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Case Number: S1508000480

Release Date: 03/27/2020

Symptom/Vehicle Issue: Speed Control Operates Intermittently

Discussion: Cruise/Speed control operation is intermittent. The customer may complain about the cruise control that does not operate at times. A new switch replacement may not correct the concern.

Check for one of, or more of the following DTC's: P0579, P0591, P0579-00, P0591-00 and/or P0585. DS (2011 to 2019), JC (2011 to 2016), JK (2011 to 2016), LC (2011 to 2014, LD, (2011 to 2014), LX (2011 to 2014), and PF (2013 to 2016) vehicles will display the DTC's in the SCCM). JK, MK, and RT (2011 to 2016) vehicles will display the DTC's in the PCM. DTC's will be stored always upon initial investigation. DTC's will go active only if the cruise does not turn on when the On/OFF button is pushed and will remain active only during the duration of the button press. If the cruise is turning on at the time of the investigation the DTC' will remain stored even if the ON/OFF button is pressed.

Fig 1

For D-Family, JC, JK, LC, LD, LX, MK, and RT vehicles:

1. Using Wi-tech measure the S/C input voltages for S/C voltage inputs 1 and 2 signals while pushing and holding the on button (see Fig 1 and Fig 2, Fig 3 for voltage monitoring).

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Flash | Data | DTCs | Actuators | System Tests | Misc Functions | ECU Details

Double-click row selection to graph data element, or check multiple elements and press "Show Graph". Click on column heading to sort table. Drag and drop row or multiple row selections to re-order table elements.

Show Graph

Graph	Name	Value	Unit	Type
☐	MDS Status	Inactive		Sensors
☐	MDS Transition Status	False		Sensors
☐	NGC Should Shut Off Fuel	False		Sensors
☐	Oil Pressure Switch	True		Sensors
☐	PCM Odometer	78100.5116	km	Sensors
☐	Purge Adaptive	0.000		Sensors
☐	Purge AirFlow	0.0000	kg/h	Sensors
☐	Purge Duty Cycle	0.0000	%	Sensors
☐	Purge Mode	Off		Sensors
☐	Purge Vapor Ratio	0.21		Sensors
☐	S/C Denied Status	Speed Sensor		Sensors
☐	S/C Disenable Reason	Remained Enabled When Disengagec		Sensors
☐	S/C Disengage Reason	Speed Sensor		Sensors
☐	S/C Set Speed	0	km/hr	Sensors
☐	S/C Switch State 1	On/Off switch pressed		Sensors
☐	S/C Switch State 2	On/Off switch pressed		Sensors
☐	S/C Switch Voltage	0.31	Volts	Sensors
☐	S/C Switch Voltage 2	0.90	Volts	Sensors
☐	S/C Working Status	Disengaged		Sensors
☐	SKIM / VTA Has Completed	True		Sensors
☐	SKIM VTA Invalid Key Received Fault Posted	False		Sensors

Fig 2

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If the cruise control icon does not display in the cluster, one or both of the signal voltages may be over the Vmax value; 0.353 (Signal 1) or 0.980 (Signal 2); see Fig 3. Once one of these voltages exceeds the Vmax value the system will disable the cruise control and prevent it from turning on since a voltage is out of the parameters that the system recognizes in order to determine a legitimate button press. The voltage that is exceeding the value, i.e., Signal 1 or Signal 2, will determine the DTC that is set. If Signal 1 voltage is over Vmax, P0579 will be set. If Signal 2 voltage is over Vmax, P0591 will be set. Again the DTC's only remain active during the time the on button is being pressed. Once the button is released the voltages will increase to approximately 4.54 volts. Since this value is within the range of voltages when no button is being pressed, the system is seeing a correct voltage and therefore does not show an active DTC (see Fig 3).

Signal 1 Cruise Control voltage Values				Signal 2 Cruise Control voltage Values			
Function	**Vmin**	**Vnom**	**Vmax**	**Function**	**Vmin**	**Vnom**	**Vmax**
Circuit Low	0.000	--	0.216	**Circuit Low**	0.000	--	0.784
ON/OFF	0.235	0.300	0.353	**ON/OFF**	0.804	0.900	0.980
Cancel	0.784	0.890	0.980	**Cancel**	1.353	1.500	1.608
Distance	1.373	1.500	1.627	**Distance**	1.941	2.100	2.235
Mode	1.941	2.100	2.235	**Mode**	2.529	2.700	2.843
SET-	2.549	2.700	2.843	**SET-**	3.137	3.300	3.451
RES+	3.137	3.300	3.451	**RES+**	3.725	3.900	4.059
None	4.373	4.540	4.686	**None**	4.373	4.540	4.686
Circuit High	4.706		5.000	**Circuit High**	4.706		5.000

Fig 3

2. If, one or more of these voltages is over Vmax, follow the procedures in DealerConnect for removing the airbag/horn switch assembly in the steering wheel. Once the airbag/horn switch assembly has been removed, disconnect the 6 pin steering wheel harness connector to the SCCM/clock spring assembly and reconnect it. Re-measure the S/C Signal voltages while pushing and holding the ON/OFF button. If the voltages drop to the nominal values, 0.290/0.300 (Signal 1) and 0.890/0.90 (Signal 2) the intermittent cruise problem has been corrected. Any contamination/oxidation that was present on the connector terminals that was causing an increase in resistance, which resulted in the increased voltage or voltages, was brushed aside or removed during the re-installation of the connector. Re-install the

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airbag/horn switch assembly and return the vehicle to the customer. No other repairs are necessary.

3. If, the cruise control ready icon does display in the cluster, and the signal input voltages are not at Vnom, i.e., 0.290/0.300 (Signal 1), or 0.890/0.900 (Signal 2), but are slightly higher, ie., 0.320 to 0.350 (Signal 1) or 0.920 to 0.979 (Signal 2), follow the procedures in DealerConnect for removing the airbag/horn switch assembly from the steering wheel. Once the airbag/horn switch assembly has been removed, disconnect the 6-pin steering wheel harness connector (Uplink Connector) to the SCCM/clock spring assembly and reconnect it. Re-measure the S/C Signal voltages while pushing and holding the on button. If the voltages drop to the nominal values, 0.290/0.300 volts the intermittent cruise problem has been corrected. ***Note:*** If the voltages do not drop to the nominal values, perform the same disconnect and reconnect procedure to the 6-pin connector (Downlink Connector) on the opposite side of the SCCM.

4. If the cruise control Signal voltages are at Vnom, graph the speed control input voltages on the same screen while pushing and releasing the on button. If the switch is performing correctly, the input voltages will be almost a mirror image of each other as shown below in Fig 4.

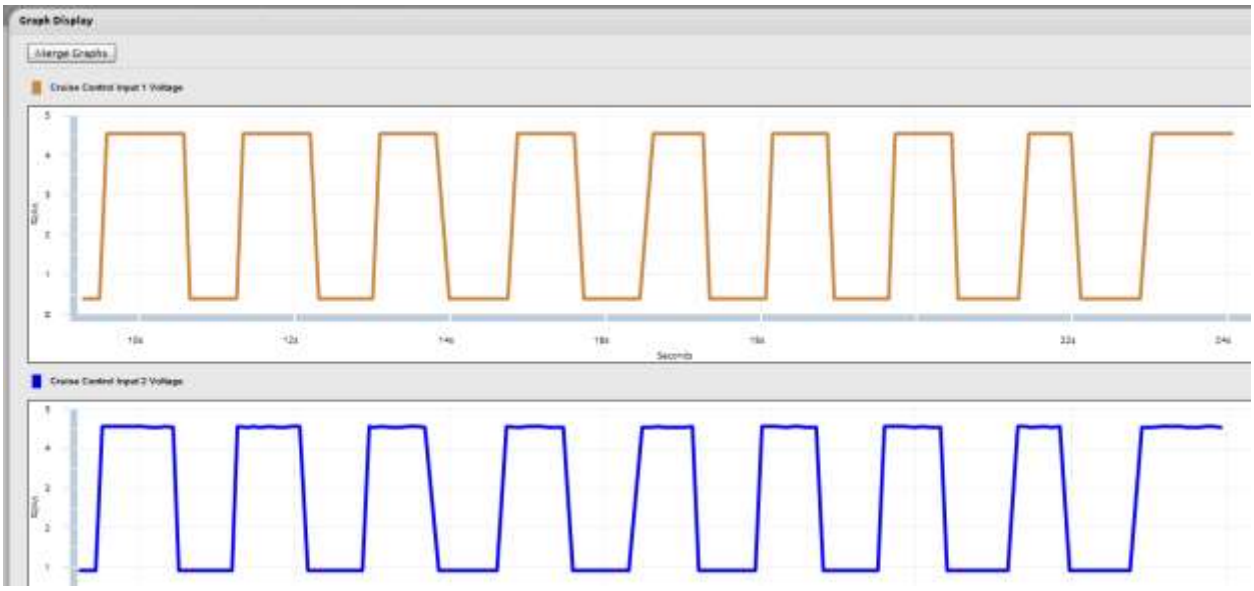

Fig 4

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If the switch is not performing correctly, the switch voltages may not be a mirror image of each other as shown below in Fig 5.

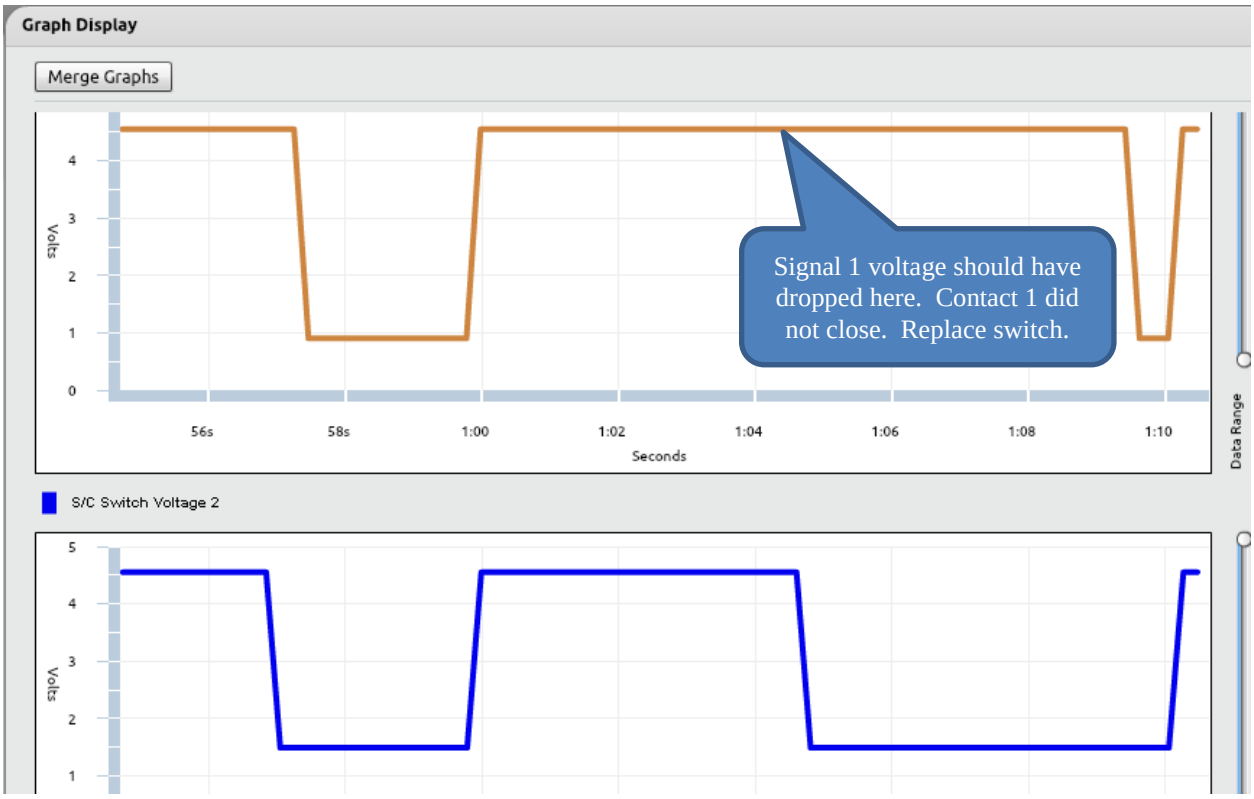

Fig. 5

Signal 1 switch contact did not close when signal 2 closed. This can cause a P0579 and the cruise will not turn on. In this case, the S/C switch should be replaced.

Verification:

Test the operation to complete.

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