

4 Testing Hall Sender and Ignition Control Unit (all except CIS-E Motronic and Digifant I)

The Hall sender and ignition control unit only need to be tested if there is no spark at the spark plugs when tested. For these tests, the spark plug wires and ignition coil should be in good condition as described in 3.3 Testing Coil and Spark Plug Wires. The ignition control unit is located in the driver's side cowl, above and behind the firewall, beneath the drip shield. The Hall sender connector is on the side of the distributor.

These tests require the use of a high-impedance voltmeter or low-current LED test light. For more information, see 3.1 Basic Troubleshooting Principles. The sequence of the tests is important. Follow the test sequence as it is presented in order to logically isolate the faulty component.

CAUTION —

Always turn the ignition off before connecting or disconnecting ignition test equipment. Switch multimeter functions or measurement ranges only with the test probes disconnected.

It becomes necessary to remove or replace the ignition control unit, carefully clean the mounting surface between the control unit and the heat sink before installing. Trapping dirt or other debris beneath the control unit may damage the internal circuitry when the mounting screws are tightened.

Voltage Supply and Ground to Ignition Control Unit

With the ignition off, remove the harness connector from the ignition control unit. Check for voltage between connector terminals 2 (-) and 4 (+) as shown in Fig. 3-4. There should be battery voltage when the ignition is turned on. If there is no voltage, check for wiring faults. Check the continuity of the wire from terminal 2 to ground, and from terminal 4 of the connector to terminal 15 of the coil. Repair wiring as necessary. For current flow diagrams, see CURRENT FLOW DIAGRAMS.

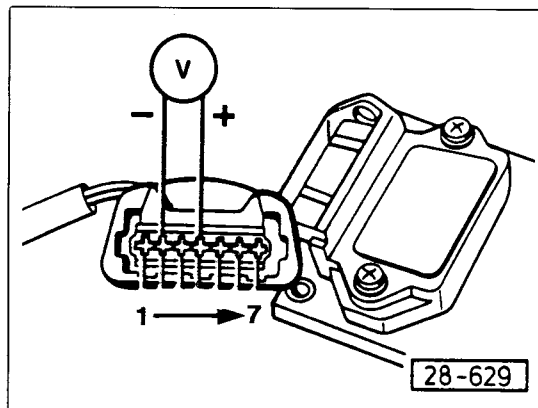


Fig. 3-4. Ignition control unit voltage supply being checked at connector terminals 2 and 4.

Voltage Supply and Ground to Hall Sender

The three ignition systems covered by this manual each get power to the Hall sender a different way. The basic TCI-h system powers the Hall sender through the ignition control unit. On the TCI-h system with knock sensor, the Hall sender receives power from the knock sensor control unit. On the Digifant II system, the Digifant control unit powers the Hall sender.

With the ignition off and the ignition control unit disconnected, disconnect the harness connector from the Hall sender at the distributor. Check for voltage between the outer terminals of the connector, as shown in Fig. 3-5. There should be voltage when the ignition is switched on.

If there is no voltage, use the current flow diagrams in CURRENT FLOW DIAGRAMS to check the wiring between the Hall sender connector and the control unit, between the voltage source and the control unit, and between the control unit and ground. If all of these wires have continuity and there is still no voltage reaching the Hall sender, the control unit which provides power to the sender is faulty and should be replaced.

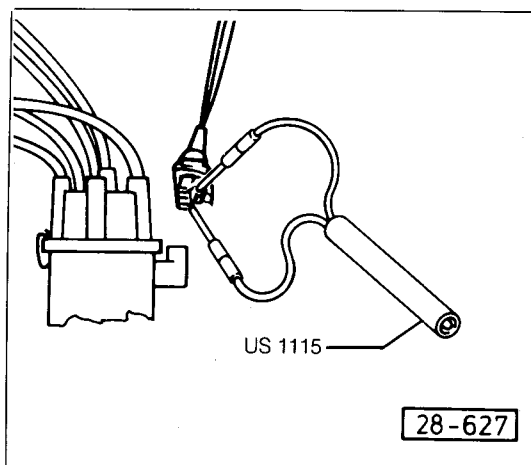


Fig. 3-5. Checking voltage supply at Hall sender connector. LED test light shown.

Hall Sender Switching Function

To check Hall sender function, check its ability to switch the primary circuit. Remove the coil wire from the center of the distributor and connect it to ground with a jumper wire. With the Hall sender connected, carefully push back the rubber connector boot to expose the back of the wire connections. Connect an LED test light between the center terminal and the positive (+) battery terminal, as shown in Fig. 3-6. When the starter is actuated, the LED should flicker. If there is no reaction, the Hall sender is defective and should be replaced as described in 5.3 Disassembling and Assembling Distributor.