



LED Marker Light Kit for Model K12O and Model K12N Mick-O-Pegs (For the BMW K1200LT)

This kit includes everything you need to add LED Marker lights to your Mick-O-Pegs on your BMW 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.



Notes For Model K12N These instructions were developed using the Model K12O Mick-O-Pegs. For the Model K12N, you'll have to find the best way to route the wires near the J-Peg's mounting bracket. Also note that the Tip-Over wing covers mount before the J-Pegs, so for Model K12N, the installation order is:

1. Mount the Marker lights to the Mick-O-Pegs.
2. Run the power wires.
3. Push the wires coming from the Mick-O-Pegs through the hole for the J-Pegs.
4. Connect the wires coming from the Mick-O-Pegs and let them hang.
5. Install the Tip-Over wing covers.
6. Install the J-Pegs.
7. Carefully route the wire and install the Mick-O-Pegs.

Installation is straightforward—most steps take longer to explain than to actually perform. This document is 15 pages long because the steps are highly detailed and there are a lot of photos.



TIP We highly recommend that you 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. You can download a full-color version of this document from our Web site: www.riderwest.com.

Contents

What you get	2
What you need.....	2
Preparing the Mick-O-Pegs	3
Mounting the Marker Lights	5
Removing the Tip-Over Wing Covers	6
Running the Wires	7
Testing your Marker Lights	14
Troubleshooting Tips	14
Drilling Templates.....	15

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 stainless steel machine screws, nylon insert lock nuts, black heat shrink tubing, and black cable clamps
- (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
- (2) Black tubing, 8"
- (5) 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 mounting the Marker lights and removing the turn signal assemblies)
- Crimping tool (for standard, automotive-type crimp connectors)
- Pliers (for squeezing the T-Tap, if used)
- Wire cutter/stripper
- Drill with 3/16" and 1/4" bits
- 7/16" nut driver or socket for locknut on hinge
- 11/32" (or 9mm) nut driver or socket for Marker light mounting nut
- 3/16" Allen wrench for the Mick-O-Peg mounting bolts

Preparing the Mick-O-Pegs

If your Mick-O-Pegs are not pre-drilled from the factory, drill the holes as described below (if your Mick-O-Pegs are already installed on your bike, remove them from your bike before following this procedure):

 **NOTE** The Mick-O-Pegs are made from aluminum and are relatively easy to drill. While a drill press would be nice, you can also just hold the Mick-O-Peg against a block of wood and drill it by hand. Use a sharp bit and apply constant pressure, bringing the bit out of the hole occasionally to clear out the shavings.

1. Cut out the two templates from the last page of these instructions. You want just the white part—trim the surrounding black area away.
2. Tape a template to one of the Mick-O-Pegs. Keep the template toward the bend (away from the hinge). See Figure 1.



Figure 1: Drill template taped to Mick-O-Peg

3. Use a $\frac{1}{4}$ " bit and drill out the center hole. You might want to use a smaller bit to start the hole, and then finish with the $\frac{1}{4}$ " bit.



Hint To keep bits of aluminum out of the hinge while you drill, cover the joints around the hinge with tape.

4. Test fit the Marker light to make sure the mounting holes on the template line up with the real mounting holes (see Figure 2).



Figure 2: Test fitting the Marker light—note how the dots in the template align with the holes in the Marker light.

5. When you're satisfied that you know where to drill the mounting holes, use the $\frac{3}{16}$ " bit and drill the two mounting holes. Again, you may want to use a smaller bit to start the hole. When done, your Mick-O-Peg should look like Figure 3 (unless you drilled the one for the other side of the bike).



Figure 3: Holes drilled in Mick-O-Peg

6. Repeat this section for the remaining Mick-O-Peg.

Mounting the Marker Lights

1. Enclosed with the Marker light kit are two black cable clamps. These must be drilled out so they easily fit over the hinge mounting bolt. Use your favorite pliers to hold a cable clamp over a block of wood while you enlarge the mounting hold with a $\frac{1}{4}$ " bit (see Figure 4). Ream out the hole so it's slightly larger than the $\frac{1}{4}$ " bit. (You might as well do both while you're drilling.)



Figure 4: Drilling the hole larger in the cable clamp

2. Use a 7/16" nut driver or socket to remove the lock nut from the hinge mounting bolt (do not remove the bolt).
3. Test fit the cable clamps to see that they fit over the bolt. If not, ream them out some more.
4. Mount a Marker light to the Mick-O-Peg using the 8-32 machine screws and lock nuts. Don't over-tighten—you don't want to crack the plastic mounting tab on the Marker light. Just make it snug—the lock nut will not come lose.
5. Refer to Figure 5 and Figure 6. Cut a piece of tubing about $3\frac{1}{4}$ " and push it all the way down onto the wires. Put the wires into a cable clamp and install the cable clamp over the hinge mounting bolt with the nut but don't tighten the nut. Cut another piece of tubing, about 4" long, and push it all the way down to the cable clamp. Angle the clamp as shown and tighten the nut (work the bar going into the hinge to make sure there's enough slack in the wire so it doesn't become stressed when you use the Mick-O-Peg. Adjust as necessary.



Figure 5: Close-up showing angle of cable clamp holding the wires




Figure 6: Wires secured to the backside of the Mick-O-Peg

6. Repeat this section for the remaining Mick-O-Peg.

Removing the Tip-Over Wing Covers

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 Allen screws instead of Torx). See Figure 7. Remove the cover.

 **NOTE** If you have a 2005 or newer bike, you must remove the courtesy light (landing light) before removing the cover. Remove the two screws, lower the light from its mounting position, and remove the two wires. Now you can remove the cover. Also, if you have J-Pegs installed, they must be removed before you can remove the cover.

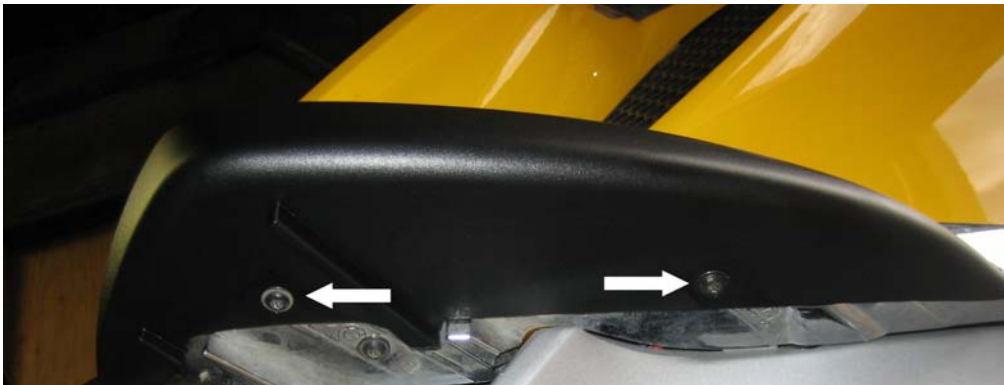


Figure 7: Screw locations on bottom of 2003 Tip-Over Wing cover. 2005 and later models have a courtesy light in the bottom of the cover.

2. Remove the chrome tip-over wing cover by removing three screws (two on the bottom and one near the rider's foot position) and disengaging the tab facing upward near the narrow end of the cover (note that the screw near the rider's foot is (usually) longer than the other two).
3. Repeat for the other side of the bike.

Running the Wires

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 8.



Figure 8: Running the wire from the nose of the bike to the tip-over wing

2. Thread the wire below the metal bracket and tubing and run it toward the rear of the tip-over wing. See Figure 9.



Figure 9: Running the wire in the tip-over wing

3. Replace the chrome cover on the tip-over wing while you feed the wire through the cover (the longer screw goes next to the rider's foot position).
4. On the end of the zip cord in the tip-over wing, 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 (this makes the connectors crimp more securely).
 - a. Attach a FEMALE connector to the RED wire.
 - b. Attach a MALE connector to the BLACK wire (see Figure 10).



Figure 10: Connectors attached to wires going to nose of bike (shown with chrome cover replaced)

5. Follow the instructions provided with the Mick-O-Pegs and mount the peg for the side of the bike you're working on.
6. Run the wires from the Marker light up into the tip-over wing, routing them behind the mounting bracket (see Figure 11). Secure the wires to the tubing with a 4" cable tie. For the Model K12N, you'll have to find the best way to route the wires near the J-Peg's mounting bracket.

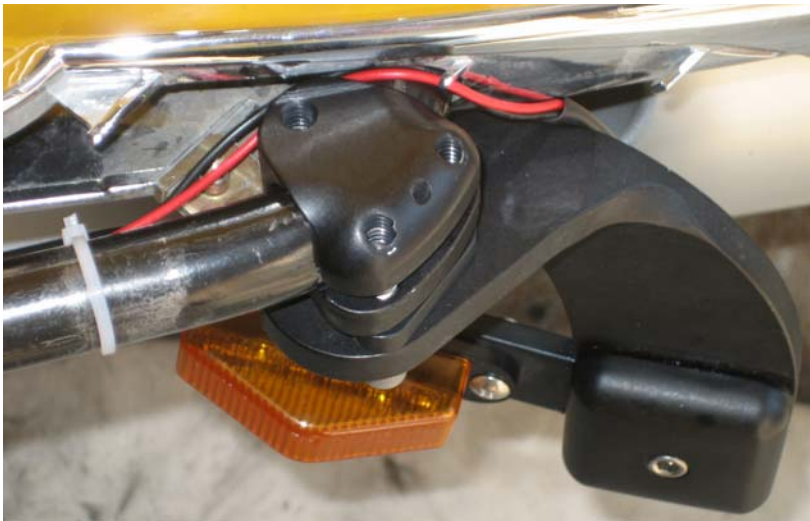


Figure 11: Wires ran behind mounting bracket and secured with cable tie

7. On the wires coming from the Marker light, strip off $\frac{1}{4}$ " of insulation, twist the strands together, and:
 - a. Attach a MALE connector to the RED wire.
 - b. Attach a FEMALE connector to the BLACK wire.
8. Push the connectors together (red to red and black to black—red is the "hot" wire and black is the ground).
9. Fold the wires into the chrome cover.
10. Re-install the black plastic cover. If this is a brand new installation, use the template that came with your Mick-O-Pegs to cutout the bottom of the black cover so it will install around the mounting bracket. Your installed Mick-O-Peg should look like Figure 12.




Figure 12: Mick-O-Peg installed with Marker light

11. 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 13.

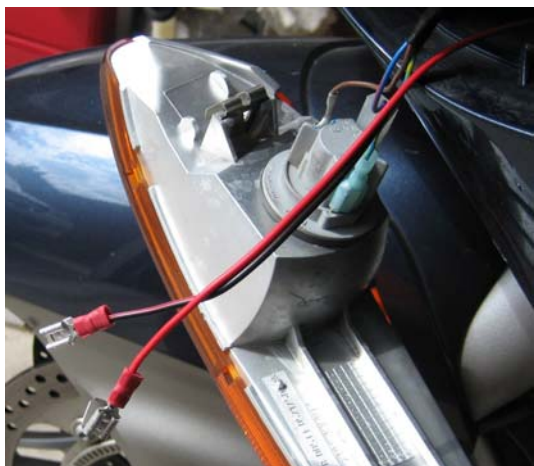



Figure 13: Wires with piggyback connectors—ready to attach to socket

- 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 14.

 **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.

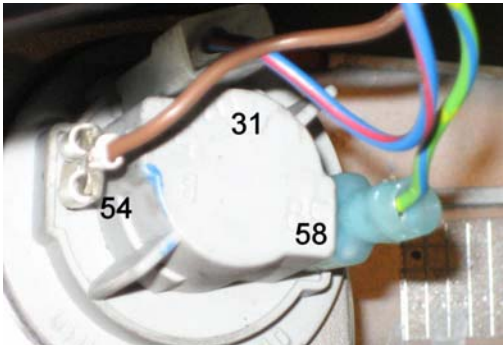


Figure 14: Terminal numbers on socket

- 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.
- 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.)
- 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 15.

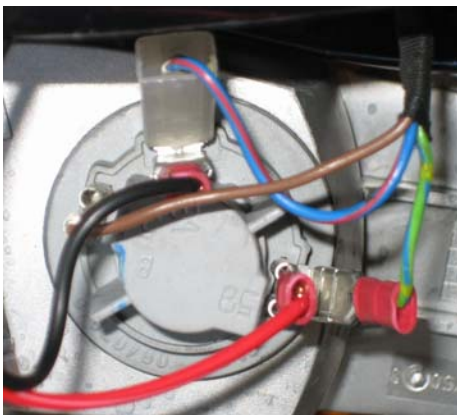


Figure 15: Socket with all wires attached

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 16).



Figure 16: Zip cord secured with 7" black cable tie

10. If necessary, use a 4" cable tie to secure the zip cord near the turn signal to make a neat job.
11. Repeat for the other side of the bike.
12. 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 16 Figure 15, above).
13. 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 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 neither Marker lights goes on and you used the T-Tap, then double-check that the connection is good and that the male connector is pushed on all the way. 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.

Drilling Templates

Cut out the two templates below. You want only the white part—trim the surrounding black area away.

