



# INSTRUCTIONS

-J05180

REV. 2013-02-05

## COMBINATION SPEEDOMETER/TACHOMETER GAUGE KIT

### GENERAL

<p>is03400</p> <p><b>U.S. Department of Transportation</b></p> <p><b>National Highway Traffic Safety Administration</b></p> <p><b>Title 49, United States Code, Subtitle VI. Motor Vehicle and Driver Programs,</b></p> <p><b>Part C. Information, Standards, and Requirements,</b></p> <p><b>Chapter 327. Odometers</b></p> <p><b>Section 32703. Preventing tampering</b></p> <p>A person may not —</p> <p>(1) advertise for sale, sell, use, install, or have installed, a device that makes an odometer of a motor vehicle register a mileage different from the mileage the vehicle was driven, as registered by the odometer within the designed tolerance of the manufacturer of the odometer;</p> <p>(2) disconnect, reset, alter, or have disconnected, reset, or altered, an odometer of a motor vehicle intending to change the mileage registered by the odometer;</p> <p>(3) with intent to defraud, operate a motor vehicle on a street, road, or highway if the person knows that the odometer of the vehicle is disconnected or not operating; or</p> <p>(4) conspire to violate this section or section 32704 \ or 32705 of this title.</p> <p><b>Section 32704. Service, repair, and replacement</b></p> <p>(a) Adjusting mileage. A person may service, repair, or replace an odometer of a motor vehicle if the mileage registered by the odometer remains the same as before the service, repair, or replacement. If the mileage cannot remain the same —</p> <p>(1) the person shall adjust the odometer to read zero; and</p> <p>(2) the owner of the vehicle or agent of the owner shall attach a written notice to the left door frame of the vehicle specifying the mileage before the service, repair, or replacement and the date of the service, repair, or replacement.</p>	<p>(b) Removing or altering notice. A person may not with intent to defraud, remove or alter a notice attached to a motor vehicle as required by this section.</p> <p><b>Section 32705. Disclosure requirements on transfer of motor vehicles</b></p> <p>(a) (1) Disclosure requirements. Under regulations prescribed by the Secretary of Transportation that include the way in which information is disclosed and retained under this section, a person transferring ownership of a motor vehicle shall give the transferee the following written disclosure:</p> <p>(A) Disclosure of the cumulative mileage registered on the odometer.</p> <p>(B) Disclosure that the actual mileage is unknown if the transferor knows that the odometer reading is different from the number of miles the vehicle has actually traveled.</p> <p>(2) A person transferring ownership of a motor vehicle may not violate a regulation prescribed under this section or give a false statement to the transferee in making the disclosure required by such a regulation.</p> <p>(3) A person acquiring a motor vehicle for resale may not accept a written disclosure under this section unless it is complete.</p> <p>(4)</p> <p>(A) This subsection shall apply to all transfers of motor vehicles (unless otherwise exempted by the Secretary by regulation), except in the case of transfers of new motor vehicles from a vehicle manufacturer jointly to a dealer and a person engaged in the business of renting or leasing vehicles for a period of 30 days or less.</p> <p>(B) For purposes of subparagraph (A), the term "new motor vehicle" means any motor vehicle driven with no more than the limited use necessary in moving, transporting, or road testing such a vehicle prior to delivery from the vehicle manufacturer to a dealer, but in no event shall the odometer reading of such vehicle exceed 300 miles.</p> <p>(5) The Secretary may exempt such classes or categories of vehicles as the Secretary deems appropriate from these requirements. Until such time as the Secretary amends or modifies the regulations set forth in 49 CFR 580.6, such regulations shall have full force and effect.</p>
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Figure 1. Title 49, United States Code

## GENERAL (CONTINUED)

### Kit Numbers

Table 1. Kit Numbers

Kit Number	Type	Description
74777-11A	Gauge, Speedo/Tach, KMH	Black
74776-11A	Gauge, Speedo/Tach, MPH	Black
74775-11A	Gauge, Speedo/Tach, KMH	Spun aluminum
74774-11A	Gauge, Speedo/Tach, MPH	Spun aluminum
70900171A	Gauge, Speedo/Tach, MPH/KMH	Spun aluminum

### Service Manual 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 refers to service manual information. A service manual for this year/model motorcycle is required for this installation and is available from a Harley-Davidson dealer.

### REMOVING THE OLD SPEEDOMETER

1. Apply power to the motorcycle and record the odometer reading.

#### 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. Refer to the service manual and follow the instructions given to remove the seat and disconnect the battery cables, negative (-) cable first. Retain all seat mounting hardware.

#### NOTE

Cover the fuel tank with an H-D Service Cover or clean shop towel to prevent scratching the finish.

3. Remove the instrument console acorn nut. Place an H-D Service Cover or clean shop towels on the fuel tank. Lift the console from the fuel tank, turn it upside down and lay it on the covering.

4. Unplug the 12-terminal connector [39B] from the back of the speedometer. Press the external latches, and use a rocking motion to separate the pin and socket halves.
5. Remove the back clamp. Gently pry the three latches upward to release the back clamp from the back of the speedometer.
6. Lift the console and remove the old speedometer from the console. Discard the old speedometer, but retain the rubber gasket and back clamp for use with the new gauge.

#### NOTE

Set the console securely on the protected top of the fuel tank, and take care that it does not fall off during the following operations.

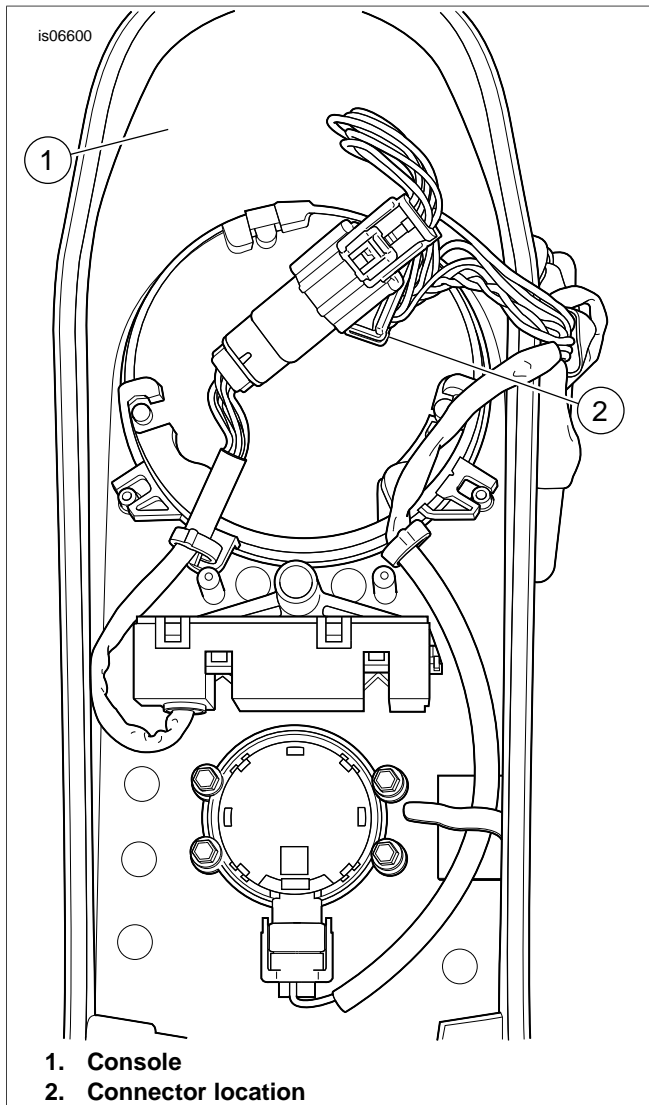
7. Set the console securely on top of the fuel tank.

### INSTALLATION AND FINAL CHECK

#### NOTE

Apply window cleaning fluid or mild soapy water to the speedometer gasket as needed to aid installation.

1. Turn the console over, facing upward.
2. Place the speedometer gasket into position around the console speedometer bore.
3. Fix the new gauge into the bore so that it fits snugly against the rubber gasket. Rotate the gauge into approximate visual alignment. The back clamp will complete the alignment.
4. Turn the console over, face down.
5. Install the back clamp. Place the back clamp over the back of the gauge, aligning the two slots with the console bosses. Press the latches down until they lock into position.
6. Carefully insert the connector into the back of the speedometer.



**Figure 2. Speedometer/Tachometer Harness Routing**

7. Turn the console over, and center it on the fuel tank. Install the acorn nut and tighten to 80-100 **in-lb** (9.0-11.3 Nm).
8. Apply a light coat of Harley-Davidson electrical contact lubricant (part number 99861-02), petroleum jelly or corrosion retardant material to the battery terminals. Refer to the service manual and follow the instructions given to re-attach the battery cables (positive cable first).

### **⚠ 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)**

### **⚠ 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)**

9. Refer to the service manual, and follow instructions to install the seat.

### **⚠ WARNING**

**Be sure headlamp, tail and stop lamp and turn signals are operating properly before riding. Poor visibility of rider to other motorists can result in death or serious injury. (00478b)**

10. Turn the ignition/key switch to IGN, but do not start the motorcycle. Test for proper turn signal, brake light and tail light operation.
11. Check the speedometer and tachometer for proper operation.

### **NOTES**

- *Both the ECM and speedometer retain the odometer value. If the speedometer is replaced, it will display the odometer value stored in the ECM. The replacement speedometer will become locked to the ECM after 31.1 miles (50km) have been accumulated. The trip B odometer will display the countdown mileage. Once the countdown reaches zero, the speedometer is locked to the ECM. If installed on another vehicle the odometer will display "VIN ERR". If the speedometer is removed from the vehicle before the countdown reaches zero, it has not been locked to the ECM. This mileage countdown allows for a road test to verify that speedometer replacement was the proper repair.*
- *During the 31.1 miles (50 km) countdown period (before the speedometer is locked to the ECM), the security light flashes for up to 15 seconds when battery power is restored to the electrical system, while the new gauge synchronizes to the ECM.*
- *Gear Indication display is a calculated gear position based on wheel and engine speed. The gear position displayed may be momentarily inaccurate depending on rider clutch use characteristics and clutch wear. This momentary false reading, although unlikely, can occur if the clutch is allowed to slip either due to excessive wear, poorly adjusted clutch or if the operator rides the clutch.*
- *If gauge is installed on a motorcycle with ABS, be sure the ABS warning lamp is working properly. See the owner's manual for ABS warning lamp operation.*

### **Backlight Color Modification**

The backlight color can be modified for the entire gauge or the dial, speedometer pointer, tachometer pointer, and display separately (see Table 2). The gear indication and fuel level display can also be disabled.

1. Turn ignition switch to the accessory (ACC) position.

**Table 2. Color Guide**

Number	Range Color
000-015	Red
016-030	Amber (Orange)
031-060	Yellow
061-100	Yellow/Green
101-180	Green
181-250	Green/Blue
251-350	Blue
351-380	Blue/Violet
381-440	Violet
441-490	Pink
491-525	Red
526-600	White/Light Colors

Note: Color descriptions and color ranges are approximate.



**Figure 3. Fuel Level Display Setup**

2. See Figure 3. Press and hold both turn signals until fuel level bars are displayed with "ON/OFF" flashing. "SETUP" will also appear. If "ON" is flashing, the fuel level display is enabled.
3. To disable fuel level press and hold both turn signals until "OFF" is flashing.
4. Toggle over to gear indication by pressing the right turn signal where the six gears will be displayed with "ON/OFF" flashing. If "ON" is flashing the gear indication display is enabled.
5. To disable gear indication press and hold both turn signals until "OFF" is flashing.
6. Toggle over to the brightness menu by pressing the right turn signal where all of the bars and "BRIGHT" will be displayed.
7. To dim the backlight press and hold both turn signals until "dim" and half of the bars are displayed.
8. Toggle over to the color menu by pressing the right turn signal where "ALL" and "COLOR" will be displayed.



**Figure 4. Select Display Color**

9. See Figure 4. To change color press and hold both turn signals where the current color number will be displayed.
10. For coarse adjustment, press left turn signal to count down and right turn signal to count up incrementally.
11. For fine adjustment, press and hold left turn signal to count down and right turn signal to count up.
12. Once desired color is selected press and hold both turn signals until "SAVED" is displayed.
13. To change the color for the other four components (dial, speedometer pointer, tachometer pointer, and display), Toggle over to the color menu by pressing the right turn signal and follow steps 7 through 10.
14. Once desired setup and colors are finalized, turn ignition switch to the ignition (IGN) position and verify settings (gear indication will appear until vehicle is running).

### **Battery Reconnection and Initialization**

After the battery is reconnected or a new gauge is installed, the gauge requires about a half tank of fuel to properly initialize fuel range (miles to empty) functionality.

During consumption of the first full tank of fuel, the gauge software will begin the process of learning your riding patterns, eventually tailoring the fuel range calculations to your unique riding characteristics.

The fuel level display and tank mounted fuel gauge may not match at all times when starting with a full tank of fuel. The tank fuel gauge utilizes a continuous sweep needle to indicate fuel level, while the speedo/tach fuel level utilizes a segmented display. Each segment represents 1/8 of a tank. For example; if a given segment just came on or is about to go off, it would show no change, while the needle on the tank mounted gauge would likely show a change in position.

### **Fuel Fill-up and Top-off**

When adding fuel to the vehicle it is recommended you add at least two gallons (7.6 L) of fuel to update the fuel and range displays. If the fuel display does not update immediately after the vehicle is put in motion the fuel and range displays will slowly update over the next 30 miles (48.3 kilometers).

Press and hold the "Trip" reset switch to toggle between the "mile" and "kilo" displays.

## TROUBLESHOOTING

**Table 3. Troubleshooting**

<b>Operation</b>	<b>Problem</b>	<b>Possible Cause</b>	<b>Possible Solution</b>
Installation into vehicle harness	LCD states "vin err".	Gauge was already "married" (accumulated 31.1 miles (50 km)) to another vehicle.	Reinstall on previous vehicle to confirm no "vin err".
Entering set up mode	Will not go to set up mode.	Loose connection with gauge connector or trip reset button.	Check for bent accessory pin #6 in gauge connector or check trip reset button operation.
Gear Indication	Gear Indication does not operate.	Not turned on.	Use instruction sheet to turn on gear indication in set up mode.
Fuel Level	Fuel Level does not operate.	Not turned on in set up mode.	Use instruction sheet to turn on fuel level in set up mode.
Color Changing	Color will not save.	Color was not saved properly.	Use instruction sheet for proper saving procedure.

Note: Please contact Technical Service with any installation or troubleshooting questions before filing a warranty claim.