



INSTRUCTIONS

J00445

2008-11-11



CHROME SWITCH HOUSING KIT

GENERAL

Kit Number

70222-96B, 70223-96B, 70228-96C, 71813-09

Models

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

Kit Contents

See Table 1 for items contained in these kits.

Additional Parts Required

Separate purchase of RTV Silicone Sealant (99710-88) is required for proper installation of this kit.

⚠ WARNING

Rider and passenger safety depend upon the correct installation of this kit. 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. (00308b)

NOTE

This instruction sheet references service manual information. A service manual for your model motorcycle is required for this installation and is available from a Harley-Davidson dealer.

REMOVAL

⚠ WARNING

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

⚠ 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)

⚠ WARNING

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

1. Disconnect the battery cables, negative (-) cable first or remove the main fuse. See the service manual.

NOTE

All 2007 and later models have a clutch interlock switch in the left side handlebar switch housing. Note location and orientation of clutch interlock switch before removing from switch housing.

Turn Signals - FXDWGI and FXDBI Models

NOTE

For FXDWGI and FXDBI models: The left and right turn signal wires are routed through the lower switch housings. It will be necessary to disconnect the wires at the harness connectors (inside top frame tube) and pull the wires out of the handlebar (FXDWGI models) and left and right switch housings.

1. See Figure 1. At the top frame tube (1), remove the right (2) and left (3) side grommets to access the turn signal connectors.

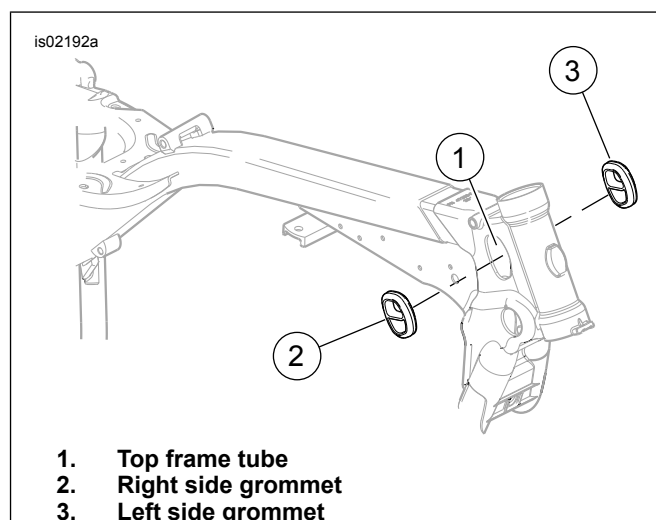


Figure 1. Top Frame Tube Access Location

2. Locate the right turn signal connector and carefully pull it out of the right side of the top frame tube access hole. Repeat for left side turn signal connector.
3. Disconnect both right and left turn signal connectors from harness. Follow procedure in the service manual to remove right and left turn signal wires from connectors.
4. Using a 4-foot piece of heavy duty wire or mechanics wire, wrap turn signal wires with electrical tape in preparation of pulling wires through handlebars (FXDWGI models) and lower housing.

NOTE

Do not pull turn signal wires at this time. The procedure for disassembling the right and left switch housing must be completed first.



Right Side Upper and Lower Switch Housings (All Models)

NOTE

Save all switches, brackets and hardware for assembly into chrome handlebar switch housings. If keycaps are being replaced at this time, the stock keycaps can be discarded.

Place shop towels or other protection over fuel tank and fender to prevent scratches.

NOTICE

Do not remove or install the master cylinder assembly without first positioning a 5/32-inch (4 mm) thick insert between the brake lever and lever bracket. Removing or installing the master cylinder assembly without the insert in place may result in damage to the rubber boot and plunger on the front stoplight switch. (00324a)

1. See Figure 2. Place an insert (cardboard or cable strap eyelet) (1) between brake lever and lever bracket to prevent damage to rubber boot and plunger during master cylinder disassembly.
2. Remove two screws with flat washers securing handlebar clamp to master cylinder housing.



Figure 2. Brake Lever / Lever Bracket Cardboard Insert

3. Remove upper and lower switch housing screws.
4. Remove brake lever/master cylinder assembly and clamp from handlebar.
5. Remove friction shoe from end of tension adjuster screw on all models with adjuster.

NOTE

The friction shoe is a loose fit and may fall out or become dislodged if the lower switch housing is turned upside down or shaken.

6. Turn cable adjusters all of the way in to create slack in cables. Unhook throttle and idle return control cable brass ferrules from notches on inboard side of throttle control grip. Remove ferrules from cable end fittings.

7. Remove throttle control grip.
8. See Figure 3. Pull crimped inserts, at end of throttle (3) and idle (2) control cable housings from lower switch housing (1). For best results, use a rocking motion while pulling. Place a drop of light oil on retaining rings, if necessary. Remove cables from switch housing.

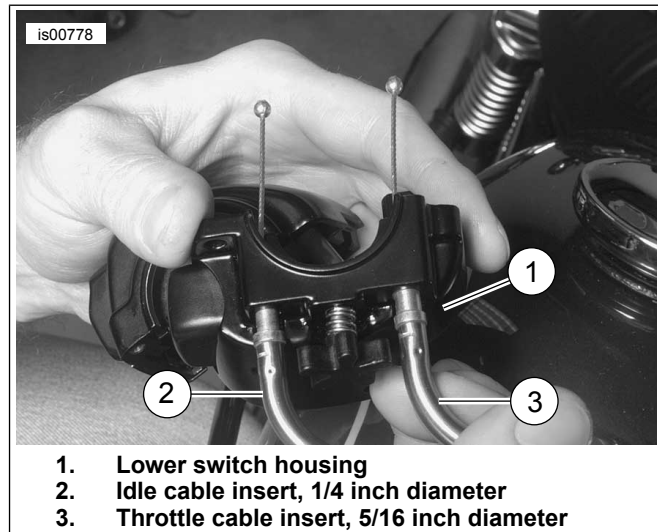


Figure 3. Idle/Throttle Control Cable Connections to Switch Housing

Disassemble the Right Side Upper Switch Housing (All Models)

NOTE

To ease assembly, note wire routing and placements in the switch housing before disassembly.

The keycap removal tool is tapered on both ends to assist in the removal of the keycaps. As you push the tool under the keycap, the tapered ends will slowly push the keycap off of the switch pin.

Do not use the keycap removal tool as a pry bar. This will damage the keycap and switch housing.

1. Remove Phillips-head screw from housing.
2. Remove switch bracket and switch assembly from housing.

NOTE

Lightly lubricate turn signal wires and electrical tape with glass cleaner to help prevent wires from binding as they are being pulled through lower housing and handlebar.

⚠ WARNING

Grommets in each of the wiring holes in the handlebar must remain in position after routing the wiring through the handlebar. Operation without the grommets in place can damage wires, causing a short circuit which could result in death or serious injury. (00416d)

3. **For FXDWGI and FXDBI Models:** With the switch housing removed from the handlebar, pull right turn signal wires (with heavy-duty wire or mechanics wire attached) out of handlebar (**FXDWGI models**). Pull wires out of the bottom of the lower switch housing.

Disassemble the Right Side Lower Switch Housing

1. See Figure 4. Carefully cut the cable strap (2) holding the wire conduit to the turn signal switch bracket.
2. Remove Phillips head screw (1) near securing bracket at center of housing.

NOTE

It may be necessary to pull back vinyl conduit on harness to put slack in wires so the turn signal switch and bracket can be removed.

3. Lift bracket and turn signal switch from housing.

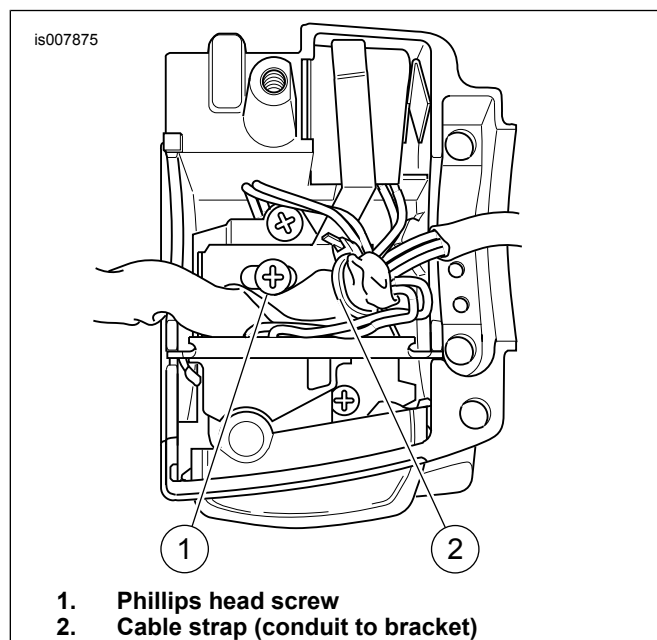


Figure 4. Lower Right Side Handlebar Switch Cable Strap

4. See Figure 5. To remove the brake light switch (2) and wedge (4):
 - a. Gently pry out wedge located between switch housing (1) and brake light switch (2). Save the wedge for assembly.
 - b. Gently push the brake light switch into the switch housing with thumb. Gently pull up on the brake light switch assembly while rotating and rocking it slightly.
 - c. Inspect brake light switch rubber boot for damage. If necessary, replace damaged brake light switch.

NOTE

For Lower Switch Housings with Radio Tuning and/or Cruise Control only: Follow Steps 5-8.

5. See Figure 6. Use the short end (4) of the keycap removal tool (1) to remove the cruise control (RES/SET) keycap (2). Push up under the keycap.

NOTE

The cruise control keycap must be removed before attempting to remove the mode select keycap.

6. Remove the mode select keycap (3) using the long end of the keycap removal tool (5). Insert the tool under the keycap and push tool outward until keycap is disengaged from the switch pin (Figure 7, item 2).
7. Remove two screws holding lower bracket to boss in housing. Pull bracket from switch housing.
8. Mark or note the positions (top, right, left) of the radio and/or cruise control switches and remove the switch assemblies.

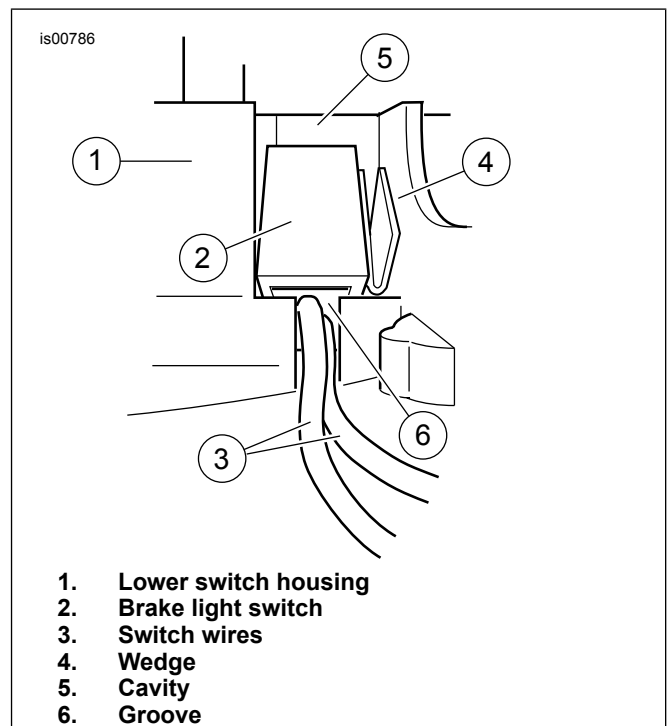


Figure 5. Brake Light Switch

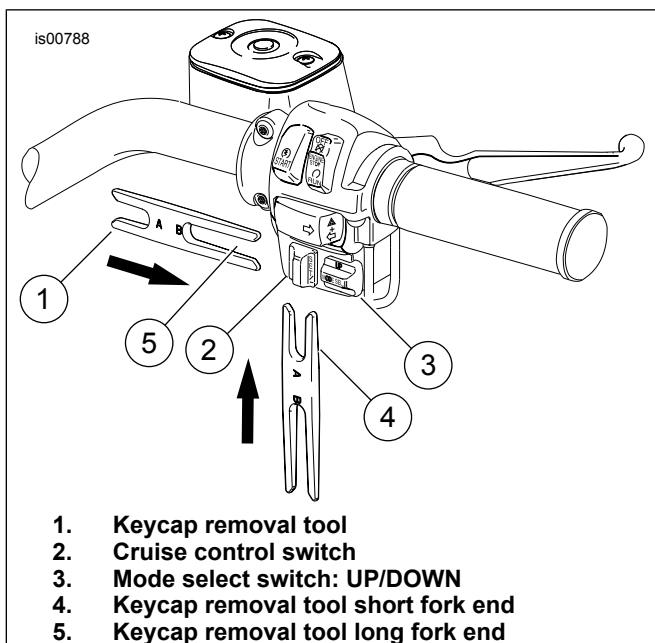


Figure 6. Right Handlebar Lower Switch Housing Keycap Removal

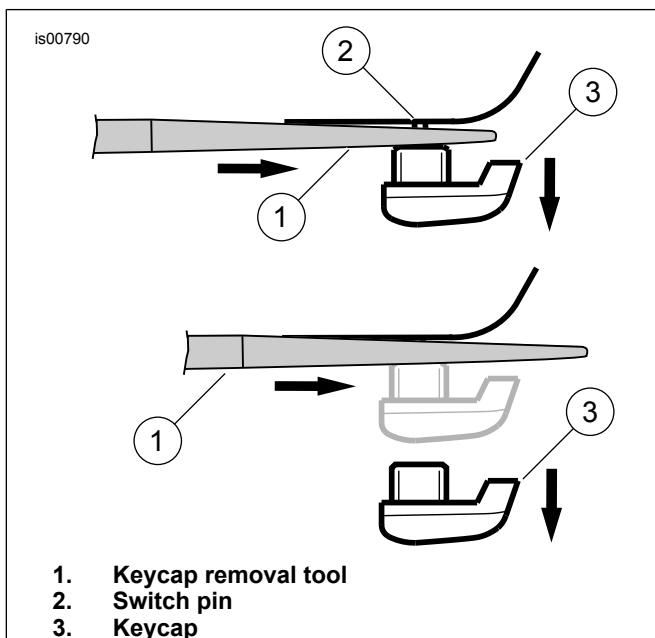


Figure 7. Lower Switch Housing Keycap Removal

Remove Left Side Upper and Lower Switch Housings (All Models)

NOTE

Keep all keycaps, switches, brackets, and hardware for assembly into new handlebar switch housings.

1. Remove the two screws with flat washers securing handlebar clamp to clutch lever bracket. Remove clutch hand lever assembly and clamp from handlebar.
2. Remove upper and lower switch housing screws.

Disassemble Left Side Upper Switch Housing (All Models)

1. Remove Phillips-head screw.
2. Remove horn and high/low beam switch assemblies and bracket from housing.

NOTE

Lightly lubricate turn signal wires and electrical tape with glass cleaner to help prevent wires from binding as they are being pulled through handlebar.

⚠ WARNING

Grommets in each of the wiring holes in the handlebar must remain in position after routing the wiring through the handlebar. Operation without the grommets in place can damage wires, causing a short circuit which could result in death or serious injury. (00416d)

3. **For FXDWGI Models:** With the switch housing removed from the handlebar, pull left turn signal wires (with fish wire attached) out of handlebar. Pull wires out of the bottom of the lower switch housing.

Disassemble Left Side Lower Switch Housing (FLHT/C/CU, FLTR, FLHX Models)

NOTE

All 2007 and later models have a clutch interlock switch in the left side handlebar switch housing. Note location and orientation of clutch interlock switch before removing from switch housing.

To ease assembly, note the wire runs and wire placements in the switch housing before disassembly.

1. See Figure 8. Carefully cut the cable strap holding the wire conduit to the turn signal switch bracket (1).
2. Remove the screw holding upper bracket from the housing (3).
3. Lift bracket and turn signal switch from housing. Turn signal keycap is not removable.

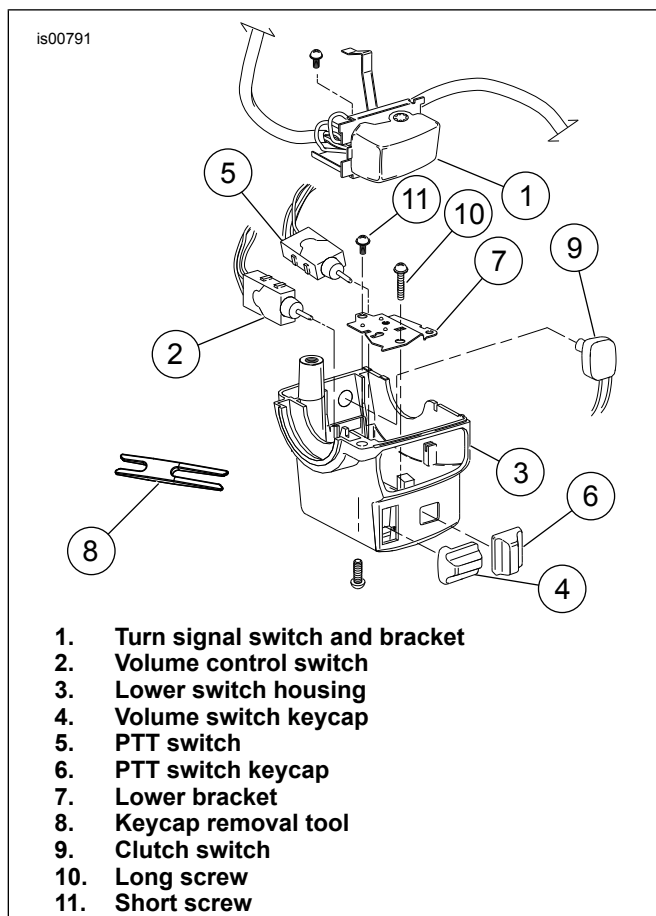


Figure 8. Models with Radio and CB - Left Handlebar Lower Switch Housing Assembly

4. See Figure 9. Remove the SQ-/PTT/SQ+ keycap (2) using the short end (4) of the keycap removal tool (1). Push up under the keycap (2). The tool taper will slowly push the keycap off of the switch pin.

NOTE

The SQ-/PTT/SQ+ keycap must be removed before removing the audio control keycap.

5. Remove the audio control keycap (3) using the long end (5) of the keycap removal tool (Figure 7, item 1). Insert the tool under the keycap and push tool out until keycap is disengaged from the switch pin (2).
6. See Figure 8. Remove two screws holding lower bracket (7) to boss in housing. Pull bracket from switch housing.
7. Mark or note the positions (top, right, left) of the radio (2) and/or PTT (5) switches and remove the switch assemblies.

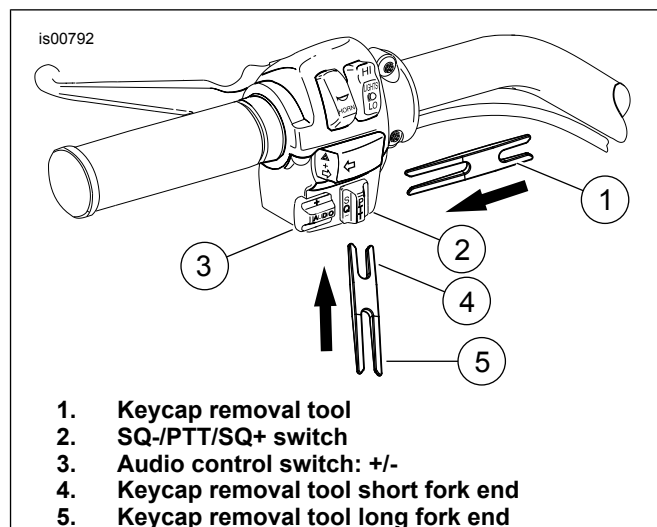


Figure 9. Left Handlebar Lower Switch Housing Keycap Removal Tool

INSTALLATION

⚠ WARNING

Wiring in the switch housings must be routed exactly as shown. Pinch points in the switch housings can short-circuit or sever wires, which could cause loss of control resulting in death or serious injury. (00415b)

Assemble Right Side Upper Switch Housing (All Models)

1. See Figure 10. Place switch assembly and bracket (5) into chrome upper housing cavity. Align hole in bracket with threaded hole in boss. Be sure bracket is fully seated. The step at edge of boss captures bottom edge of bracket, while tabs on each side of bracket fit into slots in housing.
2. Install screw (7) to secure bracket inside housing. Verify that bracket wing (6) on engine stop switch side (2) captures edge of conduit (3).

Assemble Right Side Lower Switch Housing (Models without Radio and/or Cruise Control Switches)

1. See Figure 5. Place brake light switch (2) and wedge (4) into chrome lower switch housing (1). Place a small bead of silicone sealant into the wedge.
2. Place turn signal switch assembly and bracket into housing cavity (5). Align hole in bracket with threaded hole in boss.

NOTE

Be sure bracket is fully seated. The step at edge of boss captures bottom edge of bracket, while tabs on each side of bracket fit into slots in housing.

3. Install Phillips-head screw to secure turn signal bracket inside housing.

Assemble Right Side Lower Switch Housing (Models with Radio Tuning and/or Cruise Control Switches)

1. See Figure 11. Place cruise control (1) and/or radio (4) switches into chrome lower housing cavity (6). Properly installed, the switches lay in blocks cast into the lower cavity. The cruise control switch lays on edge and operates in a horizontal position. Verify that the switch shaft is aligned for proper keycap operation.
2. Place the lower bracket (7) into the housing (weld nut side down). **On cruise control models:** Lower step of bracket should be positioned over cruise control switch (1) (horizontally oriented). Slots in upper step engage two tabs on body of radio control switch (4).
3. Install longer screw into front of lower bracket (7) and into threaded boss in housing.
4. Place shorter screw through rear of lower bracket and into threaded boss in housing.

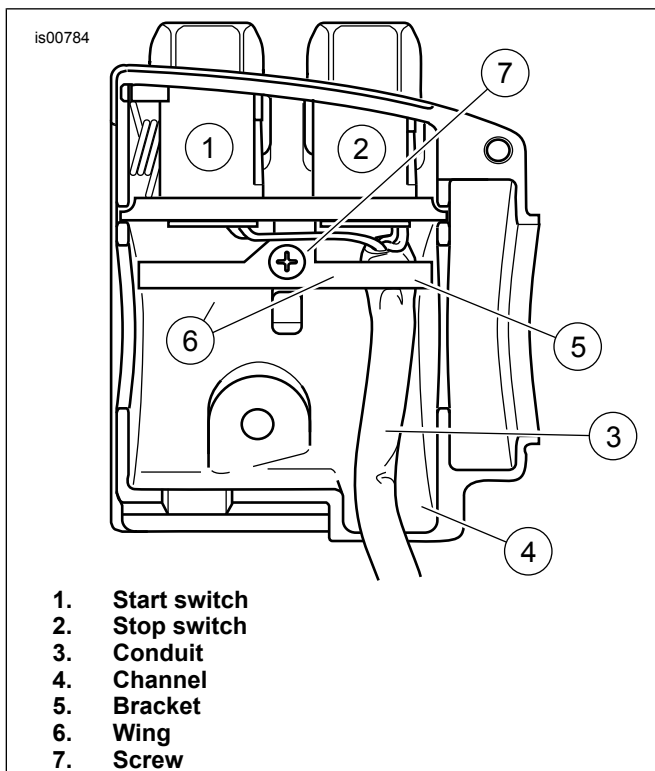
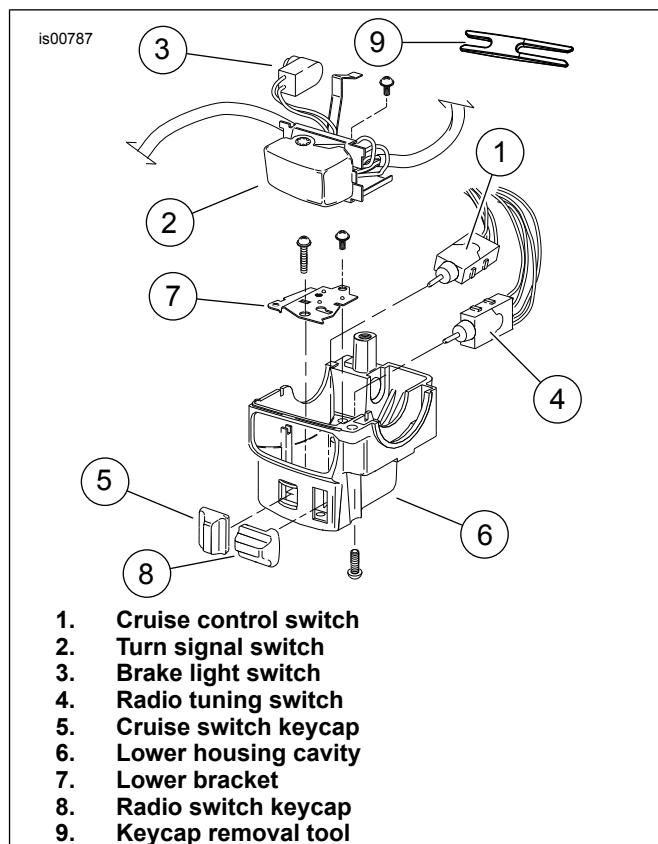


Figure 10. Upper Right Handlebar Switch Housing



1. Cruise control switch
2. Turn signal switch
3. Brake light switch
4. Radio tuning switch
5. Cruise switch keycap
6. Lower housing cavity
7. Lower bracket
8. Radio switch keycap
9. Keycap removal tool

Figure 11. Right Handlebar Lower Switch Housing

5. See Figure 5. Install brake light switch (2) and wedge (4): Carefully press plunger against inside wall of the switch housing. With thumb over plunger bore, move switch into the installed position in the switch housing cavity (5). When plunger is positioned against thumb, slowly rotate switch downward while rocking slightly. Release the plunger only after switch is properly positioned in the cavity. Verify that the plunger is square in the bore and that the boot is not compressed, collapsed or torn. If necessary, gently move the plunger in and out until boot is fully extended.

NOTICE

If routed incorrectly, wires can be pinched by casting or handlebar resulting in switch failure. (00542b)

6. Push down on switch so that it bottoms against housing and wires run in groove (6) at base of cavity. With the concave side facing outward, insert wedge between switch and outboard side of switch housing. Push wedge down until it bottoms against housing. Verify that the plunger is still square in the bore and then place a drop of silicone sealant on upper corner of wedge.
7. To connect the upper bracket to the housing: See Figure 4. Insert the tapered end of a **new** cable strap into the rear, right side, round hole in turn signal switch bracket. Feed the strap back through the front, right side hole. The oblong hole is for the bracket screw. Install turn signal switch into chrome housing. Align the oblong hole in the bracket with the threaded hole in the lower bracket weld nut. Be sure the bracket is fully seated. Tabs on each side of bracket are captured in slots cast into switch housing.

8. Start upper bracket Phillips-head screw into housing.
9. Tighten Phillips-head screw.
10. Capturing conduit about 1/4 inch (6.3 mm) from end, securely tighten cable strap to draw conduit to bracket. Remove any excess cable strap material.
11. Route wire bundle to upper switch housing, below and then forward of the main harness positioning conduit in channel next to angular arm of bracket.

Install Right Side Upper and Lower Switch Housings (All Models)

NOTE

Lightly lubricate turn signal wires and electrical tape with glass cleaner to help prevent wires from binding as they are being pulled through lower housing and handlebar.

⚠ WARNING

Grommets in each of the wiring holes in the handlebar must remain in position after routing the wiring through the handlebar. Operation without the grommets in place can damage wires, causing a short circuit which could result in death or serious injury. (00416d)

1. **For FXDWGI and FXDBI Models:** Feed right side turn signal wires (with fish wire attached) through the right side chrome lower switch housing hole at bottom of housing. **For FXDWGI Models:** Feed turn signal wires into handlebar opening. Continue feeding wires through handlebar and out the center hole opening. Feed wires through down and into top frame tube.
2. Remove fish wire from turn signal wires. Insert wires into right turn signal connector. Refer to the service manual for electrical connections procedure.
3. See Figure 3. Connect throttle (3) and idle (2) control cables to the lower switch housing (1): Push throttle and idle control cables into lower switch housing until they snap in place. Push larger diameter (5/16 inch [7.9 mm]) throttle cable into larger hole, in front of tension adjuster screw. Push smaller diameter (1/4 inch [6.3 mm]) idle cable housing into smaller hole, at the rear of tension adjuster screw.

NOTE

To aid assembly, apply a drop of light oil on the retaining rings of the crimped inserts. Always replace the retaining rings if damaged or distorted.

4. With lower switch housing concave side facing up, install friction shoe so that pin hole is over point of the adjuster screw, if fitted.

NOTE

The friction shoe is a loose fit and may fall out or become dislodged if the switch housing is turned upside down or shaken.

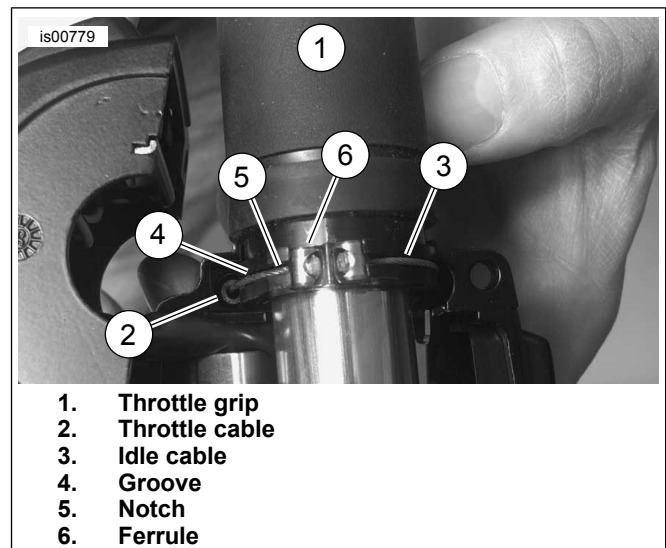


Figure 12. Throttle / Idle Cable Connections in Grip

5. See Figure 12. Slide throttle control grip (1) over end of right handlebar until it bottoms against the closed end. Rotate grip so that ferrule notches (6) are at top.
6. Position lower switch housing beneath throttle control grip. Place a brass ferrule onto throttle (2) and idle (3) cables so that end fittings seat in ferrule (6) recess. Seat ferrules in their respective notches (5) on throttle control grip (1). Verify that cables are captured in grooves (4) molded into grip.
7. To prevent binding, pull the grip back about 1/8 inch (3.2 mm).
8. Position upper switch housing over handlebar and lower switch housing.
9. Verify that wire conduit is in the depression at the bottom of the handlebar. Be sure conduit will not be pinched under handlebar when switch housing screws are tightened.
10. Start upper and lower switch housing screws. Do not tighten.

NOTICE

Do not remove or install the master cylinder assembly without first positioning a 5/32-inch (4 mm) thick insert between the brake lever and lever bracket. Removing or installing the master cylinder assembly without the insert in place may result in damage to the rubber boot and plunger on the front stoplight switch. (00324a)

11. See Figure 13. Position brake lever/master cylinder assembly inboard of the switch housing assembly. Engage the tab on lower switch housing in groove at top of brake lever bracket.
12. Align holes in handlebar clamp with holes in master cylinder housing. Start the two screws (with flat washers). Position for rider comfort. Beginning with the top screw, tighten screws to 6.8–9 N·m (60–80 in-lbs).

13. Tighten lower and upper switch housing screws to 3.9–5.5 N·m (35–45 in-lbs).

NOTE

Always tighten the lower switch housing screw first so that any gap between the upper and lower housings is at the front of the switch.

14. Remove the insert between the brake lever and lever bracket.
15. Test switches for proper operation.
16. Note lettering for proper orientation and gently push keycaps onto switch shafts.

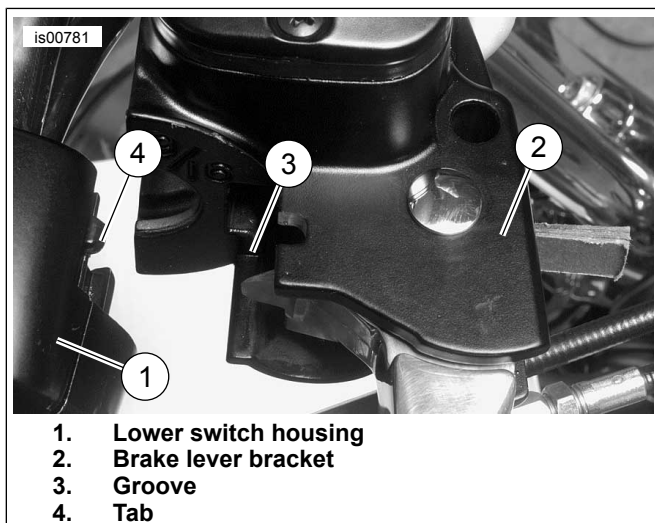


Figure 13. Brake Lever/Master Cylinder Fit to Right Handlebar Lower Switch Housing

Assemble Left Side Upper Switch Housing (All Models)

1. Place horn and high/low beam switch assemblies and bracket into chrome upper housing cavity. Align hole in bracket with threaded hole in boss.
2. Be sure bracket is fully seated. The step at the edge of the boss captures the bottom edge of the bracket, while tabs on each side of the bracket fit into slots in housing.
3. Install screw to secure bracket inside housing. Verify that bracket wing on high/low beam switch side captures edge of conduit.

Assemble Left Side Lower Switch Housing (FLHT/C/CU, FLTR, FLHX)

1. **For Ultra and Road Glide models:** See Figure 8. Position CB PTT switch (5) into chrome lower switch cavity so that it is in a horizontal position (light green wire toward clutch bracket). Properly installed, the switch is captured by blocks cast into lower housing (3).
2. Place radio volume control switch (2) into chrome lower switch housing cavity so it is on edge, in a vertical position. The switch is captured by blocks cast into the lower housing when properly installed. Verify that switch shaft is aligned for proper keycap operation.

3. Place lower bracket (7) into housing (weld nut side down). On Ultra and Road Glide models, arrange the bracket so that lower step is positioned over PTT Switch (horizontally oriented). Verify that slots in upper step of bracket engage two tabs on the switch body.
4. Install longer screw through rear of lower bracket and into threaded hole in housing. Install the shorter screw through front of bracket. To engage threaded hole in casting, use a "through hole" in lower step of bracket on FLHT/FLHTC/FLHX models and in upper step on FLHTCU/FLTR models.
5. Note lettering for proper orientation and gently push keycap(s) (4, 6) onto switch shaft.
6. Position clutch switch (9) in same location and orientation as removed earlier.
7. See Figure 4. To install the turn signal switch assembly to the housing: Insert the tapered end of **new** cable strap into the rear, right side round hole in turn signal switch bracket and then feed it back through the front, right side hole. The oblong hole is for the bracket screw. Place turn signal switch assembly into chrome housing. Align the oblong hole in the bracket with the threaded hole in the lower bracket weld nut. Be sure the bracket is fully seated. Tabs on each side of bracket are captured in slots cast into switch housing.
8. Start upper bracket Phillips-head screw into housing.
9. Tighten Phillips-head screw.
10. Capturing conduit about 1/4 inch (6.3 mm) from end, securely tighten cable strap to draw conduit to bracket. Remove any excess cable strap material.
11. Route wire bundle to upper switch housing, below and then forward of the main harness positioning conduit in channel next to angular arm of bracket.

Install Left Side Upper and Lower Switch Housings (All Models)

NOTE

Lightly lubricate turn signal wires and electrical tape with glass cleaner to help prevent wires from binding as they are being pulled through lower housing and handlebar.

⚠ WARNING

Grommets in each of the wiring holes in the handlebar must remain in position after routing the wiring through the handlebar. Operation without the grommets in place can damage wires, causing a short circuit which could result in death or serious injury. (00416d)

1. **For FXDWGI and FXDBI Models:** Feed left side turn signal wires (with fish wire attached) through the left side chrome lower switch housing hole at bottom of housing. **For FXDWGI Models:** Feed turn signal wires into handlebar opening. Continue feeding wires through handlebar and out the center hole opening. Feed wires down and into top frame tube.
2. Remove fish wire from turn signal wires. Insert wires into left turn signal connector. Refer to the service manual for electrical connections procedure.

3. See Figure 14. Place upper (1) and lower (2) switch housings on handlebar. Be sure that ribs (3) on outboard side of both switch housings fit in grooves (4) molded into grip (5).
4. Verify that wire conduit is in depression at bottom of handlebar. Be sure conduit will not be pinched under handlebar when switch housing screws are tightened.
5. Start upper and lower switch housing screws, but do not tighten.

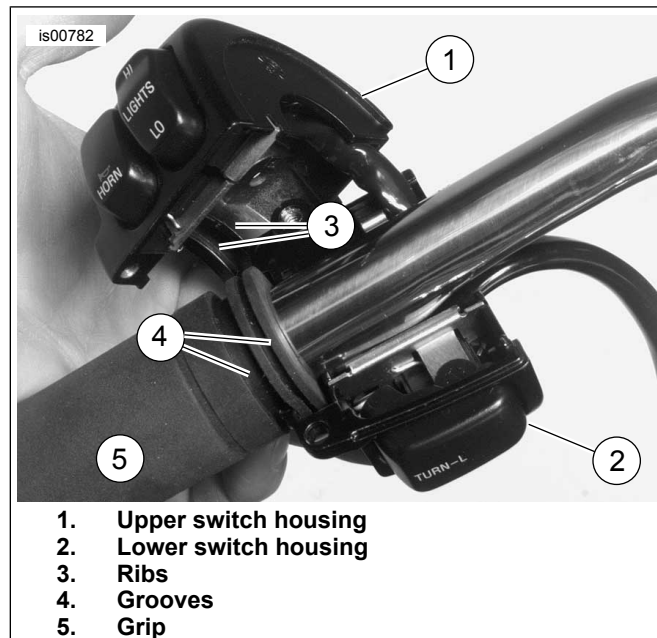


Figure 14. Left Handlebar Switch Housings

6. Position clutch hand lever assembly inboard of switch housing assembly. See Figure 15. Engage tab (2) on lower switch housing (1) with groove (4) at bottom of clutch lever bracket (3).
7. Align holes in handlebar clamp with holes in clutch lever bracket. Start the two screws (with flat washers). Position this assembly for rider comfort.
8. Beginning with top screw, tighten screws to 6.8–9 N·m (60–80 in-lbs).
9. Tighten lower and upper switch housing screws to 3.9–5.5 N·m (35–45 in-lbs).

NOTE

Always tighten lower switch housing screw first so that any gap between upper and lower housings is at the front of the switch.

SERVICE PARTS

Table 1. Service Parts Table

Item	Description (Quantity)	Part Number
Kit number 70222-96B - Chrome Switch Housing, Sport		
1	Chrome switch housing, lower right	71719-03
2	Chrome switch housing, lower left	71720-03A
3	Chrome switch housing, upper right	71614-96
4	Chrome switch housing, upper left	71615-96

10. Connect right and left turn signal connectors to wire harness connectors. Place both connectors inside top frame tube.
11. See Figure 1. Install the left (3) and right (2) side top frame tube grommets into top frame tube.

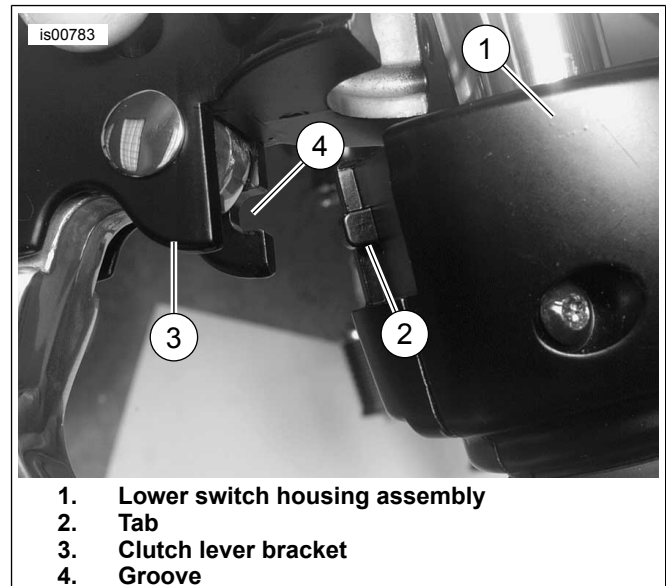


Figure 15. Clutch Lever Bracket Fit to Left Handlebar Switch Housing

FINAL ASSEMBLY

⚠ 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)

1. Connect battery cables, positive cable first or install main fuse.
2. Test switches for proper operation. At the same time, verify that front brake light switch functions properly. Also test left and right turn signals for proper operation.

⚠ WARNING

After repairing the brake system, test brakes at low speed. If brakes are not operating properly, testing at high speeds can cause loss of control, which could result in death or serious injury. (00289a)

Table 1. Service Parts Table

Item	Description (Quantity)	Part Number
5	Cable tie (2)	10181
6	Screw, socket button head 1/4-20 x 1-1/8 inch (4)	4292
Kit number 70223-96B - Chrome Switch Housing, Classic		
1	Chrome switch housing, lower right	71556-96
2	Chrome switch housing, lower left	71611-96A
3	Chrome switch housing, upper right	71614-96
4	Chrome switch housing, upper left	71615-96
5	Cable tie (2)	10181
6	Screw, socket button head 1/4-20 x 1-1/8 inch (4)	4292
7	Keycap removal tool	Not Sold Separately
Kit number 70228-96C - Chrome Switch Housing, Ultra		
1	Chrome switch housing, lower right	71612-96
2	Chrome switch housing, lower left	71613-96B
3	Chrome switch housing, upper right	71614-96
4	Chrome switch housing, upper left	71615-96
5	Cable tie (2)	10181
6	Screw, socket button head 1/4-20 x 1-1/8 inch (4)	4292
7	Keycap removal tool	Not Sold Separately
Kit number 71813-09 - Chrome Switch Housing, FLHX/FLHT/FLHTC with Cruise Control		
1	Chrome switch housing, lower right	71612-96
2	Chrome switch housing, lower left	71611-96A
3	Chrome switch housing, upper right	71614-96
4	Chrome switch housing, upper left	71615-96
5	Cable tie (2)	10181
6	Screw, socket button head 1/4-20 x 1-1/8 inch (4)	4292
7	Keycap removal tool	Not Sold Separately