

# Installing the TracPhone V3 in a TracVision M7 Baseplate

The following instructions explain how to mount the TracPhone® V3 antenna inside the TracVision® M7 baseplate.

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## Tools Required

In addition to all of the items provided in this kit, as well as the V3 antenna installation kit, this procedure requires the following tools and materials that are not supplied:

- |   |                                  |
|---|----------------------------------|
| • #2 Phillips screwdriver               | • 3" (80 mm) hole saw            |
| • 1/2" and 9/16" socket wrenches        | • Light hammer and center punch  |
| • 9/16" box wrench                      | • Adhesive tape                  |
| • 7/16" torque wrench set to 20 in.-lbs | • Silicone sealant or equivalent |
| • Electric drill and 1/2" (13 mm) bit   | • 5/32" and 3 mm allen hex keys  |

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## Important - Please Read!

Assembly of the TracPhone V3 antenna in the TracVision M7 baseplate should be performed at the vessel at the time of system installation. These instructions assume that the TracPhone V3 antenna is not already mounted to the vessel. If it is mounted to the vessel, you will first need to disconnect all power to the antenna, detach it from its mounting surface, and disconnect all cables.

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## Technical Support

If you need technical assistance, please contact KVH Technical Support:

<b>North/South America, Australia:</b>	<b>Europe, Middle East, Asia, Africa:</b>
Phone: 1 866 701-7103 ( <i>U.S. only</i> )	Phone: +45 45 160 180
Phone: +1 401 851-3806	E-mail: support@kvh.dk
E-mail: mvbsupport@kvh.com	

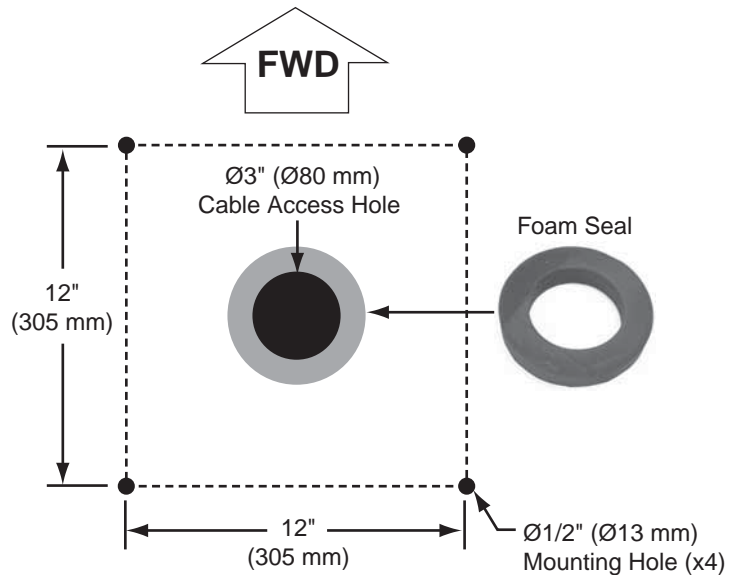
## Step 1 - Prepare the Mounting Site

- a. Follow the same guidelines in the *TracPhone V3 Installation Guide* to choose a suitable mounting location on the vessel.
- b. Unfold the antenna mounting template (supplied in the kit) and place it onto the mounting surface. Make sure the “FWD” (forward) arrow points toward the bow and is parallel to the vessel’s centerline (see Figure 1).

**NOTE:** You don’t need to mount the antenna exactly on the vessel’s centerline (the closer, the better), but the antenna’s forward arrow must be parallel to it.

- c. Using a light hammer and center punch, mark the locations for the four mounting holes and cable access hole on the mounting surface in the locations indicated on the template.
- d. Drill a 1/2" (13 mm) hole at the four mounting hole locations you marked in Step c. Later, you will insert four 3/8"-16 bolts through these holes to secure the antenna to the mounting surface.
- e. Cut out the 3" (80 mm) cable access hole in the location you marked in Step c. Smooth the edges of the hole to protect the cables.
- f. Clean and dry the antenna mounting surface.
- g. Peel off the paper backing from the supplied foam seal to expose the adhesive. Then press the foam seal down firmly onto the mounting surface, ensuring the hole in the foam seal aligns with the cable access hole in the mounting surface (see Figure 1).
- h. Route the power/data and RF cables belowdecks through the 3" (80 mm) cable access hole. Leave an adequate service loop, approximately 8" (20 cm) of slack, in the cables for easy serviceability. Refer to the *TracPhone V3 Installation Guide* for complete details about cable requirements.

Figure 1: M7 Baseplate Mounting Holes Layout



## Step 2 - Remove the V3 Antenna Assembly from its Baseplate

### IMPORTANT!

Always lift the antenna by the base and never by the radome or any portion of the internal antenna assembly.

- a. Remove the radome and shipping restraints from the V3 antenna as directed in the *TracPhone V3 Installation Guide*.
- b. Slowly rotate the antenna assembly by hand counter-clockwise until it stops, engaging the limit switch. Note the orientation of the antenna assembly in relation to the forward arrow and RF connectors (see Figure 2).
- c. Using a 3 mm allen hex key (supplied in the V3 installation kit), remove the four M4 cap screws securing the connector cover to the V3 baseplate, as explained in the *TracPhone V3 Installation Guide*. Remove the cover.
- d. Using a 1/2" socket wrench, remove and save the 3/8"-32 nuts and lock washers securing the RF connectors to the baseplate (see Figure 3). Then push the RF connectors up through the holes in the baseplate.
- e. Remove the tape securing the RF cables to the inside of the baseplate.

### IMPORTANT!

Support the antenna assembly at all times while detaching it from the baseplate. Either have someone else hold it while you remove the bolts, or place the antenna on the edge of a bench and remove the screws from below.

- f. Using a 5/32" allen hex key, remove the six 1/4"-20 screws and washers securing the V3 antenna assembly to its baseplate. Then carefully extract the V3 antenna assembly from the baseplate.

Figure 2: TracPhone V3 Antenna Orientation

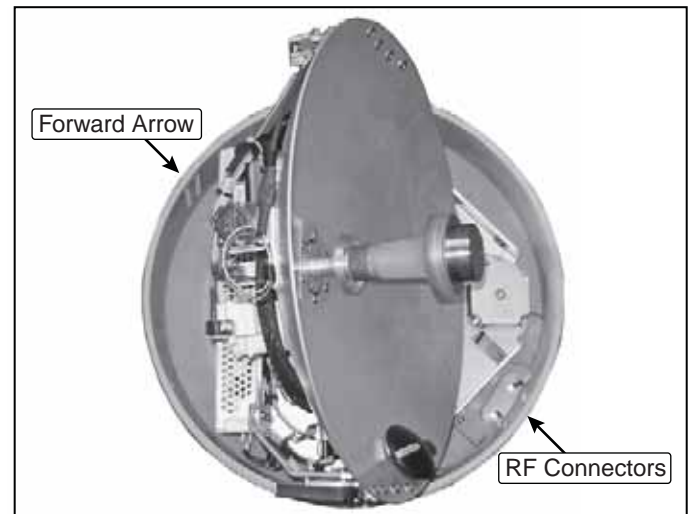
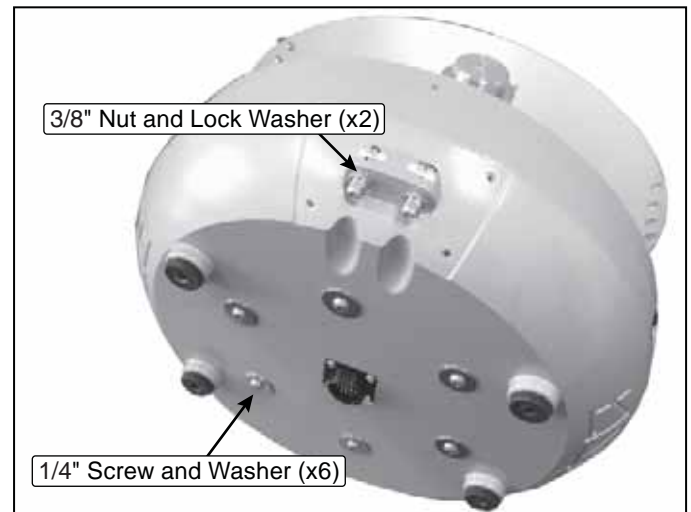


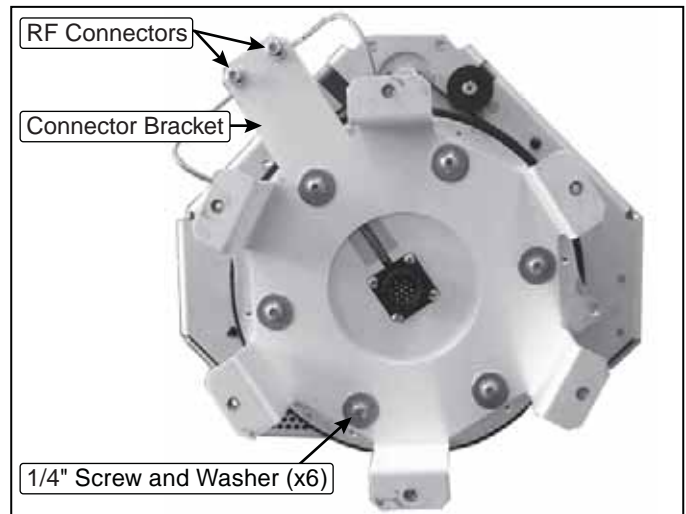
Figure 3: Detaching the Baseplate



### Step 3 - Attach the V3 Antenna Assembly to the Mounting Platform

- a. Using a #2 screwdriver, remove and save the six #10-32 screws securing the radome to the M7 baseplate. Remove the radome and set it aside in a safe place.
- b. Using a 5/32" allen hex key, remove and save the six 1/4"-20 screws and washers securing the mounting platform to the M7 baseplate.
- c. Place the V3 antenna assembly onto the mounting platform, making sure the platform's connector bracket is positioned between the two RF cables (see Figure 4).
- d. Using a 5/32" allen hex key, attach the V3 antenna assembly to the mounting platform with the supplied 1/4"-20 screws and washers.
- e. Using a 1/2" socket wrench, attach the antenna's RF connectors to the mounting platform's connector bracket with the 3/8"-32 nuts and lock washers you removed earlier.

Figure 4: Attaching the V3 to the Mounting Platform



## Step 4 - Attach the V3 Mounting Platform to the M7 Baseplate

### IMPORTANT!

Be sure to follow these steps whenever you connect an RF cable to the antenna:

1. Clean and dry the male connector on the RF cable and the female connector on the antenna.
  2. Fill half of the inner body of the RF cable's connector with the supplied silicone grease. *This grease will help prevent moisture from seeping into or forming inside the connector and protect the center conductor from corrosion.*
  3. Connect and **SLOWLY** hand-tighten the RF cable to the antenna's RF connector, allowing the grease to diffuse and settle into the entire space within the connector.
  4. Make sure the RF cable is tightened all the way into the antenna's connector. Then tighten it with a 7/16" torque wrench set to 20 in.-lbs.
  5. Wipe off any excess grease from the outside of the RF cable connector.
- a. Make sure the V3 antenna is rotated fully counter-clockwise to its limit switch stop (see Figure 5).
  - b. Place the V3 antenna assembly inside the M7 baseplate as shown in Figure 6. Note that its orientation in the M7 baseplate matches its original orientation (see Figure 2 on page 3).
  - c. Pass the RF cables from belowdecks up through the hole in the center of the M7 baseplate and connect them to the V3 connectors as directed in the *TracPhone V3 Installation Guide* (see Figure 7).
  - d. Seal the RF cable connections with silicone sealant or equivalent.

Figure 5: V3 Limit Switch Engaged

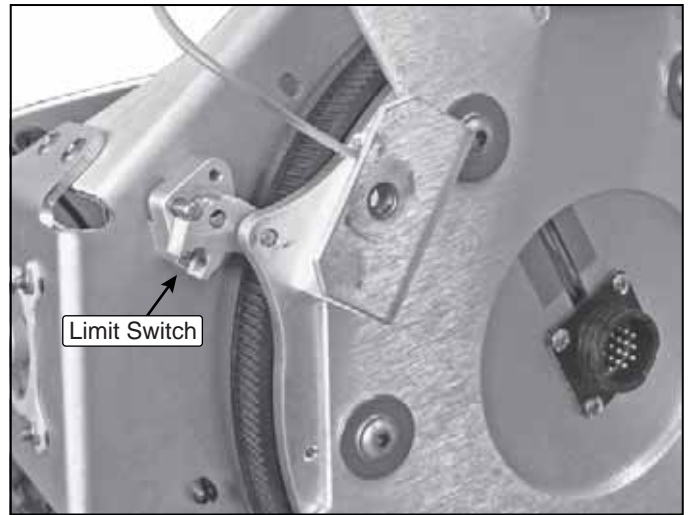


Figure 6: V3 Antenna Positioned Inside M7 Baseplate

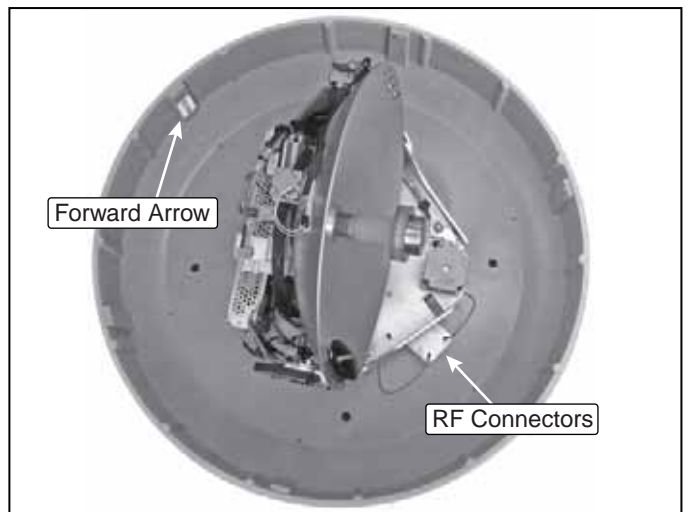
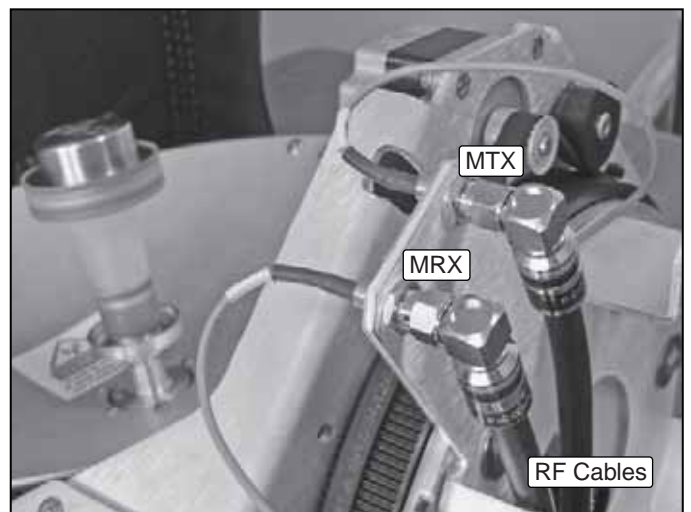


Figure 7: RF Cable Connections



- e. Using a 5/32" allen hex key, secure the V3 mounting platform to the M7 baseplate with the 1/4"-20 screws and washers you removed earlier (see Figure 8).
- f. Connect the power/data cable to the V3 connector in the center of the baseplate.
- g. Carefully tape the RG179 RF cables inside the baseplate, ensuring ample clearance between the cables and the antenna mechanism and motor pulley (see Figure 9). Also be sure to avoid sharp bends or kinks in these cables.
- h. Slowly rotate the V3 antenna assembly by hand through its full range of azimuth motion to verify the RF cables will not restrict movement.

Figure 8: Bottom View of V3 Antenna Attached to M7 Baseplate

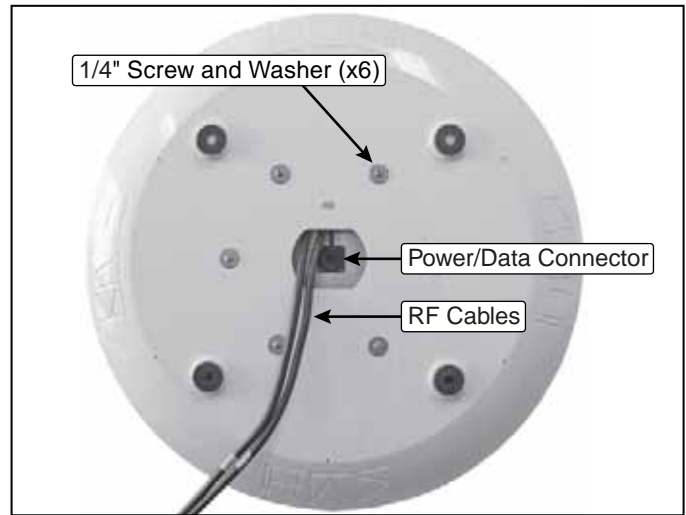
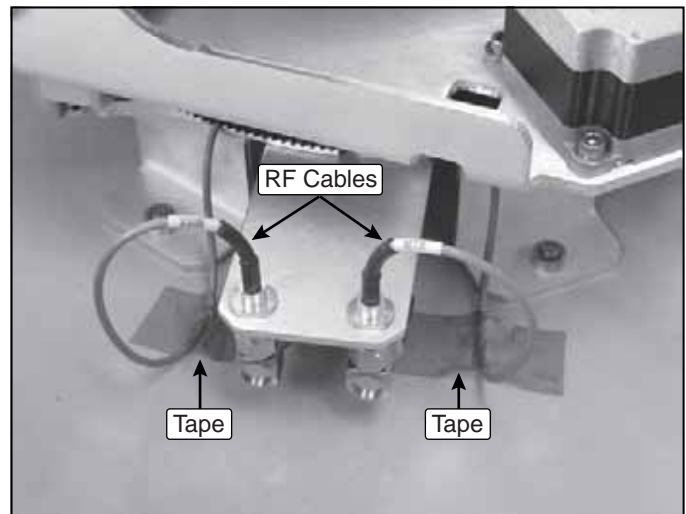


Figure 9: RF Cables Taped to Baseplate



## Step 5 - Mount the Antenna to the Vessel

- a. Place the antenna baseplate over the holes drilled in the mounting surface. Ensure the "Forward" arrow inside the baseplate points toward the bow and is parallel to the vessel's centerline (see Figure 6 on page 5).
- b. At each of the four baseplate mounting holes, place a 3/8" flat washer on a 3/8"-16 bolt and insert the bolt into the hole from above (see Figure 10).
- c. Using a 9/16" socket wrench and box wrench, secure each mounting bolt to the mounting surface with a 3/8" flat washer, a 3/8" lock washer, and a 3/8"-16 hex nut from below. Tighten all four bolts until the four rubber feet on the baseplate are bottomed against the mounting surface and the foam seal is fully compressed. KVH recommends that you tighten the bolts to between 12 and 16 ft-lbs (16.2 and 21.7 N-m) of torque.
- d. Reinstall the radome onto the antenna. Secure in place with the six #10-32 screws you removed earlier. Install a protective plastic screw cap (supplied in the kit) over each screw.

**Follow all of the remaining steps in the *TracPhone V3 Installation Guide* to complete the system's installation.**

Figure 10: Mounting the Antenna (Side View)

