Doosan Infracore
Portable Power

Service Letter

SL: **40018**
Date: **11 January 2011**
Product: **Compressors**
Subject: **John Deere Fault Code 1347**

MODEL	SERIAL NUMBER
John Deere	Tier III 4045HF285 engines Tier III 6068HF285 engines

Doosan Infracore would like to inform its dealers that the fault code 1347 for John Deere compressors listed above implies that the suction control valve (p/n 36139350) is stuck in open position.

When this fault code comes up, first clean the suction control valve. If this action does not clear the fault code, the suction control valve assembly needs to be replaced as described in the Procedure.

Procedure

IMPORTANT

Please note that the graphics show two different high pressure pump options. In each case, the lower graphic shows a pump (Model HP4) similar to that used on Tier 3 / Stage III A PowerTech Plus™ 9,0 L engines. The HP4 pump used on Tier 3 / Stage III A PowerTech Plus™ 4,5 and 6,8 L engines has components which are compatible with jet fuel, and the suction control valve is in a different location on the pump.

IMPORTANT

Avoid contamination to the fuel high pressure pump or the suction control valve while removing and replacing. Failure to maintain a high level of cleanliness will cause further damage to the pump and other fuel system components.

IMPORTANT

The high pressure fuel pump doesn't necessarily have to be removed from the engine to change the suction control valve. However, if the engine compartment is heavily contaminated, it is recommended that the pump is removed completely, cleaned, and that the service work is completed off the engine. Cleanliness is very important. Once the suction control valve is replaced, install the pump back to the engine and reassemble the fuel system.

1. Disconnect the negative (-) battery cable.

2. Thoroughly clean the suction control valve area - solenoid connector, suction control valve mounting area, and surrounding pump and engine surfaces - with an engine cleaner and degreaser.

NOTE: Make sure the suction control valve area is clean and free from dirt / debris / dust. If practical, remove paint from the suction control valve joint area between the suction control valve and pump housing.

Figure 1

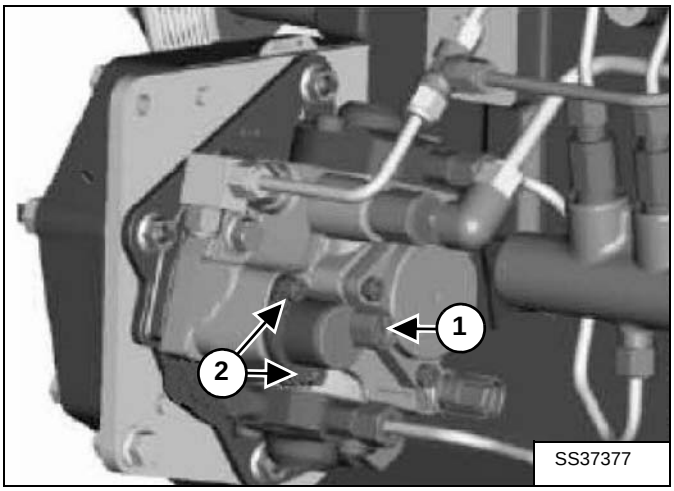
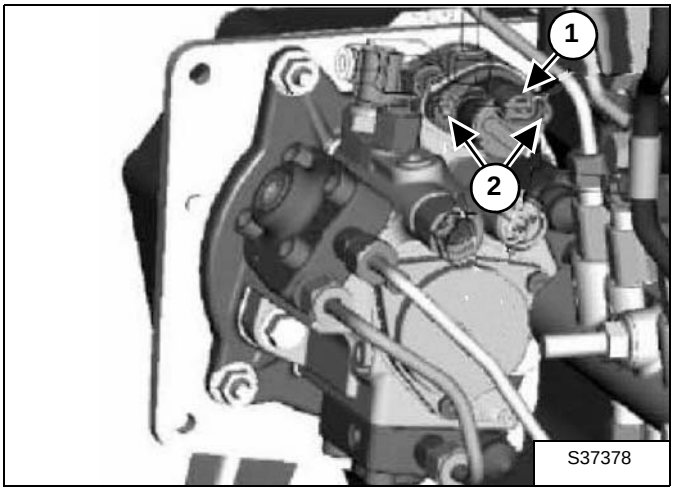


Figure 2



3. Disconnect the suction control valve wire connector (Item 1) **[Figure 1]** or **[Figure 2]**.

NOTE: Avoid damaging the connector and plastic cover. DO NOT twist the connector.

4. Loosen the two suction control valve retaining bolts (Item 2) **[Figure 1]** or **[Figure 2]** with a 5 mm Allen hex tool.

NOTE: DO NOT completely remove the bolts. Beware of paint chips and other possible contamination sources. If necessary, clean the joint area again.

5. With the two retaining bolts loose (but not removed), remove the suction control valve from the pump body (by hand) by pulling it straight out.

NOTE: DO NOT twist the valve or pry with any tool.

IMPORTANT

Install a properly sized cap plug in the valve opening in the pump body to protect the pump from contamination.

6. With the suction control valve separated from the pump, remove and discard the two retaining bolts.

Figure 3

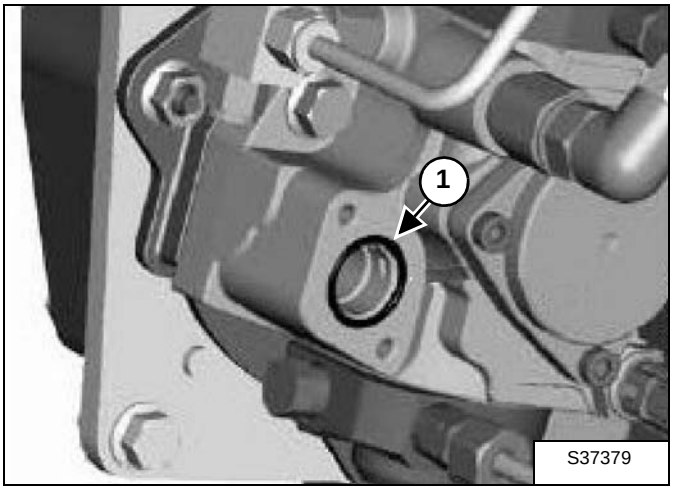
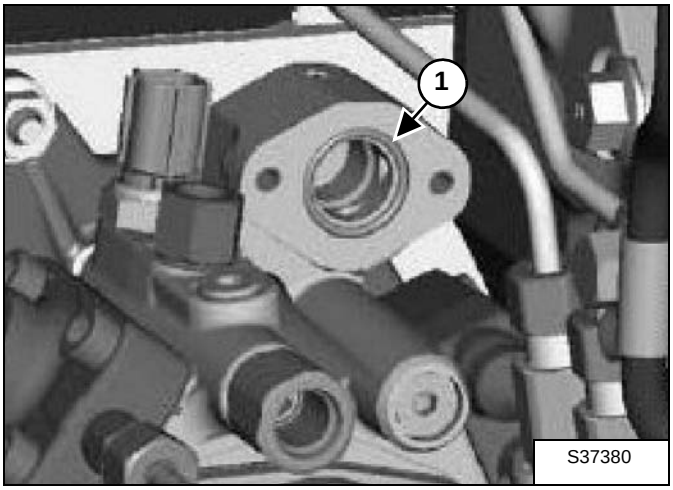


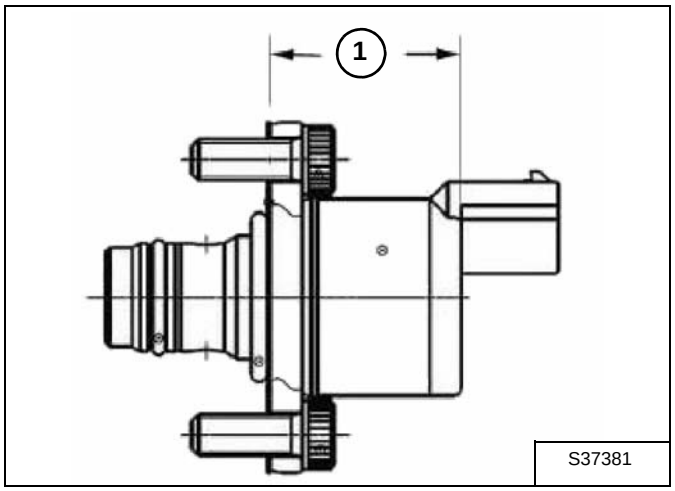
Figure 4



7. Check the valve mounting surface on the pump housing. Remove any residual gasket material from the valve mounting surface. Be careful to not damage the mounting surface. If the o-ring (Item 1) **[Figure 3]** or **[Figure 4]** is stuck to the pump housing surface, remove the o-ring.

8. Ensure that the o-ring groove in the pump housing is clean and free from debris.

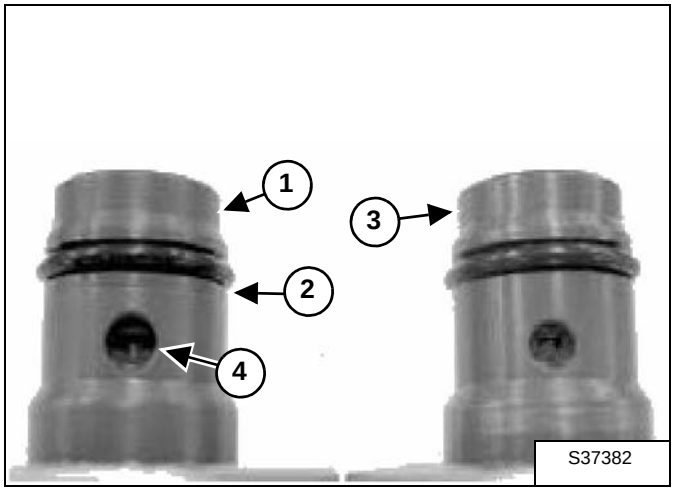
Figure 5



9. Verify that the overall reference length (Item 1) **[Figure 5]** of the valve is 27,6 mm (1.09 in).

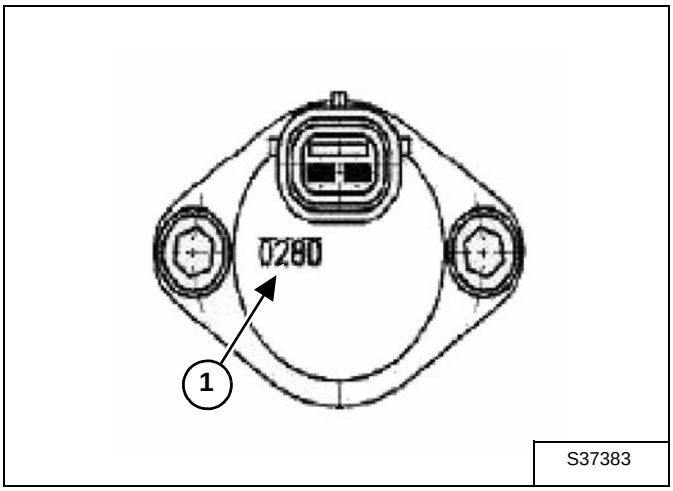
NOTE: If the length of the new valve is not 27,6 mm (1.09 in), it is the incorrect valve for the 4,5 L and 6,8 L pump.

Figure 6



10. In addition to checking the length of the valve, a visual check can be made to determine if the correct valve is in the kit. The PowerTech Plus™ 9,0 L valve (Item 1) has a groove (Item 2) on the valve body. The PowerTech Plus™ 4,5 L and 6,8 L valve (Item 3) has none. Additionally, the valve for the 9,0 L has a different port geometry (Item 4) **[Figure 6]** than the valve for the 4,5 L and 6,8 L.

Figure 7



11. An identification number (Item 1) **[Figure 7]** is also located on the control valve housing.

IMPORTANT

DO NOT handle replacement valve parts with dirty hands or gloves.

IMPORTANT

DO NOT allow engine coolant or brake fluid to contact the o-rings.

Figure 8

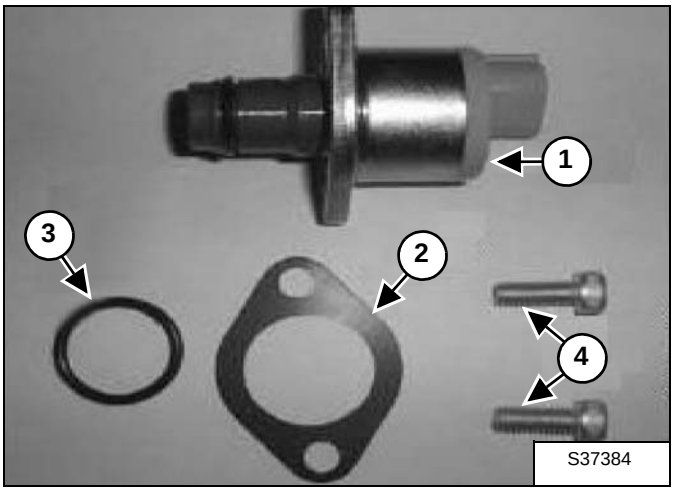
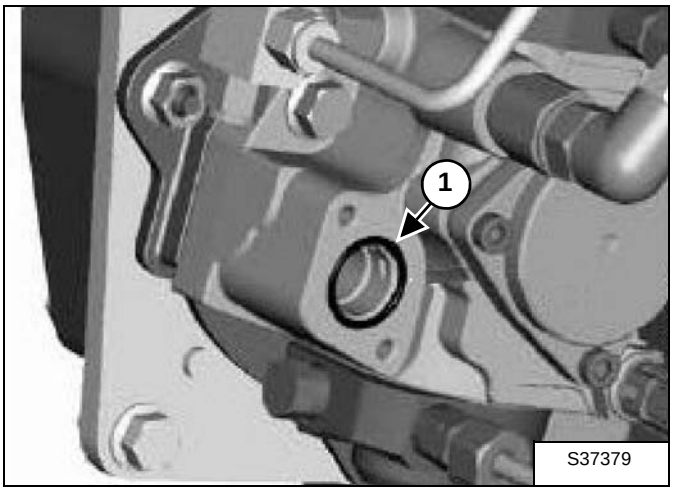


Figure 9



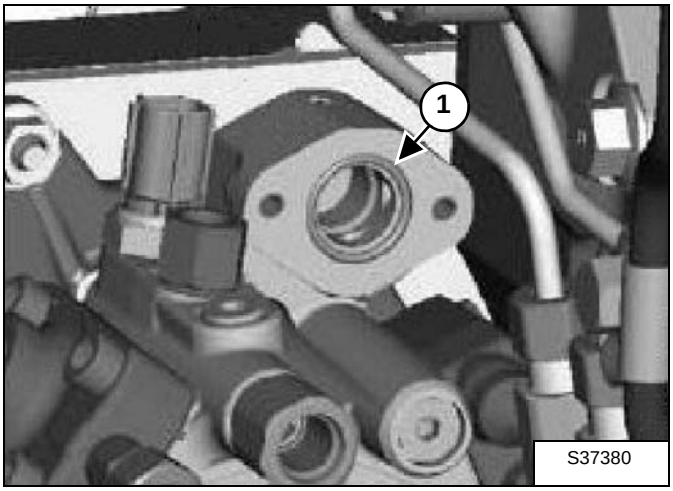
12. Check that all replacement parts are in the kit **[Figure 8]**.

ITEM	DESCRIPTION	QTY.
1	Suction Control Valve	1
2	Gasket	1
3	O-Ring (Valve to Pump Mounting Surface)	1
4	Valve Retaining Cap Screws	2

13. Lubricate large and small o-rings with a small amount of diesel fuel.

NOTE: Use just enough fuel to coat the entire o-ring surfaces.

Figure 10



14. Install the new large o-ring (Item 1) **[Figure 9]** or **[Figure 10]** into the groove in the pump housing.

Figure 11

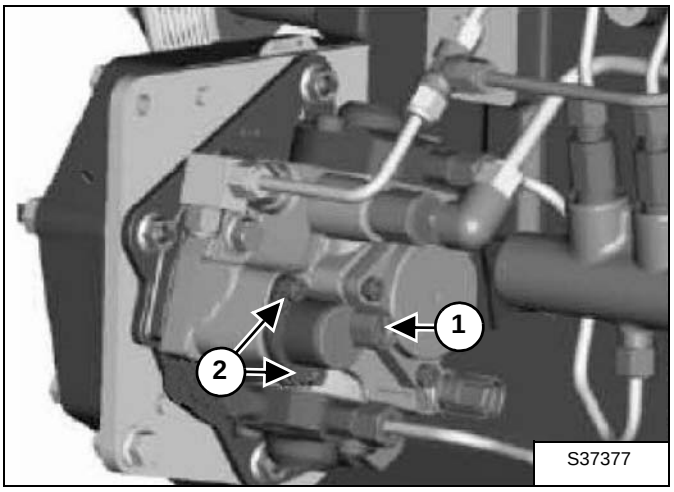
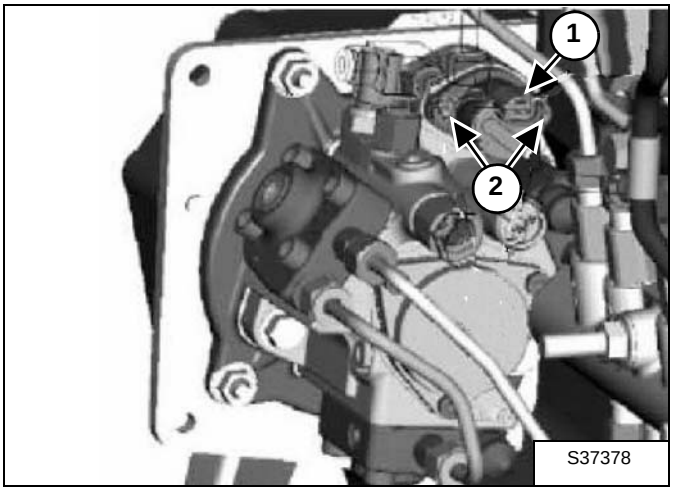


Figure 12



15. Install the new suction control valve assembly and gasket into the pump body by hand until the suction control valve flange nearly contacts the pump housing. The flange should not contact because of the o-ring.

NOTE: When installing the valve, DO NOT twist the valve. Damage to the o-rings will occur. Push the valve straight into the pump housing (same as when the valve was removed). The electrical connector (Item 1) [Figure 11] or [Figure 12] should be on the top side, facing the rear of the engine.

16. Install the new retaining bolts (Item 2) **[Figure 11]** or **[Figure 12]** through the valve flange and into the pump housing. Tighten the bolt evenly to 9 N•m (7 ft-lb) torque.

IMPORTANT

DO NOT use any tool to connect the wire harness. Damage to the connector will occur. Make sure the electrical connector is in proper orientation. The electrical connector should be positioned on the top side, facing the rear of the engine. If the suction control valve is installed incorrectly, the valve will not work properly.

17. Connect the suction control valve wire harness to the electrical connector (Item 1) **[Figure 11]** or **[Figure 12]**.

18. Connect the negative (-) battery cable.

19. Start the engine and perform computer diagnostics.

20. Check the suction control valve (pump joint) for fuel leaks.

NOTE: Check for leaks on the underside of the suction control valve joint by hand and visually, using a small mirror.

21. Perform the identical diagnostic procedure as when troubleshooting, to verify proper operation of the replacement suction control valve and to assure that the problem is solved.