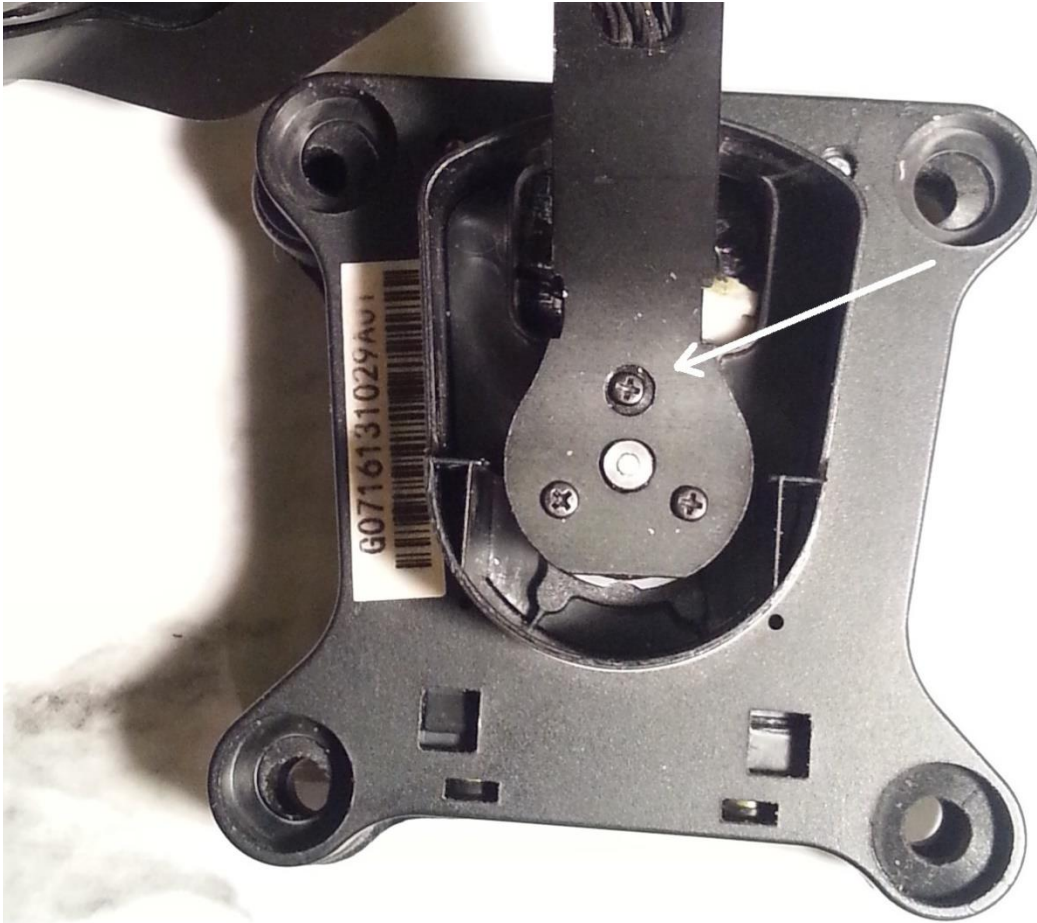


## Attachment 3

### CGo3 Rear Arm Alignment

25). Install the last screw.



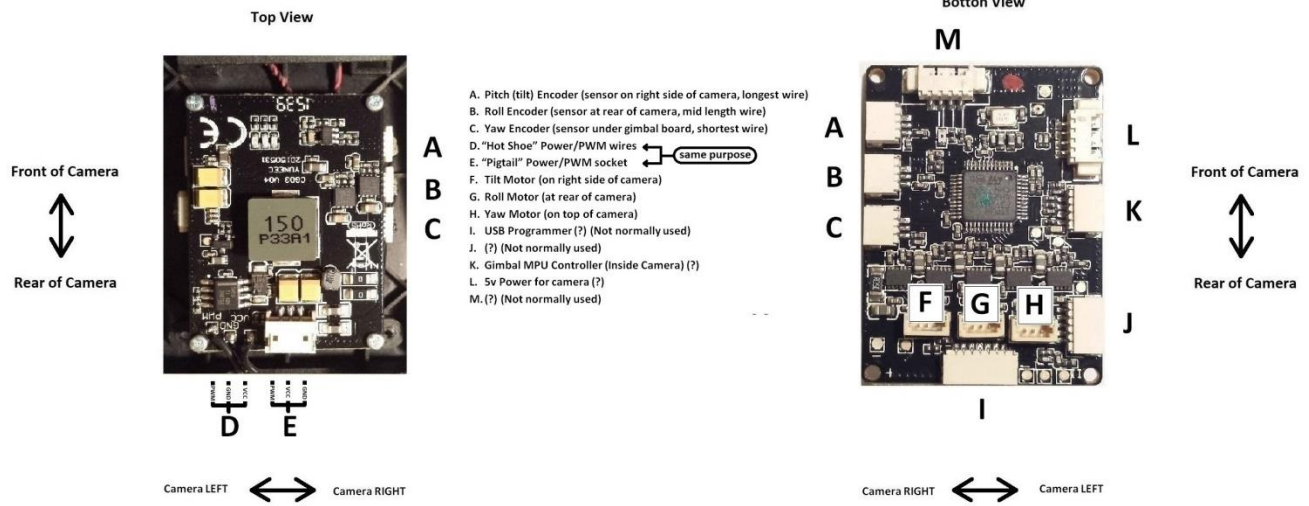
Reassembly is pretty much “reverse the process” from Step 10). Don't forget the static, and ensure the right size screw goes in each hole.

# Attachment 4

## CGo3 Gimbal Board Connectors

**Use of this information is at your own risk.**

### CGo3 GIMBAL BOARD CONNECTORS



#### CGO3 ENCODER BEEP CODES

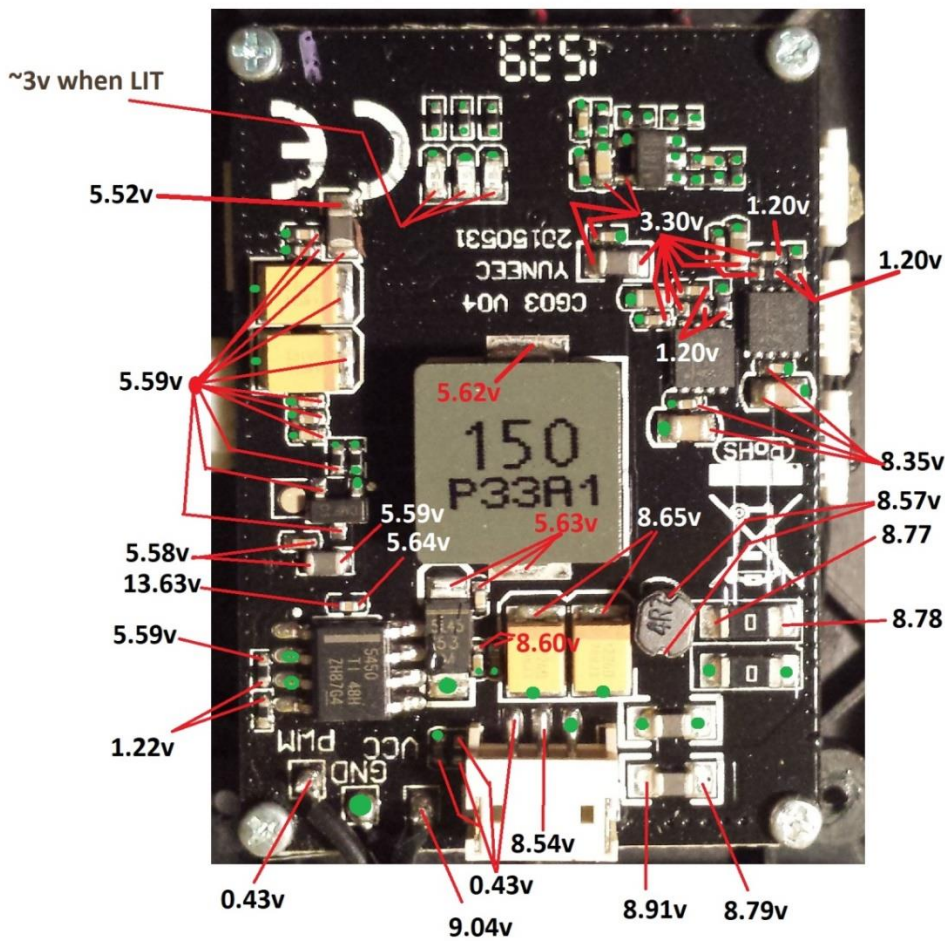
- A. PITCH (TILT) ENCODER: Long, Long, short, pause, repeat.
- B. ROLL ENCODER: Long, Long, short-short, pause, repeat.
- C. YAW ENCODER: Long, Long, short-short-short, pause, repeat.

# Attachment 5

## CGo3 Gimbal Board Voltages (TOP)

**Use of this information is at your own risk.**

### CGo3 Gimble Board Sample Voltages (TOP)



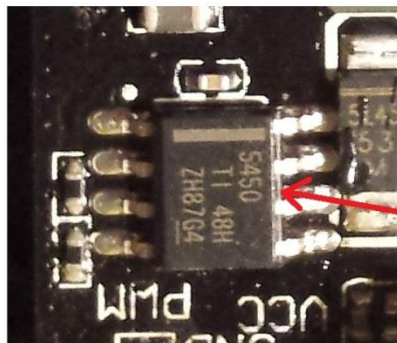
**NOTE:** Green may indicate Ground OR zero  
(low side) normal voltage.

# Attachment 6

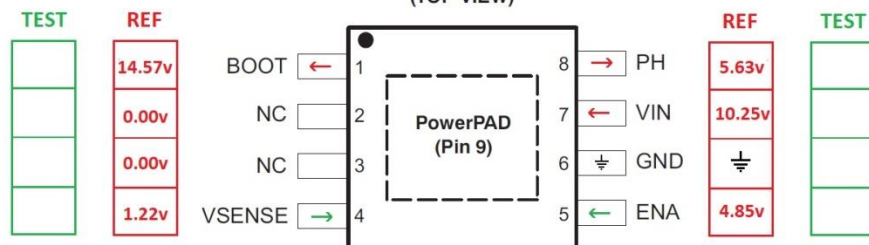
## CGo3 Gimbal Board Mosfet Information

**Use of this information is at your own risk.**

### CGo3 Gimbal Board Mosfet Sample Voltages



DDA PACKAGE  
(TOP VIEW)



Pin Functions

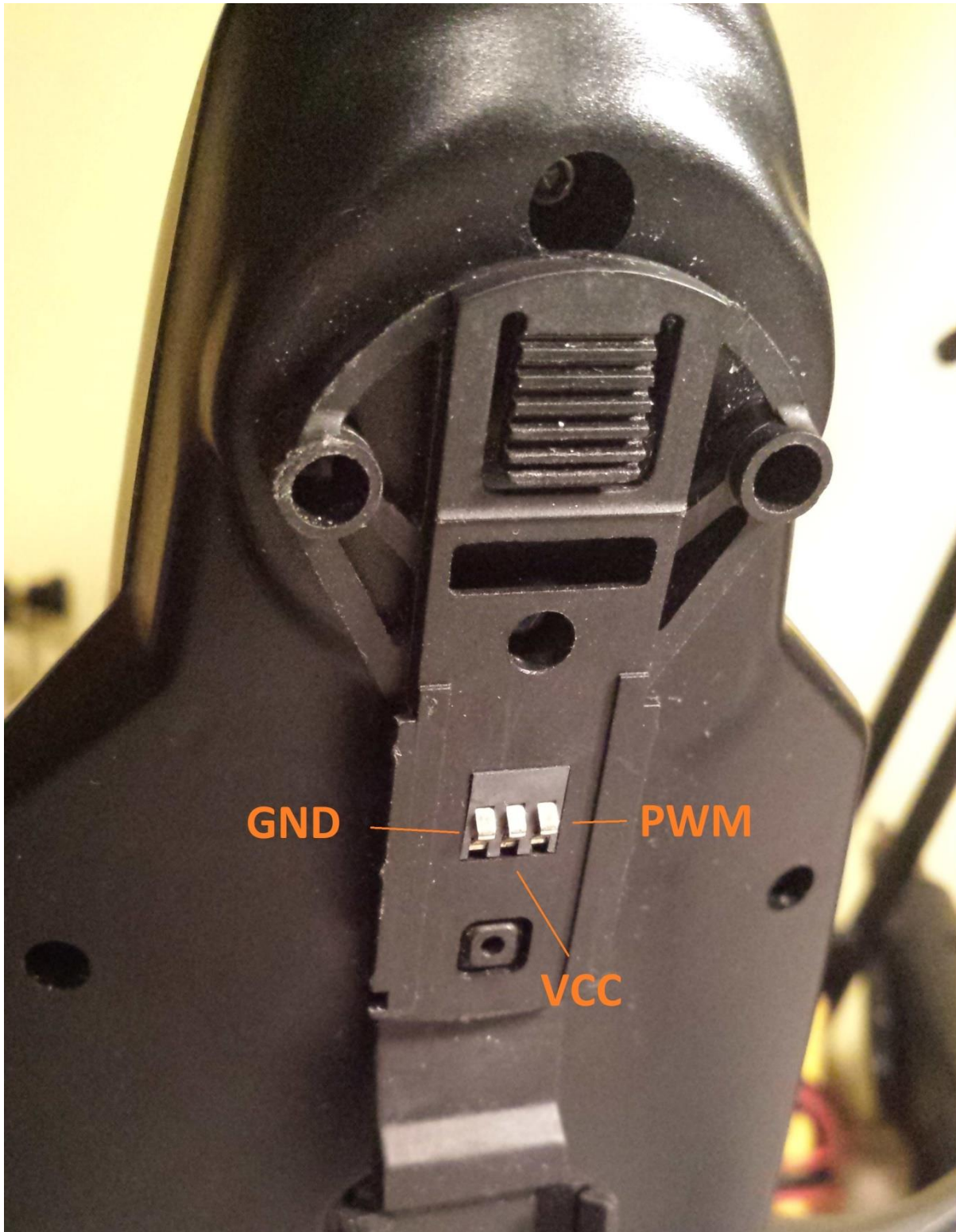
PIN		I/O	DESCRIPTION
NAME	NO.		
BOOT	1	O	Boost capacitor for the high-side FET gate driver. Connect 0.01- $\mu$ F, low-ESR capacitor from BOOT pin to PH pin.
NC	2, 3	-	Not connected internally.
VSENSE	4	I	Feedback voltage for the regulator. Connect to output voltage divider.
ENA	5	I	On and off control. Below 0.5 V, the device stops switching. Float the pin to enable.
GND	6	-	Ground. Connect to PowerPAD.
VIN	7	I	Input supply voltage. Bypass VIN pin to GND pin close to device package with a high-quality, low-ESR ceramic capacitor.
PH	8	O	Source of the high-side power MOSFET. Connected to external inductor and diode.
PowerPAD	9	-	GND pin must be connected to the exposed pad for proper operation.

Revision 1

2019-04-26

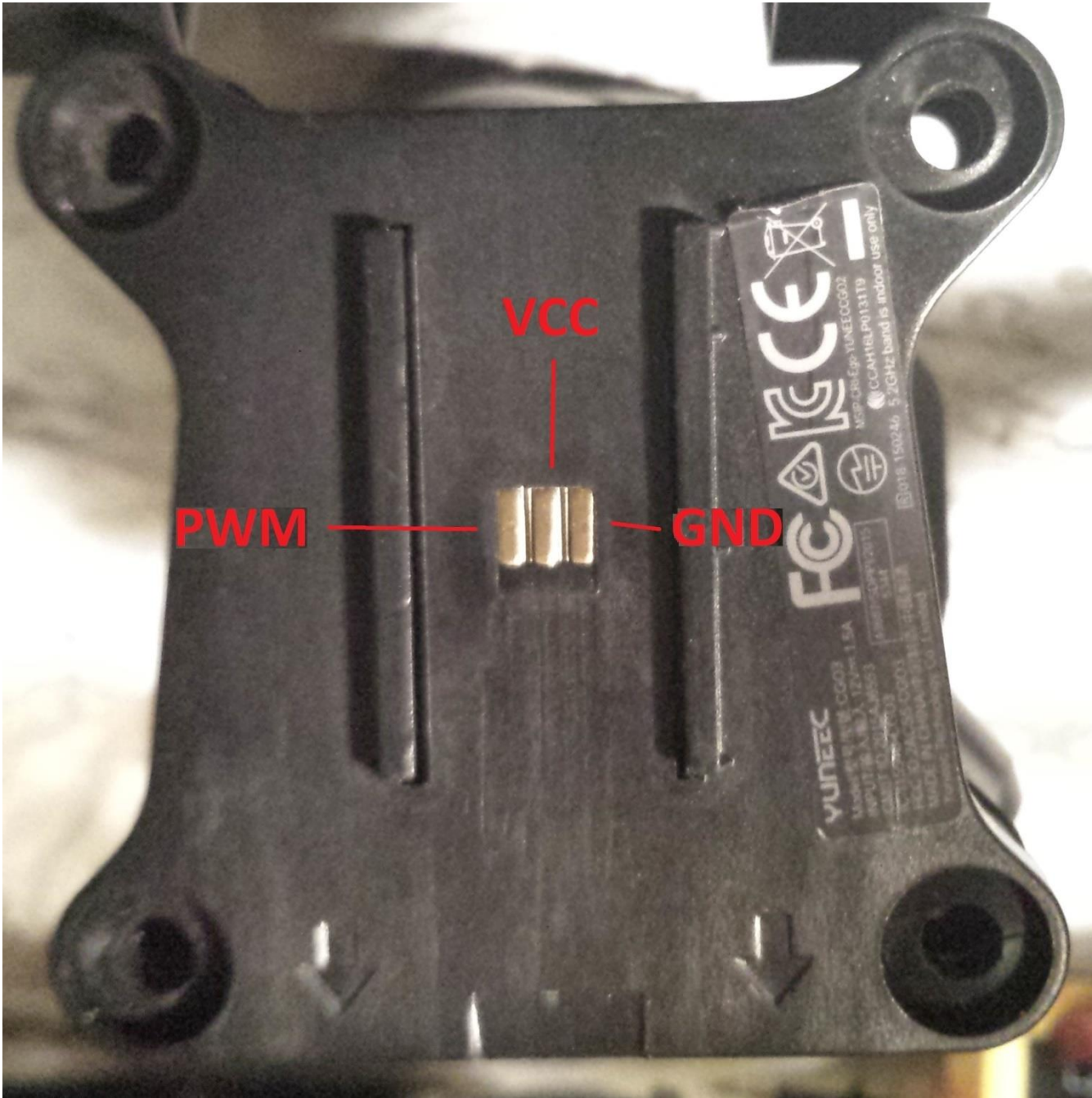
**Attachment 7**  
**CGo3 Hot Shoe Contacts**

**Use of this information is at your own risk.**



# Attachment 7

## CGo3 Hot Shoe Contacts

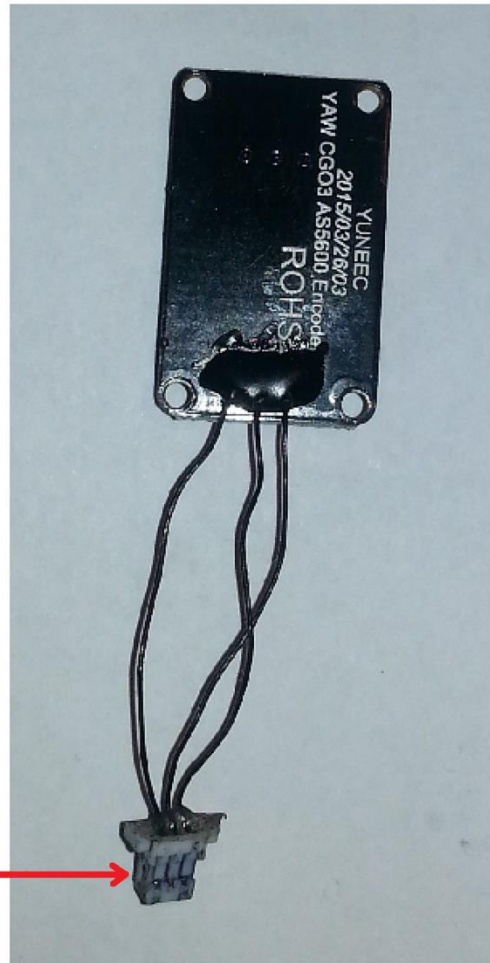
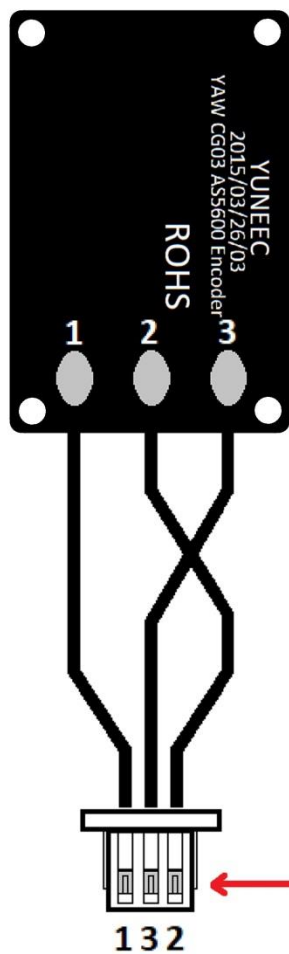


# Attachment 8

## CGo3 Yaw Encoder Pinout

Use of this information is at your own risk.

### CGo3 Yaw Encoder Wires



Revision 2  2019-09-18

## Attachment 9

### CGo3 Core Assembly Replacement

**Use of this information is at your own risk.**

**Introduction:** The CGo3 and CG03+ core assembly consists of the Main Processor Board, WIFI Board, WIFI Antenna, Cooling Fan and the supporting frame. This Attachment provides instructions for removing these items as a single unit. This Attachment is primarily based on a mid-series CGo3 camera. Additional notes and provisional steps have been added to extend applicability to early/late series CG03 and CG03+.

1). Remove the lens filter:



2). Remove the camera Nose Piece:





## Attachment 9

### CGo3 Core Assembly Replacement

3). Remove the four front cover screws:



4). Disconnect antenna clover leaf from notch in support bar:



## Attachment 9

### CGo3 Core Assembly Replacement

**NOTE:** Some CGo3 and all CGo3+ cameras have the microphones mounted in the front cover.

5). **IF PRESENT**, remove red/black microphone wires and microphones from holders in the front cover.

6). Carefully work front cover off of the antenna clover leaf and remove:



7). Remove the four rear cover mounting screws:



## Attachment 9

### CGo3 Core Assembly Replacement

8). Work rear cover slightly forward to clear USB and SD card slot, then remove cover:



**NOTE:** The heat sink strap arrangement differs between cameras, and may not exist at all. Refer to Addendum 1 (CGo3 Heat Sink Variations) as required.

9). **IF PRESENT**, disconnect heat sink strap from WIFI board (Leave other end connected to pitch axle):

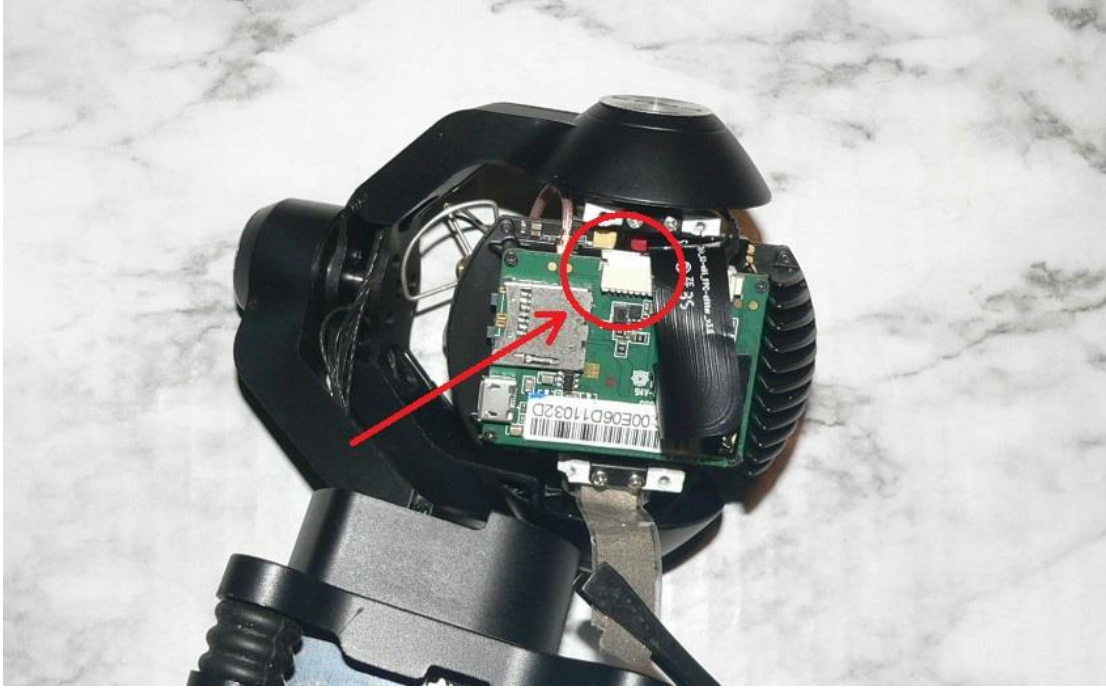


## Attachment 9

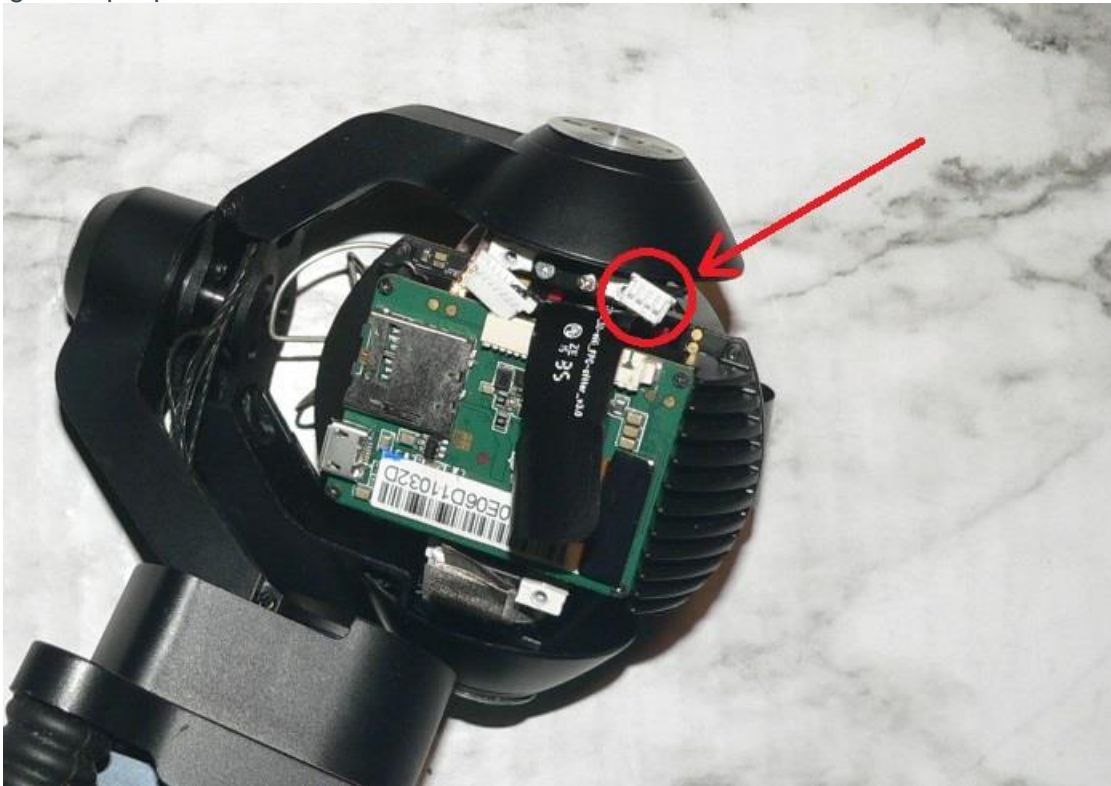
### CGo3 Core Assembly Replacement

**NOTE:** The pinout of the seven pin connector differs between cameras, and may not exist at all: Refer to **Addendum 2** (CGo3 WIFI Board 7 Pin Connector) as required.

10). IF PRESENT, unplug the 7 pin connector:



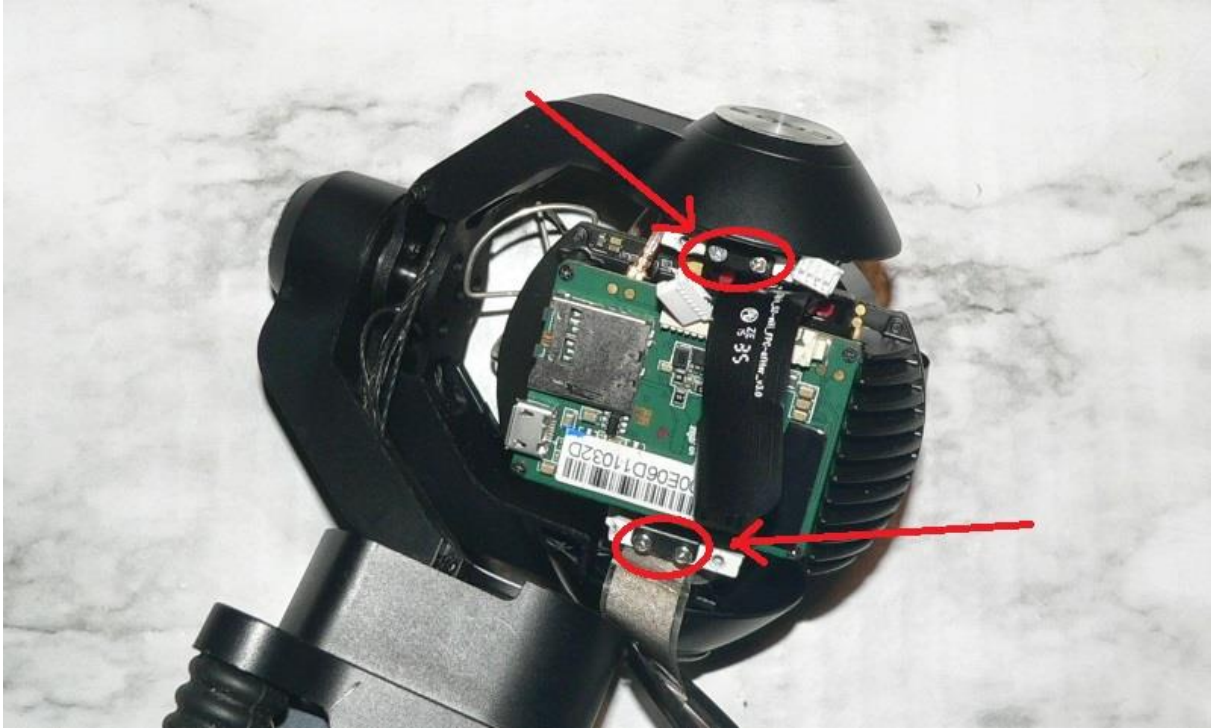
11). Unplug the 4 pin power connector:



## Attachment 9

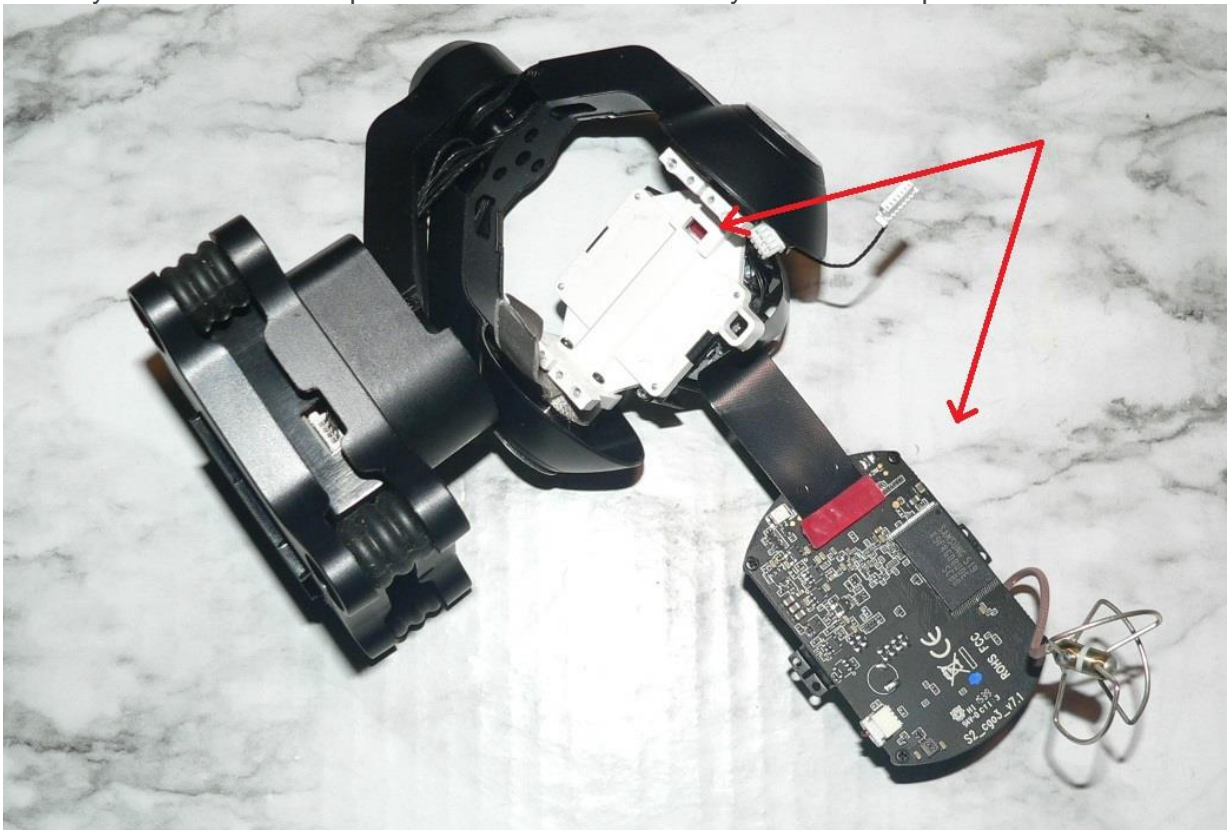
### CGo3 Core Assembly Replacement

- 12). Remove the 4 frame mount screws:



**NOTE:** The frame is a tight fit, and includes alignment features. It may not come out freely.

- 13). Carefully work frame out of pitch axle. Then roll assembly forward to expose ribbon connector:



## Attachment 9

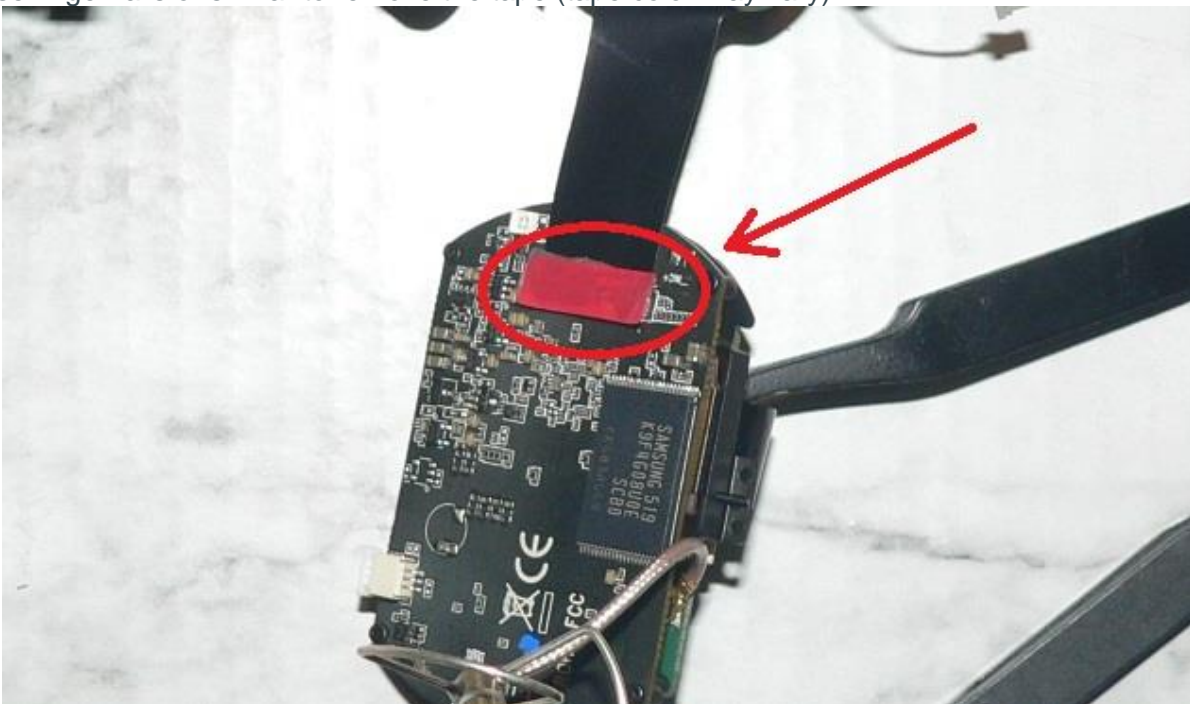
### CGo3 Core Assembly Replacement

**CAUTION:** Some cameras have black sealant under the video ribbon. Attempts to pull the ribbon out of the sealant will result in permanent damage to the ribbon connector and loss of the board. The sealant must be carefully cut through using a thin blade hobby knife or similar. Keep the blade flat, close to the board, and parallel with the board.

14). **IF PRESENT**, carefully cut through the black sealant under the video ribbon:



15). Use fingernails or similar to remove the tape (tape color may vary):



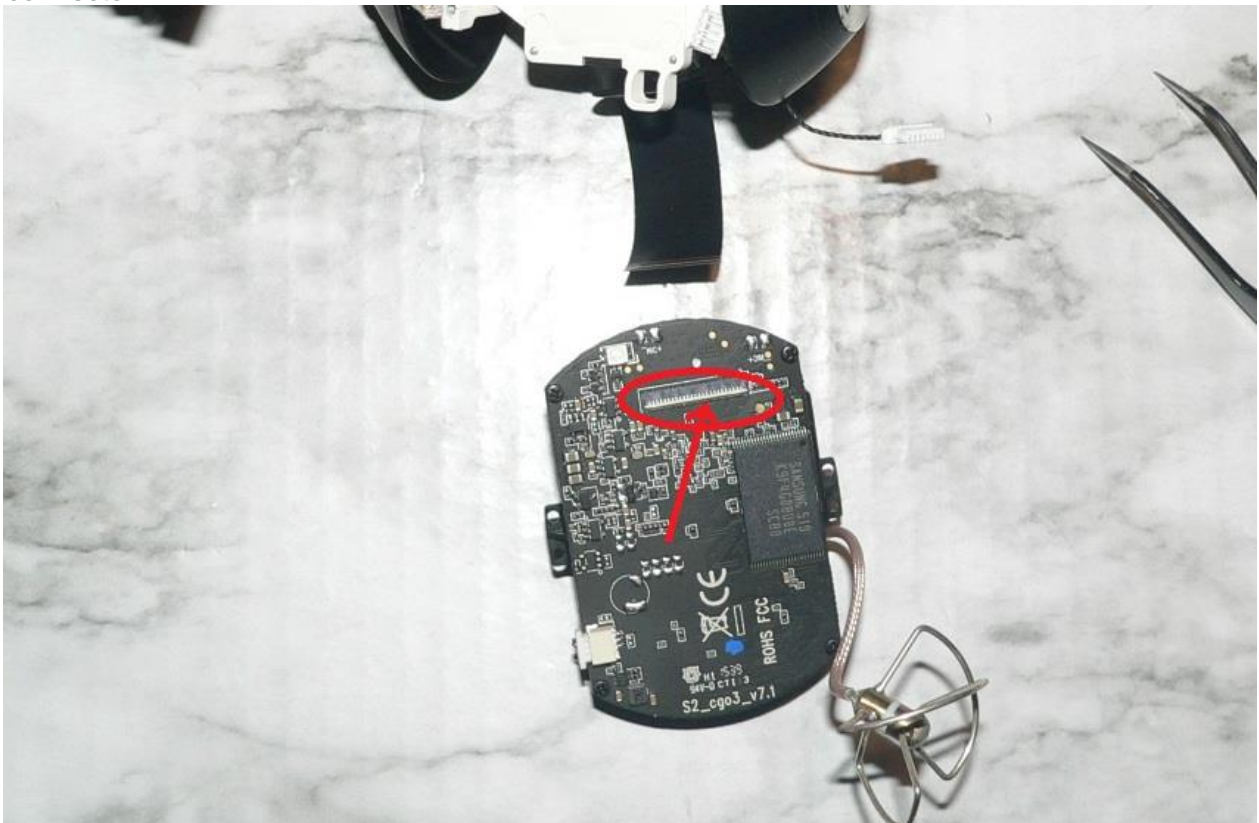
## Attachment 9

### CGo3 Core Assembly Replacement

- 16). Carefully note the position and alignment of the white line (ribbon marker). It must be returned to this position during reassembly:



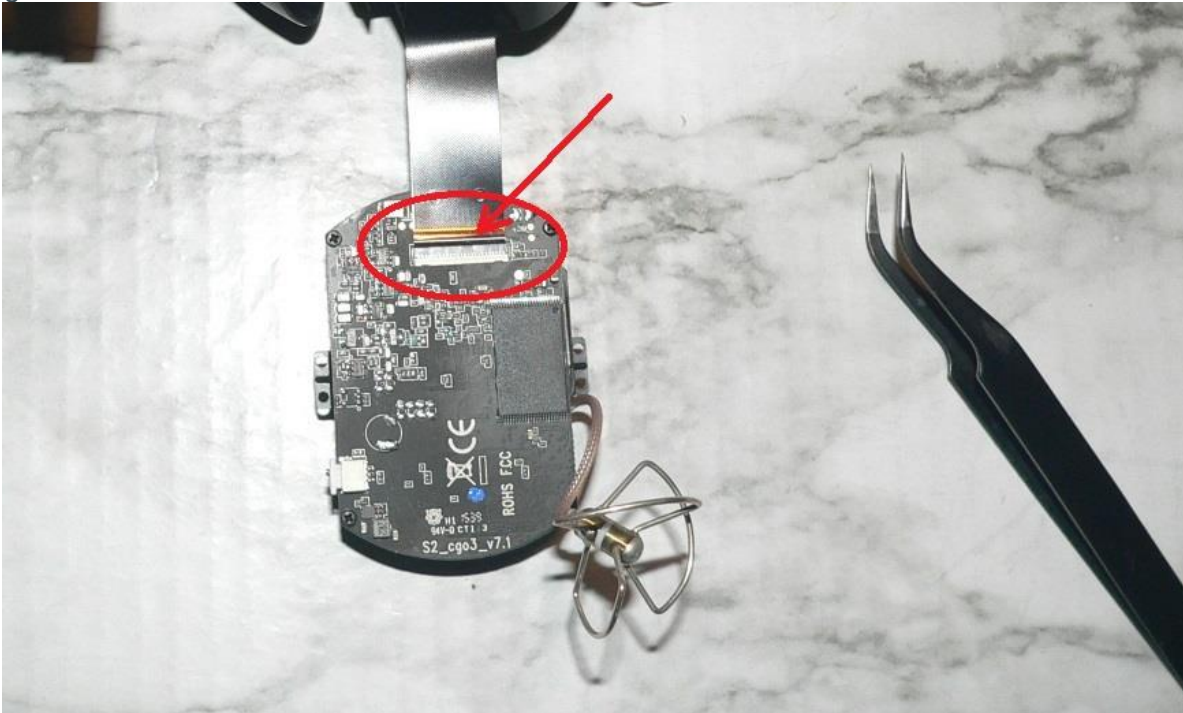
- 17). Lift the white (color may vary) ribbon lock to release the ribbon, and slide the ribbon out of the connector:



## Attachment 9

### CGo3 Core Assembly Replacement

- 18). Remove old assembly from work are to avoid any possibility of confusion.
- 19). Insert ribbon into new assembly. Ensure alignment mark is straight and in the same position as original:



- 20). Close the ribbon lock to secure ribbon.
- 21). Install Tape over ribbon connector:



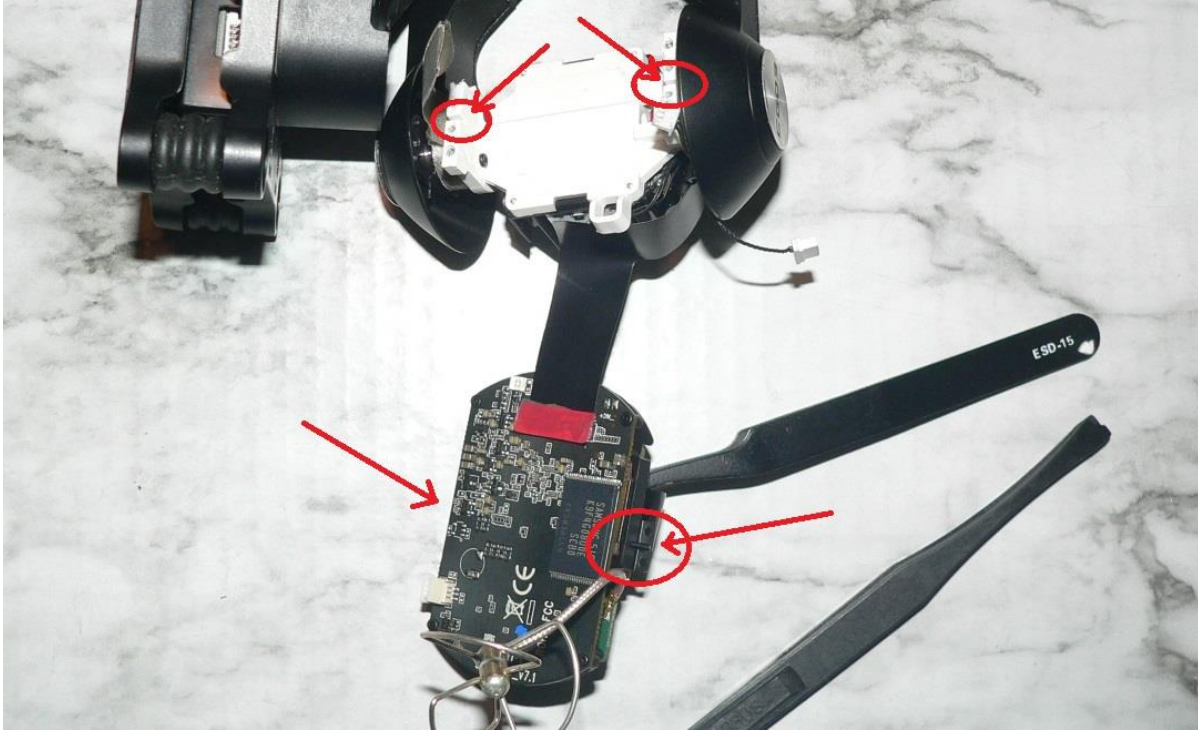


## Attachment 9

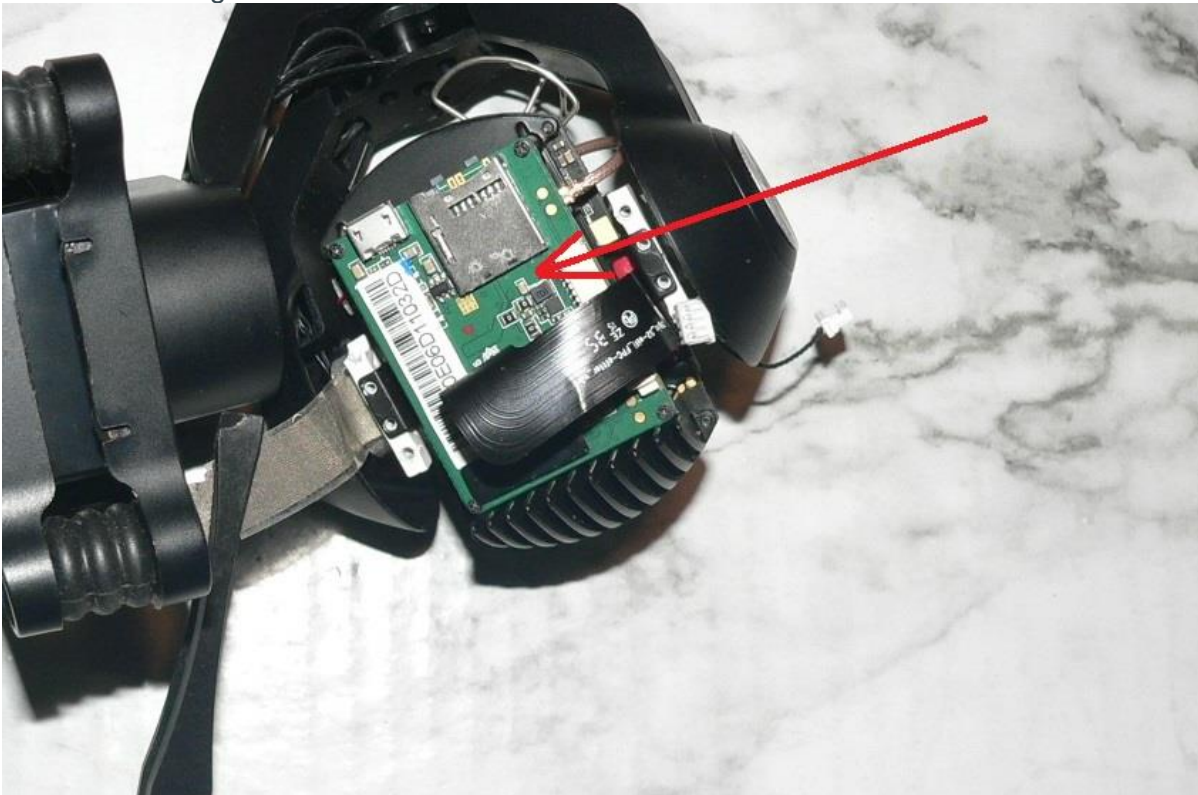
### CGo3 Core Assembly Replacement

**NOTE:** Not all cameras have the alignment aids.

22). IF PRESENT, note the location of the alignment aids:



23). Fold the assembly back into the pitch axle. Carefully work the assembly down into the alignment notches and/or align the screw holes:



## Attachment 9

### CGo3 Core Assembly Replacement

- 24). Install the 4 frame mount screws (smaller silver colored screws):



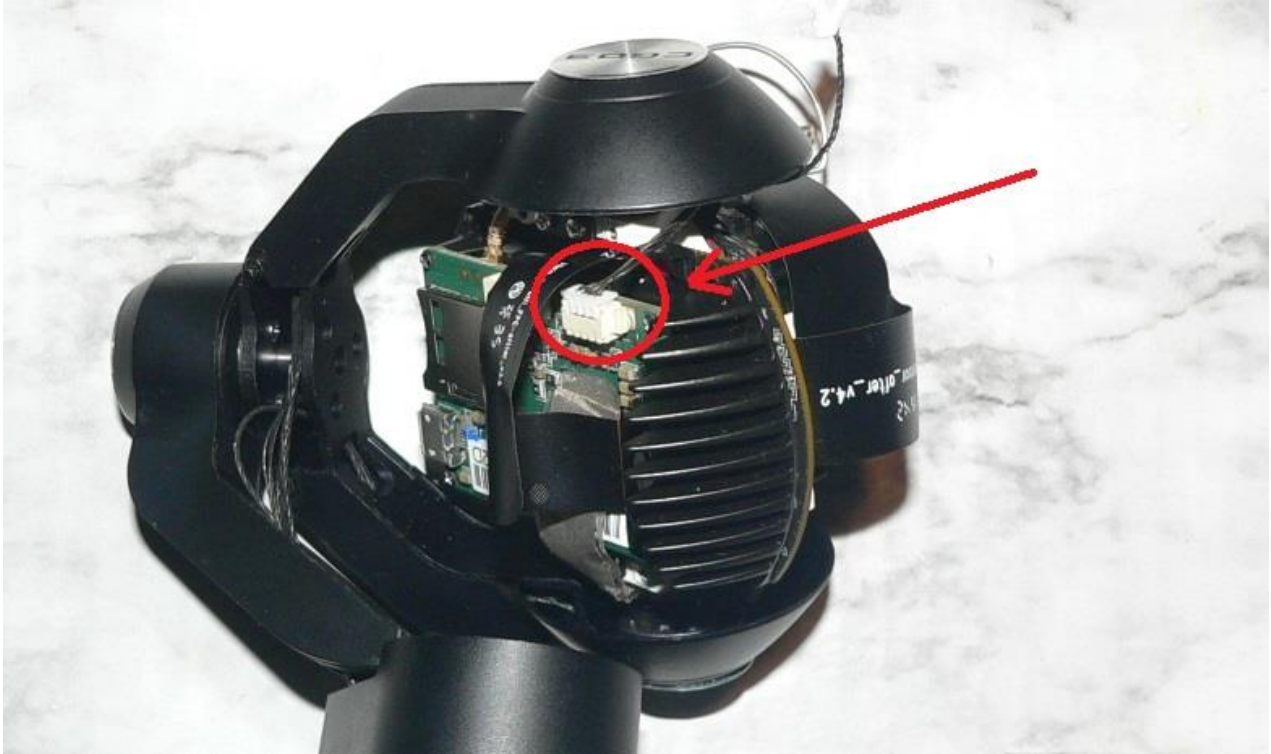
- 25). **IF PRESENT**, install the heat sink strap:



## Attachment 9

### CGo3 Core Assembly Replacement

26). Connect the power connector:



27). **IF PRESENT**, ensure wire runs under the WIFI ribbon, and connect the 7 pin connector:



## Attachment 9

### CGo3 Core Assembly Replacement

- 28). **OPTIONAL STEP:** Power camera up to ensure function prior to completing assembly. (Some gimbal motor whine is normal with covers removed.)
- 29). Align rear cover over the USB and SD card connectors. Slide cover slightly back to align rear cover with mounting screw holes:



- 30). Install the four rear cover mounting screws (larger silver colored screws):



## Attachment 9

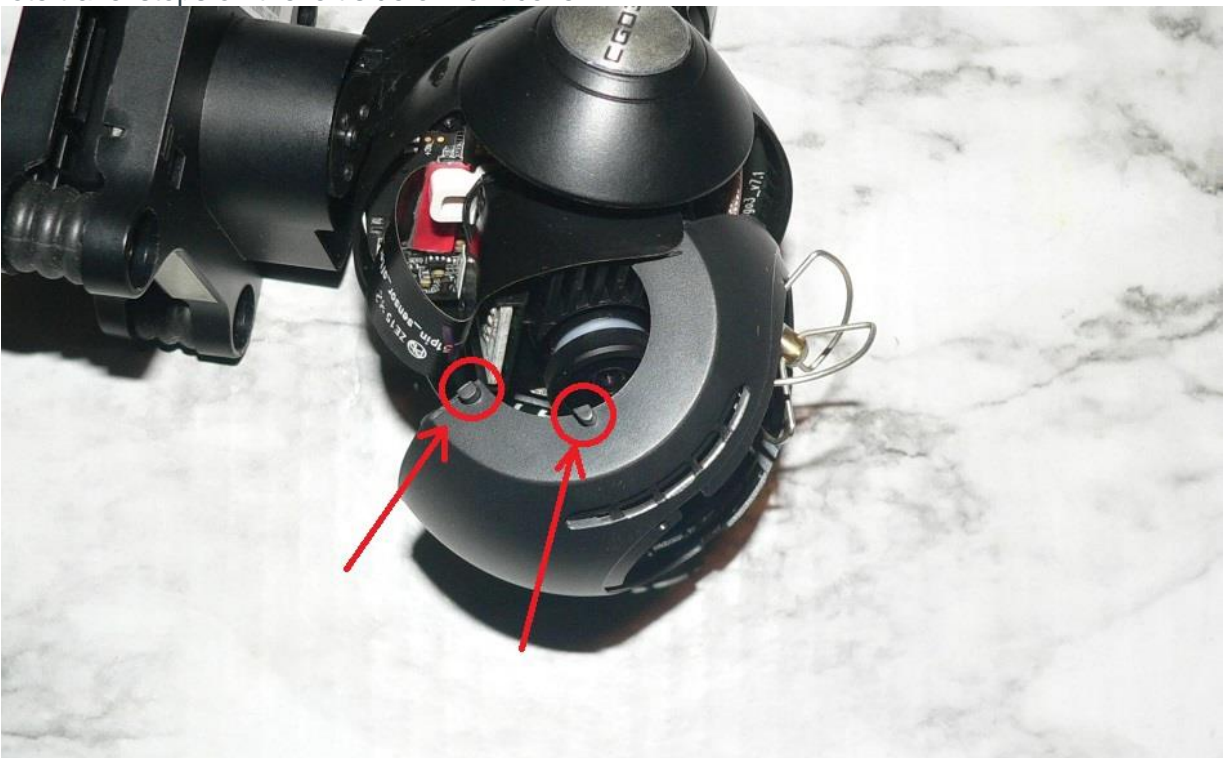
### CGo3 Core Assembly Replacement

- 31). Rotate front cover as required to work antenna clover leaf into front cover.



- 32). **IF PRESENT**, install microphones into microphone holders of front cover.

- 33). Note travel stops on the left side of front cover:



## Attachment 9

### CGo3 Core Assembly Replacement

- 34). Work travel stops under left arm cover, then work front camera cover into normal position:



- 35). Install the four front camera cover mounting screws (thin black screws):



## Attachment 9

### CGo3 Core Assembly Replacement

- 36). Secure one arm of antenna clover into notch of support bar: Ensure edge of next leaf is in notch at lower left of opening:



- 37). Install camera nose piece:



## Attachment 9

### CGo3 Core Assembly Replacement

38). Install lens filter:





**Attachment 9  
Addendum 1  
CGo3 Heat Sink Variations**

**CGo3 Heat Sink Variations**



**No Strap**



**Adhesive Strap**



**Anchor and Thermal Paste**

**Revision 1**



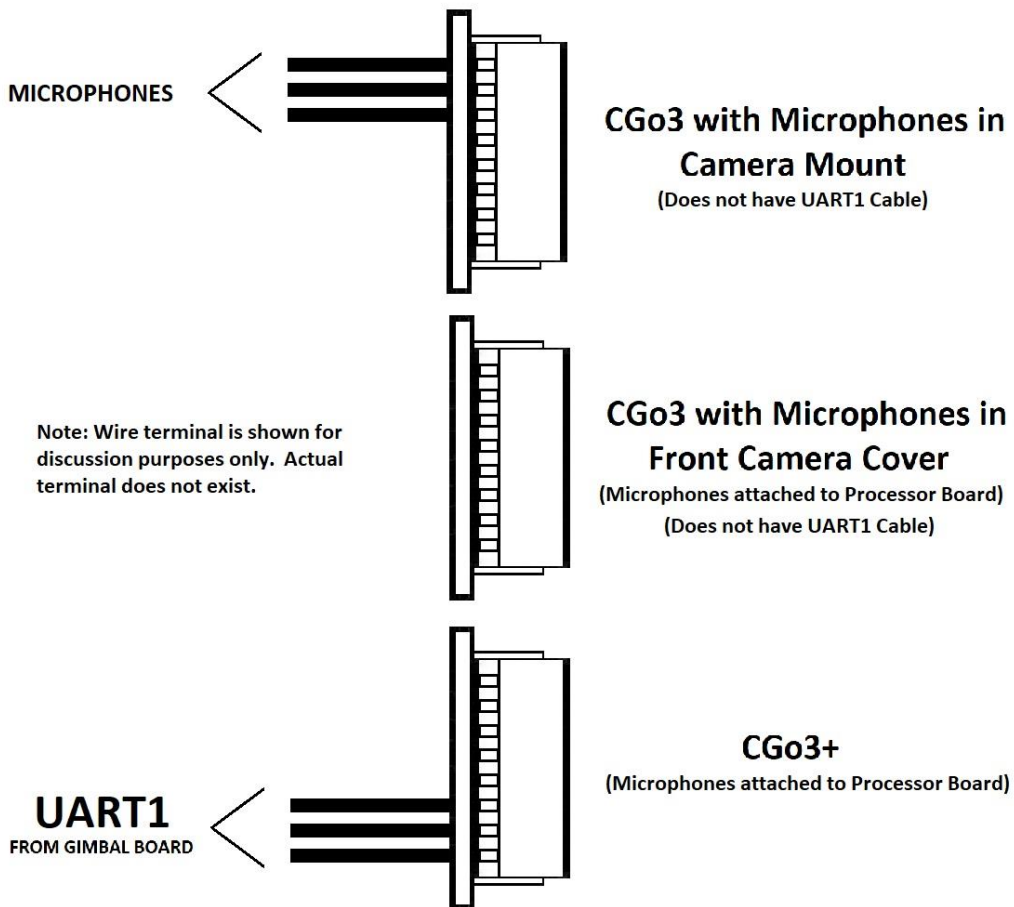
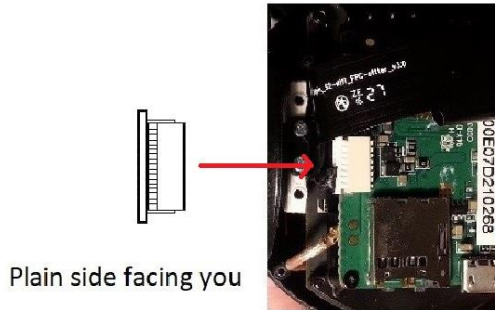
**2019-11-19**

# Attachment 9

## Addendum 2

### CGo3 WIFI Board 7 Pin Connector

## CGo3 WIFI Board 7 Pin Connector



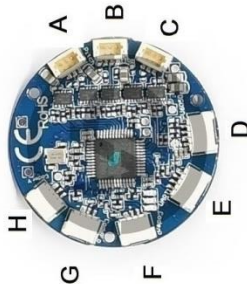
Revision 1		2019-11-18
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# Attachment 10

## CGo3+ Gimbal Board Connections

### CGo3+ Gimbal Board Connections

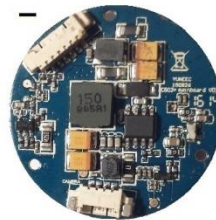
Front of Camera



- A. PITCH (TILT) MOTOR (Motor on right side of camera).
- B. ROLL MOTOR (Motor on rear of Camera)
- C. YAW MOTOR (Motor on top of camera)
- D. 4 pin plug with 4 wires attached. (Camera IMU)
- E. 4 pin plug with only 3 wires attached. (7 Pin Connector on WiFi Board)
- F. YAW POSITION SENSOR (Sensor on top of camera)
- G. ROLL POSITION SENSOR (Sensor on rear of camera)
- H. PITCH (TILT) POSITION SENSOR (Sensor on right side of camera).

Rear of Camera

Front of Camera

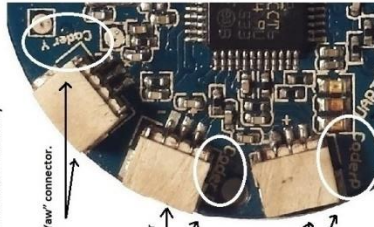


- I. SLIP RING CONNECTOR
- J. POWER TO CAMERA (4 Pin connector on WiFi board)

Rear of Camera

#### SPECIAL CLARIFICATION:

Certain board markings have potential to create confusion. The markings include letters that might appear to correlate to "PITCH" (P), "ROLL" (R) and "YAW" (Y), but are in fact **NOT RELATED**. By coincidence, the connector marked with an "R" actually is "Roll" (which just adds to the confusion.)



"Coder Y" connector is **NOT** "yaw" connector. It is "Pitch" (Tilt) connector.

"Coder R" connector is "Roll" connector. (coincidence).

"Coder P" connector is **NOT** "pitch" connector. It is "Yaw" connector.

#### CG03+ ENCODER BEEP CODES

- F. YAW ENCODER: Long, Long, short-short-short, pause, repeat.
- G. ROLL ENCODER: Long, Long, short-short, pause, repeat.
- H. PITCH (TILT) ENCODER: Long, Long, short, pause, repeat.

#### CG03+ Camera IMU Beep Code

Long, long, long, long, short, short, short, pause, repeat.

Revision 5

2019-09-17

# Attachment 11

## CGo3+ Yaw Encoder Access

**Use of this information is at your own risk.**

**Purpose:** To provide guidance to replace the CGo3+ Yaw encoder

**Introduction:** You are going to be working with some thin plastic, small screws and flimsy wire. The words "patience", "careful" and "gently" should govern your work for this project. You will also be touching some electronic components. You need to be mindful of static electricity. An antistatic wrist band, or some sort of grounding are advised. At the very least, ensure you touch something else on the camera BEFORE you touch any of the sensitive components. READ THROUGH THIS FIRST. If you don't feel confident, then don't do it. You can mess your camera up pretty easily with this.

With the nagging aside, here is a way to access the CGo3+ Yaw Encoder:

- 1). Use your fingernails or something thin to pry the label off the rear motor cover. It is held on by contact cement, and if you keep both sides clean, it will go right back on.



- 2). Remove THESE TWO screws from the rear motor cover. (leave the other two alone for now)



## Attachment 11

### CGo3+ Yaw Encoder Access

3). Remove these screws from BOTH sides of the rear arm cover:



4). Snap off the gimbal board lower cover, and carefully work it out over the gimbal wire connectors:



## Attachment 11

### CGo3+ Yaw Encoder Access

5). Carefully pry the corners out, and remove the gimbal board guard:



6). Remove the rear arm cover:

