

# Rotary Un-Smartphone

## ASSEMBLY INSTRUCTIONS

UPDATED 11/28/23



### Suggested Tools

- Phillips Screwdrivers (sizes No. 0 and No. 1)
- Hex Key (sizes .05" or Xmm)
- 4mm or 5/32" Nut driver
- Tweezers
- Scissors
- Needle-nose pliers
- X-Acto or sharp hobby knife
- Mallet
- Hot glue/gun
- Clamp or small desktop vise

# IN THE KIT

## Bag A:

- **6X** M2 Brass Washer
- **3X** M2 X 6 Self-threading
- **2X** M1.6 X 4
- **2X** M2 X 16
- **2X** M2 X 4
- **2X** M2 X 8 Flat
- **4X** M2 Nylon Washers
- **2X** M2 Lock Nut
- **5X** M1.6 X 6 Self-threading
- **2X** M1.6 X 8 Self-threading
- **1X** e-clip
- **4X** Wave spring
- **1X** M2X10 Dowel Pin

## Bag B:

- Going Barrel
- Reduction Gear
- Cam Gear
- Dial Shaft
- PTFE Filament
- Governor Shaft
- Governor Spring
- Directional Spring
- **2X** Governor Weight
- Governor Body
- Governor Gear
- Governor Yoke

## Bag C:

- Clock Spring
- Mallet Spring
- **3X** Round Magnets
- Thin Dial Magnet
- Thick Dial Magnet
- Fingerstop
- Bell Arm
- Cyanoacrylate (CA) Glue
- Lubricant
- **2X** Bearings
- Kapton Tape

## Bag D:

- *In manilla envelope:*
- *ePaper Display w/ Foam Tape*
- *ePaper Display Window*
- *OLED Display*
- **2X** uFL Coax Cable
- Battery
- MicroSD Card
- Speaker
- Face Card

## Bag E:

- Flange Bearing Pad
- Bell Window
- Side Window
- Long Spacer
- Short Spacer
- Antenna Fork Pivot
- Inner Antenna Enclosure
- Outer Antenna Enclosure
- Mallet Clamp Collar
- Dial
- Dial Hub
- Front Bearing Pad
- Back Bearing Pad
- Gear Pad

## Bag F:

- Front Casing
- Back Casing
- Bell
- Dial Cap
- SIM Hatch
- ePaper Hatch
- Call Buttons
- Function Buttons
- Face Window

## Individually bagged:

- Motherboard & Daughterboard
- Faceboard
- Antenna

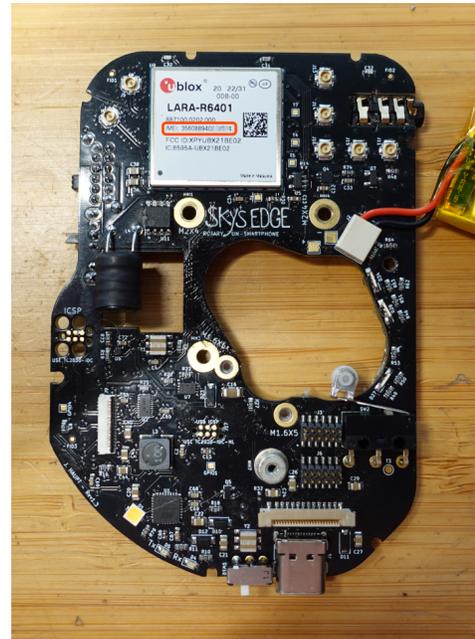
## Preliminary Steps

1. Sign up for a cellular plan with your preferred provider's "bring your own device" (BYOD) option. They'll send you a SIM card to use in the Rotary Un-Smartphone (RUSP).



**NOTE:** As regulatory approval is forthcoming, your mileage may vary.

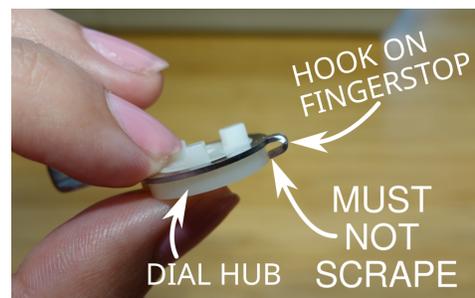
- a. Write down or photograph your phone's IMEI number. This is the 15 digit number written on the large white chip on the RUSP Motherboard. This will be needed when finished assembling to activate your cell service.



2. Remove any kapton tape (amber circles) from the Mainboard and Faceboard.

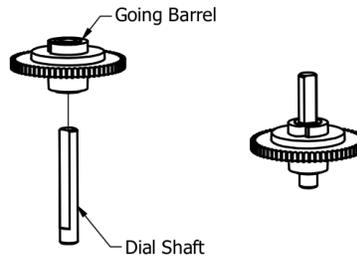


3. Place the **Fingerstop** (bag C) on the **Dial Hub** (bag E) as shown to check the fit. The Fingerstop should rotate on the Dial Hub without the hooked part of the Fingerstop scraping along the Dial Hub. If it does, the Fingerstop's hook may need to be re-shaped a bit with a needle-nose pliers, or there may be a bump on the Dial Hub, which can be smoothed down with a few strokes of an emery board.



## Initial Assembly

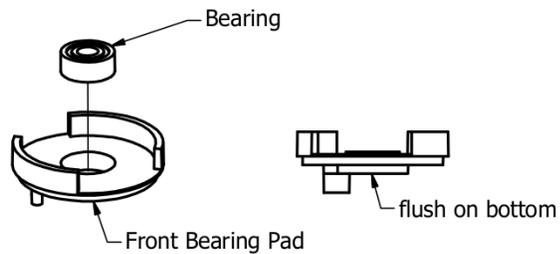
1. Slide the **Going Barrel** (bag B) over the **Dial Shaft** (bag B) oriented as shown, pushing all the way to the end of the keyway on the Dial Shaft.



2. Press a **bearing** (bag C) into the **Front Bearing Pad** (bag E). The bearing should be flush with the bottom of the Front Bearing Pad and slightly proud of it on the top.



**Tip:** Use the edge of a table to push the bearing into the Front Bearing Pad to assure it's flush on the bottom.



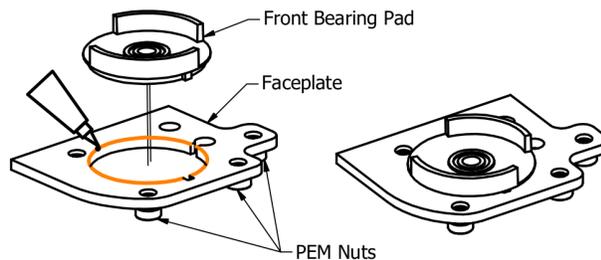
3. Add a few drops of glue to the edge of the bearing, taking extreme care to not let the glue get into the bearing.



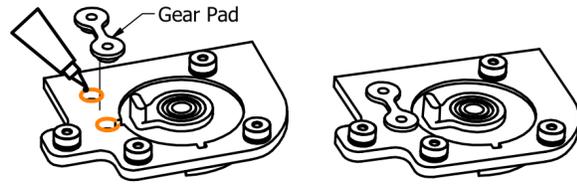
**Tip:** To be precise with the glue application, try dripping a drop onto the tip of a wooden toothpick and using the toothpick as an applicator.



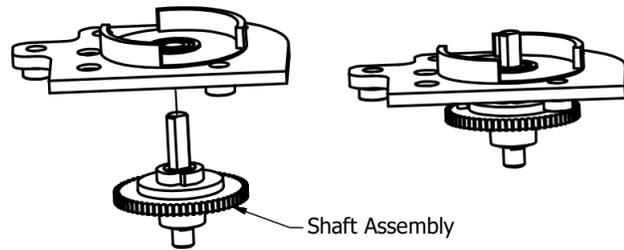
4. Glue the **Front Bearing Pad** into the **Faceplate** on the side opposite the PEM nuts.



5. Glue the **Gear Pad** (bag E) onto the Faceboard on the same side as the PEM nuts.

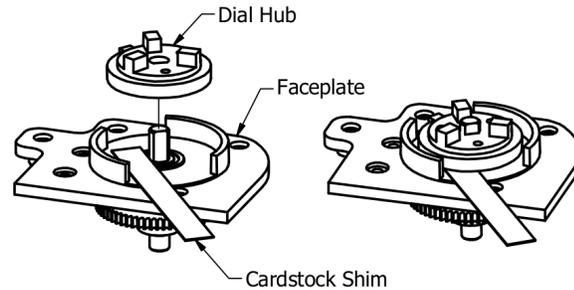


6. Slide the previously completed **Shaft Assembly** into the bearing on the Faceboard.



7. Press the **Dial Hub** (bag E) onto the protruding Dial Shaft, using the **Bell Arm** (bag C) as a shim to create a gap between the Dial Hub and the bearing.

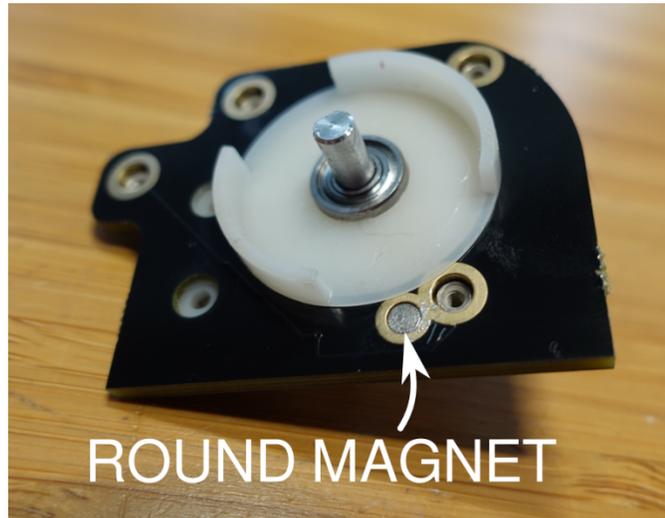
[!!!EDIT: fix graphic to show Bell Arm]



- 8b. **IF the fit is loose:** Cut a short piece of the supplied kapton tape (bag C) on the flat part of the shaft as shown, extending up beyond it. When sliding the Dial Hub on, the tape should not bind on the shaft. If it does, try a narrower piece or skip this.

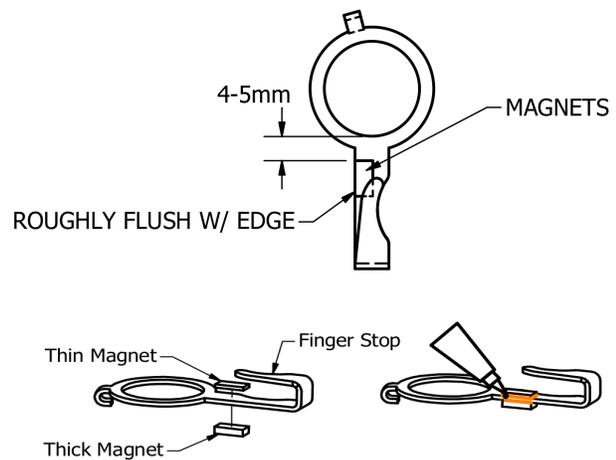


- Place a **Round Magnet** (bag C) into the indicated hole on the Faceboard, and drip some glue over it.



**!** **IMPORTANT:** The supplied super glue is ineffective for this step. **Use 2-part epoxy (not supplied)** instead until the Fingerstop design is updated.

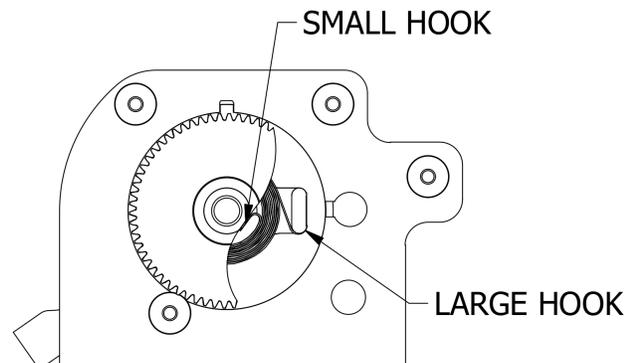
**!** **IMPORTANT:** The magnets in this step **MUST ATTRACT** the round magnet on the Faceboard (previous step) when the Fingerstop is placed over it. Confirm the magnet orientation carefully before gluing.

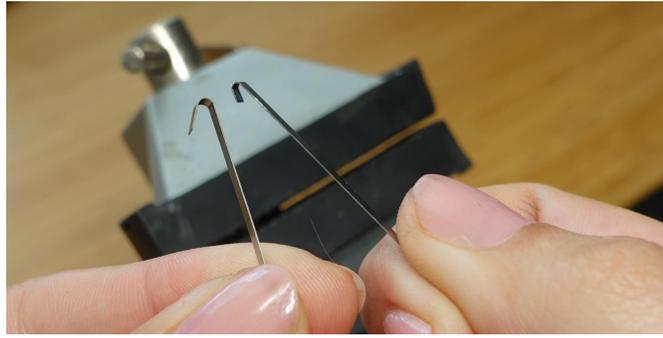


- Glue the **Dial Magnets** (bag C) onto the Fingerstop with the thin one on top and the thick one on the bottom. They should be aligned to the left edge of the arm-section as shown, between 4mm and 5mm from the central hole. The polarity must **ATTRACT** the magnet on the Faceboard.

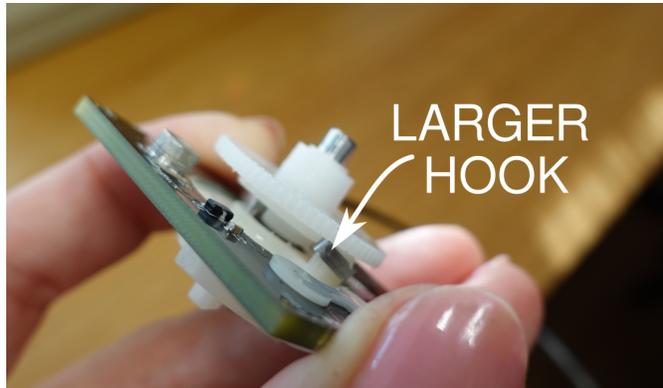
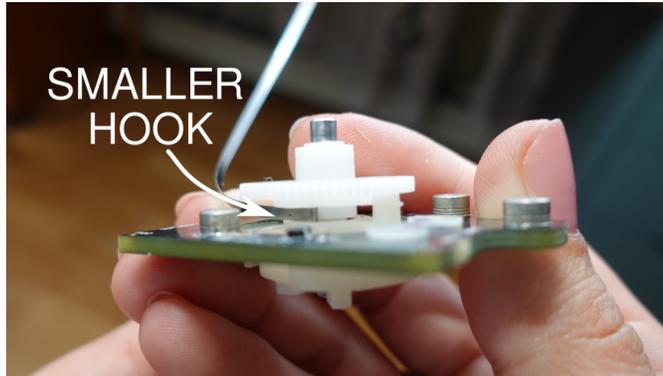
- Video supplement for this step:  
<https://youtu.be/pKV09SADe38>

**!** **NOTE:** The Clock Spring (bag C) is hook-shaped on both ends, but one end is bigger than the other.





- a. Hook the smaller hooked end of the Clock Spring onto the catch on the Going Barrell, and the larger hooked end onto the boss feature on the Front Bearing Pad.



- b. With both ends of the Clock Spring hooked to their respective catches, the extending loop of spring can be placed over a protrusion of some kind.



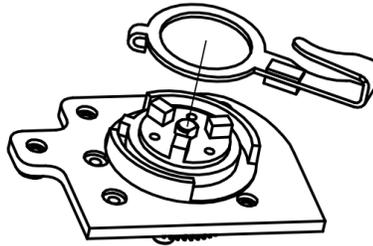
- c. Wind the Clock Spring onto the Going Barrell by turning the Dial Hub clockwise when viewed from the front (in the above photo it would be counterclockwise).



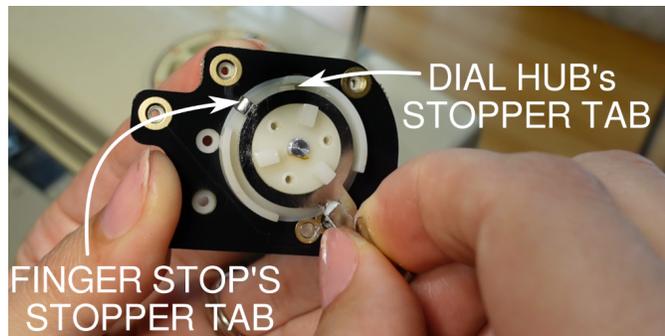
**IMPORTANT:** Use the hand that's not winding to keep tension on the opposite side to keep it from unwinding.

- d. When the loop of spring is almost all the way wound, it can be slipped off the protrusion and allowed to suck into the rotary mechanism.
- e. Keep winding until you can't turn it any more, and then release the tension by about 1.5 turns. Keep holding against the tension! Almost there...

11. Holding the assembly under tension with one hand. Affix the Fingerstop to the Dial Hub so that the stopper tab on the Dial Hub relaxes against the corresponding tab on the Fingerstop when tension is released. The Fingerstop will hold the spring under tension now.



After this, you can stop holding the assembly. Put it down gently so the Fingerstop doesn't pop off.



12. If desired, apply the **Face Card** (bag D) to the Faceboard.

**CUSTOMIZATION OPPORTUNITY:**

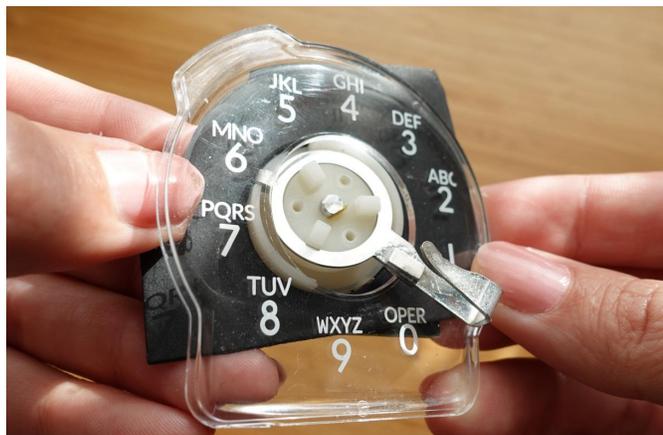
a.) *If you want to see through the faceplate into the phone somewhat, leave it off.*

b.) *If you'd like a different color backing, make your own to fit using the supplied one as a template.*

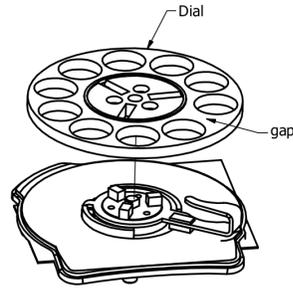


13. Slip the Dial **Face Window** (bag F) over the Fingerstop and into place, aligning roughly as shown.

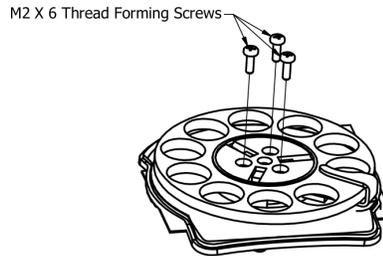
*This piece will be rotated to the correct alignment before final assembly later, so don't obsess here.*



14. After removing its protective film, place the **Dial** (bag E) onto the Dial Hub as shown, so that the largest gap between the finger holes align roughly with the Fingerstop.

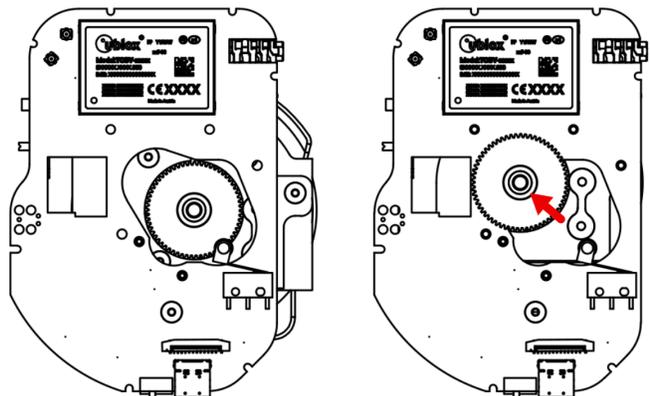
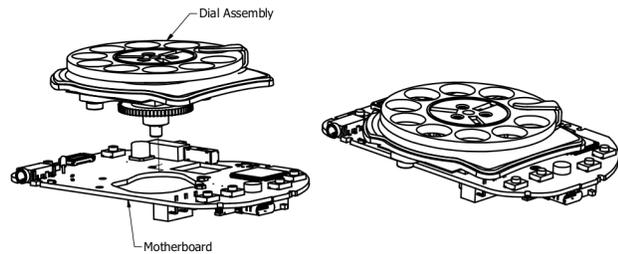


15. Screw the Dial onto the Dial Hub using the three **M2X6 thread-forming** screws.



16. Separate the Daughterboard from the Motherboard, if not already done.

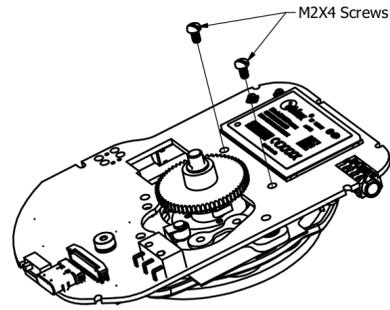
17. Assemble the **Dial Assembly** (from previous step) onto the **Motherboard**. Turn the Motherboard over and slide the Dial Assembly up and to the left as shown in the second image below. Check that the Going Barrell gear clears the Motherboard.



18. Screw the Faceboard Assembly to the Motherboard using only the two **M2X4 screws** closest to the cellular modem.



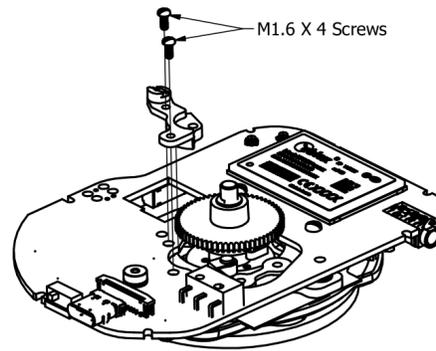
**IMPORTANT:** Confirm that the Going Barrel isn't rubbing on the motherboard and can turn freely. The gap between this gear and the motherboard should be paper thin. If it's touching the Motherboard at all, the Dial Shaft can be tapped gently from the front side to increase the gap.



19. Inspect the **Flange Bearing Pad** (bag E) to see if the indicated hole is clear. If it's not, press a sharp tool through the blockage to clear it.

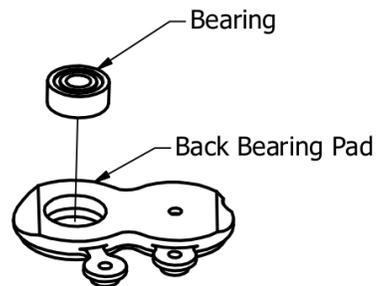


20. Screw the Flange Bearing Pad onto the Motherboard using two **M1.6X4 Screws** as shown.

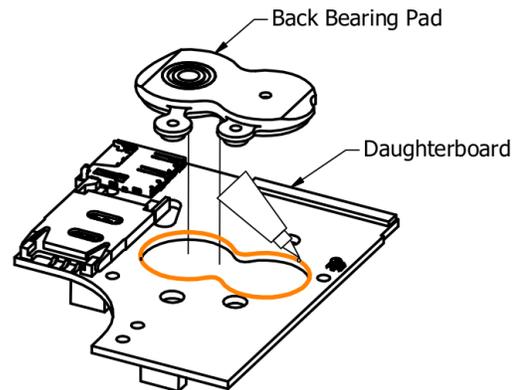


## Daughterboard assembly

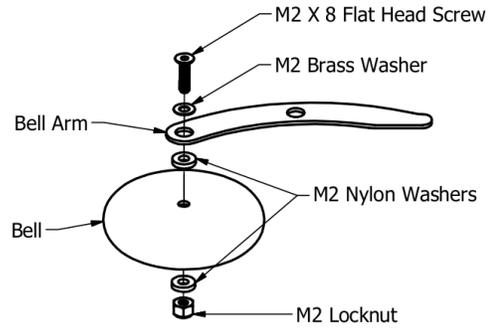
1. Press the other **Bearing** (bag C) into the **Back Bearing Pad** (bag E). It should be flush on both sides.



2. Glue the Back Bearing Pad onto the **Daughterboard** on the same side as the SIM and microSD card holders.



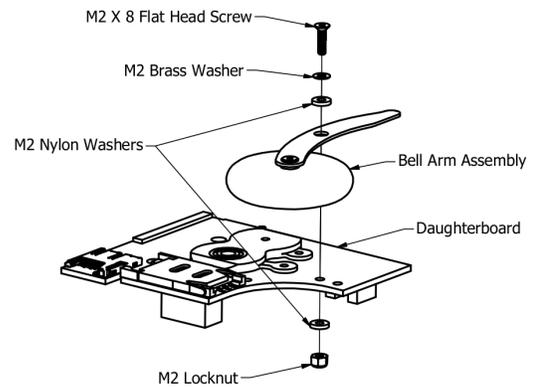
3. Assemble the **Bell** (bag F) onto the **Bell Arm** (bag C) using one **M2x8 Flat Head Screw**, one **M2 Brass Washers** two **M2 Nylon Washers**, and one **M2 Locknut** as shown. Note the orientation of the Bell Arm with respect to the Bell.



4. Using the same combination of hardware as in the previous step, assemble the **Bell Arm Assembly** (from the previous step) onto the Daughterboard.



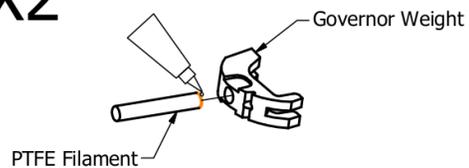
**IMPORTANT:** The drawing is wrong here: the top nylon washer should be between the Bell Arm and Daughterboard.



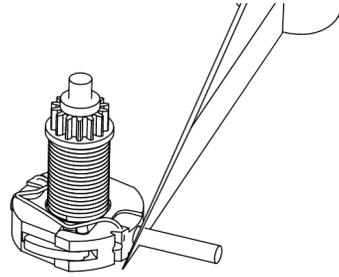
## Governor

1. Cut the length of **PTFE filament** (bag B) in half.
2. With a very small drop of glue on each, glue the PTFE Filaments into the **Governor Weights** (bag B).

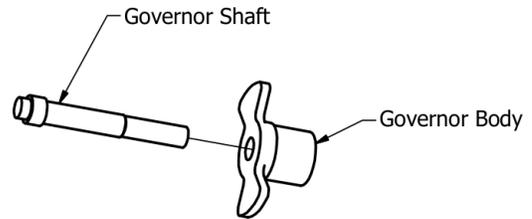
X2



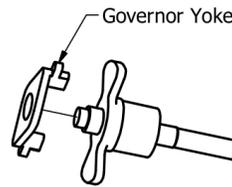
- Trim the PTFE sliders with an X-Acto knife so that about .5mm protrudes out of each Governor Weight.



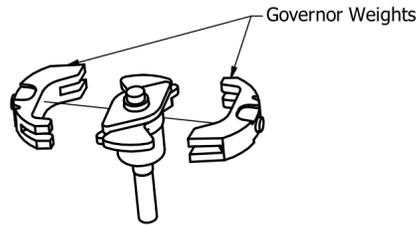
- Slide the **Governor Body** (bag B) onto the **Governor Shaft** (bag B).



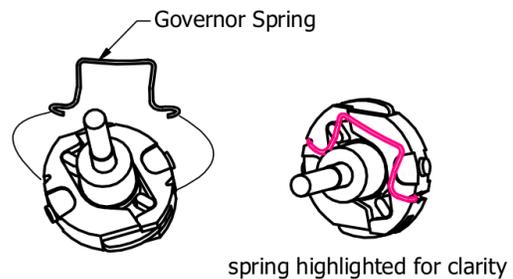
- Slide the **Governor Yoke** (bag B) over the top of the rest of the Governor Assembly as shown.



- Slide the Governor Weights onto the Governor Assembly.



- Slip the **Governor Spring** (bag B) around the Governor Weights. This retains them against the Governor Assembly.

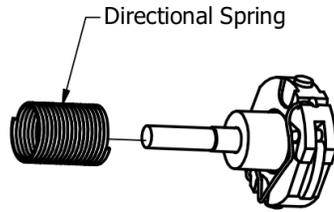


spring highlighted for clarity

- Slide the **Directional Spring** (bag B) over the Governor Body.

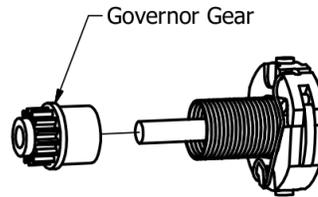


**IMPORTANT:** Be sure the Governor Shaft is fully inserted into the Governor Body/Yoke Assembly and hold in place with a finger during the next step.

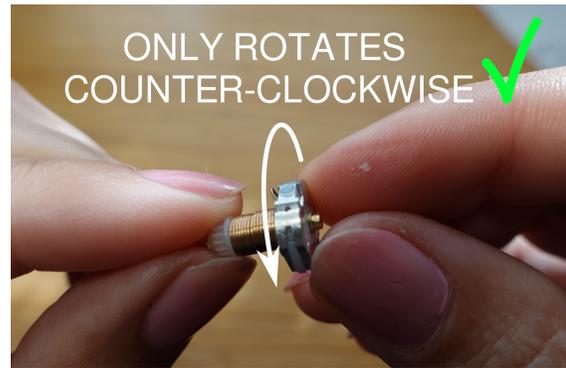


- Slip the **Governor Gear** (bag B) over the Governor Shaft and into the Directional Spring.

To allow it to seat easily, rotate the Governor Gear against the direction the spring is wound as you slide it into place.



- Hold the Governor shaft from below the Governor Gear and confirm that the Governor Body/Yoke/Weight assembly can be rotated Counterclockwise but not clockwise as seen from the top of the Governor.

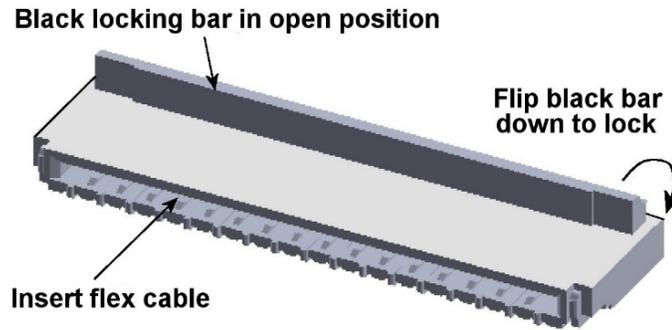


- Check that the Governor turns freely in the recess on the Daughterboard. If not, you'll want to lightly trim the PTFE filaments that were installed on the Governor Weights in step 2 with an emery board.



## Install Battery and OLED

**!** **NOTE:** The connector for the OLED Display's flex cable in the following steps is a bit unintuitive if you haven't worked with many flex cables and SMT devices. The flex cable enters the connector from the left but only goes in about 1.5 mm. The flex cable is locked in place by flipping the black bar on the right side of the connector down 90°.



1. **If not already open**, open the latch on the connector for the OLED Display by gently pulling the black tab UP. This tab is somewhat delicate, so be careful not to break it off. A fingernail is ideal.

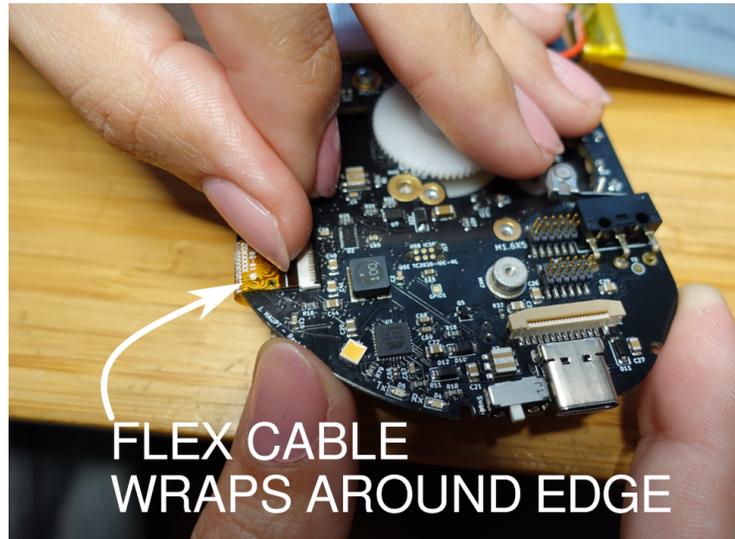


2. Remove the protective film from the **OLED Display** (bag D) and insert it between the Motherboard and Faceboard, roughly aligned with the white markings on the Motherboard.



3. Wrap the OLED Display's flex cable around the motherboard edge and insert it into the connector on the Motherboard.

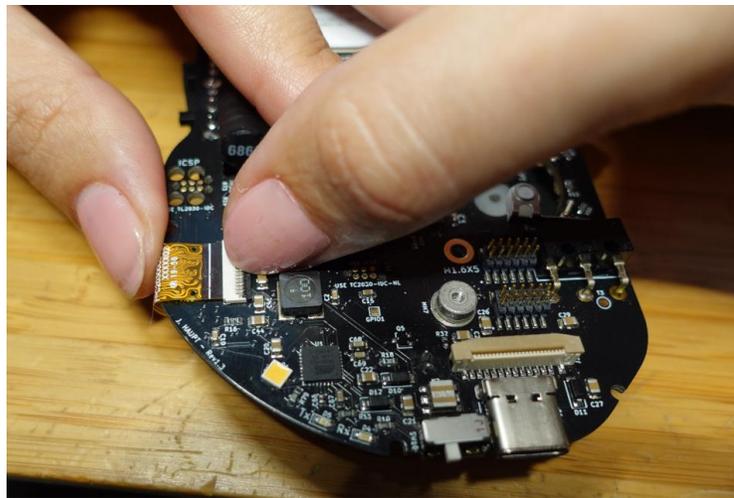
Use a fingernail or an equivalent non-metallic tool to slide the OLED Display's flex cable into the connector. It fully seats after about 1.5mm of motion.



4. Lock the cable in the connector by pushing the black tab down, parallel with the motherboard. You should feel a "click" when it locks.



**NOTE:** Do not close the connector when empty, as doing so can affect its performance.



5. With some hot glue RTV adhesive of some kind (like GE Silicone Sealant), squirt a blob between the OLED display and the motherboard to affix it in position aligned with the markings on the silkscreen. Only a bit is needed.



6. Switch the power switch to the OFF position.



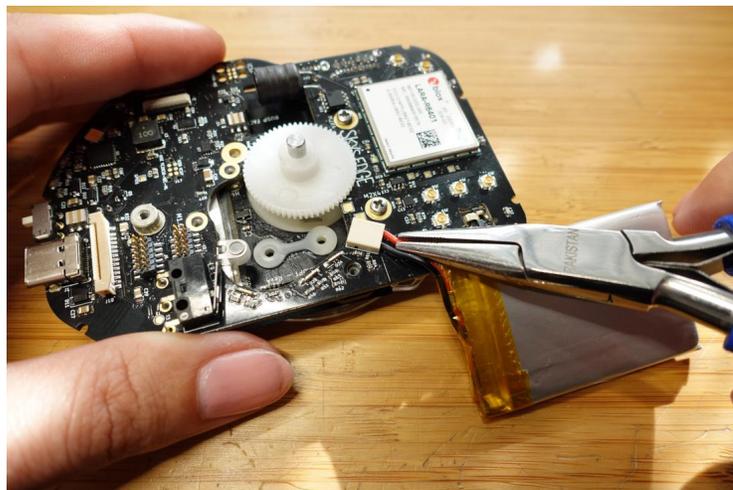
**RECOMMENDED:** Trim the length of the battery's wires to about 2cm. Do this **one wire at a time** so as not to create a short, and then strip 5-6mm off the end of each wire. The striped wires should be twisted and folded back on themselves to make them a bit stiffer.



**NOTE:** Yes I know this is annoying. In the future this will be replaced with a battery connector of some kind.

7. Using needle nose pliers, firmly insert the battery leads into the J2 Connector on the Motherboard (red to +, black to -).

Some force is needed to fully insert these wires, and you won't be able to remove them once inserted.

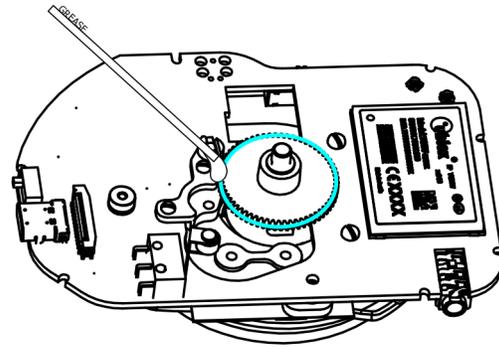


## Rotary Mechanism

1. Daub the Going Barrell's teeth and all the Bearing Pads with **Lubricant** (bag C).



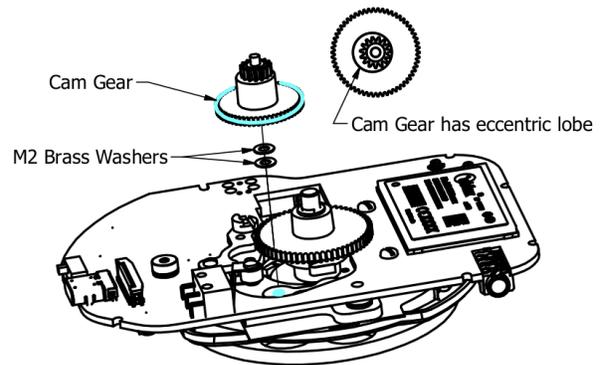
**NOTE:** You may find it useful to make a tool for applying the silicone grease out of a plastic soda straw with one end cut at an angle. The point can be used to apply the grease to the inside of the Bearing Pad holes. The concave inner surface of the straw can be used to apply the grease to the teeth around the periphery of the gears.



2. Lubricate the **Cam Gear** (bag B), and place it on its Bearing Pad with 2 **Brass Washers**. It may be good to lubricate the bearing pad (the hole it inserts into) as well.

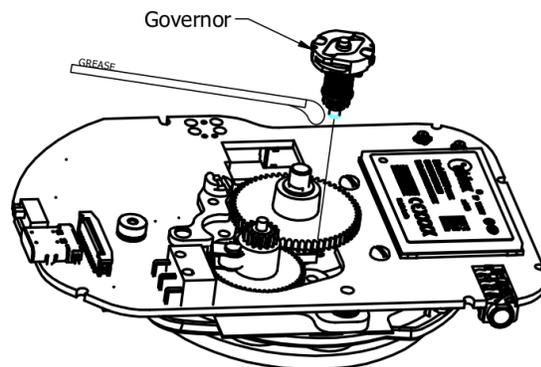


**NOTE:** The Cam Gear's edge slips underneath the large gear on the Going Barrel.



3. Lubricate and place the Governor.

**Note:** It may be preferable to lubricate the hole where it goes (it's bearing pad) instead.

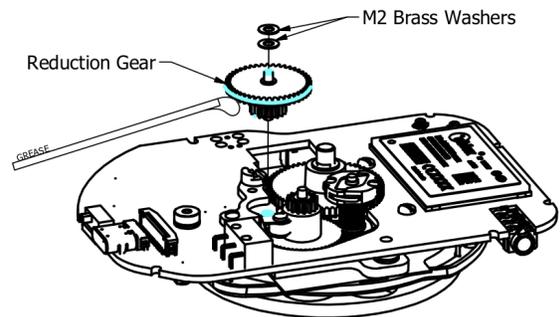


4. Check that the **Reduction Gear** (bag B) rotates freely when inserted into the Daughterboard.

If there's any resistance, clean the hole in the Daughterboard with an X-Acto knife.



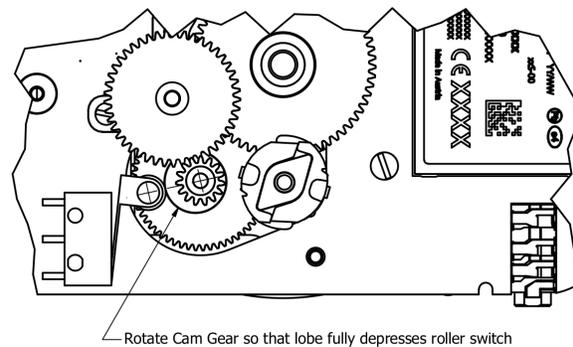
5. Lubricate and place the **Reduction Gear** (bag B). Place 2 Brass Washers on top of this gear.



6. Orient the Cam Gear so that the lobe is facing the limit switch's roller.



**NOTE:** With the gears set as they are, it may be easiest to rotate the governor until the Cam Gear is oriented correctly, rather than the Cam Gear directly.



7. Assemble the Daughterboard onto the Motherboard.
  - a. Start by mating the Daughterboard to the Motherboard via the board-to-board connectors.
  - b. Be careful that the holes from the 2 black connectors on the Daughterboard match up exactly with the pins on the corresponding connectors on the Motherboard before insertion.
  - c. Allow the Daughterboard to tilt toward these connectors to be sure they engage first. The off-white boxy relay on the Daughterboard will smooch into the corresponding cutout on the Motherboard, next to the bell solenoid.
  - d. Continue to compress the Daughterboard onto the Motherboard. The Dial Shaft will start to slide snugly into the bearing in the Daughterboard, but won't be fully inserted yet. Just confirm that it's starting to enter the bearing.



- e. Next, the Cam Gear will engage with the Daughterboard. The limit switch will be pushing it away from where it needs to be, so use a pointy object to tilt it straight so that it slips into place as you continue to squeeze the Daughterboard onto the Motherboard.

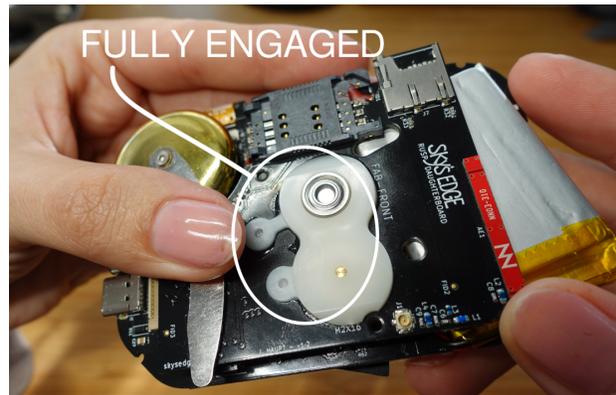
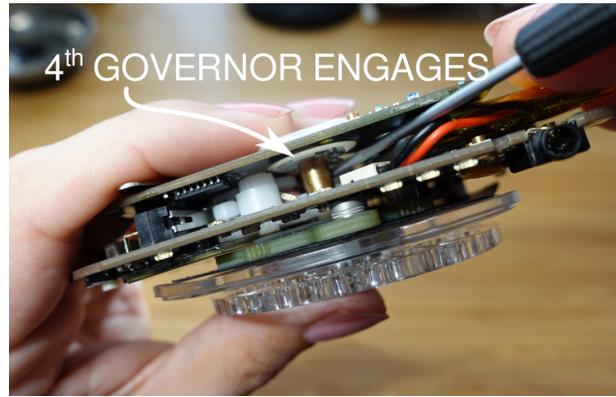


- f. The last piece to engage will be the Governor. Again, use a pointy object to align it with the corresponding hole on the Daughterboard while pressing the Daughterboard the rest of the way on.



**NOTE:** At some point in this process the Reduction Gear also engages, but this one tends to be well-behaved enough not to need manual alignment.

- g. With a gentle firmness, continue to press the Daughterboard in place until it's as seated as it's going to get.



8. Test the rotary mechanism. Generally, it will feel stiff at first and may bind. Exercise it; Subtle burrs need to get worn off the newly made gears, and the lubricant needs to be spread throughout the mechanism.

If you hear a high pitched buzzing/scraping sound while turning the dial, the edge of the OLED display is likely rubbing on the Cam Gear as it turns. If you hot glued the OLED, consider reheating the glue to let it reposition. Ideally, the OLED should be pressed against the Faceboard.



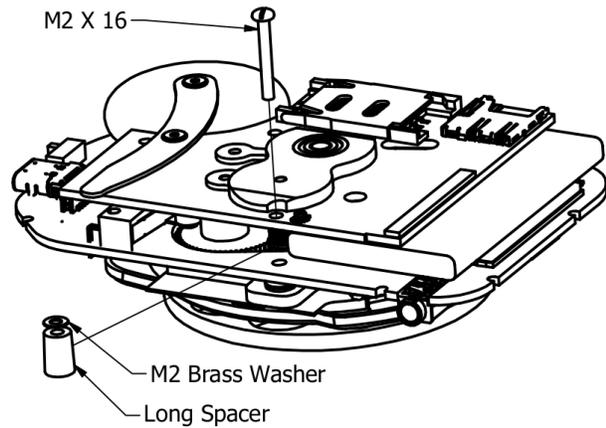
If smooth motion is not forthcoming, via the access holes in the Daughterboard, loosen the screws next to the cellular modem and continue to test the rotation while they're loose, and re-tighten when the dial returns on its own. When viewed from the side, the governor should not be visibly crooked. A crooked governor is a good indicator that this extra loosening-and-tightening step is needed.

If the dial seems to return too fast, or returns inconsistently, check that lubricant has not wound up on the Governor spring. If it has, wipe it off with a Q-tip or similar.

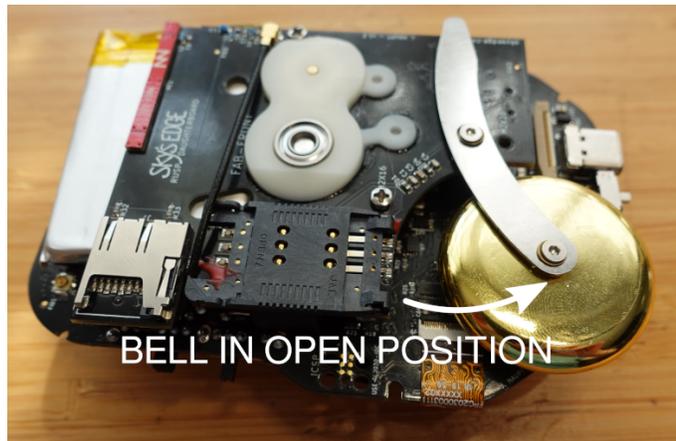
## Miscellaneous Steps

1. Place the **Long Spacer** (bag E) with an M2 brass washer, and place the **M2X16 screw (or M2X14)** and tighten.

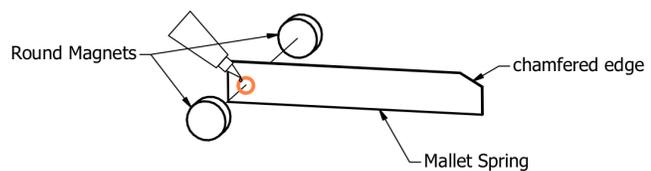
TIP: It may be easiest to glue the M2 washer to the end of the Long Spacer rather than slipping it in.



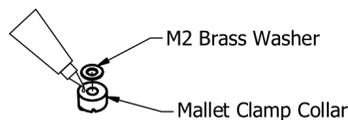
2. Swing the bell into the fully open position.



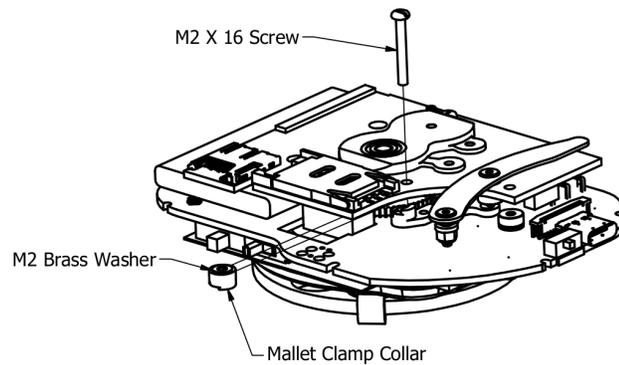
3. Install 2 of the **Round Magnets** (bag C) onto the **Mallet Spring** (bag C) on the side without the chamfer, and add a daub of glue. The supplied CA glue should be enough here.



4. Glue an M2 brass washer to the top of the **Mallet Clamp Collar** (bag E) to make it thicker.



- Place the bell **Mallet Clamp Collar** (with washer) using tweezers and insert an **M2X16** (or **M2X14**) **Screw**. Begin to tighten the screw, but do not tighten it completely.



- Rotate the Mallet Clamp Collar so that the notch is as shown.



- Install the **Mallet Assembly** into the slot formed between the Mallet Clamp Collar and Flange Bearing Pad, allowing the chamfered edge on the Mallet Spring to help guide it into the slot.

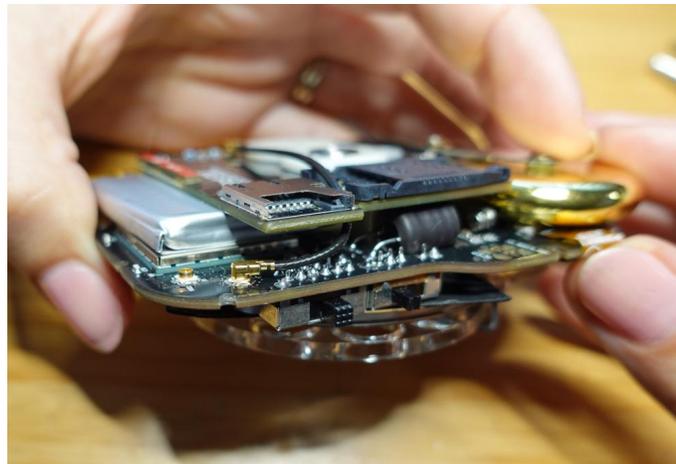
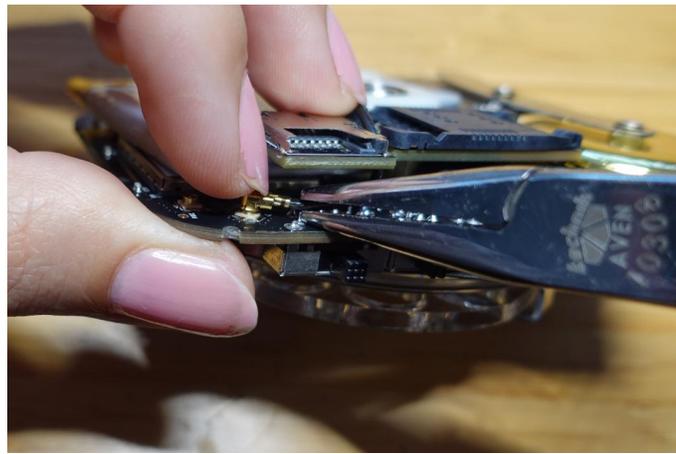
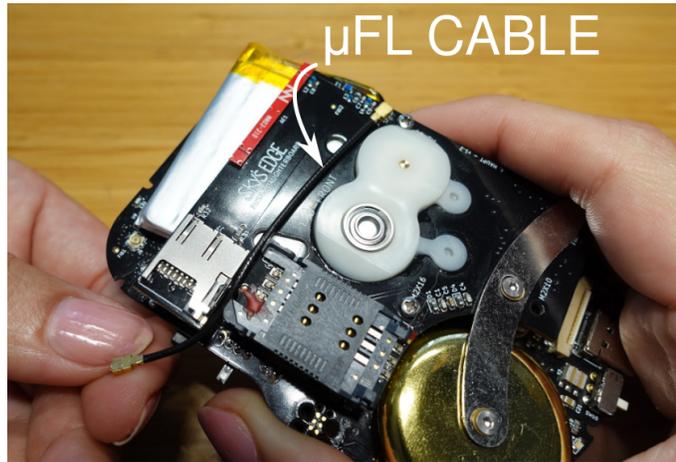


- Tighten the M2X16 Screw to clamp the Mallet Spring Assembly in place.
- Check the motion of the newly installed Mallet Hammer. Mainly, we want to be sure it has enough spring force to not get stuck to the solenoid, so use a pointy object to push it toward the solenoid. If it sticks to it, we'll want to bend it slightly away.
- Make sure the Bell/Arm isn't touching any components on the Motherboard through its full range of motion. It probably won't interfere with anything, but if it does, warp the Bell Arm away from the motherboard slightly. *This doesn't need precision. If you bend it too much, the casing will push it back into place upon final assembly.*

11. Install one of the **μFL Coax Cables** (bag D) between the Motherboard and the Daughterboard.



**Important:** These connectors can be hard to insert. I recommend grasping the neck of the connector with needle nose pliers while simultaneously pushing the head onto the mating connector with a finger.



## Assemble antenna

1. Connect the other  $\mu$ FL Coax Cable to the **Antenna Board**.



2. Hot glue the Antenna Board into the **Inner Antenna Enclosure** (bag E).

The glue layer must be very thin, so as soon as you hot glue the interior of the Inner Antenna Enclosure, quickly insert the Antenna Board and press it down firmly.



3. When the **Outer Antenna Enclosure** (bag E) is installed over the Inner Antenna Enclosure, the cable exits through a cutout near the hinge feature. Test-fit the two enclosure halves together to confirm proper cable routing, and then separate them again.



Add a healthy gob of hot glue over the antenna board and near the perimeter, then briskly squeeze the **Outer Antenna Enclosure** onto the Inner Antenna Enclosure until dry.

4. Slide the **Antenna Fork** (bag E) onto the antenna casing's hinge feature so that the  $\mu$ FL Coax Cable routes through the keyway in the fork.

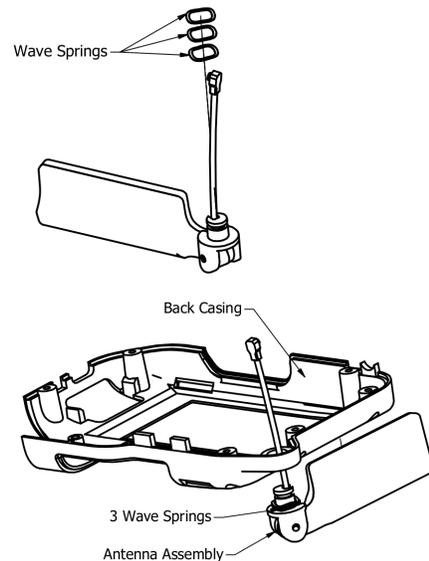


5. With a mallet, tap the **M2X10 Dowel** through the Antenna Fork and Antenna Assembly, capturing the Antenna Fork onto the Antenna Assembly.



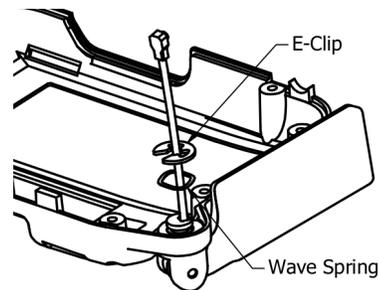
## Assemble rear casing

1. Place three **Wave Springs** over the  $\mu$ FL Coax Cable and insert the Antenna Assembly into the hole on the **Back Enclosure** (bag E).



2. Insert the Antenna Assembly into the hole on the **Back Enclosure** (bag E) with the  $\mu$ FL Coax Cable extending through, and add another Wave Spring.

Fasten with the **E-clip**. Needle-nose pliers are helpful here.



3. Place the **ePaper Display Window** (bag D) into the ePaper window cutout on the Back Enclosure.

A tiny amount of hot glue may be used to keep the window in place until assembly. Preferably this should be along the edge closes to the ePD hatch (left side in the image).



## Final assembly

1. Connect the **ePaper display** (bag D) to the connector on the Motherboard.
  - a. Pull the beige latching piece into the out/loose position.



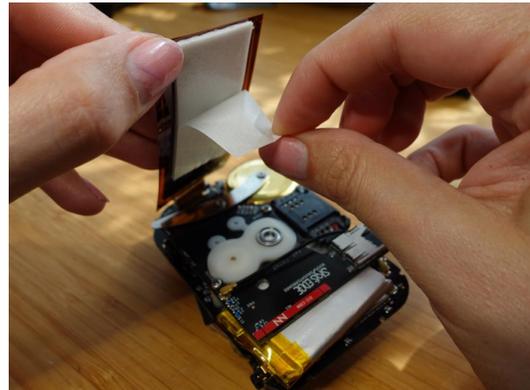
- b. Taking care not to bend the ePaper display unnecessarily, insert the flex cable into the connector on the Motherboard. It will take very little force to fully seat it.
  - c. Press the beige latch on the connector back down to secure it.



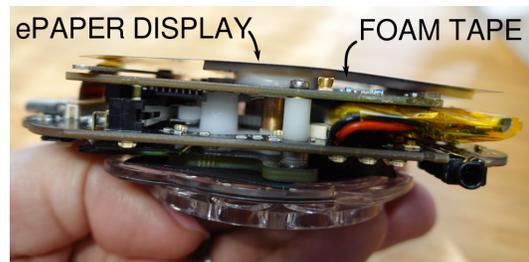
2. Attach the ePaper to the Daughterboard.
  - a. Optionally, peel the wax paper off the foam tape on the back of the ePaper display.

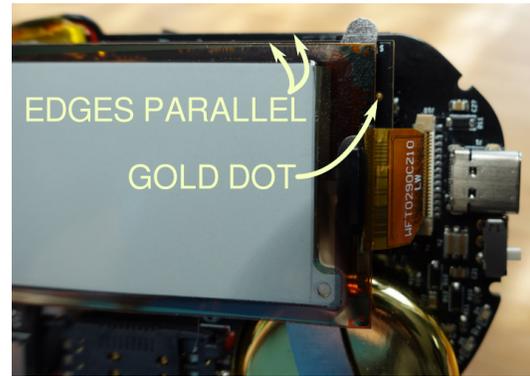


**Note:** The foam tape on the back of your ePaper display may look different than the picture.



- b. Lay the display down onto the Daughterboard. The gold dot ("fid") on the Daughterboard should be just visible behind the edge of the display. Also take care that the display isn't angled with respect to the edge.





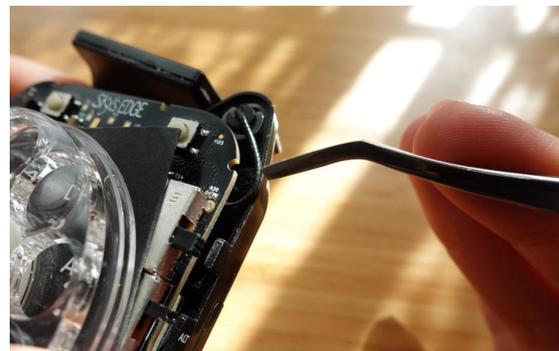
3. Snap the Antenna's  $\mu$ FL Coax Cable into the J5 connector on the Motherboard. The cable should loop toward the center of the Motherboard as shown.



4. Install the rear casing.
  - a. Slip volume cutout in the Back Enclosure through the Bell Arm first.

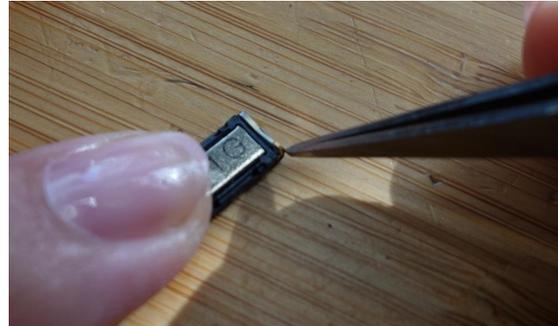


- b. The external antenna's  $\mu$ FL cable will have a tendency to get pinched between the Motherboard and the Back Enclosure as the Back Enclosure is installed. Use a tool to push it into the phone so that the Back Enclosure can sit flush against the Motherboard.





5. Unhook the contacts from the **Speaker** (bag D) with a sharp object or fingernail.



6. Press the Speaker into the speaker grill on the **Front Enclosure** (bag E). The hooked part of the speaker's contacts should face toward the center of the phone.



7. With the Back Enclosure/electronics assembly sitting face up, set the **Side Window** (bag E) into the Back Enclosure.



8. Set the **Call Buttons** and **Function Buttons** (bag E) in place over the tactile switches.

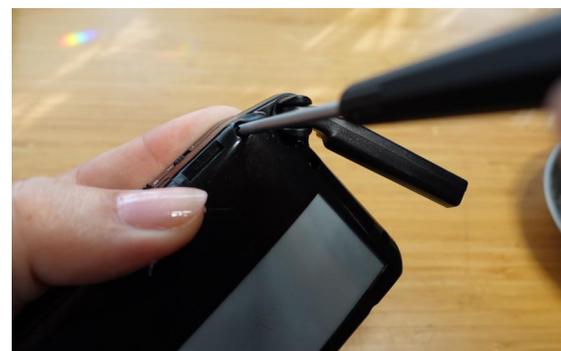


9. Set the Front Enclosure over the whole phone, tweaking the buttons into place as you compress the halves together.



10. Gently wiggle and jostle it until the internal components set and the enclosure halves can be firmly squeezed together.

11. Insert a **M1.6 X 6 Self Threading Screw** into the hole between the MicroSD card slot and the antenna, and tighten.



12. Insert a **M1.6 X 8 Self Threading Screw** into the hole closest to the headphone jack, and tighten.



13. The Side Window has a tendency to unseat during assembly. With the phone oriented with this window facing down (for gravitational assistance), a sharp object can be inserted through the nearby seam to nudge it into position.



14. Tighten an **M1.6 X 6 Self Threading Screw** into the hole nearest the volume slot to secure.



15. Maneuver the **Bell Window** (bag E) into place by wedging the casing open as necessary. The tabs on the Bell Window will retain it in the enclosure.



16. Insert a **M1.6 X 8 Self Threading Screw** into the hole under the SIM opening.



17. Tighten **M1.6 X 6 Self Threading Screws** into the remaining empty holes.



## Some Housekeeping

1. Confirm that all the buttons depress and release without getting stuck. If they do, some of the M1.6 screws that were just tightened, especially along the bottom edge, may need to be loosened slightly to allow the electronics to re-set.
2. Flip the Mode Switch into either Local or NonLoc mode (not Contacts/ALT).

3. Snap the **ePaper Hatch** (bag E) into place.



4. Snap the dial cap into place



5. Insert both the microSD card and the SIM card. Due to software bugs yet to be resolved, basic behavior is currently erratic when these cards aren't in place.
6. Turn on the power switch. A white light should illuminate the Bell, and turn off when startup is complete.



7. Try dialing some numbers to confirm that they appear correctly.

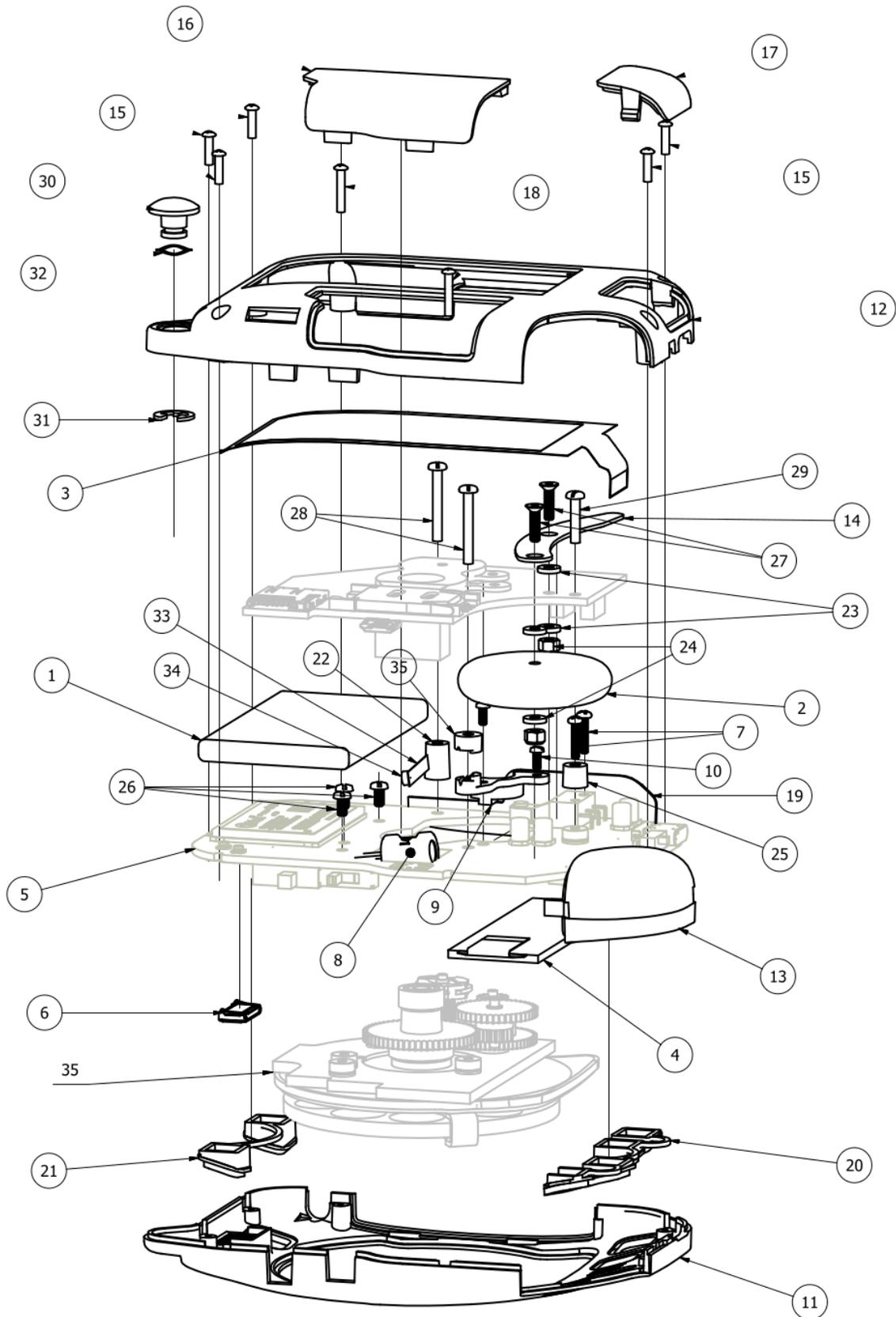


8. Turn the phone back off.
9. Download the files that go on the SD card from the SDCard directory here: <https://github.com/jhaupt/RotaryUnSmartphone>
10. Open config.txt and edit areaCode=631 to reflect your own area code.
11. Open contacts.txt and edit to reflect your personal contacts.
12. After copying config.txt and contacts.txt to the MicroSD card, insert it into the phone.
13. Insert your SIM card, and snap the **SIM Hatch** (bag E) into place.

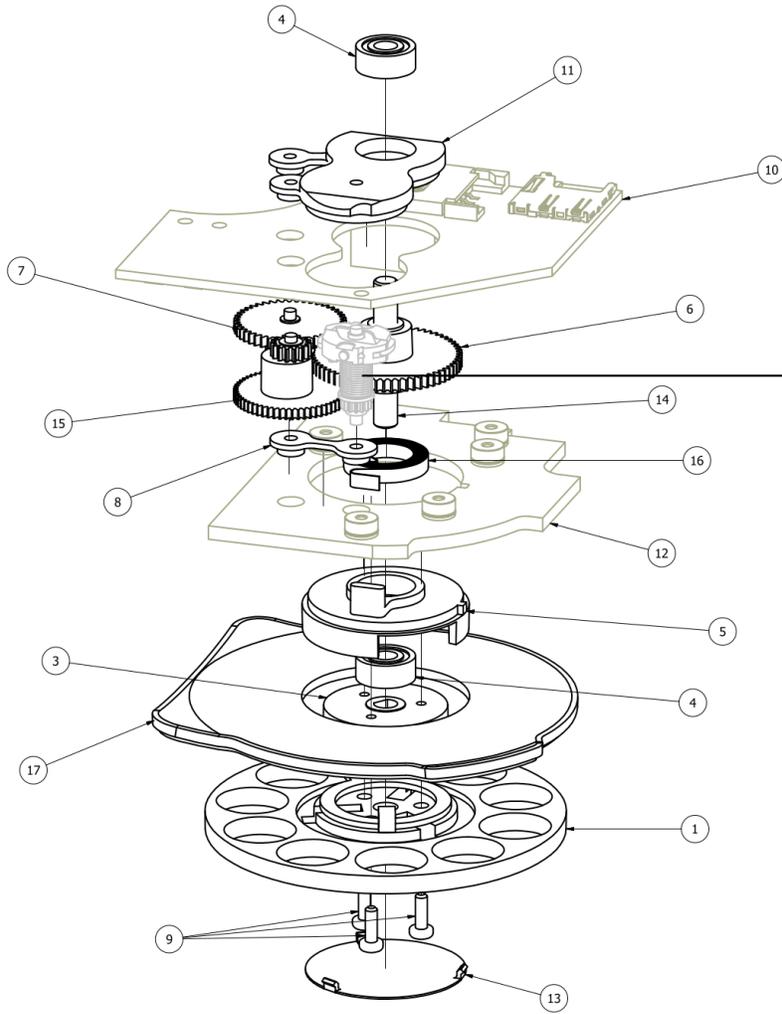
## Making the First Call

1. Activate your SIM card with your cellular carrier, using the IMEI number you noted in Preliminary Step 2.
2. Confirm the Microphone switch is in the ON position.
3. Switch the mode switch to either LOCAL or NP, depending on whether or not you want to make a local call.
4. Dial a number. If it's a local number and the Mode Switch is in the LOCAL position, do not dial the area code first.
5. To clear a number to start over, hold the "C" button down momentarily.
6. Hold down the CALL button (the one with the phone symbol) to place a call.
7. To hang up, hold the CALL button again.

# MAIN ASSEMBLY



# ROTARY MECHANISM



# GOVERNOR

