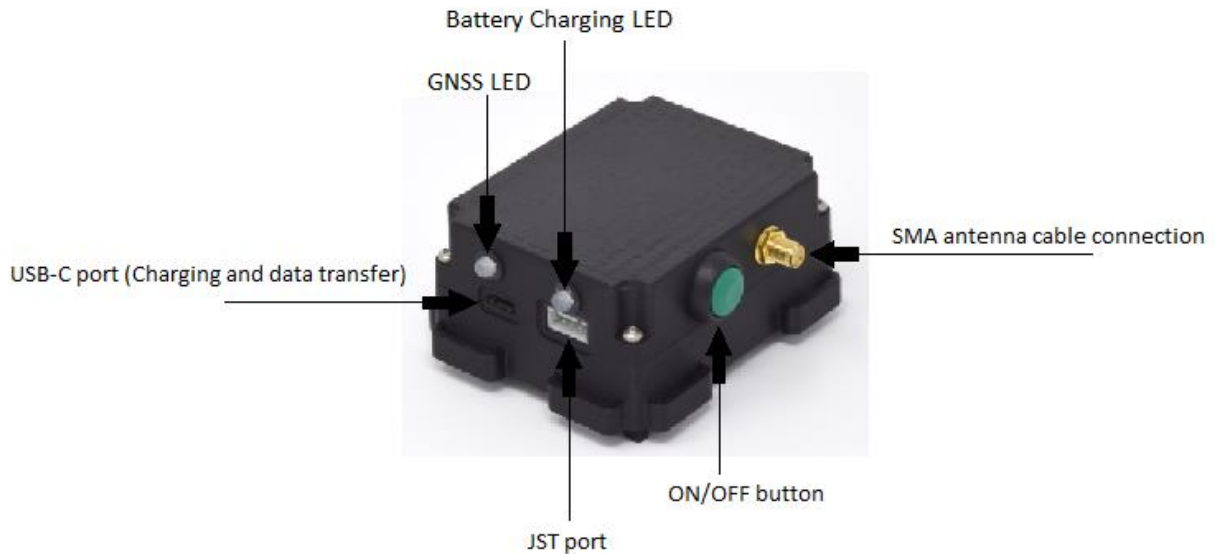


# LOKI USERS GUIDE (DJI)

## LOKI HARDWARE COMPONENTS

### Loki Controller



### DJI Personality Cables

**Caution** – Be extremely careful when installing and removing the Loki Inspire 2 DJI personality cable. The SD connector on your drone is very fragile. The connector type is “push-push” meaning that you push the connector to engage and then push a second time to disengage. The connector should pop out just a bit when in the disengaged mode. If you do not discern this movement, push the connector again until you see the card move slightly out of the slot. If you pull the connector while it is engaged, you will cause permanent damage to your drone’s SD card holder. You will have to send your drone to DJI for repair. AirGon is not responsible for damage to your drone caused by improperly removing the Personality Cable.

Inspire 2 / M200v2 Personality Cable



Phantom 4 Pro Personality Cable



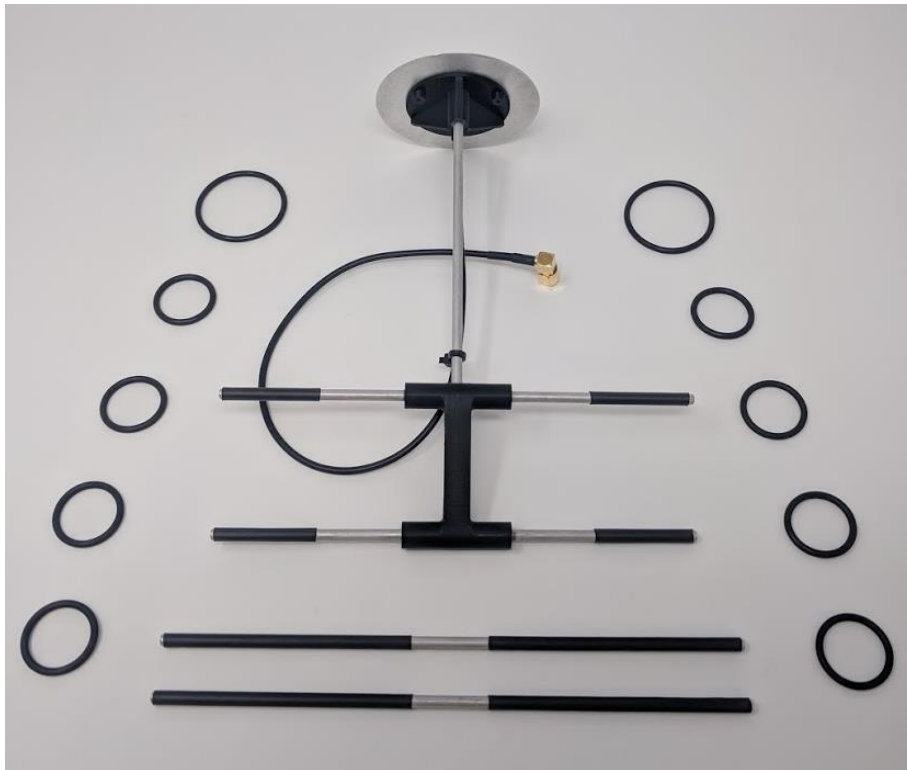
M200 Personality Cable



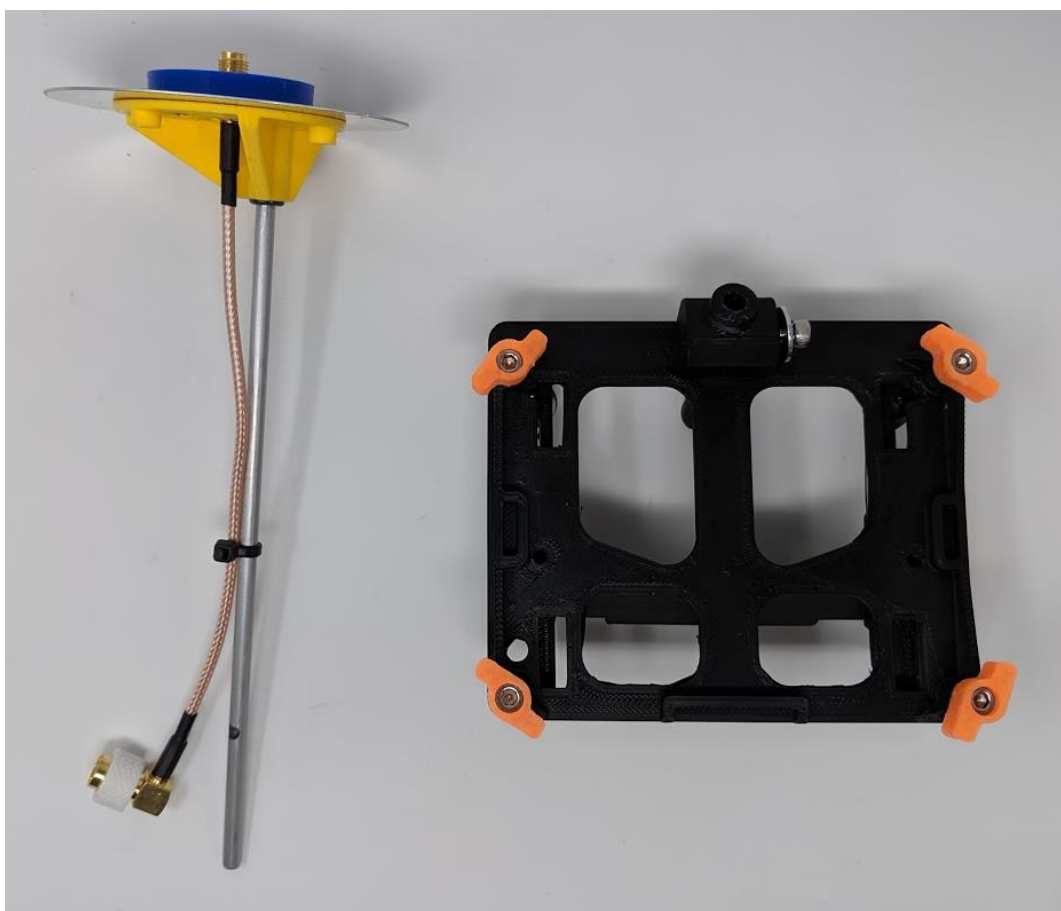
Inspire 2 antenna mounting kit



Phantom 4 Pro antenna and controller mounting kit



M200 antenna and controller mounting kit



Antenna



## USB Cable



### LOKI SOFTWARE COMPONENTS

AirGon Sensor Package Software Suite (ASP) Suite

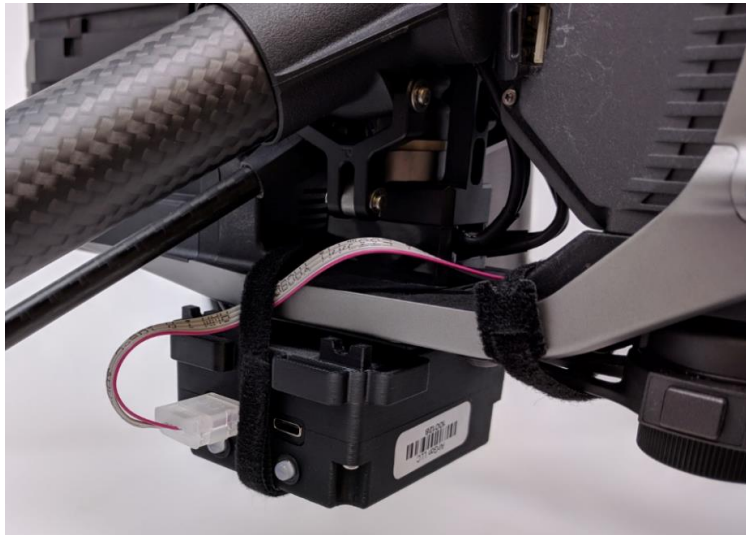
Download AirGon ASP Suite from <http://airgon.com/airgon/airgonmmsuite/ASPSuite/publish.htm>

Instructions for licensing ASP Suite will arrive in an email delivery.

## INSPIRE 2 LOKI CONTROLLER AND ANTENNA INSTALLATION

Mount the Loki controller to the bottom of the Inspire 2 using the Velcro straps. The Inspire 2 will require that you place the provided 1-inch Velcro piece on the controller and the body of the drone.

Inspire 2 – Controller mounting position



Inspire 2 and Loki controller – Velcro positioning



Clean the area where the Velcro strip will be installed with an alcohol wipe before installing the Velcro. Also, sand the back of the Loki controller before installing the second piece of Velcro.



Inspire 2 - Antenna and personality cable routing and installation



For antenna mount installation, use the provided piece of double-sided tape and attach the angled part of the antenna mount to the nose of the drone. The back legs of the antenna mount should rest on the large screws on the top of the Inspire 2 nose. When mounted to the drone, the antenna must be oriented so that it is in the vertical position and the SMA cable reaches the Loki controller. When routing the SMA cable, make sure no sensor is blocked. Zip tie the SMA cable to the aircraft. Also secure the SMA cable and the personality cable with a strip of Velcro. The Velcro strip should go between the gimbal and the body of the aircraft.



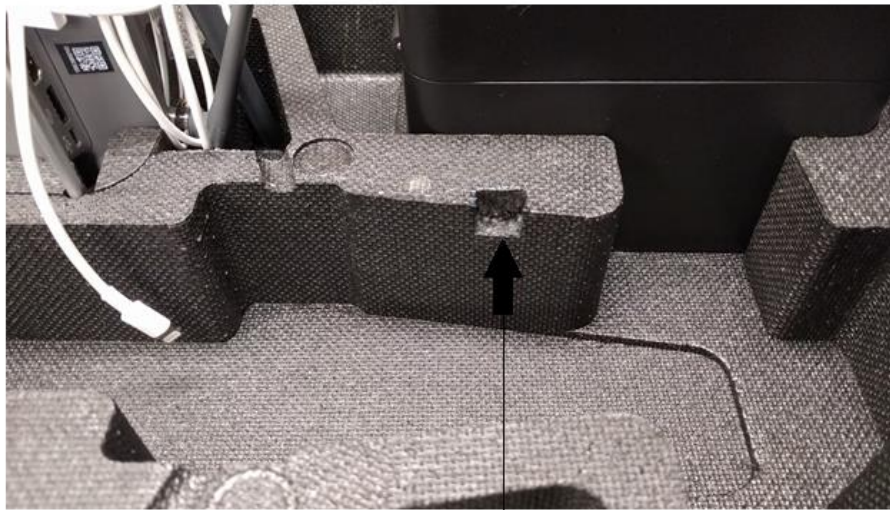
Secure Loki controller and personality cable with Velcro strip

Once the Loki controller and antenna assembly is securely mounted to the drone, connect the male end of the SMA cable to the Loki controller.

It is very important that the Personality Cable not put any strain on the connector that plugs into the drone's SD slot. We very strongly recommend that you do not remove the cable from the SD slot once it is installed. It is safe to fly the drone with the Personality Cable installed but without the Loki Controller on the drone. Just ensure the cable end that normally plugs into the Loki Controller is secured such that it does not swing around during flight. As noted in other places in this guide, cut out the foam in your drone case such that the card end of the Personality Cable does not come into contact with the case.

To continue using the DJI case with the Inspire 2 DJI personality cable installed, you will need to cut a small portion out of the case.

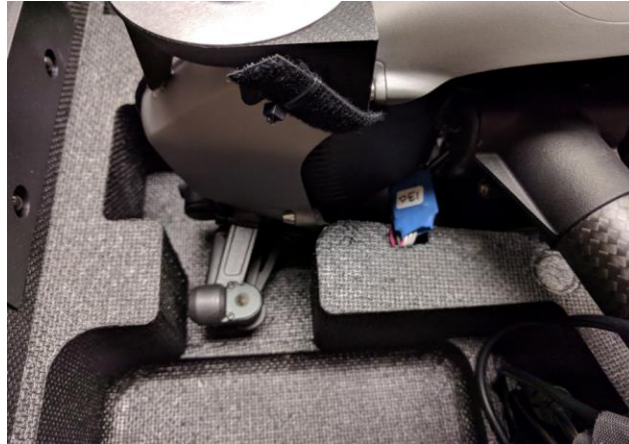
Inspire 2 Case – Cut out location



Case cut out location



Inspire 2 – body installation with DJI personality cable attached



**VERY IMPORTANT**

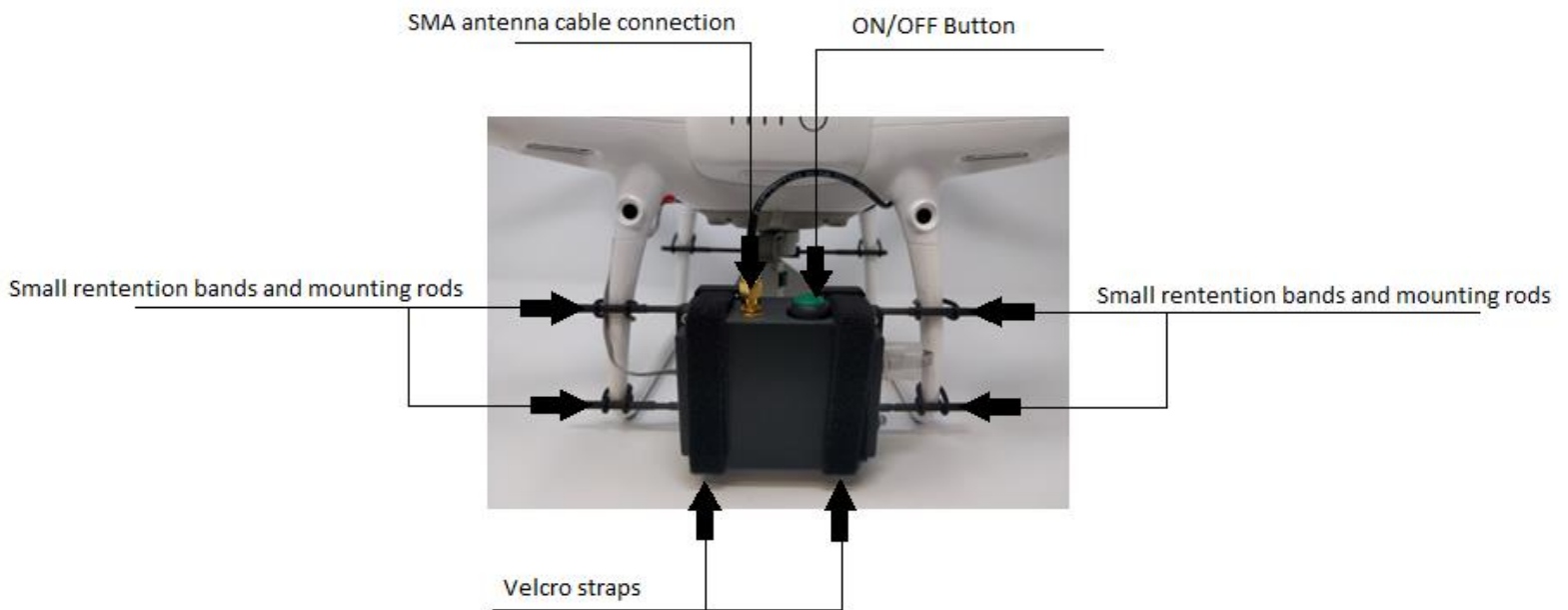
**MAKE SURE THAT ALL CABLES ARE SECURED TO  
PREVENT CONTACT WITH PROPS DURING FLIGHT.**

Tape provided is cut into 3/8" strips for the first installation. An additional strip is provided. If more tape is required, the type of tape used is: 3M Scotch 4910 VHB Tape. This can be purchased online from Amazon.

## PHANTOM 4 PRO LOKI CONTROLLER INSTALLATION

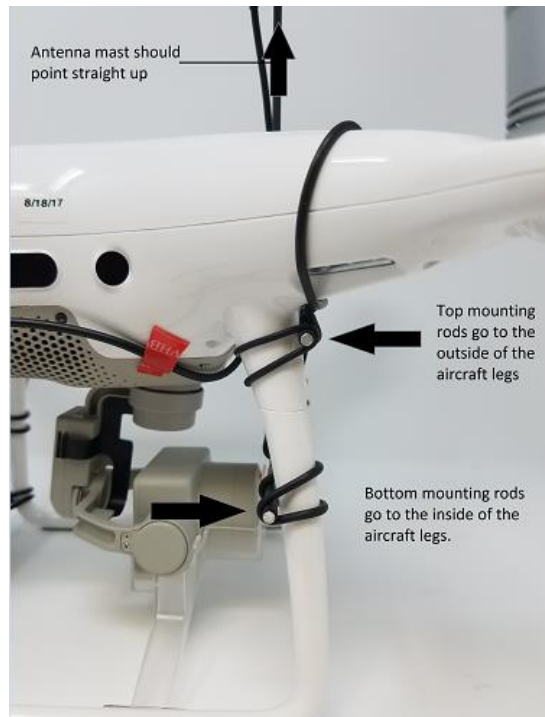
Mount the Loki controller to the P4P drone using the velcro straps, retention bands, and mounting rods. Position the mounting rods on the outside of the landing gear. Make sure that the Loki controller is positioned as low as possible on the drone legs to prevent sensor interference.

Phantom 4 Pro – Loki controller mounting configuration



Use the provided zip tie at the base of the antenna rod to secure the SMA cable, so that there is no inadvertent contact with prop rotation. Position the top antenna mounting rods on the outside and the lower mounting rods on the inside of the landing gear. When mounted to the drone, the antenna must be oriented so that it is in the vertical position and the SMA cable reaches the Loki controller. Use the small and large retention bands to secure the antenna mount to the drone. When routing the SMA cable, use provided tape strips and make sure that no sensor is blocked. Once the Loki controller and antenna assembly are securely mounted to the drone, connect the male end of the SMA cable to the Loki controller.

# Phantom 4 Pro – Antenna mount installation



Use the provided white Velcro strip to secure the SMA cable.

Phantom 4 Pro – SMA cable routing



Phantom 4 Pro – Personality cable routing



**VERY IMPORTANT**

**MAKE SURE THAT ALL CABLES ARE SECURED TO  
PREVENT CONTACT WITH PROPS DURING FLIGHT.**

## M200 LOKI CONTROLLER INSTALLATION

Loki Mounted on the DJI M200 Dron



**Note:** You must remove any previously installed Velcro fastener from the Loki for use with this mount.

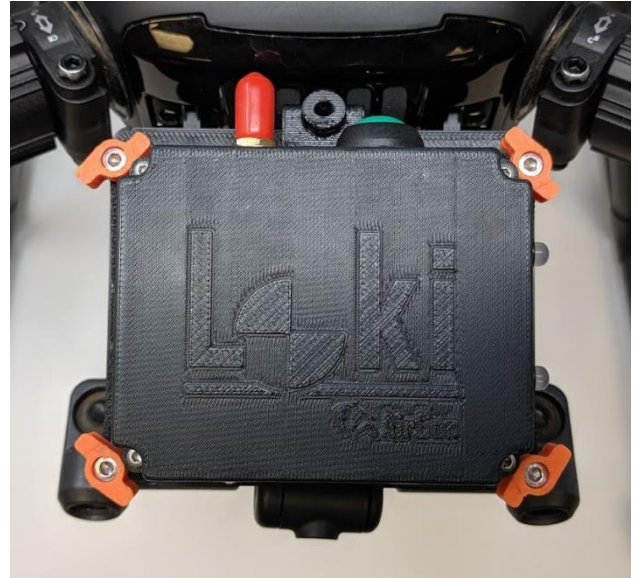
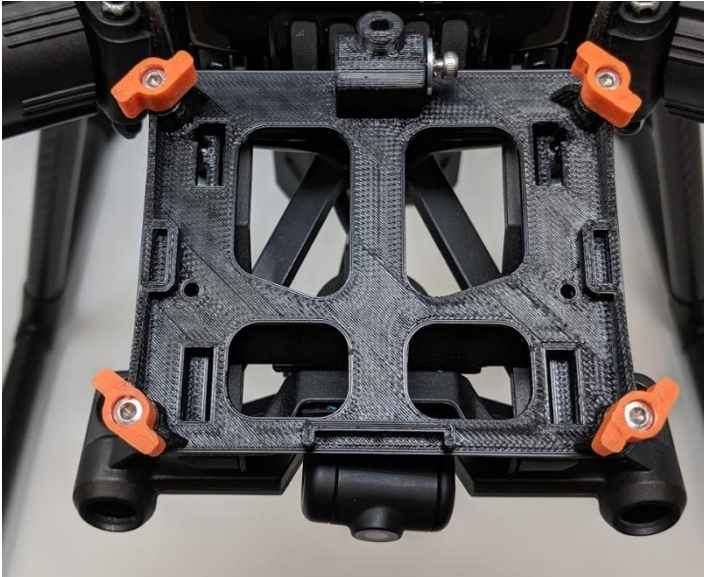
- Remove the installed screws from the Loki M200 mount. Flip the M200 on it's back and slip the Loki M200 mount onto the gimbal structure:



- Install the provided screws (along with the washers and starlock washers) back into the mount:



- With the latches in the open position, install the Loki:



- Twist the latches into the closed position.



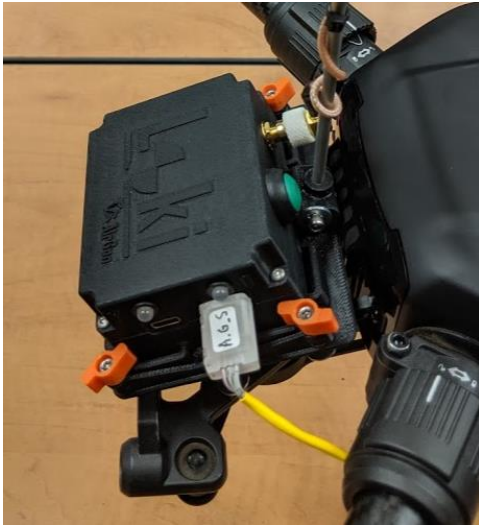
- As a final safety precaution, attach the reusable zip tie to the M200 frame and Loki controller, routing it through the hole in the Loki M200 mount.



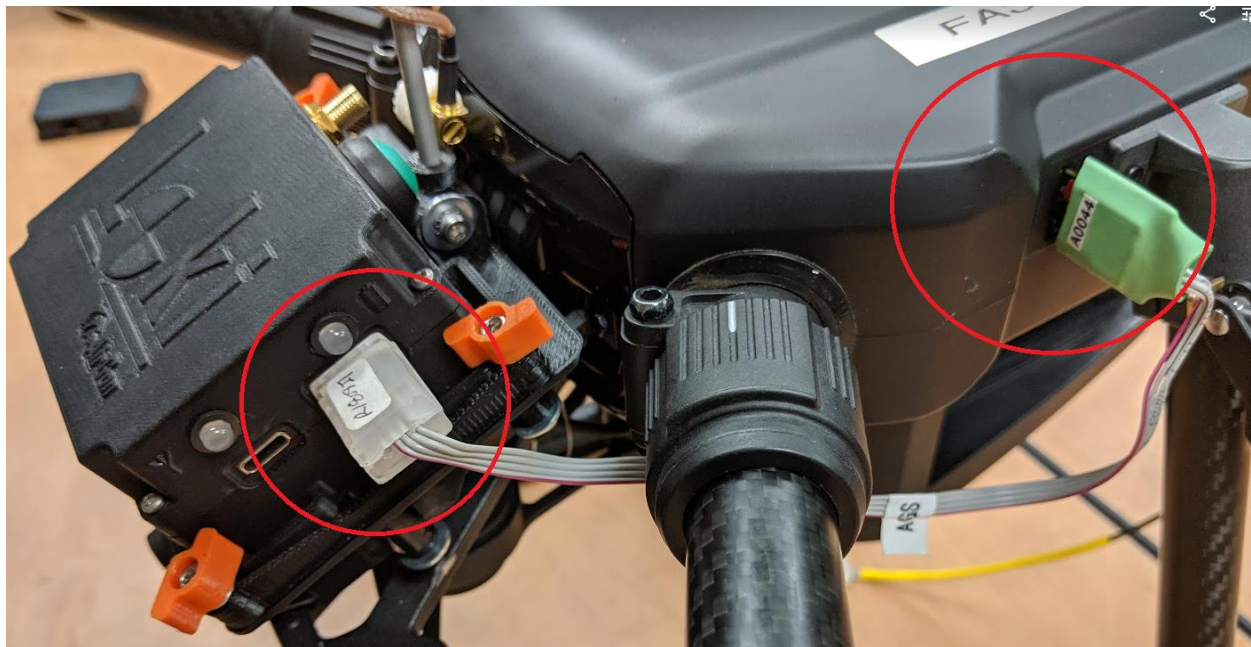




- M200 personality cable installation - Connect the M200 Personality cable to the Loki and then route beneath the rotor arm and landing leg. Plug the USB end of the personality cable into the USB port at the back of the M200.



- M200v2 personality cable installation - Connect the M200 Personality cable to the Loki and then route beneath the rotor arm and landing leg. Plug the micro sd card end of the personality cable into the micro sd card port on the side of the M200.



- Screw the GNSS antenna into the antenna mount so that it is snug against the spacer. When installing the antenna mast with antenna, be sure the GPS antenna faces forward toward the heading of the aircraft. Connect the antenna cable to the back of the Loki next to the antenna mast. Tighten set screw with star lock and washer assembly installed with the provided allen wrench.



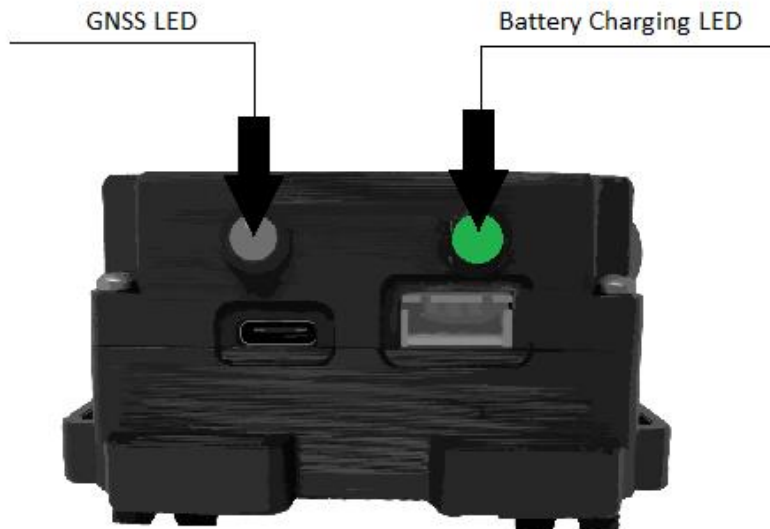
- To remove the Loki, simply unhook and remove the reusable zip tie, twist the latches back to the open position, and remove carefully.

**VERY IMPORTANT**

**MAKE SURE THAT ALL CABLES ARE SECURED TO  
PREVENT CONTACT WITH PROPS DURING FLIGHT.**

## LOKI OPERATING INSTRUCTIONS

The battery automatically charges any time the Loki controller is connected to a computer or USB charger with the USB cable. The LED will flash while charging and change colors, depending on the charge state. The battery charging LED will turn green when the battery is charged to 80 percent or more battery life. It will stop flashing and remain solid green when the LOKI has been fully charged. **Best practice is to charge the Loki completely before the beginning of planned flights.**



When the battery is between 30 and 80 percent, the battery charging LED will turn yellow.



The charging LED will turn red when the battery level is 30 percent or lower. Once the red-light indicator is observed, it is recommended that the battery be charged to preserve longevity of the battery.



After Loki is securely installed and you are prepared for flight, power on Loki manually by pressing and holding the green On/Off button until Loki powers on.



**IT IS IMPORTANT TO POWER ON LOKI BEFORE  
POWERING ON THE AIRCRAFT, AND MANUALLY  
POWERING LOKI OFF AFTER EACH FLIGHT.**

The GNSS and Power LEDs will flash blue-green and then go off.



The GNSS LED will re-illuminate red and remain that color until sufficient satellites are found. The battery LED will turn green, yellow, or red, depending on the battery level.



Once sufficient satellites have been acquired, the GNSS LED will turn solid green. The Loki is now ready to perform the mission.



The aircraft should be powered on only *after* Loki is powered on. A new SBF file is created each time Loki is powered on, and ends when Loki is powered off. So, for each flight, Loki should be powered on manually before the aircraft, and powered off manually upon landing. Loki will not power off automatically when powered on manually. Periodically, check to make sure that the Loki internal storage is not full.

To download the data, plug the USB cable into the Loki controller and computer. The GNSS and battery charging LED's will flash blue-green and then go off. The battery charging LED will begin blinking and the GNSS LED will remain off. The Loki will transfer data and charge at the same time.



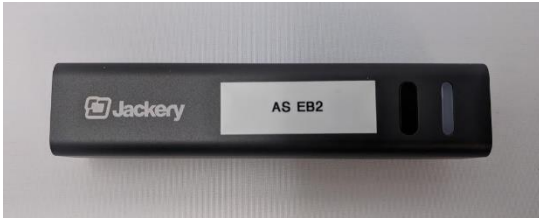
## LOKI EXTERNAL BATTERY

The external battery is an optional accessory. Below are instructions for usage and links for purchasing the components that we recommend. If you would like to purchase the external battery kit directly from AirGon, please contact the sales department – [sales@airgon.com](mailto:sales@airgon.com).



## LOKI EXTERNAL BATTERY KIT COMPONENTS AND PURCHASE LINKS

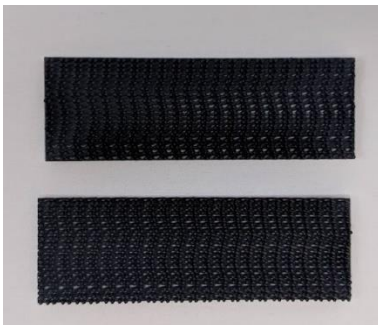
[External Battery](#)



[Connection cable](#)



[3M/Scotch Dual Lock Fasteners](#)



[Alcohol wipes](#)



## LOKI EXTERNAL BATTERY INSTALLATION – INSPIRE 2

External Battery Fastener



Loki Controller Fastener



Cut provided fastener into strips, wipe off battery and Loki with provided alcohol wipes, and ensure the placement of the strips is as shown in the illustrations above. Press and hold fastener firmly onto these surfaces for at least 30 seconds.

### Inspire 2 External battery positioning



### M200 External battery positioning



Snap the external battery onto the Loki. Connect battery to Loki using the provided USB cable. You can keep the battery plugged into the Loki and use the normal Loki workflow. The battery can be used on Loki's that have been upgraded to firmware 1.5 or newer. Once the external battery has been depleted, Loki will automatically start using the internal battery.

**Caution** – Make sure that the external battery is mounted in such a way that it does not interfere with the camera gimbal. **Placing the external battery incorrectly could cause damage to the gimbal.**

## Loki Hardware

- Question – I fully charged my Loki some time ago and the battery is much lower now. Why is this?

Answer – The Loki battery slowly discharges over time. Best practice is to fully charge the battery close to the time of planned flights. A new Loki's battery life will be around 2.5 hours under normal temperature conditions. This will degrade over time.

- Question – When using the Inspire 2 personality cable, why is the GNSS LED is not blinking when taking ground photos?

Solution #1 - Un-plug and re-plug cable back into the micro-SD card slot on the drone to ensure proper seating of the cable.

Solution #2 - Reformat the micro-SD card.

Solution #3 - Unplug and re-plug the JST connection (to the Loki). Make sure that this is performed while the Loki is turned on.

- Question – Do I need a camera calibration to get accurate data?

Answer – Yes you will need your camera calibrated to get the accuracy advertised by AirGon. If your camera is purchased through AirGon, we will calibrate the camera before shipping. If you have already purchased your camera, we provided calibration services for a fee. Contact [support@AirGon.com](mailto:support@AirGon.com) for more info.

## ASP Suite

- Question – Why am I unable to download ephemeris data right after the flight?

Solution #1 - Often, the GPS only ephemeris data is available right after the flight. The mixed ephemeris (includes GLONASS) sometimes is not available this soon. Simply uncheck the "Use GLONASS satellites" in the ephemeris tap and download again.

Solution #2 - If you are getting an error message after pressing the download button (with "Use GLONASS satellites" unchecked), you can wait and try to download later or download the files manually from alternative sources. Links for manual download are in the bottom right corner of the Ephemeris tab. An article titled "Ephemeris and Navigation Data Files", located on <https://support.airgon.com/>, explains the process for manual downloading of ephemeris and navigation files.

- Question – Why are many events being dropped when running Step 5 in the ASP Suite?

Solution #1 - All photos from the flight may not have been chosen or photos from a different flight were included. Double check that the right photos are being used and run again.

Solution #2 – Multiple flights may have been performed without turning the Loki off in-between flights. Use the same Loki (SBF) file for processing these flights, but the images for each flight must be processed separately. Best practice is to turn the Loki on/off for each flight and process flights individually in ASP Suite.

- Question – The image times from the flight(s) seem to be off by a few minutes. Step 4 is failing in ASP Suite. How can I correct this?

Answer – Please make sure that the correct time is set on the IPAD (when using GS Pro). The time in the images is correlated with this. If you have already performed flights and need to fix the image times, please visit <https://support.airgon.com/> and follow the instructions in the article titled "Shifting Image Times with GeoSetter".

- Question – Why is there no Loki file for my last flight?

Answer – You must power the Loki off to create an SBF file. It is recommended that Loki be powered off after each flight.

## Base Station

- Question – Does it matter where I set up my base station?

Answer – It is recommended that the base station be within 20 kilometers (12 miles) of the flight area. It is very important for the base to be in an open flat area if possible. Placing the base station close to buildings, trees, or vertical relief can cause issues with PPK processing and accuracy.

## SUPPORT

Normal support business hours are **Monday - Friday, 8 AM — 5 PM** USA Central Time.

If a support request is sent during business hours a representative will typically get back to you within 4 hours. If received after hours, a response will be sent the following day. To speed response time please include the following information in your request:

- Contact information - please include e-mail address and phone number
- Company name
- Product name and version number

If your request includes problems pertaining to a specific error message, please include a screen shot of the error message.

For hardware and software support contact:

[support@airgon.com](mailto:support@airgon.com)