



**IMPORTANT SERVICE  
INFORMATION FOR:**

- ✓ SERVICE MANAGER
- ✓ SERVICE ADVISOR
- ✓ TECHNICIAN
- ✓ PARTS DEPARTMENT
- ✓ WARRANTY PERSONNEL

BULLETIN NUMBER:  
**SB08-J-003F**

ISSUE DATE:  
**NOVEMBER 2011**

GROUP:  
**ENGINE**

**Lack of Power, Engine Will Not Rev-up, Idle Vibration, Engine Starting Concerns, DTCs P1093, P0087, P1087, P0088 and/or P1088 Set (Diagnose and Replace Suction Control Valve (SCV)/ Fuel Rail Pressure (FRP) Regulator, if Necessary)**

### AFFECTED VEHICLES

- 2005–2010MY Chevrolet/GMC W-Series
- 2005–2010MY Isuzu N-Series  
Equipped with 5.2L 4HK1-TC Diesel Engine
  
- 2004–2009MY Chevrolet/GMC T-Series
- 2004–2009MY Chevrolet/GMC C-Series
- 2004–2009MY Isuzu F-Series
- 2005–2007MY Isuzu H-Series  
Equipped with 7.8L 6HK1 Diesel Engine

***This bulletin supersedes Technical service bulletin SB08-J-003E. This bulletin is being revised to update parts information. Please discard previous bulletin SB08-J-003E.***

### CONDITION

Some customers may comment on one or more of the following conditions:

- Lack of power
- Engine will not rev-up
- Idle vibration
- Engine starting concerns
- DTCs P1093, P0087, P1087, P0088, P1088 and/or P1259

### CAUSE

One possible cause for this condition may be intermittent operation of the Suction Control Valve (SCV)/Fuel Rail Pressure (FRP) Regulator.

### CORRECTION

The following diagnostic and repair procedures are provided to better diagnose and, if necessary, replace the SCV (FRP).

## DIAGNOSTIC

Step	Description	YES	NO
1	1. Confirm customer concern 2. Using scan tool check ECM for DTC(s). 3. Record the supply pump learn correction value. Are any DTCs stored?	Go to Step 2	Go to Step 3
2	Is the stored DTC listed below? <ul style="list-style-type: none"> <li>• P1093</li> <li>• P0087</li> <li>• P1087</li> <li>• P0088</li> <li>• P1088</li> <li>• P1259</li> </ul>	Go to step 3	Follow diagnosis listed in appropriate service information
3	Inspect the fuel system for the following conditions: <ul style="list-style-type: none"> <li>• Restricted fuel filter</li> <li>• Aftermarket fuel filter</li> <li>• Fuel maintenance status</li> <li>• Air intrusion</li> <li>• Fuel quality/contamination</li> </ul> Was any abnormal condition found?	Repair condition and retest vehicle operation	Complete Pressure Tests in steps 4, 5 and 6
4	<b>Pressure Stability Test #1</b> 1. Start the vehicle. Allow engine coolant to reach operating temperature of 70C (158F) or greater. 2. Monitor fuel rail pressure (Actual, Desired) while engine is idling.  Are the actual and desired fuel rail pressures greater than 5MPa from one another? Record test result and go to step 5.	Fail test #1	Pass test #1
5	<b>Pressure Tracking Test #2</b> While in Park, momentarily press the accelerator pedal to WOT and OFF repeatedly and monitor both actual and desired rail pressures. Does the actual pressure follow the desired without delay?  Record test result and go to step 6.	Pass test #2	Fail test #2
6	<b>Pressure Overshoot/Undershoot Test #3</b> Test drive vehicle and monitor the actual vs. desired fuel rail pressure. While driving at a steady speed, check "Actual" pressure reading. Actual pressure may excessively exceed desired pressure (overshoot) or fall far below desired pressure (undershoot).  Is there any sign of an overshoot or undershoot condition? Record test results and go to step 7.	Fail test #3	Pass step #3
7	Did this vehicle fail more than one of the three pressure tests from steps 4-6?	Replace "SCV (FRP)"	Continue with DTC diagnostic.

## PARTS INFORMATION

SCV (FRP Regulator) selection must be made based on the actual supply pump part number. This part number is labeled on the supply pump next to the SCV (FRP Regulator). A picture of the label is provided below for reference. Use the below supply pump to SCV (FRP Regulator) cross reference chart to select the correct repair kit. Parts are to be obtained from AIPDN.

Engine Type	For Supply Pump Part Number	Use Kit Part Number	Description
5.2L (4HK1)	8-97328-886-0 " " -1 " " -2 " " -3 " " -4 " " -5	8-98043-686-0 (98043686)	SCV Kit (4HK1) <b>excluding</b> DPF (includes SCV, bolts and O-rings)
	8-97386-558-0 " " -1	8-98145-485-0 (98145485)	Supply Pump Overhaul Kit (4HK1) <b>including</b> DPF (includes SCV, <b>Adapter plate</b> , bolts and O-rings)
	8-97386-558-2 " " -3	8-98145-502-0 (98145502)	Supply Pump Overhaul Kit (4HK1) <b>including</b> DPF (includes SCV, bolts and O-rings)
7.8L (6HK1)	8-97602-049-0 " " -1 " " -2 " " -3 " " -4 " " -5	8-98043-735-0 (98043735)	SCV Kit (6HK1) <b>LG4</b> (includes SCV, bolts and O-rings) See figure 2
	8-97605-106-0 " " -1 " " -2 " " -3	8-98145-481-0 (98145481)	Supply Pump Overhaul Kit (6HK1) <b>LF8</b> (includes SCV, <b>Adapter plate</b> , bolts and O-rings) See figure 1
	8-97605-106-4 " " -5 " " -6 " " -7	8-98145-489-0 (98145489)	Supply Pump Overhaul Kit (6HK1) <b>LF8</b> (includes SCV, bolts and O-rings)


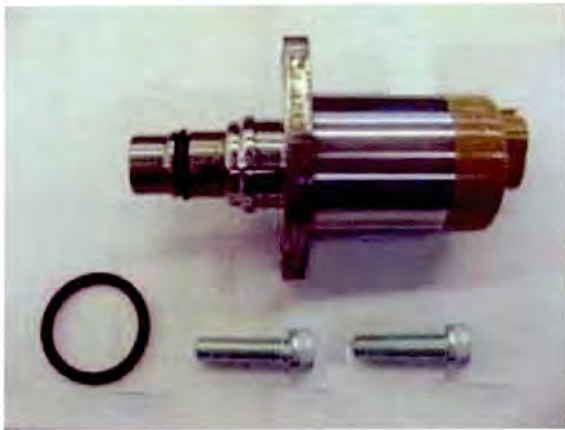
**Supply Pump Label:**



## REPAIR PROCEDURE

1. Tilt the cab and secure in place.
2. Disconnect the battery negative (Earth) cable.
3. Locate the SCV (FRP Regulator) on the Supply Pump on the left (driver) side of the engine.
4. Clean the location thoroughly to remove all dirt, debris and dust.
5. Disconnect the electrical connector from the SCV (FRP Regulator).
6. Remove the two mounting bolts and discard the bolts. New bolts are provided with the service kit.
7. Carefully remove the SCV (FRP Regulator). Inspect the SCV (FRP) to be sure both O-rings remained with the valve. If the O-rings are not with the valve, remove from the supply pump.
8. Inspect the replacement SCV (FRP) for any dust or debris and carefully clean as necessary.

**IMPORTANT:** Kit part number 8-98145-481-0 includes an adapter plate necessary for installation. Be sure to use all new parts contained in the SCV Kit. See figure 1 for details.

	
<p>(Figure 1) 8-98145-481-0 sample photo</p> <ul style="list-style-type: none"><li>▪ SCV (FRP Regulator)</li><li>▪ Bolt (2)</li><li>▪ Adapter Plate</li><li>▪ SCV to adapter O-ring</li><li>▪ Adapter to pump O-Ring</li></ul>	<p>(Figure 2) 8-98043-735-0 sample photo</p> <ul style="list-style-type: none"><li>▪ SCV (FRP Regulator)</li><li>▪ Bolt (2)</li><li>▪ SCV to pump O-ring</li></ul>

9. Carefully install new SCV (FRP) into the supply pump. Push the valve firmly until the valve seats completely into the supply pump.
10. Install two new mounting bolts for the SCV (FRP) and tighten to specification. Tighten the bolts to 6.9-10.8 N-m (61-95 lb in).
11. Connect the SCV (FRP) electrical connector.

12. Connect the battery negative (Earth) cable.
13. Start the vehicle and confirm vehicle operation.

### WARRANTY INFORMATION

For vehicles repaired under warranty, use:

Labor Operation	Description	Labor Time
J7806	Replace Suction Control Valve (SCV) (Fuel Rail Pressure (FRP) Regulator)	See Published Labor Time Add for diagnosis: 0.1-0.3hrs