VALTIR, LLC

INSTALLATION MANUAL FOR THE L50 BASE PLATE WITH REBOUNDABLE MARKERS

TOOLS AND EQUIPMENT

For a typical installation we recommend the following items (note: always follow manufacturers' instructions when using any power, impact or other tools or equipment):

Not Included with Purchase

1) **5 Horsepower Generator**, 5,000 watts.
2) **Variable Speed Rotary Hammer** to drill holes into asphalt or concrete for anchors (300-700 no load rpm and 1,650-3900 bpm; 1" bit capacity), e. g., Bosch Terminator Model 11222EVSG or Milwaukee Hawk® Model 5362-1.
3) **Carbide Tipped Bits** for Rotary Hammer (ANSI diameter 1/2"; minimum usable length 8". The quantity needed depends on the length and number of installations and the density of the underlying material.
4) **9/16" socket** and manual ratchet (for conventional road base usually beneath asphalt, FS30).
5) **3/4" socket** and manual ratchet (for concrete surfaces, for FS35).
6) **1/2" socket** (for set screws to secure the black rubber flex boot to the L50 plate)
7) 50 foot Heavy Duty Grade 12 gauge **Extension Cord**.
8) **Hammer** for tapping anchors into the drilled holes.
9) **Stiff Broom** to clear debris from the intended placement location.
10) **Rubber Hammer** to assist in tapping markers into the base plate.
11) Standard 10.1 oz **adhesive caulking gun** if FS901 adhesive is used for anchoring in lieu of mechanical anchors

Included with Purchase

1) The number of **reboundable markers** or **bollards** ordered.
2) **L-50 Base Plate** with tightening screws attached.
3) **FS 30 3/8" diameter x 6" long screws, washers** and plastic **mollies** ordered (for installation on asphalt)
   OR
   FS35 ½" diameter x 3 ¾" long wedge bolts and **washers** (for installation onto concrete surfaces)
   OR
   FS901 Adhesive tube, 10.1 oz., 1 tube per L50 plate

<u>WEATHER CONDITIONS</u>

The L50 Base Plate can be installed permanently under most weather conditions. Heat and cold do not present obstacles. However, before working with electrical equipment in wet conditions, be certain to follow the manufacturer's instructions to prevent electrical shock or other damage. If using bituminous follow the manufactures instructions for proper adhesion. Also refer to "Bolting to the Roadway" below.

TRAFFIC CONSIDERATIONS

Whenever possible close both lanes to traffic when installing L50 Base Plate between lanes. If one lane must be kept open during installation, take care to assure that all equipment and personnel are kept clear of the open travel lane. Observe all traffic control regulations, and use flaggers, law enforcement officers, flashing arrow boards, attenuators and other safety devices as necessary for the conditions present.

CLEAN ROADWAY SURFACE

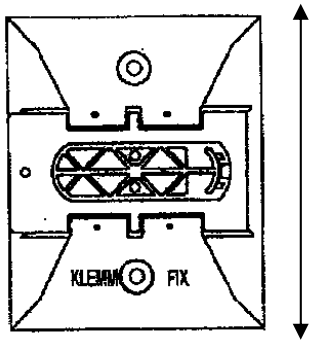
The L50 Base Plate **is designed for mounting on generally flat asphalt and concrete surfaces. A long-term installation of the L50 Base Plate on gravel or dirt roads or other loose surfaces will not be effective.** Contact us ahead of installation for assistance if you intend on installing the L50 Base Plates on a surface other than concrete or asphalt.

The L50 Base Plate should not be installed on top of reflective pavement markers (RPMs). Remove the RPMs if appropriate for the conditions. Usually, a stiff broom is adequate to prepare an area free from gravel, cinders, sand and other debris.

Familiarize yourself with the pre-assembled L50 base plate. The L50 Base Plate is a complete unit.
IMPORTANT: DO NOT REMOVE ANY OF THE FOUR TIGHTENING SCREWS FROM THE BASE PLATE.

POSITIONING THE BASE PLATE

The base plate is designed so that the roadway anchoring bolts are installed parallel with traffic flow (see diagram below)



DIRECTION OF TRAFFIC FLOW

BOLTING TO THE ROADWAY – ASPHALT

Using FS30 Asphalt Anchor Sets:
Each L50 Base Plate has two holes sized to accommodate the anchor. To insure that the hole is not drilled too deep or too shallow into the roadway, place a mark on the drill bit 6" from the tip. Using the rotary hammer with the ½" bit, insert the bit through the hole, and drill into the asphalt or concrete road. Stop drilling when the marked point on the bit is flush with the L50 Base Plate, which is a depth adequate to accommodate the bolt and anchor. Remove debris from around holes.

Place a washer on a bolt, and insert the bolt into the anchor. Position the L50 Base Plate onto roadway. Use the small hammer to tap the bolt through the hole until it pushes the anchor through and bottoms out under the pavement. Use the ratchet with a 9/16" socket to tighten the bolt until the washer is snug against the L50 Base Plate. The anchor widens beneath the road surface. DO NOT OVER TIGHTEN OR YOU MAY DAMAGE THE

BASE PLATE. **NEVER install a bolt without the washer and anchor, and NEVER use an electric impact wrench.**

Using FS901 Adhesive:
Assemble the Markers to L50 Base Plates before initiating the use of the FS901 adhesive – See "Install the Markers" below. Following the temperature requirements on the label of the adhesive, apply a generous amount of FS900 adhesive to the pavement, being certain to slightly overlay the edges of the area where the L50 Base Plate will be installed. Apply a generous amount of adhesive to the webbing and perimeter of the bottom of the L50 Base Plate. Contact the base plate with the adhesive coated pavement. Follow other specific information that comes with the adhesive.

BOLTING TO THE ROADWAY – CONCRETE

Using FS35 Concrete Anchors:
Installation on concrete roads follows the same general pattern as discussed immediately above for asphalt. Use a ratchet with a ¾" socket to tighten by anchor. DO NOT OVERTIGHTEN. Care must be taken to insure that the proper concrete anchor length is used. Be especially cognizant of the possibility of shallow reinforcing bars, as damage to drills is a risk. Contact us ahead of installation for assistance if needed.

Using FS901 Adhesive:
Assemble the Markers to L50 Base Plates before initiating the use of the FS901 adhesive – See "Install the Markers" below. Following the temperature requirements on the label of the adhesive, apply a generous amount of FS900 adhesive to the pavement, being certain to slightly overlay the edges of the area where the L50 Base Plate will be installed. Apply a generous amount of adhesive to the webbing and perimeter of the bottom of the L50 Base Plate. Contact the base plate with the adhesive coated pavement. Follow other specific information that comes with the adhesive in regard to temperature, surface preparation, application rates, cure times, etc. Adhesives may not be suitable for all environments, climates or conditions.

INSTALL THE MARKERS

Unless adhesive is used, the markers are best added after the L50 Base Plate is fixed into position. IMPORTANT: BEFORE INSTALLING THE MARKER, REMOVE THE STEEL STABILIZING BARS FROM THE FLEX BOOT (IF PRESENT). The L-50 is not designed to accept the flex with a stabilizing bar, and a protruding steel bar could be hazardous. The markers are best added after the L50 is fixed into position. Slide the markers into place. Do not use silicone or petroleum-based lubricants because residue may contribute to markers popping out of the L50 Base Plate under severe vehicle impact. It usually helps to tap the flex with a rubber hammer while simultaneously pulling to help the marker slide into the base. The rubber flex has two sloping ends to assist sliding it into L50 Base Plate. Now **hand** tighten all four ½" tightening screws on the L50 Base Plate. DO NOT OVERTIGHTEN these four screws.

FOR HELP

For advice or help, call Valtir, LLC at (813) 645-5072 between 8:00 am and 5:00 pm Central Time Zone, Monday-Friday.

Replacement parts may be ordered from your local distributor or from Valtir, LLC 15601 Dallas Parkway, Suite 525, Addison, Texas 75001 Phone: 813-645-5072