

# Gyro Replacement Instructions for TracVision® M9

These instructions explain how to replace the gyros in a TracVision M9 antenna.

## **IMPORTANT!**

Be sure to trim the excess portion of any tie-wraps you install and collect all tie-wrap trimmings from the antenna to avoid damage when the unit rotates.

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## Installation Steps

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## Tools Required

This procedure requires the following tools:

- Phillips screwdrivers
- Cutting pliers
- PC with latest version of the Flash Update Wizard installed

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## Technical Support

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

**N. America, S. America, Australia:**

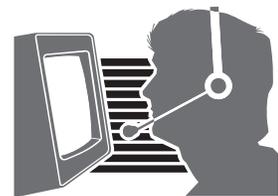
Phone: +1 401 847-3327

E-mail: [techs@kvh.com](mailto:techs@kvh.com)

**Europe, Middle East, Asia:**

Phone: +45 45 160 180

E-mail: [support@kvh.dk](mailto:support@kvh.dk)



## Step 1 - Remove the Radome

Follow the steps below to remove the radome.



### CAUTION

For your own safety, be sure to disconnect power from all wired components before performing this procedure.

- Disconnect power from the TracVision system and any connected receivers and/or multiswitch.
- Remove the eight Phillips screws securing the radome (see Figure 1). Then remove the radome and set it aside in a safe place.

## Step 2 - Remove the Gyros

Follow the instructions below to remove the gyros.

- Disconnect the two gyro connectors from the PCB (see Figure 2).
- Using a Phillips screwdriver, open the cable clamps at locations A, B, and C. Then extract the gyro cables from the cable clamps.
- If your TracVision system includes a limit switch as shown in Figure 3, use a Phillips screwdriver to remove the two screws securing the limit switch. Then remove the limit switch to enable access to the elevation gyro's mounting screws and washers.
- Remove the two screws and washers securing each gyro.
- Cut and remove the four tie-wraps securing the gyro cables to the reflector and antenna frame.
- Carefully remove the ferrite coil.

**NOTE:** You will re-use this ferrite coil on the new gyro cables.

- Remove the gyros.

Figure 1 Radome Screws

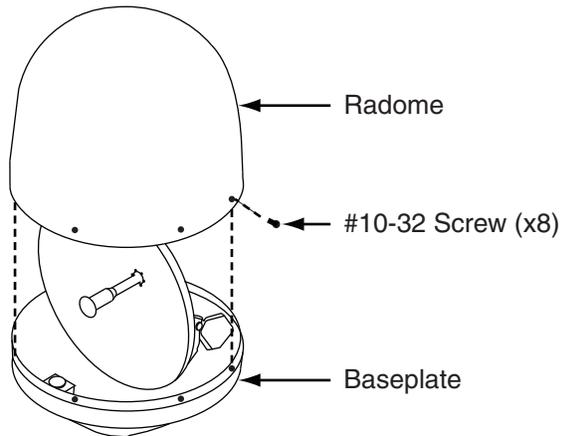


Figure 2 Gyro Removal (without limit switch)

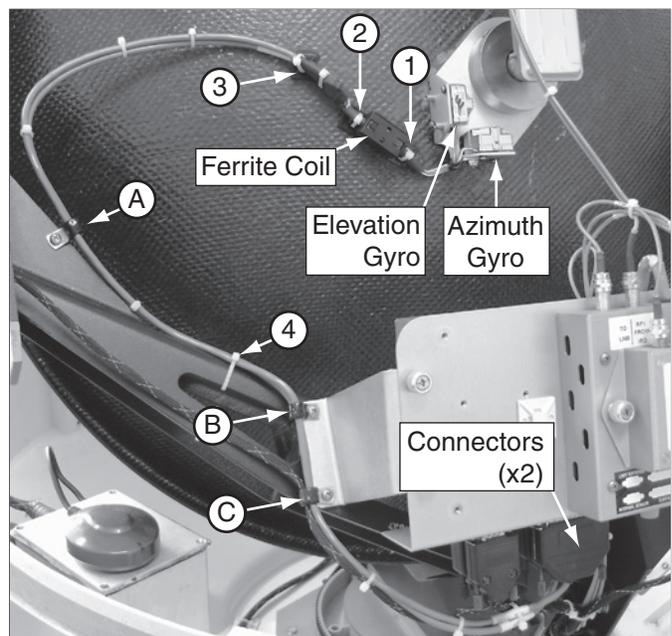
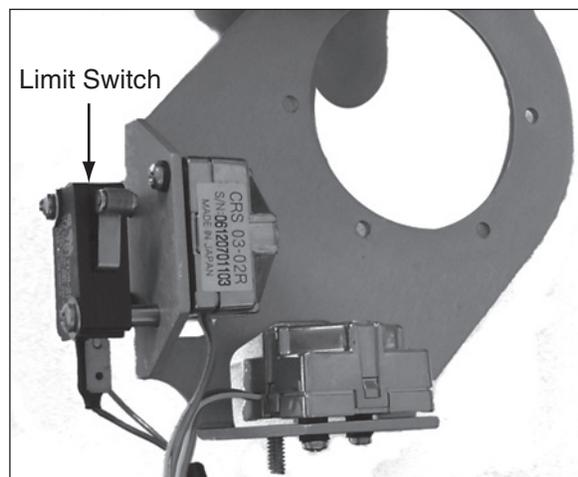


Figure 3 Limit Switch



### Step 3 - Install the New Gyros

Follow the steps below to install the new gyros.

- a. Note the labels on the gyro connectors and the PCB (see Figure 4). You will need to connect each gyro to its proper connector.

*NOTE: Reversing gyro connections or mounting locations will prevent the antenna from operating correctly.*

- b. Note the markings on the gyros. Ensure each gyro is mounted to its proper location (see Figure 5).
- c. Secure each gyro in its proper location using the screws and washers you removed in Step 2d. on page 2 (see Figure 4).
- d. If you removed a limit switch in Step 2c. on page 2, reinstall the switch using the two screws you removed earlier.
- e. Connect the elevation gyro connector to the PCB. Then connect the azimuth gyro connector to the PCB (see Figure 4).
- f. Insert the gyro cables into the cable clamps at locations A, B, and C (see Figure 4).
- g. Dress the cables to achieve the approximate cable bend radius/slack shown in Figure 4. Then tighten each clamp screw to secure the cables in place.
- h. Using the supplied tie-wraps, secure the gyro cables at locations 1-4, as shown in Figure 2 on page 2.
- i. Reconnect power to the TracVision system and any connected receivers and/or multiswitch.

*NOTE: Do not reinstall the radome at this time. You will reinstall the radome later.*

Figure 4 Gyro Connector/PCB Labels

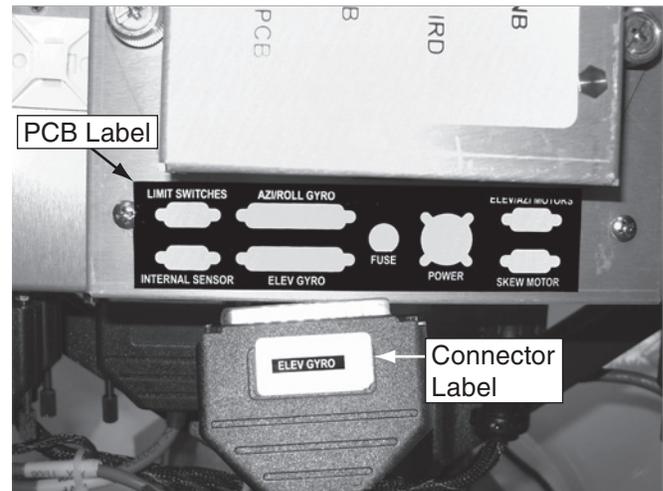
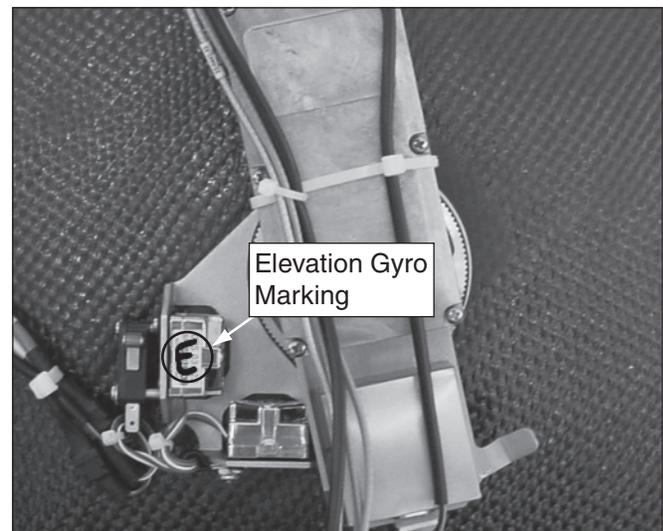


Figure 5 Elevation Gyro Marking



## Step 4 - Configure the Antenna

Follow the steps below to configure the antenna to use the new gyros. This procedure requires a PC with the latest version of the Flash Update Wizard installed.

*NOTE: If you do not have the KVH Flash Update Wizard installed, you can use Windows<sup>®</sup> HyperTerminal instead. Be sure to establish the following settings: bits per second: 9600, data bits: 8, parity: none, stop bits: 1, flow control: none.*

- a. Connect one end of a PC data cable to the maintenance port on the rear of the MCU (see Figure 6). Connect the other end to your PC.

*NOTE: If your computer does not have a DB9 connector, you can use the following USB-to-RS232 adapters: Belkin part # F5U409 or # F5U109, or IOGear part # GUC232A.*

- b. Apply power to the TracVision system.
- c. Open the KVH Flash Update Wizard. You will type the following commands into the Flash Update Wizard's "command" box.
- d. Type **HALT** then press Enter.
- e. Type **DEBUGON** then press Enter.
- f. Type **EL,300** then press Enter.
- g. Type **=CALGYRO** then press Enter.
- h. Type **ZAP** then press Enter to restart the system.
- i. Reinstall the radome.

The procedure is complete!

Figure 6 MCU Maintenance Port

