**June 28, 2016 – OSU UAS Airfield**

UTC = local time + 5 hrs

Flights conducted at the OSU UAS Flight Field

Front

Back

Windsonde 733

& 741

Windsonde 739

Windsonde 737

&742

Windsonde 738

All Windsondes located under the rotors and shielded by small PVC pipes (not in contact). See pictures below.

Flight 1 (Iris+)

Battery Number: 1

Windsondes: 733, 737, 738 & 739

Start Battery: 12.3 V

Start Direction: 96° E

Ascent Start: 10:43:08 UTC

Left 10m hover: 10:43:26 UTC

Reached 100m: 10:44:16 UTC

Reached 200m: 10:45:00 UTC

Reached 300m: 10:45:44 UTC

Started decent: 10:45:53 UTC

Landed: 10:50:17 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. The pre-mission test fight included brief photo op with the sunrise. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 2 (Iris+)

Battery Number: 2

Windsondes: 733, 737, 738 & 739

Start Battery: 12.5 V

Start Direction: 96° E

Ascent Start: 10:57:48 UTC

Left 10m hover: 10:58:13 UTC

Reached 100m: 10:59:02 UTC

Reached 200m: 10:59:45 UTC

Reached 300m: 11:00:30 UTC

Started decent: 11:00:40 UTC

Landed: 11:05:01 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

A post flight inspection revealed that the back left prop showed signs of wear. We will continue to monitor the status of the prop and change it if it becomes a safety problem.

Flight 3 (Iris+)

Battery Number: 3

Windsondes: 733, 737, 738 & 739

Start Battery: 12.5 V

Start Direction: 96° E

Ascent Start: 11:12:48 UTC

Left 10m hover: 11:13:02 UTC

Reached 100m: 11:13:55 UTC

Reached 200m: 11:14:39 UTC

Reached 300m: 11:15:21 UTC

Started decent: 11:15:29 UTC

Landed: 11:19:50 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 4 (Iris+)

Battery Number: 4

Windsondes: 733, 737, 738 & 739

Start Battery: 12.5 V

Start Direction: 96° E

Ascent Start: 11:27:51 UTC

Left 10m hover: 11:28:15 UTC

Reached 100m: 11:28:58 UTC

Reached 200m: 11:29:48 UTC

Reached 300m: 11:30:27 UTC

Started decent: 11:30:35 UTC

Landed: 11:34:57 UTC

End Battery: 11.4 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 5 (Iris+)

Battery Number: 5

Windsondes: 733, 737, 738 & 739

Start Battery: 12.5 V

Start Direction: 96° E

Ascent Start: 11:42:46 UTC

Left 10m hover: 11:43:11 UTC

Reached 100m: 11:44:01 UTC

Reached 200m: 11:44:38 UTC

Reached 300m: 11:45:25 UTC

Started decent: 11:45:32 UTC

Landed: 11:50:00 UTC

End Battery: 11.4 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 6 (Iris+)

Battery Number: 6

Windsondes: 733, 737, 738 & 739

Start Battery: 12.5 V

Start Direction: 96° E

Ascent Start: 11:59:14 UTC

Left 10m hover: 11:59:39 UTC

Reached 100m: 12:00:23 UTC

Reached 200m: 12:01:06 UTC

Reached 300m: 12:01:46 UTC

Started decent: 12:01:56 UTC

Landed: 12:06:23 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 7 (Iris+)

Battery Number: 7

Windsondes: 733, 737, 738 & 739

Start Battery: 12.5 V

Start Direction: 96° E

Ascent Start: 12:12:51 UTC

Left 10m hover: 12:13:10 UTC

Reached 100m: 12:13:50 UTC

Reached 200m: 12:14:35 UTC

Reached 300m: 12:15:20 UTC

Started decent: 12:15:27 UTC

Landed: 12:19:47 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 8 (Iris+)

Battery Number: 8

Windsondes: 733, 737, 738 & 739

Start Battery: 12.5 V

Start Direction: 96° E

Ascent Start: 12:28:27 UTC

Left 10m hover: 12:28:45 UTC

Reached 100m: 12:29:32 UTC

Reached 200m: 12:30:16 UTC

Reached 300m: 12:31:01 UTC

Started decent: 12:31:07 UTC

Landed: 12:35:42 UTC

End Battery: 11.1 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

We had been having issues with sensor 737 for a few flights. After this flight we replaced the sensor for sensor 742. We also had filled the memory of sensor 733 which we replaced with 741.

Flight 9 (Iris+)

Battery Number: 9

Windsondes: 738 & 739

Start Battery: 12.5 V

Start Direction: 96° E

Ascent Start: 12:54:21 UTC

Left 10m hover: 12:54:50 UTC

Reached 100m: 12:55:37 UTC

Reached 200m: 12:56:16 UTC

Reached 300m: 12:57:00 UTC

Started decent: 12:57:07 UTC

Landed: 13:01:30 UTC

End Battery: 11.1 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

The two new Windsond sensors were unable to connect to the ground station before flight, so we flew with only 2 sensors. We swapped out all of the Windsond sensor batteries after this flight.

Flight 10 (Iris+)

Battery Number: 1

Windsondes: 738 & 739

Start Battery: 12.5 V

Start Direction: 96° E

Ascent Start: 13:12:44 UTC

Left 10m hover: 13:12:53 UTC

Reached 100m: ----------- UTC

Reached 200m: 13:14:19 UTC

Reached 300m: 13:15:02 UTC

Started decent: 13:15:11 UTC

Landed: 13:19:53 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 11 (Iris+)

Battery Number: 2

Windsondes: 738 & 739

Start Battery: 12.5 V

Start Direction: 96° E

Ascent Start: 13:27:30 UTC

Left 10m hover: 13:27:47 UTC

Reached 100m: 13:28:32 UTC

Reached 200m: 13:29:15 UTC

Reached 300m: 13:29:57 UTC

Started decent: 13:30:05 UTC

Landed: 13:34:37 UTC

End Battery: 11.2 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 12 (Solo)

Battery Number: 1

Start Battery: 16.5 V

Start Direction: 96° E

Ascent 1 Start: 16:15:49 UTC

Reached 120m: 16:16:58 UTC

Landed: 16:18:55

Ascent 2 Start: 16:19:02 UTC

Reached 120m: 16:20:12 UTC

Landed: ----------------- UTC

Ascent 3 Start: 16:23:01 UTC

Reached 120m: 13:24:10 UTC

Landed: 16:25:19 UTC

Remarks: The flight plan was to fly to 120m at max assent rate. Once we reach the top we will activate the RTL and land. We planed on doing this four times. We only achieved 3 flights We had some issues with the return to home exiting when we had two devices connected. The third assent went much smoother with only one device connected.

Flight 13 (Solo)

Battery Number: 2

Start Battery: 16.5 V

Start Direction: 96° E

Ascent 1 Start: 16:37:05 UTC

Reached 120m: 16:38:16 UTC

Landed: 16:39:23

Ascent 2 Start: 16:39:33 UTC

Reached 120m: 16:40:44 UTC

Landed: 16:41:53

Ascent 3 Start: 16:42:00 UTC

Reached 120m: 16:43:08 UTC

Landed: 16:44:18 UTC

Ascent 4 Start: 16:44:35 UTC

Reached 120m: 16:45:44 UTC

Landed: 16:46:33 UTC

Remarks: The flight plan was to fly to 120m at max assent rate. Once we reach the top we will activate the RTL and land. We planed on doing this four times. Flight 1 no rotation.

Flight 14 (Iris+)

Battery Number: 2

Windsondes: none

Start Battery: 12.5 V

Start Direction: 7° N

End Battery: 11.2 V

Remarks: The flight plan was to fly to 300m near the Kentucky tower to test the program for later use. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 15 (Iris+)

Battery Number: 3

Windsondes: 741, ~~742~~, 738 & 739

Start Battery: V

Start Direction: 7° N

Ascent Start: 18:32:40 UTC

Left 10m hover: 18:33:29 UTC

Started decent: 18:35:51 UTC

Landed: 18:40:09UTC

End Battery: V

Remarks: The flight plan was to fly to 300m by the Kentucky tower within their plane circle. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an ascent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Windsond 742 was not reading temperature data but was connected to the dongle suggesting that the sensor is broken.

Flight 16 (Iris+)

Battery Number: 4

Windsondes: 741, ~~742~~, 738 & 739

Start Battery: 12.5 V

Start Direction: 7° N

Ascent Start: 18:41:33 UTC

Left 10m hover: 18:41:55 UTC

Reached 100m: 18:42:46 UTC

Reached 200m: 18:43:23 UTC

Reached 300m: 18:44:07 UTC

Started decent: 18:44:17 UTC

Landed: 18:48:37

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m by the Kentucky tower within their plane circle. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an ascent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Note: Windson 742 is working. We had a bad wand to base connection. It was fixed after this flight

Flight 17 (Iris+)

Battery Number: 6

Windsondes: 741, 742, 738 & 739

Start Battery: 12.4 V

Start Direction: 7° N

Ascent Start: 20:07:53 UTC

Left 10m hover: 20:09:08 UTC

Reached 100m: 20:09:50 UTC

Reached 200m: 20:10:44 UTC

Reached 300m: 20:11:36 UTC

Started decent: 20:11:44 UTC

Landed: 20:16:11

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m by the Kentucky tower within their plane circle. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 18 (Iris+)

Battery Number: 7

Windsondes: 741, 742, 738 & 739

Start Battery: 12.4 V

Start Direction: 7° N

Ascent Start: 20:18:22 UTC

Left 10m hover: 20:18:36 UTC

Reached 100m: 20:19:20 UTC

Reached 200m: 20:20:07 UTC

Reached 300m: 20:20:56 UTC

Started decent: 20:21:02 UTC

Landed: 20:25:36

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m by the Kentucky tower within their plane circle. We will take off and hover at 10m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.