

## PRODUCT MANUAL

# *In-Ground Removable Bollard*

- Installation
- Operation
- Maintenance

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Revision 1.0  
June 2013



# PRODUCT MANUAL

## IN-GROUND REMOVABLE BOLLARD

### PART NUMBER 25-30-00

#### PREFACE AND DISCLAIMER

This manual is intended to provide installation, operating, and maintenance instructions for the **90mm x 90mm In-ground Removable Bollard** manufactured and supplied by *Access Technologies (WA) Pty Ltd*.

This product conforms to all current legislative safety requirements. However, inappropriate use can lead to personal injury and/or damage to property. To avoid the risk of damage or injury, please read these instructions carefully before installing, operating, or maintaining the product. Please train all new users in the instructions outlined in this manual, and pass this manual onto any subsequent owners of the product.

*Access Technologies (WA) Pty Ltd* cannot be held liable for any injury or damage resulting from a failure to comply with the safety and warning instructions contained in this manual.

#### CARING FOR THE ENVIRONMENT AND PACKAGING SAFETY

The packaging materials used with this product are environmentally friendly, and can be recycled. Please ensure that they are offered for recycling.

Please ensure that any packaging is disposed of safely, and kept out of reach of children. Plastic packaging materials, particularly plastic bags and bubble wrap, can present a risk of suffocation if not disposed of appropriately.

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## WARNINGS AND SAFETY INSTRUCTIONS

The **In-Ground Removable Bollard** manufactured by *Access Technologies* conforms to current legislative safety requirements. However, inappropriate use may lead to personal injury and/or damage to property. To avoid injury or damage to the product, please read this manual carefully before installing the product, or using it for the first time. The manual contains important information on installation, safe use, and maintenance of the product.

Please keep this manual in a safe place and ensure that new users are familiar with the content. Please also pass this manual on to any future owners of the product.

## CORRECT APPLICATION OF THIS PRODUCT

The In-Ground Removable Bollard is intended for use in the following applications, and situations where the following conditions are present:

- **Impact Rating** – While the In-Ground Removable Bollard can be used in some situations to deter ram raids, it will generally not arrest a vehicle travelling at high speed. **The product is not suitable for arresting a 1500 KG (or greater) vehicle travelling at more than 30 Km/Hr.** In a ram raid situation, it is highly likely that the product will be damaged, and the concrete footing will require replacement.
- **Trained Users** – The In-Ground Removable Bollard is not recommended for use in public car parks, or other situations where the product is used by members of the general public who have not been trained in the safe use of the product.
- **Duty Cycle** – This product is manually operated, and its use involves lifting components of significant mass. For this reason it is generally only suitable for use in situations where the usage rate is **less than 10 operations per day**. If the required daily cycle rate is higher than this an automatic access control solution such as a **Cable Gate**, a **Boom Gate**, or an **Automatic Bollard** should be considered.
- **Operating Environment and Corrosion Risk** – All components of the In-Ground Removable Bollard are manufactured from zinc coated steel (either Hot Dip Galvanised or Electro-plated Zinc). These materials have been selected to enable the product to be used outdoors where the product may be subject to water immersion. However, the product is not design for operation in the following environments:
  - a. **Marine environments** (such as boat slipways and boat loading ramps), where the product is likely to encounter salt water either in the form or spray or salt water immersion.
  - b. **Chemical Plants** – The product may not be suitable for use in factories and industrial plants that use either acidic or alkaline chemicals – particularly where these processes produce corrosive vapours. Contact *Access Technologies* for advice in situations where this may be relevant.

## SAFETY WITH CHILDREN



The In-Ground Removable Bollard is not a toy – children should be prevented from using the product due to the risk of injury. Do not allow children to remove the bollard Post from the In-Ground Canister as injuries may result.

## PRE-INSTALLATION INSPECTION

After removal of the In-Ground Removable Bollard from its shipping packaging, but before installation – inspect the product externally for any signs of damage. Do not install or use the product if there is any damage evident. Damaged product should be returned to an authorised distributor or to *Access Technologies* for repair or replacement.



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In particular, the following items should be checked for damage:

1. Check the Post powdercoat and reflective decals for scratching and dents.
2. Check the In-Ground Canister body for dents or crush damage.

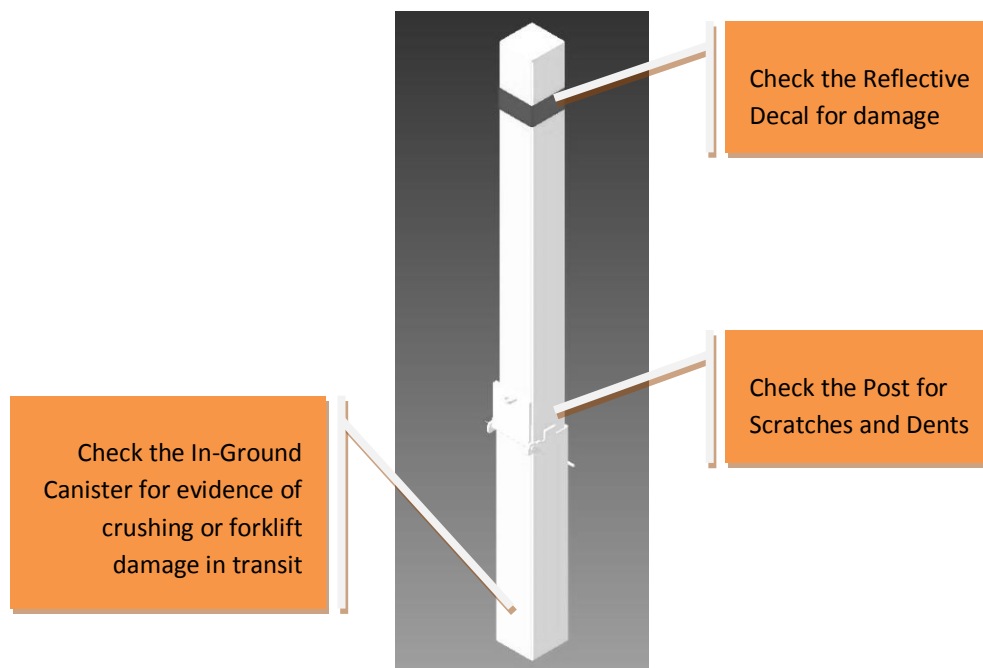


Figure 1 - Check the In-Ground Removable Bollard™ Post for Scratches or other Damage

## INSTALLATION SAFETY

**The In-Ground Removable Bollard** will often be installed on roads or laneways that may be open to traffic while the installation is taking place. With this in mind the following precautions should be taken to ensure the safety of installers, in conjunction with any proprietary *Occupational Health and Safety* requirements that the installing Company may have:

1. Fluorescent/reflective vests should be worn when installing within 3 m of a public road.
2. The work area should be cordoned off using either tape or mesh to prevent members of the public walking through the work area.
3. If the footing hole is to be left open for any extended period (including overnight), it should be taped off or barricaded to remove any possibility of someone falling into the hole.



## SYMBOLS USED IN THIS MANUAL

The following symbols are used throughout this manual:



**General Warning Symbol** – This symbol is used to indicate the presence of any situation that carries the potential for personal injury or damage to equipment or the product.



**Risk of Lifting Injury** – This symbol is used to indicate the potential for a back injury, or other lifting related injury if the instructions provided are not followed.



**Pinch Point Risk** – This symbol is used to indicate the potential for a ‘pinch point’ injury – where a part of the body may become lodged in the equipment if the instructions provided are not followed.

## INTRODUCTION TO THE IN-GROUND REMOVABLE BOLLARD BY ACCESS TECHNOLOGIES

The **In-Ground Removable Bollard** is designed to provide a low cost means of securing a vehicle access way that is only used periodically. The product is particularly at home in low-duty applications where the added cost of automation is not warranted – or where site location does not permit mains power to be run to an automatic bollard or automatic security gate.

The bollard Post is locked to an In-ground Canister through the use of any standard commercially available Padlock. The padlock is not supplied with the bollard. Once the Padlock is removed, the bollard post can also be removed to permit passage of a vehicle. A Cover Plate is provided to cover the hole left in the ground once the post has been removed.

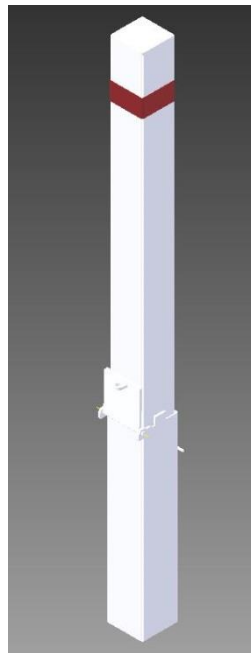


Figure 2 - The In-Ground Removable Bollard by Access Technologies

The product is specifically designed to preclude vehicle traffic. While the product may sometimes be used to discourage pedestrian traffic from entry, the passage of pedestrians cannot be prevented by using this product.



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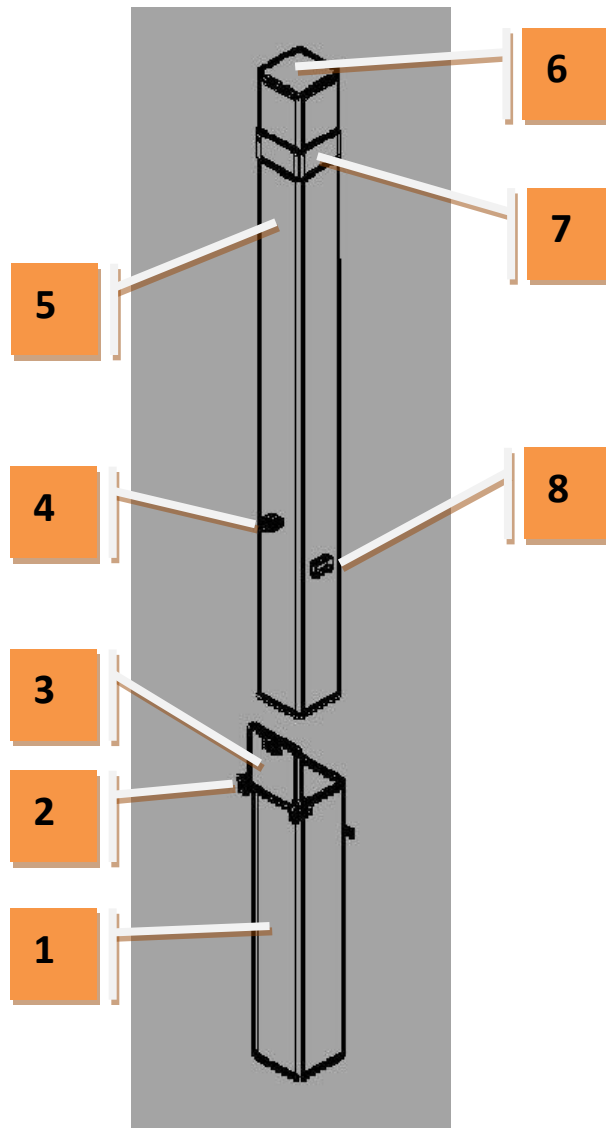


Figure 3 – Major Parts Listing and Description for the In-Ground Removable Bollard

### Parts List and Description

1. **In-Ground Canister** – Designed to secure and locate the Post Assembly. This component is concreted into the ground on installation.
2. **Hinge Assembly** – 6mm Steel hinge plates are fitted on both sides of the assembly. The hinges are designed to permit rotation of the Cover Plate.
3. **Cover Plate**– 6mm steel Cover Plate designed to prevent dirt and debris from entering the In-Ground Canister when the bollard is not is use. It also permits the Post Assembly to be secured to the In-Ground Canister via a Padlock.
4. **Padlock Tag** – Designed to accommodate a Padlock for the purpose of securing the Post Assembly to the In-Ground Canister.
5. **Post Assembly** – Provides a physical barrier to site entry. Manufactured from 90mm x 90mm x 5mm wall section rectangular steel hollow section.
6. **Post Cap Plate** – Welded end cap of 6mm steel plate.
7. **Reflective Tape** – Red, Reflective Tape to ensure night-time visibility of the bollard Post.
8. **Post Locating Lug** – Ensures that the Post Assembly sits at the correct height relative to the In-Ground Canister Assembly.



## IN-GROUND REMOVABLE BOLLARD SPECIFICATIONS

The specifications for the In-Ground Removable Bollard are as follows:

Item Description	Specification
Product Description	In-Ground Removable Bollard
Post Material	90mm x 90mm x 5mm wall section, Grade 250 Structural Steel
Height	900mm above ground when installed.
Decorative Finish	Zinc as standard – Optional powdercoat to customer order.
Shipping Weight	Post Assembly – 13Kg, Canister - 5Kg. TOTAL SHIPPING WEIGHT - 19Kg
Surface Treatment	<ul style="list-style-type: none"> <li>• Post – 13 micron thick electrolytic Zinc Plating.</li> <li>• In-Ground Canister – Hot Dip Galvanised.</li> </ul>

Figure 4 – In-Ground Removable Bollard Specifications and Shipping Details



## IN-GROUND REMOVABLE BOLLARD INSTALLATION PROCEDURE

1. The concrete footing size for the In-Ground Removable Bollard is **400 long x 400mm wide x 710mm deep** (Refer to Figure Below). The footing is typically excavated by hand with a spade, but can be excavated by Auger with hand finishing if required. The hole location should be marked out with chalk or crayon prior to excavation to ensure it is cut square and true. If the footing is to be installed into an existing concrete or asphalt driveway it will be necessary to first cut through the surface and roadbase layer with a masonry cutter prior to removal of soil with a spade.

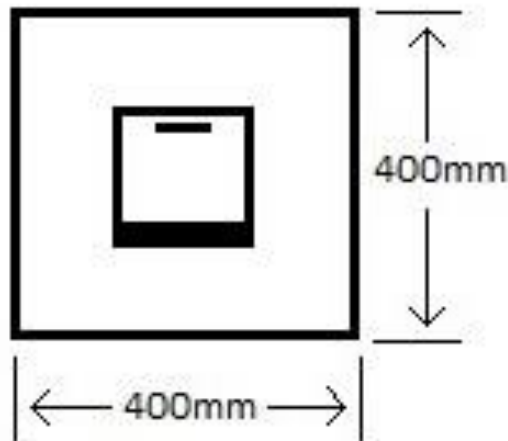


Figure 5 - Footing Dimensions for the In-Ground Removable Bollard (Plan View)



Ensure that eye protection, hearing protection, and safety footwear are worn when cutting through concrete or asphalt surfaces with power tools.

2. Once the footing is excavated, fill the bottom of the hole with **15mm blue metal** (granite aggregate). This will ensure that water drains through the hole quickly. The blue metal should be filled to a depth of 200mm from the bottom of the hole.
3. Place the In-Ground Canister (with Post Assembly attached) into the hole. Ensure that the bollard post is plumb and located in the center of the hole. A 'Post Spirit Level' should be used to ensure that the Post remains plumb throughout the installation procedure.

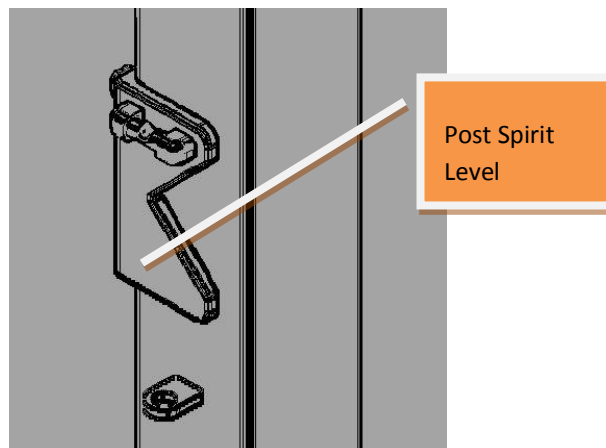


Figure 6 - Post Spirit Level in use



4. Fill around the outside of the In-Ground Canister with **20MPa concrete**, until the concrete is flush with the existing road or driveway surface. Trowel the concrete flush with a wooden trowel. Ensure that the top of the In-Ground Canister is set flush with the top of the concrete surface as indicated in the Figure below.

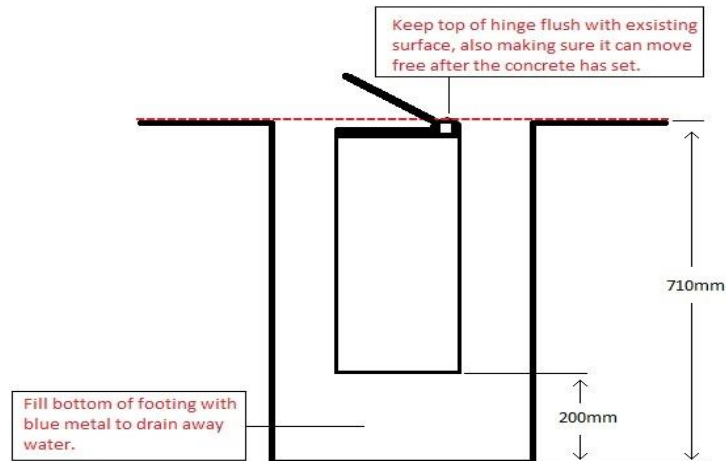


Figure 7 - Installation of In-Ground Canister into Hole (Side View)

5. Remove the Post Assembly from the In-Ground Canister. With the Cover Plate in the closed position, ensure that the concrete surface is flush with the top of the Cover Plate. Lay back the concrete a small amount as required around the Cover Plate to ensure that the Cover Plate can be opened and closed after the concrete has cured. Ensure that no concrete is trapped in the Hinge Assembly that will later cause the hinge to jam once the concrete has cured. At this point the concrete surface can be finished using a steel trowel or brushing as required.
6. Once the concrete has cured (typically 48 hours), re-fit the bollard Post Assembly into the In-Ground Canister. Push the Cover Plate over the Padlock Tag and fit the Padlock to secure the opening.

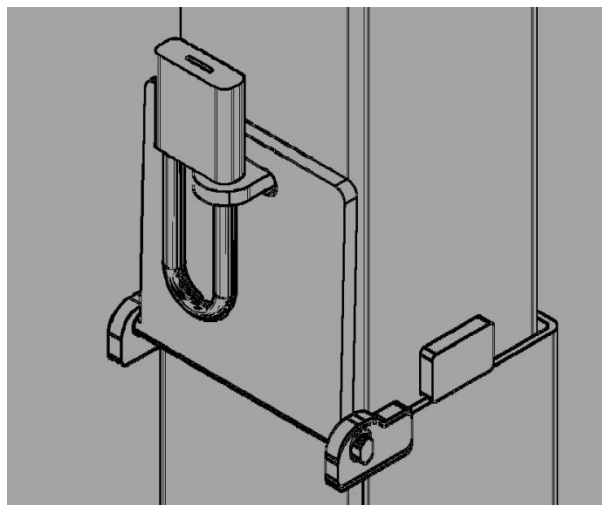


Figure 8 - Post installed and Padlock Fitted



7. If multiple bollards are to be installed in a row, ensure that a string line is used both to mark out the hole locations, and to ensure that the posts are installed in a line. Separate string lines should be used to set the height of the bollard group as well as the vertical alignment.



Figure 9 - Use String Lines to ensure correct Alignment of Multiple Bollards



## IN-GROUND REMOVABLE BOLLARD OPERATION

The In-Ground Removable Bollard is designed to be easily operated by one person with minimal effort required. This section describes the procedures used to remove and re-fit the bollard Post Assembly to secure an opening.

### REMOVAL OF THE IN-GROUND REMOVABLE BOLLARD POST

The In-Ground Removable Bollard Post is removed using the following procedure.

1. Remove the Padlock from the Padlock Tag

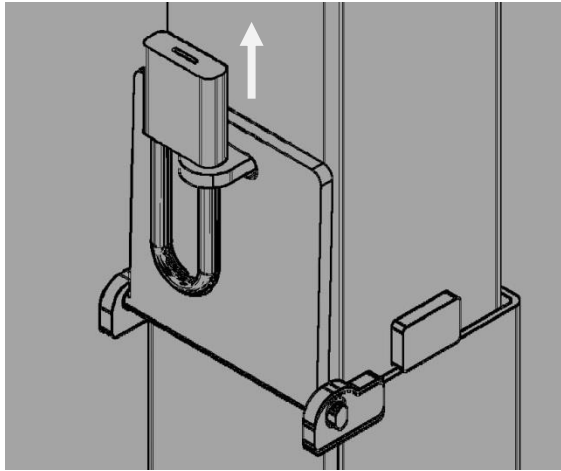


Figure 10 – Removal of the Padlock from the Padlock Tag

2. Rotate the Cover Plate towards the horizontal position until it is free from the Padlock Tag.

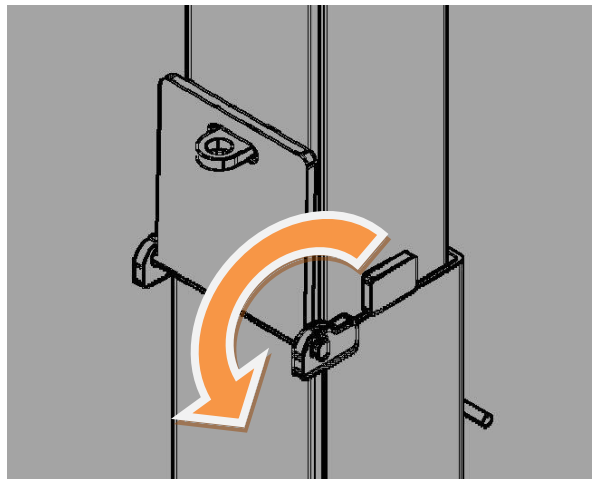


Figure 11 - Rotate the Cover Plate toward the Ground

3. Remove the Post Assembly from the In-Ground Canister. Store the canister in a location where it does not present a trip hazard.



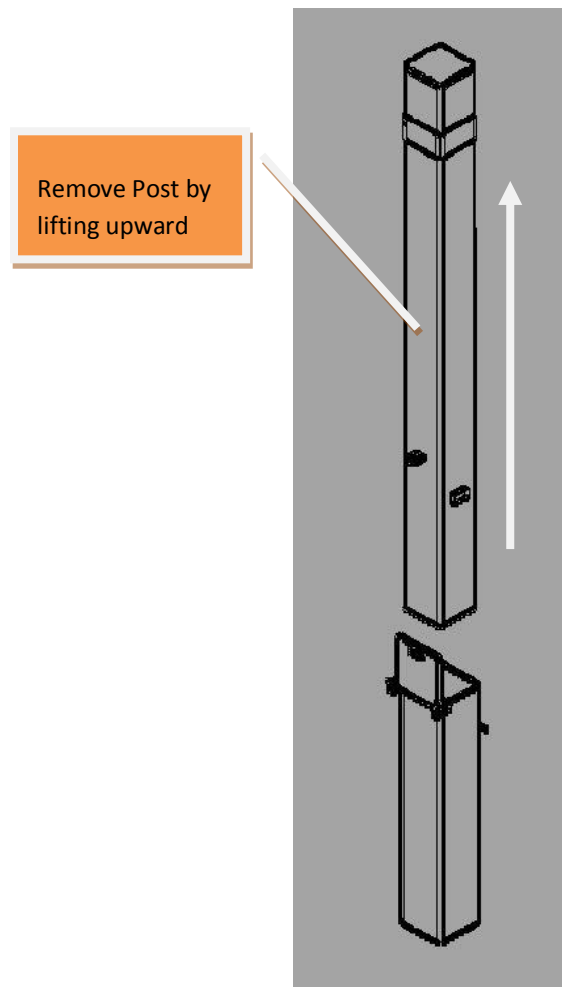


Figure 12 - Remove Post by Lifting Upward



**WARNING:** The post weighs approximately 13 Kg. Be sure to place your feet in a stable footing arrangement, and use your knees to lift the Post Assembly to avoid back injury.

4. Rotate the Cover Plate to the Horizontal position to ensure that no dirt or debris enters the In-Ground Canister.

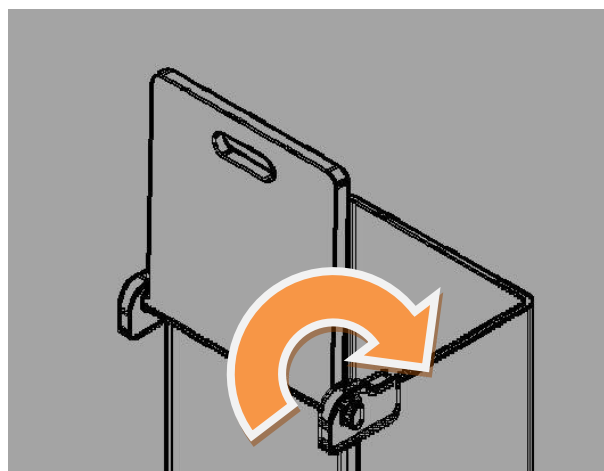


Figure 13 - Rotate the Cover Plate to seal the In-Ground Canister



## REPLACEMENT OF THE IN-GROUND REMOVABLE BOLLARD POST

Replacement of the In-Ground Removable Bollard Post to secure the driveway is simply the reverse of the removal procedure indicated above.



When Re-installing the Post Assembly into the In-Ground Canister ensure that fingers or toes do not become trapped between the Post and the In-Ground Canister as this may cause injury.

## MAINTENANCE OF THE IN-GROUND REMOVABLE BOLLARD

The In-Ground Removable Bollard is intended to be a low maintenance product that will offer many years of trouble free operation. The only scheduled maintenance operation on the product is to spray the Hinge Assembly and Padlock Tag with a light lubricant such as INOX™, RP7™, or WD-40™ every three months as illustrated in the figure below.

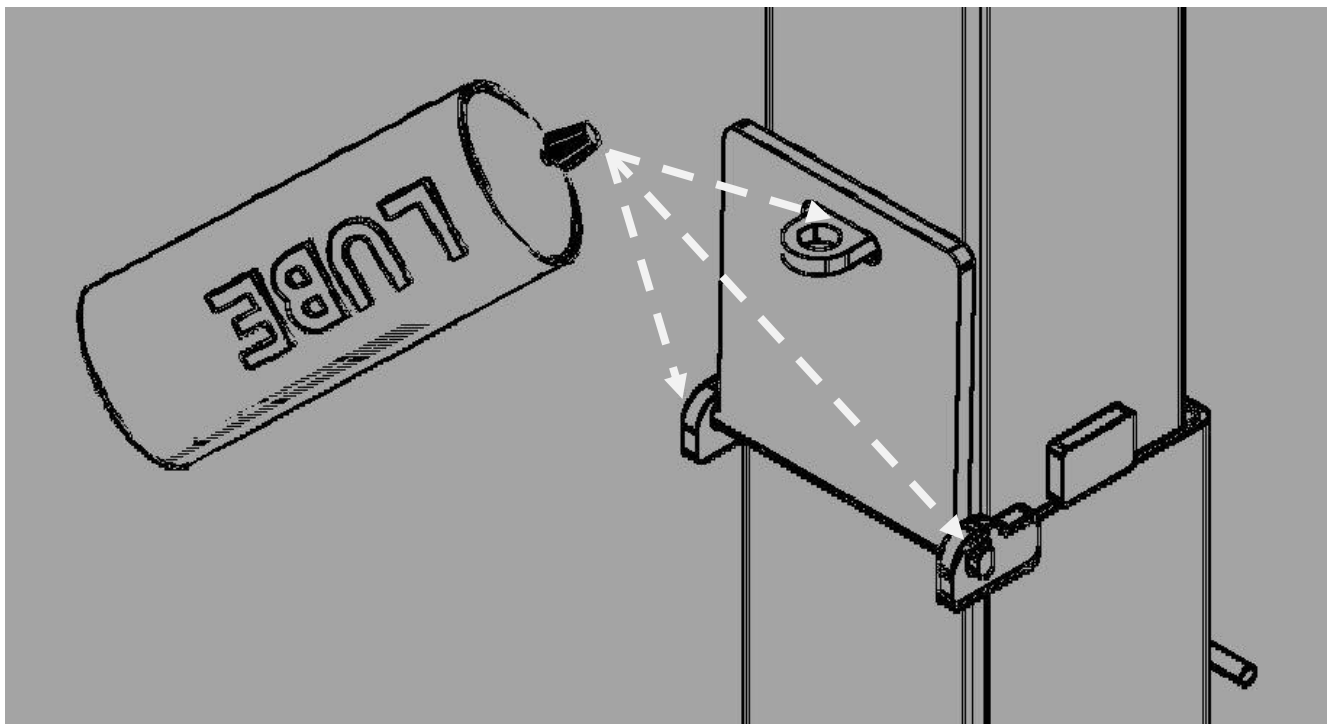
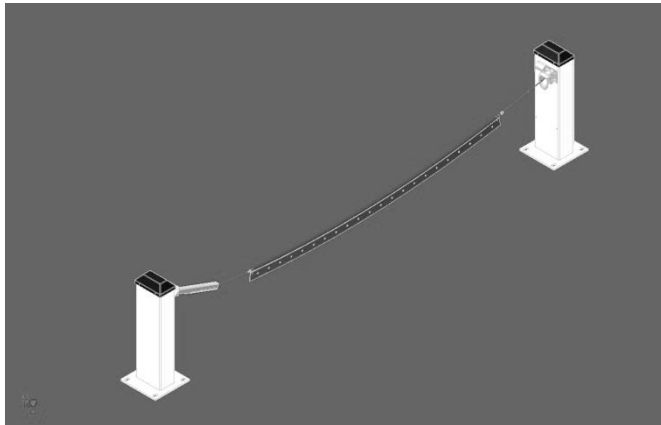


Figure 14 - Lubrication Points for the In-Ground Bollard



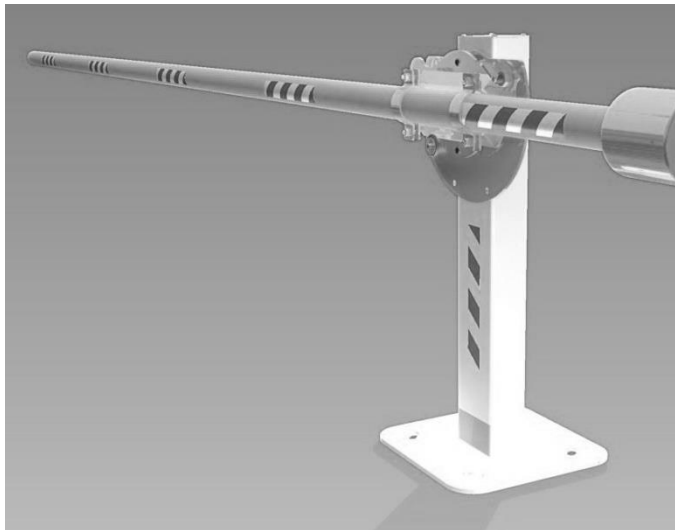
OTHER PRODUCTS BY ACCESS TECHNOLOGIES



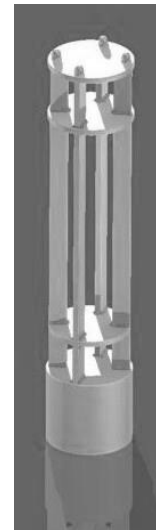
*Cable Gate® Vehicle Access Control system*



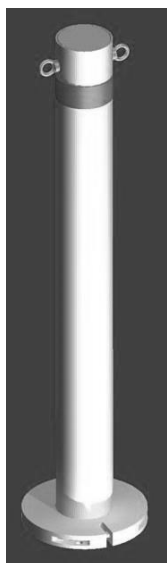
*Electric Retractable Bollard*



*ZoneGuard™ Manual Boom Gate*



*Custom Designed Bollards*



*Surface Mount Padlockable Bollard*



*Manual Retractable Bollards*







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