TORQUE SPECIFICATIONS - DECIMAL HARDWARE

Use the torques in this chart when special torques are not given. These torques apply to fasteners with both UNC and UNF threads as received from suppliers dry, or when lubricated with engine oil. Not applicable if special graphities, Molydisulfide greases, or other extreme pressure lubricants are used.

Grade 5 Bolts, Nuts, and Studs



Size	Pound-Inches	Newton metres
1/4 inch	108 to 132	12 to 15
5/16 inch	204 to 252	23 to 28
3/8 inch	420 to 504	48 to 57
Size	**Pound-Feet**	**Newton metres**
7/16 inch	54 to 64	73 to 87
1/2 inch	80 to 96	109 to 130
9/16 inch	110 to 132	149 to 179
5/8 inch	150 to 180	203 to 244
3/4 inch	270 to 324	366 to 439
7/8 inch	400 to 480	542 to 651
1.0 inch	580 to 696	787 to 944
1-1/8 inch	800 to 880	1085 to 1193
1-1/4 inch	1120 to 1240	1519 to 1681
1-3/8 inch	1460 to 1680	1980 to 2278
1-1/2 inch	1940 to 2200	2631 to 2983

Grade 8 Bolts, Nuts, and Studs



Size	Pound-Inches	Newton metres
1/4 inch	144 to 180	16 to 20
5/16 inch	288 to 348	33 to 39
3/8 inch	540 to 648	61 to 73
Size	**Pound-Feet**	**Newton metres**
7/16 inch	70 to 84	95 to 114
1/2 inch	110 to 132	149 to 179
9/16 inch	160 to 192	217 to 260
5/8 inch	220 to 264	298 to 358
3/4 inch	380 to 456	515 to 618
7/8 inch	600 to 720	814 to 976
1.0 inch	900 to 1080	1220 to 1465
1-1/8 inch	1280 to 1440	1736 to 1953
1-1/4 inch	1820 to 2000	2468 to 2712
1-3/8 inch	2380 to 2720	3227 to 3688
1-1/2 inch	3160 to 3560	4285 to 4827

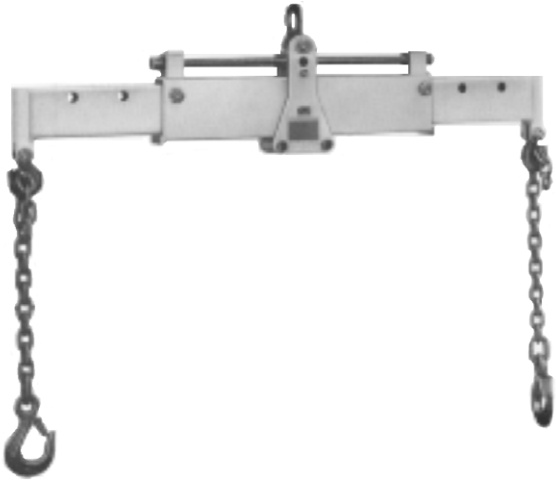
NOTE: *Use thick nuts with Grade 8 bolts.*

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RECOMMENDED TOOLS

IMPORTANT: *Lift equipment, boom, equalizer, chains and slings used to remove and install the engine must be rated to handle the engine weight - 1700 lbs. (770 kg), or personal injury or equipment damage may occur.*



RD01E144

OEM-4130 or Equivalent

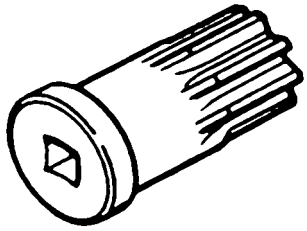
An equalizer with an adjustable tilt feature can speed engine removal and installation on the cotton picker.



RD01E137

Lift Truck Boom

A boom arm mounted to a lift truck or a mobile lifting crane is recommended for engine removal and installation between the basket and the chassis.



RH01F038

CAS-1690

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ELECTRICAL TEST EQUIPMENT

Today's electrical and electronic components are operated using various input and output voltages. Just because the machine has 12 volt batteries does not mean the whole system is running on 12 volts. Most machines will have 12 volt circuits, 8 volt circuits and 5 volt circuits. With different voltages being used, a 12 volt test light will be useless. And, because most electronic components operate at very low amperages, a test light can draw enough amperage to burn out a circuit. The recommended way to test a circuit is with a voltmeter and an ohmmeter.

Volt Meter

A Volt Meter should be used to do all electrical testing and troubleshooting. Remember, the circuit must be fully connected and operating to get proper test results. You should be looking for voltage drops to determine where the problems are.

Ohm Meter

An Ohm Meter should only be used when checking components or circuits that have a specified resistance and tested with the power off. An example would be a removed solenoid that may have a specified resistance of 7-9 ohms.

The Multimeter shown below can be used to perform both voltage and resistance testing. This tool can be obtained through the Special Service Tools catalog.



A9206

Digital Multimeter CAS-1559.

Electrical System Diagnostic Tester

To test a circuit with a voltmeter, the circuit must be in operation. The Electrical System Diagnostic Tester (also referred to as a Break-Out Box) lets the technician monitor and test electrical circuits during normal operation without damaging the wiring harness.

NOTE: *When using the Electrical System Diagnostic Tester, subtract 2-3 Ohms when taking and Ohm reading due to resistance in the tester wiring.*



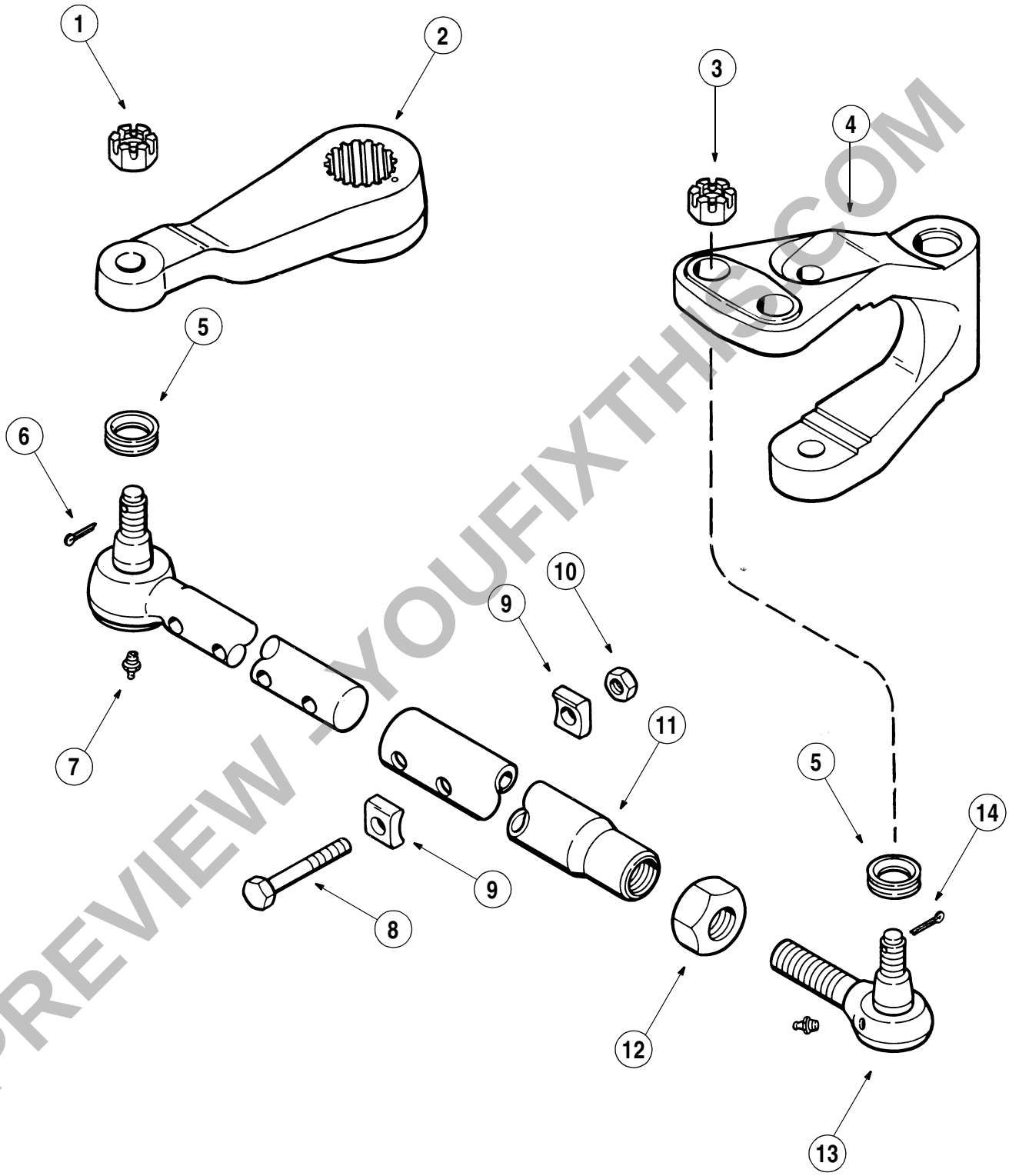
A24883

Electrical Systems Diagnostics Tester CAS-2110A, shown with Adapter Harness CAS-2384.

NOTE: *Additional adapter harnesses are listed in the table on the following page.*

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110L7

Figure 2

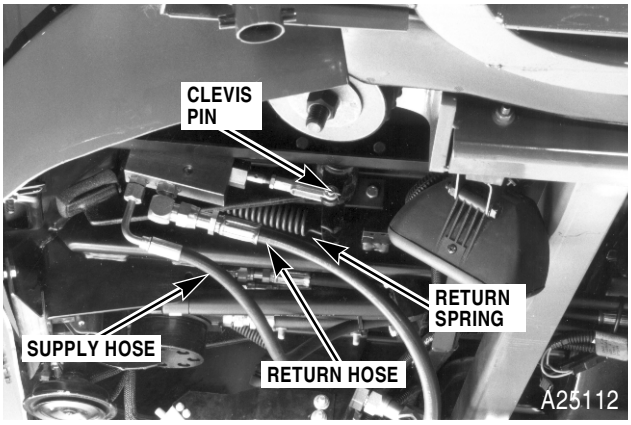
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FOOT-N-INCH VALVE

Removal

STEP 1



Disconnect and cap the supply hose and the return hose. Disconnect the return spring. Remove the cotter pin and clevis pin. Remove the Foot-N-Inch valve from the machine.

Disassembly

STEP 2

Remove the yoke and yoke lock nut from the stop valve. Remove the fittings from the valve body.

STEP 3

Disassemble the valve components as shown in the illustration below.

Inspection

STEP 4

Check the spring specifications. Use the spring compression tester CAS-1357. Refer to the specifications on Page 6015-2.

STEP 5

Check the stop valve, poppet, and valve body for damage. If the valve body is damaged, the entire valve must be replaced.

Assembly

STEP 6

Install a new O-ring on the poppet seat. Install the poppet seat in the valve body and torque to 133 to 160 lb. in. (15 to 18 Nm).

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SERVICING THE BRAKE ASSEMBLIES

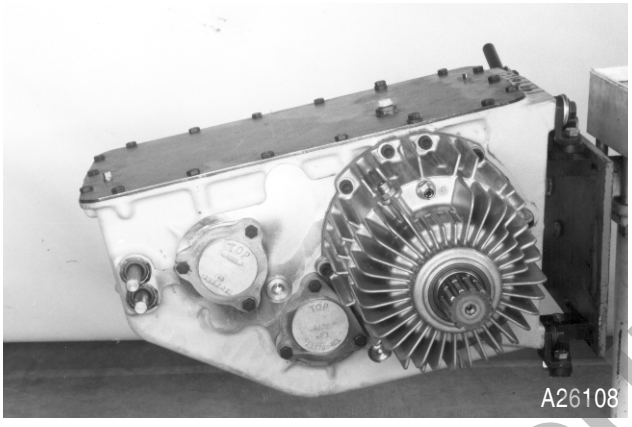
Disassembly

NOTE: *The level of brake repair required may vary. This section covers a complete overhaul of the brakes.*

STEP 1

Use a container with a capacity of 5 U.S. gallons (19 liters) and drain the fluid from the transmission.

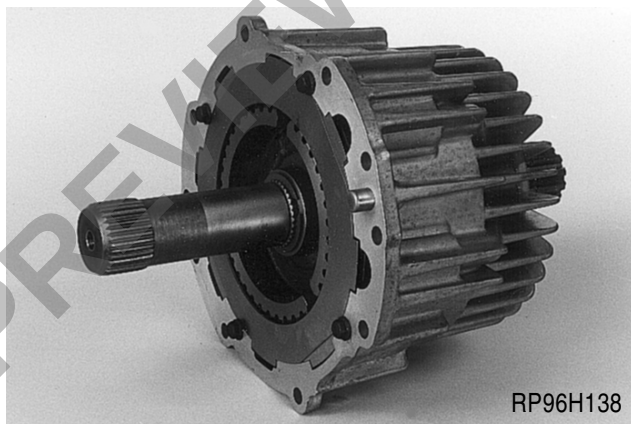
STEP 2



Remove the brake assembly from the transmission.

NOTE: *The transmission is shown mounted to stand for illustration purposes. If brakes are removed with transmission on machine, remove the hydraulic lines to the brakes and cap and plug the lines.*

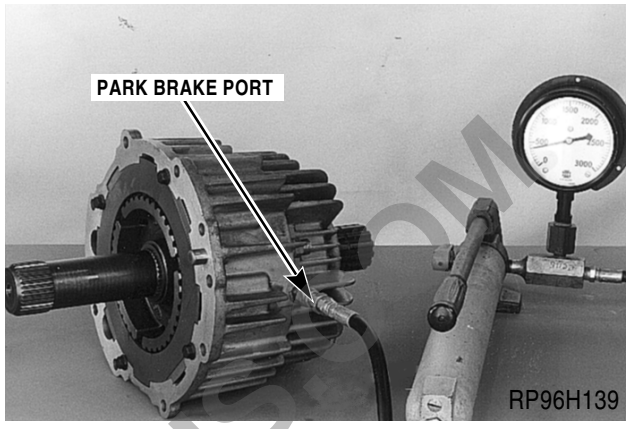
STEP 3



Place the brake assembly on a clean workbench.

WARNING: *The brake assembly is spring loaded. Follow these instructions carefully to avoid personal injury or equipment damage.*

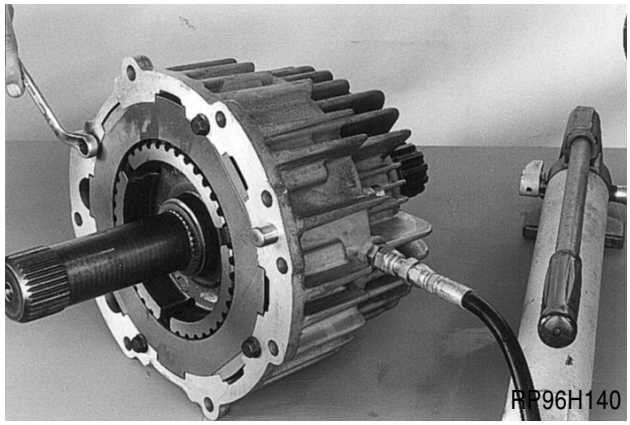
STEP 4



Connect a portable hydraulic ram, with accurate gauge, to the park brake port. The hydraulic ram must be filled with Hy-Tran®Ultra. CAREFULLY and GRADUALLY increase the pressure to 300 psi (2067 kPa).

NOTE: *If the brake assembly will not hold 300 psi (2067 kPa), the disassembly procedure can be performed with the brake assembly in a press.*

STEP 5



While maintaining the pressure established in Step 4, remove the four bolts that retain the thick shim, shim pack, and brake discs.

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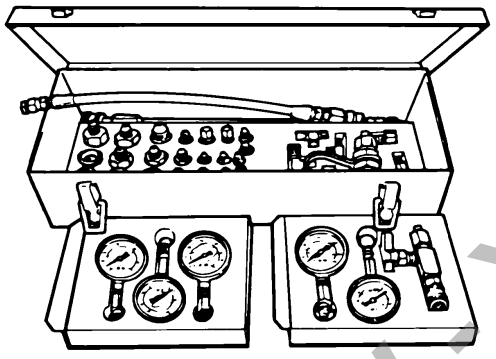
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SPECIAL TORQUES

PLUGS	U.S. Value	Metric Value
7/16 inch Threads	7 to 12 lb. ft.	9 to 16 Nm
9/16 inch Threads	18 to 24 lb. ft.	24 to 33 Nm
3/4 inch Threads	30 to 36 lb. ft.	41 to 49 Nm
7/8 inch Threads	42 to 48 lb. ft.	57 to 65 Nm
VALVES		
7/8 inch Threads	42 to 48 lb. ft.	57 to 65 Nm
1-5/16 inch Threads	95 to 110 lb. ft.	129 to 149 Nm
SOLENOID COIL NUTS	5 to 6 lb. ft.	7 to 8 Nm

SPECIAL TOOLS

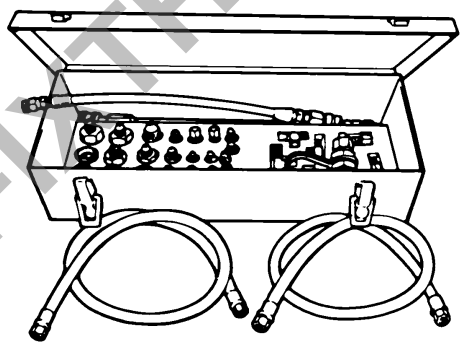
The gauges, hoses and hydraulic connectors used in the test procedures can be found in the following kits:



CAS-1803

CAS-1803 Pressure Test Kit for Agricultural Equipment.

NOTE: *CAS-1804 Master Pressure Test Kit for Construction Equipment may also be used.*



CAS-1807

CAS-1807 Flow Test Kit for Agricultural Equipment.

CAS-1808 Master Flow Test Kit for Construction Equipment may also be used.

All of these kits and the flowmeter are available from:

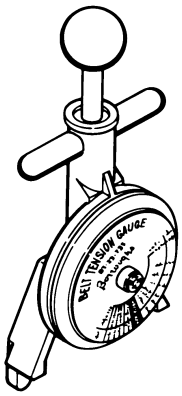
Service Tools
OTC Division SPX Corporation
655 Eisenhower Drive
Owatonna, MN 55060

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SPECIAL TOOLS

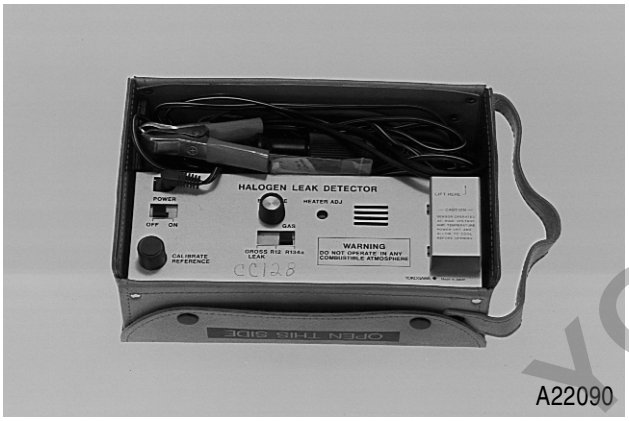
OEM-1442



299L7C

UNIVERSAL BELT TENSION GAUGE OEM1036

Dual Scale ranges are 260-890 Neutons and 60-200 pounds. “B” section belts, only.



A22090

ELECTRONIC LEAK DETECTOR OEM1437

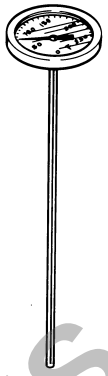


A22094

OEM-1418 REFRIGERANT RECOVERY, RECYCLING AND CHARGING STATION

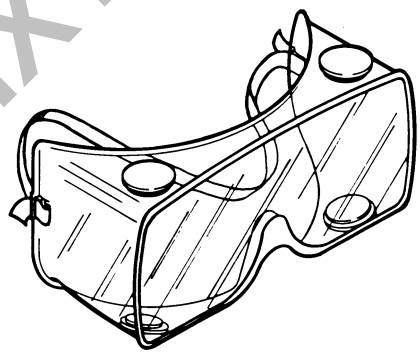
6 Foot Length, Quick Disconnect Refrigerant Charging Hoses:
OEM-1438 (Yellow)
OEM-1439 (Blue)
OEM-1440 (Red)

20 Foot Length (Set of All Three):
Combo Set, 20 Foot Length Charging Hoses



299L7B

POCKET THERMOMETER 0° TO 220° F OEM1256



299L7B

SAFETY GOGGLES CAS-10073-3

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SCHEMATIC WIRING DIAGRAM
COTTON PICKERS - CPX420
RAC. 6-17441

LEGEND

INDICATES CONSTANT POWER

INDICATES POWER WHEN KEY SWITCH IS ON

INDICATES POWER WHEN ENGINE OIL PRESSURE IS SENSED

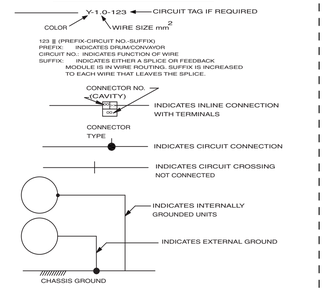
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COLOR ABBREVIATIONS

ABBREVIATION--COLOR	ABBREVIATION--COLOR
R----------RED	O----------ORANGE
T----------TAN	P----------PINK
W----------WHITE	V----------VIOLET (PURPLE)
Y----------YELLOW	DB---------DARK BLUE
B----------BLACK	LB---------LIGHT BLUE
BR---------BROWN	DG---------DARK GREEN
G----------GREY	LG---------LIGHT GREEN

CIRCUIT DIAGRAM LEGENDS



ACTUATORS

LEVER | HAND | FOOT | TEMP.

LIQUID LEVEL FLOAT | PRESSURE | COIL | DIODE

VARIABLE RESISTOR | RESISTOR | CONTACTS: MOMENTARY, MAINTAINED

HOUSINGS

V VACUUM SWITCH | P PRESSURE SWITCH | T TEMPERATURE SWITCH | M MOTOR | L LAMP

CONTACT CONFIGURATIONS

S.P.S.T. | S.P.D.T. | D.P.S.T. | D.P.D.T.

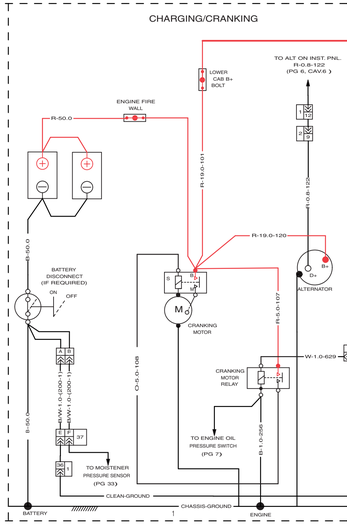
MISCELLANEOUS SYMBOLS

NUMBER | SIZE | FUSE | JUNCTION BOLT

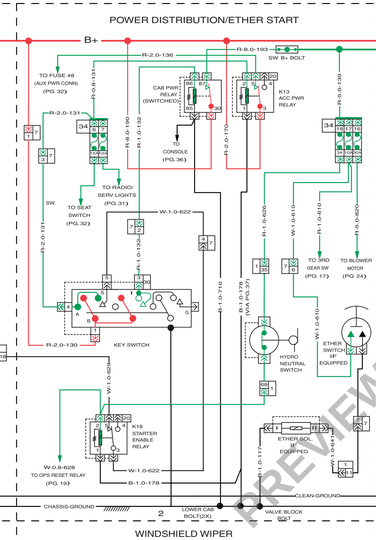
CONTROLLER SYMBOLS

(DRIVER) TRANSISTER OUTPUT | MICROPROCESSOR | GAUGE | (INVERTER) REGULATOR

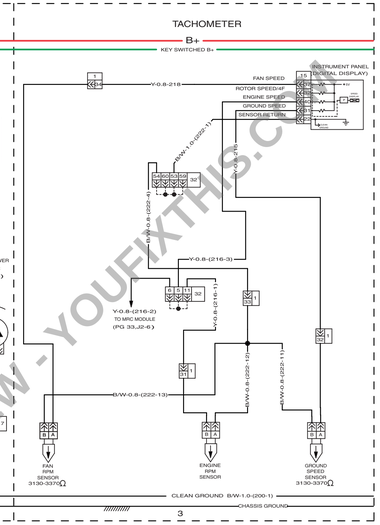
CHARGING/CRANKING



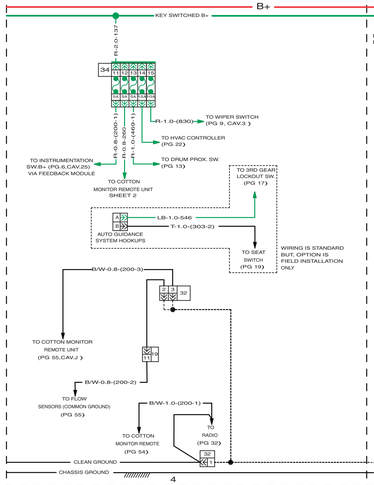
POWER DISTRIBUTION/ETHER START



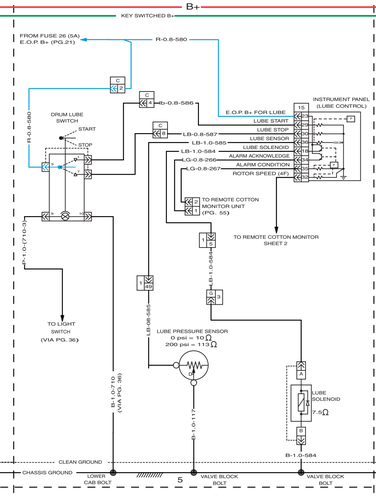
TACHOMETER



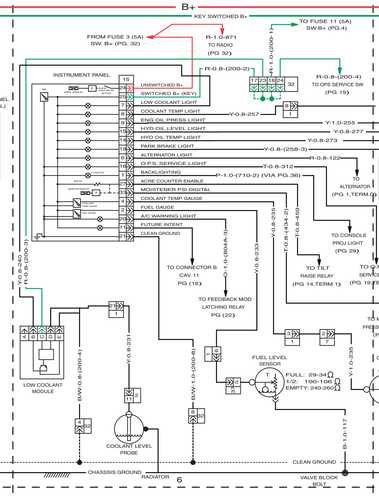
COTTON MONITOR FEEDS / GUIDANCE SYSTEM



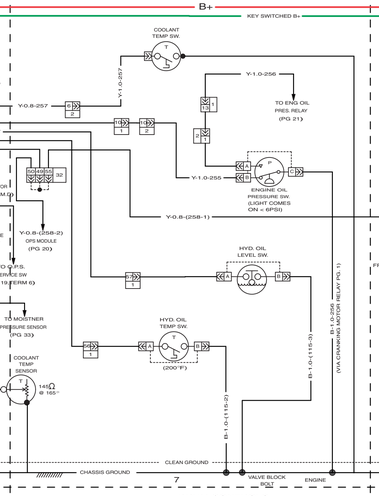
LUBE SYSTEM



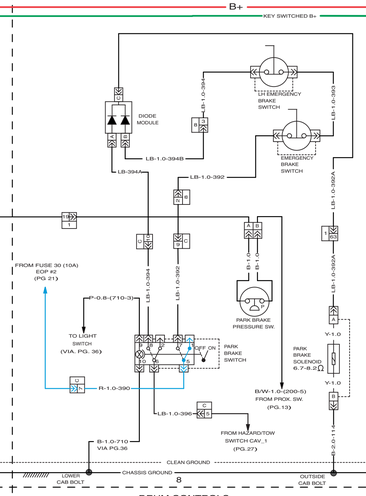
INSTRUMENTATION/LIGHTS AND GAUGES



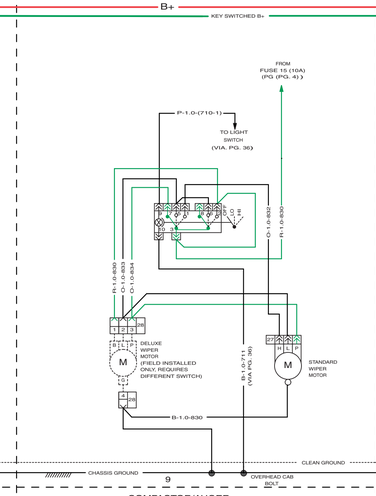
INSTRUMENTATION/LIGHTS AND GAUGES



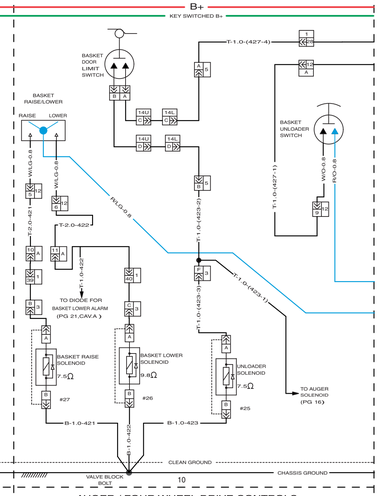
PARK BRAKE



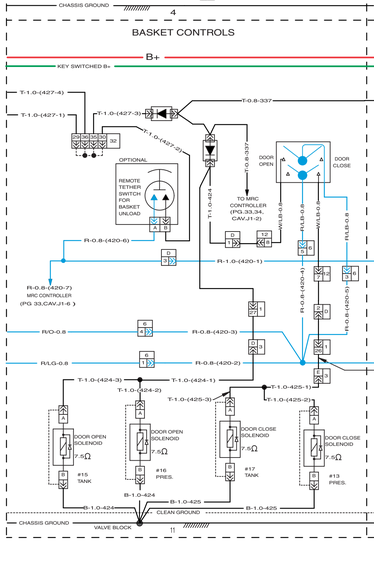
WINDSHIELD WIPER

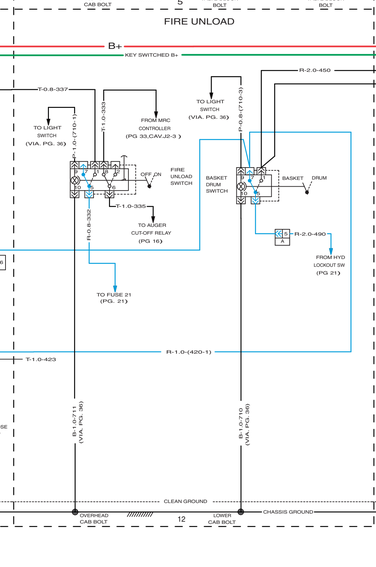


BASKET CONTROLS

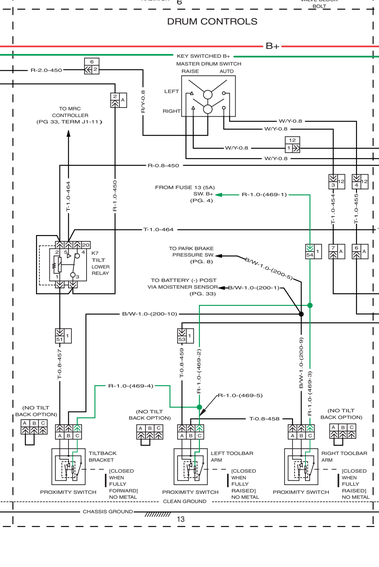


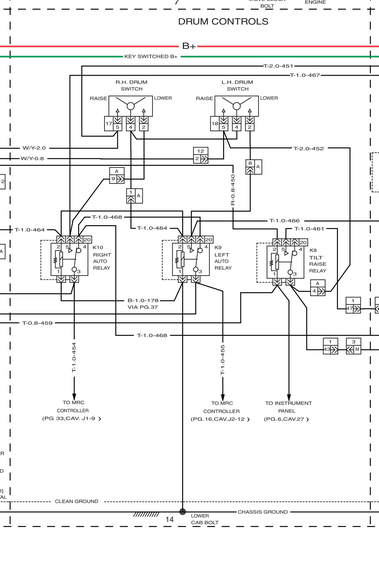
FIRE UNLOAD

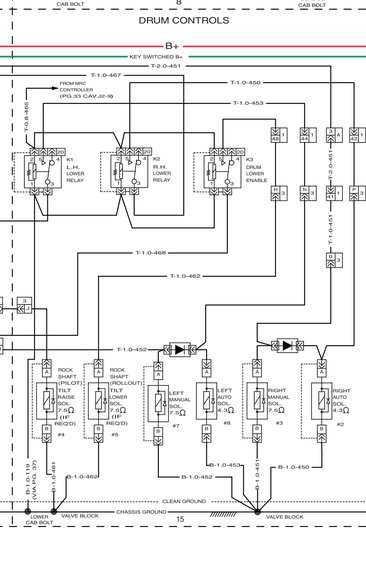




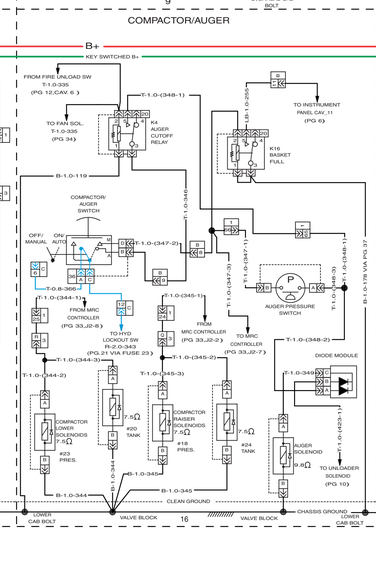
DRUM CONTROLS



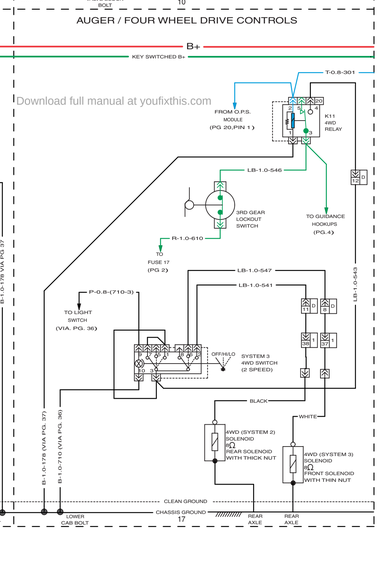




COMPACTOR/AUGER



AUGER / FOUR WHEEL DRIVE CONTROLS



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CPX420 COTTON PICKER
HYDRAULIC SCHEMATIC
RAC. 6-17450

1. RH DRUM LIFT FLOW CONTROL(6.3 GPM)
2. RH DRUM AUTO SOLENOID
3. RH DRUM LIFT MANUAL SOLENOID
4. ROCKSHAFT PRESSURE SOLENOID
5. ROCKSHAFT PILOT SOLENOID
6. LH DRUM LIFT FLOW CONTROL(6.3 GPM)
7. LH DRUM LIFT MANUAL SOLENOID
8. LH DRUM AUTO SOLENOID
9. DRUM SERVICE CLOSE PRESSURE SOLENOID
10. DRUM SERVICE SPREAD TANK SOLENOID
11. DRUM SERVICE SPREAD PRESSURE SOLENOID
12. DRUM SERVICE CLOSE TANK SOLENOID
13. BASKET DOOR RAISE PRESSURE SOLENOID
14. BASKET DOOR CHECK VALVE
15. BASKET DOOR LOWER TANK SOLENOID
16. BASKET DOOR LOWER PRESSURE SOLENOID
17. BASKET DOOR RAISE TANK SOLENOID
18. COMPACTOR RAISE PRESSURE SOLENOID
19. COMPACTOR CHECK VALVE
20. COMPACTOR LOWER TANK SOLENOID
21. COMPACTOR FLOW CONTROL (5.0 GPM)
22. COMPACTOR FLOW CONTROL (5.0 GPM)
23. COMPACTOR LOWER PRESSURE SOLENOID
24. COMPACTOR RAISE TANK SOLENOID
25. UNLOADER MOTOR SOLENOID
26. BASKET LOWER SOLENOID
27. BASKET RAISE SOLENOID
28. FAN CLUTCH SOLENOID
29. DRUM LUBE FLOW CONTROL (6.3 GPM)
30. DRUM LUBE SOLENOID
31. SENSE PRESSURE DIAGNOSTIC COUPLER
32. SUPPLY PRESSURE DIAGNOSTIC COUPLER
33. BASKET RAISE DIRECTIONAL VALVE
34. UNLOADER MOTOR DIRECTIONAL VALVE
36. BASKET LOWER NEEDLE VALVE

LEGEND

PFC PISTON PUMP FLOW (FRONT SECTION)

GEAR PUMP FLOW (REAR SECTION)

RETURN TO TANK/SUMP

COMPACTOR CYLINDERS (2) BORE 1.5 ROD 1.0 STROKE 19.7 — LOWER / RAISE

COMPACTOR FLOW DIVIDER VALVE

DISTRIBUTOR MOTORS (3) 11.9 CU.IN./REV.

BASKET DOOR CYLINDERS (2) BORE 2.00 ROD 1.00 STROKE 44.7 — OPEN / CLOSE

BASKET UNLOADER MOTOR 18.7 CU.IN./REV.

RESERVOIR

RETURN FILTER 25 PSI BYPASS

STEERING HANDPUMP 7.3 CU.IN./REV.

STEERING CYLINDER BORE 2.375 ROD 1.0 STROKE 8.0

0.031 DIA

ORIFICE CHECK VALVE

DISTRIBUTOR MOTOR CONTROL VALVE 1500 PSI RELIEF

NOTE:
THE DISTRIBUTOR MOTOR CONTROL VALVE IS IN THE STANDBY MODE,ALL FLOW IS DIVERTED TO TANK. WHEN THE SOLENOID VALVE IS ENERGIZED ALL FLOW IS DIRECTED TO THE DISTRIBUTOR MOTORS.

CHECK VALVE 15 PSI W/ OPT. PGA

TO PGA CONTROL VALVE

FROM PGA CONTROL VALVE

SUCTION FILTER 25 PSI BYPASS

AUXILIARY PUMP FRONT SECTION 2.75 CU.IN./REV. MAX. 350 PSI DIFF. 2450 PSI COMP. REAR SECTION .66 CU. IN./REV.

2600 RPM RATED SPEED

OIL COOLER STANDARD

OIL COOLERS (2) W/ OPT. PGA

HYDROSTATIC PUMP 7.615 CU.IN./REV. MAX. 1.7 CU.IN./REV. CHG. PUMP 6000 PSI IPOR

2200 RPM RATED SPEED

220 PSI

BRAKE MASTER CYLINDERS

CHECK VALVE 125 PSI

FOOT-N-INCH VALVE 6500 PSI

290-320 PSI

65 PSI

0.030 DIA

350-375 PSI

PARK BRAKE VALVE W/ PRESSURE REDUCING VALVE

HYDROSTATIC MOTOR 5.439 CU.IN./REV.

180 PSI

INLINE SCREEN

DIAGNOSTIC COUPLERS (2)

TRANSMISSION W/ PWR.BRK.

TOW VALVE

MANIFOLD VALVE ASSY

1 — 6.3 GPM
2 — 0.125 DIA
3
4 — 0.125 DIA
5
6 — 6.3 GPM
7
8 — 0.024 DIA
9 — 0.080 DIA
10
11 — 0.080 DIA
12
13
14
15 — 0.055 DIA
16
17 — 0.090 DIA
18
19
20
21 — 5.0 GPM EACH
22
23
24
25
34 — 0.063 DIA
0.296 DIA — 36
27 — 0.063 DIA
33
26
30 — 6.3 GPM
28
33

DRUM LUBE MOTOR 3.05 CU.IN./REV. PUMP 1.0 CU.IN./REV.

150 PSI

ENGAGE
DISENGAGE
FAN ENGAGE CYLINDER BORE 2.0 ROD 1.0 STROKE 2.5

DRUM SERVICE CYLINDERS (2) BORE 2.25 ROD 1.0 STROKE 14.7

SERVICE
HARVEST

ROCKSHAFT CYLINDER ROD 3.5 STROKE 7.3 — LOWER / RAISE

P.O. CHECK VALVE ASSYS (3)

DRUM CONTROL VALVE ASSYS (2)

R.H. DRUM DROP ORIFICE PLATE 4 AND 5 ROW 0.094 DIA

L.H. DRUM DROP ORIFICE PLATE 5 ROW 0.081 DIA 4 ROW 0.094 DIA

DRUM LIFT CYLINDERS (2) ROD 3.5 STROKE 10.7 — LOWER / RAISE

BASKET LIFT SLAVE CYLINDER ROD 2.5 STROKE 72.0 BORE 3.0 — LOWER / RAISE

BASKET LIFT MASTER CYLINDER BORE 3.5 ROD 2.5 STROKE 72.0

FROM/TO PGA CHECK VALVE

TWO SPEED VALVE W/ OPT.TWO SPEED PGA

HYDRAULIC MOTORS (2) W/ OPT. TWO SPEED PGA (ABOVE) 76.8/38.4 CU.IN./REV. W/ OPT. SINGLE SPEED PGA (BELOW) 57.0 CU.IN./REV.

CONTROL VALVE W/ OPT. SINGLE SPEED PGA W/ OPT. TWO SPEED PGA

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SCHEMATIC WIRING DIAGRAM
COTTON PICKER - CPX 420

2006 MODEL YEAR P.I.N. Y6T011001 AND AFTER
RAC. 87580289

LEGEND

INDICATES CONSTANT POWER
INDICATES POWER WHEN KEY SWITCH IS ON
INDICATES POWER WHEN ENGINE OIL PRESSURE SENSED

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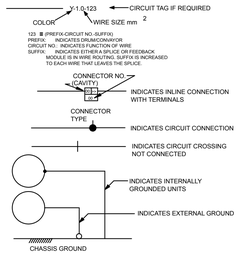
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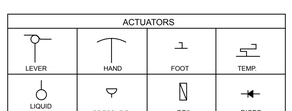
ABBREVIATION--COLOR	ABBREVIATION--COLOR
R----------RED	O----------ORANGE
T----------TAN	P----------PINK
W----------WHITE	V----------VIOLET (PURPLE)
Y----------YELLOW	DB---------DARK BLUE
B----------BLACK	LB---------LIGHT BLUE
BR---------BROWN	DG---------DARK GREEN
G----------GREY	LG---------LIGHT GREEN

NOTES:
1. FOR ELECTRICAL SYSTEM INSTRUCTIONS SEE FZG-18308.
2. DIAGRAM SHOWN WITH VEHICLE PARKED & POWER OFF.

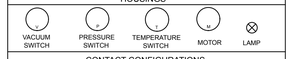
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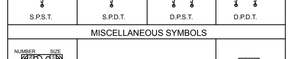
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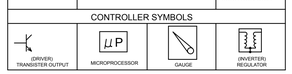
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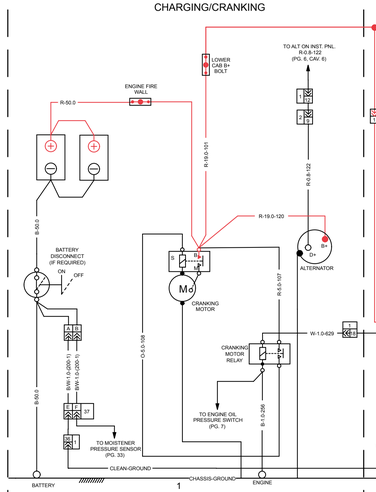
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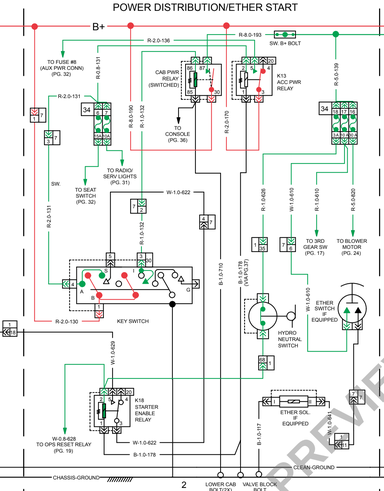
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SHEET 1 OF 4

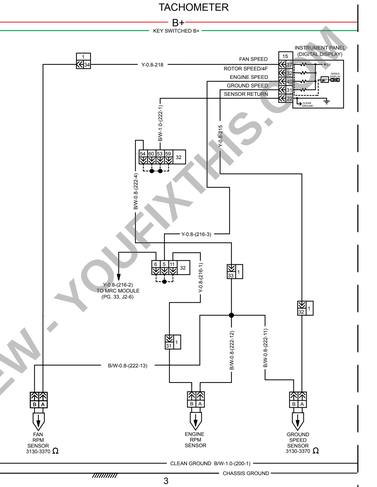
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POWER DISTRIBUTION/ETHER START

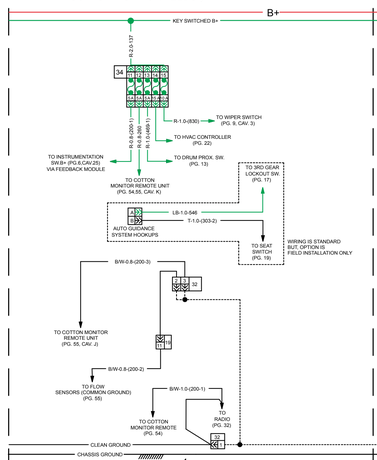


TACHOMETER

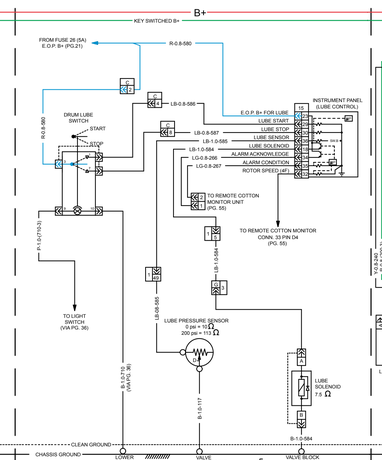


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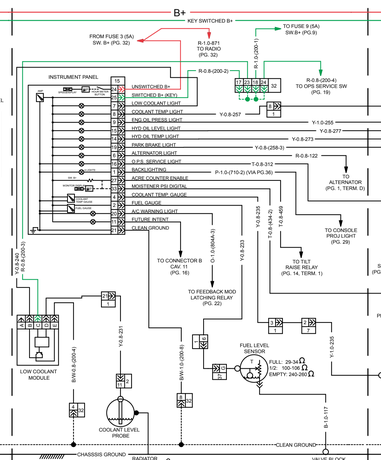
COTTON MONITOR FEEDS / GUIDANCE SYSTEM



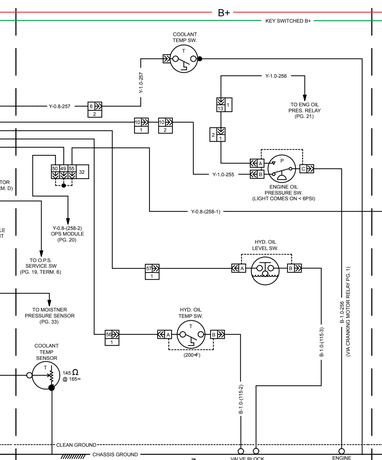
LUBE SYSTEM



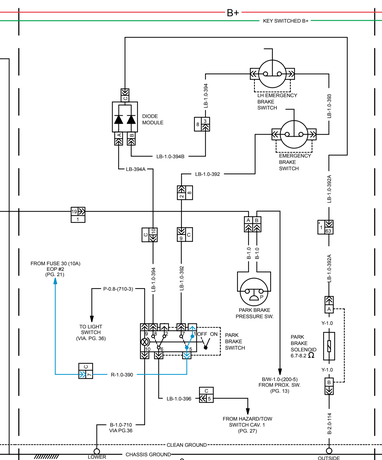
INSTRUMENTATION/LIGHTS AND GAUGES



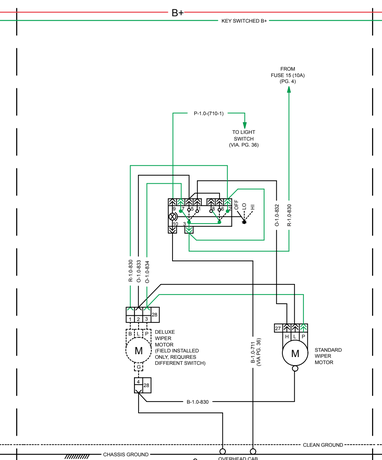
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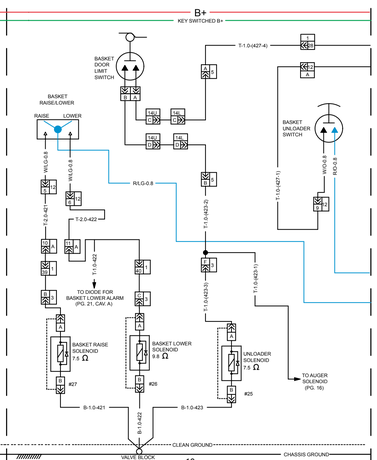
PARK BRAKE



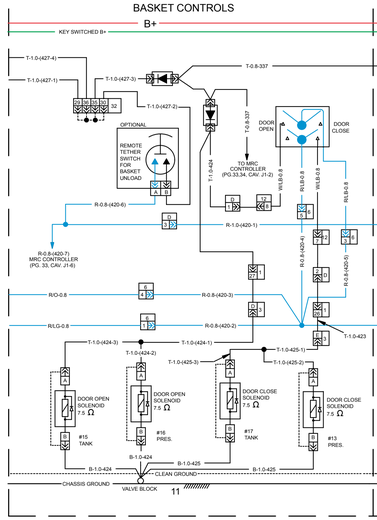
WINDSHIELD WIPER



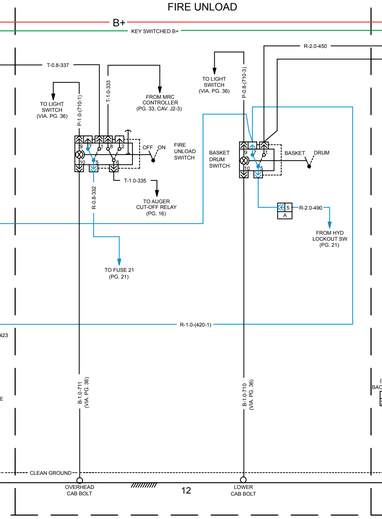
BASKET CONTROLS



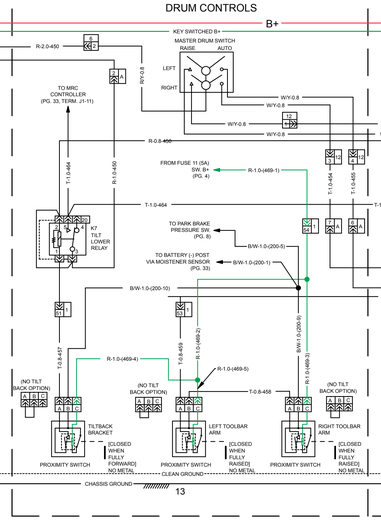
BASKET CONTROLS



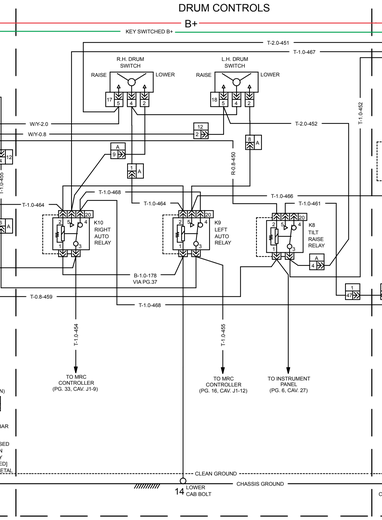
FIRE UNLOAD



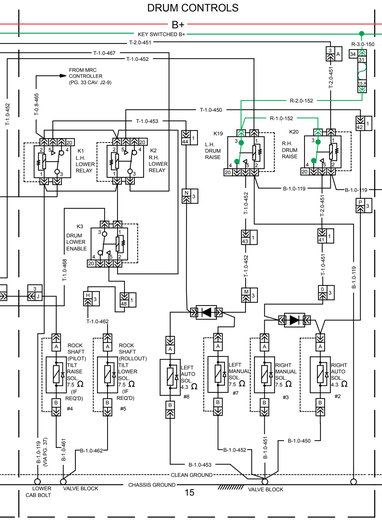
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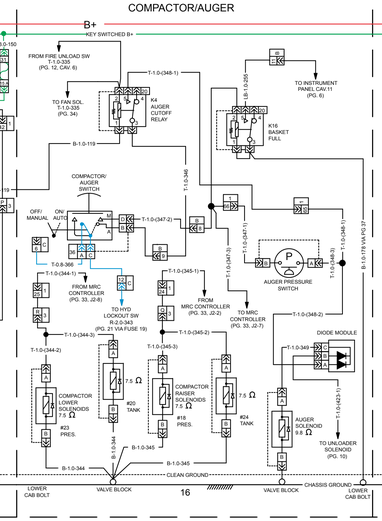
DRUM CONTROLS



DRUM CONTROLS

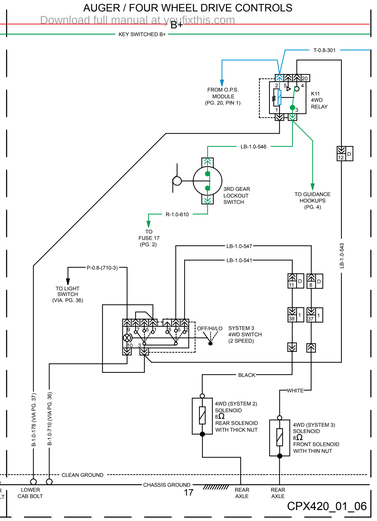


COMPACTOR/AUGER



AUGER / FOUR WHEEL DRIVE CONTROLS

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WARNING: *BATTERY ACID CAUSES SEVERE BURNS. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Antidote: EXTERNAL - flush with water. INTERNAL - Drink large quantities of water or milk. DO NOT induce vomiting. Seek medical attention immediately. EYES - Flush with water for 15 minutes and seek medical attention immediately. BATTERIES PRODUCE EXPLOSIVE GASES. Keep sparks, flame, cigars and cigarettes away. Ventilate when charging or using in enclosed area. Always wear eye protection when working near batteries. Wash hands after handling. KEEP OUT OF REACH OF CHILDREN.* M144B

WARNING: *Battery explosion and/or damage to electrical components can result from improper connection of booster batteries or charger. Connect positive to positive and negative to negative. Externally, battery acid can cause burns and blindness and, taken internally, it is poison.* M146B

WARNING: *When working around storage batteries, remember that all of the exposed metal parts are "live". Never lay a metal object across the terminals because a spark, short circuit, explosion or personal injury may result.* M145B

WARNING: *Engine can start with transmission in gear when neutral or safety start switch is by-passed: 1. Do not connect across terminals on starter. 2. Attach a booster battery by connecting the positive terminal of the booster battery to the " positive terminal" provided or to the positive terminal of the machine battery. Connect the negative terminal of the booster battery to the " negative terminal" provided or to the chassis of the machine. Then use recommended starting procedures from operator's seat. 3. When necessary, repair electrical system components promptly so that "jump starting" will not be attempted. Machine run-away can cause injury or death to operator and bystanders.* M107D

BATTERIES

Types of Batteries

There are four (4) general types of batteries: conventional, low maintenance, hybrid and maintenance free. The major differences are in the composition of the materials used in the grids.

Conventional

Conventional batteries contain between 5 - 11% antimony to make the lead grids more rigid, but it has the undesirable effect of gassing. This leads to water loss and corrosion. A conventional battery has cell caps and needs to have water added periodically.

Low Maintenance

The antimony content found in low maintenance batteries is between 2 - 3-1/2%. A low maintenance battery requires the same periodic addition of water that a conventional battery requires.

Hybrid

A hybrid battery is one which uses lead calcium and lead antimony grids alternately within each cell. This construction gives improved charging capacity compared to conventional batteries.

Maintenance Free

Maintenance free batteries use either a cast or expanded lead calcium alloy grid. This reduces gassing, water loss, corrosion and battery self-discharge. Because calcium is used instead of antimony to improve grid strength, maintenance free batteries do not require the addition of water during normal service life. Calcium reduces the tendency of a battery to gas at normal charging rates. Consequently, very little water is used.

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COMPACTOR/AUGER CONTROLS
(Refer to Electrical Schematic, Panel 16)

This circuit consists of:

- an engine oil pressure relay #2
- a 5-amp fuse (F23)
- an auger cutoff relay
- compactor/auger switch
- an auger pressure switch
- two compactor lower solenoids
- two compactor raise solenoids
- an auger solenoid
- a moistener/rpm/compactor controller
- the wires and connectors necessary to complete the circuit

Power originates at fuse F23 and flows from the fuse to terminal C on the compactor switch. When the compactor switch is pressed to its momentary position, power will flow from terminal D to terminal J2-7 on the moistener/rpm/compactor controller.

NOTE: *The moistener/rpm/compactor controller has full control of the compactor circuit.*

The compactor can be activated under the following conditions:

- the hydraulic lockout switch is in the OFF (normal) position (this will power terminal J1-1 on the controller)
- the fan output is ON (this will power terminal J1-2 on the controller)
- the basket fire unload switch is OFF (power is NOT entering terminal J1-12 of the controller)
- and the engine rpm is above 2000 (this reading must be entering terminal J2-6 of the controller)
- the controller must also be receiving a power supply to terminal J2-1 and a clean ground to terminal J2-10 of the controller

Compactor Lower

When the previous steps have been completed, and the compactor switch has been activated to the momentary start position, the controller will send power out of terminal J2-8 to terminal A on the compactor lower solenoids. The B terminal of the compactor lower solenoids is connected to chassis ground.

NOTE: *The controller will hold the compactor lower solenoids energized for 1.8 seconds.*

Compactor Raise

After the controller has completed its lower mode of 1.8 seconds, the controller will automatically power terminal J2-2 for 1.5 seconds and power will flow to terminal A on the compactor raise solenoids. Terminal B on the compactor raise solenoids is connected to chassis ground.

NOTE: *When the compactor switch is pressed to the momentary position and released the compactor will only cycle one time.*

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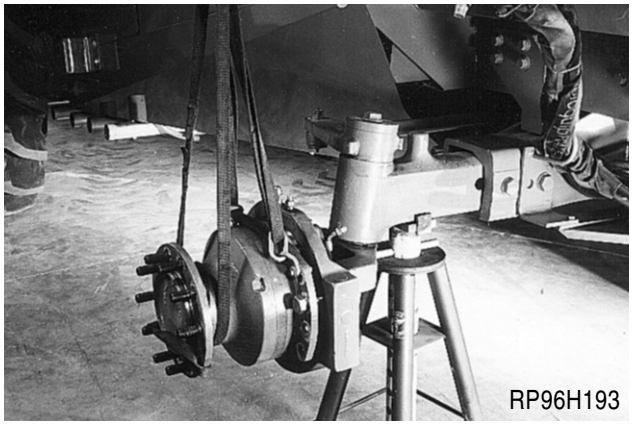
STEERING CONTROL VALVE 18

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Drive Motor Installation

STEP 5



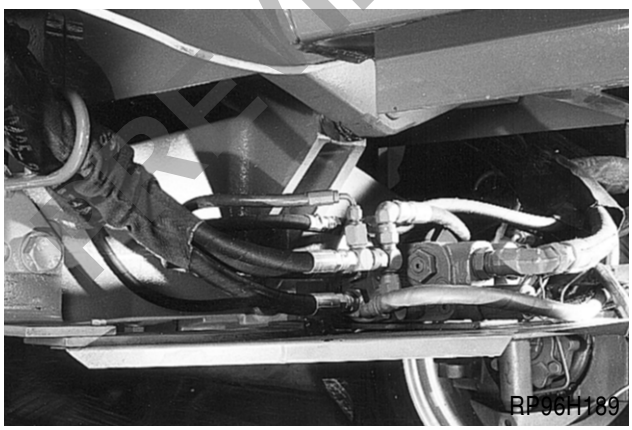
Install the drive motor on the motor bracket. Apply Loctite 277 to bolts. Tighten the bolts to a torque of 300 to 350 lb. ft.

STEP 6



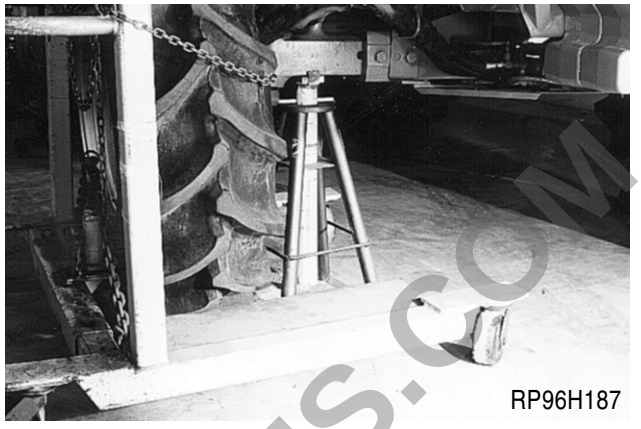
Connect all hydraulic lines.

STEP 7



Reconnect the drain line to the motor or valve. Refill hydraulic reservoir.

STEP 8



Install the wheel and tire. Tighten the nuts to a torque of 350 lb. ft. (475 Nm).

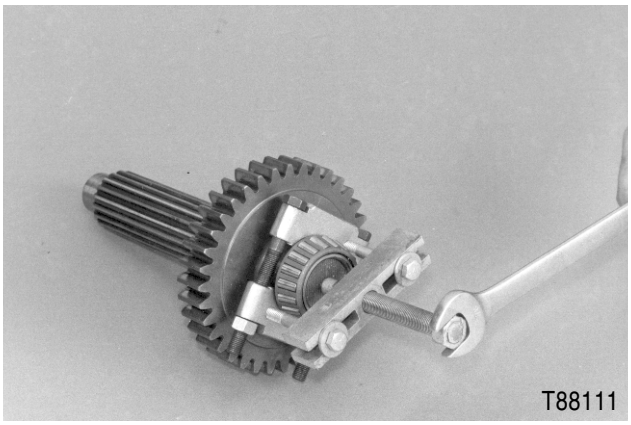
STEP 9

Perform the start up procedure for a hydraulic system to bleed the air from the system. See Rear Drive Axle Air Bleed and Flushing Procedure.

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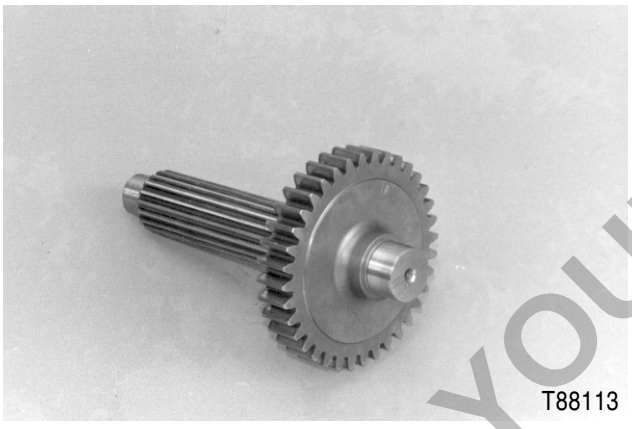
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STEP 22



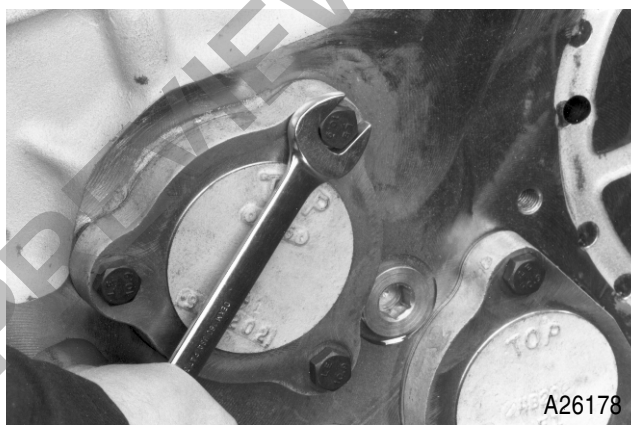
Use a puller to remove the RH bearing cone.

STEP 23



Inspect the teeth of the change gear shaft for any wear or damage.

STEP 24



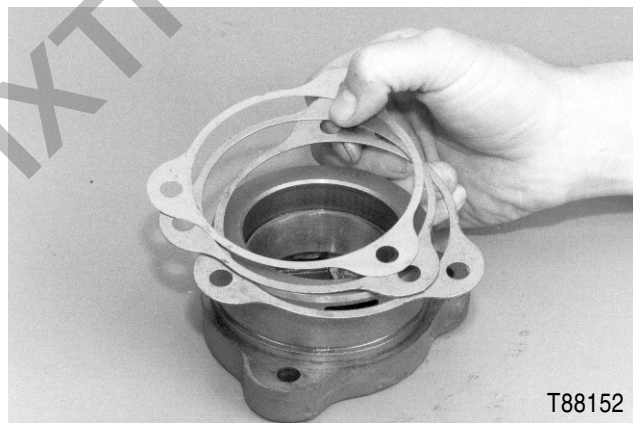
Remove the bolts and bearing cap for the change gear shaft on the RH side of the transmission housing.

STEP 25



Remove the O-ring from the change gear shaft bearing cap.

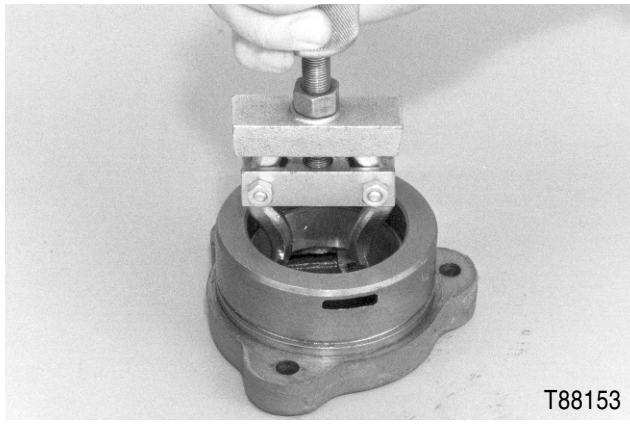
STEP 26



Remove the shims from the bearing cap.

NOTE: *Keep the shims together for installation of the bearing cap on the transmission housing.*

STEP 27



Use a puller to remove the bearing cup from the bearing cap.

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PROPULSION CONTROL CABLE ADJUSTMENT

STEP 1



RK96G015



RK96G014



RK96G013

1. FORWARD POSITION
2. NEUTRAL POSITION
3. REARWARD POSITION

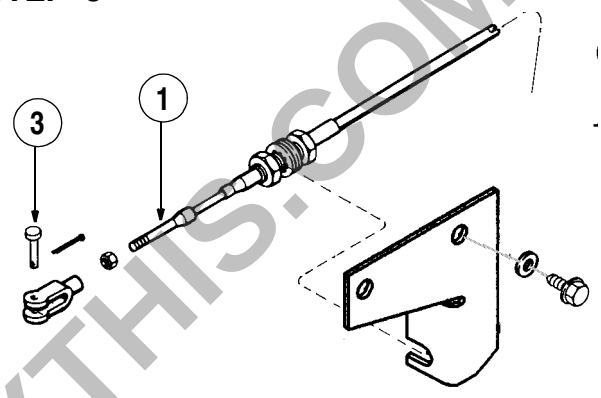
Start the engine. Put the throttle hand lever in the low idle position. Slowly move the propulsion control lever FORWARD and REARWARD to check the transmissions function.

NOTE: *The machine must not move when the propulsion control lever is in the neutral position.*

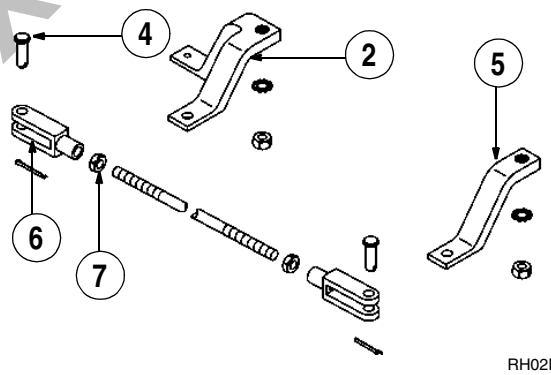
STEP 2

If the machine moves with the propulsion control lever in the NEUTRAL position, stop the engine, remove key and adjust the control cable.

STEP 3



RH02D020



RH02D021

Disconnect the propulsion control lever cable (1) from the pump control actuating lever (2) by removing the clevis pin (3).

STEP 4

Put the pump control actuating lever (2) in the NEUTRAL position.

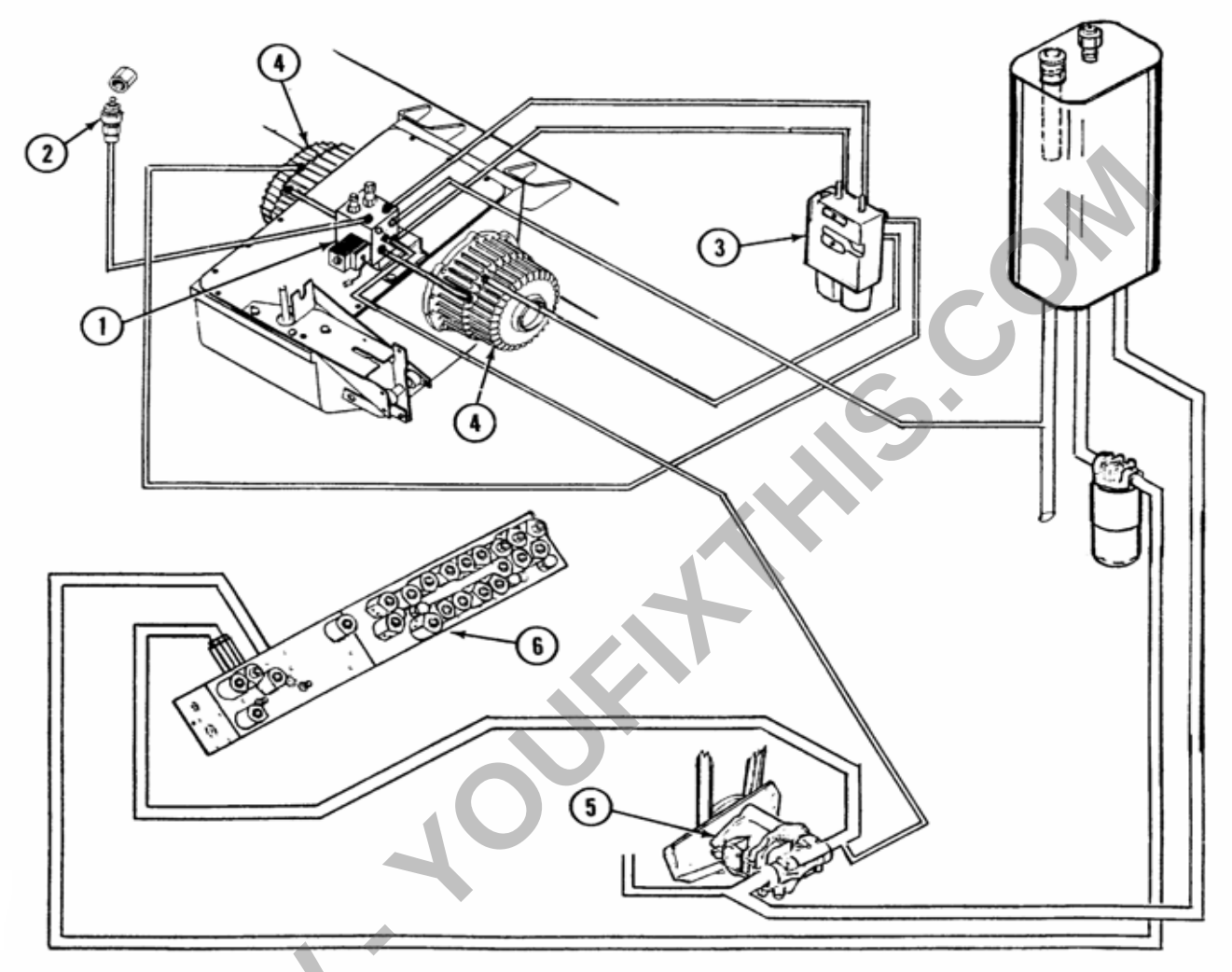
STEP 5

1. If replacing either pump, disconnect the pump control link between the two pumps by removing the clevis pin (4).
2. Put the pump control actuating lever (5) in the neutral position.
3. Adjust, if necessary the clevis (6) until the hole in clevis (6) aligns with the hole in the pump control actuating lever (5) by loosening clevis lock nut (7).
4. Install clevis pin (4) and cotter pin. Tighten clevis lock nut (7).

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BRAKE SYSTEM



RH05C021

1. Park Brake Valve
2. Tow Valve
3. Brake Valve (Master Cylinders)
4. Brake Assemblies
5. Piston Pump
6. Manifold Valve

The following components are used in the brake system: park brake valve (1), tow valve (2), brake valve (3), brake assemblies (4), piston pump (5), manifold valve (6), and lines. Also refer to the brake system schematic on the following page.

Locations

1. Park Brake Valve – on top of main drive transmission

2. Tow Valve – on left side of cab platform

3. Brake Valve – under cab platform

4. Brake Assemblies – on each side of main drive transmission

5. Piston Pump – below engine flywheel

6. Manifold Valve – toward rear of right drive tire

NOTE: *For additional information on how the brakes operate, refer to the Park Brake Circuit in Section 4020. Adjustments and brake service are detailed in Sections 7010 and 7020.*

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26 - Auger Motors Will Not Turn (Basket Is Not Full)

NOTE: *The compactor will only operate when the fan is engaged, hydraulic lockout is OFF, and the compactor/auger switch is in the ON/AUTO position.*

NOTE: *If the fan is shut off when the augers are running, the augers will stop. If the fan is turned back ON, the compactor/auger switch must be cycled to the OFF/MANUAL position and back to ON/AUTO position to restart the augers.*

PROCEDURE	RESULT	SOLUTION
26A - Check fuse (19).	Fuse is blown.	Replace 5-amp fuse.
	Fuse is good.	Go to Step 26B.
26B - 1. Disconnect the harness connector from the auger solenoid (1) on the distributor motor control valve (2). (The auger motor control valve is located below the manifold valve on the right hand side of the cotton picker.) 2. Connect the negative lead of the multimeter to a good ground. 3. Start the engine. While running at low idle, push the fan switch forward to engage the fan. 4. Have an assistant cycle the compactor/auger switch to OFF/MANUAL and back to ON/AUTO position. 5. Connect the multimeter positive lead to the pin for wire 349 T (tan wire) in the harness end connector for the auger solenoid (1).	Voltage is less than 12 volts.	Refer to Electrical Troubleshooting, Section 4030.
	Voltage is 12 volts or more.	Go to Step 26C.
26C - Use a multimeter to check the resistance of the auger solenoid coil.	Coil resistance is not approximately 9.8 Ohms.	Replace the 12 volt coil.
	Coil resistance is approximately 9.8 Ohms.	Go to Step 26D.
26D - Connect a low pressure gauge to the diagnostic fitting (3) on the distributor motor control valve. Start the engine. Place the compactor auger switch in the OFF/MANUAL position and record the pressure reading.	The low pressure reading is not 69 to 103 kPa (10 to 15 psi).	Replace the distributor motor control valve and check auger motor operation.
	The low pressure reading is 69 to 103 kPa (10 to 15 psi).	Go to Step 26E.

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OPERATION

The refrigerant circuit of the air conditioning system contains five major components: compressor, condenser, receiver-drier, expansion valve and evaporator. These components are connected by tubes and hoses and operate as a closed system. The air conditioner system is charged with R-134a refrigerant.

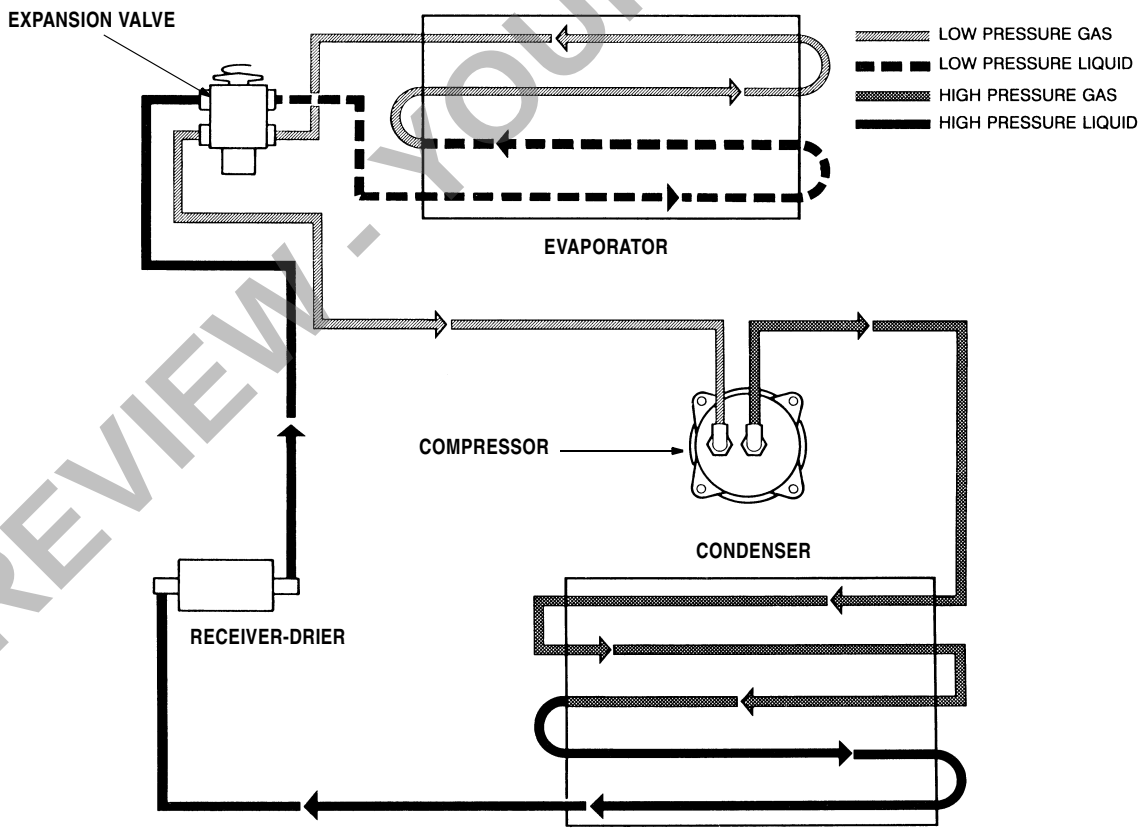
The compressor receives the refrigerant as a low pressure gas. The compressor then compresses the refrigerant and sends it in the form of a high pressure gas to the condenser. The air flow through the condenser then removes the heat from the refrigerant. As the heat is removed the refrigerant changes to a high pressure liquid.

The high pressure refrigerant liquid then flows from the condenser to the receiver-drier. The receiver-drier is a container filled with moisture removing material, which removes any moisture that may have entered the air conditioner system in order to prevent corrosion of the internal components of the air conditioner system.

The refrigerant still in a high pressure liquid from, then flows from the receiver-drier to the expansion valve. The expansion valve then causes a restriction in flow of refrigerant to the evaporator core.

As the refrigerant flows through the evaporator core the refrigerant is heated by the air around and flowing through the evaporator fins. The combination of increased heat and decreased pressure causes the air flow through the evaporator fins to become very cool and the liquid refrigerant to become a low pressure gas. The cooled air then passes from the evaporator to the cab for the operator's comfort.

The electrical circuit of the air conditioning system consists of a 30 amp fuse (fuse #11), 15 amp fuse (fuse #14), 10 amp fuse (fuse #16), A.C. ON/OFF switch, heater valve position sensor, fan speed control potentiometer, temperature control potentiometer, evaporator temperature sensor, heater valve motor, pressurizer motor, blower motor, A.C. compressor clutch, A.C. low pressure switch, A.C. high pressure switch, A.C. control module and A.C. pressure warning light.



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EXPANSION VALVE TESTING

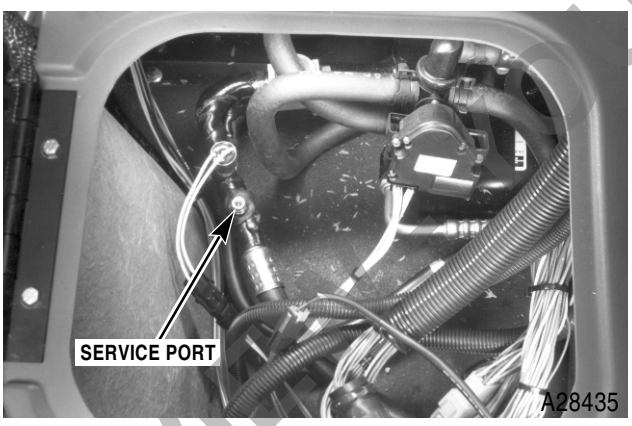
The following test is to be made with the expansion valve mounted in the system. No repair cleaning or adjustment is recommended for the valve.

STEP 45



Lift the buddy seat cushion. Remove storage bucket from buddy seat.

STEP 46



Install low pressure hose from OEM-1418 to low pressure service port. Close both manifold valves.

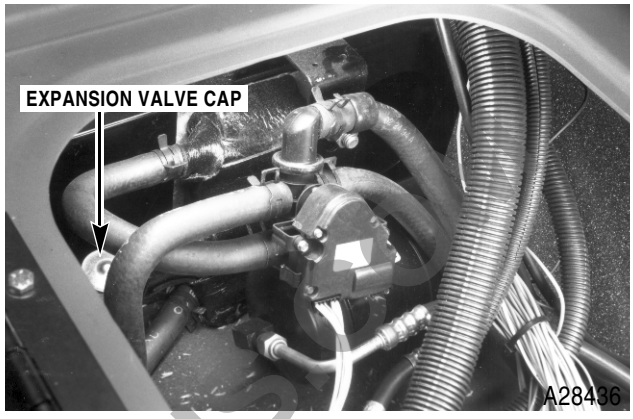
NOTE: *The OEM-1418 must either be fitted with an extension hose or lifted onto the combine platform to reach the low pressure service port.*

STEP 47

Start the engine, run at 1500 RPM. Turn blower speed control to maximum position, temperature control valve fully clockwise, A/C rocker switch ON and check the low pressure gauge reading.

The low pressure reading will range from 26 to 51 PSI (180 to 355 kPa) when the compressor is operating.

STEP 48



Watch the low pressure gauge as ice is applied onto the cap of the expansion valve.

NOTE: *Unwrap the insulation from the expansion valve before applying ice.*

The pressure must start to lower. When the pressure reaches 4 PSI (28 kPa), the low pressure indicator will illuminate and the compressor will stop. The relay must be reset after the compressor has stopped before the system will operate. To reset the relay turn the air conditioner rocker switch to the OFF position and then back ON.

STEP 49

Warm the expansion valve and watch the low pressure gauge.

Within minutes, the expansion valve will open and the pressure must rise at the low pressure gauge. The pressure will rise to a range of 15 to 50 PSI (103 to 345 kPa).

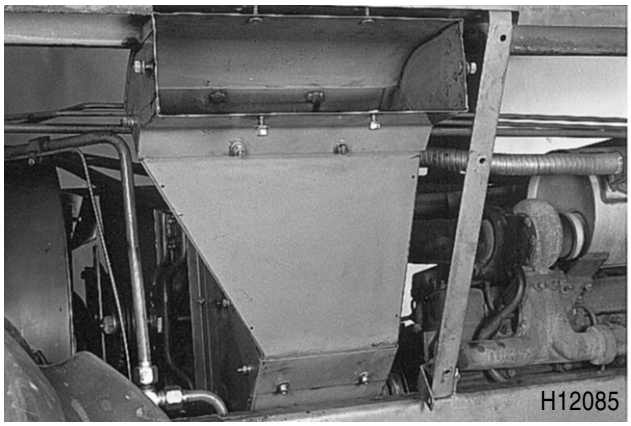
STEP 50

If the pressure does not rise per Step 49, the valve is not operating. Replace the valve.

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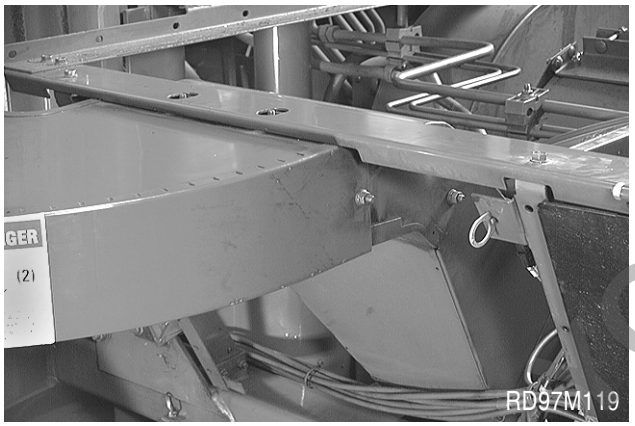
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STEP 61



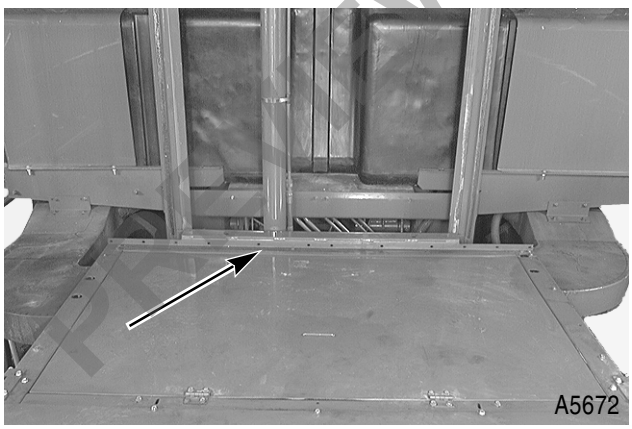
Install the tension duct and elbow onto the fan housing. Install the grease line anchor brackets to ducts.

STEP 62



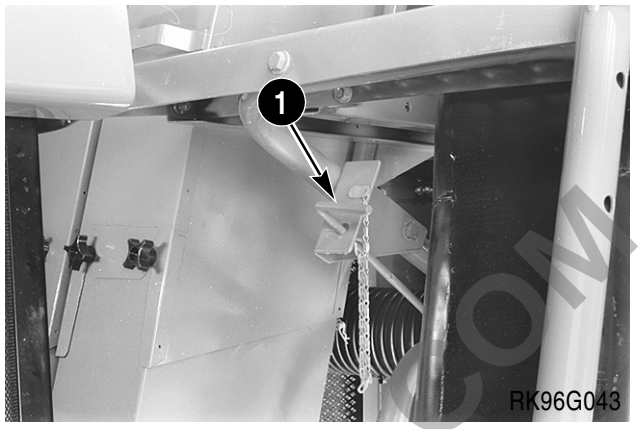
Install the left air supply duct onto the elbow.

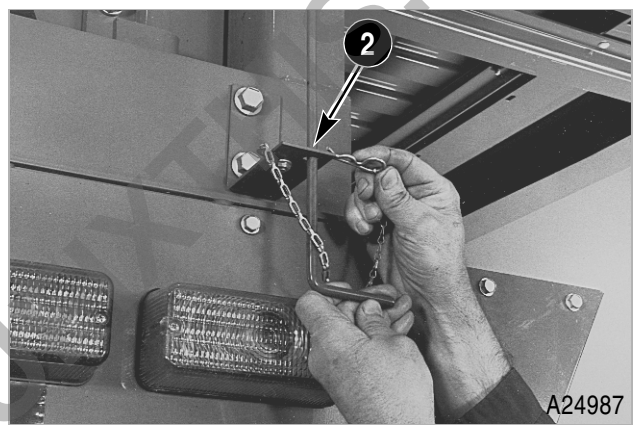
STEP 63



Install the center panel between the engine and conveyor fans. Close the fan access door.

STEP 64





1. Front Basket Safety Lock Handle
2. Rear Basket Safety Lock Handle

Disengage the front and rear basket safety locks. Move the Hydraulic Lockout Switch to the UNLOCK position and lower the basket.

STEP 65

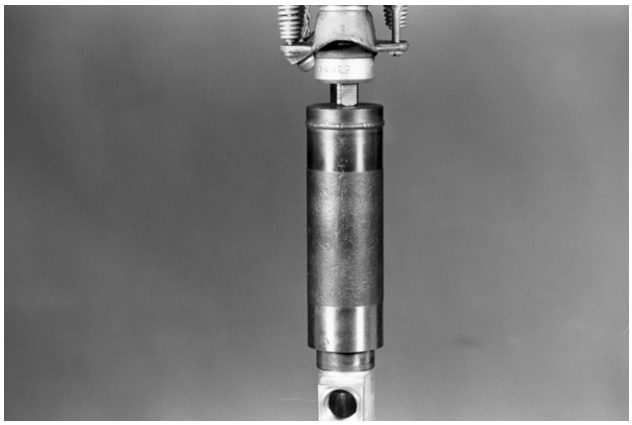


Lubricate the fan bearings with Case 251H EP grease prior to operation.

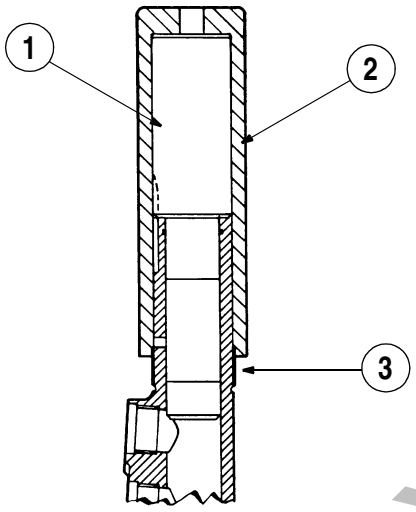
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STEP 23



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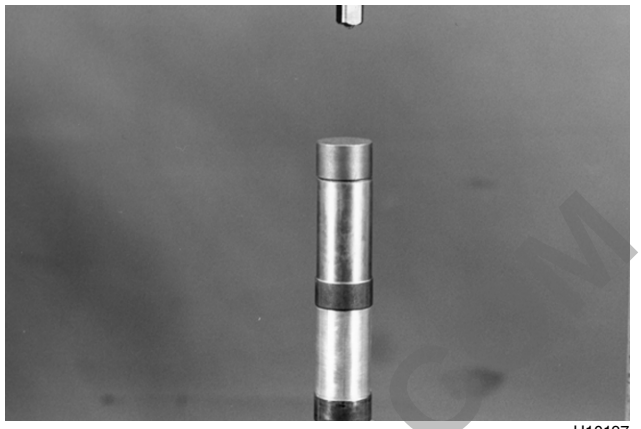


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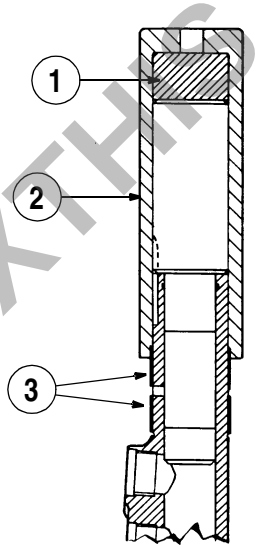
1. SHAFT CAS-1820-1
2. TUBE CAS-1820-5
3. SLEEVE

Install tube CAS-1820-5, and press sleeve on shaft until firmly seated. Remove tube.

STEP 24



H10197



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1. SPACER CAS-1820-6
2. TUBE CAS-1820-5
3. SLEEVE

Install another sleeve on shaft and spacer CAS-1820-6 on top of shaft. Install tube again, and press sleeve on until firmly seated.

NOTE: *The lubricant hole must be visible between the two sleeves.*

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