

# TracVision® R5SL Gyro Replacement Instructions

The following instructions explain how to replace the gyro in a TracVision R5SL.

**IMPORTANT!**

Be sure to avoid causing sharp bends in cables when securing or rerouting cables in the following procedures. Sharp bends or kinks in cables can degrade antenna performance.

## Tools Required

- #1 Phillips screwdriver
- #2 Phillips screwdriver
- 11/32" open-end wrench
- PC with the latest version of the Flash Update Wizard installed

*TIP: The Flash Update Wizard is now available to KVH-authorized dealers through the KVH Partner Portal at [www.kvh.com/partners](http://www.kvh.com/partners).*



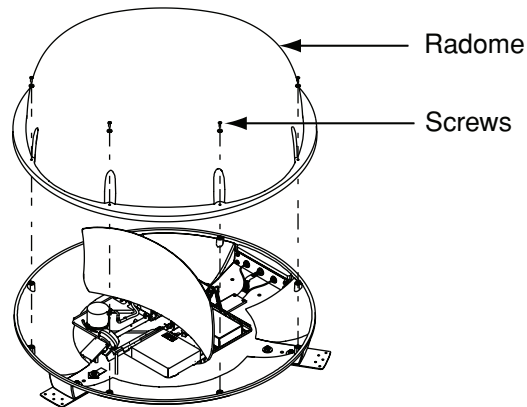
## CAUTION

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

## Step 1 - Replace the Gyro

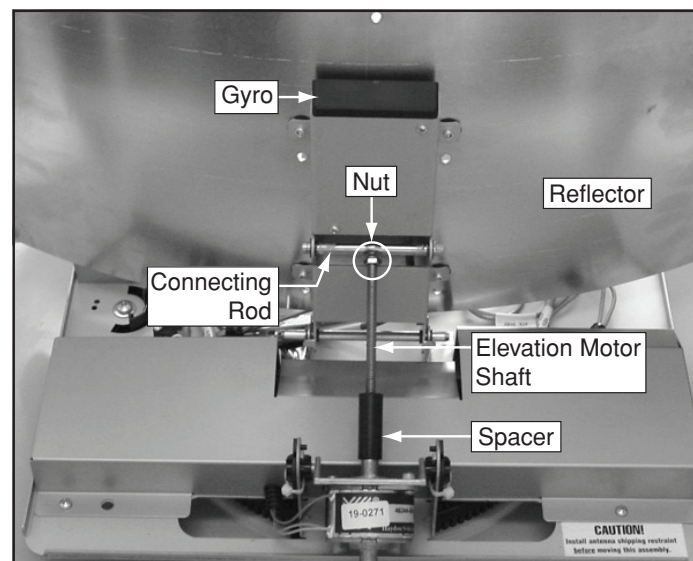
- a. Using a #2 Phillips screwdriver, remove the eight #10-32 screws securing the radome to the baseplate. Remove the radome and set it aside in a safe place.

Figure 1 Radome Screws



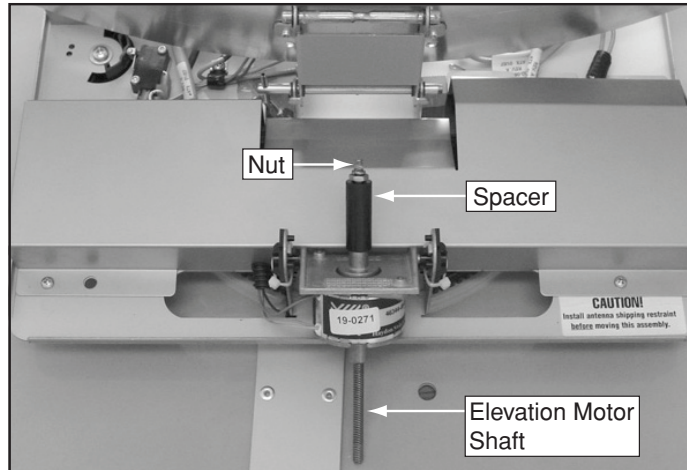
- b. Using an 11/32" open-end wrench, loosen the elevation motor shaft nut but do not remove it.

Figure 2 Elevation Motor Shaft Nut



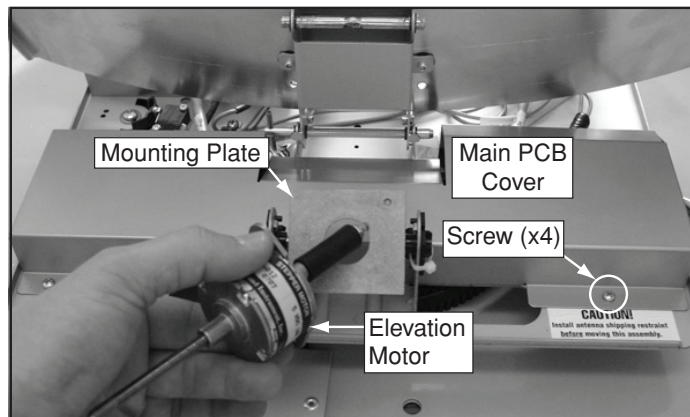
- c. Rotate the elevation motor shaft counterclockwise until the motor shaft nut is flush with the spacer, as shown in [Figure 3](#).

Figure 3 Retracted Elevation Motor Shaft



- d. Remove the two Phillips screws securing the elevation motor to the elevation motor mounting plate. Then remove the elevation motor from the mounting plate and set it aside.

Figure 4 Elevation Motor/Main PCB Screws



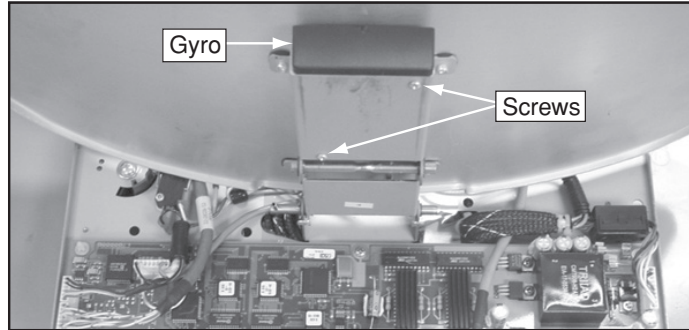
- e. Using a #1 Phillips screwdriver, remove the four screws from the main PCB cover (see [Figure 4](#)).

*NOTE: The main PCB is static-sensitive. Ensure that you take the necessary grounding precautions before handling.*

- f. Gently remove the main PCB cover, ensuring no cables are damaged by the edges of the cover.

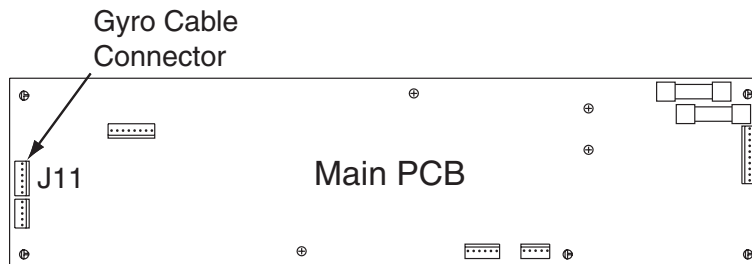
- g. Using a #1 Phillips screwdriver, remove the two screws securing the gyro to the gyro housing.

Figure 5 Gyro Screws



- h. Disconnect the gyro cable from the main PCB. Then gently remove the gyro and gyro cable, ensuring no cables are dislodged from the main PCB.

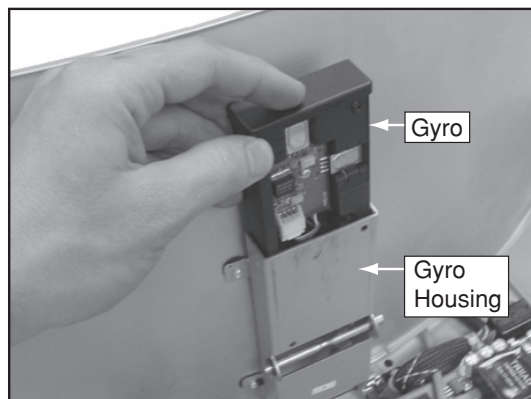
Figure 6 Gyro Cable Connector



- i. Insert the new gyro and gyro cable into the gyro housing. Route the gyro cable to the bottom of the gyro housing.

*NOTE: Gyros are sensitive to shock. Handle the gyro carefully to avoid damage.*

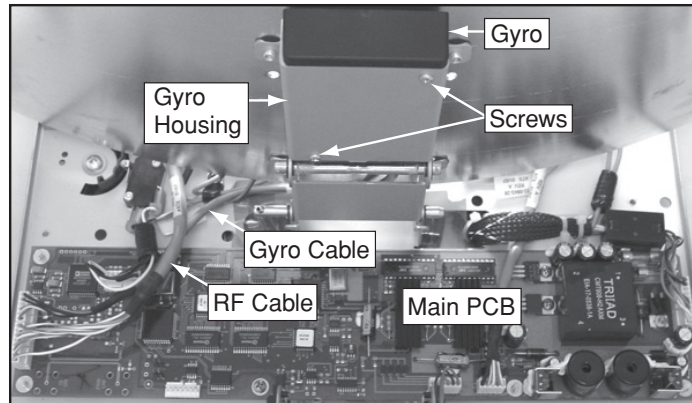
Figure 7 Gyro Installation



- j. Route the gyro cable from the bottom of the gyro housing toward the front of the antenna, then route the cable under the RF cable (see [Figure 8](#)).

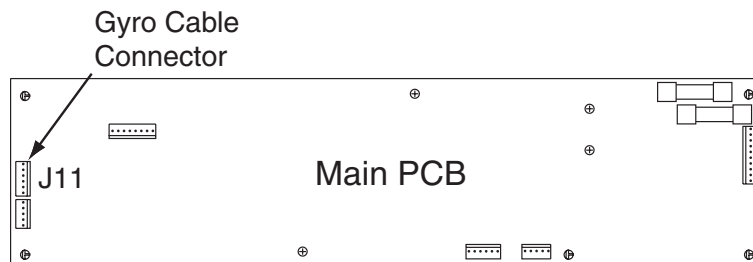
*NOTE: Do not route the gyro cable from the side of the gyro housing closest to the main PCB.*

**Figure 8 Gyro Cable Routing**



- k. Connect the gyro cable to the main PCB.

**Figure 9 Gyro Cable Connector**



- l. Using a #1 Phillips screwdriver, secure the gyro to the gyro housing using the two screws you removed in [Step 1g on page 4](#).

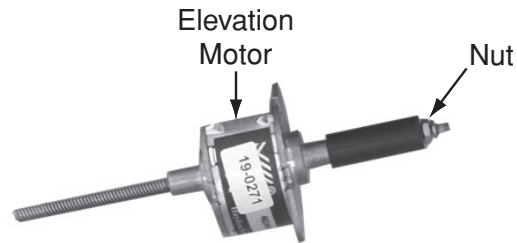
## Step 2 - Complete the Installation

- a. Gently reinstall the main PCB cover. Ensure no cables are damaged by the edges of the cover and that the corrugated sleeve on the elevation motor cable is positioned under the edge of the cover.
- b. Using a #1 Phillips screwdriver, secure the main PCB cover using the four screws you removed in [Step 1e on page 3](#).

- c. Secure the new elevation motor to the elevation motor mounting plate using the two screws you removed in [Step 1d on page 3](#).

*NOTE: Be sure to apply a small amount of the supplied Loctite threadlocker to the threads of the screws.*

**Figure 10 Elevation Motor Shaft Nut (motor shown unmounted for clarity purposes)**



- d. Extend the elevation motor shaft by rotating it clockwise, then insert the motor shaft into the connecting rod (see [Figure 2 on page 2](#)).
- e. Using an 11/32" open-end wrench, tighten the elevation motor shaft nut.
- f. Reinstall the radome. Then reconnect power to the TracVision system.

### Step 3 - Configure the Antenna

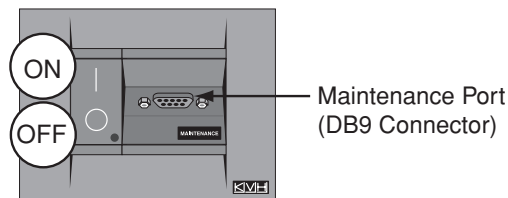
The antenna now needs to be configured for in-motion use. This procedure requires a PC with the latest version of the KVH Flash Update Wizard installed.

- a. Connect one end of a PC serial data cable to the DB9 maintenance port, located on the switchplate. Connect the other end of the data cable to the serial port on your computer.

*TIP: You can purchase a PC serial data cable from KVH (KVH Part #32-0628-06).*

*TIP: If your computer does not have a DB9 serial COM port, you can use a KVH-tested USB adapter. Refer to the Flash Update Wizard's Release Notes for more information.*

Figure 11 TracVision Switchplate



- b. Double-click the KVH Flash Update Wizard shortcut on your PC's desktop to start the Flash Update Wizard.

*TIP: You do not need to flash the antenna; you will simply type commands in the Flash Update Wizard's "TracVision Antenna Comms" window.*

- c. Set the switchplate's POWER switch to the on (up) position, then turn on the receiver(s). Wait one minute for system startup.
- d. Type **HALT** then press Enter.
- e. Type **DEBUGON** then press Enter.
- f. Type **=LSTEST** then press Enter.
- g. Type **EL,300** then press Enter.
- h. Type **=CALGYRO** then press Enter. If a "Scale factor out of range - bad gyro" message appears, contact KVH Technical Support.

- i. Set the switchplate's POWER switch to the off (down) position.
- j. Wait 30 seconds, then set the switchplate's POWER switch to the on (up) position.

The procedure is complete! Be sure to return the old gyro to KVH.

***NOTE:** Before returning the gyro, be sure to obtain an RMA number from KVH Technical Support and write the number clearly on the outside of the box. Shipments received without an RMA number will be returned to you at your expense.*