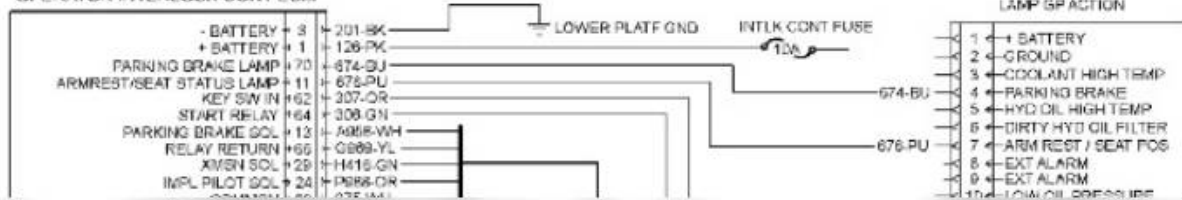


Blurred on purpose. The manual you buy has this page in full quality.

OPERATOR INTERLOCK CONT ECM



Blurred on purpose. The manual you buy has this page in full quality.



WARNING

Personal injury can result from being struck by parts propelled by a released spring force.

Make sure to wear all necessary protective equipment.

Follow the recommended procedure and use all recommended tooling to release the spring force.

NOTICE

Ensure that the valve spring is compressed squarely or damage to the valve stem may occur.

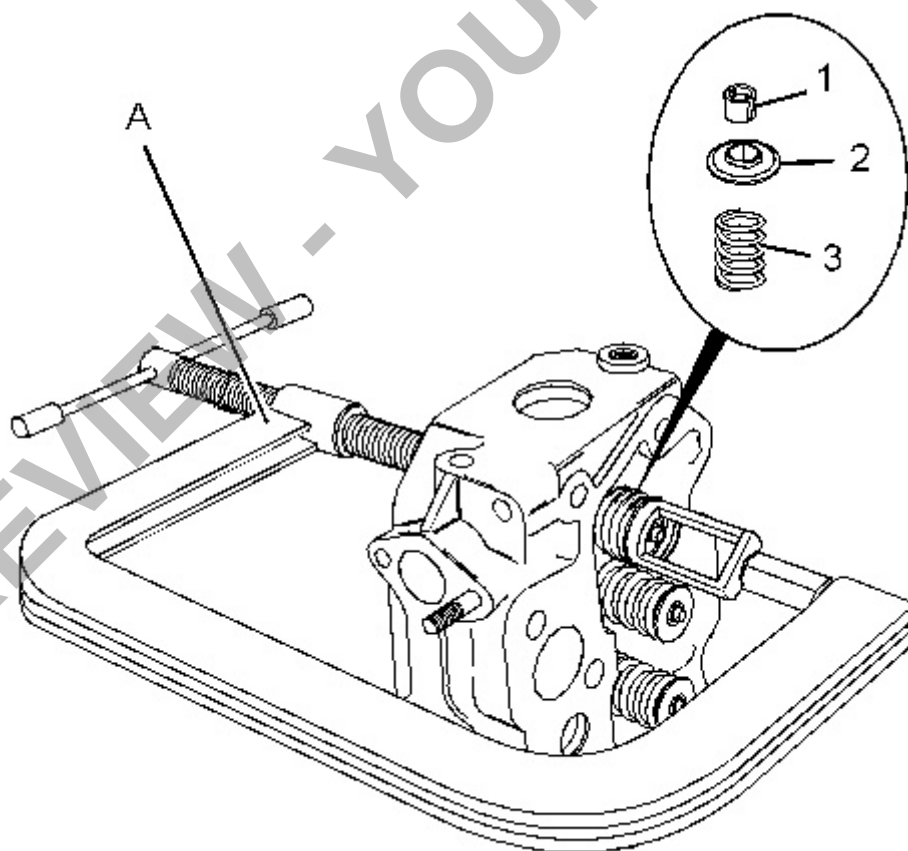


Illustration 1

g01315963

Typical example

Failure to relieve pressure before removing a lock valve or disassembling a cylinder can result in personal injury or death.

Ensure all pressure is relieved before removing a lock valve or disassembling a cylinder.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

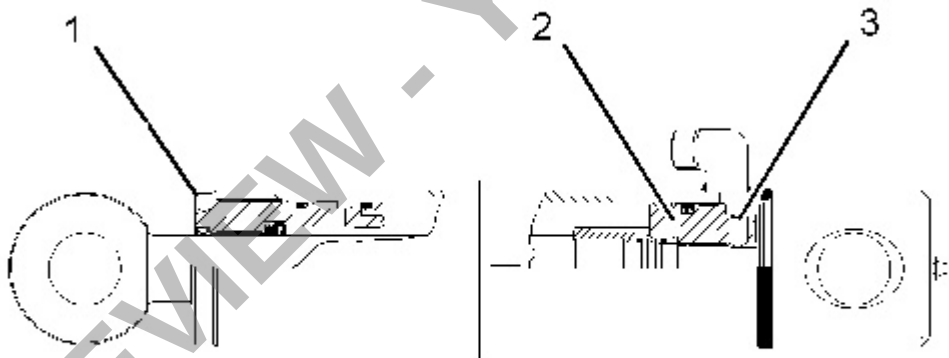


Illustration 5

g01052481

- (1) Torque for the head ... $325 \pm 25 \text{ N}\cdot\text{m}$ ($240 \pm 18 \text{ lb ft}$)
- (2) Torque for the piston ... $485 \pm 25 \text{ N}\cdot\text{m}$ ($357.7166 \pm 18.4390 \text{ lb ft}$)
- (3) Torque for the setscrew ... $23 \pm 2.5 \text{ N}\cdot\text{m}$ ($17 \pm 2 \text{ lb ft}$)

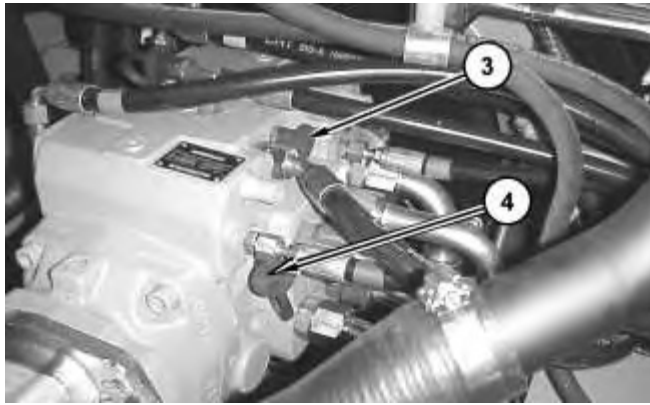


Illustration 10

g01364143

6. Install the **177-7861** Hose to the MB1 (3) and the MB2 (4) onto the pressure ports on the right side of the hydrostatic piston pump. Connect **186-2613** Pressure Gauge to the other end of these hoses and place the hoses in a visible position.

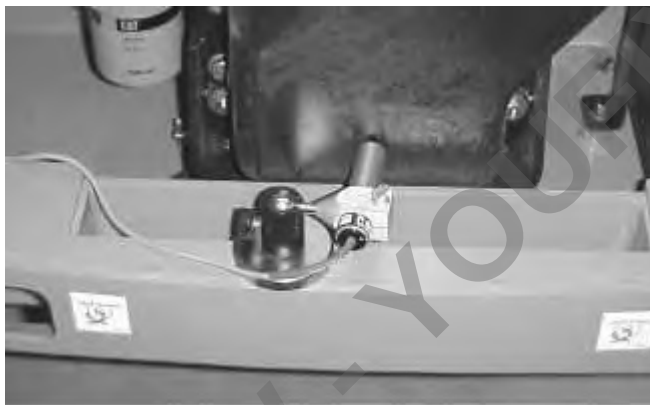
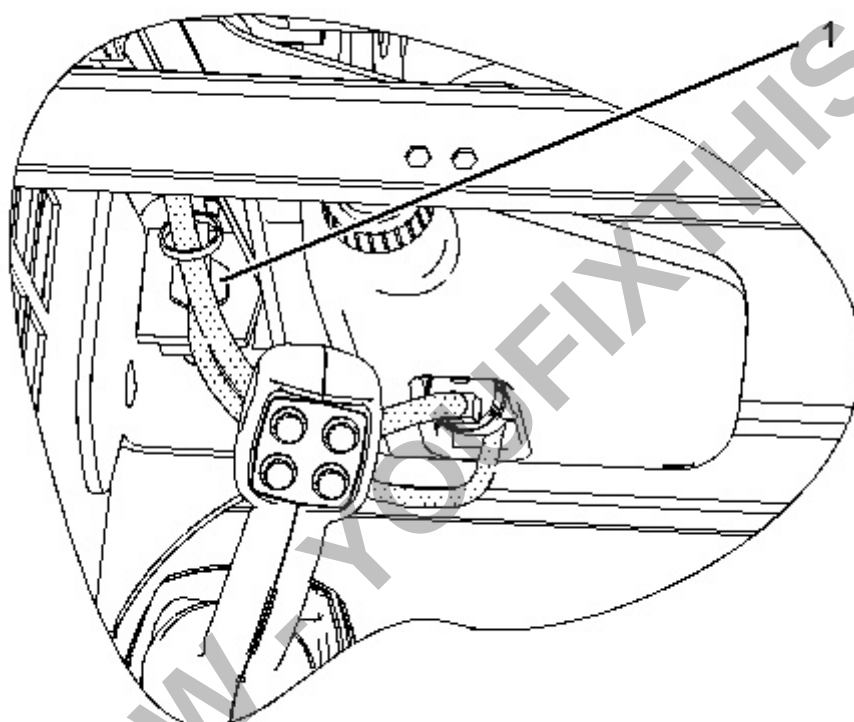


Illustration 11

g00592868

7. Install the **9U-7400** Multitach Tool Gp on the rear frame. Position the sensor in order to read the reflective tape on the crankshaft pulley.
8. Route the test hoses so that the cab does not rest on the hoses. Lower the cab. Ensure that the test hoses and cables do not contact the tires. Securely bolt the cab to the frame.

1. Tilt the cab upward.
 2. Disengage cab support lever (5) .
 3. Lower cab (4) .
-



4. Align bolt (1) .
-

Disassembly and Assembly

216B, 216B2, 226B, 226B2, 232B, 232B2, 242B and 242B2

Skid Steer Loaders Engine Supplement

Media Number -REN4893-03

Publication Date -01/11/2009

Date Updated -12/11/2009

i02068358

Fuel Priming Pump and Primary Filter (Water Separator) - Remove and Install

SMCS - 1258-010; 1260-010; 1263-010

Removal Procedure

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.



WARNING

Fuel leaked or spilled onto hot surfaces or electrical components can cause a fire. To help prevent possible injury, turn the start switch off when changing fuel filters or water separator elements. Clean up fuel spills immediately.

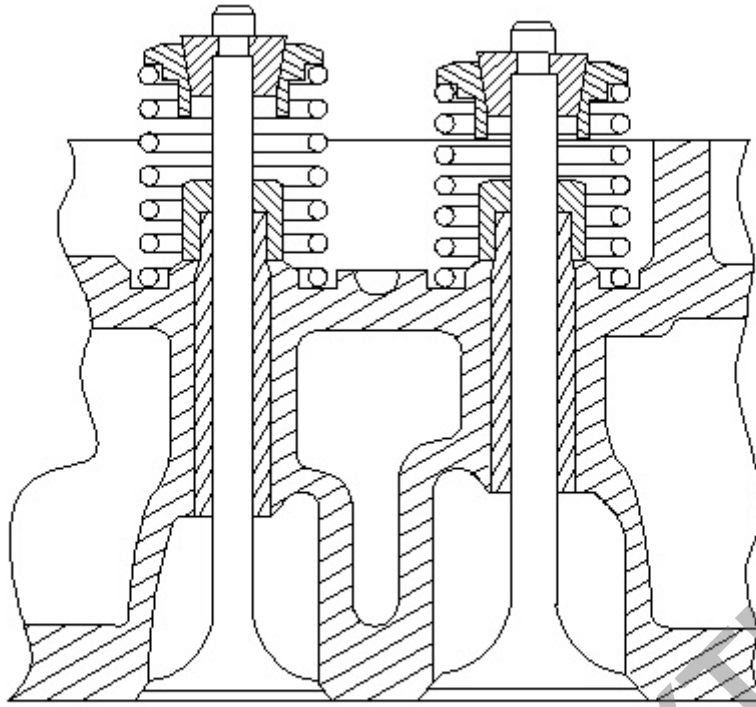


Illustration 2

g00905459

Cross section of the inlet and exhaust valves in the cylinder head (typical example)

9. Rotate the crankshaft in order to ensure that there is no binding.
10. Check the crankshaft end play. Push the crankshaft toward the front of the engine. Install Tooling (A) to the cylinder block and the rear face of the crankshaft. Push the crankshaft toward the rear of the engine. Use Tooling (A) to measure the crankshaft end play. Refer to Specifications, "Crankshaft" for the maximum permissible crankshaft end play.

End By:

- a. Install the pistons and the connecting rods. Refer to Disassembly and Assembly, "Pistons and Connecting Rods - Install".
- b. Install the engine oil pump and the suction pipe. Refer to Disassembly and Assembly, "Engine Oil Pump - Install".
- c. Install the crankshaft rear seal. Refer to Disassembly and Assembly, "Crankshaft Rear Seal - Remove and Install".
- d. Install the engine oil relief valve. Refer to Disassembly and Assembly, "Engine Oil Relief Valve - Remove and Install".

Copyright 1993 - 2015 Caterpillar Inc.

All Rights Reserved.

Private Network For SIS Licensees.

Disassembly and Assembly

C2.2 Engines For Caterpillar Built Machines

Media Number -KENR6948-01

Publication Date -01/10/2012

Date Updated -04/10/2012

102602645

Pistons and Connecting Rods - Assemble

SMCS - 1225-016

Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-1857	Retaining Ring Pliers	1
B	1U-6683	Ring Expander	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Ensure that all components are clean and free from wear or damage. If necessary, replace any components that are worn or damaged.
 2. Follow Steps 2.a through 2.e in order to install the piston rings to the piston.
-

Disassembly and Assembly

C2.2 Engines For Caterpillar Built Machines

Media Number -KENR6948-01

Publication Date -01/10/2012

Date Updated -04/10/2012

102602667

Water Temperature Regulator Housing - Remove and Install

SMCS - 1393-010

Removal Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Dispose of all fluids according to local regulations and mandates.

1. Drain the coolant from the cooling system into a suitable container for storage or disposal. Refer to Operation and Maintenance Manual, "Cooling System Coolant - Drain" for more information.
-

Service Meter History

Back Export Help

Eqpt Id		Start Date	01/19/2005
Manufacturer	CAT	End Date	07/19/2005
Model		Change Date Range	
Serial Number	KSK		

Page: 1 2 3 4 5 6 7 8 9 10 11 12 13 Next

Note: The rows highlighted in gray indicate that an SMU adjustment was performed.

Average Daily Usage: 289.23

Date/Time ▼	Service Meter (hours)
07/15/2005 12:20:25 PM	2714
06/25/2005 07:57:02 AM	2549
06/25/2005 07:26:21 AM	2549
06/24/2005 07:56:57 AM	2540
06/23/2005 07:56:56 AM	2529
06/22/2005 07:56:57 AM	2517
06/21/2005 07:56:56 AM	2506
06/20/2005 07:56:56 AM	2495
06/18/2005 07:56:56 AM	2490
06/17/2005 07:56:57 AM	2481

Page: 1 2 3 4 5 6 7 8 9 10 11 12 13 next

Illustration 7

g01710941

"Service Meter History"

(13) "Start Date" field

(14) "End Date" field

2. Change the range of the date, if necessary. Click "Back" in order to return to the "Location and Service Meters" screen.

"Location History"

Use the following procedure to view the "Location History" of a machine.

1. In order to view the "Location History" for a machine, select the location of a machine from the "Service Meter (hours)" column on the "Location and Service Meters" screen.

- In the "View" box, select "Time and Geographic Fencing". The "Time and Geographic Fencing" screen will appear.

Time and Geographic Fencing										
Equipment Information					View: Time and Geographic Fencing					
	Eqpt ID	Manu- facturer	Model	Serial Number	Inclusive Geo- Fencing	Exclusive Geo- Fencing	Time- Fencing	Config. History	Latest Time and Geo. Fence Alarms	Status
☐	1234	CAT	999	BMV	Not Configured	Not Configured	Not Configured		Alarms not available view history details	
☐		CAT	999	SML	Disabled	Enabled	Enabled		Time and Geo. Fence Alarms(1)	Action
☐		CAT	999	SML	Enabled	Enabled	Enabled		Time and Geo. Fence Alarms(1)	Action

Update Status Setup Fence Enable/Disable

Illustration 1

g01397849

View "Time and Geo. Fence Alarm History"

To view a history of time fencing and geographic fencing alarms for a machine, use the following procedure:

- Access the "Time and Geographic Fencing" screen.
- View the "Latest Time and Geo. Fence Alarms" column. Select one of the following links in order to view the information for that machine:

"view history details" - This link displays previous alarms that have been resolved. The data from the alarm is now stored for historical reference.

"Time and Geo Fence Alarms" - This link displays data for a current alarm. This link will also show the status of an alarm that has been resolved if the alarm has not been updated.

The "Fleet/Key Configuration" function allows you to easily configure and manage a Machine Security System (MSS) enabled machine or set of machines. The function allows you to program, load, and save a set of configuration parameters and key information. The information can be loaded from or programmed to the MSS. This information can also be saved to or loaded from a file.

Once a file is saved in "Fleet/Key Configuration", File Management can be used to export the file as a *.MSS file. The exported *.MSS file can then be imported into the MSS Key Management Software program, for management of the "Fleet/Key" information.

Loading Data from the ECM

1. Connect the service tool to the Machine Security System ECM that you want to copy.
2. Select "Copy Configuration" from the "Service" menu, and then select "Fleet/Key Configuration" from the sub-menu.

Note: Changing the "Fleet/Key Configuration" requires a key with master access level or a factory password.

3. If there is no recently loaded data available the "No data is available..." message box will display.
4. Press "Yes" to load data from the ECM. The "ECM Selector" dialog box displays.

Press "No" if you do not want to load data. The "Fleet/Key Configuration blank screen" displays.

Note: Pressing the "Load from ECM" push button from the "Fleet/Key Configuration" screen also displays the "ECM Selector" dialog box.

5. Highlight the Machine Security System ECM you wish to copy from and then press "OK". As the data is loading from the ECM, the "Please wait" message displays. Then, the "Loading data from ECM" progress bar displays.
6. Press "Cancel" to exit the "ECM Selector" dialog box. Press "Help" to open online help for assistance.

You can cancel the loading process at any time, by pressing the "Cancel" push button. The "Are you sure..." message box displays. Press "Yes" to cancel loading the data or press "No" not to cancel loading the data.

7. When the data has been successfully loaded, "The data has been successfully loaded" message box displays.
8. Press "OK". The "Fleet/Key Configuration" screen displays with the "Program ECM" and the "Save to File" push buttons are enabled.

Note: The data must be saved to a file before you disconnect from the service tool or the data is lost.

Saving the Configuration to a File

1. Press the "Save to File" push button. The "Print New Document to File" dialog box displays.

Note: If you do not have a file open, the "Printing" dialog box asks you to open a file, create a new file, or cancel. Choose the appropriate button to continue.

Troubleshooting

247B, 257B, 267B, 277B and 287B Multi Terrain Loaders and 216B, 226B, 232B, 236B, 242B, 246B, 248B, 252B, 262B and 268B Skid Steer Loaders Interlock Electronic Control System

Media Number -REN6417-01

Publication Date -01/08/2005

Date Updated -03/08/2005

i01395060

Electrical System

SMCS - 1406-038; 1408-038

System Operation Description:

The Interlock ECM has no operation or the Interlock ECM has intermittent operation.

The Interlock ECM is not able to diagnose problems with the electrical system voltage. System under voltages will result in intermittent operation as the voltage drops below the solenoid pull-in voltage or the solenoid hold-in voltage.

If the machine is equipped with auxiliary hydraulics use the troubleshooting procedure that is provided for the auxiliary hydraulics in order to minimize the effort.

Test Step 1. CHECK THE BATTERY VOLTAGE

- A. Start the engine and run at high idle for several minutes.
- B. Measure the battery voltage at the battery posts.

Expected Result:

The voltage should be greater than 12 DCV.

Results:

- **OK** - The voltage is greater than 12 DCV. Proceed to Test Step 1.
- **NOT OK** - The voltage is less than 12 DCV.

Repair: The charging system has failed. Check the charging system for the problem.

Stop.

Test Step 2. CHECK THE SYSTEM VOLTAGE AT THE INTERLOCK ECM

- A. Locate the Interlock ECM.

Disassembly and Assembly 3024C Engine for Caterpillar Built Machines

Media Number -SEN5006-04

Publication Date -01/01/2009

Date Updated -16/01/2009

102406729

Alternator - Remove and Install

SMCS - 1405-010

Removal Procedure

Start By:

- A. Remove the V-belt. Refer to Disassembly and Assembly, "V-Belts - Remove and Install".
 1. Disconnect the battery.

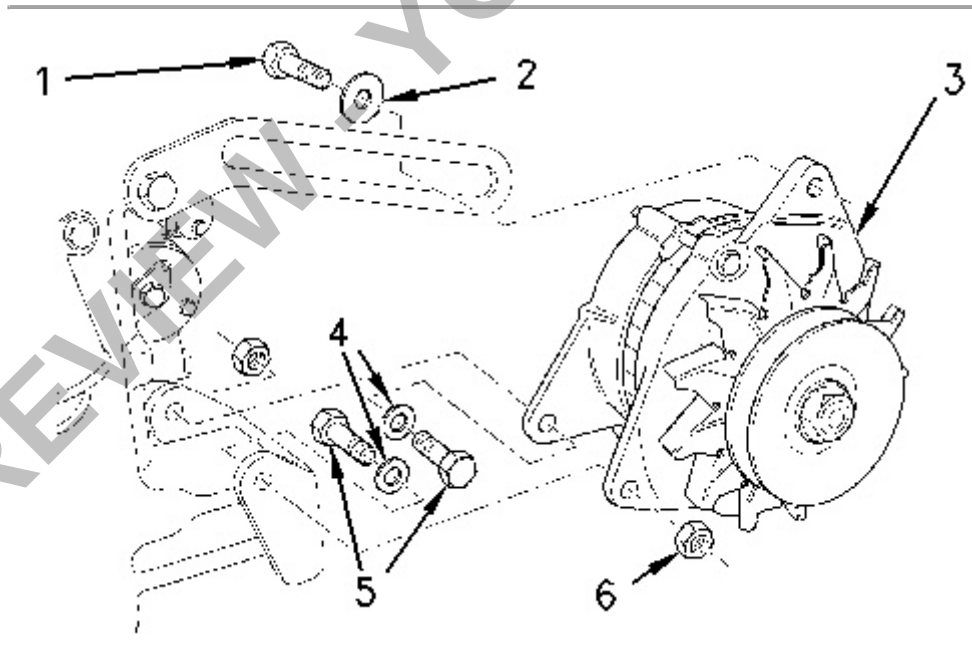


Illustration 1

g00830949

2. Disconnect all harness assemblies from alternator (3) before proceeding. Mark the connections or identify the connections for later installation.
3. Remove bolt (1) and washer (2) from alternator (3) .

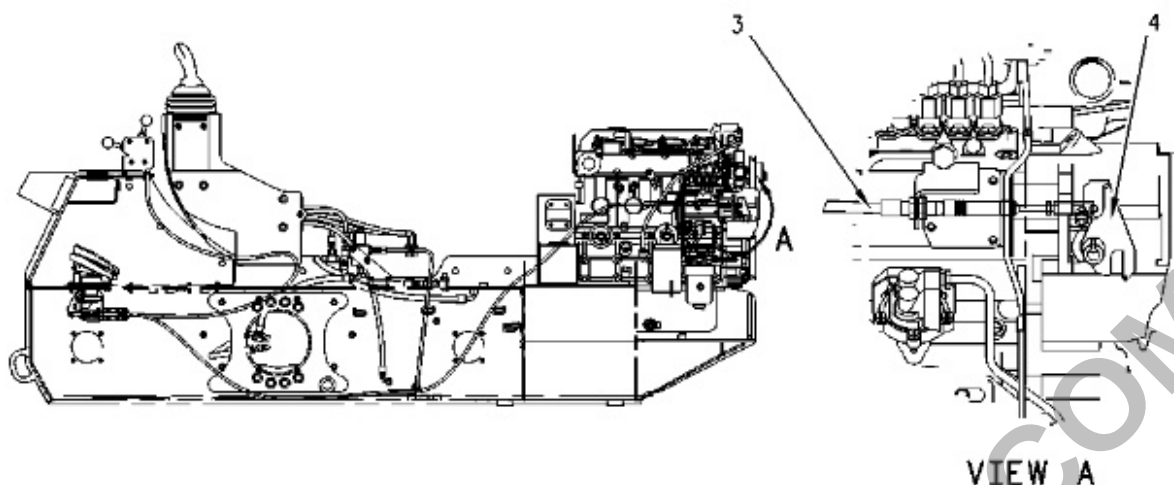


Illustration 2

g00765357

(3) Governor Control Cable

(4) Lever

The Governor Pedal Group (1) is part of the linkage assembly. The linkage assembly connects to an adjustable rod. The adjustable rod connects to the Governor Control Cable (3). The Governor Control Cable actuates the lever (4) on the engine governor.

Push the Governor Pedal Group downward in order to increase the speed of the engine. As the pedal is pushed down, the Governor Control Cable (3) pulls the lever (4) on the governor.

The Governor Lever Group (2) is mechanically coupled with the Governor Pedal Group (1) by a cable. When you push the Governor Lever Group forward, the speed of the engine increases. The Governor Lever Group is used to set the desired low idle speed.

In order to increase the speed of the engine, the operator must depress the Governor Pedal Group. The engine speed will increase regardless of the setting of the Governor Lever Group. When the operator releases the Governor Pedal Group, the position of the Governor Lever Group determines the engine low idle speed.

Copyright 1993 - 2015 Caterpillar Inc.

All Rights Reserved.

Private Network For SIS Licensees.

(2) Accumulator

(14) Solenoid Valve and Mounting Group (parking brake)

(16) Pilot Valve (work tool)

(28) Check Valve

The oil that flows through the check valve (28) is used as pilot oil for the work tool circuits. The check valve is installed in a fitting that is installed to the bottom of piston pump (12). The pilot oil overcomes the force of the spring in the check valve. The pilot oil then forces the check valve to open. When the check valve opens, the pilot oil flows through the check valve. The oil then flows to the control valve (1). The oil also flows to the pilot valve (16) .

The pilot oil that flows to control valve (1) is used to activate the auxiliary circuit spool. The flow of the pilot oil is controlled by two solenoid valves. The pilot oil is also used to charge the accumulator (2). The pilot oil that flows to pilot valve (16) is used to activate the lift spool. The pilot oil is also used to activate the tilt spool.

The interlock system must be disengaged in order for the pilot oil to flow to the work tool circuit. The auxiliary circuit can function with the armrest in the UP position, if the machine is equipped with an interlock override. Refer to the Operation and Maintenance Manual, "Hydraulic Shutoff and Interlock Override" for more information.

When the interlock system is disengaged, an electrical signal is sent to the Solenoid Valve Group (work tool) (15). The energized solenoid causes the valve spool to shift upward. The pilot oil is able to flow through the valve spool and on to the plungers for pilot valve (16) when the valve spool is in the upward position.

The pilot oil will be blocked at the plungers so long as the control lever for the work tool is in the HOLD position. When the control lever is in the HOLD position, the oil will not flow through pilot valve (16). Centering springs cause the control lever for the work tool to return to the HOLD position whenever the control lever for the work tool is released from any of the positions except for the FLOAT position. The FLOAT position has a detent that keeps the control lever for the work tool in this position until the operator moves the control lever for the work tool into a different position.

6. The ball valve is not fully closed.
7. The load check valve could be stuck in the control valve.
8. The line relief valve in the lift circuit is set too low or the relief valve is stuck in the OPEN position.

Problem 16

The work tool droops when the hydraulic control is moved from the HOLD position to the RAISE position.

Probable Causes

1. The hydraulic oil is aerated.
2. The piston seals of the lift cylinder are worn.
3. The control valve and the valve spool have an excessive amount of wear.
4. The load check valve on the control valve may be open or leaking.

Problem 17

The work tool droops when the hydraulic control is moved from the HOLD position to the TILT FORWARD position.

Probable Causes

1. The hydraulic oil is aerated.
2. The piston seals of the lift cylinder are worn.
3. The control valve and the valve spool have an excessive amount of wear.
4. The line relief valves are damaged or worn.

Problem 18

The work tool will not lower to the ground when the engine is stopped.

Probable Cause

1. The accumulator is not properly charged.
2. The pilot pressure is low.
3. The seals on the lift valve section may be damaged or worn.
4. Charge pressure may be leaking past a solenoid in the interlock system.
5. The pilot operated hydraulic control (work tool) is not functioning properly.
6. The interlock system is not functioning properly.

Problem 19

Pressure setting ... 1700 ± 70 kPa (245 ± 10 psi)

Note: Speed sensing pressure is measured at a flow rate of 40 L/min (11 US gpm) and at a temperature of 40 °C (104 °F).

(2) **204-1458** Relief Valves (Crossover)

Torque for the Relief Valve ... 250 ± 10 N·m (184 ± 7 lb ft)

Pressure setting ... 35000 ± 2000 kPa (5100 ± 290 psi)

(3) **204-1458** Relief Valves (Crossover)

Torque for the Relief Valve ... 250 ± 10 N·m (184 ± 7 lb ft)

Pressure setting ... $35000 + 2000 - 4000$ kPa ($5100 + 290 - 580$ psi)

(4) **204-1459** Relief Valve (Charge)

Torque for the Relief Valve ... 70 ± 4 N·m (50 ± 3 lb ft)

Pressure setting ... 3000 ± 150 kPa (435 ± 22 psi)

Note: The pressure for the charge relief valve is measured at 40 L/min (10.5 US gpm).

(5) The torque for the two **9X-6606** Hex Nuts ... 30 ± 2 N·m (20 ± 1 lb ft)

(6) The torque for the two **9S-8002** Plugs ... 15 ± 1 N·m (10 ± 1 lb ft)

(7) The torque for the two **204-1455** Locks ... 22 ± 1 N·m (16 ± 1 lb ft)

[Copyright 1993 - 2015 Caterpillar Inc.](#)

[All Rights Reserved.](#)

[Private Network For SIS Licensees.](#)

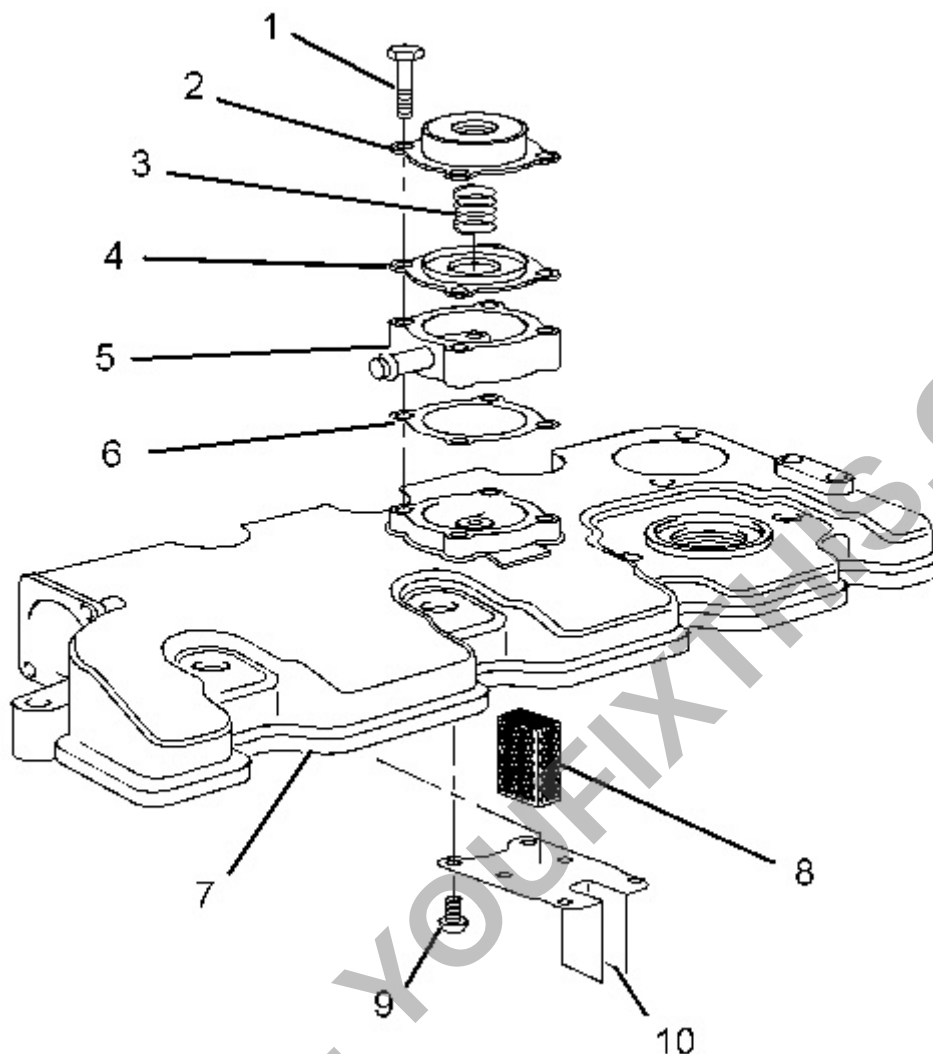


Illustration 1

g01310618

Typical example



WARNING

Personal injury can result from parts and/or covers under spring pressure.

Spring force will be released when covers are removed.

Be prepared to hold spring loaded covers as the bolts are loosened.

- (9) Line from condenser
- (10) Line from evaporator

1. After the refrigerant is recovered from the system, make sure that the low pressure valve (1) and the high pressure valve (2) are closed. Disconnect the charging hose (3) of the manifold gauge set from the refrigerant service unit.
2. Check the oil level in the vacuum pump. Refer to the Testing and Adjusting, "Refrigerant Compressor Oil - Check" for the correct procedure. Add oil if oil is needed. If contamination of the system is indicated, change the oil.
3. Connect the electrical plug from the vacuum pump to an approved electrical outlet.
4. Connect the charging hose (3) to the inlet fitting on the vacuum pump. Refer to Illustration 1.
5. Open low pressure valve (1) and open high pressure valve (2) on the manifold gauge set completely. Turn the valves counterclockwise.
6. In order to start the pump motor, turn the power switch to the ON position.
7. In order to open the vented exhaust valve (8) , turn the valve counterclockwise.

Note: The vented exhaust valve (8) must be closed until the vacuum pump has started.

8. Operate the vacuum pump until the low pressure gauge indicates a pressure that is between 95 kPa (28 in hg) and 98 kPa (29 in hg). After the vacuum in the system reaches a value that is between 95 kPa (28 in hg) and 98 kPa (29 in hg), close the vented exhaust valve (8) . Operate the vacuum pump for a minimum of 90 minutes after the vented exhaust valve is closed. Use a 113 L/min (4 cfm) pump. Make allowances for pumps that are smaller than 113 L/min (4 cfm) cfm.

Note: 95 kPa (28 in hg) to 98 kPa (29 in hg) is the required specification at sea level. For every 305 m (1000 ft) above sea level, decrease the required specification by 3 kPa (1 in hg). At high elevations, less vacuum is required.

9. If the specific vacuum cannot be reached, the system may have a leak. Refer to the Testing and Adjusting, "Refrigerant Leakage - Test" section. Perform the procedures that are indicated. Repair all leaks and repeat Step 1 of the evacuating procedure.

Note: The evacuating procedure removes air and moisture from the system. Do not use the vacuum pump primarily to indicate a system leak.

10. After 95 kPa (28 in hg) to 98 kPa (29 in hg) vacuum has been reached and held for an additional 90 minutes, close valve (1) and close valve (2) completely. Turn the power switch on the vacuum pump to the OFF position. The maximum amount of vacuum loss in five minutes must not be more than 7 kPa (2 in hg). Excessive vacuum loss is an indication of a possible leak in the system. Refer to the Testing and Adjusting, "Refrigerant Leakage - Test" section. Perform the procedures that are indicated. Repair all leaks and repeat Step 1 of the evacuating procedure.

Probable Causes

- **Diagnostic Codes**
- **Low Pressure Switch / High Pressure Switch**
- **Low Refrigerant Charge**
- **Water Valve Actuator**
- **A/C Compressor**

Recommended Actions

Diagnostic Codes

Connect Cat ET to the service tool connector. Check for active diagnostic codes. Look for active codes that are related to the HVAC system in Illustration 13. Use the appropriate circuit test to troubleshoot any active codes before continuing.

Low Pressure Switch / High Pressure Switch

Use Cat ET to monitor the "Air Conditioning Refrigerant Monitoring Circuit" status parameter. With a proper charge the status should be closed. If the status is open check the pressure switches and circuit (refer to the pressure switch tests section in this book).

Low Refrigerant Charge

Refer to Air Conditioning Performance - Test

Water Valve Actuator

Test the water valve actuator control by switching to heat mode. Use Cat ET and monitor the "Cab Air Heater Engine Coolant Actuator Duty Cycle" status parameter while rotating the temperature dial. The parameter should go to 5% when the temperature dial is full CCW and 95% when the temperature dial is full CW. If the "Cab Air Heater Engine Coolant Actuator Duty Cycle" doesn't move with the temperature dial, check the temperature dial (see the troubleshooting section 2661 in the machine troubleshooting guide). If the "Cab Air Heater Engine Coolant Actuator Duty Cycle" moves with the temperature dial, verify the water valve actuator circuit and that the actuator is rotating.

A/C Compressor

Switch to AC mode and use Cat ET to monitor the "A/C Compressor" status parameter with the engine running. If the compressor status does not turn to ON after 20 seconds, check the evaporation temperature circuit (refer to 2357 diagnostic code in the machine TSG) and the pressure switch circuits (refer to the pressure switch tests section in this book). If the compressor status is ON and the compressor does not turn on, check for power at the compressor connection.

Note: If the compressor status is on and there is power at the compressor clutch, then replace the compressor.

Cab Temperature Low

Disassembly and Assembly

216B, 216B2, 226B, 226B2, 232B, 232B2, 242B and 242B2 Skid Steer Loaders Machine Systems

Media Number -REN4898-03

Publication Date -01/04/2010

Date Updated -15/04/2010

i02051004

Air Conditioner and Heater - Assemble

SMCS - 7304-016; 7320-016

S/N - BXM1-UP

S/N - MJH1-UP

S/N - RLL1-UP

S/N - SCH1-UP

Assembly Procedure

Disassembly and Assembly

216B, 226B, 232B and 242B Skid Steer Loaders Power Train

Media Number -REN4894-05

Publication Date -01/09/2008

Date Updated -22/09/2008

104638374

Axle - Remove

SMCS - 3278-011

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	169-5464	Quick Cure Primer	1
B	5P-3413	Pipe Sealant	1

Start By:

- Remove the tire and rim. Refer to Disassembly and Assembly, "Tire and Rim - Remove and Install".
- Tilt the cab. Refer to Disassembly and Assembly, "Cab - Tilt".

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting, and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Cat products.

Dispose of all fluids according to local regulations and mandates.

PREVIEW ONLY

You're viewing 25 of 4010 pages

The full manual includes:

- All 4010 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Caterpillar 216B, 226B, 232B, 242B Repair Manual



Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual