Launch Director Checklist
NS-77

Launch Location: Jefferson Highschool, Shenandoah WV

Launch date: May 5, 2018

Attempt 2

Payload Lineup:

Payload Name	POC Name	Passed Inspection	Inspector Initials
CMD	NASSIF/ AXEL	✓	
BITS	LUKE		
German school Payload	Tyler		
Dary	Tyler		
Panoramic	Michael W.		
~~Footsor~~ MARS	Quinn		
SHIELD	Quinn		
Helios	Michael W.		

Balloon Size(s): 3000g

Callsigns: W3EAX-12 W3EAX-13

L-3 Day Checklist
____✓ Verify all payloads have submitted launch readiness forms

L-2 Day Checklist
__✓__ Conduct ground track meeting
____ Print van inspection forms
__✓__ Create van position roster

L-1 Day Checklist
__✓__ Pick up vans
__✓__ Conduct van inspections (attach checklists)
    ____ Van 1 (Callsign: _____)
    ____ Van 2 (Callsign: _____)
    ____ Van 3 (Callsign: _____)
    ____ Van 4 (Callsign: _____)
____ Inspect all payloads against payload requirements document
__✓__ Charge batteries
    ____ Portable car battery
    ____ Wi-fi hotspot (AT&T)
    ____ Wi-fi hotspot (Sprint)
____ Verify AT&T hotspot is paid
____ Inventory launch supplies (checklists in respective boxes)
    __✓__ BLT Bucket
    __✓__ Inflation Bucket
    __✓__ Recovery Bucket
    __✓__ Launch Kit
    ____ Main tracking box
    ____ Launch Solder Kit
____ Verify completion of Command Module L-1 day checklist (attach checklist)
__✓__ Pack (attach checklist)

L-0 Pre-Departure Checklist

___✓___ Conduct head count against van roster

___✓___ Signed waivers from all participants

___✓___ Verify all convoy vehicles have Zello

___✓___ Radio check

L-0 Launch Site Checklist

Launch/Inflation Setup Checklist

_____ Pre-launch setup meeting (See PAO)

___✓___ Tarp setup (indicate full (or half) configuration)

___✓___ Place BLT in optimal launch location

___✓___ Indication direction of payload string from balloon

___✓___ Parachute-to-balloon lanyard configured

___✓___ Parachute and ring untangled

___✓___ Command Module in place

___✓___ Harmless payload stickers on each payload

___✓___ Payload string lined up and assembled

Pre-Inflation Checklist

_____ ***Hook lanyard from parachute around balloon neck before connecting to inflation tube***

_____ Tethers in place

_____ Brief 2 tether handlers (See PAO)

___✓___ Did Dr. Bowden call the tower? (See Dr. Bowden)

___✓___ Balloon in BLT ready to go (See BLT Engineer)

Pre-Release Checklist

___✓___ Check payloads are ready

_____ Final communications check

Countdown & Release

____ Inform payload PoCs to hold payloads above the launch pad

____ Tether handlers ready

____ Slowly raise payload string

____ Measure Total Free Lift = _____ (optional)

____ Countdown from 10 (Final Countdown Song Optional)

____ Release!

Release Time Mark = _____

L-0 Post-Launch Checklist

____ Ensure all materials are stowed in correct boxes/kit

____ Stow all materials in lab

____ Ensure vans are cleaned out

____ Download APRS logs from aprs.fi and upload to server

____ Remind payload designers to upload data to server

Packing Checklist
NS-_77_ pt. 2

Launch Equipment
- ✓ Balloons
- ✓ Helium tanks
- ✓ Tarp (Big and Small)
- ✓ Parachute and Ring
- ✓ Command Module kit
- ✓ Broom
- ✓ Square Plywood Bases
- ___ Scale for Measuring Payloads

✓ Inflation Kit
✓ Launch Kit
✓ LCT Bucket
✓ Solder Kit

Recovery
- ✓ Bow Saw
- ✓ Extension Pole
- ✓ Scythe
- ✓ Sling Shot

✓ Recovery Bucket
= Machete

Payloads
- ✓ Car battery
- ~~Battery box~~
- ✓ Battery Charger
- ✓ Payloads
- ~~Spare LVCs~~
- ✓ Tyler's Weather Ground Station

Tracking/Communications
- ✓ ✓ Tracking Laptop(s)
- ✓ Tracking Antennas

- [x] 900s Ground station
- [x] Radios
- [x] Walkie-Talkies
- [x] Wi-Fi hotspot(s)
- [x] Power Inverter
- [x] Power Strip(s)
- [ ] Car magnets

Command Module 1 Checklist
NS-11

L-1day:
~~Link~~

~~___ Confirm ground system software is installed~~
   ~~___ COSMOS~~
   ~~___ Virtual Serial Port Emulator~~
~~___ Run Link test suite, confirm all tests pass~~
~~___ Run test suites for all payloads flying, confirm all tests pass~~
~~___ Confirm Link battery is charged, serial number: _____, voltage: _____ V~~

Habduino (Top Plate)
_✓_ Confirm habduino battery is charged, serial number: -BW-002, voltage: 8.35 V
_✓_ Turn on radios, confirm they get GPS lock, confirm APRS packets are sent

Habduino (Bottom Plate)
_✓_ Confirm habduino battery is charged, serial number: -BW-005, voltage: 8.35 V
_✓_ Turn on radios, confirm they get GPS lock, confirm APRS packets are sent

Cell Tracker
_✓_ Confirm cell tracker battery is charged, serial number: - BW-002, voltage: 8.35 V
_✓_ Turn on cell track, confirm it gets GPS lock, confirm text messages are sent
_✓_ Confirm positions are logged to SD

Equipment
_✓_ Confirm command kit is packed with:
   -010
   _✓_ Spare battery, serial number: -009 , voltage: _____ V
   _✓_ Spare habduino -10
      ___ Turn on radios, confirm they get GPS lock, confirm APRS packets are sent
   _✓_ Spare empty micro SD card
   _✓_ MicroSD to SD card adaptor
   _✓_ USB-A to USB-B cable
   _✓_ USB-A to micro-USB cable
   _✓_ Spare mounting screws (x9)
   _✓_ Spare habduino antenna (x2)
   _✓_ Spare LVC
   _✓_ Wrench (for SMA connectors)
   _✓_ Screwdriver (for balloonduino screw terminals)
   _✓_ Screwdriver (for mounting screws)
   ___ Desiccants   **Page Turn Over-->**

Command Module Checklist
NS-71 77

Pre-Flight Checklist

Cell Tracker

- ✓ Tighten Cell Tracker GPS Connection
- ✓ Cell Tracker SD Card
- ✓ Tighten Cell tracker cellular connection
- ✓ Power connection
- ___ Clear SD card

Habduino (Top Plate)

- ✓ Tighten Habduino GPS Connection
- ✓ Tighten 2M RF Connector (Out the back)
- ✓ Power connection

Habduino (Bottom Plate)

- ✓ Tighten Habduino GPS Connection
- ✓ Tighten 2M RF Connector(Out the front)
- ✓ Power connection

~~Link~~

- ___ ~~Tighten Antenna Connection (bottom)~~
- ___ Tighten Antenna Connection (side)
- ___ ~~Power connection~~

Systems Check

-Top Plate

- ✓ Top LVC Switched on
- ✓ Cell Tracker On
- ✓ Habduino On
- ✓ Receive Text from cell tracker
- ___ Received Packets from Hab
- ✓ Place desiccants

-Bottom Plate

- ✓ Bottom LVC Switched on
- ✓ Habduino On
- ___ ~~LINK On~~
- ___ Received Packets from Hab
- ___ ~~Ground receiving packets from Link and all payloads~~
- ___ Place desiccants

___ **Seal Box**

Command Module 1 Checklist
NS-꒳꒳

L-1day:
Link
___ Confirm ground system software is installed
    ___ COSMOS
    ___ Virtual Serial Port Emulator
___ Run Link test suite, confirm all tests pass
___ Run test suites for all payloads flying, confirm all tests pass
(___) Confirm Link battery is charged, serial number: _____, voltage: _____ V

Habduino (Top Plate)   8.40
✓ Confirm habduino battery is charged, serial number: BW-010, voltage: 8.33 V
✓ Turn on radios, confirm they get GPS lock, confirm APRS packets are sent

Habduino (Bottom Plate)
✓ Confirm habduino battery is charged, serial number: BW-009, voltage: 8.32 V
✓ Turn on radios, confirm they get GPS lock, confirm APRS packets are sent

Cell Tracker
✓ Confirm cell tracker battery is charged, serial number: BW-010, voltage: 8.33 V
✓ Turn on cell track, confirm it gets GPS lock, confirm text messages are sent
✓ Confirm positions are logged to SD

Equipment
___ Confirm command kit is packed with:
    ✓ Spare battery, serial number: BW-009 voltage: 8.39 V
    ✓ Spare habduino
    ___ Turn on radios, confirm they get GPS lock, confirm APRS packets are sent
    ✓ Spare empty micro SD card
    ✓ MicroSD to SD card adaptor
    ✓ USB-A to USB-B cable
    ✓ USB-A to micro-USB cable
    ✓ Spare mounting screws (x9)
    ✓ Spare habduino antenna (x2)
    ✓ Spare LVC
    ✓ Wrench (for SMA connectors)
    ✓ Screwdriver (for balloonduino screw terminals)
    ✓ Screwdriver (for mounting screws)
    ___ Desiccants   **Page Turn Over-->**

Command Module Checklist
NS-7X
77

Cell Tracker

✓ Tighten Cell Tracker GPS Connection

✓ Cell Tracker SD Card

✓ Tighten Cell tracker cellular connection

✓ Power connection

✓ Clear SD card

Habduino (Top Plate)

✓ Tighten Habduino GPS Connection

✓ Tighten 2M RF Connector (Out the back)

✓ Power connection

Habduino (Bottom Plate)

✓ Tighten Habduino GPS Connection

✓ Tighten 2M RF Connector(Out the front)

✓ Power connection

Link

___ Tighten Antenna Connection (bottom)

___ Tighten Antenna Connection (side)

___ Power connection

Systems Check

-Top Plate

✓ Top LVC Switched on

✓ Cell Tracker On

✓ Habduino On

___ Receive Text from cell tracker

✓ Received Packets from Hab

✓ Place desiccants

-Bottom Plate

✓ Bottom LVC Switched on

✓ Habduino On

___ LINK On

✓ Received Packets from Hab

___ Ground receiving packets from Link and all payloads

✓ Place desiccants

___ **Seal Box**