

# RiderWest

## K1200LT Tip-Over Wing LED Marker Light Kit

This kit includes everything you need to add an LED side Marker light to each tip-over wing on your K1200LT. When wired as per these instructions, the Marker lights act as both running lights and turn signals, giving you greater conspicuity, especially when turning or changing lanes.

Installation is straightforward—most steps take longer to explain than to actually perform. Though this document is 12 pages long, a good portion of it is taken up with photos.



**TIP** It's a good idea to read a section all the way through and study the photos before you start drilling or cutting so you know what to expect.

If you have any questions about this kit, contact [support@riderwest.com](mailto:support@riderwest.com). You can download a full-color version of this document from our Web site: [www.riderwest.com](http://www.riderwest.com).

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# What you get

Check the parts that came with your kit before you begin. Your kit should contain:

- (2) Amber LED Side Marker Lights with mounting screws
- (2) 4' pieces of red and black zip cord (wire)
- Connectors-Bag 1
  - (4) Male connectors, fully insulated, red, crimp-type
  - (4) Female connectors, fully insulated, red, crimp-type
  - (4) Piggy-back adaptors, crimp-type
  - (2) Female connectors, crimp-type
- Connectors-Bag 2
  - (1) T-Tap IDC (Insulation Displacement Connector)
  - (1) Male connector
- (3) Cable ties, 4"
- (2) Cable ties, 7", black
- Detailed instructions (what you're reading now)

# What you need

To install this kit, you need the following tools:

- T-25 Torx wrench (from the LT's toolkit—for removing the tip-over wing covers)
- Philips head screwdriver (for removing turn signal assemblies)
- Crimping tool (for standard, automotive-type crimp connectors)
- Pliers (if you use the T-Tap)
- Wire cutter/stripper
- Drill with 3/32" and 1/4" bits

# Mounting the Marker Lights

1. Use the T-25 Torx wrench to remove the two screws on the bottom of the black Tip-Over Wing cover (very early model LTs use an Allen screw instead of a Torx). Remove the cover. See Figure 1.


 **NOTE** If you have a 2005 or newer bike, you must remove the courtesy light on the bottom of the black cover before removing the cover. Remove the two screws, lower the light from its mounting position, and remove the two wires. Now the cover will come off.




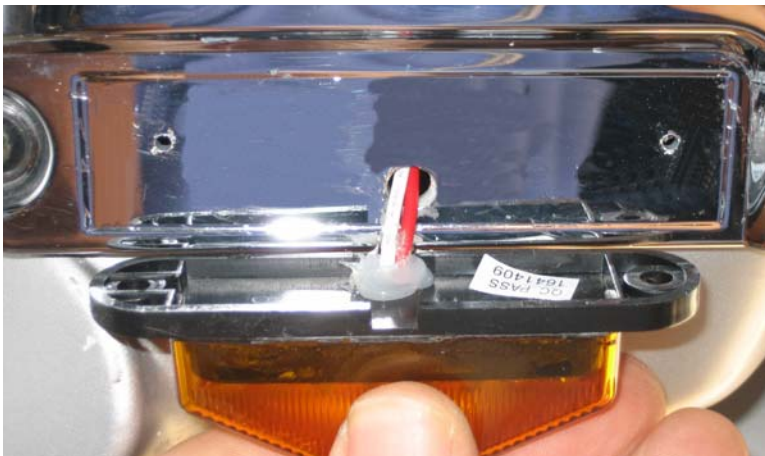
Figure 1: Screw locations on bottom of 2003 Tip-Over Wing cover (this cover is cut out for Bob's Highway Pegs). 2005 and later models have a courtesy light in the bottom of the cover.

2. On the chrome cover, in the lower-center of the recessed area where the Marker light will be mounted, drill a  $\frac{1}{4}$ " hole for the wires (the space behind where the Marker light mounts is hollow). The hole is about  $1\frac{7}{8}$ " from the right and  $\frac{7}{16}$ " from the top of the square recess. See Figure 2.



Figure 2: Location of the  $\frac{1}{4}$ " hole for the Marker Light wires

3. On the Marker light:
    - a. Cut the connector off the white wire, strip off about  $\frac{1}{4}$ " of insulation, and twist the strands together.
    - b. Remove the pre-cut insulation from the red wire, twist the strands together, and trim the exposed copper to  $\frac{1}{4}$ ".
  4. Push the Marker light wires through the  $\frac{1}{4}$ " hole (Figure 2) and make sure the Marker light fits flush. Mark the location of the two mounting holes with a sharp object or by starting to drill a  $\frac{3}{32}$ " hole on each side as you hold the light in position. See Figure 3.
-  **NOTE** If the sealant around the wires keeps the Marker light from sitting flush, drill a little larger hole for the wires.
5. Let the Marker light hang loose and drill two  $\frac{3}{32}$ " mounting holes as shown in Figure 3.




**Figure 3: Mounting holes for Marker light**

6. Put the Marker light back in position and fasten with the two screws. Do not over-tighten. See Figure 4. (The plastic is fairly thick and the screws hold well. However, if you do strip the hole, drill it larger and replace the screw with an 8-32 machine screw and nut.)



**Figure 4: Marker light mounted**

7. Remove the chrome cover (on which you just mounted the Marker light) by removing three screws (two on the bottom and one to the left (or right) of the Marker light) and disengaging the tab facing upward near the narrow end of the cover. Note that the screw next to the Marker light is (usually) longer than the other two. Set the assembly aside so you don't step on it (e.g., under the bike).

 **NOTE** If you have foot pegs installed (such as J-Pegs, Mick-O-Pegs, or Bob's Highway Pegs), you must remove them before removing the chrome cover.

8. Repeat for other side of the bike.

## Wiring the Marker Lights

1. Run one of the pieces of black/red zip cord from the nose of the bike to one of the tip-over wings. There is a space to the outside of the radiator where you can run the wire. See Figure 5.



**Figure 5: Running the wire from the nose of the bike to the tip-over wing**

2. Next, thread the wire below the metal bracket and tubing and run it toward the rear of the tip-over wing. See Figure 6.



**Figure 6: Running the wire in the tip-over wing**



3. On the end of the zip cord in the tip-over wing, to make the connectors crimp more securely, separate the ends and strip about  $\frac{1}{2}$ " of insulation off of each conductor, twist the strands together, and fold back the wire so the copper is doubled that goes into the connector.
  - a. Attach a FEMALE connector to the RED wire.
  - b. Attach a MALE connector to the BLACK wire.
4. On the wires coming from the Marker light:
  - a. Attach a MALE connector to the RED wire.
  - b. Attach a FEMALE connector to the WHITE wire.
5. Replace the chrome cover on the tip-over wing (don't put the screws in yet) and run the wires from the Marker light under the tubing facing the rear and then over the tubing sticking out, as shown in Figure 7.

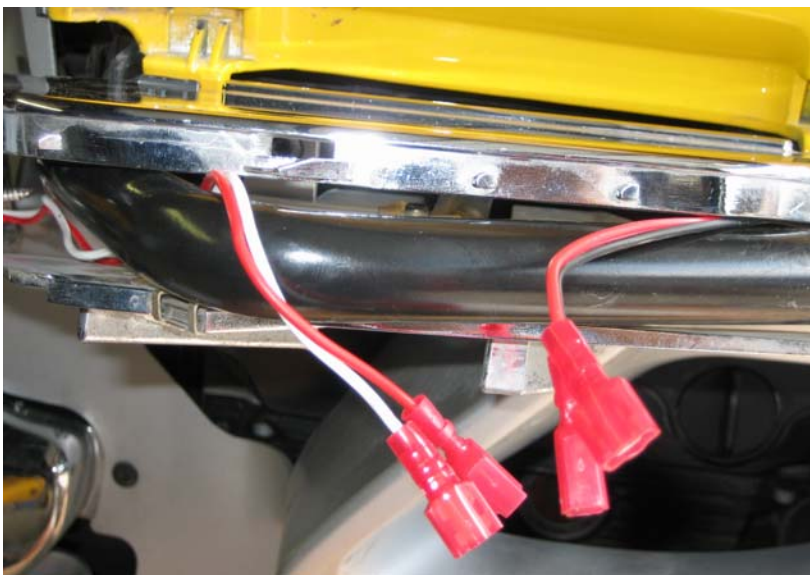


Figure 7: Wire positions after chrome cover is replaced

6. Push the connectors together (red to red and white to black—red is the "hot" wire and white/black is the ground).
7. Fold the wires into the chrome cover (leave enough wire so the connectors can be disconnected when necessary). See Figure 8.



Figure 8: Wires tucked under chrome cover

8. Replace the three screws in the chrome cover (the longer screw goes next to the Marker light).
9. Re-install the black plastic cover (and your foot pegs if you removed any). Your tip-over wing should look like Figure 9.




Figure 9: Tip-over wing with everything installed

10. Repeat for the other side of the bike.

### **Connecting the Wires to Power (2005 Models or Later)**

If your K1200LT is a 2005 or later model, your front turn signals are also running lights. Both wires from the Marker light will go to the turn signal socket.

If you know what you're doing and don't want to follow the step-by-step instructions in this section, the short version is this: connect the RED wires to the "hot" running light wires (terminal 58) and the BLACK wires to the "hot" turn signal wires (terminal 31) on the turn signal sockets. Neither wire is connected directly to ground. For info on why this works, see the Wiring Details document in the Support section of our Web site.

 **NOTE** If you have a 2004 or earlier K1200LT and you (or someone else) modified your turn signals to also be running lights, use the instructions in this section (if your sockets are not numbered, you'll have to figure out which wire is the running light and which is the turn signal—on a 2003, the front turn signal wire is blue with a black stripe). If you have a 2004 or earlier K1200LT and your turn signals are not modified (they are just turn signals), go to the next section.

1. Remove one of the turn signal assemblies by removing the Philips screw and gently pulling the plastic assembly away from the bike. Let it hang by the wires.
2. Pull the zip cord through the hole for the turn signal wires. Trim to about 6".
3. Prepare the wires:
  - a. Separate the end of the zip cord and strip about  $\frac{1}{4}$ " of insulation off each conductor. Twist the strands together.
  - b. Attach a piggyback connector to each of the wires. See Figure 10.

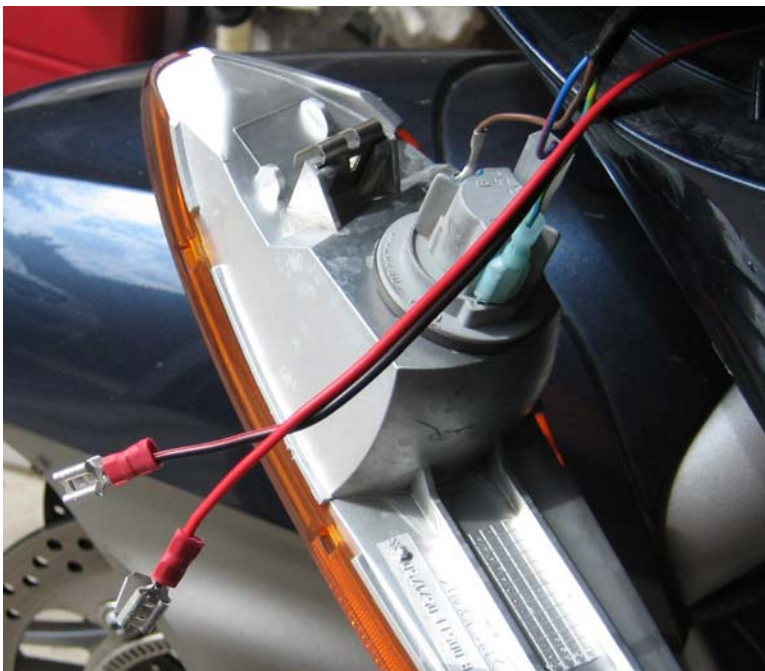

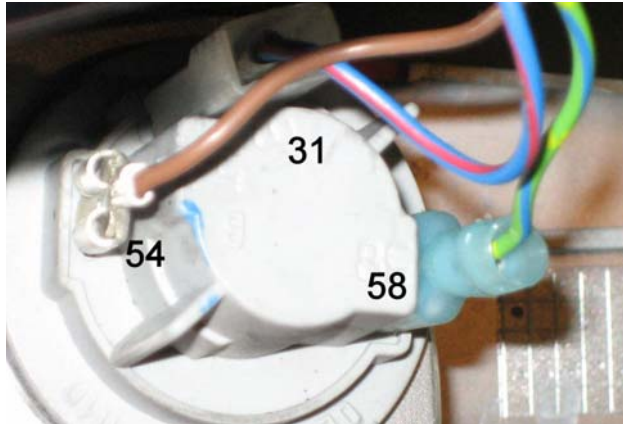


Figure 10: Wires with piggyback connectors—ready to attach to socket

4. Note that the terminals on the bulb socket are numbered. The running light wire (green with blue stripe) goes to terminal 58. The turn signal wire (blue with red stripe) goes to terminal 31. Terminal 54 (brown wire) is ground. Remove the wires from terminals 58 and 31. See Figure 11.

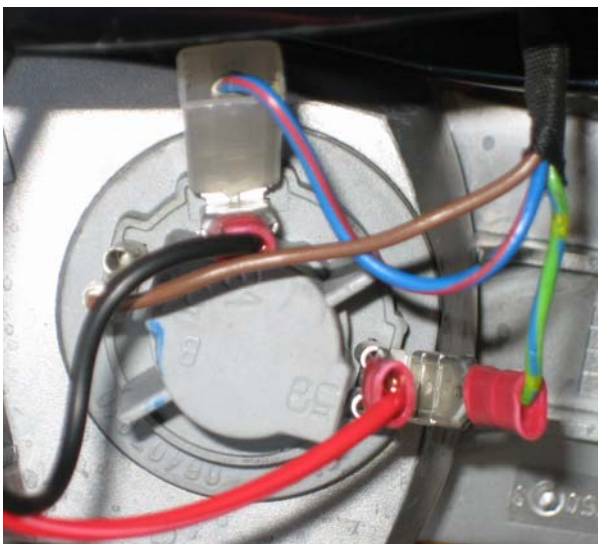


 **NOTE** This info is from a 2005 LT and should be the same for later model years—however, if your wire colors don't match, keep track which wire comes off which terminal and adjust what you do accordingly.



**Figure 11: Terminal numbers on socket**

5. The connector on the running light wire is smaller than the standard  $\frac{1}{4}$ " type and needs to be replaced. Cut off the connector on the green with blue stripe wire, strip off  $\frac{1}{4}$ " of insulation, twist the strands together, and attach one of the non-fully insulated female connectors to the wire.
6. Attach the piggyback connector from the RED zip cord wire to terminal 58 and the other piggyback connector to terminal 31. (Do not connect either wire to the ground terminal.)
7. Attach the original wires you removed to the tabs on the piggyback connectors (green with blue stripe to terminal 58, blue with red stripe to terminal 31). See Figure 12.



**Figure 12: Socket with all wires attached**

8. Replace the turn signal assembly and fasten with the screw you removed earlier.
9. Pull the slack out of the wire going to the tip-over wing and use the 7" black cable tie to secure the zip cord to the frame tubing running up along each side of the bike (see Figure 13). If necessary, use a 4" cable tie to secure the wire near the turn signal to make a neat job.



Figure 13: Zip cord fastened to frame with black cable tie

10. Repeat for the other side of the bike.
11. Go to the **Testing your Marker Lights** section.

### **Connecting the Wires to Power (2004 Models or Earlier)**

If your K1200LT is a 2004 or earlier model, your front turn signals **do not** also act as running lights (if they've been modified and do act as running lights and turn signals, see the previous section).

If you know what you're doing and don't want to follow the step-by-step instructions in this section, the short version is this: connect both RED wires from the side Marker lights to the gray with black stripe wire coming from the parking light in the headlight (use the enclosed T-Tap and male connector or solder and insulate the wires). Connect the BLACK wires to the "hot" turn signal wires. Neither wire is connected directly to ground. For

info on why this works, see the Wiring Details document in the Support section of our Web site.

1. Prepare the wires:
  - a. Separate the ends of the zip cord and trim so that the RED wire reaches the wire going to the parking light (the parking light is the small bulb in the headlight assembly) and the BLACK wire reaches the turn signal (leave enough slack to go through the opening for the turn signal socket).
  - b. Strip about  $\frac{1}{4}$ " of insulation off each conductor and twist the strands together.
2. On each BLACK wire, attach a piggyback connector.
3. Strip about  $\frac{1}{4}$ " of insulation off the RED wires, twist the strands together, and, bringing them near each other, twist the copper strands from both wires together (they're both going into the same male connector).
4. Insert the twisted pair of RED wires into the MALE connector packaged with the T-Tap and crimp.
5. Attach the enclosed T-Tap to the gray with black stripe wire coming from the parking light (you may have to cut back some of the black wrapping covering the wires). To attach the T-Tap, lay the wire in the channel, close the connector and pinch the two halves together with a pliers.
6. Plug the male connector on the RED wires into the T-Tap.
7. Remove one of the turn signal assemblies by removing the Philips screw and gently pulling the plastic assembly away from the bike.
8. Remove the blue wire with the black strip from its terminal.
9. Pull the black zip cord wire through the opening for the turn signal and attach it to the terminal from which you just removed a wire.
10. Connect the original wire to the tab on the piggyback connector.
11. Repeat Steps 7 through 10 for the other side of the bike.
12. Use the 7" black cable ties to secure the zip cord to the frame tubing running up along each side of the bike (see Figure 13, above). If necessary, use the 4" cable ties to secure the wire near the turn signals and/or T-Tap to make a neat job.

# Testing your Marker Lights

1. Turn on your key—everything should light up. Try your turn signals. The side Marker lights should wig-wag with the front turn signals. If anything doesn't work, check for bad crimps.



2. Go for a ride, enjoy, and be safe.

## Troubleshooting Tips

- If both Marker lights don't go on and you used the T-Tap, then double-check that the connection is good and that the male connector is connected. Also, make sure the parking light works (that the wire is hot). There is a 4-amp fuse that protects the running light circuit—make sure the fuse is good.
- If one Marker light doesn't work, check the wiring for that light. Be sure you have a good crimp on the piggy back connectors, and make sure the fully insulated connectors in the tip-over wing are pushed together and making good contact.