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## Installation and Maintenance Instructions for Guardian Surface Mount Traffic Controllers

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Thank you for your purchase of Guardian Traffic System Controllers the finest and best-engineered traffic controllers made. These units are built to last, employing the finest engineering, using the highest quality materials and precision fabrication. To insure your units provide long lasting service and safety please follow these installation and maintenance instructions.

If you have any questions do not hesitate to contact our customer service or engineering staff at 1.520.881.3380 or toll free 1.800.866.9115 (8:00 AM to 5:00 PM - MST) or e-mail to [sales@guardiantraffic.com](mailto:sales@guardiantraffic.com). Thank you for choosing Guardian Traffic Systems.

### **SAFETY NOTICE**

*Traffic Spike Systems are an inherently damaging product and are intended to puncture tires. There are risks and liabilities involved in the use of these products. To minimize your exposure, it is extremely important that adequate safety measures are taken in the installation, location, site conditions, use and maintenance of the units. Warning signs should be installed at all sites where spikes are installed. Illumination of the spike units especially in areas of adjacent pedestrian traffic is recommended.*

### **IMPORTANT NOTE FOR INSTALLATION OF ALL TRAFFIC SPIKE UNITS:**

**Ninety Degree Rule** - Traffic Spike Systems must be installed in such a manner that traffic flows over the teeth at a strict 90-degree angle (tire parallel to the teeth). Complete vehicle alignment and perpendicular passage over the units must be assured for front and rear axles. Allow a minimum of 15' (4.5m) to 20' (6m) in either direction of the traffic spike units between any turns required of vehicles. Under no circumstances should traffic controllers be installed on a curve, or in an area where vehicles will not be assured of complete perpendicular passage over the traffic controller for front and rear axles.

**Five MPH Rule** - It is absolutely essential that traffic over the spike units be slowed to a maximum speed of 5 miles per hour (8km/h). Traffic that exceeds that will cause wear and tear, will decrease the life expectancy and could damage the internal working components. It is recommended to install speed bumps as necessary to slow traffic.



# 14300.200\*

**Direction** - All traffic spike units need to be positioned with the sharp edge of the teeth pointing away traffic going the correct way and TOWARD offending or wrong-way traffic.

**Signage** - Warning signs are imperative to provide sufficient notice of the danger to drivers and to pedestrians and may be required by local ordinance. Illumination of the teeth, especially in areas adjacent to pedestrian traffic, is also important if the area will be accessible after daylight. Be sure your customer is aware of these inherent dangers.



# 14100.100 Lighted



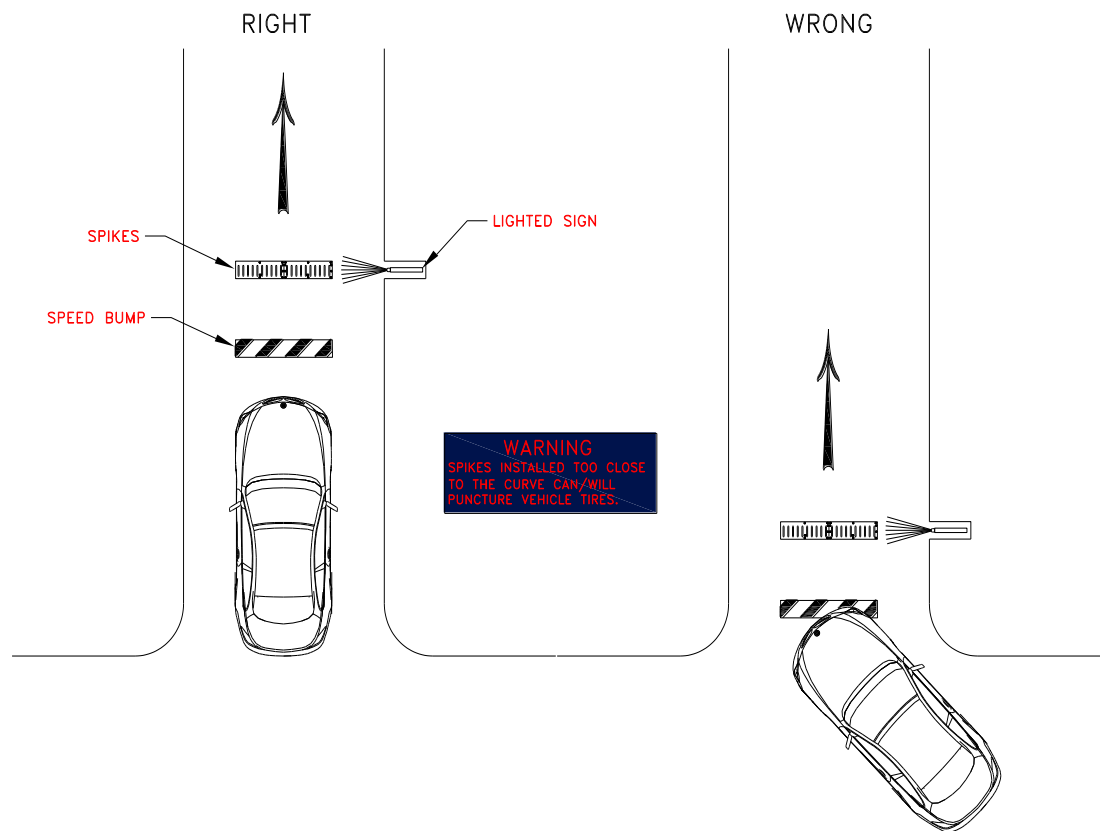
# 14110.100 Reflective

It is recommended to use Guardian Warning Sign Model 14100.100 (lighted) or 14110.100 (reflective) that warns drivers of the inherent danger of the device including a notice for pedestrian traffic to stay clear of the area. If there will be traffic after dark be sure to provide adequate lighting in the area and use the warning sign Guardian Model 14100.100.

**Site Conditions** – Carefully select your site so that the units are installed in a solid surface asphalt or concrete. Traffic spikes systems should not be installed in dirt, on any curve, inclines or where the road surface is uneven or where the road surface is in poor condition. Also, do not install in areas where there is significant water runoff that could potentially do damage to the components of the units. Use caution and install precautions when installing near high pedestrian traffic.

**General Instructions** - These instructions are provided in order for you to receive the maximum performance from your traffic control system. Failure to strictly follow these installation instructions will affect the performance of your traffic controllers. The positioning of the traffic spike units and the angle of the teeth are critical to the proper function along with the controlling the speed to 5MPH along with the other above mentioned guidelines.

**Failure to strictly follow these installation instructions could result in broken or bent teeth, broken springs, correct direction tire damage, inability to puncture tires of wrong-way traffic, and a multitude of other malfunctions. Guardian Traffic System will not be responsible for property, vehicles, tires, or personal damage resulting from improper installation. Guardian Traffic System will not be responsible for repairing malfunctions or replacing parts resulting from improper installation. Replacement parts needed in order to repair damage or malfunction caused by improper installation or abuse are not covered under your warranty.**



**WARNING**  
**SPIKES INSTALLED TOO CLOSE TO THE CURVE CAN/WILL PUNCTURE VEHICLE TIRES**  
**AND/OR CAUSE DAMAGE TO SPIKE SECTIONS**



COBRA/KING COBRA  
Surface Mount with End Bevel

### **INSTALLATION - Surface Mount Models**

Guardian Traffic Systems Controllers can be installed using one of two methods of application or a combination of the two.

The first is by bolting the units down to a concrete surface (not recommended for asphalt).

The second is by affixing them to the road surface using epoxy in the case of asphalt (tarmac) road surfaces.

The surface should be clean, dry, level and as smooth as possible.

The units cannot be installed on or near gravel, a highly irregular surface or on an incline or curve.

Make sure the installation staff has a safety vest and is wearing safety glasses.

### **General Instructions**

1. Carefully determine the location for your Traffic Control Units. Locate so that when the tires of the vehicle pass over the teeth they are parallel to the teeth. Position the units so that the tires (both front and rear) when passing over do not strike the teeth at an angle as this could cause damage to the teeth and to the tire. Normally you would want the units placed at least 15' – 20' (4.5m – 6m) into the lane.
2. If you are installing a heater element in your system then you will need to plan for the location of the where your thermo device and power will be located. See instructions with your heater cable.
3. Clean the area with a weed blower, broom or other method to insure a clean and dry surface.
4. Mark the location with a chalk line or other suitable mark to assist in aligning and locating the units in the desired position. You may also place the individual segments in the location you wish to install them and then mark the location. Make sure the teeth are orientated the correct way.
5. When bolting into concrete (not recommended for asphalt) drill holes in the road surface in the corresponding larger hole on each spike section.

### **Concrete Surface Installation**

6. Place your anchors per manufacturer's instructions. Do not use an anchor that will stick up above the traffic control unit that could cause damage to the passing tires. The recommended product is a ½" (1.27cm) Large Diameter Tapcon (LDT) Concrete Anchor by SIMPSON STRONG TIE, REDHEAD or similar.
7. If you would like extra holding force you can add the epoxy mentioned below.

### **Asphalt Surface Installation**

8. If your surface is asphalt the best method of application is using Construction Grade Epoxy supplied by Guardian Traffic Systems or your local building supply vendor.
9. Locate each spike section and end units next to the desired location. The epoxy has a relatively short setting time and proper positioning of the segments facilitates installation.
10. Check all the interlocking tabs on the units to make sure that all units are aligned correctly. Check the orientation again to insure they are correct to the traffic. Unlatch the latch down mechanism for this procedure.
11. Check again to make sure the area is dry and clean of any debris to insure the best bonding of the epoxy.
12. Prepare the epoxy in accordance with the manufacturer's recommendation.
13. Starting with the first unit, trowel a good thick coating of the epoxy within the boundaries of the pre-marked area. Then place the spike unit on over the area and press down firmly and as you do so move slightly in four directions to make sure the unit is firmly fixed and the epoxy is well distributed under the unit.
14. Proceed with the next segment inline, following the same procedure and installing them with the interlocks securely in place.
15. After all the toothed segments are installed, the end sections can then be installed in a like manner.
16. Be sure to apply the epoxy as recommended to insure the proper distribution of the epoxy for the maximum adhesion of each segment.
17. After all the segments and end section are in place you may then nail the units to the road surface using hardened nails in the small holes on both sides of the unit. This is desired to insure the units stay fixed and do not move while the epoxy sets.
18. It is recommended that a sufficient time be allowed for the Epoxy to set before traffic is allowed to pass over the traffic controllers. The time allowable time will depend on the environment where the units are being installed and the epoxy being used (you may wish to use a minimum of four hours). Check the epoxy manufacturer's recommendations.

## Installation & Maintenance Instructions

19. Maintain adequate warning barricades in place throughout the construction and curing process and until ready to activate.
20. When ready to activate make sure all warning signs and any other precautions you may have taken are in place. Then activate the teeth by loosening the latch down device and be sure to retighten the latch down mechanism securely after activating the teeth. Please see instructions below.

### **Latch Down Instructions**

Although, your traffic system comes with a latch down assembly, Guardian Traffic Systems are not designed to be left in a latch down position for long periods.

To activate the latch down use an adjustable wrench or 5/8" wrench. Loosen the latch down bolt then holding the two teeth sections down slide the latch down assembly up until under the teeth shaft. When in place tighten the bolt securely.



LATCH DOWN BOLT & ASSEMBLY

To reactive the teeth, loosen bolt, then slide the assembly down. Take care to keep hands and feet away from teeth as they come up to prevent injury. Then tighten the bolt and latch down assembly securely.

For more information visit [www.guardiantraffic.com](http://www.guardiantraffic.com) and view the "Latch Down Video" showing the process.

### **MAINTENANCE of GUARDIAN Traffic Controllers:**

It is necessary to maintain your Guardian Traffic System Controllers consisting of periodic inspection insuring proper tooth and shaft movement and cleaning of any debris that may have settled or lodged inside the controller (dependent upon the site and elements in your area).

Accumulated debris can be vacuumed, blown or manually cleaned out by unbolting the top-plate, which gives free access to the inner cavity of the unit. If debris is allowed to build up the unit will malfunction which could cause damage to the unit or to vehicle tires traveling in the correct direction. The accumulation of organic matter and debris may cause premature rusting and deterioration of steel components.

With proper installation and maintenance of Guardian Traffic System Controllers will provide many years of cost-effective and reliable directional access control.

If you have any questions please visit our web site [www.guardiantraffic.com](http://www.guardiantraffic.com) or call our customer service or engineering department for more information at 1.520.320.1810 or 1.800.866.9115 or E-mail us at [sales@guardiantraffic.com](mailto:sales@guardiantraffic.com).

### **LIMITED WARRANTY for GUARDIAN TRAFFIC SYSTEMS Products**

GUARDIAN TRAFFIC SYSTEMS warrants that the Traffic Control Spikes System shall be free from all defects in material and workmanship for a period of one year (12 Months) from the date of the original invoice under normal use and service and specifically excludes surface paint, any work, products or wiring done by others. GUARDIAN'S obligation under this warranty is specifically limited to repairing or replacing, at its option, any defective part, which upon examination by GUARDIAN proves to be defective during the warranty period. This warranty excludes any and all labor in regards to repair or replacement. This warranty shall not apply to surface paint or to any part which has been improperly installed, improperly maintained, rust or deterioration due to water retention, improper drainage or weather, accident, improper use, speed exceeding five miles per hour, traffic going the wrong way causing damage or any part which has been altered or repaired by any person not expressly authorized, by GUARDIAN, in writing to do so.

There is no warranty of merchantability or fitness for any particular purpose nor is there any other warranty, express or implied, except as specifically stated in the above paragraph. GUARDIAN does not represent that the products purchased may not be compromised or circumvented; that the products will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the product will in all cases provide adequate warning or protection. Buyer understands that a properly installed and maintained spike system may only reduce the risk of a burglary, robbery, fire or other event occurring without providing an alarm, but it is no guarantee that such will not occur or that there will be no personal injury or property loss as a result.

GUARDIAN shall in no event be liable neither for personal injury, tires, property damage or other incidental or consequential damages nor for any special damages or any further loss, which may arise in connection with any claim. However, if GUARDIAN is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of the cause or origin, GUARDIAN'S maximum liability shall not in any case exceed the purchase price of the individual product or products which shall be the complete and exclusive remedy against GUARDIAN.

Any legal action or proceeding relating to your use of GUARDIAN Products shall be instituted in a state or federal court in Pima County in the State of Arizona. You by purchasing these products and GUARDIAN agree to submit to the jurisdiction of, and agree that venue is proper in, these courts in any such legal action or proceeding.

This warranty may vary from State to State and certain restrictions may apply.

**Manual Surface Mount Traffic Spike System Parts List**

<b>Part No.</b>	<b>Product Description</b>
1230.BP	COBRA Replacement Bottom Plate for 1230 Surface Mount Unit
1230.BWW	COBRA Replacement Bolt, Lock Washer and Flat Washer for 1230 Surface Mount Units
1230.ES	COBRA Replacement Extension Spring for 1230 Surface Mount Units
1230.LD	COBRA Replacement Latch Down Kit for 1230 Surface Mount Units
1230.PR	COBRA Replacement Pivot Rod w/Welded Washer & E-Clip for 1230 Surface Mount Unit
1230.TEETH-O	COBRA Replacement 18" Teeth Section for Old 1230
1230.TEETH-N	COBRA Replacement 18" Teeth Section for New 1230
1230.TEETH-NG	COBRA Replacement 18" Teeth Section for New 1230 - Galvanized
1230.TP	COBRA Replacement Top Plate
1236.BP	KINGCOBRA Replacement Bottom Plate for 1236 Surface Mount Unit
1236.BWW	KING COBRA Replacement Bolt, Lock Washer and Flat Washer for 1236 Surface Mount Units
1236.ES	KING COBRA Replacement Extension Spring for 1236 Surface Mount Units
1236.LD	KING COBRA Replacement Latch Down Kit for 1236 Surface Mount Units
1236.PR	KING COBRA Replacement Pivot Rod w/Welded Washer & E-Clip for Surface Model Units
1236.TEETH-O	KING COBRA Replacement 18" Teeth Section for Old 1236
1236.TEETH-N	KING COBRA Replacement 18" Teeth Section for New 1236
1236.TEETH-NG	KING COBRA Replacement 18" Teeth Section for New 1236 - Galvanized
1236.TP	KING COBRA Replacement Top Plate
1240.RS	PYTHON Replacement Torsion Springs
<b>GUARDIAN WARNING SIGN PARTS</b>	
1410.100	GUARDIAN Warning Sign - Reflective
1414.100	GUARDIAN Warning Sign – Lighted
1416.100	GUARDIAN Warning Sign Post - In-Ground Set
1416.110	GUARDIAN Warning Sign Post – Surface Mount w/Flange
1390.NN	Replacement Nylon Nuts use w/Aluminum Arms for Breakaway, Set of 4
1509.00	Replacement Sign Insert (2 sided for lighted)
1509.10	Replacement Sign light components, Ballast, Bulb Transformer, Capacitor, Rectifier
1509.20	Replacement Spotlight w/Bulb for Lighted Sign
1509.25	Lighted Sign Kit: 9 Electrical Part which include 2 style sockets & 2 style lamps