motorola Concealed Weapons Detection Dynamic Tie Down User Guide

Contents

Motorola Concealed Weapons Detection Dynamic Tie Down

Product Information

The Concealed Weapons Detection Dynamic Tie Down Guide is a system that is used to secure the CWD (Concealed Weapons Detection) system to the floor or surface.
It is designed to prevent tipping or falling off the TX or RX towers due to visitor traffic or weather conditions. The system includes various parts and hardware components that are necessary for installation.

Kit Contents

The Outdoor Bolt-Down kit includes the following parts:

- Cover Plate
- Tie Down Mount Puck
- Tie Down Membrane
- Ground Puck
- Tie Down Assembly (Threaded Rod, TX)
- Tie Down Assembly (Threaded Rod, RX)
- Dynamic Tie Down Front Bracket
- Dynamic Tie Down Rear Bracket
- Dynamic Tie Down RX Plate

Hardware

The hardware included in the kit consists of screws, bolts, anchors, nuts, and washers. The quantities of each hardware component may vary depending on whether it is a single-lane or dual-lane system.

Tools

The tools required for installation are:

- Bolt, M6 x 16 mm, Hex Head, Serrated Flange
- Bolt, 3/8 x 16 x 1-1/2 Long, Hex Head
- Washer, Flat, for 3/8 Screw

Product Usage Instructions

Dynamic Tie-Down Procedure

Before starting the installation, it is important to note that the drilling and installation of anchors should be performed by authorized customer representatives under the supervision and guidance of MSI staff.
Hiring professional contractors is recommended to ensure proper and safe installation.

Marking the Hole Locations

1. Using the figures provided in the user manual, mark the hole locations on the floor or surface. The hole locations will vary depending on the system configuration.
2. **Tools required:** Tape, Marker, Tape Measure.

- **Figure 1:** Hole Locations for a Standard Dual Lane System
- **Figure 2:** Hole Locations for a Standard Lane 1 System
- **Figure 3:** Hole Locations for a Standard Lane 2 System
- **Figure 4:** Hole Locations for a Wide Dual Lane System

Introduction

- The CWD must be secured with bolts to the floor or surface for installations where the TX or RX towers are at risk of tipping or falling due to visitor traffic and/or weather.
- This procedure is intended to serve as a general guideline. Variants may be required due to different types of floors or surfaces, slopes, etc.

Kit Contents

- Ensure the items below were included in your Outdoor Bolt-Down kit that was included with the CWD system.

Parts			
Part Number	**Description**	**Quantity (Single- lane)**	**Quantity (Dual- lane)**
200-01220	COVER THE PLATE, TIE-DOWN	3	4

200-01221	MOUNT PUCK, TIE-DOWN	3	4
200-01225	MEMBRANE, GROUND PUCK, TIE-DOWN	6	8
101-00560-	ASSY, THREADED ROD, TX, D YNAMIC TIE	2	2
01	DOWN		
101-00608-	ASSY, THREADED ROD, RX, D YNAMIC TIE	1	2
01	DOWN		
200-01274	FRONT BRACKET, DYNAMIC T IE DOWN	1	1
200-01276	REAR BRACKET, DYNAMIC TI E DOWN	1	1
200-01324	RX PLATE, DYNAMIC TIE DOW N	1	2
Hardware			

Part Number	**Description**	**Quantity (Single-lane)**	**Quantity (Dual- lane)**
210-	SCREW, FH, PH, M6X1, 12 MM LONG, 18-8 SS	6	8
00610			
210-	BOLT, 1/2″-13. 2-1/4″ LONG, FH, HEX, SS	3	4
00662			
290-	CEMENT ANCHOR, FEMALE, 1/2″-13, SCREW SET	3	4
00590			
210-	NUT, NYLOCK, M6	2	2
00026			
210-	LOCKNUT, MEDIUM STRENGTH, 3/8-16 THD, GRADE 5,	3	4
00557	STEEL, ZINC PLATE		

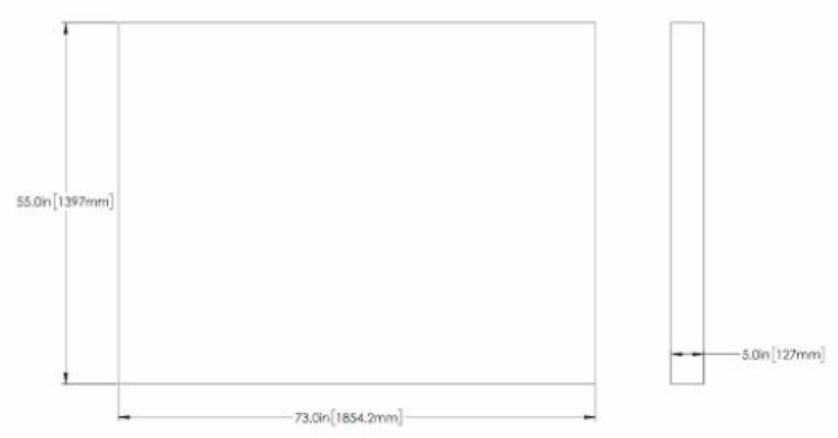
210-	BOLT, M6 X 16 MM, HEX HEAD, SERRATED FLANGE, 18-8	8	8
00616	SS		
210-	BOLT, 3/8″ X 16 X 1-1/2″ LONG, HEX HEAD, ZP STEEL,	3	4
00660	GRADE 5		
210-	WASHER, FLAT, FOR 3/8″ SCREW, 0.416″ ID, 1″ OD, ZP	3	4
00663	STEEL		

Tools

- Masking Tape
- Marker
- Tape Measure
- 24V Hammer Drill
- Counterbore Drill Bit
- 7/8” Cement Drill Bit
- Vacuum/Compressed Air
- Mallet/Hammer
- 5/16” (or 8mm) Hex Bit
- Wrench
- Phillips Head Screwdriver
- 10mm Socket
- 9/16” Socket and Wrench
- 9/16” Combination Wrench
- We recommend pouring a new concrete pad using the dimensions below corresponding to your system’s configuration. The concrete used should have a minimum compressive strength of 4000 psi. The top surface of the concrete slab should be as flush with the surrounding surface as possible.

Concrete Pad Dimensions for a Standard Dual Lane System

Concrete Pad Dimensions for a Standard Single-Lane System



Concrete Pad Dimensions for a Wide Dual Lane System

Concrete Pad Dimensions for a Wide Single-Lane System

Dynamic Tie-Down Procedure

The drilling and installation of anchors in this section are not to be performed by MSI staff. MSI staff should provide supervision and guidance while authorized customer representatives perform the installation. We recommend hiring contractors to ensure that the holes are properly and safely drilled. Make sure that the ground is tested for rebar and that the hole locations are placed in locations without obstructions.

Marking the whole locations
Mark the hole locations, using the figures below, that correspond to your system configuration.
Tools:

- Tape
- Marker
- Tape Measure

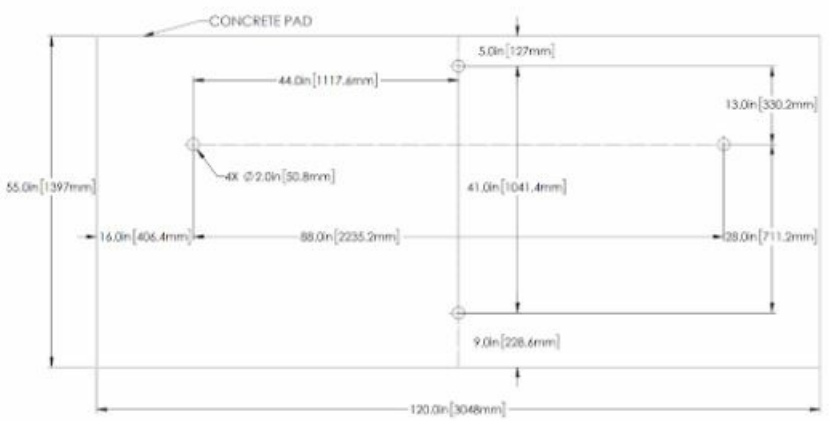


Figure 1: Hole Locations for a Standard Dual Lane System

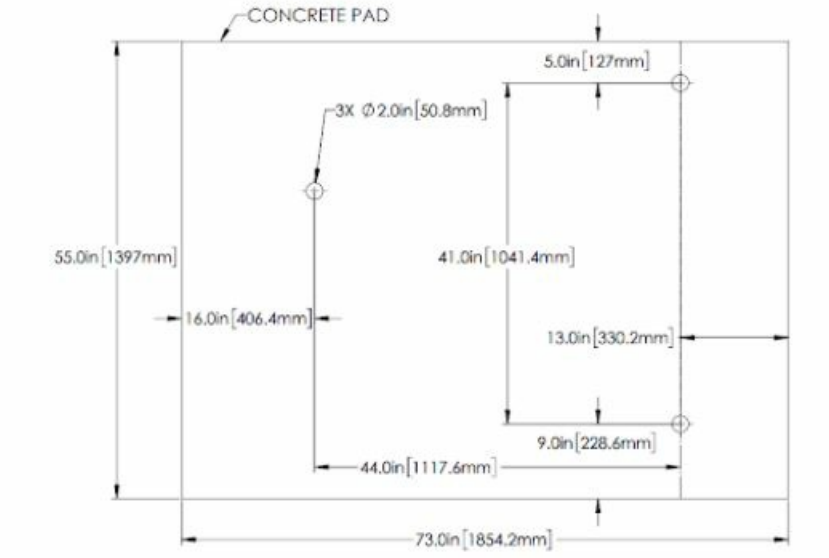


Figure 2: Hole Locations for a Standard Lane 1 System

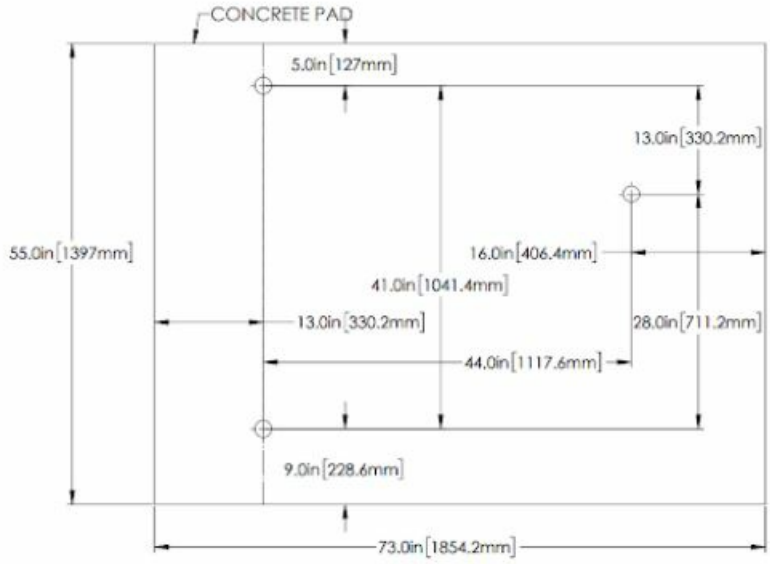


Figure 3: Hole Locations for a Standard Lane 2 System

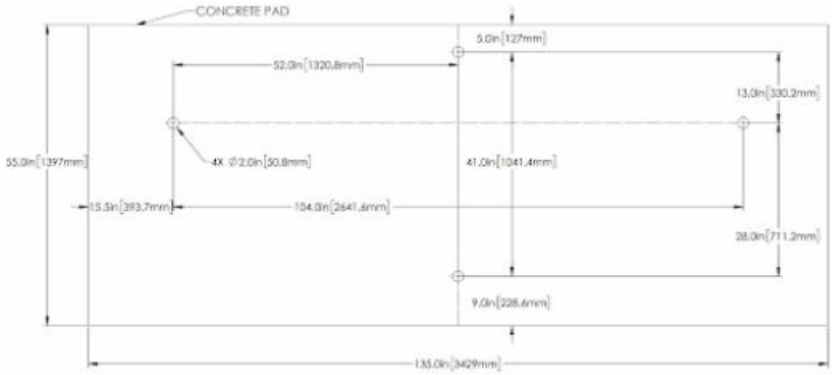


Figure 4: Hole Locations for a Wide Dual Lane System

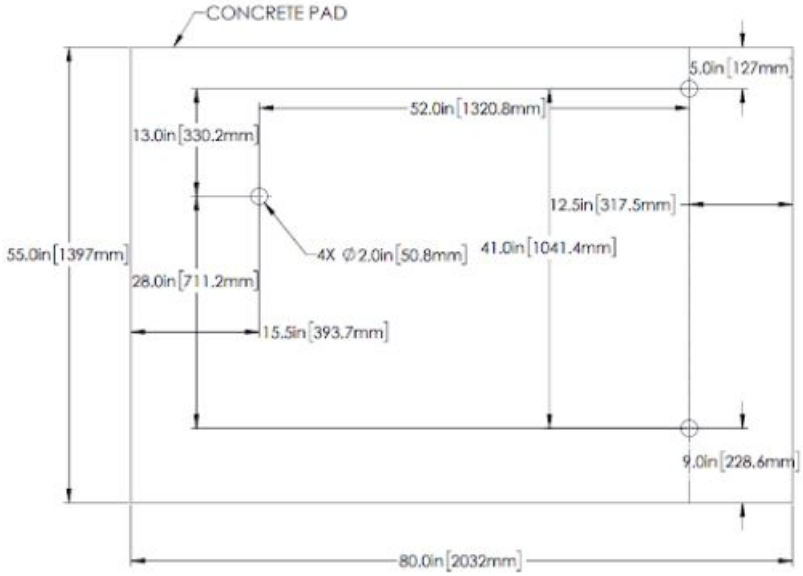


Figure 5: Hole Locations for a Wide Lane 1 System

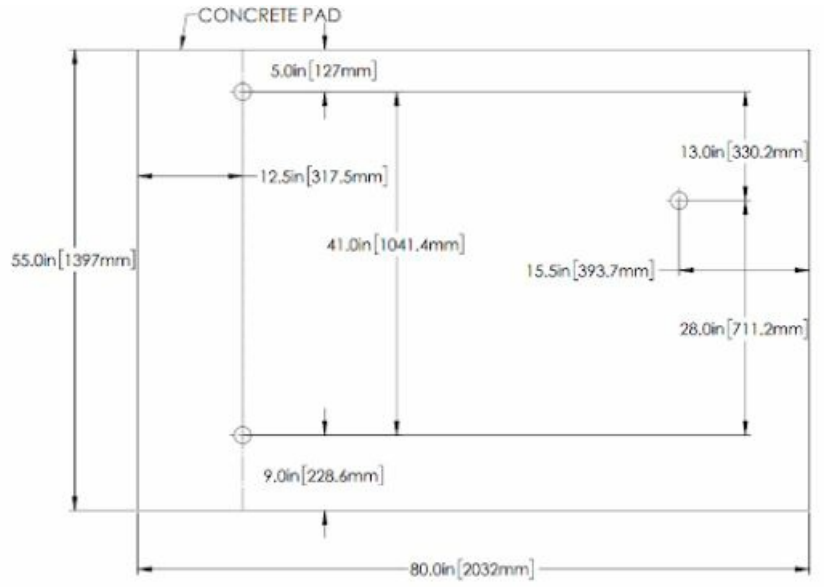
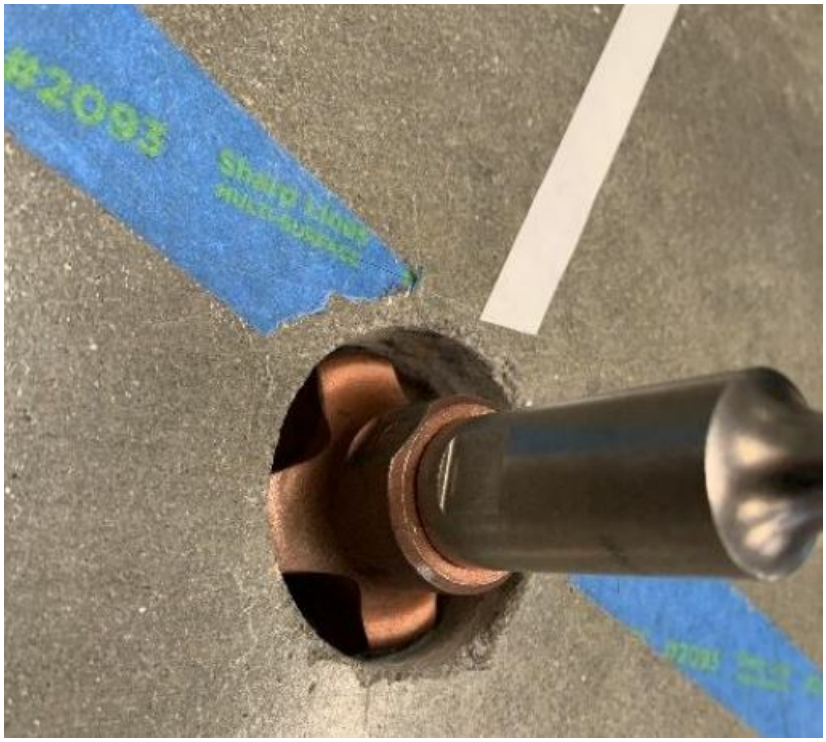


Figure 6: Hole Locations for a Wide Lane 2 System

Drilling on each hole mark

1. Drill on each hole mark until the depth seems close to the depth of the puck.

NOTICE: Wear eye protection to prevent getting cement dust in your eyes. Wear a dust mask to prevent breathing in cement dust.



Checking the hole depth

1. Assemble the cover plate, mount puck, and membrane.
2. Place the parts into the drilled hole and check that it is the correct depth. The cover should be flush with the ground.
3. Continue drilling if the hole is not deep enough.

Parts:

- **200-01220:** COVER PLATE, TIE DOWN
- **200-01221:** MOUNT PUCK, TIE DOWN
- **200-01225:** MEMBRANE, GROUND PUCK, TIE DOWN

Drilling the anchor holes

1. Expand the inner hole of the counterbore to fit the cement anchor.
2. Depth should be at least 2-1/4” from the bottom of the counterbore, or about 3.325” from the surface.

Tools:

1. Hammer Drill
2. 7/8” Drill Bit

Inserting the anchor

1. Place the anchor into the hole.
2. If stuck, hammer anchor down until it is flush with the surrounding surface.
3. If the hole is not deep enough, continue drilling.

Tool:

- Mallet

Parts:

- 290-00590 – CEMENT ANCHOR, FEMALE, 1/2″-13, SCREW SET

Placing the puck and set the anchor

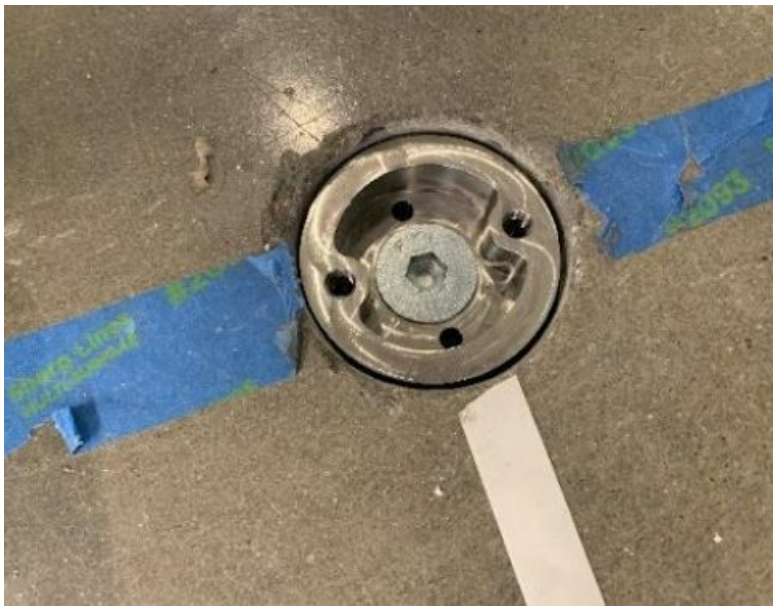
1. Insert the puck into the hole and rotate so the two inner holes are perpendicular to the walking lane.
2. Tighten the bolt. The tighter the bolt the more set the anchor is in the concrete.
3. Confirm that the puck has not spun out of position while tightening. Back the bolt out, reposition, and retighten if necessary.

Tools:

1. Wrench
2. 5/16” (or 8mm) Hex Bit

Parts:

- **200-01221:** MOUNT PUCK, TIE DOWN
- **210-00662:** BOLT, 1/2″-13. 2-1/4″ LONG, FH, HEX, SS



Assembling the puck

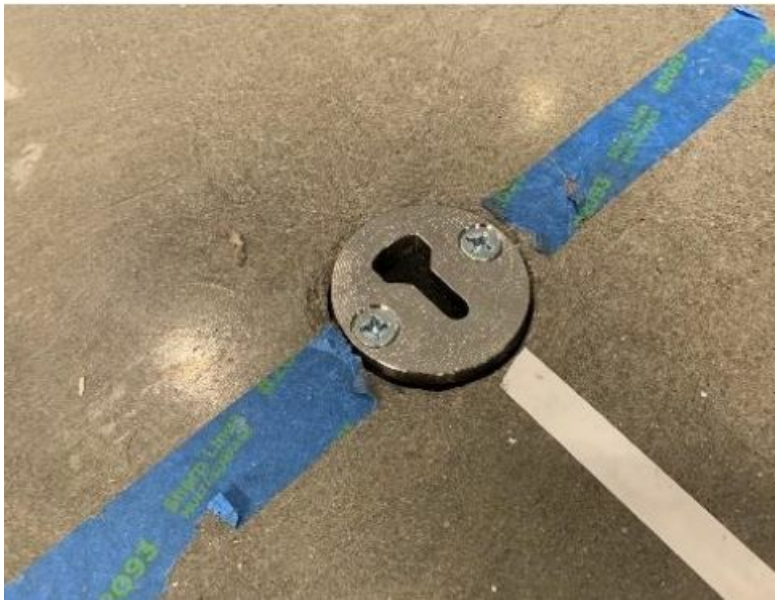
1. Place the rubber membrane onto the cover, matching up the holes with the bosses on the cover.
2. Place the rubber membrane and cover onto the puck.
3. **For TX pucks:** confirm that the thinner part of the hole is facing toward the system.
4. **For RX pucks:** confirm that the thinner part of the hole is pointing in the direction of the walking lane, towards the rear.

Tools:

- Phillips Head Screwdriver

Parts:

- **200-01220:** COVER PLATE, TIE DOWN
- **200-01225:** MEMBRANE, GROUND PUCK, TIE DOWN
- **210-00610:** SCREW, FH, PH, M6X1, 12 MM LONG, 18-8 SS



Bolting Down the System

1. Add brackets to the TX tower base.
2. Add the front bracket to the visitor side of the TX tower base using three bolts and nuts.
3. Add the rear bracket to the staff side of the TX tower base using two bolts and nuts.

Tools:

- 10 mm socket

Parts:

- **210-00616:** BOLT, M6 X 16 MM, HEX HEAD, SERRATED FLANGE, 18-8 SS
- **210-00026:** NUT, NYLOCK, M6

Adding the RX brackets

1. Position the RX plate in the base of the RX tower, pushing the plate into the corner.
2. Secure the RX plate using two bolts, nuts, and washers.
3. The bolt comes from the top down and the washer goes on the nut side underneath.

Tools

- 9/16” Socket
- 9/16” Combination Wrench

Parts:

- **200-01324:** RX PLATE, DYNAMIC TIE DOWN
- **210-00660:** BOLT, 3/8″ X 16 X 1-1/2″ LONG, HEX HEAD, ZP STEEL, GRADE 5
- **210-00663:** WASHER, FLAT, FOR 3/8″ SCREW, 0.416″ ID, 1″ OD, ZP STEEL

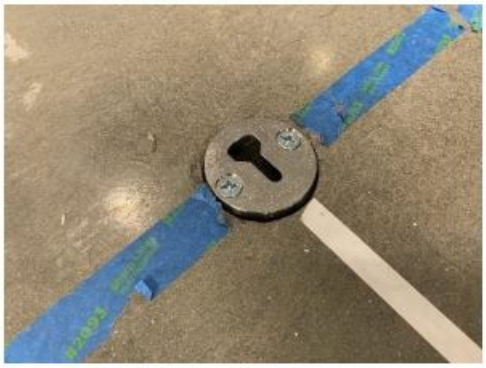
- **10-00557:** LOCKNUT, MEDIUM STRENGTH, 3/8-16 THD, GRADE 5, STEEL, ZINC PLATE

Lining up the Brackets

1. Line up front and rear brackets of the TX tower with the corresponding ground pucks, at least within a couple of inches

Inserting the front rod through the bracket

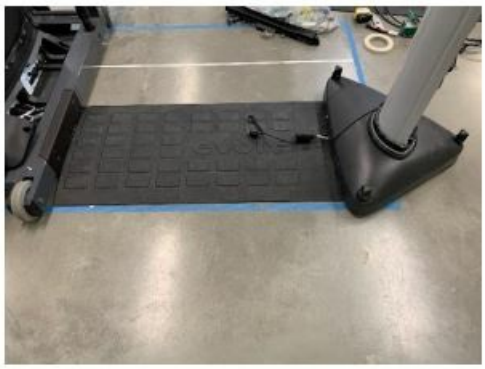
1. Leave the wheels unlocked during this stage so that the system can roll into a closer position while tightening.
2. Insert the front rod through the bracket.
3. Push the ball end of the rod into the rubber membrane in the puck at the larger end of the key shape.
4. While still pushing down, move the ball to the other end of the key to secure the ball.
5. Tighten the nut tight enough to keep the rod from moving, but tightening any more than that is not necessary.



Hooking the rear rod and tightening

1. Insert the rear rod through the bracket.
2. Push the ball end of the rod into the rubber membrane in the puck at the larger end of the “key” shape.
3. While still pushing down, move the ball to the other end of the “key” to secure the ball.
4. Tighten the nut tight enough to keep the rod from moving, but tightening any more than that is not necessary.
5. Lock the rear wheels.

6. Place the mats down.
7. Move the RX towers onto the mats.



8. Check that the puck is visible and near the hole in the RX plate.

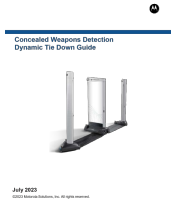
9. Feed the cables through the gaps and plug them in.

10. Put the rod through the hole in the RX plate, hook it into the ground puck, and tighten.

Maintenance

- We recommend that all components of the CWD system are periodically checked for damage and wear. This is especially important after a high-stress event, such as a hit to the system.
- Check the metal parts for warpage, bending, and rust.
- Check the rubber membrane for high amounts of abrasion or stretching.
- Replace the membrane if it appears damaged.
- Periodically check the inside of the puck for debris build-up and remove it.
- If any part of the CWD system appears damaged enough to affect the strength or function of the tie-down system, reach out to an MSI representative for replacement parts.
- **Concealed Weapons Detection Dynamic Tie Down Guide**

Documents / Resources

	motorola Concealed Weapons Detection Dynamic Tie Down [pdf] User Guide Concealed Weapons Detection Dynamic Tie Down, Weapons Detection Dynamic Tie Down, Detection Dynamic Tie Down, Dynamic Tie Down, Concealed Weapons Detection