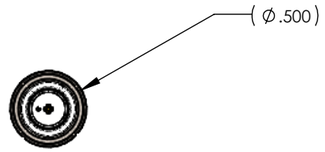
REV.	DESCRIPTION	DATE	BY	ECO
A	INITIAL RELEASE	10 SEP 2013	K. MARETT	4070
B	COMBINED S2103.01 AND PRM2103 DRAWINGS	5/11/2018	D. WILDING	4699
C	UPDATED INSTRUCTIONS FOR CLARITY	12/21/2020	D. WILDING	5073



COMPLETED SUB-ASSEMBLY

NOTES:

1. See BOM provided by PCB forcomponent identification. All equivalencies must be approved by PCB engineering.
2. See D0001.8362 S2103.01 ASSEMBLY & TEST INSTRUCTIONS for detailed assembly and test procedures for the preamp.
3. Completed assembly must be RoHS compliant: USE LEAD-FREE SAC305 SOLDER where applicable.

FILE NAME: PRM2103 subassy, 0.5in preamp 10-pin LEMO with calib check

AUTHOR: K. MARETT

DATE: 2/22/2012

TEMPLATE: D2140.0023 (-1)

LARSON DAVIS
A PCB PIEZOTRONICS DIV.
Provo, Utah, USA (801) 375-0177

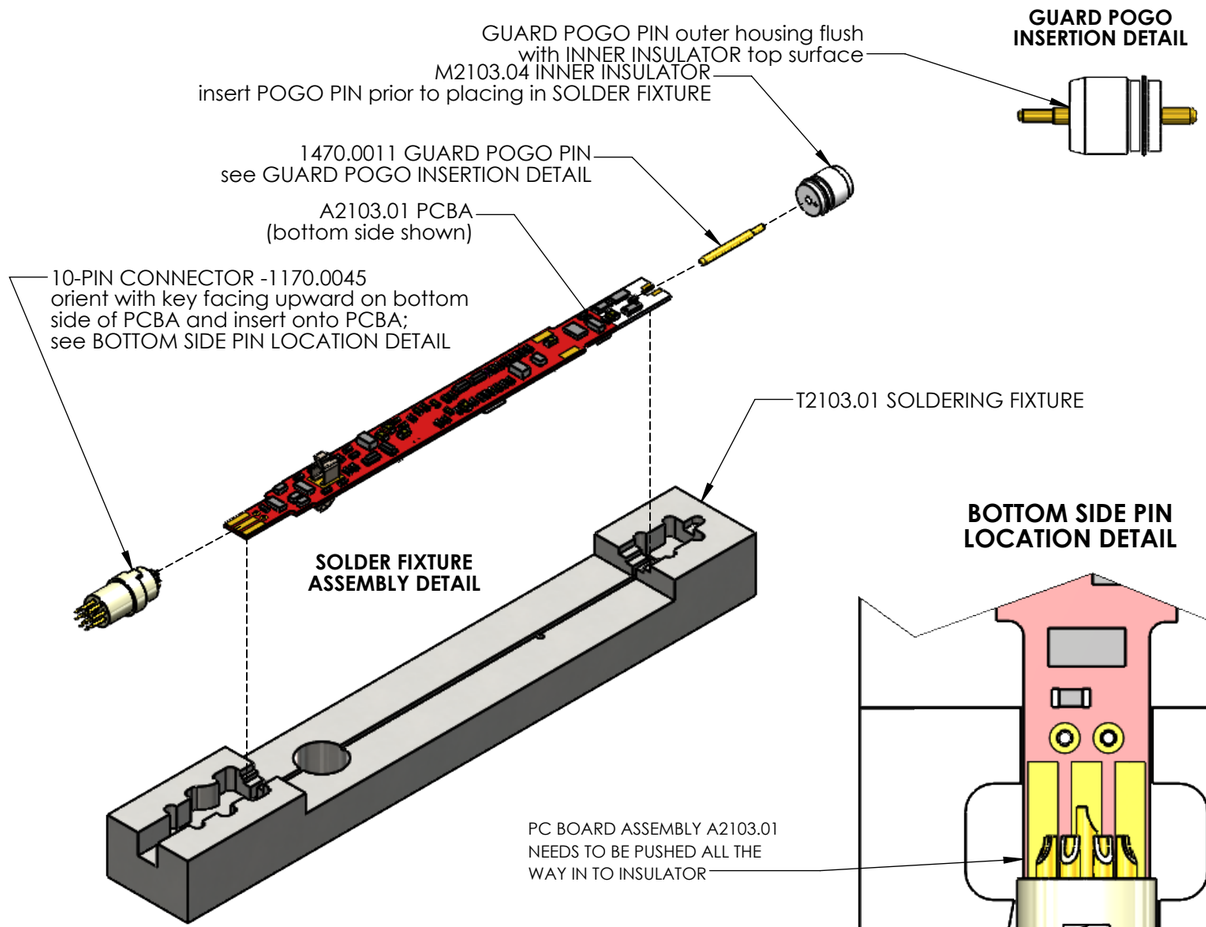
TITLE: ASSY, 1/2" PREAMP W/ CALIB CHECK

SIZE: B | NUMBER: PRM2103 | REV.: C

SCALE 1:1

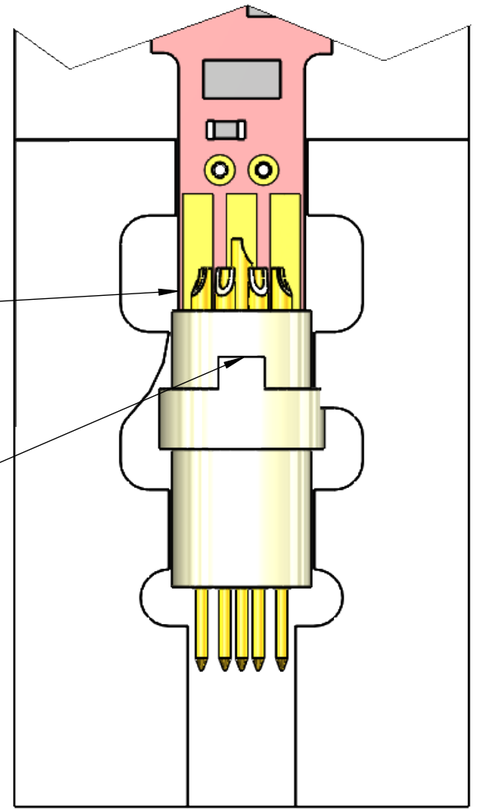
SHEET 1 OF 7

STEP 1 - PLACE 1170.0045 10 - PIN CONNECTOR, M2103.04 INNER INSULATOR WITH INSERTED 1470.0011 POGO PIN, AND A2103.01 PCBA (BOTTOM SIDE UP) INTO THE T2103.01 SOLDERING FIXTURE.

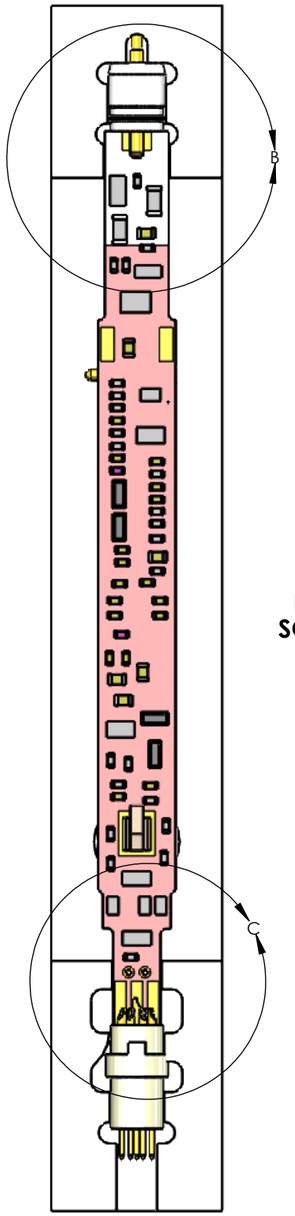


GUARD POGO INSERTION DETAIL

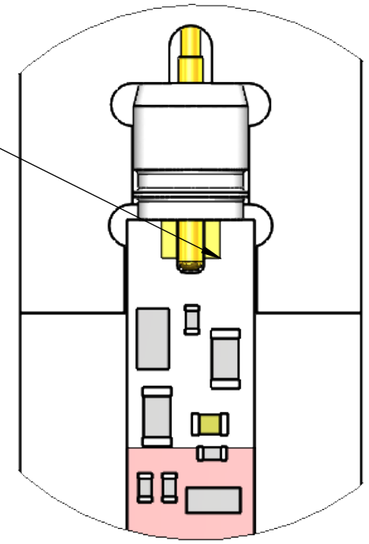
BOTTOM SIDE PIN LOCATION DETAIL



STEP 2 - SOLDER THE POGO AND 10 PIN CONNECTOR AS SHOWN BELOW ON THE BOTTOM SIDE OF THE BOARD



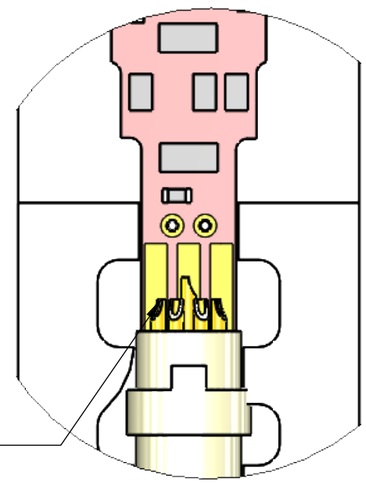
Solder POGO PIN to PCBA at this location (both sides) using lead-free SAC305 solder. Verify no solder gets into pogo by compressing it all the way down.



DETAIL B
SCALE 3 : 1

BOTTOM SIDE SOLDER FIXTURE DETAIL

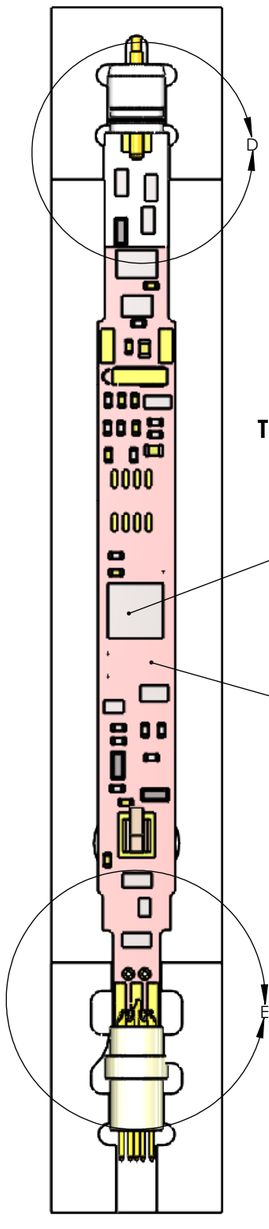
Solder 3 pins to PCBA on bottom side using lead-free SAC305 solder



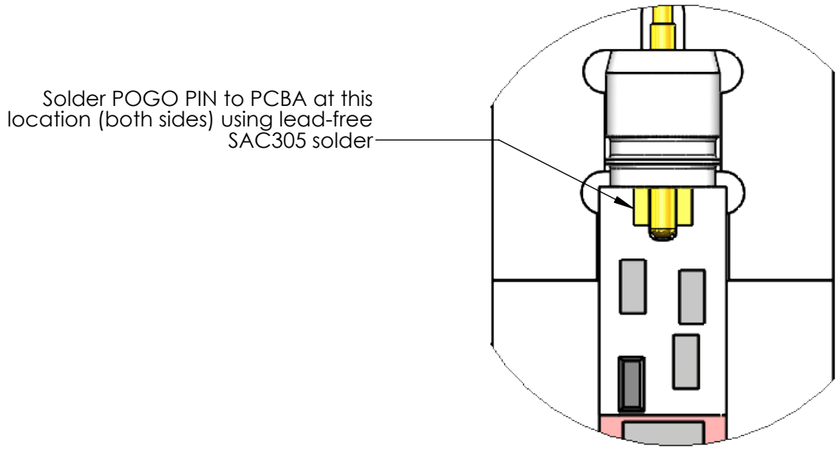
DETAIL C
SCALE 3 : 1

SIZE	NUMBER	REV.
B	PRM2103	C
SCALE 1:1	COPYRIGHT © PCB PIEZOTRONICS, INC.	SHEET 2 OF 7

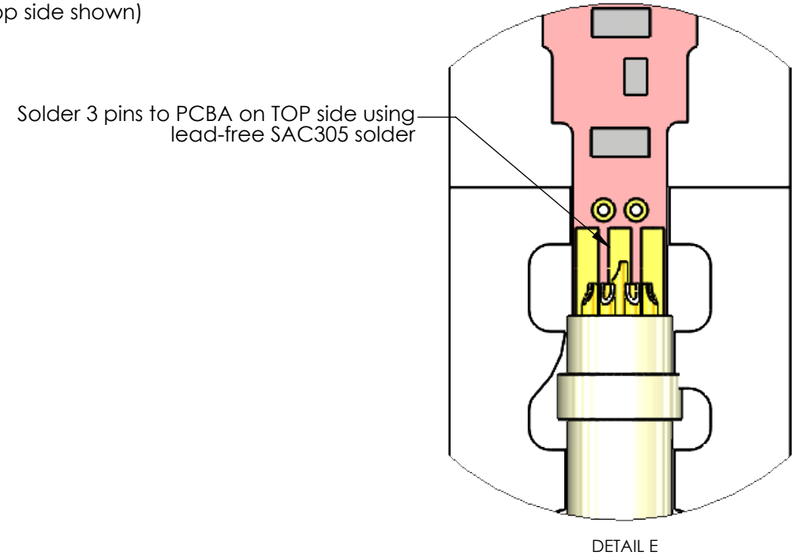
STEP 3 - FLIP OVER PCBA. SOLDER POGO AND 10-PIN CONNECTOR AS SHOWN BELOW



TOP SIDE SOLDER FIXTURE DETAIL

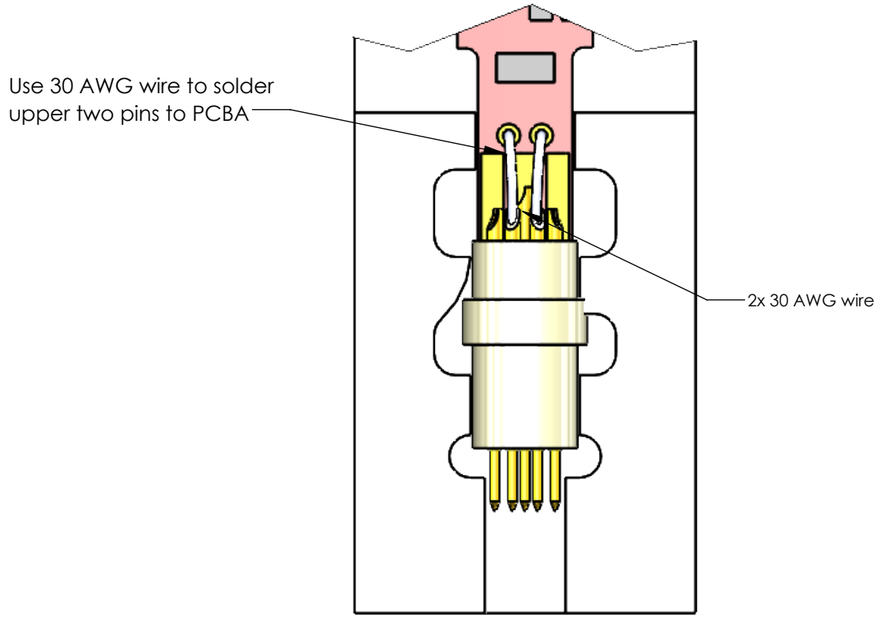


DETAIL D
SCALE 3 : 1



DETAIL E
SCALE 3 : 1

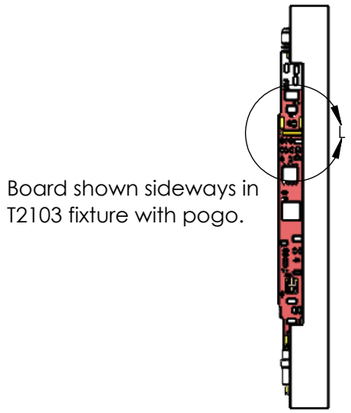
STEP 4 - SOLDER UPPER TWO PINS TO PCBA USING 2 QTY 30 AWG WIRES AS SHOWN BELOW



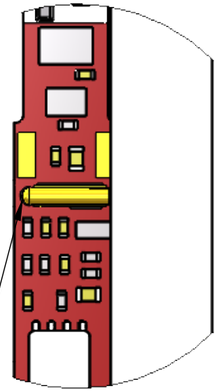
TOP SIDE PIN LOCATION DETAIL

SIZE	NUMBER	REV.
B	PRM2103	C
SCALE 1:1	COPYRIGHT © PCB PIEZOTRONICS, INC.	SHEET 3 OF 7

STEP 5 - PLACE PCB SIDEWAYS INTO T2103.01 FIXTURE AND PLACE POGO INTO FIXTURE HOLE. SOLDER THE GROUNDING POGO WHILE IN THE FIXTURE.

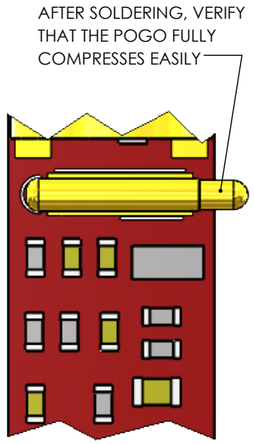


Board shown sideways in T2103 fixture with pogo.



DETAIL L
SCALE 2 : 1

Align TUBE CONTACT POGO with silkscreen on PCBA as shown; edges of POGO must be within ±0.015" of PCBA silkscreen

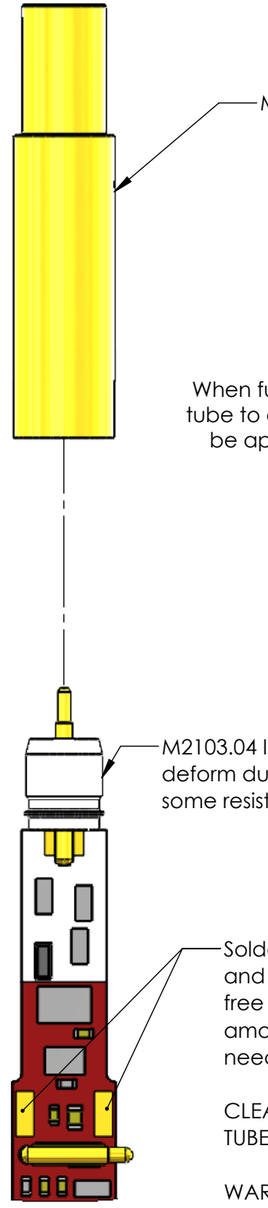


To 10-pin Connector End

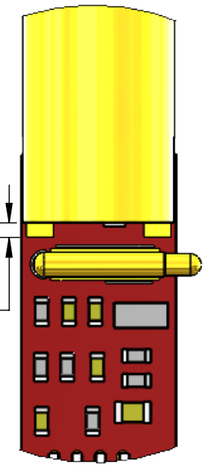
STEP 6 - CLEAN THE BOARD WITH SPRAY ELECTRONICS CLEANER

STEP 7 - PERFORM THE BOARD LEVEL SIGNAL TEST PER SECTION 9.1 IN THE D0001.8362 S2103.01 ASSEMBLY & PRM2103 TEST INSTRUCTION.

STEP 8 - SLIDE THE GUARD TUBE OVER THE INNER INSULATOR WITH THE GROOVES LINED WITH THE PCBA. TUBE WILL "SNAP" INTO PLACE. DO NOT FORCE FARTHER AND DO NOT TRIM THE BOARD. SOLDER INTO PLACE.



DETAIL G
SCALE 2 : 1



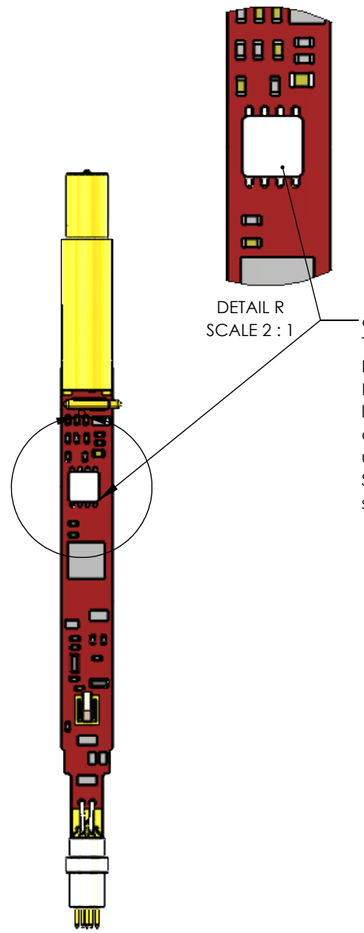
DETAIL M
SCALE 3 : 1

Solder the guard tube on 4 pads (front and back of PCBA) on PCBA using lead-free SAC305 solder; Use only small amount of solder to facilitate removal if needed.

CLEAN SOLDER FLUX OFF OF THE GUARD TUBE.

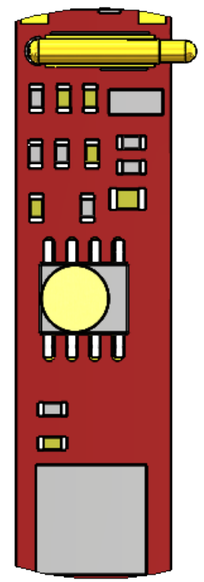
WARNING: DO NO CLEAN WITH GUARD TUBE POINTED DOWN.

STEP 9 - REMOVE THE HUMIDITY AND TEMPERATURE SENSOR COVER AND SOLDER TO THE PCBA (U2).



DETAIL R
SCALE 2 : 1

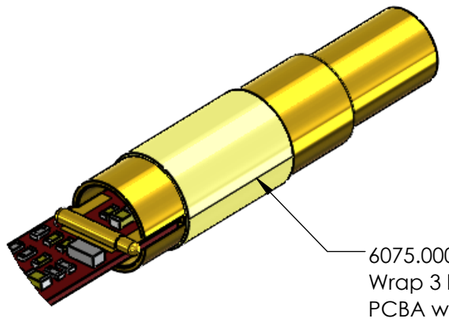
WARNING: DO NOT CLEAN PCB AFTER TEMPERATURE AND HUMIDITY SENSOR INSTALLATION



SENSOR ORIENTATION

SIZE	NUMBER	REV.
B	PRM2103	C

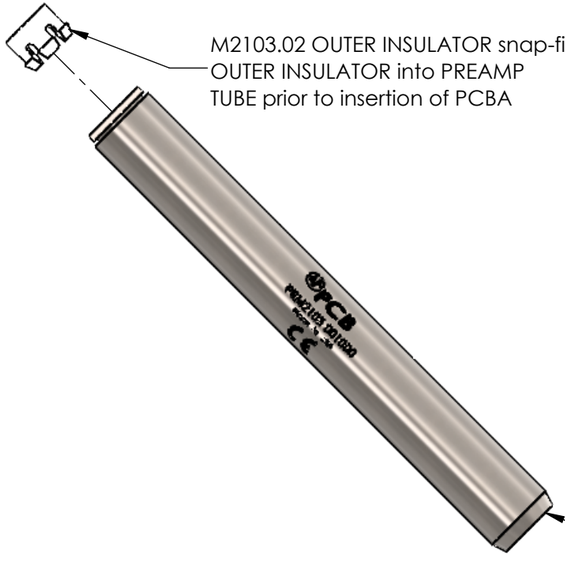
STEP 10 - WRAP THE GUARD TUBE WITH MYLAR TAPE THREE TIMES



6075.0005 MYLAR TAPE
Wrap 3 layers around GUARD TUBE close to PCBA without contacting the board

DETAIL J
SCALE 2 : 1

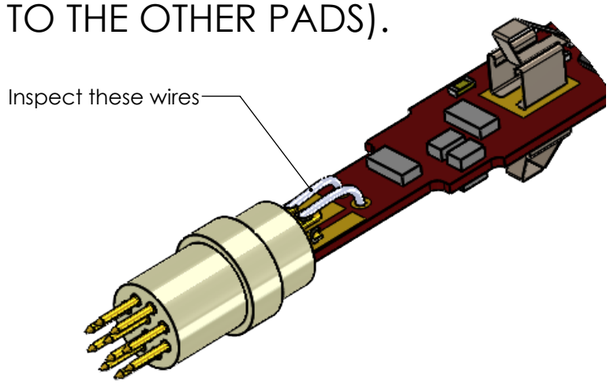
STEP 11 - INSERT THE OUTER INSULATOR INTO THE OUTER PREAMP TUBE. USE T2103.03 TOOL TO STRETCH OUT INSULATOR BY INSERTING TAPERED END FROM BOTTOM SIDE OF THE PREAMP AND PRESSING AGAINST INSULATOR.



M2103.02 OUTER INSULATOR snap-fit OUTER INSULATOR into PREAMP TUBE prior to insertion of PCBA

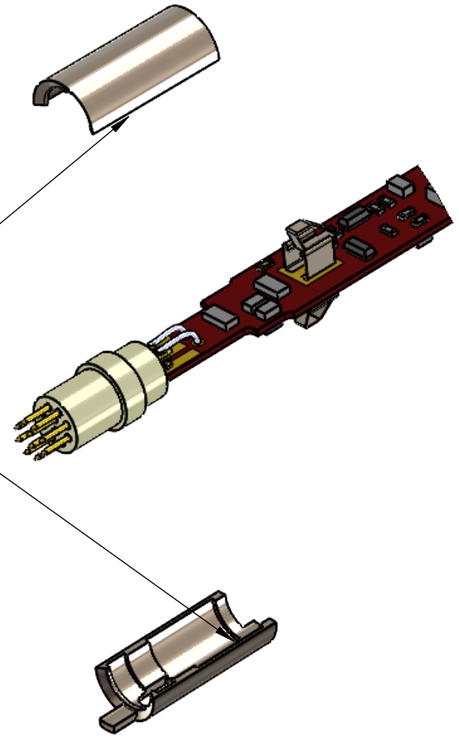
T2103.03 Tapered end should be inserted here.

STEP 12 - INSPECT THE TWO SOLDERED ON WIRES ON THE 10-PIN CONNECTOR AND VERIFY THAT THEY ARE PLACED SUFFICIENTLY ABOVE THE OTHER PADS DIRECTLY ON THE BOARD, AND HAVE NOT BEEN PUSHED DOWN (POTENTIALLY SHORTING TO THE OTHER PADS).



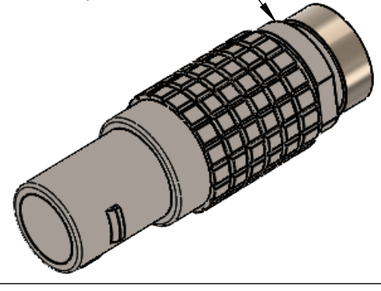
Inspect these wires

STEP 13 - ASSEMBLE THE 10 PIN CONNECTOR



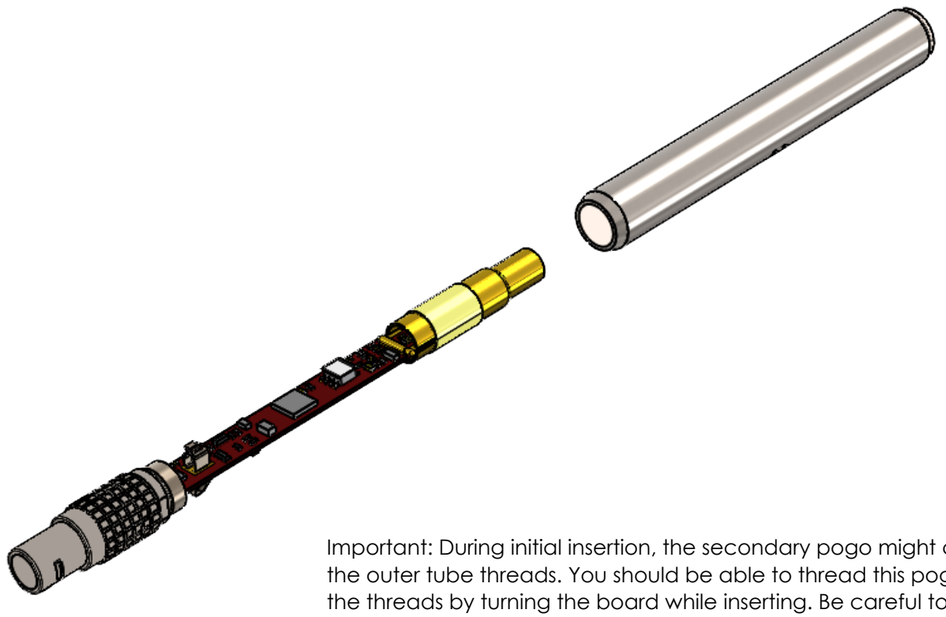
CONNECTOR CLAM SHELLS
guide CONNECTOR CLAM SHELLS onto PIN INSERT;
align keyhole slot with key on PIN INSERT
hold in place to slide assembly into CONNECTOR HOUSING

1170.0045 CONNECTOR HOUSING
rotate CONNECTOR HOUSING about CONNECTOR CLAM SHELLS until CONNECTOR HOUSING locks into position



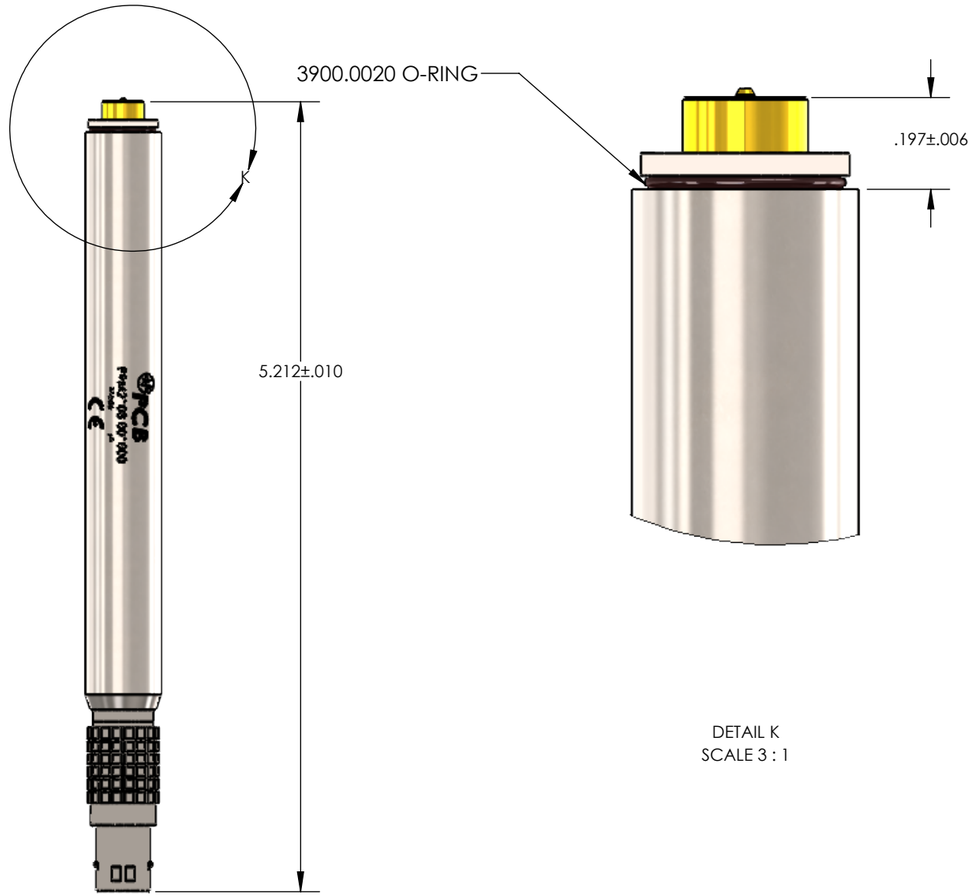
SIZE	NUMBER	REV.
B	PRM2103	C
SCALE 1:1	COPYRIGHT © PCB PIEZOTRONICS, INC.	SHEET 5 OF 7

STEP 14 - GENTLY INSERT THE PCBA AND CONNECTOR INTO THE BOTTOM OF THE OUTER TUBE. THREAD THE 10 PIN HOUSING INTO THE TUBE. TIGHTEN WITH 10 MM WRENCH AND RUBBER COATED SLIP-JAW PLIERS.



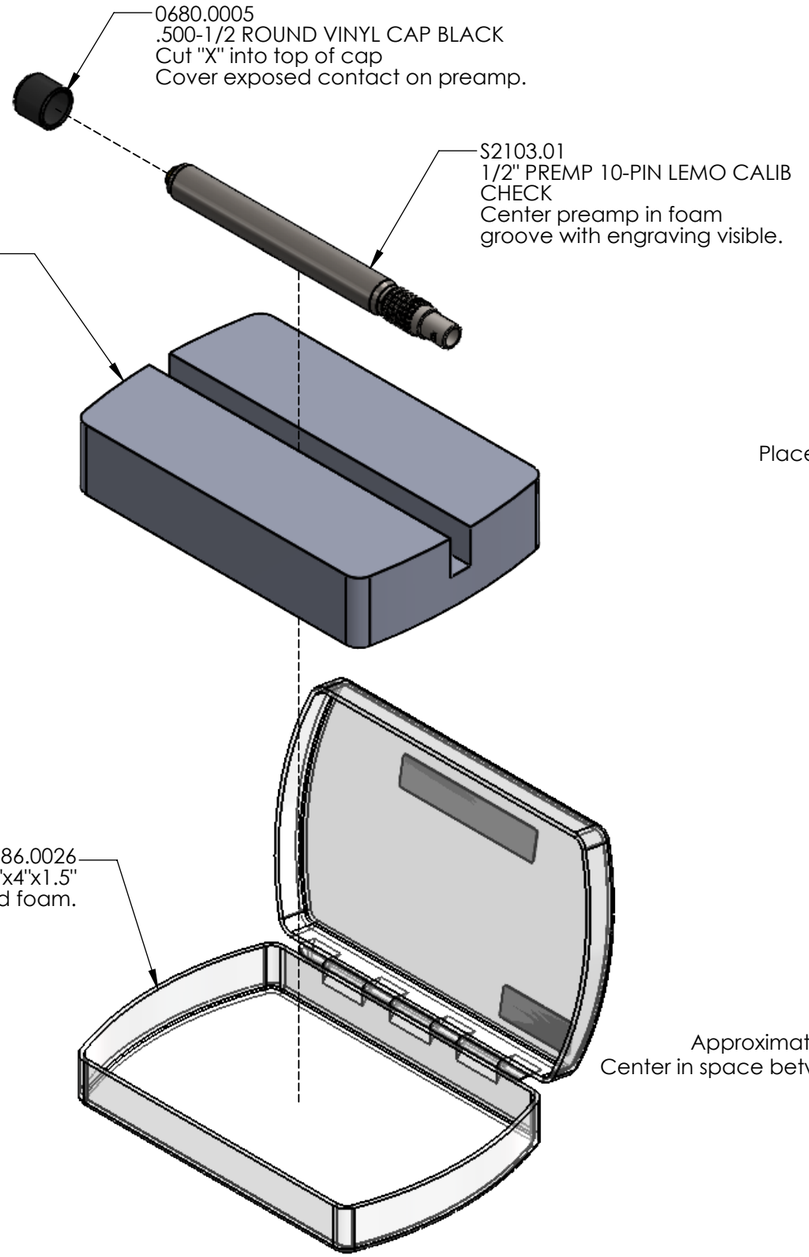
Important: During initial insertion, the secondary pogo might catch on the outer tube threads. You should be able to thread this pogo through the threads by turning the board while inserting. Be careful to also not break the back ground contacts when inserting the board into the outer tube.

STEP 15 - INSTALL THE O-RING ON THE TOP OF THE OUTER PREAMP TUBE IN THE THREAD RELIEF LOCATION. MEASURE THE DIMENSIONS SHOWN ON EACH PREAMP.

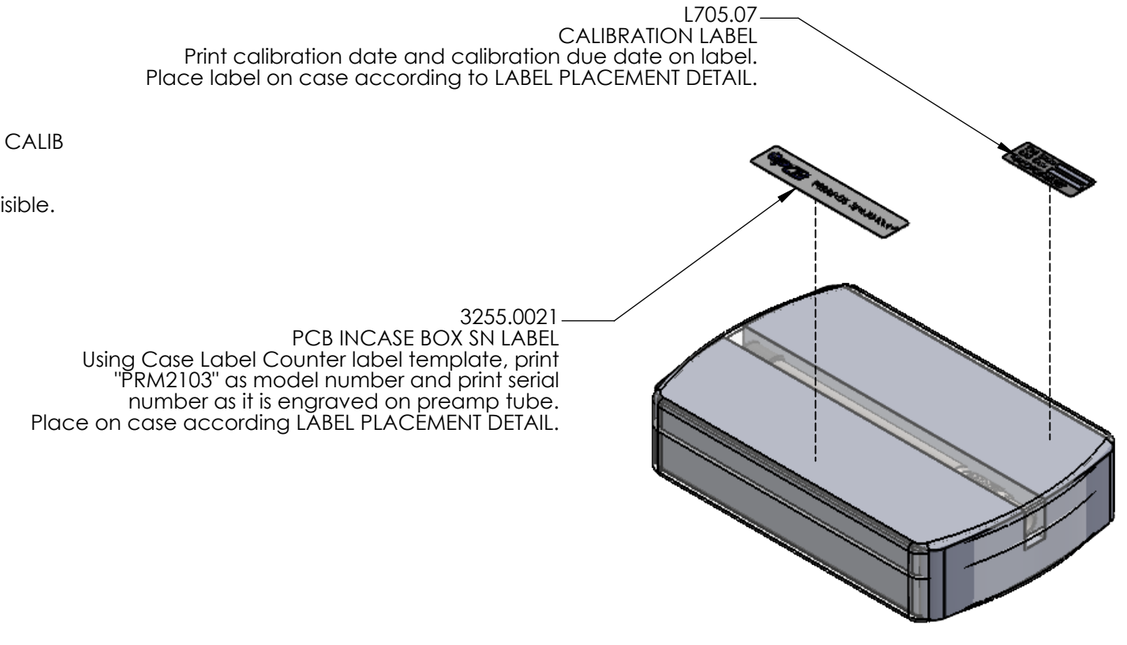


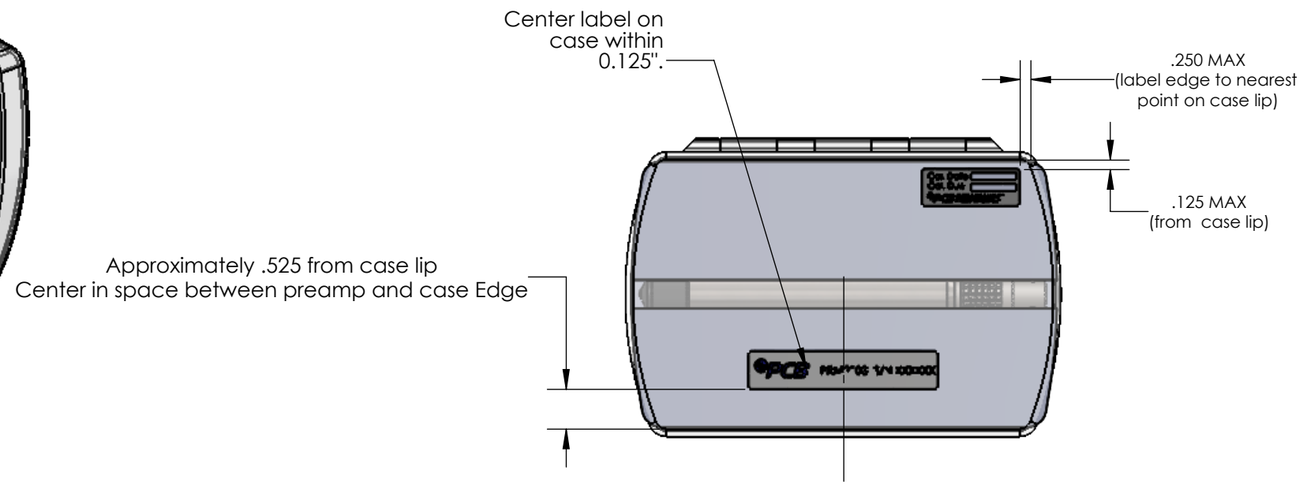
STEP 16 - CONTINUE WITH ELECTRICAL TESTING - SECTION 9.2 IN D0001.8362 PROCEDURE.

FINAL BOXING



Case Assembly





Notes:

1. See BOM as provided by PCB Engineering.
2. All equivalencies must be approved by PCB Engineering.
3. All components and processes must be ROHS compliant.
4. Labels may not appear as shown.

SIZE	NUMBER	REV.
B	PRM2103	C

SCALE 1:1 | | SHEET 7 OF 7