



Sea-Bird Electronics, Inc.
13431 NE 20th Street
Bellevue, WA 98005 United States

Phone

+1-425-643-9866

www.seabird.com

1005517203

02-MAR-2023

320462224

SERVICE REPORT

Service Request

Date

Sales Order

CUSTOMER INFORMATION

Name: UNIVERSITY OF NORTH CAROLINA - WILMINGTON

Account : 40288453

DAVID WELLS

WELLS@UNCW.EDU

(910) 962-2315

PO Number:

Bill To Address

UNIVERSITY OF NORTH CAROLINA - WILMINGTON

5600 MARVIN K. MOSS LANE

CENTER FOR MARINE SCIENCE RESEARCH

WILMINGTON, NC, 28409, US

Ship To Address

UNIVERSITY OF NORTH CAROLINA - WILMINGTON

5600 MARVIN K. MOSS LANE

CENTER FOR MARINE SCIENCE RESEARCH

WILMINGTON, NC, 28409, US

PRODUCT INFORMATION

Item: 43.LEGACY

Item Description: (LEGACY) SBE 43 Oxygen Sensor

Serial: 430582

Special Notes

Services Requested:

CAL_43

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Item	Item Description	Qty
CAL_43	SBE 43 dissolved oxygen sensor calibration	1

Unbilled Items

Item	Item Description	Qty



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PRODUCT INFORMATION

Item: 43.LEGACY

Item Description: (LEGACY) SBE 43 Oxygen Sensor

Serial: 431101

Special Notes

CAL_43

Problems Found:

Air was found in the electrolyte.

Services Performed:

Perform initial diagnostic evaluation.

Performed pressure calibration.

Performed "POST" cruise calibration.

Replaced the lid and membrane assembly (0.5 mil).

Replaced the electrolyte with new fluid.

Replaced the lithium back-up battery(s).

Replaced the O-rings.

Performed a "Final" Calibration.

Item	Item Description	Qty
CAL_43	SBE 43 dissolved oxygen sensor calibration	1

Unbilled Items

Item	Item Description	Qty
801576	SBE43 LID & MEMBRANE SUB-ASSY, .5MIL MEMBRANE	1
22085	BATTERY, SANYO CR14250SE-SP1-1, 850 mA-h	2



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PRODUCT INFORMATION

Item: 05T.LEGACY

Item Description: (LEGACY) SBE 5T Submersible Pump

Serial: 052617

Special Notes

Services Requested:

BASERV/P

Services Performed:

Perform initial diagnostic evaluation.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Item	Item Description	Qty
BASERV/P	Base service charge for pump, covers handling & inspection, replacing thrust washers and o-rings, and is added to other repairs.	1

Unbilled Items

Item	Item Description	Qty



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PRODUCT INFORMATION

Item: 05T.LEGACY

Item Description: (LEGACY) SBE 5T Submersible Pump

Serial: 054302

Special Notes

Services Requested:

BASERV/P

Services Performed:

Perform initial diagnostic evaluation.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Item	Item Description	Qty
BASERV/P	Base service charge for pump, covers handling & inspection, replacing thrust washers and o-rings, and is added to other repairs.	1

Unbilled Items

Item	Item Description	Qty



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PRODUCT INFORMATION

Item: 04C.LEGACY

Item Description: (LEGACY) SBE 04C Conductivity Sensor

Serial: 042908

Special Notes

Services Requested:

CAL_4C

CONCERT/S

Problems Found:

The end cap and cell guard were found to have corrosion damage.

The conductivity was found to have excessive drift.

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Replaced the conductivity cell.

Replaced the end cap.

Replaced the cell guard.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Performed a "Final" Calibration.

Item	Item Description	Qty
23024C	SBE4 COND. ENDCAP 6800M, HARDCOATED	1
CONCERT/S	Confirm and recertify sensor including opening the main housing, replacing end cap "piston" o-rings, and making minor internal repairs or modifications. Hydrostatic pressure test following closure. Cost of major repairs or modifications is not included.	1
23035	SBE-4 cell guard (aluminum)	1
CAL_4C	SBE 4C Conductivity Calibration for CTD sensors (includes 6-point 35 PSU post deployment cal., and C&P with 6-point 35 PSU re-cal, if necessary)	1

Unbilled Items

Item	Item Description	Qty
80009.2	CONDUCTIVITY CELL, 6800M ALUMINUM ASSEMBLY	1



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PRODUCT INFORMATION

Item: 03F.LEGACY

Item Description: (LEGACY) SBE 03F Temperature Sensor

Serial: 034443

Special Notes

Services Requested:

CAL_3

CONCERT/S

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Performed a "Final" Calibration.

Item	Item Description	Qty
CAL_3	SBE 3 Temperature sensor calibration; 11 points -1 to 31deg.C	1
CONCERT/S	Confirm and recertify sensor including opening the main housing, replacing end cap "piston" o-rings, and making minor internal repairs or modifications. Hydrostatic pressure test following closure. Cost of major repairs or modifications is not included.	1

Unbilled Items

Item	Item Description	Qty



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PRODUCT INFORMATION

Item: 38.LEGACY

Item Description: (LEGACY) SBE 38 Digital Temperature Sensor

Serial: 3834252-0200

Special Notes

Services Requested:

CAL_38

CONCERT/S

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Performed a "Final" Calibration.

Item	Item Description	Qty
CAL_38	SBE 38 temperature sensor calibration	1
CONCERT/S	Confirm and recertify sensor including opening the main housing, replacing end cap "piston" o-rings, and making minor internal repairs or modifications. Hydrostatic pressure test following closure. Cost of major repairs or modifications is not included.	1

Unbilled Items

Item	Item Description	Qty



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SERVICE REPORT

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PRODUCT INFORMATION

Item: 21.LEGACY

Item Description: (LEGACY) SBE 21 Thermosalinograph

Serial: 2134290-3229

Special Notes

Services Requested:

SERVICE21

Problems Found:

The 4-pin connector has corrosion damage.

The digital board failed.

The conductivity had excessive drift.

Services Performed:

Perform initial diagnostic evaluation.

Replaced the 4-pin connector.

Replaced the digital board.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Performed "POST" cruise calibration.

Replaced the conductivity cell.

Performed a "Final" Calibration.

Item	Item Description	Qty
SERVICE21	Complete External Inspection. Test All Functions. Calibrate C & T, C&P and recal if necessary. Replace end cap O-rings and Hydrostatic pressure test if necessary. Includes typical repairs. (Does not include: Major electronic board replacement. Instruments deemed "Damaged Beyond Repair". Missing/damaged mounts or cables. Upgrades or modifications. Spares or antifoulant replacement.)	1

Unbilled Items

Item	Item Description	Qty
41967	SEACAT_BASIC: A/D & DIGITAL BOARD	1
17654	Bulkhead connector, 4-pin Standard, XSG-4-BCL-HP-SS	1
22009	Lithium back-up battery (BR-2/3A-T2SP)	3
80888	TITANIUM SEACAT CELL ASSEMBLY, VERSION 2	1



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SERVICE REPORT

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PRODUCT INFORMATION

Item: 19P.LEGACY

Item Description: (LEGACY) SBE 19Plus (V1/V2) CTD

Serial: 19P42203-4955

Special Notes

Services Requested:

SERVICE19

Services Performed:

Perform initial diagnostic evaluation.

Performed pressure calibration.

Performed "POST" cruise calibration.

Item	Item Description	Qty
SERVICE19	Confirm / recertify SBE 19/19plus/19plusV2. Complete External Inspection. Test All Functions and input channel responses. Calibrate C, T, & P. C&P and recal if necessary. Replace O-rings and Hydrostatic pressure test if necessary. Includes typical repairs. (Does not include: Major electronic board replacement. Instruments deemed "Damaged Beyond Repair". Missing/damaged mounts or cables. Upgrades or modifications. Spares or antifoulant replacement.)	1

Unbilled Items

Item	Item Description	Qty
22009	Lithium back-up battery (BR-2/3A-T2SP)	3



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PRODUCT INFORMATION

Item: ECO-DUAL.LEGACY

Item Description: (LEGACY) ECO Dual Channel

Serial: FLNTURT-089

Special Notes

ECO Calibration and Repairs

Diagnosis:

Evaluated instrument FLNTURTD-089 and found no problems.

Repairs and Modifications:

Retuned both channels. Standard service performed.

Comments:

New Device file and characterization sheets included.

ECO Standard Service:

The instrument bulkhead connector, pressure housing and window/optics are inspected for damage. Instrument is checked to determine proper functionality. Incoming settings and memory are collected if incoming condition allows.

If applicable, a pre-service characterization is performed. Data is analyzed and Instrument is rescaled.

The head is inspected for cracks in detector and motor bores. Shaft, shaft seal, faceplate, and wiper are replaced (if equipped). Noise, stability, and live pressure test performed.

Final calibration and characterization is completed. Including calibration of thermistor and pressure sensor, if equipped. A device file, repair sheet, and new characterization sheets are provided to customer via hard copy and CD.

Item	Item Description	Qty
SRVECODUAL	Standard service includes evaluation, minor repairs, firmware updates, board modifications, calibration, and testing. This pricing does not include major repairs or shipping costs. Any additional repairs that are not listed will be quoted on an individual basis and provided with a revised service order after the technician examines the instrument.	1

Unbilled Items

Item	Item Description	Qty