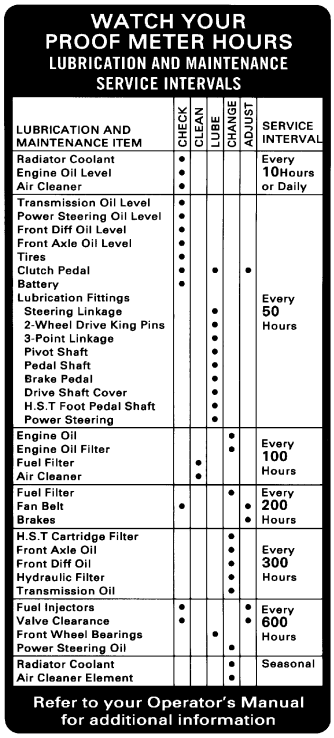
Coupler-Retracting
(With double spool control valve)
PART NO: 86532922



Operating Remote
Control Valve-
Double Spool (optional)
PART NO:
86532911
LOCATION:
Cover of 2-Spool
Remote Valve



Power Steering Fluid
PART NO:
SBA390230230
LOCATION:
Top of P.S. Reservoir



Lubrication and
Maintenance Intervals
PART NO:
SBA390198350
LOCATION:
Underside of Hood

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COOLING SYSTEM

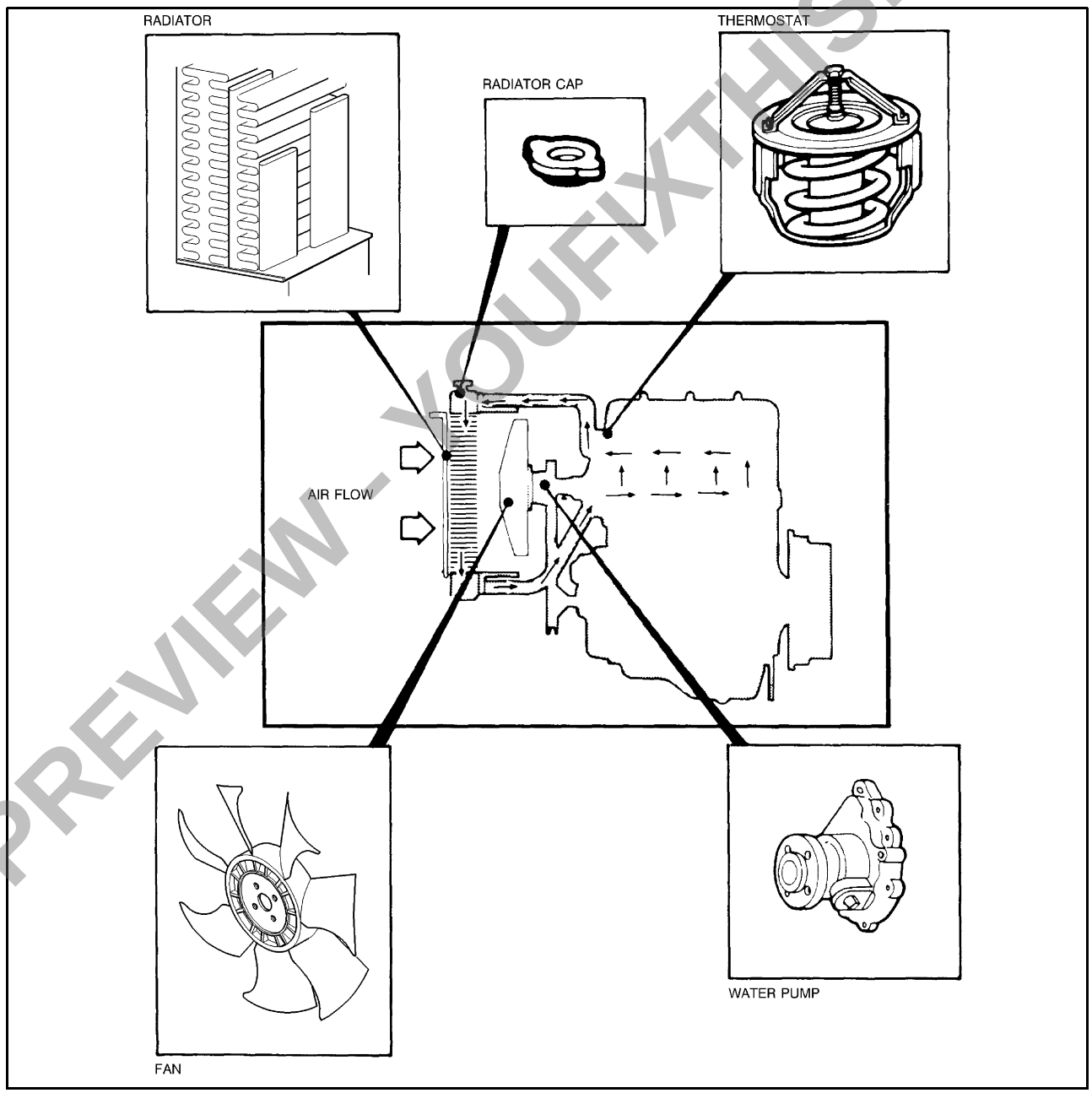
Op. 10 400

DESCRIPTION OF OPERATION

The cooling system is the recirculating bypass type with a full length water jacket for each cylinder cast into the block. The coolant is drawn from the bottom of the radiator by the water pump and passes around the cylinders and into the cylinder head.

The thermostat is located in the front of the cylinder head and thermostatically controls the flow of coolant from the engine to the radiator. When the thermostat is closed only a small amount of coolant is permitted to flow through the thermostat bypass to the radiator to effect a faster warm-up. When the thermostat is open, the coolant flows from the water outlet connection to the top tank of the radiator for maximum cooling.

Cooling occurs as the coolant passes down through the radiator cores which are exposed to the air flow created by the fan as air is drawn through the radiator.



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SECTION 10 - ENGINE SYSTEMS

BOOK 1 - 87021726

Chapter 1 - Engine (Continued)

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ADJUSTMENTS

TIRE INFLATION PRESSURE

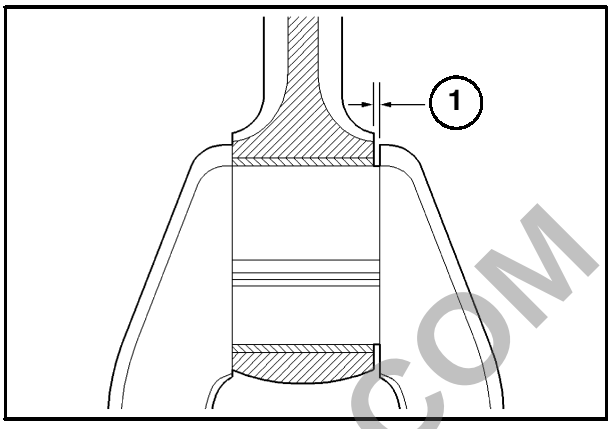
FRONT TIRE INFLATION PRESSURES		
Tire Type	**Tire Size**	**Inflation Pressure**
Agricultural: 2WD FWD	5.50-16, 4PR, F2 7-14, 4PR, R1	1.7-2.8 bar (24-40 PSI) 0.6-1.8 bar (8-26 PSI)
Turf: 2WD FWD	23 X 8.50-12, 4PR, R3 25 X 8.50-14, 4PR, R3	0.6-15 bar (8-22 PSI) 0.6-15 bar (8-22 PSI)
Industrial (R4)	25 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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8. Install the connecting rod on the crankshaft and measure the play in shaft direction. If the play is more than 0.7 mm (0.028″) replace the connecting rod.

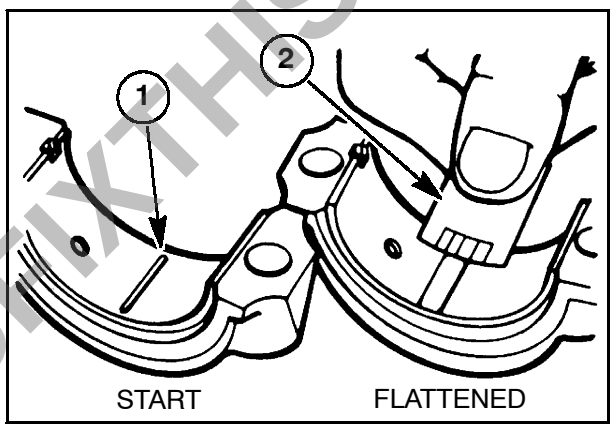


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1. Side Clearance Check 0.7 mm (0.028″) Max.

Connecting Rod Bearing Oil Clearance Check

1. Remove oil or foreign matter from the bearing and crankshaft.
2. Cut a piece of plastigauge, 1, to the same width as the bearing. Place it on the crankshaft. Avoid the oil hole.
3. Install the rod cap and torque to 49.0 - 53.9 N·m (36.2 - 39.8 ft. lbs.).
4. Remove the rod cap and measure the width of the flattened plastigauge using the plastigauge scale.
5. The width of the widest flattened plastigauge is the minimum clearance and the width of the narrowest plastigauge is the greatest clearance. Select the proper size bearing liners to obtain the correct clearance. See “Specifications”.



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1. Plastigauge
2. Bearing Clearing Check

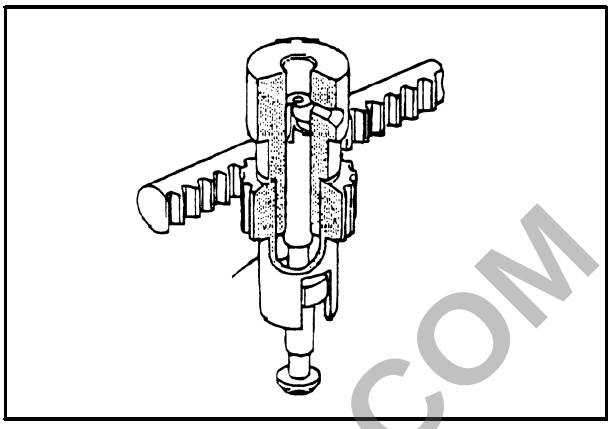
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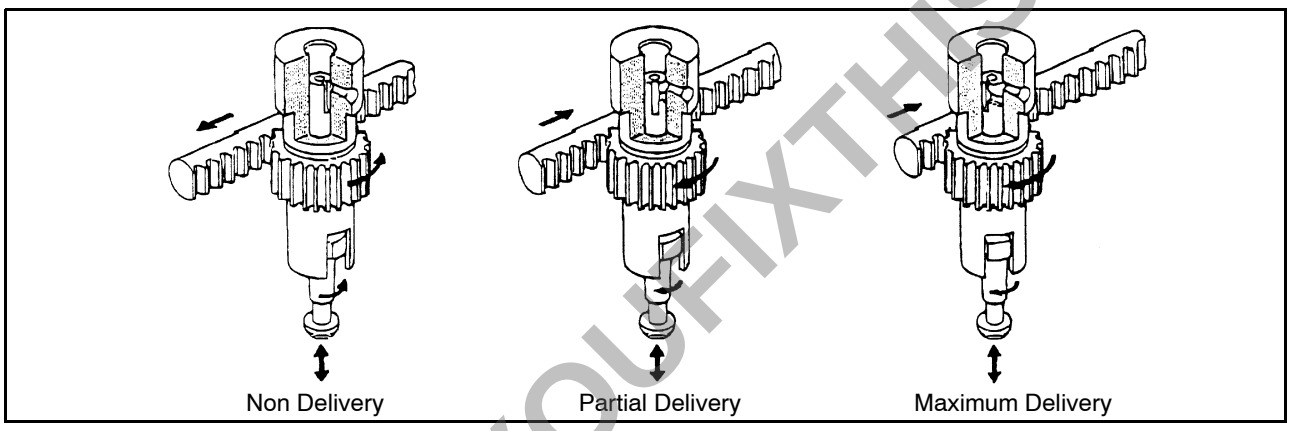
Fuel Variation Mechanism

Op. 10 244
As well as pressurizing the fuel oil, the injection pump also functions to vary the fuel injection quantity.

A control sleeve is installed around the plunger barrel, and a flange on the bottom of the plunger is inserted into a groove in the control sleeve. Teeth on the control sleeve are engaged with teeth on the control rack so that movement of the control rack results in rotation of the plunger and, consequently, variation of the fuel injection quantity.



2



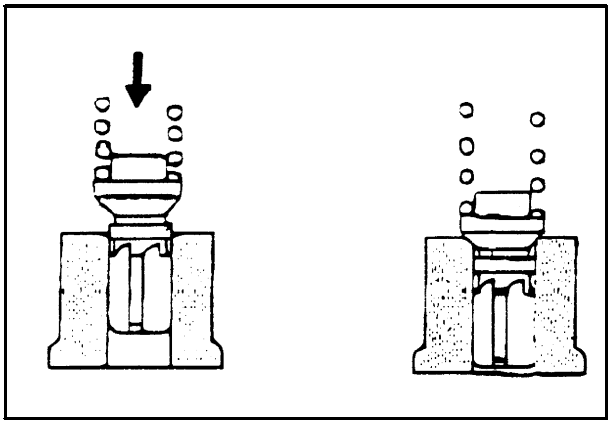
3

Delivery Valve Assembly
The delivery valve assembly consists of the delivery valve and the valve seat.

When the force of the high-pressure fuel oil delivered by the plunger exceeds the force of the delivery valve spring, the delivery valve opens and fuel oil is delivered through the injection pipe to the nozzle holder.

After injection, the injection pipe retains a degree of residual pressure adequate for the subsequent injection. The delivery valve prevents the reverse flow of this fuel oil in the injection pipe to the plunger side. If the residual pressure is too high, then the flow of fuel oil will not be properly cut after injection.

By allowing the fuel oil in the injection pipe to retract an amount equal to the piston's retraction stroke, the delivery valve improves the ability of the nozzle to cut injection, as well as preventing dribbling.



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CLUTCH RELEASE BEARING

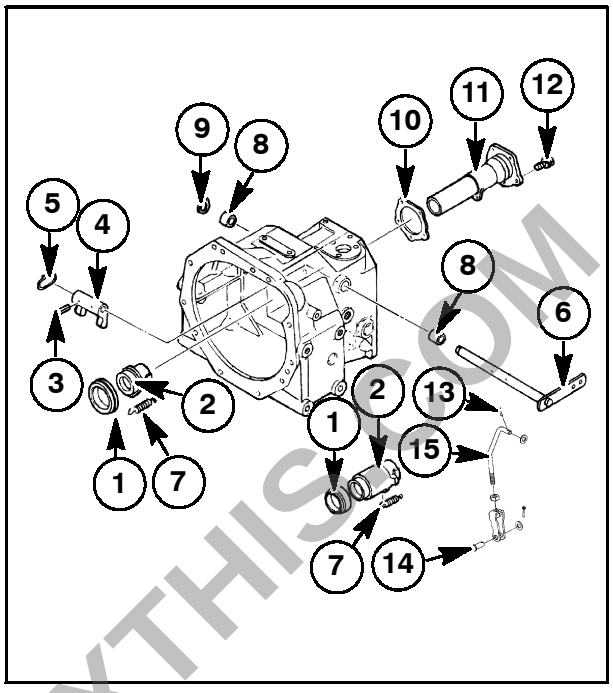
Description

The clutch release bearing, 1, is a pre-lubricated ball bearing and is mounted on the sliding hub, 2, which is supported on the front input shaft retainer, 11.

A fork, 4, mounted on the cross shaft, 6, is engaged with the bearing, 1, and hub assembly, 2.

On tractors equipped with single clutch, initial movement of the clutch pedal causes the release bearing to come in contact with the release levers. Further movement of the clutch pedal disengages the clutch and drive to the transmission input shaft and stops the transmission and PTO drive.

On tractors equipped with the double clutch, depressing the clutch pedal approximately half-way disengages the transmission drive, but allows the drive to continue to the PTO. Further movement of the clutch pedal causes the clutch to disengage the drive to the PTO.



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1. Bearing
2. Hub (short - HST)
3. Pin
4. Fork
5. Safety Wire
6. Cross Shaft
7. Return Spring
8. Bushing
9. Snap Ring
10. Gasket
11. Retainer
12. Bolt
13. Cotter Pin
14. Clevis Pin
15. Adjustment Rod

Removal

1. Separate the tractor between the engine and the clutch housing. See “Separating the Tractor”.
2. Remove the cotter pin, 13, and clevis pin, 14, and remove the adjustment rod, 15, from the clutch release cross shaft, 6.
3. Remove the release bearing, 1, and hub return spring, 7, and slide the bearing and hub, 2, off the support, 11.
4. Using a suitable puller and step plate, remove the bearing, 1, from the hub, 2.

Inspection

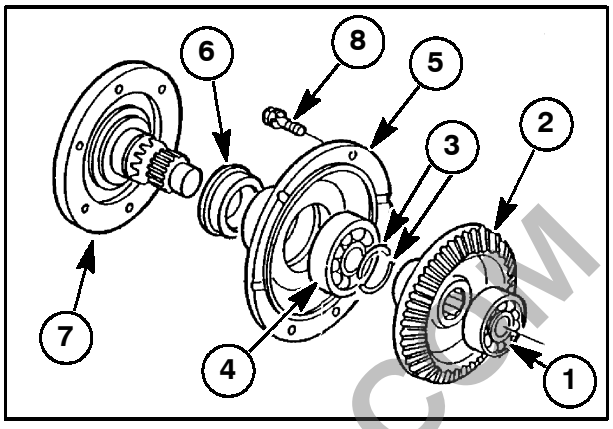
Rotate the bearing by hand and observe the following conditions:

1. Abnormal noise.
2. Uneven rotation when turned slowly by hand.
3. Excessive free play.
4. Scoring on the inner surface.
5. Indications of lubricant leakage at the oil seal.

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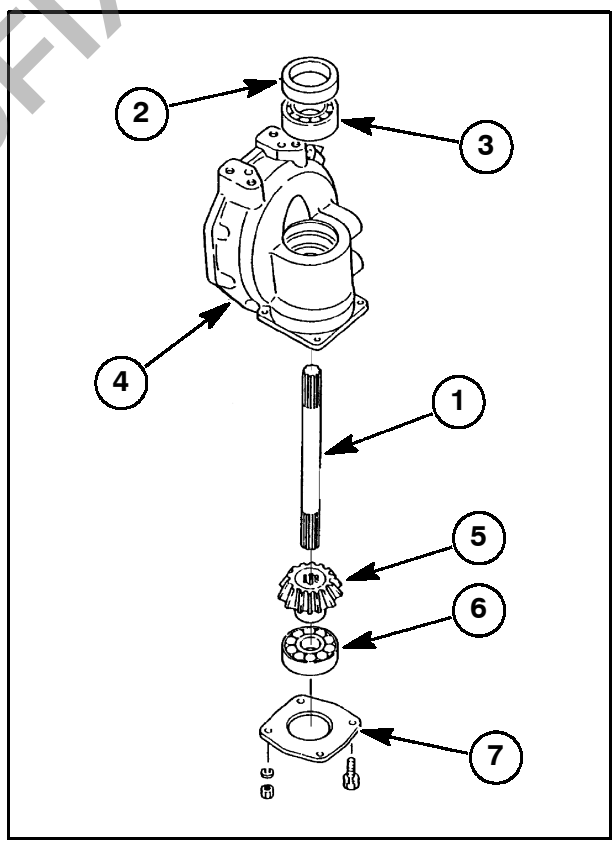
2. Position the wheel shaft outer bearing, 4, and oil seal, 6, in the cover, 5.
3. Install the hub and shaft assembly, 7, in the cover.
4. Position the two piece locking ring, 3, in the shaft groove.
5. Install the bevel gear, 2, on the shaft, 7. Be sure the bevel gear counterbore hub fits down fully over the locking ring.
6. Install the inner bearing, 1, on the shaft.



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1. Inner Bearing
2. Final Bevel Gear
3. Split Ring
4. Outer Bearing
5. Drop Box Cover
6. Oil Seal
7. Hub and Shaft Assembly
8. Bolt

7. Install the idler gear bearing, 3, and seal, 2, in the drop box case, 4.
8. Install the final drive pinion gear, 5, bearing, 6, and cover, 7, in the bottom of the drop box case.
9. Install the final pinion shaft, 1, from the top.



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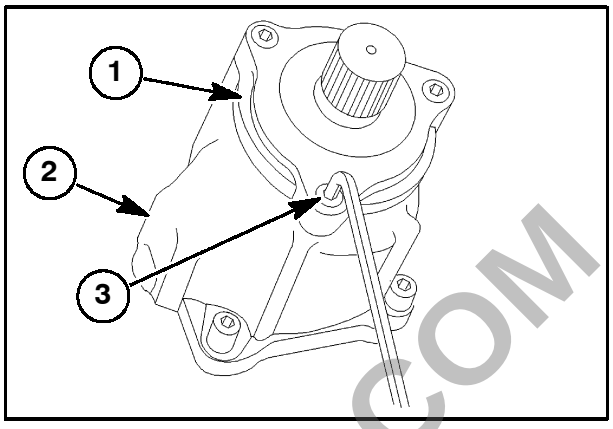
1. Final Pinion Shaft
2. Oil Seal
3. Bearing
4. Drop Box Case
5. Final Pinion Gear
6. Bearing
7. Cover

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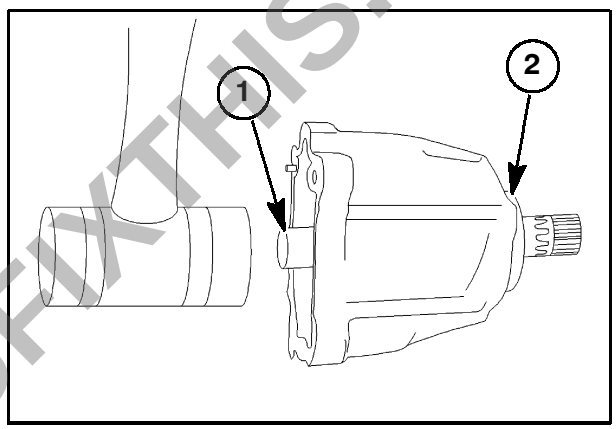
Hydrostatic Motor Shaft Removal

1. Remove the three hexagon socket bolts, 3, retaining the cover, 1, to the motor housing, 2, and remove the cover.



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2. Using a soft hammer gently drive the shaft, 1, and bearing, 2, as an assembly out of the housing.

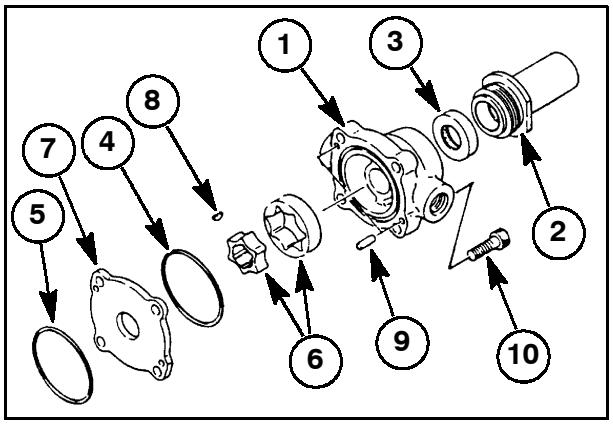


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Charge Pump Removal

1. Remove the throw-out bearing hub, 2, and seal, 3.
2. Remove the four bolts, 10, retaining the charge pump to the housing and remove O ring, 5, wear plate, 7, O ring, 4, rotors, 6, key, 8, and pin, 9, from the housing, 1, and shaft.

   NOTE: *Identify the position of the inner and outer rotor so as to assemble in their original position. Rotate shaft until the key, 8, is on the top of the shaft. The large notch on the inside rotor will help reference the position of the rotors on the shaft.*
3. Remove the snap ring from the inner case, drive out the shaft and bearing as an assembly from the front of the case.



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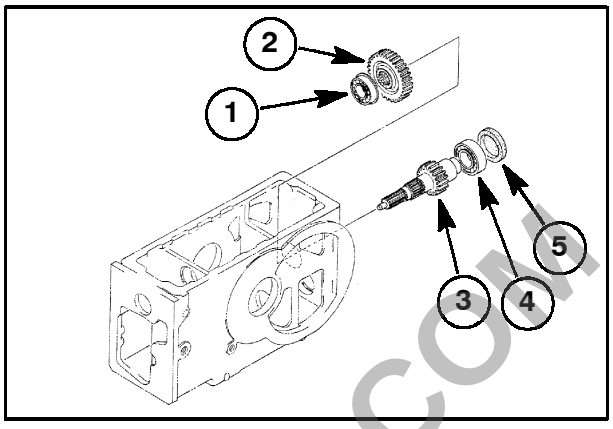
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POWER TAKE-OFF REAR COUNTER-SHAFT REMOVAL

1. Remove the rear countershaft seal cover, 5.
2. Drive the rear countershaft, 3, rearward and remove the fixed gear, 2, and bearing, 1.
3. Remove the countershaft, 3, and bearing, 4, out the rear of the case.

   NOTE: *Fixed gear, 2, is present with HST tractors. The countershaft, 3, is the same for gear and HST tractors.*



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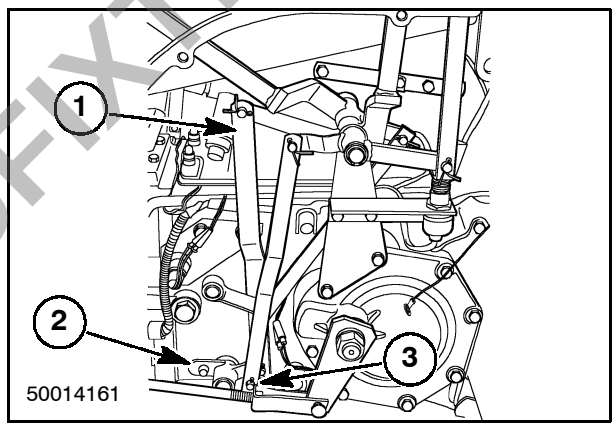
1. Ball Bearing
2. Fixed Gear - 25T
3. PTO Rear Countershaft - 14T
4. Ball Bearing
5. Seal Cover

POWER TAKE-OFF FRONT COUNTERSHAFT REMOVAL

See “Transmission Systems”.

POWER TAKE-OFF SHIFTER REMOVAL

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



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

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ADJUSTMENTS

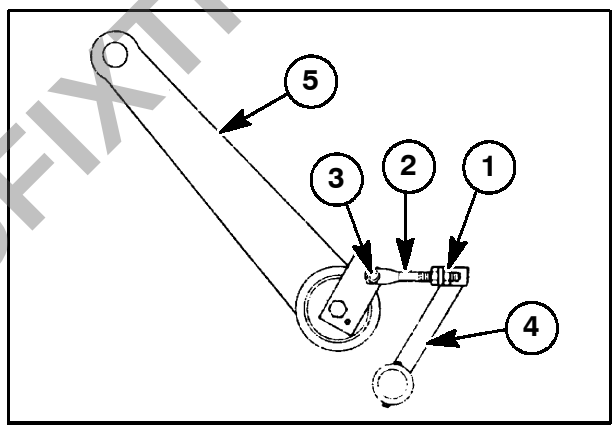
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HPL LINKAGE ADJUSTMENTS

The length of the position control rod is critical and careful adjustment must be observed for proper operation. If the control rod is adjusted too short, the control valve spool will remain in the raised position when the lift arms have reached their maximum height and the system relief valve will blow. If the control rod is too long, the control valve spool will return to neutral before the lift arms reach their full height. The position control rod should be adjusted any time the link is disconnected for service to the hydraulic system, or any time the relief valve operation is noticed while the lift arms are at the full raise position.

ADJUSTMENT PROCEDURE

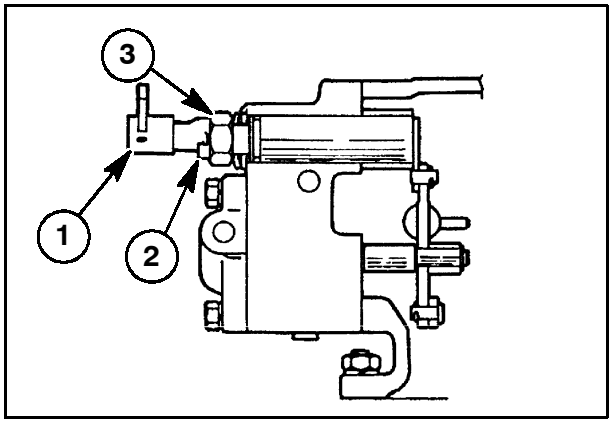
1. Loosen the locknut, 1, on the position control rod, 2, and remove the pin, 3, from the link.
2. Set the control lever, 4, to the highest position, but not in the notch of the upper stop.
3. Start the engine. The lift arms, 5, should raise and the relief valve should operate.
4. Move the control lever down until the relief valve ceases operation.
5. Adjust the length of the position control rod and clevis to align the pin holes. Then lengthen the rod one additional turn and install the pin. Tighten the locknut.
6. Check the operation. The relief valve should not operate when the lift arms are in the fully raised position.



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CONTROL LEVER ADJUSTMENT

The control lever, 1, should not move from vibration. If adjustment is required, remove the cotter pin, 2, and adjust the nut, 3, to obtain 2 - 3 kg (4 - 7 lbs) of pull at the lever knob.

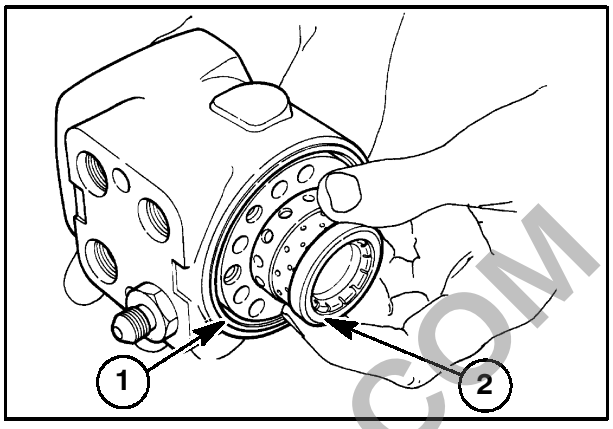


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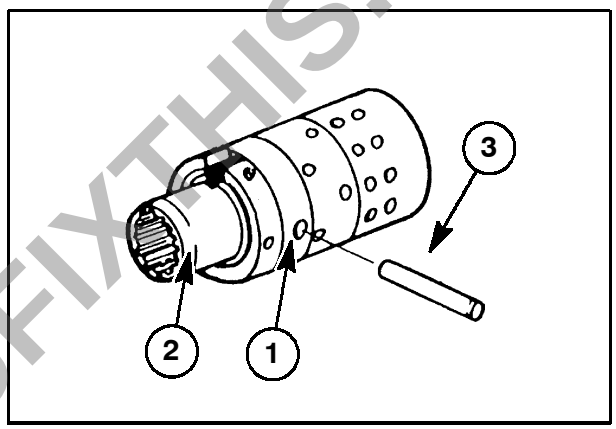
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9. Pull the sleeve and spool, 2, from the bottom of the motor housing, 1. The sleeve is a close fit in the steering motor housing and should be rotated slightly during removal. While rotating the sleeve and spool out of the housing keep the pin, which runs through the components, as horizontal as possible to the bench. This helps prevent the pin from sliding out of its hole and catching on the lands in the housing. Pull the sleeve out as straight as possible to prevent it from becoming jammed.



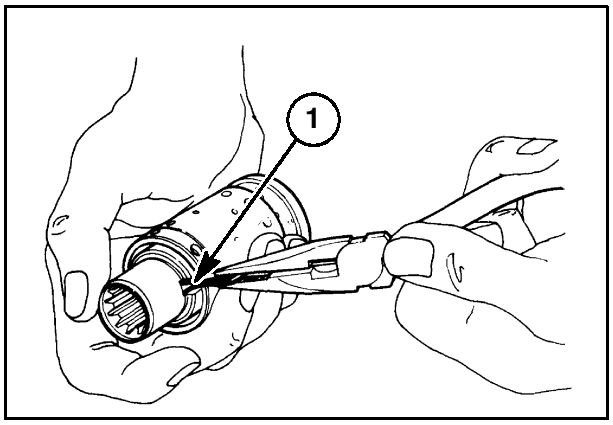
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10. Remove the pin, 3, from the sleeve, 1, and spool, 2, assembly.



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11. Push the spool upward out of the sleeve slightly and pull the centering springs, 1, outward. Then remove the spool from the bottom side of the sleeve.



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Installation

1. Apply LocTite 567 thread sealant to the switch threads and install the switch into the engine valve cover/intake manifold.

NOTE: *When installing the two wire harness leads onto the air restriction switch, be sure the orange wire is connected to the insulated terminal on the switch.*

2. Connect the two wire harness leads to the air filter restriction switch.
3. Connect the negative (–) battery cable to the negative (–) battery terminal.

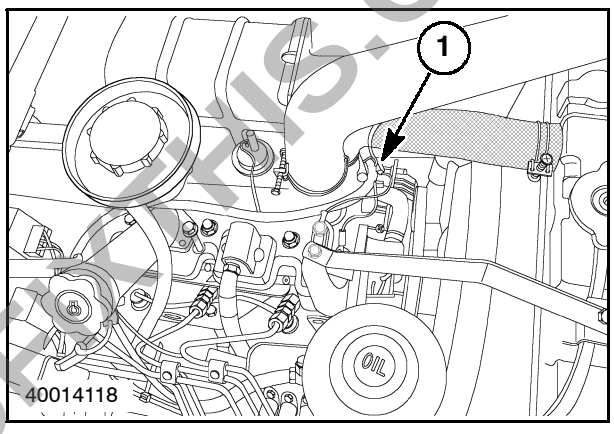
OIL PRESSURE SWITCH

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Description

The oil pressure switch, 1, is located underneath the radiator support bracket on the front of the engine cylinder head. The switch opens under normal oil pressure (above 6 PSI) and closes when the oil pressure is low (below 6 PSI) to complete the ground circuit of the oil pressure warning light.

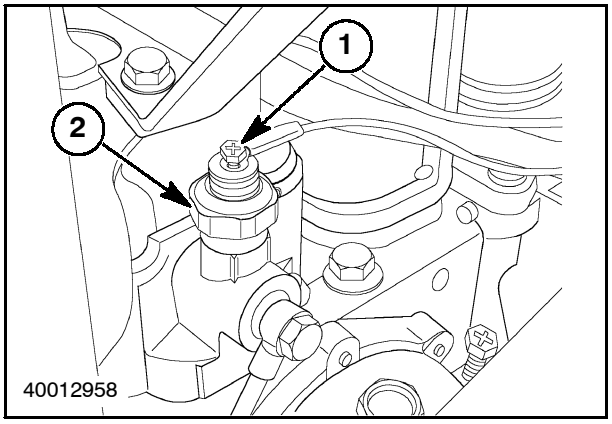
When the ground circuit is completed, the oil pressure warning light within the instrument panel illuminates. The engine oil pressure switch is closed before the tractor engine is started, and is opened after the engine is started. If the warning light fails to stop illuminating after the engine is started, the oil level inside the engine may be low or there may be a problem with the tractor engine.



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Removal

1. Disconnect the negative (–) battery cable from the negative (–) battery terminal.
2. Remove the retaining screw, 1, that secures the electrical ring terminal to the oil pressure switch, 2.
3. Unthread the oil pressure switch, 2, from the engine cylinder head.

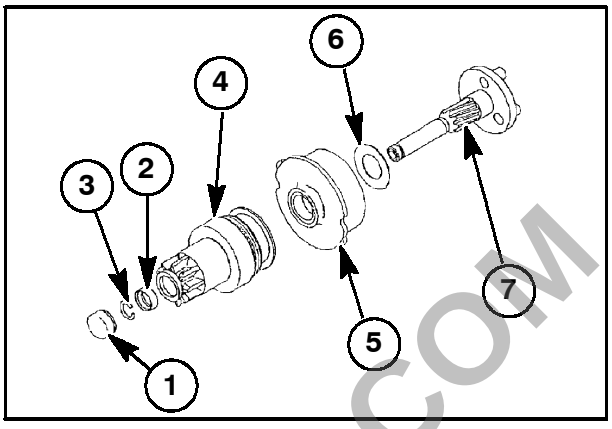


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10. To remove the overrunning clutch, 4, from the pinion shaft assembly, 5, 6, 7, remove the plastic cap, 1, from the end of the pinion gear.
11. Slide a piece of appropriately sized metal tubing over the pinion shaft, against the stop ring, 2. Tap the pipe with a hammer to remove the stop ring and expose the snap ring, 3.
12. Remove the tubing and then use snap ring pliers to remove the snap ring, 3.
13. Separate the overrunning clutch from the pinion shaft assembly.

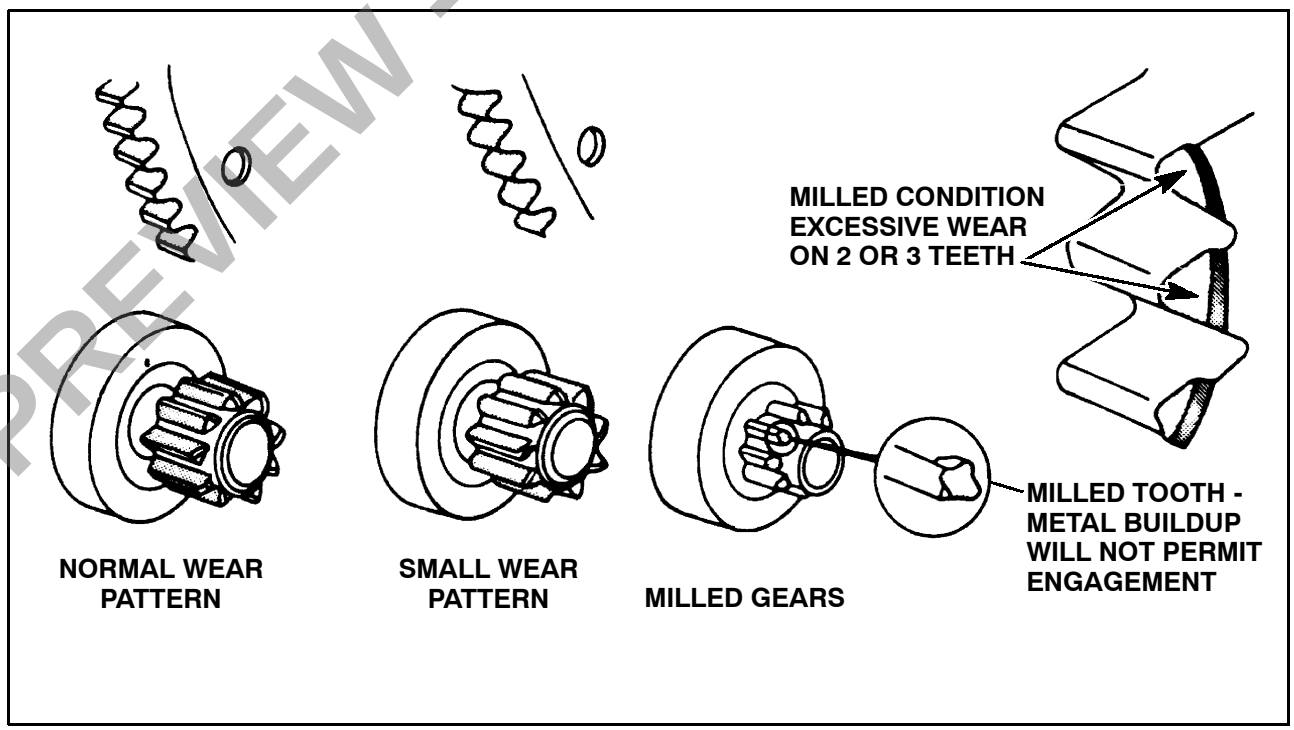


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1. Plastic cap
2. Stop ring
3. Snap ring
4. Overunning clutch
5. Internal gear assembly
6. Washer
7. Gear shaft

INSPECTION

1. Inspect the gear splines on the pinion clutch, the pinion, the armature, the orbital gear, and the planetary gears for damaged or missing splines. Replace any damaged parts.
2. Hold the pinion clutch housing and rotate the pinion. The pinion should rotate smoothly, although not necessarily easily, in one direction only. If the pinion can spin in both directions, the clutch is defective and needs replaced.



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TC30 Air Restriction Circuit

1. Current starts at the battery, and flows through the positive (+) battery cable to the engine starter motor.
2. From the starter motor, current flows through the fusible link wire to terminal 30 of the key switch.
3. When the key switch is in the “AC/Run” position, current crosses from terminal 30 to the “AC” terminal.
4. Current travels from the “AC” terminal of the key switch to the fuse panel.
5. Current passes through the 5-amp fuse within the fuse panel and reaches terminal 12 of the instrument panel.
6. Current enters terminal 12 and reaches the air restriction warning light within the instrument panel.
7. The air restriction switch controls the ground path to the warning light. When the air flow through the intake manifold drops below safe levels, the switch closes to complete the ground path, to terminal 11, causing the air restriction warning light to illuminate. This warns the operator that the air system is restricted and must be cleared to avoid engine damage.

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