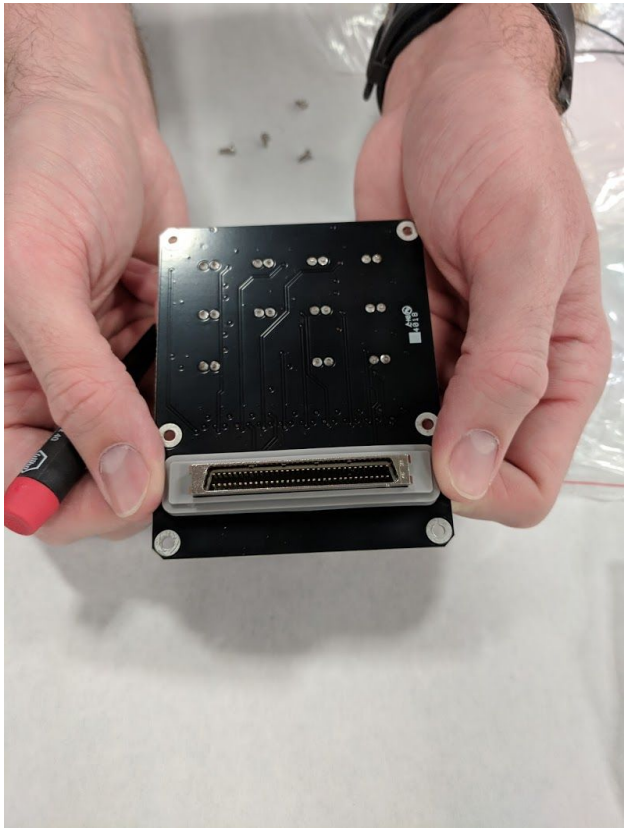
| | | |
|---|---|---|
| Title | 990-03957-00 - DOC, M20 WORK INSTRUCTIONS ADAPTER - BUTTER STICK, AMBER | |
| P/N | 710-03085-02_rev01_ASSY, ELEC-MECH, M20 HEADSET, BUTTER STICK, AMBER | |
| Scope | Assembly instructions for Flex | |
| Revision | 1 | |
| Date | 2019-12-20 | |
| Author | | |
| Approver(s): | | |
| Revision History | | |
| 01 | Initial Release | |
| 02 | | |
| 03 | | |
| 04 | | |

| Tool / Consumable List | |
|---|---|
| Description | |
| **Consumables** | **Tools** |
| | T8 torque driver |
| | T15 torque driver |
| | |

# Bottom Sub-Assembly

Note: Bottom and top sub-assemblies are independent and not sequential

| Seq # | Cycle Time | Operation Description | Place connector boot around large connector |
|---|---|---|---|
| 01 | | | |



| Part Desc: | Part# |
|---|---|
| Connector Boot<br>Breakout Board | PN-0171-00<br>ASM-0282-00 |

| Tools/Equipment: | Part# |
|---|---|
| | |

| Critical Process Parameters |
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| Critical Quality Attributes |
|---|
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| Key Points |
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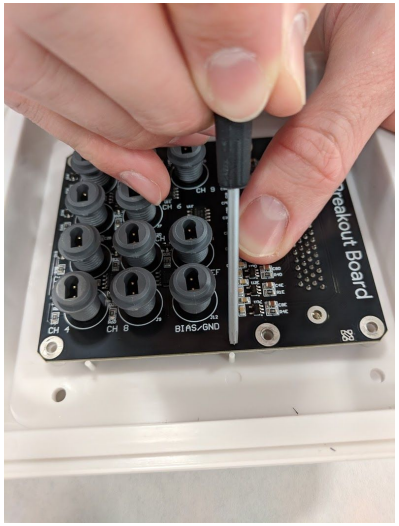
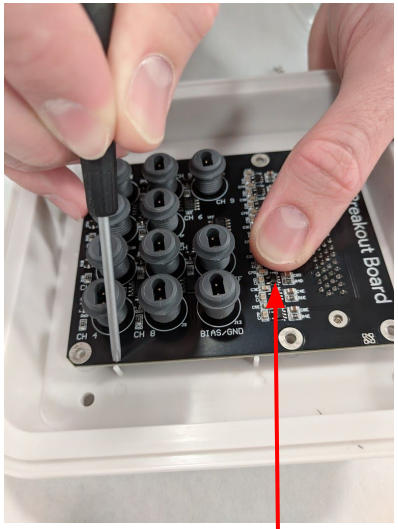
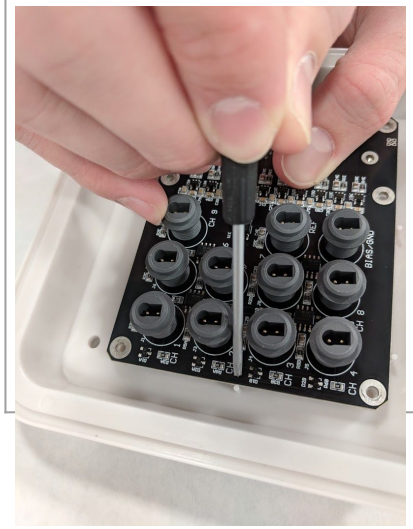
| Seq # | Cycle Time | Operation Description | |
|---|---|---|---|
| 02 | | | Place Breakout Board on bottom housing using 3 alignment pins as guidance. Hold board in place through affixing screws so it does not shift. |



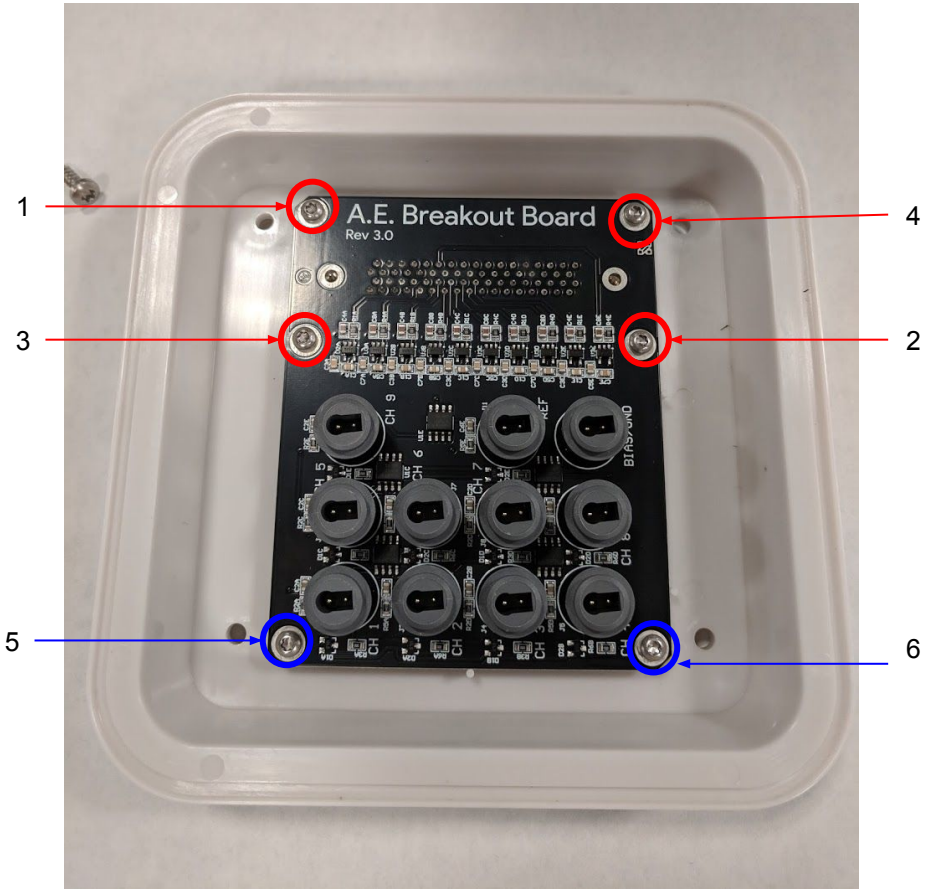


Hold in place until screws are fastened



| Part Desc: | Part# |
|---|---|
| Breakout Board<br>Bottom Housing | ASM-0282-00<br>PN-0163-00 |
| **Tools/Equipment:** | **Part#** |
| | |
| **Critical Process Parameters** | |
| | |
| **Critical Quality Attributes** | |
| | |
| **Key Points** | |
| Alignment pins are flexible so take caution not to apply excessive force when aligning board | |

| Seq # | Cycle Time | Operation Description | |
|---|---|---|---|
| 03 | | | Manually hold down board while securing in place with qty 6 M2.63x6 screws to 35 in-oz. Fasten screws around connector (highlighted in red below) **first** in a star pattern, then fasten bottom screws (highlighted in blue) |




| Part Desc: | Part# |
|---|---|
| Breakout Board<br>Torx M2.63x6mm (x6) | ASM-0282-00<br>PN-0104-00 |

| Tools/Equipment: | Part# |
|---|---|
| T8 Torque Driver | |

**Critical Process Parameters**

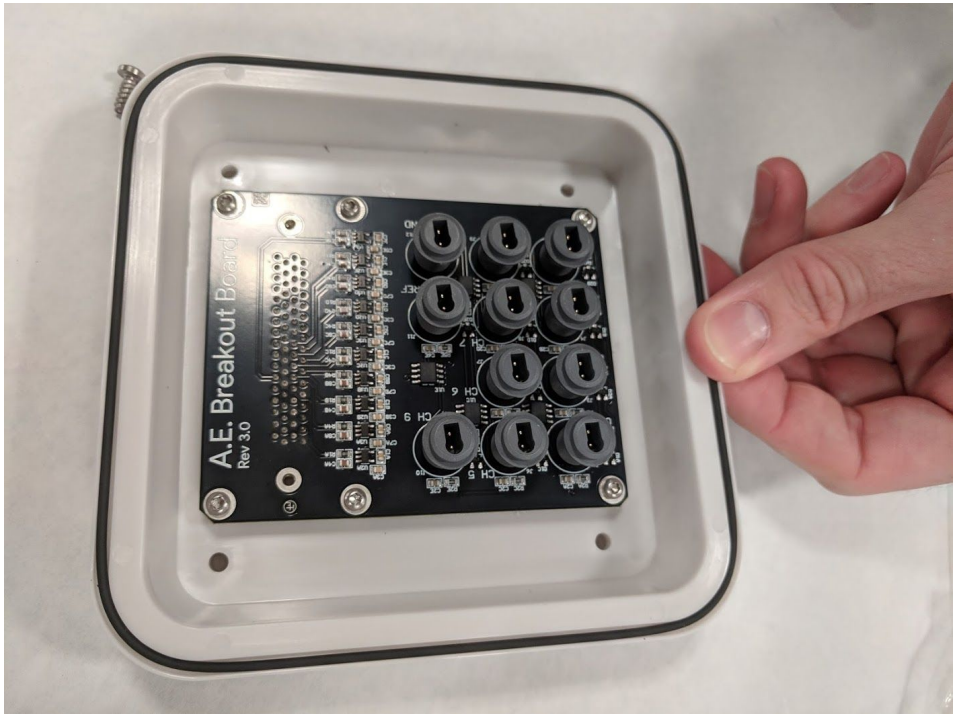
35 in-oz tightening torque

**Critical Quality Attributes**

Manually hold board until screws are tightened, do not allow board to shift from position

**Key Points**

| Seq # | Cycle Time | Operation Description | Insert o-ring around the groove at the edge of the bottom housing |
|---|---|---|---|
| 04 | | | |




| Part Desc: | Part# |
|---|---|
| O-ring<br>Bottom Housing | PN-0163-00 |

| Tools/Equipment: | Part# |
|---|---|
| | |

**Critical Process Parameters**

**Critical Quality Attributes**

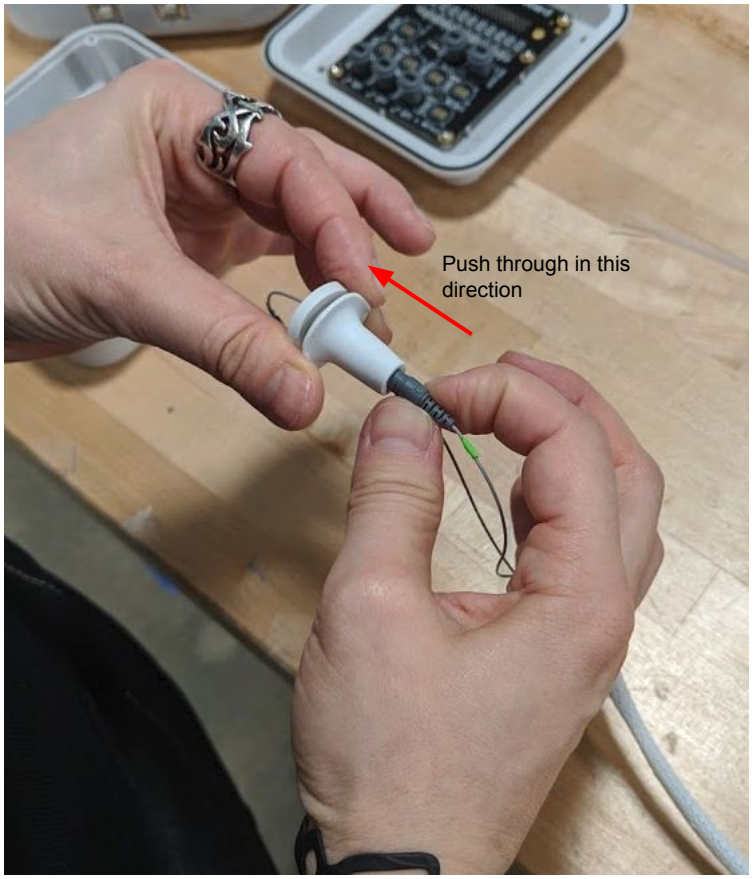
Ensure o-ring is securely within groove

**Key Points**

# Top Sub-Assembly

Note: Bottom and top sub-assemblies are independent and not sequential

| Seq # | Cycle Time | Operation Description | |
|---|---|---|---|
| 01 | | | Using sensor strip assembly built previously (work instructions) insert cables through grommet in order of longest to shortest (Blue-Green-Red-Yellow-Purple). Be careful when pushing on back end of wires to avoid damage, use plastic pliers as necessary to pull connectors through. Wires should enter through narrow side and exit on wider, flanged side |




| Part Desc: | Part# |
|---|---|
| Sensor Strip Assembly<br>Grommet | BOM-0284-00<br>PN-0168-00 |

| Tools/Equipment: | Part# |
|---|---|
| | |

**Critical Process Parameters**

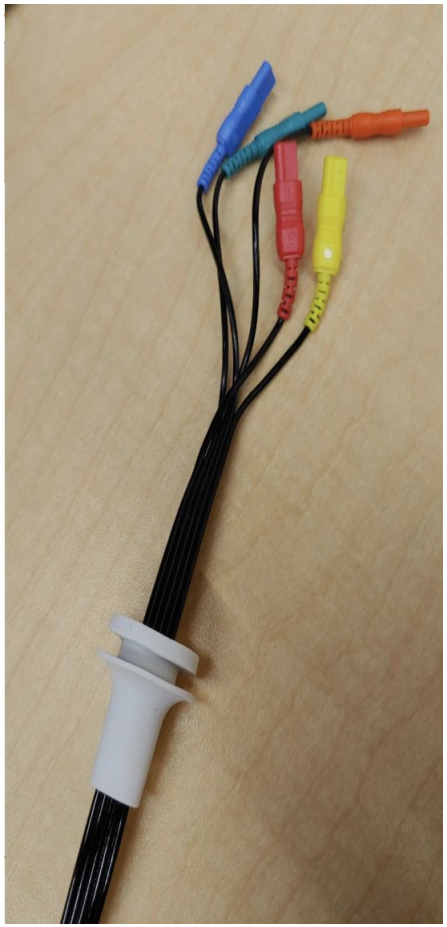
**Critical Quality Attributes**

Do not apply push on back end of wires to thread through grommet

**Key Points**

Connectors should exit on wide, flanged side of grommet

| Seq # | Cycle Time | Operation Description | |
|---|---|---|---|
| 02 | | | Insert expandable sleeving through grommet, ensure there is enough length to apply zip tie (~2 inches through grommet) |



| Part Desc: | Part# |
|---|---|
| Sensor Strip Assembly<br>Grommet | BOM-0284-00<br>PN-0168-00 |

| Tools/Equipment: | Part# |
|---|---|
| | |

| Critical Process Parameters |
|---|
| |

| Critical Quality Attributes |
|---|
| |

| Key Points |
|---|
| |

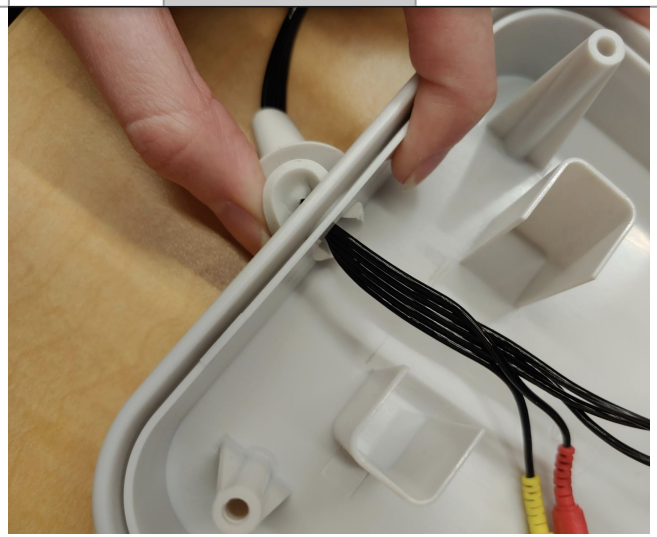
| Seq # | Cycle Time | Operation Description | |
|---|---|---|---|
| 06 | | | Pull all 5 cables through hole on top housing. It is recommended to start with the longest cable first and end with the shortest. |

| Part Desc: | Part# |
|---|---|
| Sensor Strip Assembly<br>Top Housing | |
| **Tools/Equipment:** | **Part#** |
| | |
| **Critical Process Parameters** | |
| | |
| **Critical Quality Attributes** | |
| | |
| **Key Points** | |
| | |

| Seq # | Cycle Time | Operation Description | |
|---|---|---|---|
| 07 | | | Pull expandable sleeving through hole on top housing. Note: if zip ties are not tight enough they will not fit through the hole |

| Part Desc: | Part# |
|---|---|
| Sensor Strip Assembly<br>Top Housing | |
| **Tools/Equipment:** | **Part#** |
| | |
| **Critical Process Parameters** | |
| | |
| **Critical Quality Attributes** | |
| | |
| **Key Points** | |
| | |

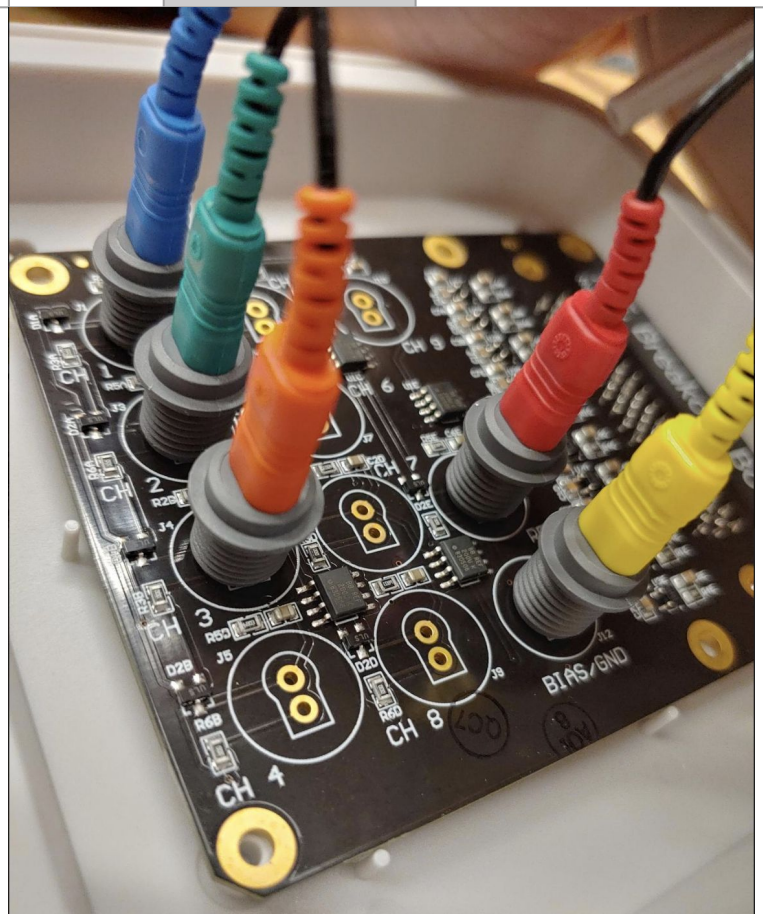
| Seq # | Cycle Time | Operation Description |
|---|---|---|
| 08 | | Using your fingers, push the grommet flange through the hole on the top housing as shown. Gently pull back on sleeve/cables until the edge is up against the flange |



| Part Desc: | Part# |
|---|---|
| Grommet<br>Sensor Strip Assembly<br>Top Housing | |
| **Tools/Equipment:** | **Part#** |
| | |
| **Critical Process Parameters** | |
| | |
| **Critical Quality Attributes** | |
| | |
| **Key Points** | |
| | |

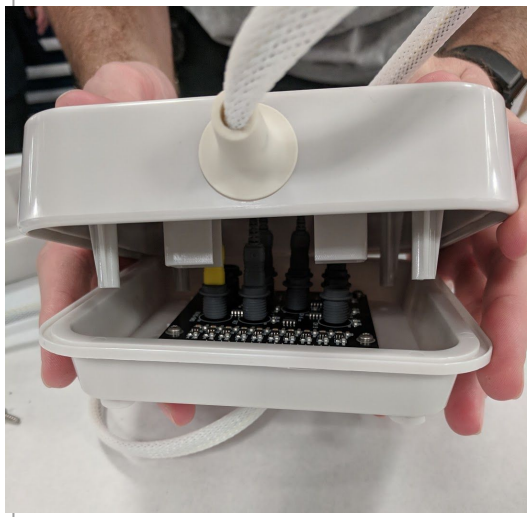
# Final Assembly

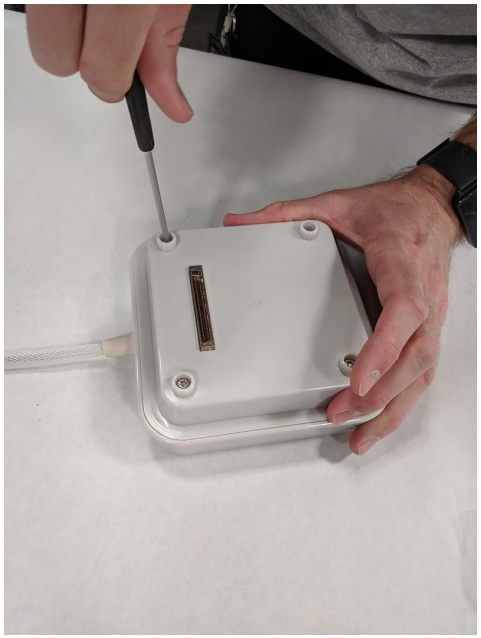
| Seq # | Cycle Time | Operation Description | |
|---|---|---|---|
| 29 | | | Connect sensor strip wires to Breakout Board<br>Blue → CH 1<br>Green → CH 2<br>Orange → CH 3<br>Yellow → BIAS/GND<br>Red → REF |




| Part Desc: | Part# |
|---|---|
| Top Sub-Assembly<br>Bottom Sub-Assembly | |
| **Tools/Equipment:** | **Part#** |
| | |
| **Critical Process Parameters** | |
| | |
| **Critical Quality Attributes** | |
| | |
| **Key Points** | |
| | |

| Seq # | Cycle Time | Operation Description | |
|---|---|---|---|
| 30 | | | Align top and bottom housings and close. Fasten qty 4 M3.36x10 screws to bottom housing in a star pattern. Torque to 8.5 in-lbs |





| Part Desc: | Part# |
|---|---|
| Bottom Housing<br>Torx M3.36x10 (x4) | PN-0163-00<br>PN-0216-00 |

| Tools/Equipment: | Part# |
|---|---|
| T15 Torque Driver | |

**Critical Process Parameters**

8.5 in-lbs tightening torque

**Critical Quality Attributes**

Screws should fully seat

**Key Points**