BLACKBERRY RADAR-L

ITB100-1

February 2020

Flatbed and Heavy Equipment

Installation Guide

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1 Overview

This guide provides detailed instructions for installing new BlackBerry Radar-L modules. It includes three main tasks:

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

Task 2: Install a BlackBerry Radar-L module (see Section 3)

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

Task 3: Uninstall a module (see Section 4)

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 Radar-L module to its asset (that is, the asset 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-L modules

You may have a large number of BlackBerry Radar-L 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.

> **Note:** You must install each module horizontally. Vertically positioned modules are not supported.

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-L Module Package Contents

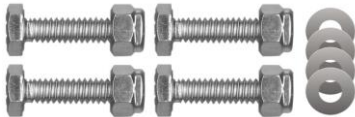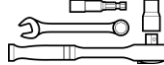| Drill Template	Lithium Metal Battery
Radar-L Module	Battery Door Screws (x 6)
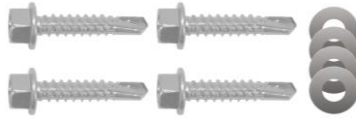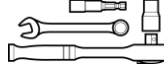
If you are missing any of the above components in your package, contact your BlackBerry Sales Representative.

To attach the module to the asset you wish to track, you will need to supply four 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 provided below. The actual length of the fasteners will be determined by the thickness of your mounting surface.

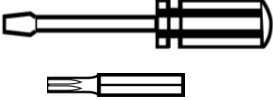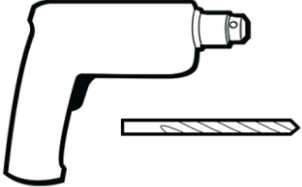|	
IMPORTANT: The maximum fastener thread diameter supported by this product is ¼" or M6 (6 mm). For most secure fastening, we do not recommend using fasteners with a diameter less than that of a ¼" or M6 fastener.	
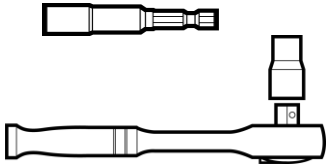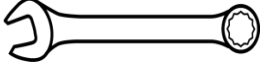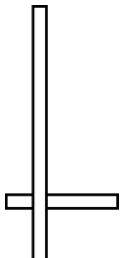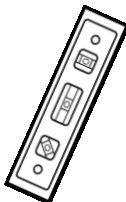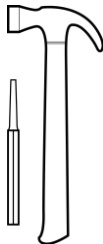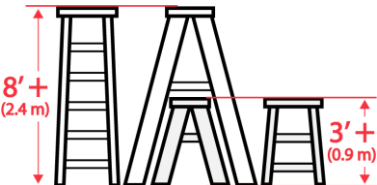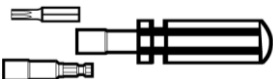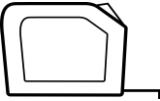
Box Section **(3mm + wall thickness)** 	**4 self-tapping screws** (3/8" head, 1/4"-14 thread, 1-1/4" length) 	**Drill Bit** 3/16" (5mm) **Nut Driver/Socket/Wrench** 3/8" (10mm)
I-Beam / Panel Section **(with rear access)** 	**4 bolts, nuts, and washers** (7/16" head, 1/4"-20 thread, 1/4"-20 nut) (11mm head, M6 thread, 25mm length, M6 nut) 	**Drill Bit** 1/4" (6mm) **Nut Driver/Socket/Wrench** 7/16" (11mm)

3.2 Installation tools

Required tools to complete the installation:

Screwdriver or Torx Bit (T-9)* (Battery door removal)	Drill and Drill Bits	Tape
*Torx Bit + Powered Screwdriver offers fastest installation. If no Powered Screwdriver is available, a manual screwdriver may also be used.		**Pencil or Non-Permanent Marker**
Nut Driver or Socket Wrench with Socket*	Safety Glasses	**Large Screwdriver (Flathead)**
*Nut Driver + Drill offers fastest installation. If no Nut Driver is available, a socket wrench and socket may be used as a substitute.		**Wrench** *Required only if nuts and bolts are used.

Recommended tools to complete the installation:

T-Square	Pocket Level	Towel	Hammer and Punch	Ladders*
				8' + (2.4 m) 3' + (0.9 m) *Tall ladder for installation on taller vehicles and containers. Small ladder for installation inside of containers or the exterior of smaller vehicles.
Torque Screwdriver with Bit and Socket* (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, screws.	**Tape Measure**	**File**		**Cutting Lubricant* (Recommended)** *Recommended for faster drilling speed on thicker metals and longer drill bit life.

3.3 Matching a module identifier to an asset identifier

In order to track an asset, the Radar-L 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-L 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-L module is printed on two labels—one attached to the rear 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, attached to the rear housing,
    2. Internally—permanent main product label, in the battery compartment.
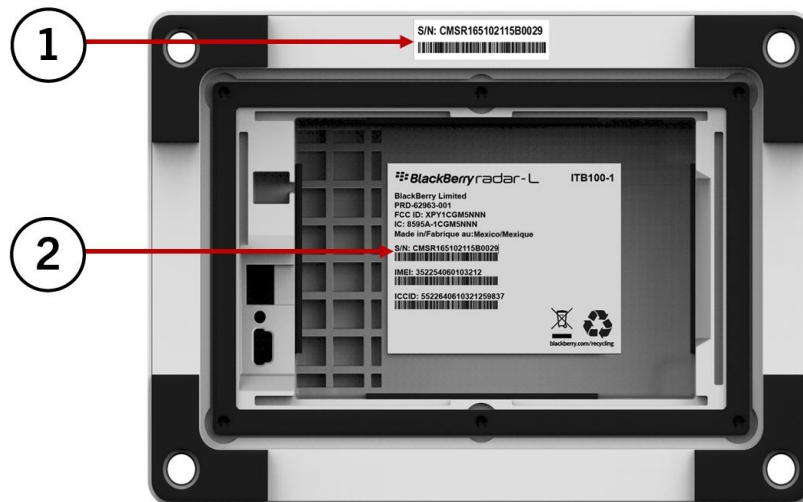
2. Once you are ready to install the module to the asset, remove the partially attached label from the outer surface of the rear housing and place it on your worksheet, next to the asset identifier the module will be paired with.

Installation Worksheet

Date	:	Jan 15, 2015
Installer	:	Jon Doe
Location	:	ACME Yard - Ottawa, K2C-KK2

Asset ID	Module ID Sticker
XXRIKD-SSS-D1	
XXRIKD-SSS-D2	
XXRIKD-SSS-D3	

S/N: CMSR165102115B0029

02115B0029

Asset ID	Module ID Sticker
XXRIKD-SSS-D1	S/N: CMSR165102115B0029
XXRIKD-SSS-D2	
XXRIKD-SSS-D3	

| Installer | : | Jon Doe |
| Location | : | ACME Yard - Ottawa, K2C-KK2 |

Asset ID	Module ID Sticker
XXRIKD-SSS-D1	S/N: CMSR165102115B0029

Tip: If you plan to frequently switch your Radar-L module between assets, you may wish to record the S/N on the rear housing using a permanent marker, or by creating your own label. This will eliminate the need to remove the battery cover to find the S/N when switching the module between assets.

CMSR165102115B0029

S/N:CMSR16510211B0029

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.

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.

IMPORTANT: For accurate tracking, orientation matters.
  1. You must install each hardware module horizontally.
     Vertically positioned modules are not supported.
  2. When mounting on a vertical surface, always ensure the device is installed with the triangles (located near the top screws) facing up. Rotations around vertical axis are supported.
  3. If vertical mounting is not desired for your application, you may
     install the product, rotated 90 degrees along the horizontal axis,
     mounting the device to the top surface of the tracked object.
     This is helpful for installing on object roofs, fender surfaces, etc.
  4. Do not install the device on the asset with the front of the device facing the ground. This will result in reduced product performance.
  5. Installation on the front surface of a trailer is not recommended.
     Vibration from the tractor's engine or trailer mounted refrigeration, heating, and generator units may result in false motion alerts.

This diagram illustrates the supported installation orientations for the BlackBerry Radar-L module.
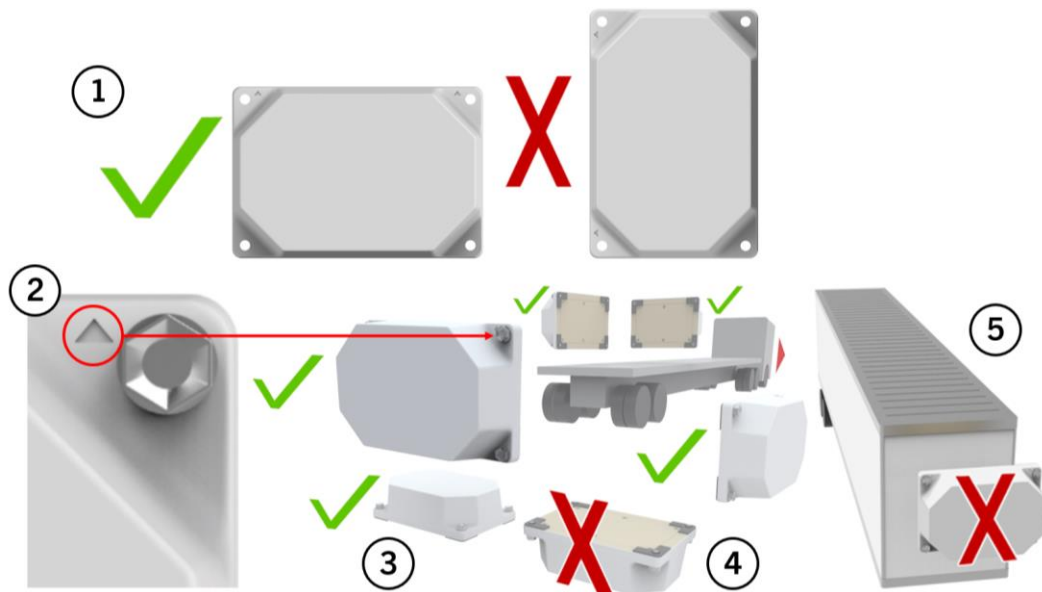
3.4.1 Prepare module for installation—Battery installation

> **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.

2. Remove the six screws from the back of the product and remove the cover to access the battery compartment. Please retain the screws as all six screws will be required to re-attach the battery door to the module.

3. Remove the battery connector from the connector recess and connect the battery cable to the battery connector. The LED will flash to indicate the module is active.
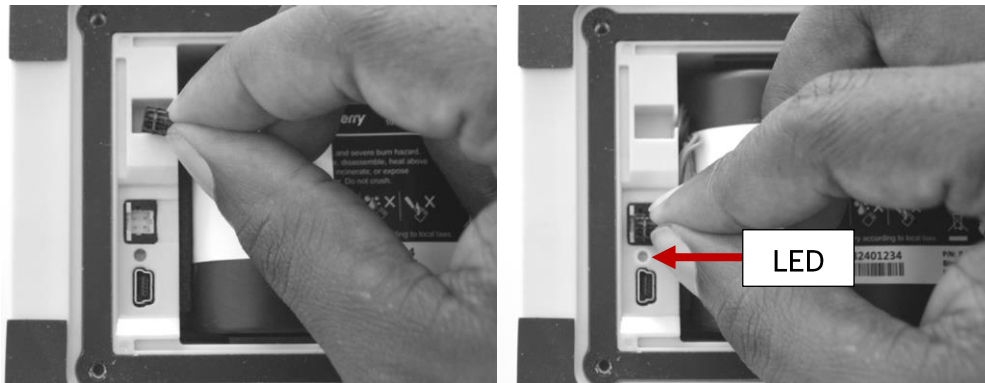
4. Re-install the battery cover using the six screws that were supplied with the module.
   **IMPORTANT:** Screw torque must be 4.4 in-lb. (0.5 N-m).

The module is prepared for installation on the asset.

3.4.2 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 rear housing of the module and placing it on the installation worksheet, next to the asset that will be tracked by the module.
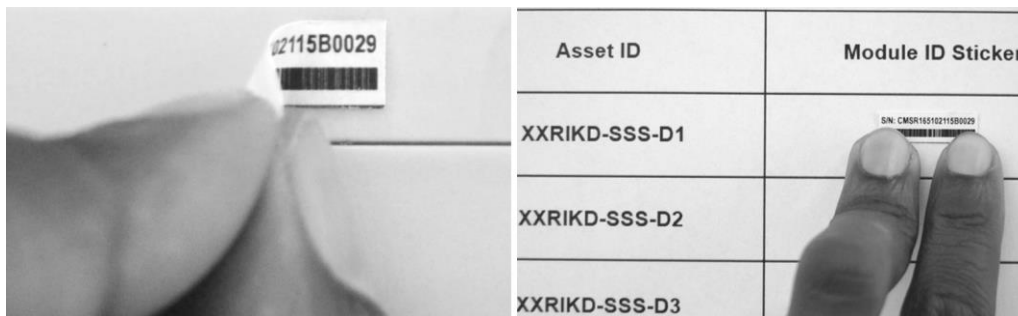
Tip: For modules that have previously been transferred to new assets, the temporary S/N label may no longer be in place. If this is the case, you will need to write the module identifier (S/N) for each module on the installation worksheet.
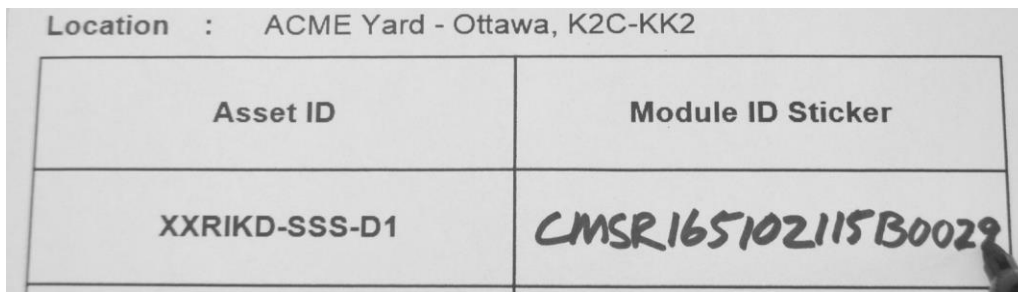
The following sections of this guide will illustrate recommended installation methods for various asset scenarios.

3.4.3 Flatbed/heavy equipment installation procedure

If you are using BlackBerry Radar-L to track an asset without doors, you may mount the module on any flat, vertical or horizontal surface that offers enough mounting area for the device.   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.
- Before drilling into the frame, consult the user manual for your equipment to ensure you're familiar with the manufacturer's guidelines for drilling holes into the frame.

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 rear housing of the module and placing it on the installation worksheet, next to the asset that will be tracked by this module.

2. After selecting the best installation location for your device, remove the adhesive from the rear of the template and place the template in the desired installation location. The adhesive at the back of the template ensures that it stays on the installation surface for accurate drilling of your holes.
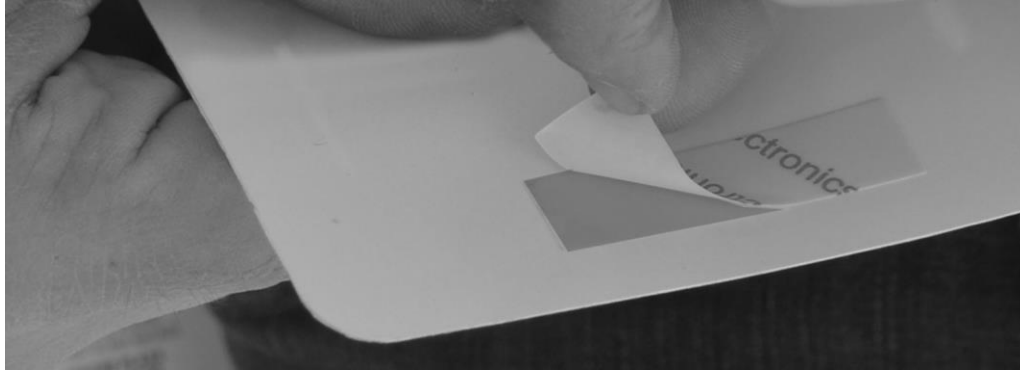
IMPORTANT: When mounting under a vehicle, or a piece of equipment, you must exercise a high degree of caution to avoid serious damage to yourself, the module, or your equipment:

- Do not install near exhaust sources, ignition sources, or fuel tanks.
- Use caution when installing near pneumatic, hydraulic, and electrical lines to avoid damage to these systems during installation.

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3. Using a drill bit, drill a hole through each of the cross hairs on the template. This will create four holes you will use to mount the module.

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.
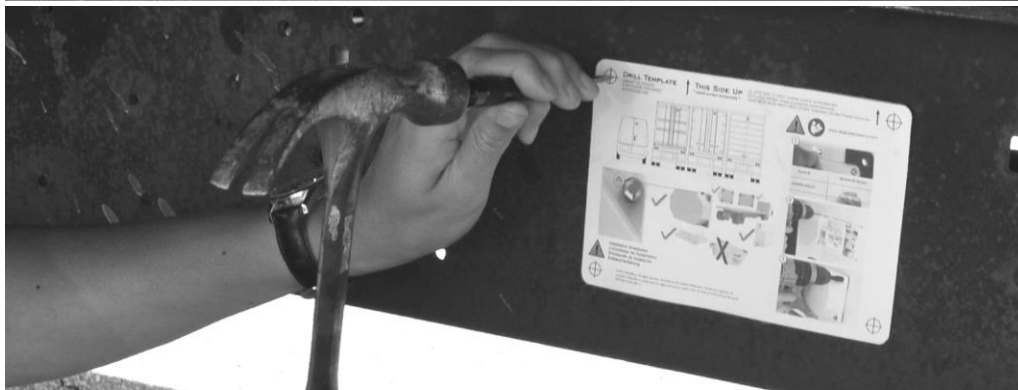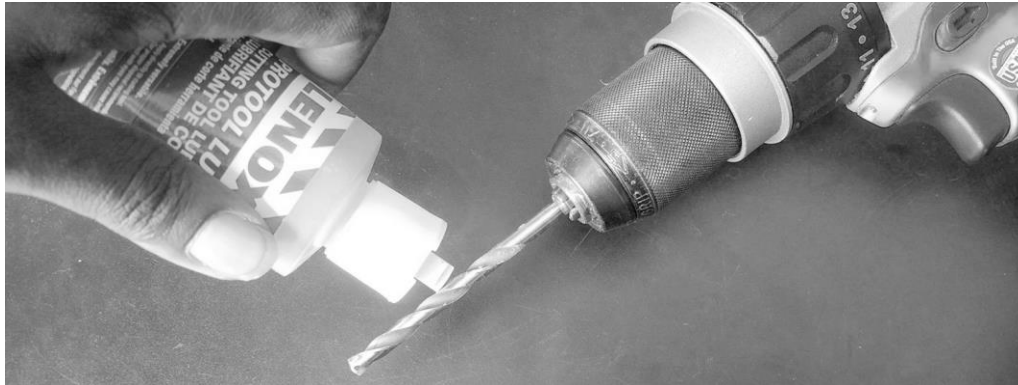
4. Remove the template. If there are any burrs around the holes, remove them. Also,
   remove any dust or debris left over from the drilling or de-burring operations.
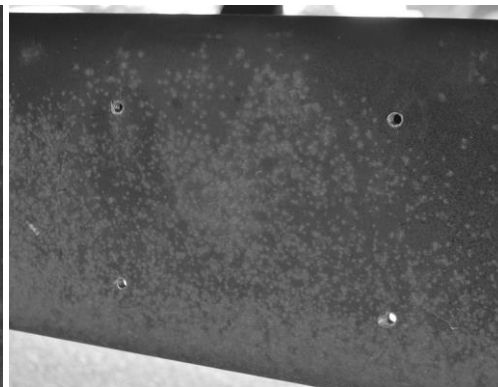
5. Place the module on the chassis, aligning the holes on the module with the holes you drilled into the chassis.
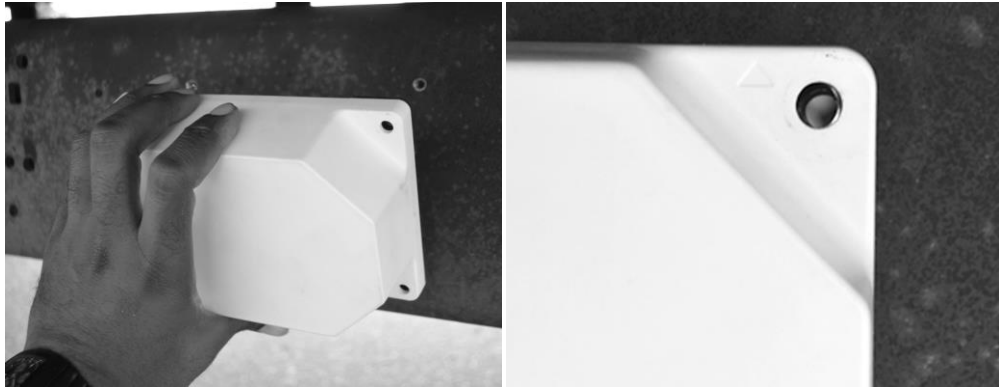
6. Insert your fastener of choice into the holes and use the appropriate tools to secure the module to the asset.
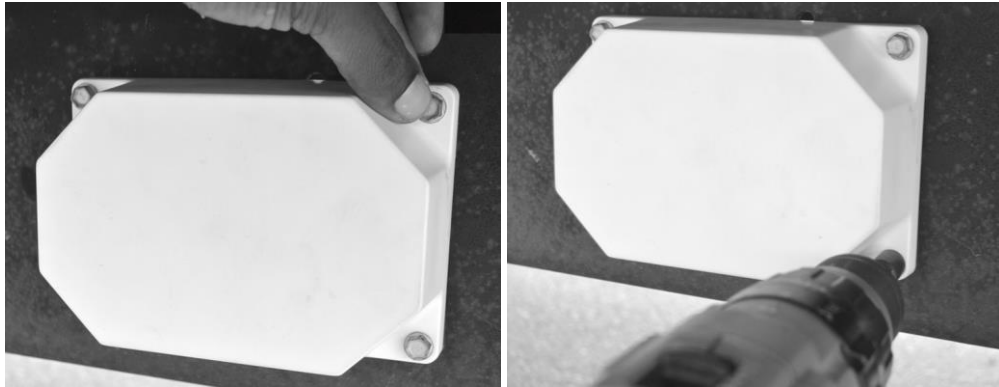
7. Installation is complete.

4 Removing BlackBerry Radar-L modules

Use this procedure if you need to remove your Radar-L 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.
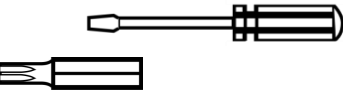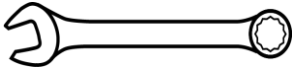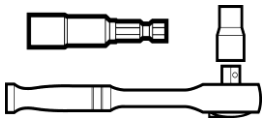
Note: If you plan to ship your Radar-L module, or Radar-L battery, please be aware that the _battery, and the module when shipped along with the battery_, is considered Fully Regulated Class 9 Dangerous Goods in all modes of transportation (Air, Ocean, and Ground) and must only be shipped in special 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 your representative. The Radar-L 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-L module, when shipped without the battery, are not subject to these surcharges.

4.1 Removal Tools

Screwdriver or Torx Bit (T-9)* (Battery door removal). *Torx Bit + Powered Screwdriver offers fastest removal.	Drill	Wrench *Required only if nuts and bolts are used.
Nut Driver or Socket Wrench with Socket* *Nut Driver + Drill offers fastest removal. If no Nut Driver is available, a socket wrench and socket may be used as a substitute.	Safety Glasses	Caulking Gun and Polyurethane Sealant *Recommended for sealing holes.

4.2   Module removal

1. Remove the module from the asset by removing the four fasteners from the corners of the module and removing the module.
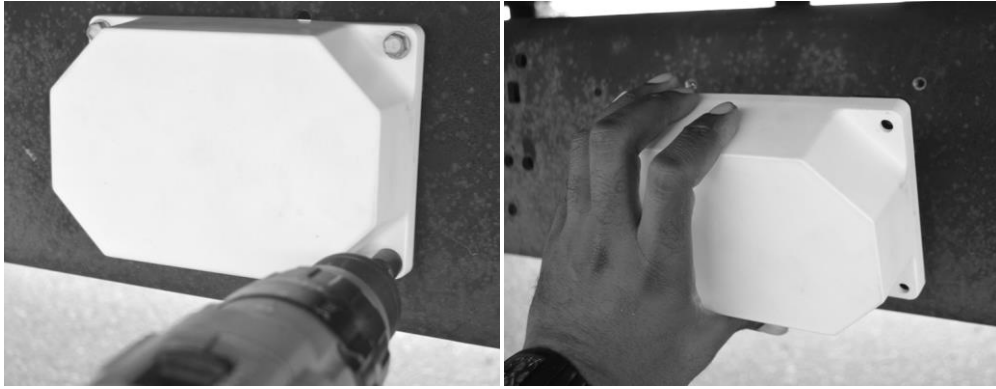
4.3   Battery removal and replacement

Battery removal

1. Remove the six screws from the back of the product and remove the cover to access the battery compartment. Retain the screws as all six screws will be required to re-attach the battery door to the module.
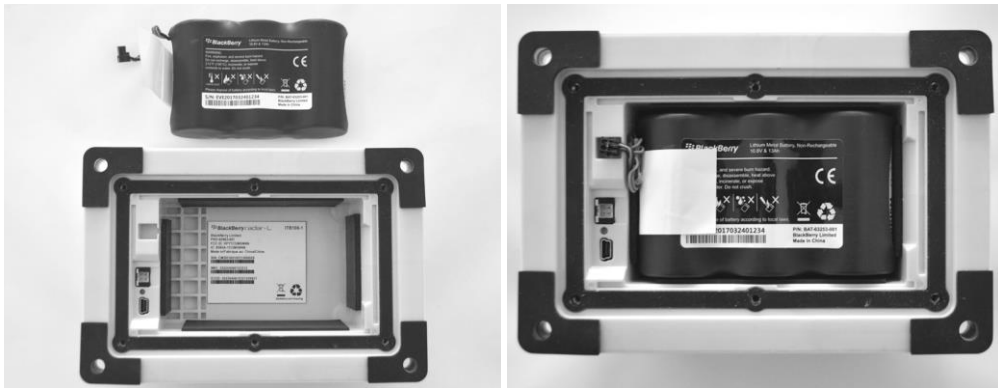

2. Disconnect the battery cable from the battery connector.

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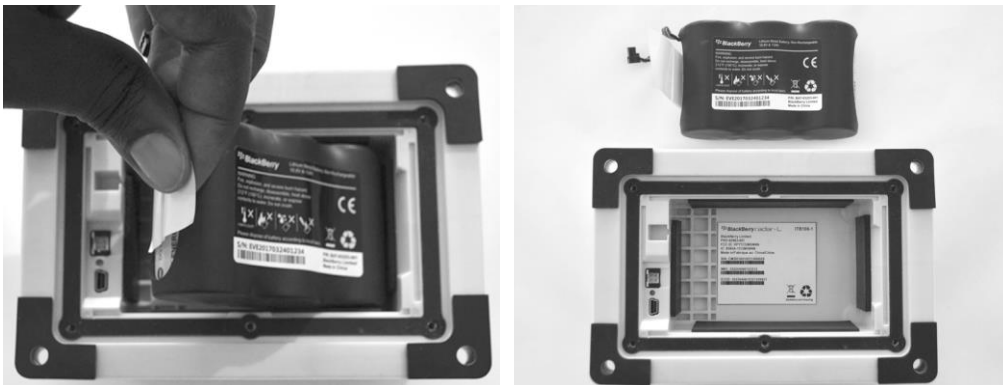
Battery replacement

1. Place the battery into the battery compartment.

2. Connect the battery cable to the battery connector. The LED will flash to indicate the module is active.
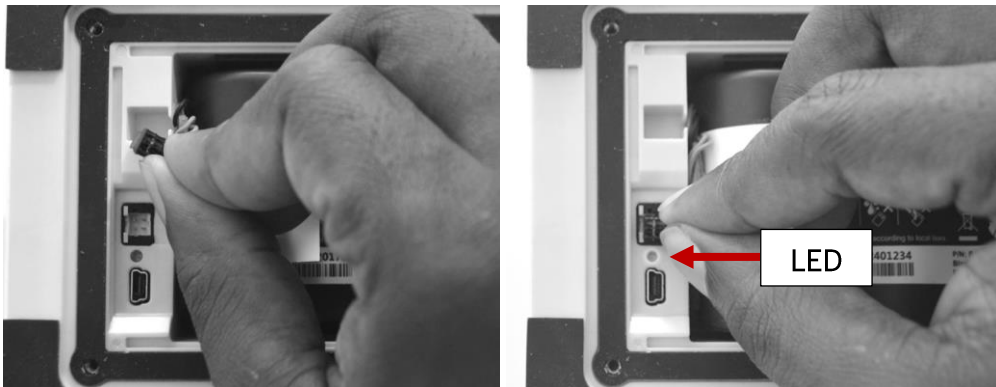
3. Place the battery cover onto the module and install all six screws.

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 battery cover
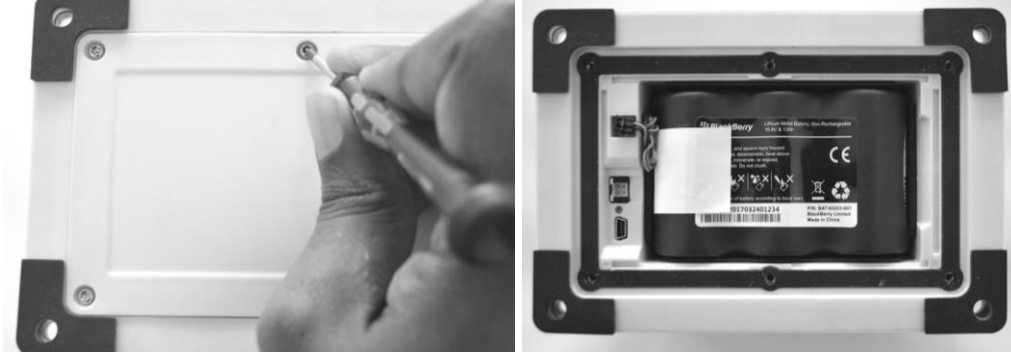
2. Ensure the battery cable is disconnected from the battery connector. Place the battery cable in the battery connector nest.
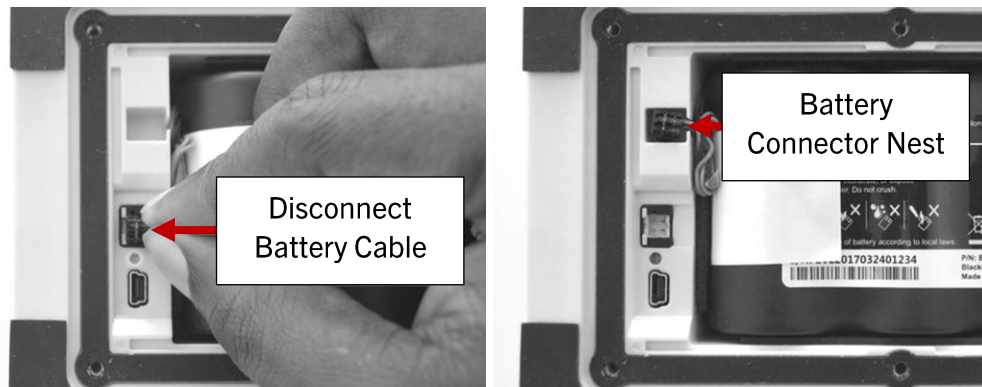
3. Place the battery cover onto the module and install all six screws. Module is now ready to be placed in the UN certified Dangerous Goods packaging.

5 Support

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

Legal notice