

**Sea-Bird Electronics, Inc.**

13431 NE 20th Street
Bellevue, WA 98005 United States

(Do Not Send Payments To This Physical Address – See Remit to Information)

Phone

+1-425-643-9866

www.seabird.com

SERVICE REPORT**Service Request****1005520318****Date**

14-MAY-2024

Sales Order

320945819

CUSTOMER INFORMATION

Name: NOAA - PMEL PACIFIC MARINE ENVIRO LAB

Account : 40299841

DAVID STRAUZ

DAVID.STRAUSZ@NOAA.GOV

1-206-526-4510

PO Number:

EA-133M-15-CQ-0039/1333MJ24F0010

Bill To Address

NOAA - PMEL PACIFIC MARINE ENVIRO LAB
7600 SAND POINT WAY NE
SEATTLE,WA,98115,US

Ship To Address

NOAA - PMEL PACIFIC MARINE ENVIRO LAB
7600 SAND POINT WAY NE
SEATTLE,WA,98115,US

PRODUCT INFORMATION

Item: 16P.LEGACY

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

Serial: 16P29504-4285

Special Notes

Services Requested:

SBS-SVC-16

CUSTOMER NOTES: 4285 has a digiquartz pressure sensor

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.	1
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
22009	Lithium back-up battery (BR-2/3A-T2SP)	3

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PRODUCT INFORMATION**Item:** 16P.LEGACY**Item Description:** (LEGACY) SBE 16Plus (V1/V2) CT(D)**Serial:** 16P27024-4139**Special Notes**

Services Requested:

SBS-SVC-16

CUSTOMER NOTES: 4285 has a digiquartz pressure sensor

Services Performed:

Perform initial diagnostic evaluation.

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.	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: 1625591-3115

Special Notes

Services Requested:

SBS-SVC-16

CUSTOMER NOTES: These units both have digiquartz pressure sensors. Please calibrate those. 3115 probably lost its RTC battery on deployment, please do a post-cal. 653 had a bad cal last time, please check.

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.	1
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: 16.LEGACY

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

Serial: 164208-0653

Special Notes

Services Requested:

SBS-SVC-16

CUSTOMER NOTES: These units both have digiquartz pressure sensors. Please calibrate those. 3115 probably lost its RTC battery on deployment, please do a post-cal. 653 had a bad cal last time, please check.

Problems Found:

Boardset power reading is unstable, even after replacing on-board lithium batteries. Unit cannot be serviced. Obsolete model version. Unit to be returned as-is.

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SERVICE REPORT**Service Request****1005520318****Date**

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PRODUCT INFORMATION**Item:** ECO.LEGACY**Item Description:** (LEGACY) ECO Single Channel**Serial:** FLSB-1794**Special Notes**

ECO Calibration and Repairs

Diagnosis: Evaluated instrument (FLSB-1794) and found it was out of spec.

Repairs and Modifications: Standard Calibration Completed.

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 USB.

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

Unbilled Items

Item	Item Description	Qty
ELE-BLK-00014	Micro Connector Bulkhead 6 Pin: MCBH6M	1
BAA-000017	ASSY, Shutter, CCW, Curved, ECO	1
MAA-220524	ECO faceplate copper shuttered	1

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SERVICE REPORT**Service Request****1005520318****Date**

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PRODUCT INFORMATION**Item:** FAA-012124**Item Description:** ECO-FLNTU-SB (CHL,NTU)(75,200)**Serial:** FLNTUSB-4878**Special Notes**

ECO Calibration and Repairs

Diagnosis: Evaluated instrument (FLNTUSB-4878) and found it was out of spec.

Repairs and Modifications: Retuned and 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 USB.

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
BAA-000017	ASSY, Shutter, CCW, Curved, ECO	1
MAA-220524	ECO faceplate copper shuttered	1



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SERVICE REPORT

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PRODUCT INFORMATION

Item: ECO.LEGACY

Item Description: (LEGACY) ECO Single Channel

Serial: FLSB-657

Special Notes

Services Requested:

SBS-SVC-ECOSINGLE

Problems Found:

FLSB-657 no longer meets specifications. Can not be calibrated and is a G2 unit. Unit is not under warranty, recommend replacement. Sensor to be returned as-is.

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PRODUCT INFORMATION**Item:** ECO.LEGACY**Item Description:** (LEGACY) ECO Single Channel**Serial:** FLSB-1793**Special Notes**

ECO Calibration and Repairs

Diagnosis: Evaluated instrument (FLSB-1793) and found it was out of spec.

Repairs and Modifications: Retuned and 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 USB.

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

Unbilled Items

Item	Item Description	Qty
BAA-000017	ASSY, Shutter, CCW, Curved, ECO	1
MAA-220524	ECO faceplate copper shuttered	1
MAA-220119	FLANGE, W / Vent, 2 Conn, ECO	1

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PRODUCT INFORMATION**Item:** ECO.LEGACY**Item Description:** (LEGACY) ECO Single Channel**Serial:** FLSB-1984**Special Notes**

ECO Calibration and Repairs

Diagnosis: Evaluated instrument (FLSB-1984) and found it was out of spec.

Repairs and Modifications: Retuned and 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 USB.

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

Unbilled Items

Item	Item Description	Qty
BAA-000017	ASSY, Shutter, CCW, Curved, ECO	1
MAA-220524	ECO faceplate copper shuttered	1

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PRODUCT INFORMATION**Item:** ECO.LEGACY**Item Description:** (LEGACY) ECO Single Channel**Serial:** FLSB-1837**Special Notes**

ECO Calibration and Repairs

Diagnosis: Evaluated instrument (FLSB-1837) and found it was out of spec.

Repairs and Modifications: Replaced battery flange due to corrosion on connector bulkhead. Retuned and 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 USB.

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

Unbilled Items

Item	Item Description	Qty
BAA-000017	ASSY, Shutter, CCW, Curved, ECO	1
MAA-220524	ECO faceplate copper shuttered	1
MAA-220119	FLANGE, W / Vent, 2 Conn, ECO	1

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PRODUCT INFORMATION**Item:** ECO.LEGACY**Item Description:** (LEGACY) ECO Single Channel**Serial:** FLSB-3047**Special Notes**

ECO Calibration and Repairs

Diagnosis: Evaluated instrument (FLSB-3047) and found it was out of spec.

Repairs and Modifications: Retuned and 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 USB.

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

Unbilled Items

Item	Item Description	Qty
BAA-000017	ASSY, Shutter, CCW, Curved, ECO	1
MAA-220524	ECO faceplate copper shuttered	1

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SERVICE REPORT**Service Request****1005520318****Date**

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PRODUCT INFORMATION**Item:** ECO-TRIPLE.LEGACY**Item Description: (LEGACY) ECO Triple Channel****Serial:** BBFL2WB-1307**Special Notes**

Services Requested:

SBS-SVC-ECOTRIPLE

ECO Calibration and Repairs:

Diagnosis: Evaluated instrument (BBFL2WB-1307) and found it was out of spec.

Repairs and Modifications: Installed new wiper and face plate. New batteries installed. Retuned and 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 USB.

Item	Item Description	Qty
SRVECOTRIPLET	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
MAA-230330	FACEPLATE, Triplet-S, ECO	1
BAA-251621	ASSY, WIPER, TRIP-W or ECO-V2	1



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SERVICE REPORT

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PRODUCT INFORMATION

Item: ECO.LEGACY

Item Description: (LEGACY) ECO Single Channel

Serial: FLNTUS-1075

Special Notes

Services Requested:

SBS-SVC-ECODUAL

Problems Found:

FLSB-657 no longer meets specifications. Can not be calibrated and is a G2 unit. Unit is not under warranty, recommend replacement. Sensor to be returned as-is.

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SERVICE REPORT**Service Request****1005520318****Date**

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PRODUCT INFORMATION**Item:** 39.LEGACY**Item Description:** (LEGACY) SBE 39 Temperature (Depth) Recorder**Serial:** 3936272-1433**Special Notes**

Services Requested:

SBS-SVC-39

CUSTOMER NOTES: 570 didn't log on last deployment, 1426 drifted on last deployment partway through, 580 starts at 1min after the hour on deployment for some reason, 1433 has busted pins

Services Performed:

Performed initial diagnostic evaluation.

Performed "POST" cruise calibration.

Installed NEW battery(s).

Replaced 4pin bulkhead connector.

Performed complete system check and full diagnostic evaluation.

Item	Item Description	Qty
SERVICE39	Complete External Inspection. Test All Functions. Calibrate temperature channel, 11 points (-1 to 31 deg C). Replace end cap O-rings and Hydrostatic pressure test. Install new batteries. Includes typical repairs. (Does not include: Major electronic board replacement. Instruments deemed "Damaged Beyond Repair". Missing/damaged mounts or cables. Upgrades or modifications. Spares.)	1

Unbilled Items

Item	Item Description	Qty
17654	Bulkhead connector, 4-pin Standard, XSG-4-BCL-HP-SS	1
22074	SBE 39 lithium battery, UltraLife U9VL, 9V (spare)	1

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PRODUCT INFORMATION**Item:** 39.LEGACY**Item Description:** (LEGACY) SBE 39 Temperature (Depth) Recorder**Serial:** 392802-0992**Special Notes**

Services Requested:

PCAL39

SBS-SVC-39

CUSTOMER NOTES: Has busted pins

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Performed pressure calibration.

Installed NEW four pin bulkhead connector(s).

Performed a pressure test.

Installed NEW battery(s).

Performed complete system check and full diagnostic evaluation.

Item	Item Description	Qty
PCAL39	Extra charge for pressure calibration	1
SERVICE39	Complete External Inspection. Test All Functions. Calibrate temperature channel, 11 points (-1 to 31 deg C). Replace end cap O-rings and Hydrostatic pressure test. Install new batteries. Includes typical repairs. (Does not include: Major electronic board replacement. Instruments deemed "Damaged Beyond Repair". Missing/damaged mounts or cables. Upgrades or modifications. Spares.)	1

Unbilled Items

Item	Item Description	Qty
17654	Bulkhead connector, 4-pin Standard, XSG-4-BCL-HP-SS	1
22074	SBE 39 lithium battery, UltraLife U9VL, 9V (spare)	1

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PRODUCT INFORMATION

Item: 39.LEGACY

Item Description: (LEGACY) SBE 39 Temperature (Depth) Recorder

Serial: 3925374-0570

Special Notes

Services Requested:

SBS-SVC-39

CUSTOMER NOTES: 570 didn't log on last deployment, 1426 drifted on last deployment partway through, 580 starts at 1min after the hour on deployment for some reason, 1433 has busted pins

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Installed NEW battery(s).

Performed complete system check and full diagnostic evaluation.

Item	Item Description	Qty
SERVICE39	Complete External Inspection. Test All Functions. Calibrate temperature channel, 11 points (-1 to 31 deg C). Replace end cap O-rings and Hydrostatic pressure test. Install new batteries. Includes typical repairs. (Does not include: Major electronic board replacement. Instruments deemed "Damaged Beyond Repair". Missing/damaged mounts or cables. Upgrades or modifications. Spares.)	1

Unbilled Items

Item	Item Description	Qty
22074	SBE 39 lithium battery, UltraLife U9VL, 9V (spare)	1

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PRODUCT INFORMATION**Item:** 39.LEGACY**Item Description:** (LEGACY) SBE 39 Temperature (Depth) Recorder**Serial:** 3935165-1426**Special Notes**

Services Requested:

SBS-SVC-39

CUSTOMER NOTES: 570 didn't log on last deployment, 1426 drifted on last deployment partway through, 580 starts at 1min after the hour on deployment for some reason, 1433 has busted pins

Problems Found:

The temperature ws found to have excessive drift.

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Replaced the connector.

Replaced the temperature probe.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Performed a "Final" Calibration.

Replaced the battery.

Replaced the battery.

Item	Item Description	Qty
SERVICE39	Complete External Inspection. Test All Functions. Calibrate temperature channel, 11 points (-1 to 31 deg C). Replace end cap O-rings and Hydrostatic pressure test. Install new batteries. Includes typical repairs. (Does not include: Major electronic board replacement. Instruments deemed "Damaged Beyond Repair". Missing/damaged mounts or cables. Upgrades or modifications. Spares.)	1

Unbilled Items

Item	Item Description	Qty
801654	SBE39 TEMPERATURE PROBE ASSY, E-BEAM, FENWAL	1
17654	Bulkhead connector, 4-pin Standard, XSG-4-BCL-HP-SS	1
22074	SBE 39 lithium battery, UltraLife U9VL, 9V (spare)	1

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PRODUCT INFORMATION**Item:** 39.LEGACY**Item Description:** (LEGACY) SBE 39 Temperature (Depth) Recorder**Serial:** 3925374-0580**Special Notes**

Services Requested:

SBS-SVC-39

CUSTOMER NOTES: 570 didn't log on last deployment, 1426 drifted on last deployment partway through, 580 starts at 1min after the hour on deployment for some reason, 1433 has busted pins

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Installed NEW battery(s).

Performed complete system check and full diagnostic evaluation.

Item	Item Description	Qty
SERVICE39	Complete External Inspection. Test All Functions. Calibrate temperature channel, 11 points (-1 to 31 deg C). Replace end cap O-rings and Hydrostatic pressure test. Install new batteries. Includes typical repairs. (Does not include: Major electronic board replacement. Instruments deemed "Damaged Beyond Repair". Missing/damaged mounts or cables. Upgrades or modifications. Spares.)	1

Unbilled Items

Item	Item Description	Qty
22074	SBE 39 lithium battery, UltraLife U9VL, 9V (spare)	1

**Sea-Bird Electronics, Inc.**

13431 NE 20th Street
Bellevue, WA 98005 United States

Phone

+1-425-643-9866

www.seabird.com

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SERVICE REPORT**Service Request****1005520318****Date**

14-MAY-2024

Sales Order

320945819

PRODUCT INFORMATION**Item:** 43.LEGACY**Item Description:** (LEGACY) SBE 43 Oxygen Sensor**Serial:** 430910**Special Notes**

Services Requested:

SBS-SVC-43

Problems Found:

Air is in the electrolyte.

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Replaced the lid and membrane assembly (0.5 mil).

Replaced the electrolyte with new fluid.

Replaced the pressure compensation bag.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Performed a "Final" Calibration.

Receipt Verification

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

Unbilled Items

Item	Item Description	Qty
31087	PRESSURE COMPENSATION BAG, SBE43, DWG /21716A	1
801576	SBE43 LID & MEMBRANE SUB-ASSY, .5MIL MEMBRANE	1
22085	BATTERY, SANYO CR14250SE-SP1-1, 850 mA-h	2

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SERVICE REPORT**Service Request****1005520318****Date**

14-MAY-2024

Sales Order

320945819

PRODUCT INFORMATION**Item:** 43.LEGACY**Item Description:** (LEGACY) SBE 43 Oxygen Sensor**Serial:** 431876**Special Notes**

Services Requested:

SBS-SVC-43

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Receipt Verification

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

Unbilled Items

Item	Item Description	Qty

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SERVICE REPORT**Service Request****1005520318****Date**

14-MAY-2024

Sales Order

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PRODUCT INFORMATION**Item:** 43.LEGACY**Item Description:** (LEGACY) SBE 43 Oxygen Sensor**Serial:** 430904**Special Notes**

Services Requested:

SBS-SVC-43

Problems Found:

The sensor voltages are outside of specification.

Services Performed:

Perform initial diagnostic evaluation.

Replaced the SBE 43 Anode sub assembly.

Replaced the SBE 43 Getter sub assembly.

Replaced the lid and membrane assembly (0.5 mil).

Replaced the electrolyte with new fluid.

Replaced the electronic board set.

Replaced the pressure compensation bag.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Performed a "Final" Calibration.

Receipt Verification

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

Unbilled Items

Item	Item Description	Qty
31087	PRESSURE COMPENSATION BAG, SBE43, DWG /21716A	1
41099T	TESTED SBE43 OXYGEN INTERFACE	1
801576	SBE43 LID & MEMBRANE SUB-ASSY, .5MIL MEMBRANE	1
801230	SBE43 ANODE SUB-ASSEMBLY / DWG 41092	1
801229	SBE43 GETTER SUB-ASSEMBLY / DWG 41091	1

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SERVICE REPORT**Service Request****1005520318****Date**

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PRODUCT INFORMATION**Item:** 37SM.LEGACY**Item Description:** (LEGACY) SBE 37SM MicroCAT**Serial:** 37SM25429-1807**Special Notes**

Services Requested:

SBS-SVC-37

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Installed NEW AF24173 Anti-foulant cylinder(s).

Item	Item Description	Qty
SERVICE37	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
REPLACEAF	Extra charge to install one antifoulant device, includes one 801542.1.	1

Unbilled Items

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

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SERVICE REPORT**Service Request****1005520318****Date**

14-MAY-2024

Sales Order

320945819

PRODUCT INFORMATION

Item: 37SM.LEGACY

Item Description: (LEGACY) SBE 37SM MicroCAT

Serial: 37SM40084-3979

Special Notes

Services Requested:

PCAL37

SBS-SVC-37

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
PCAL37	Extra charge to calibrate SBE 37 pressure channel	1
SERVICE37	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
REPLACEAF	Extra charge to install one antifoulant device, includes one 801542.1.	1

Unbilled Items

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

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SERVICE REPORT**Service Request****1005520318****Date**

14-MAY-2024

Sales Order

320945819

PRODUCT INFORMATION**Item:** 37SM.LEGACY**Item Description:** (LEGACY) SBE 37SM MicroCAT**Serial:** 37SM28082-2325**Special Notes**

Services Requested:

SBS-SVC-37

Problems Found:

The conductivity has excessive drift.

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Replaced the conductivity cell.

Replaced the O-rings.

Performed a hydrostatic pressure test.

Performed a "Final" Calibration.

Installed NEW AF24173 Anti-foulant cylinder(s).

Item	Item Description	Qty
SERVICE37	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
REPLACEAF	Extra charge to install one antifoulant device, includes one 801542.1.	1

Unbilled Items

Item	Item Description	Qty
801139	MODULAR MICROCAT COND. CELL TRAY ASSEMBLY	1
801542.1	AF24173 ANTI-FOULANT, SINGLE CYLINDER, V2	2

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SERVICE REPORT**Service Request****1005520318****Date**

14-MAY-2024

Sales Order

320945819

PRODUCT INFORMATION**Item:** 37SM.LEGACY**Item Description:** (LEGACY) SBE 37SM MicroCAT**Serial:** 37SM-2318**Special Notes**

Problem Found:

Conductivity drift out of spec.

Services Performed:

Perform initial diagnostic evaluation.

Performed "POST" cruise calibration.

Performed pressure calibration.

Replaced conductivity cell.

Performed a hydrostatic pressure test.

Performed a "Final" Calibration.

Installed NEW AF24173 Anti-foulant cylinder(s).

Item	Item Description	Qty
SERVICE37	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
REPLACEAF	Extra charge to install one antifoulant device, includes one 801542.1.	1

Unbilled Items

Item	Item Description	Qty
801139	MODULAR MICROCAT COND. CELL TRAY ASSEMBLY	1
801542.1	AF24173 ANTI-FOULANT, SINGLE CYLINDER, V2	2