



# INSTRUCTIONS

J04772

2016-09-01



## DIGITAL OIL PRESSURE GAUGE

### GENERAL

#### Kit Numbers

75138-09, 75340-09

#### 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).

#### Installation Requirements

**2011-Later Softail Models** require separate purchase of an Electrical Connection Kit (Part No. 72673-11).

**2012-Later Dyna Models** require separate purchase of an Electrical Connection Kit (Part No. 72673-11).

**2014-2016 Touring Models** require separate purchase of an Electrical Connection Kit (Part No. 69200722), unless already installed.

An Ultratorch UT-100 (Part No. HD-39969), Robinair Heat Gun (Part No. HD-25070) with Heatshrink Attachment (Part No. HD-41183), or other suitable radiant heating device is required for the proper installation of this kit.

Loctite<sup>®</sup> 565 Thread Sealant (Part No. 99818-97) is required for proper installation of this kit.

#### ⚠ 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 refers to service manual information. A service manual for this year/model vehicle is required for this installation. One is available from a Harley-Davidson dealer.

#### Electrical Overload

#### NOTICE

It is possible to overload the vehicle's charging system by adding too many electrical accessories. If the combined electrical accessories operating at any one time consume more electrical current than the vehicle's charging system can produce, the electrical consumption can discharge the battery and cause damage to the vehicle's electrical system. (00211d)

#### ⚠ WARNING

When installing any electrical accessory, be certain not to exceed the maximum amperage rating of the fuse or circuit breaker protecting the affected circuit being modified. Exceeding the maximum amperage can lead to electrical failures, which could result in death or serious injury. (00310a)

This kit requires up to **400 mA** more current from the electrical system.

#### Kit Contents

See Figure 5 and Table 1

#### PREPARATION

#### ⚠ WARNING

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

#### ⚠ WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect negative (-) battery cable before proceeding. (00048a)

#### WITH Security Siren

#### NOTE

- **For 2007- later vehicles equipped with security siren:** With security fob present, turn ignition switch ON. See the service manual. After system is disarmed, turn ignition switch OFF. **IMMEDIATELY** remove the main fuse.
- **For 2006- earlier vehicles equipped with security siren:** Disarm the siren with the key fob or security code. See the service manual. Remove the main fuse or main circuit breaker. Turn ignition switch OFF.

#### WITHOUT Security Siren

**Models with main fuse:** See the service manual. Remove the main fuse.

**All models with main circuit breaker EXCEPT 2011-earlier Dyna:**

1. See the service manual to remove the seat. Retain all seat mounting hardware.
2. See the service manual. Disconnect negative battery cable.
3. Turn ignition switch OFF.

**2011-earlier Dyna models with main circuit breaker:**



1. See the service manual to remove the seat. Retain all seat mounting hardware.

### ⚠ WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect battery cables (negative (-) cable first) before proceeding. (00307a)

### ⚠ WARNING

Disconnect negative (-) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00049a)

2. Disconnect both battery cables, negative battery cable first. Remove the battery per the service manual.
3. Turn ignition switch OFF.

## OIL PRESSURE SENDER AND GAUGE INSTALLATION

1. See Figure 1. Remove the connector from the oil pressure switch. Remove and discard the switch. Clean old threadlocking agent from the threaded opening.

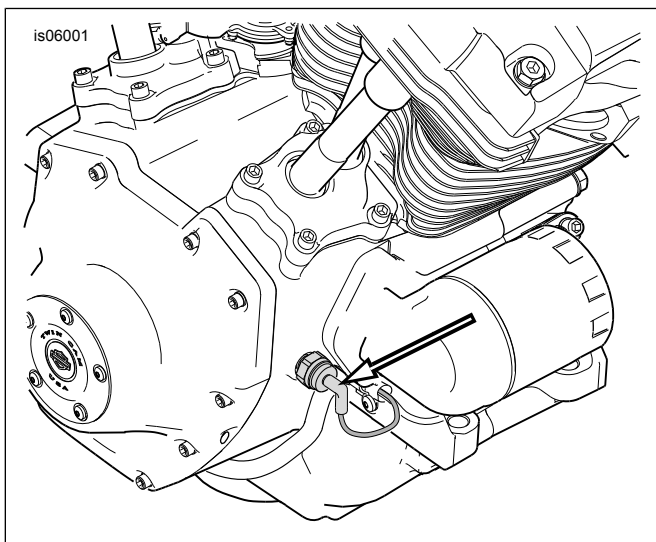


Figure 1. Oil Pressure Switch Location (Typical)

2. See Figure 5. **Dyna and Softail models only:** Get the 90 degree elbow fitting (5) from the kit. Using Loctite® 565 Thread Sealant (Part No. 99818-97), apply thread sealant to the clean male threads of the fitting. Thread the fitting into the crankcase. Orient the fitting so the sender faces down. Tighten to 10.2–13.6 N·m (90–120 in-lbs).
3. **ALL models:** Get the oil pressure sender (4) from the kit. Thread the oil pressure sender into the crankcase or elbow fitting. Tighten. 10.2–13.6 N·m (90–120 in-lbs).

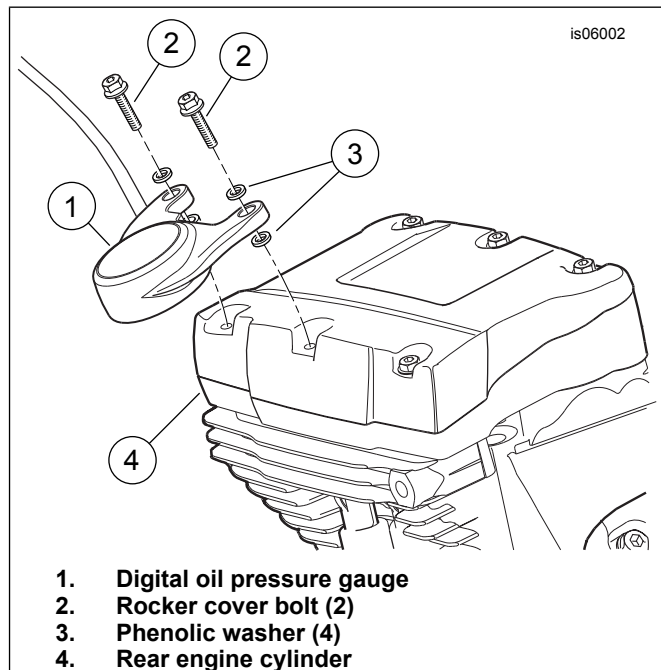
### ⚠ WARNING

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)

4. See the service manual. Loosen the fuel tank to gain access to the rear rocker cover.
5. See Figure 2. Go to the rear engine cylinder (4). Remove and discard the two rearmost right side rocker cover bolts (2). Clean old threadlocking agent from the threaded holes.
6. Get the digital oil pressure gauge (1), two hex flange screws and four insulating washers (3) from the kit. Place a washer onto the threads of each screw. Insert the screws through the gauge mounting holes as shown. Place a second washer onto the threads of each screw.

### NOTE

Make sure that the gauge wire and conduit are not pinched between the gauge and rocker cover.



1. Digital oil pressure gauge
2. Rocker cover bolt (2)
3. Phenolic washer (4)
4. Rear engine cylinder

Figure 2. Digital Oil Pressure Gauge Installation

7. Guide the gauge wire and conduit rearward past the rocker cover. Lightly fasten the gauge to the rocker cover with both screws. Tighten forward screw. 20.3–24.4 N·m (15–18 ft-lbs). Tighten rear screw. 20.3–24.4 N·m (15–18 ft-lbs).

## WIRE HARNESS ROUTING

1. Route the digital oil pressure gauge conduit toward the rear of the vehicle.

## Route the unterminated orange/white wire and black wire:

1. **Dyna models:**
  - a. Under the top frame tube
  - b. Through the battery area (forward of the battery location)
  - c. To the area behind the fuse block on the left side of the vehicle
2. **Dyna models:** Route the unterminated orange/white wire and black wire:
  - a. Under the top frame tube
  - b. Through the battery area (forward of the battery location)
  - c. To the area behind the fuse block on the left side of the vehicle
3. **Softail models:** Route the unterminated orange/white wire and black wire:
  - a. Along the inside of the top frame tube past the battery
  - b. Over to the fuse block
4. **Touring models EXCEPT 2007:** Route the unterminated orange/white wire and black wire:
  - a. Over the top right frame tube
  - b. Crossing beneath the harnesses already in the area under the seat
  - c. Under the top left frame tube
  - d. To the area behind the left side cover
5. **2007 Touring models:** Route the unterminated orange/white wire and black wire:
  - a. Along the inside of the top frame tube
  - b. Down to the area behind the right side cover

## Route the long branch of the harness to the oil pressure sender installed earlier:

1. **Dyna models:**
  - a. back along the top frame tube
  - b. down the vertical tube behind the battery box
  - c. forward along the bottom frame tube
  - d. up the front vertical tube

2. **Softail models:**
  - a. Back along the top frame tube
  - b. Following the vehicle main harness down behind the oil tank
  - c. Forward with the main harness along the bottom frame tube
3. **Touring models:**
  - a. Down the vertical tube behind the right side cover
  - b. Forward along the bottom frame tube and vehicle harness
  - c. Up the front vertical tube
4. **ALL models:**
  - a. Plug the connector into the oil pressure sender

## HARNESS CONNECTION

### ALL models

Splicing of wire leads is necessary in the installation of the digital oil pressure gauge to the vehicle. Refer to the service manual appendix for proper wire splicing procedures.

#### ▲ WARNING

**Be sure to follow manufacturer's instructions when using the UltraTorch UT-100 or any other radiant heating device. Failure to follow manufacturer's instructions can cause a fire, which could result in death or serious injury. (00335a)**

- Avoid directing heat toward any fuel system component. Extreme heat can cause fuel ignition/explosion resulting in death or serious injury.
- Avoid directing heat toward any electrical system component other than the connectors on which heat shrink work is being performed.
- Always keep hands away from tool tip area and heat shrink attachment.

#### NOTE

*Electrical connectors are identified in the service manual by the numbers and letters shown here within brackets.*

1. Cut the original equipment (OE) oil pressure switch connector (circuit [120] or [139], depending on model and year) from the green/yellow wire on the vehicle harness.
2. See Figure 5. Slide the shrink tube (13) onto the wire. Get the red sealed splice connector (8) from the kit. Splice the green/yellow wire from the new oil pressure sender connector to the green/yellow wire on the vehicle harness.
3. Slide the shrink tube over the splice connector and both wires. Use a heat gun or suitable radiant-heating device to shrink the tubing to the wires and connector.

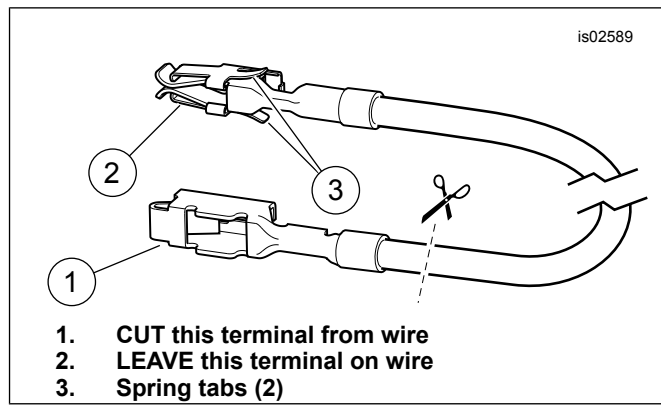
4. Bind the long branch of the harness to the vehicle frame and harnesses as needed with cable straps from the kit.
5. Return to the unterminated wires of the harness at the fuse block.
6.
  - a. **2012-later Dyna models:** Proceed to that section.
  - b. **2011-later Softail models:** Proceed to that section.
  - c. **2014-2016 Touring models:** Proceed to that section.
  - d. **All other models:** Continue with Step 7.
7. See the service manual. Locate the main harness chassis ground connection on the frame. Remove the ground screw or nut.
8. See Figure 5. Select the correct-size ring terminal (Item 9 or 10) to fit the ground screw or stud. Cut the black ground wire on the digital oil pressure gauge harness to within easy reach of the vehicle ground. Crimp the ring terminal onto the black ground wire. Install the terminal onto the ground screw or stud. Connect the orange/white wire to a power source on the vehicle. See the service manual wiring diagram and instructions. Proceed to the section that follows for the specific year/model vehicle.

### All 2003-Earlier Models

1. Locate the vehicle harness orange/white wire that leads to the rear lighting connector [7] under the seat.
2. Cut the excess length from the digital oil pressure gauge harness orange/white wire to within easy reach of the vehicle harness orange/white wire.
3. Cut the vehicle harness orange/white wire in a location that allows easy stripping and splicing to the digital oil pressure gauge harness orange/white wire.
4. See Figure 5. The warning under Harness Connection and the service manual. Using the blue sealed splice connector (7) from the kit, splice all three orange/white wires together.
5. Check along the entire length of the wiring for rubbing, chafing or pinch points. Proceed to Final Assembly.

### 2004-2011 Dyna models

1. See the service manual. Remove the electrical caddy from the vehicle.
2. See Figure 5. Get the orange/white fuse block adapter wire (6) from the kit. See Figure 3. Note the terminal on each end. Only the terminal WITH the spring tabs fits into the fuse cavity. Carefully cut the terminal WITHOUT spring tabs from the wire and discard it.



**Figure 3. Fuse Block Adapter Wire (Dyna and Softail)**

3. Locate the fuse cavity indicated as "OPEN" on the electrical caddy. There is a wire feeding one side of this circuit, but no mating wire or fuse is present. Insert the terminal on the orange/white adapter wire until it stops. Refer to a nearby factory-installed terminal for comparison to verify proper orientation and depth.
4. Cut the excess length from the digital oil pressure gauge harness orange/white wire to within easy reach of the orange/white adapter wire installed in Step 3. See Figure 5. Get the blue sealed splice connector (7). Splice the digital oil pressure gauge harness orange/white wire to the orange/white adapter wire.
5. See Figure 5. Install the 2A fuse (11) into the OPEN fuse cavity to complete the circuit.
6. Install the electrical caddy and cover onto the vehicle. See the service manual.
7. Check along the entire length of the wiring for rubbing, chafing or pinch points. Proceed to Final Assembly.

### 2004-2010 Softail Models

1. Remove the fuse block cover. Remove the two hex head screws fastening the fuse block bracket. Pull the bracket and fuse block assembly away from the vehicle frame.
2. Press the tab retaining the left side fuse block. Slide the block out of the mounting slots.
3. See Figure 3. Get the orange/white fuse block adapter wire (6) from the kit. Note the terminal on each end. Only the terminal WITH the spring tabs fits into the fuse cavity. Carefully cut the terminal WITHOUT spring tabs from the wire and discard it.
4. Locate the fuse cavity indicated as "P&A IGN" on the fuse block cover. There is a wire feeding one side of this circuit, but no mating wire or fuse is present. Insert the terminal on the orange/white adapter wire until it stops. Refer to a nearby factory-installed terminal for comparison to verify proper orientation and depth.

5. Cut the excess length from the digital oil pressure gauge harness orange/white wire to within easy reach of the orange/white adapter wire installed in Step 4. Get the blue sealed splice connector (7) from the kit. Splice the digital oil pressure gauge harness orange/white wire to the orange/white adapter wire.
6. See Figure 5. Install the 2A fuse (11) from the kit into the P&A IGN fuse cavity to complete the circuit.
7. Slide the fuse block into the mounting slots in the fuse block bracket until it clicks firmly into place. Place the bracket and fuse block assembly into position. Fasten with the two hex head screws removed earlier. Tighten securely. Install the fuse block cover.
8. Check along the entire length of the wiring for rubbing, chafing or pinch points. Proceed to Final Assembly.

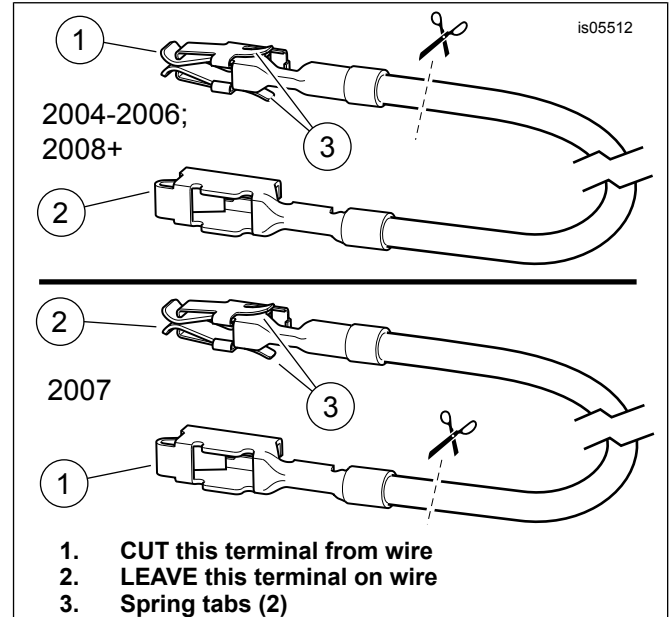
### 2012-Later Dyna Models: 2011-Later Softail Models

1. Install the electrical connection harness (purchased separately) to the oil pressure gauge per the harness kit instructions.
  - a. See the instructions for that kit and the service manual. Splice the digital oil pressure gauge harness orange/white wire to the electrical connection harness red/yellow wire.
  - b. Splice the digital oil pressure gauge harness black wire to the electrical connection harness black wire.
2. Connect the electrical connection harness socket housing to the vehicle harness.
3. Check along the entire length of the wiring for rubbing, chafing or pinch points. Proceed to Final Assembly.

### 2004-2013 FL Touring Models

1.
  - a. **2004-2006 models:** Remove left side cover. See service manual.
  - b. **2007 models:** Remove right side cover unless already done. See service manual.
  - c. **2008-2013 models:** Remove left side cover. See service manual.
2. **ALL models:** Remove the main fuse holder, fuse block and dust cover from the vehicle. See service manual.
3. See Figure 5. Get the orange/white fuse block adapter wire (6) from the kit.
  - a. **2004-2006 models:** See Figure 4. (Upper view). Note the terminal on each end. Only the terminal WITHOUT the spring tabs fits into the fuse cavity. Carefully cut the terminal WITH spring tabs from the wire and discard it.

- b. **2007 models:** See Figure 4. (Lower view). Note the terminal on each end. Only the terminal WITH the spring tabs fits into the fuse cavity. Carefully cut the terminal WITHOUT spring tabs from the wire and discard it.
- c. **2008-2013 models:** See Figure 4. (Upper view). Note the terminal on each end. Only the terminal WITHOUT the spring tabs fits into the fuse cavity. Carefully cut the terminal WITH spring tabs from the wire and discard it.



**Figure 4. Fuse Block Adapter Wire (FL Touring)**

4. **ALL models:** Locate the fuse cavity indicated as "P&A IGN" "2A MAX". There is a bus bar feeding one side of this circuit, but no mating wire or fuse is present. Remove the three existing fuses in this row, noting their location.
5. Gently remove the orange plastic secondary lock from the fuse block. Insert the terminal on the orange/white adapter wire until it stops. Refer to a nearby factory-installed terminal for comparison to verify proper orientation and depth. Install the secondary lock.
6. Cut the excess length from the digital oil pressure gauge harness orange/white wire to within easy reach of the orange/white adapter wire installed in Step 5. Get the blue sealed splice connector (7) from the kit. Splice the digital oil pressure gauge harness orange/white wire to the orange/white adapter wire.
7. See Figure 5. Install the 2A fuse (11) from the kit into the P&A IGN fuse cavity to complete the circuit. Install the three fuses removed in Step 4 into the proper cavities.
8. Install the dust cover onto the fuse block. Install the fuse block and main fuse holder. See service manual.
9. Check along the entire length of the wiring for rubbing, chafing or pinch points. Proceed to Final Assembly.

## 2014-2016 FL Touring Models

### NOTE

Up to three accessories can be spliced to the electrical connection harness.

1. Remove left side cover. See service manual.
2. Locate P&A accessory connector [4A] (a gray, eight-way Molex pin housing with a weather cap) inside the electrical caddy, under the left side cover.
3. **If an electrical connection harness IS NOT YET INSTALLED:**

### NOTE

If the electrical connection harness must be spliced with more installations, see the service manual for multiple splice configurations. Do not overload the vehicle charging system.

- a. Install the electrical connection harness per the instructions in that kit. DO NOT connect the gray eight-way socket housing to connector [4A] now.
  - b. Refer to **HARNES CONNECTION, ALL models** earlier in these instructions.
  - c. Clip the caps off the black wire and the violet/blue wire on the electrical connection harness. Strip back the wires per the service manual. DO NOT clip the cap off the red wire.
  - d. Crimp, splice and seal the black wire from the new oil pressure sender connector to the black wire on the electrical connection harness. Crimp, splice and seal the orange/white wire from the oil pressure sender connector to the violet/blue wire.
  - e. Remove connector [4A] from the caddy. Remove the weather cap from the connector. Connect the gray socket housing on the electrical connection harness to connector [4A].
4. **If an electrical connection harness IS ALREADY INSTALLED:**

### NOTE

If the electrical connection harness must be spliced with more installations, see the service manual for multiple splice configurations. Do not overload the vehicle charging system.

- a. Remove connector [4A] from the caddy. Disconnect the gray socket housing on the electrical connection harness from connector [4A].
- b. Refer to **HARNES CONNECTION, ALL models** earlier in these instructions.
- c. Clip the spliced connections off the black wire and the violet/blue wire on the electrical connection harness. DO NOT clip the spliced connections off the red wire.
- d. Strip back the black wires and the violet/blue wires per the service manual.

- e. Crimp, splice and seal the black wires from the new oil pressure sender connector and previously installed accessories to the black wire on the electrical connection harness. Crimp, splice and seal the orange/white wires from the oil pressure sender connector and previously installed accessories to the violet/blue wire.
  - f. Connect the gray socket housing on the electrical connection harness to connector [4A].
5. Check along the entire length of the wiring for rubbing, chafing or pinch points. Proceed to Final Assembly.

## COMPLETION

### ▲ 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

**Connect positive (+) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00068a)**

### NOTICE

**Do not over-tighten bolts on battery terminals. Use recommended torque values. Over-tightening battery terminal bolts could result in damage to battery terminals. (00216a)**

1. Install fuel tank. See service manual.

### 2. NOTE

Verify that the ignition is OFF before installing the main fuse or attaching the battery cables.

**All models with main fuse:** Install the main fuse. See service manual.

3. **2011-earlier Dyna models with main circuit breaker:** Install battery. See service manual.

4. **All models with main circuit breaker EXCEPT 2011-earlier Dyna:** Attach the negative battery cable. See service manual.

5. **All models with main circuit breaker:** Apply a light coat of petroleum jelly or corrosion retardant material to battery terminals.

6. **ALL models:** Test the digital oil pressure gauge for proper operation. See the **Gauge Function** section that follows.

7. Install seat. After installing seat, pull up on the seat to verify that it is secure.

## Gauge Function

The oil pressure gauge illuminates when the vehicle ignition is switched ON. The minimum value that can be displayed is 0.3 bar (5 psi). This display appears even when the engine is not running.

If the oil pressure drops to a point where the oil indicator lamp illuminates, **STOP THE ENGINE AT ONCE!** Refer to INDICATOR LAMPS in the owner's manual. **DO NOT RIDE** further until the trouble is located and necessary repairs are made.

## CHANGING THE DISPLAY MODE

1. To change the display to read in psi or bar:

- a. With the vehicle in a well-lighted area, turn the ignition switch to IGNITION, but do not start the engine.

- b. Allow the pressure value shown on the gauge face to stabilize at or above 5 PSI or 0.3 BAR. Cover the right half of the face (at least the area just below the PSI/BAR icon) with your hand or another opaque object.
- c. As soon as the display starts flashing (about five seconds), uncover the gauge face. Flashing stops, and the alternate mode displays.
- d. If flashing continues, cycle the ignition and repeat the process.

## SERVICE PARTS

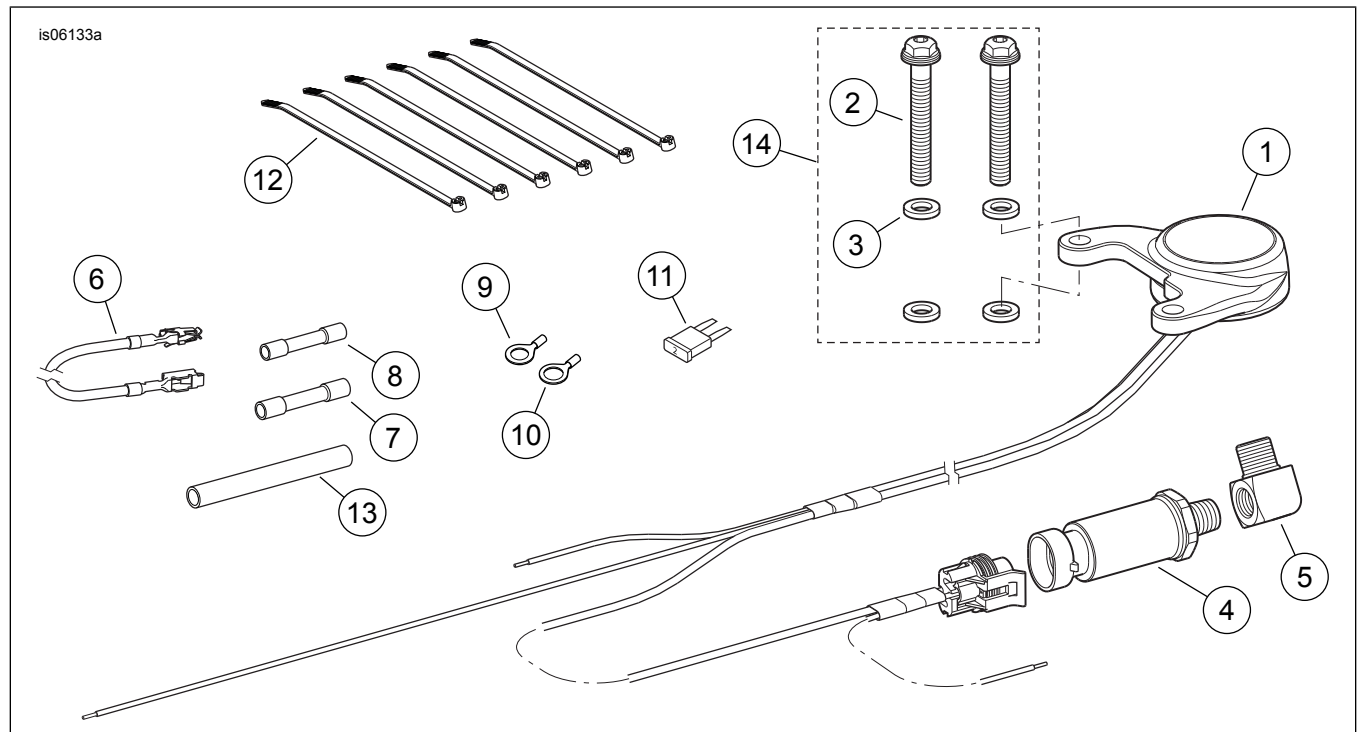


Figure 5. Service Parts, Digital Oil Pressure Gauge

Table 1. Service Parts

Kit	Item	Description (Quantity)	Part Number
Kit 75138-09 (Chrome)	1	Gauge, digital oil pressure (chrome)	Not sold separately
Kit 75340-09 (Black)	1	Gauge, digital oil pressure (black)	Not sold separately
	2	Screw, hex flange head (2)	3155
	3	Washer, insulating (4)	6580
	4	Oil pressure sender	74438-99A
	5	Fitting, street elbow, 90 degree, brass	75221-09
	6	Fuse block adapter wire (orange/white)	70329-04
	7	Sealed splice connector, #14-16 AWG (blue)	70586-93
	8	Sealed splice connector, #18-20 AWG (red)	70585-93
	9	Ring terminal, #18-22 AWG (1/4 inch stud)	9858
	10	Ring terminal, #18-22 AWG (5/16 inch stud)	9859
	11	Fuse, blade type, 2A	54305-98
	12	Cable strap	10181
	13	Shrink tube, black, 0.8 mm (0.032 in) x 51 mm (2.0 in) long	72411-97
	14	Service kit, oil pressure gauge hardware (includes items 2 and 3)	12600004