TC30 REPAIR MANUAL COMPLETE CONTENTS

PIN #HK30001 TO PIN #HK34732 AND PIN #HK34733 AND ABOVE

SECTION 00 - GENERAL INFORMATION 2
SECTION 10 - ENGINE 3
SECTION 18 - CLUTCH 9
SECTION 21 - GEAR TRANSMISSION 11
SECTION 25 - FWD FRONT AXLE 13
SECTION 27 - DIFFERENTIAL, REAR AXLE 15
SECTION 29 - HYDROSTATIC TRANSMISSION 16
SECTION 31 - POWER TAKE-OFF SYSTEMS 21
SECTION 33 - BRAKES 23
SECTION 35 - HYDRAULIC SYSTEM 25
SECTION 41 - STEERING 27
SECTION 44 - WHEELS, TIRES AND 2WD AXLE 29
SECTION 55 - ELECTRICAL SYSTEM 31
SECTION 90 - PLATFORM 43

The following pages are the collation of the contents pages from each section and chapter of the TC30 Repair manual. Complete Repair part # 87361957

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.

Sections 00, 10, 18, 21, 25, 27, 29, 31, 33, 35, 41, 44 and 90 are used with all tractors PIN #HK30001 and above.

Section 55 Electrical System – Chapters 1, 2, 3, and 4 are used with PIN #HK30001 to PIN #HK34732.
Section 55 Electrical System – Chapters 5, 6, 7 and 8 are used with PIN #HK34733 and above.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

SECTION 00 - GENERAL INFORMATION

BOOK 1 - 87059163

Chapter 1 - General Information

CONTENTS

Section	Description	Page
	Introduction	2
	Precautionary Statements	3
	Safety	4
	Safety Decals	7
	Instruction Decals	9
	International Symbols	13
	Specifications	14
	General Dimensions	20
	Minimum Hardware Tightening Torques	23
	Metric Bolt Torque Specifications	24
	Lubricants	25
	Adjustments	26

PREVIEW - YOUFIXTHIS.COM

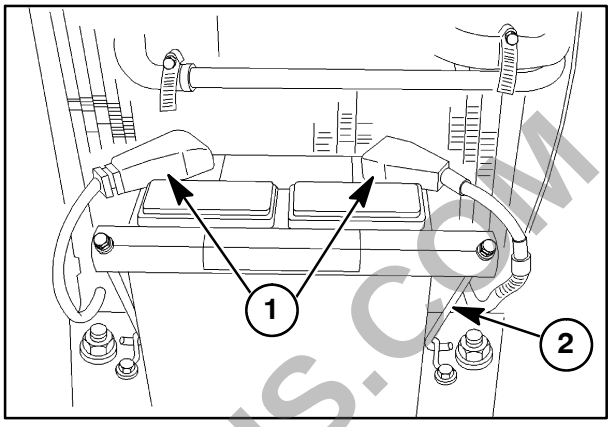
Download full manual at youfixthis.com

OVERHAUL – ENGINE

ENGINE

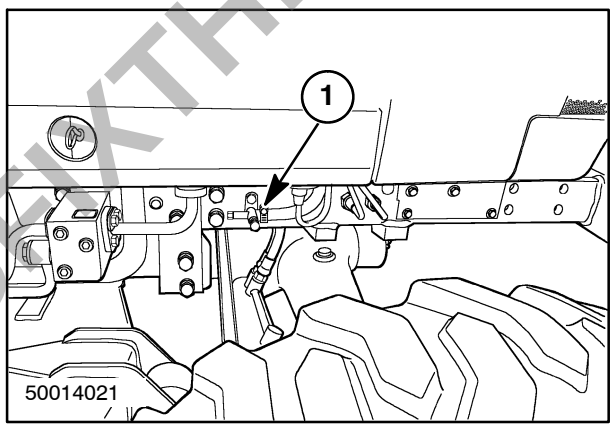
Preparation

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



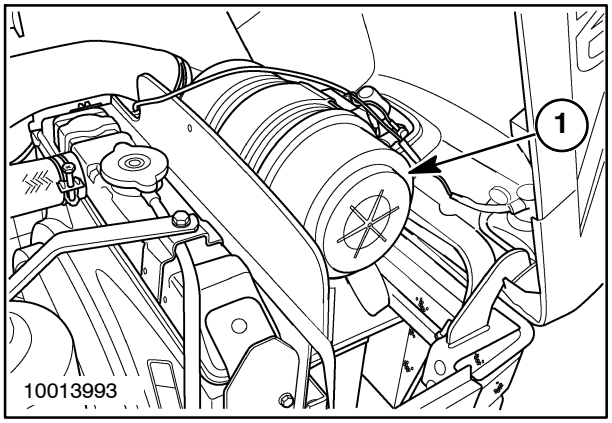
6

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



7

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



8

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

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



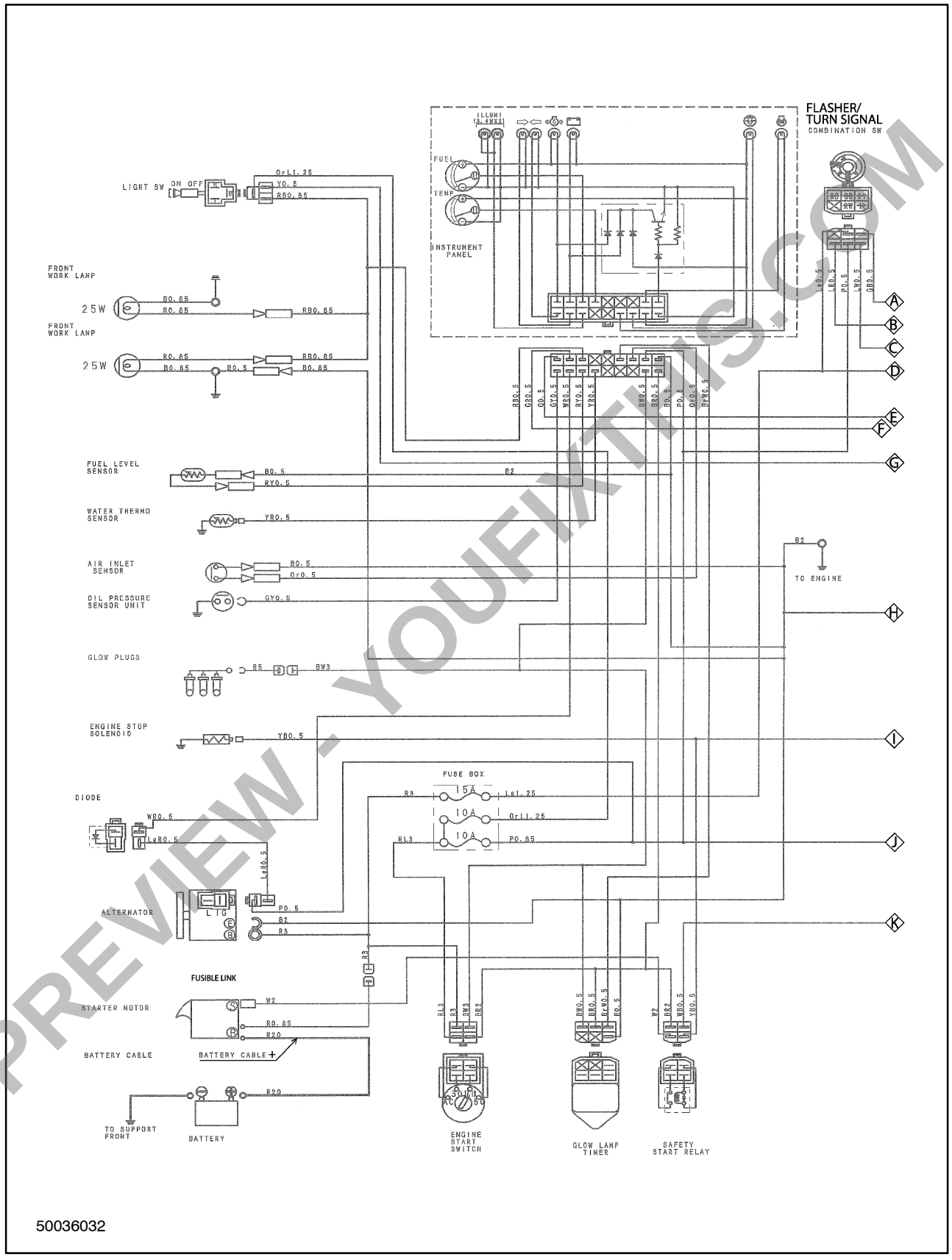
GRADE A NO MARK
GRADE B LETTER B
GRADE C LETTER C

GRADE IDENTIFICATION

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

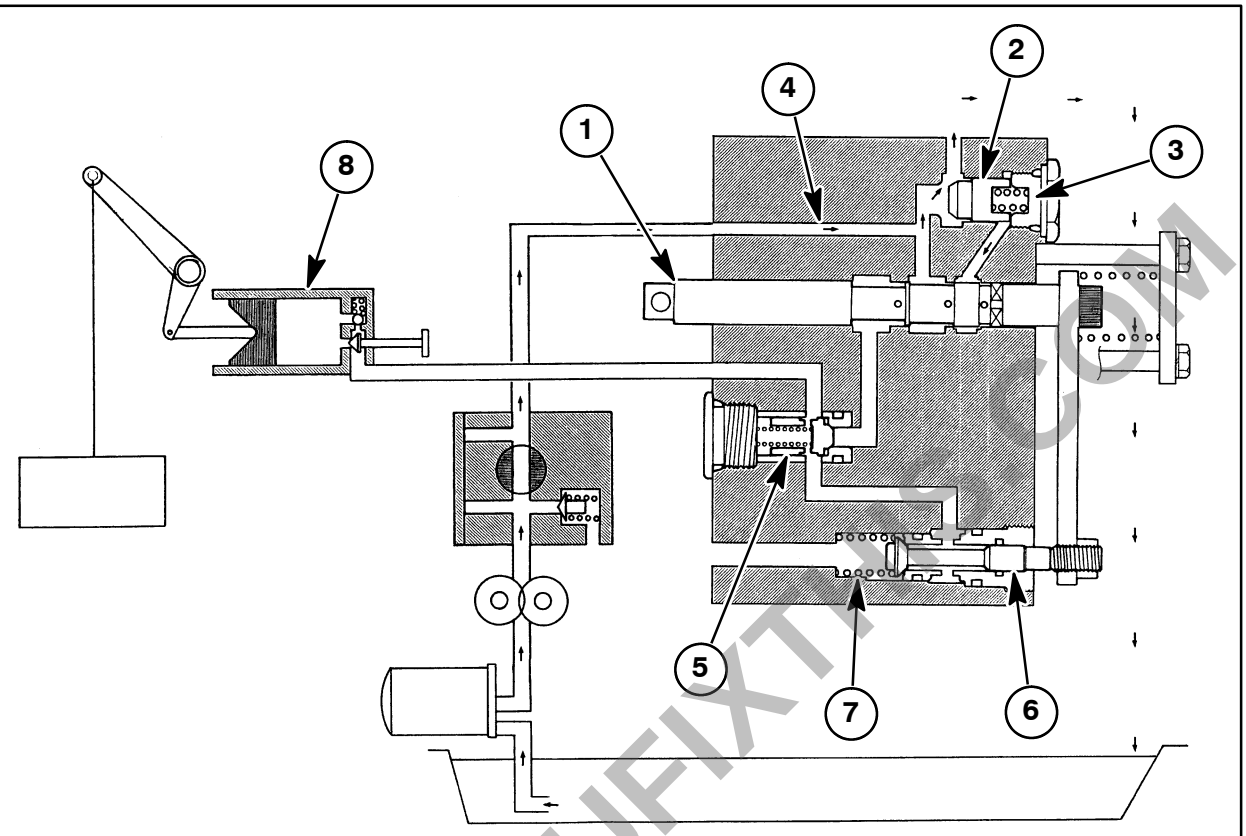
COMPLETE ELECTRICAL WIRING DIAGRAM



50036032

1

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com



20043809 **Neutral Position - Fluid Flow**

12

Op. 35 210

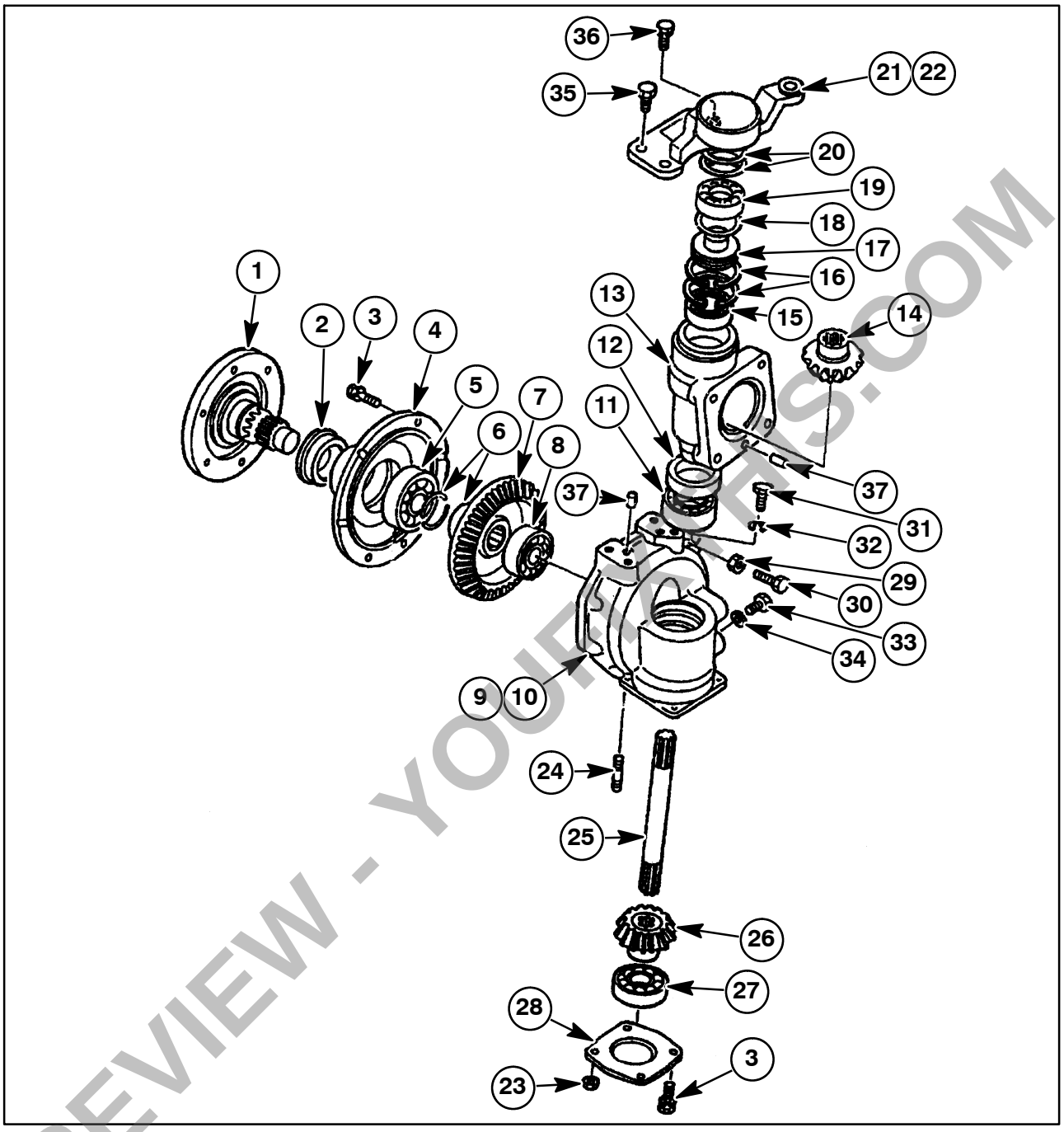
NEUTRAL POSITION - FLUID FLOW

In the neutral position, the control valve spool, 1, is centered in the valve body. As fluid from the hydraulic pump is directed to the valve body, the fluid pressure moves the unload valve, 2, and compresses the spring, 3. This opens the passages, 4, to the sump. Fluid then flows from the pump to these passages and returns to the sump.

Fluid trapped in the lift cylinder, 8, under weight caused by the implement on the lift arms, exerts pressure on the cylinder side of the check valve, 5. This holds it in a closed position. The lowering valve spool, 6, positioned by the spring, 7, retains the fluid in the lift cylinder and maintains the implement in a fixed position.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



7

1. Wheel Shaft
2. Oil Seal
3. Bolt, M8 x 25
4. Cover
5. Ball Bearing
6. Clip
7. Final Gear
8. Ball Bearing
9. Drop Box Casing Assembly, LH (includes items 37 and 24)
10. Drop Box Casing Assembly, RH (includes items 37 and 24)
11. Tapered Roller Bearing
12. Oil Seal
13. Idler Casing Assembly (includes item 37)
14. Final Pinion Gear
15. Ball Bearing
16. Snap Ring
17. King Pin
18. O ring
19. Ball Bearing
20. Shims, 0.2, 0.5
21. Steering Arm LH
22. Steering Arm RH
23. Nut
24. Bolt
25. Driveshaft
26. Gear
27. Ball Bearing
28. Cover
29. Nut
30. Bolt, M10 x 25
31. Plug
32. Seal Washer
33. Drain Plug
34. Seal Washer
35. Bolt
36. Bolt
37. Dowel Pin

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

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

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

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	22.5:1
Firing Order	1-2-3
Low Idle Speed	950 – 1050 RPM
Maximum Speed:	
High Idle	2825 (2800 – 2850) 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.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SECTION 10 - ENGINE

BOOK 1 - 87059163

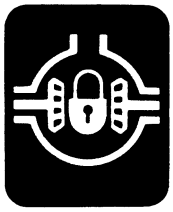
Chapter 1 - Engine (Continued)

CONTENTS

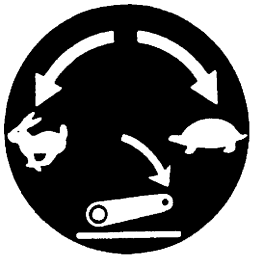
Section	Description	Page
	Connecting Rods, Bearings, Pistons, and Rings	31
	Removal	31
	Flywheel	31
	Removal	31
	Backplate and Oil Seal	32
	Removal	32
	Crankshaft and Main Bearings	32
	Removal	32
10 101	Cylinder Head	33
	Disassembly	33
	Inspection and Repair	33
	Valve Seats	34
	Inspection and Repair	34
	Valves	35
	Inspection and Repair	35
	Valve Guides	36
	Inspection and Repair	36
	Valve Springs	37
	Inspection and Replacement	37
	Rocker Arms	37
	Inspection and Replacement	37
	Push Rods	38
	Inspection and Replacement	38
	Cylinder Head	39
	Assembly	39
	Cylinder Block	39
	Inspection	39
10 105	Pistons	40
	Disassembly and Inspection	40
	Piston Rings	42
	Disassembly and Inspection	42
	Connecting Rods	42
	Disassembly and Inspection	42
	Connecting Rod Bearing Oil Clearance Check	44
	Pistons, Rings, and Connecting Rod	45
	Assembly	45
10 103	Main Bearing and Thrust Washer	46
	Removal and Inspection	46
	Crankshaft	46
	Inspection	46

PREVIEW - YOUFIXTHIS.COM

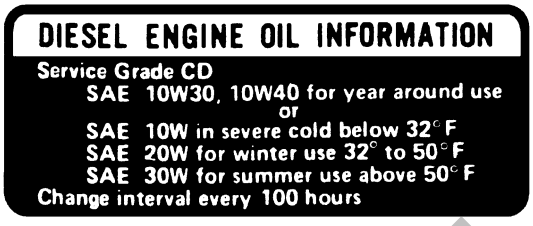
Download full manual at youfixthis.com



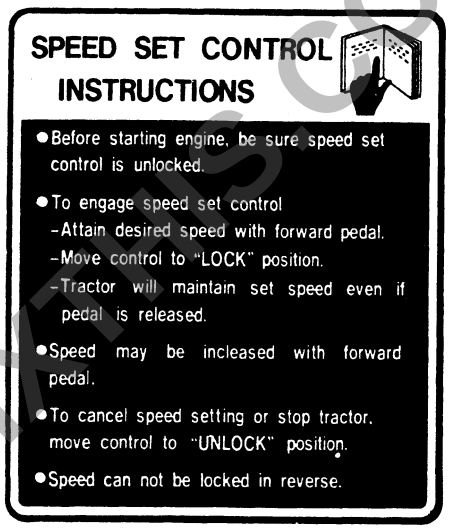
Differential Lock
PART NO: SBA390198300
LOCATION: Above Pedal



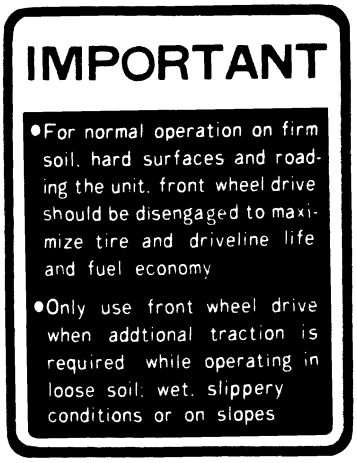
Flow Control Valve
PART NO: SBA390372470
LOCATION: Top of Flow Control Knob



Diesel Engine Oil Information
PART NO: SBA390198370
LOCATION: On Engine Filler Neck



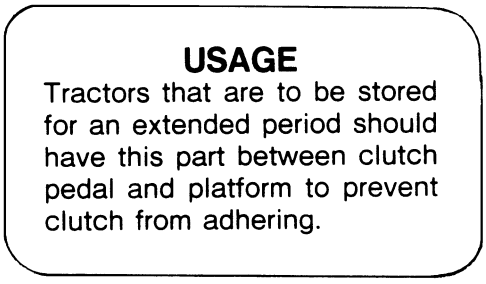
Speed Set Control Instructions (optional)
PART NO: SBA390198330
LOCATION: Top of L. H. Fender



IMPORTANT - For Normal Operation
PART NO: SBA390198310
LOCATION: Center Panel of Steering Column Console



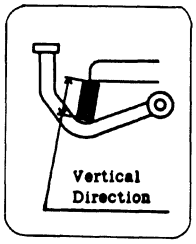
Hand Throttle
PART NO: SBA390430290
LOCATION: Upper RH Dashboard



USAGE - Tractors That Are to Be Stored
PART NO: SBA390194690
LOCATION: On Clutch Pedal Spacer Block



Parking Brake
PART NO: SBA390198360
LOCATION: Below Seat Pan Inboard of Lever on RH Side

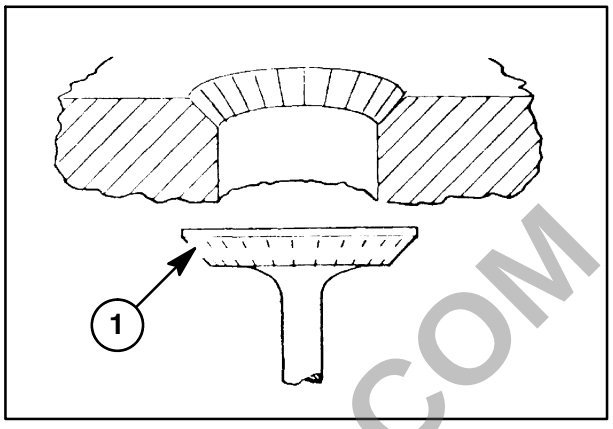


Installing Pedal Spacer
PART NO: SBA390194700
LOCATION: On Clutch Pedal Spacer Block

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

5. If Prussian Blue is not available, mark the valve face or seat, 1, with a soft lead pencil. Rotate the valve slightly in the seat. The penciled lines will be broken at the seat contact area.



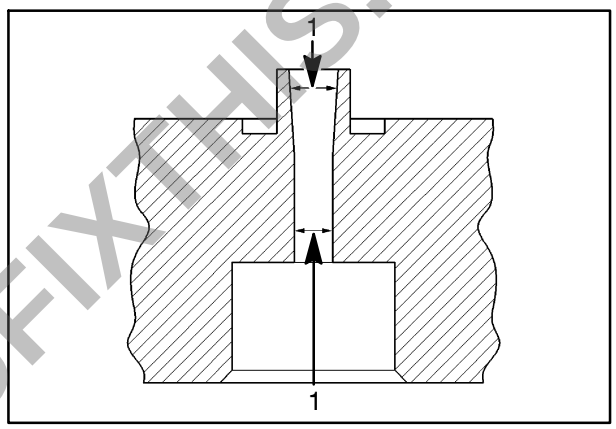
42

VALVE GUIDES

Inspection and Repair

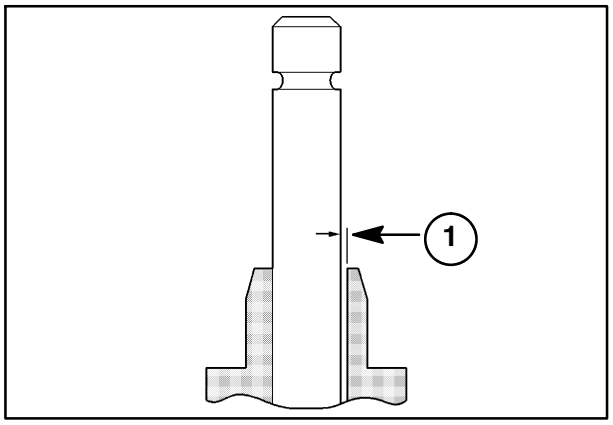
Thoroughly clean the valve guides before attempting to check internal wear.

1. Using a telescoping gauge and micrometer, measure the valve guide bore at the top and bottom wear points, 1.



43

2. Determine the valve stem to valve guide clearance, 1, by subtracting the valve stem diameter from the valve guide diameter. Replace valves if the clearance, 1, is more than 0.2 mm (0.008″), intake valves, or 0.25 mm (0.010″), exhaust valves.
3. Replace the cylinder head if excessive clearance is determined and the valves have met all specified measurement requirements. See “Specifications”.



44

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PROBLEM	POSSIBLE CAUSE	CORRECTION
Erratic engine operation (surge, misfiring, poor governor regulation)	1. Fuel leakage	1. Check the injector lines and connectors for leakage
	2. Fuel starvation	2. Check and flush clean restricted fuel lines or filter
	3. Incorrect pump timing	3. Check the pump timing
	4. Air in system	4. Check for air leaks on suction side of system. Bleed system
	5. Contaminated fuel	5. Check for water in the fuel
	6. Faulty or sticking injector nozzles	6. See “Fuel Injector Troubleshooting”
	7. Incorrect engine timing	7. Check for faulty engine valves
Engine does not develop full power or speed	1. Incorrect throttle adjustment	1. Check for insufficient throttle movement
	2. Incorrect maximum no-load speed	2. Check maximum no-load speed adjustment
	3. Fuel starvation	3. Check and flush clean restricted fuel lines and filter
	4. Air in system	4. Check for air leaks in suction side of the system. Bleed system
	5. Incorrect timing	5. Check pump timing
	6. Low compression	6. Check engine compression. See “Engine Compression Test”
	7. Incorrect engine timing	7. Check for improper valve adjustment or faulty valves
Engine emits black smoke	1. Restricted air intake	1. Check for a restricted air intake
	2. Engine overheating	2. Check cooling system
	3. Incorrect timing	3. Check pump timing
	4. Faulty injectors	4. See “Injector Troubleshooting”
	5. Low compression	5. Check engine compression. See “Engine Compression Test”
	6. Incorrect engine timing	6. Check engine timing
Pump fails to deliver fuel to all injectors	1. Blocked fuel lines to pump	1. Remove fuel lines and flush or replace
	2. Air in system	2. Bleed system
	3. Control rod seized in “OFF” position	3. Repair or replace control cable

PREVIEW – YOUFIXTHIS.COM

Download full manual at youfixthis.com

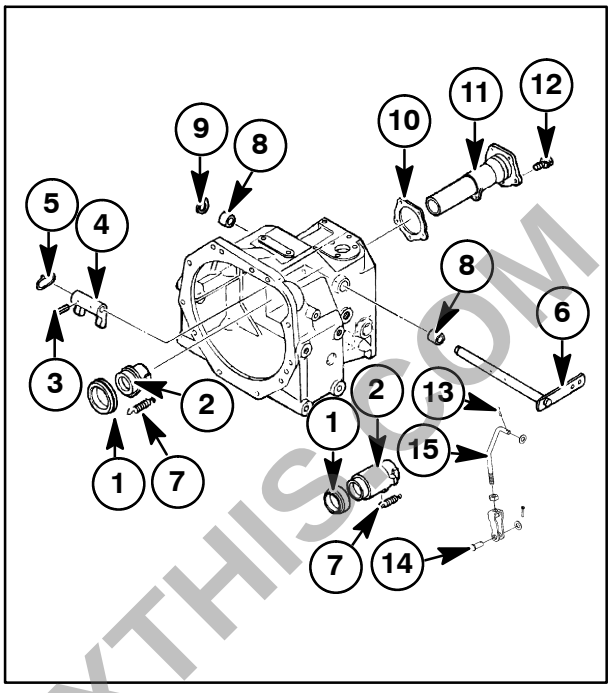
CLUTCH RELEASE BEARING

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.



23

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,” in Section 10.
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

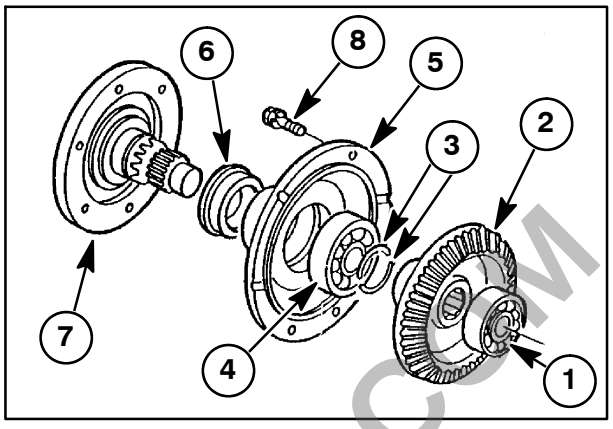
Rotate the bearing by hand and observe the following conditions:

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.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

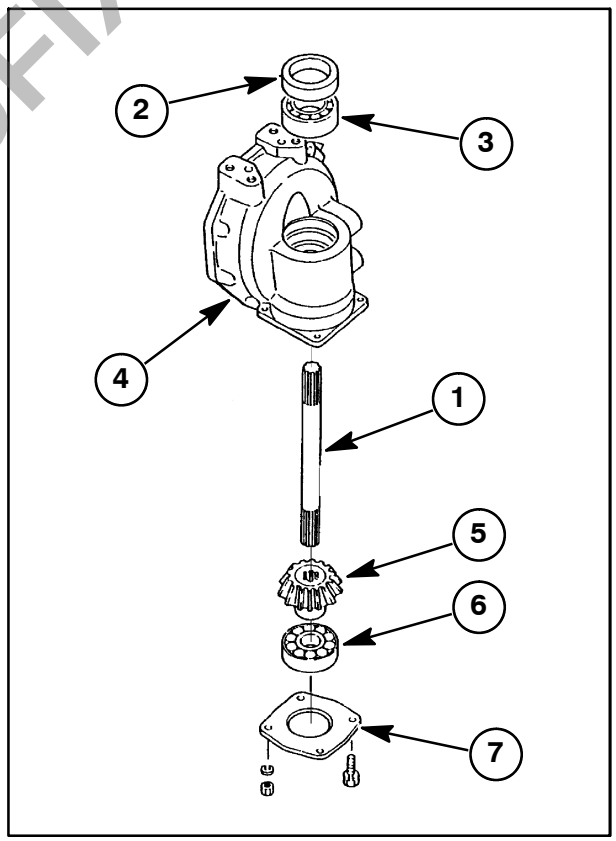
2. Position the wheel shaft outer bearing, 4, and oil seal, 6, in the cover, 5.
3. Install the hub and shaft assembly, 7, in the cover.
4. Position the two piece locking ring, 3, in the shaft groove.
5. Install the bevel gear, 2, on the shaft, 7. Be sure the bevel gear counterbore hub fits down fully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



22

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.



23

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

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

HYDROSTATIC TRANSMISSION

Inspection

Inspect the hydrostatic components for the following conditions:

1. Excessive wear or scored pistons and cylinder bores in the pump and motor block assemblies.
2. Excessive wear or scored cylinder block and valve port plate mating surfaces.
3. Excessive wear or scored charge pump rotor faces and lobes.
4. Excessive wear or scored charge pump body and wear plate surfaces.
5. Check the ball bearings for excessive wear and looseness or uneven rotation when rotated by hand.
6. Inspect the variable swash plate bushings for excessive wear or scoring. Replace the cover and bushings as an assembly if required.
7. Inspect the valve plates for wear, scratches, and grooves. Replace the valve plates if required.

PREVIEW - YOUFIXTHIS.COM

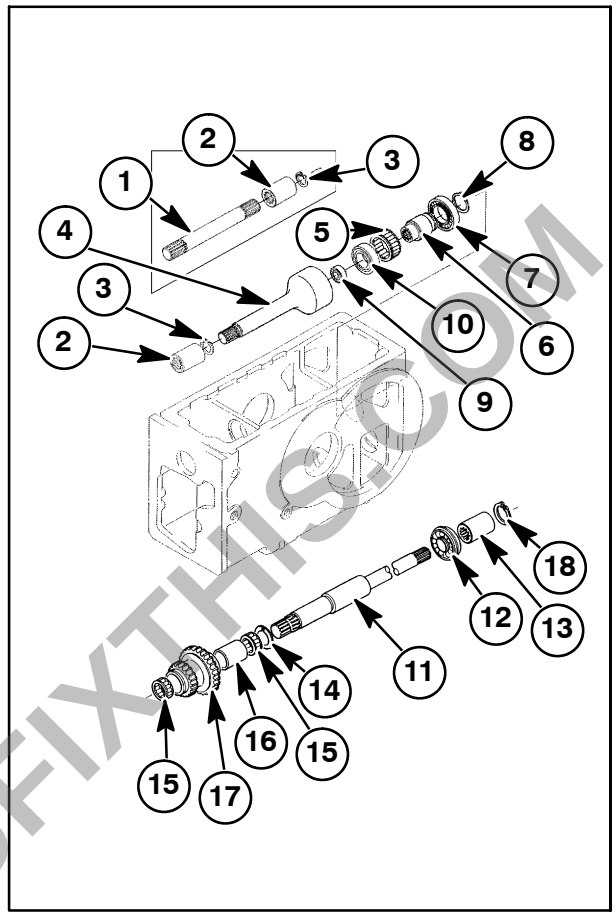
Download full manual at youfixthis.com

CENTER COUNTERSHAFT

NOTE: *If equipped with the one-way clutch, the PTO center countershaft consists of the one-way bearing, outer race, and inner race.*

Assembly

1. Install ball bearings, 9 and 10, on the center shaft.
2. Install one-way bearing, 5.
3. Install inner race, 6, and ball bearing, 7.
4. Install snap ring, 8.

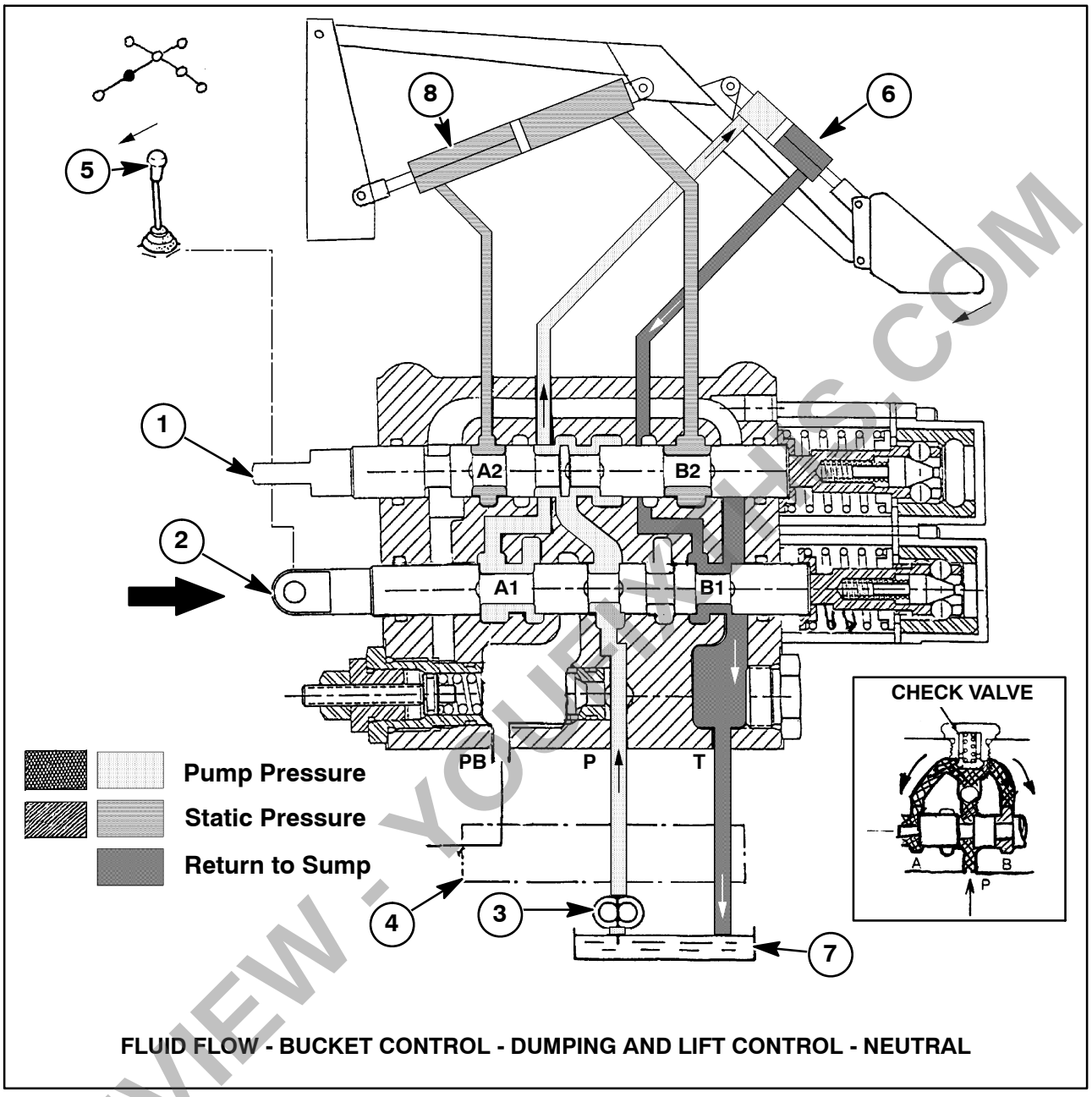


13

1. PTO Center Countershaft*
2. Coupling
3. Snap Ring
4. PTO Center Countershaft (Outer Race)
5. One-Way Bearing
6. Coupling (Inner Race)
7. Ball Bearing
8. Snap Ring
9. Ball Bearing
10. Ball Bearing
11. HST Countershaft
12. Bearing
13. Coupling
14. Thrust Washer
15. Needle Bearing
16. Collar
17. 4WD Counter Gear
18. Snap Ring

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



FLUID FLOW - BUCKET CONTROL - DUMPING AND LIFT CONTROL - NEUTRAL

59

FLUID FLOW - BUCKET CONTROL - DUMPING AND LIFT CONTROL - NEUTRAL

When the control lever, 5, is moved to the dumping position, the bucket control valve spool, 2, is moved inward. Fluid flow from the hydraulic pump, 3, is directed to the piston side of the bucket cylinder, 6. The fluid contained in the rod side of the bucket cylinder flows out of the cylinder through passage “B1” exiting the valve at port “T” and flows to the reservoir, 7.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

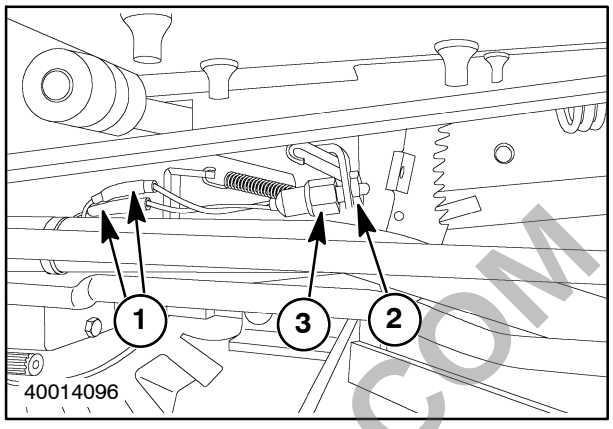
PROBLEM	POSSIBLE CAUSE	CORRECTION
Cylinder Will Not Follow Steering Wheel Rotation Or Will Respond Sluggishly.	1. ORBITROL (1) ORBITROL has been improperly rebuilt, resulting in valve mistiming. 2. Steering cylinder (1) Air is trapped in the cylinder. (2) Internal oil leakage because of damaged piston seal.	 Repair. Bleed air out. Replace the seal.
Steering Wheel Will "Kick Back."	1. ORBITROL (1) ORBITROL has been improperly rebuilt, resulting in valve mistiming. 2. Piping (1) Pipes are improperly connected to the four ports of ORBITROL.	 Repair. Correct the pipe connections.
Oil Leakage 1. From the splined connection of column to spool. 2. From mated face joints (valve body, spacer plate, ORBITROL, end cap.)	1. Leaky oil seal (1) Dirty hydraulic oil. 2. Damaged O Ring (1) A pinched or damaged O Ring in a mated face joint can be the cause, which resulted from lack of attention in reassembling the ORBITROL.	Replace oil seal. Change the oil. Replace.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Removal

1. Disconnect the negative (–) battery cable from the negative (–) battery terminal.
2. Disconnect the two switch leads, 1, from the tractor wire harness.
3. Remove the adjusting nut, 2, to remove the parking brake switch, 3, from the tractor.



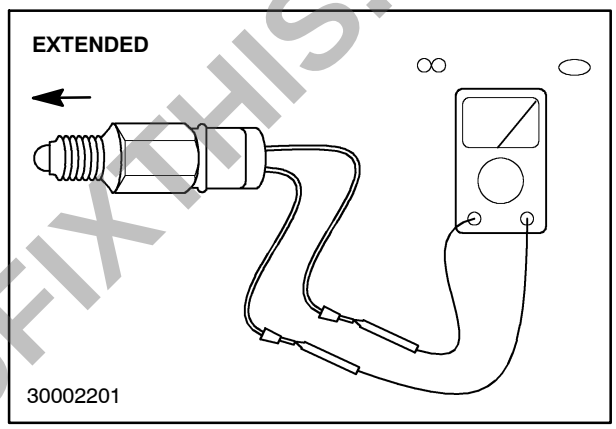
51

Testing

Use an ohmmeter to test both positions of the parking brake safety switch for electrical continuity.

EXTENDED POSITION

1. With the switch plunger in the “extended” position, touch one of the test probes to the one switch lead. Touch the other test probe to the other switch lead.
2. Observe the ohmmeter. The ohmmeter should show little or no resistance indicating that continuity exists between the two switch terminals. If continuity does not exist between the two switch terminals when the switch is in the “extended” position, the switch is defective and requires replacement.



52

RETRACTED POSITION (Not Shown)

1. With the switch plunger pushed in to the “retracted” position, there should be no continuity between the two switch terminals. If continuity exists between the two switch terminals when the switch plunger is in the retracted position, the switch is defective and requires replacement.

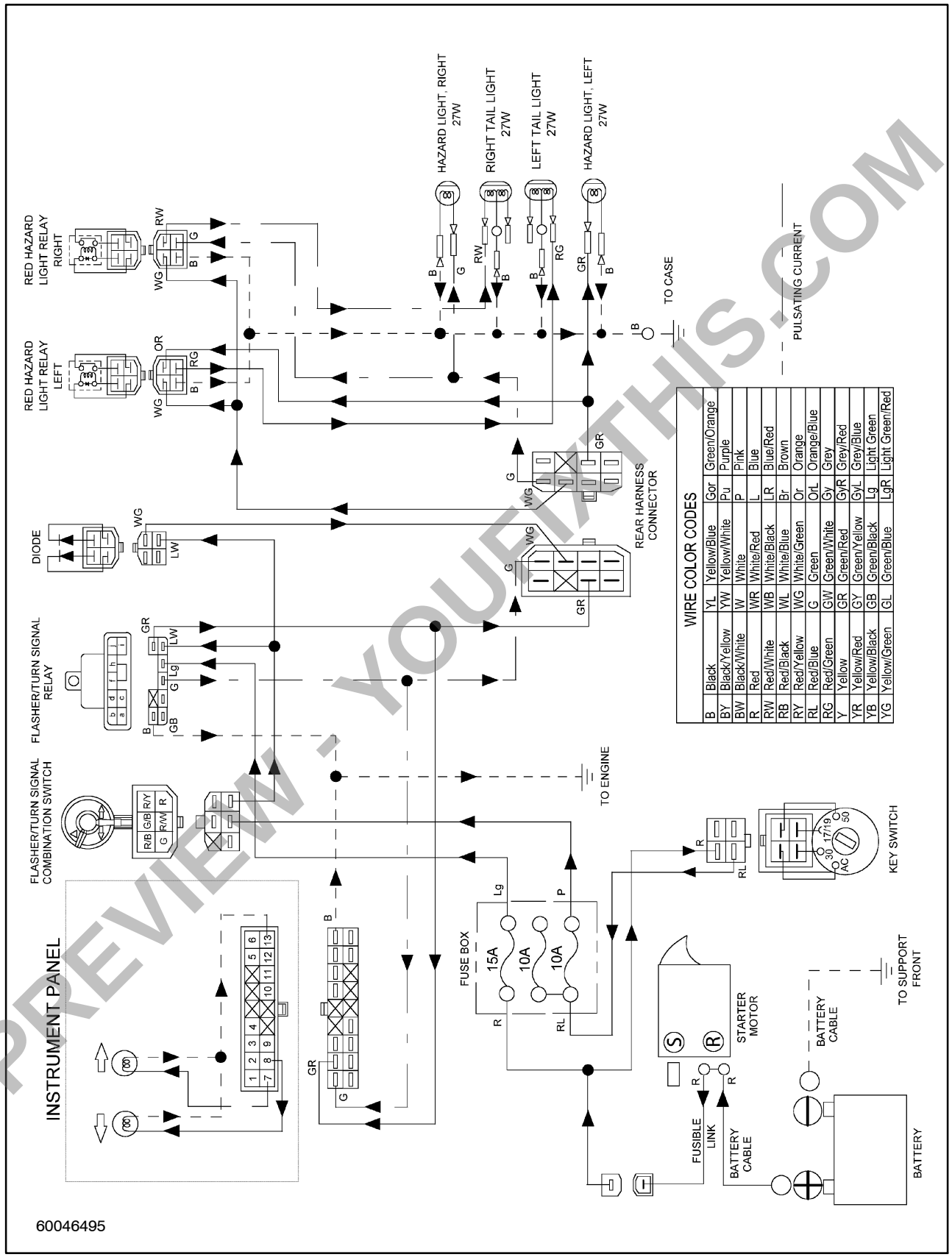
Installation

1. Install the parking brake safety switch by using the adjusting nut.
2. Connect the two switch leads to the tractor wire harness.
3. Connect the negative (–) battery cable to the negative (–) battery terminal.
4. Make sure the switch is adjusted so that the switch plunger is depressed 2 - 3 mm when the parking brake is NOT engaged.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

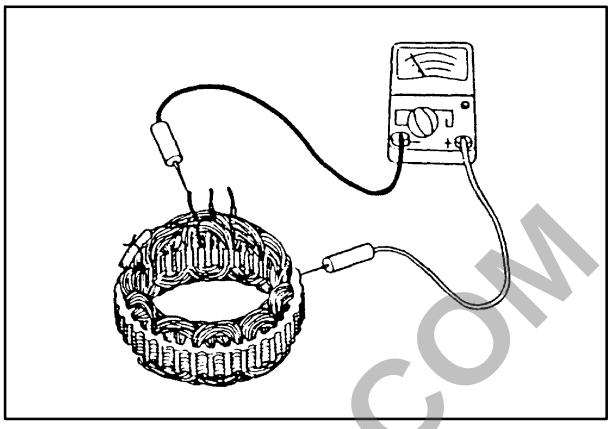
RIGHT TURN SIGNAL CIRCUIT



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

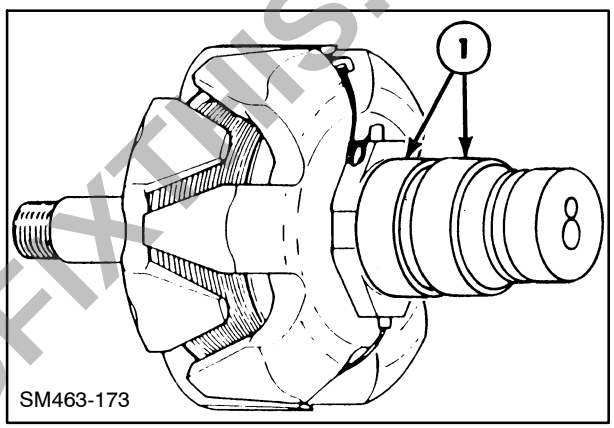
4. Using an ohmmeter, touch one ohmmeter test probe to the stator coil and the other test probe to the stator core.
5. Observe the ohmmeter. Resistance should be high, indicating no continuity between the coil and core. If there is continuity, the stator is defective and needs replaced.



18

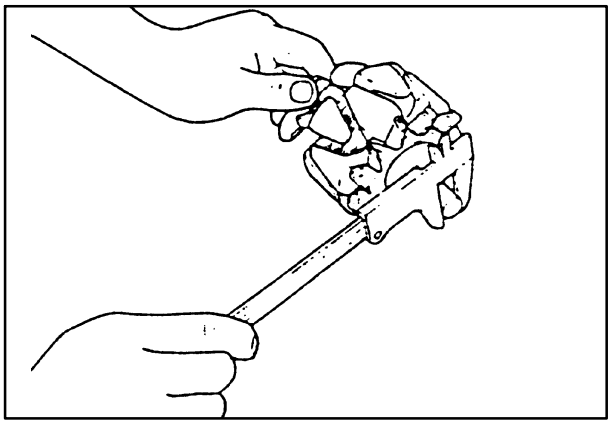
Rotor

1. Inspect the rotor brush contacts, 1, for pitting, roughness, and dirt. If necessary, use # 600 grit fine sandpaper to clean dirt off of the contacts. If the contacts are pitted or damaged excessively, replace the rotor.



19

2. Use a suitable measuring device to determine the outer diameter of each brush contact. The minimum outer diameter of the brush contacts is 22.1 mm (0.871 in.).



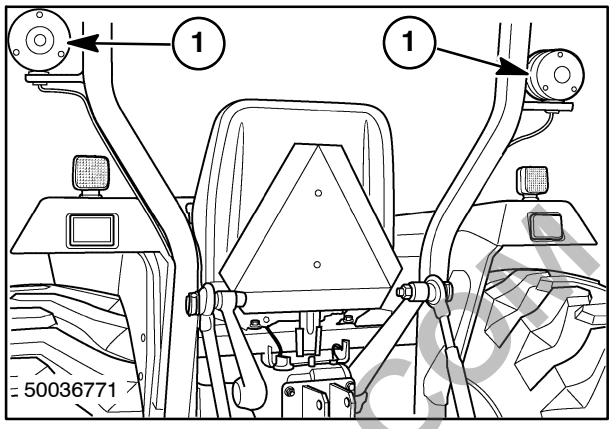
20

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

HAZARD/TURN SIGNAL LIGHTS

The hazard/ turn signal lights, 1, are located on the left and right rear fenders. The two hazard/ turn signal lights provide warning to approaching vehicles of a slow moving or turning vehicle. The hazard/ turn signal lights should be used in low visibility situations or at slow speeds on public roads.

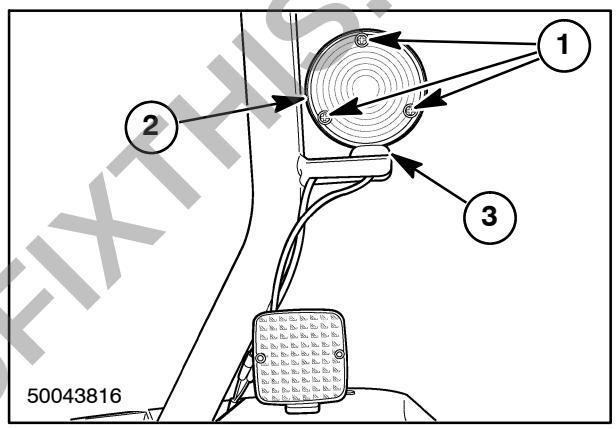


38

Removal

NOTE: *The same procedure is used for both sides.*

1. Remove the three screws, 1, to remove the lens, 2, from the light body, 3.
2. Push down on the bulb and rotate counterclockwise to remove the bulb from the light assembly.



39

Inspection

1. Remove the bulb from the socket. Inspect the bulb and filament for damage or corrosion. Replace as necessary.
2. If the bulb is OK, check the bulb socket for corrosion. Clean or replace as necessary.

Installation

1. Install the flasher bulb into the socket of the light assembly.
2. Install the lens onto the light body by using the three screws.
3. Connect the negative (–) battery cable to the negative (–) battery terminal.

NOTE: *Replace with a 1076 bulb.*

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TROUBLESHOOTING – LIGHTING CIRCUIT		
PROBLEM	**POSSIBLE CAUSE**	**CORRECTION**
Inoperative Headlights, Taillights, or Rear Work Light (Optional)	Blown 10-amp fuse	Check fuse and replace as necessary
	Malfunctioning Light Switch	Replace Switch as necessary
	Blown Bulbs	Replace bulbs as necessary
	Improper ground circuit	Check lighting connections and circuit grounds and repair as necessary

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

The basic operating principles are explained as follows, see Figure 3:

1. When the key switch, 6, is closed, current from the battery, 7, flows through the indicator lamp, 5, and resistor R6, which are in parallel to the field coil, 2. From here it continues to flow on through the field coil, 2, to the ground, completing the circuit back to the battery, 7.
2. When the alternator begins to rotate, AC voltages are generated by the stator coil, 3. The diodes in the rectifier assembly change the stator AC voltages to DC voltage which appears between ground and the “B” terminal.

   The stator also supplies DC field current through the diode trio, 4, the field coil, 2, the power transistor, Tr2, and then through the diodes in the rectifier assembly back to the stator.
3. When the generated voltage is low, no current flows in the zener diode, DZ, since the voltage at point “A” is lower than the zener voltage.
4. As the speed and voltage increase, the voltage at point “A” also increases until it reaches the limiting value set at the factory. As the zener diode, DZ, breaks down, current flows through R1, DZ, and the base-emitter circuit of Tr1 to ground. This renders Tr1 conductive, so that much of the current flows through the collector-emitter circuit of Tr1. This reduces the base current of Tr2 thereby reducing the field current. This means that Tr1 turns on and Tr2 turns off.
5. When the generated voltage decreases, the zener diode, DZ, again turns off and Tr1 also turns off. This cycle repeats many times per second, and the alternator output voltage is, therefore, regulated within a narrow limit.

   In other words, the action is similar to the conventional vibrating-contact regulator, in that current to the field coil, 2, is varied to limit the output voltage, but in place of the voltage coil and spring system, there is a voltage divider network, R1 and R2, and a zener diode, DZ.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 25 of 828 pages

The full manual includes:

- All 828 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

New Holland TC30 Repair Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual