

Engineering Department

Engineering Change Order (ECO)

ECO #: ECO-SUB-EX-SUB-SC-
50281-001

Effective Date: July 18, 2017

Title: Scout, Explorer, Voyager Strain Relief Change, Vertical Prop Washer Removal & Document Updates.

Author: SL
Engineering Approval: aeg
Operations Approval: aeg

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Summary:

Current strain Relief for the Scout, Explorer, Voyager Sub can wear at the Term Block Whip and will be upgraded to the Pro 4 style strain relief for durability.

An unneeded nylon spacer set between the cartridge seal and vertical prop was removed.

Other minor clarifying updates were made to existing Scout, Explorer, and Voyager build documentation.

Parts Affected:

Part Number	Notes	Removed	Added	New	Modified
SUB-EX-N	Submersible (Explorer)(NTSC)	☐	☐	☐	☒
SUB-EX-P	Submersible (Explorer)(PAL)	☐	☐	☐	☒
50281	Voyager ROV	☐	☐	☐	☒
SUB-SC-N	Submersible (Scout)(NTSC)	☐	☐	☐	☒
SUB-SC-P	Submersible (Scout)(PAL)	☐	☐	☐	☒
THR-HARNESS	Strain Relief Assembly ROV (Scout, Explorer, Pro 3, GTO, Deep Blue)	☒	☐	☐	☐
THR-HARNESS-P4	Strain Relief Assembly ROV (Pro 4)	☐	☒	☐	☐
91772A192	Screw #8-32 x 3/8" Pan Head Phillips SS	☐	☒	☐	☐
98370A011	Washer #8 x 0.075" Flat SS	☐	☒	☐	☐
95610A150	Washer M4 x 0.8mm Flat Nylon (Thin)	☒	☐	☐	☐

Detail:

The current strain relief **[THR-HARNESS]** used on the Scout, Explorer, and Voyager ROV is tight fitting with the current float design and can wear at the term block whip with side to side motion. Upgrading to the new Pro 4 style strain relief **[THR-HARNESS-P4]** will relieve this issue.

The M4 nylon washer **[95610A150]** between the cartridge seal and vertical prop on the Scout, Explorer, and Voyager is no longer necessary since upgrading to a Pro 4 style collet and prop.

The Scout and Explorer assembly procedure instructions have been updated to reflect these changes.

The Voyager upgrade procedure instructions have been updated to include a more detailed upgrade process including pictures and part numbers.

Action Item:

Action	Department	Acknowledgement Initials
Notify Scout and Explorer assemblers of the strain relief changes and removal of m4 washer between the vertical prop and cartridge seal. Provide updated assembly instructions.	Purchasing	NS
All Scouts, Explorers, and Voyagers going out will require being updated to the Pro 4 style strain relief. The M4 washer between the vertical prop and cartridge seal should be removed if it is there. This only effects subs with the Pro 4 style float block and skid. Production will need to rework any current inventory to meet the above changes.	Production	KK
All Scouts, Explorers, and Voyagers coming in for repair should be upgraded to the Pro 4 Style strain relief. The M4 washer between the vertical prop and cartridge seal should be removed if it is there. This only effects subs with the Pro 4 style float block and skid.	Repairs	JK

Modified / Referenced Documents:

Document	Current Revision
50281 – Assembly Instructions	002
Explorer Documentation	2.0

-- END OF ORDER --