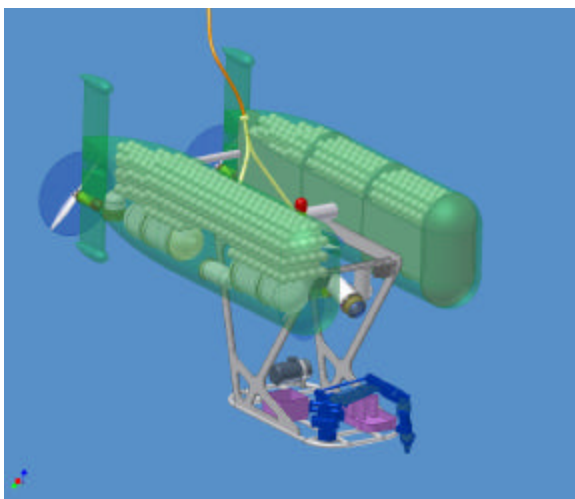
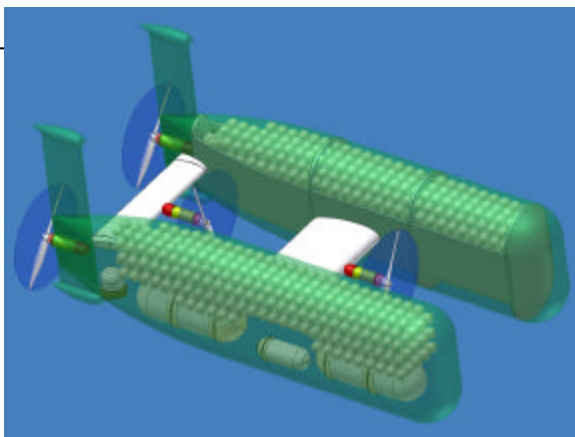


# Hybrid Remotely Operated Vehicle (HROV)

DESSC  
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## Summary of Vehicle Configurations



LxWxH	5m x 3m x 1m (AUV) 5m x 3m x 2.5m (ROV)
Air Weight	2100 kg
Payload	25 kg
Battery	Rechargeable Lithium Ion. 16 kWh
Speed	3 knots (1.5 m/s), 2 knots (1.0 m/s) with work package
Arm	Hydraulic, 7 DOF, 20kg lift at 1m
Thrusters	2 aft, 2 vertical, 1 lateral (ROV)
Lights	Variable output LED arrays for both AUV and ROV modes.
Sonar	Scanning sonar, multibeam (6km max depth), DVL
Sensors	Magnetometer, CTD Flexible interface for additional sensors



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## Status Report

- **Dynamic Model of the vehicle complete with the results being incorporated into the final physical layout.**
- **All ceramic pressure cases have been successfully delivered and are awaiting final assembly and pressure test.**
- **Ceramic floatation sphere production on schedule with delivery of complete order expected early in '06**
- **Manipulator selection complete with workspace design underway**
- **Prototype microfiber tether canister completed with testing planned using ABE in December**
- **Deep fiber trials (6000M) planned for April near Guam**
- **Control computer hardware selection/evaluation underway**
- **Lithium Ion battery packs on order**
- **Prototype Light Emitting Diode array and components tested on Jason**
- **Initial Seatrials pending 2007 ship schedules**



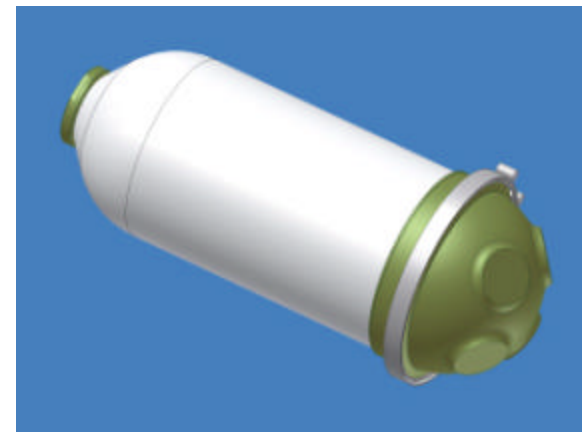
# Hybrid Remotely Operated Vehicle (HROV)

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## Ceramic Components



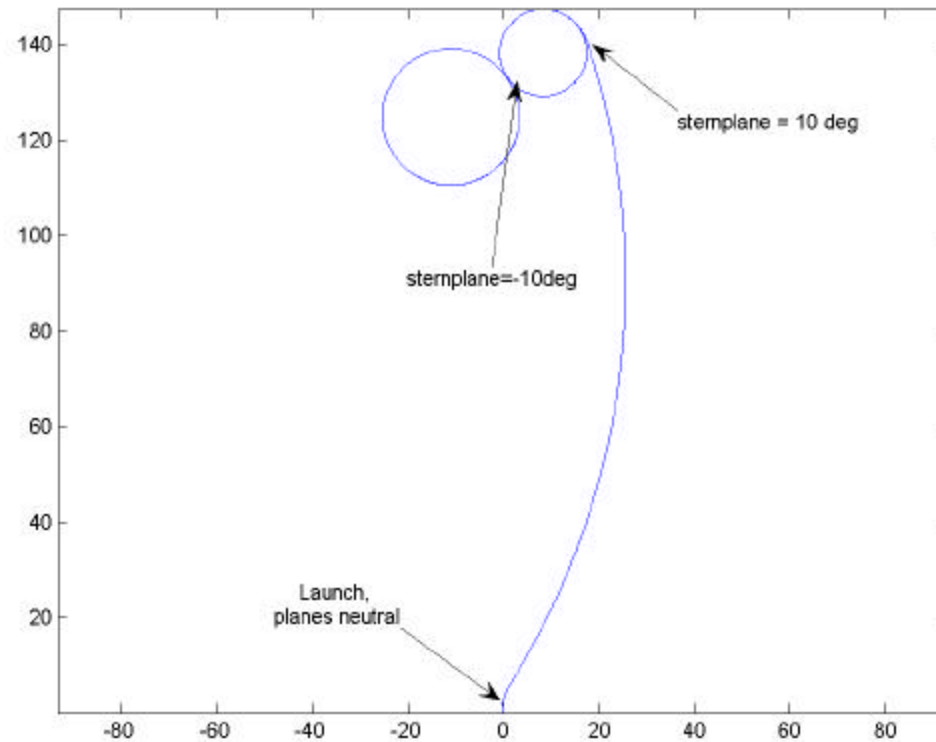
- First delivery of floatation spheres received after successful pressure certification and acoustic emissions test.
- Main housings received
- Prototype utility housing will be in pressure test end of February



# Hybrid Remotely Operated Vehicle (HROV)

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## Dynamic Modeling



This plot shows the horizontal vehicle track for two sternplane deflections and offset descent weight.



# Hybrid Remotely Operated Vehicle (HROV)

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## Manipulation and Workspace

