

# SERVICE BULLETIN



M-1141A

October 30, 2003

## FUEL MODULE FLANGE REPLACEMENT PRODUCT PROGRAM NO. PP8 - UPDATE

### Purpose

This bulletin replaces M-1141, dated October 10, 2003. Harley-Davidson has identified an issue with the fuel module flange on certain VRSC motorcycles. In the interest of customer satisfaction we are offering to replace the fuel module flange with an updated flange assembly.

The fitting on the original flange can come loose during normal operation. The reduction of fuel pressure caused by a loose fitting can result in poor performance.

Replacing the original flange is an updated flange with a new fitting that will remain securely embedded in the fuel module flange assembly. **Please order the replacement flange, Part No. 75173-01A, under a regular parts order.**

### Motorcycles Affected

Some 2003 and early 2004 VRSC models which can be identified by the attached VIN list sent with initial bulletin dated October 10, 2003.

See Figure 1 for date code location. The dates of modules that need replacement start on 2552 (255 day of '02) through 2303 (230 day of '03).

### Customer Notification

Harley-Davidson will send letters to registered owners notifying them of this condition and instructing them to contact their Dealer for replacement of the flange with the integral fuel line fitting.

A copy of the letter is attached to the initial bulletin dated October 10, 2003.

### Required Dealer Action

#### Check VIN List

Check the VIN list, attached to the initial bulletin dated October 10, 2003, for motorcycles that were shipped to or sold by your dealership. If your dealership has in stock or has sold any of the motorcycles on the VIN list, perform all actions required by this Bulletin.

### Remove Fuel Pump/Filters/Fuel Level Sender Assembly

1. Open seat. Remove fuel cap, remove fuel filler boot, and replace cap.

#### WARNING

**Stop the engine when refueling or servicing the fuel system. Do not smoke or allow open flame or sparks near gasoline. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00002a)**

#### WARNING

The gasoline in the fuel supply line downstream of the fuel pump is under high pressure (400 kPa, 58 psi). To avoid an uncontrolled discharge or spray of gasoline, always purge the system of high pressure gas before removing the fuel supply line from the fuel tank. Gasoline is extremely flammable and highly explosive. Inadequate safety precautions could result in death or serious injury.

2. Purge the fuel supply line of high pressure gasoline.
  - a. See Figure 1. Disconnect the fuel pump and sender connector (5) [141] from the top plate (1).
  - b. Start the engine and allow the engine to run.
  - c. When the engine stalls, operate the starter for 3 seconds to remove remaining fuel from fuel lines.

#### WARNING

**To prevent accidental vehicle start-up, which could cause death or serious injury, remove maxi-fuse before proceeding. (00251a)**

3. Remove right side cover and remove maxi-fuse.
4. Remove airbox.
5. Determine how long before the assembly will be replaced:
  - a. If the assembly is to be reinstalled immediately, the open fuel tank can be covered temporarily.

#### IMPORTANT NOTE

In the interest of preserving customer safety and satisfaction, always check for outstanding recalls whenever any motorcycle is brought into your dealership for either maintenance or service.

ROUTING	SERVICE MANAGER	SALES MANAGER	PARTS MANAGER	LEAD TECHNICIAN	TECHNICIAN NO.1	TECHNICIAN NO. 2	TECHNICIAN NO. 3	TECHNICIAN NO. 4	RETURN THIS TO
INITIAL HERE									

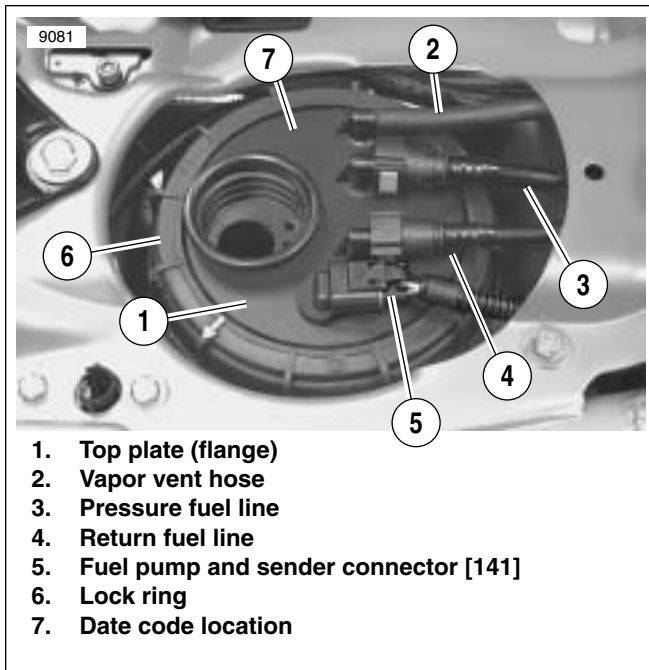
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- b. If the fuel tank is going to be left unattended, remove the fuel cap and drain the fuel tank. Use a pump or siphon and an approved gasoline storage container.

### **WARNING**

**Gasoline can drain from the fuel lines when disconnected from the fuel tank. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. Wipe up any spilled fuel immediately and dispose of rags in a suitable manner. (00260a)**

6. At the fuel rail, disconnect the fuel lines by pressing blue buttons with thumb and first finger.
7. See Figure 1. Disconnect the pressure fuel line (3) and the return fuel line (4) from the fuel tank top plate. Pull the lines out of the rotational path of the lock ring.



**Figure 1. Fuel Tank Top Plate**



**Figure 2. Fuel Cap Remover/Installer (HD-45324)**

8. Use opposite thumbs to push the vapor vent hose (2) off of the outlet tube.

### **NOTE**

*Motorcycles not equipped with the H-D Security System will have the siren connector terminated to a cap attached to the*

*wiring harness of the fuel module connector. Pull the siren connector and press the wiring harness out of the way before turning lock ring.*

9. See Figure 2. Use FUEL CAP REMOVER/INSTALLER (HD-45324) to unthread and lift off the lock ring.
10. Remove the fuel pump/filters/fuel level sender assembly and cover the tank opening or drain the fuel tank as required.

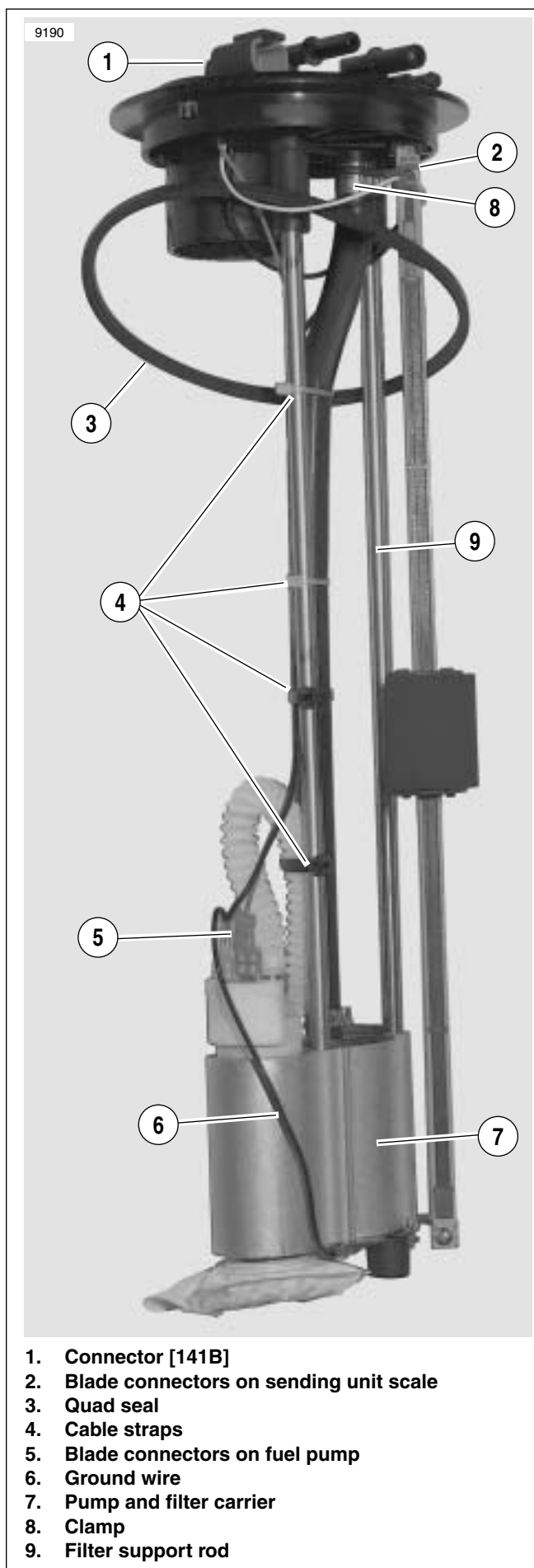
## **Replace Flange and Integral Pressure Fuel Fitting**

### **Removal**

1. See Figure 3. Note the location of and then cut the four cable straps (4) from around the fuel line, fuel pump wires, support rod and pump hose.
2. Pull the yellow and black wire blade connectors (2) at the top of the sending unit scale.
3. Pull the red and black wire blade connectors (5) from the top of the fuel pump.
4. Cut the fuel line clamp (8) from the top of the fuel line and pull the fuel line off of the pressure fuel fitting.
5. Remove the e-clip from the filter support rod.
6. Remove the fasteners and black ground wire (6) from the fuel pump support rod.
7. Slide pump and filter support rods from the pump and filter carrier (7).
8. Remove the retaining clip on the under side of the flange and remove the connector (1) [141B]. Carefully pull all the wires through the connector opening in the flange.

### **Installation**

1. Install a new fuel line clamp (8) around the fuel line.
2. Carefully thread the wires through the connector opening in the replacement flange.
3. Match the shape of the connector [141B] to the opening in the flange and securely push the connector [141B] in.
4. Slide the support rods into the pump and filter carrier.
5. Install a **new** e-clip on the filter support rod.
6. Push the small black wire blade connector on to the small blade on the fuel pump and route the black ground wire to the end of the pump support rod. Install the fuel pump support rod fastener through the hole in the ground wire blade and tighten.
7. Push the fuel line onto the barb of the fuel fitting. Use the side of HOSE CLAMP PLIERS (HD-41137) to crimp the fuel line clamp.
8. Route the yellow wire around the outside of pump support rod and the black wire between the filler neck and around the outside of the filter support rod and press the blade connectors to the sending unit scale.
9. Snap the sending unit scale into the notch in the underside of the flange.
10. Press the red wire blade connector to the larger blade on the fuel pump.
11. In the original locations, place cable straps on the fuel line and red and black pump wire to the pump support rod.



**Figure 3. Fuel Pump/Filters/Fuel Level Sender Assembly**

## Re-install Fuel Pump/Filters/Fuel Level Sender Assembly

1. See Figure 3. Apply a small dab of silicone gasket sealer at four spots around the bottom side of a **new** quad seal (3). Install the quad seal onto shoulder of the tank opening. Let the gasket sealer cure for five minutes.
2. Insert fuel pump/filters/fuel level sender assembly into fuel tank.

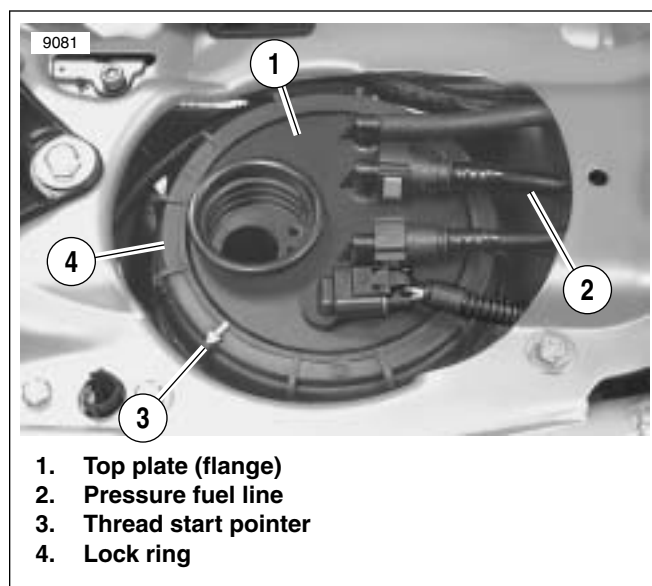
### NOTE

*The two side by side tabs on the right underside of the top plate mate to a notch in the collar in the fuel tank allowing the top plate to fall into position and the rubber spacer/bumper on the bottom of the fuel pump/filters/fuel level sender assembly to rest on the bottom of fuel tank.*

3. See Figure 4. Orient the pointer (3) on the lock ring (4) to point 90° to the left side of the motorcycle. Thread on lock ring.

### NOTE

In this position the start of the lock ring threads match the start of the threads on the collar of the fuel tank.



**Figure 4. Fuel Tank Flange and Lock Ring**

4. Use FUEL CAP REMOVER/INSTALLER (HD-45324) to tighten the lock ring to 54-61 Nm (40-45 ft-lbs).
5. Install the smaller return fuel line and the larger pressure fuel line while supporting the mating port. Press the lines on until the click is heard that indicates engagement.

### WARNING

**Connecting the fuel lines to the wrong outlet port can result in a reverse flow of gasoline upon start up. Inadequate safety precautions could result in death or injury.**

6. Attach the pressure and the return fuel lines to the fuel rail.
7. Press on the fuel vapor vent hose while supporting the mating port.
8. Mate the fuel pump and sender connector half (5) [141B] while supporting the top plate connector half [141A] with the opposite hand.

# NOTE

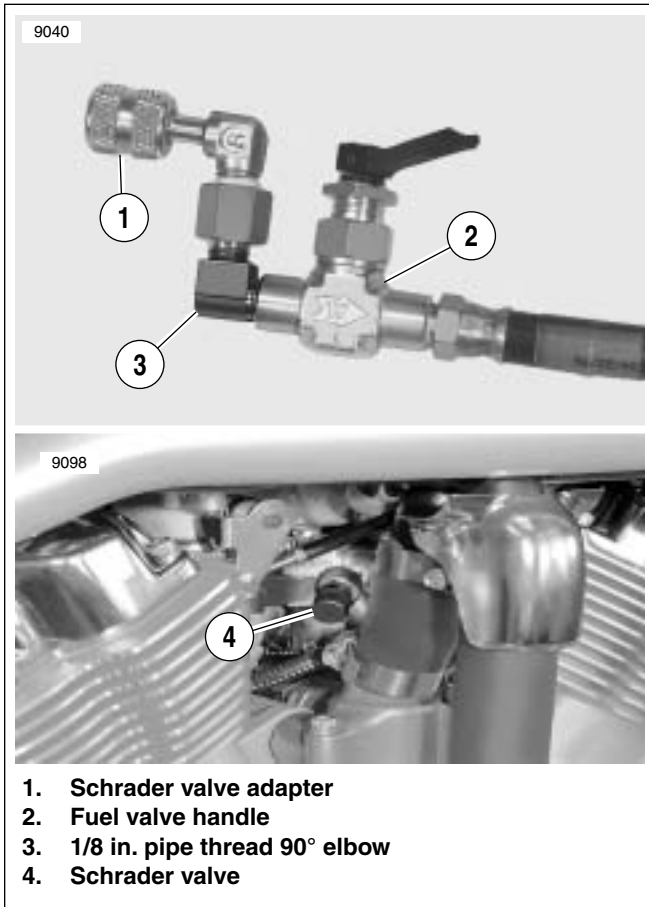
To avoid bending the connector pins, gently press the socket fuel module connector parallel or straight into the pin fuel module connector on the fuel tank top plate.

9. Replace fuel filler boot. Fuel as required and replace the fuel cap.

## WARNING

**Gasoline is extremely flammable and highly explosive. When servicing the fuel system, do not smoke or allow open flame or sparks in the vicinity. Inadequate safety precautions could result in death or serious injury.**

10. Connect negative battery cable.
11. Install airbox.
12. Replace the maxi-fuse and right side cover.
13. Before starting the engine and filling the fuel lines, install the FUEL PRESSURE GAUGE (HD-41182).
  - a. See Figure 5. Insert a 1/8 in. pipe thread 90° (right angle) elbow (3) between the fuel valve (2) and the Schrader valve adapter (1).
  - b. Remove protective cap from Schrader valve (4).
  - c. Verify that the fuel valve and air bleed petcock on the FUEL PRESSURE GAUGE (Part No. HD-41182) are closed.
  - d. Connect fuel pressure gauge to Schrader valve.



**Figure 5. Fuel Pressure Gauge Valves**

# NOTES

- See 9.10 FUEL PRESSURE TEST in the VRSC Models Service Manual.
  - If the engine has been started or the fuel pump has been activated, purge the fuel supply line of high pressure gasoline before completing the fuel pressure test.
14. See Figure 6. Test fuel system pressure.
    - a. Start and idle engine to pressurize the fuel system. Open the fuel valve to allow the flow of fuel down the hose of the pressure gauge.
    - b. Position the clear air bleed tube in a suitable container and open and close the air bleed petcock to purge the gauge and hose of air. Repeat this step several times until only solid fuel (without bubbles) flows from the air bleed tube. Close the petcock.
    - c. Roll on and off the throttle to change engine speed. Note the reading of the pressure gauge. Fuel pressure should remain steady within its upper and lower limits. Refer to Table 1.

**Table 1. Fuel Pressure Range**

LIMIT	kPA	PSI
Upper	425	62
Lower	380	55



**Figure 6. Fuel Pressure Test**

15. If the fuel pressure does not remain steady within its upper and lower limits, refer to the VRSC Electrical Diagnostic Manual for further information on the function and testing of the fuel system.
16. If the fuel pressure remains within its upper and lower limit, remove the fuel pressure gauge.
  - a. Turn the engine off. Open the air bleed petcock to relieve the fuel system pressure and purge the pressure gauge of gasoline.

**⚠ WARNING**

Gasoline can drain from quick-connect fitting when removing fuel line. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. Wipe up any spilled fuel immediately and dispose of rags in a suitable manner. (00267a)

- b. Remove fuel pressure gauge from the Schrader valve and install protective cap over Schrader valve.

17. Close and latch seat.

## Complete a Warranty Claim - Affected Vehicles

To claim credit for each motorcycle serviced under this product program, complete a regular warranty claim referencing Service Bulletin M-1141A in the "Description of Repair" section of the claim.

Fill in the rest of the claim as follows in Table 2:

**Table 2. Warranty Claim Entries**

ENTRY FIELD	ENTER
Claim Type	PP8
Problem Part No., Qty., Description	0 - 75173-01, Flange
Additional Part No., Qty, & Description	1 - 75173-01A Replacement Flange 1 - 10238 Hose clamp 4 - 10065 Cable strap 1 - 61498-01 Quad seal
Detail Labor Code	8888
Time	0.6
Customer Concern Code	9203
Condition Code	2108

## Complete a Warranty Claim - Dealer Inventory Parts

To claim credit for any fuel flange you may have in stock affected by this product program, complete a regular warranty claim referencing Service Bulletin M-1141A in the "Description of Repair" section of the claim.

Fill in the rest of the claim as follows in Table 3

**Table 3. Warranty Claim Entries**

ENTRY FIELD	ENTER
Claim Type	DFS
Problem Part No., Qty., Description	* - 75173-01, Flange
Customer Concern Code	9203
Condition Code	2108

\* Quantity will vary depending on number in stock.

Upon receipt of the properly completed claims, you will receive the appropriate credit based on vehicle repair or parts claims.