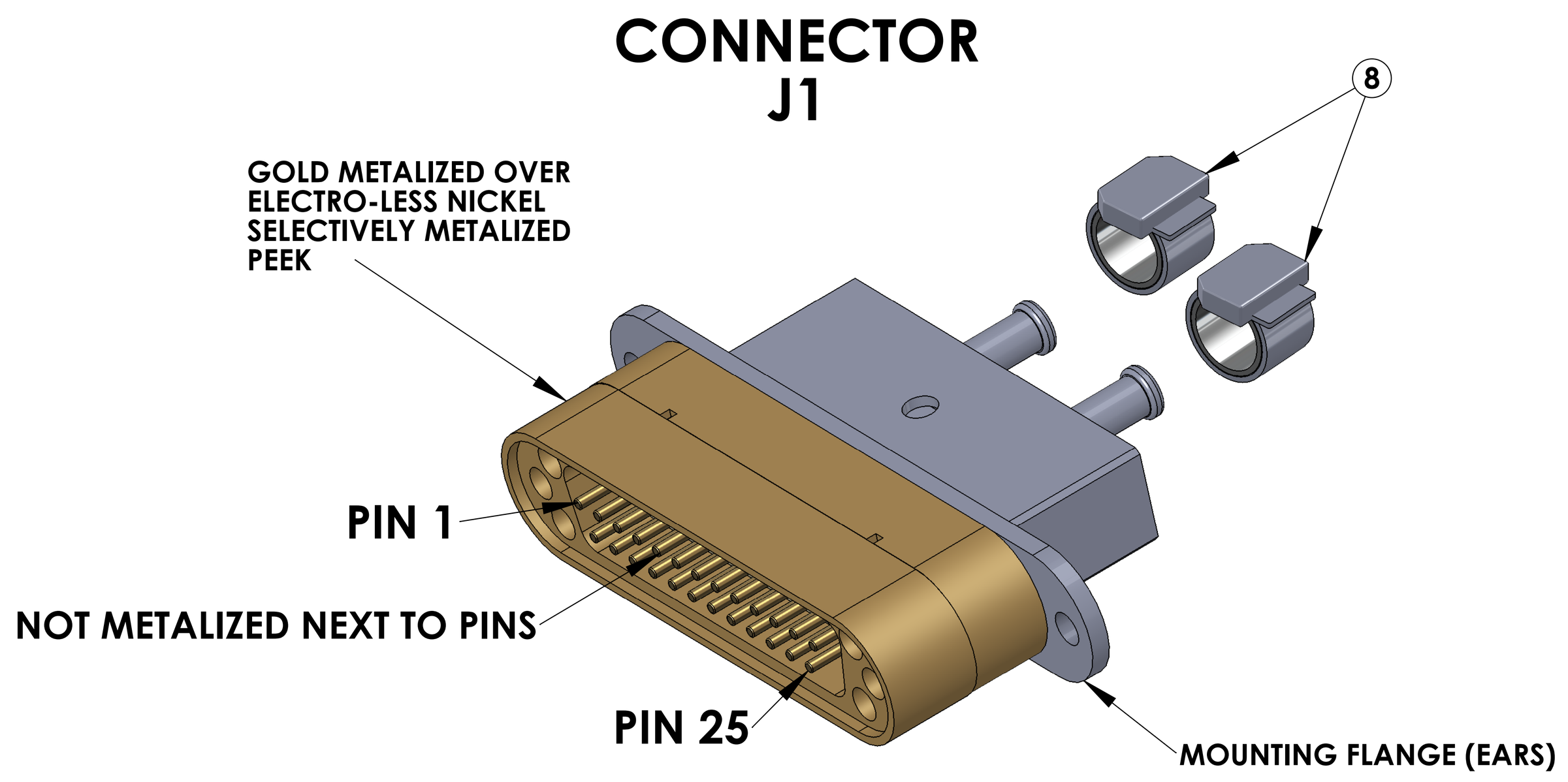
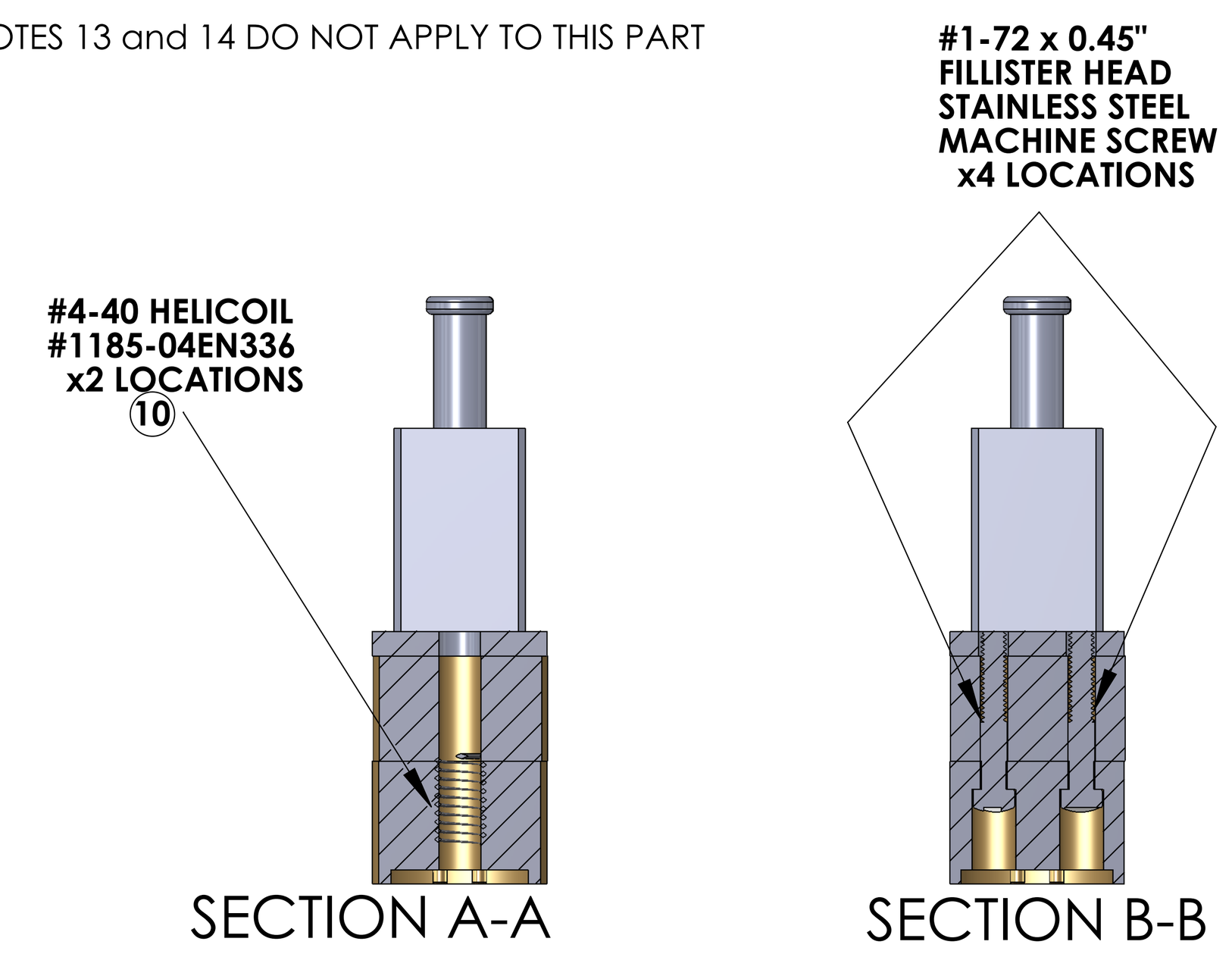
NOTES CONTINUED:

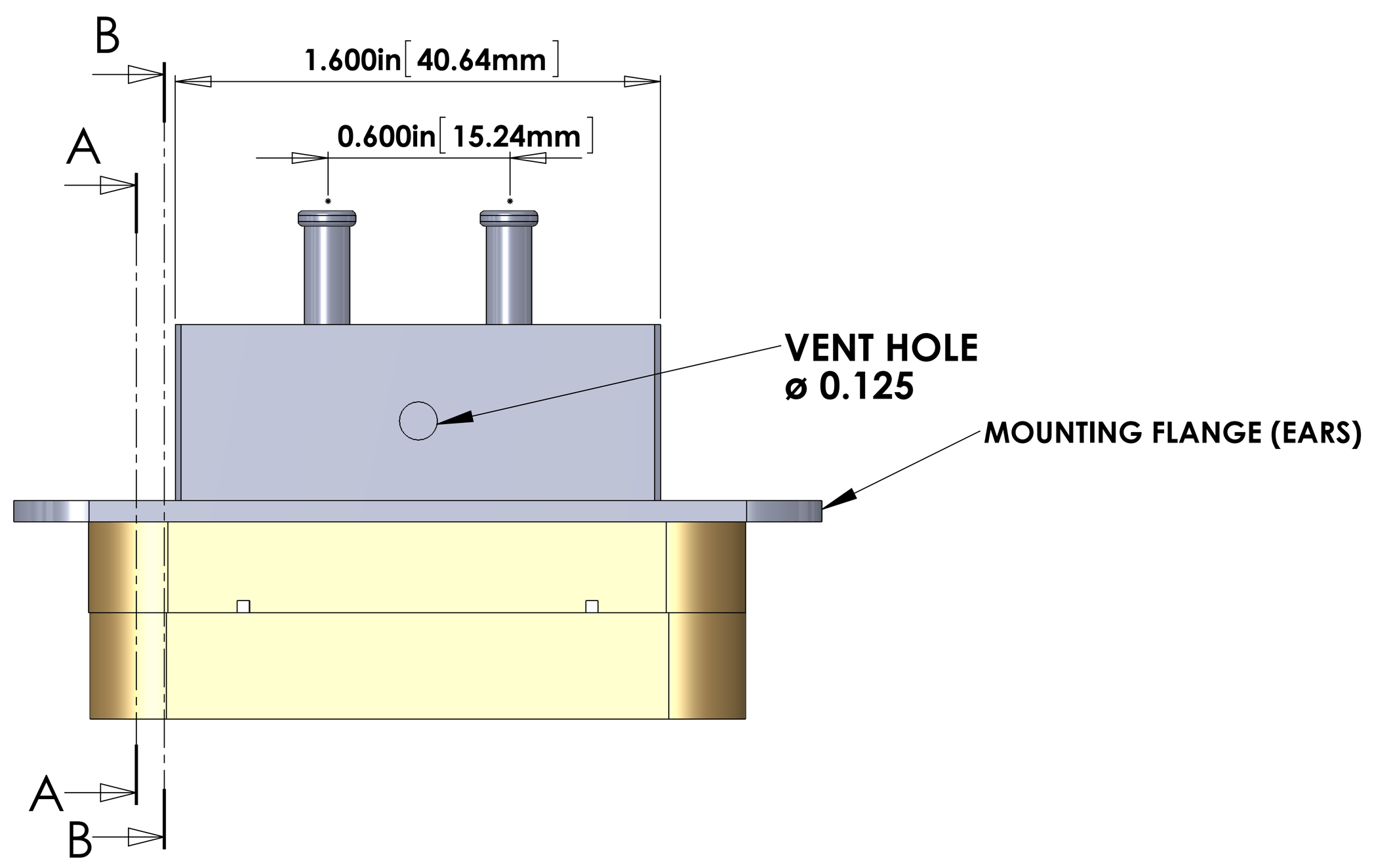
⑤ SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER AND REVISION ON NOTED SURFACE FOLLOWED ON THE NEXT LINE BY A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE .07" HIGH CHARACTERS. EXAMPLE: DXXXXXXX-VY, S/N 001. A VIBRATORY TOOL MAY BE USED.

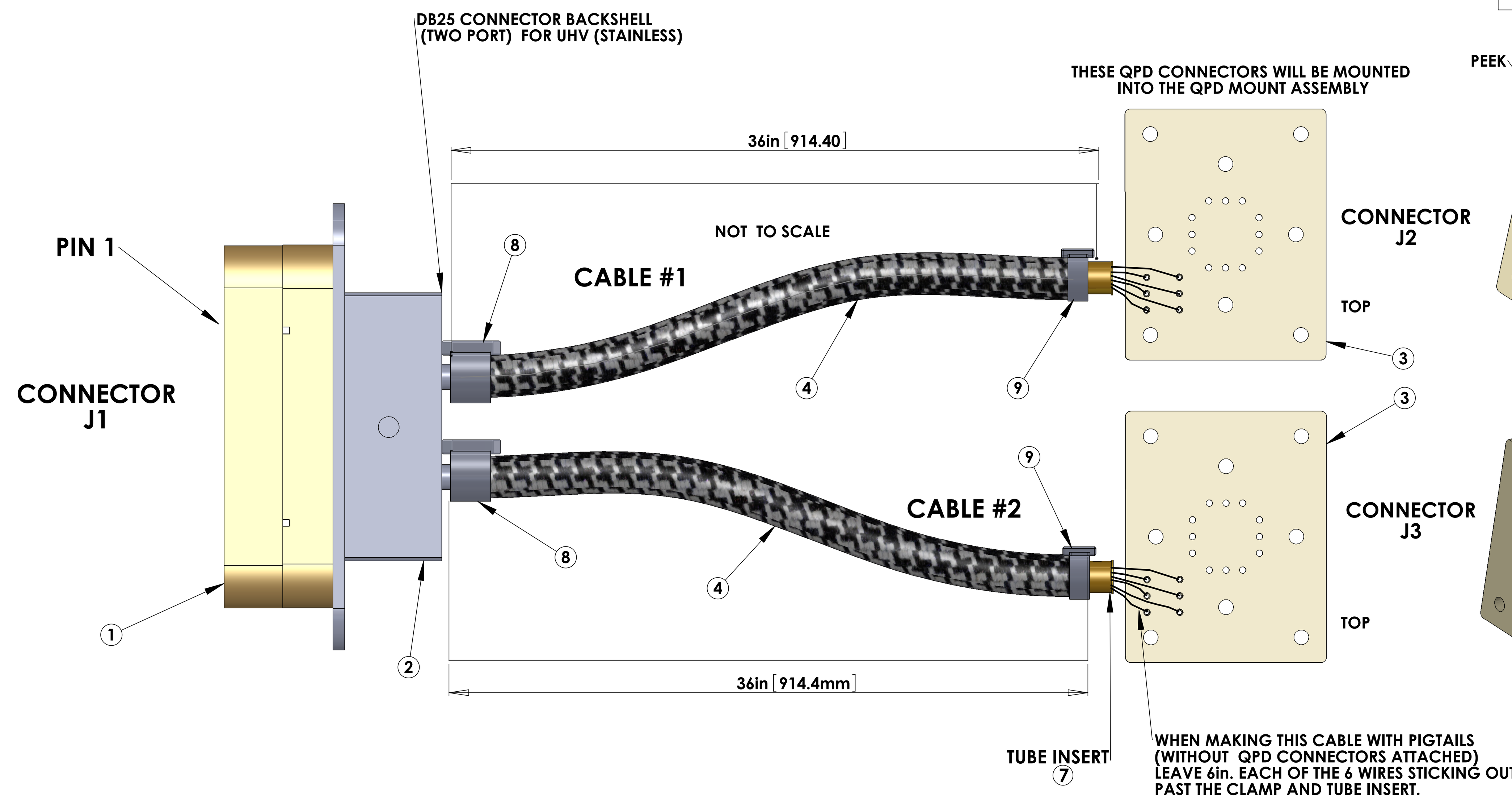
6. APPROXIMATE WEIGHT = X.XXX LB.
7. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH, USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED. REFER TO LIGO-E0900364
8. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.
9. ALL HELI-COIL HOLES TO BE PREPARED ACCORDING TO EMHART HELI-COIL PRODUCT CATALOG, HC2000, REV 4
10. ALL HELI-COIL INSERTS TO BE INSTALLED BY LIGO PERSONNEL, AFTER DELIVERY OF FINISHED PARTS, USE NITRONIC 60 THREADED INSERTS.
11. ALL MATERIAL IS TO BE VIRGIN MATERIAL (i.e. NO WELD REPAIRS, PLUGS OR RECYCLED MATERIAL). NO REPAIRS SHALL BE MADE UNLESS APPROVED IN ADVANCE, AND IN WRITING, BY LIGO LABORATORY. REFER TO LIGO-E0900364.
12. SURFACE FINISH TO BE AS-PROCESSED FROM MILL/SUPPLIER, FREE FROM SCRATCHES OR GOUGES.
13. ~~PART WILL BE PORCELAIN COATED PER LIGO SPECIFICATION E1000083 AFTER FABRICATION. THE INDICATED HOLES WILL BE MASKED PRIOR TO PORCELAIN COATING TO APPROXIMATELY 2.5-3X HOLE DIAMETER CENTERED ON BOTH SIDES OF THE HOLE.~~
14. ~~DIMENSIONS APPLY BEFORE PORCELAIN COATING UNLESS SPECIFIED~~.
15. BEND RADIUS: UNLESS OTHERWISE NOTED, THE BEND RADIUS SHOULD BE THE MINIMUM REQUIRED TO FORM WITHOUT CRACKING OR REQUIRING ADDITIONAL WORK WHEN FORMING. IN PARTICULAR IF SHEET METAL IS TO BE PORCELAIN COATED, THE BEND RADIUS SHALL BE A MINIMUM OF .12" OUTSIDE RADIUS OF BEND UNLESS OTHERWISE NOTED.

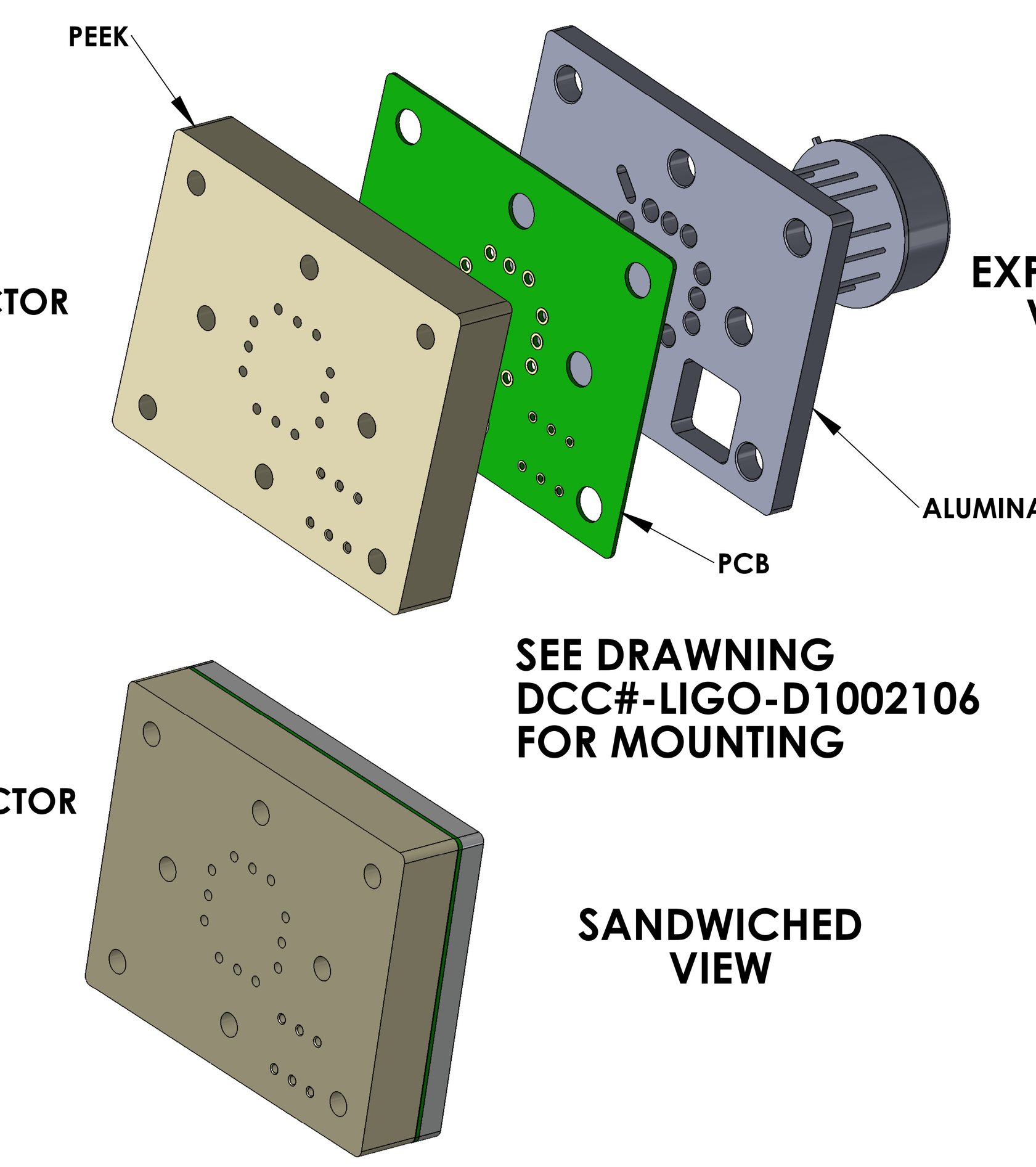
NOTES 13 and 14 DO NOT APPLY TO THIS PART

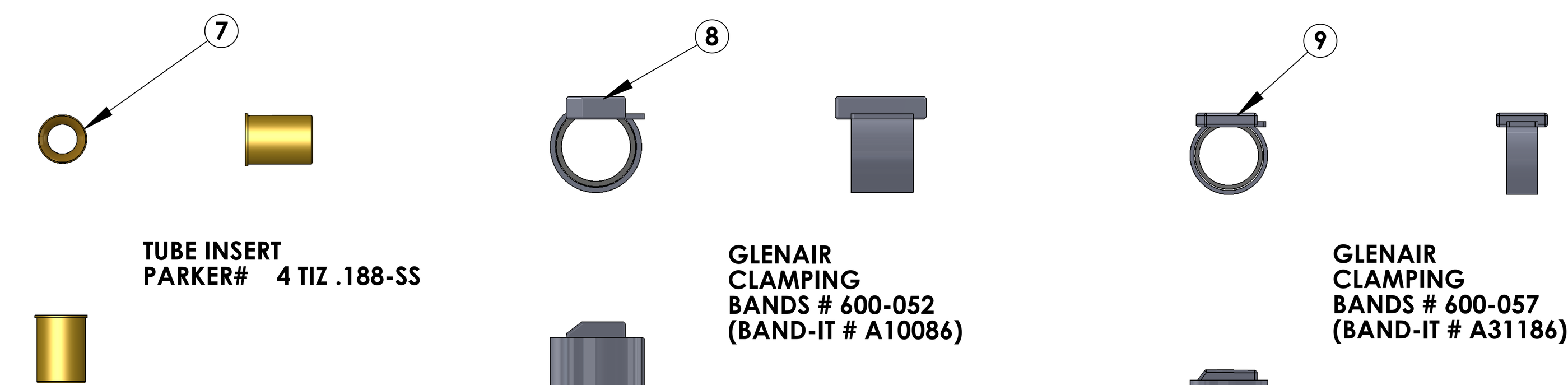


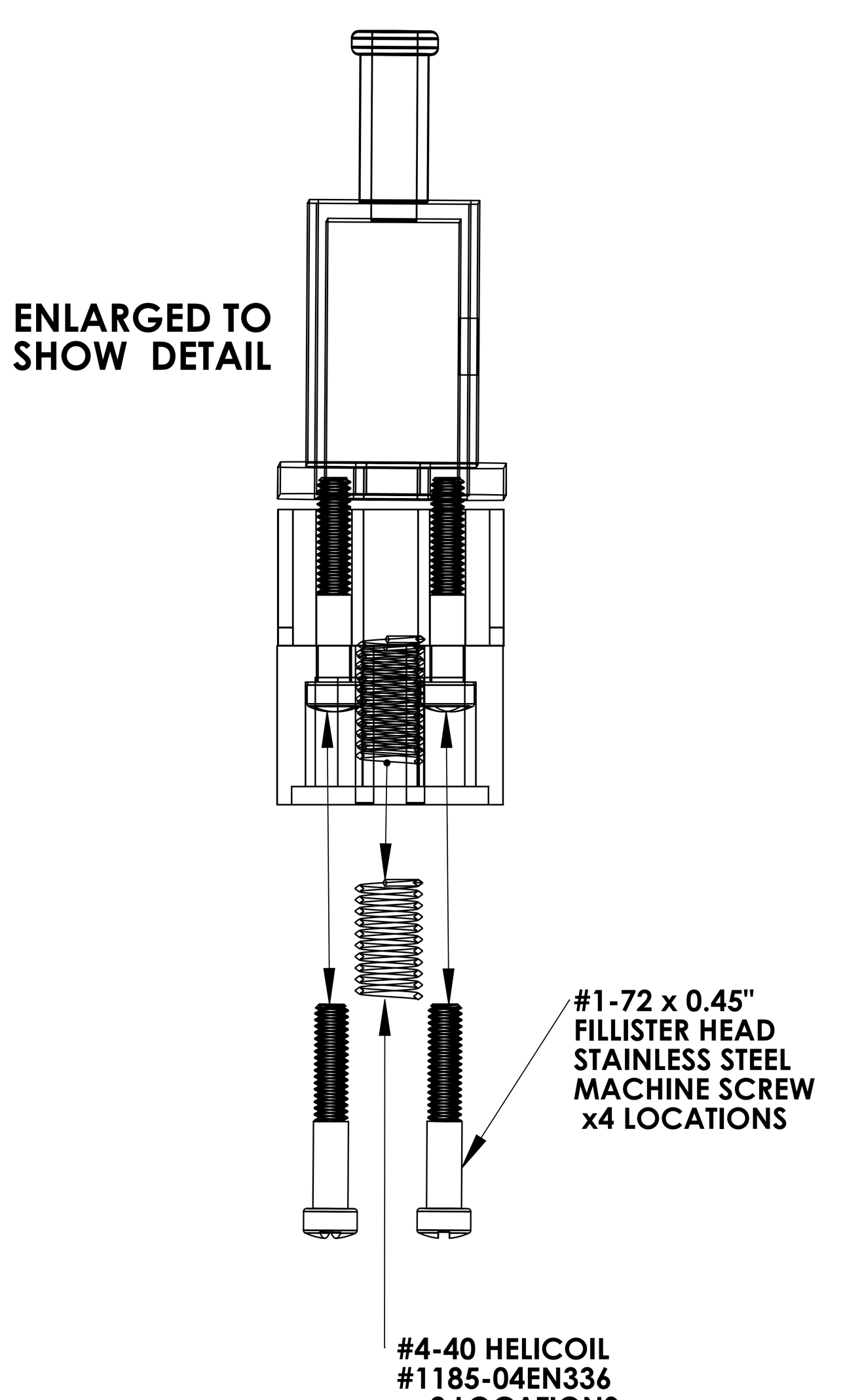


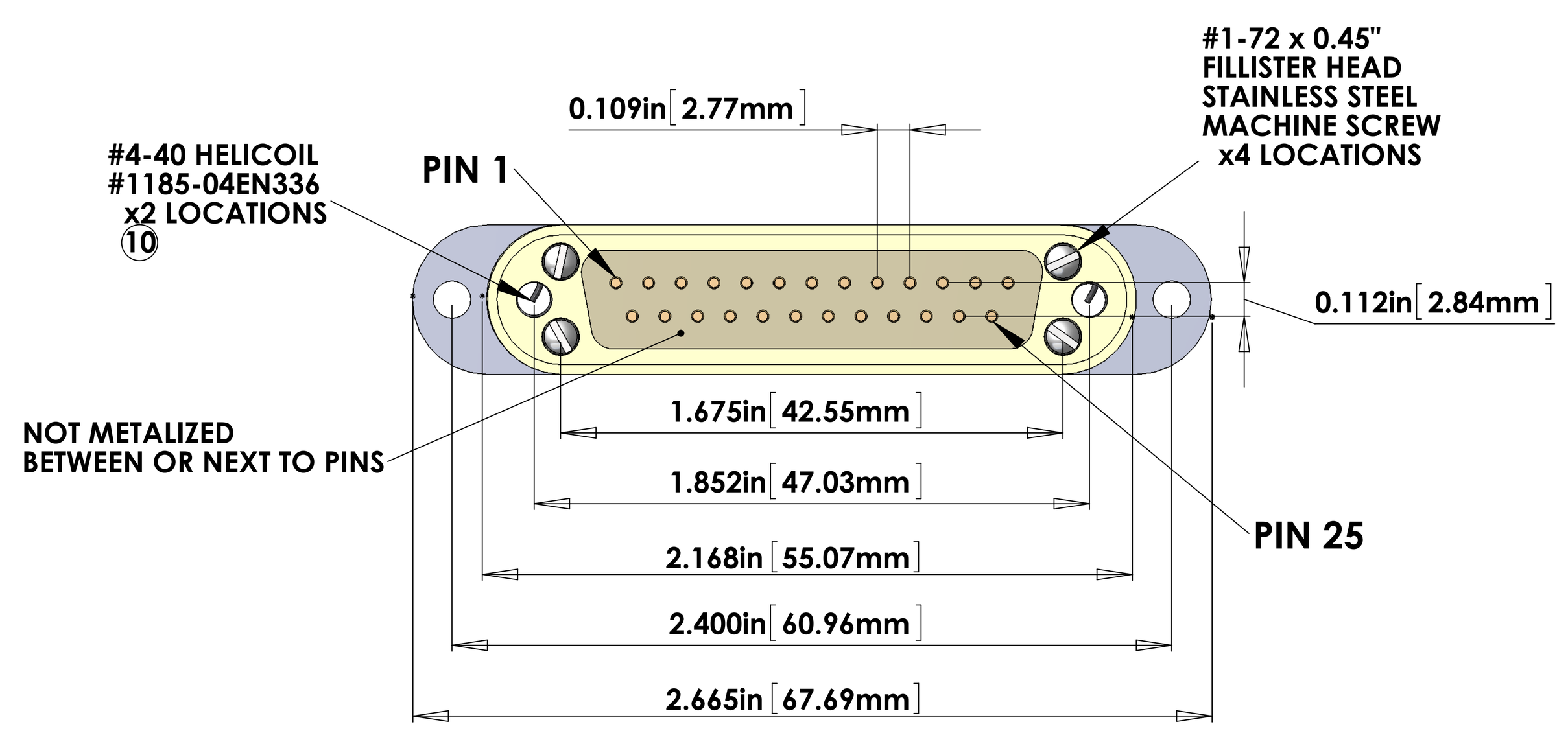


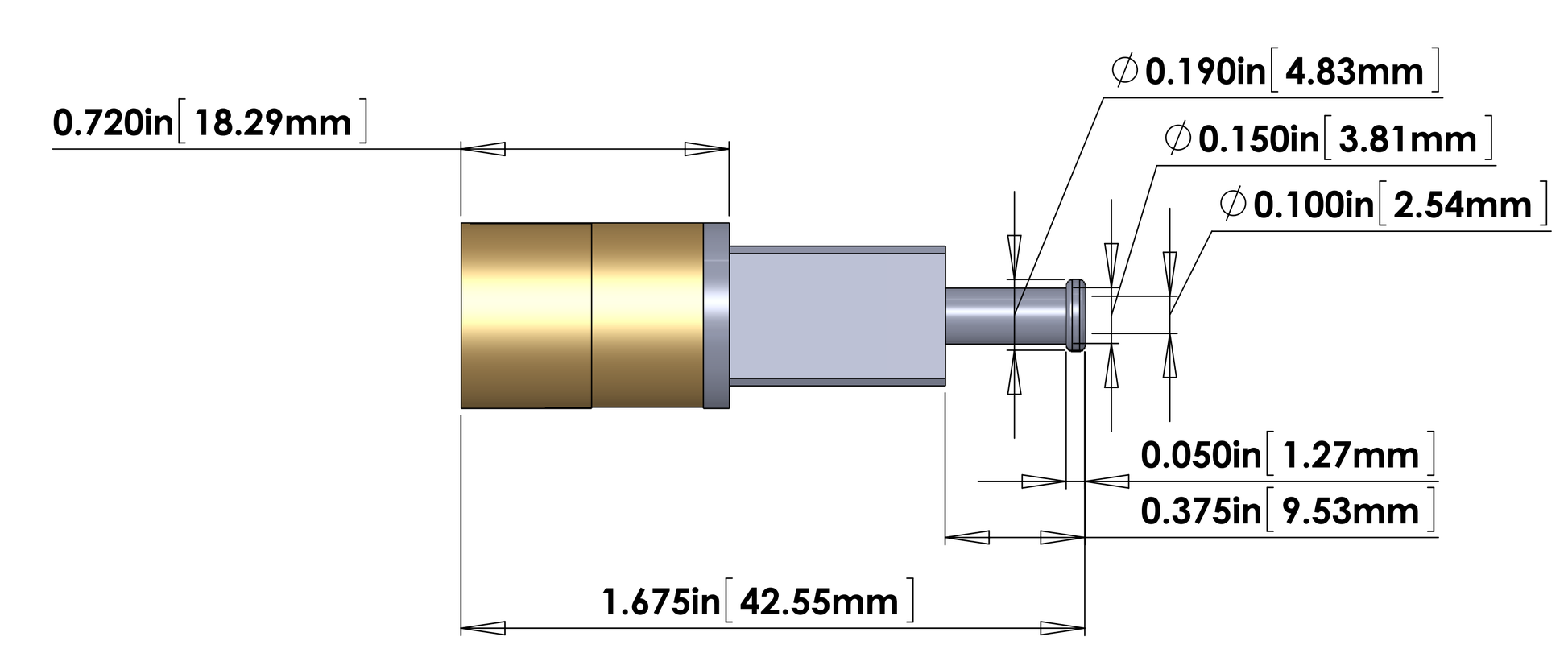


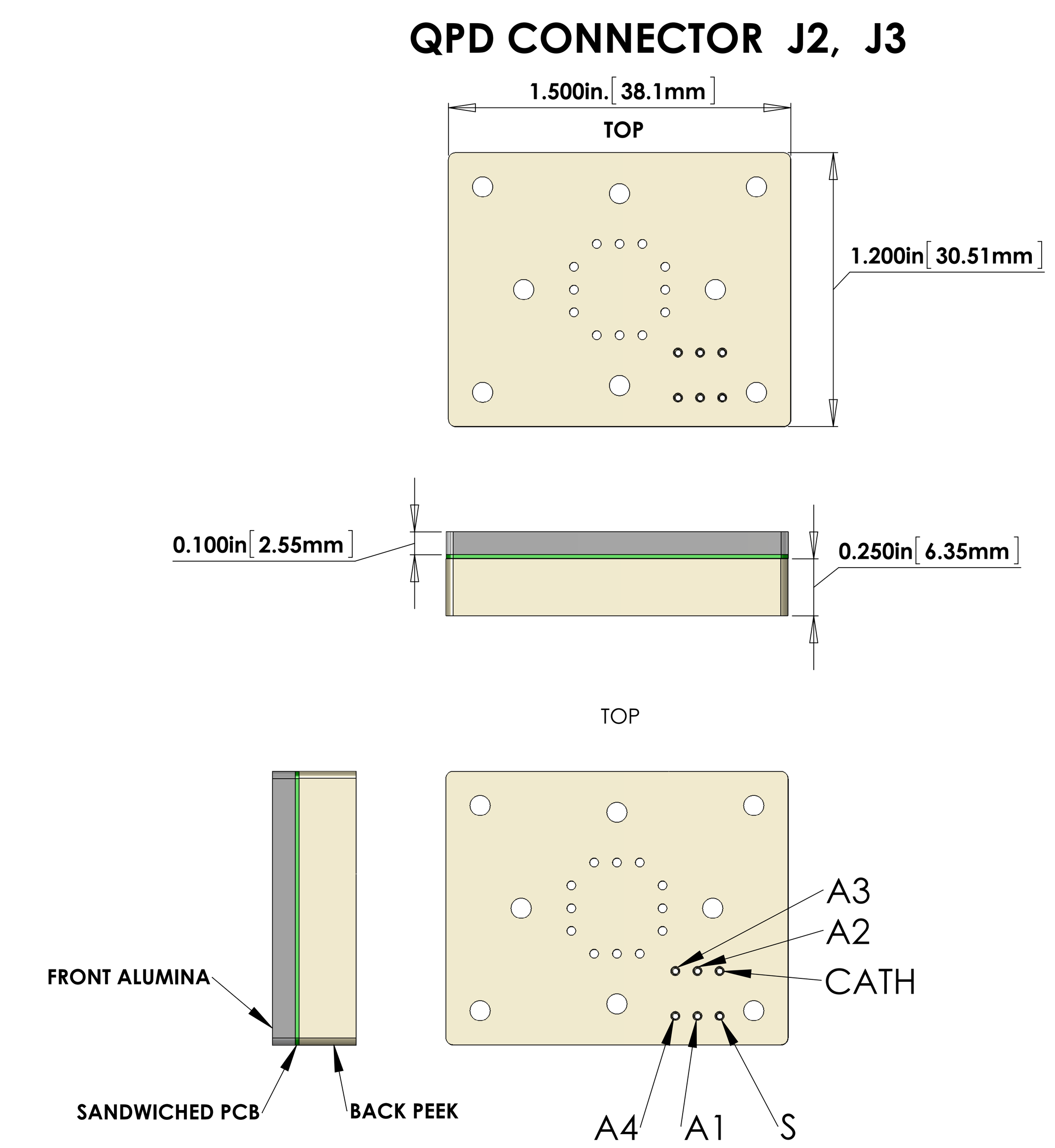


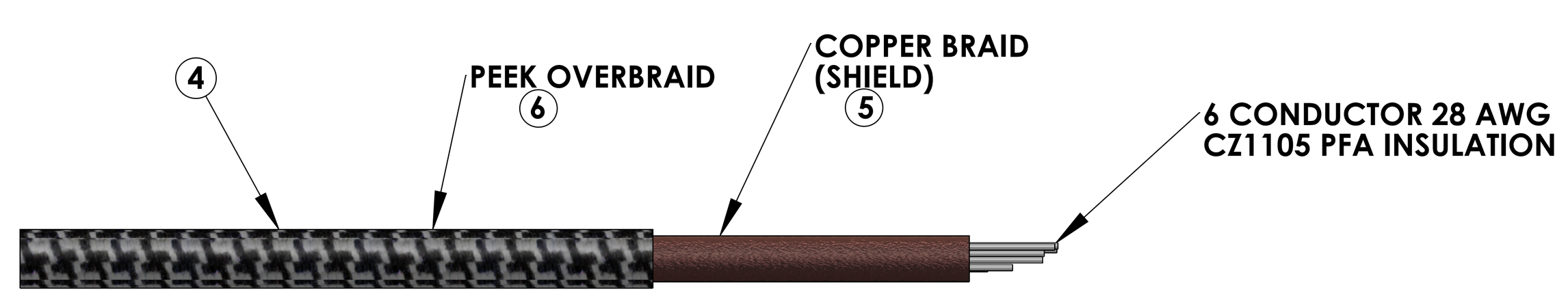












BILL OF MATERIALS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	LENGTH
①	TICOR #TS0149-25CG20BS2-100F (OR EQUIVALENT)	DB25 MALE CONNECTOR (J1) FOR UHV (GOLD METALIZED PEEK)	1	
②		DB25 CONNECTOR BACKSHELL (TWO PORT) FOR UHV (STAINLESS)		
③	LIGO - D1002106 (ITEM 2,6 and 16 or 17)	QPD FEMALE CONNECTOR (J2,J3) FOR UHV (PEEK)	2	
④	C1	6 COND. CABLE WITH ⑥ COPPER BRAID (SHIELD), ⑦ PEEK OVERBRAID AND INCLUDING 28GA. WIRES WITH CZ1105 PFA INSULATION	2	36in. *
⑤	CONTINENTAL PART #24x3x40BC	COPPER BRAID - CONTINENTAL CORDAGE PART # 24x3x40BC	2	
⑥	PEEK BRAID PART #6759	PART #6759 MANUFACTURED WITH ZEUS 0.016" BLACK PEEK DRAWN MONOFILAMENT	2	
⑦	PARKER # 4 TIZ .188-SS	1/4" TUBE INSERT 1/4" LENGTH 0.188" o.d.	2	
⑧	GLENAIR # 600-052 or BAND-IT # A10086	GLENAIR # 600-052 STANDARD BRAID CLAMP or BAND-IT PART # A10086 (0.240" WIDE) ("BAG OF 100" # A10089)	2	
⑨	GLENAIR # 600-057 or BAND-IT # A31186	GLENAIR # 600-057 STANDARD BRAID CLAMP or BAND-IT PART # A31186 (0.120" WIDE) ("BAG OF 100" # A31189)	2	
⑩	HELICOIL #1185-04EN336	#4-40 Nitronic 60® HELICOIL 0.336" LENGTH	2	

* NOTE: USE WHATEVER LENGTH IS NECESSARY FOR THE INTERNAL WIRING OF THE CONNECTORS AND STRIP LENGTH TO ACHIEVE THE CORRECT OVERALL LENGTHS.

ELECTRICAL NOTES: (UNLESS OTHERWISE SPECIFIED)

A. MATERIAL:
a. J1 CONNECTOR SHELL - GOLD OVER ELECTRO-LESS NICKEL SELECTIVELY METALIZED PEEK VICTREX 450GL30.
b. J2, J3 CONNECTOR SHELL - PEEK VICTREX 450GL30.
c. BACKSHELL - STAINLESS STEEL WITH VENT HOLE.
d. CONTACTS - BERYLLIUM COPPER ALLOY C17300 0.000050 MIN. GOLD OVER NICKEL.
e. HARDWARE: STAINLESS STEEL, PASSIVATED.
f. PEEK BRAID - PEEK VICTREX GRADE TDS-450CA30 CARBON LOADED - SUPPLIED BY LIGO.

B. CABLE 6 COND. 28 AWG, (40 STRD 44 AWG) WITH CZ1105 PFA INSULATION.
OVERALL 40AWG COPPER BRAID 90% COVERAGE - SUPPLIED BY LIGO.
OVERALL PEEK BRAID MIN. 50% COVERAGE - SUPPLIED BY LIGO.
OVERALL CABLE O.D. WILL BE APPROX. 0.240 IN.

C. CONNECTORS WILL BE SUPPLIED WITH HARDWARE.

V25T CABLE ASSEMBLY CIRCUIT SUMMARY
V-DB25 M/S1-36,36-2_QPD

FROM					TO			
CONNECTOR J1 - 25 PIN SUBMINI_D MALE CONNECTOR SELECTIVELY METALIZED (PEEK)					CONNECTOR J2 - QPD FEMALE CONNECTOR (PEEK)			PCB CONNECTION
PIN	WIRE NAME	COLOR	LENGTH	TWISTED PAIR	PIN	WIRE NAME	SIGNAL	
1,SHELL	SHIELD (BRAID)		36in.		CONNECTED ONLY TO BRAID CLAMP	SHIELD (BRAID)	SHIELD	N/C
13	(CABLE 1) WIRE 13	White	*	TP-1	A4	(CABLE 1) WIRE 13	QPD 1 ANODE 4	A4
25	(CABLE 1) WIRE 25	White	*		A3	(CABLE 1) WIRE 25	QPD 1 ANODE 3	A3
12	(CABLE 1) WIRE 12	White	*	TP-2	A2	(CABLE 1) WIRE 12	QPD 1 ANODE 2	A2
24	(CABLE 1) WIRE 24	White	*		A1	(CABLE 1) WIRE 24	QPD 1 ANODE 1	A1
11	(CABLE 1) WIRE 11	White	*	TP-3	S	(CABLE 1) WIRE 11	QPD 1 SENSE	S
23	(CABLE 1) WIRE 23	White	*		CAT	(CABLE 1) WIRE 23	QPD 1 CATHODE	CAT
					CONNECTOR J3 - QPD FEMALE CONNECTOR (PEEK)			PCB CONNECTION
					PIN	WIRE NAME	SIGNAL	
1,SHELL	SHIELD (BRAID)		36in.		CONNECTED ONLY TO BRAID CLAMP	SHIELD (BRAID)	SHIELD	N/C
10	(CABLE 2) WIRE 10	White	*	TP-4	A4	(CABLE 2) WIRE 10	QPD 2 ANODE 4	A4
22	(CABLE 2) WIRE 22	White	*		A3	(CABLE 2) WIRE 22	QPD 2 ANODE 3	A3
9	(CABLE 2) WIRE 9	White	*	TP-5	A2	(CABLE 2) WIRE 9	QPD 2 ANODE 2	A2
21	(CABLE 2) WIRE 21	White	*		A1	(CABLE 2) WIRE 21	QPD 2 ANODE 1	A1
8	(CABLE 2) WIRE 8	White	*	TP-6	S	(CABLE 2) WIRE 8	QPD 2 SENSE	S
20	(CABLE 2) WIRE 20	White	*		CAT	(CABLE 2) WIRE 20	QPD 2 CATHODE	CAT
PIN 14,2,15,3,16,4,17,5,18,6,19,7 N/C (NOT CONNECTED)								
* USE WHATEVER LENGTH IS NECESSARY FOR THE INTERNAL WIRING OF THE CONNECTORS AND STRIP LENGTH TO ACHIEVE THE CORRECT OVERALL LENGTHS. : INCLUDE NOM. 36in. LENGTH + STRIP LENGTH + INTERNAL SERVICE LOOPS + 6in. FOR PIGTAILS.								

TEST LIST

FROM	TO
J1	**J2**
PIN	PIN
J1 - 1,SHELL	NOT CONNECTED
J1 - 13	J2 - A4
J1 - 25	J2 - A3
J1 - 12	J2 - A2
J1 - 24	J2 - A1
J1 - 11	J2 - S
J1 - 23	J2 - CAT
J1	**J3**
PIN	PIN
J1 - 1,SHELL	NOT CONNECTED
J1 - 10	J3 - A4
J1 - 22	J3 - A3
J1 - 9	J3 - A2
J1 - 21	J3 - A1
J1 - 8	J3 - S
J1 - 20	J3 - CAT

V-DB25 M/S1-36,36-2_QPD
STANDARD USE FOR THIS CABLE

SUBSYSTEM	AIR/VAC	STANDARD USE
ISC	IN-VAC	QPD'S FOR TRANSMON

REV.	DATE	DCN #	DRAWING TREE #

DIMENSIONS ARE IN TOLERANCES: .XX ± .XXX ± ANGULAR ± °	NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED) 1. INTERPRET DRAWING PER ASME Y14.5-1994. 2. REMOVE ALL SHARP EDGES, .005-.015. FOR MACHINED PARTS. ROUND ALL EDGES APPROXIMATLEY R.02 FOR SHEET METAL PARTS. 3. DO NOT SCALE FROM DRAWING. 4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE. MATERIAL: Material <not specified> FINISH: µinch	LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY SYSTEM SUB-SYSTEM: ISC NEXT ASSY

PART NAME	CUSTOM CABLE SPECIFICATION V25T-36		
DESIGNER	R. ABBOTT	JUN/06/2012	SIZE: E
DRAFTER	E. BROWN	JUN/06/2012	DWG. NO.: D1000231
CHECKER			REV.: v6
APPROVAL			SCALE: 2:1 PROJECTION: SHEET 1 OF 1

D1000231-v6 cable V25T-36, PART PDM REV: , DRAWING PDM REV: X-000