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| **Procedure Name** | **COTS Hybrid Hot Fire 03/21/2015 – Electronics Setup** |
| **Summary** | **Preliminary set up for electronics. From arrival on site to preliminary load cell testing.** |

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|  | **Name** | **Date** |
| **Created By** | **Alex Omar** | **3/11/2015** |
| **Started By** |  |  |
| **Finished By** |  |  |

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| **Materials** | |
| **Name** | **Quantity** |
| **Test Computer and charger** | **1** |
| **Extension Cord** | **1** |
| **Cad-5 Cables (Ethernet bundle)** | **2** |
| **Load Cell** | **1** |
| **Launch Box (Black Box)** | **1** |
| **Relay Box (Yellow Box)** | **1** |
| **Multimeter** | **1** |
| **Flash Drives** | **2** |
| **Launch Binder[[1]](#footnote-1)** | **1** |
| **Electronics Hardbox** | **1** |
| **Electronics Toolbox** | **1** |
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| **Participants** | |
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| **#** | **Done (initial)** | **Checked**  **(initial)** | **Directions** |
|  |  |  | **Move electronics hardbox and electronics toolbox to a bunker where we will be operating the hot fire test.[[2]](#footnote-2)** |
|  |  |  | **Find a power outlet and connect it to the test computer via extension cord.** |
|  |  |  | **Place flash drives and notebook by Test computer.** |
|  |  |  | **Connect the relay box to the test computer via USB.** |
|  |  |  | **Connect the relay box to the launch box using the Ethernet (Cat-5) cables. For LC data we need ports 3 and 4 of the Relay Box to be connected to ports 3 and 4 of the Launch Box.[[3]](#footnote-3)[[4]](#footnote-4) (port 3 to port 3, port 4 to port 4)** |
|  |  |  | **Completely unravel Cad-5 cables.** |
|  |  |  | **Connect LC to the port on the launch box labeled “Load Cell”. Screw the cap on until it is firmly help in place.** |
|  |  |  | **Turn on the launch box.[[5]](#footnote-5)** |
|  |  |  | **Insure the green LEDs on the side of the Launch Box labeled “12V” and “24V” are bright green.[[6]](#footnote-6)** |
|  |  |  | **Open loadCellControl.vi on the Test Computer and start the program.** |
|  |  |  | **Have someone apply a force to the load cell and insure you are reading spikes in the data.[[7]](#footnote-7)** |
|  |  |  | **Remove all force from the LC and change the Volt-Lbs Zero field on the LabVIEW program until you read 0lbs.** |
|  |  |  | **Notify Propulsion that you are ready for Load Cell mounting.** |

1. There will be a white binder labeled “Launch Binder” onsite that contains many critical datasheets as well as scratch paper. [↑](#footnote-ref-1)
2. These contains flash drives, Load Cell, notebook, multimeter [↑](#footnote-ref-2)
3. If the cables are not labeled then use a multimeter to test for connectivity. [↑](#footnote-ref-3)
4. If the cables are broken then replace bundle with a new bundle. [↑](#footnote-ref-4)
5. There will be a black switch inside. [↑](#footnote-ref-5)
6. If they are not lit up, or only one has lit up, inform Alex Omar [↑](#footnote-ref-6)
7. If you are not reading changes in data after a force is applied check if all Cad-5 cables are connected. Check if the Load Cell is connected. Check if the Launch box is turned on. [↑](#footnote-ref-7)