



INSTRUCTIONS

-J00415

REV. 9-1-95

Kit Number 67359-96

XL 1200 CUSTOM TACHOMETER KIT

General

This kit is designed for installation on 1996 and later XL 1200 Custom model motorcycles equipped with an electronic speedometer and no tachometer.

CAUTION

USE THE APPROPRIATE SERVICE MANUAL PROCEDURE! Service Manuals are available from your Harley-Davidson dealer. If the procedure is not within your capabilities or you do not have the correct tools, have your Harley-Davidson dealer perform the installation.

| QTY | DESCRIPTION |
|-----|---|
| 4 | Cable straps |
| 2 | Screws, tachometer (tach.) cover |
| 1 | Gasket, rear, tach. cover |
| 1 | Gasket, front, tach. case |
| 1 | Tach. assembly |
| 1 | Bracket, speedometer and tach. |
| 1 | Cover, rear, tach. |
| 2 | Spacer |
| 1 | Butt splice |
| 1 | Tach. harness |
| 2 | Screw, hex socket head, 5/16-18 x 2-1/2 in. |

Installation

GENERAL

To install this kit, you must remove the speedometer bracket, and speedometer before removing the fuel tank. You will also have to remove the seat, disconnect the electronic speedometer harness from the 3-place connector under the seat and disconnect the 12-place connector between handlebar risers. Read all the instructions carefully before you begin the tachometer installation. Connector numbers in brackets, [20], are the identifying numbers used in wiring diagrams.

Removal

ELECTRONIC SPEEDOMETER AND BRACKET

WARNING

To prevent short circuits while installing this kit, disconnect the battery cables (negative cable first) before you begin this procedure.

WARNING

To avoid accidental start-up of motorcycle, and possible personal injury, disconnect the battery cables (negative cable first) before performing any of the following procedures. If the battery should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion resulting in personal injury.

1. See Figure 1. Remove and discard handlebar clamp screws securing speedometer bracket. Gently move speedometer forward and hang from mirror with cable strap.

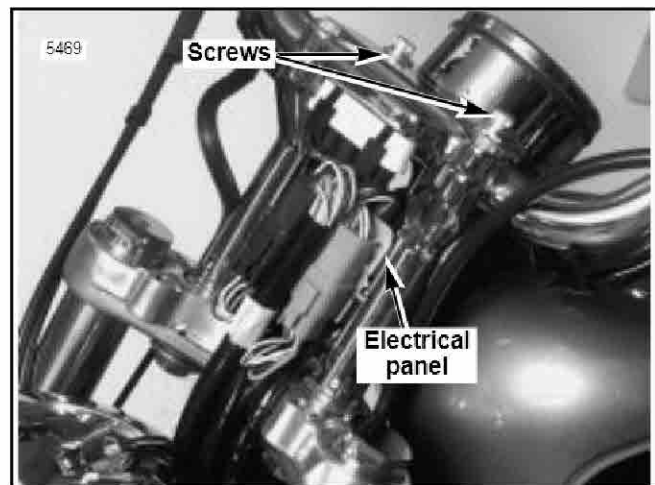


Figure 1. Front View With Riser Cover Removed

2. Refer to applicable Service Manual and remove seat and fuel tank following Service Manual procedures.
3. See Figure 2. Remove two bolts and washers (4) securing upper fork bracket cover (5). Remove six screws (1) that secure front (2) and rear (3) riser covers.
4. Remove rear riser cover (3) and front riser cover (2).
5. See Figures 1 and 2. Note how electrical harnesses and connectors are positioned on the front and rear of the electrical panel.
6. See Figure 3. Slide 12-place connector down to disengage attachment groove.

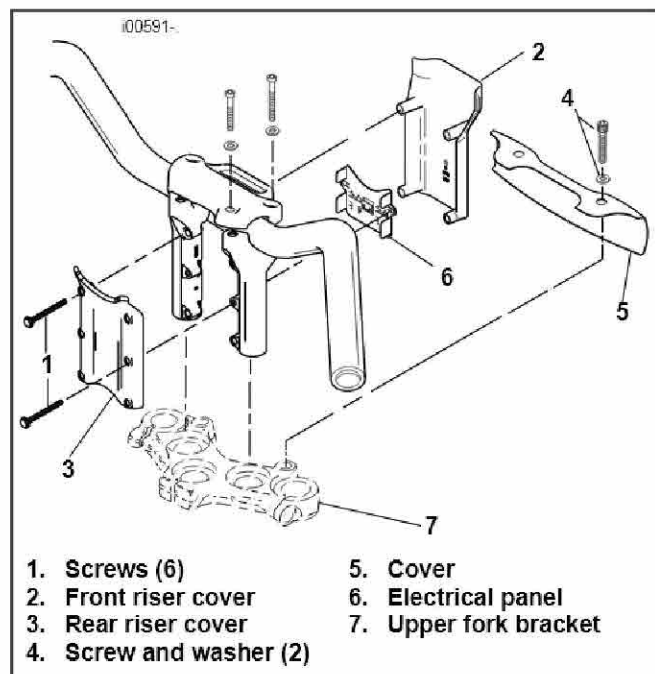


Figure 2. Removing Riser Covers

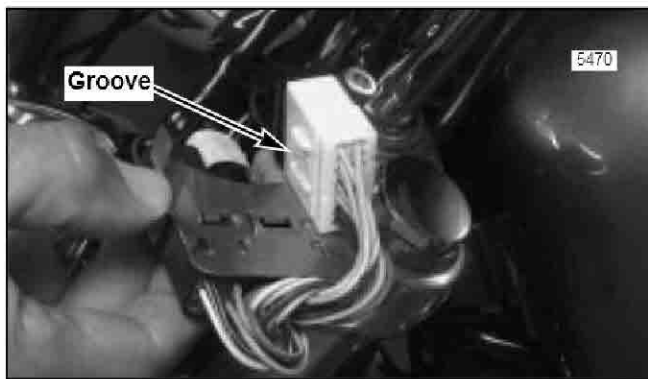


Figure 3. Removing 12-Place Connector

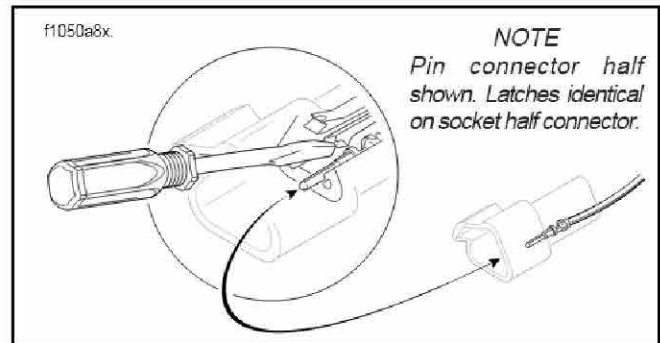


Figure 6. Depressing Terminal Latches

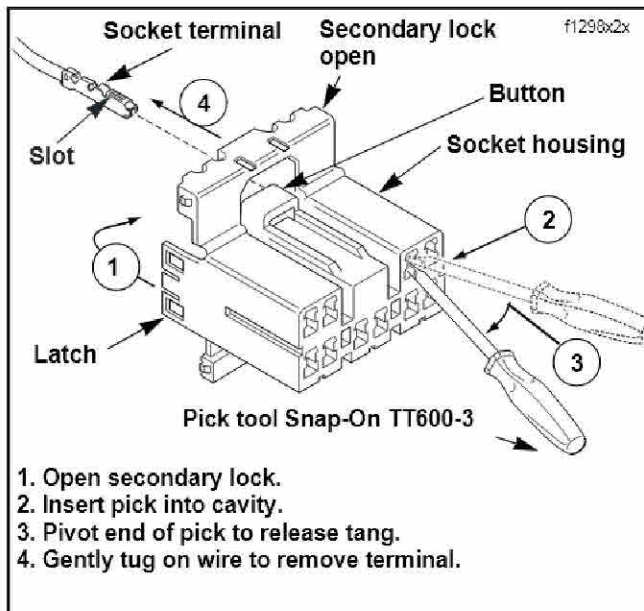


Figure 4. Amp Multilock Socket Connector Wire Removal

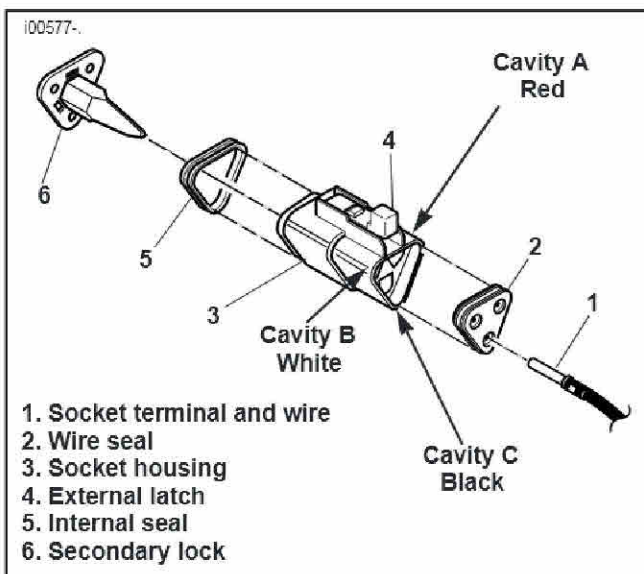


Figure 5. 3-Place Deutsch Socket Connector

9. Slide 3-place connector forward to disengage connector from T-stud.
10. See Figure 5. Depress external latch (4) and unplug the 3-place connector.
11. Remove the secondary locking wedge (6) as follows: Insert the blade of a small screwdriver between the socket housing (3) and locking wedge (6) inline with the socket holes. Turn the screwdriver 90 degrees to pop the wedge up.
12. See Figure 6. Gently depress terminal latches inside socket housing and back out sockets through holes in rear wire seal. Cavity letters and wire colors are shown in Figure 5. Cavity letters are molded in the housing.
13. Carefully note how the speed sensor harness is routed. Pull the speed sensor harness forward through the cable straps. Cut cable straps only if required.
14. Cut cable strap holding speedometer and bracket to mirror. Place the speedometer and bracket on a clean work bench.

REMOVING SPEEDOMETER LEADS FROM 12-PLACE CONNECTOR

1. See Figure 4. Bend back the latch slightly and free one side of secondary lock, then repeat the step to release the other side. Rotate the secondary lock outward on hinge to access terminals in chambers of connector housing.
2. Looking in the terminal side of the connector (opposite secondary lock), take note of cavity next to each terminal.
3. See Figure 7. Remove the following wires and terminals from the 12-place socket connector half by following the procedure in step 4:

| Wire Color | Cavity Number |
|--------------|---------------|
| Orange/white | 1 |
| White/green | 2 |
| Black | 12 |

4. See Figure 4. With the flat side of pick tool against the terminal, insert the pick (Snap-On TT600-3) into the cavity until it stops. Pivot the end of the pick away from the terminal and gently tug on wire to pull terminal from chamber. Do not tug on the wire until the tang is released or the terminal will be difficult to remove. A "click" is heard if the tang is engaged but then inadvertently released. Repeat the step without releasing the tang.
5. Slide the wires removed in step 4 above out of the plastic conduit covering the wires connected to the 12-place connector.

REMOVING SPEEDOMETER FROM STOCK BRACKET

1. See Figure 8. Unscrew boot (1) from speedometer reset switch by turning it counterclockwise. Remove two cover screws (2) and the rear cover (3).

7. See Figure 4. Press the button on the connector and unplug the 12-place connector.
8. Follow the speed sensor harness (connected to speedometer) that is routed down frame backbone to 3-place connector under seat.

- Note position of rear speedometer gasket (4) and remove it. Gently push on rear of speedometer while simultaneously pulling speedometer and front gasket from bracket.
- Do not remove front gasket (5) from the speedometer (6).

INSTALLING SPEEDOMETER IN DOUBLE BRACKET

NOTE

The tachometer will be mounted in the right side of the double bracket as received in the kit.

- See Figure 9. Feed wires from speedometer through front of left opening in double bracket. Lubricate the front and rear gaskets with isopropyl alcohol or glass cleaner to ease installation.
- Insert speedometer in double bracket making certain slots in speedometer are aligned with anti-rotational tabs at bottom of bracket.

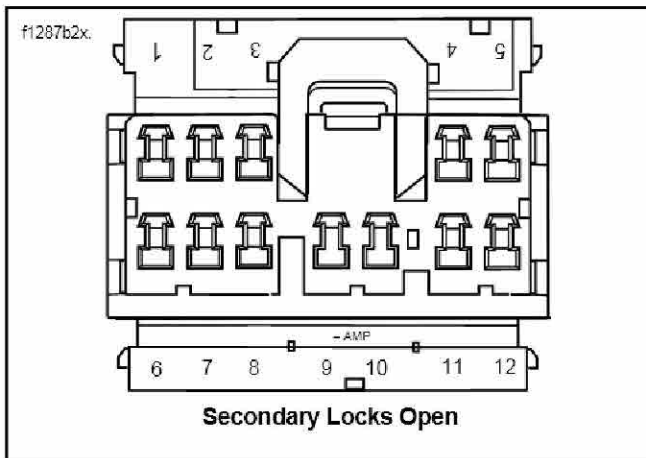


Figure 7. Terminal Numbers Stamped On Secondary Locks (12-place socket housing shown)

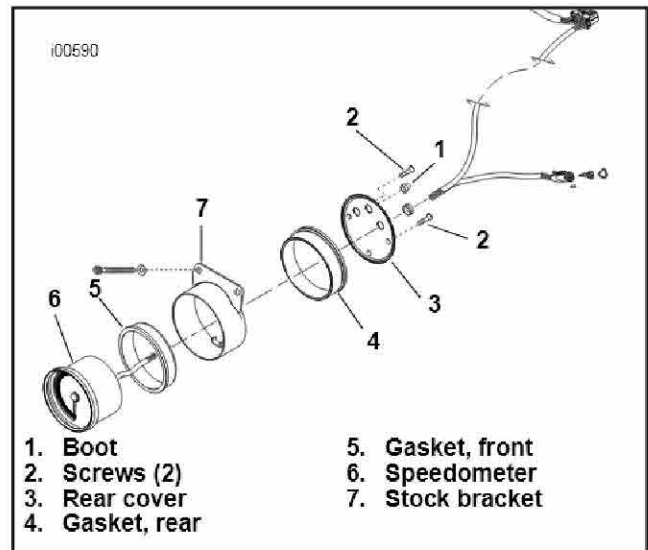


Figure 8. Removing Speedometer From Stock Bracket

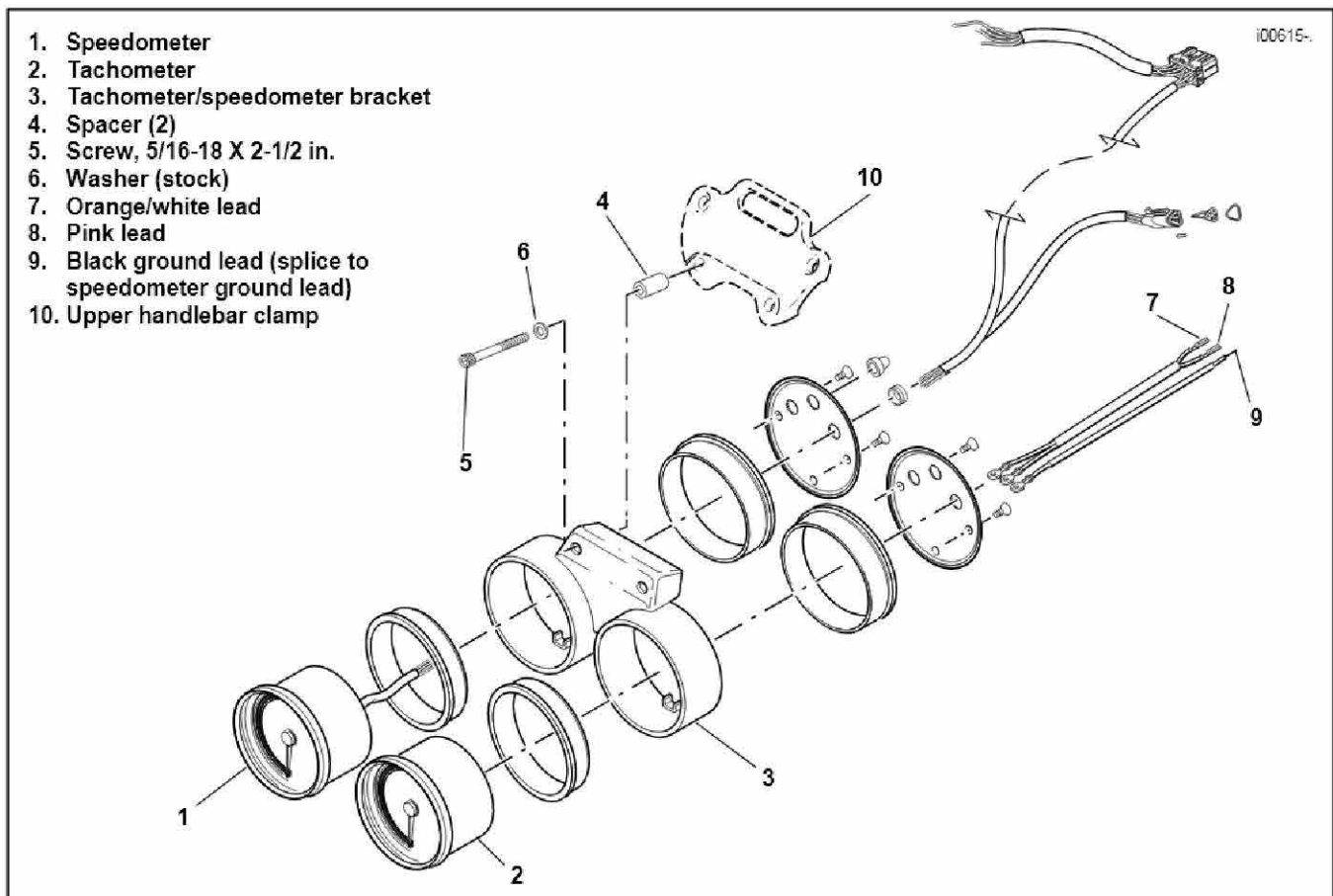


Figure 9. Exploded View Of Speedometer And Tachometer Installed In Double Bracket

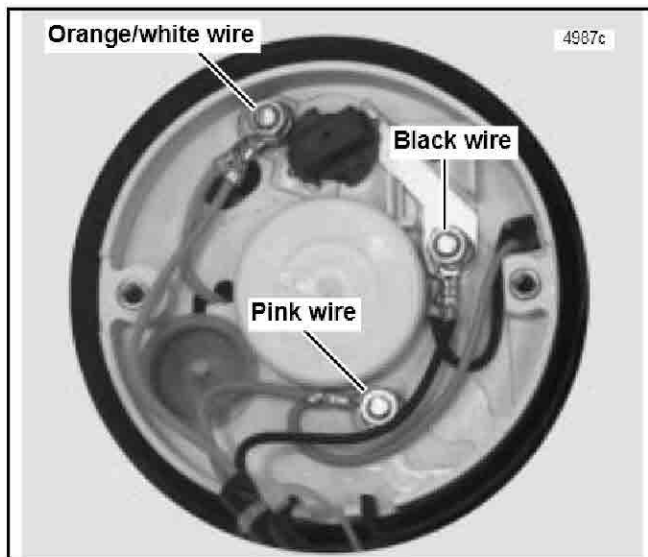


Figure 10. Connecting Harness To Tachometer

- Place rear gasket in position and align gasket tabs with anti-rotational tabs. Work gasket into space between speedometer and bracket by pushing speedometer against one side of bracket while pushing gasket into position at the opposite side.
- Check that reset switch is in position and that all wires are positioned so they will not be pinched by rear cover.
- Install rear cover on speedometer, install cover screws and reset switch boot.

CONNECTING TACHOMETER HARNESS TO TACHOMETER

- See Figure 10. Connect ring terminals to tachometer as shown.
- Route harness through rear tachometer cover, install rear cover and secure with cover screws.

CONNECTING SPEEDOMETER/TACHOMETER GROUND LEADS

- See Figure 9. Cut speedometer black ground lead 1 in. from existing terminal. Strip 3/8 in. insulation from both the wire ends adjacent to the cut.
- See Figure 9. Strip 3/8 in. insulation from tachometer black ground lead ((9)).
- See Figure 11. Using the butt connector from the kit connect the ground leads as shown. Refer to "SEALED BUTT CONNECTORS" in the 1995 (or later) XLH Service Manual for a complete procedure.

CONNECTING SPEEDOMETER/TACHOMETER LEADS TO 12-PLACE CONNECTOR

- Tape the three speedometer wires with the socket terminals on their ends together and slide them through the large conduit so the terminals are positioned next to the 12-place connector. Place the tachometer harness next to the 12-place connector also.

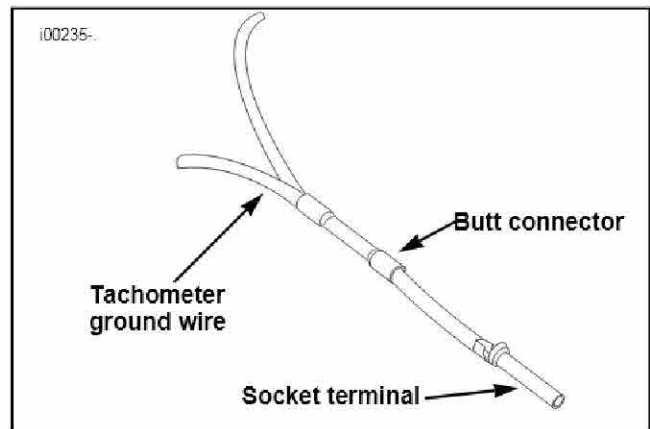


Figure 11. Connecting Tachometer & Speedometer Grounds

NOTE

Make certain the slot in the terminal faces the tang in the chamber for proper installation. On the socket side of the connector, tangs are at the top of each chamber, so the socket terminal slot (on the same side as the crimp tails) must face upward. Up and down can be determined by the position of the release button (used to separate the pin and socket halves), the button always being the top of the connector.

- Remove tape from the speedometer wires, and insert the terminals into the 12-place connector as follows:

| Instrument | Wire Color | Cavity Number |
|-------------|--------------|---------------|
| Speedometer | Orange/white | 1 |
| Speedometer | White/green | 2 |
| Speedometer | Black | 12 |
| Tachometer | Orange/white | 6 |
| Tachometer | Pink | 7 |

(See Figure 12 for cavity number location.)

- See Figure 4. After all wires are in place, close the secondary locks on the socket housing.

INSTALLING SPEEDOMETER/TACHOMETER

- Hang speedometer/tachometer assembly on mirror with cable strap and connect wiring as follows:
- Route speedometer 3-wire harness back to its original position. See Figure 5. Insert wires and terminals into 3-place connector.
- See Figure 13. Install secondary lock with arrow positioned as shown.

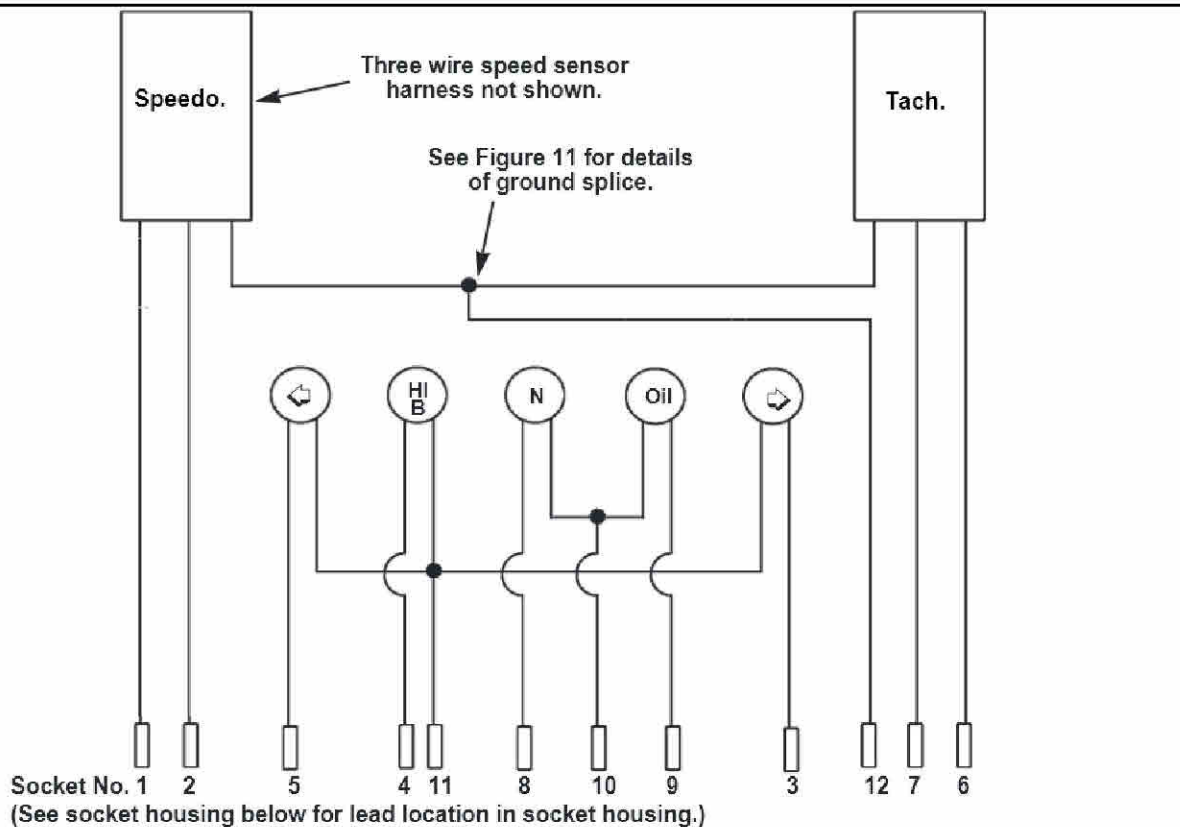
NOTE

If the secondary lock (wedge) does not slide into the installed position easily, verify that all terminals are fully installed in the socket housing. The secondary lock indicates when terminals are not properly installed by not entering its fully installed position.

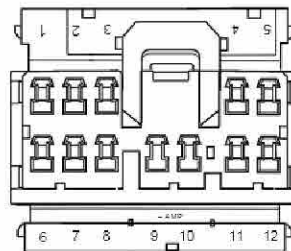
- Install cable straps to replace any that were removed.
- Connect 3-place speedometer connector [65A & B].
- Refer to applicable Service Manual and install fuel tank.
- See Figure 9. Install speedometer/tachometer assembly on handlebar clamp as shown using spacers and fasteners from kit. Tighten screws "snug -tight".

See Figure 3. Connect and install 12-place connector [20A & B] on electrical panel

See Figures 1 and 2. Position harnesses on electrical panel so they will not be pinched by riser covers.



f1287b2x.



Socket housing as viewed from terminal end.

SOCKET NO., WIRE COLORS OR MARKING*

1. Orange/white
2. White/green
3. BN (RT) - (Brown, right turn indicator)
4. W (HB) - (WHITE, High beam)
5. V (LT) - (Violet, left turn indicator)
6. Orange/white
7. Pink
8. TN (N) - (Tan, neutral indicator)

9. GN/Y (OP) - (Green/yellow, oil pressure)
10. O or BE - Orange or blue
11. BK - black
12. BK - black, (ground for speedo. and tach.)

***NOTE**

The indicator light wires, socket no. 3, 4, 5, 8, 9, 10, and 11, are all black. To identify the mating wire color (in pin housing) and the circuit function the wires are marked with white letters giving color and circuit function.

Figure 12. Speedometer/Tachometer Wiring Diagram

8. See Figure 2. Install front (2) and rear (3) riser covers and secure with screws (1).
9. Install cover (5) and secure with screws and washers (4).
10. Refer to applicable Service Manual and install 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 and startle the rider, causing loss of control and personal injury.

Final Checks and Adjustments

1. See Figure 9. If necessary, adjust the handlebar to the rider's normal position. Hold the handlebar and loosen rear clamp bolts. Position and adjust handlebars and tighten rear screws to 12 - 15 ft-lbs.

CAUTION

When handlebar installation is complete, the upper and lower clamps have contact with the cast-in boss in front and have a slight gap at the rear.

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 personal injury.

2. Connect the battery cables, positive cable first.
3. Turn ignition/light switch to ON. Check that the indicator lights, signal lights and headlamp all function properly.
4. Start the engine, check the tachometer operation and check that the indicator lights are working correctly.
5. If tachometer does not function, see Figure 12 and check that all wiring connections were correctly made.
6. Test ride motorcycle to verify speedometer is functioning properly.

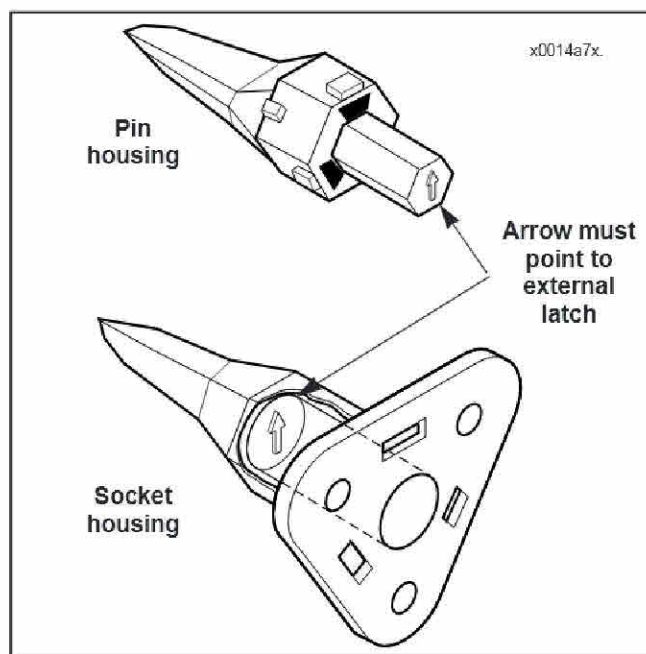


Figure 13. Secondary Lock Positioning



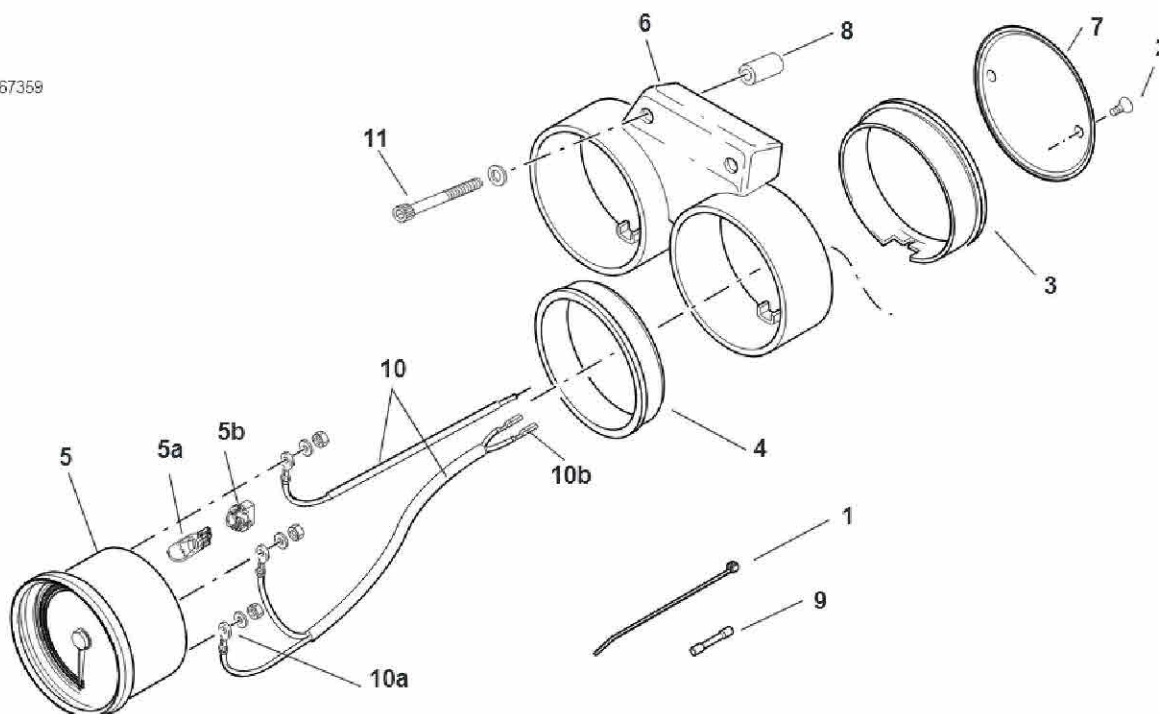
Service Parts

Part No. 67359-96

Date 9/95

XL Custom Tachometer Kit

sp67359



| Item | Description | Part No. | Item | Description | Part No. |
|------|------------------------------|----------|------|--|----------|
| 1 | Cable strap (4) | 10006 | 7 | Cover, tach. rear | 67363-96 |
| 2 | Screw, cover(2) | 2548 | 8 | Spacer (2) | 67366-96 |
| 3 | Gasket, rear | 67104-95 | 9 | Butt splice, blue | 70586-93 |
| 4 | Gasket, front | 67121-95 | 10 | Wiring harness, tach | 72370-96 |
| 5 | Tachometer | 67152-95 | 10a | Ring terminal (3) | 72241-94 |
| 5a | Tachometer light bulb | 52441-95 | 10b | Socket terminal (tach leads (2) | 73191-96 |
| 5b | Tachometer light bulb socket | 67191-94 | 11 | Screw, hex socket, 5/16-18 x 2-1/2 in. (2) | 876A |
| 6 | Bracket, speedo/tach | 67360-96 | | | |

