

JEEP CRUISE COMMAND

All Models

DESCRIPTION

Jeep vehicles use an electro-mechanical servo system. The system consists of an electronic regulator, speed sensor, servo, control switch assembly, vacuum storage can, check valve and release system. Release system consists of a mechanical vacuum vent valve and brake and clutch (if equipped) switch.

OPERATION

Cruise Command control is an integral part of the directional switch lever and consists of 2 separate switches. The first is "ON-OFF" and "RESUME" slide switch located on the flat of directional switch lever.

Second is a push button switch located at the end of directional switch lever. To engage system, move slide switch to "ON" position and accelerate to desired speed. Depress and release button on end of switch lever. System will now maintain selected speed.

System will automatically disengage when brake pedal is depressed. It can be re-engaged to previously selected speed by accelerating to 30 MPH and moving slide switch to "RESUME" position, then releasing switch.

NOTE: When slide switch is moved to "OFF" position, pre-set speed of "RESUME" function is canceled and must be reset when system is reactivated.

A higher speed can be set by pressing on accelerator pedal until new speed is reached and then pushing control button. A lower speed can be achieved by lightly depressing brake pedal, allowing vehicle to slow to desired speed and then depressing and releasing push button. Operation of individual components is as follows:

ELECTRONIC REGULATOR

The electronic regulator receives an input voltage representing vehicle speed from the speed sensor, driven by the speedometer cable. The regulator has a low speed circuit that prevents operation at speeds below 30 mph.

SPEED SENSOR

The speed sensor is installed between the upper and lower speedometer cables. It converts speedometer revolutions into a voltage input for the regulator.

SERVO

The servo is controlled by the regulator and uses manifold vacuum to control the throttle. A bead-link chain connects the servo cable to the throttle linkage.

CONTROL SWITCH

The control switch assembly is an integral part of the turn signal switch lever.

RELEASE SYSTEM

The release system deactivates the Cruise Command system when the brake pedal or clutch pedal is depressed. Either a servo vent valve or a mechanical

vacuum vent switch admits atmospheric pressure into the servo when the brake pedal is depressed.

TROUBLE SHOOTING

SYSTEM WILL NOT ENGAGE

Restricted vacuum hose or no vacuum. Control switch or regulator defective. Speed sensor defective. Brake light or brake light switch defective. Brake light switch wire defective. Open circuit between brake light switch and brake lights. Mechanical vent valve position improperly adjusted.

"RESUME" FEATURE INOPERATIVE

Defective servo ground connection. Control switch defective. Accelerate circuit in regulator inoperative. Defective control switch.

"ACCELERATE" FUNCTION INOPERATIVE

"ACCELERATE" circuit in regulator inoperative. Defective control switch.

SYSTEM RE-ENGAGES WHEN BRAKES OR CLUTCH RELEASED

Defective regulator. Mechanical vent valve not opening. Kink in mechanical vent valve hose. Brake light or clutch switch defective.

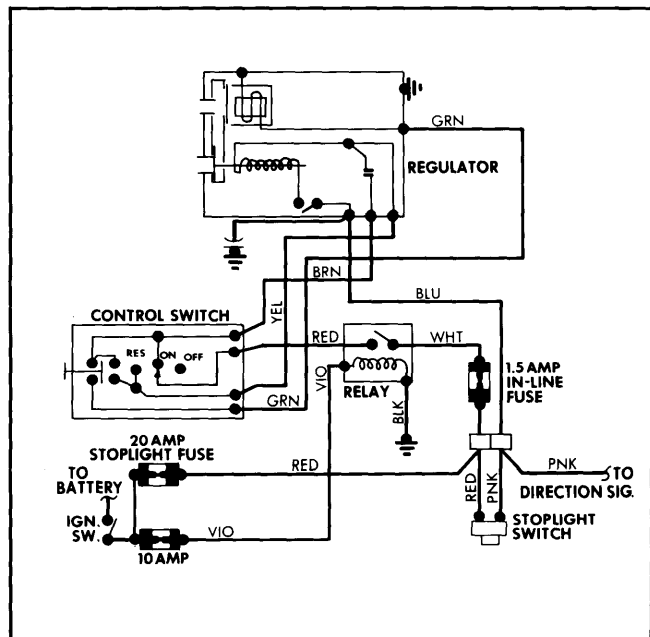
CARBURETOR THROTTLE DOES NOT RETURN TO IDLE POSITION

Improper linkage adjustment. Improper chain adjustment.

ROAD SPEED CHANGES MORE THAN 2 MPH WHEN SETTING SPEED

Centering screw adjustment set wrong.

Fig. 1: Wiring Diagram for Jeep Cruise Command



Cruise Control Systems

JEEP CRUISE COMMAND (Cont.)

SYSTEM DISENGAGES ON LEVEL ROAD WITHOUT APPLYING BRAKE OR CLUTCH

Loose wire connection. Loose vacuum hose connection. Servo linkage broken. Defective brake light or clutch switch.

ERRATIC OPERATION

Reverse polarity. Servo defective. Regulator is defective.

VEHICLE CONTINUES TO ACCELERATE WHEN "SET" BUTTON IS RELEASED

Servo or regulator defective.

SYSTEM ENGAGES BUT SLOWLY LOOSES SET SPEED

Air leak at vacuum hose. Air leak on vent valve on brake or clutch pedal.

TESTING

All tests of system should be performed as part of diagnosis of malfunction and to determine procedure(s) required for system repair.

CRUISE COMMAND SYSTEM TESTS

Testing is performed with Cruise Command System Tester (AM-PC-1-R). Remove wire harness connector from regulator. Connect Cruise Command System tester to wire harness connector. Perform the following tests. Various tester lamps are associated with specific components, circuits, etc.

Power Source Connection

With ignition switch and control switch "OFF", all test lamps should be off. If 1 or more lamps are on, remove brown wire at regulator connection from direct source of voltage or repair control switch.

System Continuity

1) With ignition and control switch "ON", lamps 1, 2, 3, and 4 should be on. Lamps 5 and 6 should be off. If lamp 1 is off, check for blown fuse in brake light switch to control switch circuit. Check Red, Brown and Green wires at control switch for continuity to switch. Check Dark Green wire at regulator connector for continuity to connector.

2) If lamp 2 is off, check speed sensor for correct output voltage. Check Grey and Dark Blue wire at speed sensor connector for continuity to regulator connector. Check terminals 2, 3, 5 and 7 at regulator connector for proper connection to wires.

3) If lamp 3 is off, check brake light (and clutch, if equipped) switch adjustment. Check Brown, Light Blue and Dark Green wire connections for continuity between connectors.

4) If lamp 4 is off, check for defective connection at terminals 2 and 11 on regulator connector. Check operation of throttle position feedback potentiometer on servo.

Solenoid Continuity

1) With control and ignition switches "ON" and set switch depressed, lamps 2, 3, 4, 5 and 6 should be on. Lamp 4 will dim when servo moves throttle to wide open position with engine operating.

2) If lamp 2 is off, check speed sensor for correct output voltage. Check Grey and Dark Blue wire at speed sensor connector for continuity to regulator con-

necter. Check terminals 2, 3, 5 and 7 at regulator connector for proper connection to wires.

3) If lamp 3 is off, check brake light (and clutch, if equipped) switch adjustment. Check Brown, Light Blue and Dark Green wire connections for continuity between connectors.

4) If lamp 4 is off, check for defective connection at terminals 2 and 11 on regulator connector. Check operation of throttle position feedback potentiometer on servo.

5) If lamp 5 is off, check for defective connections at terminals 6 and 12 on regulator connector. If necessary, replace defective servo.

6) If lamp 6 is off, check for defective connection at terminals 4 and 12 on regulator connector. If necessary, replace defective servo.

7) If all lamps are off after depressing set speed switch or moving control switch to "RESUME/ACCELERATION" position, check for blown fuse. Check for short circuits in Red, Pink and Brown wire circuits at control switch. If necessary, replace defective servo.

System Disengagement

1) With ignition and control switch "ON" and brake or clutch pedal depressed, lamps 1, 2 and 4 should be on. Lamps 3, 5 and 6 should be off. Lamp 3 should be on when brake or clutch pedal is released.

2) If lamp 2 is off, check speed sensor for correct output voltage. Check Grey and Dark Blue wire at speed sensor connector for continuity to regulator connector. Check terminals 2, 3, 5 and 7 at regulator connector for proper connection to wires.

3) If lamp 3 is off, check brake light (and clutch, if equipped) switch adjustment. Check Brown, Light Blue and Dark Green wire connections for continuity between connectors.

4) If lamp 4 is off, check for defective connection at terminals 2 and 11 on regulator connector. Check operation of throttle position feedback potentiometer on servo.

5) If lamp 3 is off when brake or clutch pedal is released, check brake light (and clutch, if equipped) switch adjustment. Check Brown, Light Blue and Dark Green wire connections for continuity between connectors.

"RESUME/ACCELERATION" Function

1) With ignition and control switches "ON", move control switch to "RESUME/ACCELERATION" position. Note that when engine is running, servo will move throttle to wide open position.

2) If lamp 2 is off, check speed sensor for correct output voltage. Check Grey and Dark Blue wire at speed sensor connector for continuity to regulator connector. Check terminals 2, 3, 5 and 7 at regulator connector for proper connection to wires.

3) If lamp 3 is off, check brake light (and clutch, if equipped) switch adjustment. Check Brown, Light Blue and Dark Green wire connections for continuity between connectors.

4) If lamp 4 is off, check for defective connection at terminals 2 and 11 on regulator connector. Check operation of throttle position feedback potentiometer on servo.

5) If lamp 6 is off, check for defective connection at terminals 4 and 12 on regulator connector. If necessary, replace defective servo.

6) If all lamps are off after depressing set speed switch or moving control switch to "RESUME/ACCELERATION" position, check for blown fuse. Check for

JEEP CRUISE COMMAND (Cont.)

short circuits in Red, Pink and Brown wire circuits at control switch. If necessary, replace defective servo.

SPEED SENSOR TEST

1) Disconnect wire harness connector at speed sensor. Connect a voltmeter set on low AC scale to wire terminals from speed sensor.

2) Raise front and rear wheels of vehicle off ground and support vehicle with safety stands. Operate engine (wheels spinning freely) at 30 mph and note voltage.

3) Voltage should be approximately 0.9 volts. Increases of 0.1 volts per each 10 mph increase in speed should also be noticed. Turn off engine and stop wheels. Lower vehicle. Connect speed sensor wire harness.

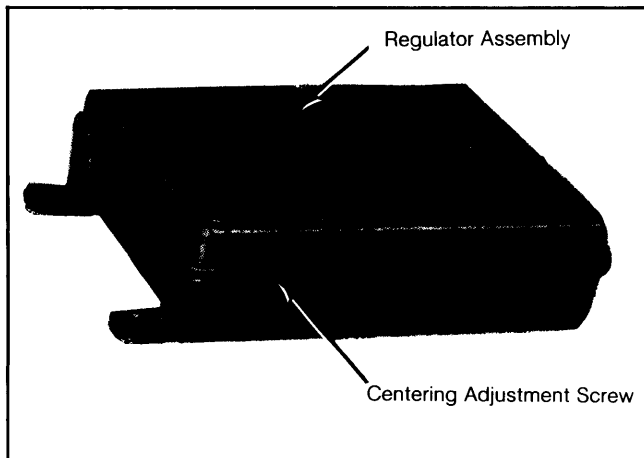
ADJUSTMENT

CENTERING SPRING

Cruise Command system is designed to maintain speed selected by driver, within 2 mph. System operation is checked at 50 mph. Speed adjustment is made by turning centering adjusting screw on regulator.

If speed control holds speed more than 2 mph above selected speed, turn centering screw counterclockwise a small amount. If engagement speed is 2 or more mph below selected speed, turn centering screw clockwise a small amount.

Fig. 2: Centering Screw Adjustment Location



Turn screw clockwise if engagement is too low, counterclockwise if engagement is too high.

VACUUM VENT VALVE

Depress brake or clutch pedal and hold in depressed position. Move vacuum vent valve toward bracket on pedal as far as possible. Release brake or clutch pedal.