



INSTRUCTIONS

J04833

2022-10-10



SPORTSTER FUEL GAUGE

GENERAL

Kit Number

75031-09, 75338-09

Models

For model fitment information, see the Parts and Accessories (P&A) Retail Catalog or the Parts and Accessories section of www.harley-davidson.com.

Verify that the most current version of the instruction sheet is used. It is available at: h-d.com/isheets

Contact Harley-Davidson Customer Support Center at 1-800-258-2464 (U.S. only) or 1-414-343-4056.

Installation Requirements

⚠ WARNING

Rider and passenger safety depend 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. (00333b)

NOTE

This instruction sheet references service manual information. A service manual for the year and model motorcycle is required for this installation and is available from:

- A Harley-Davidson dealer.
- H-D Service Information Portal, a subscription-based access available for most 2001 and newer models. For more information, see *Frequently ask questions about subscriptions*.

For 2007 Sportster Models: An update with Digital Technician II is required for the low fuel light to work correctly with the fuel gauge.

Kit Contents

See Figure 4 and Table 1.

PREPARE

⚠ 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. Purge fuel supply hose of high pressure gasoline. See service manual.
2. Disconnect fuel supply hose from fuel pump module. See service manual.
3. Remove seat. See service manual.
4. Remove main fuse. See service manual.
5. Remove fuel tank. See service manual.
6. Remove fuel pump. See service manual.
7. Remove low fuel level sender. See service manual.

INSTALLATION

Fuel Level Sensor

1. See Figure 1. Install new sensor.
 - a. Install fuel sensor into fuel pump module oriented as shown and locating base into mounting hole (4) of fuel pump.
 - b. Hold fuel sensor against mounting tab. Look at gap between fuel hose and sensor. Gap must be at least 1.5 mm (0.06 in). If gap is too small or there is contact between fuel hose and fuel sensor, rotate fuel filter approximately 3.3 mm (0.13 in) to move fuel hose away from fuel sensor. If gap is still too small, remove fuel sensor and bend mounting tab slightly away from fuel hose until gap is sufficient.
 - c. Look at gap between fuel sensor and fuel pump wiring. Gap must be at least 1.5 mm (0 in). If necessary, move wiring with a blunt tool, such as a screwdriver.



- d. Secure fuel level sensor to fuel pump with screw (3). Tighten screw enough to seat fuel sensor against mounting tab.
 - e. Route fuel level sensor wiring under fuel hose and connect fuel level sensor to low fuel switch connector on fuel pump module. If necessary use jumper harness (Figure 4, item 5).
 - f. See Figure 2. Secure fuel pump wires and connectors.
2. Install fuel pump and **new** gasket (included in kit). See service manual.

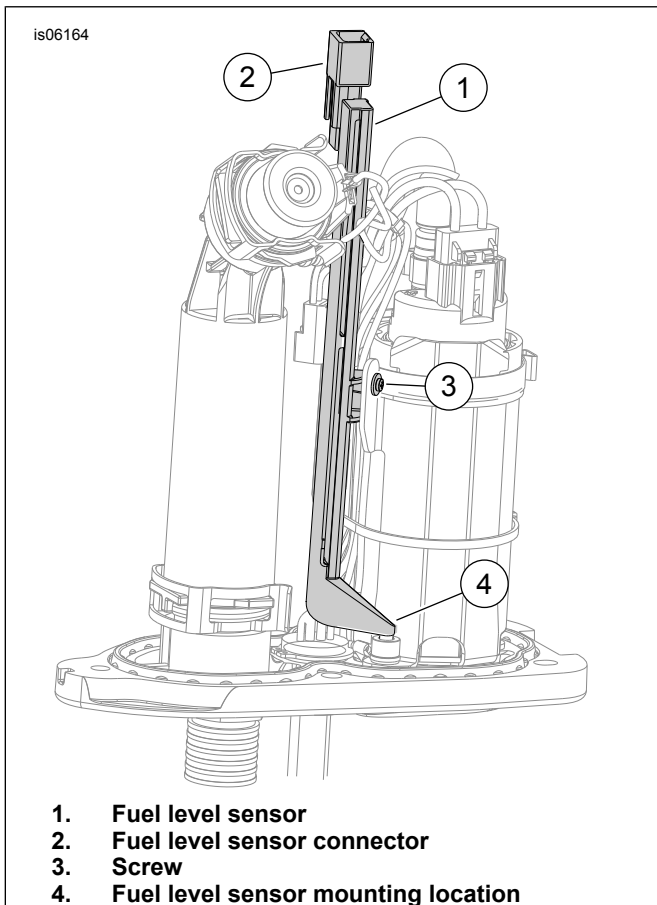


Figure 1. Install Fuel Level Sensor



Figure 2. Secure Fuel Pump Wires and Connectors

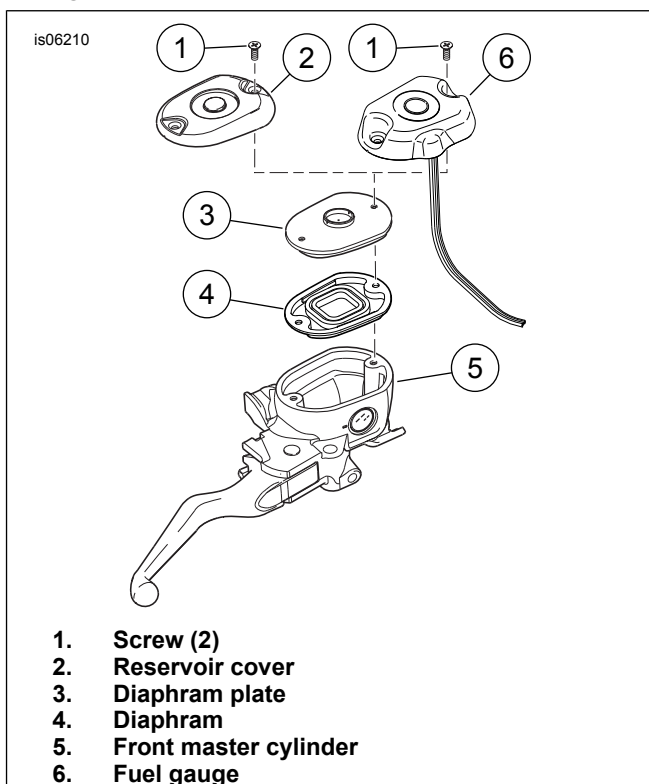


Figure 3. Install Fuel Gauge to Front Master Cylinder

Fuel Gauge

⚠ WARNING

Contact with DOT 4 brake fluid can have serious health effects. Failure to wear proper skin and eye protection could result in death or serious injury.

- **If inhaled:** Keep calm, remove to fresh air, seek medical attention.
- **If on skin:** Remove contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. If irritation develops, seek medical attention.
- **If in eyes:** Wash affected eyes for at least 15 minutes under running water with eye lids held open. If irritation develops, seek medical attention.
- **If swallowed:** Rinse mouth and then drink plenty of water. Do not induce vomiting. Contact Poison Control. Immediate medical attention required.
- See Safety Data Sheet (SDS) for more details available at sds.harley-davidson.com

(00240e)

NOTICE

DOT 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. (00239c)

NOTE

- 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 vehicle upright (not resting on jiffy stand).
2. See Figure 3. Remove screws (1), reservoir cover (2), diaphragm plate with diaphragm (3 and 4) from 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 fuel gauge with chrome screws included in kit. When installing a black fuel gauge, secure fuel gauge with black Original Equipment (OE) screws.

4. Install fuel gauge (6), stock diaphragm plate and diaphragm (3 and 4) and two screws (1) to front master cylinder (5). Tighten screws.

Torque: 1–1.9 N·m (9–17 in-lbs) Master cylinder cover screws

5. See Figure 4. Route fuel gauge harness along handlebar following turn signal wiring, down to main harness. Then route it inside coil bracket and main harness caddy, back along backbone toward seat pan area.
6. Find fuel sender resistor connector [200B] located between oil tank and frame near seat pan. Disconnect fuel sensor resistor assembly [200A] from connector [200B] and connect fuel gauge connector in its place.
7. Splice wires.
 - a. **2013-earlier models:** Splice orange wire of fuel gauge into orange/white (O/W) wire with sealed splice connector near rear lighting connector [7A] located in seat pan area.
 - b. **2014-later models:** Splice orange wire of fuel gauge into red/yellow (R/Y) wire of Electrical Connection Kit (Part No. 72673-11). Connect into Diagnostics connector. Tape off unused wires.
8. Secure fuel gauge harness and orange wire to main harness with cable straps (6). Coil and secure excess harness and wire length.

COMPLETE

1. Install fuel tank. See service manual.
2. Install main fuse. See service manual.
3. Install seat. After installing seat, pull upward on seat to be sure it is locked in position. See service manual.

DEALER CALIBRATION - 2007 Sportster Models Only

NOTE

For 2007 Sportster Models: An update with Digital Technician II is required for the low fuel light to work correctly with fuel gauge. The low fuel indicator on the speedometer will remain lit until update is performed.

1. Under Toolbox tab in Digital Technician II, select Vehicle Setup.
2. Select Low Fuel Warning Light. A warning message of "CAUTION: Do NOT update any Sportster until a new termination resistor (Part No. 72545-08) has been installed." Select Update Now.
3. Under Toolbox tab in Digital Technician II, select Fault Codes. Clear any Diagnostic Trouble Codes (DTCs).
4. Cycle ignition switch on vehicle.

OPERATION

- When vehicle is started, all of Light Emitting Diode (LED) bars will illuminate initially, then LED bars will turn off, as necessary, to indicate current fuel level.
- All four LED bars of fuel gauge will illuminate when fuel tank is full. The bars will turn off as fuel level in vehicle drops.

- Low fuel indicator on speedometer will illuminate at approximately when fuel gauge goes from two bars illuminated to one bar illuminated. 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 illuminated during normal operation.
- The last illuminated fuel level bar will begin to flash when fuel level falls below a measurable fuel level by sensor.
- The fuel gauge is photo sensitive and will automatically dim in low light conditions.

NOTE

Avoid spraying water directly onto 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

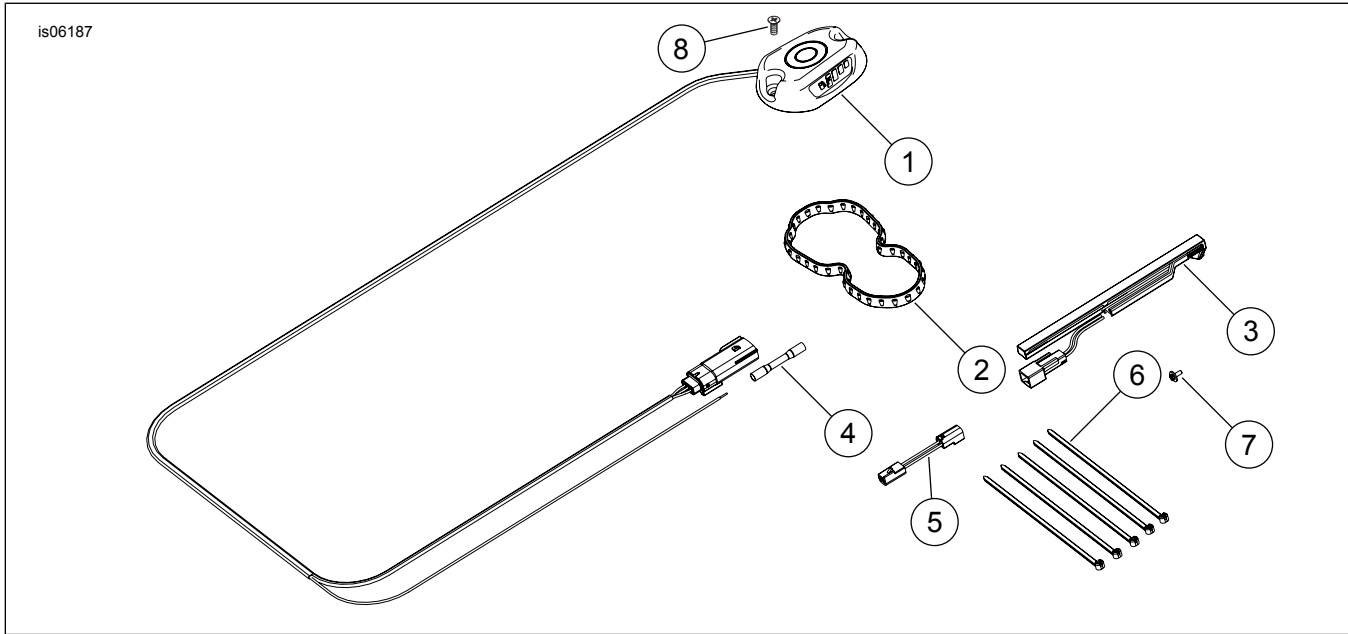


Figure 4. Service Parts for Sportster Fuel Gauge

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