BlackBerry Radar

BLACKBERRY RADAR H2
ITC100 – 1, ITC100 – 2, ITF100 – 1
MAGNET ACCESSORY

March 2021

Containers

Installation Guide

Table of Contents

1 Overview....3

2 Get ready for installation....4

3 Installing BlackBerry Radar H2 modules....5

3.1 Prepare to install....5

3.2 Installation tools....6

3.3 Matching a module identifier to an asset identifier....6

3.4 Module installation....8

3.4.1 Prepare module for installation--Battery connection....9

3.4.2 Prepare module for installation--Magnet installation....12

3.4.3 Installing module on an asset....15

3.4.4 Intermodal container installation procedure....16

4 Removing BlackBerry Radar H2 modules....21

4.1 Removal tools....21

4.2 Module removal from asset....22

4.3 Battery removal and replacement....24

5 Support....29

Legal notice....30

1 Overview

This guide provides detailed instructions for installing and activating new BlackBerry Radar H2 modules, equipped with the Accessory Magnet Kits. It includes three main tasks:

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

Task 2: Install a BlackBerry Radar H2 module (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 get ready for installation, you need to obtain a worksheet where you can record the pairing of each BlackBerry Radar H2 module to its asset (that is, the trailer/container that the module will be installed on).

For detailed instructions, log in to the BlackBerry Radar Dashboard and access documentation from the main menu.

3 Installing BlackBerry Radar H2 Modules

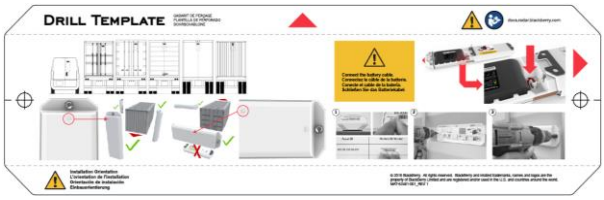
You may have a large number of BlackBerry Radar H2 modules to install. Follow the instructions in this section to:

- 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 H2 Module Package Contents

Radar H2 Module 	
Drill Template 	
Lithium Metal Battery 	Fastener Bag (2 screws per device) 

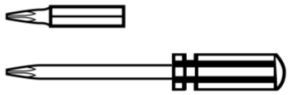
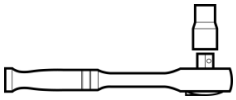
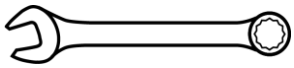
Radar Magnet Accessory Package Contents (sold separately)

Magnets and Fasteners 	Tether Loop 

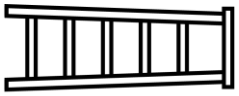
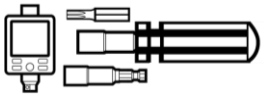
If you are missing any of the above components in your package, contact your BlackBerry Sales Representative.

3.2 Installation Tools

Required tools to complete the installation:

Phillips (PH2) Screwdriver or Bit	Socket Wrench with Socket*	Wrench
		

Recommended tools to complete the installation:

Ladder	Gloves	Torque Screwdriver/Adapter with Socket and Bits*
 *For more convenient installation on taller vehicles and containers.		(scale range of 0.4 N-m to 4.5 N-m, 4 in-lb. to 40 in-lb.)  *To check compliance with torque specifications for fasteners.

3.3 Matching a module identifier to an asset identifier

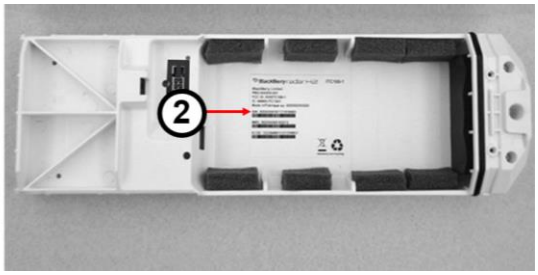
In order to track an asset, the Radar H2 module that is installed on the asset must be associated with the asset in the BlackBerry Radar Dashboard. It is, therefore, very important to keep a clear record of which Radar H2 module is installed on which asset.

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 H2 module is printed on two labels—one attached to the inner housing and the other in the battery compartment. The module identifier also serves as the serial number (S/N) for the module.

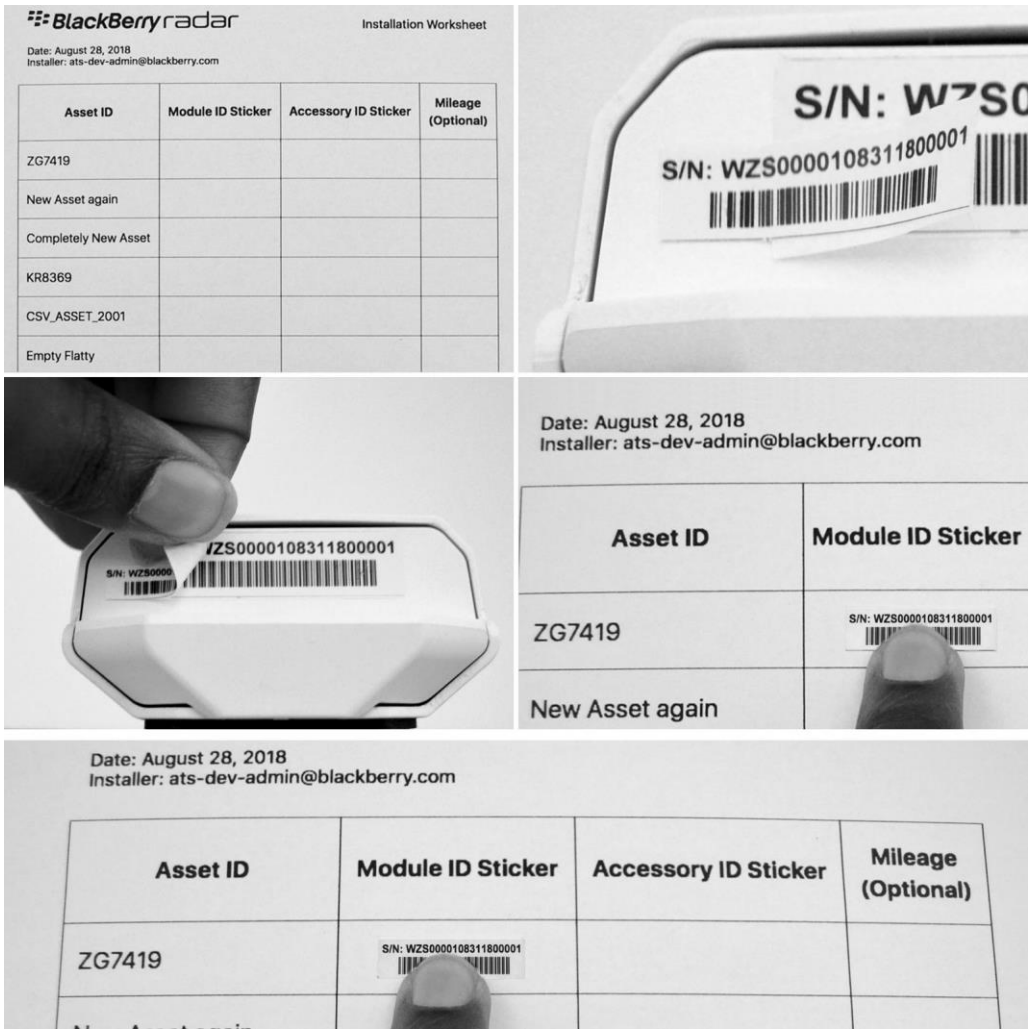
To match a module identifier with an asset identifier:

1. Locate the module identifier for your device. The module identifier is shown in two places.
    1. Externally—temporary S/N label and permanent exterior S/N label, attached to the front of the outer housing.
    2. Internally—permanent main product label, in the battery compartment.





2. Once you are ready to install the module to the asset, remove the partially attached label from the front surface of the inner housing and place it on your worksheet, next to the asset identifier the module will be paired with.



3.4 Module installation

You may install the module on any flat, vertical or horizontal surface that will attract magnets and 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.

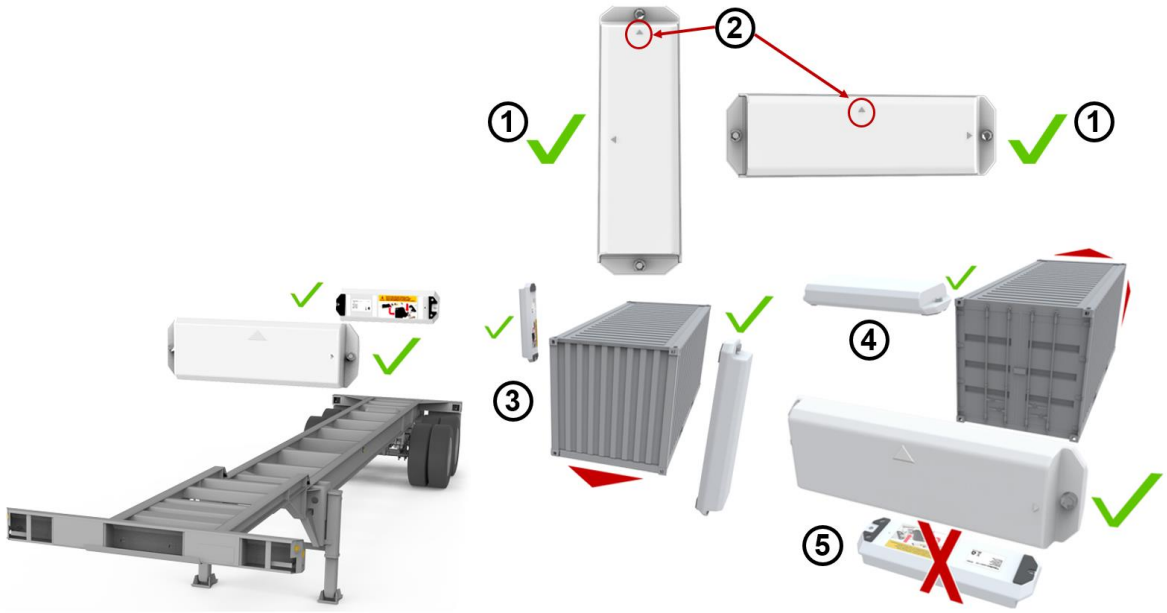
Do not place the module in a location where it is susceptible to damage from:

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

IMPORTANT: For accurate tracking, orientation matters.

1. You may install the module horizontally or vertically.
2. When mounting on a vertical surface, always ensure the module is installed with the triangle for your desired orientation, pointing up.
3. Full 360° rotation around vertical axis are supported.
   NOTE: Installation on the front surface of a trailer or container is not recommended. Vibration from the tractor's engine or trailer mounted refrigeration, heating and generator units may result in false motion alerts.
4. You may also rotate the module 90 degrees along the horizontal axis, and mount on an upward facing surface of the asset, with a clear view to the sky. This is helpful for installing on roofs, fender surfaces, etc.
5. Do not install the module on the asset with the front of the module facing the ground. This will result in reduced product performance.

This diagram illustrates the supported installation orientations for the BlackBerry Radar H2 module.



3.4.1 Prepare module for installation—Battery connection

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

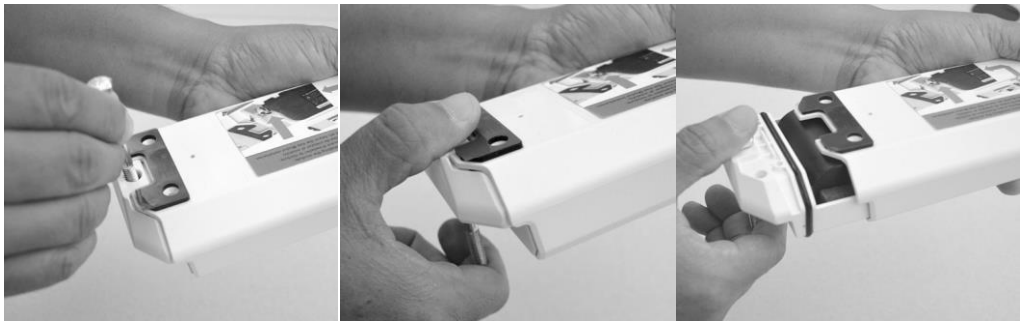
1. Remove the module from the package and from the plastic bag. Detach the fastener bag from the end of the module and keep nearby. You will require these screws to complete the module assembly process.



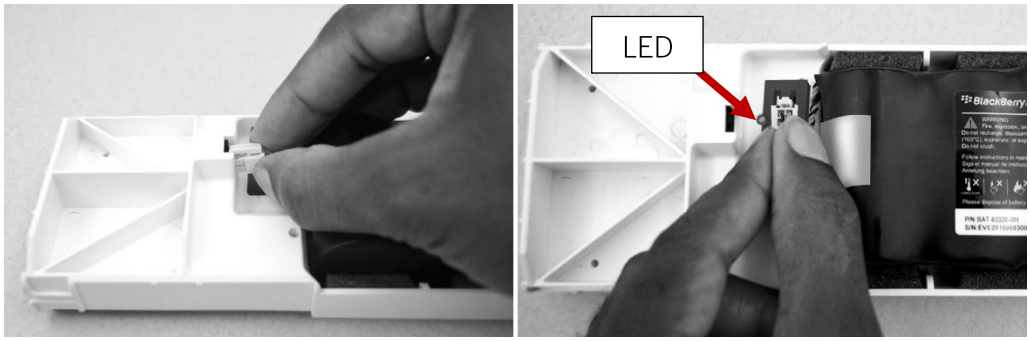
2. Turning the module bottom side up, grasp the end of the module's inner housing. Pull to separate the inner housing from the outer housing.



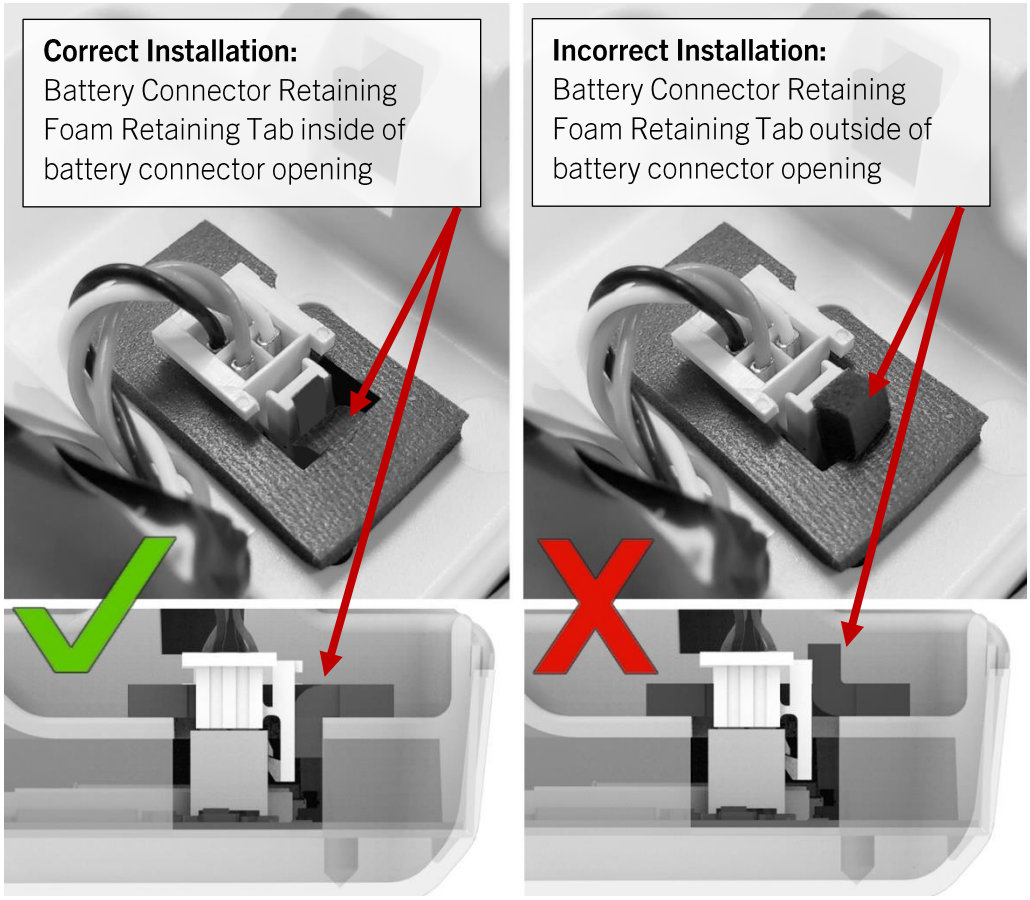
Tip: If you find it difficult to remove the inner housing from the outer housing, you may insert a tool, such as a screwdriver or long bolt, through the hole in the inner housing. Grasp the tool and the outer housing, then pull the two housings apart.



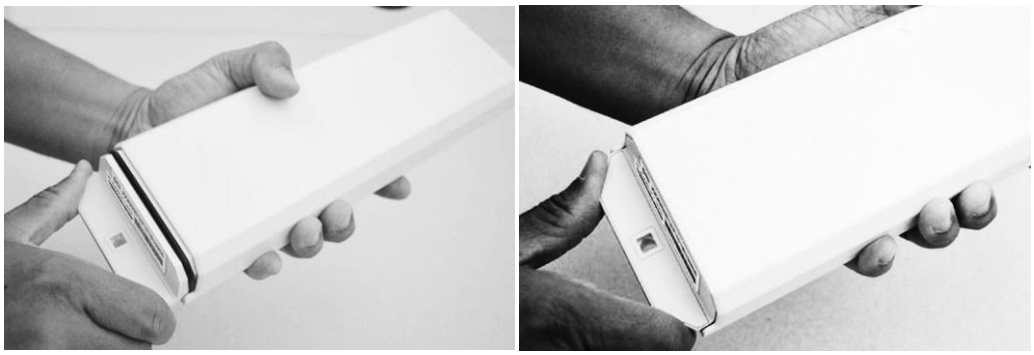
3. Remove the battery connector from the connector recess and connect the battery cable to the battery connector. The LED will blink to indicate the module is active. NOTE: It can take between 20-30 seconds for the blink sequence to begin. Please be patient. Once you see the LED blink, you may continue to the next step.



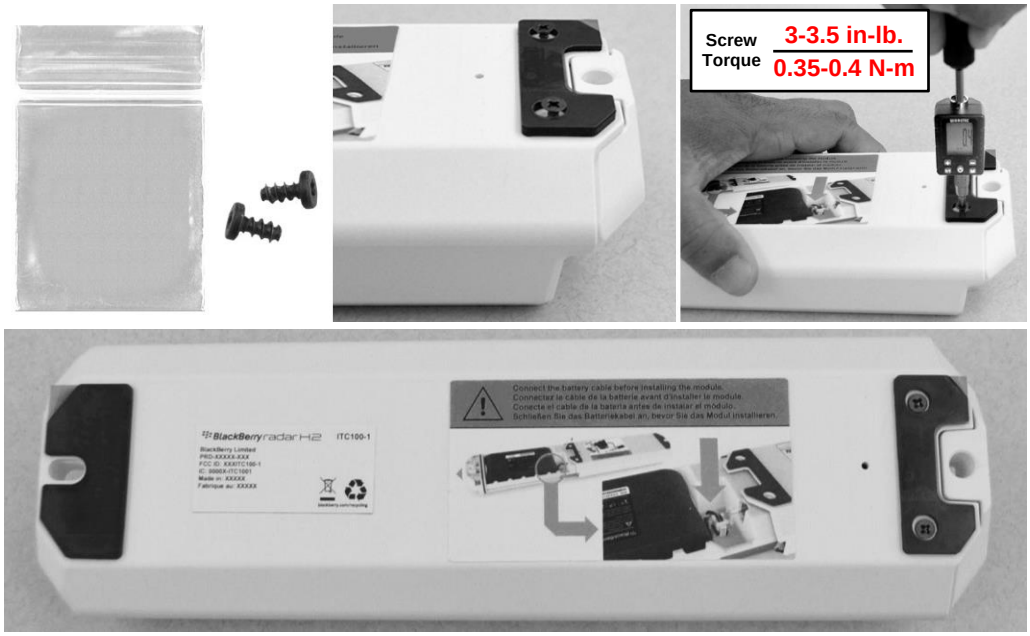
IMPORTANT: When connecting the battery cable to the battery connector, do not remove the Battery Connector Retaining Foam Retaining Tab or place the tab outside of the battery connector opening area. The Battery Connector Retaining Foam Retaining Tab is designed to fit within the battery connector opening area and provide a secure fit for the battery connector latch. Please refer to the following images for the proper orientation of the Battery Connector Retaining Foam Retaining Tab once the battery cable is connected to the battery connector.



4. Completely insert the inner housing into the outer housing.



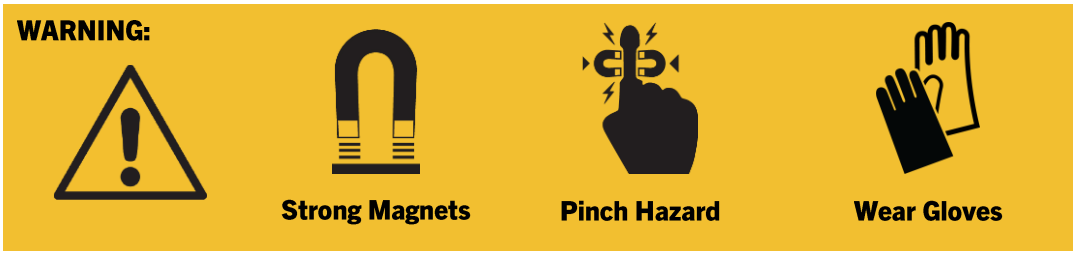
5. Locate the Fastener Bag and remove the two screws. Using a Phillips screwdriver, install the screws to secure the inner housing to the outer housing. **IMPORTANT:** Screw torque must be 3-3.5 in-lb. (0.35-0.4 N-m).



3.4.2 Prepare module for installation—Magnet installation

IMPORTANT: The magnets supplied with the accessory kit are very powerful.

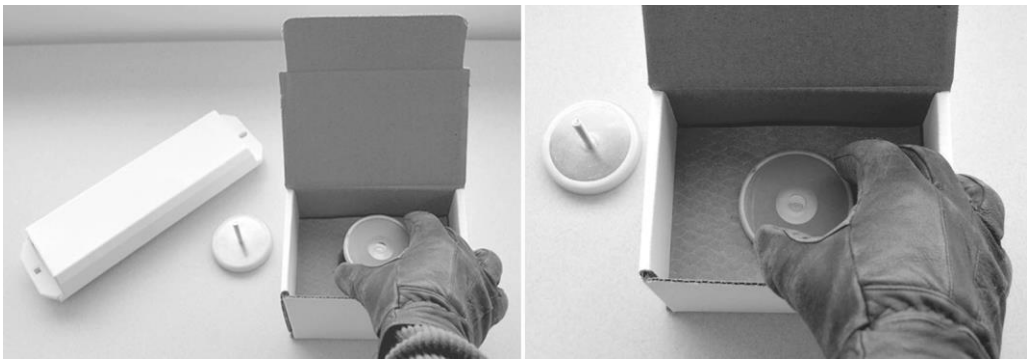
- To avoid accidental pinching, we recommend wearing gloves when handling magnets.
- For ease of assembly, we recommend completing these attachment steps on a non-magnetic work surface and installing one magnet kit to one BlackBerry Radar H2 module, at a time.
- Keep magnets away from electronic devices, electronic storage media and internal medical devices.



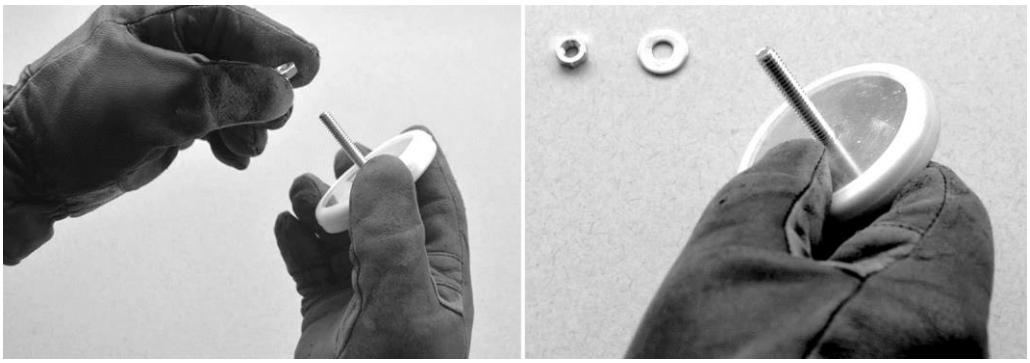
1. Locate the magnet assemblies and remove from the packaging. Separate the magnets by sliding the magnets apart.



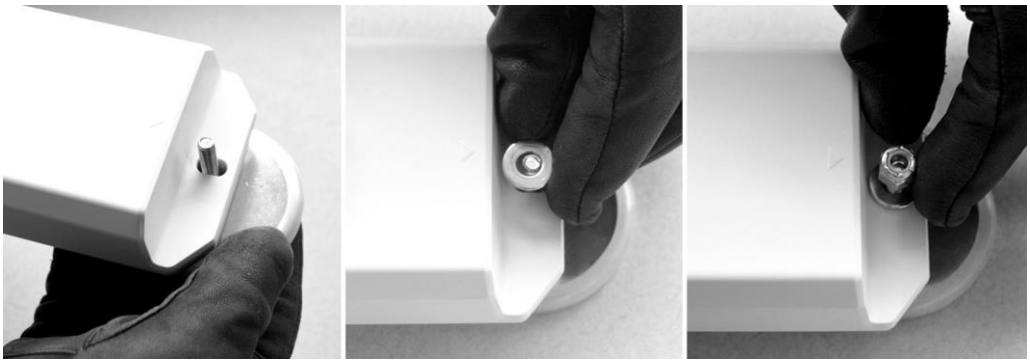
Tip: To avoid unintended attraction of the two magnets to each other, and other magnetic materials in the vicinity, we recommend temporarily returning the second magnet to the packaging insert, while you install the first magnet to the device.



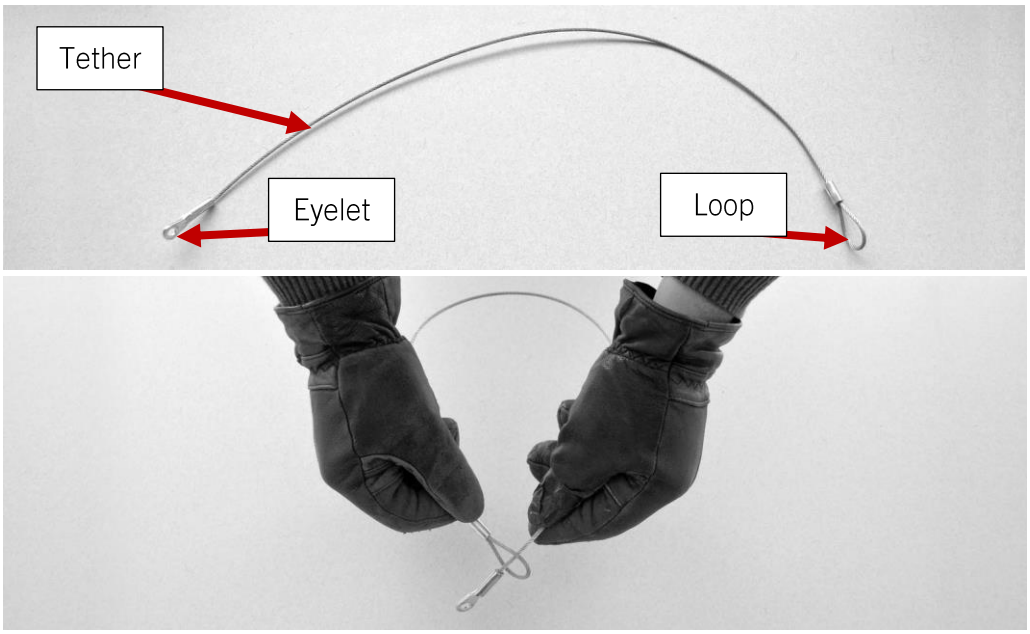
2. Remove the nuts and washers from the magnet assembly. Keep them nearby as they will be used during the next step.



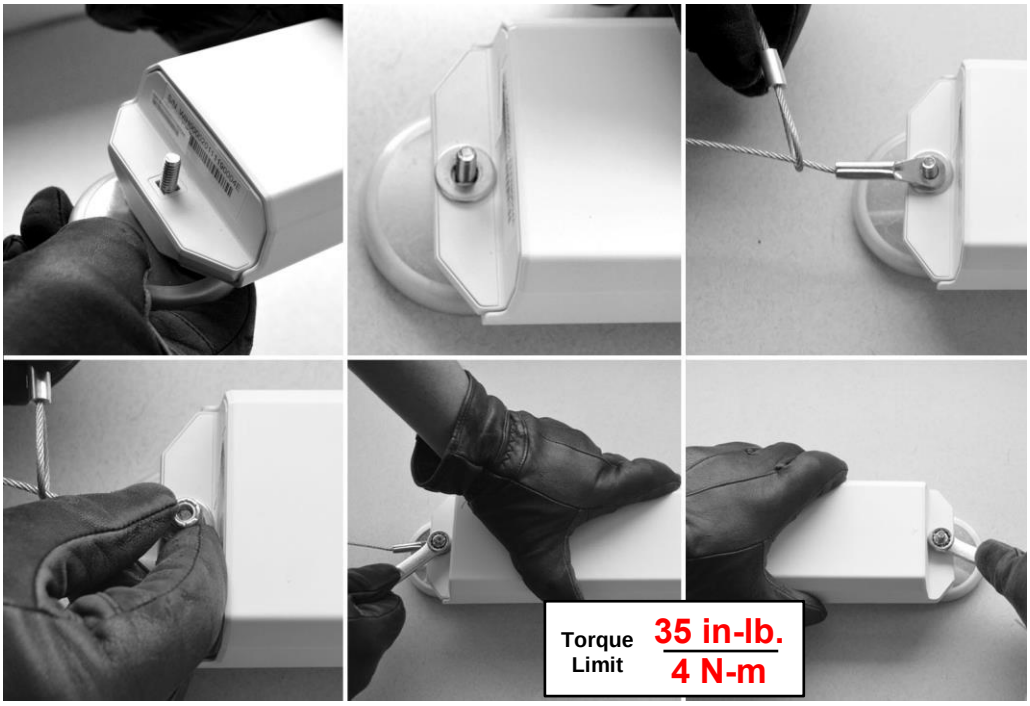
3. On the right side of the module, insert the bolt through the hole. Apply a washer and nut to the bolt, then loosely tighten the nut to secure the magnet to the module.



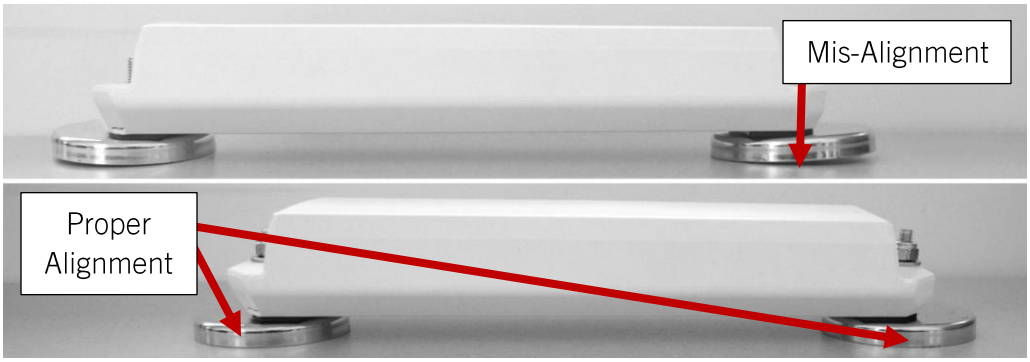
4. Locate the tether that was included with your accessory kit. Familiarize yourself with its construction. Once you have done so, draw the eyelet through the loop.



5. On the left side of the module, insert the bolt through the hole, then, apply a washer to the bolt. Place the module and magnet assembly on a flat surface. Next, place the eyelet of the tether on top of the washer, then completely tighten the nut to secure the magnet to the module. Lastly, completely, tighten the nut on the right side of the module.



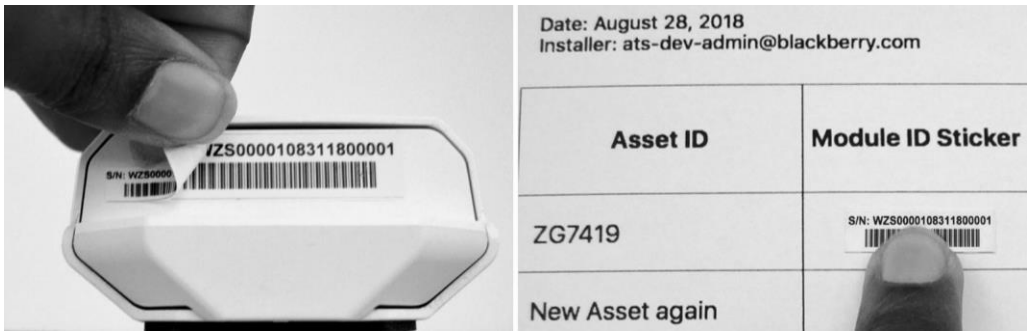
IMPORTANT: Do not over-tighten the fasteners. Do not tighten beyond 35 in-lb. (4 N-m). Over-tightening can lead to mis-alignment of the magnet, which may reduce the holding power of the magnet.



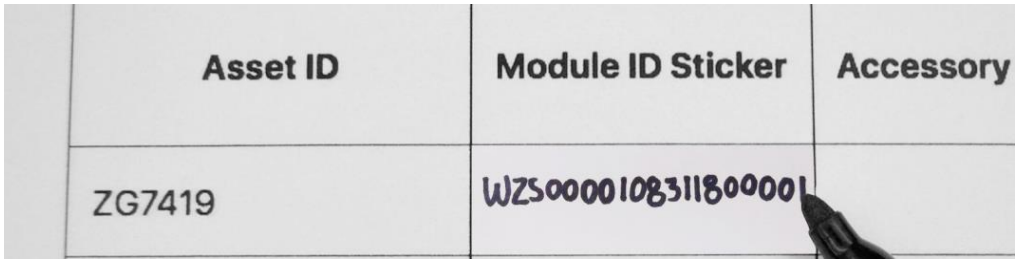
The module assembly is now ready for attachment to the tracked asset. Attachment of the module, to the asset, will be detailed in Section 3.4.4.

3.4.3 Installing the module on an asset

1. As indicated in Section 3.3 of this guide, record the module identifier and the asset identifier the module will be paired with. 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.



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.

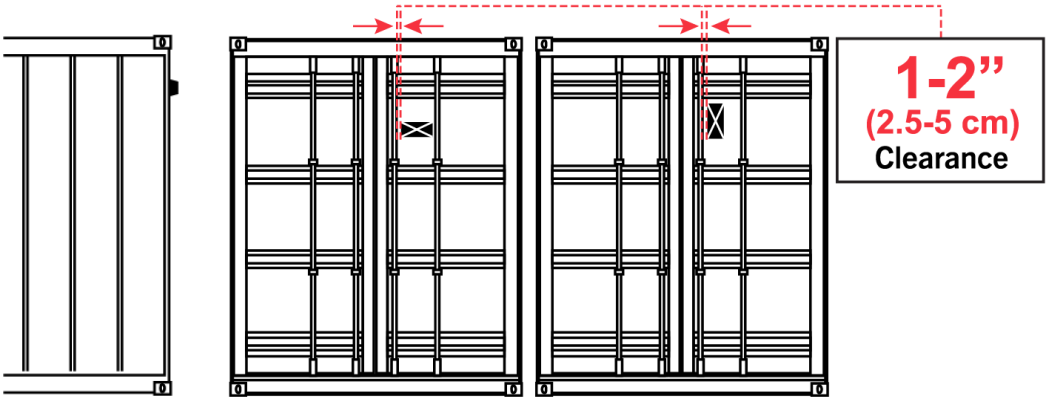


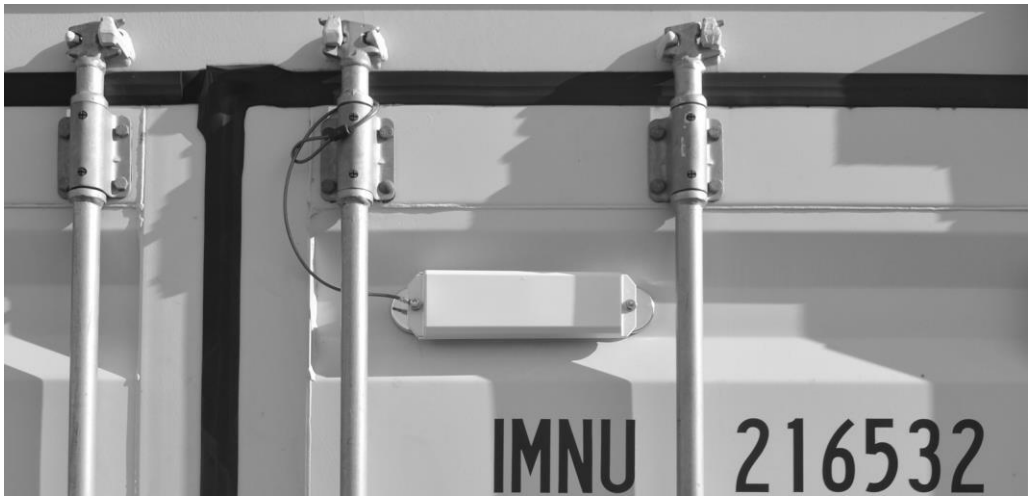
The following sections of this guide will illustrate recommended installation methods for various asset scenarios.

3.4.4 Mounting the BlackBerry Radar H2 and Magnet Assembly to the Asset--Intermodal container installation procedure

If you wish to monitor door open/close events with your BlackBerry Radar H2 module, you will need to mount it on the door. Recommended module placement on intermodal containers, with swing doors, are as follows:

- The module must be placed on the **right-hand** door and as close to the inside edge of this door as the door construction allows. If your door has external locking bars, ensure there is approximately 1-2" (2.5-5cm) of clearance space between the left side of the unit and the right edge of the locking bar. Mounting the module in this position is critical for proper door detection and ensures all door open/close events are registered--even in instances where only one door is opened.
- The module should be placed as high on the asset as possible for optimum antenna performance. The exact placement height will be influenced, in part, by various factors including: the height of the ladder used for the install, door construction, etc.
- Ensure the asset you will attach the module assembly to can attract magnets.





Asset Placement

1. As indicated in Section 3.3 of this guide, record the module identifier and the asset identifier the module will be paired with. For your convenience, you may quickly create a record of the module and asset identifier pairings by:

   (A) 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 this module.

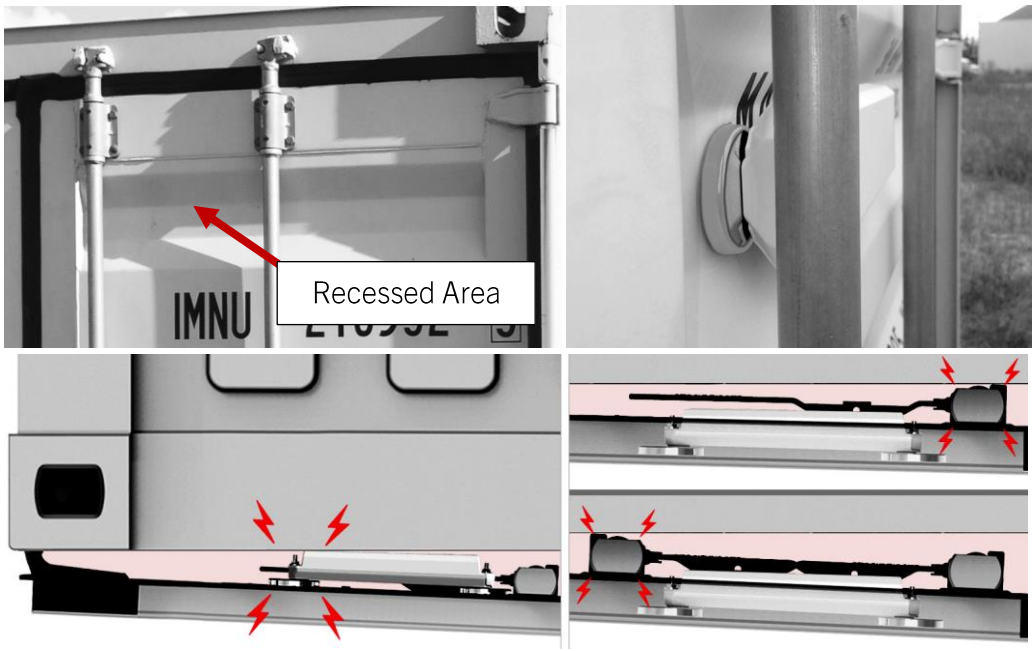
   (B) Writing the module identifier (S/N) for each module on the installation worksheet.



2. Select the best installation location for your container.



Tip: To help protect your device from impacts that could occur when the door is opened, we recommend placing the module assembly inside the recessed area of the door, if possible. This is especially important for doors with one locking bar per door, as the outboard locking bar can provide additional protection upon impact.



For additional peace of mind, a tether lanyard is included with your magnet kit. Proper use of the tether will prevent separation of the Radar H2 module from the asset in the case of sudden, extreme impacts. The tether must be used if the asset will travel on public roads.

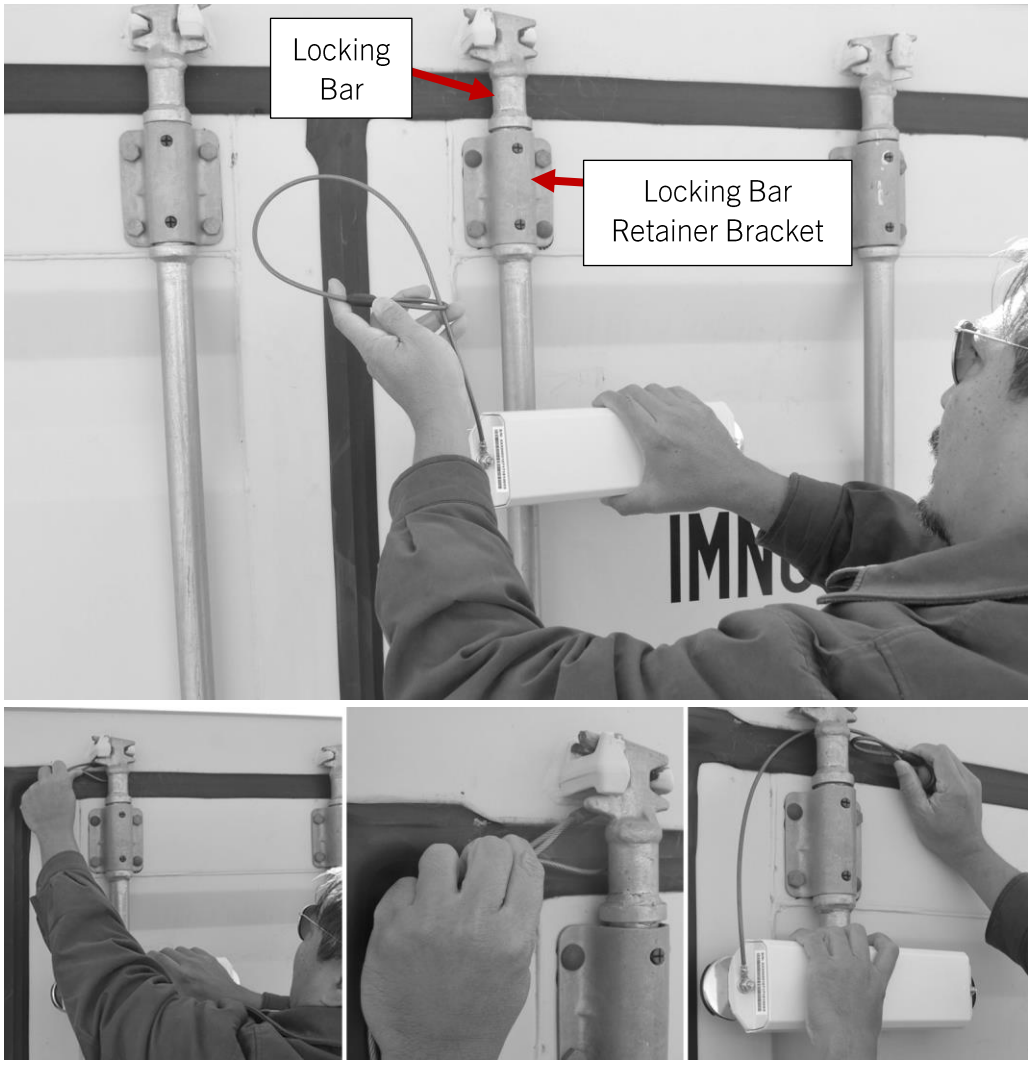
IMPORTANT: The tether must be used if the asset will travel on public roads.

Tip: When deciding the best location for installing the module assembly, we recommend placing the tether loop around the locking bar, just above a locking bar retainer bracket.
Placing the tether loop above a locking bar bracket, that is higher on the door, will ensure the module assembly is less exposed to damage in the unlikely event the Radar H2 module is separated from the asset after a sudden, extreme impact.



To secure your Radar H2 module to the asset, you may follow this method.

3. After you have selected the preferred location for the module. Loop the tether behind the locking bar, and above the nearest door post retainer collar.



4. Draw the module assembly, with magnets, though the large tether loop.

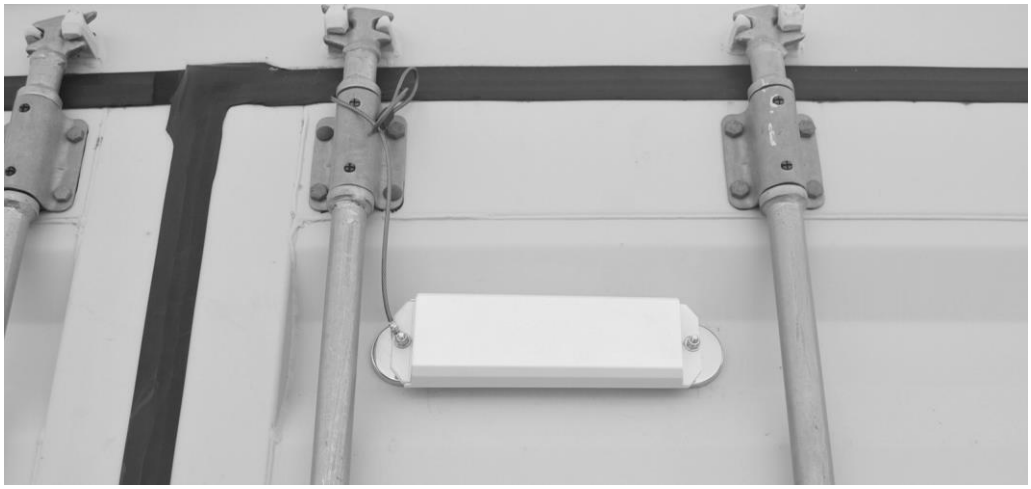


5. Using the magnets, attach the module to the asset.





6. Installation is complete.



4 Removing BlackBerry Radar H2 modules

Use this procedure if you need to remove your BlackBerry Radar H2 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.

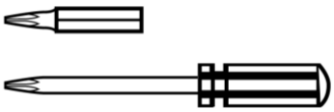
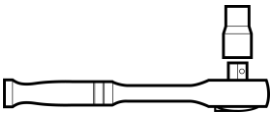
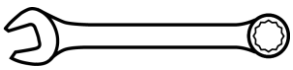
Note: If you plan to ship your Radar H2 module, or Radar H2 battery, please be aware that the ***battery, and the module when shipped along with the battery***, is considered Fully Regulated Class 9 Dangerous Goods in all modes of transportation (Air, Ocean, and Ground) and must only be shipped in special 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 H2 module, when shipped ***without*** the battery, is not considered Dangerous Goods and can 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.

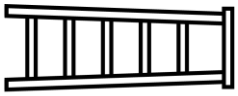
Products that are considered Dangerous Goods can only move on carrier accounts that are approved for Dangerous Goods and are subject to Dangerous Goods surcharges. The Radar H2 module, when shipped without the battery, are not subject to these surcharges.

4.1 Tools for removal

Required tools to complete the removal:

Phillips (PH2) Screwdriver or Bit	Socket Wrench with Socket*	Wrench
		

Recommended tools to complete the removal:

Ladder	Gloves	
 *For more convenient installation on taller vehicles and containers.		

4.2 Module removal from asset

1. Remove the module from the asset by grasping the module assembly and pull it away from the asset.



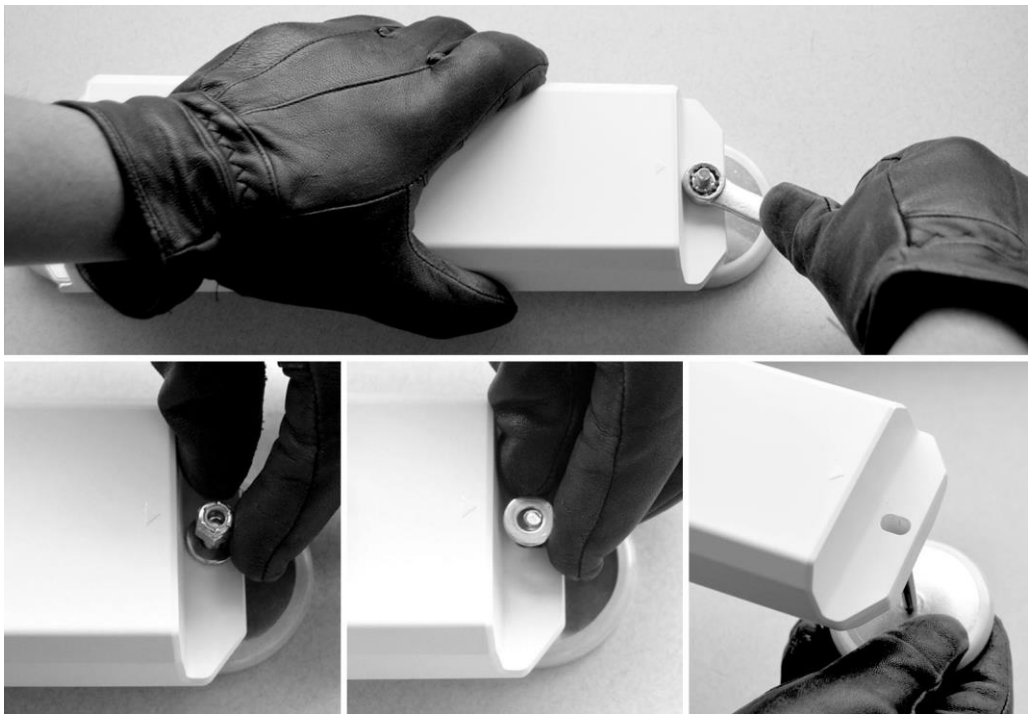
2. Loosen the large loop on the tether, then draw the module through the loop.



3. On the left side of the module, remove the nut from the bolt. Remove the tether and washer from the bolt, then remove the magnet from the module.



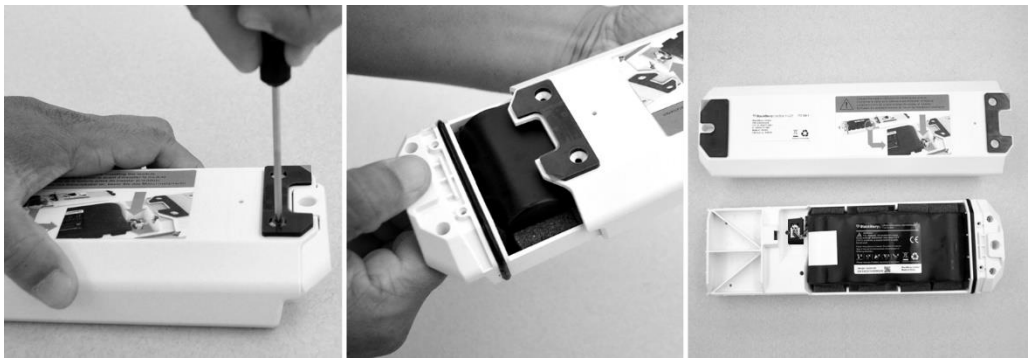
4. On the right side of the module, remove the nut and washer from the bolt. Remove the magnet from the module.



4.3 Battery removal and replacement

Battery removal

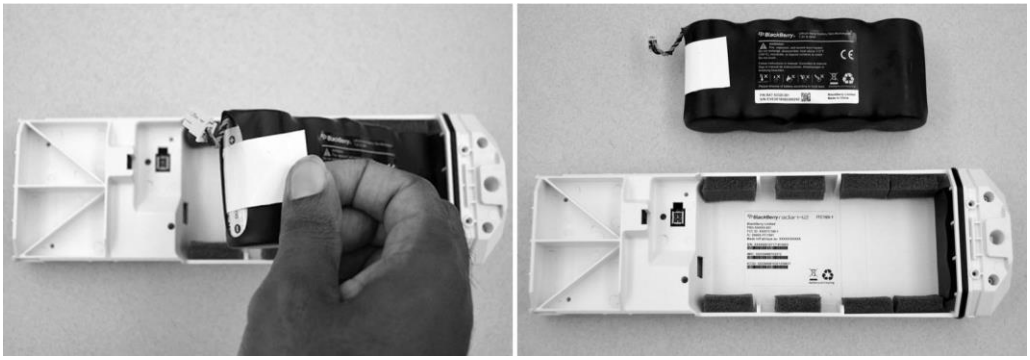
1. Remove the two screws from the back of the product and separate the inner housing from the outer housing to access the battery. Retain the screws as both screws will be required to re-secure the inner housing to the outer housing



2. Disconnect the battery cable from the battery connector.



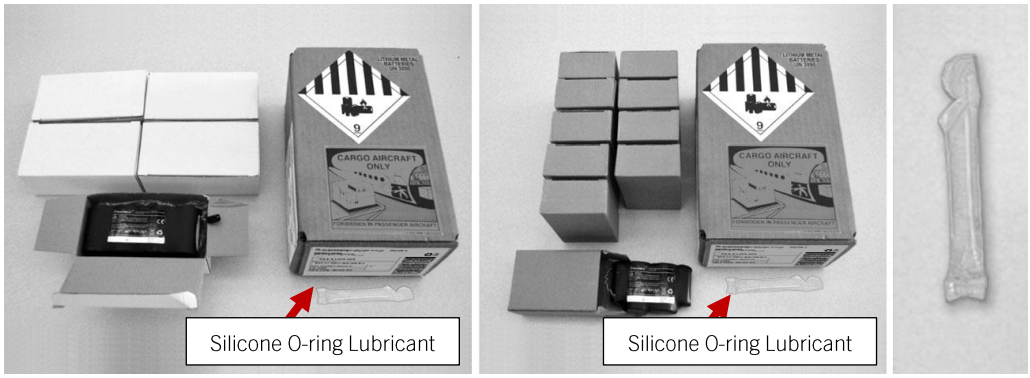
3. Remove the battery from the battery compartment by grasping the pull tab and lifting the battery out of the compartment.



Battery replacement

The BlackBerry Radar H2 batteries are designed to provide long life between battery replacement intervals. When replacing your battery, we recommend the application of Silicone Based O-Ring Lubricant to the O-Ring during each battery replacement cycle.

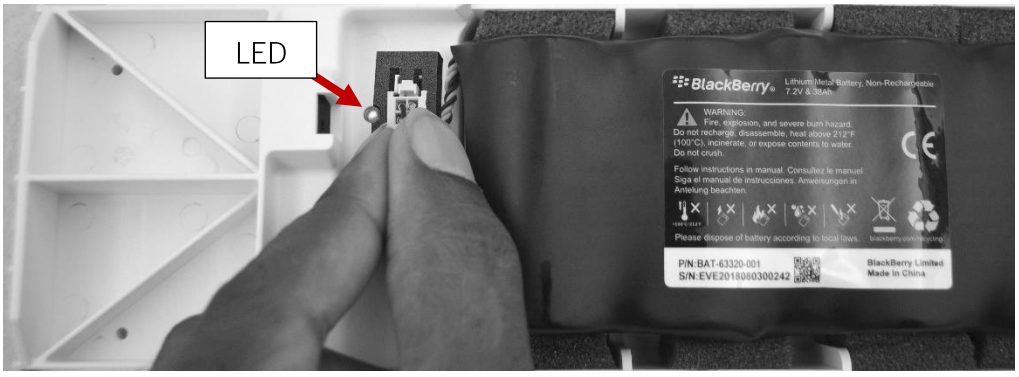
One tube of Silicone Based O-Ring Lubricant is included with each box of Replacement Batteries ordered through BlackBerry. Each tube contains enough lubricant to service 10 devices.



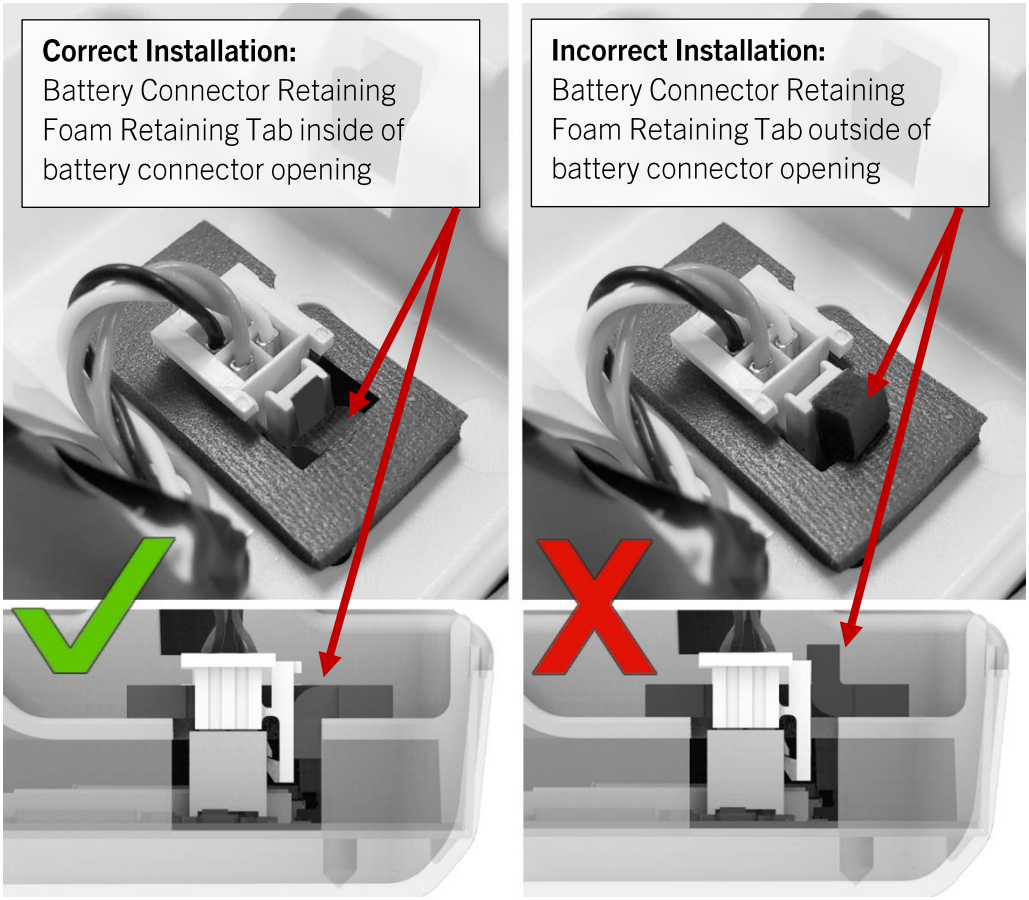
1. Insert the replacement battery into the battery compartment.



2. Connect the battery cable to the battery connector. The LED will blink to indicate the module is active. NOTE: It can take between 20-30 seconds for the blink sequence to begin. Please be patient. Once you see the LED blink, continue to the next step.



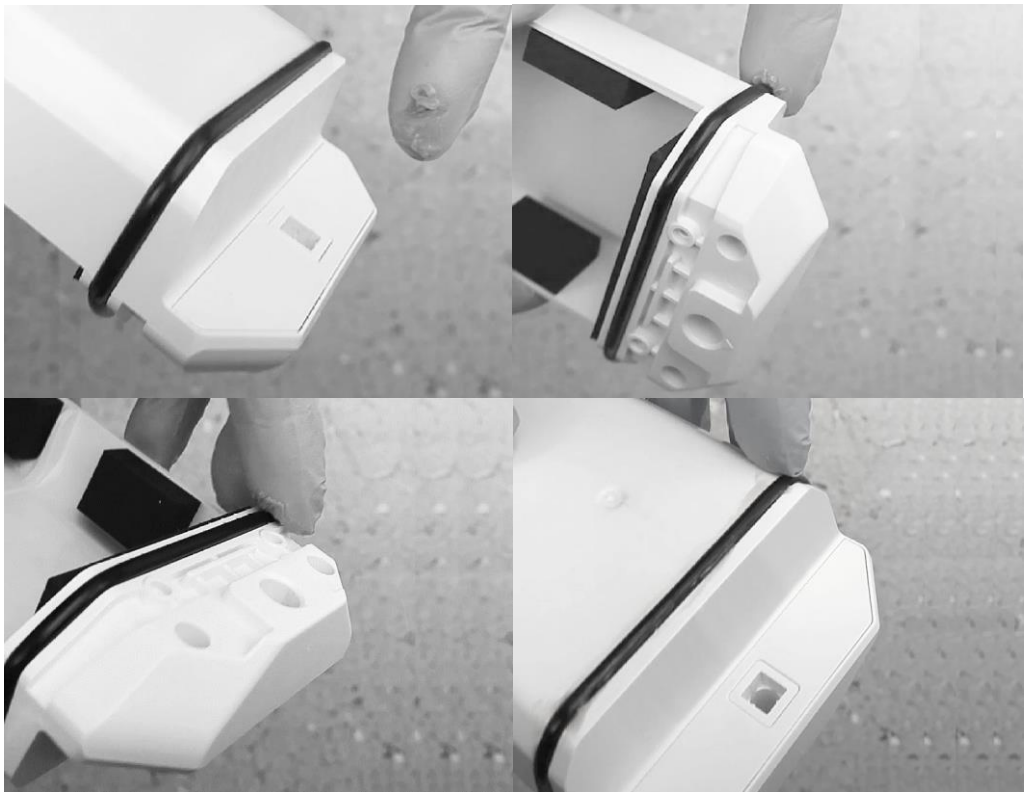
IMPORTANT: When connecting the battery cable to the battery connector, do not remove the Battery Connector Retaining Foam Retaining Tab or place the tab outside of the battery connector opening area. The Battery Connector Retaining Foam Retaining Tab is designed to fit within the battery connector opening area and provide a secure fit for the battery connector latch. Please refer to the following images for the proper orientation of the Battery Connector Retaining Foam Retaining Tab once the battery cable is connected to the battery connector.



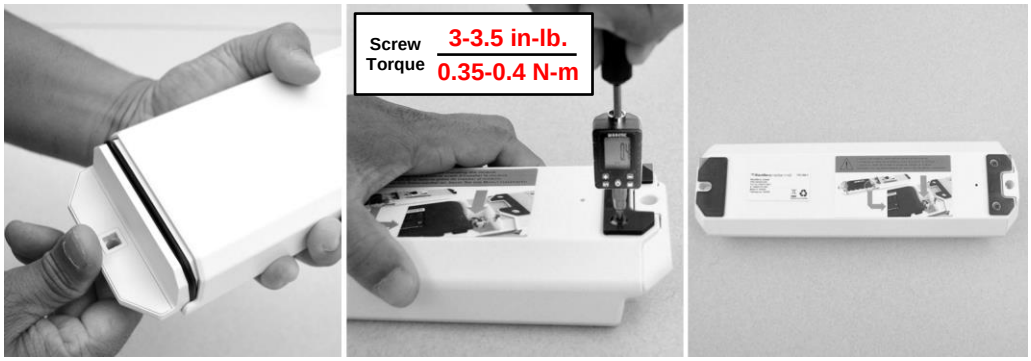
3. Locate the inner housing assembly (with the connected battery) and the Silicone O-ring Lubricant that was included in the package.



(1) Select an appropriate applicator for applying the lubricant to the O-ring. You may use a small brush or your finger. If you do choose to apply the lubricant with your finger, we do recommend the use of rubber gloves.
(2) Using a "pea-sized" amount of lubricant, fully coat all sides of the O-ring.



4. Completely insert the inner housing into the outer housing. Use the two screws that were provided with the module to secure the housing. **IMPORTANT:** Screw torque must be 3-3.5 in-lb. (0.35-0.4 N-m).

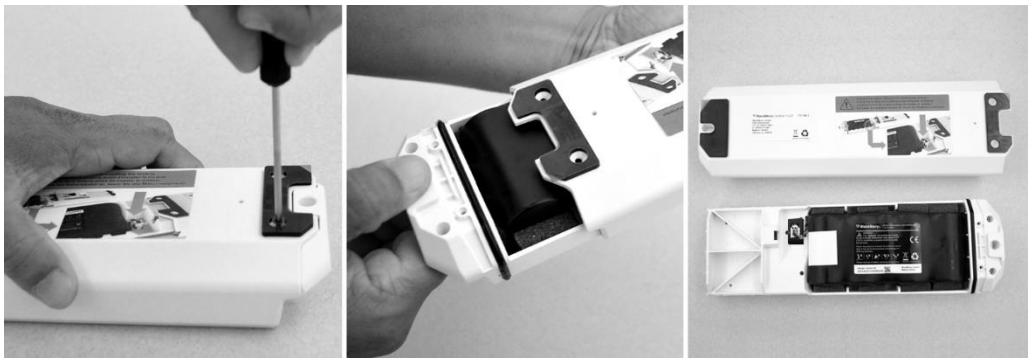


Preparing battery for shipment

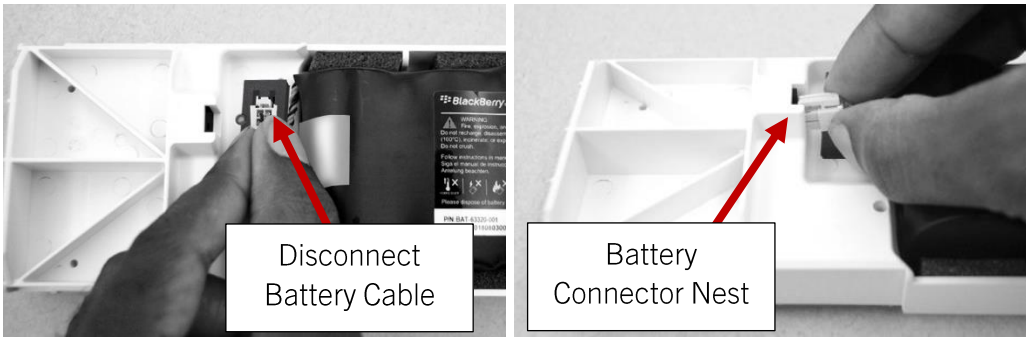
If you do need to ship the battery, along with the module, please follow this procedure.

> **IMPORTANT:** Never ship the device with the battery cable connected. Battery must be shipped inside the module with battery cable disconnected and the battery cable placed inside the connector nest.

1. Remove the two screws from the back of the product and separate the inner housing from the outer housing to access the battery. Retain the screws as both screws will be required to re-secure the inner housing to the outer housing



2. Ensure the battery cable is disconnected from the battery connector. Place the battery cable in the battery connector nest.



3. Place the battery cover onto the module and install both screws. Module is now ready for placement into the UN certified Dangerous Goods packaging.



5 Support

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

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