CAT

CATERPILLAR

MANUAL

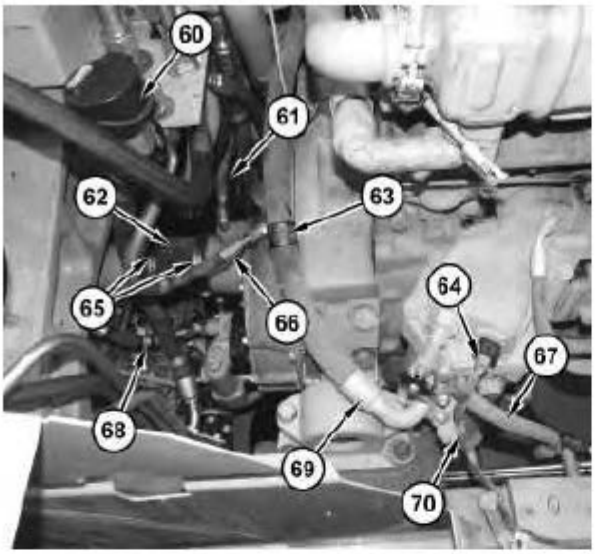


Illustration 21 g02582816

32. Remove breather assembly (60) .
33. Disconnect clip (63) and hose assembly (69) .
34. Loosen clamps (65) and reposition hose (62) .
35. Remove hose assembly (66) .
36. Disconnect harness assembly (64) and clip (70) .
37. Disconnect hose (67) and hose assembly (68) .

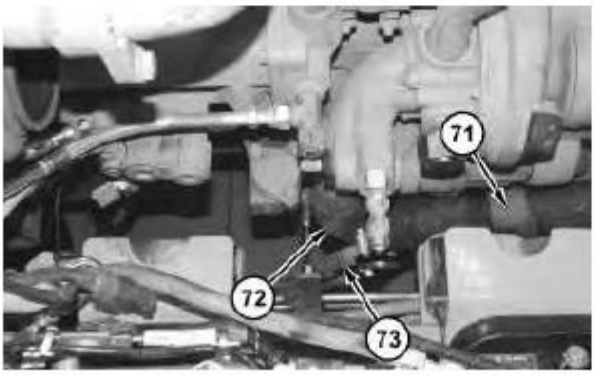


Illustration 22 g02582817

38. Disconnect clip (71), hose (72), and hose (73) .

Tool	Item	Qty	Part No	Description
A	A		198-4240	Digital Pressure Indicator Gp
	A1	1	198-4234	Digital Indicator
	A2	1	198-4237	Pressure Sensor Gp (0 to 3,445 kPa (0 to 500 psi))
	A3	1	198-4236	Adapter Cable As

ReferenceRefer to Tool Operating Manual, NEHS0818, "Using the 198-4240 Digital Pressure Indicator Group" for more information on using Tooling (A) .

Machine Preparation

1. Move the machine to a smooth horizontal location.
2. Place the steering control lever in the NEUTRAL position.
3. Engage the parking brake.
4. Lower the attachments to the ground.
5. Stop the engine.

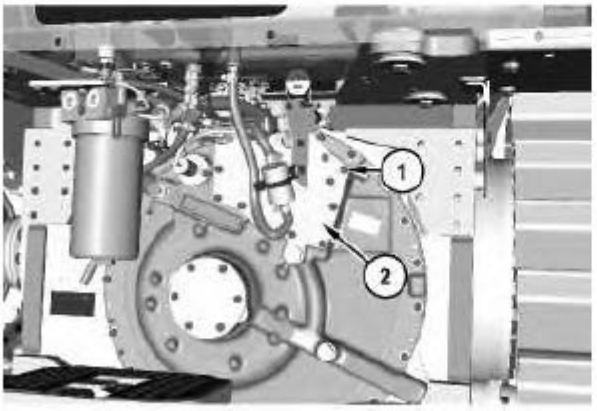


Illustration 2 g03395826

(1) Bolts

Illustration 2 g01362229

2. Block the front of the machine and block the rear of the machine. Refer to Illustration 1 and Illustration 2.

3. Raise the cab. Refer to the Operation and Maintenance Manual for your machine.

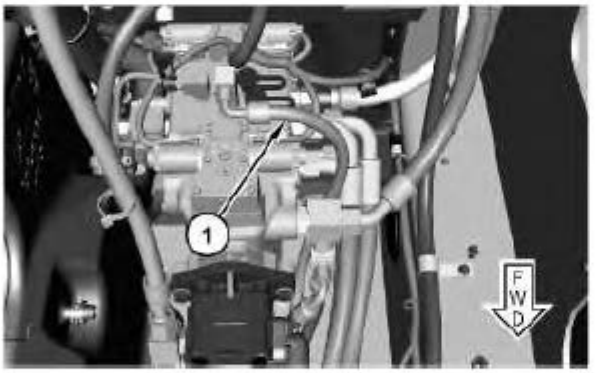


Illustration 3 g03385008

(1) Brake pressure supply line

4. Disconnect the brake pressure supply line (1) at the top of the hydrostatic pump. Install a plug loosely into the hose for contamination prevention only. Do not tighten this plug as pressure should not be allowed to build up in the brake line. Cap the port fitting.

5. Lower the cab and securely bolt the cab to the frame.

6. Sit in the seat. Fasten the seat belt. Lower the armrest.

2. Operate the engine at HIGH IDLE. Make sure that the steering control lever is in the NEUTRAL position. Disengage the parking brake.

3. Check the pressure at tooling (A or B) . The main relief pressure should be 2625 ± 150 kPa (380 ± 22 psi).

4. If the pressure at tooling (A or B) is within the specified limit, the test is complete. If the pressure at tooling (A or B) is not within the specified limit, perform the procedure in "Adjustment Procedure for the Main Relief Valve".

Adjustment Procedure for the Main Relief Valve

1. Perform the steps in "Test Procedure (Transmission Main Relief Valve)".

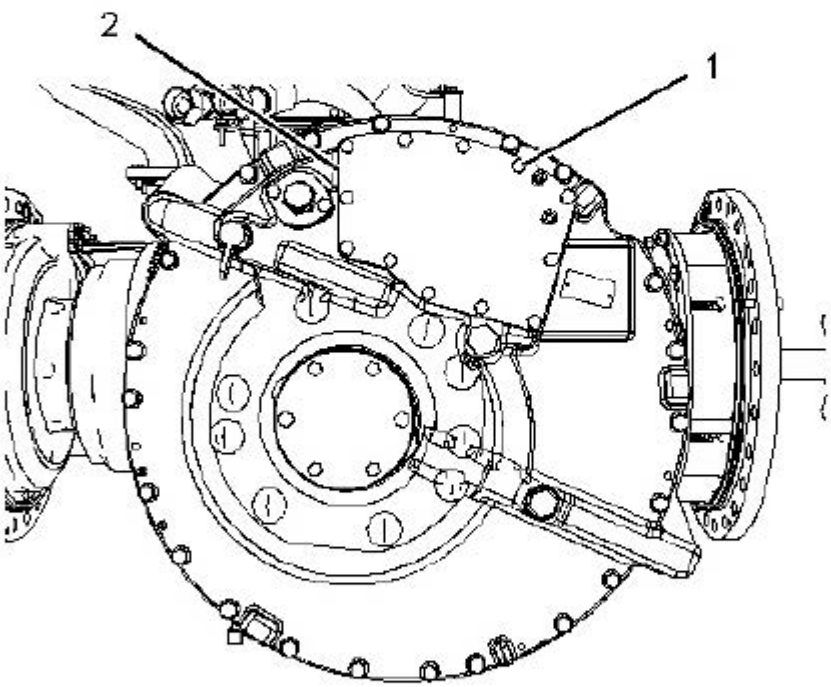


Illustration 4 g02494836

(1) Bolts

(2) Back Cover

2. Remove bolts (1) from back cover (2) . Remove back cover (2) .

The remote pressure taps and diagnostic ports are located behind the access panel on the left side of the machine.

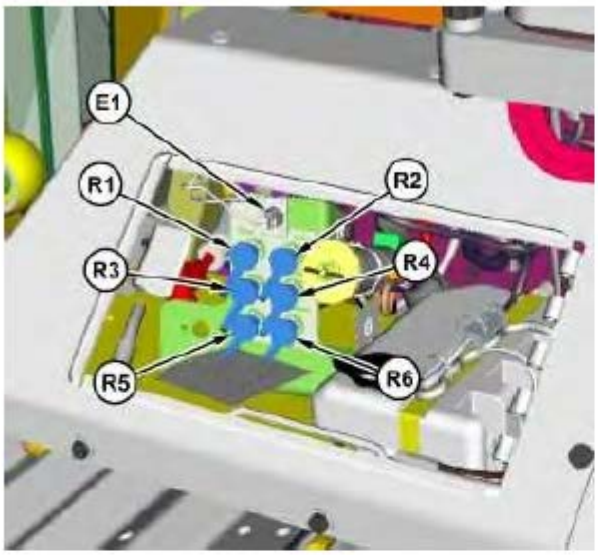


Illustration 2 g02498337

View of the left side of the cab

Note: The following pressure taps are color coded for assembly purposes only.

Torque converter inlet pressure (R1) - Brown

Torque converter outlet pressure (R2) - Red

Brake pressure (R3) - Yellow

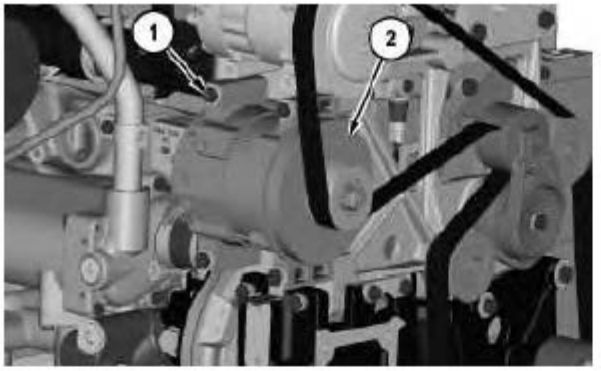


Illustration 1 g01871219

3. Remove bolts (1) and alternator (2).

Installation Procedure

1. Install alternator (2) in reverse order of removal.

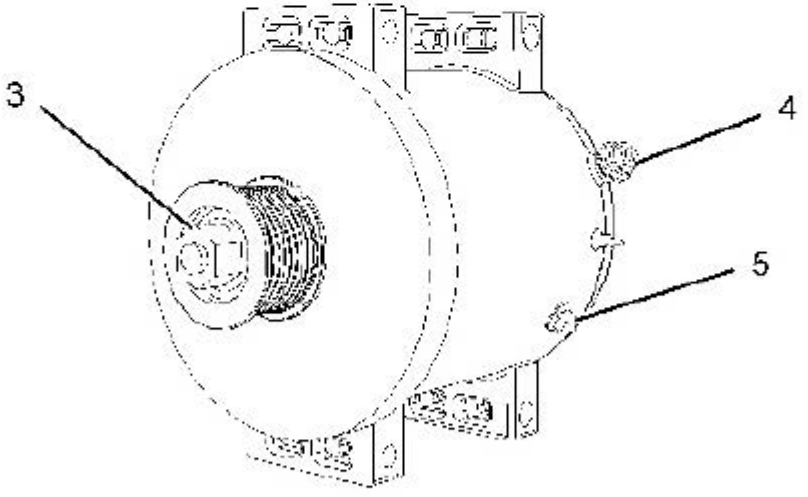


Illustration 2 g01872415

a. Tighten nut (3) to a torque of 127 ± 10 N·m (94 ± 8 lb ft).

b. Tighten nut (4) to a torque of 18 ± 2 N·m (161 ± 21 lb in).

c. Tighten bolt (5) to a torque of 5± 1 N·m (39 ± 9 lb in).

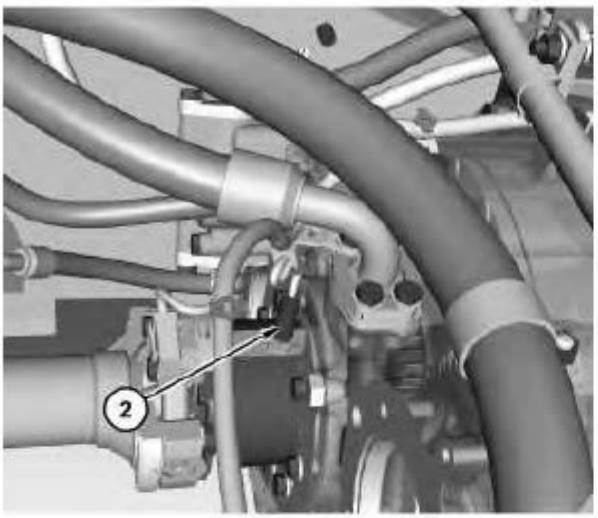


Illustration 2 g02559176

(2) Torque converter output speed sensor

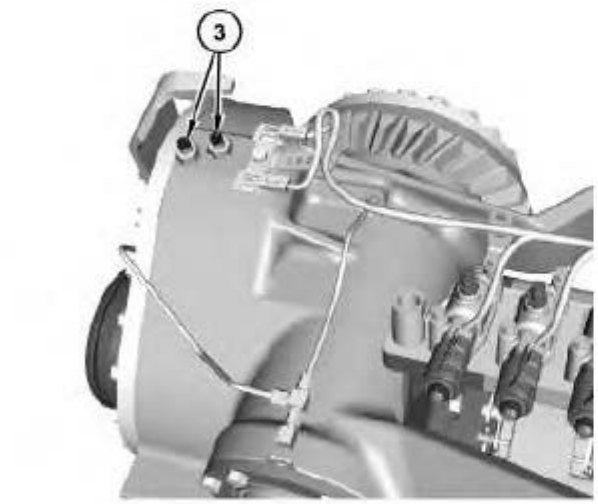


Illustration 3 g02559177

(3) Transmission output speed sensor

1. Remove torque converter output speed sensor (2).
2. Align one gear tooth with the speed sensor that is being set.

Illustration 3 g01821775

Location of lift cylinders (1) for a SU Blade

Tilt Cylinder

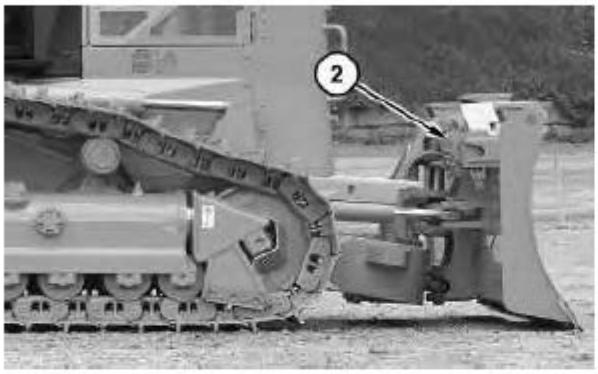


Illustration 4 g01740811

Location of tilt cylinder (2)

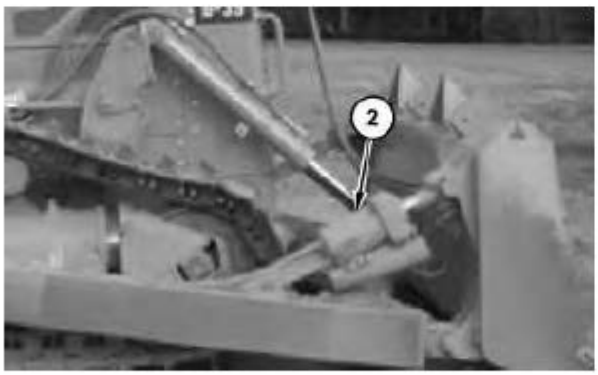


Illustration 5 g01822095

Location of tilt cylinder (2) for a SU Blade

Angle Cylinders

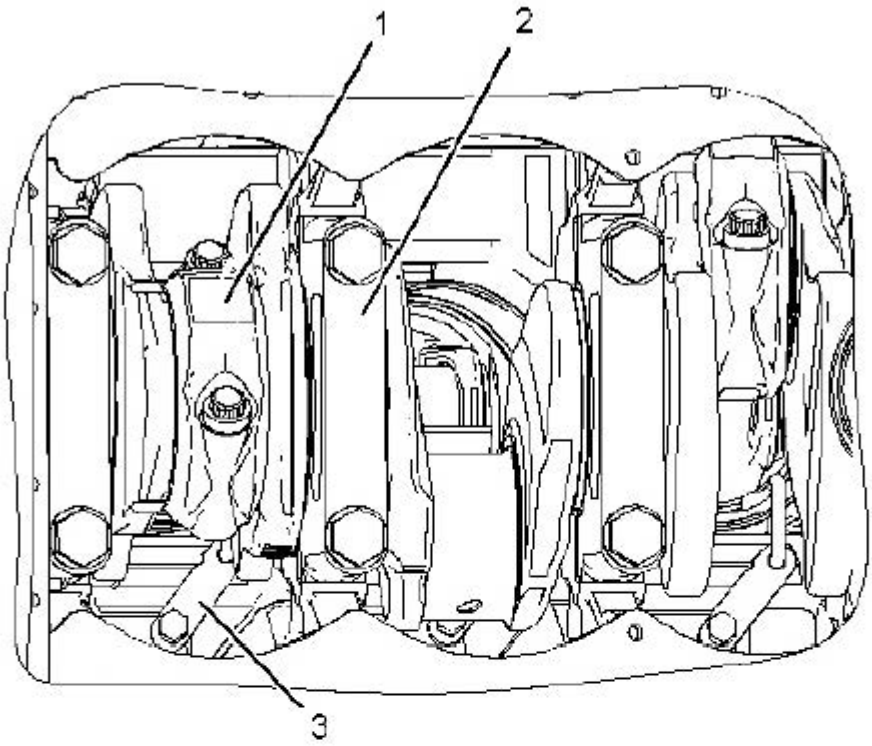


Illustration 2 g03672920

3. Install connecting rod caps (1) and crankshaft main bearing caps (2).
4. Tighten the bolts for connecting rod caps (1) by using the following procedure:
   a. Tighten each bolt to a torque of 50 ± 5 N·m (37 ± 3 lb ft).
   b. Place an index mark on each bolt. Tighten each bolt for an additional 90 ± 5 degrees (1/4 turn).
5. Tighten the bolts for crankshaft main bearing caps (2) by using the following procedure:
   a. Tighten each bolt to a torque of 95 ± 5 N·m (70 ± 4 lb ft).
   b. Place an index mark on each bolt. Tighten each bolt for an additional 90 ± 5 degrees (1/4 turn).
6. Install piston cooling jet (3).

End By:

a. Install the engine oil pump. Refer to Disassembly and Assembly, "Engine Oil Pump - Install".

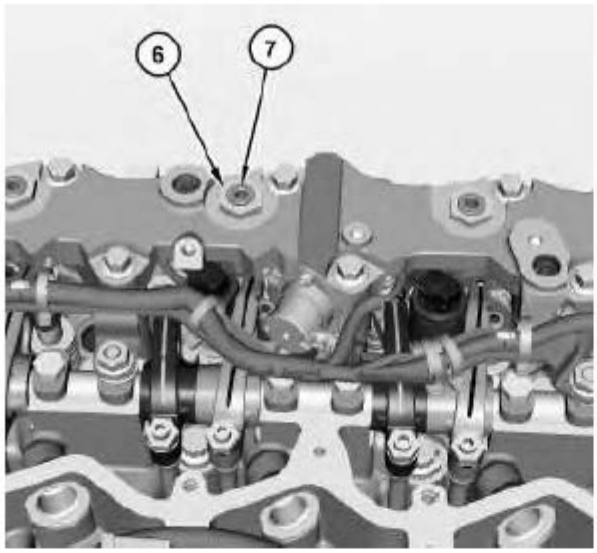


Illustration 8 g01457661

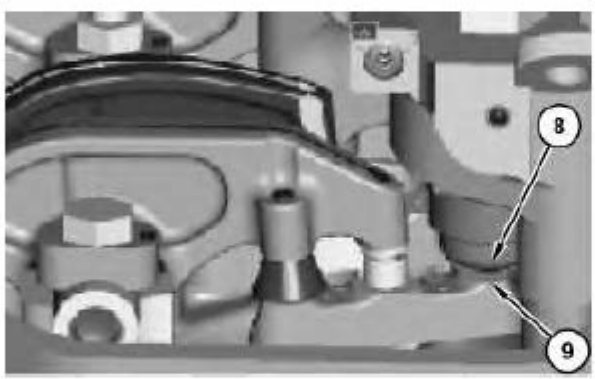


Illustration 9 g01456446

Note: Failure to adjust lash properly could result in engine damage.

13. On cylinders two, four, and six, set the lash on the compression brake. Position the number six piston to the top center position of compression stroke.
14. Thread adjuster (7) clockwise until the brake piston (8) touches valve bridge (9) .
15. Turn adjuster (7) counterclockwise until the adjuster has turned one full rotation.
16. Use Tooling (A) in order to verify the brake lash of 0.9 ± 0.2 mm (0.035 ± 0.008 inch). The brake lash is measured between brake piston (8) and valve bridge (9) .
17. Tighten locknuts (6) to a torque of 50 ± 10 N·m (37 ± 7 lb ft). Do not allow adjuster (7) to turn while you are tightening locknut (6). Recheck the valve lash after tightening the locknut.

HY6 GY
HY7 OR
HY5 BK
HY8 BK
HY9 BK
HY10 BK
HY11 BK
HY4 WH
HY2 BU
HY6 GY
HY3 GN
HY5 BK
L CAN 1 L
M ID PIN
N CAN 2 H
P CAN 1 H
R RS232-RX2
S RS232-TX2

CONN 60

AM-C1 1552252 AT-C1 3E5179

TWISTED WIRE
L672-AM77 BU-14
T744-AM78 WH-14
L854-AM124 YL-18
L855-AM125 GN-18
L857-AM127 GN-18
L856-AM126 YL-18
T745-AM144 YL-14
L673-AM37 GY-14
L672-AT1 BU-14
T744-AT2 WH-14
L854-AT3 YL-18
L855-AT4 GN-18
T744-AT5 WH-14
T744-AT6 WH-14
L857-AT7 GN-18
L856-AT8 YL-18
T745-AT9 YL-14
L673-AT10 GY-14
TWISTED WIRE
TWISTED WIRE
TWISTED WIRE

CONN 63

AT-C2 2302566 RE-C1

L672-AT1 BU-14
T744-AT5 WH-14
L854-AT3 YL-18
L855-AT4 GN-18
T744-AT6 WH-14
T744-AT2 WH-14
T745-AT9 YL-14
L673-AT10 GY-14
L856-AT8 YL-18
L857-AT7 GN-18
RD-14
BU-20
GN-20
WH-20
BR-20
BK-20
GY-14
OR-14

(79) LH ELECTRIC MAST
226-2333
RE-C2

RD-14 A SWITCHED POWER
BU-20 B SWITCHED POWER RTN
GN-20 C CAN 0 HIGH
WH-20 D CAN 0 LOW
BR-20 E POWER ON REQ
BK-20 F SWITCHED POWER RTN
GY-14 G SWITCHED POWER RTN
OR-14 H SWITCHED POWER
I
J

RD-20 A SWITCHED POWER
BU-20 B TERM CONTROL
GN-20 C CAN 0 HIGH
WH-20 D CAN 0 LOW
BR-20 E POWER CONTROL
BK-20 F GROUND
RH-C1

CONN 59

AM-C2 1552252 AF-C1 3E5179

L672-AM128 BU-14
T744-AM129 WH-14
L854-AM130 YL-18
L855-AM131 GN-18
L672-AF1 BU-14
T744-AF2 WH-14
L854-AF3 YL-18
L855-AF4 GN-18
T744-AF5 WH-14
T744-AF6 WH-14
L857-AF7 GN-18
L856-AF8 YL-18
T745-AF9 YL-14
L673-AF10 GY-14
TWISTED WIRE
TWISTED WIRE
TWISTED WIRE
TWISTED WIRE

CONN 62

AF-C2 2302566 AY-C2 1543165

L672-AF1 BU-14
T744-AF5 WH-14
L854-AF3 YL-18
L855-AF4 GN-18
T744-AF6 WH-14
T744-AF2 WH-14
T745-AF9 YL-14
L673-AF10 GY-14
L656-AF8 YL-18
L657-AF7 GN-18
RD-20
BU-20
GN-20
WH-20
BN-20
BK-20

(61) INCLINATION SENSOR
226-9170

A POWER
B SELECT A
C CAN H
D CAN L
E SELECT B
F GROUND

(79) LH LASER RECEIVER
226-2334
RH-C2

RD-20 A SWITCHED POWER
BU-20 B TERM CONTROL
GN-20 C CAN 0 HIGH
WH-20 D CAN 0 LOW
BR-20 E POWER CONTROL
BK-20 F GROUND

T744-AM108 WH-14
T744-AM78 WH-14
T744-AM129 WH-14
T744-AM153 WH-14
T744-AM154 WH-14
T745-AM110 YL-14
T745-AM122 YL-14
T745-AM144 YL-14
L854-AM115 YL-18
L854-AM116 YL-18
L854-AM143 YL-18
L854-AM130 YL-18
L854-AM61 YL-18
L854-AM63 YL-18
L854-AM124 YL-18
L855-AM114 GN-18
L855-AM119 GN-18
L855-AM142 GN-18
L855-AM131 GN-18
L855-AM62 GN-18
L855-AM125 GN-18
L855-AM64 GN-18
L856-AM113 YL-18
L856-AM121 YL-18
L856-AM67 YL-18
L856-AM126 YL-18
L856-AM65 YL-18
L857-AM112 GN-18
L857-AM120 GN-18
L857-AM68 GN-18
L857-AM127 GN-18
L857-AM66 GN-18
L672-AM109 BU-14
L672-AM77 BU-14
L672-AM116 BU-14
L672-AM128 BU-14
L673-AM111 GY-14
L673-AM37 GY-14
L673-AM123 GY-14
TWISTED WIRE

AM-C5 1740502 (77) CAN B RESISTOR 1 134-2540

L856-AM65 YL-18
L857-AM66 GN-18
A
B
C
-

AM-C6 1740502 (77) CAN A RESISTOR 2 134-2540

L854-AM63 YL-18
L855-AM64 GN-18
A
B
C
-
TWISTED WIRE

CONN 58

AM-C3 1552253 AU-C1 1907612

L672-AM116 BU-14
T744-AM153 WH-14
L854-AM118 YL-18
L855-AM119 GN-18
T744-AM154 WH-14
L857-AM120 GN-18
L856-AM121 YL-18
T745-AM122 YL-14
L673-AM123 GY-14
L672-AU1 BU-14
T744-AU2 WH-14
L854-AU3 YL-18
L855-AU4 GN-18
T744-AU5 WH-14
T744-AU6 WH-14
L857-AU7 GN-18
L856-AU8 YL-18
T745-AU9 YL-14
L673-AU10 GY-14
TWISTED WIRE
TWISTED WIRE
TWISTED WIRE
TWISTED WIRE

CONN 61

AU-C2 2302566 RG-C1

L672-AU1 BU-14
T744-AU5 WH-14
L854-AU3 YL-18
L855-AU4 GN-18
T744-AU6 WH-14
T744-AU2 WH-14
T745-AU9 YL-14
L673-AU10 GY-14
L856-AU8 YL-18
L857-AU7 GN-18
RD-14
BU-20
GN-20
WH-20
BR-20
BK-20
GY-14
OR-14

(80) RH ELECTRIC MAST
226-2333
RG-C2

RD-14 A SWITCHED POWER
BU-20 B SWITCHED POWER RTN
GN-20 C CAN 0 HIGH
WH-20 D CAN 0 LOW
BR-20 E POWER ON REQ
BK-20 F SWITCHED POWER RTN
GY-14 G SWITCHED POWER RTN
OR-14 H SWITCHED POWER
I
J

RD-20 A SWITCHED POWER
BU-20 B TERM CONTROL
GN-20 C CAN 0 HIGH
WH-20 D CAN 0 LOW
BR-20 E POWER CONTROL
BK-20 F GROUND
RL-C1

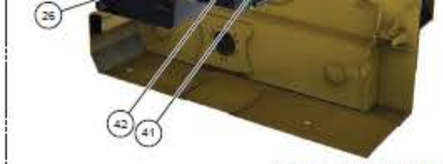
(80) RH LASER RECEIVER
226-2334
RL-C2

RD-20 A SWITCHED POWER
BU-20 B TERM CONTROL
GN-20 C CAN 0 HIGH
WH-20 D CAN 0 LOW
BR-20 E POWER CONTROL
BK-20 F GROUND

H
G
F

36.34 x 20.26 in

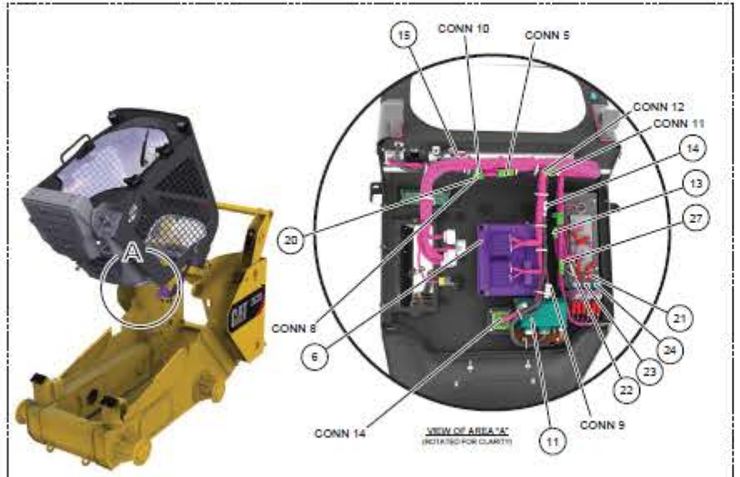
CAB AND CHASSIS CONNECTIONS



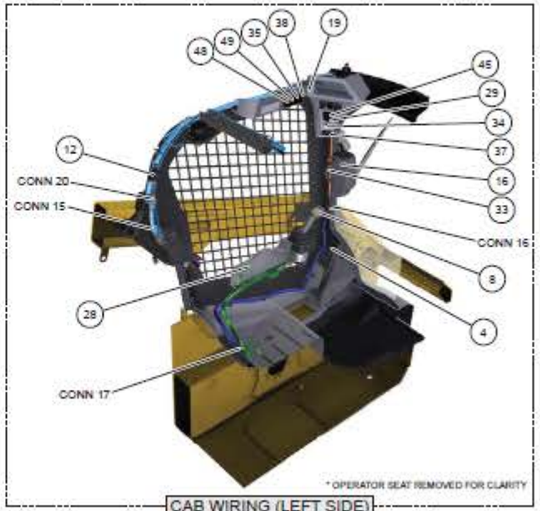
CAB WIRING (RIGHT SIDE)

PEDAL

FUSE BLOCK WIRING



REAR CAB WIRING



CAB WIRING (LEFT SIDE)