

Cruise Control - (W/Electro Stepper Mtr.) Diagnostics

File In Section: 9 Accessories

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INFORMATION

Subject:
New Tool J 42958, Revised Charts and Schematics for Cruise Control Diagnosis

Models:
1988-98 Passenger Cars and Trucks with Electro-Motor (Stepper Motor) Cruise Control Systems

A new Cruise Control Tester, J 42958, has been sent to all dealers as part of the 1998 Essential Tool Package.
This tool will work on all Stepper Motor Cruise Control systems for past model years.

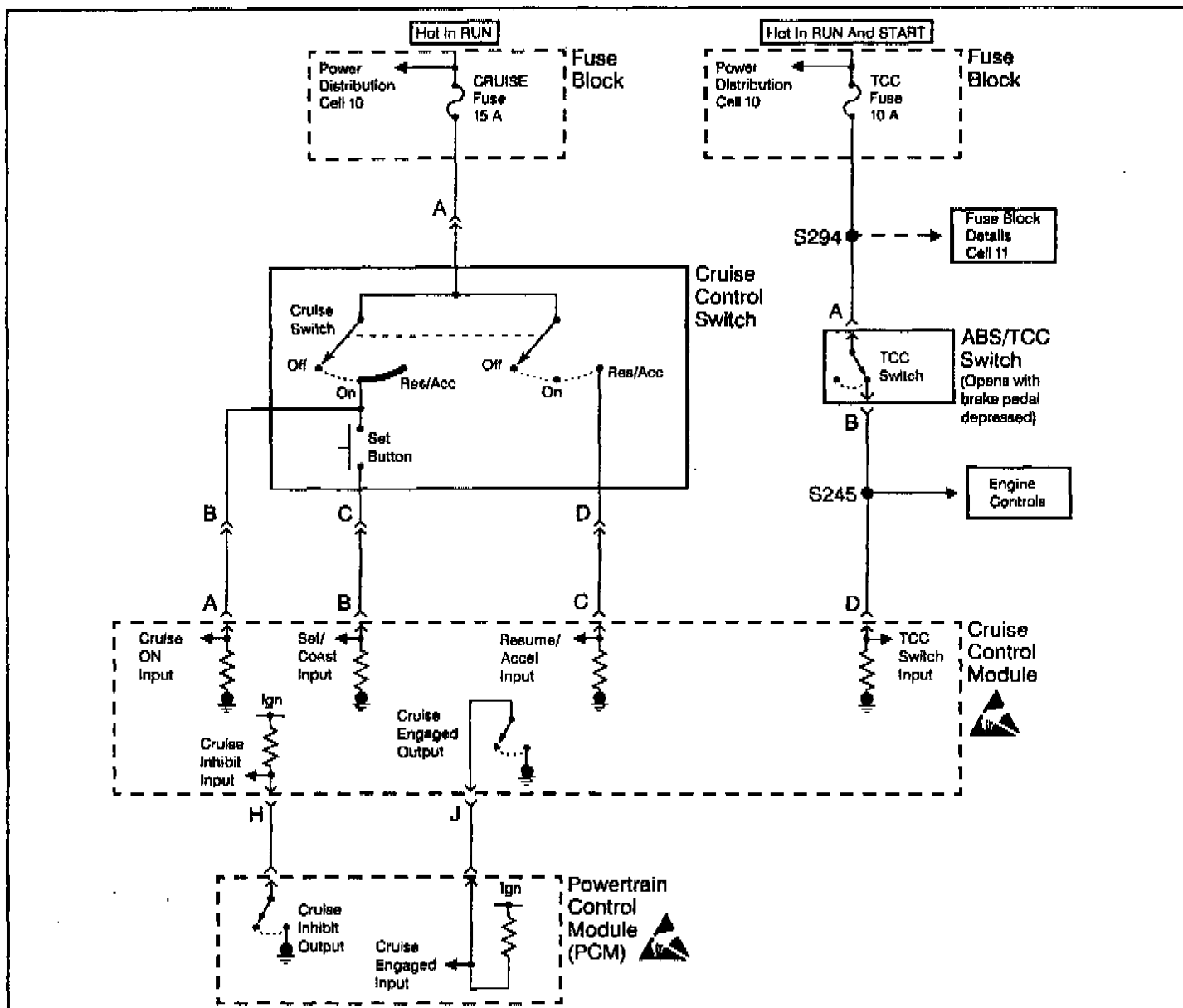


Figure 1

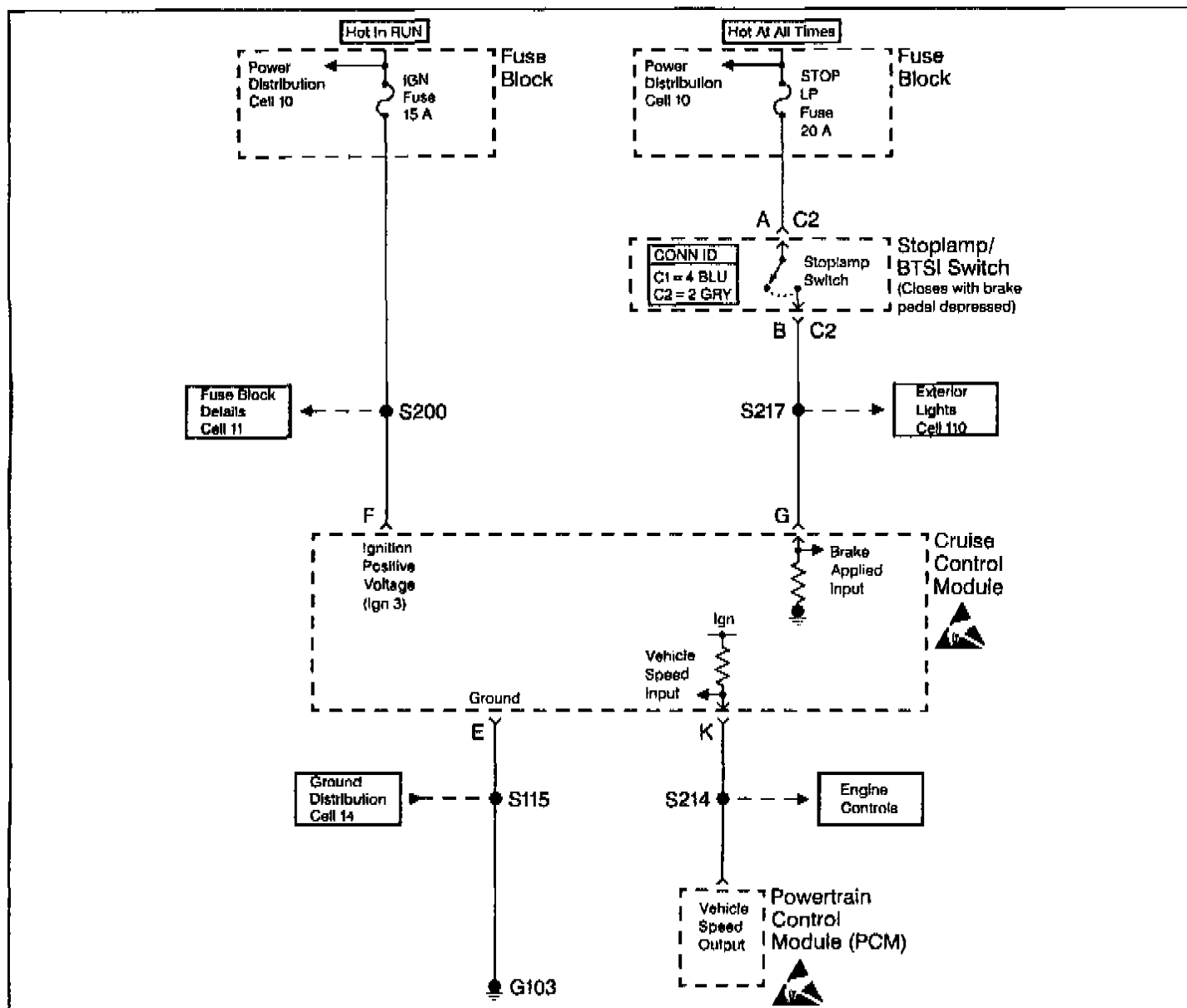


Figure 2

Step	Action	Value(s)	Yes	No
Tools Required: • Test Light • J42958 Cruise Control Tester • J39200 DMM • Scan Tool				
1	Was the Cruise Control System Check performed?	-	Go to Step 2	Go to Cruise Control System Check
2	1. Connect a scan tool. 2. Turn the ignition switch to the ON position. 3. Inspect for PCM DTCs. Are there any DTCs found?	-	Refer to the Powertrain OBD System Check in Engine Controls	Go to Step 3
3	1. Turn the ignition switch to the OFF position. 2. Disconnect the cruise control module connector. 3. Connect the J 42958 as specified in the user manual. 4. Turn the ignition switch to the ON position. 5. Place the cruise switch in the OFF position. Are the BRAKE and IGNITION lamps illuminated on the J 42958?	-	Go to Step 5	Go to Step 4
4	Inspect the cruise fuse for an open. Is the cruise fuse open?	-	Go to Step 36	Go to Step 18
5	Place the cruise control switch in the ON position. Are the ON/OFF, BRAKE, IGNITION and CRUISE lamps illuminated on the J 42958?	-	Go to Step 6	Go to Step 20
6	Press and hold the set/coast (S/C) switch. Does the SET/COAST lamp illuminate on the J 42958?	-	Go to Step 7	Go to Step 23
7	Press and hold the res/acc (R/A) switch. Does the RES/ACC lamp illuminate on the J 42958?	-	Go to Step 8	Go to Step 25
8	Press and hold the brake pedal. Do the BRAKE LIGHTS lamp illuminate and the BRAKE	-	Go to Step 9	Go to Step 27

Step	Action	Value(s)	Yes	No
	lamp turn off on the J 42958?			
9	1. Turn the ignition switch to the OFF position. 2. Disconnect the J 42958. 3. Leave the cruise control module connector disconnected. 4. Using the J 39200, set to AC voltage and on the Hz scale, connect the cruise control module harness connector terminals K and E. 5. Turn the ignition switch to the ON position. 6. Raise and suitably support the vehicle. 7. Inspect the vehicle speed on the scan tool and inspect the J 39200 while rotating one of the vehicle drive wheels. Is the frequency within the specified value?	1.11 Hz/mph	Go to Step 10	Refer to the Powertrain OBD System Check in Engine Controls
10	1. Lower the vehicle. 2. Disconnect the J 39200. Does the cruise control module harness connector cavity H have a wire in it?	-	Go to Step 11	Go to Step 14
11	1. Reconnect the cruise control module connector. 2. Drive the vehicle above 40 km/h (25 mph). 3. Make sure the cruise control switch is in the ON position. 4. Press the S/C button on the cruise control switch. 5. Inspect the cruise control status on the scan tool. Does the scan tool display Enabled/Uninhibited?	-	Go to Step 12	Refer to the Powertrain OBD System Check in Engine Controls
12	1. Turn the ignition switch to the OFF position. 2. Disconnect the scan tool. 3. Test the cruise enable/inhibit circuit for an open. Was an open found?	-	Go to Step 48	Go to Step 13
13	Test the cruise enable/inhibit circuit for short to voltage. Was a short to voltage found?	-	Go to Step 49	Go to Step 14
14	1. Turn the ignition switch to the OFF position. 2. Reconnect the J 42958. 3. Turn the ignition switch to the ON position. 4. Press the INHIBIT OVERRIDE button on the J 42958. 5. Press the S/C button on the J 42958. Does the CRUISE ENGAGE lamp illuminate on the J 42958 and the throttle strap extend from the cruise control module with each push of the S/C button?	-	Go to Step 15	Go to Step 50
15	Press the BRAKE button on the J 42958. Does the CRUISE ENGAGE lamp turn off on the J 42958 and the throttle strap extend fully from the cruise control module?	-	Go to Step 16	Go to Step 50
16	Press the R/A button on the J 42958 momentarily. Does the CRUISE ENGAGE lamp illuminate on the J 42958 and the throttle strap retract into the cruise control	-	Go to Step 17	Go to Step 50

Step	Action	Value(s)	Yes	No
	module with each push of the R/A button?			
17	Press the SPD. UP button on the J 42958 momentarily. Does the CRUISE ENGAGE lamp remain illuminated on the J 42958 and the throttle strap extend fully from the cruise control module and then retract to it's previous position?	-	Refer to Cruise Control Cable Adjustment	Go to Step 50
18	1. Disconnect the J 42958. 2. Using a test light, connect between the cruise control module connector terminal F and ground. Does the test light illuminate?	-	Go to Step 19	Go to Step 37
19	Using a test light, connect between the cruise control module connector terminals E and F. Does the test light illuminate?	-	Go to Step 50	Go to Step 38
20	1. Disconnect the J 42958. 2. Using a test light, connect between the cruise control module connector terminal A and ground. Does the test light illuminate?	-	Go to Step 50	Go to Step 21
21	1. Disconnect the J 42958. 2. Using a test light, connect between the cruise control switch connector cruise on/off signal circuit terminal and ground. Does the test light illuminate?	-	Go to Step 39	Go to Step 22
22	Using a test light, connect between the cruise control switch connector ignition voltage circuit terminal and ground. Does the test light illuminate?	-	Go to Step 52	Go to Step 40
23	1. Disconnect the J 42958. 2. Using a test light, connect between the cruise control module connector terminal B and ground. 3. Press and hold the set/coast (S/C) switch. Does the test light illuminate?	-	Go to Step 50	Go to Step 24
24	1. Using a test light, connect the between cruise control switch connector set/coast signal circuit terminal and ground. 2. Press and hold the set/coast (S/C) switch. Does the test light illuminate?	-	Go to Step 41	Go to Step 52
25	1. Disconnect the J 42958. 2. Using a test light, connect between the cruise control module connector terminal C and ground. 3. Press and hold the res/acc (R/A) switch. Does the test light illuminate?	-	Go to Step 50	Go to Step 26
26	1. Using a test light, connect between the cruise control switch connector res/acc signal circuit terminal and ground. 2. Press and hold the res/acc (R/A) switch.	-	Go to Step 42	Go to Step 52

Step	Action	Value(s)	Yes	No
	Does the test light illuminate?			
27	1. Disconnect the J 42958. 2. Using a test light, connect between the cruise control module connector terminal G and ground. 3. Press and hold the brake pedal. Does the test light illuminate?	-	Go to Step 30	Go to Step 28
28	1. Using a test light, connect between the stoplamp switch connector output circuit terminal and ground. 2. Press and hold the brake pedal. Does the test light illuminate?	-	Go to Step 43	Go to Step 29
29	Using a test light, connect between the stoplamp switch connector ignition voltage circuit terminal and ground. Does the test light illuminate?	-	Go to Step 53	Go to Step 44
30	1. Release the brake pedal. 2. Using a test light, connect between the cruise control module connector terminal D and ground. Does the test light illuminate?	-	Go to Step 50	Go to Step 31
31	Using a test light, connect between the brake pedal cruise control release switch connector output circuit terminal and ground. Does the test light illuminate?	-	Go to Step 33	Go to Step 32
32	Using a test light, connect between the brake pedal cruise control release switch connector ignition voltage circuit terminal and ground. Does the test light illuminate?	-	Go to Step 54	Go to Step 45
33	Is the vehicle equipped with a manual transmission?	-	Go to Step 34	Go to Step 46
34	Using a test light, connect between the clutch pedal cruise control release switch connector input circuit terminal and ground. Does the test light illuminate?	-	Go to Step 35	Go to Step 47
35	Using a test light, connect between the clutch pedal cruise control release switch connector output circuit terminal and ground. Does the test light illuminate?	-	Go to Step 46	Go to Step 55
36	Repair the short to ground in the ignition voltage circuit to the cruise control module terminal F and replace the cruise fuse. Is the repair complete?	-	Go to Cruise Control System Check	-
37	Repair the open in the ignition voltage circuit to the cruise control module terminal F. Is the repair complete?	-	Go to Cruise Control System Check	-
38	Repair the open in the ground circuit to the cruise control module terminal E. Is the repair complete?	-	Go to Cruise Control System Check	-

Step	Action	Value(s)	Yes	No
39	Repair the open in the cruise on/off signal circuit to the cruise control module terminal A. Is the repair complete?	-	Go to Cruise Control System Check	-
40	Repair the open in the ignition voltage circuit to the cruise control switch. Is the repair complete?	-	Go to Cruise Control System Check	-
41	Repair the open in the set/coast signal circuit to the cruise control module terminal B. Is the repair complete?	-	Go to Cruise Control System Check	-
42	Repair the open in the res/acc signal circuit to the cruise control module terminal C. Is the repair complete?	-	Go to Cruise Control System Check	-
43	Repair the open in the stoplamp switch signal circuit to the cruise control module terminal G. Is the repair complete?	-	Go to Cruise Control System Check	-
44	Repair the open in the ignition voltage circuit to the stoplamp switch. Is the repair complete?	-	Go to Cruise Control System Check	-
45	Repair the open in the ignition voltage circuit to the brake pedal cruise control release switch. Is the repair complete?	-	Go to Cruise Control System Check	-
46	Repair the open in the cruise release switch signal circuit to the cruise control module terminal D. Is the repair complete?	-	Go to Cruise Control System Check	-
47	Repair the open in the cruise release switch signal circuit between the brake pedal and clutch pedal cruise release switches. Is the repair complete?	-	Go to Cruise Control System Check	-
48	Repair the open in the cruise inhibit/enable signal circuit to the cruise control module terminal H. Is the repair complete?	-	Go to Cruise Control System Check	-
49	Repair the short to voltage in the cruise inhibit/enable signal circuit to the cruise control module terminal H. Is the repair complete?	-	Go to Cruise Control System Check	-
50	Inspect the cruise control module connector for poor terminal connections/terminal tension. Refer to Connector Repairs. Did you find and correct the condition?	-	Go to Cruise Control System Check	Go to Step 51
51	Replace the cruise control module. Refer to Cruise Control Module Replacement. Is the repair complete?	-	Go to Cruise Control System Check	-
52	Replace the cruise control switch. Refer to Cruise Switch	-	Go to Cruise	-

Step	Action	Value(s)	Yes	No
	Replacement. Is the repair complete?		Control System Check	
53	Replace the stoplamp switch. Refer to Stoplamp Switch replacement. Is the repair complete?	-	Go to Cruise Control System Check	-
54	Replace the brake pedal cruise control release switch. Refer to Brake Pedal Cruise Control Release Switch replacement. Is the repair complete?	-	Go to Cruise Control System Check	-
55	Replace the clutch pedal cruise control release switch. Refer to Clutch Pedal Cruise Control Release Switch replacement. Is the repair complete?	-	Go to Cruise Control System Check	-

The charts and schematics in this bulletin can be used in place of the diagnostic charts in previous Service Manuals when this new tool is used. These charts will be included in the 1999 Service Manuals.

Cruise Control Inoperative

Important

To avoid misdiagnosis:

- ^ Check for proper operation of brake lamps.
- ^ Check throttle linkage for mechanical binding which could cause the system to malfunction
- ^ Check for stored Diagnostic Trouble Codes (DTCs) in the PCM. Refer to Powertrain OBD System Check in Engine Controls.

The PCM will inhibit cruise control:

- ^ When vehicle speed is less than 40 km/h (25 mph).
- ^ When PARK, REVERSE, NEUTRAL, or 1st gear is indicated by the Park/Neutral Position Switch,
- ^ When an over/undercharged battery condition exists.
- ^ With low engine RPM.
- ^ With high engine RPM (fuel cut-off). Refer to Powertrain Control Module Description in Engine Controls for additional information.