ru29: leak search and how to open

- Tools needed
- Left to right
  - Small T-Handle
  - Large T-Handle
  - Flashlight
  - Hex wrench set
  - splitters
- Pliers
- Alcohol, wipes, plastic scraper for Zinc cream, razor blade
Cleaning prior

• Rinse glider with freshwater before wheeling into lab. Dry off as best you can with towel.
• Make judgment on removal of zinc cream, would be ideal to at least get most of it off before opening, especially the aft seal.
• For the seam tape try to remove it by peeling if that doesn’t work, just cut it lightly down the seam with a razor blade, dry glider off again
• Feel free to remove the wing rails with the small T handle tool, be careful to not strip the threads
Remove cowling & vacuum plug

1. Remove 2 screws holding cowling in, then gently slide cowling back past the digifin.
Remove vacuum plug and find hex key inside glider

1. Vacuum plug is plastic and weak, it shouldn’t be overtightened but if it is you may need pliers to loosen it. Otherwise the large T-Handle will unscrew it. Air will rush in.

2. Look down inside the glider you should be able to spot the hex key
Opening and searching for leak

- Often gravity brings water to bottom of hulls.
- There will be residual water near every o-ring seal, sometimes it’s hard to decipher where the water came from.
- It’s not guaranteed you find a leak or that there is water inside the glider, so don’t try to create a finding if you don’t see anything obvious. We would rather no lead than a false lead!
- Primary mission is confirm there is water inside the glider or was; this will let us know if we have a faulty sensor or something else wrong with the glider.
- Our highest suspect area is the aft seal, cap, bulkhead area
Open the glider

• Use the large T to begin opening the glider. **The goal when opening is to let one section open at a time!!!!!!!** Otherwise water could move/escape
• Open the section forward of the science bay first. Once open, disconnect the cables and inspect for any leaks on the lower sections.
• You must use the splitters as you open on the hull sections or else random sections will open first. Gently twist the splitter as someone else unthreads the tie rod.
Open science bay / aft seal

• Open the aft science bay seal, there will be many cables. Disconnect them there should be 5 total, pull pins from battery but try not to move battery too much, let it sit in hull

• Inspect for leaks or water quickly
Open aft seal

• Keeping the hull where it is (try not to move the hull around too much in case there is water in it.
• Just pull the tail out, you may need to wiggle the tail up and down to pull it out by grabbing the top.
• With cables disconnected the aft should slide out far. Inspect on cart as best you can and if you need to completely remove it do so after inspecting in its natural position.
• Inspect for water near leak detect, on leak detect, bridging the leak detect.
Searching for leak, where to look

• Search bulkhead seals
• Search digifin cables, water would drop or run down cables from above, could be present on mainboard.
• Trace the leak detect cable to the mainboard, anything funny about it? Pinched, damaged, mainboard connection OK?
• After search is complete feel free to remove battery (remove pins first, they are difficult). Also feel free to remove aft stem
• See pictures