It is recommended that you install the module as level as possible on the asset. To help ensure the device is level, you may try one of the following techniques.

Technique 1: Position the T-square along the edge of the door. Using the T-square as a guide, draw a horizontal line approximately 5" (13 cm) in length, in the area you plan to install the device, with your pencil or marker. Align the bottom edge of the template to the line.
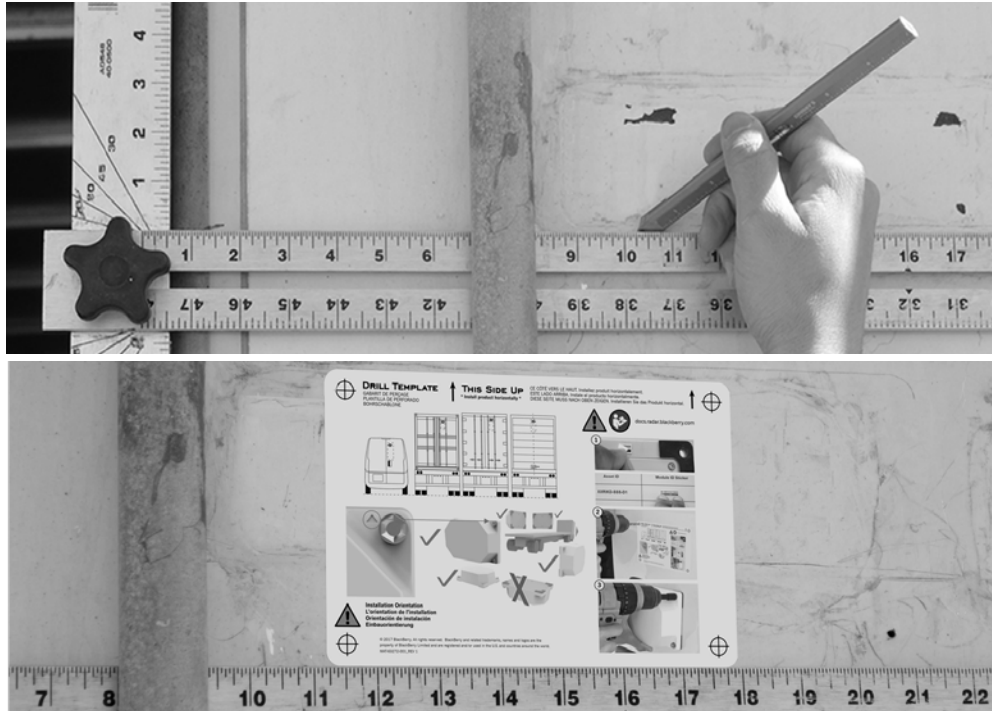
Tip: To avoid leaving a permanent mark on your trailer or container after the device installation is complete, we recommend using a pencil or non-permanent marker to create the guideline.

Technique 2: Visually, place the template in the desired installation location. Using a level, check that the template is level.
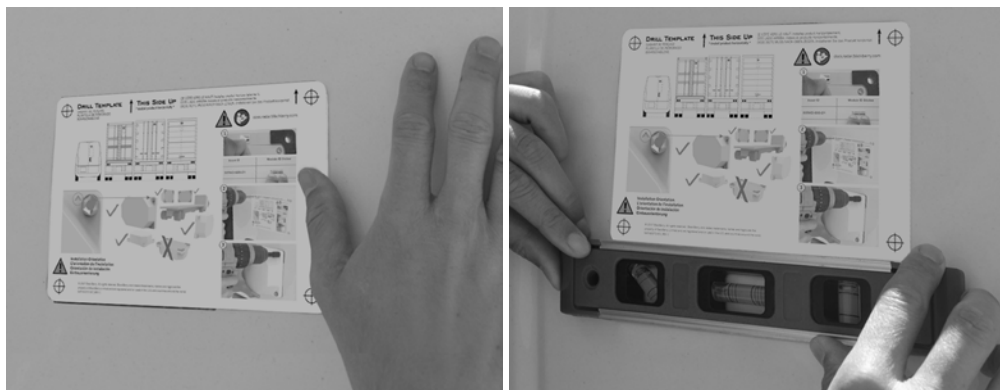
4. Using a drill bit, drill a hole through each of the cross hairs on the template. This will create four holes you will use to mount the module.


> **Drilling tips for intermodal installations**
> Due to the thicker, harder steel used on intermodal containers, 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.
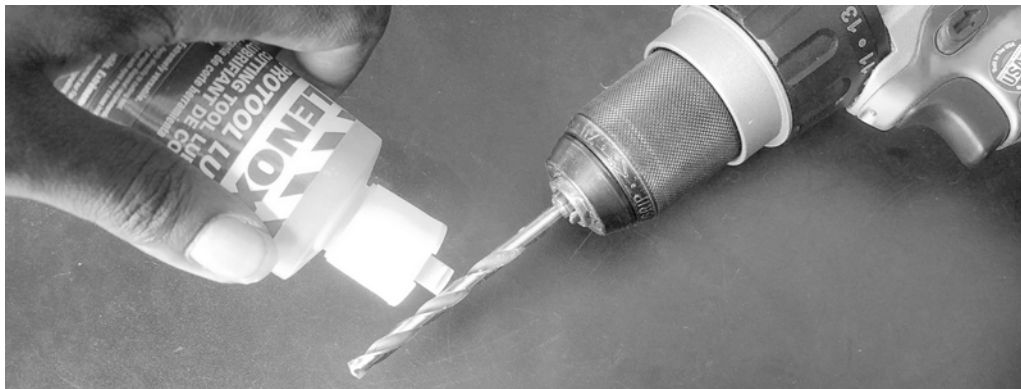
5. Remove the template. You now have four holes in the door. If there are any burrs around the holes, remove them at this time. Also, remove any dust or debris left over from the drilling or de-burring operations.

6. Place the module on the door, aligning the holes on the module with the holes you drilled into the door.
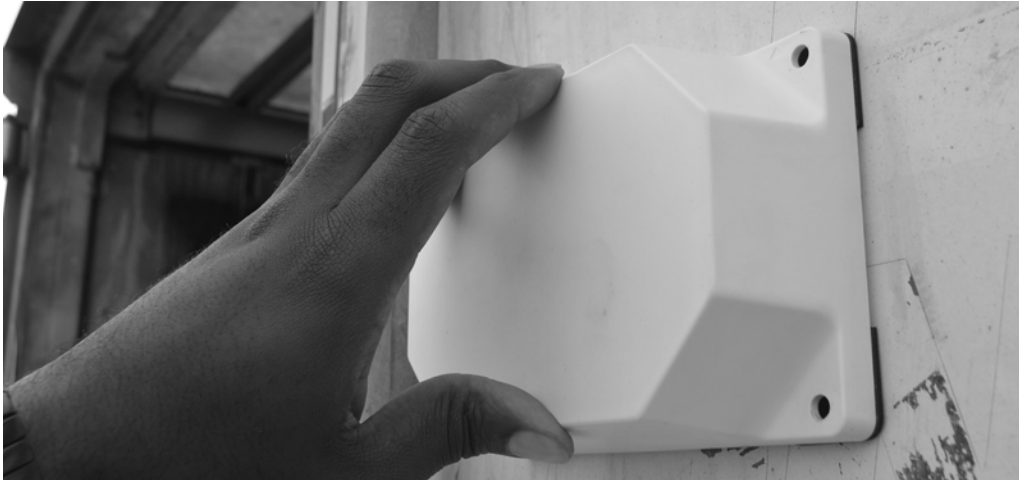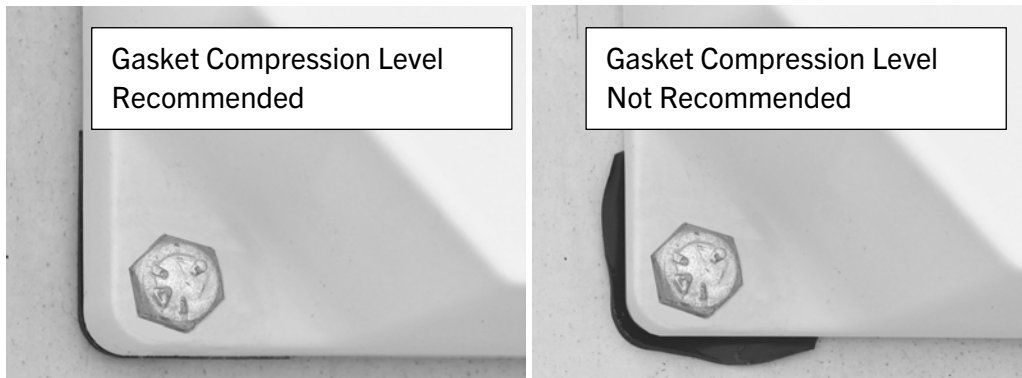

7. Insert your fastener of choice into the holes and use the appropriate tools to secure the module to the asset.

Do not over-tighten the fastener. Over-tightening can over-compress the mounting gasket, which can damage the gasket. Do not tighten fastener beyond 3lb-ft. (4Nm).

Gasket Compression Level Recommended

Gasket Compression Level Not Recommended

8. Close both doors. Installation is complete.

3.4.6 Roll-up door installation procedure

If you wish to monitor door open/close events with your BlackBerry Radar-L module, you will need to mount it on the door. Recommended module placement on roll-up doors is as follows.

- The unit should be installed as close to the center of the trailer/container as possible.

- The module should be placed as high on the door as possible for optimum antenna performance. In some cases, where there is limited clearance between the interior of the roof and the top surface of the module when the door is opened, you can create more space for door operation by mounting the module lower on the door.

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.
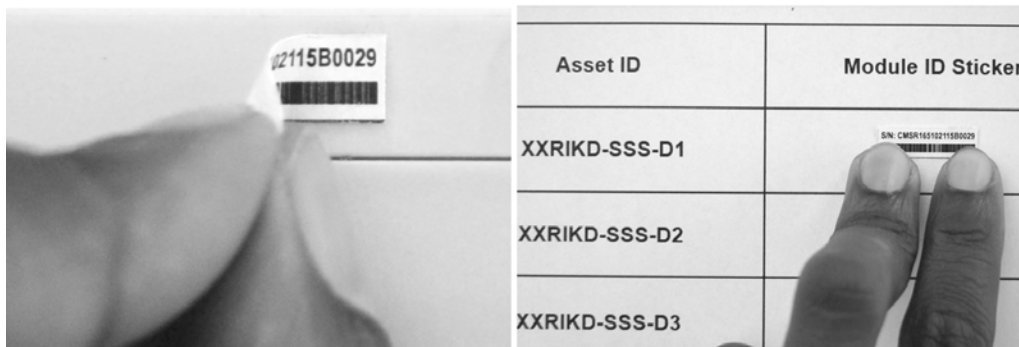
2. Evaluate the amount of clearance you will have once your module is installed. This will help you determine the best mounting location for your asset. You can perform a clearance check, prior to drilling any mounting holes in your door, by securing the module to the door with tape and moving the door through its complete range of travel, to ensure there is no interference.

Tips for roll-up door installation

Tip 1: If you have tried a higher mounting position, and found you did not have enough clearance to allow uninterrupted door travel, try moving the module lower on the door. Lower door placements can help address some clearance issues by reducing the distance the module has to travel inside the trailer, past potential interference points.

Tip 2: When determining your preferred mounting location, consider the climate conditions your asset may encounter. For example, if you routinely run your vehicle in very cold climates, where ice accumulation on the rear of the trailer is an issue, you will want to consider the typical ice accumulation thickness your asset may see when determining how much clearance is acceptable. Also consider your ability to remove such accumulations should they occur.

3. Once you have identified the desired mounting location for your asset, mark the height where the device will be installed on the door of the trailer/container.

   It is recommended that you install the module as level as possible on the asset. To help ensure the device is level, you may try this technique.

   - Make one mark at the desired placement height.
   - Make a second mark, at the same height, approximately 4 inches (100mm) to the side of the first mark.
   - Draw a straight line between the two points. This will help ensure your line is parallel to the bottom of the door.

4. 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 door surface for accurate drilling of your holes.

5. 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 one person installation on a roll-up door

If you are installing the module high on the door-- and have selected nuts, bolts, and washers as your fasteners -- you will need to install the bolt from the exterior side, then enter the trailer to install the nut from the interior side.

To help keep the device in place, while allowing a single installer to open the door and enter the trailer to install the nut, you may wish to:

- Drill a hole one size below your fastener diameter.
- Use a drill and nut driver to drive the bolt through the door. This will allow the threads to hold the device in place while you open the door.
- Enter the trailer and install the nut and washer to the rear of the bolt.

6. Remove the template. You now have four holes in the door. If there are any burrs around the holes, remove them at this time. Also, remove any dust or debris left over from the drilling or de-burring operations.

7. Mount the module to the door using one of the approaches below. The recommended procedure will differ slightly based on door placement.

Higher door placement
   - Having drilled a hole slightly smaller than your fastener, use a drill and nut driver to drive the bolt through the door. This will allow the threads to hold the device in place while you raise the door.
   - Enter the trailer and install the nut and washer to the rear of the bolt—using the appropriate tools to complete the fastening operation. Do not tighten fastener beyond 3lb-ft. (4Nm) to avoid over compressing the mounting gasket.

Lower door placement
- Insert your fastener of choice into the holes.
- Use the appropriate tools to secure the module to the asset. Do not tighten fastener beyond 3lb-ft. (4Nm) to avoid over compressing the mounting gasket.

> **IMPORTANT:** If you are using the lower door placement location, it is important to completely raise the door through its full range of travel, then lower the door completely, to initialize the door orientation sensor. Performing this operation allows the door to learn the difference between a door open and door close event.

8. Close the door. Installation is complete.

3.4.7 Chassis/flatbed/heavy equipment installation procedure

If you are using BlackBerry Radar-L to track an asset without doors, or do not wish to monitor door open/close events for your asset, 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.

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.
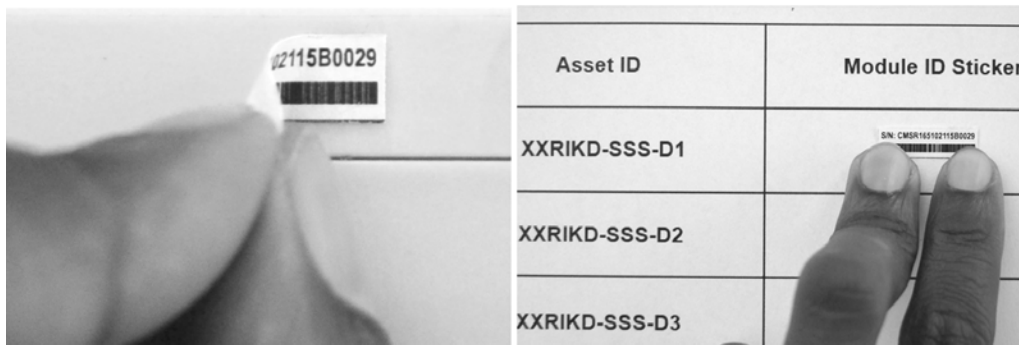
2. After selecting the best installation location for your van, remove the adhesive from the rear of the template and place the template in the desired installation location. The adhesive at the back of the template ensures that it stays on the door surface for accurate drilling of your holes.
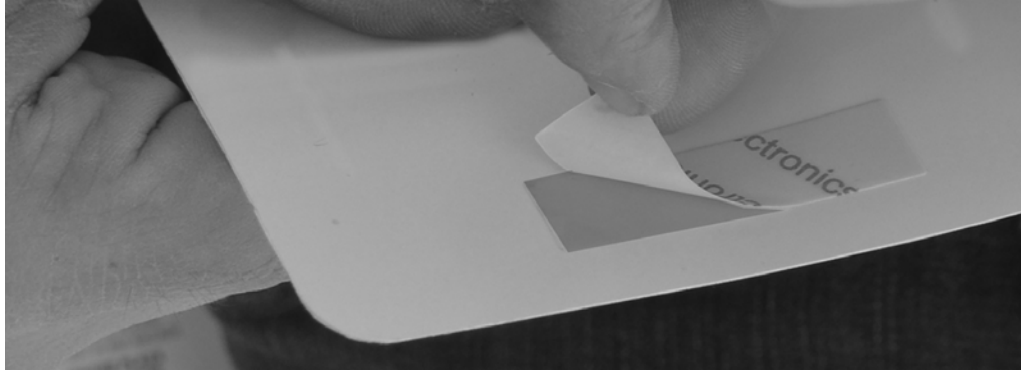
> **IMPORTANT:** When mounting under a vehicle, or a piece of equipment, you must exercise a high degree of caution to avoid serious damage to yourself, the module, or your equipment:
>
> - Do not install near exhaust sources, ignition sources, or fuel tanks.
> - Use caution when installing near pneumatic, hydraulic, and electrical lines to avoid damage to these systems during installation.

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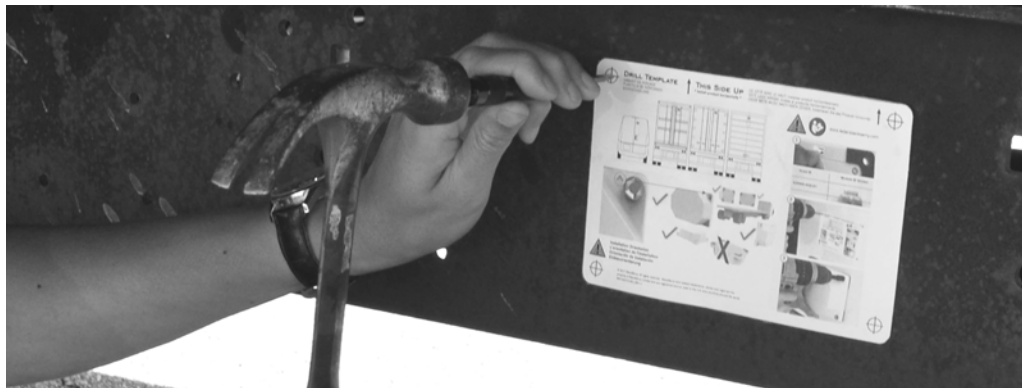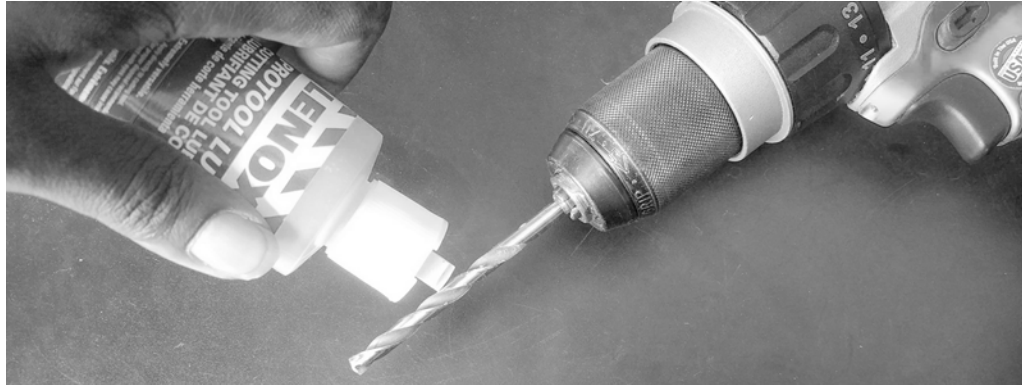
4. Remove the template. If there are any burrs around the holes, remove them. Also,
    remove any dust or debris left over from the drilling or de-burring operations.
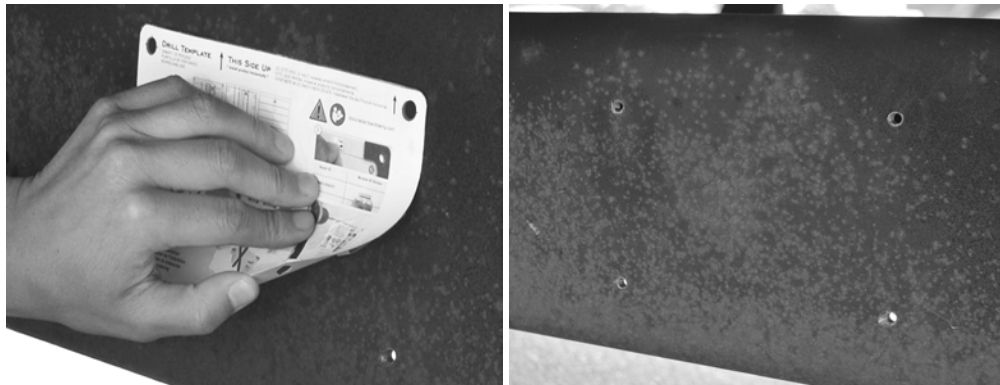
5. Place the module on the chassis, aligning the holes on the module with the holes you drilled into the chassis.
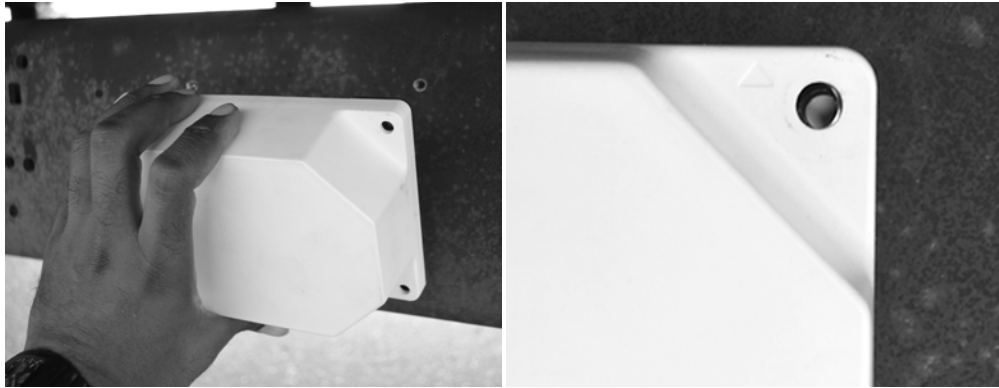
6. Insert your fastener of choice into the holes and use the appropriate tools to secure the module to the asset.
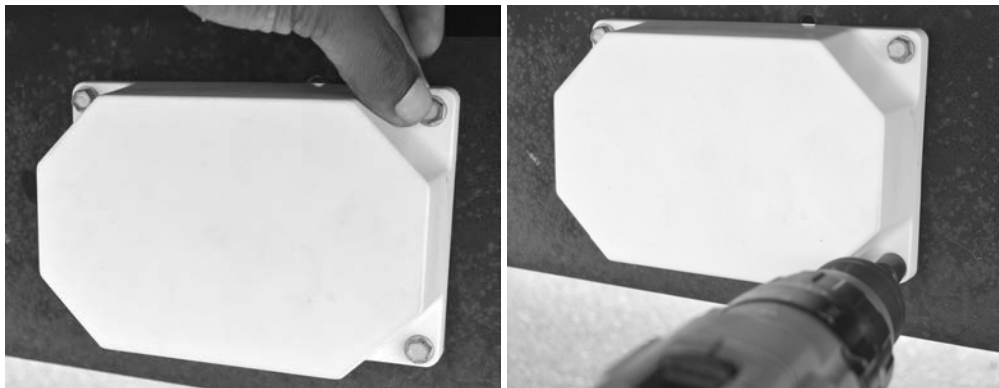
7. Installation is complete.

4   Activating BlackBerry Radar H2 modules

The BlackBerry Radar modules, when activated, send data to the BlackBerry Radar Dashboard application, and the application allows users to monitor asset activities on its website. The success of this communication requires two things:

- The BlackBerry Radar modules must be installed and powered on. See instructions in **Section 3**.
- Each module must be paired with an asset on the application website.

This section provides instructions for setting up the software association and verifying the communication between hardware modules and the BlackBerry Radar Dashboard. This includes three main steps:

- Verify that modules and assets are present
- Pair each module with an asset
- Locate the paired asset on the application map

> **Note:** Use Google Chrome to launch the BlackBerry Radar Dashboard. Other browsers are not supported.

4.1   Prepare for activation

To prepare for activation, you must:

- Have a user account with admin access to the BlackBerry Radar Dashboard.
- Have added all assets you need to test to the BlackBerry Radar Dashboard.
- Have a completed worksheet that lists asset identifiers matched with their module identifiers.

4.2 Verify presence of assets

1. Sign in to the BlackBerry Radar Dashboard.
    a. Go to https://dashboard.radar.blackberry.com/.
    b. Enter the email address you used to create the account.
    c. Enter your password.
    d. Click **Sign In**. A permission request page opens, requesting access to your profile and other information.
    e. On the permission request page, under **Do you approve?**, click **Allow access**.

    The image below shows an example of the BlackBerry Radar Dashboard user interface.
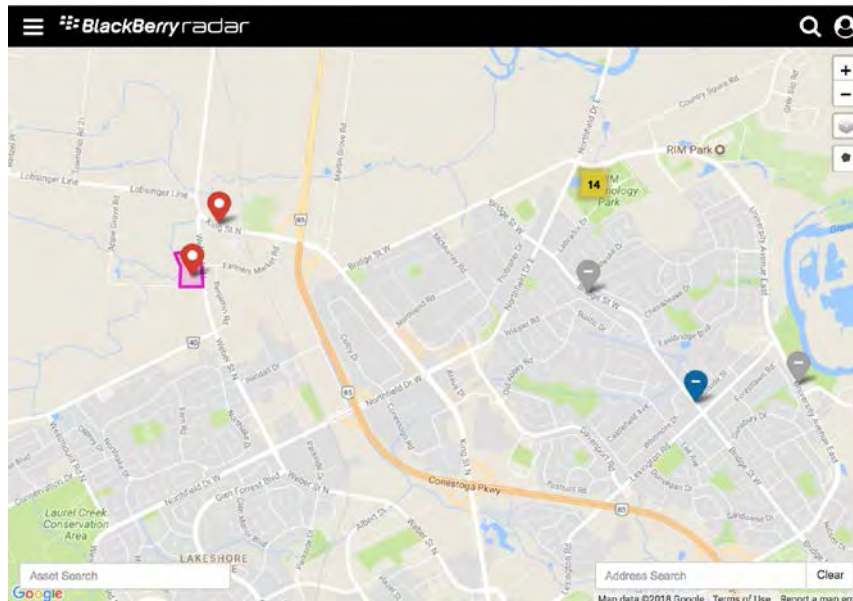
2. Click the menu button ☰ at the upper left corner to display the Dashboard main menu.
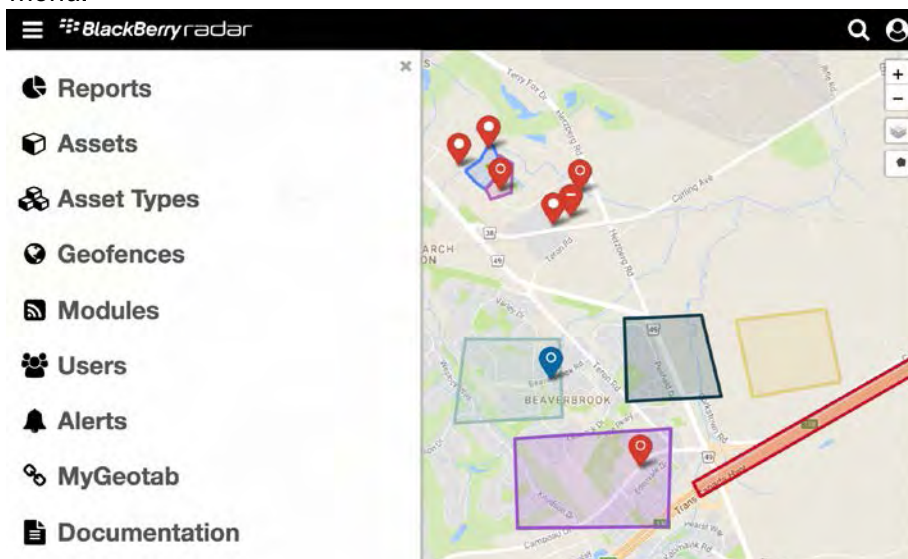
3. Click **Assets** to open the **Assets** list.

4. Make sure that all the assets that you need to pair with the modules are on the list.
5. Click the search button ▣ at the upper right corner, on the black navigation bar.
6. Click **Module Types** to open the dropdown menu.
7. Select **Unassociated** to get a list of assets not yet associated with any modules.
8. Click ☰ to go back to the main menu.

4.3 Verify presence of modules

1. From the main menu, click **Modules** to open the **Modules** list.

2. Check **Unassociated** to display only modules not yet associated with any asset.
3. Make sure all the modules that you need to pair with assets are on the list.
4. Click ▤ to go back to the main menu.

4.4 Pair an asset with a module

1. On the black navigation bar, click the search button 🔍 at the upper right corner.
2. Type the asset ID in the **Asset Identifier** field.
3. In the **Assets** view, select the asset found.
4. Open the **Association** tab. Verify that **Current Association** is "None."
5. Under **Associate with Module**,
   - Click **Select Module** to display the dropdown list.
   - Click **Radar-L** to filter the list of available modules.
   - Select the module to associate with.
   - Click **Associate**.
   - Verify that the module identifier appears under **Current Association**.
6. Click ← to go back to the **Assets** list.
7. Repeat this section for each module that has been installed.

4.5 Locate the asset on the map

Note: It could take up to 20 minutes for asset data to become available.

1. On the black navigation bar, click the search button 🔍 at the upper right corner.
2. Type the asset ID in the **Asset Identifier** field.
3. Select the asset in the **Assets** list. The asset should be highlighted on the map.
4. Verify that the asset appears in the expected location on the map. If it doesn't, go to the next section, **Troubleshoot error conditions**.
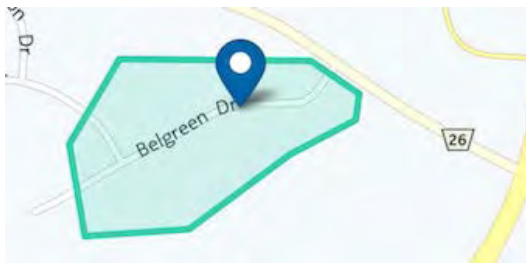
4.6 Troubleshoot error conditions

4.6.1 If you don't see any sensor data for an asset after installation

- Check power-on LED sequence
    - During installation when the two halves are connected, there should be a series of LED blinks.
    - If you did not see this, check the connections to ensure the module is connected properly. You can disconnect the cables and then fully re-connect them.
    - If the problem persists, contact the BlackBerry Radar support team with the module's serial number.
- Check network connectivity of the module once it has been associated with an asset on the Radar Dashboard.
    - Go to the Radar Dashboard and search for the asset in question.
    - In the Asset view, click **Details** to open the **Details** tab.
    - Check the **Status** section. This section details all the sensor readings and verifies that the module has successfully connected to the network.
    - If latest sensor data is not visible, ensure that the trailer is not parked in an area with poor cell coverage.
    - Continue to dispatch trailer as planned and monitor it for the next hour. If new sensor data is not visible in Radar Dashboard, contact the BlackBerry Radar support team with the module's serial number.

4.6.2 If you see sensor data, but don't see the asset marker on the map

- Verify that the asset is not inside a warehouse or garage. GPS fixes are not guaranteed indoors.
- Verify that the back of the trailer has a clear view to the sky and not obstructed by walls or other trailers.
- Verify that no errors are seen in the **Status** section of the asset's **Details** tab.

If you are still unable to locate the asset, contact the BlackBerry Radar support team at 1-844-RADAR-BB, or visit blackberry.com/support.

5 Removing BlackBerry Radar H2 modules

Use this procedure if you need to remove your 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 websites:
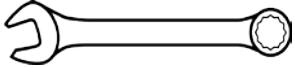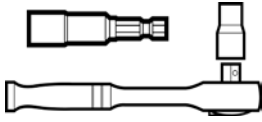> **blackberry.com/support**--for information on service.
> **blackberry.com/recycling**--for information on recycling and safe disposal of your device and battery.

Note: If you plan to ship your Radar H2 module, or Radar H 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 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-L module, when shipped without the battery, are not subject to these surcharges.

5.1 Removal Tools

| Phillips (PH2) Screwdriver or Bit	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.

5.2 Module removal

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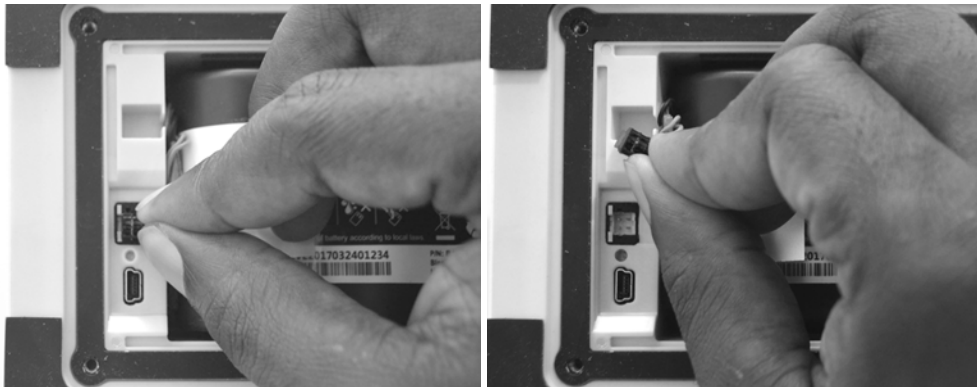
5.3 Battery removal and replacement

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.
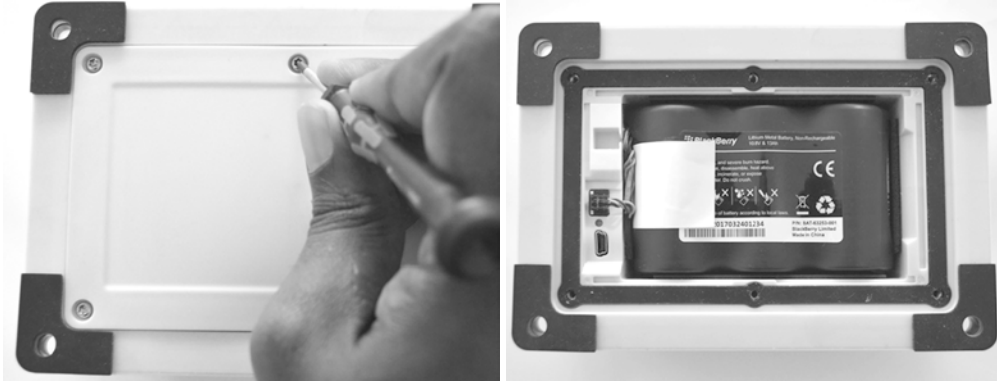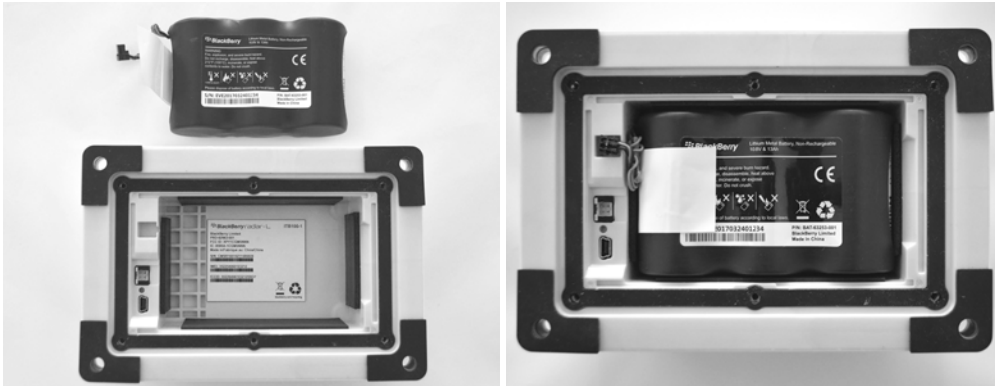

2. Disconnect the battery cable from the battery connector.

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.
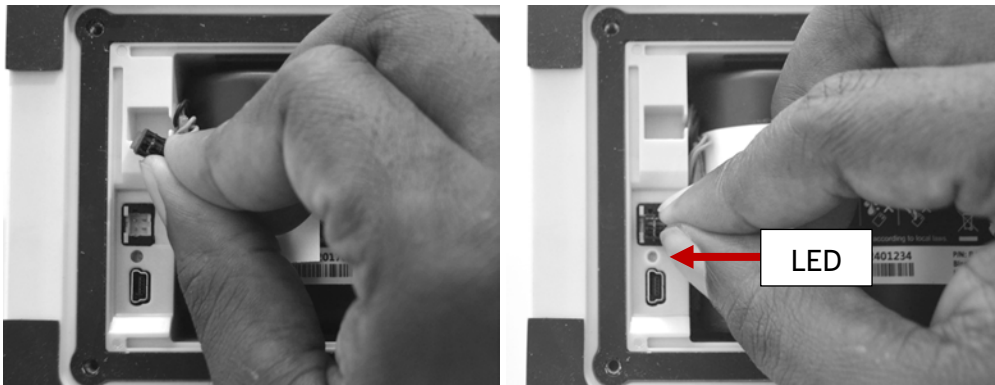
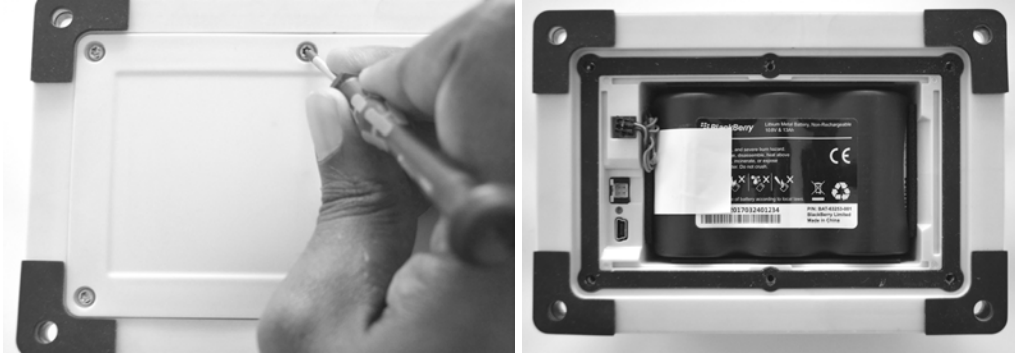3. Place the battery cover onto the module and install all six screws.
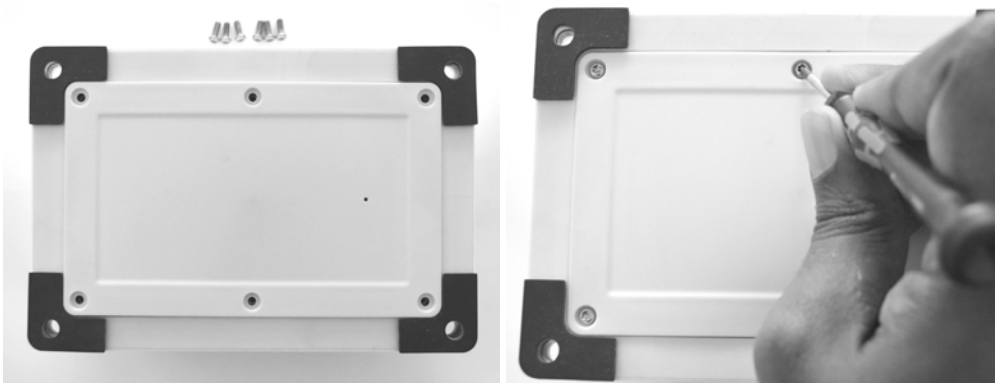
Preparing battery for shipment

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.
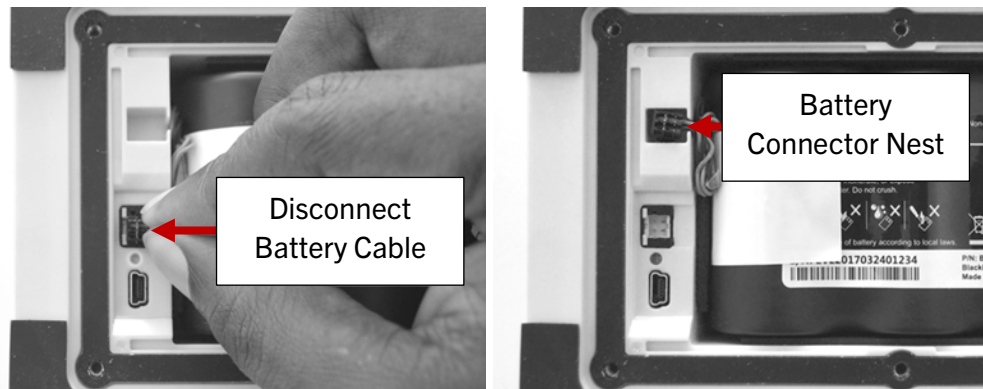
3. Place the battery cover onto the module and install all six screws. Module is now ready to be placed in the UN certified Dangerous Goods packaging.

5.4   Door repair

After the module has been removed from the door, there will be holes in the door. There are a number of techniques that can be used to repair the holes. This section will discuss some approaches you may wish to use.

Method 1: Hole Plugs

1. With the module removed, measure the size of the holes.

2. Source a set of nylon or rubber plugs, of the appropriate diameter, to fill the holes. These plugs can be sourced from hardware or auto supply stores. Insert the plugs into the holes. If desired, you may add 100% Silicone Exterior Grade caulk to the rear of the plug for extra protection to seal any gaps against water entry.

Method 2: Sealant

Note: This method works particularly well with thicker doors like dry van and roll-up doors.

1. With the module removed, you'll have four holes.

2. Fill the holes with a weatherproof sealant. If desired, you may use 100% Silicone Exterior Grade caulk or Polyurethane Sealant.

Tip: For an improved appearance, you may use a sealant that matches the door color.

Method 3: Fasteners

Note: This method works particularly well with thicker doors like dry van and roll-up doors.

1. With the module removed, you'll have four holes.

2. Insert the nuts and bolts into the holes. For added protection, place a washer between the bolt and the door surface.

6 Support

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

Legal notice