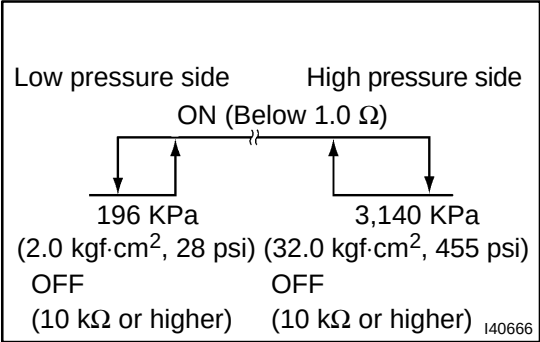


DTC	B1423/23	PRESSURE SWITCH CIRCUIT
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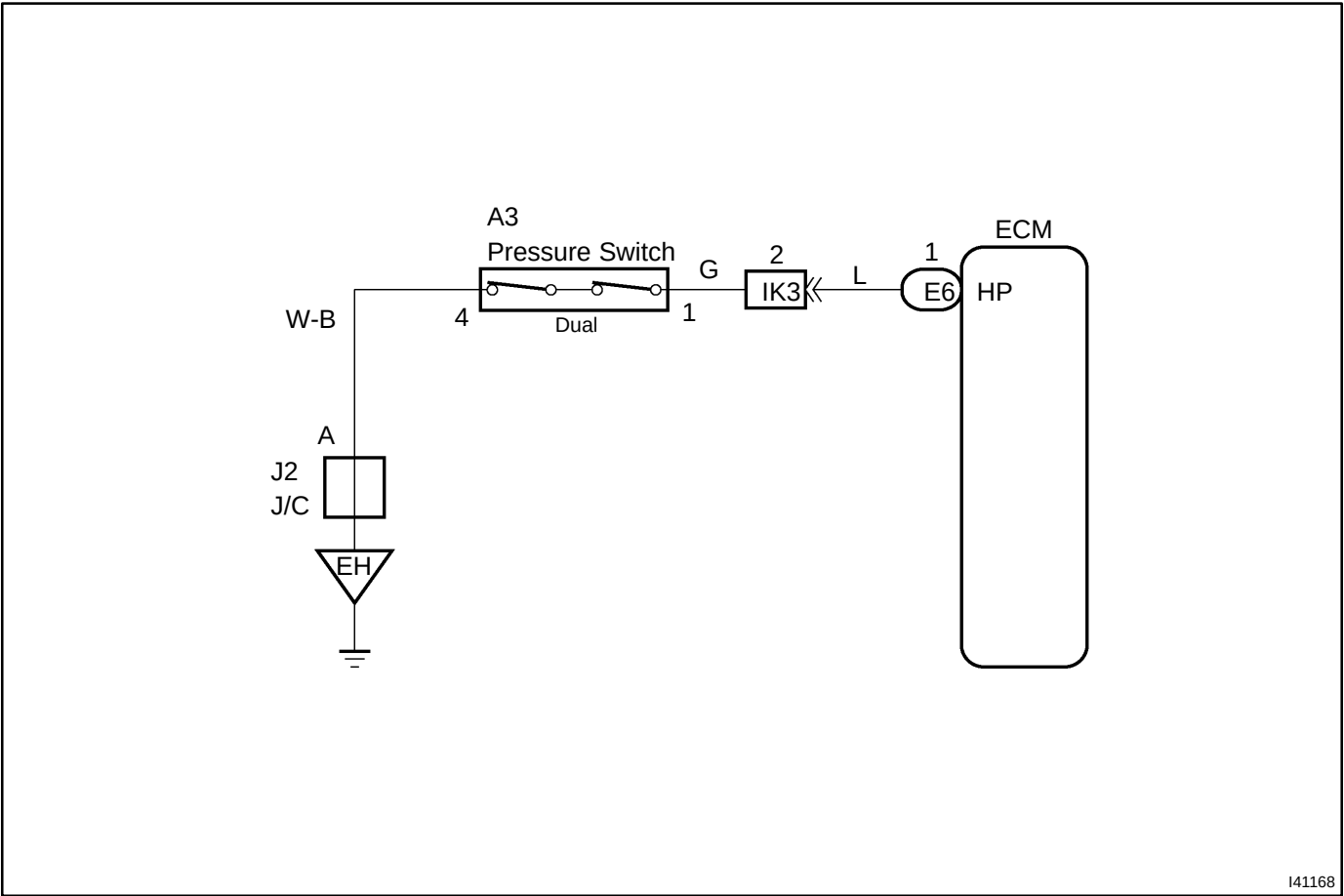
CIRCUIT DESCRIPTION



The ECM and A/C amplifier communicate via BEAN. The pressure switch sends the appropriate signals to the A/C amplifier when the A/C refrigerant pressure drops too low or rises too high. When the A/C amplifier receives these signals, it outputs signals through the A/C amplifier to turn the magnet clutch relay off and turns the magnetic clutch off.

DTC No.	Detection Item	Trouble Area
B1423/23	• Open in pressure sensor circuit. • Abnormal refrigerant pressure. below 196 kPa (2.0 kg/cm², 28 psi) over 3,140 kPa (32.0 kgf/cm², 455 psi)	• Pressure switch • Harness or connector between cooler refrigerant liquid pipe A (pressure switch) and ECM • Multiplex communication circuit • Refrigerant pipe line • ECM • A/C amplifier assy

WIRING DIAGRAM



INSPECTION PROCEDURE

1 INSPECT REFRIGERANT PRESSURE

- Set the manifold gauge.
- Read the manifold gauge pressure when these conditions are established.

Test conditions:

- Temperature at the air inlet with the switch set at RECIRC is 30 to 35°C (86 to 95°F)
- Engine running at 1,500 rpm
- Blower speed control switch at "HI" position
- Temperature control dial at "COOL" position
- Air conditioning switch ON
- Fully open doors

Standard:

Pressure on high pressure side:

1.37 to 1.57 MPa (13.9 to 16.0 kgf·cm², 198 to 228 psi)

HINT:

If the refrigerant pressure is below 196 KPa (2.0 kgf·cm², 28 psi), the refrigerant amount in the air conditioning cycle may have decreased significantly for reasons such as a gas leakage.

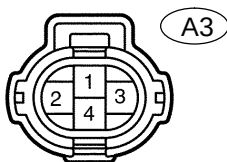
NG

INSPECT AND REPAIR AIR CONDITIONING CYCLE

OK

2 CHECK AIR CONDITIONING OPERATION

**Pressure Switch Connector
Wire Harness View:**



140669

- Disconnect the pressure switch connector.
- Connect terminals 1 and 4 of the connector of the pressure switch on the vehicle wire harness side using a service wire.
- Start the engine.
- Turn the air conditioning switch on and check that the magnet clutch is turned on.
- Check that the magnet clutch is turned off when disconnecting terminals 1 and 4 (that are connected in the prior step).

OK:

Terminals 1 and 4 connected: magnet clutch is on

Terminals 1 and 4 disconnected: magnet clutch is off

NG

Go to step 3

OK

REPLACE PRESSURE SWITCH

Pressure Switch Connector
Front View:

Diagram showing the front view of the Pressure Switch Connector. The connector is circular with four terminals labeled 1, 2, 3, and 4. A callout bubble labeled A3 points to the connector.

ECM Connector
Wire Harness View:

Diagram showing the wire harness view of the ECM Connector. The connector is long with multiple terminals. A callout bubble labeled E6 points to the connector. A detail view of the HP terminal is shown below the main connector.

HP

I41169

- Standard:**

Tester connection	Condition	Specified condition
E6-1 (HP) - A3-1	Always	Below 1 Ω
A3-4 - Body ground	Always	Below 1 Ω
E6-1 (HP) - Body ground	Always	10 k Ω or higher
A3-1 - Body ground	Always	10 k Ω or higher

NG	A
OK (Checking from the PROBLEM SYMPTOMS TABLE)	B
OK (Checking from the DTC)	C

**PROCEED TO NEXT CIRCUIT INSPECTION
SHOWN IN PROBLEM SYMPTOMS TABLE**

REPLACE AIRCONDITIONER AMPLIFIER ASSY

A

2005 HIGHLANDER REPAIR MANUAL (RM1144U)