

DIAGNOSIS AND TESTING (Continued)**VSS Test**

Disconnect the 6-pin connector at the speed control amplifier and connect an ohmmeter between Circuit 150 (DG/W) (VSS signal) and Circuit 57 (BK) (VSS ground). A reading of approximately 200-300 ohms should be obtained. A reading of 0 ohms indicates a shorted coil or a shorted wire in the harness. A maximum reading indicates an open coil in the VSS or open wire in the harness. In either case, repeat the test at the VSS. Replace VSS if resistance is not approximately 200-300 ohms. Service harness if VSS resistance is satisfactory.

If ohmmeter records 200-300 ohms and the speedometer operates properly within needle waver, the VSS is probably good. A VSS of known good quality can also be substituted in place of the existing VSS to check for proper operation.

Servo Assembly Test

1. Separate the 8-pin connector at the speed control amplifier.
2. Connect an ohmmeter between the Circuit 144 (O/Y) and Circuit 145 (GY/BK) leads at the 8-pin connector. A resistance of 40 to 75 ohms should be obtained.
3. Connect the ohmmeter between the Circuit 144 (O/Y) and Circuit 146 (W/PK) leads. A resistance of 100 to 150 ohms should be obtained.
4. Connect the ohmmeter between Circuits 147 (P/LB) and 148 (Y/R). A resistance of 20 K ohms to 30 K ohms should be obtained.
5. Connect the ohmmeter between Circuits 147 (P/LB) and 149 (B/LG). A resistance of 40 K ohms to 60 K ohms should be obtained.
6. If proper resistance is not obtained, check the wiring and speed control servo separately for damage and replace or service as required.

Start the engine, and with the speed control servo disconnected from the speed control amplifier, connect the Circuit 144 (O/Y) lead of the speed control servo to the battery positive terminal. Connect the Circuit 146 (W/PK) lead of speed control servo to ground, and momentarily touch the Circuit 145 (GY/BK) lead of the speed control servo to ground. The speed control servo throttle actuator arm should pull in and the engine speed should increase. The arm should hold in that position or slowly release. When Circuit 146 (W/PK) is removed from ground, the speed control servo should release. Replace the servo if it fails any part of the preceding test.

If the Circuit 144 (O/Y) lead is shorted to either the Circuit 146 (W/PK) or Circuit 145 (GY/BK) leads, it may be necessary to replace the speed control amplifier.

Speed Control Amplifier Test

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

On Circuit Test

Turn ignition switch to the RUN position. Connect voltmeter between Circuit 296 (W/P) and ground in 6-pin connector at speed control amplifier. Voltmeter should read battery voltage.

If battery voltage is not present, check the fuse voltage and service as required.

Connect voltmeter between Circuit 151 (LB/BK), and ground in 6-pin connector at speed control amplifier. The voltmeter should read battery voltage when the ON switch on the steering wheel is depressed and held. If voltage is not available perform control switch test.

Release the ON button. The voltmeter should read approximately 7.8 volts. The voltage should remain at approximately 7.8 volts until one of the speed control buttons is depressed and held. If the meter reads zero, check the ground connections on the speed control amplifier (either black wire on the 6-pin connector). If there is still no ground on the speed control amplifier, check the system ground connection, and wiring. Also check the 20-amp fuse and / or substitute (but do not install) a known good speed control amplifier and recheck for a properly operating ON circuit.

Brake Circuit Test

Connect an ohmmeter between Circuit 511 (LG) on the 6-pin connector and ground. The resistance should be less than 5 ohms. If it is greater than 5 ohms, check for improper wiring, burned out stoplamps or clutch switch malfunction.

OFF Circuit Test

With the ignition switch in the RUN position and the voltmeter connected between Circuit 151 (LB/BK) on the 6-pin connector and ground, depress and hold the OFF switch on the steering wheel. The voltmeter should indicate 0 volts. If the voltage does not drop to zero, perform control switch test. If the switches check OK, hang in a known good speed control amplifier and recheck the OFF circuit as outlined.

SET ACCEL Circuit Test

With the ignition switch in the RUN position and the voltmeter connected between Circuit 151 (LB/BK) in the 6-pin connector and ground, depress and hold the SET ACCEL button on steering wheel. Voltmeter should indicate approximately 4.5 volt. Rotate the steering wheel back and forth and watch the voltmeter for fluctuations. If the voltage varies more than 0.5 volt, perform the control switch test.

COAST Circuit Test

With the ignition in the RUN position and the voltmeter connected between Circuit 151 (LB/BK) in the 6-pin connector and ground, depress and hold the COAST button on steering wheel. The voltmeter should indicate approximately 1.5 volts.

RESUME Circuit Test

With the ignition in the RUN position and the voltmeter connected between Circuit 151 (LB/BK) in the 6-pin connector and ground, depress and hold the RESUME button on the steering wheel. The voltmeter should read approximately 6.5 volts.