

Visual Inspection

A visual inspection is an important part of the system test. When performing a visual inspection, the following points should be particularly observed:

1. Check brake lights for proper function.
2. Check all items for abnormal conditions such as frayed wires, loose components, etc.
3. The vacuum hoses must be securely attached and routed with no sharp bends or kinks.
4. Check function of vacuum check-valve.
5. The servo (throttle actuator) should operate freely.
6. The Teleflex cable (which connects the Servo linkage and Accelerator linkage) should have no free play and should operate freely.
7. Electrical connections must be complete and tight. The wiring harness must be properly routed. Look for frayed wiring insulation or evidence of shorts.
8. Check fuse in main fuse box.

Note: Any problems revealed by the visual inspection should be corrected before further tests of the Cruise Control system are made.

Control Switch Test

Disconnect the green connector going to the AMPLIFIER from the control switch. Then, check the lt. blue lead from the control switch with the ignition turned on as follows:

1. Check for battery voltage at the lead when the ON-switch is depressed. Battery voltage should be available at the lt. blue lead coming from the control switch (see wiring diagram).
2. If no voltage—check pin A at the switch for voltage with the connector attached. If voltage at pin A, the switch is defective. Replace switch.

3. If no voltage at Pin A, check intermediate connector—(Black/Red) on brake light switch. (See wiring diagram).

4. Turn ignition switch off and with an ohmmeter connected between the lt. blue wire and ground, depressing the SET/ACCEL switch, a reading of approximately 680 Ohms should be indicated on the ohmmeter. If the ohmmeter shows no resistance, the failures are:

- a) in the circuitry between the green connector and the 4-pin control switch connector,
- b) a faulty 680 Ohm Resistor, which is located in the 4-pin switch connector,
- c) an inoperative control switch.

Amplifier Test

Important Note: Do not use a test lamp to perform the following tests as excessive current draw will damage electronic components inside the amplifier. Use only a volt-meter of 5,000 ohm/volt rating or higher.

This amplifier test is only to check out the On-Circuit and the Brake Disable Circuit. The other circuits such as the Speed Sensor, etc., are not tested.

Test for ON-Circuit

Turn on ignition switch and connect a voltmeter to the lead (lt. Blue/Black Hash) at the amplifier (middle terminal) or green connector. The voltmeter should read 12 volts when the ON-switch is depressed and held. If voltage is not available, check control switch test. Release the ON-button; 12 volts should remain at the lt. blue/black hash wire indicating the ON circuit is engaged. If the voltage does not remain, check for ground on the amplifier, fuse or connect (hang in) a know good amplifier and re-check for a good ON circuit.

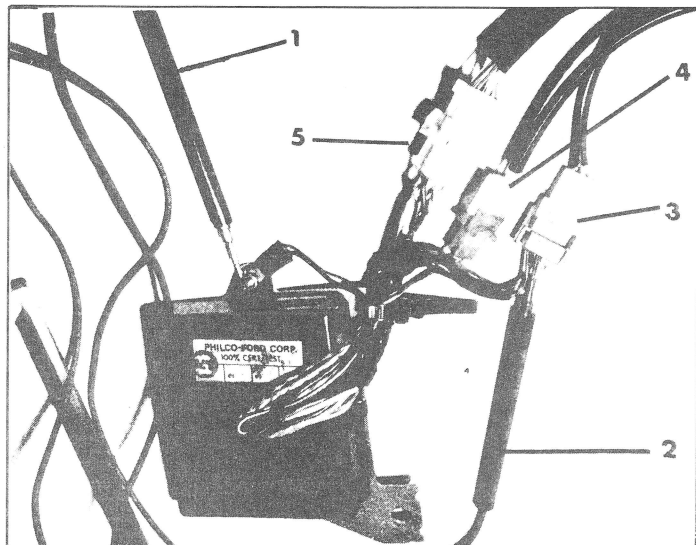


Fig. 1

- | | |
|------------------------|------------------------|
| 1 Test lead - negative | 4 2-prong plug (blue) |
| 2 Test lead - positive | 5 6-prong plug (white) |
| 3 3-prong plug (green) | |

Test for Cancellation When Braking

With ignition on and voltmeter connected at the lt. blue/black hash wire of the green connector, depress the brake pedal. Voltage on the wire should drop about 1.2 volts only as long as the brake pedal is depressed. If it does not drop, perform the control switch test and check the brake control switch. If the switches are functioning properly, plug in an amplifier known to be in good operating condition and repeat the test for cancellation when braking as above.

Do not substitute a new amplifier for the old amplifier until the actuator has been tested. Refer to the Servo Assembly (Throttle Actuator Test).

Speed Sensor Test

Disconnect the speed sensor wires from the amplifier assembly and connect an ohmmeter between the wire connector terminals (Dk. green-white stripe and black) at the speed sensor end. A reading of approximately 400 ohms should be obtained. A reading of 0 ohms indicates a shorted coil and a substantially higher reading indicates an open coil. Replace the sensor in either case.

If the ohmmeter records 400 ohms and the speedometer operates properly without needle waver, the speed sensor is probably good. A speed sensor of known good quality can also be substituted in place of the existing sensor to check for proper operation.

Servo Assembly Test (Actuator)

Disconnect the teleflex cable from the actuator arm. Separate the servo to amplifier connector. Connect an ohmmeter between the orange-yellow hash and grey-black hash wire leads at the servo connector. A resistance of approximately 85 ohms should be obtained. Connect the ohmmeter between the orange-yellow hash and white-pink hash wire leads. A resistance of approximately 85 ohms should be obtained.

Start the engine. With the servo disconnected from the amplifier, connect the orange-yellow hash lead of the servo to the battery positive terminal. Connect the white-pink hash lead of the servo to ground, and momentarily touch the grey-black hash lead of the servo to ground. The servo throttle actuator should pull the actuator arm. The throttle should hold in that position or slowly release the tension. When the white-pink hash wire is removed from ground, the servo should release immediately. Replace the servo if it fails any part of the preceding test. If the orange-yellow hash is shorted to either the white-pink or grey-black hash leads, it may be necessary to replace the amplifier.

The feed-back potentiometer can be checked with an ohmmeter. Turn ignition off and disconnect servo plug. The resistance between the purple-lt. blue hash and brown-lt. green hash wires should be approximately 50,000 ohms. The resistance between the purple-lt. blue hash and yellow-red hash wires should be approximately 24,000 ohms. Slowly depress servo arm. The reading should decrease smoothly. With the servo arm pushed in, the reading should be approximately 14,000 ohms.