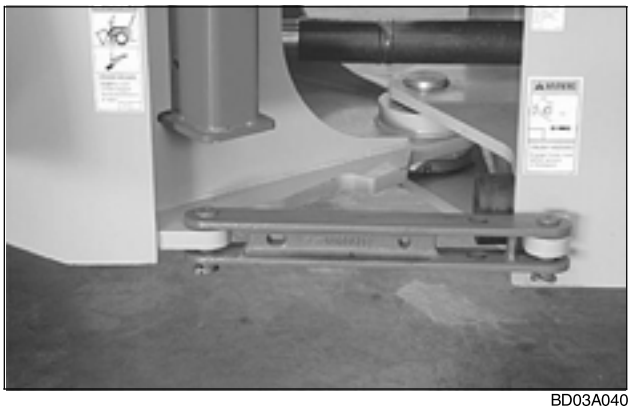
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ENGINE

Removal

STEP 1



BD03A040

Park machine on a level surface and lower bucket to ground. Put articulation lock in LOCKED position.

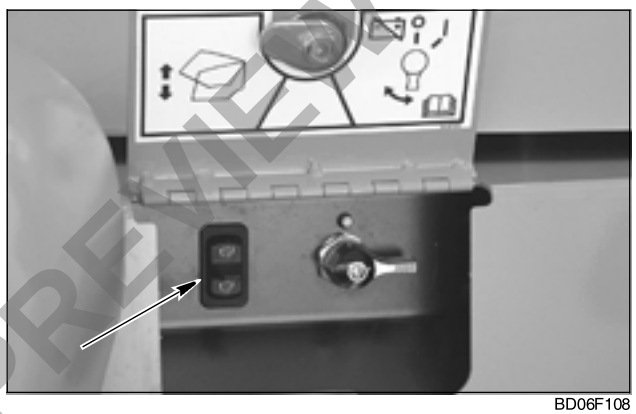
STEP 2

Stop engine. Actuate brake pedal several times to discharge brake accumulators. Put key switch in ON position and move loader control lever back and forth at least 30 times to release any pressure from hydraulic circuit. Put key switch in OFF position.

STEP 3

Slowly loosen the filler cap for hydraulic reservoir to release air pressure in hydraulic reservoir.

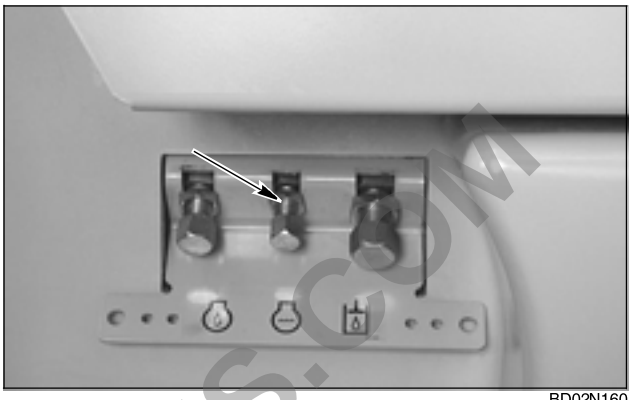
STEP 4



BD06F108

The master and hood raise switch are located in the right batter box. Raise the hood with the hood lift motor. Put master disconnect switch in OFF position. Remove both battery covers and disconnect batteries from the machine.

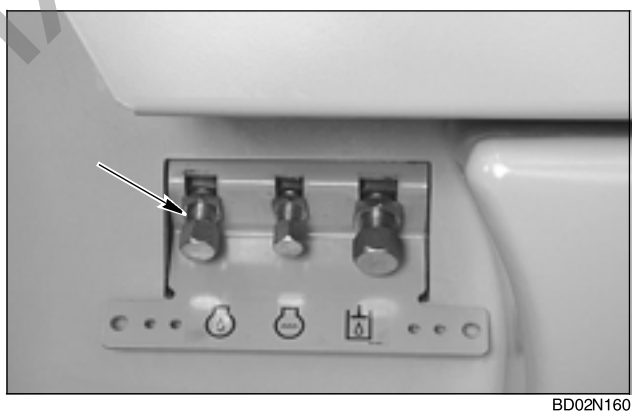
STEP 5



BD02N160

Put a 37 liter (10 gallon) container below radiator drain. Remove radiator cap. Remove cap and drain coolant into container. Install cap after coolant has drained. Install radiator cap.

STEP 6



BD02N160

Put a 14.2 liter (15 U.S. quarts) container below engine oil drain. Remove cap and drain oil into container. Install cap after oil has drained.

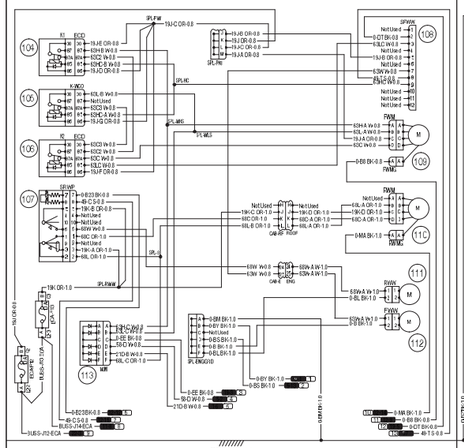
NOTE: *After draining oil disconnect drain hose from frame for removal with engine.*

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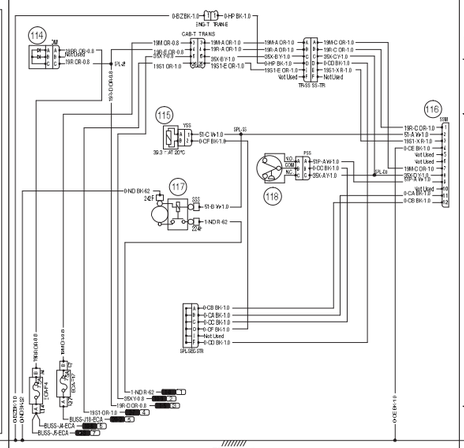
CAB WINDOW WASHER AND WIPER SYSTEM



FRAME 16

BC063474-16A

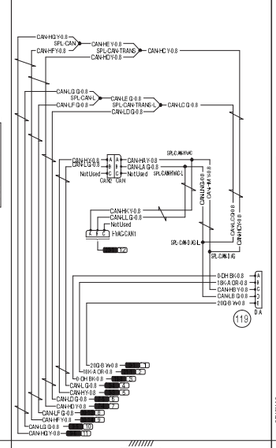
SECONDARY STEERING



FRAME 17

BC063474-17A

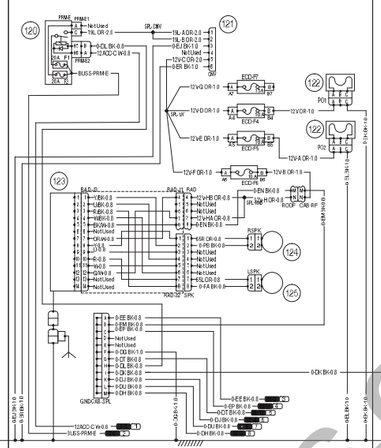
COMMUNICATION



FRAME 18

BC063474-18A

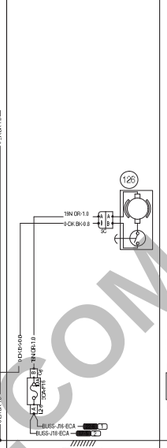
RADIO / POWER CONVERTER



FRAME 19

BC063474-19A

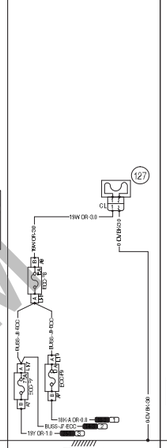
AIR SEAT



FRAME 20

BC063474-20A

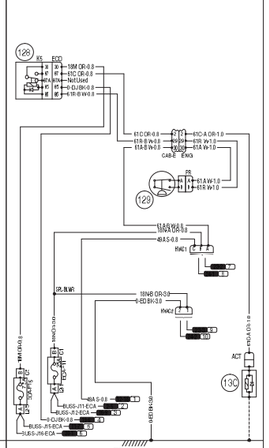
CIGAR LIGHTER



FRAME 21

BC063474-21A

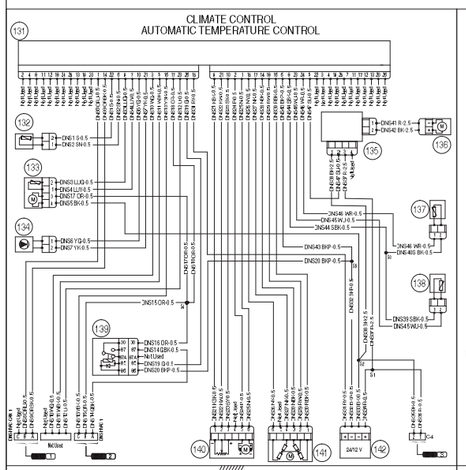
AIR-CONDITIONING COMPRESSOR



FRAME 22

BC063474-22A

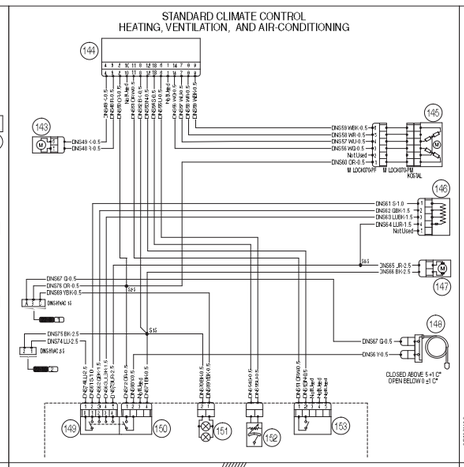
CLIMATE CONTROL
AUTOMATIC TEMPERATURE CONTROL



FRAME 23

BC063474-23A

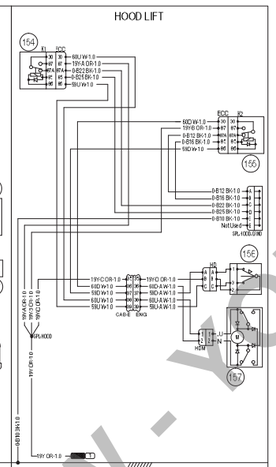
STANDARD CLIMATE CONTROL
HEATING, VENTILATION, AND AIR-CONDITIONING



FRAME 24

BC063474-24A

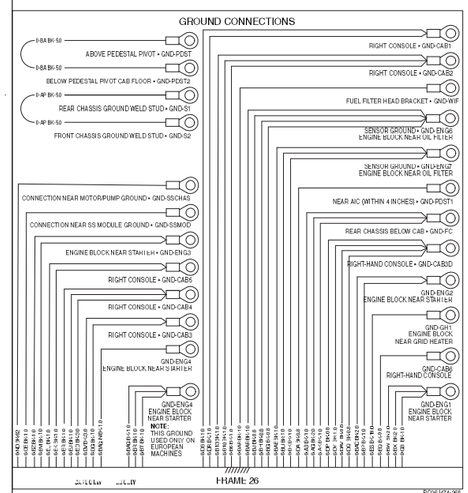
HOOD LIFT



FRAME 25

BC063474-25A

GROUND CONNECTIONS



FRAME 26

BC063474-26A

COMPONENTS

104. Front Wiper High Speed Relay
105. Wiper Cutout Relay
106. Front Wiper Low Speed Relay
107. Rear Wiper and Washer Switch
108. Front Wiper and Washer Switch
109. Front Wiper Motor
110. Front Wiper Motor
111. Rear Washer Motor
112. Rear Washer Motor
113. Diodes
114. Secondary Steering Diodes
115. Secondary Steering Solenoid
116. Secondary Steering Module
117. Secondary Steering Motor
118. Secondary Steering Pressure Switch
119. Diagnostic Connector
120. Power Relay Module E
121. Power Converter - 24 to 12 Volt
122. 12 Volt Power Outlets (Option)
123. Radio
124. Right Speaker
125. Left Speaker
126. Air Seat
127. Cigar Lighter
128. Air Conditioning Clutch Relay
129. Air Conditioning High-Low Pressure Switch
130. Air Conditioning Compressor Clutch
131. Electronic Panel
132. External Air Temperature Sensor
133. Internal Air Temperature Sensor
134. Sun Sensor
135. Blower Fan Resistor
136. Blower Motors
137. Thermocouple Sensor
138. Mixed Air Sensor
139. Compressor Relay
140. Heputing Motor
141. Electronic Water Valve
142. 24 to 12 Volt Converter
143. Actuator
144. Driver
145. Electronic Water Valve
146. Blower Fan Resistor
147. Blower Motor
148. Thermostat
149. Fan Speed Switch
150. Air Conditioning Switch
151. Control Panel Lamps
152. Water Valve Potentiometer
153. Air Recirculating Switch
154. Hood Up Relay
155. Hood Down Relay
156. Hood Switch
157. Hood Motor

CIRCUIT DIAGRAM LEGEND

SHOWS CIRCUIT CROSSING NOT CONNECTED

SHOWS CIRCUIT SPLICE CONNECTION

Frame and Wire Tag. Number where circuit continues.
Wire Tag assigned to wire in Frame.
CIRCUIT CONTINUATION

54 COMPONENT NUMBER

MALE TERMINAL
FEMALE TERMINAL

INDICATES EXTERNAL GROUND
GROUND

INDICATES INTERNALLY GROUNDED COMPONENT

FEMALE CONNECTOR
MALE CONNECTOR
CONNECTOR NUMBER
CONNECTOR IDENTIFICATION
INDICATES PARTIAL CONNECTOR
NOT ALL CONNECTIONS ARE SHOWN

WIRE IDENTIFICATION

BK . . BLACK
DU . . DARK BLUE
G. . . GREEN
K. . . PINK
LG. . . LIGHT GREEN
LU. . . LIGHT BLUE
N. . . BROWN
OR . . ORANGE
P. . . PURPLE (Violet)
R. . . RED
S. . . GREY
T. . . TAN
U. . . BLUE
W. . . WHITE
Y. . . YELLOW

70AG-1.0
WIRE NUMBER
WIRE COLOR
WIRE SIZE

NOTES

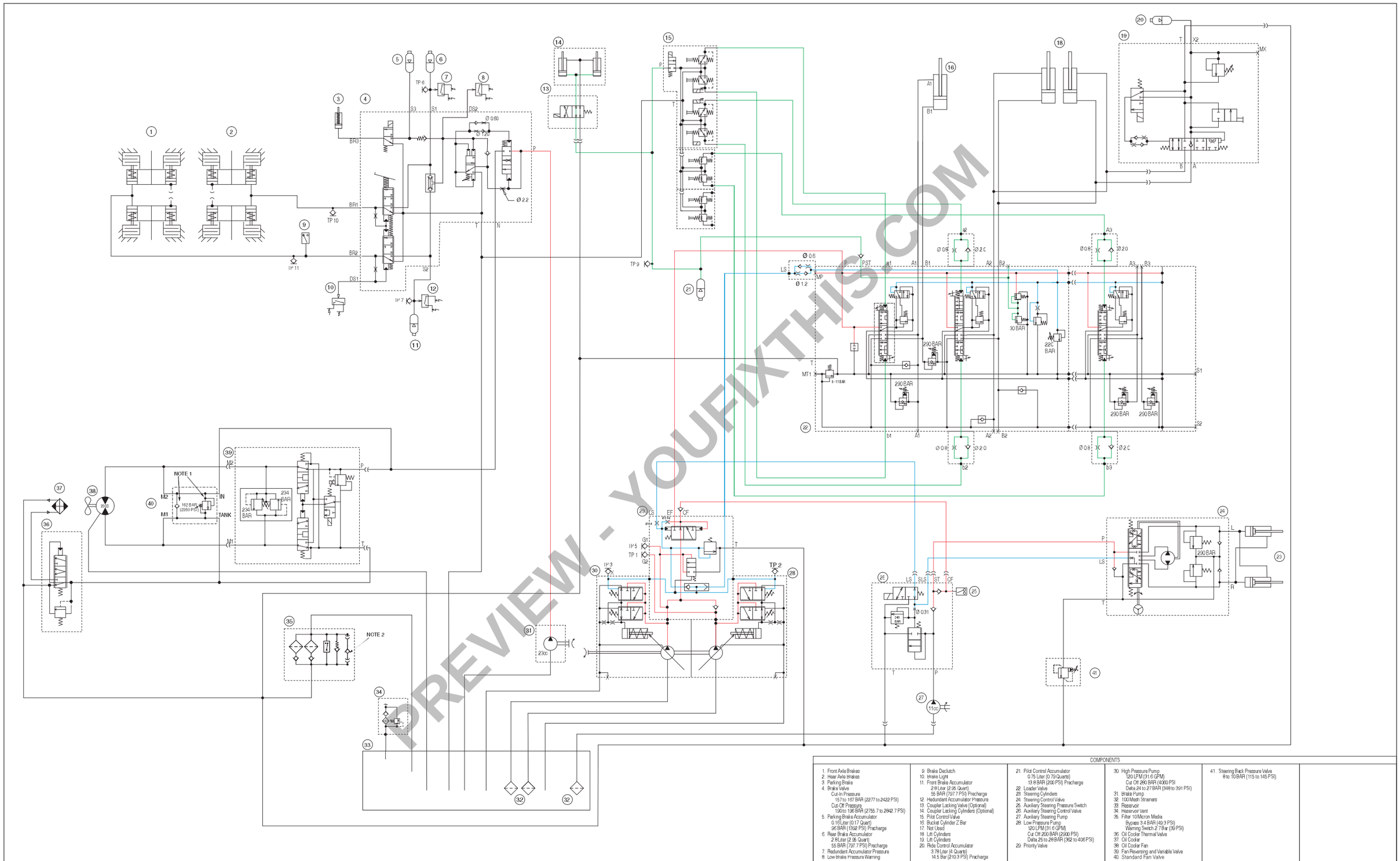
NOTE 1: Electrical Center C - Power Stud
NOTE 2: Indicates Modulated ABD Current Controller.
NOTE 3: Disconnect when Backup Alarm Disable Switch is installed. Applicable only on TUV Road Approved Machines.

ELECTRICAL SCHEMATIC
821E WHEEL LOADER

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CIRCUIT DIAGRAM LEGEND

SHOWS CIRCUIT CROSSING NOT CONNECTED
SHOWS CIRCUIT CONNECTED
54 COMPONENT NUMBER
CHECK VALVE
RESTRICTOR
FILTER OR SCREEN
OIL COOLER
CIRCUIT
COMPONENT
PUMP SUPPLY
LOAD SENSE
PILOT
LINE TYPES

NOTES

NOTE 1. Check and relief valves not used with fan reverser.
NOTE 2. Optional check valve for ride control only.
NOTE 3. For proper testing and adjustments of hydraulic components see section 8002 in the Service Manual.

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COMPONENTS

1. Front Axle Brakes
2. Rear Axle Brakes
3. Parking Brake
4. Brake Valve
   Cut-In Pressure
   157 to 167 BAR (2277 to 2422 PSI)
   Cut-Off Pressure
   190 to 196 BAR (2755.7 to 2842.7 PSI)
5. Parking Brake Accumulator
   0.16 Liter (0.17 Quart)
   96 BAR (1392 PSI) Precharge
6. Rear Brake Accumulator
   2.8 Liter (2.95 Quart)
   55 BAR (797.7 PSI) Precharge
7. Redundant Accumulator Pressure
8. Low brake Pressure Warning
9. Brake Declutch
10. brake Light
11. Front Brake Accumulator
    2.8 Liter (2.95 Quart)
    55 BAR (797.7 PSI) Precharge
12. Redundant Accumulator Pressure
13. Coupler Locking Valve (Optional)
14. Coupler Locking Cylinders (Optional)
15. Pilot Control Valve
16. Bucket Cylinder Z Bar
17. Not Used
18. Lift Cylinders
19. Lift Cylinders
20. Ride Control Accumulator
    3.78 Liter (4 Quarts)
    14.5 Bar (210.3 PSI) Precharge
21. Pilot Control Accumulator
    0.75 Liter (0.79 Quarts)
    13.8 BAR (200 PSI) Precharge
22. Loader Valve
23. Steering Cylinders
24. Steering Control Valve
25. Auxiliary Steering Pressure Switch
26. Auxiliary Steering Control Valve
27. Auxiliary Steering Pump
28. Low Pressure Pump
    120 LPM (31.6 GPM)
    Cut Off 200 BAR (2900 PSI)
    Delta 25 to 28 BAR (362 to 406 PSI)
29. Priority Valve
30. High Pressure Pump
    120 LPM (31.6 GPM)
    Cut Off 260 BAR (4060 PSI
    Delta 24 to 27 BAR (348 to 391 PSI)
31. brake Pump
32. 100 Mesh Strainers
33. Reservoir
34. Reservoir Vent
35. Filter 10 Micron Media
    Bypass 3.4 BAR (49.3 PSI)
    Warning Switch 2.7 Bar (39 PSI)
36. Oil Cooler Thermal Valve
37. Oil Cooler
38. Oil Cooler Fan
39. Fan Reversing and Variable Valve
40. Standard Fan Valve
41. Steering Back Pressure Valve
    8 to 10 BAR (115 to 145 PSI).

HYDRAULIC SCHEMATIC
821E WHEEL LOADER

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Section 1002

FLUIDS AND LUBRICANTS

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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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SPECIFICATIONS

Low idle .....875 to 925 rpm
Alternate low idle .....575 to 625 rpm
Cold low idle .....1175 to 1225 rpm
In gear low idle when in boost or auto power modes (see note) .....1050 to 1150 rpm
Full throttle (no load).....2090 to 2225 rpm
Temperature of the torque converter oil .....82° to 104° C (180° to 220° F)
Temperature of the hydraulic oil.....54° to 57°C (129° to 134°F)

NOTE: *This low idle will be held after the engine has accelerated over 1400 rpm while in gear. It will remain at this accelerated level until the transmission is placed back into neutral for two seconds.*

Stall Speeds

Torque converter .....1750 to 1895 rpm
Hydraulic system .....1860 to 2175 rpm
Torque converter and hydraulic system together .....1500 to 1800 rpm

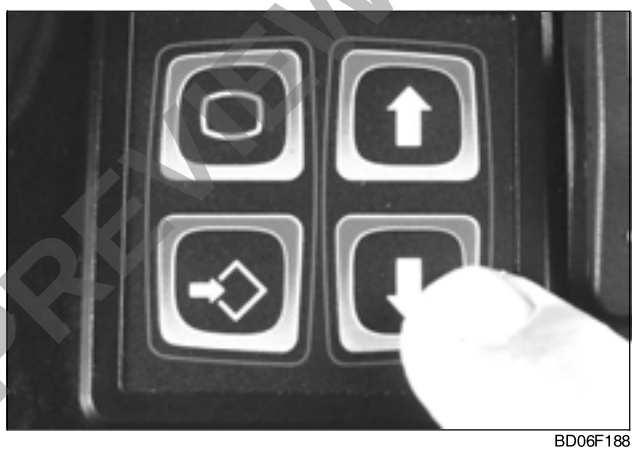
STALL TESTS

During these tests the engine runs at full throttle and works against the torque converter, the hydraulic system, or both the torque converter and the hydraulic system. The results of these tests will show if the cause of poor performance is one or more of the following: (1) engine, (2) torque converter or transmission, and (3) hydraulic system.

INSTRUMENT CLUSTER DISPLAYS

1. With the engine running, press the up or down key and scroll through the information screens and trip screens. The following sequence is using the down key only.

NOTE: *Pressing the escape key will return the LCD back to the normal driving screen.*



BD06F188

2. From the driving screen push the down arrow, as shown.



BD06F183

3. **Info 1** is the first information screen using the down arrow from the driving screen. It displays engine RPM's, speed, fuel level, and the voltage level.

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821E Wheel Loader
Service Manual
87551879A

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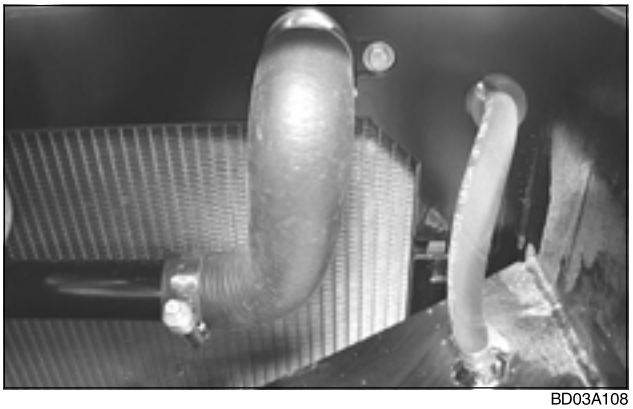
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STEP 8



BD03A108

Loosen the upper radiator hose clamps, remove the hose.

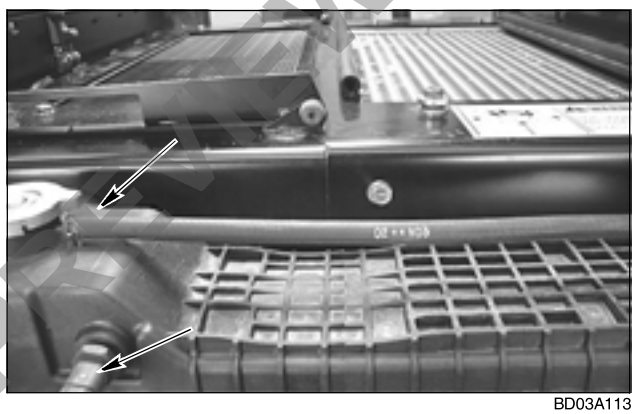
STEP 9



BD06F129

Loose and remove the lower radiator hose from the radiator.

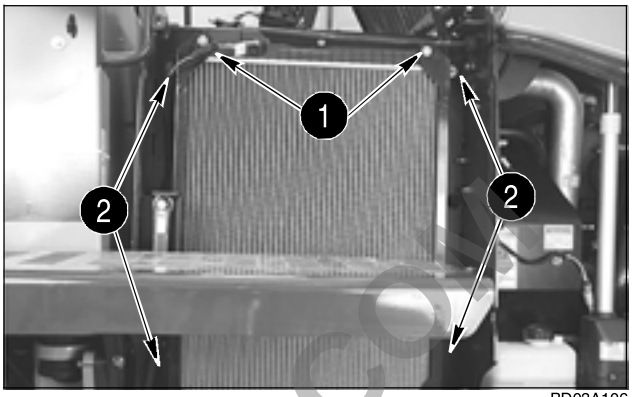
STEP 10



BD03A113

Disconnect overflow hose from radiator. Disconnect connector from coolant level sender.

STEP 11



BD03A106

Remove screws and install lifting eyes (1). Attach suitable lifting equipment to lifting eyes. Remove four mounting bolts (2), remove radiator from machine.

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Wire Identification Codes

21C Bk - 1.0

- 21C — Wire Name
- Bk — Wire Color
- 1.0 — Wire Size (mm^2)

Wire Size (mm^2)	0.8 mm	1.0 mm	2.0 mm	5.0 mm

Wire Color				
Bk = Black	DU = Dark Blue	S = Gray	LG = Light Green	K = Pink
T = Tan	W = White	N = Brown	G = Green	U = Blue
LU = Light Blue	Or = Orange	R = Red	P = Purple	Y = Yellow

Wire Identification			From Connector		To Connector	
Wire	**Circuit**	**Color, Size, and Material**	**Connector**	**Cavity**	**Connector**	**Cavity**
0 PA	Left Speaker Grnd	Bk 0.8 GXL	LSPK, Left Speaker	2	SPK, Speaker	8
0 PB	Right Speaker Grnd	Bk 0.8 GXL	RSPK, Right Speaker	2	SPK, Speaker	2
12ACC	Ignition Switch ACC Power	W 0.8 GXL	S-KEY, Ignition Switch	4	SPL-ACC, Ultrasonic	A
12ACC B	ACC PRM control Power	W 0.8 GXL	SPL-ACC, Ultrasonic	A	PRM-D1, PRM Signal	A
12ACC C	Power Converter PRM Control Power	W 0.8 GXL	SPL-ACC, Ultrasonic	A	PRM-E2, PRM Signal	A
12V	12V Pwr To Outlet 1	Or 1.0 GXL	PO1, Power Outlet	A	ECD, Elect Center D	AA4
12V A	12V Pwr To Outlet 2	Or 1.0 GXL	PO2, Power Outlet	A	ECD, Elect Center D	AA5
12V B	12V Fused Pwr to Radio	Or 1.0 GXL	CAB-RF, Cab to Roof Conn.	N	ECD, Elect Center D	AA6
12V C	12V Switched Power	Or 2.0 GXL	CNV, 24V to 12V Pwr Conver	5	SPL-12V, Ultrasonic	A
12V D	Plug 1 12V Switched Power	Or 1.0 GXL	SPL-12V, Ultrasonic	A	ECD, Elect Center D	A4
12V E	Plug 2 12V Switched Power	Or 1.0 GXL	SPL-12V, Ultrasonic	A	ECD, Elect Center D	A5
12V F	Radio 12V Switched Power	Or 1.0 GXL	SPL-12V, Ultrasonic	A	ECD, Elect Center D	A6
12V G	2 Way Radio 12V Switched Pwr	Or 1.0 GXL	SPL-12V, Ultrasonic	A	ECD, Elect Center D	A7
12V H	12V Fused Power to Radio	Or 0.8 GXL	ROOF, Roof to Cab Conn.	N	SPL-RAD, Ultrasonic	A
12V HA	12V Fused Power to Radio	Or 0.8 GXL	SPL-RAD, Ultrasonic	A	RAD, Radio Power	7
12V HB	12V Fused Power to Radio	Or 0.8 GXL	SPL-RAD, Ultrasonic	A	RAD, Radio Power	4
13C	Fuel Shutoff Fused Power	Or 1.0 SXL	DC3, Fuel Solenoid Disc	1	DISC, Disconnect Engine	A
13C A	Fuel Shutoff Fused Power	Or 1.0 SXL	ENG-D, Disc Harness	A	ENG, Engine Cab	21
13C B	Fuel Shutoff Fused Power	Or 1.0 SXL	CAB-E, Cab Engine	21	ECA, Elect Center A	A9
13D	Time Delay Relay Control Pwr	Or 1.0 SXL	TDM, Time Delay Module	1	PRM-B2, PRM Signal	A
13H	Time Delay Power	Or 3.0 GXL	SPL-DLY-RL, Ultrasonic	A	PRM-B1 PRM Output	C
13H B	AIC Time Delay Power	Or 0.8 GXL	SPL-DLY-RL, Ultrasonic	A	ECD, Elect Center D	A3
13H C	Trans ECM Time Delay Power	Or 0.8 GXL	SPL-DLY-RL, Ultrasonic	A	ECD, Elect Center D	A1
13H D	Engine ECM Time Delay Power	Or 3.0 GXL	SPL-DLY-RL, Ultrasonic	A	ECD, Elect Center D	A2
13K	Ignition Switch Pwr	Or 1.0 GXL	S-KEY, Ignition Switch	3	SPL-PK1, Slice 3-4 Way	E
13K A	Ignition Switch Pwr	Or 1.0 GXL	TDM, Time Delay Module	5	SPL-PK1, Slice 3-4 Way	G
13K B	Ignition Switch Pwr	Or 1.0 GXL	SPL-PK1, Slice 3-4 Way	F	PRM-A1, PRM Signal	A
13K C	Ignition Switch Pwr	Or 1.0 GXL	SPL-PK1, Slice 3-4 Way	H	ECB, Elect Center B	D1

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39 – Pilot Control Switch

Located on steering column pedestal.

Check Points	Correct Reading	Possible Cause of Bad Reading
Terminal for wire 0B1 to ground	Continuity	Bad ground circuit.
NOTE: *Put the master disconnect switch and the ignition switch in the ON position.*		
Terminal for wire 19C to ground	24 volts	Bad fuse ECA-F1, also check circuit 19C.
NOTE: *Press pilot control switch to turn ON switch LED.*		
Terminal for wire 31L to ground	24 volts	Bad pilot control switch.
NOTE: *Put the driving lamp switch (95) in position 3.*		
Terminal for wire 49-N to ground	24 volts	Check driving lamp switch (95) and fuse ECC-F3. Also check circuit 49.
NOTE: *If the readings are correct replace the pilot control switch.*		

40 – Ride Control Solenoid

Located on ride control valve inside of front frame.

Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *Disconnect connector YRC from ride control solenoid.*		
Connector YRC pin 2 to ground	Continuity	Bad ground circuit.
Between terminals 1 and 2 of ride control solenoid	20 to 26 ohms	Bad ride control solenoid.

41 – Rollback Pressure Switch (Option)

Located inside of front frame.

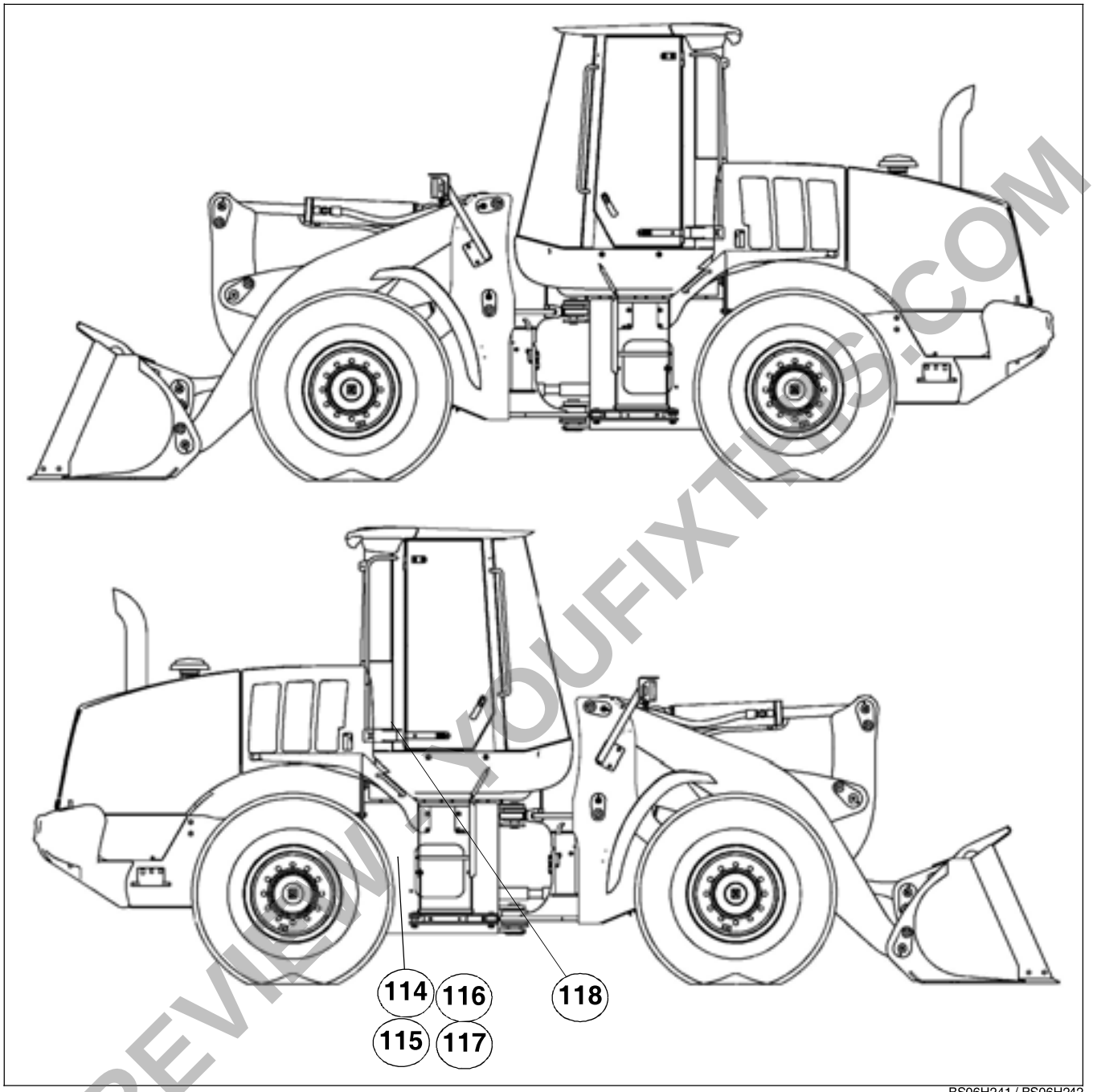
Check Points	Correct Reading	Possible Cause of Bad Reading
NOTE: *Switch opens at 6.2 bar (90 psi). Release all hydraulic pressure from the system, disconnect the wiring harness from the rollback pressure switch.*		
Between terminals A and B on switch	Continuity	Bad rollback pressure switch.
Terminal for wire 58S to ground	37 to 43 ohms	Bad ride control solenoid (40).
NOTE: *Put the master disconnect switch and the ignition switch in the ON position. Put the ride control switch (35) in the ON position. Accelerate the machine to at least 5 km/hr (3 m.p.h.).*		
Terminal for wire 58-B to ground	24 volts at *5 km/hr (3 m.p.h.)*	Bad ride control relay (36) or ride control switch (35). Also check circuit 58.

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SECONDARY STEERING



BS06H241 / BS06H242

114.SECONDARY STEERING DIODES
115.SECONDARY STEERING SOLENOID
116.SECONDARY STEERING MODULE
117.SECONDARY STEERING MOTOR
118.SECONDARY STEERING PRESSUR SWITCH

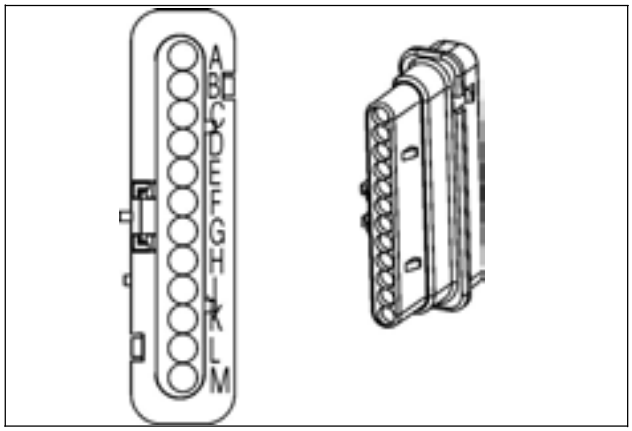
NOTE: *The battery must be at full charge and all connections clean and tight before doing any testing of the electrical system. Use a Multimeter for the following tests.*

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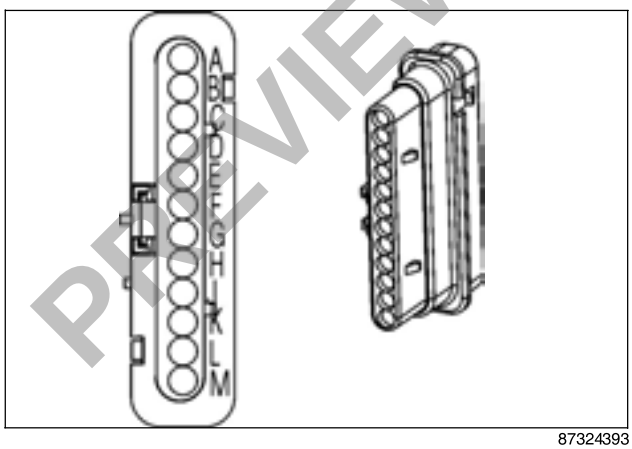
CONNECTOR GND-CAB-SPL - CAB GROUND SPLICE



87324393

CAV	WIRE IDENT	CIRCUIT
A	0-EE	Diode Suppression Grounds
B	0-EM	Radio Ground
C	0-EP	Horn Switch Ground
D		Not Used
E		Not Used
F	0-DG	Cab Splice Grounds
G	0-DT	Front Wiper/Washer Sw Gnd
H	0-DL	Power Converter Relay Ctrl Gnd
I	0-DK	Seat Compressor Motor Ground
K	0-DJ	AC Relay Control Ground
L	0-DU	Pilot Pressure Solenoid Gnd
M	0-DH	Diagnostic Connector Ground

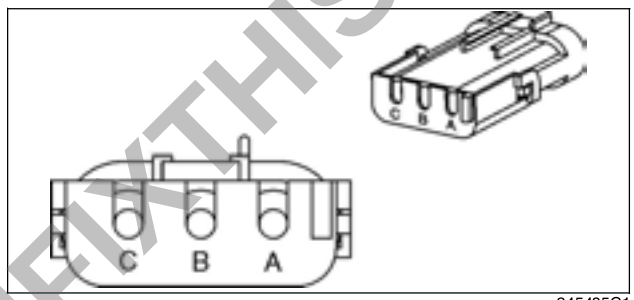
CONNECTOR GND-CAB-SPL2 - SPLICE BACK LIGHT GROUND



87324393

CAV	WIRE IDENT	CIRCUIT
A	0-DC	Time Delay Module Ground
B	0-EA	Time Delay Relay Control Gnd
C	0-EB	Ignition Relay Control Ground
D	0-EC	ACC Relay Control Ground
E	0-DD	Voltmeter Relay Control Gnd
F	0-DF	Crank Request Relay Control Gnd
G	0-DE	Neutral Start Relay Control Gnd
H	0-EQ	Splice Pack Gnd Cab SPL2 GND
J		Not Used
K	0-EH	Flasher Module Ground
L	0-EG	Flasher Module Ground
M	0-EF	Brake Lights Relay Control Gnd

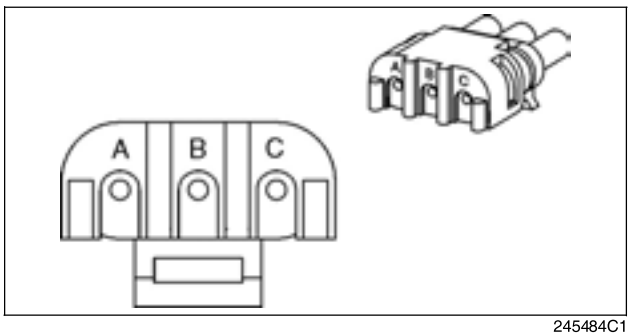
CONNECTOR HD - HOOD SWITCH



245485C1

CAV	WIRE IDENT	CIRCUIT
A	59D-A	Hood Relay Control Down
B	19Y-D	Hood Switch Fused Power
C	59U-A	Hood Relay Control Up

CONNECTOR HD-E - HOOD HARNESS TO TRANSMISSION HARNESS



245484C1

CAV	WIRE IDENT	CIRCUIT
A	18G-E	License Plate Light Fused Pwr
B	35A-H	Backup Alarm Relay Out
C	0-JA	Hood Ground (EURO)

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CHARGING A BATTERY

WARNING: *Never try to charge the battery if the electrolyte in the battery is frozen.*

47-83

Before you charge the battery, check the level of the electrolyte.

It is difficult to give an exact charging rate because of the following variable conditions: (1) temperature of the electrolyte, (2) level of charge, and (3) condition of the battery. Use the charging guide for the correct charging rate and time.

See Specifications in Section 4001 for the reserve capacity of the battery in this machine.

The charging rate must be decreased if:

1. Too much gas causes the electrolyte to flow from the cells.
2. The temperature of the electrolyte rises above 52°C (125°F).

NOTE: *For the best charge, use the slow charging rates.*

The battery is fully charged when, over a three hour period at a low charging rate, no cell is giving too much gas, and the specific gravity does not change.

Charging Guide For Maintenance Free Batteries

Recommended Rate* and Time for Fully Discharged Battery

Battery Capacity - See Reserve Capacity under Specifications	Slow Charge	Fast Charge
80 Minutes or Less	10 Hours at 5 Amperes 5 Hours at 10 Amperes	2.5 Hours at 20 Amperes 1.5 Hours at 30 Amperes
Above 80 to 125 Minutes	15 Hours at 5 Amperes 7.5 Hours at 10 Amperes	3.75 Hours at 20 Amperes 1.5 Hours at 50 Amperes
Above 125 to 170 Minutes	20 Hours at 5 Amperes 10 Hours at 10 Amperes	5 Hours at 20 Amperes 2 Hours at 50 Amperes
Above 170 to 250 Minutes	30 Hours at 5 Amperes 15 Hours at 10 Amperes	7.5 Hours at 20 Amperes 3 Hours at 50 Amperes

*initial rate for standard taper charger.

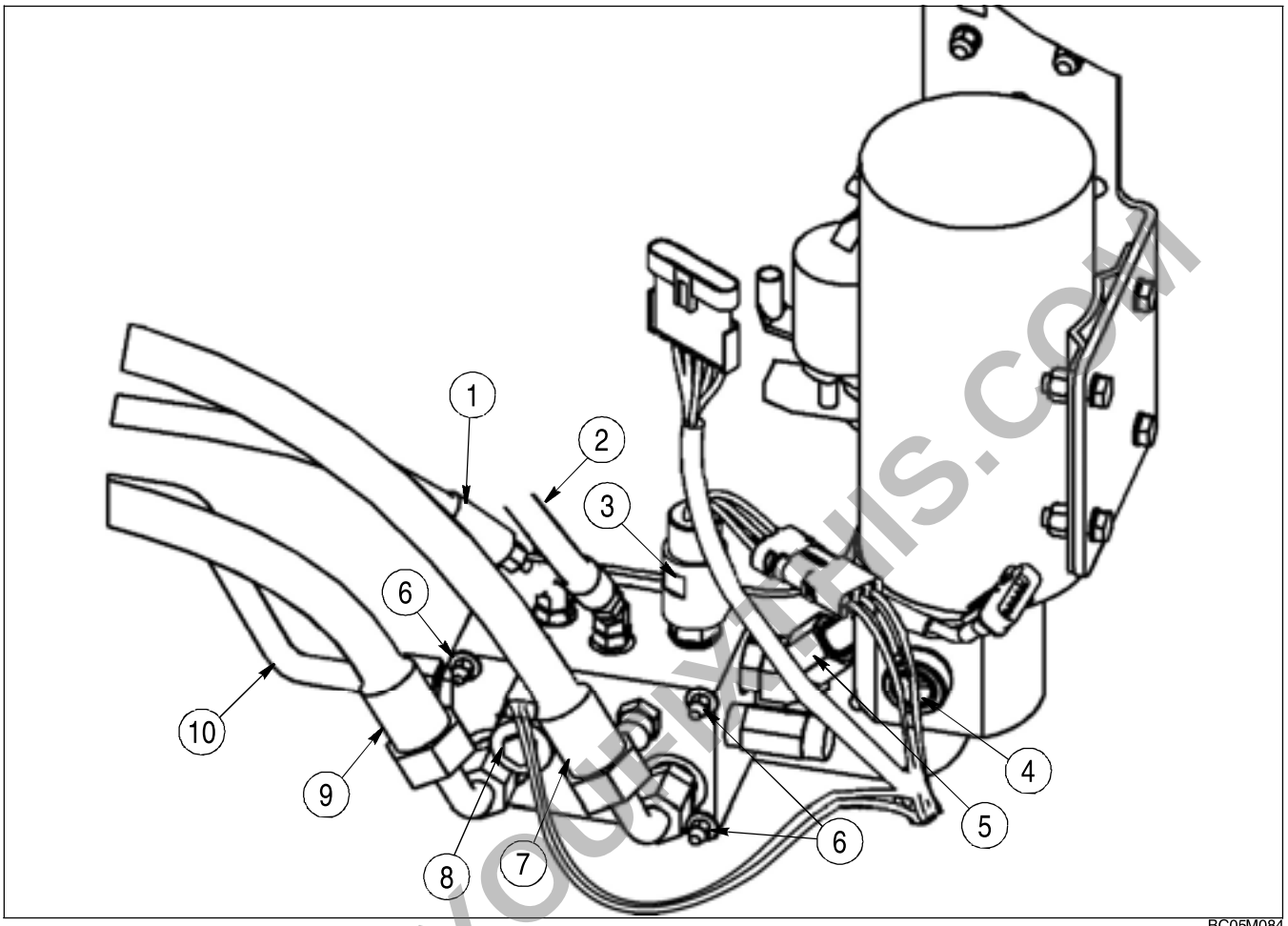
NOTE: *A maintenance free battery will have the words Maintenance Free on the decal on the top of the battery. If the center part of the decal has been removed to get access to the battery caps, it is possible the words Maintenance Free will have been removed from the decal.*

Continued on next page

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BC05M084

1. STEERING LOAD SENSING HOSE TO PRIORITY VALVE
2. STEERING LOAD SENSING HOSE TO STEERING VALVE
3. PRESSURE SWITCH
4. SUCTION PORT
5. PUMP OUT PRESSURE TUBE FITTING
6. CAP SCREWS AND NUTS
7. PRESSURE HOSE
8. STEERING SOLENOID
9. STEERING PRESSURE HOSE
10. TANK RETURN TUBE

AUXILIARY STEERING PRIORITY VALVE ILLUSTRATION

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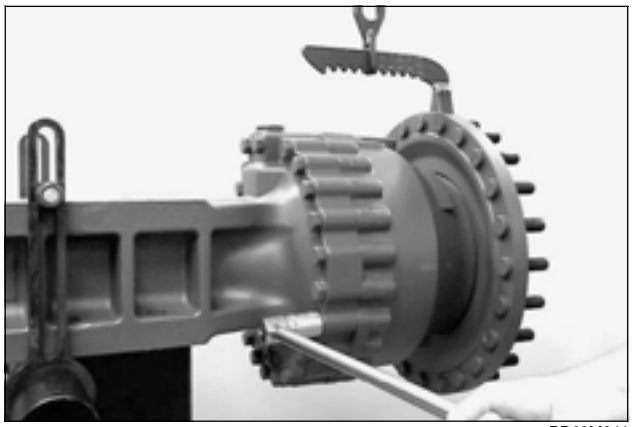
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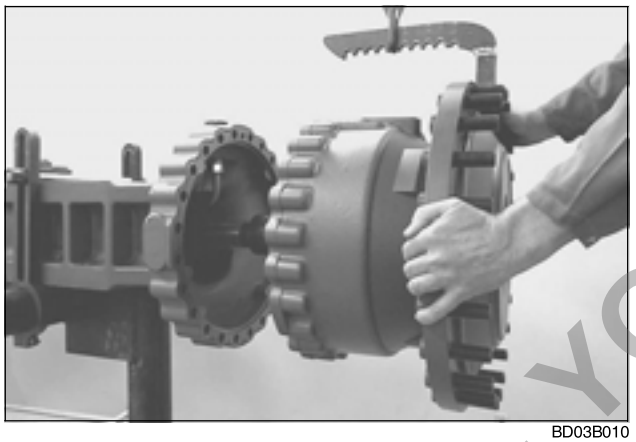
STEP 6



BD00M241

Use acceptable lifting equipment and hold the wheel end in place. Loosen and remove the bolts.

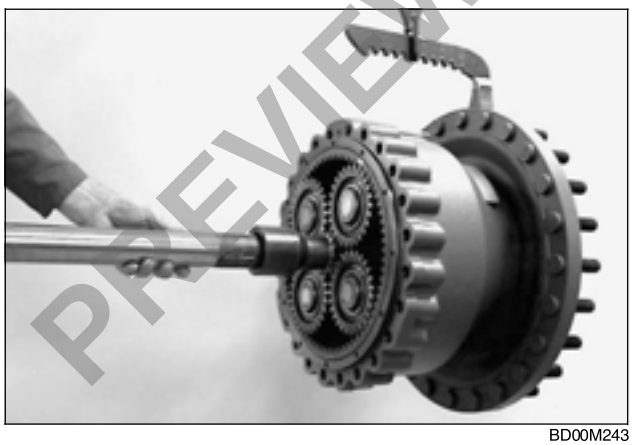
STEP 7



BD03B010

Separate the wheel end from the axle casing.

STEP 8



BD00M243

Pull the stub shaft out of the sun gear shaft.

NOTE: *Watch for released shim(s).*

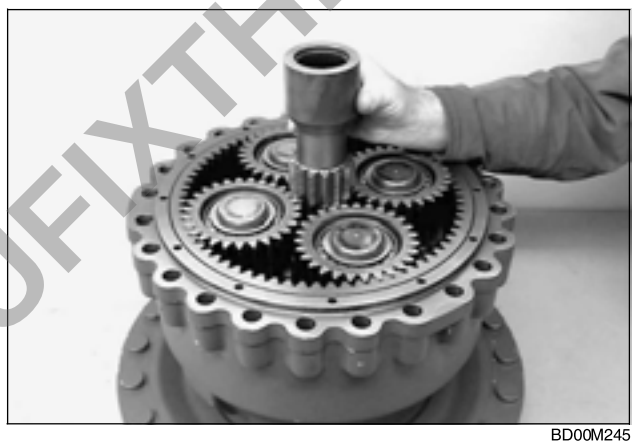
STEP 9



BD00M244

Remove the shim(s) from the sun gear shaft.

STEP 10



BD00M245

Pull the sun gear shaft out of the planet gears.

STEP 11



BD03B011

Lift planet carrier out of the brake housing using OEM4054 pulling attachment.

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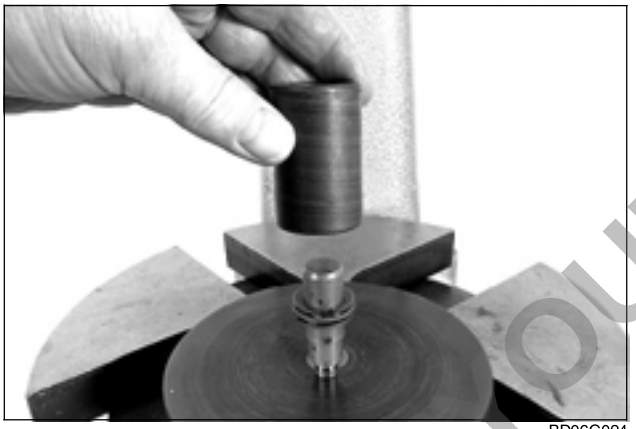
STEP 24



BD00M260

Remove seven Belleville washers from each pin.

STEP 25



BD06G024

Using a press, remove four gripping rings from each pin.

STEP 26



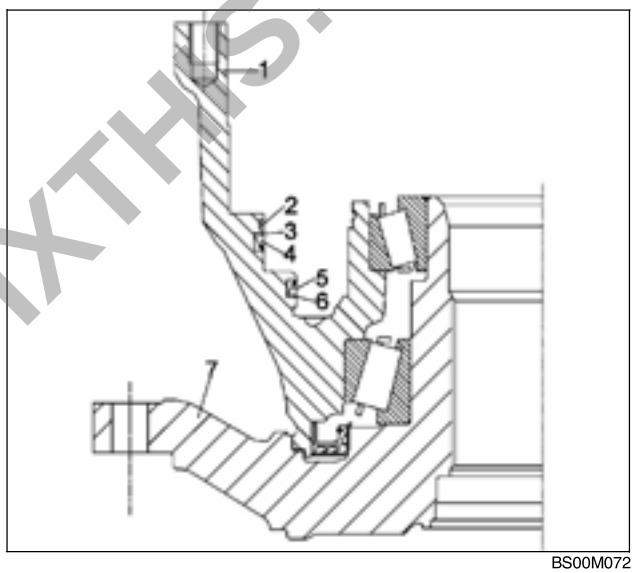
BD00M262

Lift and remove the piston from the brake housing.

STEP 27



BD00M263



BS00M072

1. BRAKE HOUSING
2. GUIDE RING
3. SUPPORT RING
4. GROOVED RING
5. GROOVED RING
6. SUPPORT RING
7. WHEEL END SHAFT

Remove the guide ring (2), support rings (3 and 6), and U-rings (4 and 5) from the grooves of the brake housing.

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Section
6007

TRANSMISSION CONTROL VALVE

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Inspection

STEP 10

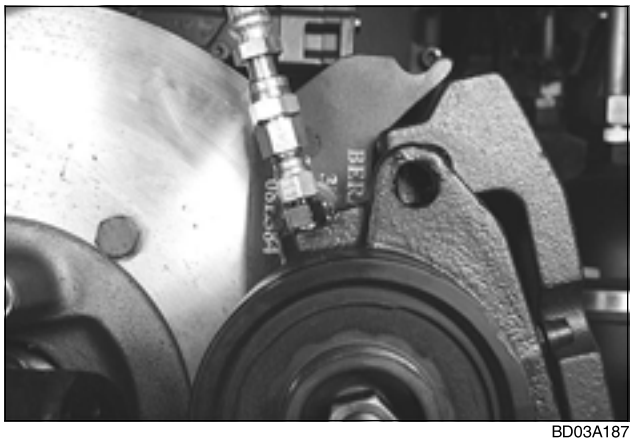
Clean and inspect all parts for wear and damage.

Inspect the brake disc for wear and damage.

Replace all parts that are worn or damaged.

Assembly

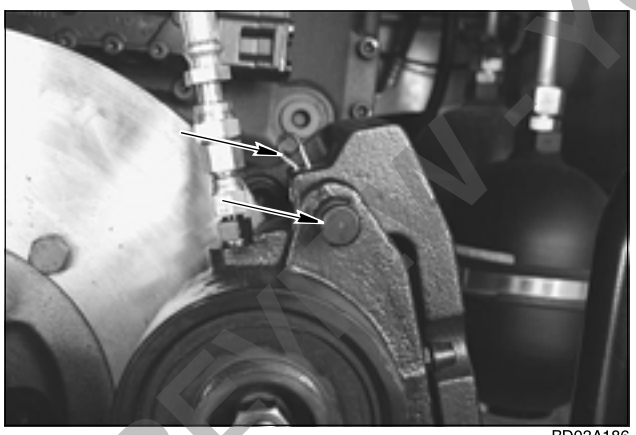
STEP 11



BD03A187

Install the two brake pads in the parking brake assembly.

STEP 12



BD03A186

Install the brake pins and retainer pins.

STEP 13

Start the machine and run the engine at low idle with the bucket resting on the ground.

IMPORTANT: *It will be necessary to have an assistant help for this procedure. An operator must be present in the cab at all times to apply the service brakes and shut down the machine in the event of mechanical failure.*

STEP 14

Disengage the parking brake.

NOTE: *Hydraulic pressure will not be applied to the parking brake until the parking brake rocker switch is turned off, the service brakes applied and the transmission is put into gear.*

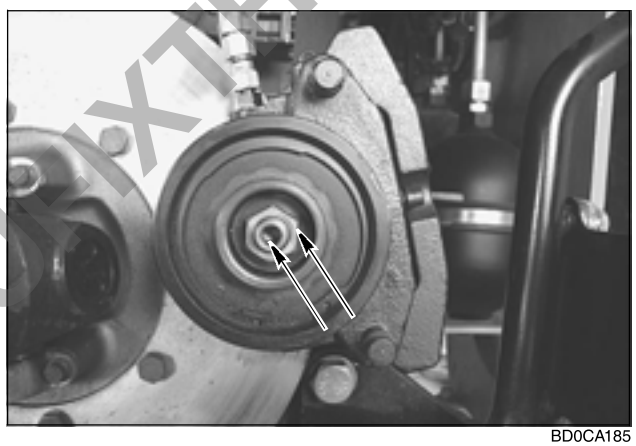
A. Place the parking brake rocker switch in the OFF position.

B. Apply the service brake and put the machine into gear.

C. The parking brake light on the cluster will turn off at this time.

Place the transmission back into neutral before proceeding.

STEP 15



BD0CA185

Turn the adjusting bolt clockwise until both brake pads contact the brake disc, then turn the adjusting bolt counterclockwise one turn. Tighten the jam nut to secure the adjusting bolt.

STEP 16

Install the cover on the parking brake.

STEP 17

Perform the Parking Brake Test Procedure as described in this section.

STEP 18

Remove the articulation lock.

STEP 19

Place the master disconnect switch to the ON position.

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STEP 7

The difference between the two readings should be 24 to 27 bar (350 to 390 psi).

STEP 8

If this reading is more or less than specified, it will be necessary to adjust the pump load-sense pressure.

Adjusting the High Pressure Pump Differential Pressure

STEP 9

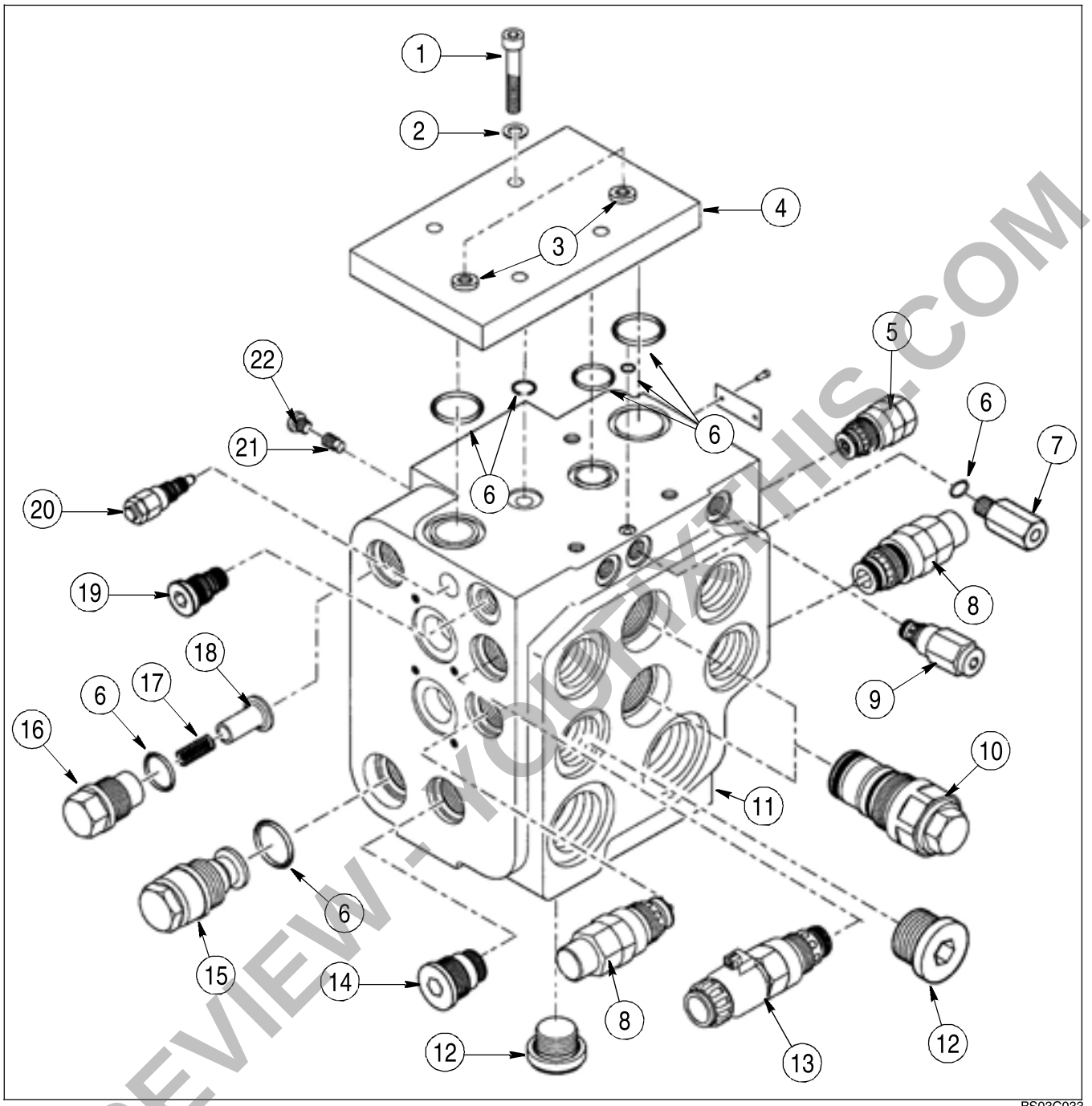
The load-sense adjusting screw is directly below the load-sense pressure tap. Turn the screw clockwise to increase the load-sense pressure. Turning the screw counterclockwise will decrease the load-sense pressure.

NOTE: *One turn of the adjustment screw will change the pressure approximately 16 bar (230 psi).*

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BS03C033

1. BOLT
2. WASHER
3. LOCKING SCREWS
4. PLATE
5. REGENERATION RELIEF VALVE
6. O-RINGS
7. LOAD SENSE SHUTTLE CHECK
8. ANTICAVITATION AND CIRCUIT RELIEF
9. LOAD SENSE BLEED DOWN ORIFICE
10. FLOW COMPENSATOR SPOOL
11. HOUSING
12. PLUG
13. FLOAT SOLENOID
14. PLUG
15. REGENERATION CHECK VALVE
16. LOCKING SCREW
17. SPRING
18. LOAD CHECK
19. FLOW LIMIT VALVE
20. PRESSURE RELIEF VALVE
21. CONE
22. LOCKING SCREW

2 SPOOL VALVE HOUSING CONFIGURATION

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Section 9002

AIR CONDITIONING TROUBLESHOOTING AND SYSTEM CHECKS FOR SYSTEMS WITH HFC-134A REFRIGERANT

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Removal

STEP 17

Park the machine on a level surface and lower the bucket to the floor.

STEP 18

If changing any air conditioning components, discharge the air conditioning system according to the instructions in Section 9003.

STEP 19



BD02N160

If changing the heater core, put a 37 liter (10 gallon) container below radiator drain. Remove radiator cap. Remove cap and drain coolant into container. Install cap after coolant has drained. Install radiator cap.

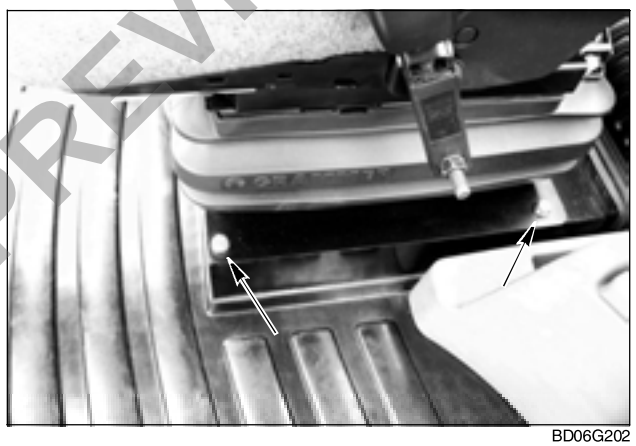
STEP 20

Place the master disconnect in the OFF position.

STEP 21

Disconnect the wiring harness from the operator's seat (if equipped with air seat option).

STEP 22



BD06G202

Remove the four bolts that fasten the operator's seat to the upper box, remove the seat from the machine.

STEP 23



BD06G212

Open the cover on the cooler.

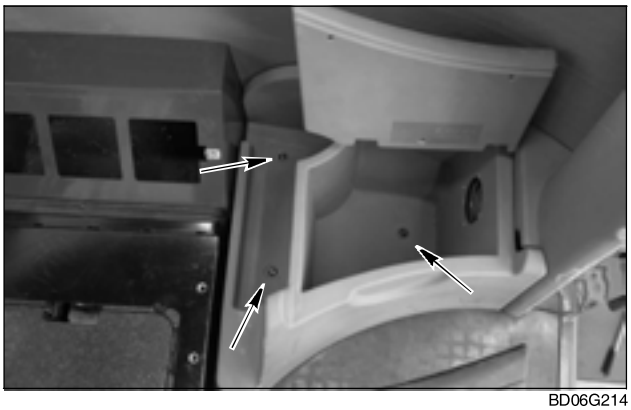
STEP 24



BD06G213

Remove the four screws securing the air vent, remove the vent cover.

STEP 25



BD06G214

Remove the three screws securing the cooler to the cab, remove the cooler.

STEP 26

Fold the rubber mat over to gain access to the upper box mounting bolts.

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