



# INSTRUCTIONS

J02542

2005-10-21



## VRSCA CUSTOM HANDLEBAR KIT

### GENERAL

#### Kit Number

56528-02

#### Models

This kit fits 2002 through 2005 VRSCA models.

#### Additional Parts Required

Cable straps (Part Number 10181) will be needed for the proper installation of this kit. The quantity needed will vary per application.

Motorcycles equipped with a **glued** left-side hand grip will require a new grip, sold separately. Refer to the Parts Catalog for replacement stock hand grips

Ask a Harley-Davidson dealer about the selection of Genuine Motor Accessory hand grips that are available.

#### ⚠ 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 references Service Manual information. A Service Manual for your model motorcycle is required for this installation and is available from a Harley-Davidson Dealer.

### Kit Contents

Table 1. Kit Contents

Description (Quantity)	Part Number
Handlebar, custom	Not Sold Separately
Tubing, heat shrink	72165-02
Grommet, large (2)	Not Sold Separately
Grommet, small (2)	Not Sold Separately

### Original Handlebar Removal

#### ⚠ WARNING

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

1. Refer to the Service Manual, and follow the instructions given to remove the right-side cover and maxi-fuse.

#### NOTE

When the mirror is removed, the turn signal assembly will be retained only by the wire harness clipped to the handlebar. Ensure that the turn signal assembly is not damaged or does not scratch other parts of the vehicle when loosened.

Cover the airbox cover, front fender and fork tube assemblies with clean shop towels to keep the finish from being scratched.

2. While holding the turn signal **lock nut** underneath the clutch lever/ master cylinder assembly, rotate the left-side rear view mirror stalk counterclockwise to remove the mirror from the vehicle. Save the mirror, lock nut and lock washer for later installation.

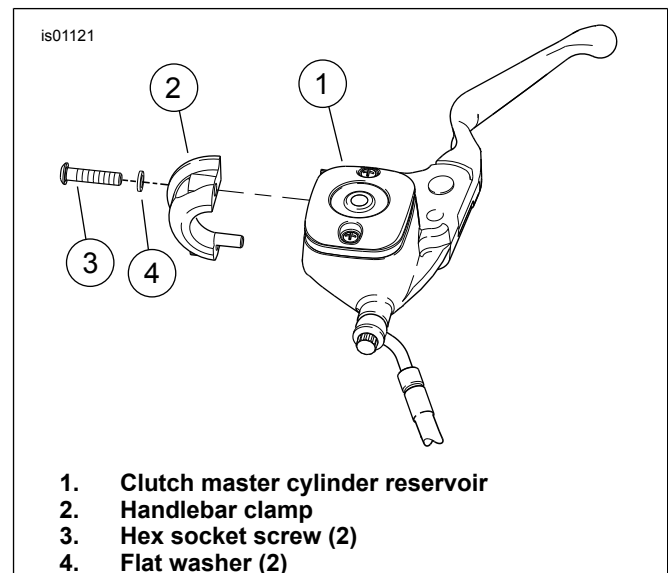


Figure 1. Clutch Master Cylinder

3. See Figure 1. Using a T27 TORX® drive head, remove the screws (3) and flat washers (4) that retain the handlebar clamp (2) to the clutch master cylinder reservoir (1).
4. Remove and discard the plastic wiring retainer clip that secures the turn signal and switch wiring harnesses to the left side of the handlebar.
5. Refer to LEFT HANDLEBAR SWITCH in the Service Manual. Use a T25 TORX drive head to separate the upper and lower switch housings.

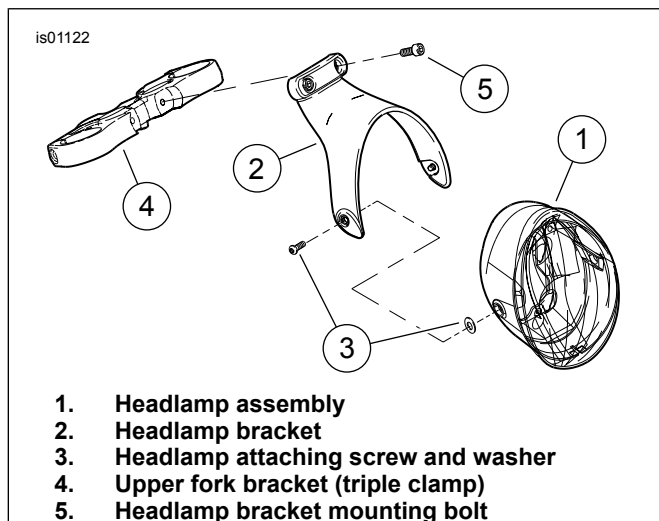
#### NOTE

It is not necessary to remove the clutch line from the clutch master cylinder. Support the entire assembly to prevent the clutch line from being kinked or damaged.

6. Use twist ties or another suitable method to secure the clutch lever/ master cylinder, upper and lower switch housings, and the turn signal assembly to the left-side fork tube.
7. **If the left-side hand grip is not glued to the handlebar:** Remove the hand grip and set it aside for installation to the new handlebar.
8. See Figure 2. To free the lower end of the top handlebar cover, loosen the two mounting bolts (5) holding the headlamp bracket (2) to the upper triple clamp (4).

**NOTE**

See Figure 4. The bezel hook (arrow) holds the bottom of the bezel and the top cover to the lower handlebar cover, and can be damaged if forced during removal or installation.



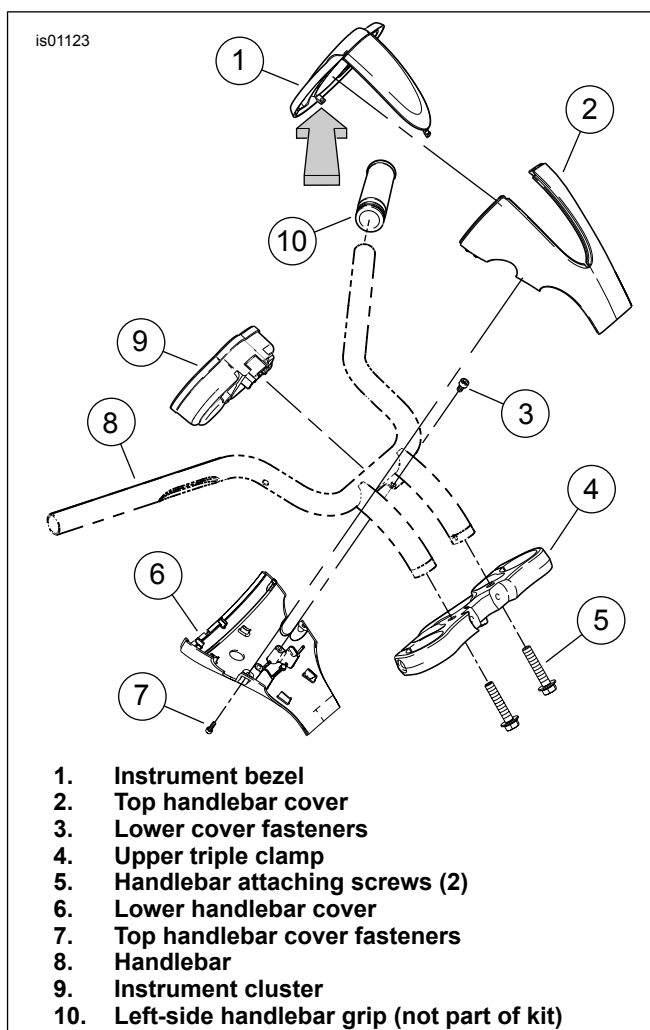
**Figure 2. Headlamp Assembly and Triple Clamp**

9. See Figure 3. **Without removing the top handlebar cover (2),** remove the fasteners (7) holding the top cover and instrument bezel (1) to the lower handlebar cover (6). Take care to avoid damaging the tab and hook at the bottom of the instrument bezel (see arrow).
10. From the headlamp bracket end of the top handlebar cover (2), gently tilt the cover and instrument bezel (1) up and back to remove the cover and bezel.

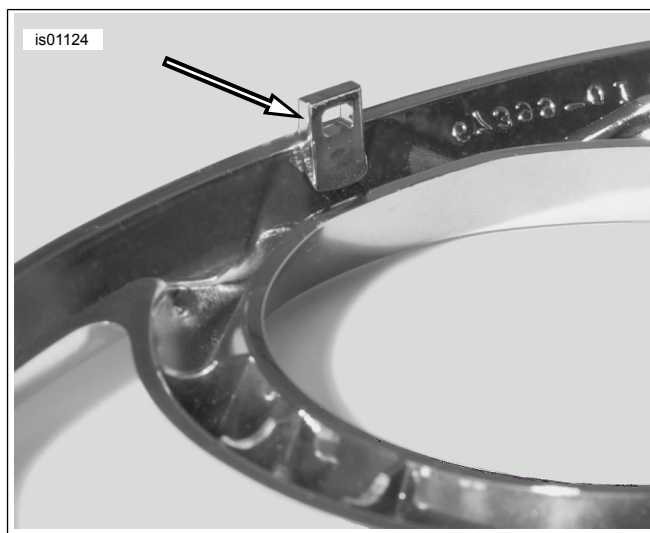
**NOTE**

The instrument bezel can remain snapped to the upper handlebar cover.

11. Squeeze the two release latches on the 12-place wiring harness connector [39B], and gently pull the connector from the instrument cluster (9). Remove the instrument cluster from the lower handlebar cover (6).



**Figure 3. Handlebar Assembly**



**Figure 4. Instrument Bezel Hook**

12. Remove the right-side rear view mirror and the turn signal assembly from the front brake master cylinder reservoir. Save the mirror, lock washer and turn signal assembly for later installation.

### NOTE

A small section of corrugated cardboard or the eyelet of an ordinary cable strap can be used for this purpose. See Figure 5.

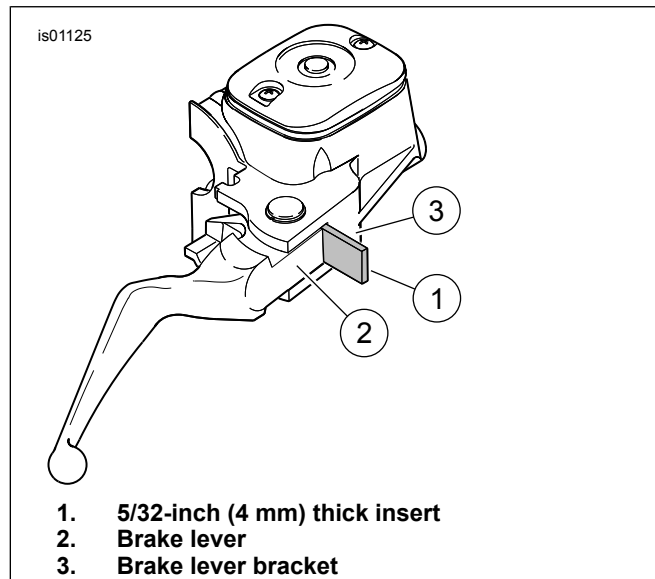


Figure 5. Protect Stoplight Switch

### 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)

13. Remove the two screws and flat washers that retain the handlebar clamp to the brake master cylinder reservoir.
14. Remove and discard the plastic wiring retainer clip that secures the turn signal and switch wiring harnesses to the right side of the handlebar.
15. Refer to RIGHT HANDLEBAR SWITCH in the Service Manual. Use a T25 TORX drive head to separate the upper and lower switch housings.

### NOTE

It is not necessary to remove the brake line from the brake master cylinder. Support the entire assembly to prevent the brake line from being kinked or damaged.

16. Use twist ties or another suitable method to secure the brake lever/ master cylinder, upper and lower switch housings, and the turn signal assembly to the right-side fork tube.
17. Refer to THROTTLE CABLES: REMOVAL in the Service Manual, and disconnect the throttle cables from the right grip/ throttle sleeve assembly. Remove the right grip/ throttle sleeve assembly from the handlebar and set it aside for installation to the new handlebar.

18. See Figure 2. Remove the two mounting bolts (5), loosened earlier, that hold the headlamp bracket (2) to the upper triple clamp (4).

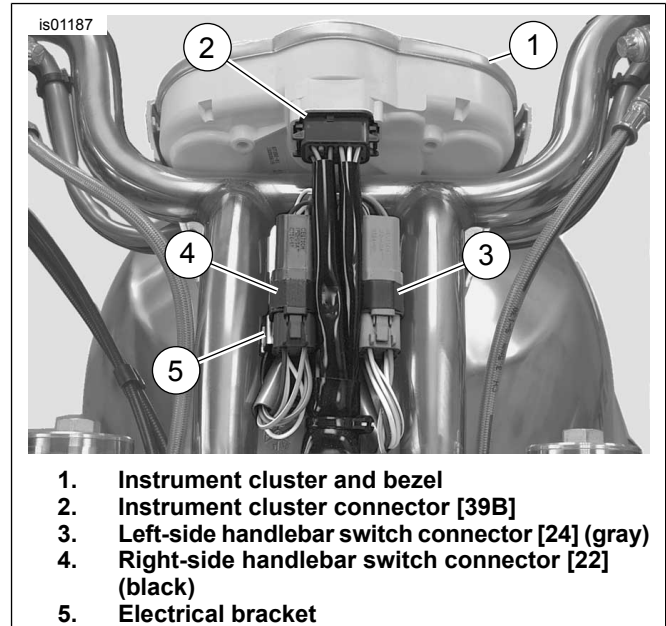
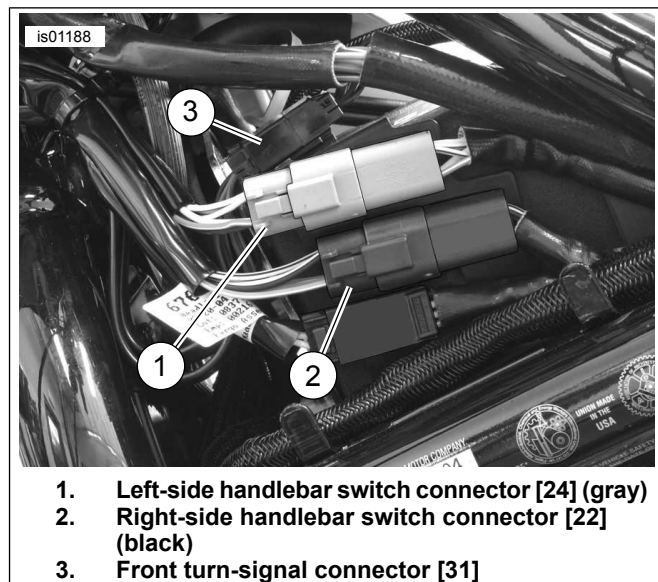


Figure 6. Handlebar Control Connectors (2002 and 2003 VRSCA)

19. For 2002 and 2003 models: For 2004 and 2005 models:

- a. Remove the fasteners (3) securing the lower handlebar cover to the handlebars (8), and remove the lower cover.
- b. See Figure 6. Clip the cable straps to remove the left-side (3) and right-side (4) 6-place Deutsch handlebar switch connectors from the electrical brackets (5).
- c. Refer to DEUTSCH ELECTRICAL CONNECTORS in the Service Manual to separate the halves of the left-side (gray) handlebar switch connector [24] (3). Completely remove the left-side switch and socket housing [24B] from the motorcycle.
- d. Refer to the wiring diagram in the Service Manual. Note the wire colors and positions in each cavity of the gray Deutsch **socket housing** [24B], then remove the socket terminals and wires from the **ONLY** the **socket housing**. DO NOT remove the wires from the Deutsch **pin housing**. Set the socket housing aside for later re-assembly.
- e. Separate the right-side (black) handlebar switch connector halves, and completely remove the right-side switch and socket housing [22B] from the motorcycle. Make note of the wire colors and positions, then remove the socket terminals and wires from **ONLY** the **socket housing** [22B]. DO NOT remove the wires from the Deutsch **pin housing**. Set the socket housing aside for later re-assembly.

- f. Directly behind the handlebar switch connectors is the 6-place Amp Multilock turn-signal connector [31]. Refer to AMP MULTILOCK ELECTRICAL CONNECTORS in the Service Manual to separate the halves of connector [31].
- g. Refer to the wiring diagram in the Service Manual. Note the wire colors and positions, then remove the socket terminals and wires from **ONLY** the **socket housing** [31B]. **DO NOT** remove the wires from the Amp **pin housing**. Set the socket housing aside for later re-assembly.
- h. Remove the left-side cover.
- i. See Figure 7. Refer to DEUTSCH ELECTRICAL CONNECTORS in the Service Manual to separate the halves of the left-side (gray) handlebar switch connector [24] (1).
- j. Separate the halves of the right-side (black) handlebar switch connector [22] (2).
- k. Refer to the wiring diagram in the Service Manual. Note the wire colors and positions in each cavity of socket housings [22B] and [24B], then remove the socket terminals and wires from **ONLY** the **socket housings**. **DO NOT** remove the wires from the Deutsch **pin housings**. Set the socket housings aside for later re-assembly.
- l. Refer to AMP MULTILOCK ELECTRICAL CONNECTORS in the Service Manual to separate the halves of turn-signal connector [31] (3).
- m. Refer to the wiring diagram in the Service Manual. Note the wire colors and positions, then remove the socket terminals and wires from **socket housing** [31B]. **DO NOT** remove the wires from the Amp **pin housing**. Set the socket housing aside for later re-assembly.
- n. Before pulling the switch and turn signal wires through the upper fork clamp, carefully note the wire routing and locations of all wire tie wraps (sold separately) that must be replaced. Wrap a wire lead around the ends of the switch and turn-signal wires. Pull the wires out through the routing hole in the upper fork clamp. Once the **switch and turn-signal wires** are through the routing hole, unwrap the wire lead and leave it in the hole for ease of re-assembly.



**Figure 7. Handlebar Control Connectors (2004 and 2005 VRSCA)**

20. **For ALL models:** Remove the handlebar switches and turn signals from the motorcycle.
21. See Figure 3. Remove the two hex flange head screws (5) holding the handlebar to the upper triple clamp (4). Remove and discard the handlebar, but save the screws.

## New Handlebar Wiring

1. Obtain the new Custom Handlebar from the kit.
2. Slide one **large** grommet from the kit onto each of the **handlebar switch** wire bundles, close to the switch end. Slide one **small** grommet from the kit onto each of the **turn-signal** wire bundles, close to the turn signal end.
3. Apply a light coat of liquid soap, window cleaner, or all-purpose lubricant such as WD-40®, to the right-side switch wire and turn signal wire bundles.

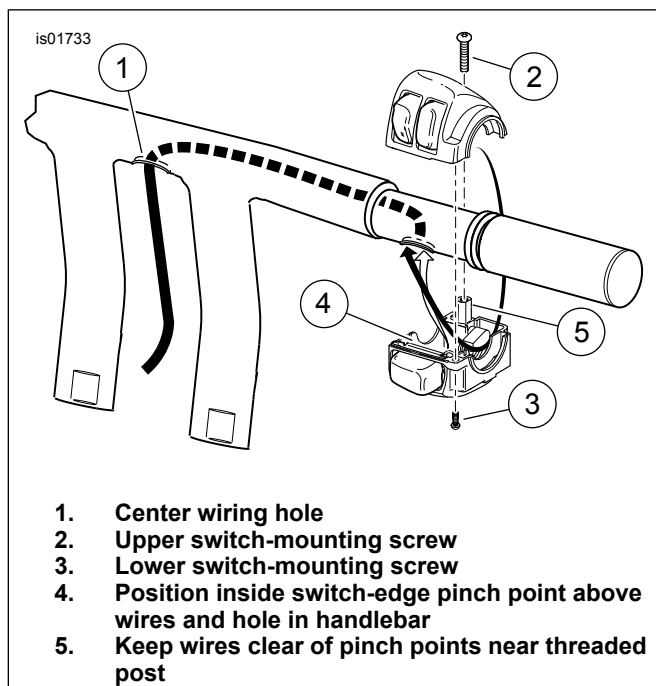
### ⚠ WARNING

**Carefully pull the wires through hole in handlebar to prevent stripping the wires. Stripped wires can cause short circuits and damage vehicle electrical components, which could cause loss of vehicle control resulting in death or serious injury. (00418b)**

4. See Figure 8. Gently feed the wire bundle into the right-side switch-wire hole and down through the handlebar, and out the hole at the center of the handlebar.

### ⚠ 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)**



**Figure 8. Switch-Housing Wire Routing (Right Side Shown)**

5. Gently feed the wire bundle into the right-side turn-signal hole and down through the handlebar, and out the hole at the center of the 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)**

6. Insert the switch-wire grommet into place in the switch-wire hole in the handlebar.

#### NOTE

*The round turn-signal wiring grommet is an extremely tight fit. Use a twisting motion to avoid damaging the grommet.*

7. Insert the turn-signal grommet into place in the turn-signal hole in the handlebar.
8. Repeat steps 3 through 7 for the left-side switch wires and turn-signal wires.

## New Handlebar Installation

1. Refer to Figure 3. Mount the handlebar (8) on the upper triple clamp (4). Install and tighten the handlebar screws (5) removed earlier, and tighten to 41-47 Nm (31-35 ft-lbs).

#### NOTE

*Avoid the switch housing pinch points as shown in Figure 8.*

#### ⚠ 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)**

2. Refer to RIGHT HANDLEBAR SWITCH: INSTALLATION in the Service Manual, and follow the instructions given to:
  - a. Install the throttle control cables and right grip/ throttle sleeve assembly.
  - b. Use the T25 TORX drive head to install the upper and lower switch housings onto the handlebar. **Do not** fully tighten the screws.
  - c. Install the brake master cylinder reservoir/ brake lever assembly and the handlebar clamp to the handlebar with the T27 TORX screws and flat washers removed earlier. Orient the lever for rider comfort and posture, and tighten first the top, then the bottom **handlebar clamp** screw to 8-9 Nm (71-80 in-lbs).
  - d. Tighten first the lower, then the upper **switch housing** screws to 4.0-5.1 Nm (35-45 in-lbs).

#### NOTE

*If the handlebar grips are patterned, align the pattern on the left grip with the pattern on the right grip while the throttle is in the fully closed position.*

3. Install a new (purchased separately) or original handlebar grip on the left end of the new handlebar according to the handlebar grip instruction sheet or the LEFT HAND GRIP, INSTALLATION instructions in the Service Manual.
4. Refer to LEFT HANDLEBAR SWITCH: INSTALLATION in the Service Manual, and follow the instructions given to:
  - a. Use the T25 TORX drive head to install the upper and lower switch housings onto the handlebar. **Do not** fully tighten the screws.
  - b. See Figure 1. Install the clutch master cylinder reservoir and lever assembly (1) and the handlebar clamp (2) to the handlebar with the T27 TORX screws (3) and flat washers (4) removed earlier. Orient the lever for rider comfort and posture, and tighten first the top, then the bottom **handlebar clamp** screw to 8-9 Nm (71-80 in-lbs).
  - c. Tighten first the lower, then the upper **switch housing** screws to 4.0-5.1 Nm (35-45 in-lbs).

5. Install the turn signals and mirrors to the vehicle with the lock nuts and lock washers removed earlier. Do not fully tighten at this time.

#### NOTE

**Do not remove the 4mm (5/32 inch) thick insert (see Figure 5 ) until the right-side switch housing has been completely installed.**

*Orient the brake lever for rider comfort and posture before torquing the screws*

## 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)**

6. Check for electrical continuity between the handlebar and each wire in the wire bundles. Continuity would indicate a short circuit, which would require examination of the wires and routing in the switch housing.
7. Cut the 102 mm (4 in.) long piece of heat-shrink tubing from the kit into two equal pieces.
8. Slide one piece of the tubing over the end of each **turn-signal** wire bundle exiting the center hole of the handlebar.
9. **For 2002 and 2003 models: For 2004 and 2005 models:**
  - a. Obtain the 6-place Amp Multilock turn-signal socket housing removed earlier. Refer to the wiring diagram and the AMP MULTILOCK ELECTRICAL CONNECTORS section in the Service Manual. Follow the notes saved from the removal step and note the wire colors and positions, then insert the turn-signal socket terminals and wires into the housing.
  - b. See Figure 6. Connect the socket housing [31B] into the mating pin housing [31a] at the electrical brackets (5). Use a cable strap (sold separately) to attach connector [31] to the electrical bracket.
  - c. Obtain the black (right-side) 6-place Deutsch handlebar switch socket housing removed earlier. Refer to the wiring diagram and the DEUTSCH ELECTRICAL CONNECTORS section in the Service Manual. Note the wire colors and positions, then insert the right-side handlebar switch socket terminals and wires into the housing.
  - d. Connect the socket housing [22B] into the mating pin housing [22a] at the electrical brackets. Use a cable strap to attach connector [22] to the electrical bracket.
  - e. Re-assemble the left-side handlebar switch wires into the gray 6-place Deutsch socket housing in the same manner, and connect the socket housing [24B] into the mating pin housing [24a]. Use a cable strap to attach connector [24] to the electrical bracket.
  - f. Refer to Figure 3. Attach the lower handlebar cover (6) to the handlebars (8) with the fasteners (3) removed earlier. Tighten the fasteners to 6-10 Nm (54-88 in-lbs).
  - g. Wrap the wire lead left in the routing hole during disassembly around the ends of the handlebar switch and turn-signal wires. Pull the wires through the routing hole in the upper fork clamp. Once the switch and turn-signal wires are through the routing hole, unwrap and discard the wire lead.

- h. Obtain the 6-place Amp Multilock turn-signal socket housing removed earlier. Refer to the wiring diagram and the AMP MULTILOCK ELECTRICAL CONNECTORS section in the Service Manual. Follow the notes saved from the removal step and note the wire colors and positions, then insert the turn-signal socket terminals and wires into the housing.
  - i. See Figure 7. Connect the socket housing [31B] into the mating pin housing [31a].
  - j. Obtain the black (right-side) 6-place Deutsch handlebar switch socket housing removed earlier. Refer to the wiring diagram and the DEUTSCH ELECTRICAL CONNECTORS section in the Service Manual. Note the wire colors and positions, then insert the right-side handlebar switch socket terminals and wires into the housing.
  - k. Connect the socket housing [22B] into the mating pin housing [22a].
  - l. Re-assemble the left-side handlebar switch wires into the gray 6-place Deutsch socket housing in the same manner, and connect the socket housing [24B] into the mating pin housing [24a].
  - m. Re-install the left-side cover.
10. **For ALL models:** Position the heat-shrink tubing (installed on the wire bundles in step 8) in the area of the center wire-exit holes on the handlebar.

## ▲ WARNING

**Wires exiting the bottom center of the handlebar must be protected from wear with heat-shrink tubing at the wire-exit hole on the handlebar. Failure to protect wires with shrink tubing can cause short-circuits or severed wires, which could cause loss of vehicle control resulting in death or serious injury. (00432c)**

## NOTE

*The heat-shrink tubing on the turn-signal wire bundles exiting the bottom center of the handlebar must be installed to protect the wires from damage and short circuits at the wire-exit holes.*

## ▲ 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.**
11. Use the radiant-heating device to shrink the heat-shrink tubing to the wires.

12. Set the instrument cluster (9) into the handlebar bottom cover. Connect the wiring harness to the instrument cluster. Gently push the connector into the socket until the release latches lock into place.

#### NOTE

*See Figure 4. The hook (arrow) holding the bottom of the bezel and the top cover to the lower handlebar cover can be damaged if forced during installation.*

13. See Figure 3. Orient the instrument bezel (1) and fit the bezel hook over the tab on the lower handlebar cover (6). Gently tilt the bezel and the top handlebar cover (2) until the bezel hook snaps into place.
14. Fit the top cover (2) under the headlamp bracket. The bezel edge should fit snugly into the grooved rim of the lower and upper covers.
15. Install the fasteners (7) that hold the top handlebar cover and instrument bezel, and capture the instrument cluster (9). Tighten the fasteners to 1.3-1.9 Nm (12-16 **in-lbs**).
16. See Figure 2. Install the two mounting bolts (5) that hold the headlamp bracket (2). Tighten the bolts to 11-18 Nm (9-13 **ft-lbs**).
17. Refer to the Service Manual, and follow the instructions given to install the maxi-fuse and right side cover.

## Safety Check

### ⚠ WARNING

**Be sure that steering is smooth and free without interference. Interference with steering could result in loss of vehicle control and death or serious injury. (00371a)**

- Be sure wires, throttle/ idle cables, and clutch and brake lines do not pull tight when handlebars are turned fully to left or right fork stops.
1. Adjust the turn signal lamps to be parallel to the ground and pointed straight ahead. Adjust the rear view mirrors for proper field of vision, and tighten the lock nut on each side to 16.3 Nm (114 **in-lbs**). Check mirror adjustment and reposition if necessary.

### ⚠ WARNING

**Be sure that all lights and switches operate properly before operating motorcycle. Low visibility of rider can result in death or serious injury. (00316a)**

2. Turn the ignition ON. Check all lamps and switches for proper operation.