Standard Operations Template

For Tests, Internal SOPs, or Competition Procedures

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Contents

This document contains the following:

- Guide to integrate cubesat into rocket before launch
- Guide to operate cubesat before and during launch

Prior to Start

- ☐ Items to be completed before beginning procedure
  - ☐ Make sure the deployment charge is disconnected from the cubesat
  - ☐ Make sure the batteries are all fully charged
  - ☐ Make sure you have all the required tools for assembly
  - ☐ Make sure you have the payload screw storage container available

Assembly and integration procedure

1. ☐ Place the cubesat with the +X panel upwards
2. ☐ Remove the screws from the panel. Place the screws in their slots in the screw container
3. ☐ Remove the +X panel
4. ☐ Place the cubesat with the +Y panel facing upwards and remove the screws holding it in place.
5. ☐ Remove the +Y panel
6. ☐ Remove the 4 screws holding the gopro mount in place and set aside
7. ☐ Hold the power button down for 3 seconds to turn on the gopro
8. ☐ Ensure the gopro is fully charged and has an SD card inserted
9. ☐ Press the power button until the settings icon is shown on the display
10. ☐ Use the record button to select the wireless icon
11. ☐ Press the power button until the "REM CTRL" option is highlighted
12. ☐ Press the record button to select it
13. ☐ Press the record button again to select "EXISTING"
14. ☐ Confirm that the operation was succful by observing the blue blinking LED on the front of the camera
15. ☐ Press the power button on the gopro wireless remote control to turn it on
16. ☐ Ensure the devices are communicating by recording a short test video using the remote
17. ☐ hold the power button on the remote until it powers down, and ensure that the camera also powered down
18. ☐ Install the camera into the gopro mount and screw into place
19. ☐ Connect the USB cable from the rechargable battery to the camera
20. ☐ Reinstall the +Y panel
21. ☐ Turn the cubesat so the +X panel is facing upwards again
22. ☐ Connect the 2 blue batteries into ports J5 and J7 on the recovery board
23. ☐ Turn on the payload transponder and verify that it can connect to the cubesat
24. ☐ Use the transponder to turn the cubesat to "ACTIVE MODE" and ensure that the sensor data being read out is logical
25. ☐ Use the transponder to turn the cubesat back to "LOW POWER MODE"
26. ☐ Turn the transponder off
27. ☐ reinstall the +X panel
28. ☐ remove the +Z panel
29. ☐ install a 9v battery into the stratologger battery holder
30. ☐ turn on the transponder
31. ☐ Use the transponder to turn the cubesat to "ARMED MODE" and verify that the stratologger turns on
32. ☐ Use the transponder to turn the cubesat back to "LOW POWER MODE"

33 ☐ Turn off the transponder

34 ☐ Take a prepared deployment charge assembly and zip tie it to the parachute line, ensuring that a piece of fireproof cloth is wrapped around the assembly

35 ☐ Pass the wires of the deployment charge through the hole in the +Z panel and connect to the stratologger terminal labelled "DROGUE"

36 ☐ Reinstall the +Z panel

37 ☐ Load the cubesat into the payload sleeve

38 ☐ Attach the sleeve to the rest of the rocket

39 ☐ Attach the 3 shear pins

40 ☐ End of procedure

Launch preparation procedure

1. ☐ Turn on the transponder
2. ☐ Ensure that the transponder is connected to the cubesat
3. ☐ Switch the cubesat to "ARMED MODE"
4. ☐ Press the power button on the GoPro remote
5. ☐ Press record on the remote to start the camera recording
6. ☐ End of procedure