**BLACKBERRY RADAR D
ITL100-1**

October 2024

Chassis Container On/Off Detection
Installation Guide

Table of contents

1 Overview

This guide provides detailed instructions for installing and activating new BlackBerry Radar D modules. It includes three main tasks:

Task 1: Get ready for installation (see Section 2)

Task 2: Install a BlackBerry Radar D (see Section 3)

- Match the module identifier with the asset identifier on the installation worksheet.
- Install the module onto the asset.

Task 3: Uninstall a module (see Section 4)

- Remove the module from the asset.
- Remove/replace the battery and prepare the device for shipping.

Complete BlackBerry Radar documentation is available online when you log in to BlackBerry Radar Dashboard. For instructions on how to configure the BlackBerry Radar Dashboard or how to activate newly installed devices, see the online documentation.

2 Get ready for installation

To complete the installation of your module, you will require a smartphone with internet access to download the BlackBerry Radar Installation App. This app will allow you to record the pairing of each BlackBerry Radar D module to its asset (that is, the container that the device will be installed on) and its associated BlackBerry Radar gateway.

For detailed instructions on the BlackBerry Radar Installation App, log in to the BlackBerry Radar Dashboard and access "Documentation" from the main menu.

If you are unable to utilize the BlackBerry Radar Installation App during your installation, you need to obtain a worksheet where you can record the pairing of each BlackBerry Radar D module.

For your convenience, you may quickly create a record of the module and asset identifier pairings by removing the partially attached label from the inner housing of the module and placing it on the installation worksheet, next to the asset that will be tracked by the module.

3 Installing BlackBerry Radar D modules

You may have a large number of BlackBerry Radar D modules to install. Follow the instructions in this section to:

- Match each module identifier to its asset identifier
- Install the module to the asset you wish to track.

3.1 Prepare to install

To complete the installation of the module to your assets, you will need the following components. The following components are contained in the module packaging.

Radar D Module Package Contents

Radar D Module	
x2 Radar D Batteries, BlackBerry BAT-63898-001 (Installed in device)	8 Battery Door Screws (Installed on device)

If you are missing any of the above components in your package, contact your BlackBerry Sales Representative.

To attach the module to the asset you wish to track, you must supply your own fasteners. Depending on the construction of your mounting location, you may wish to use the following types of fasteners. Please Note: Your choice of fastener will influence the size of the tools required to create the mounting holes (i.e. drill bits) and install or remove the fasteners (i.e. wrenches/sockets/drivers). An example of this is provided below. The actual length of the fasteners will be determined by the thickness of your mounting surface.

IMPORTANT: The maximum fastener thread diameter supported by this product is 3/16" (5mm). #10 (i.e., #10-24 or #10-32) or M5 Fasteners, are recommended. Ensure the outer diameter of your fastener head does not exceed 3/8" (10mm) to fit the flange.	MAX 3/8" (0.38") (10 mm) MAX ∅ 3/16" (0.18") M5 (5 mm)

Box Section (+3mm wall thickness)	A) 2 thread rolling screws (PH2/SQ2 head, #10-32 thread, 1/2" length) **or** B) 2 self-drilling screws (PH2/SQ2 head, #10-16 thread 3/4" length) *For installation in narrow clearance areas, blunt-ended screws--like thread rolling screws--are recommended.	Drill Bit A) 11/64" (4mm) Screwdriver or Bit Phillips PH2/ Square SQ2
I Beam/Panel Section (with rear access)	2 screws, nylon lock nuts, and 4 washers (PH2/SQ2/T25 head, #10-24 thread 3/4" length I #10-24 nut, 3/8" width) (8mm head, M5 x 0.8 thread, 25mm length I M5 x 0.8 nut, 8mm width)	Drill Bit 3/16" (6mm) Nut Driver/Socket/Wrench 3/8" (10mm) Screwdriver or Bit Phillips PH2/ Square SQ2/ T25

For easy installation, ensure the outside diameter of the fastener heads do not exceed the 3/8" (10 mm) limit for the mounting flange. To make installation easier, we recommend the use of screws with the drive on the face of the screw head (i.e., Phillips/Square/Torx Screws).
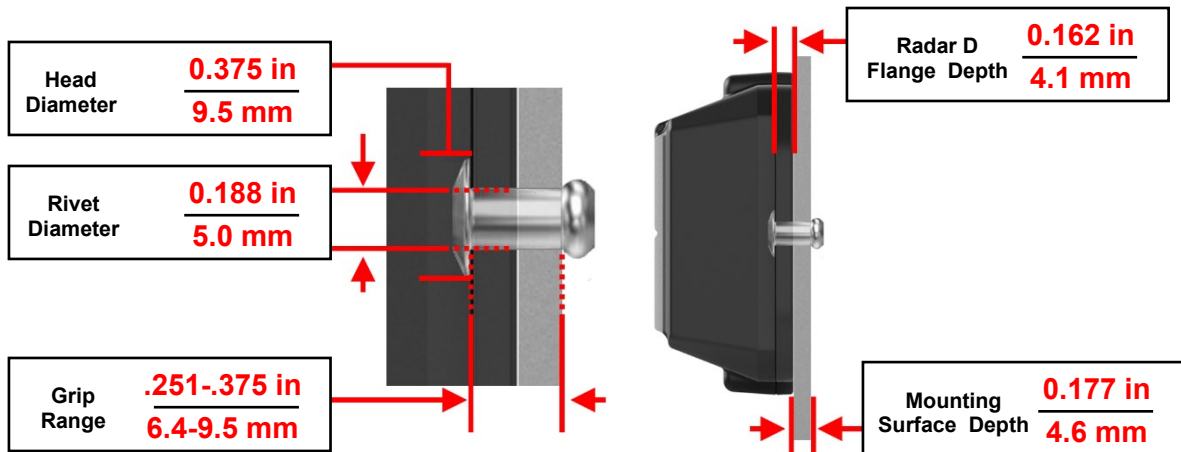
≤ 3/8" (10mm)

Fastener selection considerations—Rivets

If you desire a more permanent mounting solution, you may use rivets instead of screws.

Rivets

As you will need to supply the fasteners, the length of the rivet will be determined by the depth of your mounting surface, plus the depth of the Radar D mounting flange.   The drill bit diameter will also be determined by the diameter of the rivet.
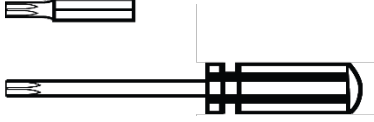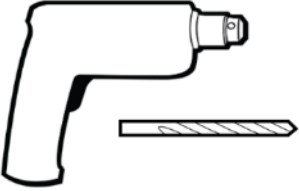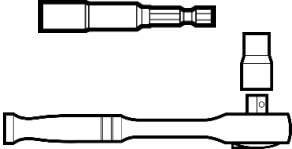
Head Diameter	**0.375 in** / **9.5 mm**
Rivet Diameter	**0.188 in** / **5.0 mm**
Grip Range	**.251-.375 in** / **6.4-9.5 mm**

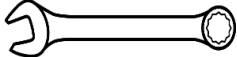|	
Radar D Flange Depth	**0.162 in** / **4.1 mm**
Mounting Surface Depth	**0.177 in** / **4.6 mm**

IMPORTANT: The maximum rivet diameter supported by this product is 3/16" (5mm).

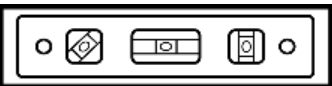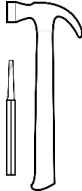Ensure the outer diameter of the rivet head does not exceed 3/8" (10mm) to fit the flange.

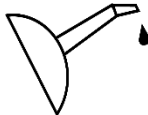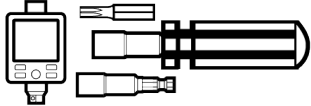MAX 3/8" (0.38") (10 mm)

MAX Ø 3/16" (0.18") M5 (5 mm)

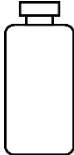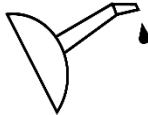| Chassis Crossmembers	2 Rivets	Drill Bit
	(0.375" head diameter, 3/16" rivet diameter, 0.565" length) (9.5 mm head diameter, 4.8 mm rivet diameter, 16.7mm length)	# 11 (4.85 mm) Rivet Gun

3.2 Installation tools

Required tools to complete the installation:

Smartphone with BlackBerry Radar Installation App	Screwdriver or Bit	Drill and Drill bits
	*Specific size and type of screwdriver or bit is dependent on the screws selected for your install.	
Nut Driver or Socket Wrench with Socket*	**Safety Glasses**	**Pencil/Pen/Marker**
*Nut Driver + Drill offers fast installation. If no Nut Driver is available, a socket wrench and socket may be used as a substitute. Most useful if nuts and bolts are used.		**Wrench** *Required only if nuts and bolts are used.

Recommended tools to complete the installation:

| Pocket Level	Towel	Hammer and Punch	Cutting Lubricant* (Recommended)
			*Recommended for faster drilling speed on thicker metals and longer drill bit life.
Torque Screwdriver/Adapter with Socket and Bits* (scale range of 0.4 N-m to 4.5 N-m, 4 in-lb to 40 in-lb)	**File**	**Water**	**Super Glue/Cyanoacrylate*** **(Tamper Detection installs)**
*To check compliance with torque specifications for fasteners.		*If cleaning is required.	*Instant Setting, High Strength Super Glue recommended to bond the magnet to chassis to trigger tamper alerts.

3.3 Matching a module identifier to an asset identifier

In order to track an asset, the Radar D module that is installed on the asset must be associated with the asset in the BlackBerry Radar Dashboard. It is, therefore, very important to keep a clear record of which module is installed on which asset.

The Dashboard application tracks modules and assets using 'identifiers'. The asset identifier is the name or number of the asset you wish to track. The asset identifiers are entered into the application when you add the assets and will be listed on your installation worksheet. The identifier for each Radar D module is printed on three labels—one attached to the PCB, outer housing, and the battery door. The module identifier also serves as the serial number (S/N) for the module.

To match a module identifier with an asset identifier:

1. Locate the module identifier for your device. The module identifier is shown in three places.

    1. External Placement—Temporary S/N label and Permanent S/N label, attached to the side of the outer housing.
    2. External Placement—Certification Label attached to the rear of the device.
    3. Internal Placement—Permanent main product label, attached to the PCB.
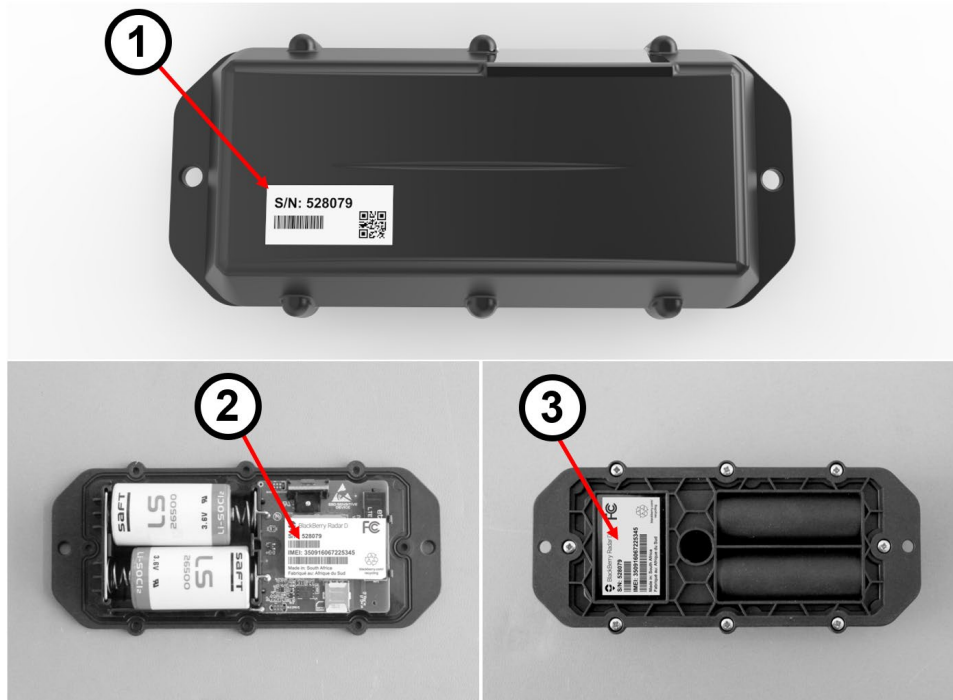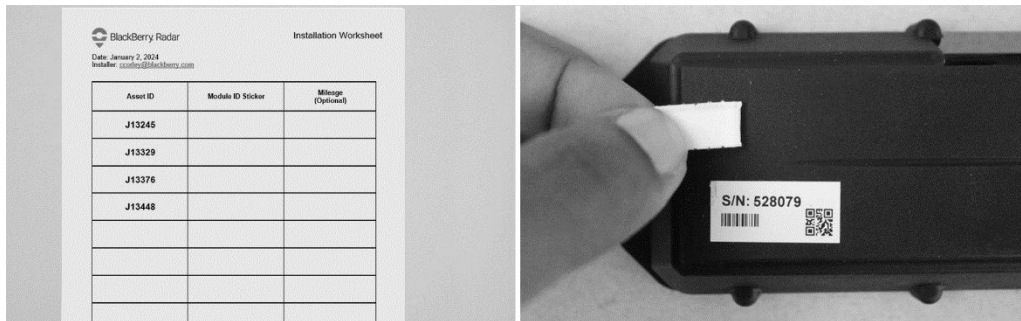
2. Once you have installed the module on the asset, create a record of the module-to-asset-to-accessory pairing within the BlackBerry Installation App by recording the asset identifier and scanning the module identifier for the BlackBerry Radar D device.

Tip: If you are having difficulty scanning the barcode, please try the following:
- Place the phone in landscape orientation and retry scanning the barcode.
- If barcode scanning is still unsuccessful, you may type the final five digits of the serial number into the Accessory ID field. Autocomplete will generate a list of serial numbers, from which, the installer may select the serial number that matches the module that is being installed.
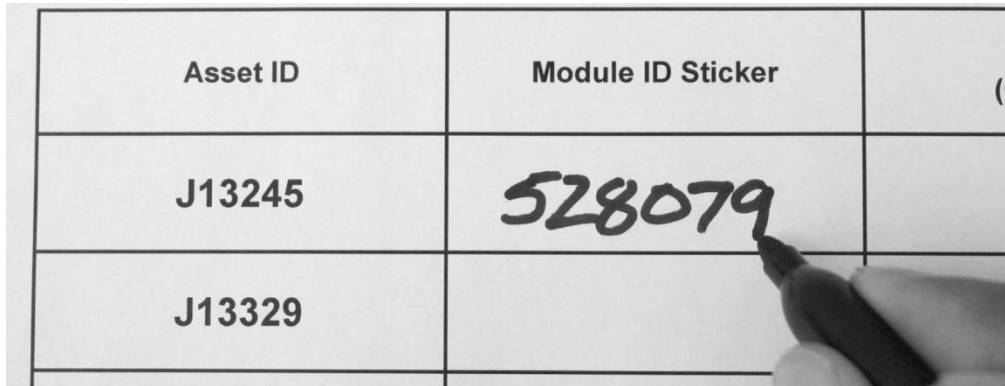
3. If you are unable to use the BlackBerry Radar Installation App during your installation, you need to obtain a worksheet where you can record the pairing of each BlackBerry Radar D module to its asset and associated BlackBerry Radar gateway devices.

For your convenience, you may quickly create a record of the module and asset identifier pairings by removing the partially attached label from the outer housing of the module and placing it on the installation worksheet, next to the asset that will be tracked by the module.

Tip: For modules that have previously been transferred to new assets, the temporary S/N label may no longer be in place. If this is the case, you will need to write the module identifier (S/N) for each module on the installation worksheet.

Asset ID	Module ID Sticker	
J13245	528079	
J13329		

The following sections of this guide will illustrate recommended installation methods for various asset scenarios.

3.4 Module installation

You may install the module on any flat, vertical or horizontal surface that offers enough mounting area for the module.   When selecting a mounting location, carefully consider how the asset will be used during its normal, day-to-day operation.

Avoid installing the module inside a completely enclosed metal box.
Avoid installing in a location that will result in elevated temperatures.

Do not place the module in a location where it is susceptible to damage from:

- Normal usage activities, such as loading or unloading cargo.
- Moving parts of the asset.
- Road debris.

> **IMPORTANT:** For accurate tracking, orientation matters.
> 1. You must install the Radar D module horizontally.
> 2. To monitor the presence or absence of a container on the chassis, when installing the Radar D module, always ensure the sensor area is pointed towards the sky.

This diagram illustrates the supported installation orientations for the BlackBerry Radar D module.
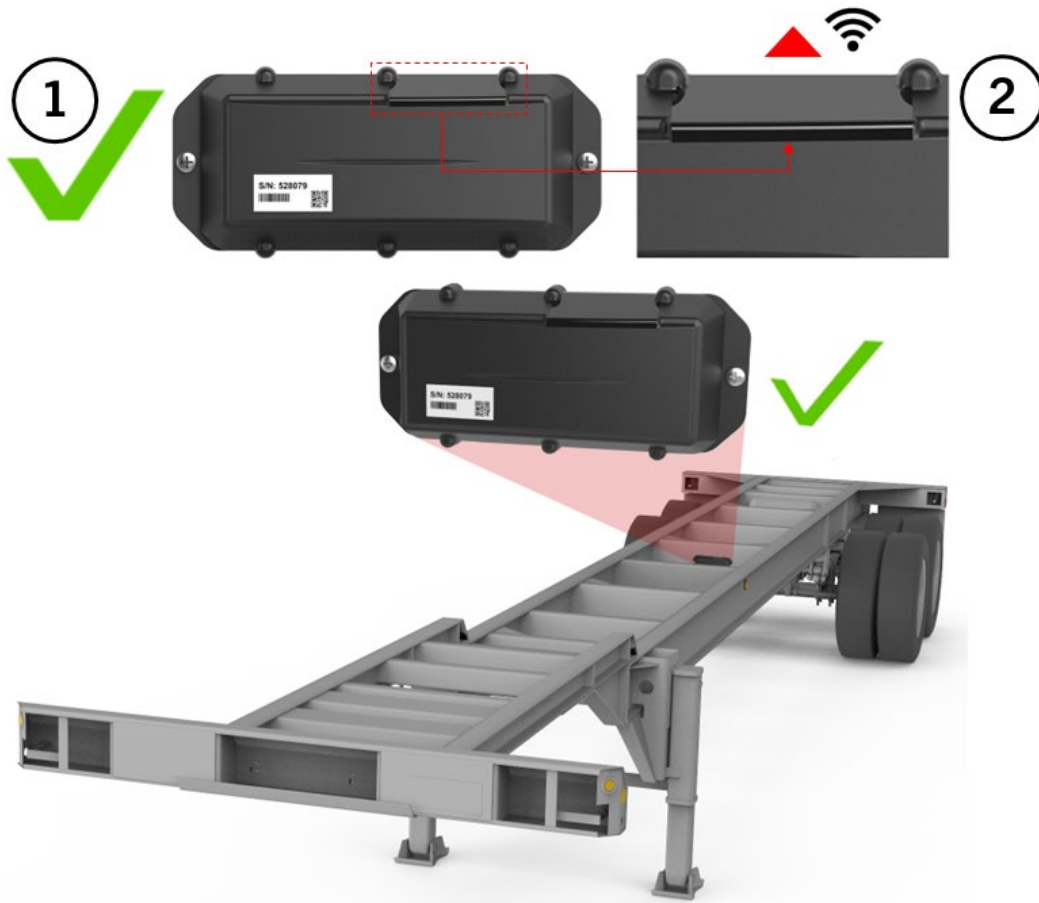
## 3.4.1 Prepare module for installation—Module activation

> **IMPORTANT:** Please do not perform the module activation process until you are ready to install and associate the BlackBerry Radar modules on your asset. Once the module is activated, please complete the module installation and association, as soon as you can, to conserve battery life.

1. Remove the module from the package and from the plastic bag.
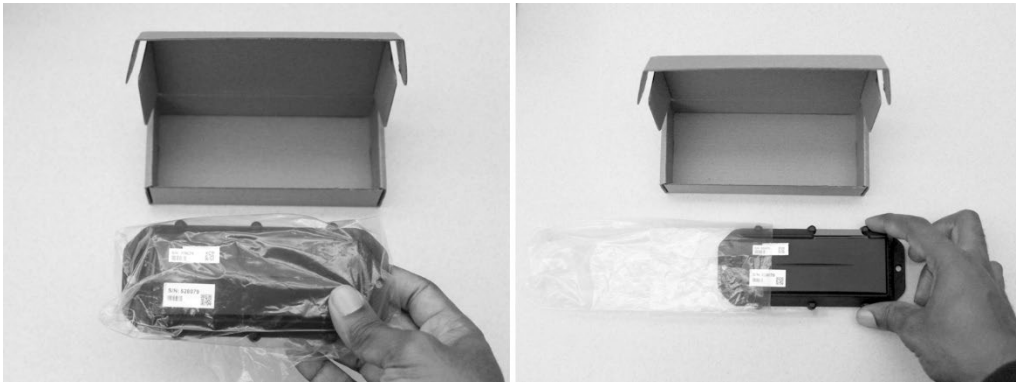
2. Remove the magnet tape and magnet from the rear of the device.
   IMPORTANT: Magnet must be fully removed for the module to operate.

Magnet Tape
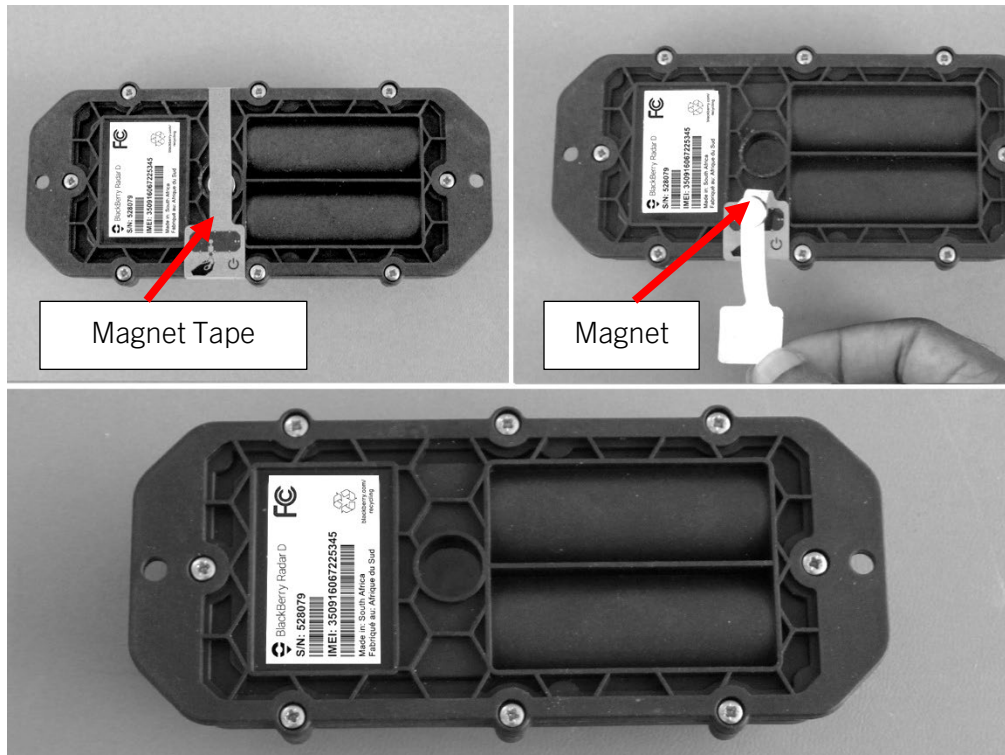
Magnet

SPECIAL NOTE—MAGNETS AND TAMPER DETECTION: If you plan to use the Tamper Detection feature, please save this magnet. The magnet will be installed on the asset to trigger tamper alerts. For a full explanation of the tamper detection installation procedure, please refer to *Section 3.4.2: Installing the module on an asset, Scenario 2: Tamper detection installation.*

Tamper Detection Installation Example

Tamper Detection Magnet Location

Exploded View

Installed View
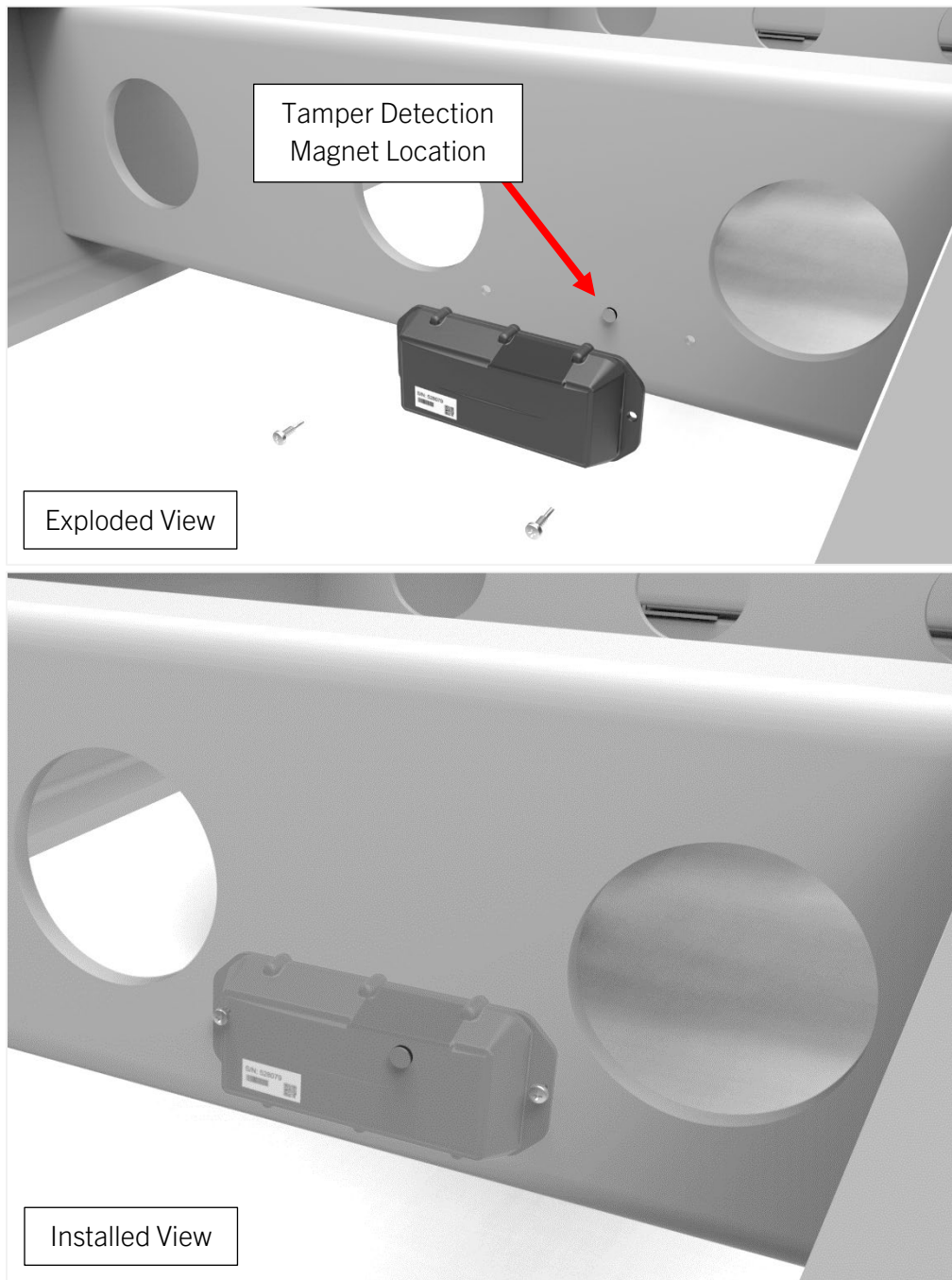
3.4.2 Chassis installation procedure—Container On/Off detection

If you are using BlackBerry Radar D to monitor a chassis trailer, you may mount the module on any flat, vertical surface that offers enough mounting area for the module. When selecting a mounting location, carefully consider how the asset will be used in its normal, day-to-day operation.

Do not place the assembly in a location where it is susceptible to damage from:
- Normal usage activities, such as loading or unloading cargo.
- Moving parts of the asset.
- Road debris.

When mounting under a vehicle or piece of equipment, you must exercise a high degree of caution to avoid serious damage to yourself or your equipment:

- Do not install near exhaust sources, ignition sources, or fuel tanks.
- Be careful when installing near pneumatic, hydraulic, and electrical lines to prevent damage to these components during the installation process.

When mounted on a chassis trailer, the BlackBerry Radar D can perform two functions—(1) Asset Tracking and (2) Container On/Off Detection. For proper Container On/Off detection, you must be mindful of some simple installation parameters. We will cover these parameters in the following sections.


Radar D
Container On/Off Detection
Installation Area

Radar D
Container On/Off
Installation Example

Detection
Beam
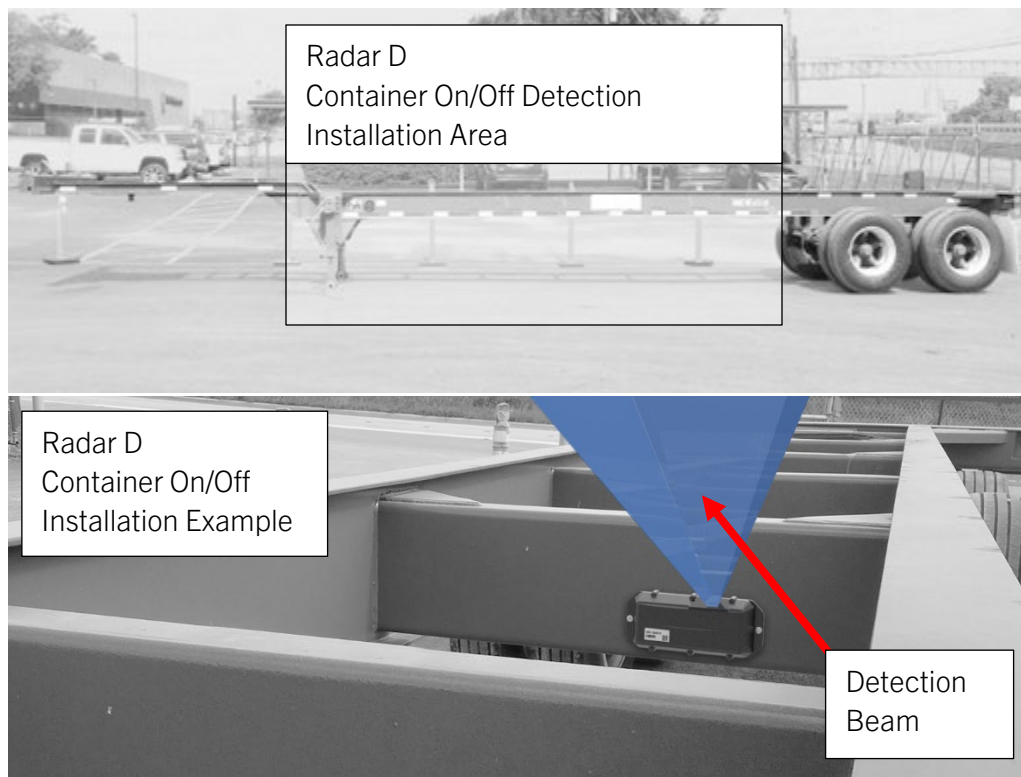
Module Placement

When looking for an installation location on the chassis, it is important to choose an installation location that will provide an unobstructed view of the area, directly above the BlackBerry Radar D module. This unobstructed viewing area, above the module, will allow your BlackBerry Radar D to accurately detect the presence or absence of a container on the chassis, by sensing the container's underside.
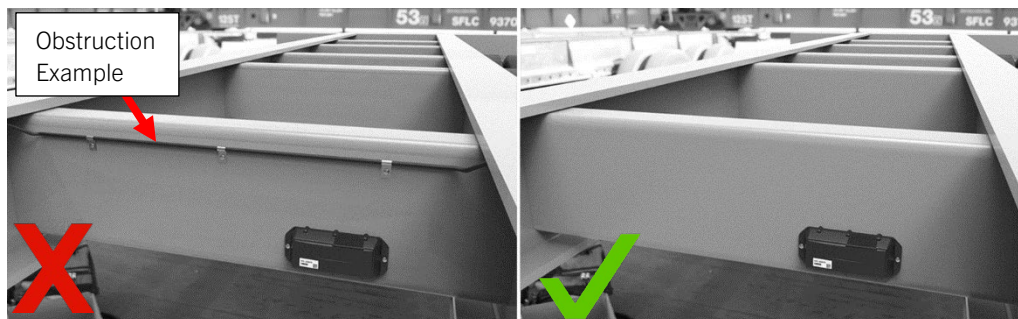
Container On

Container Off
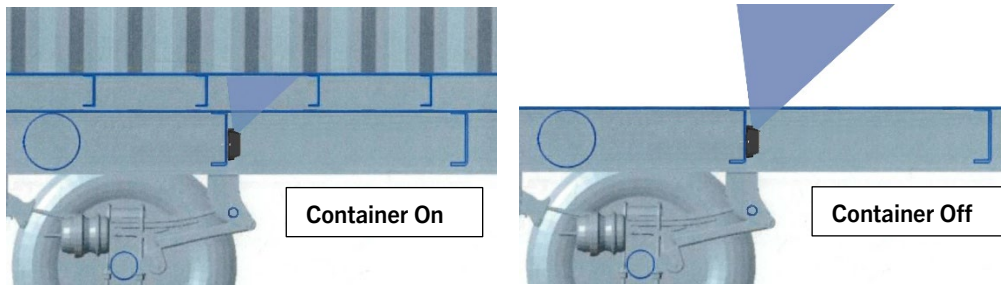
Crossmember Profiles

- **C-Channel:** For chassis trailers with "C-channel" crossmembers, mount the module on the side of the crossmember without overhang to avoid blockage of the sensing area by the chassis crossmember overhang above the module.

- **I-Beam:** If all the crossmembers of your chassis have overhangs above the module that will obstruct the module's sensing area (i.e., "I-Beam"), you will need to create a spacer that will place the rear surface of the device, flush with the forward edge of the overhangs. This will overcome the obstructions created by the overhangs.

C-Channel

**I-Beam**

I-Beam + Spacer
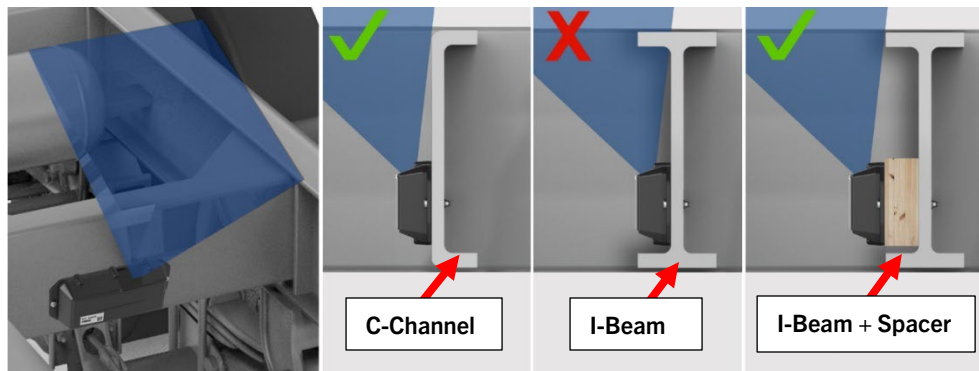
NOTE: To ensure the container detection is not negatively impacted, beware of smaller obstructions, above your device, like cables and hoses. Instead, install your device in an area where these items are not present.
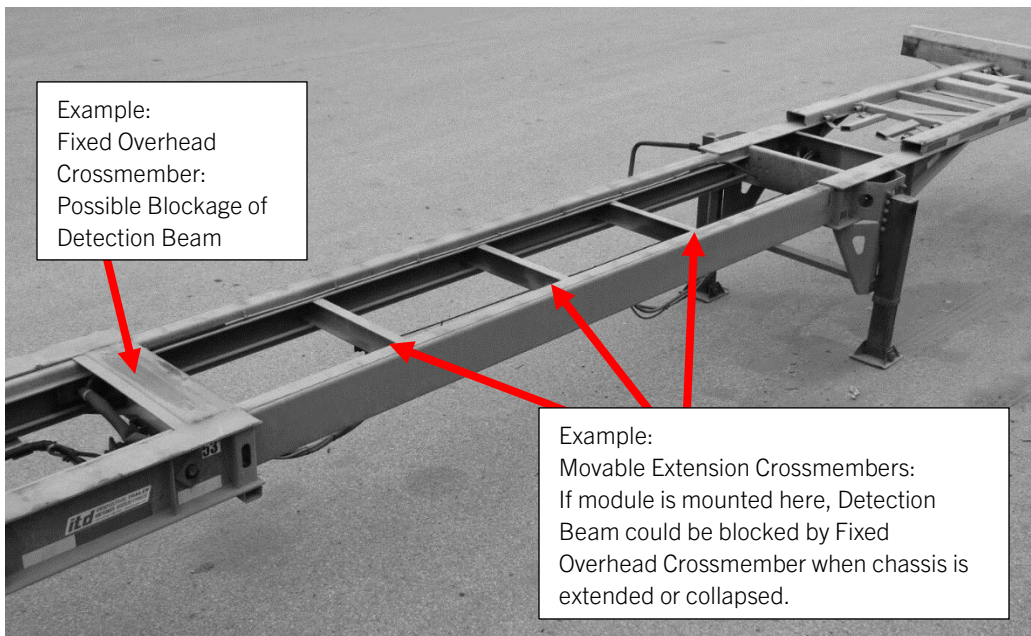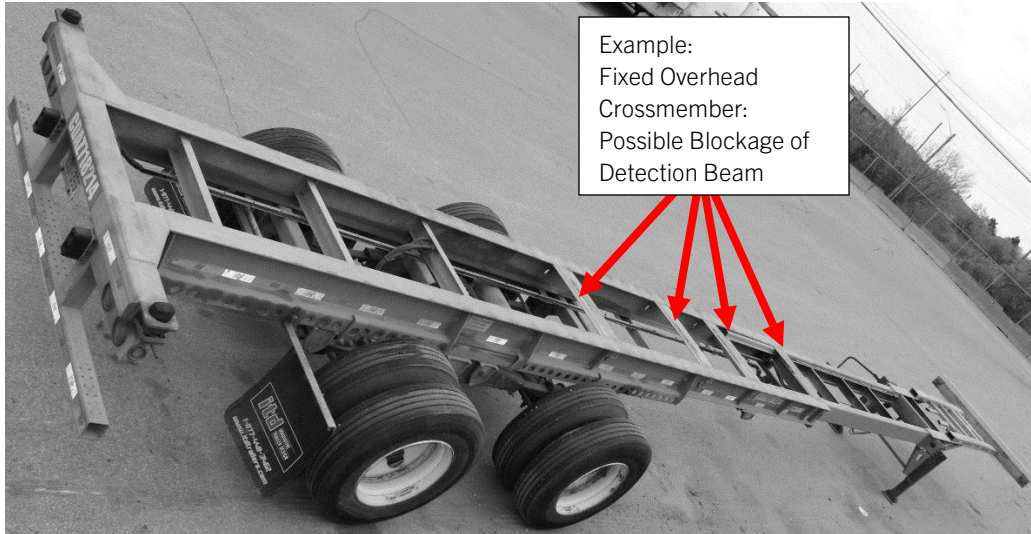
Obstruction Example

Extendable Chassis/Multiple Container Installations

If you are installing on an extendable chassis or a chassis that can simultaneously support multiple containers, be sure to install your BlackBerry Radar D module in an area of the chassis that will be covered by the containers, when the containers are present.
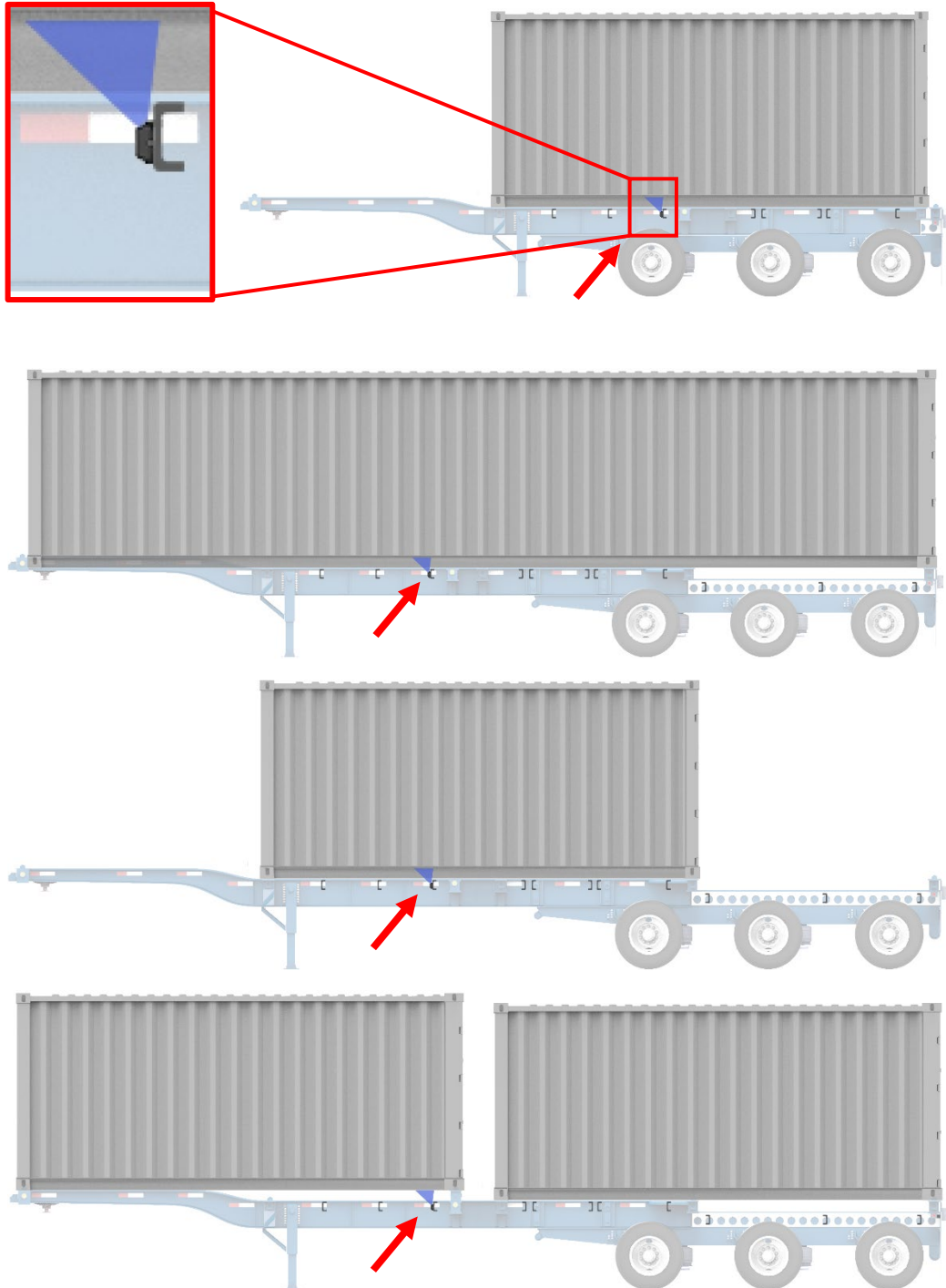
If you are installing on some extendable chassis models, you may encounter fixed overhead crossmembers that are attached to part of the chassis. There is a chance for these flat crossmembers, at top of the chassis, to block the Radar D detection beam when the chassis is extended or collapsed to certain intervals (adjustment stops).

When selecting the crossmember for the Radar D Container On/Off installation, consider if these flat crossmembers at the top of the chassis will end up above the Radar D module. To avoid potential Container On/Off detection issues, it is recommended to install the Radar D at the front of the chassis for these scenarios.

Example:
Fixed Overhead
Crossmember:
Possible Blockage of
Detection Beam

Example:
Fixed Overhead
Crossmember:
Possible Blockage of
Detection Beam

Example:
Movable Extension Crossmembers:
If module is mounted here, Detection
Beam could be blocked by Fixed
Overhead Crossmember when chassis is
extended or collapsed.

Extendable Chassis Example

■ = Radar D Alternate Installation Location. *For extendable chassis models with overhead crossmembers.*
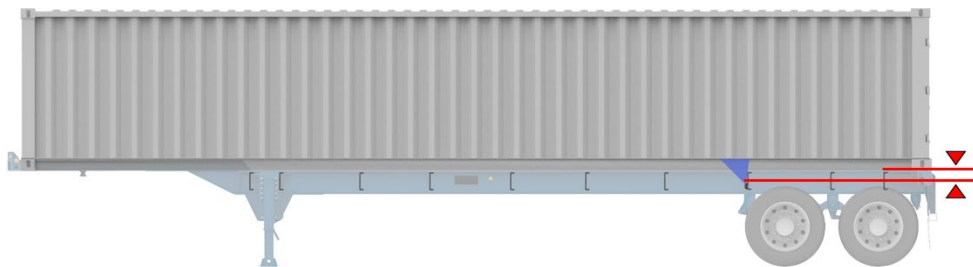

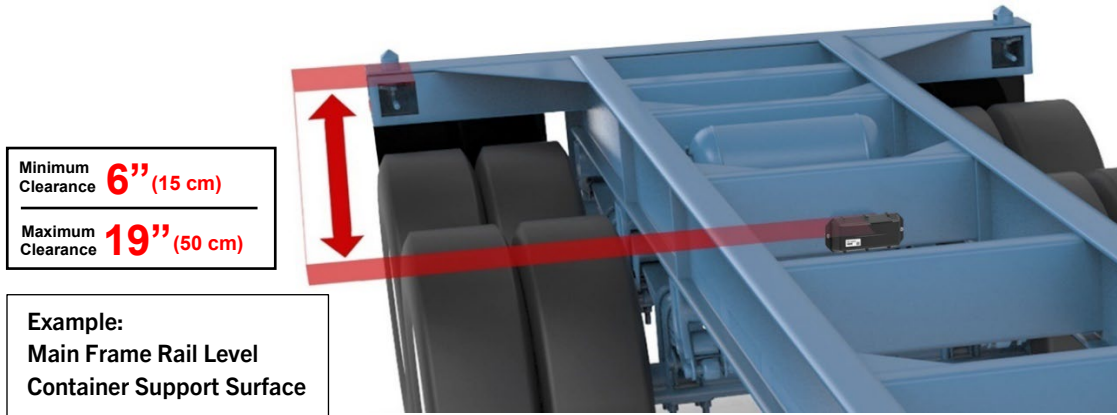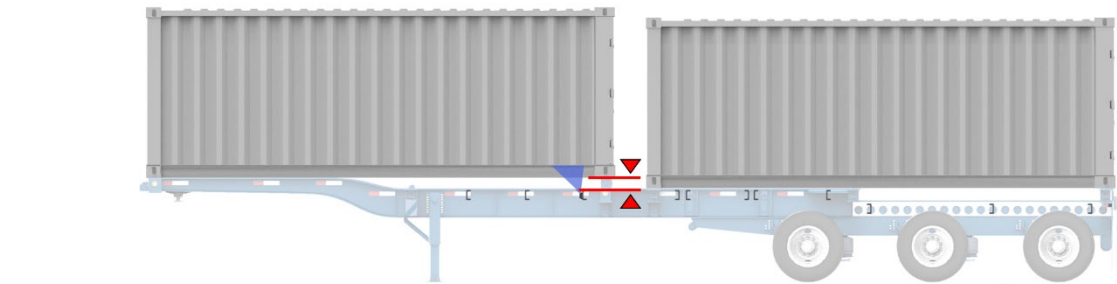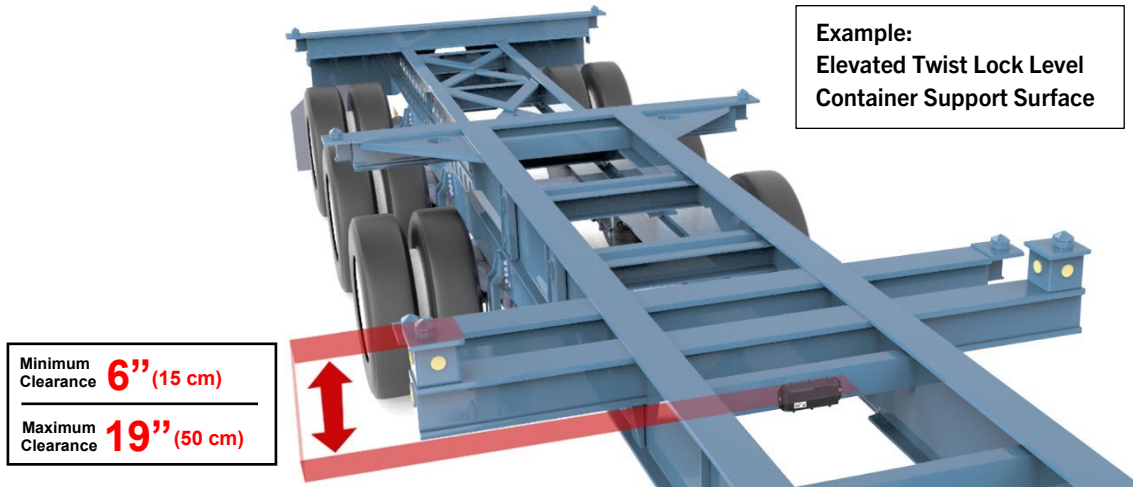60'
18.2 m

53'
16.2 m

48'
14.6 m

45'
13.7 m

40'
12.2 m
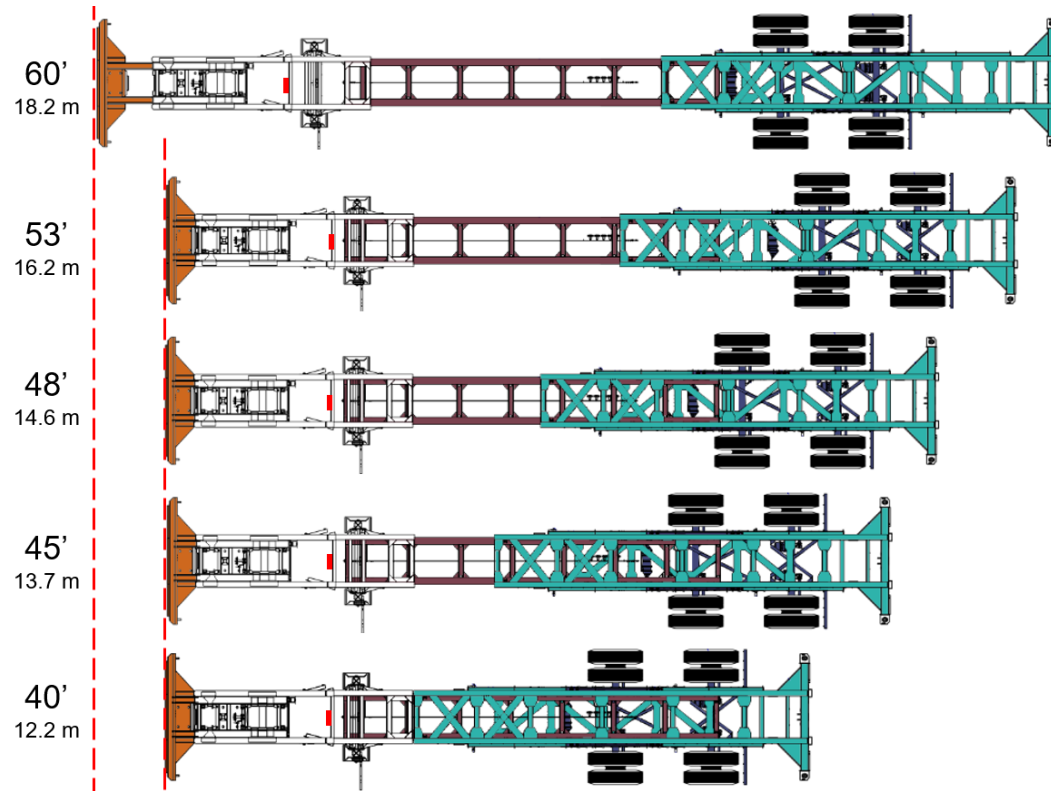
Stacked Chassis

If you routinely store your chassis in a stack, or transport stacked chassis--we recommend installing Radar D towards the middle of the chassis, as shown below. This will reduce the chances of incorrect Container On/Off detection.


Recommended Radar D
Installation Area
Stacked Chassis

Distance Above the Module

Once you have identified a suitable mounting area on the chassis, ensure there is a **minimum** 6" (15 cm) clearance between the top surface of the module and the surface that will support the corner fitting of the container. Depending on the chassis construction, this could be the top surface of the main frame rail or the twist lock surface.

Example:
Elevated Twist Lock Level
Container Support Surface

Minimum Clearance **6"** (15 cm)

Maximum Clearance **19"** (50 cm)

Minimum Clearance **6"** (15 cm)

Maximum Clearance **19"** (50 cm)

Example:
Main Frame Rail Level
Container Support Surface

To achieve this minimum clearance, try to position the module as low on the chassis crossmember as you can, without extending the bottom of the module beyond the bottom edge of the crossmember. Extending the bottom edge of module beyond the bottom edge of the crossmember can expose the module to potential damage.

Minimum Clearance **6"** (15 cm)

Maximum Clearance **19"** (50 cm)
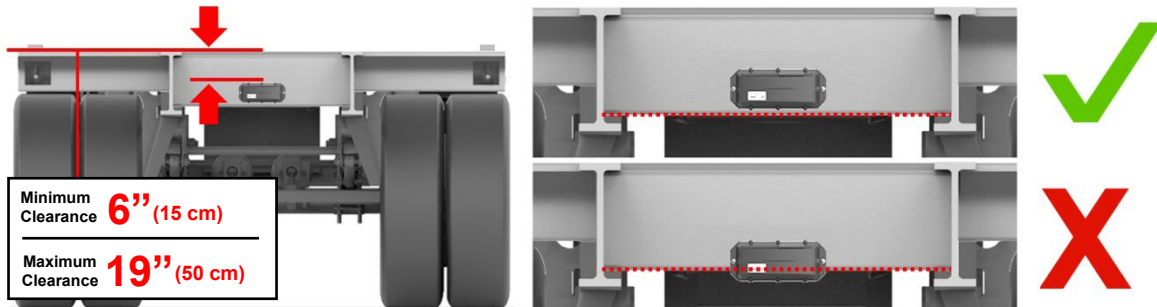
IMPORTANT: To accurately detect the presence of a container on the chassis, it is important to ensure there is a **minimum** clearance of 6" (15 cm) between the top surface of the module and the top surface of the main frame rail.

Maintaining this clearance will ensure there is adequate distance between the Radar D module and the container's floor to detect the presence of the container.

Tip: If the height of your chassis crossmember is too short to support the 6" (15 cm) minimum clearance requirement without extending the bottom of the module beyond the bottom edge of the crossmember, search the chassis for a taller crossmember that could support the clearance requirement without overhanging the bottom edge of the crossmember. Some chassis have crossmembers of different heights.

Shorter Crossmember

Taller Crossmember

Taller Crossmembers

Shorter Crossmembers
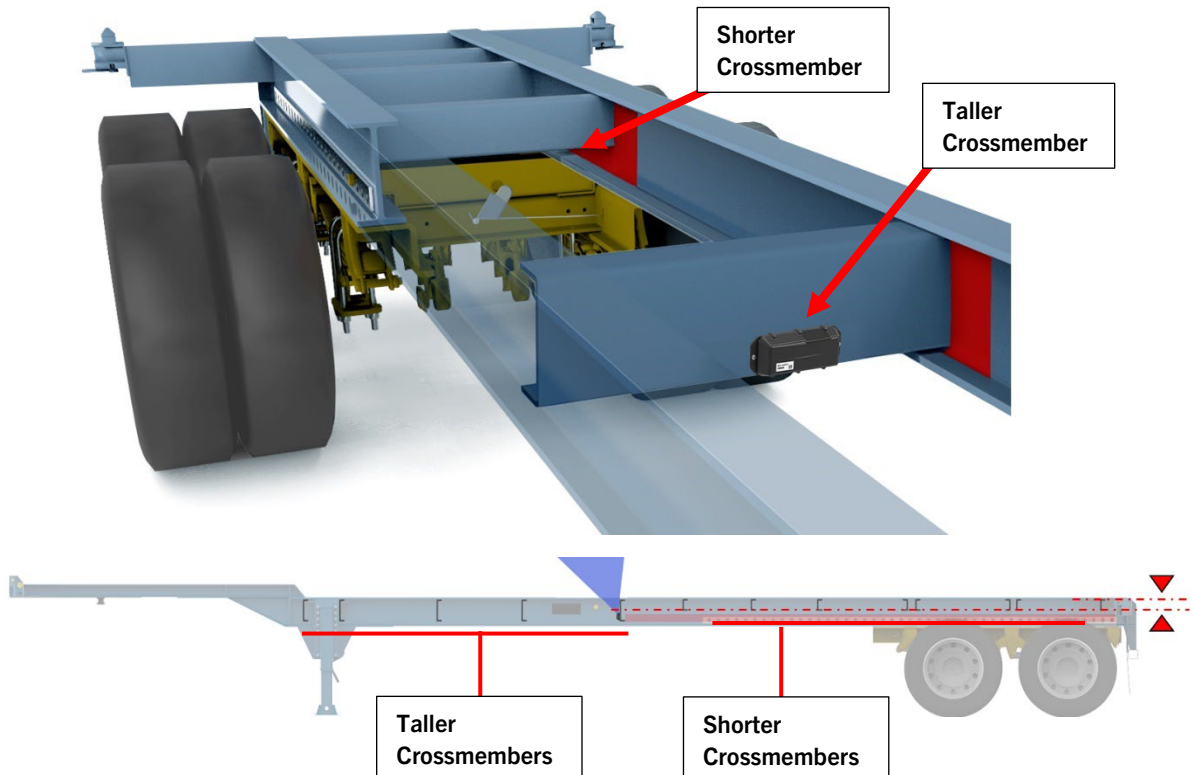
Scenario 1: General Installation—Without Tamper Detection

1. Identify the desired installation location for your module.
   IMPORTANT: If your chassis crossmember has lightening holes, we recommend that the module is installed completely on a solid area of the crossmember, that does not span the lightening hole. Placing the module on a solid area of the chassis offers better sensing performance.
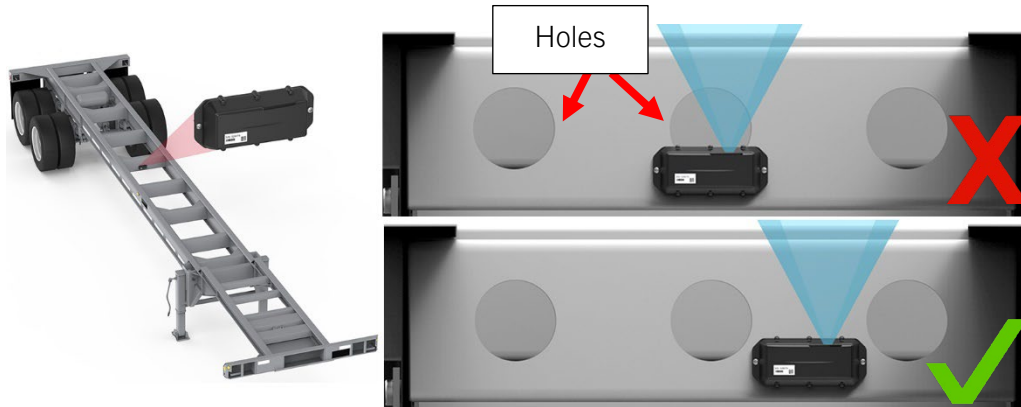
2. After selecting the best installation location for your device, place the module. Ensure the device is level. Use a pencil or marker to mark the holes in the module for drilling.

3. Using a drill bit, drill a hole through each of the marked holes. This will create two holes you will use to mount the module to the crossmember.
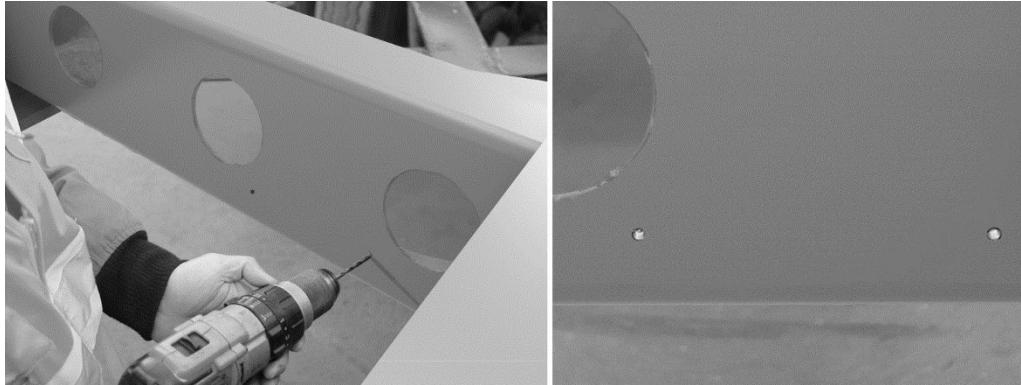
> **Drilling tips for chassis and frame installations**
> Due to the thicker, harder steel used on chassis and trailer frames, you may wish to follow these suggestions.
> **Tip 1:** To shorten drilling time and prolong the life of your drill bit, you may wish to use cutting tool lubricant during the drilling process.
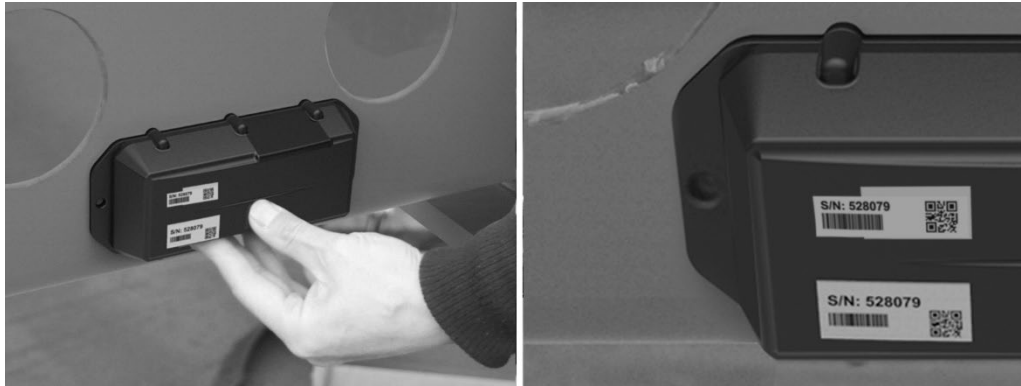> **Tip 2:** For most precise hole drilling, before drilling your hole, you may wish to use a punch and hammer to help place the drill bit. This will prevent the bit from "walking" during the drilling operation.

4. Place the module on the chassis, aligning the holes on the module with the holes you drilled into the chassis.
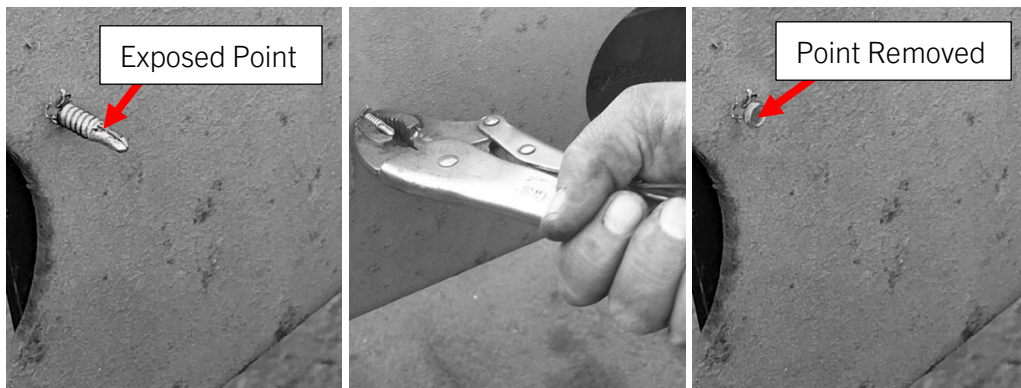
5. Place the module on the chassis, aligning the holes on the module with the holes you drilled into the chassis.

6. Insert your fastener of choice into the holes and use the appropriate tools to secure the module to the asset. Do not tighten fastener beyond 35 in-lb. (4 N-m).

Tip: If you choose to use a self-drilling screw on an installation surface whose construction leaves the sharp point of the screw exposed, you may wish to remove the pointed end of the screw after the module is mounted to the chassis. This can prevent possible injury, or damage, from the exposed screw ends.

7. Once you have installed the module on the asset, create a record of the module-to-asset-to-accessory pairing within the BlackBerry Installation App by recording the asset identifier and scanning the module identifier for the BlackBerry Radar D device. Remove the small temporary S/N label.

Tip: If you are having difficulty scanning the barcode, please try the following:
- Place the phone in landscape orientation and retry scanning the barcode.
- If barcode scanning is still unsuccessful, you may type the final five digits of the serial number into the Accessory ID field. Autocomplete will generate a list of serial numbers, from which, the installer may select the serial number that matches the module that is being installed.

If you are unable to use the BlackBerry Radar Installation App during your installation, you need to obtain a worksheet where you can record the pairing of each BlackBerry Radar D module to its asset and associated BlackBerry Radar gateway devices.

For your convenience, you may quickly create a record of the module and asset identifier pairings by removing the partially attached label from the outer housing of the module and placing it on the installation worksheet, next to the asset that will be tracked by the module.

8. Installation is complete.

Scenario 2: Tamper Detection Installation

1. Identify the desired installation location for your module. To support the use of super glue to bond the tamper detection magnet to the chassis crossmember, ensure the crossmember mounting area is clean and dry.
   IMPORTANT: If your chassis crossmember has lightening holes, we recommend that the module is installed completely on a solid area of the crossmember, that does not span the lightening hole. Placing the module on a solid area of the chassis offers better sensing performance and offers greater installation surface mounting area for the tamper detection trigger magnet.
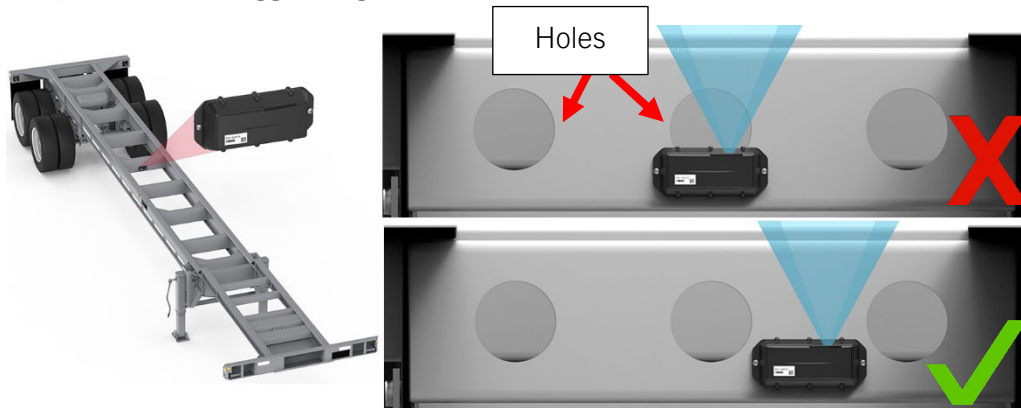
2. Locate the magnet that was removed to activate your module. If the magnet is still attached to the tape that secured the magnet to the device, separate the magnet from the tape. Place the magnet inside the circular recess on the rear of the module. This magnet is the trigger for tamper detection and **must** be used in installations where tamper detection is desired.
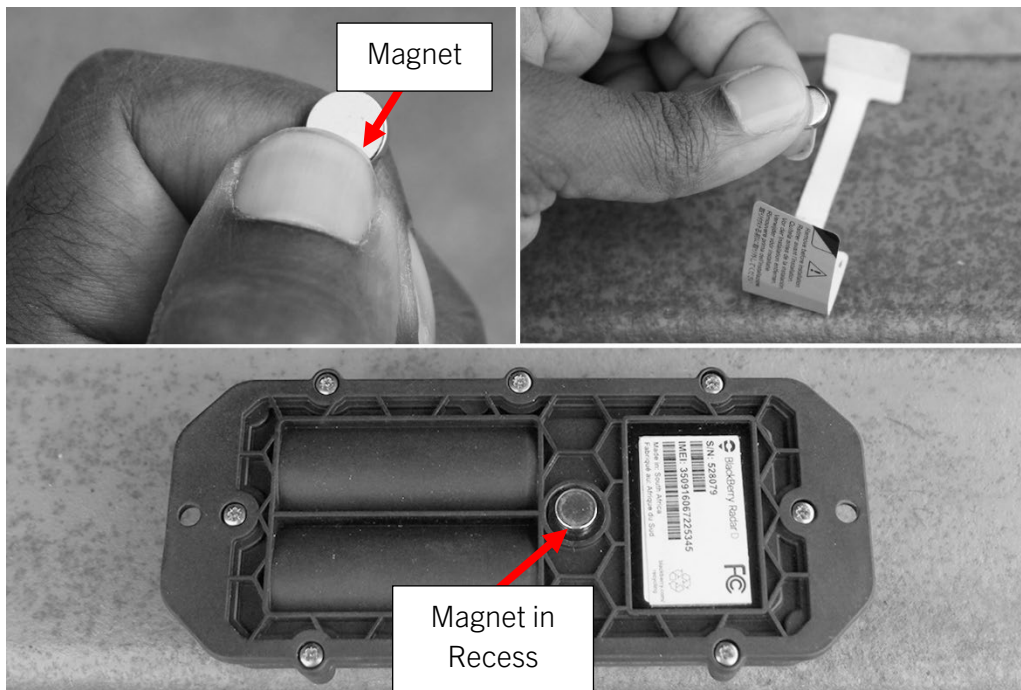
3. With the rear of the module facing the sky, place the bottom edge of the module against the crossmember. Carefully rotate the module, vertically, to place the rear of the module against the face of the crossmember. Rotating the device slowly towards the crossmember helps keep the magnet aligned within the magnet recess, as the magnet attaches to the crossmember.


Tip: If you are having a challenge with the magnet remaining in the recess, you may use a thin, flat strip of non-magnetic material as a "retainer" to keep the magnet in the recess until the rear of the module is against the chassis, then remove the retainer.

4. After placing the module on the chassis, ensure the device is level. Use a pencil or marker to mark the holes in the module for drilling.

5. Carefully, pull the module away from the chassis crossmember. Pulling the module away from the crossmember is important, as it helps the magnet remain in place, as the module is removed from the crossmember.
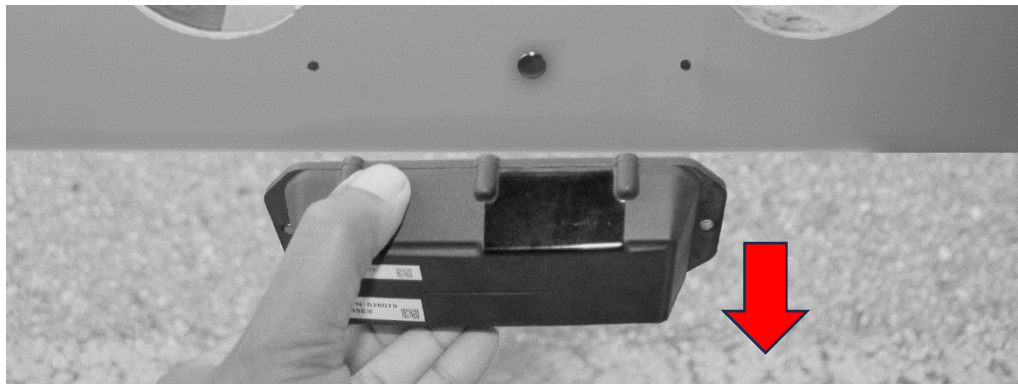

6. Taking care not to shift the magnet, firmly hold the magnet in place and mark the location of the magnet. Once the magnet's location is marked, remove the magnet from the crossmember.
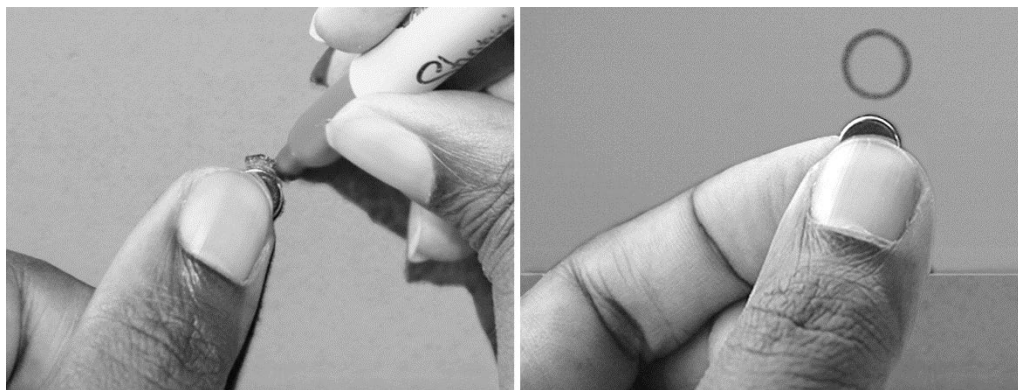
7. Apply an instant setting, high strength adhesive (like Cyanoacrylate) to the rear of the magnet, or to the area of the crossmember illustrated by the mark, to permanently bond the magnet to the chassis. **Tip:** Bonding the magnet to the chassis will ensure the magnet's location is maintained for tamper detection if the device ever has to be removed from the chassis for service operations like battery replacements.
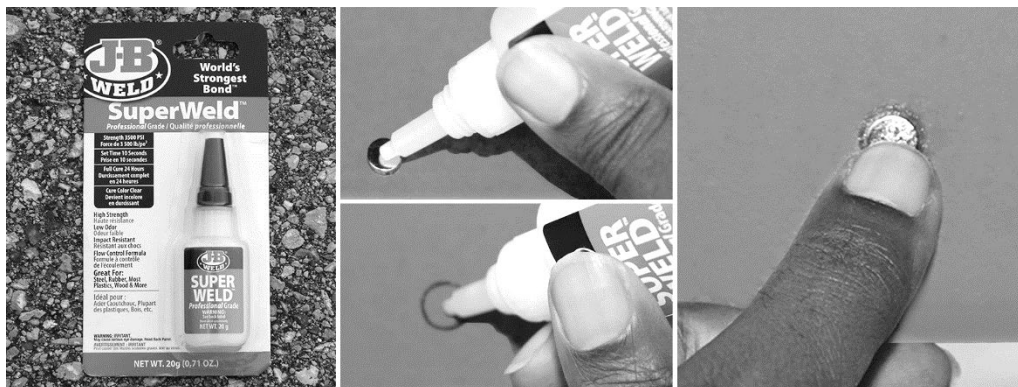
8. Using a drill bit, drill a hole through each of the marked holes. This will create two holes you will use to mount the module to the chassis. If there are any burrs around the holes after the drilling process, remove them. Also, remove any dust or debris left over from the drilling or de-burring operations.
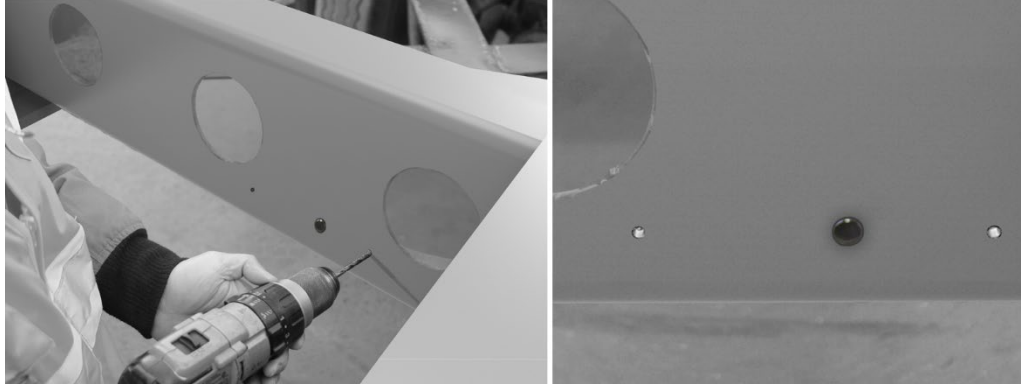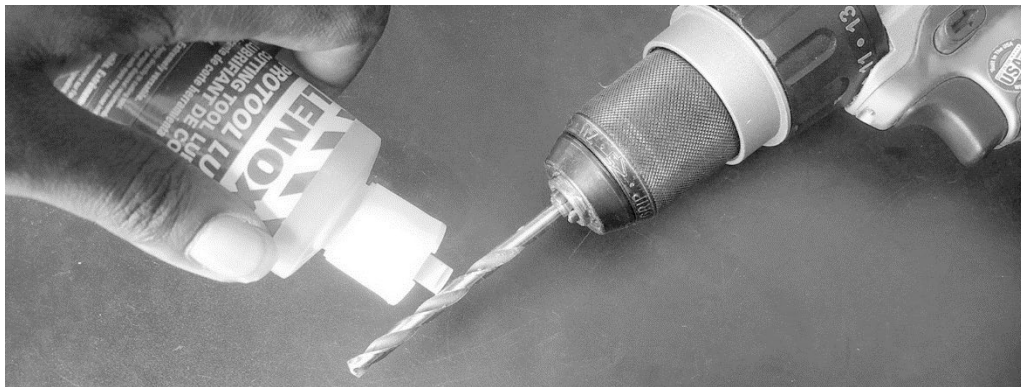

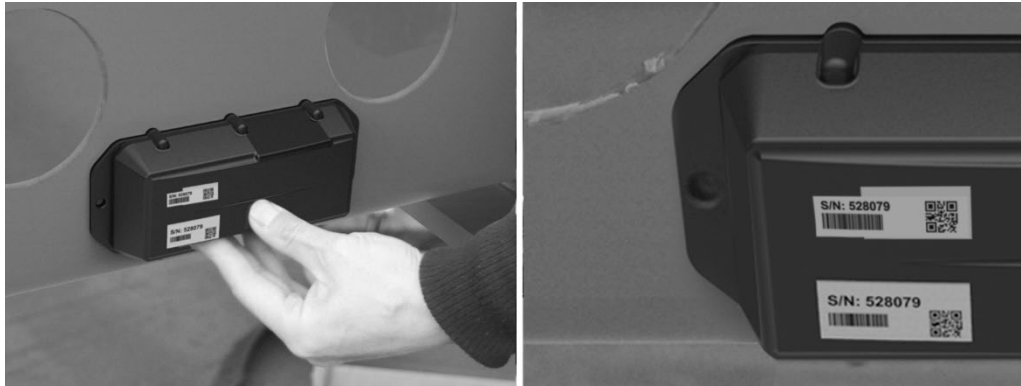**Drilling tips for chassis and frame installations**
Due to the thicker, harder steel used on chassis and trailer frames, you may wish to follow these suggestions.
Tip 1: To shorten drilling time and prolong the life of your drill bit, you may wish to use cutting tool lubricant during the drilling process.
Tip 2: For most precise hole drilling, before drilling your hole, you may wish to use a punch and hammer to help place the drill bit. This will prevent the bit from "walking" during the drilling operation.
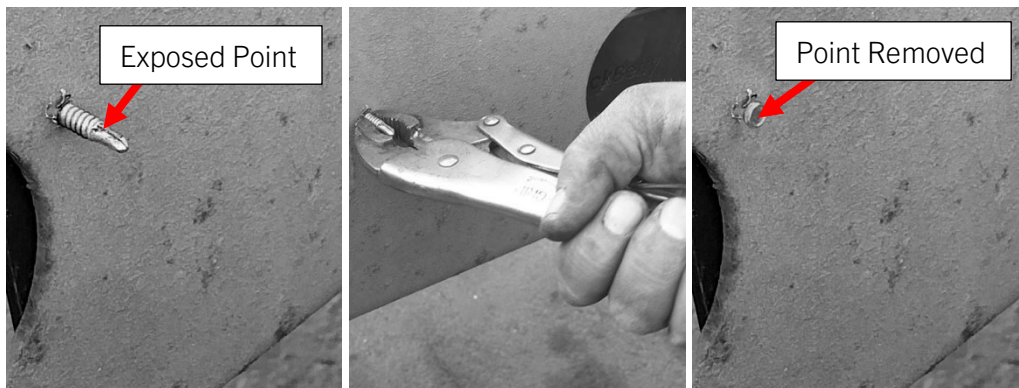
9. Place the module on the chassis, aligning the holes on the module with the holes you drilled into the chassis.

Insert your fastener of choice into the holes and use the appropriate tools to secure the module to the asset. Do not tighten fastener beyond 35 in-lb. (4 N-m).

Tip: If you choose to use a self-drilling screw on an installation surface whose construction leaves the sharp point of the screw exposed, you may wish to remove the pointed end of the screw after the module is mounted to the chassis. This can prevent possible injury, or damage, from the exposed screw ends.

10. Once you have installed the module on the asset, create a record of the module-to-asset-to-accessory pairing within the BlackBerry Installation App by recording the asset identifier and scanning the module identifier for the BlackBerry Radar D device. Remove the small temporary S/N label.

Tip: If you are having difficulty scanning the barcode, please try the following:
- Place the phone in landscape orientation and retry scanning the barcode.
- If barcode scanning is still unsuccessful, you may type the final five digits of the serial number into the Accessory ID field. Autocomplete will generate a list of serial numbers, from which, the installer may select the serial number that matches the module that is being installed.

If you are unable to use the BlackBerry Radar Installation App during your installation, you need to obtain a worksheet where you can record the pairing of each BlackBerry Radar D module to its asset and associated BlackBerry Radar gateway devices.

For your convenience, you may quickly create a record of the module and asset identifier pairings by removing the partially attached label from the outer housing of the module and placing it on the installation worksheet, next to the asset that will be tracked by the module.

Asset ID	Module ID Sticker	
J13245	S/N: 528079	

11. Installation is complete.

4   Removing BlackBerry Radar D modules

Use this procedure if you need to remove your BlackBerry Radar D module for servicing or recycling.

For more information on obtaining service for your devices, or recycling and safe disposal of your devices and batteries, contact your BlackBerry representative, or visit the following:
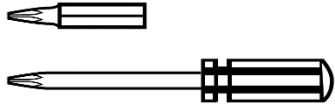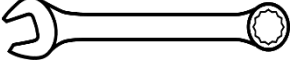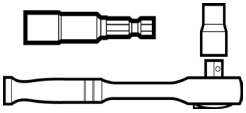
blackberry.com/RadarSupport--for information on service and the recycling and safe disposal of your device and battery.

Note: If you plan to ship your Radar D module, or Radar D battery, please be aware that the **_batteries, and the module when shipped along with the batteries_** are considered Fully Regulated Class 9 Dangerous Goods in all modes of transportation (Air, Ocean, and Ground) and must only be shipped in special UN certified Dangerous Goods packaging. If you are returning the battery, or battery with module to BlackBerry, you may request this UN-certified packaging from BlackBerry. The Radar D module, when shipped **_without_** the battery, is not considered Dangerous Goods and may be shipped in any package.

Also, any person who handles, offers for transport, or transports Dangerous Goods must be adequately trained and hold a training certificate; or perform those activities in the presence and under the direct supervision of a person who is adequately trained and who holds a training certificate.

Products that are considered Dangerous Goods can only move on carrier accounts that are approved for Dangerous Goods and are subject to Dangerous Goods surcharges. The Radar D module, when shipped without the batteries, are not subject to these surcharges.

4.1   Removal Tools

| **Pozidrive (PZ1) Screwdriver or Bit** *Pozidrive (PZ1) is required to replace batteries.	**Drill** 	**Wrench** *Required only if nuts and bolts are used.
Nut Driver or Socket Wrench with Socket* *Nut Driver + Drill offers fast installation. If no Nut Driver is available, a socket wrench and socket may be used as a substitute. Most useful if nuts and bolts were used in the installation.	**Safety Glasses** 	

4.2 Module removal

1. Remove the module from the asset by removing the two fasteners from the ends of the module and remove the module.

4.3 Battery removal and replacement

Battery removal and replacement

1. Using a Pozidrive (PZ1) screwdriver, remove the eight screws from the back of the product and separate the upper housing from the lower housing to access the batteries. Retain the screws as they will be required to re-assemble the module.
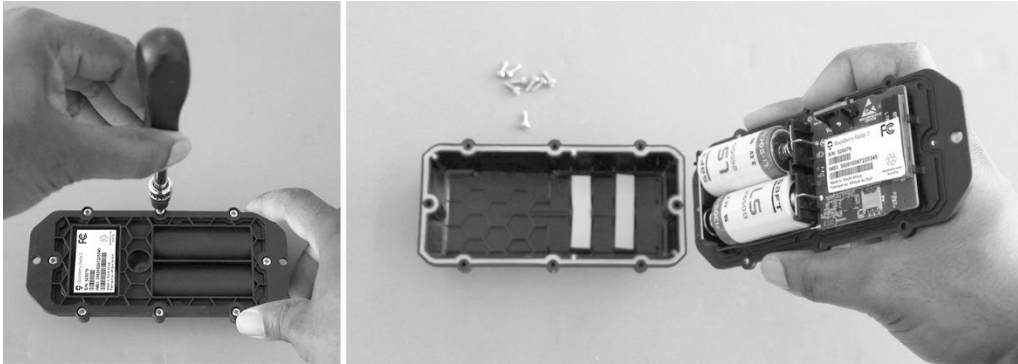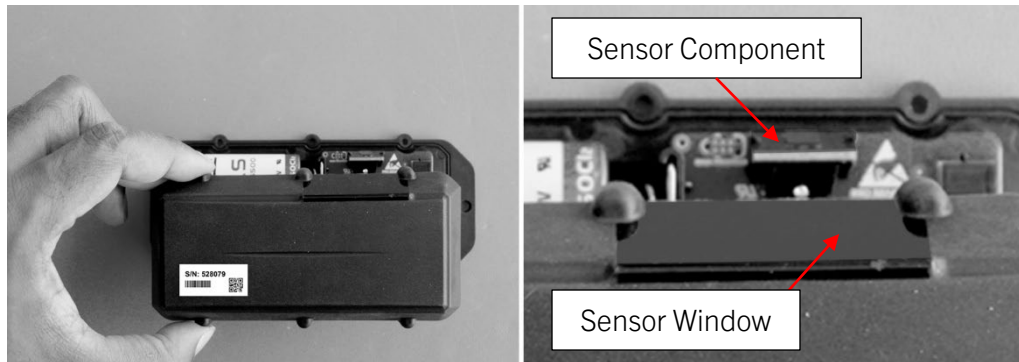

IMPORTANT: The silicone seal is responsible for maintaining the integrity of the housing against ingress. When opening the housing, for any reason--be sure to confirm the silicone seal is in good condition before closing the housing again.

Silicone Seal

2. Remove the old batteries and replace with new batteries. Replace only with BlackBerry BAT-63898-001 batteries to ensure good performance. **IMPORTANT:** Do not mix old batteries with new batteries.
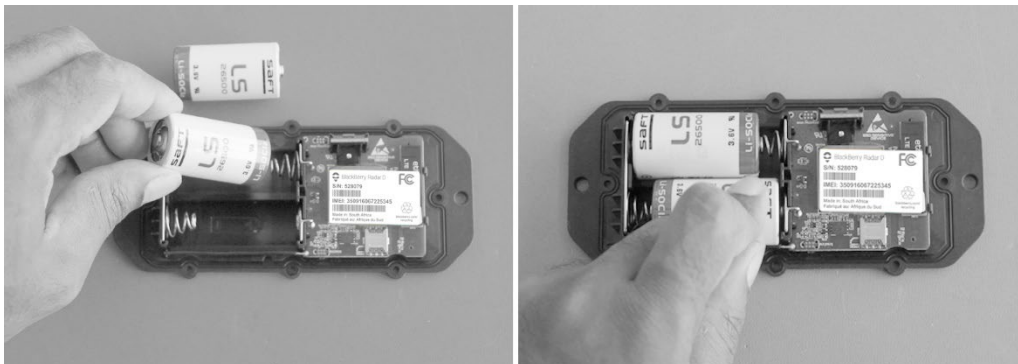
3. Locate the upper housing and place on the lower housing. **IMPORTANT:** Ensure the glossy sensor window is positioned towards the top of the device. This sensor window should be aligned with the sensor component located at the top of the circuit board.

4. Close the housing, and gently squeeze it shut. Foam on the lid will compress against the batteries, holding them firmly in place.

5. Insert the 8 screws and tighten to a uniform tightness. Recommended screw torque is 4.4-5 in-lb. (0.5-0.6 N-m).
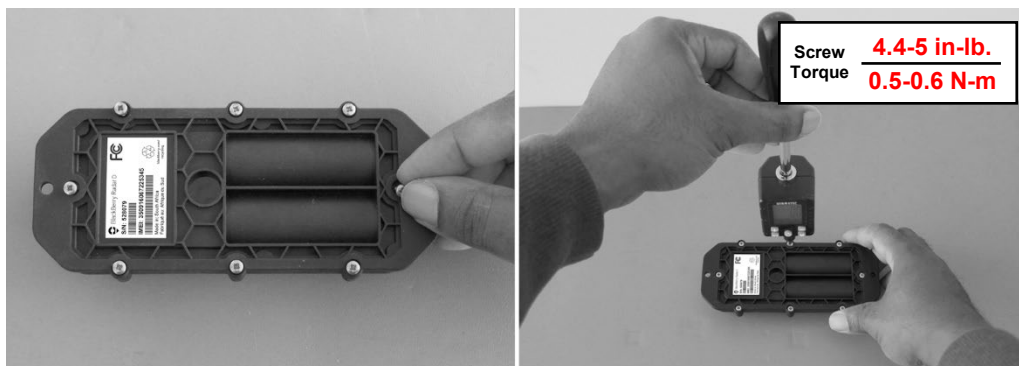
IMPORTANT: The silicone seal is responsible for maintaining the integrity of the housing against ingress. When sealing the housing, we are looking for the following conditions:

    a. Even pressure along all points of the seal

    b. A uniform gap between the housing lid and base (approx 1mm)

Preparing modules for shipment (used or previously activated modules)

If you are looking to ship Radar D devices that have already been activated, you ***must*** remove the batteries from the device. When the batteries are removed from the module and shipped separately from the batteries, Radar D modules are not Dangerous Goods and may be shipped in any packaging.

If you must ship the Radar D modules, with the battery installed, you may follow this procedure.

> **IMPORTANT:** To transport, or ship your module, the module must be powered off. If your device has already been activated, the only way to turn off the device, post activation, is to remove the batteries from the module.
>
> Never ship a previously activated/installed module with the batteries installed.

1. Using a Pozidrive (PZ1) screwdriver, remove the eight screws from the back of the product and separate the upper housing from the lower housing to access the batteries. Retain the screws as they will be required to re-assemble the module.
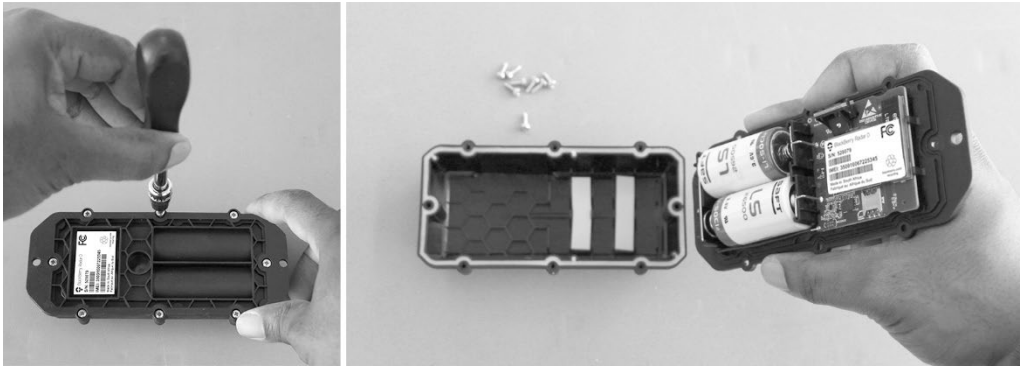
2. Remove the batteries from the device.
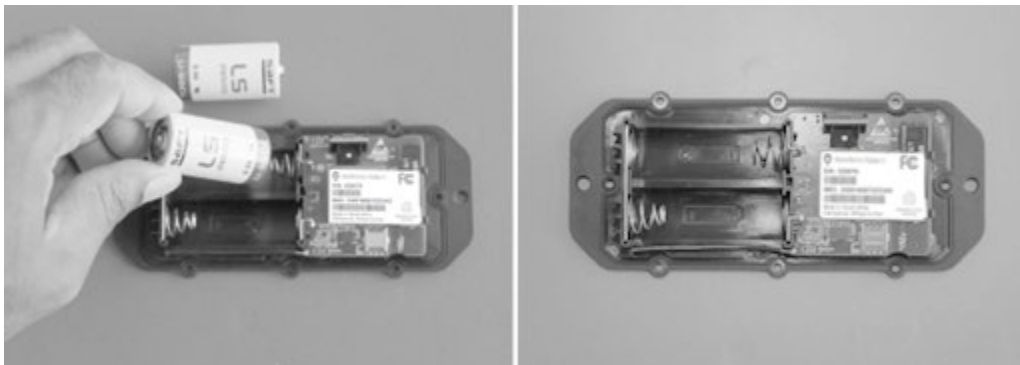
3. Locate the upper housing and place on the lower housing. **IMPORTANT:** Ensure the glossy sensor window is positioned towards the top of the device. This sensor window should be aligned with the sensor component located at the top of the circuit board.
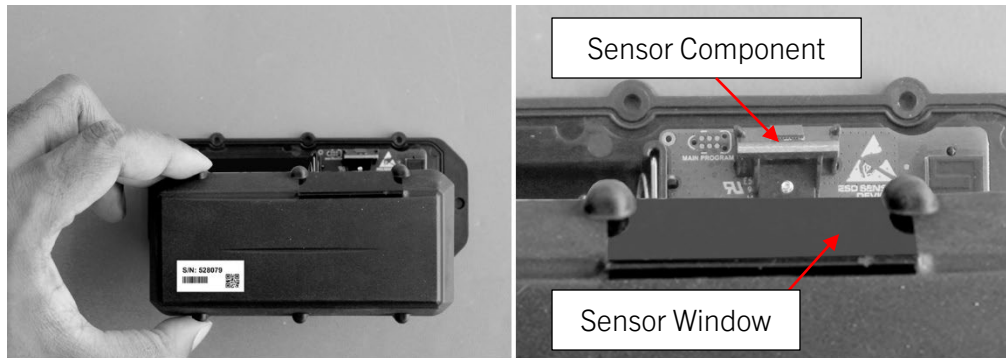
4. Close the housing.

5. Place the screws in a small plastic bag. Device is ready to be placed in the box.
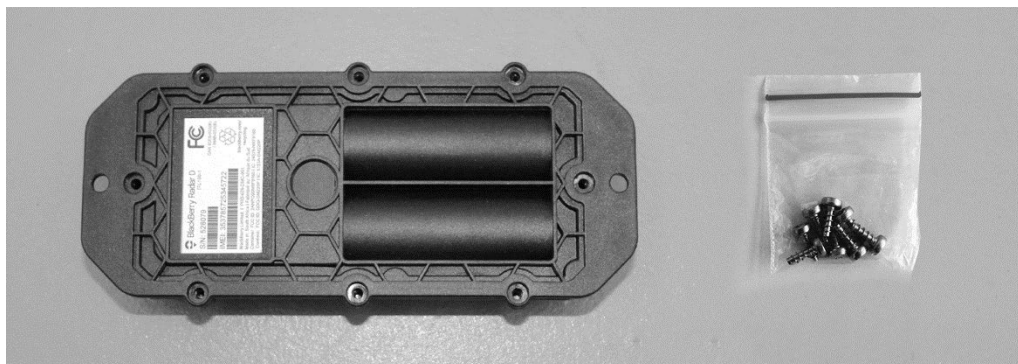
5 Support

If you run into any problem during the installation process, contact the BlackBerry Radar support team at 1-844-RADAR-BB.

Legal notice