

Automatic Speed Controls

4-11

1970-73 FORD MOTOR CO.

Ford, Except Pinto (1971-73)
Mercury, Except Cougar (1970-73)
Thunderbird (1970-73)
Lincoln Continental & Mark IV (1972-73)

NOTE - For 1970-71 Lincoln Continental & Mark III see "1970-71 Lincoln Continental & Mark III Speed Controls" in this section.

DESCRIPTION

The Speed Control System is composed of the off-on switch and the set-acc and coast switches, a servo assembly, a sensor, an amplifier and the necessary wires and vacuum hose to connect the components. The switches are located in the steering wheel spoke. The amplifier and sensor are located under the instrument panel, and the servo assembly is attached to the dash panel under the hood.

OPERATION

To operate system, engine must be running and car should be moving between 30-80 MPH. When on/off switch in steering wheel is actuated to "On" position and driver depresses and releases "set/accelerate" button, vehicle speed will be maintained until a new speed is set by driver, brake pedal is depressed, or system is turned off.

TESTING

Control Switches Test - Disconnect blue lead going to amplifier from control switches. Check blue lead from control switches as follows:

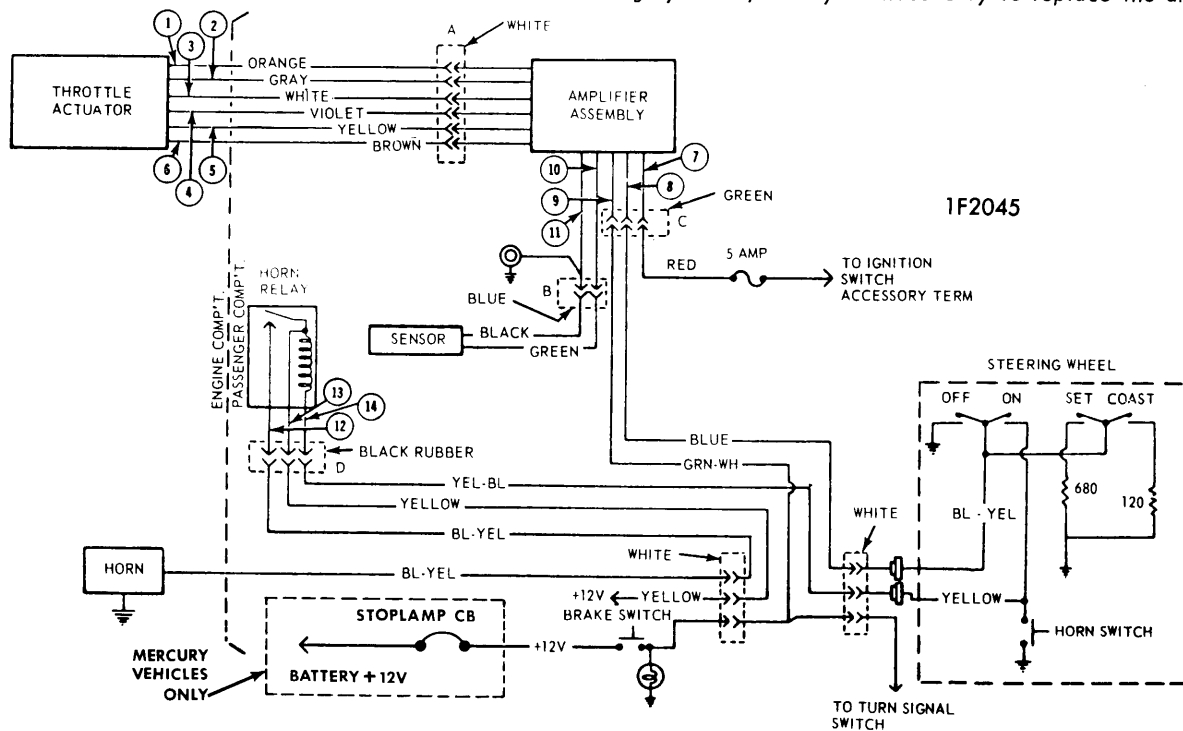
- 1) Check for battery voltage at blue lead when ON switch is depressed. Battery voltage should be available at the blue lead coming from the control switches.
- 2) Connect an ohmmeter between blue wire and ground. Check blue wire for continuity to ground when OFF switch

is depressed. If a resistance is found, wiring slip rings or switch is at fault. Rotate steering wheel back and forth and tilt column up and down (if equipped). If change in resistance is noted, clean horn brush contacts and the ground brush. A good resistance reading must be obtained before proceeding to Step 3.

3) With ohmmeter connected between blue wire and ground, depress set-speed switch. A reading of approximately 680 ohms should be indicated on ohmmeter. Depress coast switch, a reading of approximately 120 ohms should be indicated on ohmmeter.

Speed Sensor Test - Disconnect sensor wires from amplifier and connect an ohmmeter between the wire connector terminals (green & black). A reading of approximately 400 ohms should be obtained. If ohmmeter records 400 ohms and speedometer operates properly, speed sensor is probably good. A new sensor can also be substituted in place of old sensor to check for proper operation.

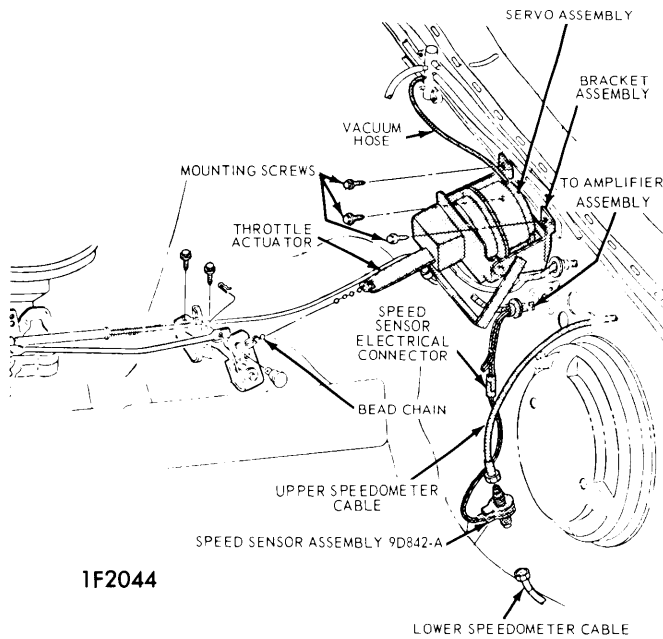
Servo Assembly Test - Disconnect ball chain from throttle linkage. Separate servo to amplifier connection, then connect an ohmmeter between the orange and grey wire leads at servo connector. A resistance of approximately 85 ohms should be obtained. Connect ohmmeter between orange and white wire leads. A resistance of approximately 85 ohms should be obtained. Start engine, with servo disconnected from amplifier, connect orange lead of servo to battery positive terminal. Connect white lead of servo to ground, and momentarily touch grey lead of servo to ground. Servo throttle actuator should tighten bead chain and open throttle. Throttle should hold in that position or slowly release tension on chain. When white wire is removed from ground, servo should release bead chain tension immediately. Replace servo if it fails any of the above tests. **CAUTION** - If orange lead is shorted to either white or grey leads, it may be necessary to replace the amplifier.



1970-71 SPEED CONTROL WIRING DIAGRAM

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1970-73 FORD MOTOR CO. (Cont.)



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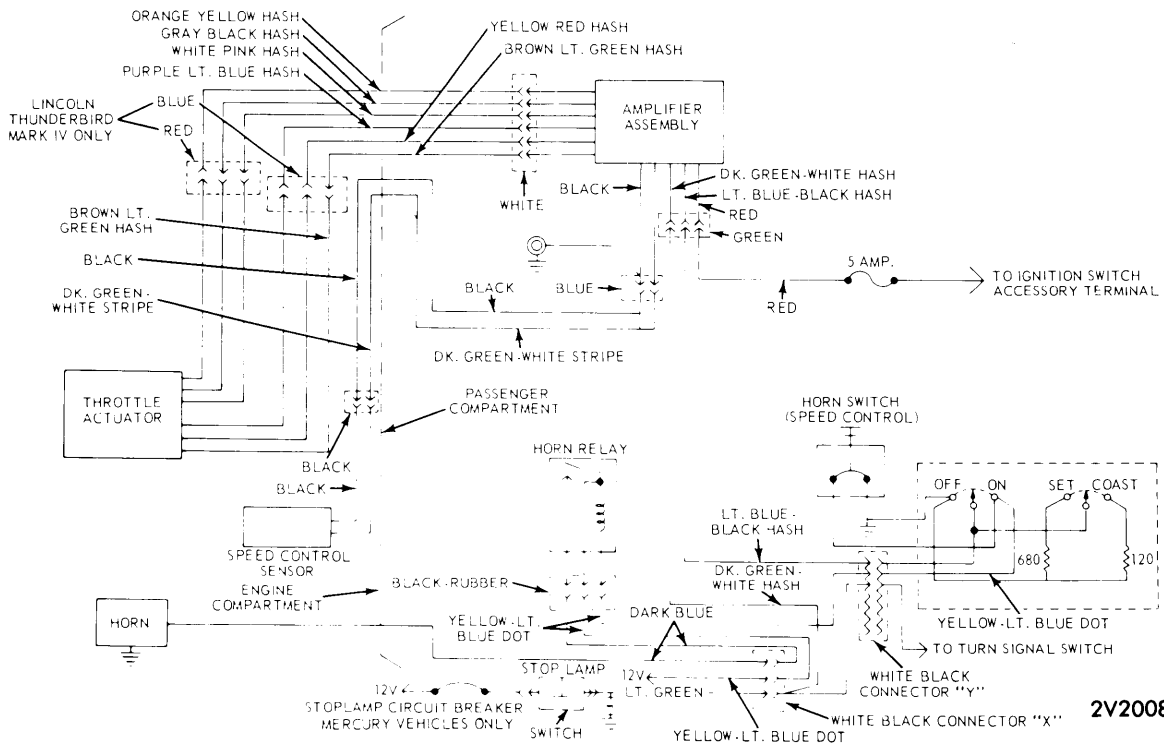
SPEED CONTROL SENSOR & SERVO ASSEMBLY

Amplifier Test – NOTE – Do not use a test lamp to perform the following tests as excessive current draw will damage electronic components inside amplifier.

- 1) Turn ignition switch on, connect a voltmeter to blue lead at the amplifier (middle terminal) of green connector. Voltmeter should read 12 volts when ON switch on steering wheel is depressed and held. If voltage not available, check horn relay circuit and control switch test. Release ON button, 12 volts should remain at blue wire indicating ON circuit is engaged. If voltage does not remain, check for ground on amplifier and/or install a known good amplifier and retest.
- 2) With ignition on and voltmeter connected to blue wire as in Step 1, depress the OFF switch on steering wheel. Voltage on blue wire should drop to zero indicating ON circuit is de-energized. If voltage does not drop to zero, perform "Control Switch Test". If switches test OK, install a known good amplifier and retest.
- 3) With ignition on and voltmeter connected to blue wire as in Step 1, depress the ON switch then hold Set-Accel button on steering wheel. Voltmeter should indicate approximately 10 volts. Rotate steering wheel back and forth and watch voltmeter for fluctuations. If voltage varies more than .5 volt, perform "Control Switch Test".

ADJUSTMENT

Linkage Adjustment – Adjust bead chain to obtain 0.06"-0.25" actuator arm free travel when engine is at curb idle position.



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1972 SPEED CONTROL WIRING DIAGRAM