Test 2: Checking Compressor Clutch Engagement

Step	Action	Yes	No
1	Run the engine at idle. Set the OCC control module to: • normal A/C mode, • high blower speed, and • temperature to full cold. Does the compressor clutch engage?	Check the compressor system performance. Refer to Test 3: Checking Compressor System Performance	Go to Step 2
2	Are there any engine management DTC's which may effect the operation of the air-conditioning compressor clutch operation?	Refer to Section 6C1-2 Engine Management – V6 – Diagnostics, or Section 6C3-2 Powertrain Management – GEN III V8 – Diagnostics	Go to Step 3
3	1 Turn off the ignition. 2 Using a multimeter check the compressor clutch coil windings resistance. Does the multimeter display 3.42 ± 0.2 Ohms?	Go to Step 4	Replace the compressor. Refer to Section 2C HVAC Climate Control (Manual A/C – Removal and Installation
4	Check the compressor clutch air gap using a feeler gauge. Is the air gap 0.3 to 0.76 mm?	Go to Step 5	Replace the compressor. Refer to Section 2C HVAC Climate Control (Manual A/C – Removal and Installation
5	1 Turn off the ignition switch. 2 Disconnect the compressor clutch wiring connector at the compressor. 3 Connect a jumper lead from a good vehicle ground to the compressor clutch terminal X1-A using a suitable electrical kit adapter plug. **CAUTION** **The coil windings have a diode connected across them. Serious damage to the clutch could occur if the battery polarity if not properly connected. Refer to Compressor Electrical Connector for correct terminal identification.** 4 Temporarily connect a fused jumper wire from the positive battery terminal to the compressor clutch terminal X1-B. Does compressor clutch engage when contact with the lead is made?	Go to step 6	Replace the compressor. Refer to Section 2C HVAC Climate Control (Manual A/C – Removal and Installation
6	Check the vehicle wiring harness and electrical connector to the compressor clutch. Refer to the Section 12P Wiring Diagrams. Is the wiring harness / connector circuit OK?	Go to Step 7	Repair the electrical fault in the vehicle harness. Refer to Section 12P Wiring Diagrams for information on electrical diagnosis

Step	Action	Yes	No
7	1 Using Tech 2, view the air-conditioning pressure sensor pressure / voltage status parameter in the engine control module data list. Refer to Section 6C1-2 Engine Management – V6 – Diagnostics or, Section 6C3-2 Powertrain Management – GEN III V8 – Diagnostics. 2 Compare the air-conditioning pressure sensor pressure / voltage values correspond to the pressure gauge readings. Are the actual gauge and pressure sensor values within 5 % of each other?	Go to step 8	Replace the air-conditioning pressure sensor. Refer to Section 2C HVAC Climate Control (Manual A/C – Removal and Installation
8	Check the high pressure side pressure reading at idle. **NOTE** If the refrigerant pressure is above 2900 kPa the air-conditioning pressure sensor will disengage the compressor. Is the high pressure side pressure above 2900 kPa?	Check the compressor system performance. Refer to Test 3: Checking Compressor System Performance	—

Compressor Electrical Connector

NOTE

The compressor clutch electrical connector (1) is located near the accessory drive belt pulley.

The wiring harness connector (2) connections must be observed when undertaking Step 5 of the diagnostic table.

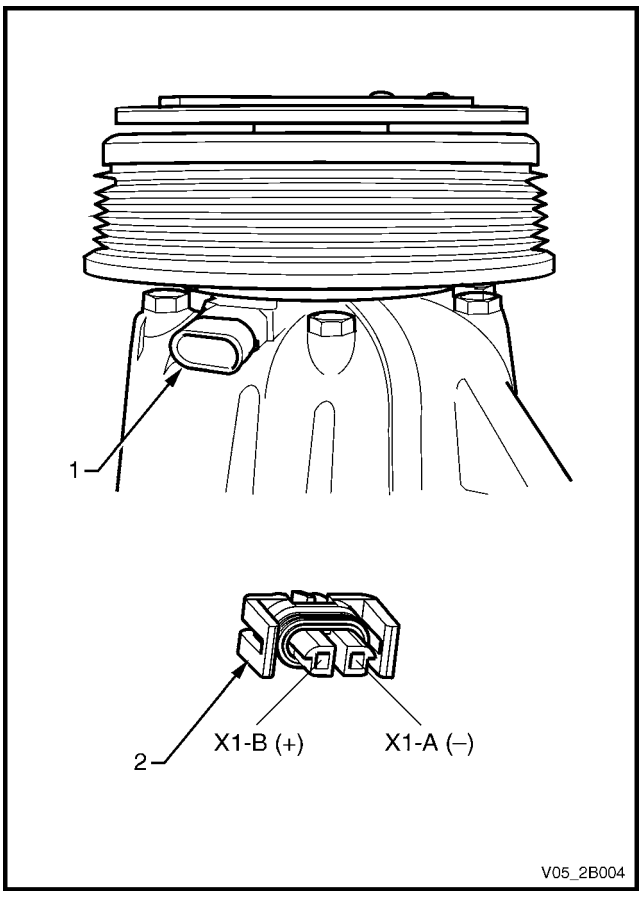

Figure 2B – 8