

Doug Pargett

Week 53

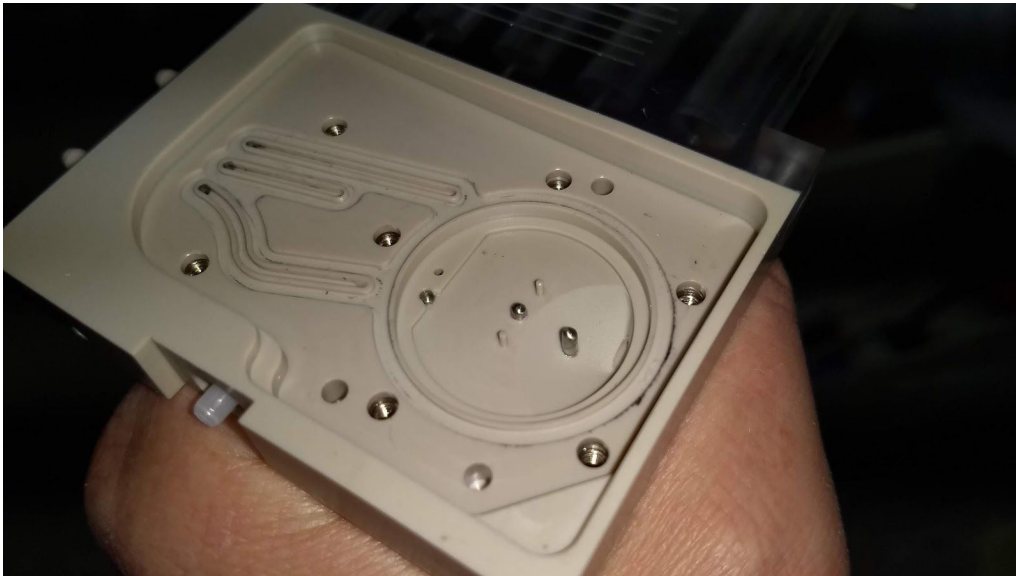
- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- Overhead
- Out of Office

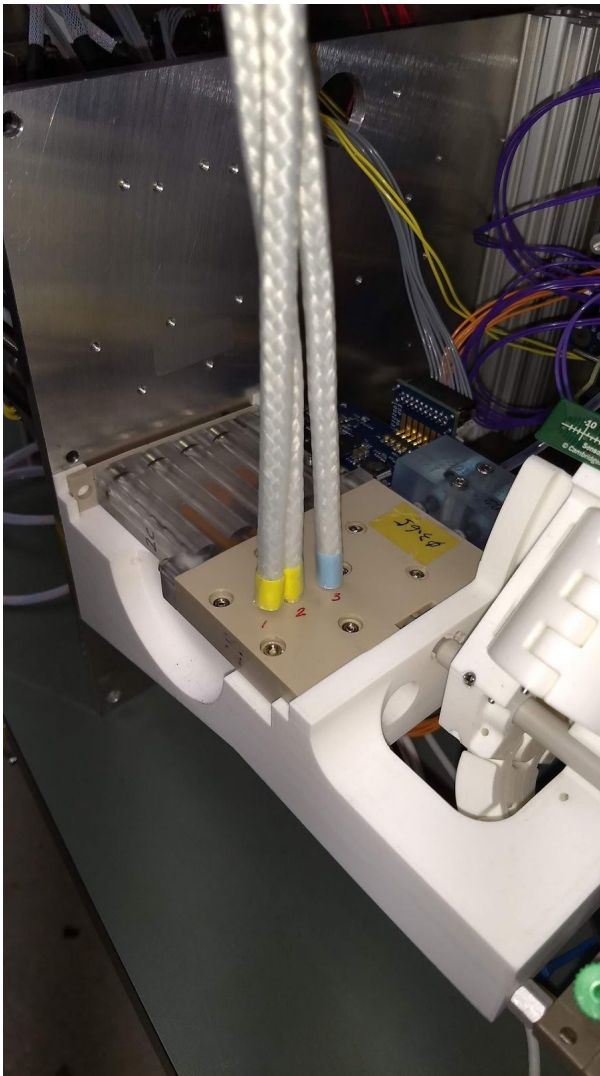
Week 52

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- Overhead
- Out of Office

Week 51

- 300078 - DMO Support- AUV
 - Discussed with Hans Thomas scope and ideas of new AUV lift structure.
- 901205 - ESP SURF Center
 - Reviewed the Function designs for the Alpha 2.2 cartridge, focusing on the seals at first.
 - Installed thermocouples into an old cartridge body to help map sample temperatures.





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- Installed pressure sensors and amp boards into ESP Tower, mostly so they don't get lost. Tower will need to be disassembled when we get the new stage components.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- Overhead
- Out of Office

Week 50

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - More thermal FEA on new cartridges to test a couple possible design changes. FEA results predict the changes probably won't help much.
 - ESP Meetings and remote work to support shimmed cartridge test.
 - Started a new Solidworks model of Tower to include the changes and high pressure test pump and dome. Designing new support to have better roll and tilt testing capability.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - A few phone calls and emails with Saildrone about screen materials and fluid connections.
- Overhead
 - Successfully passed the phishing email test... again.
 - "Congratulations on identifying a suspect message and submitting it for evaluation!"
 - Spelling error? *identifying*
- Out of Office

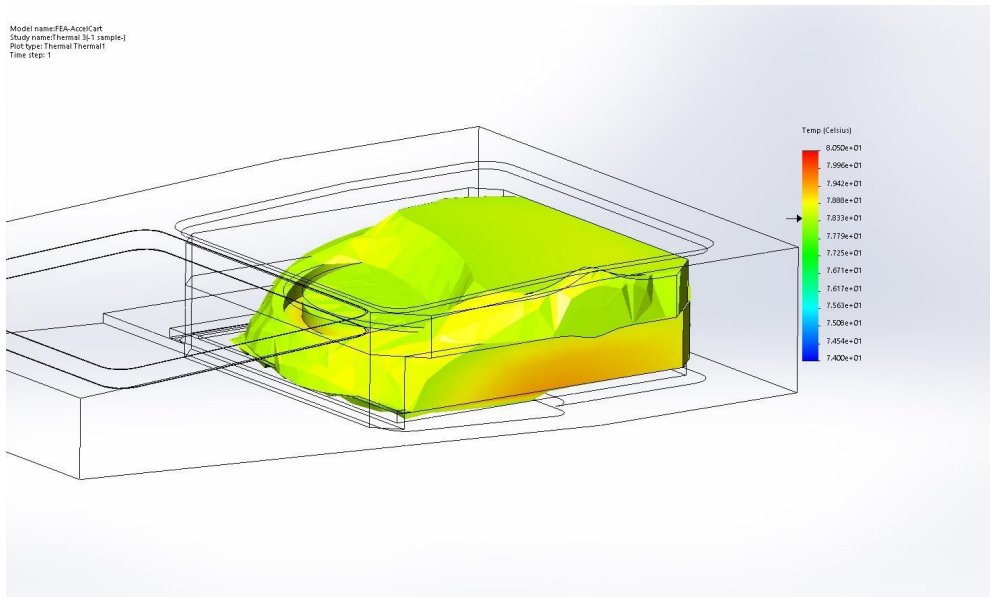
- A few hours of Vacation

Week 49

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Meetings, phone calls, answering questions.
 - Solidworks, setting up models to FEA some ideas that might better manage heating of the new cartridges.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- Overhead
 - Solidworks license transfer headaches. Thanks to Hawkridge it's fixed now.
- Out of Office
 - A few days of Vacation/Holiday

Week 48

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Additional thermal FEA of the current cartridges to compare the new concept to.



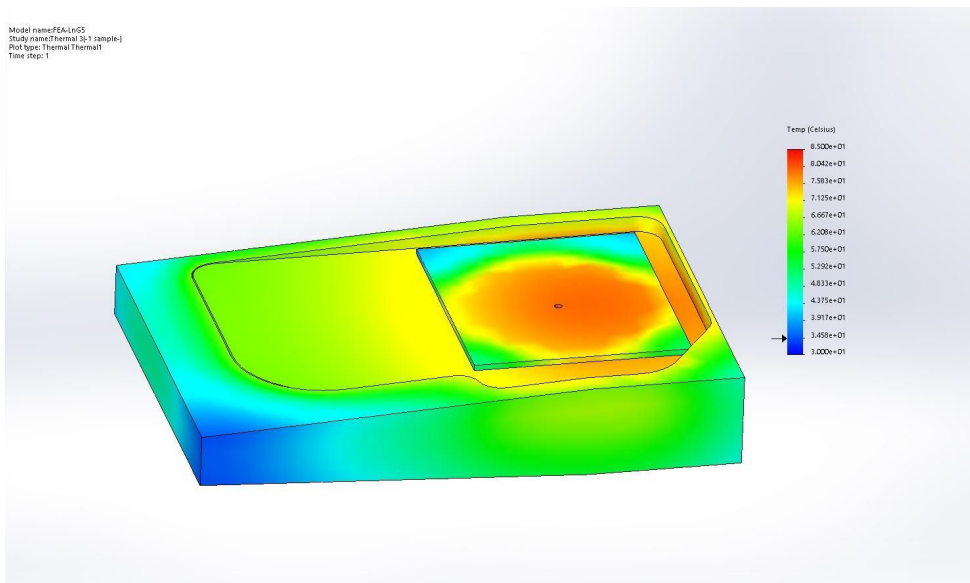
- - Cleaned and organized about half of my ESP workspace and tools.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- Overhead
 - Training
- Out of Office

Week 47

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Added a holster for the bleach bottle to the front of the KOA-FLowerPot housing.



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- Tested shims between cartridge for new Function Cartridge design.
- Adjusted thermal FEA models of the Function cartridges.



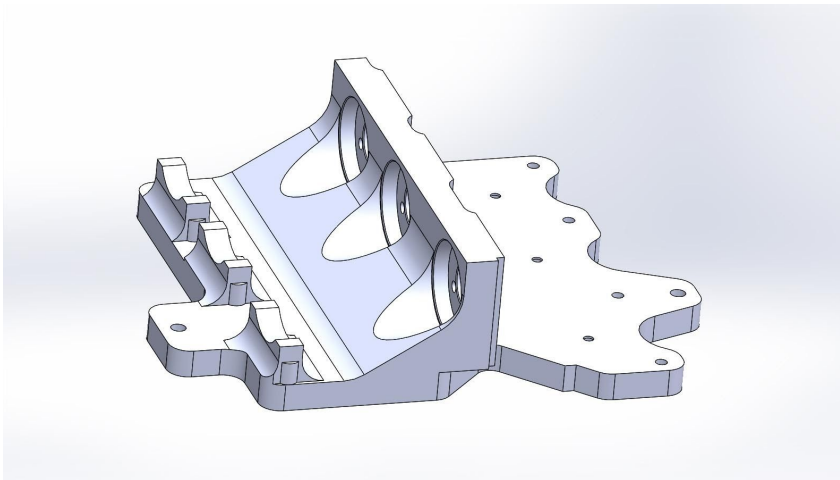
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- Overhead
 - Setting up new computers, software and moving more files around.
- Out of Office

Week 46

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - FrankenTower, a high pressure capable bench ESP, is mostly complete. Some electrical upgrades and calibration are needed prior to pump installation and testing.
 - Zoom meeting to start phase 3 of cartridge redesign.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- Overhead
 - Engineering meeting
 - Setting up new computer, files, and remote desktop software.
- Out of Office

Week 45

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - The G3 ESP on the WF seems to have performed well. Is there interest in having an ESP available on the WF more often?
 - Created solid models to 3d print some G3 ESP bulkhead valve components rather than assemble from several machined metal parts. (Lighter and can print-as-needed rather than stockpile lots of spare parts.)



- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- Overhead
 - Ordering computer upgrades (thanks)
- Out of Office
 - A day of SL (leg injury, not illness). I should be back to the lab on my usual Thursday.

Week 44

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center

- Helped get the Koa instrument set up for going out on the WF.
- Started rebuilding the damaged LRAUV dome for use with the FrankenTower instrument.
- Ordered lots of ESP parts from the shop.
- Modifying frame components of the bulkhead valve assembly to be 3d printed rather than several machined components.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- Overhead
- Out of Office

Week 43

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - We recanned the Koa instrument a few extra times as we inspected and fixed stuff.
 - I built up some over-instrument shelving and surge chamber to get Koa set-up for a possible deployment on the WF next week.
 - I've ordered several parts for the shop that are needed for MV2, MV3 and FrankenTower.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - I took the Koa instrument up to Saildrone to test the comms and power. Eventually it got sorted out, sort of. Saildrone's schedule is very optimistic, but they are motivated. They also would like to do the initial on-water tests without the ESP on board.
- Overhead
- Out of Office
 - A couple days of leave.

Week 42

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office
 - A few more leave hours

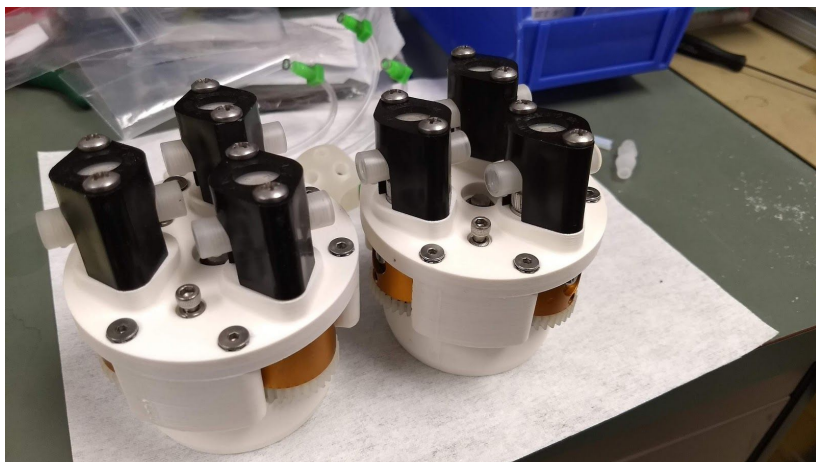
Week 41

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Made some quick repair and troubleshooting of the MV1 instrument for the coming deployment.
 - Built up more bleach-backwash check valve assemblies.
 - Disassembled the previous MV1 dome and cleaned up the parts. There was some sediment in the oil chamber. (This was originally on MV3, but swapped after MV1 got hit.) Some components are needed for the FrankenTower™ system. Additional parts from the shop are also needed to rebuild. This dome will be needed if we want to move Koa back to LRAUV operations.
 - Making the revisions to the Solidworks models of the Flowerpot housing parts to match what was needed/missed in the first build.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone

- Standing by to meet with Saildrone and see how the ESP backwash cleaning protocol will work with them.
- DQ1925 - NOAA Ecohab
- Overhead
 - A couple hours of school/education outreach about ocean technology.
- Out of Office
 - A few more leave hours

Week 40

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Additional progress on upgrading the Tower portable to use the function cartridges. The new cartridge deck is built and handoff +valves setup. Not tested yet. No pump or pressure dome yet.
 - Cleaned and rebuilt 2 G3 ESP pumps with new 3d printed bodies and new bearings. Needs tubing and flow testing, + alignment checks still. These are slated for MV2 and MV3.



- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - Built up a check valve system for Koa to use weak bleach as a back flush fluid. This should help keep the instrument cleaner between samples.
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office
 - Leave days

Week 39

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - The MV-1 instrument had cartridge issues after re-build, but looks to be an old part problem. I've added shim material to better line up the cartridges. Testing looks good so far.
 - Parts are coming in to rebuild 2 of the G3 ESP pumps.
 - Starting conversion of the Franken-Tower bench instrument to work with the Function cartridges at high pressure. The old damaged MV-1 LRAUV dome will be used for this.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - Koa has a check valve system on the output so we can test a mild bleach/flush backwash process.
 - The Flowerpot housing has new, grommited assembly straps and lift handles.
- DQ1925 - NOAA Ecohab
- Overhead

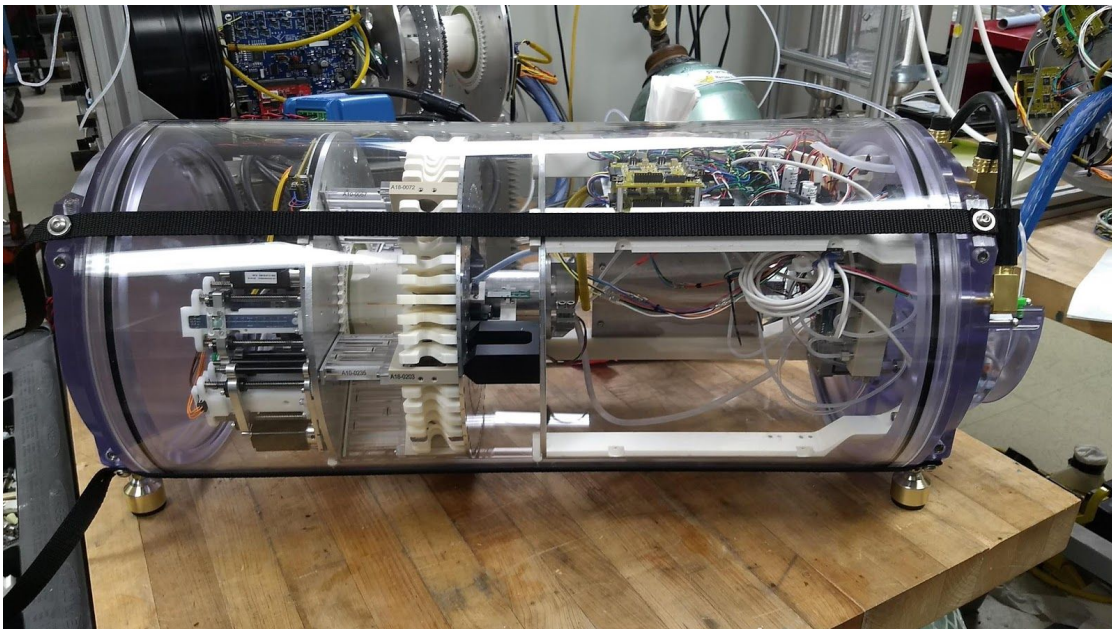
- Out of Office

Week 38

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Ordering parts from the shop for MV2, MV3, and Franken-Tower builds.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - ESP Koa is in final testing before going to Saildrone. Saildrone is not ready for the ESP.
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 37

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - I rebuilt all the cartridge seals on the toroid ring of the MV-1 G3ESP.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - Test assembled the FlowerPot housing with the Koa instrument.

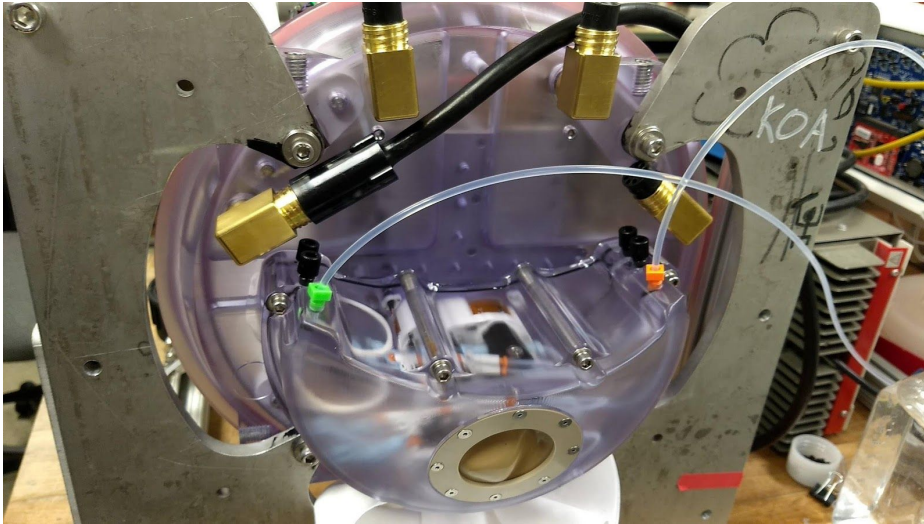


- Requested a part from the shop to lock the subconn connectors in position.
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 36

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - The MV1 instrument has been wrestled around a few times, but now has a drilled pressure sensor and a rebuilt pump. Initial high pressure tests show the drilled sensor is compensating to ambient.
 - MV1 is showing some cartridge seal leaks and those will need to be dealt with prior to deployment.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone

- After a couple more rebuilds and part changes, the Koa instrument is fully setup with the new acrylic dome housing. A few tweaks to wiring and circuits are being looked at.



- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 35

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - We're trying to rebuild the MV-1 instrument for the coming canon cruise. MV-1 had many issues with pressure sensors in the last deployment, and we are digging deeper and deeper into the instrument. We will be testing a drill modified pressure sensor tomorrow.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - This last week I have been building, rebuilding, and rebuilding again the G3 ESP in the acrylic housing for saildrone. Issues with the pressure sensors may be fixed now. (testing tomorrow)
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 34

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Working out solution for the pressure sensor problems.
 - Designed new stage and TV actuator for bench ESP. Made drawings and solid files for 3d printing.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - Building the FlowerPot housing and pump head. Moving the Koa ESP instrument to mount in it.
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 33

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Replaced 3 toroid valves in the Honu instrument.

- Found a major issue with the new pressure sensors that is due to a manufacturing change. Working on a fix, but trying to get mfg's to talk to us about the options.
 - Requested parts from the machine shop.
 - Zoom Meetings
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - Prepared the 3d printed FlowerPot housing for assembly.
 - Rebuilt a G3 pump for FlowerPot housing
 - Zoom Meeting
- DQ1925 - NOAA Ecohab
- Overhead
 - Zoom Meeting
- Out of Office

Week 32

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 31

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 30

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 29

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - FlowerPot housing: The test article with brass inserts didn't go well. (Threads don't match nor are they uniform.) Switching to another style, stainless steel insert.
 - Modifying the FlowerPot housing dome for the stainless inserts. (adding true threads to the model) for 3d printing.
- 901800.98 - Bioacoustic Payload

- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 28

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Repaired the MV1 instrument
 - New parts to test the next Function Cartridge testing...
 - Flowerpot housing: Thread insert test article being printed.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 26

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Replaced the pump and oil dome on MV1. It's ready for testing.
 - Redesigning the TV array for the new cartridges.
 - Flower pot housing needs mods before 3d Printing. Some more issues found with our in-house printer.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 25

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - We found a ground fault in MV1 during the test deployment. Scott Jensen found it to be associated with the pump pressure sensor. I inspected and found the oil to be fouled. (At some point in time there was a water leak into the oil.) The penetrator contacts detected this as a ground fault. As it's open, we decided to make the jump and replace the pressure sensor to a 20bar one at this time. It's just waiting for the electrical surgeon to do the transplant.
 - I'm getting direct port adapters from the shop so we can test the next version of the Function cartridge, but these do not have toroid valves.
 - I've started a major redesign of the 3G ESP toroid valve array to accommodate the new cartridge port spacing and angled ports. Since just elongating the current TV valve would interfere with the electronics boards on the cartridge, the TV valve hard stops, throws, and all the flow paths need to be redesigned as well.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 24

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - I have been talking with an autonomous surface vehicle company to see if the FlowerPot ESP housing (currently in design) would fit their vehicle. A few simple changes now, and it will fit fine.
 - I've started designing new cartridge port fittings and toroivid valve components that can be fit on the portable G3 ESPs to test the Alpha2 cartridge from function.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 23

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Working on the Function Cartridge reviews
 - Starting to design the modifications necessary to the Bench instruments and the 60 cartridge instruments.
 - Worked on some cartridge test and instrument development plans for the coming year.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - Adjusting the design of the 3d printed "FlowerPot" dome to need less machining work after printing.
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 22

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Attended usual zoom meetings
 - Making minor tweaks to the solid models of the FlowerPot dome caps.
 - Reviewing the new cartridge testing and development.
 - Putting together ideas for the proposal cycle (upgrading G3 ESPs, etc)
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 21

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 20

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Completing the “FlowerPot” housing design.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - I’m getting preliminary quotes for 3d printing “FlowerPot” domes.
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 19

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 18

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 17

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - This last week (or was it the last two weeks?) I rebuilt the Stumpy bench ESP to operate the new cartridges being designed by Function. Brought it home, helped Brent get the remote network going, and has since been picked up by Function. Thanks to Greg and all for helping make this happen.
 - Function got the new cartridge parts today and can soon start testing them. Note, this is the alpha test article.
 - I have run some thermal simulations of the new Function cartridges (mostly for SW practice and a bit for predicting where we might have problems heating these.) So far, the features we thought might be problematic, will be problematic, but not as bad as we thought. I think they will be easily solved.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
 - I finished up running simulations of Gene’s pressure chamber, hopefully he’s happy with it.
- Out of Office

Week 16

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 15

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Getting part and mods ready to turn a bench G3 into a test rig for Function.
 - Parts are ordered, I will schedule w/ Norm and Greg for an onsite mod-day once they come in.
 - Testing some thermal simulations of the Function alpha cartridge model.
 - Modeling more of the printed housing for the Saildrone platform
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
 - A bit of LinkedIn training while it was raining.
- Out of Office

Week 14

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 13

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Attended online meeting with Function on the cartridge redesign.
 - Designed the modifications needed to make our bench machines compatible with the new cartridge for testing. One part needs to be 3d printed, two others need light machining.
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
 - Started design of housing for the Saildrone 3G ESP.
- DQ1925 - NOAA Ecohab
- Overhead
 - Ran a few FEA models for Gene.
- Out of Office

Week 12

- 300078 - DMO Support- AUV

- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 11

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Met with Function on cartridge redesign.
 - Have a list of items MBARI needs to get ready by March 20. This is my top priority.
- 901800.98 - Bioacoustic Payload
 - New main structure piece has been printed. Still some issues. Suggest using the ABS one for testing.
 - Circuit board mount milled from G10. Ready for build.
- DQ1904 - NOPP Saildrone
 - Had a meeting at Saildrone on Friday. Detailed out functional requirements and MBARI action items. Design will merge well with the dock/river-side G3 ESP housing called "FlowerPot"
- DQ1925 - NOAA Ecohab
- Overhead
 - Ran some FEA for Gene M. and he's modifying his design to improve pressure.
 - Have setup to run SW and FEA remotely if I need to stay home.
- Out of Office

Week 10

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 9

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Helping McLane rebuild 2G ESPs.
- 901800.98 - Bioacoustic Payload
 - Pressure housing parts are here.
 - Building up test gimbal assembly.
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
 - Reviewing pressure codes to help out Gene.
- Out of Office

Week 8

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center

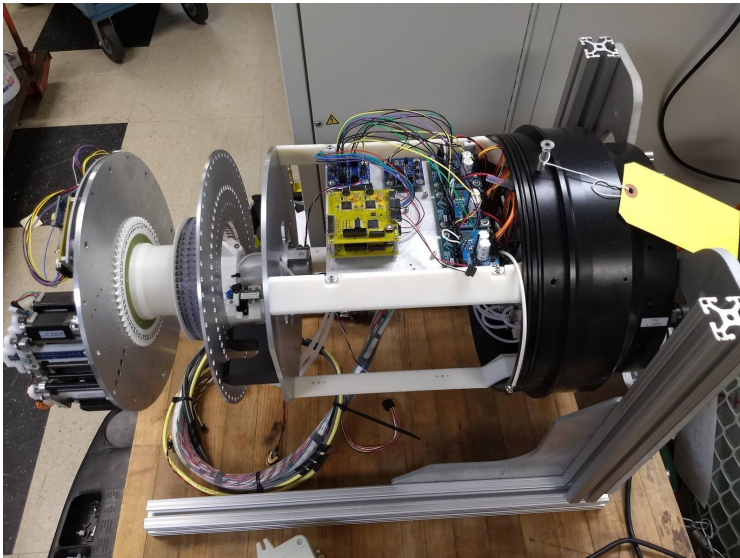
- 901800.98 - Bioacoustic Payload
- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 7

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Built the G3 instruments MV-2 and MV-3 as far as is reasonable until we can do some system testing.
 - Scott Jensen looked over MV-2. On start-up, it seems to be mostly ok, but running 2 year old software and firmware. MV-2 woke up from a 2-year nap and now has left and right mixed up.



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- MV-3 is about 90% built. Some long lead parts are coming in April. It got a yellow card from the referee and will be sitting on the bench for a bit.



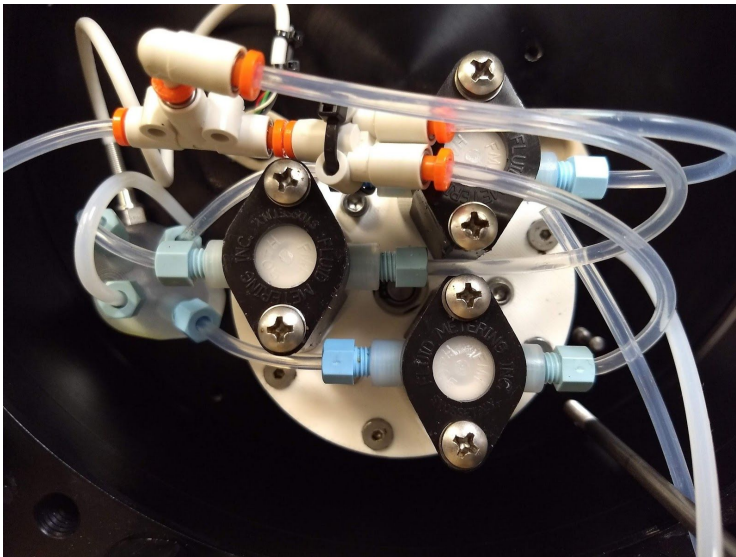
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- Continued major clean-up of the Tech Lab with Dack.
- 901800.98 - Bioacoustic Payload
 - Built up the first gimbal transducer assembly, and it.... Rocks!



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- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 6

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - MV-2 now needs starting up prior to installing the oil dome and high pressure testing.
 - MV-3 A-dome assembly is almost complete. Center plate, pump, pump pressure sensor, penetrators and bulkhead valve assembly all installed.



- Still haven't found everything I'm looking for. 35 bar pressure sensor (more ordered, but long lead time)
- Still cleaning lab and organizing tools and parts. Will get more help with this next week.

- 901800.98 - Bioacoustic Payload
 - The pressure domes being made at Scripps have arrived, and they look great.
 - Test fit with the (un-anodized) caps and looks good so far.



- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office

Week 5

- 300078 - DMO Support- AUV
- 901205 - ESP SURF Center
 - Made a disassembly tool to take apart the G3 ESP A domes, and it works! Saving that thing.
 - The 20-bar pressure sensor for MV-3 is made and ready to install. MV-2's has been replaced with a 20-bar.
 - Need to find the 35bar pressure sensors for MV-3's leak detection.
 - Plugged the ambient pressure ports on MV-2 and MV-3 parts with Ti Pins and EPDM seals.
 - Organized G3 circuit boards in the lab into bins.
 - Starting cleaning up prior to external review. ✍️
- 901800.98 - Bioacoustic Payload
 - Waiting on parts from shop, target is Feb 10.
 - 5-axis mill is awesome! 🤖 Thanks for getting it.



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- DQ1904 - NOPP Saildrone
- DQ1925 - NOAA Ecohab
- Overhead
- Out of Office