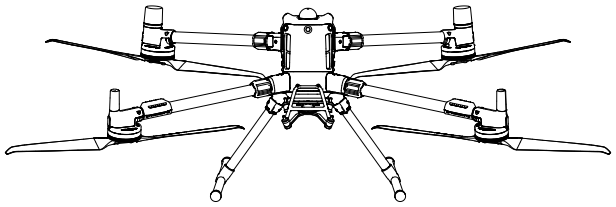
DJI MATRICE 400

Maintenance Manual

v1.0 2025.09



Searching for Keywords

Search for keywords such as “battery” and “install” to find a topic. If you are using Adobe Acrobat Reader to read this document, press Ctrl+F on Windows or Command+F on Mac to begin a search.

Navigating to a Topic

View a complete list of topics in the table of contents. Click on a topic to navigate to that section.

Printing this Document

This document supports high resolution printing.

Contents

1 Introduction

This maintenance manual offers guidelines to help you in the daily upkeep and maintenance of your aircraft. A record table is also included to help you keep track the maintenance records throughout the product lifecycle.

This document will focus on the maintenance instructions and the notes, cautions, and warnings during use. Read the User Manual and Maintenance Manual carefully to optimize user experience. If you have any questions on the maintenance operations, please contact DJI Support.

2 Disclaimer

Carefully read this entire document and all safe and lawful practices provided by DJI™ before use. Failure to read and follow instructions and warnings may result in serious injury to yourself or others, damage to your DJI product, or damage to other objects in the vicinity. By using this product, you hereby signify that you have read this document carefully and that you understand and agree to abide by all terms and conditions of this document and all relevant documents of this product. You agree to use this product only for purposes that are proper. You agree that you are solely responsible for your own conduct while using this product, and for any consequences thereof. DJI accepts no liability for damage, injury, or any legal responsibility incurred directly or indirectly from the use of this product.

3 Safety Guidelines

3.1 Flight Condition Requirements

Operational Requirements

Before use, read the Disclaimer and Safety Guidelines, User Manual, and Maintenance Manual carefully.

Flight Restrictions

1. Connect the aircraft to the internet to update the DJI GEO Zones database regularly. Consult the relevant local government agencies or governing bodies before flight to ensure you comply with all the relevant laws and regulations.
2. If flying in GEO Zones is required, apply for unlocking in advance.

   https://fly-safe.dji.com

3.2 Storage and Transportation

There are safety requirements for the storage and transportation of the Intelligent Flight Batteries. Strictly follow the instructions in the User Manual and the Safety Guidelines.

3.3 Updating the Firmware

To optimize the experience, it is recommended to keep the firmware of the aircraft, Intelligent Flight Batteries and remote controller up to date before each flight. Refer to the User Manual for instructions on updating the firmware.

If the firmware update fails, restart the device and try again. Contact DJI Support if the issue persists.

4 Inspection and Maintenance

Routine inspection before operations or regular maintenance can greatly improve the aircraft's reliability, and reduce potential safety hazards.

4.1 Routine Inspection

Checklist When Powered Off

Type	Essentials
Structure	1. Visually inspect and use your fingers to feel the propellers, frame arms, arm junctions, and landing gears to check if they are in good condition. If there are any cracks or damage, replace the component immediately. [1] 2. The screws for all the connection structures are securely tightened. 3. The port covers are properly sealed. Otherwise, water may enter the aircraft body and cause short circuit. 4. There is no blockage in the intake vent.
Motor	1. The propellers are not visibly deformed, damaged, aged, or softened. If they are, replace the propellers immediately. [1] If there are any foreign objects on the propellers, clear them before use. 2. Rotate the motors manually to check if they are firmly installed without a gap between the motors and the motor base and the motors rotate smoothly without noise. 3. Propellers are mounted correctly. CCW propellers should be on motors 1 and 3, and CW propellers should be on motors 2 and 4. * The front-facing propeller on the right is motor 1, with motor 2, 3, and 4 arranged in a counter-clockwise order. 4. Refer to the Propulsion System section in the Regular Maintenance Items.

Type	Essentials
Battery	1. There is no foreign object in the battery port on the aircraft and the ports are clean and are not deformed or rusted. 2. The battery handle is installed in place. Ensure it does not loosen during flight. 3. The battery shell has no visible damage. DO NOT use the damaged battery for flight.
Antennas	All the antennas on the aircraft and remote controller are tightened firmly and free of damage. The aircraft antennas will not block the propellers.
Gimbal (Payload)	1. The gimbal appears intact and can rotate smoothly in all the three axes. 2. The lens is clean.
Remote Controller	1. The control sticks are centered in neutral position, with no foreign object such as sand and soil, and can smoothly reach full ranges of motion in all channels. 2. The screen on the remote controller is clean and dry. 3. The sub2G SDR module is firmly installed and the screws are tightened.
Damping Plate	The dampers and gimbal anti-drop rope are not damaged. The damping plate has no crack or split. The gimbal connector is secure and cannot be rotated in the opposite direction after the gimbal is installed.
Sensing System and Auxiliary Light	1. There is no blockage in the working range of the sensing system and auxiliary light, especially when using a non-DJI payload or accessory. 2. Check the lenses or glass of the sensing system and auxiliary light: a. There are no stickers or any other obstructions over the lenses or glass. b. Clean the lenses and glass with a lint-free cloth if there is any moisture, fingerprint, or dirt. c. Contact DJI Support if there is any damage to the sensing system lenses. 3. The LiDAR surface has no damage, scratches, or dirt. Clean the LiDAR surface with a lint-free cloth if there is any dirt.

Type	Essentials
Emergency Supplies	1. Spare USB-C cables 2. Two pairs of spare landing gears 3. Two pairs each of spare CW and CCW propellers 4. Spare microSD cards 5. Screwdrivers, screws of all types used, cable ties, tape, a dry and soft cloth 6. A multimeter 7. A case to store emergency supplies

[1] It is advised to only replace the propellers in the case of emergencies during operations. After the emergency flight, contact DJI Support or an authorized dealer for inspection as soon as possible.

Checklist When Powered On

Type	Essentials
Remote Controller	1. Confirm the control stick mode (Mode 1/2/3), and make sure the proportion of the control lever is correct in the control stick calibration page in the app. 2. The remote controller battery is firmly installed and has sufficient power. 3. Confirm that the channel used is Automatic or Custom, and then choose the operation frequency and channel according to the signal to noise ratio.
Battery	1. All batteries, including Intelligent Flight Batteries and remote controller batteries, are fully charged. 2. The aircraft battery is firmly installed. 3. Make sure the battery level and voltage of each battery cell are normal in the battery page in the app.
Flight Parameters Configuration	1. The Signal Lost Action of the aircraft is what fits your mission needs. 2. The flight mode switch is set up correctly. 3. RTH altitude, max altitude, max distance, and obstacle avoidance function are set up correctly.
Overall Status	View the module auto-check information on top of the screen in the app to check if there is any error prompt.

Type	Essentials
GNSS	1. There are at least 25 satellites and the aircraft works in N-mode. 2. Enable RTK function, select the correct base station and channel, and make sure that RTK positioning is in use. Check in the RTK page if the heading and positioning are fixed.
Sensors	1. Data on each IMU is shown in the app. IMU Calibration can be performed successfully. 2. Data on each compass is shown in the app. The heading of the compass matches the physical one, and the needle is stable. 3. Compass calibration can be performed successfully. 4. The vision system in all directions are enabled and there is no error prompt.
Cooling Fans	The cooling fans can work normally without noises.
Firmware Consistency	1. Connect the remote controller to the internet, then launch the app. Make sure that the app and the firmware versions of the aircraft, remote controller, payloads, and batteries are compatible. Otherwise, the aircraft cannot take off or there may be safety risks. 2. Insert all Intelligent Flight Batteries into the aircraft to make sure that all of their firmware versions are up to date.
Motors Spin	Link the remote controller and aircraft, make sure the FPV camera view works normally in the app. Perform Combination Stick Command (CSC) to start the motors in a Safe Flight Zone to make the motors spin at an idle speed. Then test the following: 1. The motors start without noise. There is no error prompt in the app. 2. At the beginning when the motors start or the end when the motors stop, observe the motors to make sure that motors 1 and 3 rotate clockwise while motors 2 and 4 rotate counterclockwise. ⚠ Stay away from the spinning motors and propellers to avoid injuries during the test.

Flight Test

1. Make sure that there are no potential safety hazards or people within 5 m of the aircraft.
2. Make sure that the satellite count is more than 25 and there is sufficient light. Start video recording.
3. In N-mode, perform CSC to make the motors spin at an idle speed on the ground. Push the control sticks in each direction lightly to test. Then push the throttle stick down to the bottom until the motors stop.
4. In N-mode, perform CSC to make the motors spin at an idle speed on the ground. Observe to check if the aircraft shakes. Then push the throttle stick down to the bottom until the motors stop.
5. In N-mode, take off and then hover at a height of 5 m for 1 min. Check to see the aircraft horizontal drift is no more than 1 m and the height offset is no more than 0.5 m. Check the shake of the main body, battery status, sound of the motors and propellers.
6. Push the control sticks in each direction lightly to check if the aircraft responds correctly.
7. Gradually increase the movement of the control sticks to observe the attitude response and the shake of the aircraft when braking.
8. Set height limits and distance limits. Then test if the aircraft can obey the limits.
9. In N-mode, enable obstacle avoidance. Then test if the aircraft can avoid obstacles in left, right, front, rear, and upward directions.
10. In N-mode, fly the aircraft more than 20 m away from the Home Point at an altitude less than the preset RTH altitude. Initial RTH using the RTH Button on the remote controller to test if the aircraft can perform ascending, cruising, landing in order and the landing position has an error no more than 1 m from the Home Point.
11. Stop video recording after landing.
12. Checklist after Landing:
    a. The propellers, motors, and aircraft body are intact, and there is no sign for collision or loose or broken structures.
    b. The temperature of the motors is normal, no signs of uneven heating.

4.2 Regular Maintenance

It is recommended to perform inspection and maintenance regularly by following the standards below to keep the aircraft in a good condition and reduce safety risks.

Type	Maintenance Item	Maintenance Advice	Maintenance Interval [1]
Basic	1. Regular maintenance items 2. Update and Calibration 3. Deep Cleaning	Recommend factory service or contact a DJI authorized service provider	Per 150 flight hours or Per 6 months [2]
Standard	1. Regular maintenance items 2. Updates and calibration 3. Deep cleaning 4. Wearing parts replacement	Factory Service (Recommended)	Per 300 flight hours or Per 12 months [2]
Premium	1. Regular maintenance items 2. Updates and calibration 3. Deep cleaning 4. Wearing parts replacement 5. Core components replacement	Factory Service (Recommended)	Per 900 flight hours or Per 36 months [2]

[1] The time specified in the maintenance period or the flight time shall be whichever comes first.

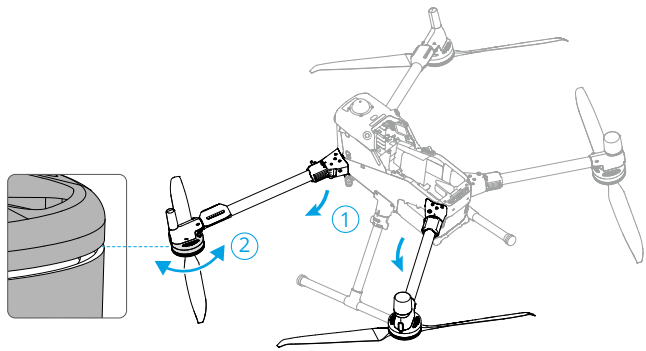
[2] Per 6 / 12 / 36 months expresses the device activation time or the time since the last maintenance.

⚠ DJI Enterprise may adjust the above maintenance services accordingly in different areas. Please contact authorized dealers or DJI Support for the latest information.

Propulsion System

Motor

1. **Motor Rotation:**

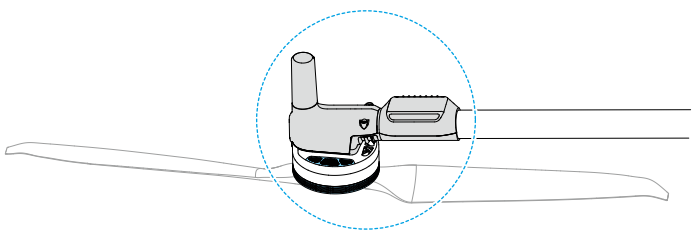


   a. Unfold and secure the frame arms.

   b. Rotate the rotor of the motor to check if there is any blockage or rubbing. Observe the gap between the rotor and stator of the motor to check whether the rotor and stator scratch the motor base.

   c. DO NOT fly the aircraft if there is any blockage or rubbing. It is necessary to return the aircraft to the factory for repair.

2. **Connection between Motor and Arm:**



   a. Rotate the motor base around the central line of carbon tube to check if the motor and carbon tube connection is loose.

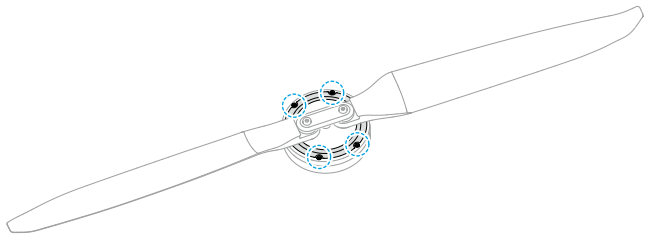
   b. Make sure the fixing screws are secure. If any screw is loose, return to the factory for repair.

3. **Motor Air Filters:**

   a. Make sure the air filters are not severely deformed, loose, or damaged.

b. If they are severely damaged or deformed (such as being bumped), return the aircraft to the factory for repair.

4. **Motor Upper Cover:**

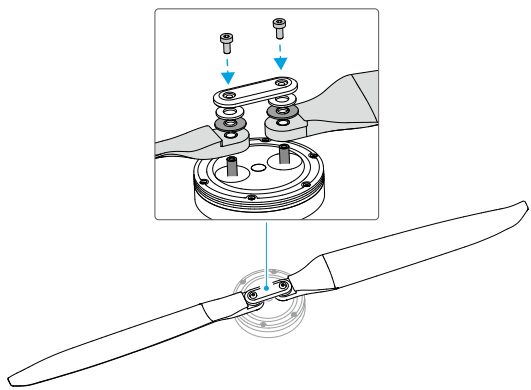


a. The screws on the upper cover are not loose. There is no damage or crack on the upper cover.

b. If screws are loose, apply screw glue and tighten the screws.

c. If the upper cover is damaged or cracked, return to the factory for repair.

Propellers and Propeller Adapters



1. Check the propellers for visible deformation, severe wear, nicks, and cracks, and if there is any foreign matter on the propellers.
2. Clean the propellers with a soft, dry cloth.
3. Replace the propellers immediately if there are any visible deformations, nicks, cracks, or severe wearing occurs. [1]
4. The propellers are wearing parts, replace the propellers, washers, and screws in time when necessary. [1]

5. The propeller adapter screws are secure. If the screws are loose, apply screw glue and tighten the screws.
6. The propeller adapters are not damaged or deformed. Replace the propeller adapters if they are deformed or damaged.

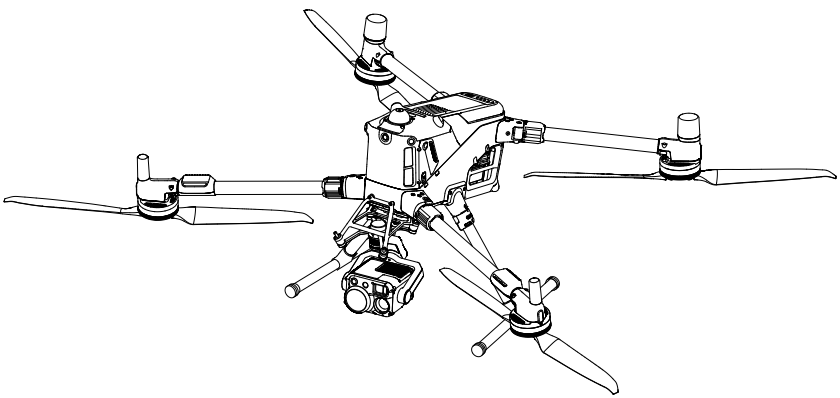
[1] It is advised to only replace the propellers in the case of emergencies during operations. After the emergency flight, contact DJI Support or an authorized dealer for inspection as soon as possible.

Flight Controller

1. After the aircraft is powered on and self-check is complete, there are no error prompts related to the flight controller in the app.
2. In outdoor open environments, the GNSS signal reaches “Strong” level within 1 minute of powering on the aircraft, indicating that the Home Point can be recorded automatically, and the RTK data meets the heading measurement standard.
3. In outdoor open environments, the interference of the compass after calibration is less than 50.
4. Sensor bias is less than 0.05 after the IMU calibration.

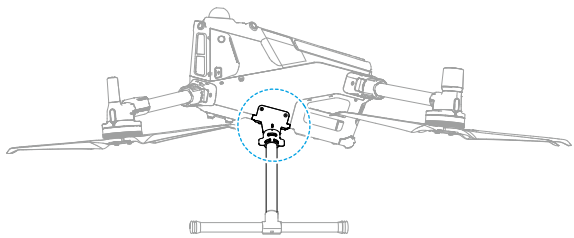
Aircraft Structure

Aircraft Structure

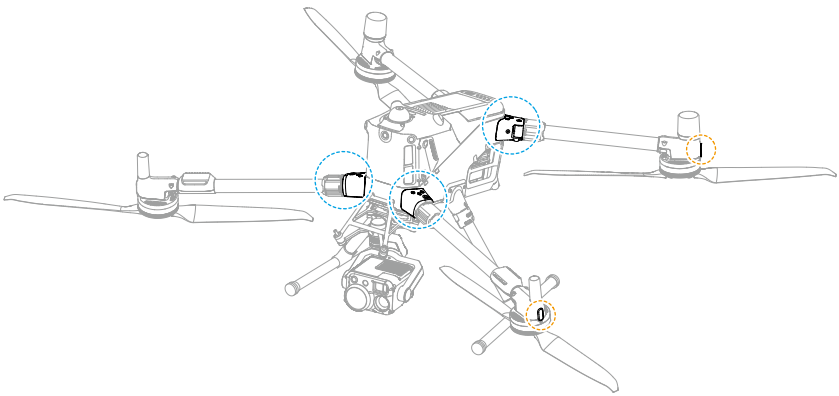


1. The aircraft body is clean and not damaged or deformed.
2. All the screws on the aircraft body are tightened, especially the screws connecting the motor and the carbon tube.

3. There is no blockage in the heat dissipation vents and the cooling fans work normally without noise.
4. **Landing gear mounting base**: The screws are secure and there is no damage or cracks.

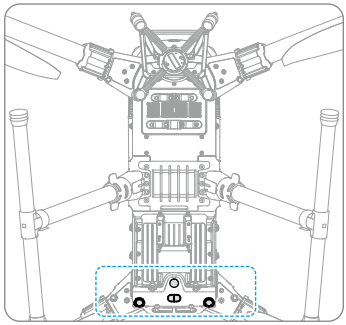


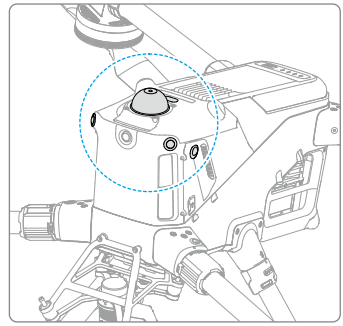
5. **Frame Arm and LEDs**:



   a. The connecting screws of the frame arms and the aircraft body are firmly tightened.
   b. The arm junctions are not damaged or cracked.
   c. Grab the carbon tube and shake the arm slightly to check if there is no obvious shake.
   d. The frame arm LEDs are clean and not damaged.
6. Clean the aircraft body with a clean and soft cloth, especially for the lenses of the LiDAR, the Infrared Sensing and Vision Systems and the heat dissipation vents.

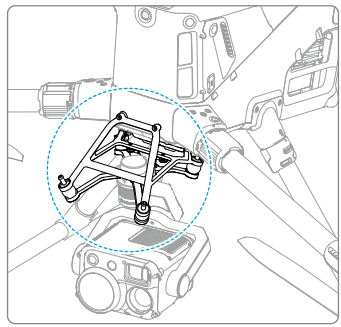
Sensing System, Auxiliary Light, and Beacon





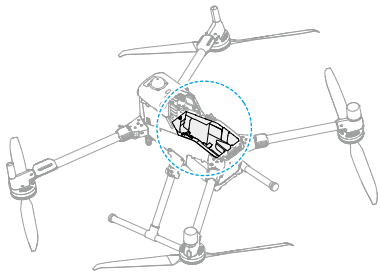
1. The lenses of the sensing system, auxiliary light, and beacon are not loose or cracked. Clean the lenses with a soft cloth.
2. The LiDAR surface is clean without damage or scratches. Clean the LiDAR surface with a lint-free cloth if there is any dirt.

Gimbal Damping Plate and Dampers



1. The screws connecting the damping plate and aircraft body are firmly secured.
2. The gimbal dampers are not damaged, loose, aged, or deformed. The gimbal dampers are wearing parts, return the aircraft to the factory and replace them when necessary.

Battery Compartment

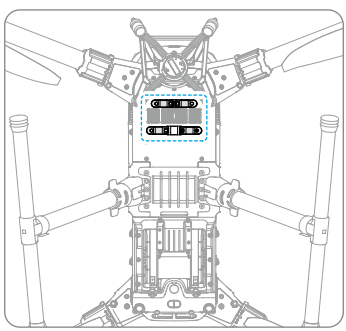


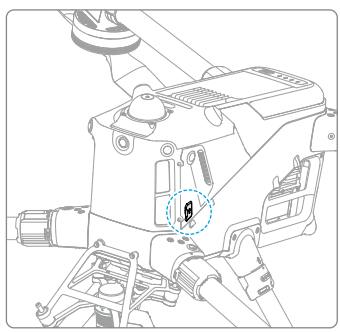
1. The battery ports are clean and dry without any corrosion. Clean any unwanted dust or water inside the battery compartment.
2. The battery can be firmly installed without shaking.

Cellular Dongle Compartment

1. The connection cables inside the cellular dongle compartment are not damaged.
2. The ports are clean and dry without any corrosion. Clean any unwanted dust or water inside the battery compartment.
3. The cover is not damaged, cracked, or loose.

Data Ports





1. Use a gauze to clean any unwanted residue near the ports.

2. If the port is in use, disconnect the device, and check if there is any unwanted residue in the ports using a torch.
3. Use tweezers to remove any foreign matter in the port, such as small stones and pieces of paper.
4. Use a gauze to clean the gluey foreign matter in the port.
5. Place the aircraft at an angle and use a gauze or brush to remove any small matter such as dust from the port. Make sure to clean throughly, sweeping away from the port.
6. Make sure the port covers are not damaged or loose, and are properly sealed.
7. Return the aircraft to the factory for repair if there is any water immersion marks at the ports.

Intelligent Flight Battery

Battery Maintenance Conditions

Maintenance is required when any of the events below occur:

1. Every 100 cycles.
2. The battery is idle for more than 6 months.
3. There is a maintenance prompt in the app.

Checklist for Maintenance

1. Charge and discharge the battery as per instructions.
2. After the battery is fully charged and left stationary for 6 hours, make sure the cell voltage difference is less than 0.1 V.
3. The battery is not swollen, leaky, or damaged.
4. The battery terminals are clean.
5. The battery firmware is updated to the latest version.

Standard Charge and Discharge Operation Instructions

1. Fully charge the battery.
2. Leave the battery stationary for more than 24 hours.
3. Insert the battery into the aircraft and take off. Land the aircraft and remove the battery when the remaining power level is less than 20%.

4. Leave the battery stationary for more than 2 hours.
5. Fully charge the battery.
6. Repeat the above steps.

Battery Replacement Standards

1. The battery is visibly swollen, leaky, or damaged.
2. There is a prompt of battery cell damage or over discharge in the app.
3. The battery is rated for 400 cycles. The stability of a battery will be affected after the rated cycles. In this case, make sure to replace the battery. Otherwise, you are responsible for device damage and third-party losses caused by batteries exceeding the rated cycles.
4. The battery error still exists after performing the standard charge and discharge operations twice continuously.

Battery Disposal

1. Remove the protective plastic layer on the side of the battery before fully immersing the battery in an insulated bucket with 5% salt solution. Leave the battery in the solution for more than 72 hours to fully discharge the battery.
2. It is recommended to recycle the battery by a recycling agent to avoid environmental pollution.

Emergencies

1. Put out any battery fire using sand or a dry powder fire extinguisher.
2. Put the battery into 5% salt solution immediately if the battery shell has visible damage. DO NOT use the battery afterward.

3. If any electrolytes make contact with your skin, immediately wash the affected area with clean running water or alkaline hand sanitizer for at least 15 minutes. See a doctor immediately.

Warnings

1. It is recommended to charge and discharge the battery in a special explosion-proof cabinet.
2. DO NOT charge the battery near flammable materials or objects or on flammable surfaces.
3. DO NOT use the battery in a humid environment to avoid short circuit.
4. DO NOT disassemble or pierce the battery in any way.
5. Store the battery in a well-ventilated and dry place.
6. Initiate RTH immediately when the app prompts that the battery temperature is too high.

Update and Calibration

Make sure that firmware of the product and its relevant products are all up to date. Calibrate regularly to keep the aircraft in optimal status.

1. Aircraft firmware update
2. Remote controller firmware update
3. IMU calibration
4. Compass calibration
5. LiDAR calibration

List of Wearing Parts

Replace easily damaged and worn parts promptly to maintain optimal flight performance and minimize safety risks.

Wearing Parts	Quantity	Replacement Interval	
		Based on Activation Time [3]	Based on Total Flight Time [3]
Landing Gear Mounting Base [1]	2	Per 12 months	Per 300-hour flights
Propellers [1]	4	Per 12 months	Per 300-hour flights

Wearing Parts	Quantity	Replacement Interval	
		Based on Activation Time [3]	Based on Total Flight Time [3]
Gimbal Dampers [1]	8	Per 12 months	Per 300-hour flights
LiDAR Dome Cover [1]	1	Per 12 months	Per 300-hour flights
Aircraft Arm Assembly [2]	4	Per 36 months	Per 900-hour flights
Aircraft Shell (Front, upper, left and right) [2]	1	Per 36 months	Per 900-hour flights

[1] For Standard Service only.

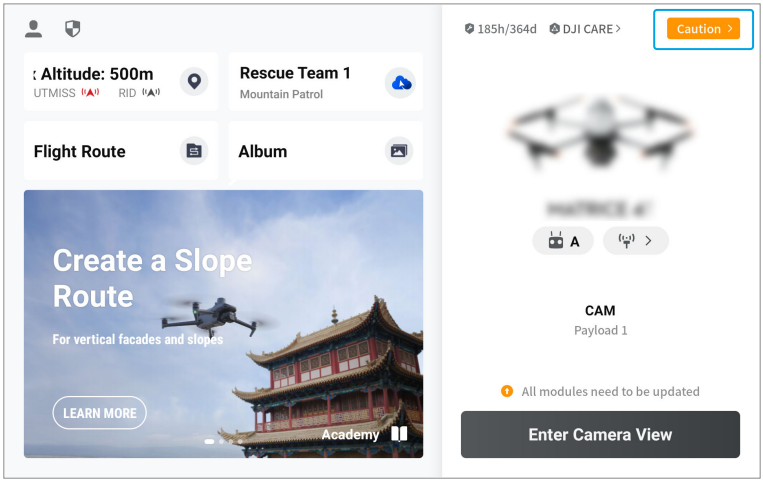
[2] For Premium Service only.

[3] The flight time, or activation time specified shall be whichever comes first.

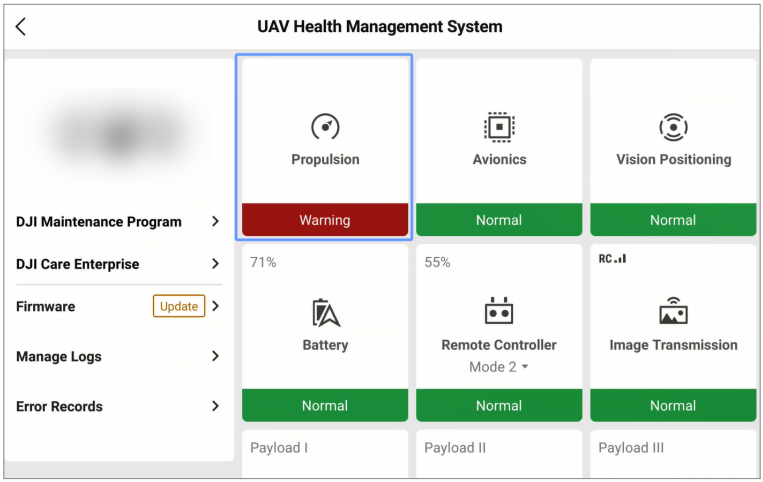
4.3 Health Management System

View the status of each module and upload abnormal status logs on the Health Management System (HMS) page in DJI Pilot 2.

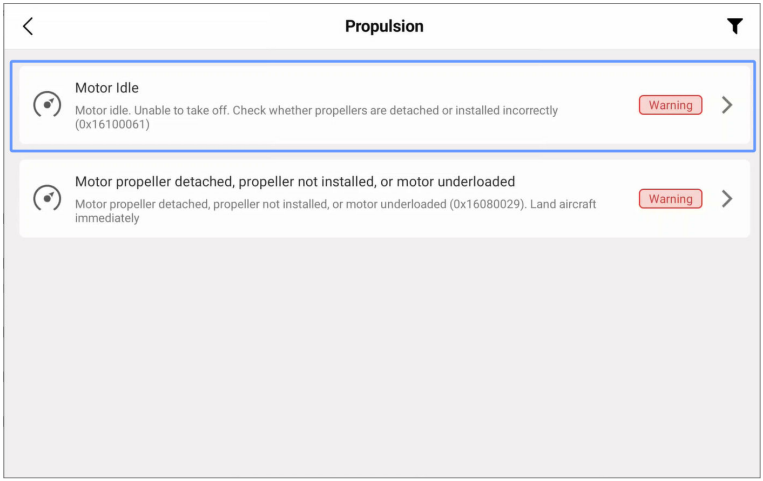
1. Enter the HMS page.



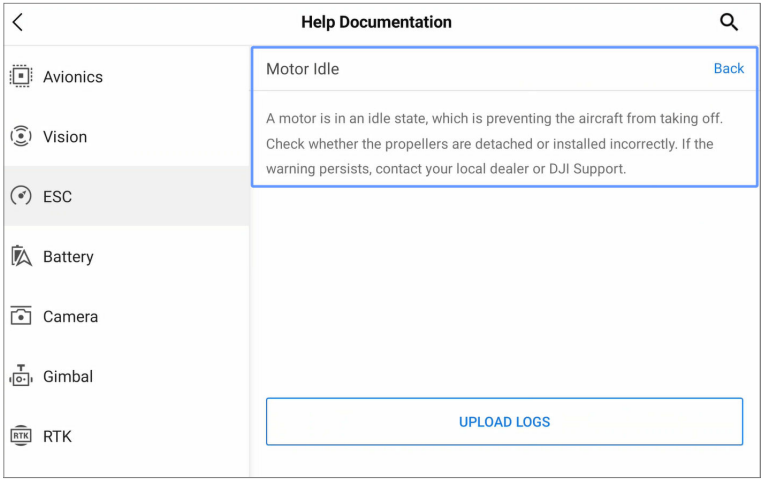
2. View the condition of each module of the connected device.

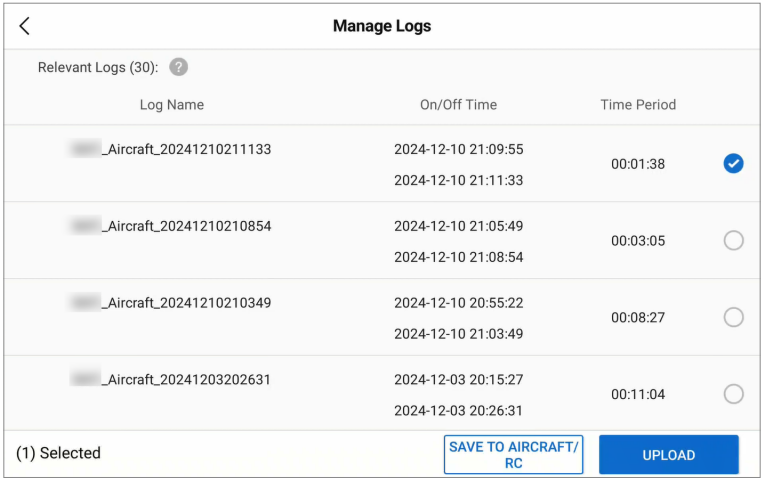


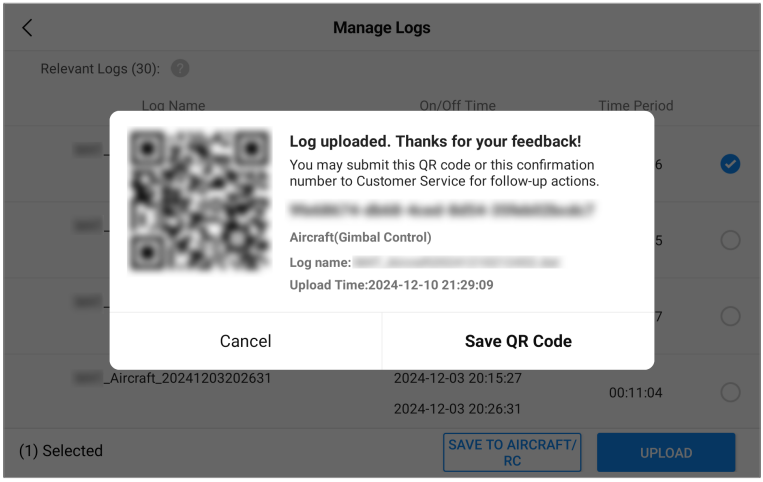
3. If any module is abnormal, tap to view the warning message.



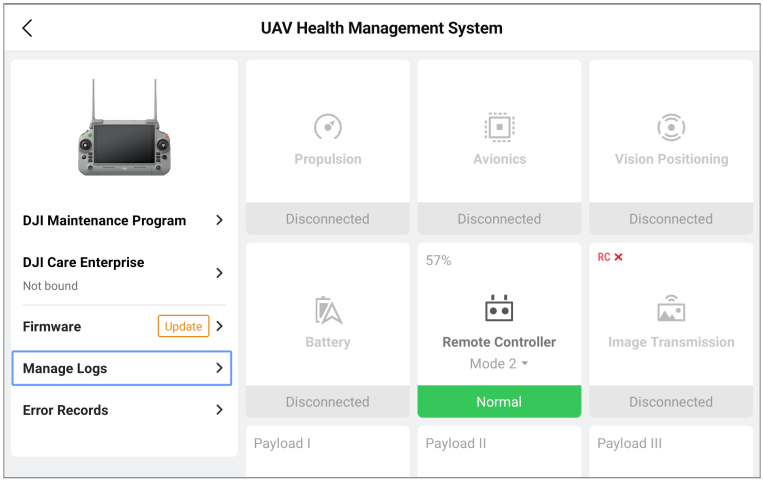
4. Tap the warning message to view the help document for troubleshooting. If the abnormal status still exists after check by following the document, users can upload the log, send the QR code or the tracking number to DJI Support for help.

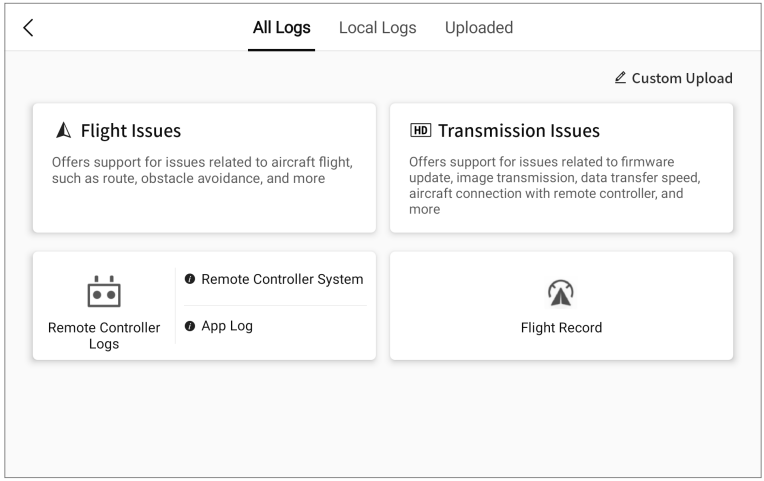


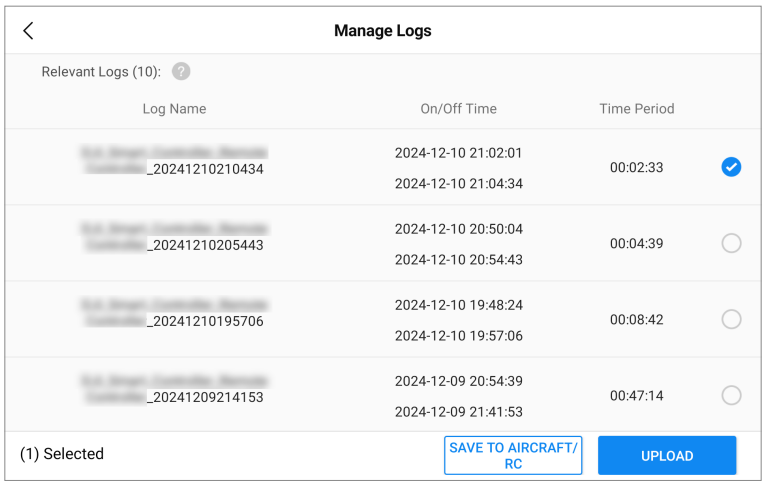




5. At the same time, users can tap Manage Logs to select the aircraft, and remote controller with abnormal flights according to the on/off time of the logs.

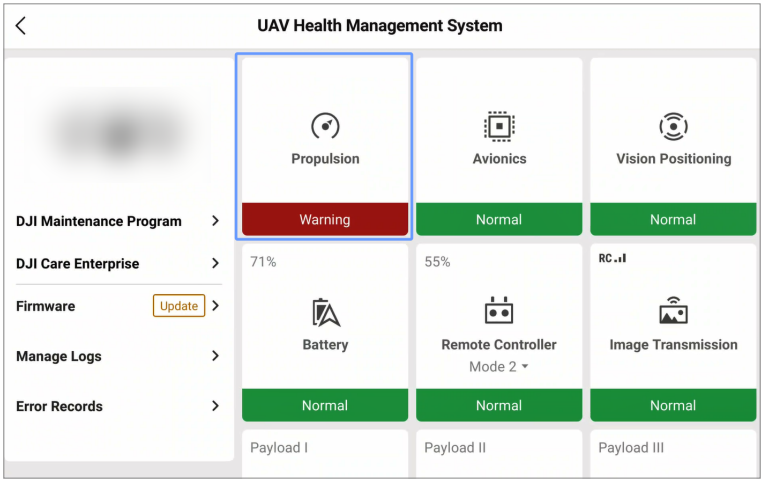




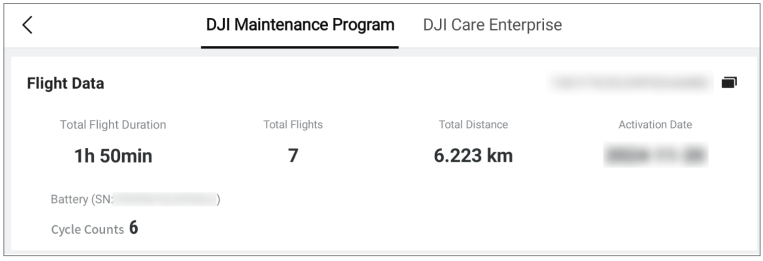


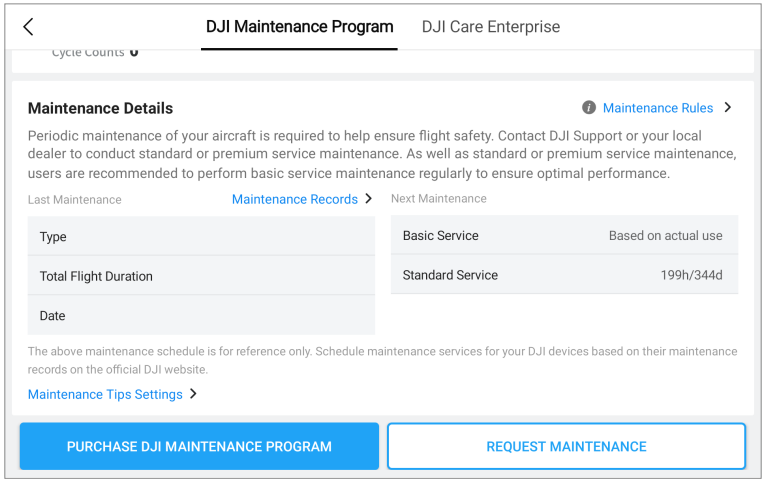
4.4 DJI Maintenance Program

1. Tap Maintenance Service in HMS.

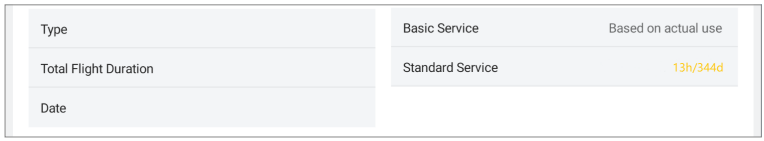


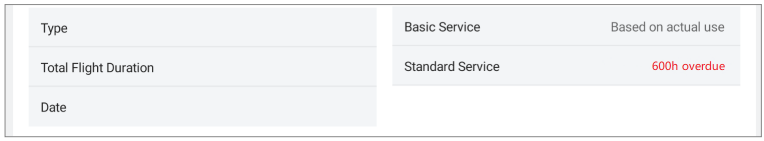
2. View the flight data and maintenance items of the current devices.





3. When the standard maintenance interval is approaching or is due, the text color will be marked in orange. When the premium maintenance interval is approaching or is due, the text color will be marked in red.





5 After-Sales service

5.1 Warranty Policy

Visit https://www.dji.com/service/policy to view product warranty period and warranty policy.

5.2 Handling Procedures for Flight Accident

When your aircraft encounters a flight accident, please follow below steps below to handle it.

Flyaway Accident

1. Contact DJI Support as soon as possible to describe the accident.
2. View the flight record in DJI Pilot 2, and look for the aircraft near the data interruption location based on the actual terrain.
3. Connect the remote controller to the computer, export the flight control system data and flight records, and contact DJI Support or local dealers for assistance in applying for data analysis.
4. DJI will provide a solution based on the analysis results.

Collision or Crash Accident

1. Take photos of the aircraft status and surrounding environment promptly after the accident, and record the aircraft status before the accident and the accident process.
2. Make sure the aircraft is powered off, remove the battery from the aircraft, and use an isolation box to store the battery. Note: DO NOT power on the aircraft again if the accident is serious, otherwise it may damage the internal circuit of the aircraft and cause greater loss.
3. Connect the remote controller to the computer, export the flight control system data and flight records, and contact DJI Support or local dealers for assistance in applying for data analysis.
4. Ship the device for repair.

5.3 Shipping the Product for Repair

Choose one of the methods below to ship the product for repair:

1. **Official Website Self-Service Repair**

   Visit the DJI Service Center on the official website at https://repair.dji.com/repair/index, and follow the instructions to complete the self-service repair service.

2. **Contact Local Dealer for Assistance**

   Contact your local dealer and describe the product issue. The dealer can assist in sending the product for repair.

3. **DJI Support Hotline Service**

   Contact DJI Support to describe the product issue and service type, such as a repair, return, or replacement, and then ship the product back according to the guidelines.

   Visit the following website to view phone support options for the hotline service:

   https://www.dji.com/support

6 Maintenance Record Table

Maintenance Record Table		
Maintenance Date:	**Maintenance Items**	
Total Flight Time (hours): Maintainer Signature:	1. ☐ Propulsion System 2. ☐ Flight Controller 3. ☐ Aircraft Body Structure 4. ☐ Batteries 5. ☐ HMS	6. ☐ LiDAR Calibration 7. ☐ Firmware Update 8. ☐ Wearing Parts Replacement 9. ☐ Core Components Replacement
Maintenance Date:	**Maintenance Items**	
Total Flight Time (hours): Maintainer Signature:	1. ☐ Propulsion System 2. ☐ Flight Controller 3. ☐ Aircraft Body Structure 4. ☐ Batteries 5. ☐ HMS	6. ☐ LiDAR Calibration 7. ☐ Firmware Update 8. ☐ Wearing Parts Replacement 9. ☐ Core Components Replacement
Maintenance Date:	**Maintenance Items**	
Total Flight Time (hours): Maintainer Signature:	1. ☐ Propulsion System 2. ☐ Flight Controller 3. ☐ Aircraft Body Structure 4. ☐ Batteries 5. ☐ HMS	6. ☐ LiDAR Calibration 7. ☐ Firmware Update 8. ☐ Wearing Parts Replacement 9. ☐ Core Components Replacement

WE ARE HERE FOR YOU

Contact
DJI SUPPORT

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If you have any questions about this document, contact DJI by sending a message to **DocSupport@dji.com**.