



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

Phone

+1-425-643-9866

www.seabird.com

1005515959

27-JUN-2022

320191576

SERVICE REPORT

Service Request

Date

Sales Order

CUSTOMER INFORMATION

Name: NOAA PMEL - PACIFIC MARINE ENVIRO LAB
Account : 40279844
DAVID STRAUZ
DAVID.STRAUSZ@NOAA.GOV
206-526-4510

PO Number:

Bill To Address

NOAA PMEL - PACIFIC MARINE ENVIRO LAB
7600 SAND POINT WAY NE

SEATTLE,WA,98115-6349,US

Ship To Address

NOAA PMEL - PACIFIC MARINE ENVIRO LAB
SUPPLY CENTER / RECEIVING
7600 SAND POINT WAY NE, BLDG 8
SEATTLE,WA,98115,US

PRODUCT INFORMATION

Item: 16.LEGACY

Item Description: (LEGACY) SBE 16 CT(D)

Serial: 1625591-3114

Special Notes

Services Requested:

SERVICE16

CUSTOMER NOTES: One connector has broken pin.

Problems Found:

The 6-pin connector was found to be damaged.

One of the bus strips was found to be broken.

Services Performed:

Perform initial diagnostic evaluation.

Replaced the 6-pin connector.

Replaced the bus strip.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Performed "POST" cruise calibration.

Item	Item Description	Qty
SERVICE16	Confirm / recertify SBE 16/16plus/16plusV2. Complete External Inspection. Test All Functions and input channel responses. Calibrate C & T. 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
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17628	Bulkhead connector, 6-pin Standard, AG-306-HP-SS	1
14053	CAP, BUS BAR ECI-Su36(0.2).1.27, +100%/-25%	1



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SERVICE REPORT

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PRODUCT INFORMATION

Item: 16P.LEGACY

Item Description: (LEGACY) SBE 16Plus (V1/V2) CT(D)

Serial: 16P31373-4426

Special Notes

Services Requested:

SERVICE16

Problems Found:

The conductivity cell was found to require cleaning and re-platinization.

Services Performed:

Perform initial diagnostic evaluation.

Performed pressure calibration.

Performed "POST" cruise calibration.

Cleaned and replatinized the conductivity cell.

Performed a "Final" Calibration.

Installed NEW AF24173 Anti-foulant cylinder(s).

Item	Item Description	Qty
SERVICE16	Confirm / recertify SBE 16/16plus/16plusV2. Complete External Inspection. Test All Functions and input channel responses. Calibrate C & T. 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
REPLACEAF	Extra charge to install one antifoulant device, includes one 801542.1.	2

Unbilled Items

Item	Item Description	Qty
801542.1	AF24173 ANTI-FOULANT, SINGLE CYLINDER, V2	2



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PRODUCT INFORMATION

Item: 16P.LEGACY

Item Description: (LEGACY) SBE 16Plus (V1/V2) CT(D)

Serial: 16P35165-4607

Special Notes

Services Requested:

PCAL16

SERVICE16

Services Performed:

Perform initial diagnostic evaluation.

Performed pressure calibration.

Performed "POST" cruise calibration.

Installed NEW AF24173 Anti-foulant cylinder(s).

Item	Item Description	Qty
SERVICE16	Confirm / recertify SBE 16/16plus/16plusV2. Complete External Inspection. Test All Functions and input channel responses. Calibrate C & T. 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
REPLACEAF	Extra charge to install one antifoulant device, includes one 801542.1.	2
PCAL16	Charge to calibrate SBE 16/16plus/16plusV2 pressure channel	1

Unbilled Items

Item	Item Description	Qty
801542.1	AF24173 ANTI-FOULANT, SINGLE CYLINDER, V2	2



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PRODUCT INFORMATION

Item: 16P.LEGACY

Item Description: (LEGACY) SBE 16Plus (V1/V2) CT(D)

Serial: 16P60727-6627

Special Notes

Services Requested:

SERVICE16

Problems Found:

The 6-pin connector was found to be damaged.

Services Performed:

Perform initial diagnostic evaluation.

Replaced the 6-pin connector.

Replaced the lithium back-up battery(s).

Replaced the O-rings.

Performed a hydrostatic pressure test.

Performed pressure calibration.

Performed "POST" cruise calibration.

Installed NEW AF24173 Anti-foulant cylinder(s).

Item	Item Description	Qty
SERVICE16	Confirm / recertify SBE 16/16plus/16plusV2. Complete External Inspection. Test All Functions and input channel responses. Calibrate C & T. 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
REPLACEAF	Extra charge to install one antifoulant device, includes one 801542.1.	2

Unbilled Items

Item	Item Description	Qty
17628	Bulkhead connector, 6-pin Standard, AG-306-HP-SS	1
801542.1	AF24173 ANTI-FOULANT, SINGLE CYLINDER, V2	2
22009	Lithium back-up battery (BR-2/3A-T2SP)	3



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SERVICE REPORT

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PRODUCT INFORMATION

Item: ECO.LEGACY

Item Description: (LEGACY) ECO Single Channel

Serial: FLSB-2693

Special Notes

Services Requested:

SRVECOSINGLE

CUSTOMER NOTES: Check all connectors, some are bad. Battery holder broken on 603

ECO Calibration and Repairs

Diagnosis:

Evaluated instrument FLSB-2693 and found that the 6 pin bulkhead is damaged.

Repairs and Modifications:

Replaced 6 pin bulkhead. 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. Case seals, shaft, shaft seal, faceplate, wiper, desiccant pack, and batteries (if equipped) are replaced. 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
WET_SRV_CHRG	Service Charges from WETLabs (FRRF)	1

Unbilled Items

Item	Item Description	Qty



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SERVICE REPORT

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PRODUCT INFORMATION

Item: FAA-010020

Item Description: ECO-FL-SB (CHL)(125ug/l)

Serial: FLSB-3073

Special Notes

Services Requested:

SRVECOSINGLE

CUSTOMER NOTES: Check all connectors, some are bad. Battery holder broken on 603

ECO Calibration and Repairs

Diagnosis:

Evaluated instrument FLSB-3073 and found both bulkheads were damaged.

Repairs and Modifications:

Replaced both bulkheads. 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. Case seals, shaft, shaft seal, faceplate, wiper, desiccant pack, and batteries (if equipped) are replaced. 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
WET_SRV_CHRG	Service Charges from WETLabs (FRRF)	1

Unbilled Items

Item	Item Description	Qty



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PRODUCT INFORMATION

Item: ECO.LEGACY

Item Description: (LEGACY) ECO Single Channel

Serial: FLSB-3074

Special Notes

Services Requested:

SRVECOSINGLE

CUSTOMER NOTES: Check all connectors, some are bad. Battery holder broken on 603

ECO Calibration and Repairs

Diagnosis:

Evaluated instrument FLSB-3074 and found that the 6 pin bulkhead is damaged.

Repairs and Modifications:

Replaced 6 pin bulkhead. 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. Case seals, shaft, shaft seal, faceplate, wiper, desiccant pack, and batteries (if equipped) are replaced. 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
WET_SRV_CHRG	Service Charges from WETLabs (FRRF)	1

Unbilled Items

Item	Item Description	Qty



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PRODUCT INFORMATION

Item: ECO.LEGACY

Item Description: (LEGACY) ECO Single Channel

Serial: FLSB-603

Special Notes

Services Requested:

SRVECOSINGLE

CUSTOMER NOTES: Check all connectors, some are bad. Battery holder broken on 603

ECO Calibration and Repairs

Diagnosis:

Evaluated instrument FLSB-603 and found solder issues with the battery flange wiring.

Repairs and Modifications:

Resoldered all solder joints. 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. Case seals, shaft, shaft seal, faceplate, wiper, desiccant pack, and batteries (if equipped) are replaced. 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
SRVECOSINGLE	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

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PRODUCT INFORMATION

Item: 05T.LEGACY

Item Description: (LEGACY) SBE 5T Submersible Pump

Serial: 051146

Special Notes

Services Requested:

BASERV/P

Notes: O-rings and PT requested

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