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AXIAL-FLOW® 7230
AXIAL-FLOW® 8230
AXIAL-FLOW® 9230
Combine

SERVICE MANUAL

Part number 47549921
English
June 2013
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CASE IH AGRICULTURE

SERVICE MANUAL

Engine



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Main gearbox and drive



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Transmission



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Front axle system



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Hydrostatic drive



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Power Take-Off (PTO)



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Hydraulic systems



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Steering



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Wheels



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Cab climate control



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Electrical systems



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FAULT CODES - DTC

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Attachments/Headers



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Threshing



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Separation



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Cleaning



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Crop storage / Unloading



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Platform, cab, bodywork, and decals



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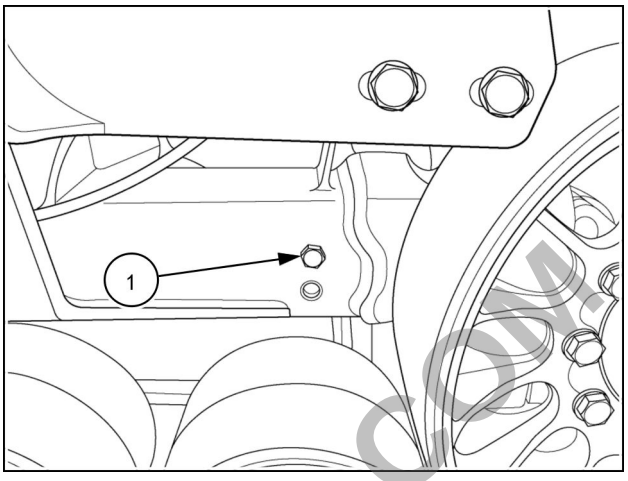
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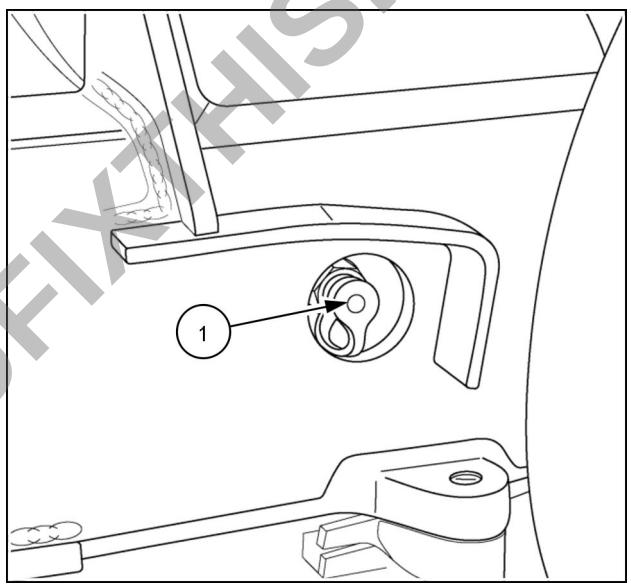
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15. Push the tension link into the undercarriage until the stop bolt **(1)** can be installed in front of the tension link flange.



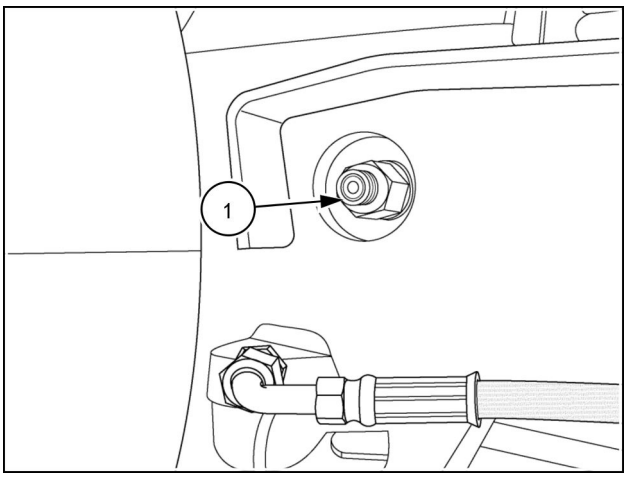
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16. Lubricate and install a new O-ring on the tension bleed valve.
17. Install and tighten the valve on the cylinder. Install the dust cap **(1)**.



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18. Lubricate and install new O-rings on the tension supply pressure check valve **(1)**. Install and tighten the valve on the cylinder.



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E1560-12-Coolant temperature sensor dynamic test

Control Module : ECU

Context:
The Engine Control Unit (ECU) **A-001** generated a fault when monitoring the temperature rise of the engine coolant temperature during a warm-up cycle. During the monitoring process, the start temp and the current coolant temperature are compared against a warm-up cycle curve in the ECU. The fault is generated after a timer expires and the coolant temperature does not match the warm-up cycle curve. This test is carried out once per driving cycle and is stopped when the engine is in after-run mode.

Cause:
The ECU has determined that the rise in coolant temperature is lower than expected during the engine warm-up cycle.

Possible failure modes:

1. Low ambient temperature conditions.
2. Faulty or inaccurate coolant temperature sensor **B-044** .
3. Faulty wiring.
4. Faulty ECU.

Solution:

1. Verify the fault is still present and in an active state.
   A. If fault is still present and active, continue with step **2**.
   B. If the fault is not present, the fault may be intermittent. Check for an intermittent fault. If no faults are found, clear fault code. Return machine to service.
2. Check the operating temperature. Check if the engine is being operated under low ambient temperatures.
   A. If low ambient temperatures exists, cover up a portion of the radiator **20 - 25 %** to accelerate the warm-up cycle.
   B. If low ambient temperatures does not exist, continue with step **3**.
3. Check the electrical wiring. Remove the coolant temperature sensor connector **X-373** . Inspect housing body/latch, pins and wiring harness for damage. Also, inspect connector portion of the coolant temperature sensor.
   A. If damage is determined after careful inspection, repair wiring and/or replace connector parts to ensure a good and sound electrical connection.
   B. If no damage is determined, continue with step **4**.
4. Check the coolant temperature sensor **B-044**. Place the key switch OFF. Measure the resistance of coolant temperature sensor. Use the table of resistance vs. temperature below. Approximate the temperature when performing test. coolant temperature sensor failures are typically at the extreme ends of the table or off the table entirely. Use the test lead labeled "Coolant/Fuel Temp Sensor" from the Harness/Diagnostic Repair Kit **380040185** to access the pins on the sensor.

Coolant Temperature	Resistance Value
-20 °C (-4 °F)	**10.5 kOhm**
0 °C (32 °F)	**7500 ohms**
20 °C (68 °F)	**4200 ohms**
40 °C (104 °F)	**980 ohms**
60 °C (140 °F)	**780 ohms**
80 °C (176 °F)	**500 ohms**
100 °C (212 °F)	**280 ohms**
120 °C (248 °F)	**97 ohms**

   A. If the resistance measurement does not approximately match the table, replace the sensor.

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E0339-03- Lateral Inclination Sensor - Shorted to high source

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Control Module : UCM2

Context:
The Universal Control Module 2 (**UCM2**) monitors the operation of the lateral inclination sensor.

Cause:
UCM2 is sensing a signal level greater than **4.9 V** in the lateral inclination sensor signal circuit.

Possible failure modes:

1. Faulty lateral inclination sensor **B-002**.
2. Faulty signal circuit wiring shorted to voltage source.
3. Faulty control module.

Solution:

1. Verify that the fault is present and active. Use the display monitor diagnostic capability to view parameter status to check the voltage level. For additional information about the monitor diagnostic capability, see **Instrument cluster - Detailed view (55.408)**.

   A. If the voltage reading is greater than **4.9 V**, continue to Step **2**.

   B. If the voltage reading is less than **4.9 V**, the fault may intermittent and not currently active. Continue to Step **6**.
2. Verify that the lateral inclination sensor **B-002** functions properly. Disconnect the sensor from the Front Platform (FP) harness at connector **X-170**. Use a multimeter to measure the resistance at pins A and B.

   A. If the resistance value is nominal, leave connector **X-170**. disconnected and continue to Step **3**.

   B. If the resistance value is **0 Ω** or infinite, the sensor has failed internally.Replace the sensor.
3. Check for a short to high condition. Use a multimeter to check for voltage from the FP harness side of connector **X-170 pin C** and chassis ground.

   A. If the voltage reading is greater than **4.9 V**, continue to Step **4**.

   B. If the voltage reading is less than **4.9 V**, continue to Step **6**.
4. Check for a short to high condition. Disconnect the Cab Main (CM) harness from the FP harness at connector **X-031**. Use a multimeter to check for voltage from the CM side of connector **X-031 pin S** and chassis ground.

   A. If the voltage reading is greater than **4.9 V**, continue to Step **5**.

   B. If the voltage reading is less than **4.9 V**, there is a short to high condition in the FP harness between connector **X-031 pin S** and connector **X-170 pin C**, wire FP-430 yellow. Locate and repair the shorted conductor.
5. Check for a short to high condition. Disconnect the CM harness from the **UCM2** at connector **X-019B**. Use a multimeter to check for voltage at connector **X-019B pin 30** and chassis ground.

   A. If the voltage reading is greater than **4.9 V**, the **UCM2** has failed internally. Load the appropriate module software. If the fault re-occurs, replace the module.

   B. If the voltage reading is less than **4.9 V**, there is a short to high condition in the CM harness between connector **X-019B pin 30** and connector **X-031 pin S**, wire CM-430 yellow. Locate and repair the shorted conductor.
6. Visually inspect the relevant harnesses and connectors for damage, bent or dislocated pins, corroded terminals, or broken wires. Verify that the connectors are fully installed. Flex the harnesses involved to reveal intermittent breaks or shorts in the wiring concerned. Operate the machine while you monitor the display.

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