



# INSTRUCTIONS

-J04833

REV. 2009-07-20

## SPORTSTER FUEL GAUGE

### GENERAL

#### Kit Number

75031-09, 75338-09

#### Models

For model fitment information, see the P&A Retail Catalog or the Parts and Accessories section of [www.harley-davidson.com](http://www.harley-davidson.com) (English only).

#### Additional Parts Required

### ⚠ WARNING

The rider's safety depends upon the correct installation of this kit. Use the appropriate service manual procedures. If the procedure is not within your capabilities or you do not have the correct tools, have a Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury. (00333a)

### NOTE

This instruction sheet references service manual information. A service manual for your model motorcycle is required for this installation and is available from a Harley-Davidson Dealer.

**For 2007 Sportster Models:** An update with DTII is required for the low fuel light to work correctly with the fuel gauge. Have the dealer install the fuel gauge and perform the update, or after installing the fuel gauge, take the motorcycle to the dealer as soon as possible for the update.

#### Kit Contents

See Figure 4 and Table 1.

### INSTALLATION

#### Install Fuel Level Sensor

### ⚠ WARNING

When servicing the fuel system, do not smoke or allow open flame or sparks in the vicinity. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00330a)

### ⚠ WARNING

To prevent spray of fuel, purge system of high-pressure fuel before supply line is disconnected. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00275a)

### ⚠ WARNING

Gasoline can drain from components when disconnected from fuel pump/filters/fuel level sender assembly. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. Wipe up spilled fuel immediately and dispose of rags in a suitable manner. (00273a)

1. See the service manual and purge the fuel supply hose of high pressure gasoline, then disconnect the fuel supply hose from the fuel pump module.
2. See the service manual. Remove the seat and the main fuse.
3. See the service manual and remove the fuel tank.
4. See the service manual and remove the fuel pump.
5. See the service manual and remove the low fuel level sender.
6. See Figure 1. Install new sensor as follows:
  - a. Install the fuel sensor into the fuel pump module oriented as shown and locating the base into the mounting hole (4) of the fuel pump.  
  
If the gap is too small or there is contact between the fuel hose and fuel sensor, rotate the fuel filter approximately 0.13 in (3.3 mm) to move the fuel hose away from the fuel sensor. If the gap is still too small, remove the fuel sensor and bend the mounting tab slightly away from the fuel hose until the gap is sufficient.
  - b. Hold the fuel sensor against the mounting tab. Look at the gap between the fuel hose and the sensor. The gap must be at least 0.06 in (1.5 mm).  
  
If the gap is too small or there is contact between the fuel hose and fuel sensor, rotate the fuel filter approximately 0.13 in (3.3 mm) to move the fuel hose away from the fuel sensor. If the gap is still too small, remove the fuel sensor and bend the mounting tab slightly away from the fuel hose until the gap is sufficient.
  - c. Look at the gap between the fuel sensor and fuel pump wiring. The gap must be at least 0.06 in (1.5 mm). If necessary, move wiring with a blunt tool, such as a screwdriver.
  - d. Secure the fuel level sensor to the fuel pump with screw (3). Tighten the screw enough to seat the fuel sensor against the mounting tab.
  - e. Route fuel level sensor wiring under the fuel hose and connect the fuel level sensor to the low fuel switch connector on the fuel pump module. If necessary use the jumper harness (Figure 4, item 5).
  - f. See Figure 2. Secure the fuel pump wires and connectors.

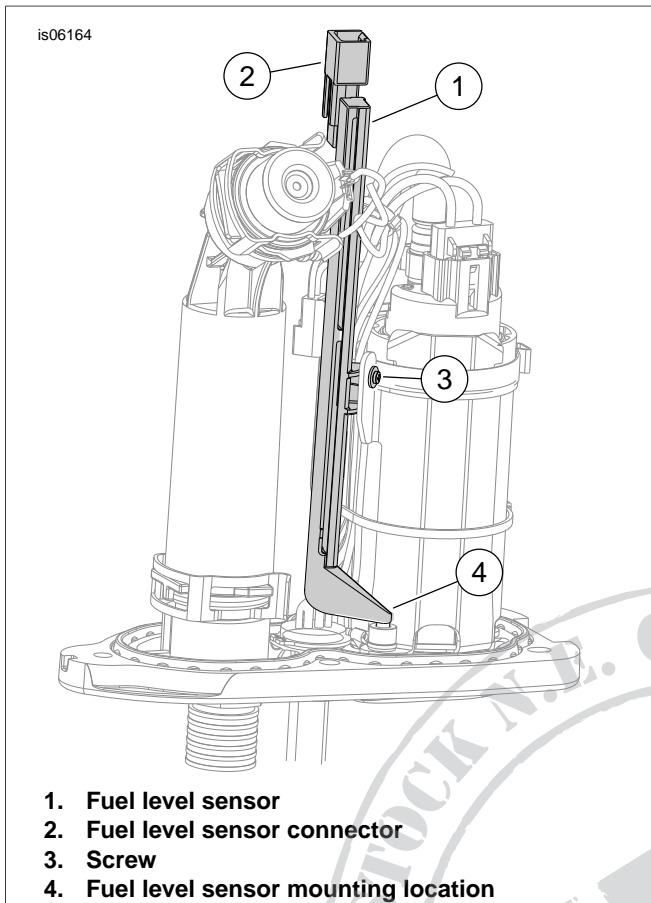


Figure 1. Install Fuel Level Sensor



Figure 2. Secure Fuel Pump Wires and Connectors

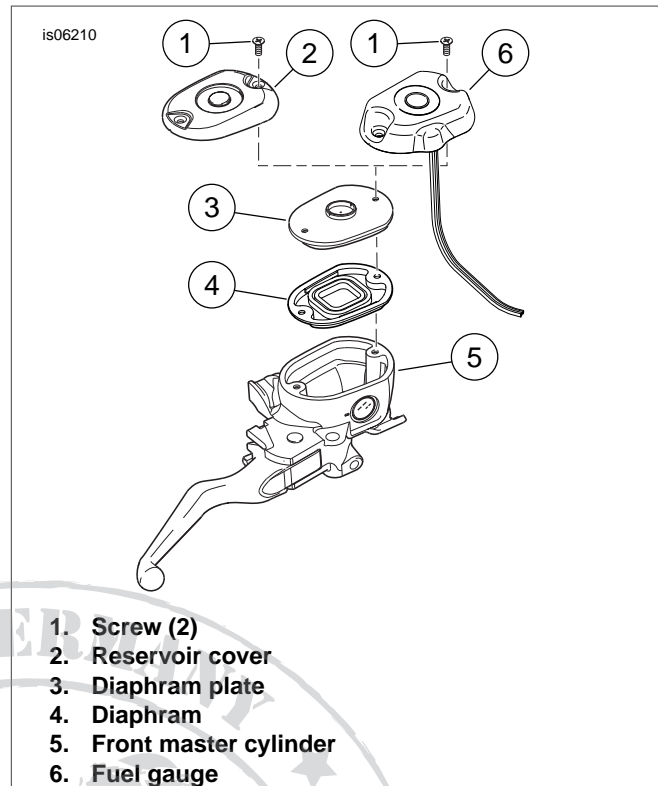


Figure 3. Install Fuel Gauge to Front Master Cylinder

7. See the service manual and install the fuel pump and the new gasket included in the kit.

### Install Fuel Gauge

#### CAUTION

Direct contact of D.O.T. 4 brake fluid with eyes can cause irritation. Avoid eye contact. In case of eye contact flush with large amounts of water and get medical attention. Swallowing large amounts of D.O.T. 4 brake fluid can cause digestive discomfort. If swallowed, obtain medical attention. Use in well ventilated area. KEEP OUT OF REACH OF CHILDREN. (00240a)

#### CAUTION

D.O.T. 4 brake fluid will damage painted and body panel surfaces it comes in contact with. Always use caution and protect surfaces from spills whenever brake work is performed. Failure to comply can result in cosmetic damage. (00239b)

#### NOTES

- If DOT 4 brake fluid contacts painted surfaces, IMMEDIATELY flush area with clear water.
  - Cover handlebar switches with a shop towel before adding brake fluid to front master cylinder reservoir. Spilling brake fluid on handlebar switches may render them inoperative.
  - To prevent dirt and other contaminants from entering the master cylinder reservoir, thoroughly clean the cover before removal.
1. Position and secure the motorcycle upright (not resting on jiffy stand).

2. See Figure 3. Remove screws (1), reservoir cover (2), diaphragm plate with diaphragm (3 and 4) from the front master cylinder (5).
3. Clean all sealing surfaces of the master cylinder reservoir and reservoir cover.

**NOTE**

*When installing a chrome fuel gauge, secure the fuel gauge with chrome screws included in the kit. When installing a black fuel gauge, secure the fuel gauge with the black stock screws.*

4. Install fuel gauge (6), stock diaphragm plate and diaphragm (3 and 4) and two screws (1) to the front master cylinder (5). Tighten the screws to 9-17 **in-lbs** (1.0-1.9 Nm).
5. See Figure 4. Route the fuel gauge harness along the handlebar following the turn signal wiring, down to the main harness. Then route it inside the coil bracket and main harness caddy, back along the backbone toward the seat pan area.
6. Find fuel sender resistor connector [200B] located between the oil tank and frame near the seat pan. Disconnect the fuel sensor resistor assembly [200A] from connector [200B] and connect the fuel gauge connector in its place.
7. Splice the orange wire of the fuel gauge into the orange/white (O/W) wire with the sealed splice connector near rear lighting connector [7A] located in the seat pan area.
8. Secure the fuel gauge harness and orange wire to the main harness with cable straps (6). Coil and secure excess harness and wire length.
9. See the service manual and install the fuel tank.
10. See the service manual and install the main fuse.

**⚠ WARNING**

**After installing seat, pull upward on seat to be sure it is locked in position. While riding, a loose seat can shift causing loss of control, which could result in death or serious injury. (00070b)**

11. See the service manual and install the seat.

**DEALER CALIBRATION - 2007 SPORTSTER MODELS ONLY**

**NOTE**

*For 2007 Sportster Models: An update with DTII is required for the low fuel light to work correctly with the fuel gauge. The*

*low fuel indicator on the speedometer will remain lit until the update is performed.*

1. Under the Toolbox tab in DTII, select Vehicle Setup.
2. Select Low Fuel Warning Light. A warning message of "CAUTION: Do NOT update any Sportster until a new termination resistor (P/N 72545-08) has been installed." Select Update Now.
3. Under the Toolbox tab in DTII, select Fault Codes. Clear any DTCs.
4. Cycle the ignition switch on the motorcycle.

**OPERATION**

- When the motorcycle is started, all of the LED bars will light initially, then LED bars will darken, as necessary, to indicate the current fuel level.
- All four LED bars of the fuel gauge will light when the fuel tank is full. The bars will darken as the fuel level in the motorcycle drops.
- The low fuel indicator on the speedometer will light at approximately the time when the fuel gauge goes from two bars lit to one bar lit. This is the same fuel level at which the original low fuel sender activated the indicator.
- The fuel level indicated by the fuel gauge is approximate. The amount of time the fuel gauge will indicate a "full" fuel tank varies depending on the size and style of fuel tank.
- Gas pump icon on fuel gauge is always lit during normal operation.
- The last lit fuel level bar will begin to flash when the fuel level falls below the fuel level measurable by the sensor.
- The fuel gauge is photo sensitive and will automatically dim in low light conditions.

**NOTE**

*Avoid spraying water directly onto the fuel gauge display window during washing.*

**DIAGNOSTICS**

The digital fuel gauge display will flash all of the LED lights to show error codes as follows:

- Short circuit - 0.5 seconds per flash
- No sender input - 1 second per flash
- Open circuit - 2 seconds per flash

# SERVICE PARTS

is06187

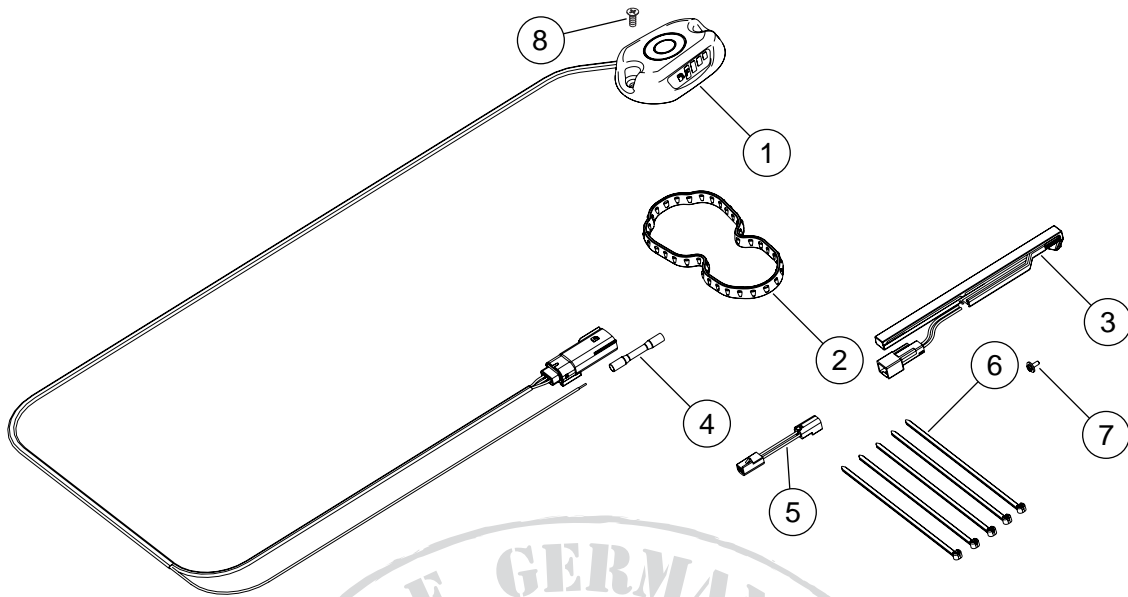


Figure 4. Service Parts for Sportster Fuel Gauge

Table 1. Service Parts Table

Item	Description (Quantity)	Part Number
1	Fuel gauge, digital	Not Sold Separately
2	Seal, fuel pump cover plate	75301-07
3	Sensor, fuel gauge	75093-09
4	Splice, sealed, 14-16 AWG	70586-93
5	Harness, jumper	70449-09
6	Cable strap (5)	10065
7	Screw, sems	2492
8	Screw, chrome (Kit 75338-09 only)	2498