

Cruise Plan: R/V Sproul

XRAY Glider Buoyancy Engine At Sea Engineering Test

15-16 February 2006

We will use the R.V. Robert Gordon Sproul to conduct at-sea engineering testing of the buoyancy engine (BE) for the XRAY underwater flying wing glider currently under development at MPL and APL/UW under ONR sponsorship. Testing will be in the vicinity of 32° 44' N and 117° 26' W (approximately 11.5 nm northwest of outer buoy). Ship loading will be on Tuesday, February 14th. Departure will be at 0800 on February 15th. Transit time to the operations site is estimated at two and a half hours. Once on station we will deploy an acoustic modem transducer on the over-the-side pole on the port side of the ship. During the two days on station we will make several lowerings of the buoyancy engine test frame off the stern using the 3/8in trawl wire through a center mounted sheave of the A-frame. (The BE test frame is a 40in square package by 48in tall and weighs about 300 lbs in water) Tests will be conducted at several depths (maximum depth 1200 ft) using the acoustic modem for communications to the BE computers. Return to San Diego is projected to be late afternoon on the 16th of February. Ship will be offloaded on February 17th.

On-Loading: Loading will occur on 14 February.

Several tasks must be completed before departure:

- ◆ MPL control van will be placed aboard and secured.
- ◆ Port side over-the-side pole mounting bracket will be installed.
- ◆ Set up battery charging station in the Main Lab.
- ◆ String wires from main lab to MPL control van. (GPS, Gyro, LAN)
- ◆ Secure all gear for sea

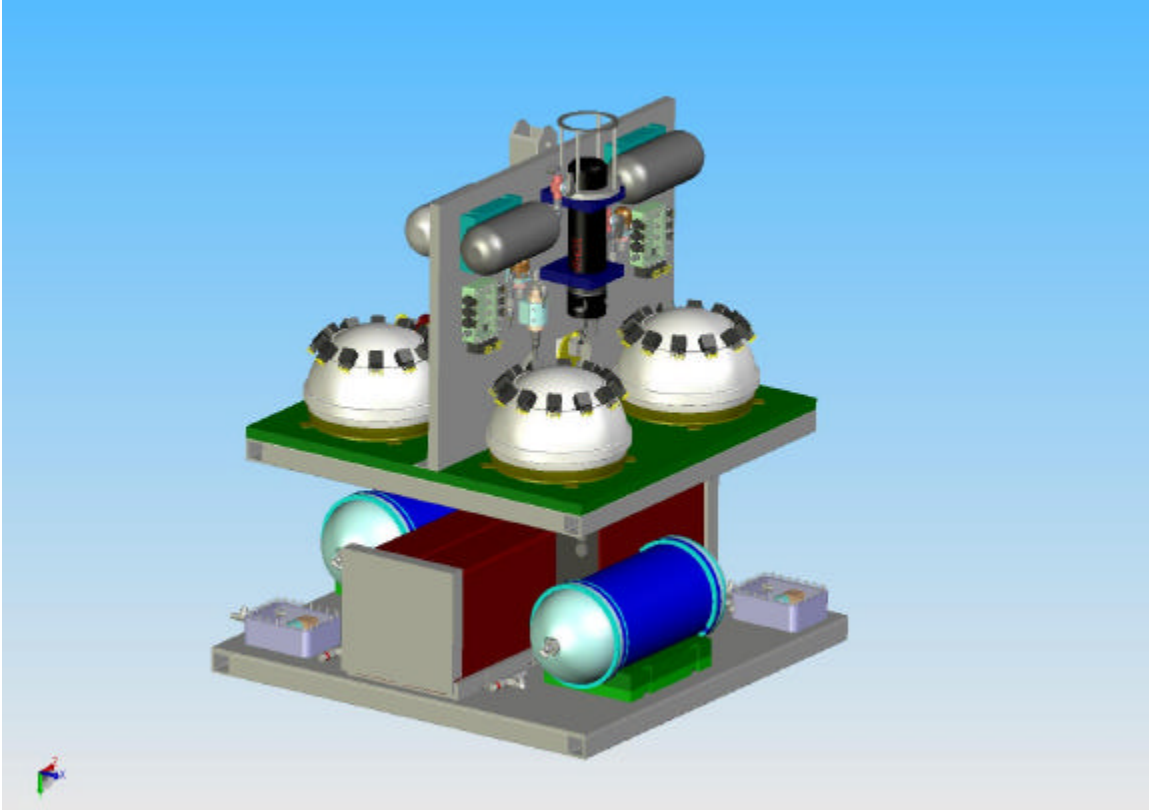
Tentative Calendar/Timeline (Subject to weather, equipment performance, etc.)

Feb 14	Load Sproul (control van, over the side pole, BE test frame etc.)
Feb 15	Depart at 0800 h for operations site: 32° 44' N and 117° 26' W
Feb 15	1030 (approx.) arrive on station, deploy pole over-side pole
Feb 15-16	Conduct BE test lowerings (during daylight hours)
Feb 17	Offload Sproul

Off-Loading

Remove:

- ◆ MPL control van
- ◆ Port over-the-side pole
- ◆ BE test frame



XRAY Glider Buoyancy Engine Test Frame

(Test frame has a 40 inch square foot print, 48 inches tall and weighs about 850 lbs in air and 300 lbs in water)

Last modified Feb-1-06, RZ