



Installation and Maintenance Instructions for GUARDIAN Traffic Controllers

A Note on SAFETY:

Traffic controllers are an inherently destructive product. There are risks and liability involved in the use of traffic controllers. To minimize your exposure, it is extremely important that you take adequate safety measures in the installation and use of traffic controllers. Warning signs are strongly recommended and are required by law in many areas. Illumination of the teeth, especially in areas of adjacent pedestrian traffic, is highly encouraged.

IMPORTANT NOTE FOR INSTALLATION OF ALL TRAFFIC CONTROL DEVICES:

Traffic controllers must be installed in such a manner that traffic flows over the teeth at a strict 90-degree angle (perpendicular to the teeth). Complete vehicle alignment and perpendicular passage over the controller must be assured for front and rear axles. Allow for 15 to 20 feet between the traffic controller and any turns on either side of the controller that are 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. It is absolutely critical that traffic over the controllers be **slowed to a maximum speed of 5 miles per hour**. All traffic control units need to be positioned with the sharp edge of the teeth pointing TOWARD offending or wrong-way traffic.

These instructions are provided so you receive 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 controller and the angle of the teeth are critical to the proper function of the units. **Failure to strictly follow these installation instructions will affect the angle of the teeth and can result in: broken teeth, broken springs, correct - direction tire damage, inability to puncture tires of wrong-way traffic, and a multitude of other malfunctions. Antech Corporation will not be responsible for property, vehicle, tire, or personal damage resulting from improper installation. Antech Corporation will not be responsible for repairing malfunctions resulting from improper installation.** Replacement parts needed to repair damage or malfunction caused by improper installation or abuse are not covered under your warranty.

Warning Signs

Warning signs are imperative to provide sufficient notice of the danger to drivers and to pedestrians. Sign may be required by law in your area. Illumination of the signs, 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.

We recommend you install Guardian Warning Sign Model 1410.100 (lighted) or 1414.100 (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 1410.100.

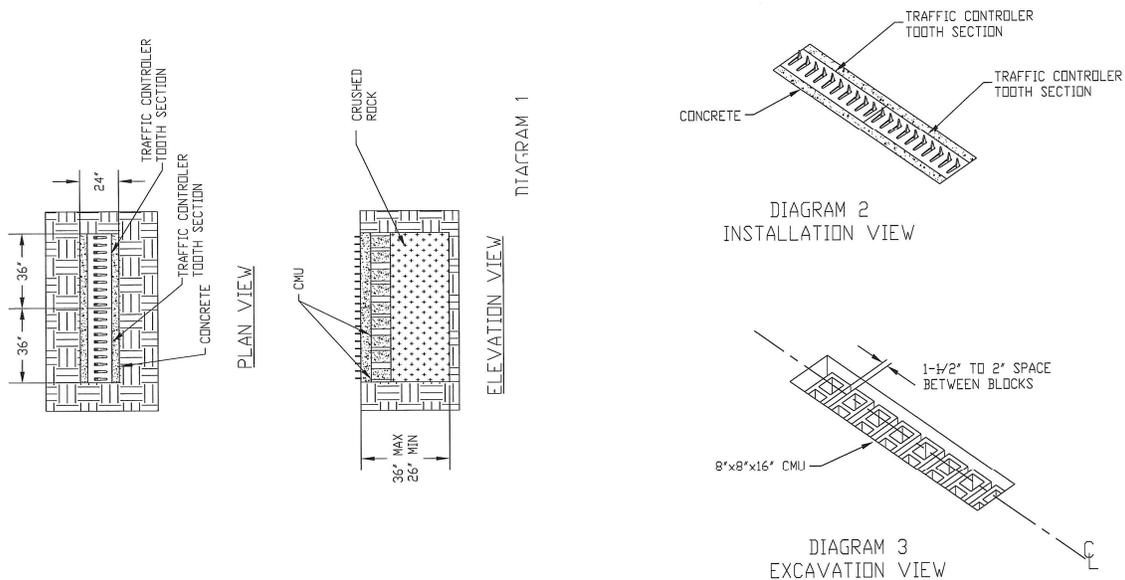


GUARDIAN Warning Sign

Double Sided -All welded steel construction with strong unbreakable reflective metal sign. Lighted version is also available. Surface mounted and in ground posts are also offered by GUARDIAN.

INSTALLATION: In-Ground Models

1. For installation of GUARDIAN in-ground (or flush-mount) units, you will need excavating and concrete mixing equipment (water, shovel, wheelbarrow, flat-trowel), concrete (3000 psi), crushed rock, and 6 to 18 open web hollow concrete blocks, depending on your preference.
2. To install in-ground units, excavate the placement area 24 to 36 inches deep, (depending on drainage needs in your area) by at least 6 inches longer than unit and a minimum of 4 inches on each side of unit. Lay a bed of crushed rock and position the cement blocks as a base to support the traffic controller making sure the **top plate** of the traffic controller unit is at a level grade with the pavement surface. This allows for proper drainage. See photos on page 4.
3. **Installation tip:** To keep the controller unit level with the surface during installation, bolt two flat steel bars, approximately 24 inches long, perpendicular to the top plate at both ends, creating hold-bars. Prepare the steel bars (not supplied by GUARDIAN) by drilling holes in them to match an existing pair of bolt-holes in the top plate. Next, bolt the bars perpendicular to the top plate using the existing bolt holes in the top plate. This creates temporary handles and flaps that will keep the controller unit level with the existing pavement while the concrete cures. See photos on page 4.
4. Pour concrete around the perimeter of unit to set it in place. Smooth out concrete and level to surface grade. Do not pour concrete into the inside of the controller - pour only around the perimeter. After the concrete has set and cured, unbolt the leveling-handles and replace the bolts in the top plate. Normal traffic may proceed over the controller. See photos on page 4.





MAINTENANCE of GUARDIAN Traffic Controllers:

Proper maintenance of GUARDIAN traffic control units consists of periodic inspection and removal of any leaves, debris or material that may have become lodged inside the controller (dependent upon the site and elements in your area). Accumulated debris can be hosed out or manually cleaned out by unbolting the top-plate, which gives free access to the inner cavity of the unit. Be sure that the units are kept free from debris. The units will not work properly if restriction occurs from debris buildup. Be sure to establish a routine cleaning of any debris that may build up in the units. The schedule of maintenance will to a great extent depend on the site conditions and the environment.

With proper installation and maintenance of GUARDIAN Traffic Control systems, you will enjoy many years of cost-effective and reliable directional and access security.

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 hosed out 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.

If you have any questions, please visit our web site www.guardiantrafficsystems.com or call our customer service or engineering department for more information at 1.800.866.9115 or e-mail us at sales@guardiantrafficsystems.com.

WARNING

Traffic Controllers are by design intended to damage vehicle tires when they travel over them in the wrong direction. There are risks and liability involved in the use of traffic controllers. To minimize the inherent risks, it is extremely important that adequate safety measures are taken in the location, installation, maintenance and use of traffic controllers.

Traffic Controllers must be installed in such a manner that traffic flows over the teeth at a strict 90-degree angle to the unit and parallel to the teeth. Complete vehicle alignment and perpendicular passage over the controller must be assured for front and rear axles. Allow for a minimum of 10' feet (3 m) in either direction of the traffic controller 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. The positioning of the traffic controller and the angle of the teeth are critical to the proper function of the units.

It is absolutely critical that traffic over the controllers be slowed to a maximum speed of 5 miles per hour. A speed bump is recommended prior to the teeth. All traffic control units need to be positioned with the sharp edge of the teeth pointing TOWARD offending or wrong-way traffic.

Be sure that the units are kept free from debris. The units will not work properly if restriction occurs from debris buildup. Be sure to establish a routine cleaning of any debris that may build up in the units. The schedule of maintenance will to a great extent depend on the site conditions and the environment.

These instructions are provided 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.

Failure to strictly follow these installation instructions will affect the system and can result in: broken teeth, broken springs, correct direction tire damage, inability to puncture tires of wrong-way traffic and other malfunctions.

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 to bolt the units down to a concrete surface (not recommended for asphalt). The second is to affix to the asphalt road surface using epoxy. The surface should be level and as smooth as possible. The units should not be installed on gravel, a highly irregular surface, an incline, or curve.

Location & positioning

1. Carefully determine the location for your Traffic Control Units. Locate them so that when both front and rear tires of the vehicle pass over the teeth they are parallel to the teeth. Tires that strike teeth at an angle could cause damage to the teeth and to the tires. Normally you would want the units placed approximately 10' (3 m) into the lane.
2. Sweep the area with a broom or other method to ensure a clean and dry surface.
3. Mark the location where the unit will be installed 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 trace them to mark the location. Make sure the teeth are facing the correct way.

Concrete Surface Installation

4. When bolting into concrete (not recommended for asphalt) place the unit onto the previously marked location and drill your anchor holes in the corresponding larger hole on each segment, clean out drilled holes with bristle bottle brush or compressed air. Then place "LDT" anchors through units bolt holes and drive down into road surface until secure.
5. Install your anchors per the 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" Large Diameter Tapcon Concrete Anchor or "LDT" by SIMPSON STRONG TIE, REDHEAD or similar.

Asphalt Surface Installation

6. If your surface is asphalt the best method of application is using construction grade Epoxy supplied by Guardian Traffic Systems or your local hardware vendor.
7. Turn the segments on their backs several inches in front of the installation location. The epoxy has a relatively short setting time and proper positioning of the segments can be facilitated by having them aligned and positioned close to the installation location.
8. Place the end sections, if used, on their backs along side the toothed segments at the proper ends.
9. Check all the interlocking tabs to make sure that they are aligned correctly.
10. Check again to make sure the area is dry and clean of any debris to ensure the best bonding of the epoxy.

11. Follow the epoxy manufacturer's instructions for mixing and preparing the epoxy that will be used to affix the segments to the asphalt drive surface. It is advised that several items, including rags and scrap card board, be available for cleanup of any epoxy overrun that may be encountered during installation.
12. Start with an outside-toothed segment (the epoxy should be applied to the toothed segments first and then end bevel sections last if you are using them).
13. Apply a coating of epoxy along the front edge and back edge and along each cross member, coating all parts that will make contact with the road surface.
14. After applying the epoxy turn the segment over and place it in the previously marked position. Check the position of the teeth to make sure they are in the correct direction for the traffic flow. Apply pressure to ensure all parts are making contact with the road surface and a good bond has been achieved.
15. Proceed with the next segment in line, following the same procedure and installing them with the interlocks securely in place.

Apply Epoxy with Putty Knife or Stiff Brush



Turn Spikes over and Place into Position



16. After all the toothed segments are installed, the end bevel sections (if used) can then be installed using the same procedure as the segments.
17. Be sure to apply the epoxy as recommended to ensure the proper distribution of the epoxy for the maximum adhesion of each segment.
18. After all the segments and end sections are in place you may then nail the units to the road surface using hardened nails. This is done to ensure the units stay fixed and do not move while the epoxy sets. Remove the nails once the epoxy has securely adhered the units to the asphalt.
19. 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 allowable time will depend on the

environment where the units are installed and the epoxy being used. Check the epoxy manufacturer's recommendations.

LATCH DOWN INSTRUCTIONS: If equipped Hex Head Bolts - Standard

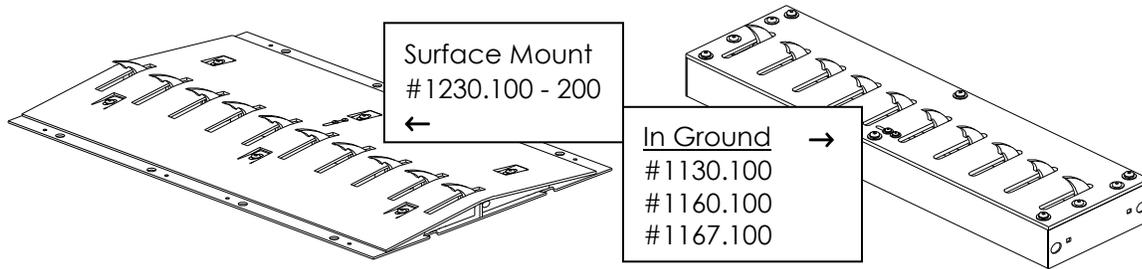
Locate the two hex socket screws in the 1½" slot midway on the top plate. (See drawing below) In some cases there will be only one hex bolt in the slot.

Loosen the bolts and push both sections of teeth down with your hand, taking care not to allow teeth to spring up and cause injury.

Hold the teeth down below the top plate and slide the mechanism to the other end of the 1½" slot. Tighten the bolts securely. The teeth should now be in a lock-down position.

To unlock the teeth, loosen the hex socket bolt, taking care to keep hands and feet away from teeth. The teeth will pop up automatically very quickly.

Guardian Traffic Systems are not designed to be left in a latch-down position for long periods. The teeth and shafts are zinc plated, but may still be susceptible to rust, which can cause the units to freeze in a lock-down position when left immobile for long periods. Engineered for a high degree of tamper-resistance, it offers positive engaging, high torque transmission while resisting cam-out and tool wear. Matching socket required for installation and removal: 9/16" required (not supplied by GUARDIAN Traffic Systems)



LATCH DOWN INSTRUCTIONS: If equipped with Tamper Resistant Hex Socket Pin Head Screws - Optional

Locate the two hex socket pin head screws in the 1½" slot midway on the top plate. (See drawing below) In some cases there will be only one hex socket pin head screw in the slot.

Loosen the screws and push both sections of teeth down with your hand, taking care not to allow teeth to spring up and cause injury.

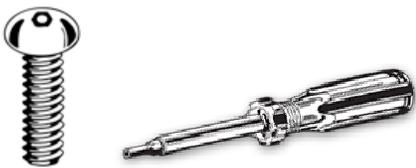
Hold the teeth down below the top plate and slide the hex socket pin screw mechanism to the other end of the 1½" slot.

Tighten the screws securely. The teeth should now be in a lock-down position.

To unlock the teeth, loosen the hex socket pin head screws, taking care to keep hands and feet away from teeth. The teeth will pop up automatically very quickly.

Guardian Traffic Systems are not designed to be left in a latch-down position for long periods. The teeth and shafts are zinc plated, but may still be susceptible to rust, which can cause the units to freeze in a lock-down position when left immobile for long periods. Engineered for a high degree of tamper-resistance, it offers positive engaging, high torque transmission while resisting cam-out and tool wear. Matching driver bit required for installation and removal:

5/32 (7/32 required for Surface Mount model spike sections) Socket Pin-Head bit is required to lock and unlock the latch-down assembly. You may order this tool from Guardian Traffic Systems or purchase it from your local hardware store.



LIMITED WARRANTY

GUARDIAN TRAFFIC SYSTEMS LLC, warrants that the Traffic Control Units, Access Control Devices and related equipment sold shall be free from all defects in material and workmanship for a period of Twelve (12) Months from the date of invoice under normal use and service. 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 shall not apply to any part which has been modified, altered or repaired by any person not expressly authorized, by GUARDIAN, in writing to do so, or to any product which has been improperly installed, or unsatisfactory site conditions or parts or units that have been subjected to misuse, accident or improper use.

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 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 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 for any direct, indirect, personal injury, property damage, incidental, reliance, special or consequential damages, or damages for loss of profits, revenue, equipment or supplies by you or any third party, under any theory of liability, whether in an action in contract or tort, arising 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, Arizona. You 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.

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LIMITED WARRANTY on GUARDIAN Traffic Control Systems

ANTECH CORPORATION, and its affiliates, warrants that the Traffic Control System, Electric Gate and Access Control Devices and related equipment installed shall be free from all defects in material and workmanship for a period of two years (24 Months) from the date of receipt under normal use and service unless manufacturer's warranty period is different and specifically excludes any work, products or wiring done by others. ANTECH'S obligation under this warranty is specifically limited to repairing or replacing, at its option, any defective part, which upon examination by ANTECH proves to be defective during the warranty period. This warranty shall not apply to any part which has been altered or repaired by any person not expressly authorized, by ANTECH, in writing to do so, or to any part which has been altered, subjected to misuse, accident or improper use.

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. ANTECH does not represent that the products 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 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.

ANTECH shall in no event be liable for personal injury, 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 ANTECH 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, ANTECH'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 ANTECH.

Thank you for your purchase of Guardian Traffic 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 fabricated. 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 1.800.866.9115 (8:00 AM to 4:30 PM - MST). Thank you for choosing Guardian Traffic Systems.