## **Test 2: Checking Compressor Clutch Engagement**

2 Are there any engine management DTC's which may effect the operation of the air-conditioning compressor clutch operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there are any engine management DTC's which may effect the obligation?  Breat any engine management DTC's which operation?  Are the compressor to the position of Section 2 Climate C (Manual Remova Instalia)  Turn off the ignition switch.  Disconnect the compressor clutch wiring connector at 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 clutch terminal X1-A using a suitable electrical kit adapter plug.  4 Temporarily connect a fused jumper wire from the positive 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?  6 Check the vehicle wiring harness and electrical connector to the compressor clutch. Refer to the Section 12P Wiring Diagrams.	tep	Action	Yes	No
high blower speed, and     temperature to full cold.     Does the compressor clutch engage?  Are there any engine management DTC's which may effect the operation of the air-conditioning compressor clutch operation?  Are there any engine management DTC's which may effect the operation of the air-conditioning compressor clutch operation?  Are there any engine management DTC's which may effect the operation of the air-conditioning compressor clutch operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Brefer to Section 6C1-2 Engine Management – GEN III V8 – Diagnostics.  A Using a multimeter check the compressor clutch coil windings resistance.  Does the multimeter display 3.42 ± 0.2 Ohms?  Compressor System Performance  Go to Ste Daily Management – GEN III V8 – Diagnostics.  Go to Step 4  Check the compressor clutch air gap using a feeler gauge.  Is the air gap 0.3 to 0.76 mm?  Turn off the ignition switch.  Disconnect the compressor clutch wiring connector at the compressor.  Compressor of the compressor clutch wiring connector at 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 to Compressor to Section 2 Climate C (Manual Remova 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 compressor clutch. Refer to the Section 12P Wiring Diagrams.	1 R	Run the engine at idle. Set the OCC control module to:		
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Are there any engine management DTC's which may effect the operation of the air-conditioning compressor clutch operation?  Are there any engine management DTC's which may effect the operation of the air-conditioning compressor clutch operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Are there any engine management DTC's which may effect the operation?  Breat to Section 2 Condition (Management - GEN IIII V8 - Diagnostics)  Brown and Management - GEN III V8 - Diagnostics  Compressor is section 2 Climate Compressor to Section 2 Climate Compressor is section 2 Climate Compressor.  Turn off the ignition switch.  Disconnect the compressor clutch wiring connector at 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  Repair the engine Management - GEN III V8 - Diagnostics.  Are the total variation of the section 12P Wiring Diagrams.	•	temperature to full cold.		
operation of the air-conditioning compressor clutch operation?    Caution   Caution	D	Does the compressor clutch engage?		Go to Step 2
2 Using a multimeter check the compressor clutch coil windings resistance.  Does the multimeter display 3.42 ± 0.2 Ohms?  4 Check the compressor clutch air gap using a feeler gauge.  Is the air gap 0.3 to 0.76 mm?  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?  6 Check the vehicle wiring harness and electrical connector to the compressor clutch. Refer to the Section 12P Wiring Diagrams.  CAUTION  Repair the fault in the fault in the harness. Fear to the compressor clutch. Refer to the Section 12P Wiring Diagrams.			6C1-2 Engine Management – V6 – Diagnostics, or Section 6C3-2 Powertrain Management – GEN	Go to Step 3
2 Using a multimeter check the compressor clutch coil windings resistance.  Does the multimeter display 3.42 ± 0.2 Ohms?  4 Check the compressor clutch air gap using a feeler gauge.  Is the air gap 0.3 to 0.76 mm?  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?  6 Check the vehicle wiring harness and electrical connector to the compressor clutch. Refer to the Section 12P Wiring Diagrams.  to Section 2 Climate C (Manual Remova Installa Remova Installa Remova Installa Check the vehicle wiring harness and electrical connector to the compressor clutch. Refer to the Section 12P Wiring Diagrams.	3 1	Turn off the ignition.		Replace the
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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.  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  Repair the compressor clutch. Refer to the Section 12P Wiring Diagrams.	Is	s the air gap 0.3 to 0.76 mm?	Go to Step 5	to Section 2C HVAC Climate Control (Manual A/C – Removal and Installation
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?  6 Check the vehicle wiring harness and electrical connector to the compressor clutch. Refer to the Section 12P Wiring Diagrams.	<b>5</b> 1	Turn off the ignition switch.		
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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?  6  Check the vehicle wiring harness and electrical connector to the compressor clutch. Refer to the Section 12P Wiring Diagrams.	3	compressor clutch terminal X1-A using a suitable electrical kit		
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  Check the vehicle wiring harness and electrical connector to the compressor clutch. Refer to the Section 12P Wiring Diagrams.		CAUTION		
6 Check the vehicle wiring harness and electrical connector to the compressor clutch. Refer to the Section 12P Wiring Diagrams.  Repair the end of the fault in the harness. Figure 1.000	4	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.  Temporarily connect a fused jumper wire from the positive		Replace the compressor. Refer to Section 2C HVAC Climate Control (Manual A/C – Removal and
compressor clutch. Refer to the Section 12P Wiring Diagrams.  fault in the harness. F	D	Does compressor clutch engage when contact with the lead is made?	Go to step 6	Installation
harness. F				Repair the electrical fault in the vehicle
Diagram information		s the wiring harness / connector circuit OK?	Go to Step 7	harness. Refer to Section 12P Wiring Diagrams for information on electrical diagnosis

Step	Action	Yes	No
7	<ul> <li>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.</li> <li>Compare the air-conditioning pressure sensor pressure / voltage values correspond to the pressure gauge readings.</li> <li>Are the actual gauge and pressure sensor values within 5 % of each other?</li> </ul>	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 airconditioning pressure sensor will disengage the	Check the compressor system	
	compressor.  Is the high pressure side pressure above 2900 kPa?	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.

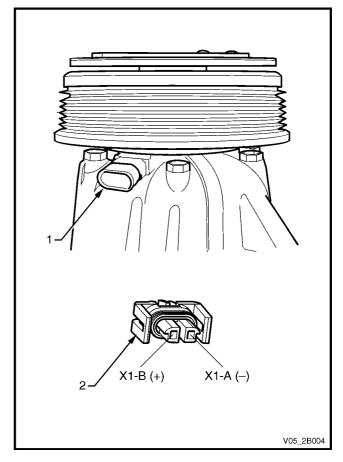


Figure 2B - 8