



Alvin Upgrades



WEIGHT DROPPER RELEASES

- IMPROVED ASCENT/DESCENT WEIGHT RELEASE DESIGN
 - FASTER TRANSIT TIMES = LONGER BOTTOM TIMES

BATTERIES

- NEW BATTERY CELLS (FULL SET FOR THREE BATTERY ASSEMBLIES)
 - PROVIDED EXCELLENT CAPACITY FOR THE KURZ LEG
 - IDENTIFIED NEW BATTERY CELL MANUFACTURER
 - COMPLETED BATTERY CELL MONITORING CIRCUIT DESIGN
 - ENABLES REAL-TIME INDIVIDUAL CELL MONITORING
 - PROVIDES CAPABILITY TO IMPROVE AVAILABLE POWER
- (ACTUAL CELL STATUS VS FULL BATTERY AVERAGING)*



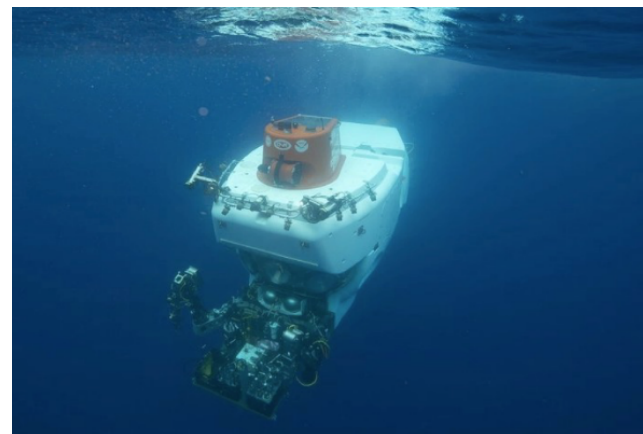


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VIDEO SYSTEM

- **SUCCESSFULLY INTEGRATED SUB-C STILL/HD VIDEO CAMERA AS A VIDEO SOURCE TO OBSERVER VIDEO**
 - DETERMINED/CORRECTED ROOT CAUSE OF ISSUED
 - OBSERVER CAN VIEW IMAGE AND VIDEO ON THEIR MONITORS
- **PATZ CAMERA DOME REPLACEMENT**
 - MANUFACTURER CORRECTED DOME CRAZING ISSUES
- **IMPROVED OBSERVER CAMERA CONTROL FUNCTION**
 - IMPROVEMENTS TO CONTROL ISSUES
- **NEW GREEN LASERS ADDED TO PAN AND TILT UNIT**
 - AUGMENTS RED LASERS ON OPPOSITE PAN AND TILT UNIT
- **NEW SCHILLING WRIST CAMERA**
- **TWO SIDUS PAN AND TILT UNITS FULLY UPGRADED**
 - UPDATES ALL INTERNAL COMPONENTS AND COMPENSATOR





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HYDRAULIC SYSTEM

- DETERMINED CAUSE OF PERIODIC SYSTEM FAULTS AT DEPTH
 - FAULTY CLUTCH MECHANISMS REPLACED
 - IDENTIFIED MEANS TO IMPROVE PERFORMANCE (OUTPUT)
 - THROUGH MOTOR CONTROL CONFIGURATION METHOD

NAVIGATION SYSTEM

- NEW AVTRAK BEACON (NON-SMS)
- NEW TOP-SIDE SPARE SET
- PRIMARY SHIP-BOARD TRANSDUCER SERVICED BY MFG
- NEW RDI WORKHORSE DOPPLER
- INTEGRATING NAVIGATION POST-PROCESSING SCRIPTS
 - PROVIDES DAILY POST DIVE NAVIGATION DATA

LIFE SUPPORT

- SECOND SCRUBBER INSTALLED



