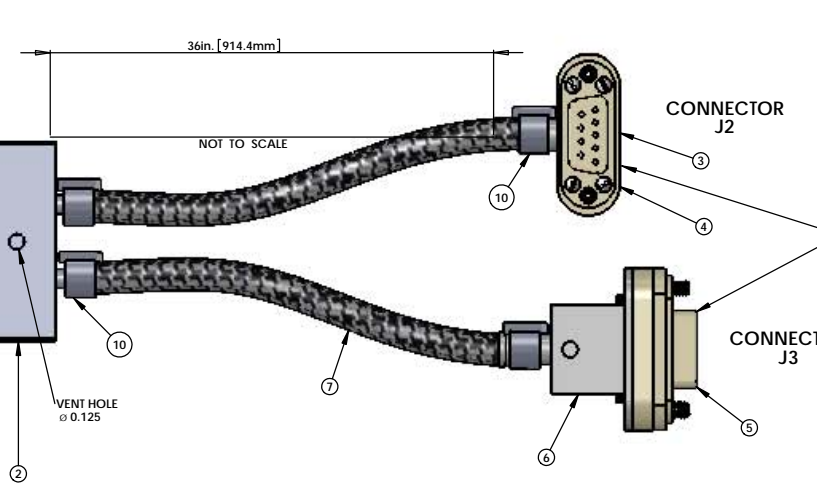
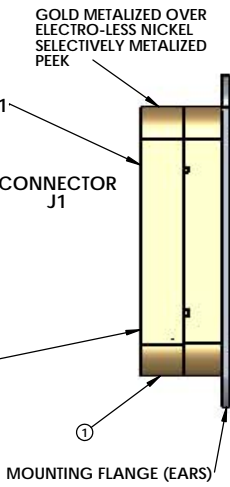
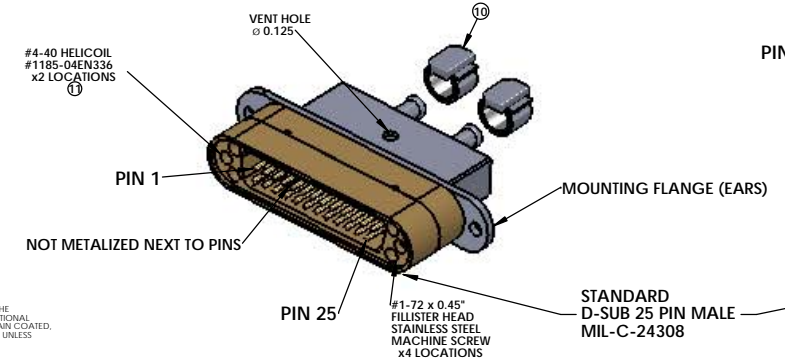


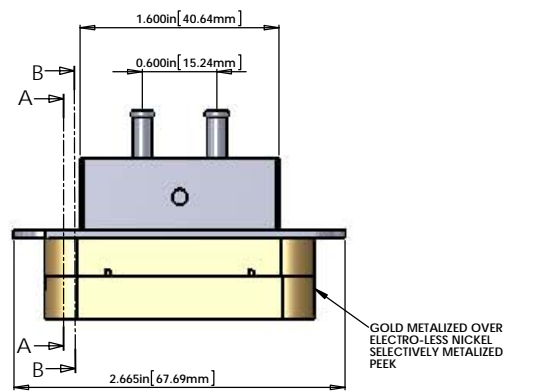
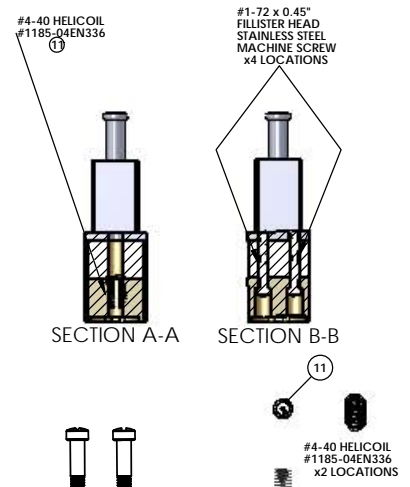
REV.	DATE	DCN #	DRAWING TREE #

- NOTES CONTINUED:**
- 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 PART AND PROCEED CONSECUTIVELY. USE 07 HIGH CHARACTERS. EXAMPLE: DXXXXX.VV.5N.001
  - APPROXIMATE WEIGHT - X.XXX LB.
  - MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH. USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED. REFER TO LIGO E0900364.
  - ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364.
  - ALL HELICOIL HOLES TO BE PREPARED ACCORDING TO EMMART HELICOIL PRODUCT CATALOG HC-0000, REV. 4.
  - ALL HELICOIL INSERTS TO BE INSTALLED BY LIGO PERSONNEL AFTER DELIVERY OF FINISHED PARTS. USE NITRONIC 60 THREADED INSERTS.
  - ALL MATERIAL IS TO BE VIRGIN MATERIAL (i.e. NO WELD REPAIRS, FLODS OR RECYCLED MATERIAL). NO REPAIRS SHALL BE MADE UNLESS APPROVED IN ADVANCE, AND IN WRITING, BY LIGO LABORATORY. REFER TO LIGO E0900364.
  - SURFACE FINISH TO BE AS PROCESSED FROM MILL/SUPPLIER, FREE FROM SCRATCHES OR GOUGES.
  - FINISH SHALL BE PORCELAIN COATED PER LIGO SPECIFICATION #100003 AFTER FABRICATION. THE COATING SHALL BE MASKED PRIOR TO PORCELAIN COATING. APPROXIMATELY 22-24 MIL DIAMETER GROUND ON BOTH SIDES OF THE HOLE.
  - BEND RADIUS, UNLESS OTHERWISE NOTED, THE BEND RADIUS SHOULD BE THE MINIMUM REQUIRED TO FORM WITHOUT CRACKING OR REWORKING. ADDITIONAL WORK WHEN FORMING, IN PARTICULAR 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

**CONNECTOR J1**



NON-METALIZED (PLAIN) PEEK



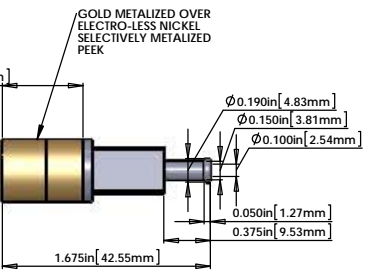
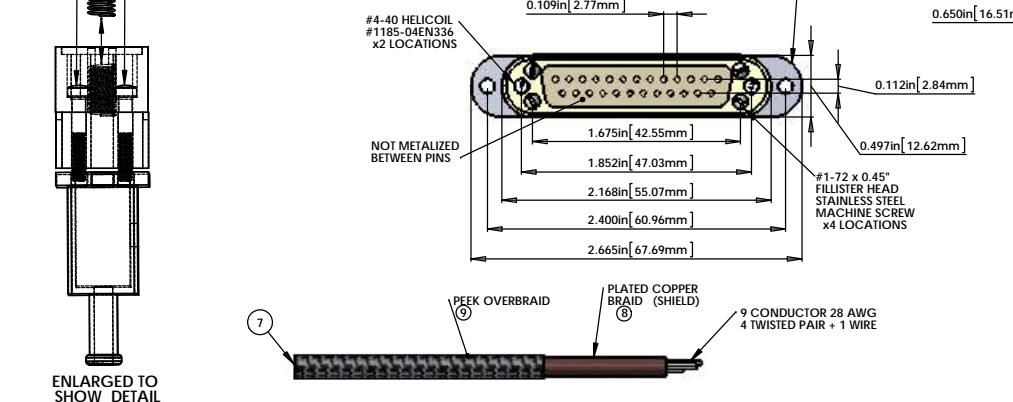
GLENAIR CLAMPING BANDS # 600-052 (BAND-IT # A10086)

**V25M CABLE ASSEMBLY CIRCUIT SUMMARY**  
V-DB25 M/S1,9-36-DB9 F/S5,DB9 F/S5 RA

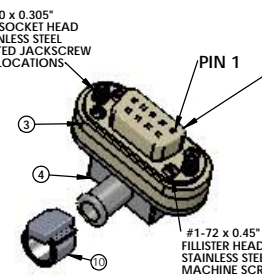
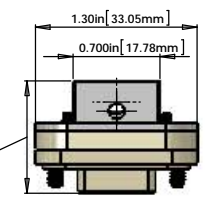
FROM					TO		
CONNECTOR J1 - 25 PIN SUBMINI D MALE CONNECTOR (GOLD METALIZED PEEK)					CONNECTOR J2 - 9 PIN SUBMINI D RIGHT ANGLE FEMALE CONNECTOR (PEEK)		
PIN	WIRE NAME	COLOR	LENGTH	TWISTED PAIR	PIN	WIRE NAME	SIGNAL
1,9 SHELL	SHIELD (BRAID)		36in		5, SHELL	SHIELD (BRAID)	SHIELD
1,9 SHELL	(CABLE 1) WIRE 1	White	36in		5, SHELL	(CABLE 1) WIRE 2	SHIELD
2	(CABLE 1) WIRE 2	White	36in	TP-1	4	(CABLE 1) WIRE 2	POWER -
14	(CABLE 1) WIRE 14	White	36in	TP-1	9	(CABLE 1) WIRE 14	POWER - RTN
3	(CABLE 1) WIRE 3	White	36in	TP-2	3	(CABLE 1) WIRE 3	POWER +
15	(CABLE 1) WIRE 15	White	36in	TP-2	8	(CABLE 1) WIRE 15	POWER + RTN
4	(CABLE 1) WIRE 4	White	36in	TP-3	2	(CABLE 1) WIRE 4	LOCK +
16	(CABLE 1) WIRE 16	White	36in	TP-3	7	(CABLE 1) WIRE 16	LOCK -
5	(CABLE 1) WIRE 5	White	36in	TP-4	1	(CABLE 1) WIRE 5	SIG +
17	(CABLE 1) WIRE 17	White	36in	TP-4	6	(CABLE 1) WIRE 17	SIG -
					CONNECTOR J3 - 9 PIN SUBMINI D FEMALE CONNECTOR (PEEK)		
					PIN	WIRE NAME	SIGNAL
1,9 SHELL	SHIELD (BRAID)		36in		5, SHELL	SHIELD (BRAID)	SHIELD
1,9 SHELL	(CABLE 2) WIRE 9	White	36in		5, SHELL	(CABLE 2) WIRE 9	SHIELD
10	(CABLE 2) WIRE 10	White	36in	TP-5	4	(CABLE 2) WIRE 10	POWER -
22	(CABLE 2) WIRE 22	White	36in	TP-5	9	(CABLE 2) WIRE 22	POWER - RTN
11	(CABLE 2) WIRE 11	White	36in	TP-6	3	(CABLE 2) WIRE 11	POWER +
23	(CABLE 2) WIRE 23	White	36in	TP-6	8	(CABLE 2) WIRE 23	POWER + RTN
12	(CABLE 2) WIRE 12	White	36in	TP-7	2	(CABLE 2) WIRE 12	LOCK +
24	(CABLE 2) WIRE 24	White	36in	TP-7	7	(CABLE 2) WIRE 24	LOCK -
13	(CABLE 2) WIRE 13	White	36in	TP-8	1	(CABLE 2) WIRE 13	SIG +
25	(CABLE 2) WIRE 25	White	36in	TP-8	6	(CABLE 2) WIRE 25	SIG -

**TEST LIST**

FROM	TO
J1	J2
PIN	PIN
J1 - 1,9 SHELL	J2 - 5, SHELL
J1 - 1,9 SHELL	J2 - 5, SHELL
J1 - 14	J2 - 9
J1 - 3	J2 - 3
J1 - 15	J2 - 8
J1 - 4	J2 - 2
J1 - 16	J2 - 7
J1 - 5	J2 - 1
J1 - 17	J2 - 6
J1	J3
PIN	PIN
J1 - 1,9 SHELL	J3 - 5, SHELL
J1 - 1,9 SHELL	J3 - 5, SHELL
J1 - 10	J3 - 4
J1 - 22	J3 - 9
J1 - 11	J3 - 3
J1 - 23	J3 - 8
J1 - 12	J3 - 2
J1 - 24	J3 - 7
J1 - 13	J3 - 1
J1 - 25	J3 - 6

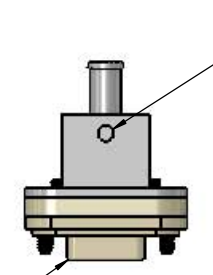


**CONNECTOR J2**

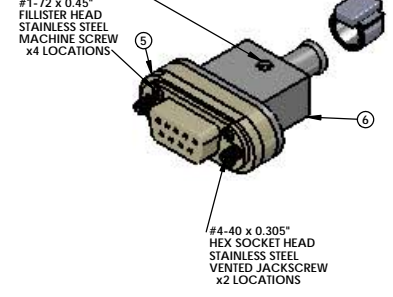


STANDARD 9-PIN D-SUB FEMALE MIL-C-24308

**CONNECTOR J3**



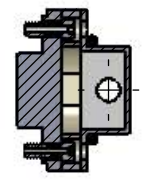
VENT HOLE Ø 0.125



**BILL OF MATERIALS**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	LENGTH *
1	TICOR # TS0149-25C20852-100F OR EQUIVALENT	CUSTOM DB25 MALE CONNECTOR (J1) FOR UHV (GOLD METALIZED PEEK)	1	
2	TICOR # TS0122-0901 OR EQUIVALENT	CUSTOM DB25 CONNECTOR BACKSHELL FOR UHV (STAINLESS)	1	
3	TICOR # TS0122-0901 OR EQUIVALENT	DB9 RIGHT ANGLE FEMALE CONNECTOR (J2) FOR UHV (PEEK)	1	
4	TICOR # (TS0122-0902) OR EQUIVALENT	DB9 CONNECTOR BACKSHELL FOR UHV (STAINLESS)	1	
5	TICOR # (TS0122-0902) OR EQUIVALENT	DB9 FEMALE CONNECTOR (J3) FOR UHV (PEEK)	1	
6	TICOR # (TS0122-0902) OR EQUIVALENT	DB9 CONNECTOR BACKSHELL FOR UHV (STAINLESS)	1	
7	C1	9 COND. (4 TW PAIR + 1 WIRE + SHIELD) CABLE WITH ⑧ COPPER BRAID (SHIELD) AND ⑨ PEEK OVERBRAID	2	
8	CONTINENTAL PART #24x3x40BC	COPPER BRAID - CONTINENTAL CORDAGE PART # 24x3x40BC	2	36" *
9	PEEK BRAID PART #6759	PART #6759 MANUFACTURED WITH ZEUS 0.016" BLACK PEEK DRAWN MONOFILAMENT	2	
10	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)	4	
11	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)**
- MATERIAL:
    - J1 CONNECTOR SHELL - GOLD OVER ELECTRO-LESS NICKEL SELECTIVELY METALIZED PEEK VICTREX 450GL30.
    - J2 CONNECTOR SHELL - PEEK VICTREX 450GL30.
    - J3 CONNECTOR SHELL - PEEK VICTREX 450GL30.
    - BACKSHELL - STAINLESS STEEL WITH VENT HOLE.
    - CONTACTS - BERYLLIUM COPPER ALLOY C17300, 0.00050 MIN. GOLD OVER NICKEL.
    - HARDWARE - STAINLESS STEEL PASSIVATED.
    - PEEK BRAID - PEEK VICTREX GRADE 1DS-450CA30 CARBON LOADED - SUPPLIED BY LIGO.
  - CABLE 9 COND. 28 AWG, (40 STRD 44 AWG) WITH 2 LAYERS OF KAPTON TAPE. (SUPPLIED BY LIGO).
    - 4 TWISTED PAIRS (4 TO 5 TWISTS PER INCH) + 1 WIRE.
    - OVERALL 40AWG COPPER BRAID 50% COVERAGE (SUPPLIED BY LIGO).
    - OVERALL PEEK BRAID MIN. 50% COVERAGE (SUPPLIED BY LIGO).
    - OVERALL CABLE O.D. WILL BE APPROX. 0.240 IN.
  - CONNECTORS WILL BE SUPPLIED WITH HARDWARE. LENGTH OF SCREWS SHOULD BE THE PROPER LENGTH FOR MATING.



SECTION AA-AA

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

- INTERPRET DRAWING PER ASME Y14.5-1994.
- REMOVE ALL SHARP EDGES. 0.05-0.015 FOR MACHINED PARTS. ROUND ALL EDGES APPROXIMATELY R.02 FOR SHEET METAL PARTS.
- DO NOT SCALE FROM DRAWING.
- ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

DIMENSIONS ARE IN INCHES

TOLERANCES:  
XX ±  
XXX ±  
ANGULAR ±

MATERIAL: N/A FINISH: N/A μin/CH NEXT ASSY:

SCALE: 2:1 PROJECTION: FIRST ANGLE SHEET 1 OF 1

**LIGO** CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY

PART NAME: **CUSTOM CABLE SPECIFICATION V25M-36**

DESIGNER: B. ABBOTT DATE: 06/23/2012 DWG. NO: **D1000227** REV: **v8**

DRAFTER: E. BROWN DATE: 06/23/2012

CHECKER: APPROVAL:

SUBSYSTEM: SEI

DESIGN: AIR/VAC STANDARD USE

SEI IN-VAC GS-13-L-4C