

Diagnostic Procedure

Blue iQ® Fault Code 7264



FC	SPN	FMI	Title
7264	6647	16	Gaseous Fuel High Pressure Shutoff Valve - Data Valid But Above Normal Operating Range - Moderately Severe Level

Part(s) Affected Supply solenoid valve (SSV)

Diagnostic Overview

Fault Code 7264 is a fault triggered when the Blue iQ® Fuel System Control Module (FSCM) detects supply solenoid valve (SSV) resistance greater than normal:

- a) above 15 ohms for more than 0.4 seconds – 12V SSV
- OR
- b) above 50 ohms for more than 0.4 seconds – 24V SSV

NOTICE

The integrated SSV coil used on the Hexagon Agility Marathon extended range pressure regulator possesses a different resistance at temperature range than the standalone SSV coil used on standard pressure regulators. **Before proceeding with this procedure**, please contact Hexagon Agility Technical Support for a resistance at temperature chart for the integrated SSV coil.

Warning Statements Used in this Procedure

NOTICE

NOTICE is used to address practices not related to physical injury, such as best practices or tips to help an operation or procedure go smoothly and prevent equipment damage.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Tools Required

Item	Purpose
digital multimeter (DMM)	resistance and voltage measurements
J1939 OBD-II diagnostic interface	connect vehicle to Cummins® INSITE™ on PC
Cummins® INSITE™	diagnostic software
test lead kit	properly test and back probe circuit terminals and connectors
infrared non-contact thermometer	accurately measure SSV coil temperature

NOTICE

Never probe an electrical connection with anything other than a properly sized and shaped test lead; doing so may result in damage to components.

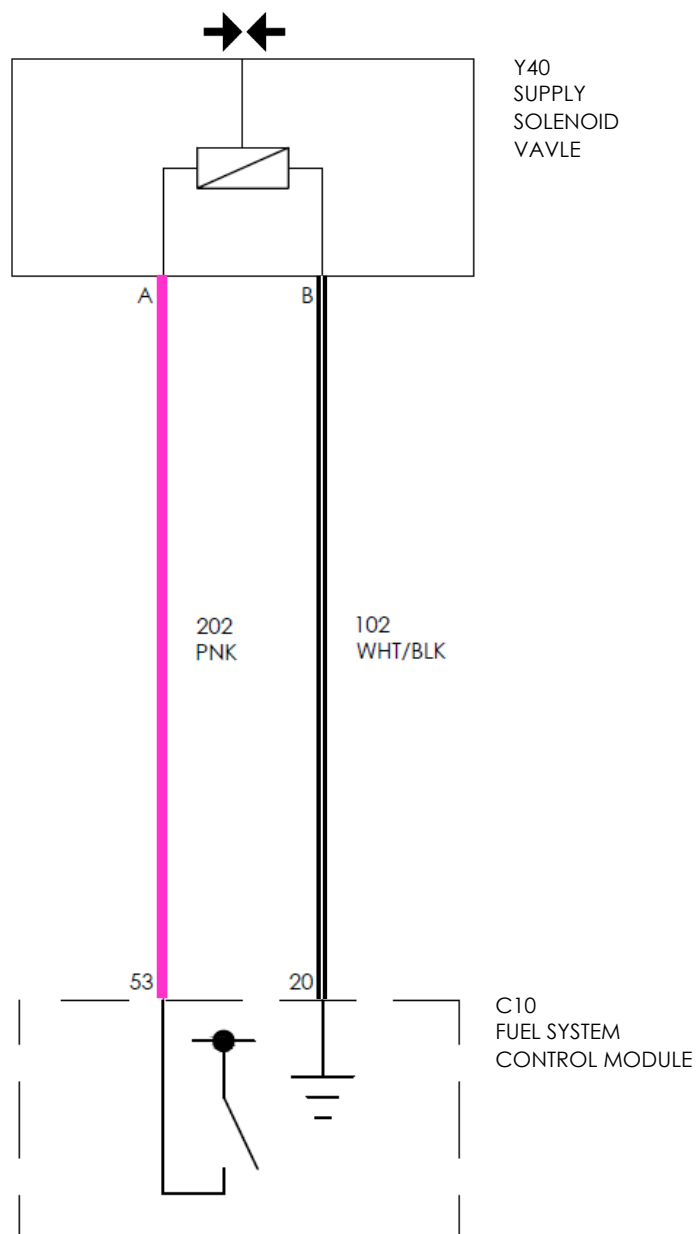
NOTICE

Perform Initial Vehicle Check procedure (refer to *DSM.0009*) prior to performing diagnostic instructions listed below.

Circuit / System Verification

1. Connect the Cummins® INSITE™ diagnostic tool to the vehicle and navigate to the “Agility® Fuel Delivery System, CM1881 AFS(18)”.
2. Record all active and stored fault codes and parameters prior to clearing fault codes using INSITE™.
3. Observe and record **Gaseous Fuel High Pressure Shutoff Valve** data from INSITE™—is data within reasonable operating range?
 - a. **If not within range** proceed to **Circuit/System Testing**.
 - b. **If within range** proceed to Step 4.
4. Operate the vehicle in the same conditions for enabling the fault code or within the same conditions that triggered the fault code based on recorded data.
5. Verify that the fault code does not set. **If any fault code sets** proceed to **Circuit/System Testing**.
6. While observing **Gaseous Fuel High Pressure Shutoff Valve** parameters in INSITE™ perform a wiggle test on the harness and connectors to test for poor or intermittent connections.
 - a. **If any fault code sets**, proceed to **Circuit/System Testing**.
 - b. **If no fault code sets**, system is functioning to design intent.
7. Review **Circuit Schematic** and **Connector End Views** (*below*) to locate test points.

SSV Circuit Diagram

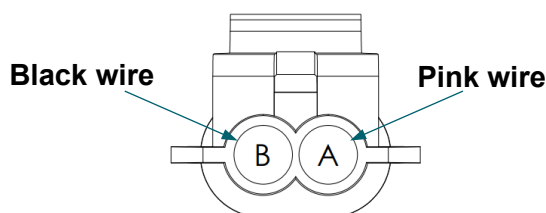


Circuit / System Testing

- Step 1**
- **Ignition On, Engine On.**
 - Use a DMM and a properly sized and shaped test lead to back probe voltage from supply solenoid valve (SSV) harness connector **Pin A** (Pink wire) to **Pin B** (Black wire).

NOTICE

SSV voltage is pulse width modulated by the FSCM. Voltage reading must be taken within 60 seconds of engine start to match actual battery voltage.



SSV harness connector end

Voltage equal to battery voltage? (NOTE: 12.2V or 24.4 V depending on system type.)

Yes

↳ Proceed to Step 2.

No

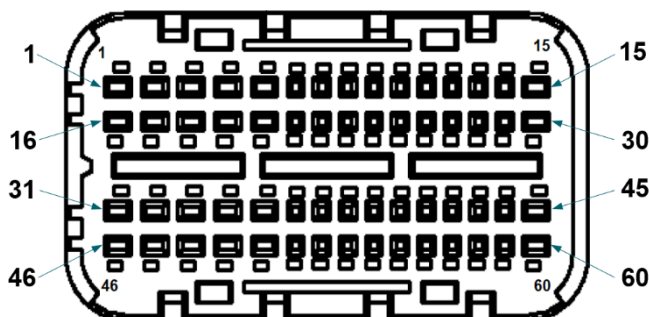
↳ Proceed to Step 5.

- Step 2**
- Use a non-contact infrared thermometer to measure SSV coil temperature.

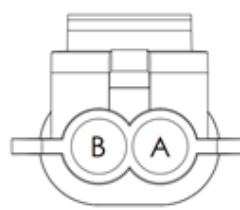
↳ Record temperature.

↳ Proceed to Step 3.

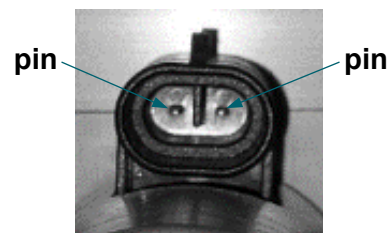
- Step 3**
- Disconnect **Blue iQ FSCM connector**.
 - Inspect for corrosion or other damage to **FSCM connector pins**, **SSV coil connector pins**, and **SSV harness connector terminals**.



FSCM harness connector end view



SSV coil harness connector end view



SSV coil connector end view

Damage found?

Yes

↳ Replace affected component(s).

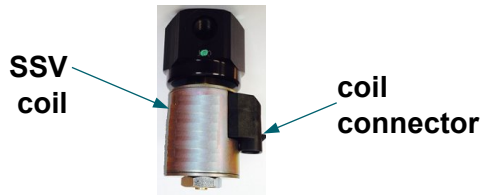
↳ After repair is complete, proceed to Reassembly and Validation.

No

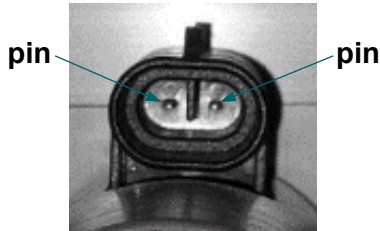
↳ Proceed to Step 4.

**Step
4**

- **Ignition Off.**
- Use a DMM with appropriate test leads to measure resistance across **SSV coil connector pins**.

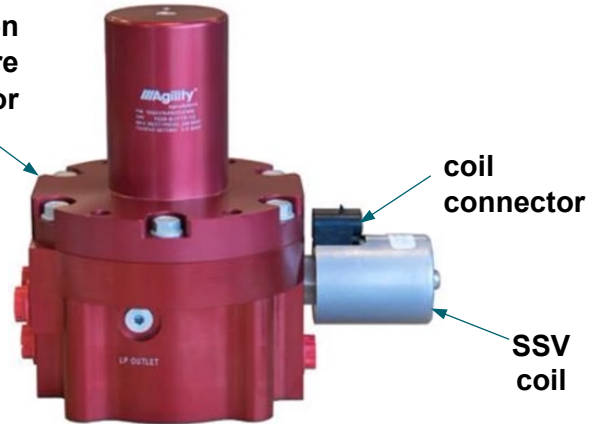


Standalone SSV (*used with standard pressure regulator*)



SSV coil connector end view

Marathon pressure regulator



Extended range pressure regulator with integrated SSV

↳ **Record the ohms reading.**

- Refer to the appropriate 12V or 24V SSV coil resistance table (*below*) to confirm whether ohms at temperature values are within operating specifications.

NOTICE

Coil resistance value tables below are only to be used for standalone SSV coil diagnosis. Please contact Hexagon Agility® Technical Support for Marathon extended range pressure regulator integrated SSV coil resistance at temperature values.

Standalone 12V Supply Solenoid Valve (SSV) Resistance at Temperature Chart

Temp.		Resistance (Ω)		
°C	°F	Min	Nominal	Max
-40	-40	5.1	5.3	5.6
-35	-31	5.3	5.5	5.7
-30	-22	5.4	5.6	5.8
-25	-13	5.6	5.8	6.0
-20	-4	5.7	5.9	6.1
-15	5	5.8	6.0	6.2
-10	14	6.0	6.2	6.4
-5	23	6.1	6.3	6.5
0	32	6.2	6.4	6.7
5	41	6.4	6.6	6.8
10	50	6.5	6.7	6.9
15	59	6.7	6.9	7.1
20	68	6.8	7.0	7.2
25	77	6.9	7.1	7.3
30	86	7.1	7.3	7.5

Temp.		Resistance (Ω)		
°C	°F	Min	Nominal	Max
35	95	7.2	7.4	7.6
40	104	7.3	7.6	7.8
45	113	7.5	7.7	7.9
50	122	7.6	7.8	8.0
55	131	7.8	8.0	8.2
60	140	7.9	8.1	8.3
65	149	8.0	8.2	8.4
70	158	8.2	8.4	8.6
75	167	8.3	8.5	8.7
80	176	8.4	8.7	8.9
85	185	8.6	8.8	9.0
90	194	8.7	8.9	9.1
95	203	8.9	9.1	9.3
100	212	9.0	9.2	9.4
105	221	9.1	9.3	9.5

Standalone 24V Supply Solenoid Valve (SSV) Resistance at Temperature Chart

Temp.		Resistance (Ω)		
°C	°F	Min	Nominal	Max
-40	-40	20.3	21.8	23.2
-35	-31	20.9	22.3	23.8
-30	-22	21.5	22.9	24.3
-25	-13	22.0	23.5	24.9
-20	-4	22.6	24.0	25.4
-15	5	23.1	24.6	26.0
-10	14	23.7	25.1	26.6
-5	23	24.3	25.7	27.1
0	32	24.8	26.3	27.7
5	41	25.4	26.8	28.2
10	50	25.9	27.4	28.8
15	59	26.5	27.9	29.4
20	68	27.1	28.5	29.9
25	77	27.6	29.1	30.5
30	86	28.2	29.6	31.1

Temp.		Resistance (Ω)		
°C	°F	Min	Nominal	Max
35	95	28.8	30.2	31.6
40	104	29.3	30.7	32.2
45	113	29.9	31.3	32.7
50	122	30.4	31.9	33.3
55	131	31.0	32.4	33.9
60	140	31.6	33.0	34.4
65	149	32.1	33.5	35.0
70	158	32.7	34.1	35.5
75	167	33.2	34.7	36.1
80	176	33.8	35.2	36.7
85	185	34.4	35.8	37.2
90	194	34.9	36.3	37.8
95	203	35.5	36.9	38.3
100	212	36.0	37.5	38.9

Resistance within range per above specifications?

Yes

- ↳ FSCM issue indicated.
- ↳ Contact Hexagon Agility® Technical Support.

No

- ↳ Replace supply solenoid valve (SSV) coil.

⚠ WARNING Follow OEM instructions to replace SSV coil.

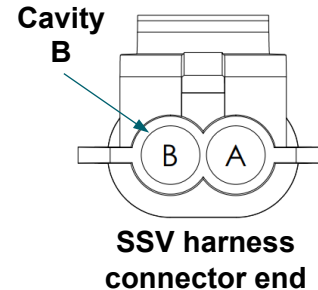
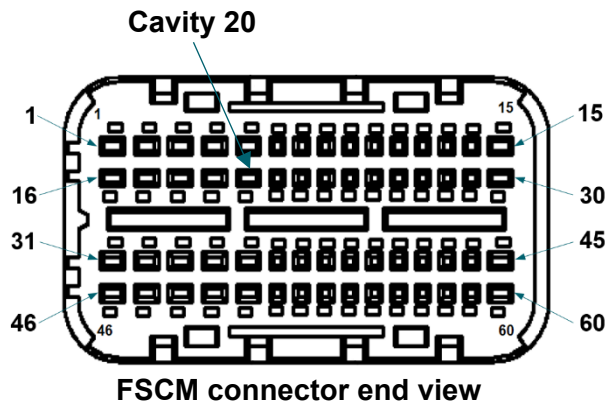
- ↳ After repair is complete, proceed to Reassembly and Validation.

Step 5	➤ Ignition On. ➤ Use a DMM and appropriate test leads to measure voltage from SSV Pin A to a known ground. SSV harness connector end Voltage equal to 12.2V? <table border="1" data-bbox="186 592 1552 682"> <tr> <td data-bbox="186 592 868 682"> Yes ↳ Proceed to Step 6. </td><td data-bbox="868 592 1552 682"> No ↳ Proceed to Step 8. </td></tr> </table>	Yes ↳ Proceed to Step 6.	No ↳ Proceed to Step 8.
Yes ↳ Proceed to Step 6.	No ↳ Proceed to Step 8.		
Step 6	➤ Ignition On. ➤ Use a DMM and appropriate test leads to measure voltage from SSV connector Pin B to a known ground. SSV harness connector end Voltage equal to approximately 0 V? <table border="1" data-bbox="186 1144 1552 1308"> <tr> <td data-bbox="186 1144 868 1308"> Yes ↳ FSCM issue indicated. ↳ Contact Hexagon Agility® Technical Support. </td><td data-bbox="868 1144 1552 1308"> No ↳ Proceed to Step 7. </td></tr> </table>	Yes ↳ FSCM issue indicated. ↳ Contact Hexagon Agility® Technical Support.	No ↳ Proceed to Step 7.
Yes ↳ FSCM issue indicated. ↳ Contact Hexagon Agility® Technical Support.	No ↳ Proceed to Step 7.		

**Step
7**

Ignition Off.

- Disconnect **FSCM Blue iQ harness connector** and **SSV harness connector**.
- Use a DMM and appropriate test leads to measure resistance from FSCM harness connector **Cavity 20** to SSV connector **Cavity B**.



Resistance less than 1 ohms?

Yes

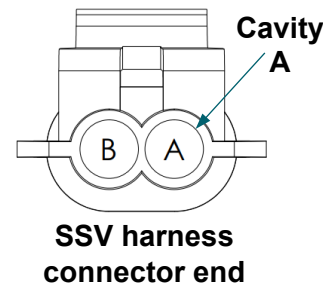
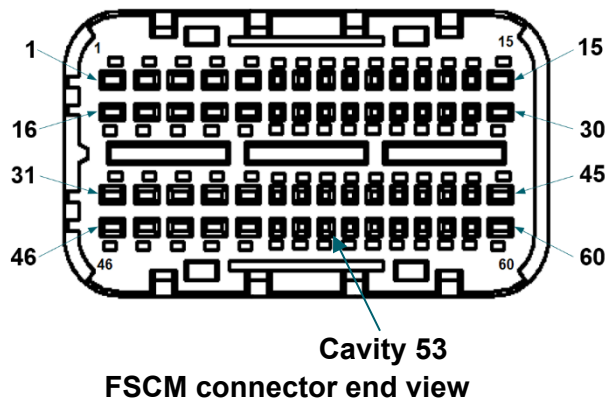
↳ Proceed to Step 8.

No

↳ Repair SSV Return circuit.
↳ After repair is complete, proceed to Reassembly and Validation.

**Step
8**

- Ignition Off.
- Disconnect **FSCM Blue iQ harness connector** and **SSV harness connector**.
- Use a DMM and appropriate test leads to measure resistance from FSCM harness connector **Cavity 53** to SSV connector **Cavity A**.



Resistance less than 1 ohms?

Yes

↳ FSCM issue indicated.
↳ Contact Hexagon Agility® Technical Support.

No

↳ Repair SSV Supply circuit.
↳ Proceed to Reassembly and Validation.

Reassembly and Validation

After completing all repairs, always perform the following steps to confirm the issue is fixed:

1. Reconnect all connectors and verify connections are secure.
2. Reattach any enclosure covers and close any fuel system doors.
3. Clear fault codes using Cummins® INSITE™ tool.
4. Run vehicle until it reaches normal operating temperature. *Refer to OEM instructions.*
5. If fault is cleared, return vehicle to duty.

If fault is not cleared, contact Hexagon Agility® Technical Support.

Hexagon Agility® Customer Care and Technical Services

Fuel system warranty or non-warranty product support may be obtained by calling or emailing Hexagon Agility® Customer Care and Technical Services (CCTS).

Please provide **your name, phone number, email address, and complete vehicle information: VIN, year, make, model, mileage, unit number vehicle owner, and current vehicle location.** A service advisor will contact you to arrange vehicle repair or ship a part.

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