Testing and Adjusting
525B Wheel Skidder and 535B Wheel Skidder Power Train

Using Caterpillar Monitoring System to Determine Diagnostic Codes

General Information

Illustration 1
g00557408

Service Connector with Jumper for Service Inputs

(1) Jumper for service input. (2) Service connector.
Illustration 2

Service Connector with Jumper for Clear Inputs

(2) Service connector. (3) Jumper for clear input.

Illustration 3

Service Connector with Jumper for Service Mode
Service connector (2) provides access to the service inputs, the clear inputs, and the service mode of the Caterpillar Monitoring System. Connector contact 1 is the service input and contact 2 is the clear input. Connector contact 1 and contact 2 are for the service mode. The service connector is located behind the front dash panel near the left side of the brake pedal in the operator's cab.

**Reference:** For additional information about service connector (2), refer to Schematic, "525B & 535B Wheel Skidder Electrical System" for the machine that is being serviced.

During various diagnostic functions, grounding and/or opening the service contact of the service connector and the clear contact of the service connector may be required. During troubleshooting, it is necessary for the service person to make the proper electrical connections between the contacts of service connector (2). These connections are made with three different jumpers.

---

Illustration 4  
4C-8195 Control Service Tool

The 4C-8195 Control Service Tool is helpful for the service technician to make the proper electrical connections at the Caterpillar Monitoring System service connector during troubleshooting. Three connectors are wired in parallel so that the service tool is usable on the different types of machine harnesses.

Actuating mode switch (5) scrolls through the display modes of the Caterpillar Monitoring System. Actuating scroll switch (7) allows you to scroll through the display in the service mode or the numeric readout mode. Actuating clear switch (6) in the service mode allows you to clear the fault that is being continuously shown. Actuating clear switch (6) in tattletale mode clears all extreme values.

### Changing Modes

<table>
<thead>
<tr>
<th>Display Operation</th>
<th>Service Contact (1)</th>
<th>Clear Contact (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changing Modes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Scroll</td>
<td>Ground</td>
<td>Ground</td>
</tr>
<tr>
<td>To Hold</td>
<td>Open</td>
<td>Open</td>
</tr>
<tr>
<td>Service Modes:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Scroll</td>
<td>Ground</td>
<td>Open</td>
</tr>
<tr>
<td>To Hold</td>
<td>Open (2)</td>
<td>Open</td>
</tr>
<tr>
<td>To Clear (3)</td>
<td>Open</td>
<td>Ground</td>
</tr>
<tr>
<td>Tattletale Mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Clear</td>
<td>Open</td>
<td>Ground</td>
</tr>
<tr>
<td>Numeric Readout Mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Scroll</td>
<td>Ground</td>
<td>Open</td>
</tr>
<tr>
<td>To Hold</td>
<td>Open</td>
<td>Open</td>
</tr>
</tbody>
</table>

(1) The service connector.
(2) Open when the desired information is shown during scrolling.
(3) A service code can be cleared only while it is on hold. The service code for a fault that is currently present can not be cleared. A service code can only be cleared, if the service code is no longer active.

### Initial Troubleshooting Procedure
Display Area Of Caterpillar Monitoring System


The display area shows the following diagnostic code: MID No. 081, CID No. 0641 and FMI No. 05.

Use the following procedure in order to troubleshoot the diagnostic code information. Connect the 4C-8195 Control Service Tool to service connector (2) of the monitor.

1. Place the Caterpillar Monitoring System in service mode (mode 3). In order to place the Caterpillar Monitoring System in service mode, press and hold mode switch (5) of the control service tool. Release mode switch (5), when the mode number "-3-" for service mode is shown on the display.

   **Note:** The diagnostic scrolling mode may be entered in order to see the diagnostic codes, but the diagnostic codes can be more easily diagnosed by using the service mode. The service mode allows the diagnostic codes to be placed on hold for further investigation. The service mode also allows the diagnostic codes to be cleared when the problem has been fixed.

2. A diagnostic code is shown, and placed on hold at this time. The display should toggle between showing Module Identifier (MID) (9), Component Identifier (CID) (12), and Failure Mode
Identifier (FMI) (13). If no diagnostic codes are displayed within the service mode, the display screen will show "---" only.

3. In order to view all the diagnostic codes, scroll through the diagnostic codes. In order to scroll through the diagnostic codes, press and hold the scroll switch of the control service tool. The display momentarily shows MID (9), CID (12) and FMI (13) for each diagnostic code. The word "End" is shown after the last diagnostic code in the list.

4. Place the desired diagnostic code on hold. In order to place the diagnostic code on hold, release the scroll switch when the desired diagnostic code is shown.

5. Use the information from the MID in order to determine the ECM that is generating the diagnostic code. If the MID is not 081, see Electrical System Schematic, "Module Identifier (MID) Table" of the machine that is being serviced. Use the table to determine the ECM that has detected the fault. Then see the service manual module for that electronic control. If the MID is 081, use this Service Manual Module to troubleshoot the fault that generated the diagnostic code.

6. Observe service code indicator (10). In service mode, the service code indicator functions as a fault present indicator.

   ◦ If service code indicator (10) shows "SERV CODE", then the fault that caused the diagnostic code that is shown is currently present. An active fault cannot be cleared.

   ◦ If service code indicator (10) is OFF, then the fault that caused the diagnostic code that is shown is not present at this time.

7. Refer to the test procedure in the Service Manual module Testing and Adjusting in order to troubleshoot the diagnostic code with the same CID and the same FMI.

8. After a diagnostic code is corrected, clear the diagnostic code. In order to clear the diagnostic code, momentarily press the clear switch of the service tool while the fault is on hold. After clearing, the display advances to the next available diagnostic code.

9. Repeat Steps 2 through 8 for the remaining diagnostic codes. Return to the normal mode when you are finished. In order to return to the normal mode, press and hold the mode switch of the control service tool. Release mode switch (5), when the mode "-0-" for normal mode is shown on the display.