

Weight and Balance			
Date		Configuration/Changes	Notes
3/21/2018			
	Basic Net Bouyancy	O2 day tank in sub, 4 DSPL lights rear camera, forward camera, BV450 sonar Pan and Tilt drop camera. No drop wiegths, no Lioh cannisters no external Phins or 2G	Sub very aft heavy >20 deg tilt
	700	Fresh Water	500# of lead bricks on skids 200# of sausages on on forward cross brace
3/22/2018	623	Adjust for removal of wood thruster spacer blocks each 9.5"x9.5"x23.75" in water bouyancy 38.5# each	Estimated by floating in Marina fresh water
3/22/2018	565	Adjust for 6 blocks at 47lbs and sausages at 80 lbs wet	Tests of fresh water net wieght of external bricks and sausages
3/23/2018	955	Added 390# of foam to rear top	
3/26/2018	885	Install 5 LIOH Ammo boxes in rear at 14# each	
3/26/2018	875	Tool Bag, dome barcket and towel	
4/7/2018	1028	Added iXBlue, External Phins and CTD	Bouyancy determined during dive
7/27/2018		Installed 640# foam in the aft	
5/6/2018		Replaced 500m foam with 4,000m foam	Best wieght 1150lbs
5/19/2018	Add 474 of lead to have stripped sub at 50-75lbs negative	Adjustments from 5/11 dive where payload was 1120 and on the money	Removed Bouyancy Foam Removed 3 epods and tpods (35lbs net each) Removed 4 thrusters (mfg - 27 lbs each Removed aft fairing - Assumed wieght Removed Fwd fairings - Assumed wieght Removed cables, Blueview sonar Removed scubaphone, 5 ammo boxes and lead Removed pilot
6/5/2018		Added 1472 as far fwd in test config	Aft still too heavy
6/11/2018		102 foam in aft 1420 lead far fwd	Sub manageable with several divers
7/31/2018	Assumed 1312# at start	Added foam and restored all other major systems	630# of foam, new high pressure pods- on dive was off by approximately 200# Platform had 3 ingots and 4 drop wieghts for total of 302 lbs all sausage floats submerged assumed bouyancy of 500lbs each at 40% compression = 1200lbs-300lbs on deck. Platform 900+lbs too heavy - without dome dolly on deck
8/1/2018	Tested to 1059		
11/13/2018	1224	Removed port pod 80# and aft fairings 50#	Prior dive was 59# light and required 2 bricks after launch. Therefore new target should be 1224
12/5/2018	1314		Could not get below 200m without thrust
12/10/2018	1576		Good negative bouyancy - approx. 50# negative at 3,500m+ if 2 drop wts were not dropped
3/16/2019	1290	New glass spheres not oil filled	Good payload wieght with 8 drop wieghts installed
3/18/2019	1100	Port Side Sphere oil filled with 46lbs of oil.	Will oil fill stbd when oil arrives. Stbd side compensated with lead to match port sphere weight. Titan within 15 lbs neutrally buoyant with payload at 1326. Aft farings installed. Includes drop wts
3/20/2019	1326		On bouyancy test weight was configured as 300 lbs sausage internal of sub, 14 ingots installed on landing gear, 4 drop weights on port and 4 on stbd. Port sphere filled with 46lbs of oil. Stbd sphere compensated with 50 lb sausage. On the dive 3 blue bags were put on thruster mount. removing one of the blue bags would make sub positive and replacing it would make sub negative. Ideal payload will be around 1100 (1396) for shallow to mid depth dive.
4/12/2019	1240	added 100# foam, filled second sphere, 2G laser 60# in water	Bouyancy test Little Harbour. Empty VBT wieght.
5/14/2020	1415		

TASK	Date Carried out	Technician	Notes
Carry out a full set of pre-dive checks			
Inspect upper hatch mechanism			
Inspect hatch handles			
Clean and inspect viewports			
Inspect superstructure			
Inspect visible hull surface			
Cycle blow and vent valves			
Test main and 24V batteries			
Inspect Manzanita and 24V house battery chargers			
Charge PS3 Controllers			
Inspect skids			
Inspect hatch			
Inspect drop weight			
Inspect 150V batteries			
Inspect 24V House batteries			
Charge main 150V batteries			
Charge 24V house batteries			
Overnight HPA leak test			
Overnight O2 leak test			
Overnight battery test			
Inspect HPA system and leak test			
Inspect O2 system and leak test			
Inspect scrubber fans operational			
Test alarm system			
Inspect penetrator plates			
Calibrate gas monitoring equipment			
Check fire extinguisher operation			
Check oil level in Emergency drop system			
Inspect DVL			
Inspect thruster connectors			
Inspect sonar connectors			
Inspect hull electrical connections			
Inspect VHF			added 100# foam, filled second sphere, 2G laser 60# in water
Inspect UWT			
Inspect and test pressure relief valves on ballast tank			
Inspect all anodes			
Inspect oil filled cables			
Inspect and test Emergency supply to UWT			
Inspect and test Emergency supply to 24V house system			
Check viewport fastener torque settings			
Inspect superstructure bolts			
Inspect life support equipment condition and inventory			
Inspect and clean 150V batteries			
Inspect and clean 24V House batteries			
Remove all fairings			
Inspect thruster support brackets			
Inspect exo-structure			
Inspect ballast tank			
Inspect and test pressure relief valves on ballast tank			
Inspect all welds			
Inspect cable runs			
Inspect hull coating			
Inspect all cathodic protection replace if <25%			
Inspect and test emergency drop weight			
Inspect external sphere condition			
Inspect all penetrators			
Remove all gauges and calibrate			
Remove and service all BIBS units			
Remove main viewport and inspect			
Inspect forward sealing face			
Replace viewport retaining gasket			
Remove all HPA cylinders			
Grease Dome dolly rollers	12/9/2018		Zerk fittings need to be changed and new caps installed.
Iridium beacon batties changed and o-rings serviced			
Drop-weight mechanical release mechanism interfaces greased			
Check CB VSWR			

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Date	Item	Requested by	Date Required	Priority	CRB Req.	Status	Disposition	Made By/Assigned to	Inspected by
3/20/2018	Charger: ICTINEU ALT charger		5/1/2019	1	No	Open			
2/21/2018	Instructions: Complete operating manual	Stockton Rush	5/15/2019	2	No	Open	In progress		4/26/2021
7/19/2022	Look into getting check valves for control lines to platform		TBD	2	Yes	Open			
5/2/2019	Add laser scaler	Stockton Rush	5/21/2019	3	No	Open	4/26/21 - On hold until related to priorities		
5/2/2019	Smaller/shorter air lines for dome dolly	Stockton Rush	5/21/2019	3	No	Open	4/26/21 - On hold until related to priorities		
5/2/2019	Dome dolly protective case	Stockton Rush	5/21/2019	3	No	Open	4/26/21 - On hold until related to priorities		
5/3/2019	Ability to flash lights	Stockton Rush	6/1/2019	3	No	Open	4/26/21 - On hold until related to priorities		
5/1/2021	Upper shelf where WIFI router is could use a 1 inch lip on it to hold bags in place	Stockton Rush	TBD	3	No	Open			
5/2/2019	Method to charge internal batteries with dome closed	Stockton Rush	5/21/2019	5	No	Open	4/26/21 - On hold until related to priorities		
3/13/2018	ATM: Interface		3/27/2018	0		Closed	Acceptable		12/1/2018
3/20/2018	DVL integration		3/27/2018	0		Closed			
2/21/2018	4K camera install	Stockton Rush	3/30/2018	0		Closed			
3/30/2018	Axis: white balance check		3/30/2018	0		Closed	Solution: Close and reboot.		Stockton Rush
3/20/2018	Drop weight camera		3/30/2018	0		Closed	Needs inspection		Stockton Rush
3/20/2018	Drop weight: add variable time for pilot to control	Stockton Rush	3/30/2018	0		Closed	300 ms default: needs inspection		Stockton Rush
3/30/2018	Order new j-box lid		3/30/2018	0		Closed			
2/21/2018	ATM: Automatic position and status tx	Stockton Rush	4/4/2018	0		Closed			Stockton Rush
3/26/2018	Increase vacuum tube to rear shell not insert	Stockton Rush	4/4/2018	0		Closed		Stockton Rush	
3/26/2018	Need strain relief or cable attach support for monitor wires	Stockton Rush	4/4/2018	0		Closed		Stockton Rush	
2/21/2018	Platform: outriggers	Stockton Rush	4/4/2018	0		Closed	Need to be moved 2+ feet to stern		Stockton Rush
2/21/2018	Platform: Lifting Beams, added 100# foam, filled second sphere, 2G laser 60# in water		4/6/2018	0		Closed	PO complete. With Ryan. Ordered		
3/30/2018	RTM: top board re-mount		4/6/2018	0		Closed			Stockton Rush
4/4/2018	VBT: tubing for stiffness	Stockton Rush	4/6/2018	0		Closed		Stockton Rush	
4/5/2018	Axis: top camera focal length		4/7/2018	0		Closed	Currently too short		Stockton Rush
4/2/2018	Dome: drill w/clutch for bolts & actuator		4/9/2018	0		Closed			Stockton Rush
3/30/2018	Camera: (4K) mounting adapter	Stockton Rush	4/10/2018	0		Closed			Stockton Rush
4/8/2018	Internal: tab for constraining back monitor		4/10/2018	0		Closed			Stockton Rush
4/4/2018	Platform: sonar guide posts	Stockton Rush	4/10/2018	0		Closed			Stockton Rush
4/5/2018	Thrusters: swap oil to carnation		4/10/2018	0		Closed			Stockton Rush
3/20/2018	Drain hole in thrusters to let water drain from verticals	Stockton Rush	4/13/2018	0		Closed			Stockton Rush
6/5/2018	Install new drop weight actuator		7/20/2018	0		Closed	installed		
7/15/2018	Install new thruster pods		7/20/2018	0		Closed	Installed		
7/15/2018	Installed new saddle mounts for new thruster pods		7/20/2018	0		Closed	Insalled		
7/28/2018	Installed 630# of syntactic foam to aft	Stockton Rush	7/29/2018	0		Closed	Installed and secured with all thread		
2/21/2018	Activate/fix RTM system	Stockton Rush	3/9/2018	1		Closed			
2/27/2018	Battery level for pilot		3/9/2018	1		Closed			Stockton Rush
2/27/2018	Change stbd tpod battery control pwr supply		3/9/2018	1		Closed	To match port side.		
2/21/2018	Drop weight mechanism fully install	Stockton Rush	3/9/2018	1		Closed			Stockton Rush
2/21/2018	Emergency O2 Mask manifold	Stockton Rush	3/9/2018	1		Closed		Stockton Rush	Stockton Rush
2/23/2018	Hand Hydraulic pump install		3/9/2018	1		Closed			Stockton Rush
2/27/2018	ICTINEU rack partition wall		3/9/2018	1		Closed	Trim it to make room for connecting.		
2/21/2018	Install backup camera	Stockton Rush	3/9/2018	1		Closed			
2/23/2018	Install cage gussets		3/9/2018	1		Closed			
2/21/2018	Install DVL	Stockton Rush	3/9/2018	1		Closed			
2/21/2018	Install guide pins	Stockton Rush	3/9/2018	1		Closed	two pins installed with locktight		Stockton Rush
2/21/2018	Install Lights	Stockton Rush	3/9/2018	1		Closed			Stockton Rush
2/23/2018	Install more anodes/fix current installation		3/9/2018	1		Closed			
2/27/2018	Install new or repaired VBT bladder		3/9/2018	1		Closed			Stockton Rush
2/21/2018	Install platform landing tubs	Stockton Rush	3/9/2018	1		Closed			
2/21/2018	Install vacuum valve safety stop/lock	Stockton Rush	3/9/2018	1		Closed	Spring loaded locking collar installed		Stockton Rush
2/21/2018	Jbox leak fix and new cables	Stockton Rush	3/9/2018	1		Closed		Stockton Rush	Stockton Rush
2/27/2018	Laminated Platform checklist(s)	Stockton Rush	3/9/2018	1		Closed		Stockton Rush	
2/27/2018	Laminated Titan Internal checklist(s)	Stockton Rush	3/9/2018	1		Closed		Stockton Rush	
2/21/2018	Move internal weights to center of platform	Stockton Rush	3/9/2018	1		Closed	All moved to Fwd sections-testing for final		
3/7/2018	ScubaPhone to JBox		3/9/2018	1		Closed			
2/21/2018	Variable thruster speed control	Stockton Rush	3/9/2018	1		Closed	Software completed ready for test		Stockton Rush
2/23/2018	Weld skid channels to platform		3/9/2018	1		Closed			
3/13/2018	Guide pins: rework	Stockton Rush	3/13/2018	1		Closed		Stockton Rush	
3/14/2018	Sub phone inside hookup		3/14/2018	1		Closed			



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3/20/2018	4th axis camera: cable build		3/20/2018	1		Closed			
3/20/2018	4th axis camera: housing wiring		3/20/2018	1		Closed			
2/21/2018	Install 10,000 psi HPA tank	Stockton Rush	3/20/2018	1		Closed			
4/22/2018	Add Foam Bouyancy Blocks	Stockton Rush	3/23/2018	1		Closed	390# added to upper rear		Stockton Rush
3/20/2018	Aft camera rotate & expand hole size	Stockton Rush	3/23/2018	1		Closed			Stockton Rush
3/13/2018	Install tracklink transponder	Stockton Rush	3/25/2018	1		Closed			
3/20/2018	DVR/USB extensions		3/26/2018	1		Closed			
2/27/2018	T-pod for testing		3/26/2018	1		Closed	March 13th test		
3/20/2018	Auto load scripts		3/27/2018	1		Closed			Stockton Rush
3/30/2018	ATM default off		3/30/2018	1		Closed			
2/21/2018	New dome removal dolly and tools	Stockton Rush	3/30/2018	1		Closed			
3/26/2018	Bumper or other protection for tanks on platform	Stockton Rush	4/4/2018	1		Closed			Stockton Rush
4/4/2018	Communications: Iridium beacon: setup		4/6/2018	1		Closed			Stockton Rush
3/30/2018	J-Box: spare plastic lid	Stockton Rush	4/6/2018	1		Closed	Build for current box		
4/5/2018	J-Box: wire for 2G y-plice cable		4/6/2018	1		Closed			
3/30/2018	Camera: 4k check		4/7/2018	1		Closed	(SubC) Camera picture is pixelated		Stockton Rush
3/7/2018	RTM: Pilot Display	Stockton Rush	4/7/2018	1		Closed	Installed		Stockton Rush
2/21/2018	Thrusters: Pressure Comp	Stockton Rush	4/7/2018	1		Closed	Stbd Vertical only till all Carnation filled	Stockton Rush	Stockton Rush
3/28/2018	Communications: Iridium phone	Stockton Rush	4/9/2018	1		Closed	Purchased		
4/5/2018	Drop weight: SS hydraulic cylinder parts		4/10/2018	1		Closed			
3/13/2018	Reconfigure j-box location		4/10/2018	1		Closed			Stockton Rush
3/30/2018	Platform: antiskid	Stockton Rush	4/11/2018	1		Closed			
4/8/2018	Sub: order external GPS		4/11/2018	1		Closed			
4/4/2018	Sub: soften skid edges	Stockton Rush	4/11/2018	1		Closed			Stockton Rush
4/2/2018	Testing: stainless steel t-pod option		4/18/2018	1		Closed	Thicker aluminium better choice		
2/21/2018	Communications: Install CB Antenna	Stockton Rush	5/1/2018	1		Closed			
3/13/2018	Sub: Pan & Tilt and sonar install	Stockton Rush	5/15/2018	1	No	Closed	P&T installed on Titan and new mounting bracket installed		4/26/2021
6/5/2018	need to add around 50-100lbs of foam to aft in test config		6/8/2018	1		Closed	installed 102lbs buoyancy to aft		
6/5/2018	need to add handle around landing gear vert leg for diver in test config.		6/8/2018	1		Closed	installed		
6/5/2018	need to add securement of ingot in 3x3 patter near vert fwd leg		6/8/2018	1		Closed	mockup installed		
3/19/2018	VBT: Timing/level adjustment/indicator and pilot feedback	Stockton Rush	4/8/2019	1	No	Closed	Installed		
4/1/2019	Need tail brace for aft cage in transit and with people on sub	Stockton Rush	4/10/2019	1	No	Closed	Wood support made		
4/9/2019	Need removable brace for sonar in transit	Stockton Rush	4/10/2019	1	No	Closed	Bracket made		Stockton Rush
4/17/2019	Need to eliminate J-Box as signal point of failure for all comms and data	Stockton Rush	5/15/2019	1	Yes	Closed	Currently have single J-box (birns) where all comms data goes through. However the Birns box has been completely redesign to be more robust so it should not flood on a regular basis like the old box.		4/26/2021
5/3/2019	Need depth for AE and display (data logger complete)	Stockton Rush	5/16/2019	1	Yes	Closed	Many changes completed to improve AE and Strain and have the corresponding depth added to the data plots		4/26/2021
4/17/2019	Need procedure for inspection/ lube and/or new bolts for each dome opening to insure against gaulling etc	Stockton Rush	5/20/2019	1	Yes	Closed	Put on check ops checklist for opening and closing dome		
4/17/2019	Need plan for cutting nut or bolt if nuts siezes	Stockton Rush	5/20/2019	1	No	Closed			
5/2/2019	Need topside USBL system	Stockton Rush	5/21/2019	1	No	Closed	Aquired loaner tracking system from Sonardyne for Titanic		4/26/2021

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4/26/2021	Complete overhaul and rebuild of Titan including - Completely new and redesigned interior - New drop weight actuator boxes - New VBT actuator box - New carbon fiber hull - Rework on both Ti segments - Complete redesign of tail mounting and arrangement-Frame members remained the same but everything else changed - Redesigned mast - Redesigned Birns Box - Redesigned low voltage junction box - Redesigned axis camera junction box - Replaced or rebuilt 90% of the electrical cables - Replaced high pressure air tank with larger HPA tank - Made new mounting for HPA tank, batteries & all junction boxes - Replace fwd and aft horizontal frame beams with new carbon fiber beams - Replaced home made comp with two Oceaneering comps - Added lifting lugs to Ti Segments - Made new lifting lugs for mounting on ears and holding tail mounts etc - Made new Tripple Penetrator and added an additional multiport penetrator - Made new bracket for DVL mounting - Made new top rail on tail and added stiffener to eliminate the trail drooping - Made new brackets for Compass, Tracking XDR, P&T, 4k camera, Axis cameras and Strobe - Designed and installed dropping leg mechanism including subsea cylinders - Designed new cylinders for drop weight mechanism - Designed new HPA distribution panel - Made several design changes to drop weight belt system to improve feeding	Stockton Rush	4/26/2021	1	No	Closed	Work completed and ready for initial testing to return to service  Top level assembly for all the changes and the current state of Titan can be found in OceanGate's Onshape repository - ASM-0000621 TITAN TOP LEVEL		4/26/2021
7/12/2022	Add Syntactic foam blocks		7/12/2022	1	No	Closed	Added Foam blocks		
2/23/2018	2G mount		3/9/2018	2		Closed			
2/21/2018	Bring Phins online	Stockton Rush	3/9/2018	2		Closed			
2/21/2018	Install day O2 tank mount	Stockton Rush	3/20/2018	2		Closed			Stockton Rush
5/2/2019	ATM: change to DD dec minutes		4/7/2018	2	No	Closed	Leave as is - Per Stockton we will use DD dec min		4/26/2021
4/4/2018	ATM: unit settings		4/7/2018	2		Closed			
4/2/2018	Dome: install dome strain guages		4/8/2018	2		Closed	Completed then failed and removed		
3/15/2018	Control: P3 controller ranges need modification - final zone 10% or less, initial deadzone smaller, add intermediate zone with extra "space"	Stockton Rush	4/10/2018	2		Closed	Done		3/12/2019
3/13/2018	1 button computer boot-up	Stockton Rush	4/10/2018	2		Closed			
3/26/2018	Cut aft camera housing for increased field of view	Stockton Rush	4/10/2018	2		Closed			Stockton Rush
3/20/2018	Handles for rear wall/screen	Stockton Rush	4/10/2018	2		Closed			Stockton Rush
2/21/2018	Install thru hull protectors in equipment bay	Stockton Rush	4/10/2018	2		Closed			Stockton Rush
2/21/2018	Move sub aft locking piece 1" aft	Stockton Rush	4/10/2018	2		Closed			
2/21/2018	Paint/coat hinge stops	Stockton Rush	4/10/2018	2		Closed			Stockton Rush
3/20/2018	Dome: deck plate for platform		4/11/2018	2		Closed	Mounting needed. Need talk with		
4/2/2018	RTM: Strain program		4/18/2018	2		Closed	Logging program done		
4/8/2018	Control: small track-balls	Stockton Rush	5/1/2018	2	No	Closed	Replaced keyboards with built in roller balls		4/26/2021
4/5/2018	Instructions: ATM		5/1/2018	2		Closed			
3/30/2018	video capturing: data plucking		5/1/2018	2	No	Closed			
4/2/2018	Instructions: Emergency Procedures Manual	Stockton Rush	5/1/2018	2	No	Closed		Stockton Rush	
4/2/2018	Sub: Pan & Tilt: molded cables/adapters		5/1/2018	2	No	Closed			
3/30/2018	Internal: Co2 sensor	Stockton Rush	5/1/2018	2		Closed	Done		
3/30/2018	Video capturing: file maker pro on Dora		5/1/2018	2		Closed	No sub related		
4/8/2018	Camera: SubC 4K software licensing issue		5/1/2018	2		Closed	dongle received		Stockton Rush
3/20/2018	Checklist: Emerg vbt test, Confirm blade locks secure	Stockton Rush	5/10/2018	2	No	Closed	VBT redesigned with new mtr box / j-box, string control spool and mount		4/26/2021
3/30/2018	J-Box: spare (metal one)	Stockton Rush	5/15/2018	2	No	Closed	Replaced metal J-box with aluminum J-box that can be easily repaired of any normal wear or damage		4/26/2021
3/20/2018	Pilot Interface updates: Larger fonts, vbt slider interface, boot up simplicity, compass rose on main screen	Stockton Rush	4/10/2019	2	No	Closed	Software updated as per Stockton's requests		4/26/2021
4/10/2019	Dome dampener is very slow		4/10/2019	2	No	Closed	Replaced with 3/8 line		Stockton Rush
4/17/2019	Need storage hooks or shelf for forward UHMW floor and support brace when entering and exiting sub	Stockton Rush	5/15/2019	2	No	Closed	Designed forward floor assembly and toilet. Floor is bolted into fwd dome. ASM-0001064 FWD FLOOR ASSEMBLY		4/26/2021
4/8/2018	Control: altitude, depth, and heading on main screen	Stockton Rush	5/15/2019	2	No	Closed	Software updated as per Stockton's requests		4/26/2021
5/3/2019	Test micropore blankets for capacity	Stockton Rush	5/17/2019	2	No	Closed	Tested during 27 hr dive good capacity		



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5/2/2019	Move 4K camera to dome ring mount angled down 30-45deg	Stockton Rush	5/21/2019	2	No	Closed	Made mount for 4k camera that hangs off Titan's fwd segment lower ear. This enables the 4k camera to stay with the sub in case of dropping the legs - ASM-0000454		4/26/2021
5/2/2019	10K charging kit/organized system	Stockton Rush	5/21/2019	2	No	Closed	Changed fittings and bolted haskel booster into pelican box		4/26/2021
2/26/2018	Charging: Make ship charging cable for Ictineu (Titanic kit)		6/10/2019	2	No	Closed	Made 150' ship charging with marineco pluggable ends on it. 4 conductor cable		4/26/2021
6/23/2022	Requested engraved signage from		7/25/2022	2	No	Closed			
2/23/2018	Increase font on pilot display		3/9/2018	3		Closed	Awaiting inspection		Stockton Rush
2/21/2018	Install low power small screen in rear	Stockton Rush	4/10/2018	3		Closed			
3/7/2018	Sub: Final Fairing work		4/10/2018	3		Closed			
4/8/2018	Camera: update SubC 4K software		5/1/2018	3		Closed	Done		
4/4/2018	Drop weight: make a spare	Stockton Rush	5/1/2018	3		Closed	Done		
3/30/2018	Instructions: (RTM) to remove data from computers & evaluate		12/1/2018	3	No	Closed	to write up procedure		
4/2/2018	2G: stiffen support arm & install		3/1/2019	3		Closed	New bracket 2G hanger bracket with increased stiffness - ASM-0001154 2G LASER MOUNT ASSY		4/26/2021
5/3/2019	Increase O2 and CO2 capacity to 5 days	Stockton Rush	5/16/2019	3	No	Closed	No change to CO2 capacity at this time based on the redesign		4/26/2021
5/2/2019	Add 2 DSPL lights - rear and on P&T	Stockton Rush	5/21/2019	3	No	Closed	4/26/21 - On hold until related to priorities		4/26/2021
5/2/2019	4K image on network for tablets	Stockton Rush	5/21/2019	3		Closed	Per 4k software is single instance only so we can no port this live to the tables at this time		4/26/2021
5/2/2019	Make mount for internal forward floor for stoarge during opoening and closing	Stockton Rush	5/21/2019	3	No	Closed	Designed & installed new fwd floor and toilet can be used for storage		4/26/2021
3/11/2020	Replaced all Bennett Trim Tabs on Titan Platform		3/11/2020	3	No	Closed	New Bennett Trim tabs added		
2/24/2020	Stbd fwd LP tank fill valve has small blow by			3	No	Closed	Inspect/Replace ball valve		
3/19/2018	Internal: Main battery level display/Easier call up	Stockton Rush	5/10/2018	4	No	Closed	LED readout for battery voltage added behind breaker panel door. Easy for the pilot to look at		4/26/2021
3/19/2018	Internal: PS3 Battery level display for pilot	Stockton Rush	5/10/2018	4	No	Closed	Belly camera added to bottom near pointing at VBT		4/26/2021
3/19/2018	Internal: Lights on/off button that brings up with last power level	Stockton Rush	5/10/2018	4		Closed	Done		1/1/2019
3/13/2018	Sub: Install backup light for camera		5/10/2018	4		Closed	No needed as back scatter seems sufficient - check on further dives		Stockton Rush
3/18/2019	Need down cam or adjust aft cam to accommodate both		6/10/2019	4	Yes	Closed	Belly camera added to bottom near pointing at VBT		4/26/2021
2/13/2020	Locking mechinism move aft to fit Cyclops 1		2/13/2020		yes	Closed	locking mechanism moved		
2/14/2020	Serviced spare Tym Valve with new o ring		2/14/2020		No	Closed			
2/14/2020	Debris wedged in starboard forward Tym Valve during dunk test in marina		2/14/2020		No	Closed	Cleaned debris out of valve		
3/16/2019	Control spheres need to be filled (90%+ ) with carnation oil	Stockton Rush	4/9/2018	1	No				
3/16/2019	Make restrining plate or other system for hydraulic drop wieght testing	Stockton Rush	4/10/2019	1	No				
3/16/2019	Add floor to forward dome area (21" diameter HDPE at approx 3" will work)	Stockton Rush	4/11/2019	1	No				
3/16/2019	Sand and paint black wood brace for insert slipping prevention	Stockton Rush	4/11/2019	1	No				
3/16/2019	Set default drop wieght time to 4200	Stockton Rush	4/10/2018	2	No				
10/4/2018	Create better VBT control	Stockton Rush	11/1/2018	2					
5/14/2018	Debris can block vent valves on platfrom		1/1/2019	2	yes				
10/31/2018	Need multiple Pan and tilt for sonar and camera	Stockton Rush	3/1/2019	2					
3/16/2019	Change background of aft screen of web page with cameras displayed to black (from white) for reduced reflection on forward dome (poss. Add flip in shades to mechanically block light)	Stockton Rush	4/10/2019	2	No				
3/16/2019	Toilet bag holder/seat for forward dome area	Stockton Rush	4/11/2019	2	No				
3/16/2019	Make fabric partition screen for forward dome area/head	Stockton Rush	4/11/2019	2	No				
5/19/2018	Incident Report - dmagaed max tender			2					

Dive	Dive Time	Dive Angle	Analytics		Incidents	Squawks	Voltage (V)		Port (RPM)		Starboard (RPM)		A Pressure (ft)		Pressure (P)	
			Ascent Angle				Start	End	Vertical Thrust	Horizontal Thrust	Vertical Thrust	Horizontal Thrust	Start	End	Start	End
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14	1:06:00		28		21		25.2	25.1								





No part of a report of a marine casualty investigation shall be admissible as evidence in any civil or administrative proceeding, other than an administrative proceeding initiated by the United States. 46 U.S.C. §6308.

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