MōVI XL
Optical Gyro Upgrade

Installation Manual

FREEFLY

Overview

The Fiber Optic Gyro (FOG) upgrade was designed to improve stabilization performance and positioning accuracy of the MōVI XL. It augments the standard MEMS gyros with a sophisticated fiber optic based IMU system that is able to achieve near perfect positioning accuracy and a drift rate of under 1º/hour.

SAFETY NOTE

Never connect or disconnect the FOG with the motors armed! Always turn off the MōVI XL or disarm motor before connecting or disconnecting!
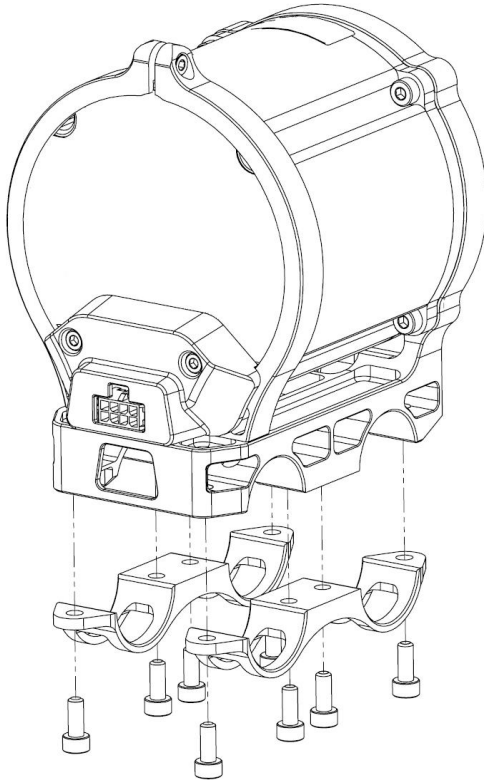

Installation

STEP 1

Mount the FOG to MōVI XL.

Required tools:

- 3mm Hex Driver (included)
- Loctite 243

Detach the lower tube clamps from the FOG mounting bracket by removing the 8X M4x10mm bolts.
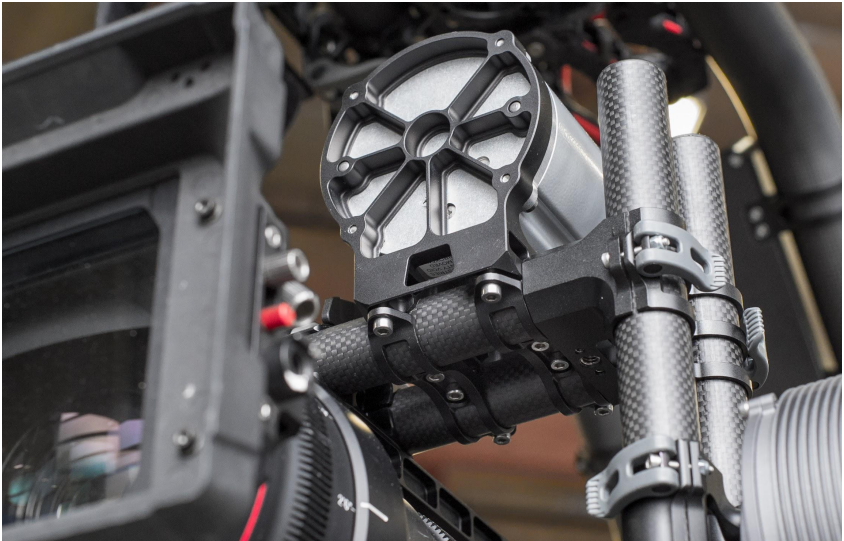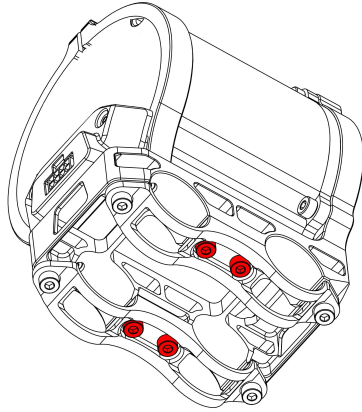
Attach the FOG to the tilt motor side of the top of the MōVI XL camera cage with the connector side facing to the back of the gimbal.

NOTE

- The FOG must be oriented as shown in order to function correctly!
- Using the top camera rail attachment to the camera body is mandatory for adequate tuning/performance.
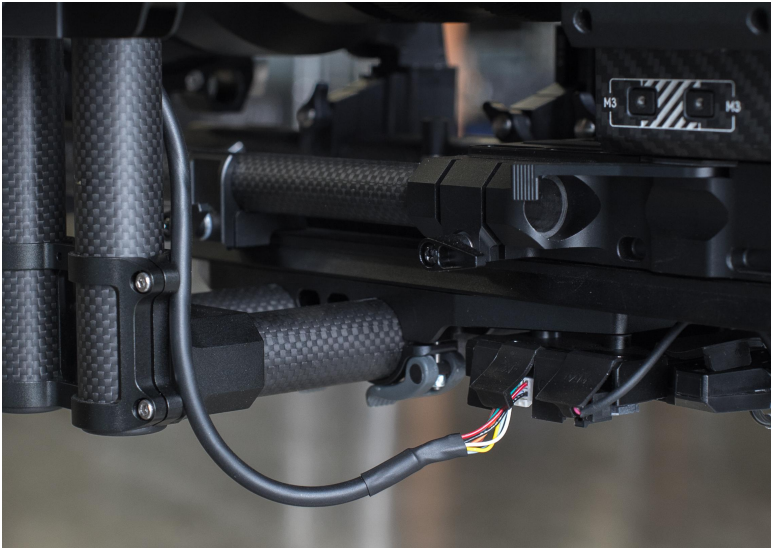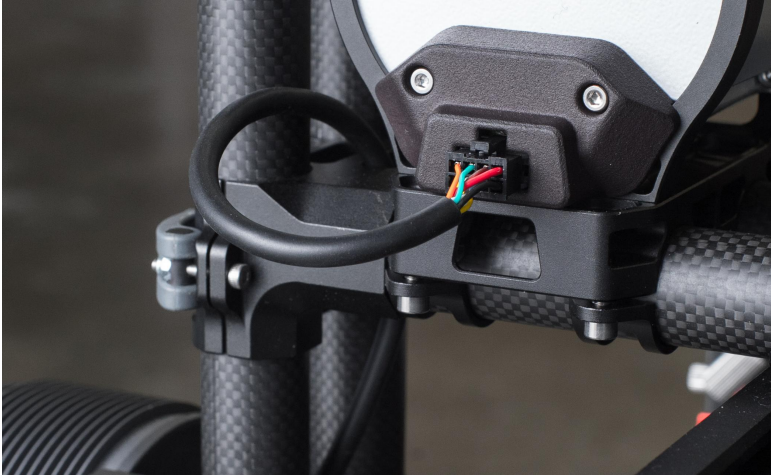

Reinstall the lower tube clamps to secure the FOG. Tighten the 4X inner M4x10mm bolts (shown in red) before tightening the 4X outer bolts. Use Loctite 243 if the FOG will be permanently attached to the MōVI XL.

STEP 2

Verify the XL is off or motors are disarmed, then connect the FOG to the GCU's EXP port with the included cable. Route the cable down the side of the camera cage.

STEP 3

Verify the FOG is recognised by MōVI XL. A small FOG icon will appear in the lower left corner of the GCU screen while the motors are armed. It's recommended to re-tune the MōVI XL once the FOG is installed.

NOTE

- FOG requires firmware version 1.5 or later to function. Use the Freefly MōVI app to update if needed.

TRAVELING WITH THE FOG

The FOG does not need to be removed from the camera cage in order for MōVI XL to fit in the travel case.

- Remove the cable and stow separately.
- Slide the upper camera cage rail off and flip it upside down so that the FOG is on the inside of the cage.

TROUBLESHOOTING

If the MōVI XL does not behave as expected, check the following:

- The FOG is mounted in the proper orientation.
- The FOG is plugged in to the EXP port on the GCU correctly.
- Try switching out the cable for the included replacement cable.