Testing Externally Electrically Controlled Compressors

External control compressors are very common on late model vehicles and can be hard to diagnose as to whether the compressor is faulty and not responding to vehicle inputs or if the vehicle is not sending the correct control information to the compressor.

The control valve is operated by a Pulse Width Signal from 2 to 100% operating the internal solenoid which controls the amount of stroke in the compressor in response to evaporator temperature.

JAS has a tool A18-8819 which performs a number of tests both on the vehicle to determine if there is a Pulse Width signal present and then a solenoid resistance check on the compressor.

The tool also has the ability to control the compressor through the full range of stroke control to enable a manual check of compressor function.

The A18-8819 is supplied with 13 connectors to suit Vehicles Including, Audi, Citroen, Fiat, GM, Lexus, Mercedes Benz, Peugeot, Scion, VW, Universal. Compressor Brands Covered Zexel/Valeo, Calsonic, Denso, Sanden.

Complete Compressor Operation Analysis in Three Easy Steps:

- Check control solenoid
- Check input signal from a/c control unit to solenoid
- Issue variable commands to solenoid to drive compressor

Quick Tester Hook-up:

- Battery power clamps
- Specifi c vehicle adapters (and universal) for solenoid connector
- Specifi c vehicle adapters (and universal) for vehicle harness connector

Scanner Operation

1st STEP: Check the Resistance of the Control Valve

Check the resistance of the Control Valve. Th e resistance of the control valve should be around 10.l5 Ω – 14 Ω.

2nd STEP: Normal Mode

Be able to read the ECU commanding the Compressor/Control Valve in % Duty Cycle of Pulse Width signal, while the engine is running and A/C is on.

Lower % Duty Cycle reading -Less A/C/ demand.
Higher % Duty Cycle reading -High A/C demand.

3rd STEP: switch to Manual Mode

ECCS06 will provide a Pulse Width Signal in % Duty Cycle to control the Electrical Control Valve on all Clutch less/Direct drive A/C compressors, by pressing the “Up” and “Down” arrow at “Manual” mode.

Scanner Handheld Unit
Power Leads & Wire Harness Set

Scanner Connections

1. Connect the Battery/Power Leads.

3. Disconnect the wire harness from Compressor Solenoid

2. Connect the pressure Manifold Gauges or service machine

4. Pick up the correct adapter/connector in the “Kit”.
Connect the Compressor Solenoid to the scanner and connect the vehicle harness to the scanner.
The scanner now is hooked up in series with Compressor Control Circuit.

includes 13 Adapters plus one Universal Adapter.

designed to work with 13 diff erent control valve plugs, plus one univeral plug.

Vehicles:
Audi
BMW Citroen
Fiat
GM
Lexus Mercedes Benz
Peugeot
Sicon
VW
Universal

Compresser Types:
Zexel/Valeo
Calsonic
Denso
Sanden

Scanner Overview

Digital screen readout in % Duty at "***Normal***" / "***Manual***" mode. Or in Ohm at ***Check Resistance.***

Button to increase the Compressor performance by increasing the Pulse Width Signal in % Duty at "***Manual***" mode.

Button to switch "***Normal***" or "***Manual***" mode.

Button to check the resistance of the Control Valve in Ohm.

Button to decrease the Compressor performance by decreasing the Pulse Width Signal in % Duty at "***Manual***" mode

**Press any button to turn on the scanner.
**Voltage supply: 11 to 15 Volts.
**Built in Current Overload & System Overheat protectors.
**Built in Simulator in the scanner, will prevent the fault codes logging in the vehicle computer system while disconnecting the control valve wire harness.
**Drive the Compressor from 2% to 100%.
**Operation & Storage temperature: -20 ° C to 50 ° C/0 ° F to 120 ° F