



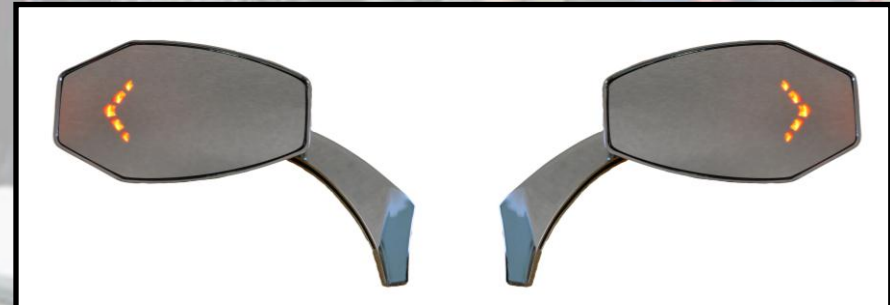
Signal® Mirror Installation Instructions

Merge Master *Signal*® Mirror Kit or Angular & Oval *Signal*® Mirror Kits for:

- Harley Davidson Motorcycle 1982-2009
- Indian Motorcycle 1999-2002 (For installation instructions, see page 5)
- V-Rod Motorcycle 2002-2008 (For installation instructions, see page 6)
- Metric Cruiser Motorcycle (For installation instructions, see page 8)



Merge Master Safety
Signal® mirror
(w/ Forward Facing)
Black Powder Coated



Merge Master Safety
Signal® mirror
(w/ Forward Facing)
Chrome



Motorcycle Safety
Signal® mirror
(w/ Forward Facing)



Forward Facing
Motorcycle Safety
Signal® mirror



Oval Motorcycle Safety
Signal® mirror (w/ Forward
Facing Running Lights)



Oval Forward Facing
Motorcycle Safety
Signal® mirror

THE safety accessory of the 21st Century.™

INCLUDED ITEMS:

(1) left and (1) right *Signal*® mirror (Flat Glass) and housing, (1) left and (1) right wire harness, (2) 1 5/8" long 5/16" - 24 Allen head bolts, (1) 8" shrink tube, (1) ring connector, (6) nylon cable ties, (1) instruction manual

REQUIRED TOOLS:

Ratchet with extension or ratcheting screwdriver, Needle nose pliers, 1/2" socket, 3/32" hex wrench, 1/4" hex wrench, 3mm Allen wrench, Masking tape, Multimeter, Sturdy gloves, Safety glasses or Goggles, T40 Torx bit, and T25 Torx bit.

Note: Prior to servicing turn indicator modules (TSMs) and turn indicator security modules (TSSMs) on the following Harley Davidson motorcycles, see Service Bulletin M-1115 available at Harley Davidson dealerships.

*All 2001-2002 Harley Davidson models except Sportster.

*2000 models that have been equipped with accessory Harley Davidson security systems listed below.

Domestic: 68200-00 & 68207-00

HDI: 69719-01 & 69720-01

ADDITIONAL TOOLS REQUIRED FOR INDIAN MOTORCYCLE INSTALLATION:

3/16" hex wrench, 5/16" hex wrench, 5/32" hex wrench, 1/2" box wrench, and 10MM wrench

Please read instructions prior to installation.

PROBLEMS OR QUESTIONS?

Technical Assistance is available by calling
Muth Mirror System Technicians at:

1-800-844-6616

Monday through Friday
Between 8:00 a.m. and 5:00 p.m. CST

Or through the Muth web site: www.muthco.com

Or via E-mail: techsupport@muthco.com

ADDITIONAL PARTS NEEDED FOR HARLEY DAVIDSON:

If you have OEM forward facing indicators mounted to the OEM mirror systems and you want to continue to use them after the *Signal*® mirror installation, you will need to purchase a 2" long 5/16" - 24 piece of threaded rod.

ADDITIONAL PARTS NEEDED FOR METRIC CRUISER:

To be able to install your new *Signal*® mirror, you need to purchase separately an adapter kit (Part #300-0037-0). To order this kit, please call 1-800-844-6616.

Professional Installation Recommended:

Warranty does not cover damage to the vehicle or mirror housing due to improper installation.

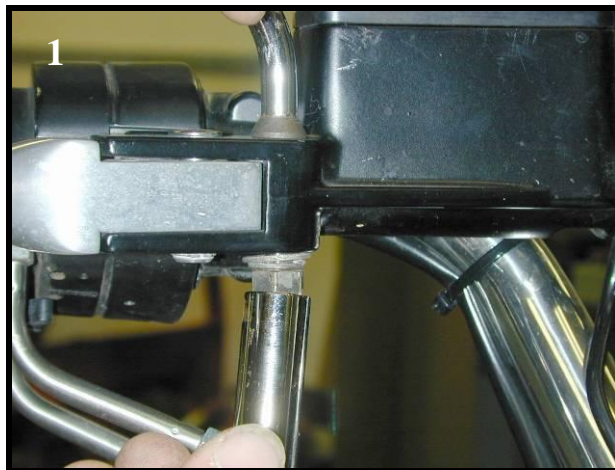
Muth Mirror Systems, LLC (MMS) assumes no responsibility with regard to the accuracy of this information.

MMS assumes no liability or responsibility resulting from improper installation, even in reliance upon this information.

Proper installation is the responsibility of the installer.

It is your responsibility to verify any circuit before interfacing with it using a digital multimeter.

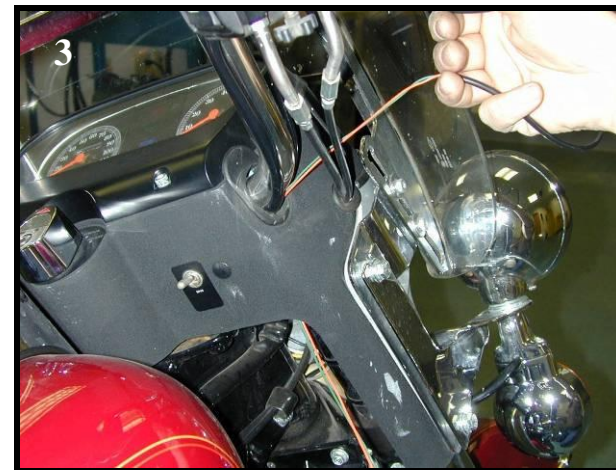
1982-2009 Harley Motorcycle Installation Instructions



Start on either the left or right side mirror. These instructions start with the right side mirror. Remove the factory mirror. **NOTE: For motorcycles with OEM forward facing indicators, please use the instructions on the last page in lieu of step 2.**



Remove the $\frac{5}{16}$ " bolt from the mounting stem on the *Signal*® mirror. While seated on the motorcycle, position the *Signal*® mirror on the handle bar. Secure the *Signal*® mirror to the handle bar using the $\frac{5}{16}$ " bolt. **NOTE: Use of oil is suggested if bolts do not thread easily into stem base.** Make sure the bolt is tight!



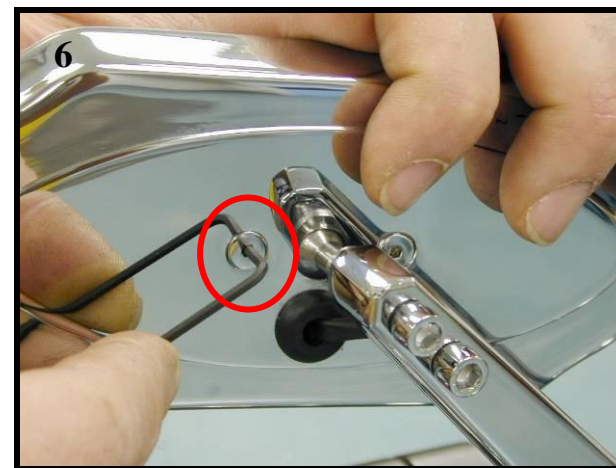
Guide the *Signal*® mirror wire harness into the cowl by going along side the existing factory wire harness.



Remove any slack in the wire harness.



Secure the wire harness to the handle bar using a supplied tie wrap.



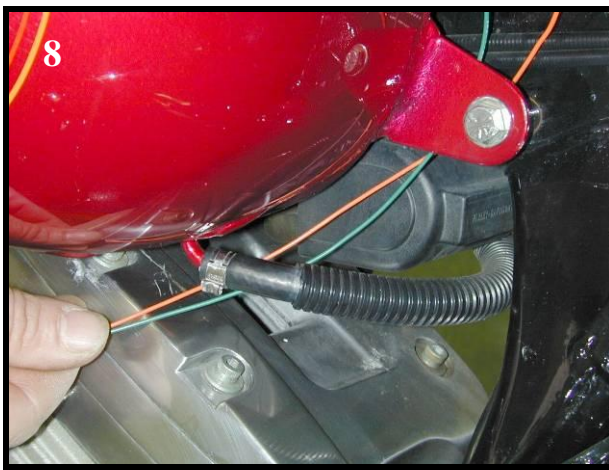
Adjust the position of the *Signal*® mirror and tighten the ball retention screws.

1982-2009 Harley Motorcycle Installation Instructions Continued

**2007 + Fuel Injected Harley Motorcycle – see page 10 for wire routing*



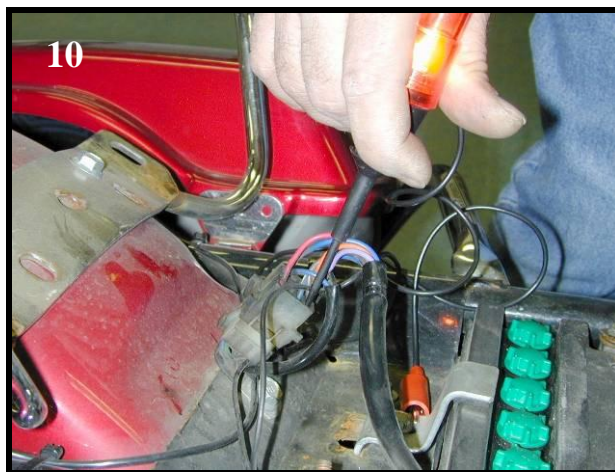
Remove the motorcycle seat. Remove the aft mounting bolts on the fuel tank.



Guide the *Signal*® mirror wire harness along the inside of the fuel tank's front mounting bolt and between the crossover tube.



Lift up the aft portion of the fuel tank and guide the *Signal*® mirror wire harness down the backbone of the motorcycle frame, alongside the existing factory wire harness.



The motorcycle's electrical wiring for turn indicators is located aft of the gas tank on the backbone of the frame. Guide the new wire harness from the *Signal*® mirror to the electrical wiring. Cut off any excess slack in the wire. Locate the SOLID BROWN wire from the wire connector. Turn the ignition key so that electrical power is on and activate the right side turn indicator. Probe the wire with the wire tester to verify that flashing turn indicator power is present. Label that wire as 'right side turn'. Repeat all of the previous steps to replace the left side factory mirror with the new *Signal*® mirror. Locate the SOLID VIOLET wire from the wire connector. Activate the left side turn indicator and probe the wire with the wire tester to verify that flashing turn indicator power is present. Label that wire as 'left side turn'.

For Oval *Signal*® mirror Running Light Wiring Connection

Locate the SOLID LIGHT BLUE wire from the wire connector. Turn the ignition key so that electrical power is on and probe the wire with the wire tester to verify that steady power is present. Label that wire as 'running light'. **NOTE:** The wire color indicated here is for Harley Davidson Motorcycle only. For other models, please consult your wiring diagram and probe with tester to find correct running light wire.

For wire splicing, see last page (page 12).

1999-2002 Indian Motorcycle Installation Instructions

Wiring Instructions:

1. Remove seat.
2. Disconnect battery.
3. Remove handlebar cover on top-center of handlebar.
4. Remove left-side clutch-bracket assembly. This exposes an access hole on the underside of the handlebar.
5. Pass the end of the *Signal*® mirror wires through one of the small holes located on the underside of the clutch-bracket assembly housing.
6. Take piano wire/fish tape and insert at the access hole located on the underside of the handlebar to the center of the handlebar (center handlebar cover removed).
7. Fasten the end of the *Signal*® mirror wires to the piano wire/fish tape and pull through the handlebars to the center opening.
8. Pull excess wire through the handlebars leaving approximately 2" of extra wire at the mirror side.
9. Re-assemble clutch-bracket assembly allowing the *Signal*® mirror wire to wrap around the outside edge of the cover assembly into the underside access hole. Secure *Signal*® mirror with enclosed 1.5" long $\frac{5}{16}$ " - 24 Allen head bolt.
10. Loosen throttle assembly side and slide back to expose access hole. **DO NOT REMOVE THROTTLE ASSEMBLY.** Proceed to pass the *Signal*® mirror wire through the handlebar at the opposite side and re-assemble the throttle assembly.
11. Run both sets of wires under the fuel tank along the topside of the frame to the battery compartment.
12. Connect both black wires to the enclosed ring connector for connection to the battery ground terminal.
13. Locate the male/female electrical connector that is located behind the battery. This wiring assembly is for your tail lamp assembly (for braking and turning (see photo)).



14. Make sure the harnesses are routed securely to the wire connectors and enough slack is left for splicing or soldering. Cut the heat shrink into (4) equal pieces (approx. 2" each).
15. Slide the heat shrink over the passenger side *Signal*® mirror wire. Solder the Right *Signal*® mirror wire to the Brown wire. Slide the heat shrink over to cover the soldered area. Heat the shrink tube into place with a heat shrink gun or hair dryer.
16. Slide the heat shrink over the driver side *Signal*® mirror wire. Solder the Left *Signal*® mirror wire to the Purple wire. Slide the heat shrink over to cover the soldered area. Heat the shrink tube into place using a heat shrink gun or a hair dryer.
17. **For Oval *Signal*® mirror running light wire:** Turn the ignition key so that electrical power is on and probe each wire with the wire tester to locate the running light wire. Label that wire as 'running light'. Cut and strip the blue wires, from both *Signal*® mirror wire harnesses, to length. Twist both wires together and slide the heat shrink over them. Solder the two blue wires to the wire previously labeled 'running light'. Slide the heat shrink over to cover the soldered area. Heat the shrink tube into place using a heat shrink gun or a hair dryer.
18. Connect ground and positive battery connections.
19. Re-install seat.

2002-2008 V-Rod Motorcycle Installation Instructions

FOR V-ROD MOTORCYCLES WITH OEM FORWARD FACING INDICATORS ONLY:

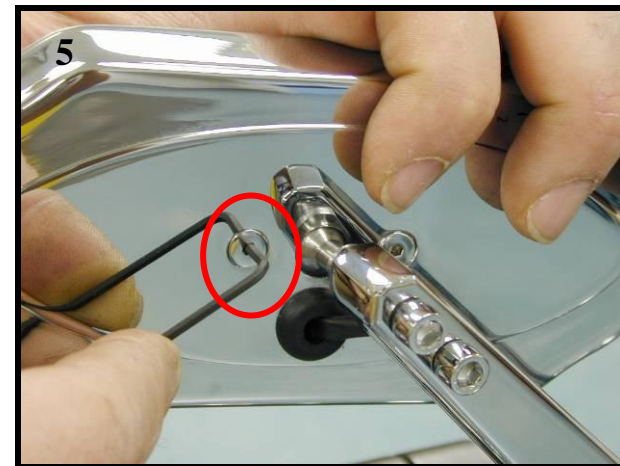
1. Remove front OE turn indicators from mount using 5/8" open end wrench.
2. Remove OE mirrors.
3. Insert approx. 2" 5/16-24 threaded rod (not supplied with kit) into Muth *Signal*® mirror.
4. Mount Muth mirrors in OE mirror location.
5. Re-mount front OE turn indicators to bottom of threaded rod. Check clearance between Air box cover and front OE turn indicators.



Using a 3mm Allen Wrench, remove the (2) screws (one on each side) securing the speedometer housing in place.

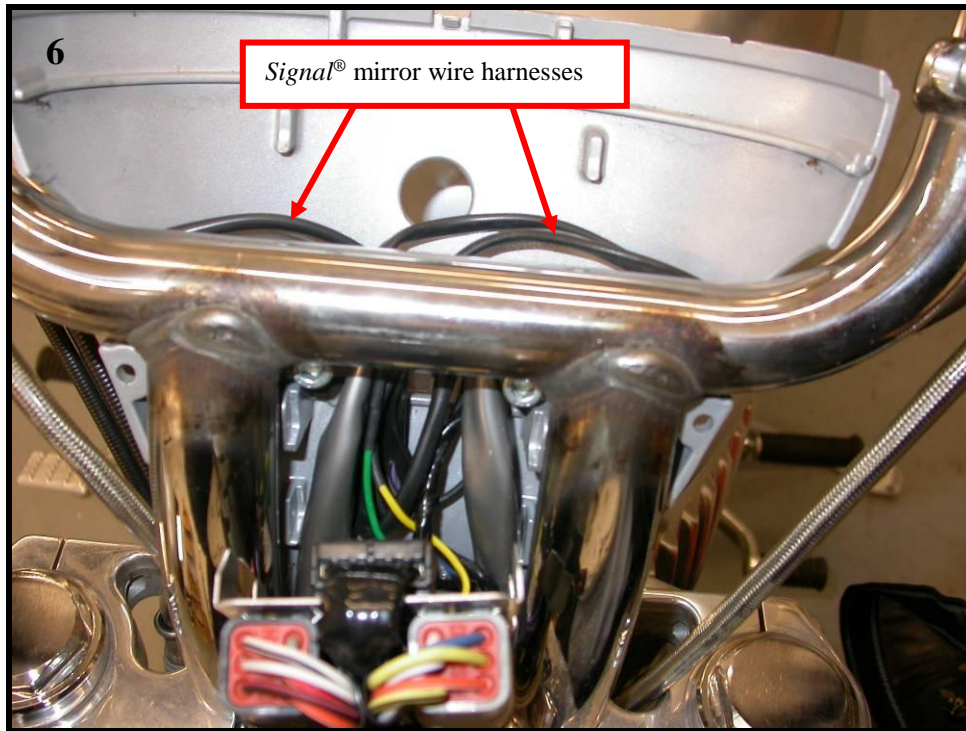


Remove the speedometer housing.

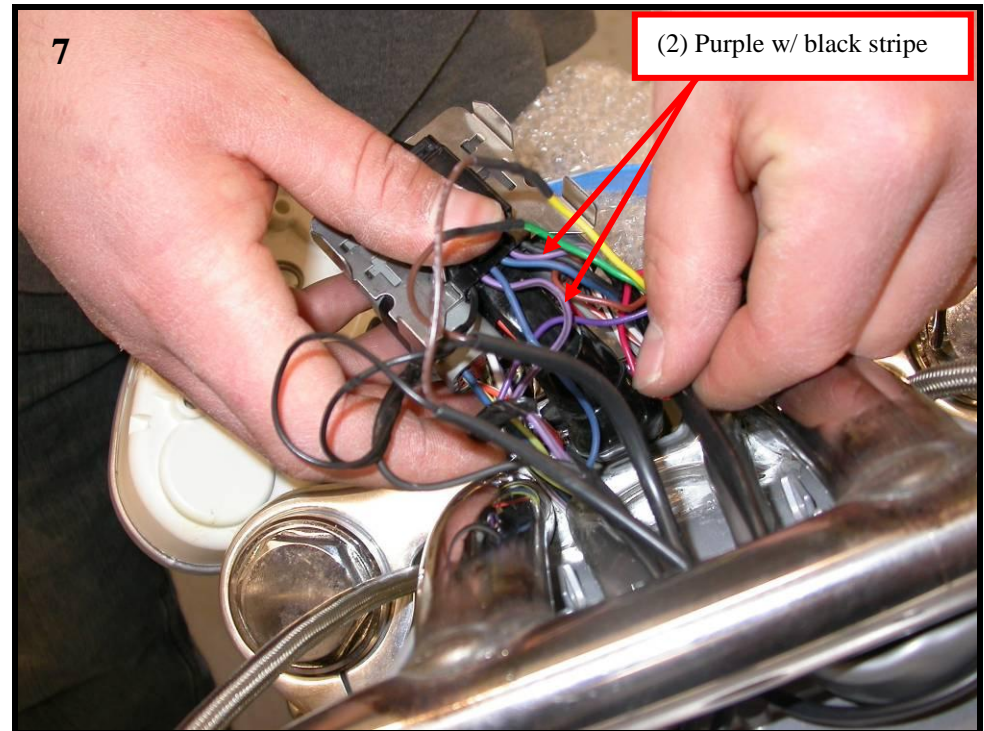


Adjust the position of the *Signal*® mirror and tighten the ball retention screws and all other components to factory specifications.

2002-2008 V-Rod Motorcycle Installation Instructions Continued



Guide the *Signal*® mirror wire harness (along side the existing factory wire harness) into the wire connection behind the speedometer display panel. Remove any slack in the wire harness. Secure the wire harness to the handle bar using a supplied tie wrap.



The motorcycle's electrical wiring for turn directional is located behind and below the display panel. Guide the new wire harness from the *Signal*® mirror to the electrical wiring. Cut off any excess slack in the wire. Locate the (2) PURPLE w/ BLACK STRIPE wire from the wire connector. Turn the ignition key so that electrical power is on and activate the right side turn directional. Probe each wire with the wire tester to verify that flashing turn indicator power is present. Label that wire as 'right side turn'. Repeat test procedure for the left turn indicator. Label that wire as 'left side turn'. Repeat all of the previous steps to replace the left side factory mirror with the new *Signal*® mirror.

For Oval Signal® mirror Running Light Wiring Connection

Turn the ignition key so that electrical power is on and probe each wire with the wire tester to locate the running light wire. Label that wire as 'running light'.

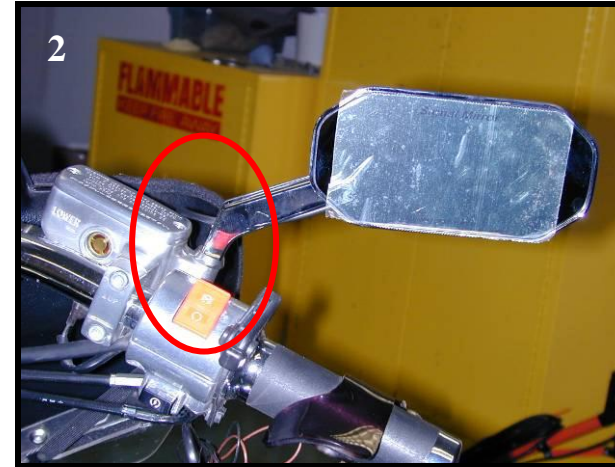
*****For wires splicing, see last page (page 12)*****

Metric Cruiser Motorcycle Installation Instructions

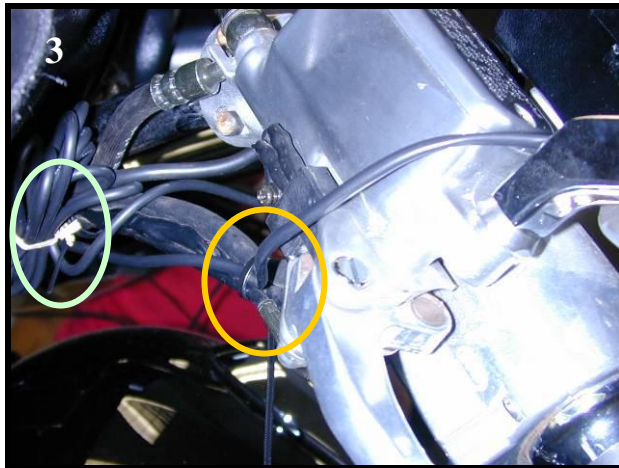
ADDITIONAL PARTS NEEDED FOR METRIC CRUISER: To be able to install your new *Signal*® mirror, you need to purchase separately an adapter kit (Part #300-0037-0). To order this kit, please call 1-800-844-6616.



Start on either the left or right side mirror. These instructions start with the right side mirror. Remove the factory mirror. With the 8 mm open end wrench, tighten the left-hand adapter (adapter kit #300-0037-0 – sold separately) to the *Signal*® mirror stem. **NOTE: Use of oil is suggested if bolts do not thread easily into stem base.**



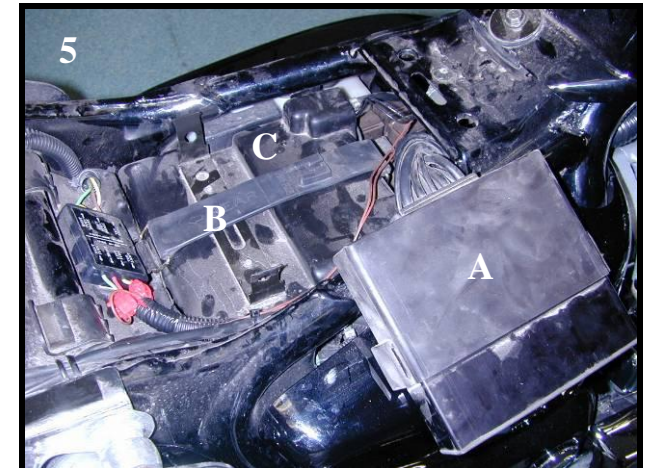
Secure the *Signal*® mirror onto the handle bar by rotating the *Signal*® mirror stem around until it is tight.



Guide the *Signal*® mirror wire harness along side the existing factory wire harness. Cable tie the wires together where necessary.

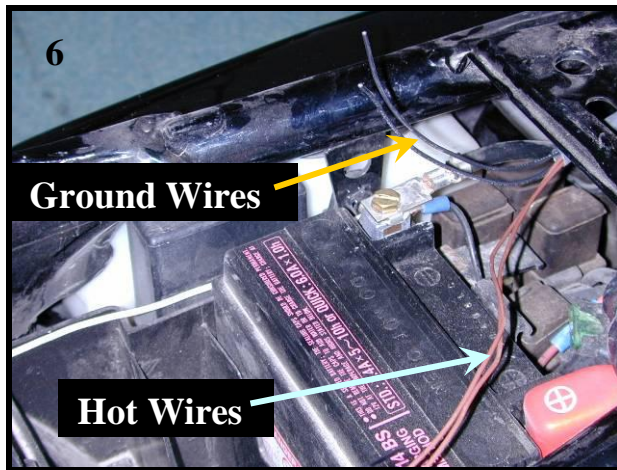


Remove seat from motorcycle as shown. Route the *Signal*® mirror wire harness, along side OE wire harness, under the fuel tank.

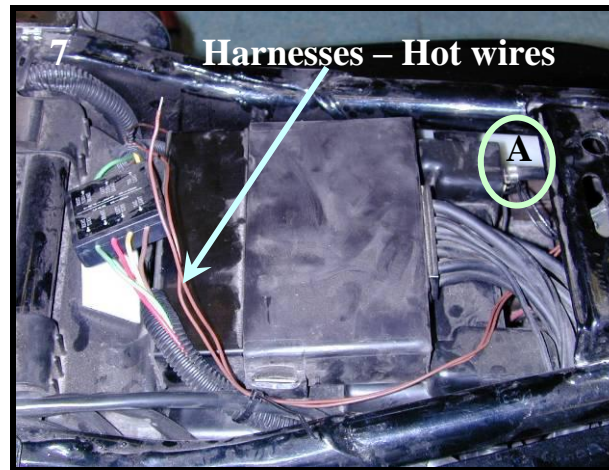


Remove electrical box (A), cover strap (B), and battery cover (C).

Metric Cruiser Motorcycle Installation Instructions Continued



Cut the *Signal*® mirror ground wires as shown.

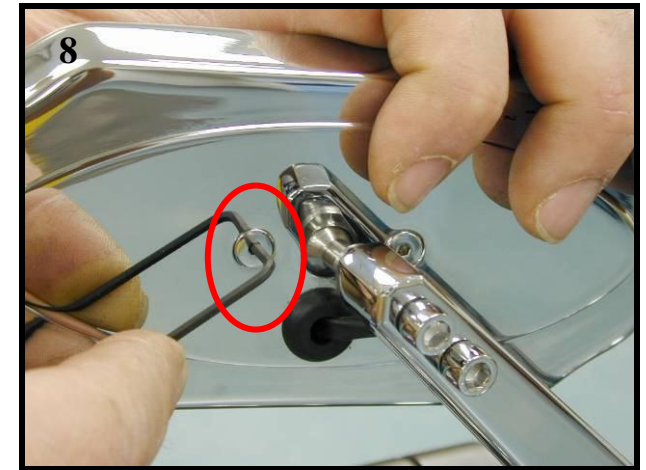


7. Strip and twist together the ends of the black wires from both *Signal*® mirror wire harnesses. Crimp them together in the supplied ring connector and ground to the battery's negative (-) side as shown in A. Replace the battery cover, the cover strap, and the electrical box as shown. Run the hot wires from both *Signal*® mirror wire harnesses to the junction box.

For Oval *Signal*® mirror Running Light Wiring Connection

Turn the ignition key so that electrical power is on and probe each wire with the wire tester to locate the running light wire, left turn indicator, and right turn indicator. Label each wire accordingly as 'running light', 'left side turn', and 'right side turn'.

8. Adjust the position of the *Signal*® mirror and tighten the ball retention screws.



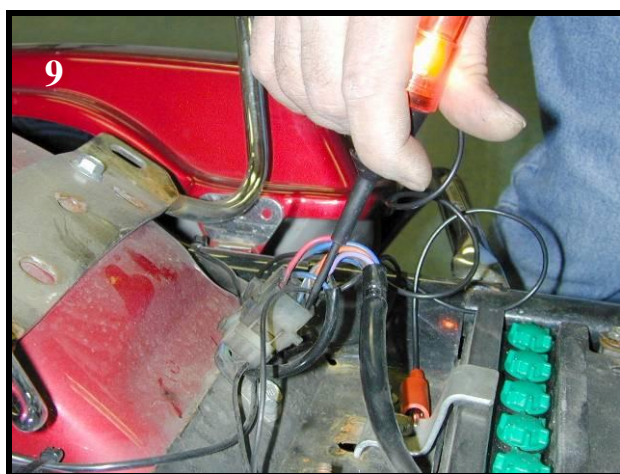
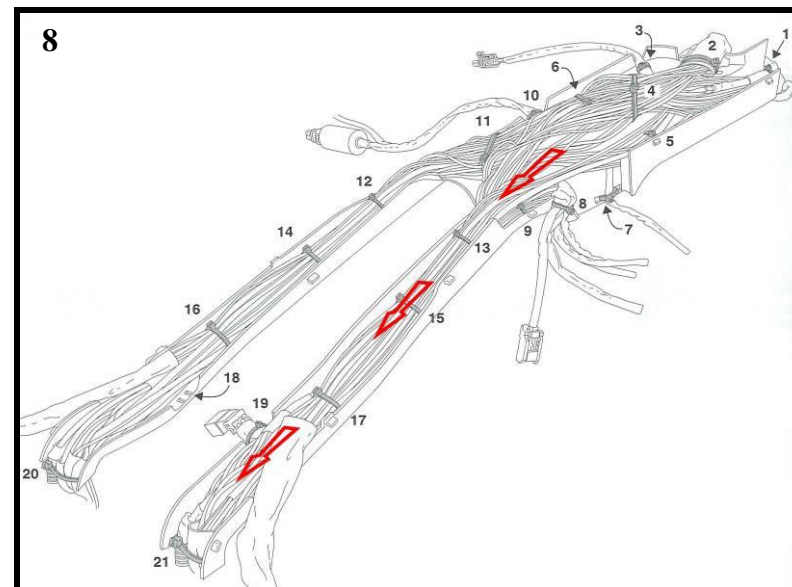
Caution: This installation was based on a Honda Valkyrie with a trailer kit harness, therefore, please do not base your wiring off of this installation. The grounding location, turn indicator wire location, running light wire location, and wire color will be different on each Metric Cruiser installation. Refer to your service manual to locate your turn indicator wires and grounding location. Make certain that you probe the wire harness to locate the proper left/right turn and/or running light indicator wire before termination of the left/right brown *Signal*® mirror wires are made. Label each wire indicators accordingly ('left turn/right turn/running light').

*****For wires splicing, see last page (page 12)*****

2007 + (Fuel Injected) Harley Motorcycle Installation Instructions

****See Service Manual for detail instruction on these procedures**

To avoid the removal of the fuel tank, wiring connection for the LH and RH Signal® mirror may be made within the fairing – not available to all models. See page 11 for details.



7) Drain and purge fuel system**. Remove the motorcycle seat**. Remove the aft mounting bolts on the fuel tank using a T40 Torx bit. Remove fuel tank completely**.

8) Removing the fuel tank provides you access to the wire routing passages. Choose one of the two passages and route the Signal® mirror wire harness alongside existing factory wire bundle to the electrical wiring location.

9) The motorcycle's electrical wiring for turn indicators is located aft of the gas tank on the backbone of the frame. Guide the new wire harness from the Signal® mirror to the electrical wiring. Cut off any excess slack in the wire. Locate the SOLID BROWN wire from the wire connector. Turn the ignition key so that electrical power is on and activate the right side turn indicator. Probe the wire with the wire tester to verify that flashing turn indicator power is present. Label that wire as 'right side turn'. Repeat all of the previous steps to replace the left side factory mirror with the new Signal® mirror. Locate the SOLID VIOLET wire from the wire connector. Activate the left side turn indicator and probe the wire with the wire tester to verify that flashing turn indicator power is present. Label that wire as 'left side turn'.

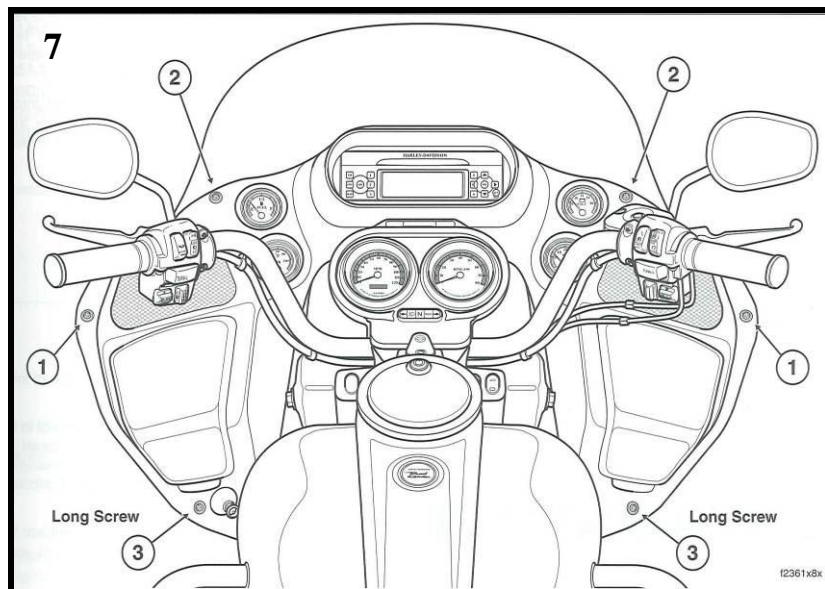
For Oval Signal® mirror Running Light Wiring Connection

Locate the SOLID LIGHT BLUE wire from the wire connector. Turn the ignition key so that electrical power is on and probe the wire with the wire tester to verify that steady power is present. Label that wire as 'running light'. **NOTE: The wire color indicated here is only for Harley Davidson Motorcycle only. For other models, please consult your wiring diagram and probe with tester to find correct running light wire.**

*****For wires splicing, see last page (page 12)*****

Fairing Wiring Connections (not available on all models)

****See Service Manual for detail instruction on these procedures**



7) Using a T25 Torx bit with ratchet, remove the (6) screws holding the outer fairing in place**.

8) The motorcycle's electrical wiring for turn indicators is located within the fairing. Guide the new wire harness from the *Signal®* mirror to the wiring location.

Locate the wire coming off of connector [31R], turn the ignition key so that electrical power is on. Activate the right side turn indicator. Probe the wire with the wire tester to verify that flashing turn indicator power is present. Label that wire as 'right side turn'. Guide the BROWN wire from the right side *Signal®* mirror harness to the wire labeled as 'right side turn'. Cut to length and strip about 1/4" inch off of the BROWN wire.

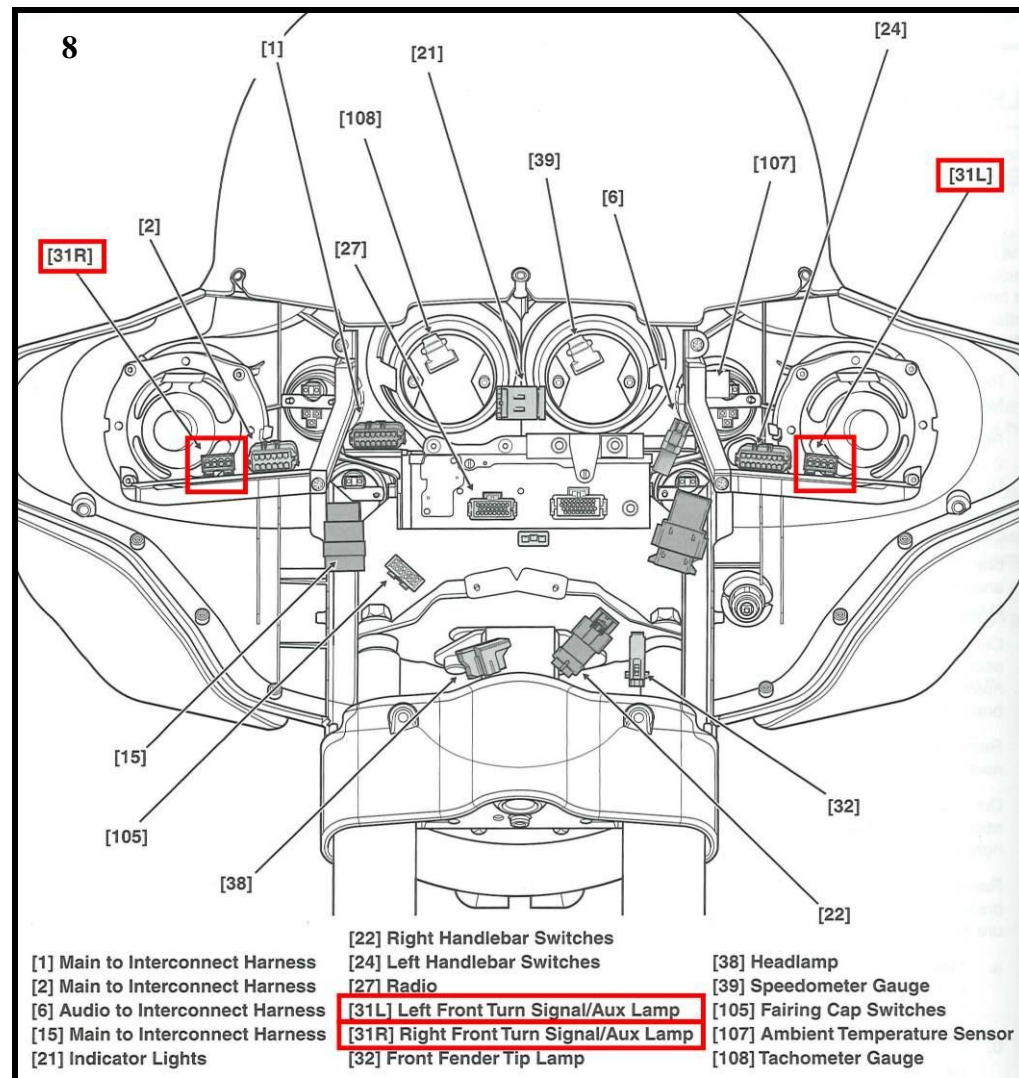
****Repeat all of the previous steps to replace the left side factory mirror with the new *Signal®* mirror.**

Locate the wire coming off of connector [31L], turn the ignition key so that electrical power is on. Activate the right side turn indicator. Probe the wire with the wire tester to verify that flashing turn indicator power is present. Label that wire as 'left side turn'. Guide the BROWN wire from the left side *Signal®* mirror harness to the wire labeled as 'left side turn'. Cut to length and strip about 1/4" inch off of the BROWN wire.

Find a suitable grounding wire within the fairing. Label that wire 'grounding wire'.

For Oval *Signal®* mirror Running Light Wiring Connection

Turn the ignition key so that electrical power is on and probe the wires within fairing with the wire tester to verify that steady power is present. Label that wire as 'running light'.



*****For wires splicing, see last page (page 12)*****

Soldering wires

For superior connection, soldering is recommended for splicing wires together. Please use the included heat shrink to cover soldered area on wires.

1. Make sure the harnesses are routed securely to the wire connectors and enough slack is left for soldering. Cut the heat shrink into (4) equal pieces (approx. 2" each).
2. Slide the heat shrink over the right side *Signal*® mirror brown wire. Solder the BROWN wire from the right side harness into the right turn indicator wire previously labeled 'right side turn'. Slide the heat shrink over to cover the soldered area. Heat the shrink tube into place with a heat shrink gun or hair dryer.
3. Slide the heat shrink over the left side *Signal*® mirror wire. Solder the BROWN wire from the left side harness into the left turn indicator wire previously labeled 'left side turn'. Slide the heat shrink over to cover the soldered area. Heat the shrink tube into place using a heat shrink gun or a hair dryer.
4. Cut and strip the blue wires, from both *Signal*® mirror wire harnesses, to length. Twist both wires together and slide the heat shrink over them. Solder the two blue wires to the wire previously labeled 'running light'. Slide the heat shrink over to cover the soldered area. Heat the shrink tube into place using a heat shrink gun or a hair dryer.
5. Cut and strip the black wires, from both *Signal*® mirror wire harnesses, to length. Twist both wires together and slide the heat shrink over them. Solder the two black wires to a battery negative wire on the motorcycle. Slide the heat shrink over to cover the soldered area. Heat the shrink tube into place using a heat shrink gun or a hair dryer.
6. Activate each turn indicator to verify that the *Signal*® mirrors are working.
7. Replace seat and any other accessories.

Step 2

FOR HARLEY-DAVIDSON MOTORCYCLES WITH OEM FORWARD FACING INDICATORS ONLY:

Left hand mirror - Mount the turn indicator swivel to the underside of the switch housing using the supplied 1.5" bolt.

Right hand mirror – Screw a 2" long $\frac{5}{16}$ " – 24 piece of threaded rod into the *Signal*® mirror so $\frac{1}{4}$ " is sticking through the bottom of the switch housing. Mount the OEM turn indicator swivel to the threaded rod.

Return to page 3 "*1982-2005 Harley Motorcycle Installation Instruction*" step 3 to finish the installation.

PROFESSIONAL INSTALLATION RECOMMENDED

Warranty does not cover damage to vehicle or mirror housing due to improper installation. Muth Mirror Systems, LLC (MMS) assumes no responsibility with regard to the accuracy of this information. MMS assumes no liability or responsibility resulting from improper installation, even in reliance upon this information. Proper installation is the responsibility of the installer. It is your responsibility to verify any circuit before interfacing with it using a digital multimeter.

WARRANTY STATEMENT

The Signal® Mirror is warranted to be free from defects in materials and workmanship for a period of three years or 36,000 miles (whichever comes first) from date of sale to original purchaser. This warranty excludes labor, broken glass, or other situations that cause harm to the product after it has been shipped from the factory, such as damage, unreasonable use, modifications, or alterations. In the event of a defect, Muth reserves the right to evaluate the problem through Quality Control and, at Muth's discretion, replace the defective product. Any warranty or replacement part will be charged to the customer when shipped. Credit will be given when the defective part is returned to and received by Muth, and the replacement is warranted.

Muth products are protected by these, and other pending, United States Patents: 6,076,948; 6,257,746; 7,104,676; 7,327,321; 6,749,325; 7,241,037; 7,192,172; 7,273,307; 7,416,318; 6,045,243; D394,833; D409,540; D428,373; D426,506; D430,088; D426,507; D428,372; D429,202; D428,842; D425,466; D427,128