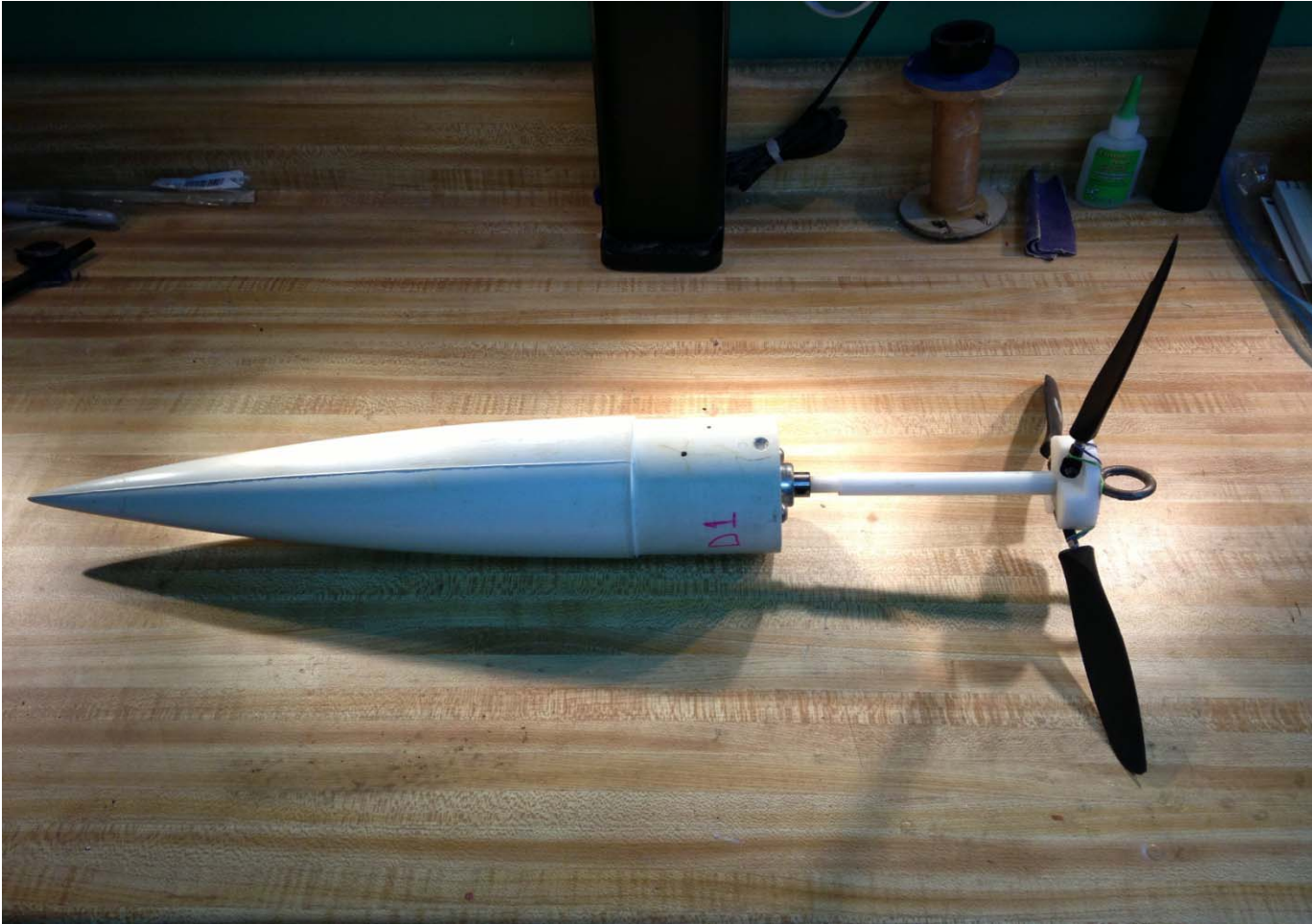




Photograph #1 - Payload Assembly.

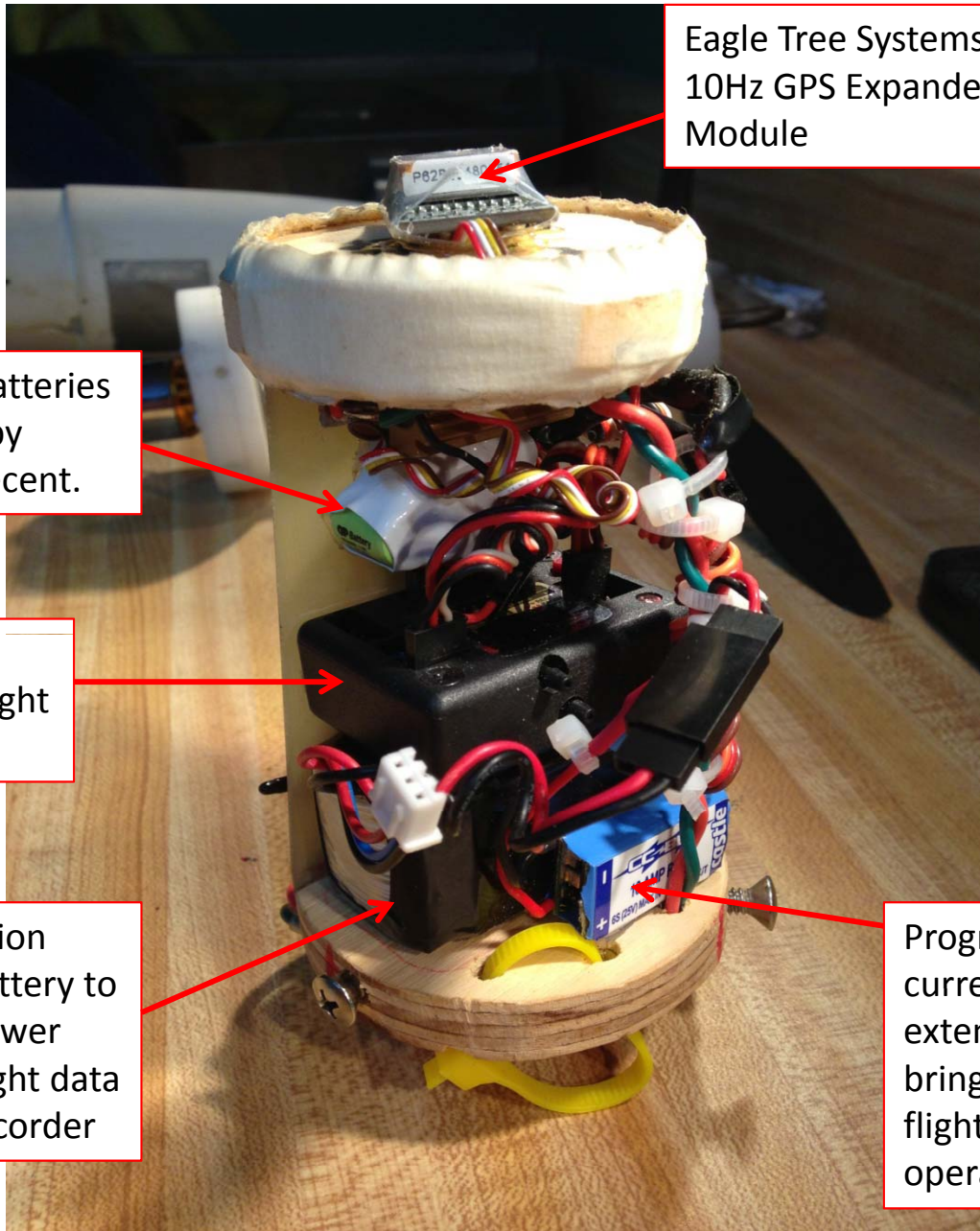
Payload assembly consisted of three parts, the nosecone, the electronic data collection and transmission bay, and a foldable propeller with rotating shaft connected to a R/C brushless motor. Brushless motor leads are then connected the electronics bay.

Eyelet on top of propeller connected to a swivel and parachute.



**Photograph #2 –
Assembled Payload.**

Assembled payload.
Electronics bay is inserted
and secured to the nose
cone and the base of the
propeller system is secured
to the shoulder of the nose
cone.



Eagle Tree Systems
10Hz GPS Expander
Module

Micro Ni-cad batteries
to be charged by
propeller on decent.

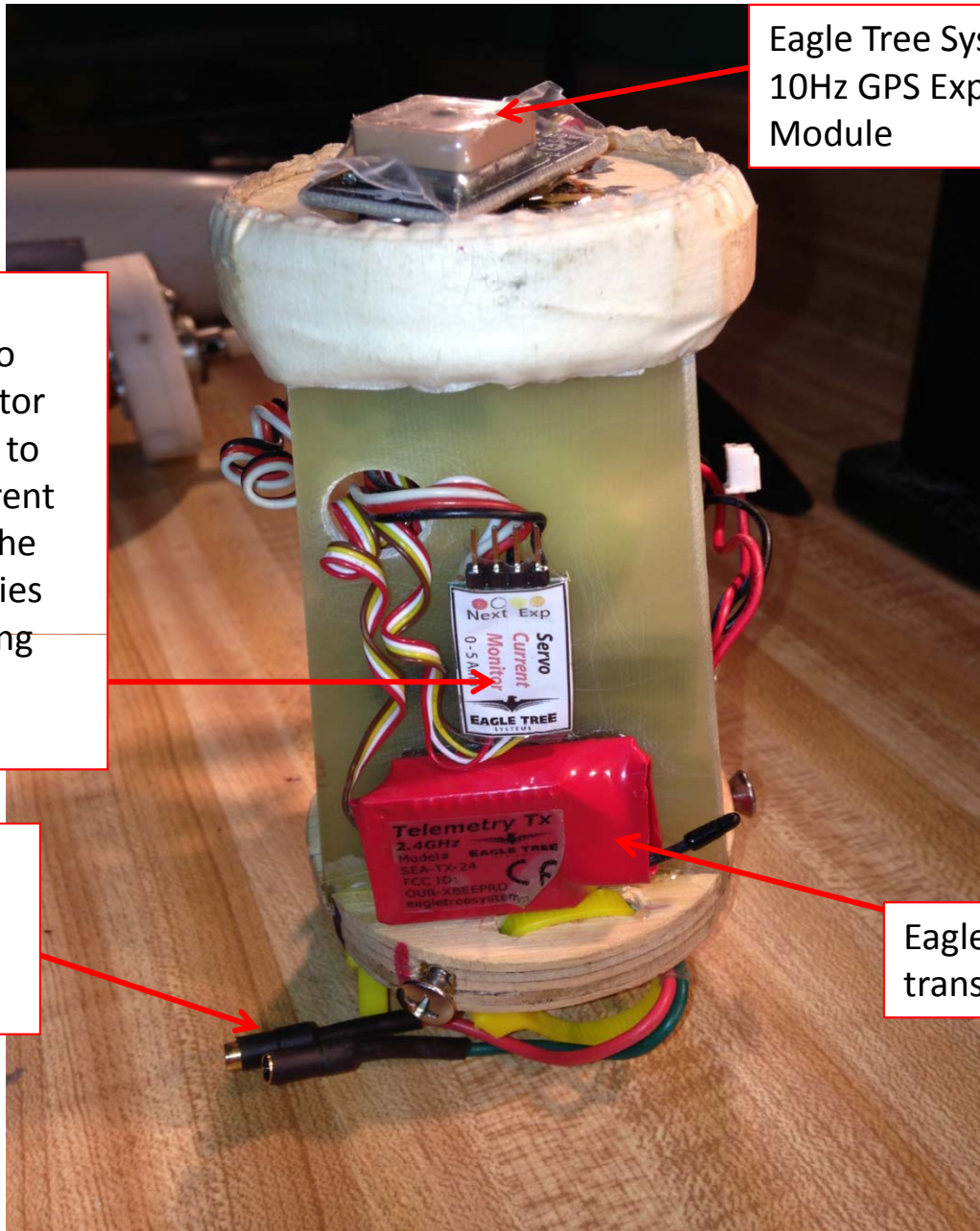
Eagle Tree
Systems USB flight
data recorder.

Li-ion
battery to
power
flight data
recorder

Programmable Castle
current limiter used to
extend battery life and
bring voltage to within
flight data recorder
operation range

Photograph #3 – Electronic Bay.

Close-up of electronics bay
main section.



Eagle Tree Systems
10Hz GPS Expander
Module

Eagle Tree
Systems servo
current monitor
module used to
measure current
provided to the
Ni-cad batteries
for the rotating
propellers on
descent.

Leads used to
plug into
brushless R/C
motor.

Eagle Tree System 2.4 GHz
transmitter

Photograph #4 – Electronic Bay.

Close-up of electronics bay back section.



Photograph #5 – Remote Receiver and Live Data Collection.

Typical Eagle Tree System Seagull Wireless Dashboard connected by USB cable to a Dell X1 laptop computer.

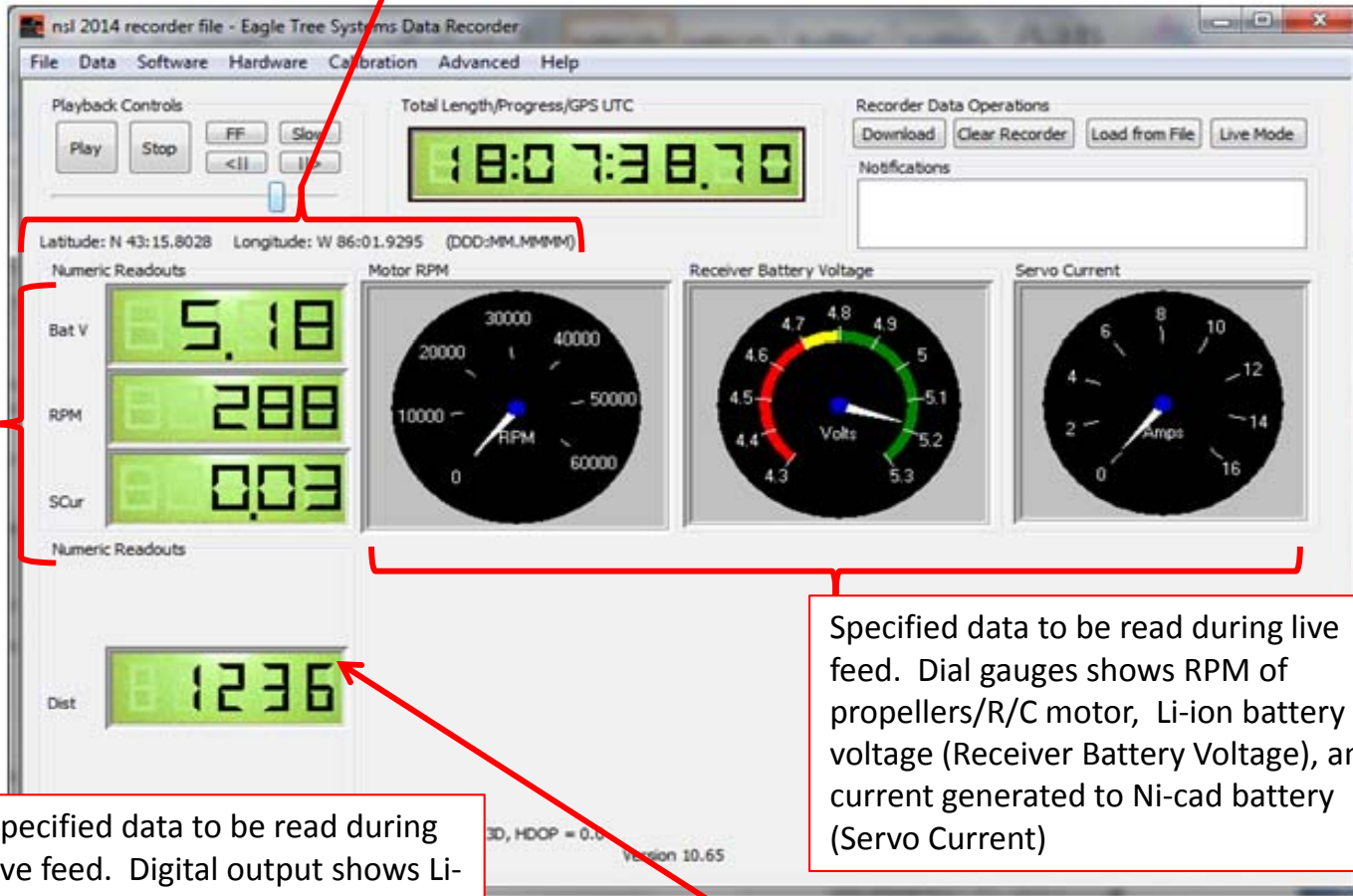
Eagle tree System Data Recorder Software shown with specified data collection.



Photograph #6 – Remote Receiver.

Eagle Tree System Seagull Wireless Dashboard connected by USB cable to a Dell X1 laptop computer for real time data collection.

GPS location of payload during launch and decent.
Enter 43 15.8028, -86 1.9295 for 2014 NSL launch
location verification in Google Maps. (Muskegon, MI)



Photograph #7 – Typical Screen Capture – Live Data Feed.

Eagle Tree System Seagull Wireless Dashboard connected by USB cable to a Dell X1 laptop computer for real time data collection.

Note: Direct video creation of live feed is not available with data recorder. Attached video created from a series of screen shots during decent.

Specified data to be read during live feed. Digital output shows Li-ion battery voltage (Bat V), RPM of propellers/R/C motor, and current generated to Ni-cad battery (SCur)

Specified data to be read during live feed. Dial gauges shows RPM of propellers/R/C motor, Li-ion battery voltage (Receiver Battery Voltage), and current generated to Ni-cad battery (Servo Current)

Line-of-sight distance in feet from transmitter to receiver