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## **TROUBLE SHOOTING**

#### WARNING: If vehicle is equipped with air bag, air bag must be deactivated before servicing cruise control components on or around steering column. See appropriate AIR BAG RESTRAINT SYSTEM article in ACCESSORIES & EQUIPMENT.

#### NO CRUISE CONTROL WHEN SET BUTTON IS PRESSED & RELEASED

Check for: blown fuse, no vacuum at servo and/or defective servo, disconnected speed control cable, brakelight switch out of adjustment, faulty electrical circuit, faulty Park/Neutral switch input to PCM, faulty PCM.

#### CRUISE CONTROL ENGAGES WITHOUT ACTUATING CRUISE SET BUTTON

Check for: defective servo, faulty electrical circuit or control switch.

#### **CRUISE CONTROL ENGAGES WHEN ENGINE IS STARTED**

Check for: defective servo, faulty electrical circuit.

#### ERRATIC SPEED OR ENGINE SHUTS OFF

Check for: poor engine performance (surge), defective vehicle speed sensor, vacuum leak, faulty servo, faulty PCM.

#### **CRUISE CONTROL DISENGAGES ON ROUGH ROAD**

Check for: brakelight switch out of adjustment, faulty cruise control switch, faulty electrical circuit.

#### ENGINE DOES NOT RETURN TO NORMAL IDLE

Check for: kinked and/or damaged cruise control cable, faulty throttle linkage.

#### NO RESUME WHEN RESUME BUTTON IS PRESSED

Check for: defective switch, faulty electrical circuit.

#### CRUISE CONTROL DOES NOT DISENGAGE WITH BRAKE PEDAL DEPRESSED

Check for: defective or improperly adjusted brakelight switch, kinked and/or damaged speed control cable, faulty electrical circuit, defective servo.

## TESTING

#### WITHOUT DRB

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#### Brakelight Switch

Disconnect brakelight switch 6-pin connector. Using an ohmmeter, check for continuity at switch side of connector terminals. See <u>TESTING BRAKELIGHT SWITCH</u>. If continuity is not as specified, check brakelight switch adjustment. If switch adjustment is okay, replace defective brakelight switch.

#### **TESTING BRAKELIGHT SWITCH**

Pedal Position	Terminal Continuity
Cherokee (XJ Body)	
Released	1 & 4; 3 & 6
Depressed	2 & 5
Grand Cherokee	
Released	5 & 6
Depressed	1 & 2; 3 & 4

## NOTE: For connector terminal identification, see <u>CONNECTOR IDENTIFICATION</u>. For appropriate wiring diagram, see <u>WIRING DIAGRAMS</u>.

#### **Cruise Control Circuit**

- 1. Disconnect Powertrain Control Module (PCM) connector. On Cherokee models, PCM is located on drivers side fender. On Grand Cherokee, PCM is located on passenger side firewall. Using external voltmeter, connect negative lead to vehicle ground.
- 2. Turn ignition on. Check voltage at terminal No. 33. Voltage should be zero volts with cruise control switch in OFF position. Voltage should be battery voltage with switch in ON position. Repair harness as necessary if voltage is not correct.
- 3. Check voltage at terminal No. 53. Voltage should be zero volts with cruise control switch in OFF position. Voltage should be battery voltage with switch in ON position. Repair harness as necessary if voltage is not correct.
- 4. Check voltage at terminal No. 48. Voltage should be zero volts with cruise control switch off. Voltage should be battery voltage with switch on. With switch in ON position, voltage should drop to zero volts when SET button is pressed. Repair harness as necessary if voltage is not correct.
- 5. Check voltage at terminal No. 50. Voltage should be zero volts with cruise control switch in ON or OFF position. With cruise control switch in SET or RESUME position, voltage should be battery voltage. Repair harness as necessary if voltage is not correct.
- 6. Check voltage at terminal No. 49. Voltage should be zero volts with cruise control switch off. Voltage should be battery voltage with switch on. With cruise control switch in SET or RESUME position, voltage should be battery voltage. Repair harness as necessary if voltage is not correct.
- 7. Using external ohmmeter, check resistance between terminal No. 29 of PCM connector and vehicle ground. Pressing brake pedal, ohmmeter should display continuity with pedal released. With brake pedal depressed, ohmmeter should display open circuit.

#### **Cruise Control Servo**

1. Turn ignition on. Place cruise control switch in ON position. Using external voltmeter, connect negative

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lead to vehicle ground. Disconnect servo connector. Check voltage at pin No. 2 of servo connector. See **<u>Fig. 4</u>**. If voltage is less than battery voltage, check for loose connections, brake switch adjustment or damaged harness.

- 2. Connect a jumper wire between terminal No. 2 of servo connector and corresponding terminal of servo. Check voltage at 3 remaining male servo terminals. If voltage is less than battery voltage at each terminal, replace servo.
- 3. Using external ohmmeter, measure resistance between terminal No. 1 of servo connector and vehicle ground. If resistance is more than 5 ohms, check and repair harness as needed.

#### **Cruise Control Switch**

Access cruise control switch. Disconnect cruise control switch 4-pin connector. Using an ohmmeter, check cruise control switch continuity at each switch position. If continuity is not as specified, replace switch. See **CRUISE CONTROL SWITCH CONTINUITY**.

#### **CRUISE CONTROL SWITCH CONTINUITY**

Switch Position	Terminal Continuity
Off	1 & 4
On	1 & 2; 1 & 4; 2 & 4
On/Set	1 & 2
On/Resume	1 & 3

#### Servo Vacuum

- Remove cruise control cable from throttle body. Disconnect cruise control servo 4-pin connector. Disconnect vacuum hose at cruise control servo. Apply battery voltage to terminal No. 2 of servo connector. See <u>Fig. 4</u>. Using jumper wire, ground remaining 3 terminals of servo connector.
- 2. Connect hand held vacuum pump to servo vacuum nipple, and apply 10-15 in. Hg of vacuum. Cruise control cable should retract and maintain position as long as vacuum is applied. If servo does not test as specified, replace servo.

#### Vacuum Supply

- 1. Disconnect vacuum hose at cruise control servo. Install vacuum gauge to disconnected vacuum hose. Start engine and observe gauge. Vacuum reading should be a minimum of 10 in. Hg. Turn engine off. Vacuum should continue to hold at a minimum of 10 in. Hg.
- If vacuum is not as specified, check for kinked or leaking vacuum lines, defective check valve, defective vacuum reservoir and/or poor engine performance. If no problems are found, check cruise control servo. See <u>CRUISE CONTROL SERVO</u>.

## **REMOVAL & INSTALLATION**

# WARNING: If vehicle is equipped with air bag, air bag must be deactivated before servicing cruise control components on or around steering column. See appropriate AIR BAG RESTRAINT SYSTEM article.

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#### **CRUISE CONTROL SERVO**

#### Removal

Remove cruise control cable mounting bracket from servo. Remove servo mounting bracket. Disconnect wiring harness connector and vacuum hose from servo. Pull cable away from servo to expose retaining clip. Remove retaining clip and cable. Remove servo.

#### Installation

With throttle in full open position, align hole in cruise control cable sleeve with hole in servo pin. Install retaining clip. To complete installation, reverse removal procedure.

#### **CRUISE CONTROL SWITCH**

#### Removal & Installation (Cherokee)

- 1. Disconnect negative battery cable. Remove horn button by turning while pushing. Remove horn bushing, receiver and flexplate. Turn ignition switch to LOCK position and remove steering wheel nut with washer. Scribe alignment mark on steering wheel and steering shaft.
- 2. Remove vibration damper from steering column hub (if equipped). Remove steering wheel. Using appropriate compressor, remove lock plate snap ring and lock plate. Remove canceling cam and upper bearing preload spring. Remove horn button components from canceling cam.
- 3. Remove hazard warning switch knob. Remove actuator arm attaching screw. Remove turn signal switch attaching screws. Unplug cruise control switch connector. Pull cruise control harness out of column. Turn ignition switch to ON position. Remove key warning buzzer switch and retainer.
- 4. Remove ignition lock cylinder retaining screw and pull out lock cylinder. Remove housing and shroud assembly. Ensure dimmer switch rod, lock pin or lock rack do not fall out of assembly. Pull turn signal/wiper lever straight out of column.
- 5. Remove wiper switch cover from back of housing and shroud assembly. Remove pivot screw from housing and remove switch. Install NEW switch and cover. Push on dimmer switch rod and position housing and shroud to column.
- 6. Ensure nylon spring retainer on lock pin is positioned forward of retaining slot of lock rack. Position first tooth of gear with forward tooth of lock rack.
- 7. Secure housing and shroud assembly. Insert key and lock cylinder. Ensure lock pin extends fully when key is moved to lock position. To install remaining components, reverse disassembly procedure. Tighten steering wheel nut to 25 ft. lbs. (34 N.m).

#### **Removal & Installation (Grand Cherokee)**

Turn ignition switch to OFF position. Remove 2 screws from back of steering wheel. Rock switch back and forth to remove switch from steering wheel. Disconnect cruise control switch connector. To install switch, reverse removal procedure.

## WIRING DIAGRAMS

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#### Fig. 11: Cruise Control Wiring Diagram (Cherokee)

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#### Fig. 12: Cruise Control Wiring Diagram (Grand Cherokee)

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## CONNECTOR IDENTIFICATION



# 94B65483

Fig. 1: Brakelight Switch Connector Terminal ID (Cherokee) Courtesy of CHRYSLER CORP.

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## 94C65484

**Fig. 2: Brakelight Switch Connector Terminal ID (Grand Cherokee)** Courtesy of CHRYSLER CORP.

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#### **Fig. 3: Clockspring Connector Terminal ID Courtesy of CHRYSLER CORP.**



**Fig. 4: Cruise Control Servo Connector Terminal ID** Courtesy of CHRYSLER CORP.

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**Fig. 5: Cruise Control Switch Connector Terminal ID** Courtesy of CHRYSLER CORP.



## Fig. 6: Fuse Block and Power Distribution Center ID (1 of 2)

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#### **Courtesy of CHRYSLER CORP.**



**Fig. 7: Fuse Block and Power Distribution Center ID (1 of 2)** Courtesy of CHRYSLER CORP.

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**Fig. 8: Powertrain Control Module (PCM) Connector Terminal ID** Courtesy of CHRYSLER CORP.



**Fig. 9: Vehicle Speed Sensor Connector Terminal ID** Courtesy of CHRYSLER CORP.