Cruise Control Systems

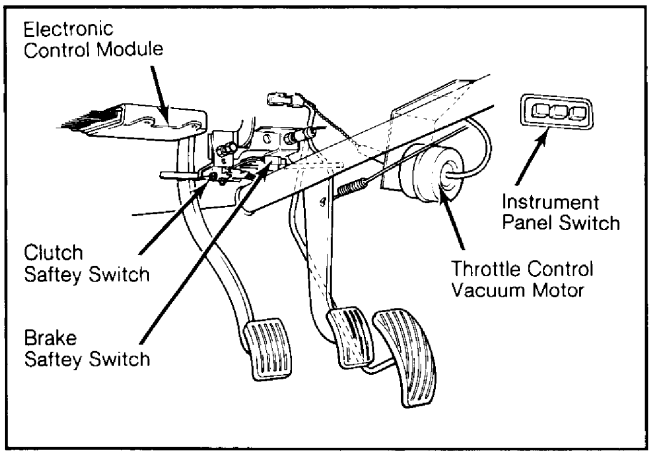
CHRYSLER CORP. IMPORTS

Arrow & Ram-50 Pickups, Challenger & Sapporo

DESCRIPTION

The cruise control system is electrically actuated and vacuum operated. The speed control switch is located on the instrument panel and consists of 3 buttons; "OFF", "SET" and "RESUME". The system will not operate at speeds under 25 MPH.

Fig. 1: Cruise Control In-Vehicle Components



OPERATION

The "SET" button incorporates 3 functions. It turns the system on when it is depressed, it sets the vehicle speed when it is released, and it accelerates the vehicle when is is held down. The "OFF" button will deactivate the system. This is accomplished by disengaging the power supply relay located in the instrument panel.

Depressing the brake or clutch deactivates the cruise control function. "RESUME" button can be used after either brake or clutch operation has been depressed. Depressing the button will return the vehicle to the previously set speed at a controlled rate of acceleration, providing the system has not been turned off.

TROUBLE SHOOTING

1) Set brakes. Place transmission in Neutral or Park. Start engine. If cruise control engages when engine is started, or does not disengage when brkae pedal is depressed, electrical circuit is faulty.

2) Release brakes and accelerate vehicle to desired speed. If cruise control engages without actuating "SET" button, electrical circuit or switch is faulty.

3) Depress and release "SET" button. Remove foot from accelerator. Speed should be controled. If speed setting is too high or low, electrical circuit is faluty or system has a vacuum leak.

4) If there is no speed control when button is pressed, sensor is faulty, fuse is blown, system has a vacuum leak, cable is disconnected, electrical circuit is faulty, or speed control switch is improperly adjusted.

5) If there is speedometer noise, excessive needle waver, or erratic servo lock-in performance, speedometer cable is damaged, cable core is bent or too long, speedometer head is noisy, or the cable ferrule nut is loose at the speedometer head, transmission or control servo.

6) Drive the vehicle over a rough road. If unit disengages, brake light and speed control switch adjustment is incorrect. Tap brake pedal lightly. If there is no disengagement of system, brake light and cruise control switch adjustment is incorrect, cruise control chain is damaged, or electrical circuit is faulty.

7) If in step **6)**, carburetor does not return to idle, cruise control chain is damaged, misadjusted, or throttle linkage is faulty. If in step **6)**, cruise control disengaged, depress "RESUME" button. Vehicle should resume previous speed.

8) If there is no resume when button is depressed, switch or electrical circuit is faulty. If vehicle resumes speed, cruise control is okay. If resume speed is possible below 25 MPH, electrical circuit is faulty.

TESTING

QUICK SYSTEM CHECK

1) If the system fails to operate, check the following as possible sources of the problem: Check the brake lights. The entire brake light circuit must be operational for cruise control to work. Check the 3-Amp fuse that powers cruise control circuit.

2) Check the operation of brake and clutch saftey switches by listening for a faint click when pedals are depressed. Remove the short section of hose between the vacuum reservoir and valve body at the valve body and check for vacuum.

3) If there is no vacuum, check for loose or cracked hoses. Check all plug-in connections to ensure good contact. Check to make sure speedometer operates.

SYSTEMATIC SYSTEM CHECK

1) Terminals on the edge board connector at the electronic control module are numbered from 1 to 15 starting with the Black ground wire on the end as No. 1. Turn the ignition on and unplug the connector from the electronic control module.

2) Ground a test light and check terminal No. 10 for voltage. If test light fails to light, check the 3-Amp fuse and the circuit to the ignition switch. If No. 10 shows voltage when key is on, attach a test light to No. 1 and No. 10 again. If light fails to work, unit has a bad ground.

3) Leave the test light grounded to No. 1 and check for voltage at No. 4 with brake pedal depressed. If the light is on prior to pedal depression and stays on during depression, the brake switch is out of adjustment.

4) If the light does not come on when the brake pedal is depressed, the brake light circuit is defective or the clutch saftey switch is out of adjustment. Unplug the instrument panel switch at 8-prong connector 8" behind cruise control switch.

5) Test voltage at Orange wire from the main harness. Reconnect the plug. Test voltage at terminal No. 2 when and only when "RESUME" button is depressed. If light does not operate, replace the instrument panel switch. Test voltage at terminal No. 3 when and only when "SET" button is depressed.

6) If voltage is not present, replace instrument panel switch. Connect jumper wires from terminals No. 10 to No. 12 and No. 13. Connect jumpers from terminals No.

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14 and No. 15 to ground. Start vehicle and let idle with transmission in Neutral (manual) or Park (automatic) and with parking brake applied.

7) If brake saftey switch checked previously is functioning properly and valve body is working properly, it should be possible to increase engine speed by momentarily grounding a jumper wire from terminal No. 5. Speed should drop instantly when wire is removed from ground.

8) If this fails to control engine speed, check the vacuum motor by removing the small long vacuum hose from the valve body and applying vacuum to the hose. Engine speed should increase. If speed does not increase, check connections from electronics to the valve body, and if they check out good, replace the valve body.

SPEED SENSOR TEST

1) Connect the ground wire from the test light to terminal No. 6 and connect the positive probe from the test light to terminal No. 10. Drive the vehicle slowly.

2) Test light should flash on and off as the vehicle moves. If not, replace the sensor located inside the speedometer housing. If the above tests fail to locate the problem, replace the electronics package.

Fig. 2: Cruise Control Wiring Diagram