

How to Test and Diagnose Electronic Control Valve (ECV) Compressor with Scan Tool 5811746

gpd



5811746 • Electronic Control Valve Compressor Diagnostic Scanner Kit

TOOLS NEEDED:

- Electronic Control Valve Compressor Diagnostic Scanner Kit (5811746)
- A/C Manifold Gauges (R134a Systems: 5811258; R1234yf Systems: 5811672)

SAFETY FIRST!

Always follow standard safety precautions & use appropriate protective equipment.

PLEASE TAKE NOTE OF THE FOLLOWING BEFORE USING 5811746:

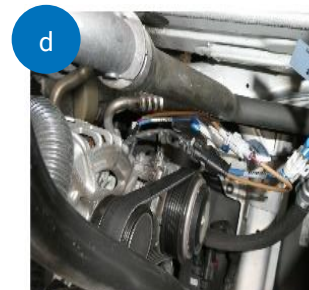
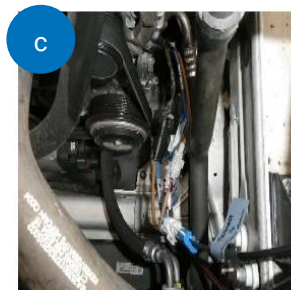
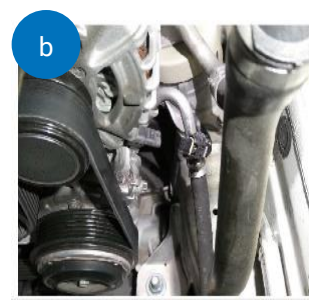
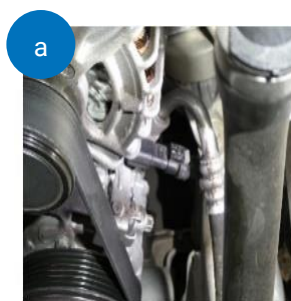
- Never leave running vehicle unattended while tester is in use.
- Avoid staying on manual mode for an extended period.
- Keep a constant watch on high side pressure readings.
- Switch from manual to normal mode if high side pressure exceeds 300psi. Failure to switch to normal mode when high side pressure exceeds 300psi can over pressurize the A/C system and damage A/C system components.
- gpd recommends placing a shop fan in front of condenser during testing, especially if in hot temperature environments.

1. Identify appropriate male and female pigtails for application. Refer to Pigtail Application Chart at the end of this tech tip.

2. Locate the compressor control valve and disconnect to connect scan tool pigtail.



3. Connect A/C manifold gauges.



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4. Connect battery power leads.
Always connect negative (-), black color, lead first.
Then connect the positive (+), red color.



5. With engine and A/C on, check resistance on scan tool.

- Ideal readings: $10\Omega - 14\Omega$ MODE SELECTION BUTTON:

Press once to switch between normal and manual mode



Press Ω CHECK RESISTANCE BUTTON to view resistance reading in **ohms**.

Digital display will show mode selection (normal or manual) at top of screen

In "NORMAL MODE", the pulse width modulation (PWM) signal, shown as a duty cycle %, is received from the ECU.

Changing to "MANUAL MODE" allows for manual control of the PWM command signal to the control valve.

Do not leave tester in manual mode for extended period. Switch to normal mode if high side pressure exceeds 300psi.

- The interface adapter will signal PWM signal is normal with a steady green light. If the green light is flashing, there is no PWM signal from the ECU.

- If the command % value is 0–20%, while in normal mode, this is a sign that the compressor is not receiving operating signal from ECU. A scan tool should be used to check system for trouble codes.



- In manual mode, the PWM signal to the control valve can be manually increased/decreased. By increasing the PWM signal to approximately 80%, it can be verified if the compressor is in operating condition. If the compressor is functional when in manual mode, this indicates a failure in communication between the control valve, ECU, and/or other input signals from temperature, pressure, and refrigerant flow sensors. Otherwise, the compressor is not functional and should be diagnosed/replaced.

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- The “CONTROL BOX” has two LED lights (green and red).
 - If green LED light is flashing: There is no PWM control signal from the ECU/ECM.
 - If green LED light is steady (not flashing): PWM control signal from ECU/ECM is normal.
 - IF USING 5811746 WITH A EUROPEAN MARKET APPLICATION (e.g. EU Audi) and red LED light is lit (steady or flashing): PWM signal from ECU/ECM is the wrong polarity. In these cases, a ‘reverse’ adaptor (sold separately) is required for ECU side connection.



5811746 PIGTAIL APPLICATION CHART

MALE	FEMALE	MAKE/MODEL	COMPRESSOR TYPE
SE 02M	SE 02F	Mercedes Benz	Denso 6SBU16C/6SEU16C/6SAS14C/7SBU16C/7SEU16C & Valeo DCS17EC
SE 02M-U		Universal Pin Style	Plug in
SE 03M	SE 03F	Audi/Volkswagen	Sanden PXC16/PXE16, Denso 7SBU16C/7SEU16C & HCC/Visteon VS16
SE 04M	SE 04F	Dodge/Jeep/Ram/Chrysler/Sebring	Denso 6SE U16C/6SBU14C/7SBH17C
SE 05M-U	SE 05F	MBZ/BMW	Denso
SE 10M	SE 10F	Toyota/Lexus/ Subaru	Denso 6SBU16C/6SE U16C,7SBU16C/7SEU16C, TSB19C/TSE17C/TSE14C/5TSE10C/5SE11C/5SEU09C
SE 12M	SE 12F	Nissan/Infiniti/ Renault	Valeo DCS14EC & Sanden PXC14
SE 16M	SE 25F	Ford	Ford
SE 22M	SE 25F	Universal Pin Style	Plug in
SE 23M	SE 26F	Universal Pin Style	Plug in
SE 30M	SE 30F	Kia/Hyundai	HCC/Visteon VS18, Doowon DVE18
SE 02M-U	SE 31F	Gm/Delphi/Volvo	Delphi CVC7E/CVC6E/CVC
SE 32M	SE 32F	MBZ/BMW	Denso 6SAS14C/6SBU14A/7SAS17C/7SBU16C/7SBU17A; Calasonic CSE 717 & Sanden PXC16
SE 33M	SE 33F	Land Rover/Jaguar/ Ford/ Fiat	Sanden PXC16/PXE16 & Denso 7SBU16C/7SE U16C
SE 34M	SE 26F	Kia/Hyundai	HCC/Visteon VS18, Doowon DVE18
SE 36M	SE 26F	Gm/Delphi	Delphi CVC7E/CVC6E/CVC
SE 45M	SE 45F	Nissan/Infiniti/ Renault	Valeo DCS17EC/DCS171C

Male end connects to ECV; pigtail connects to harness • Female end connects to harness; pigtail connects to ECV

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