



Before Maintenance

# **Typhoon H Plus Maintenance, TROUBLESHOOTING & *PARTS***



After PROPER Maintenance

# Table of Contents

It's important to note that while the FAA has not yet required a formal maintenance program for non-commercial UAS operators, the notion that airworthiness and proper flight operation are the responsibility of the operator is very clearly articulated.

Specific requirements for ongoing inspections, maintenance, and repairs may not be required, there are many reasons why these important pieces should be included in their operations. *Safety and economic efficiency are two of the most important.*

*While the regulations and rules surrounding UAS operation are certain to change and adapt as the technology advances, we can be sure that airworthiness and proper maintenance to maintain them and the logging of that maintenance may become a vital part of any UAS use.*



When performing any maintenance on an aircraft ensure the props and battery are removed.  
If performing maintenance with props ON the aircraft the Battery **MUST** be removed.

## INSPECTIONS

This guide provides the basics for inspections. It's important to remember that aircraft/equipment inspections are only a single component of flight safety.

### Logging

Logging maintenance is an industry best-practice and in some locations is required for regulatory compliance.

### Batteries

Battery cycles should be logged in a log book. If multiple batteries are in use, identify each battery for logging purposes. Batteries may fail due to overheating, being dropped, or any number of other causes. Any battery that has *bulged* or *distorted* should be *immediately* disposed of to avoid impending failure that may lead to mid-air power loss or explosion. Self-contained batteries may not be repaired.

*Dispose of batteries by placing the battery in a salt water bath for 24 hours.  
Deliver to a recycling center to dispose of them safely.*

## FIRMWARE

Always install the latest Firmware/software for the aircraft and related components.

Failure to update aircraft, ST16S Ground Control Station, and Camera system may result in flight error/failure for which Yuneec cannot be held responsible. Visit [www.yuneec.com](http://www.yuneec.com) for more information.

**Update OTA (Over The Air)** application will auto-update all firmware and software applications when properly performed.

## PROPER TOOL FOR A PROPER JOB

### Tools needed for Basic Maintenance:

#00 size Phillips screwdriver  
#0 size Phillips screwdriver  
JIS screwdriver #00  
#1 size Phillips screwdriver  
1.5mm Hex Driver [4in (102mm) shaft length]  
2.0mm Hex Driver [4in (102mm) shaft length]  
2.5mm Hex Driver [4in (102mm) shaft length]  
Small pair of tweezers or hemostats

Bottle for bearing lubricant w/needle applicator or a syringe  
Electronic contact cleaning spray – **SAFE** for plastic  
Tube of extra-fine graphite lubricant (dry)  
Silicone or Teflon spray lubricant  
A quality Grease or Vaseline  
Small tube of RTV silicone caulk



Flashlight  
Magnifying glass  
Microfiber lens cleaning cloth  
Lint free cleaning cloth  
Cotton swabs  
Can of compressed air  
Small Vacuum cleaner  
Small medium bristle brush  
Small Soft bristle brush  
Spanner wrench for toggle switch nut  
Lock tight (thread lock) for small screws

### **NOTE** on silicone spray use

Because silicone spray is super slippery and minimally-reactive, it can lubricate almost anything. It works especially well on porous items, such as plastic parts. Because silicone spray is water resistant, it can also protect items from moisture.

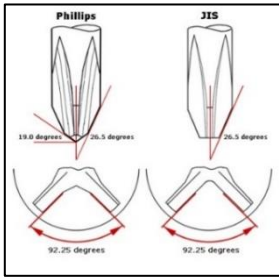
#### **Silicone has its dark side:**

The fact that it is a spray allows you to put it in places that greases cannot be applied, such as into mechanisms (locks, clocks, etc.), bearings or *electrical contact points* (switches, rotatory controls).

**DO NOT** use silicone spray on electrical connections, switches, relays etc. Because it can act as an insulator.

**Lock tight (thread lock)** – a **little** is all that is needed, remember you will want to get it off at some point without stripping the screw/bolt or damaging your equipment. More is NOT better.

**Note about JIS/Phillips screwdrivers, screws and Special Tools.**



JIS, sometimes called a “Japanese Phillips screwdriver” is very similar to a Phillips screwdriver.

***The difference in a nut shell:***

The difference is the walls of the slots in the JIS screw head, which are parallel and which will cause the regular style Phillips screwdriver to cam out of the screw as you’re trying to turn it.

Also, the JIS screw head slots have a shallower depth, preventing the taller head design of a Phillips head screwdriver to properly grip the sides of the fastener.



A JIS screw is striking similarity in appearance to a Phillips screw. JIS screws are often damaged in removing and installing because most people use a Phillips screwdriver on them.

*JIS screws can (usually) be identified by a single dot, next to the screw slot or bolt head.*



**Toggle switches** are attached with a nut that has two slotted indentations on opposite sides of the nut.

People usually used needle nose pliers to tighten or loosen this type of nut, but that can scratch and damage the surface of the equipment and over tightening can damage the switch or ST16S.

*Proper Tool is a spanner wrench to do a proper job and to prevent damage to the switch/equipment its attached too.*



Motor Lens Removal Tool



Twist tool to remove Lens

**ROUTINE MAINTENANCE**

**Tips/Information:** *i.e. words of wisdom to the wise*

## **DO NOT ATTEMPT REPAIRS IF YOU ARE UNSURE OF WHATS INVOLVED OR IT'S OUTSIDE YOUR SKILL LEVEL**

### **The Internal Frame for the Yuneec aircraft provides support for the drone.**

Every part of the Yuneec H series aircraft relies on the internal frame as this component holds the battery, supports the arms and houses the internal circuitry. If the Yuneec H series Internal frame *is even slightly damaged* from a crash it is strongly recommend it be replaced. *Even a small crack in the internal bracket may compromise the structural integrity of the drone during flight.*

### **Brushless Motor Maintenance:**

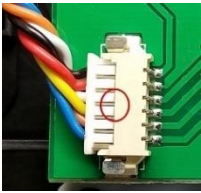
#### **NOTE:**

*The brushless motor will NOT spin like a top if you give it a quick spin with your fingers as the rare earth magnets strength and close tolerance to the stator prevent this – this is normal.*

Brushless motors are *almost* maintenance free, so minimal care is required for long life. Keep the motor clean, free of dust and dirt, especially the bearings. Dirty bearings wear quickly. Lubricate the bearings regularly with light oil. Do not immerse the motor in water, or solvents. Do not bend the wires excessively and secure wires to prevent breakage due to fatigue from vibration. Always use Yuneec OEM balanced propellers to reduce loads on bearings, to reduce noise, and reduce stress on the airframe.

Motor bearings are shielded, but not sealed, as a true contacting seal would provide too much friction (not to mention wear out very fast).

A **drop** of light **oil** on the front and rear bearings probably won't hurt... but most good bearings should hardly need re-lubrication. It can be done with the motor in place – just remove motor Lens and LED to get to the motor lower bearing and invert the aircraft to lub.



**RTV Silicone Caulk** on electrical connections (plugs) to prevent separation from vibration or being bumped. A small amount on an electrical connection will act as bond to hold it together, after it dries and is easily removed with a knife when you need it removed. A piece of tape tends to dry and come loose.



### **H/H Pro – H+/H520 Parts**

Typhoon H/H Pro arms are shorter than the H+/H520 and **CAN NOT** be inter-changed, same goes for the Propellers and Battery chargers.

And a B arm must be replaced with a B arm – angle/pitch of the arm will not work in place of the A arm.

Some parts are interchangeable i.e. body shell, legs etc. Do some asking, research and common sense or just get the right part, trying to save a buck may cost you much more – injury of yourself or someone else, property damage or just loss of aircraft.

**Re-installing screws** – **DO NOT** force and try to cut new threads in the plastic as this will weaken/damage them.

Place the screw in the hole *by hand* and turn counter-clockwise until you feel the screw **DROP** into the threads *then hand tighten* a couple of turns before using a tool.

**DO NOT over-tighten screws etc as most everything is plastic and it will WEAKEN the plastic - if bumped or dropped when overtightened may cause the joint to crack or break and may cost you more than you wish to spend if you have to send it off for repair at a center.**

**Electronic Components:** Require Yuneec or an authorized repair center to install, due to Yuneec's proprietary software (which you do not have access to) to calibrate or set-up in order to be used i.e. almost all Gimbal components, Transmitters/Relievers etc. So, do not spend the money for these components as the repair center you send it off to for repair should have the component or inform them you have it and will send it along.

**Inspect solder joins for integrity.** *You can give the attaching wire a slight pull to see if the connection is well made, look for discoloration (indicates a bad connection and is overheating). Look for angle hair in closely soldered wire connectors/connections (this is 1 or more wire strand touching another connection), with this type of connection it could send a signal the wrong way or to two different places NO GOOD. If unsure of a solder join apply **FLUX** and re-flow the solder. **DO NOT** solder **without FLUX** and use **ONLY** the minimum amount of heat required. Too much heat and you can lift traces and damage a board.*

**Take pictures** before dis-assembly of areas so you can get it back in the correct configuration/location or in the case of wires routed the proper way.

## 25 FLIGHT MAINTENANCE Checklist

**With Propellers OFF and Battery Removed**

See “Inspection Points” section for diagrams and more Information.

Write any inspection and/or correction NOTES on the Bottom or on back.

### Camera

- Clean gimbal vibration dampeners of dust/debris. Dampener (YUNE90101) silicone filled - deformation is normal with temperature changes – NO leaks from them.
- Inspect mounting rails on camera and aircraft for loose, damaged or worn rails.
- Clean protective lens with a microfiber cloth.

### Aircraft

- Clean the louvered air vents of dust/debris. DO NOT blow dirt into aircraft body (electrical circuitry inside and the newer vents have a fine filter bonded to the body and you will loosen or tear it).
- Inspect Body for Damage (cracks, loose or missing areas).
- Inspect each propeller for any cracking, stress marks, pitting or etc.
- Check arm locking mechanism for positive operation. When arm is raised it should “Click” into place and not be loose. Replace as necessary.
- Inspect each motor’s wiring protective sleeve leading into the airframe for wear.
- Clean each motor & arm of dust & debris. Give a slight twist to each arm & motor mount - verify rivets are tight. Slowly turn each motor by hand to ensure no grit is inside and moves freely. If needed use canned air and a small brush to remove any debris.
- Clean Landing Gear actuators of dust & debris. Give a slight twist to each leg shaft and verify rivets tight.
- Inspect the battery connection inside the aircraft for any discoloration or pitting (signs of a poor connection and causing over heating). Clean as necessary.
- Clean Front Sonar Ports, removing dust & debris and Bottom Ports if Realsense is installed.
- If RealSense is installed clean the front lenses and camera (pin hole) lens front and bottom of module.
- Verify all screws are secure. Hand tighten if necessary. DO NOT overtighten as this can damage or weaken the plastic, use a small amount of lock tight if needed.
- Start the aircraft and verify normal start up sequence and camera is level and facing forward. If RealSense is installed listen to the cooling fan for unusual noise & observe for smooth operation.

### ST16S Ground Station Control

- Vacuum vents of dust & debris. Yuneec does not recommend blowing compressed air into these vents.
- Vacuum cooling fan of dust & debris.
- Check Toggle Switch nuts with a spanner wrench for tightness **DO NOT** over tighten.
- Clean Control Sticks, Verify free and proper movement.
- Lightly lubricate the control sticks if needed with a Teflon or Silicone spray.
- Verify all screws are secure. Hand tighten if necessary.
- Clean touch screen/display.
- Turn on ST16S and check cooling fan for noise, verify smooth operation. Check all controls for proper operation using the “RC Monitor” screen. If needed Calibrate the ST16S controls.

### Perform post-inspection flight

### Log inspection/maintenance

Performed by: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_



# 100 FLIGHT MAINTENANCE Checklist

*With Propellers OFF and Battery Removed*

*See "Inspection Points" section for diagrams and more Information.*

*Write any inspection and/or correction NOTES on page2.*

## Camera

- If needed, replace gimbal dampeners (4) and dampener retainers/locks (2) if present. (*silicone fill dampener NO leaks*)
- Inspect mounting rails on camera and aircraft for loose, damaged or worn rails.
- Apply a small amount of graphite lubricant to a tissue and brush lengthwise on the gimbal rails if needed.
- Slowly** by hand rotate & check gimbal arms for smooth rotation and no damage.
- Inspect contacts on the camera and pop-up contacts on the aircraft for wear and clean as necessary. Electronic cleaning solution applied to a paper towel or lint free cleaning cloth is recommended. *Use Care to not damage the pop-up contacts on the aircraft.*
- Remove the protective lens and inspect camera lens for any damage (scratches), clean with a microfiber cloth, inspect and clean camera threads with a brush. **Use care to not damage lens.** Clean & re-install protective lens
- Clean the outside of the camera.

## Aircraft

- Inspect Body for Damage (cracks, loose or missing areas).
  - Clean the louvered air vents of dust/debris. **DO NOT** blow dirt into aircraft body (electrical circuitry inside and the newer vents have a fine filter bonded to the body and you will loosen or tear it).
  - Check motors by lifting each motor and adding some side pressure (to check for looseness). If any motor is showing signs of play, tighten or replace.
  - Inspect each motor's wiring protective sleeve leading into the airframe for wear.
  - Clean each motor & arm of dust & debris. Give a slight twist to each arm & motor mount - verify rivets are tight. **Slowly** turn each motor by hand to ensure no grit is inside and moves freely. If needed use canned air and a small brush to remove any debris.
  - Inspect each propeller for any cracking, stress marks, pitting, worn lugs on bottom etc.
  - With a propeller check each Quick Disconnect 3 (A) and 3 (B) for proper operation and propeller is **Not** loose in mount. Replace if bad or questionable performance.
  - Check arm locking mechanism for positive operation. When the arm is raised it should "**Click**" in place and not be loose. Replace locking mechanism as necessary.
  - Clean Front Sonar Ports, removing dust & debris and Bottom Ports if Realsense installed.
  - If RealSense is installed clean the front lenses and camera (pin hole) lens front and bottom of module.
  - Remove antennas from their sleeves and check for any wear or frayed wires. **Note:** wire is held down by two pieces of black tape, remove and save for reuse.
  - Remove the landing gear servo motors and check contacts for wear, clean. Give a slight twist to each shaft and verify rivets are tight. On aircraft check pop-up contacts for damage and clean with electronic contact cleaner applied to a paper towel or lint free cleaning cloth is recommended. *Use Care to not damage the pop-up contacts.* Verify screw holding leg to servo (Landing Gear Seat) is tight. If necessary apply a very small amount of graphite lubricate on the sides of the servo motor when re-installing.
  - Check landing gear foam feet for wear and replace if necessary.
  - Verify all screws are secure. Hand tighten if necessary. **DO NOT** overtighten as this can damage or weaken the plastic, use a small amount of lock tight if needed.
- NOTE:**  
If performing Annual Flight Maintenance skip the following two steps.
- Start aircraft and verify normal start up sequence and camera is level and facing forward.
  - If RealSense is installed listen to the cooling fan for unusual noise & observe for smooth operation.

# 100 FLIGHT MAINTENANCE Checklist

## ST16S Ground Station Control

- Remove battery and inspect the ST16S battery connection for any discoloration or pitting (signs of a poor connection and causing over heating) or damage. Clean as necessary.
- Clean air vents & cooling fan using a vacuum (DO NOT use compressed air).
- Clean Control sticks pivot points with small brush.
- Lightly** lubricate the control sticks if needed with a Teflon or Silicone spray.
- Replace screen protector if necessary.
- Check toggle switch retainer nuts for tightness.

**NOTE:**

If performing Annual Flight Maintenance skip the following 2 steps.

- Turn on ST16S and check cooling fan for noise, verify smooth operation.
- Calibrate the ST16S controls.

## Perform post-inspection flight

## Log inspection/maintenance

Performed by: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

# ANNUAL FLIGHT MAINTENANCE Checklist

(Recommend completion by a Yuneec authorized facility)

Write any inspection and/or correction NOTES on the Bottom or on back.

## With Propellers OFF and Battery Removed

See "Inspection Points" section for diagrams and more Information.

Perform 100 Flight maintenance checks first.

Open aircraft shell, camera and ST16S one at a time for internal inspection/checks. Use Care to not damage or loosen any wires or contact points when cleaning dust & debris from circuit boards and the inside.

### Camera

- Clean board of dust/debris. Check all solder joints for integrity.
- Clean antennas of grime/dust/debris.
- Check antenna connection for integrity. Check antenna lobes for uniformity.
- Check over the inside and verify wires are run properly and will **NOT** be pinched before closing up.
- Check housing attachment points for integrity and tighten screws (use a small amount of thread lock if needed).

### Aircraft

- Clean dust/debris from the interior and cover/GPS module. Check all solder joints for integrity.
- Check motherboard for cracks or loose connections. Check all solder joints for integrity; tighten screws (thread lock if needed).
- Remove antennas from their sleeves and check for any wear or frayed wires. **Note:** wire is held down by two pieces of black tape, remove and save for reuse. Open up and clean dust/debris from Leg Servo Motor drive train and lightly oil. Check all solder joints for integrity.
- Inspect battery connector for any discoloration or pitting (indicates a poor connection, cause overheating) & securely attached. Clean as necessary. Verify battery alignment (guide) rails are not worn or damaged replace the Frame if **ANY** damage is present.
- Verify the arm (6) shoulder bolt a secure, use a small amount of thread lock if needed.
- Check over the inside and verify wires are run properly and will **NOT** be pinched or interfere with the operation of the aircraft before closing up.
- Verify all screws are secure. Hand tighten if necessary. **DO NOT** overtighten as this can damage or weaken the plastic.
- Start aircraft and verify normal start up sequence and camera is level and facing forward. If RealSense is installed listen to the cooling fan for unusual noise, observe for smooth operation.

### ST16S Ground Station Control

- Remove 2.4Ghz & 5.8Ghz antennas and inspect the male and female connectors for damage, check that the center pin is not bent or missing on the male connector.
- Remove the battery – clean and inspect the connection on the battery and on the ST16S.
- Clean the USB, HDMI and SD card connections.
- Remove screws from back panel and open up the ST16S.
- Clear electronic components of dust/debris. Clean the louvered air vents of dust/debris.
- Lubricate cooling fan bearings.
- Clean 2 Control sticks & their friction points of dirt and old grease/lubricate, inspect friction points for excessive wear - lubricate with a small amount of greased. Check screws for tightness and springs are in place. Test stick to smooth operation.
- Check the ST16S handle screws.
- Check all solder joints for integrity. Inspect wiring for wear and properly routed. If needed use a small amount of RTV silicone to hold the wires in-place and on connectors to prevent separation.
- Close-Up the ST16S. **DO NOT** SCREW together.

## ANNUAL FLIGHT MAINTENANCE Checklist

- Turn on the ST16S and check cooling fan for noise, verify smooth operation.
- Test ST16S controls and verify proper operation via ST16S RC monitor screen.
- Calibrate the ST16S controls.
- Re-place screws and close up the ST16S

**Perform post-inspection flight**

**Log inspection/maintenance**

Performed by: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

## **Manufacturer Part Recommended Replacement Interval**

This is recommended -- NOT LAW -- each operator will have a different experience do to many variables with flight conditions.

### **20 Flights**

Propellers

### **100 Flights**

Landing pads/feet

### **200 Flights**

Replace batteries every 200-250 cycles.

### **400 Flights**

Replace motors

Replace landing gear actuators

Replace motor arm lock/catch

Replace RealSense internal cooling fan

Replace ST16S Ground Station cooling fan

Replace ST16S Ground Station battery

### **TBO (Time Between Overhaul)**

500 hours of operation, at an Authorized Yuneec repair station. Users may choose to set a more conservative TBO.

# Post-Inspection Flight Checklist

Model Tested: \_\_\_\_\_ Aircraft Serial Number: \_\_\_\_\_

*See "Inspection Points" section for diagrams. Also, you could use them for notes.*

- Firmware Updated to current version.
- Motors secure and Propellers in Good condition.
- Battery Slides in and out easily and locks in place.
- Camera body and lenses in good condition.

*Perform the following items as needed:*

- Gyro Calibration.
- Accelerometer Calibration.
- RC controls Calibration.
  
- Perform Compass Calibration.
- Verify Aircraft startup sequence normal.
- Check that the aircraft and ST16S GPS has acquired sufficient Satellites on each.

## During Flight -- Observe, Check or Perform the following:

- Observe Telemetry Data throughout flight - that it is displayed and is correct.
- Motor LED Indicators display properly during flight.
- Perform a Hover Test for 1- 2 minutes. Cycle landing gear verify proper extension/retraction. Operate Camera Pan and Tilt controls verify smooth operation of camera. Verify aircraft holds position and is within specs.
- Camera function(s) Tested: Pano \_\_\_\_, Interval \_\_\_\_, Burst \_\_\_\_, HD video \_\_\_\_, 4K video \_\_\_\_, Other \_\_\_\_\_
- Test Manual/NO GPS modes, observe and note below aircraft flight response.
- Test RTL [Return to Launch/Home] and Auto Landing functions.
- Task Mode(s) Tested: CCC \_\_\_\_, Orbit \_\_\_\_, POI \_\_\_\_, Journey \_\_\_\_, Follow/Watch Me \_\_\_\_, Team Mode \_\_\_\_\_
- Verify Aircraft and ST16S maintain GPS throughout flight.
- Aircraft and ST16S maintain good communications throughout flight
- After flight, Check Motors, Battery and Aircraft Temperatures are within limits.

## Review:

- Video/Pictures for quality. (no vibration see in the video/picture)
- Flight Log Data is accurate.

## Record in maintenance log

## Notes:

Performed by: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

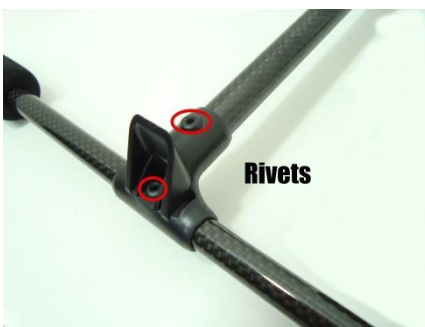
## **INSPECTION POINTS**

## Main body Inspection

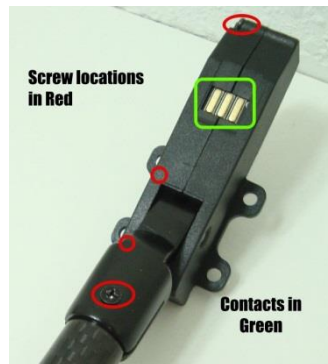


Antenna Holder

## Landing Gear and Arm Inspection



LEG



Leg Servo motor



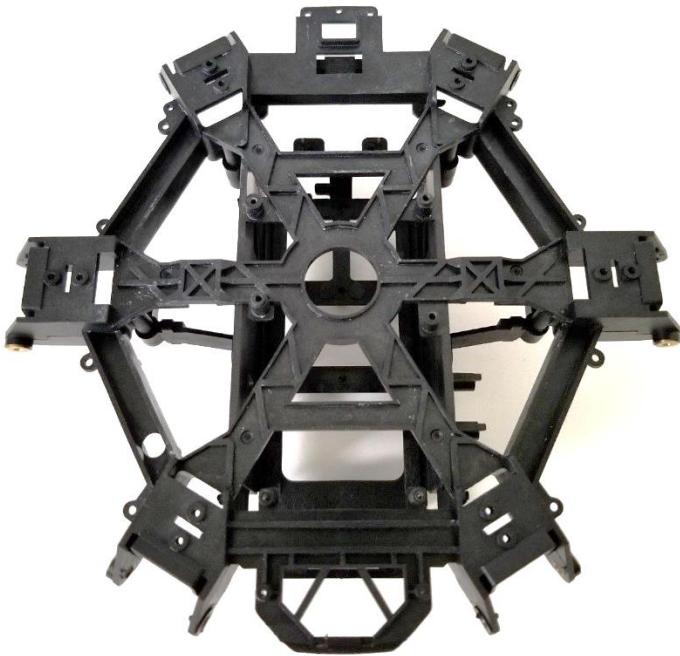
Leg Servo contact on aircraft



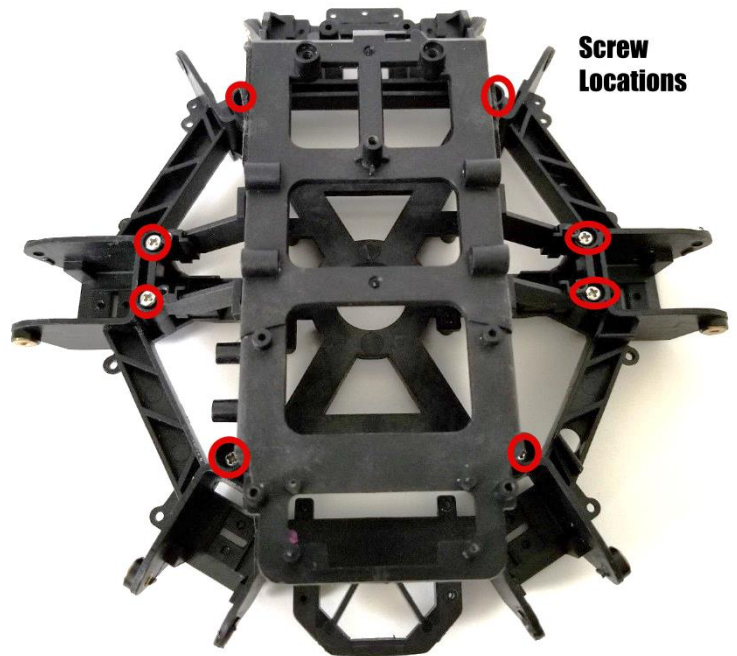
*Arm - lightly twist and check rivets secure*



**Main Frame Inspection (2-piece frame)**



*H/H Pro Main Frame TOP w/Battery Frame on bottom*



*H/H Pro Main Frame BOTTOM w/Battery Frame on top*

*Inspect frame joists for cracks and give them a twist to verify they are properly mated to the frame. Check that screw posts are not broken, loose or worn, remove screws and reattached with a SMALL amount of lock tight as needed.*



Check the (6) Arm Latch/catch screws tight.



Inspect motor wire protective sleeve.



This is the new frame design for **H+/H520** it is a one-piece design. (Main frame and Battery frame are molded as one, No screws to hold Battery frame on)

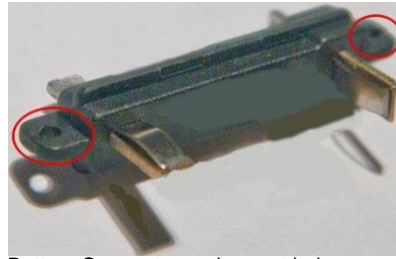
*Also it is lighter than the H/H Pro frame (not as beefy)*

**INSPECTION POINTS ARE THE SAME EXCEPT THE SIDES ARE A SOILD WALL AND MAY BE PRONE TO CRACKING??**

## BATTERY Frame Inspection



Battery Frame



Battery Connector and mount holes



Guide on Battery (which goes into above guides)



Inspecting frame - pay attention to the areas above - which are the battery guide lugs (circled) and battery connector mount holes (1<sup>st</sup> picture), battery attachment points (not broken/loose) (2<sup>nd</sup> Picture) and Battery lock post (3<sup>rd</sup> picture) for wear or damage. Also verify their surrounding frame work is not cracked, broken or damage. Replace if **ANY** damage or unsure.

## RealSense Module Inspection



Cooling Fan, Sonar, Pin Camera (red)

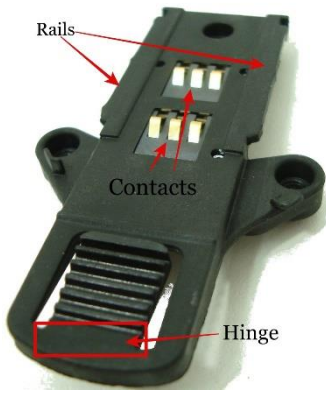


Front Lens and Pin Camera (red)

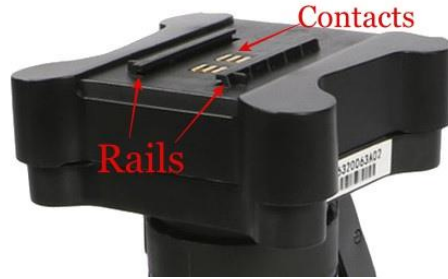


Cooling Vents on Back of R/S Module

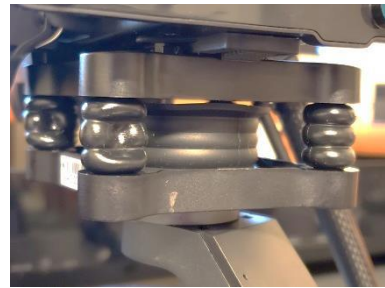
**Camera Inspection**



Aircraft mount (rails, contacts & lock)



Camera mount (rails and contacts)

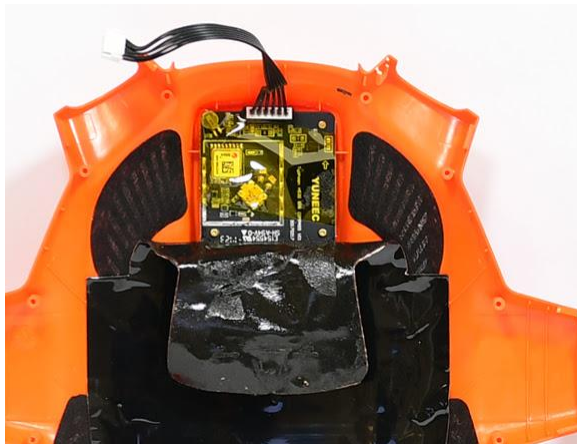


Dampers deformation is normal – Leaking is Bad  
(YUNE90101silicon filled rubber dampeners)

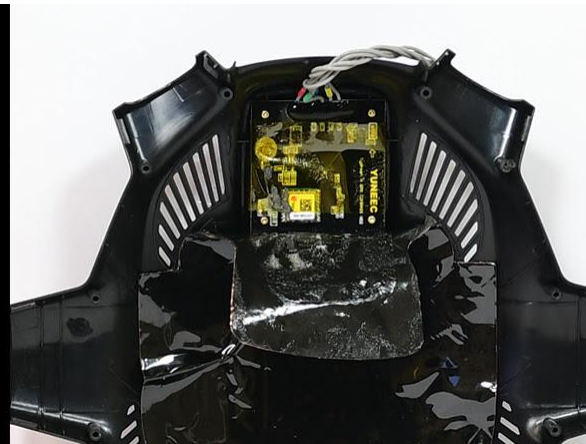


Check the threads for damage

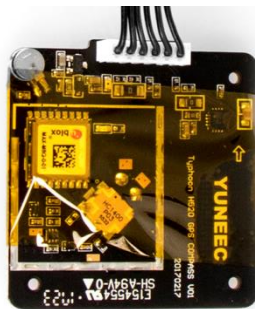
**GPS Module Orientation**



Typhoon H+ and H520



Typhoon H and H Pro



Note: The arrow on both boards for orientation.



***Typhoon H+ and H520***  
Inside



***Typhoon H and H Pro***  
Inside

**Power Connections Inspection**



*Typhoon H/H Pro Battery Connection & Charging adapter*

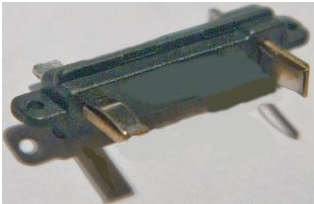


*Typhoon H+/H520 Battery Connection & Charging adapter*



The middle ROUND dots are the balance charging connections. The 2 **outer** large flat terminals are the positive (vertical one) and Negative (horizontal one) terminals and used to power the aircraft. The inner horizontal flat terminal is used with the balancing connections. The alignment grooves (circled in red) on the front sides of the battery are used when it is placed in the charger and in the aircraft to properly align the battery to the connections.

The H+/H520 battery is the same – except the balance charging connections are flat and not round, the battery also charges to a higher voltage than the H/H Pro.



*Aircraft Battery Terminal*

*Inspect these connections for pitting, discoloration (could indicate bad contact and is overheating) clean with a **NON-metallic** brush and contact cleaner. Also, verify the alignment guides are not damaged or overly worn – which may cause mis-alignment. OF course, inspect & clean you charger.*

**Propeller Inspection**



*Propeller*



*Prop Quick Disconnect*

*Check that the Quick Disconnect hold down lugs are not damaged/chipped and the center Button POPS-UP – indicating the spring is in good condition and you can see the Buttons lugs are undamaged when it pops-up. Verify screws are secure.*

*Inspect the Props for damage of any kind - chips, discoloration (indicating they may be weak from being bent) etc. Check that their locking lugs are not missing, chipped or deformed in someway, verify the props look symmetrical and are not un-balanced.*

## ST16S Inspection



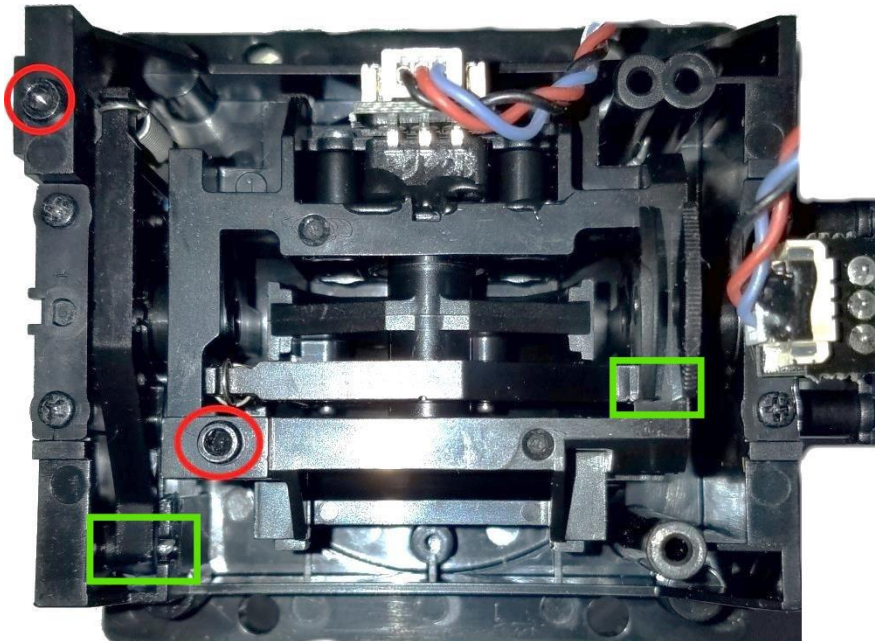
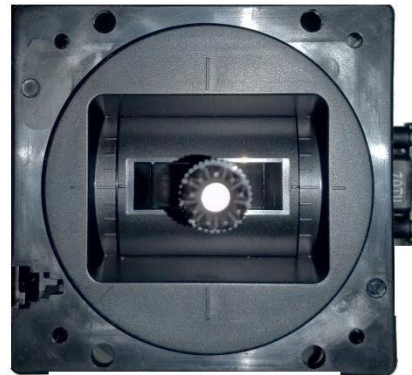
ST16S Front & Bottom



ST16S Top & Back



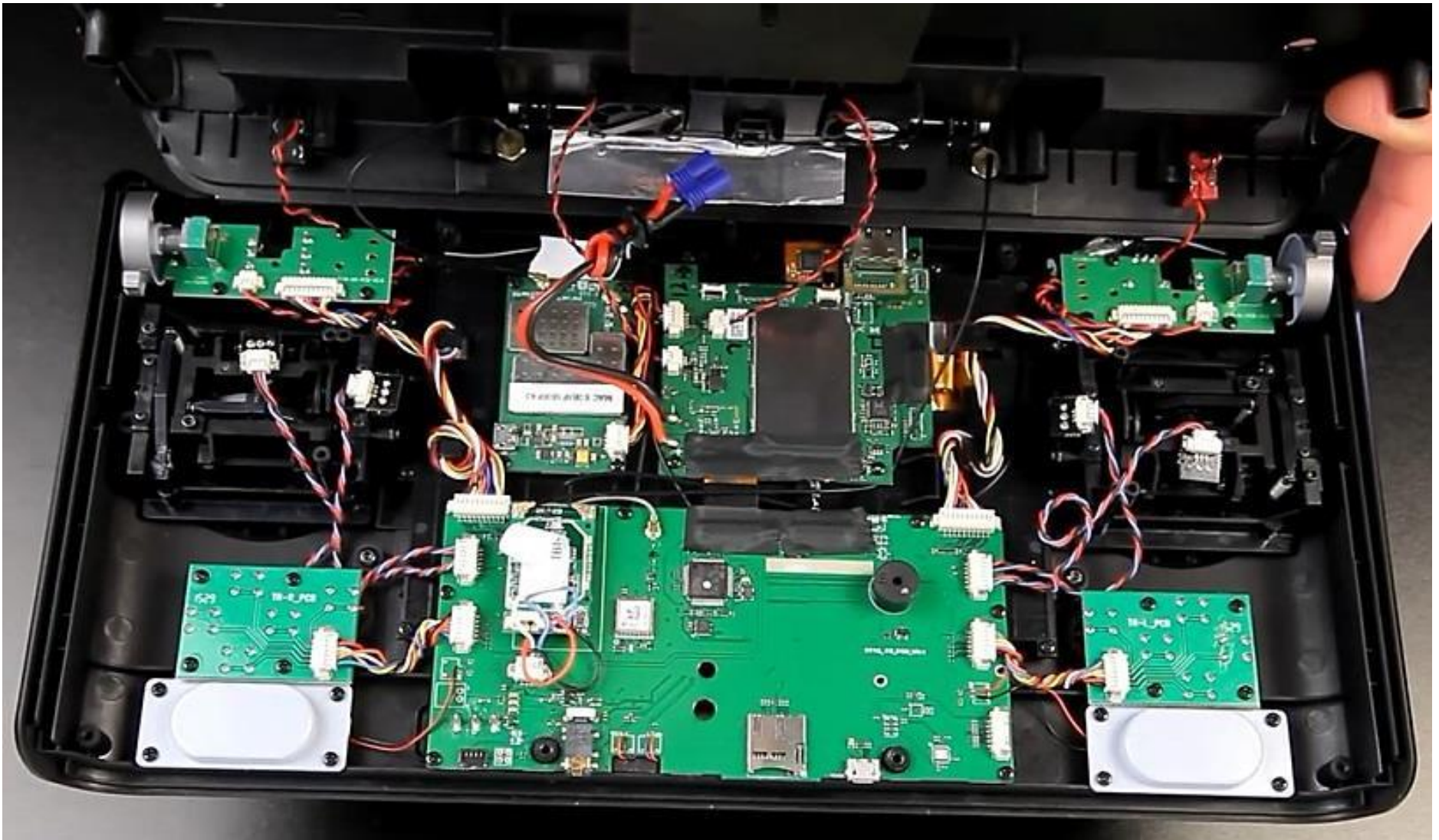
Cooling Fan Lift the sticker covering the bearing to lubricate.



The two HEX screws circled in red are for adjusting tension on the joystick in its two directions of movement. **ENSURE** the plastic block the screw is attached to is not binding when you adjust so you **Do NOT** strip the screw or plastic block threads.

If you wish to lubricate with a grease or Teflon spray make sure you **DO NOT OVER DO IT**. Areas in GREEN

The Phillip's screws are over the pivot points – and are for removing the gimbals out of the mount/frame.

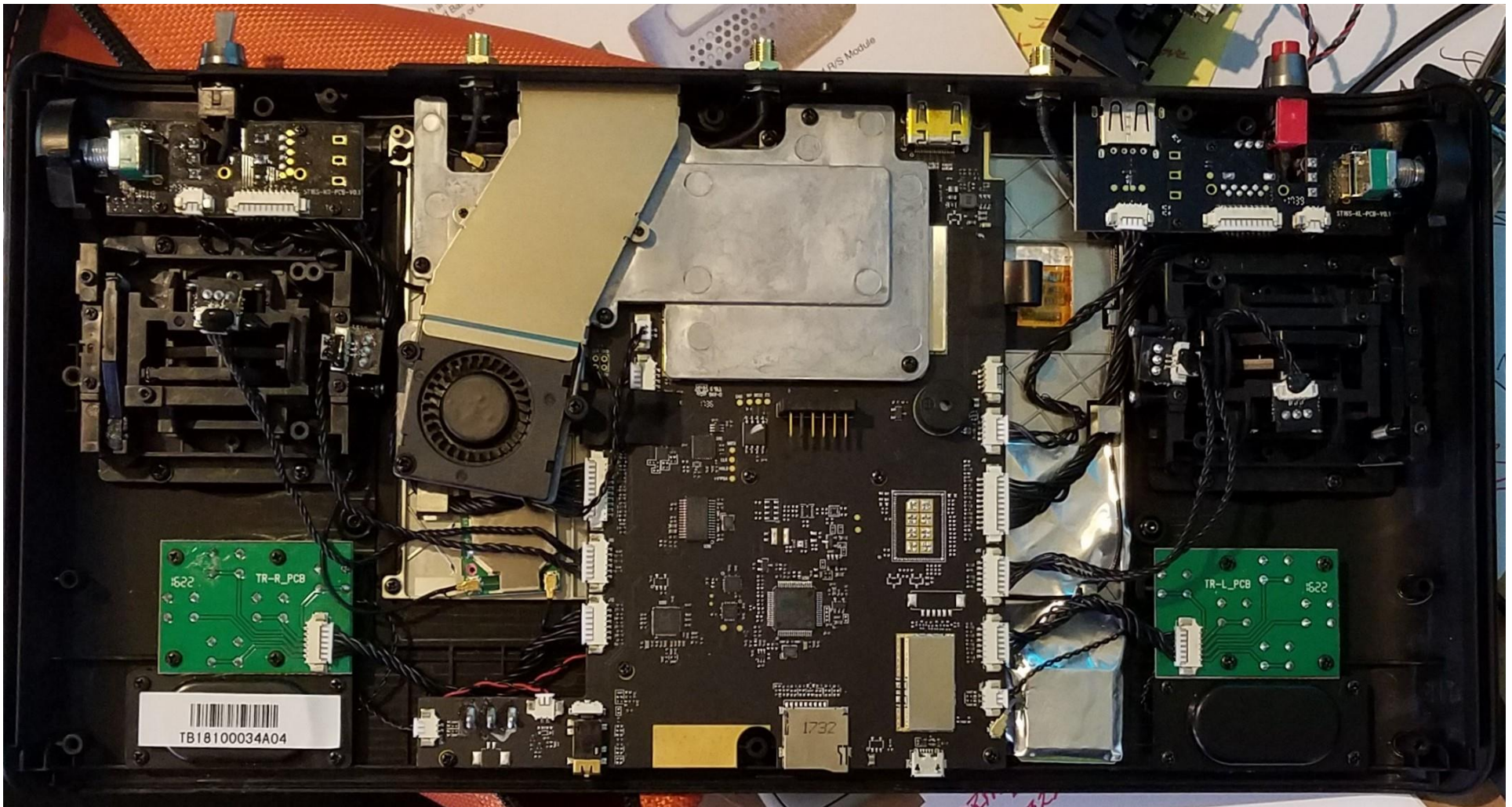


*This is the ST16 Controller*



You may wish to check the connectors have a drop of RTV to hold them together to prevent accidental separation.





*This is the ST16S Controller*



You may wish to check the connectors have a drop of RTV to hold them together to prevent accidental separation.





## **REPAIR PROCEDURES**

## Yuneec Typhoon Arm -- Spring Clip Replacement

### Introduction

The Arm Latch for the Yuneec Typhoon H+ Plus is the component essential to keeping the arm locked in the upward position. The Typhoon H+ Plus Arm Latch is located at the top of the arm under the word "press". It is a replaceable component that can be installed or uninstalled with relative ease. To replace the Arm Latch simply remove the screw that holds it in place.

This guide provides directions on how to replace the spring clip (i.e. arm clip) on the arm attachment.

### Tools

Tweezers  
JIS #00 Screwdriver

### Parts

1 YUNTYH123SVC Spring Clip.



Using a JIS #00 screwdriver, unscrew the 3mm screw.  
If the screw is hard to remove once fully unscrewed, to remove the screw flip the drone upside down and have the screw fall out.



You will need a thin flat item to lift the tab above a dent.



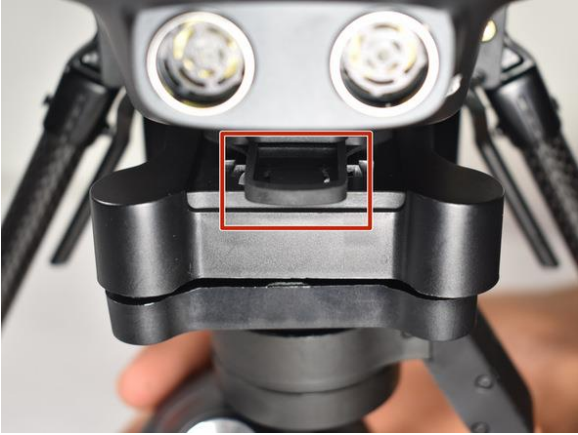
For this step the arm must be lowered.  
Remove the broken arm clip by pinching the metal top with a Tweezers and then pull it out in an upward direction.

**Reverse steps to complete replacement.**

## Gimbal Damper Re-attachment

### Introduction

This guide will demonstrate how to put the gimbal damper back together on a gimbal, if it has come apart.



Remove the camera configuration from the drone.



Push up on the tab connected to the camera configuration and slide the entire apparatus off.



Put the gimbal damper (the rubber balls) back into the plastic alignment mounts.



To Help push these dampeners back into place, use a blunt skinny tool. While holding the two plates together.

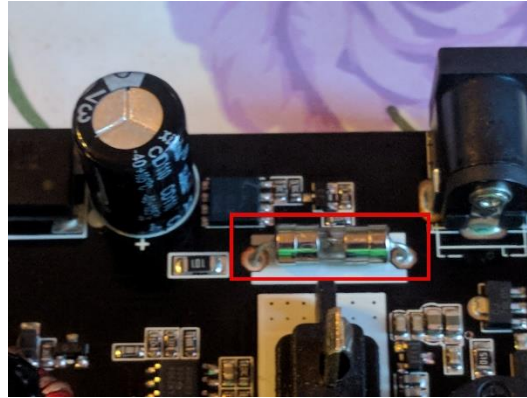
**NO SHARP** objects

It will take patience to complete.

## Battery Charger Fuse Replacement

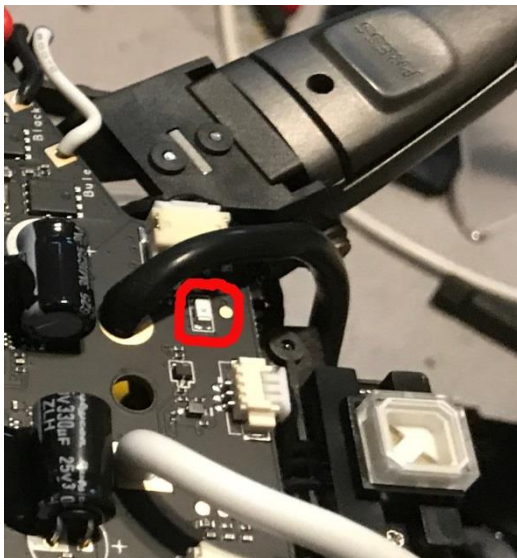


Remove the 4 rubber feet (save for re-use) to expose screws – remove then pull top and bottom apart.

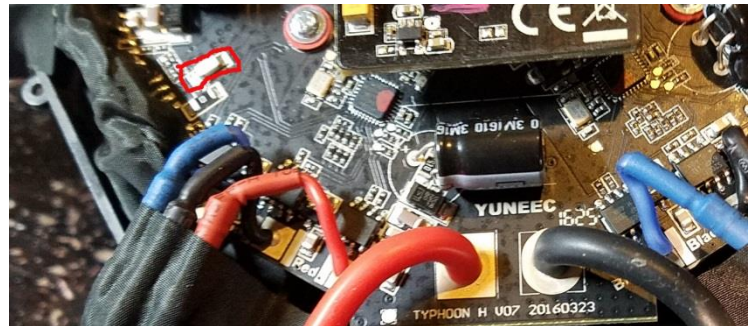


Fuse circled in Red

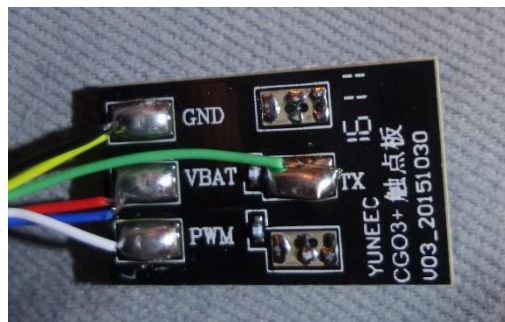
## Camera Fuse on Main Board of aircraft



*Typhoon H520 & H plus*



*Typhoon H (H480)*



Slip Ring wire connection points

## Motor Lubrication

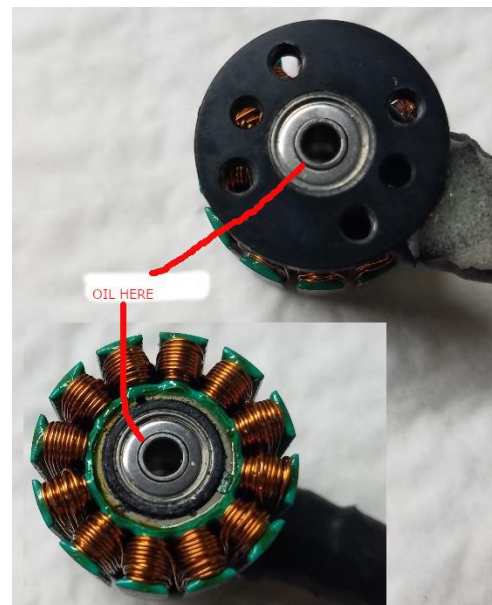
Place a ***DROP*** of oil along the inner race of the bearing and turn the motor by hand or use a pencil inserted in the opening if you have it removed.



Motor



Bottom of motor with C clip & washer removed



## Leg Servo motor internal view



***Landing Gear Seat***

A little grease or graphite on the metal pivot points.

Remove all dirt or grit on the inside of the servo then a drop or two of oil is all that is needed.

## **PARTS LIST**

# PARTS



**YUNC23US**  
C23  
For H Plus Only



**YUNTYHP101**  
Typhoon **H+/H520**  
Battery



**Yuneeec A10**  
Dual Battery Charger



**YUNTYH142SVC**  
Main Frame



**YUNH520117SVC**  
IMU module **H+/H520**



**YUNTYH108**  
Gimbal Connection  
Board (aircraft)



**YUNH520105**  
Typhoon **H+/H520**  
Battery



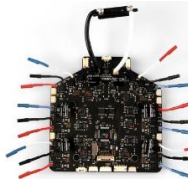
**Avial. most dealers**  
Charge Adapter  
**H+/H520**



**YUNTYH120SVC**  
Battery Frame



**YUNTYH124**  
Power On Switch



**YUNH520116SVC**  
Main Control Board  
w/Flight Controller  
**H+/H520**



**YUNTYHP121**  
Tri-Color Motor LED  
**H+/H520**



**YUNE90101**  
**Silicon Filled** Rubber  
Dampers C23/E90



**YUNST16S100**  
**ST16S** Battery



**YUNTYHP112SVC**  
Top Cover  
**H+ LOGO**



**YUNH520115SVC**  
**H+ & H520**  
GPS/Compass Board



**??????**  
Ultrasonic Sensor



**YUNCGO3101**  
Rubber Dampers



**YUNH520106**  
**H+/H520** Battery  
Charger



**YUNTYHP113SVC**  
Bottom Cover



**YUNH520114SVC**  
Landing Gear Contact  
Board



**YUNYTH135SVC**  
Receiver



**YUNCGO3P105**  
Mount Set CGO3+



**DY5**  
**H+/H520** Dual Battery  
Charger



**YUNH520110SVC**  
**1-piece Frame**  
(Main & Battery)



**YUNTYH136SVC**  
Landing Gear Module

# PARTS



**YUNTYH132**  
Antenna Holder



**YUNTYH127**  
Arm Lock/Catch  
(aircraft)



**YUNST24101**  
5.8Ghz Antenna (Omni)



**YUNST10105SVC**  
ST16/ST16S Cooling  
Fan



**YUNTYHR102SVC**  
Realsense Housing



?????????  
Folding Arm **B**  
H+/H520 **NO** motor



**YUNTYH123SVC**  
Arm Spring Lock  
(on arm)



**YUNST16109**  
5.8Ghz Antenna (Patch)



**YUNH520104**  
USB TO MICRO USB  
H+/H520



**YUNH520101**  
Prop H+/H20 **A** position



?????????  
Folding Arm **A**  
H+/H520 **NO** motor



**YUNTYH126ASVC**  
Quick Disconnect  
Prop **A ALL**



**YUNST16110**  
Sunshade



?????????  
Intel RealSense **ver. 2**  
H+/H520



**YUNH520102**  
Prop H+/H20 **B**  
position



?????????  
Folding Arm **B**  
H+/H520 w/motor



**YUNTYH126BSVC**  
Quick Disconnect  
Prop **B ALL**



**YUNST16107SVC**  
ST16/ST16S Motor  
Start/Stop



**Avial. most dealers**  
Charge Adapter  
H/H Pro



?????????  
Folding Arm **A**  
H+/H520 w/motor



**YUNH520120SVC**  
H+/H520 Motor



**YUNST16104SVC**  
ST16/ST16S Landing  
Gear Switch

**YUNTYHR105SVC**  
Ultrasonic Sensor  
Realsense



**YUNTYH118A**  
Prop H/H Pro **A**  
position



**YUNTYHP113SVC**  
Motor Lens Cover  
H+/H520



**YUNST16SUS**  
ST16S US version



**YUNST16105SVC**  
ST16/ST16S Control  
Stick/Joy Stick



**YUNTYHR104SVC**  
Cooling Fan RealSense



**YUNTYH118B**  
Prop H/H Pro **B**  
position



**YUNH520122**  
Motor Lens Puller



**YUNST16113SVC**  
2.4Ghz Whip Antenna



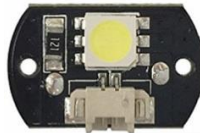
# PARTS



**YUNTYH114SVC**  
Motor Lens Cover  
H/H Pro



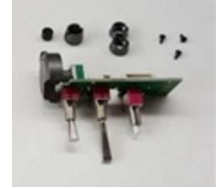
**YUNTYHSC4000-4**  
H/H Pro Battery  
Charger



H/ H Pro Motor LED  
**YUNTYH102 White**  
**YUNTYH103 Red**  
**YUNTYH104 Blue**  
**YUNTYH106 Green**



**YUNTYH131SVC**  
Landing Gear Seat



**YUNST16103SVC**  
ST16/ST16S Right  
Control Assy



**YUNTYH122BSVC**  
Folding Arm **B**  
H/H Pro NO motor



**DY3**  
H/H Pro Dual Battery  
Charger



**YUNTYH130SVC**  
H/H Pro Main Tri-Color  
LED



**YUNTYH119**  
Landing Gear Foam



**YUNST16111SVC**  
5.8 Ghz WIFI Board  
ST16/ST16S



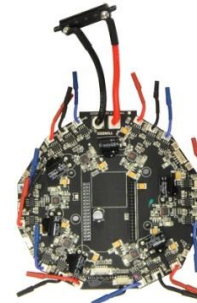
**YUNTYH122ASVC**  
Folding Arm **A**  
H/H Pro NO motor



**YUNTYH115**  
USB TO MICRO USB  
CABLE



**YUNTYH111**  
H/H Pro Main Tri-Color  
LED Cover



Damper  
**YUNTYH117SVC**  
H/H Pro ESC/Power



**YUNST16106SVC**  
SR24 transmitter  
ST16/ST16S



**YUNTYH101ASVC**  
Folding Arm **A**  
H/H Pro w/motor



**YUNTYHR**  
Intel RealSense **ver. 1**  
H/H Pro



**YUNTYH112SVC**  
Top Cover H/H Pro  
H LOGO



**YUNTYH133SVC**  
H/H Pro Main Control  
Board



**UAV Pilot**  
Yuneec Flight Sim  
Dongle



**YUNTYH101BSVC**  
Folding Arm **B**  
H/H Pro w/motor



**YUNTYH121SVC**  
H/H Pro Motor



**YUNTYH109**  
Leg Servo Motor



**YUNST16100**  
ST16 Battery



**YUNTYH107SVC**  
H/H Pro Top Cover  
w/GPS H LOGO



**YUNTYH116SVC**  
GPS/Compass Board  
H/H Pro



**YUNTYH110**  
Leg



**YUNST16102SVC**  
ST16/ST16S Left  
Control Assy

# PARTS



**YUNCG03PUS**  
CGO3+



**YUNCG03P120SVC**  
GIMBAL CONTROL BOARD



**YUNCG03P117SVC**  
Left & Right Gimbal Horizontal cover



**YUNCG03P117SVC**  
Gimbal Yaw Encoder



**YUNCG03P102**  
Rubber Dampers



**YUNCGOP104**  
Damper Protective Cover



**YUNCG03108SVC**  
CGO3+ CAMERA HOUSING



**YUNCG03112**  
CGO3+ Grey UV Camera Filter



**YUNCG03P112SVC**  
WIFI board and SD card reader



**YUNTYHPBP**  
H Plus Backpack



**YUNCG03103SVC**  
Gimbal Vertical Frame Cover



**YUNCG03113**  
CGO3+ Transparent UV Filter



**YUNCG03P114SVC**  
CGO3+ S2 Main Processing Board



**YUNTYHP001**  
H Soft Backpack



**YUNCG03P111SVC**  
Gimbal Yaw Motor w/Slip Ring  
**B0306-00021**  
Gimbal Pitch Motor



**YCG03P05**  
Gimbal Vertical ALUMINUM Frame



**YUNE90102**  
C23 UV Filter



**YUNCG03P110SVC**  
Gimbal Slip Ring



**YUNCG03P109SVC**  
Thread-off Proof Buckle



**B0306-00025**  
Gimbal Roll Motor  
Gimbal



**YUNCG03P115SVC**  
Gimbal Contact board



**YUNCG03P106**  
CGO3+ Protective Cover



**YCG03P04**  
Gimbal Horizontal ALUMINUM Frame



**YUNCG03P118SVC**  
Gimbal Pitch/Roll-encoder



**YUNTYHFSPO90**  
Switching Power Supply



**YUNCG03P116SVC**  
Gimbal Bottom Dampening Plate

Yuneec Part Number *	Nomenclature	Used on
B0306-00021	CGO3+ Gimbal Pitch Motor	ALL
B0306-00025	CGO3+ Gimbal Roll Motor	ALL
YCGO3012	CGO3+ Gimbal Yaw Encoder ( <i>Calibration Software Required</i> )	ALL
YCGO3P05	CGO3+ Gimbal Vertical Aluminum Frame	ALL
YUNC23EU	C23 1" Sensor 20MP Camera ( <i>Europe version</i> )	
YUNC23US	C23 1" Sensor 20MP Camera ( <i>US version</i> )	H+
YUNCGO3101	Gimbal Rubber Dampers ( <i>8pcs</i> )	
YUNCGO3108	CGO3+ Housing	
YUNCGO3112	CGO3/CGO3+ Gray UV Filter	
YUNCGO3113	CGO3/CGO3+ Transparent UV Filter	
YUNCGO3117	CGO3+ Gimbal Left/Right Decorative Accessory	
YUNCGO3P102	Gimbal Rubber Dampers ( <i>8pcs</i> )	
YUNCGO3P103	CGO3+ Gimbal Decorations for Gimbal Arm	
YUNCGO3P104	CGO3+ Gimbal Rubber Dampers Protective Cover	
YUNCGO3P105	CGO3+ Gimbal Top Mount Plate [ <i>Dampers &amp; Pins</i> ] ( <i>NO Contact Block</i> )	ALL
YUNCGO3P106	CGO3+ Cover Lock	H & H Pro Only
YUNCGO3P109	CGO3+ Gimbal Thread-Off Proof Buckle	
YUNCGO3P110	CGO3+ Gimbal Slip Ring	H & H Pro Only
YUNCGO3P111	CGO3+ Gimbal Yaw Axis Motor w/SlipRing ( <i>Calib Software Required</i> )	
YUNCGO3P112	CGO3+ Wifi Board and SD Card Reader	
YUNCGO3P114	CGO3+ S2 Main Processing Board ( <i>Calibration Software Required</i> )	
YUNCGO3P115	CGO3+ Gimbal Contact board	
YUNCGO3P116	CGO3+ Gimbal Bottom Dampening Plate	
YUNCGO3P118	CGO3+ Gimbal Pitch or Roll Encoder ( <i>Calibration Software Required</i> )	
YUNCGO3P120	CGO3+ Gimbal Main Control Board ( <i>Calibration Software Required</i> )	
YUNCGO3PEU	CGO3+ 4K Camera <i>Europe version</i>	
YUNCGO3PUS	CGO3+ 4K Camera <i>US version</i>	
YUNE90101	Gimbal Rubber Dampers ( <i>Silicon Filled</i> )	H+ & H520
YUNH520101	<b>H Plus &amp; H520 Propeller A</b> ( <i>Clockwise</i> )	H+ & H520
YUNH520102	<b>H Plus &amp; H520 Propeller B</b> ( <i>Counter-Clockwise</i> )	H+ & H520
YUNH520106	Battery Charger SC4000-4H	H+ & H520
YUNH520110	Main Frame w/Battery Frame ( <i>1 piece</i> )	H+ & H520
YUNH520114	Landing Gear Contact Board	ALL
YUNH520115	<b>H+/H520</b> GPS/Compass Board	H+ & H520
YUNH520116	<b>H+/H520</b> Main Power Control Board <i>w/Flight Controller</i>	H+ & H520
YUNH520117	<b>H+/H520</b> IMU Module	H+ & H520
YUNH520119	SR24 Receiver	ALL
YUNH520120	<b>H+ &amp; H520</b> Motor	H+ & H520
YUNH520124/YUNTYH126 <b>A</b>	Quick-Release Base Propeller <b>A</b>	All
YUNH520125/YUNTYH126 <b>B</b>	Quick-Release Base Propeller <b>B</b>	All
YUNSC100	Auto Receptacle Adapter for charger	ALL
YUNSIM	UAV Pilot YUNEEC Flight Simulator	
YUNST10105	ST16/ST16S Cooling Fan ( <i>ST16 has 2</i> )	
YUN <b>ST16</b> 100	ST16 Battery	<b>ST16 Only</b>
YUNST16102	ST16/ST16S LEFT switch board Assy	

Yuneeec Part Number *	Nomenclature	Used on
YUNST16103	ST16/ST16S RIGHT switch board Assy	
YUNST16104	ST16/ST16S Toggle switch landing gear	
YUNST16105	ST16/ST16S Control Stick Assembly	
YUNST16106	ST16/ST16S SR24 Transmitter <b>US (Authorized Service Use Only)</b>	
YUNST16107	ST16/ST16S Start/Stop switch	
YUNST16109	5.8 Ghz video Patch Antenna ( <i>square shape</i> )	ALL
YUNST16110	Sunshade for ST16/ST16S Ground Station	ALL
YUNST16111	5.8 Ghz WiFi Board ( <b>Authorized Service Use Only</b> )	ALL
YUNST16113	2.4 Ghz whip antenna	ALL
YUN <b>ST16H</b> US	ST16 Ground Station Controller	H & H Pro Only
YUN <b>ST16S</b> 100	ST16S Battery	ST16S Only
YUN <b>ST16S</b> US	ST16S Ground Station Controller	H+ & H520
YUNST24101	5.8 GHZ video Antenna ( <i>mushroom shape</i> )	ALL
YUNTYH101 <b>A</b>	H Arm Assembly <b>A (w/motor)</b>	H & H Pro Only
YUNTYH101 <b>B</b>	H Arm Assembly <b>B (w/motor)</b>	H & H Pro Only
YUNTYH102	H Motor LED Board - <i>White</i>	H & H Pro Only
YUNTYH103	H Motor LED Board - <i>Red</i>	H & H Pro Only
YUNTYH104	H Motor LED Board - <i>Blue</i>	H & H Pro Only
YUNTYH105	5400 mAh LiPo Battery Typhoon H ( <b>14.8v</b> )	H & H Pro Only
YUNTYH106	H Motor LED Board - <i>Green</i>	H & H Pro Only
YUNTYH107	H Upper Body Cover <b>w/GPS</b>	H & H Pro Only
YUNTYH108	Gimbal Connection Board ( <i>on aircraft</i> )	H & H Pro Only
YUNTYH109	Landing Gear Servo Motor	All
YUNTYH110	Landing Gear Leg	All
YUNTYH111	Tri-Color Lens for Typhoon H	H & H Pro Only
YUNTYH112	Upper Body Cover ( <i>has H LOGO</i> )	H & H Pro Only
YUNTYH113	Lower Body Cover	
YUNTYH114	H Motor Lens Cover	H & H Pro Only
YUNTYH116	H GPS/Compass Module	H & H Pro Only
YUNTYH117	H Main Power Distribution Board	H & H Pro Only
YUNTYH118 <b>A</b>	H Propeller A ( <i>Clockwise</i> )	H & H Pro Only
YUNTYH118 <b>B</b>	H Propeller B ( <i>Counter-Clockwise</i> )	H & H Pro Only
YUNTYH119	Landing Gear Foam Damper ( <b>2 pack</b> )	ALL
YUNTYH120	H Battery Frame ( <i>used w/YUNTYH142</i> )	H & H Pro Only
YUNTYH121	H Motor	H & H Pro Only
YUNTYH122 <b>A</b>	H Replacement Arm A position ( <i>no motor</i> )	H & H Pro Only
YUNTYH122 <b>B</b>	H Replacement Arm B position ( <i>no motor</i> )	H & H Pro Only
YUNTYH123	Arm Spring Latch ( <i>on the arm</i> )	ALL
YUNTYH124	On/Off Switch Circuit Board ( <b>NO Button</b> )	ALL
YUNTYH126 <b>A</b>	Quick-Release Base Propeller <b>A</b>	ALL
YUNTYH126 <b>B</b>	Quick-Release Base Propeller <b>B</b>	ALL
YUNTYH127	Arm Lock/Catch [ <i>on Main frame</i> ] ( <b>3pcs</b> )	ALL
YUNTYH128	Motor Lens Puller ( <i>special tool</i> )	
YUNTYH130	H Main Tri Color LED	H & H Pro Only
YUNTYH131	Landing Gear Seat	ALL
YUNTYH133	H Main Control Board ( <b>Authorized Service Use Only</b> )	H & H Pro Only

Yuneec Part Number *	Nomenclature	Used on
YUNTYH135	SR24 Receiver Board ( <i>US version</i> )	ALL
YUNTYH136	Landing Gear Circuit Board	ALL
YUNTYH142	Main Internal Frame ( <i>used w/YUNTYH120</i> )	H & H Pro Only
YUNTYHBP001	Typhoon H Soft Backpack	
YUNTYHFSP090	100-240V AC to 19V DC Power Supply ( <i>NO powercord</i> )	
YUNTYHP101	5250 mAh LiPo Battery Typhoon H Plus ( <i>15.2v</i> )	H+ & H520
YUNTYHP112	H+ (Plus) Upper Cover ( <i>has H Plus LOGO</i> )	H+
YUNTYHP113	H+ (Plus) Motor LED Cover	H+ & H520
YUNTYHP120	H+ (Plus) Motor	H+ & H520
YUNTYHP121	H+ (Plus) Tri-Color Light Circuit Board ( <i>under motor</i> )	H+
YUNTYHPBP	Typhoon H Plus Backpack	
YUNTYHR	RealSense Module <b>ver 1</b>	H & H Pro Only
YUNTYHR102	Lower Cover RealSense Module	ALL
YUNTYHR104	Cooling Fan RealSense Module	ALL
YUNTYHR105	UltraSonic Sensor RealSense Module ( <i>on bottom</i> )	ALL
YUNTYHSC4000-4	Battery Charger SC4000-4	H & H Pro Only
YUNWZD	Wizard Wand	H & H Pro Only

\* NOTE: Some part numbers may need "SVC" add at the end if searching on the Internet - Its Yuneec's way of saying the part needs to be done by a service center - this is not always TRUE.

**DO NOT** confuse Typhoon H or H Pro (H480) with the **Typhoon H Plus**  
Some parts will work YES (ie body parts) but **NOT** all (ie Propellers or arms)

Yuneec's Part ID Naming:

**YUN** - is for YUNEEC

Next 5 characters are for the Model or Equipment

Cameras: **CGO** - CGO/CGO2 Camera, **CGO3P** - CGO3+ Camera, **C23** - C23 Camera and so on

Aircraft: **TYH** - is the **H/H Pro** (H480), **TYHP** - is the H +, **H520** - is the H520 and so on

**TYHR** - is the RealSense components - which apply to all the Typhoons

Next is a sequence number followed by an **A** or **B** in some cases i.e. arms and props

\* NOTE: Some part numbers may need "SVC" add at the end if searching on the Internet - Its Yuneec's way of saying the part needs to be done by a service center - this is not always TRUE.

**DO NOT** confuse Typhoon H or H Pro (H480) with the **Typhoon H Plus**  
Some parts will work YES (ie body parts) but **NOT** all (ie Propellers or arms)



*99% of the electronic components will need to be done by a service center as they will require Yuneec's proprietary software to setup/calibrate in order to properly function/work with your system. i.e. Camera components, transmitters/receivers etc.*

## TROUBLESHOOTING

ISSUE	POSSIBLE CAUSE	SOLUTION
Compass Calibration Warning	Area has something affecting the compass could be underground or a unseen transmitter etc.	Move to a new area and see if Warning Clears
	H Plus not Calibrated	Perform Compass Calibration
	Bad electronic component	Call Technical Support
Landing Gear Not going UP	Dirty/Stuck Landing Gear Motor	Invert H Plus and Verify Landing Gear Operation Cycle several times. May need a small tap to start
	Contacts dirty/damaged	Remove servo motors and verify contacts Clean and not damaged
H Plus will not go above 400ft.	Close to an Airport	Check FAA web site or their B4UFLy App.
	Ceiling Set Wrong	Check setting in Aircraft Setup
NO Telemetry Data Displayed	Aircraft not bound	Rebind aircraft to ST16S
	Bad Component	Try a different ST16S
ST16s Power on LED lit but no startup screen, Fans NOT running	ST16s Battery LOW or Bad	Charge or replace ST16S Battery
Camera no power or not functioning	Dirty or Damaged Contacts	Remove camera clean/inspect contacts on Camera and the H Plus. Verify contacts properly mate when Camera is attached.
	Fuse blow on main board	Open aircraft body and test/replace fuse
	Wrong camera Selected/Bond on ST16S	Verify proper Camera selected and Bond on ST16S
Gimbal/Camera Not Level	Switch/Knob/Slider out of position	Verify Switch/Knob/Sliders in proper Position Use RC Monitor to verify position
	Not mounted properly or Broken/loose Mount rail	Remove Camera and inspect mount rails on camera and H Plus
	Broken/Missing Rubber shock on Mount	Inspect and repair/replace Rubber mount
Camera NOT Facing Front or NOT at 0 position	A Gimbal Control out of Adjustment/Calibration	Perform ST16S Controls Calibration
	Pan Knob not at Middle Position	Placed Pan Knob at Middle position and Verify on ST16S RC Monitor Screen at Middle
Camera SD card video jerky/not smooth	Wrong SD card	Use any <b>U3</b> class microSD card (U3 speed is capable of 4K data rate) from 16GB to 128GB.
Video not playing right on external system	Video player not able to handle format properly	Try different video player
Vibration levels high, indicated by shaky landing gear when hovering	Damaged propellers/motor or loose motor	Check to ensure propellers are not nicked or damaged Check motor properly secured to mount and not damaged
H Plus Aircraft Control Lags ST16S input, Not responsive	Antennas Bad or Damaged Transmitter or Receivers Bad	Verify 2.4 & 5.8Ghz icon in upper right corner of ST16. Re-Bind to Aircraft following Binding Procedure. Try a spare 2.4Ghz antenna

## TROUBLESHOOTING

ISSUE	POSSIBLE CAUSE	SOLUTION
Poor GPS	Object(s) blocking clear view of the sky	Ensure GPS antenna has clear view of sky
	A transmitter or other interference nearby	Select new location to fly
	Bad Component	Component maybe weak or Bad
	High Solar activity	Solar activity can affect the GPS satellite system Wait for disturbance to subside or disable GPS
H Plus has reduced precision while flying, it Drifts	Compass out of Calibration	Perform Compass Calibration
	Compass is being exposed to unseen magnetic interference	Select new location to fly
Flight battery will not charge	Poor connection between the Smart Charger and the flight battery	Check to ensure Battery is fully seated in the charger
	Fuse Blown in charging unit	Open charging unit test/replace fuse
H Plus will not initialize	H Plus was moved during initialization	Turn the H Plus off then back on again and DO not move it during the initialization process
H Plus Motors won't Start	Flight Mode switch in Home [RTL] position	Place switch in Middle (Angle) Mode Verify Angle mode display on information Bar
	H Plus is in No-Fly Zone.	Move at least 5 miles away from No-Fly Zone. Most major airports are No-Fly Zone areas
	Failed Component	Verify switch operation in RC Monitor display Try Auto Take-off









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