

**INSTALLATION INSTRUCTIONS
FOR
VERTICAL LOOP STAND**

MODEL
GL-14 & GL-14G

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GOODLIN SYSTEMS INC.

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INTRODUCTION

The GL-14 is an upright stand with wire windings that function as the sensor \ loop for an inductive loop system in place of a saw-cut-loop. It allows vehicle detection from the side of the vehicle rather than from the ground. This upright 'loop' has a "cone sensing effect" that can be used for accurate measurement of a vehicle. With a sensing range of 24"+ the GL-14 picks up the framework of a vehicle, and not just the outside skin. This gives a constant pickup even on non-metal body cars and high trucks. To protect the GL-14 from accidental collisions the GL-14 is equipped with a break-away-base that absorbs the impact and saves the GL-14 and vehicle from damage. The GL-14 is made with a PVC plastic and underground direct burial cable that allows the unit to stand up to sunlight, water, chemicals, scalding or freezing temperatures. When wired, a bright LED light located at the top of the GL-14, signals when the system is activated. Our control boxes GL-RO-3, GS-DCX1 AND GS-DCX2 all have indication light support. The GL-14G models have no light indication. Due to the nature of the INDUCTIVE DETECTORS, the GL-14 CAN BE placed near non-moving-metal without interference.

SPECIFICATIONS

DIMENSIONS: 32"H X 19.5"L X 9"W

SUGGESTED MOUNTING: Four plastic anchors & screws (1.5 inches long #10 or better.

STAND MATERIAL: Loop ring- PVC Electrical Grade; Post- Schedule 40 plumbing grade PVC.

LIGHT (MODEL GL-14 ONLY!): Red 24v L.E.D. ¼ amp

WINDINGS: #16 copper stranded wire, THHN jacket, Less than 100 ohm impedance

SENSING RANGE: 15-24 Inches depending on detector type and sensitivity

INSTALLATION TIME: ½ Hour to 1 Hour

DETECTION FIELD THEORY

The detection field is like an invisible set of bubbles or lines crossing from one side of the sensor* to the other. When power is first applied, the detector remembers the way the bubble is formed. The field will only be altered or reshaped by the presence of new metal. The detector will remember and accept this new shape if it is reset; thus the sensor can be placed by metal as long as the metal stays where the detector remembers it was. Any new metal entering the field will reshape the field. It is this reshaping, or changes, that the detector will see and activate on. Also note that the closer the metal is to the sensor, the less it has to move to reshape the field. The amount of metal also has an effect on the amount of change in the field. The more metal the more change. When the metal is removed from the field the bubble returns to the original state the detector remembers, thus the detector deactivates. **IF THE FIELD DOES NOT RETURN TO ITS ORIGINAL SHAPE THE DETECTOR DOES NOT DEACTIVATE. AN UNSTABLE LOOP CAUSES THIS.** Thus is seen by the detector turning on then off frequently without metal entering the fields. Most detectors have an internal check that phases out any detection/activation in a preset amount of time. If a car was to set over a loop for more than 15- 30 minutes, the detector will automatically reset the field and be ready for any new metal. There is an option on the detector (setting) that will cut off the automatic reset. This is called permanent presence.

MOST INSTABILITY PROBLEMS ARE CAUSED BY THE MOVEMENT IN THE FIELD BY CLOSE, LARGE METAL PIECES. THE MOST CONCENTRATED PART OF THE FIELD IS ABOUT 4-6 INCHES FROM THE SURFACE OF THE SENSOR*.

- SENSOR IS THE LOOP OR COIL WINDINGS THAT SET UP THE FIELD

STAND MOUNTING INSTRUCTIONS

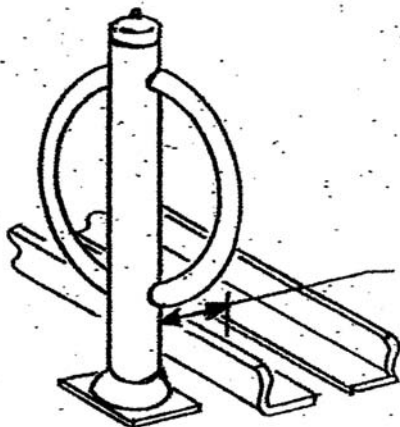
Pick out a good place for the stand on the conveyor's side of the car wash. To help eliminate the need for computer reprogramming, place the stand across from the unit that is being replaced. If the stand is being used as an entrance system. The stand should set 6-8 inches away from the inside wall of the outside rail of the conveyor. The stand's base bottom should be level with the conveyor track (the part the car tire rides on).

Before starting check that you have the following:

- 1- Stand with a Cord long enough to get to the control box
- 2- Round Floor base (part with lots of holes in it and direction tab)
- 3- Rubber Strap (hooked to inside bottom of stand post)
- 4- 2 screws for base (holds stand base to post)
- 5- Anchors for mounting Round base to floor (not included)

- A) Insert the square base on the large tube of the stand. Line up the ring so that is at a 5 degree to the base side. As you look down the ring will cut diagonally across the large tube from one side to the other. The ring should be slightly turned into the entering vehicle.
- B) Place the round part of the base down on the floor and set the stand on it. Align the bottom of the stand tab with the round base tab.
- C) Slide the stand into position to the conveyor. The edge of the base should be square with the conveyor. The ring or the stand should be at a 5 degree angle towards the incoming vehicle path.
- D) Measure the distance to the conveyor's outside rail\inside wall to the large tube of the stand. This should be 6-8 inches.

. **Note: Measure from the INSIDE of the outer rail.**

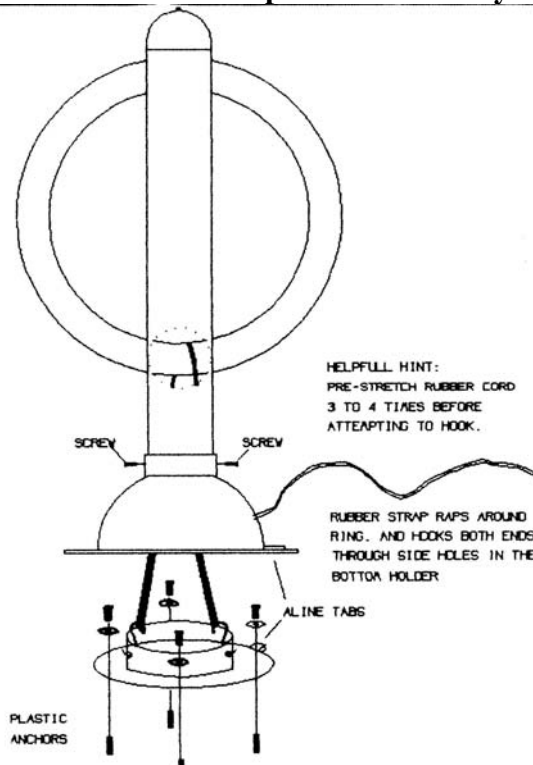


6"-8" from the conveyor's outside rail.

This enables a good clearance for all vehicles. The stand can be placed along the conveyor at any point in the car wash and will not be affected by water, temperature or car wash chemicals. Since there are no moving parts in the stand, there is no maintenance needed to be performed as with other switching devices.

- E) Carefully lift the stand off the round base as not to move its position.
- F) Mount the round base at this position (this includes the direction of the tab). 4 plastic anchors are adequate for mounting the stand.
- G) For ease of rubber strap installment, Stretch the strap 10-15 times to warm up the rubber. This allows more flexibility when being installed.
- H) Using the packing box, as not to scratch the stand. Lay the stand on the box with the base resting on the outer ridge of the round base.
- I) With one hook clipped onto the ridge of the bottom of the stand's opening, pull the other and hook it through one of the holes on the side of the round base.
- J) Carefully unclip the other hook from the ridge of the bottom of the stand's opening. Pull and hook it through the other hole on the side of the round base.
- K) Pick up the stand and set it down on the round base. Turn to align tab and set it in its slot. The square base should have all 4 corners flat on the floor.

General Illustration of Loop Stand Assembly



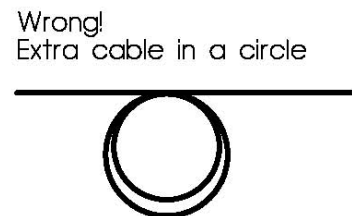
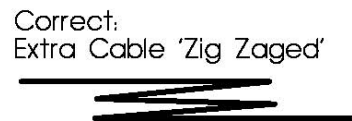
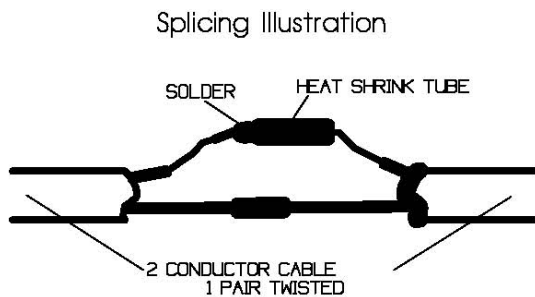
- L) The stand should now be 6-8 inches away and at a 5 degree angle to the conveyor.
- M) Run the cord to the detector control box and wire the stand in according to the box instructions.

WHEN RUNNING THE STAND CORD, DO NOT LEAVE ANY EXTRA CORD IN A COIL. THIS WILL CREATE A SECOND LOOP FIELD AND THE LOOP WILL BE UNSTABLE.

The stand has a very sensitive field within 3” of the ring. No moving equipment should be in this field area or false triggering will occur. Non-moving metal equipment within will not disrupt this field. It will affect the sensing distance slightly. Braided prep gun hoses if passed through the field may lock the detector in an activated position.

Extending Cable

The GL-14 has a standard length of 25 feet of cord. This should reach most places where the amplifier is located or out of the water area for splicing. Longer cord can be ordered with the GL-14-## where ## is the total length of the cable needed. It is sold in 25 foot increments. The maximum cord length is 200 feet. If splicing has to be done it is recommended to solder the connections and seal them from moisture. Any added wire should be #18 or #16 AWG and the 2 sensor wires need to be twisted every 8 inches minimum. It is better to have tighter twists if possible. Consider this like a communications extension. The cable should be cut so that very little extra is in the run. If extra is needed for maintenance reasons it is best to ‘Zig Zag’ the extra cable in an accordion type bundle. Do Not Roll The Extra Cable Into a Ring. This may create a 2nd loop and cause the field to become unstable and send ghost signals.



WIRING NOTES

GOODLIN SYSTEMS CONTROL BOXES:

Follow the control box instructions on where to wire in. Most are labeled with a 'Sensor' for the loop windings and if the option is available, 'Light' for the Stand Light. The stand light is an LED type so the wires might need to be switched around on the light for it to work if the polarity is wrong. This would only be the case if the outputs are 24VDC.

STANDARD DETECTOR:

Use the windings of the loop for the detector LOOP inputs. The light can be used by supplying a 24vac or 24vdc power when the detector is activated.

HANNA DETECTOR BOXES:

Due to the changes over the years for Hanna's control boxes a wiring diagram to cover all the changes would be confusing, therefore use the following method to wire in the Stand to the Hanna Box.

Wire in the sensor wires (loop) into the loop terminals. Find the Hanna switched 24vac power, this is indicated to run solenoids on all Hanna wiring diagrams. Wire the light wires as if they were a 24V solenoid on Hanna's wiring diagram.

CABLE DESIGNATION:

For the two paired numbered cables in black and white you can find the groups by cutting away the jacket about 4 inches and finding the markings on the wires. They are imprinted with numbers on them. Pair #1 (White1, Black1, Marked with a '1') is for the Sensor (loop) windings. Pair #2 (White2, Black2, Marked with a '2') is for the 24volt Light.

When Cable for the stand is tagged as to which wires are the sensor and that of the light. If no tag is found simply pull off the cap at the top of the stand to see the color/number designation.

Note: Be careful not to damage the light wires going to the light on the cap.

The Sensor wires are the two coming out of the ring and the light wires are the two coming from the light.