



# INSTRUCTIONS

-J01483

REV.3-4-02

Kit Number 68950-99A

## CUSTOM MINI-TACHOMETER KITS

### General

This kit is designed to fit 1996 and later XL Custom model motorcycles.

See Service Parts Page for kit contents.

#### NOTE

A Service Manual for your motorcycle is available from your Harley-Davidson Dealer.

#### NOTE

Read this entire Instruction Sheet before beginning. If any procedures are not within your capabilities, or you do not have the correct tools, have your Harley-Davidson Dealer perform the installation.

### Installation

#### INSTALLING TACHOMETER INTO BRACKET

1. See Service Parts Illustration. Install the isolation gasket (3) in bracket. The notch at the top of the bracket locates the gasket in its proper position.
2. Pull all three wires from the vinyl jacketing material.
3. On 1998 and earlier models, replace the yellow wire from the mini tachometer wiring harness with the signal wire (10) included in the kit.  
  
On 1999 and later models, replace the yellow wire from the mini tachometer wiring harness with the signal wire (12) included in the kit.
4. Cut the black and red wires from harness to 24 inches (measure from center of ring terminal to end of wire). Strip a 3/8 inch section of insulation from the end of each wire.
5. Cut the vinyl jacketing material to the appropriate length and reinsert the wires.
6. Feed the ring terminal end of the tachometer harness through the grommet portion of the isolation gasket.
7. Slide the tachometer gauge (5) into the bracket from the front side making sure to align the notches in the gauge with the notches in the isolation gasket. Install the ring terminals onto the corresponding gauge posts (yellow to S, black to G and red to T).
8. Slide the tachometer housing (4) onto the gauge until the edge of the housing seats in the slot on the gasket.
9. Secure the tachometer housing in place with the flathead screw (6).

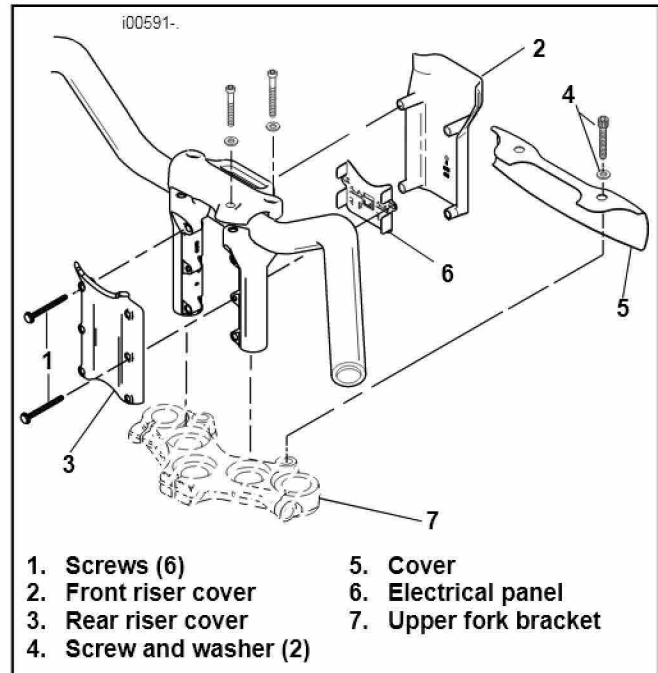


Figure 1. Removing Riser Covers

#### INSTALLATION ON MOTORCYCLE

#### **⚠ WARNING**

To protect against shock and accidental start-up of vehicle, disconnect the battery cables, negative cable first, before proceeding. Inadequate safety precautions could result in death or serious injury.

#### **⚠ WARNING**

Always disconnect the negative battery cable first. If the positive battery cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

1. Remove the seat and disconnect the battery following Service Manual procedures.
2. See Figure 1 and Service Parts Illustration. Remove the two handlebar clamp screws that are farthest from the rider. Place the spacers (8) into the counterbores where the two removed handlebar clamp screws came from, then place tachometer bracket (9) in place over handlebar clamp.  
  
Apply Loctite 243 (blue) to the capscrew threads before installation. Secure the bracket using the capscrews (2) as shown. Torque the capscrews to 12-15 ft-lbs (16-20 Nm).
3. Remove the 6 handlebar riser cover screws and remove the front and rear covers.

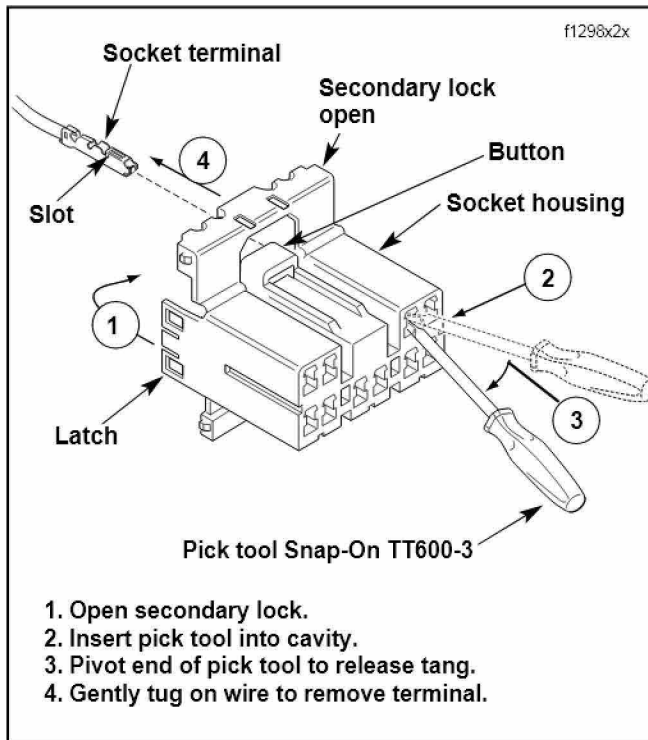


Figure 2. Amp Multilock Socket Connector Wire Removal

## CONNECTING TACHOMETER TO MOTORCYCLE HARNESS

### 1998 and earlier models

1. Refer to "Indicator Lamp Socket" in Section 7 of Service Manual and slide the electrical connector [20] off of the mounting bracket in the handlebar risers.

See Figure 2. Depress the locking button and separate the connector. Open the secondary lock and insert the Amp terminal end of signal (yellow) lead wire (item 10 in Service Parts Illustration) into cavity #7 of the connector. Fold the secondary lock closed. Cut the orange/white wire coming out of connector cavity 1 and the BLACK wire coming out of cavity 12 a few inches from the connector. Strip 3/8 inch of insulation from each end of the wire.

2. Splice 12 VDC (red) lead from mini-tach harness with orange/white wires as shown in Figure 3. Splice the ground (black) lead from the mini-tach harness with the black wires.
3. See Figure 3. Match the color of the butt splice connector with the color of the crimp cavity of the crimping tool. Using a H-D 38125-8 crimping tool, crimp the wires into the connector.

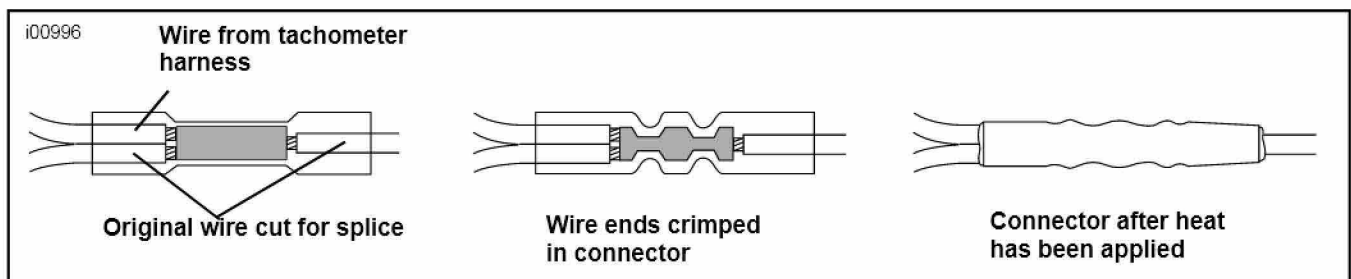


Figure 3. Splicing Tachometer Harness Wires Into Existing Wires

## WARNING

- Use extreme caution when operating the UltraTorch UT-100 or any other radiant heating device. Read the manufacturer's instructions carefully before using the tool. Improper tool handling can result in death or serious injury.
- Always keep hands away from tool tip area and heat shrink attachment.
- Avoid directing the 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.
- Be sure to turn the "ON/OFF" switch to the "OFF" position after use.

4. Using the UltraTorch UT-100 (H-D 39969), Robinair Heat Gun (H-D 25070) with Heatshrink Attachment (H-D 41183), or other suitable radiant heating device, heat the crimped splice to encapsulate the butt splice connection. Apply heat from the center of the crimp out to each end until the meltable sealant exudes out of both ends of the connector.

5. Reassemble the connector [20] and attach it to the connector bracket. Route the mini-tach harness and use cable straps to bundle tachometer leads as appropriate. Keep wires securely in place so they will not chafe or contact moving parts. Reassemble the front and rear riser covers and torque hardware to 8-12 in-lbs (0.9-1.4 Nm).
6. Continue at "Connecting Battery and Checking Tachometer".

### 1999 and later models

1. Refer to the "Deutsch Electrical Connector" section in Section 7 of the 1999 or later XLH Service Manual and slide electrical connector [20] off of mounting bracket inside handlebar risers. Depress external latches on socket half of connector and separate socket and pin halves. Follow "REMOVING/INSTALLING SOCKETS" instructions and insert Deutsch terminal end of signal (yellow) lead wire (item 12 in Service Parts illustration) into cavity #7 of connector. Install secondary locking wedge. Cut ORANGE/WHITE wire coming out of socket connector cavity 1 and BLACK wire coming out of cavity 12 a few inches from connector. Strip 3/8 inch of insulation from each end of wire.
2. Perform steps 2 through 6 of "1998 and earlier models" procedure above to splice power and ground wires.

**⚠ WARNING**

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion resulting in death or serious injury.

1. Reinstall battery and connect battery cables, positive cable first.
2. Reinstall seat.

**⚠ WARNING**

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift position during vehicle operation, resulting in loss of control of vehicle and death or serious injury.

3. Check tachometer for proper operation.



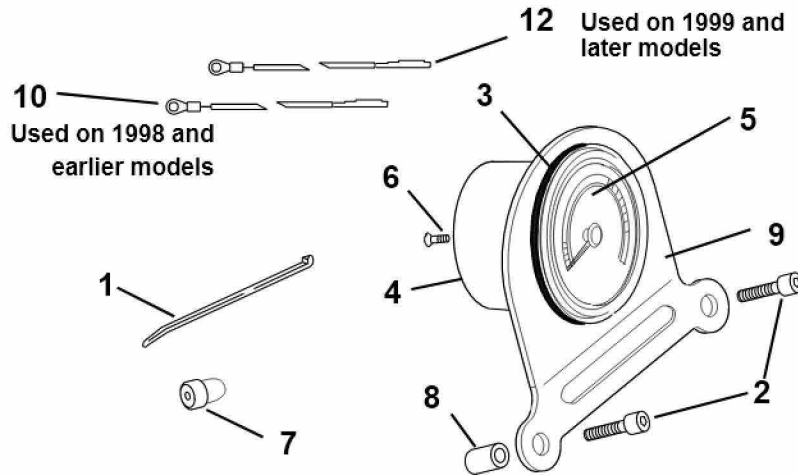
# Service Parts

Part No. 68950-99A

Date 3/02

Custom Mini-Tachometer

sp67941c



Item	Description	Part No.	Item	Description	Part No.
1	Cable straps (6)	10006	8	Spacers (2)	5775
2	Socket head cap screw	3485A	9	Tachometer bracket	68951-99
3	Isolation gasket	67952-96	10	Signal wire with Amp terminal (1998 and earlier models)	Not sold
4	Tachometer housing	67953-96	11	Heat sealed splice connectors (2) (not pictured)	70586-93
5	Tachometer gauge	Not sold	12	Signal wire with Deutsch terminal (1999 and later models)	Not sold
6	Flathead screw	67956-96			
7	Tachometer bulb	52425-98			