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 REPLACEMENT INSERTS TO BE INSTALLED BY LIGO PERSONNEL AFTER DELIVERY OF FINISHED PARTS. USE NITRONIC 60 THREADED INSERTS
11. ALL MATERIALS 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. PINS WILL BE PORCELAIN COATED PER LIGO SPECIFICATION E0900364 AFTER FABRICATION. THE INDICATED HOLES WILL BE MASKED PRIOR TO PORCELAIN COATING TO APPROXIMATELY 2X 2X HOLE DIAMETER CHAMFER 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 9, 10, 13 and 14 DO NOT APPLY TO THIS PART

V25AM-33-B CABLE ASSEMBLY CIRCUIT SUMMARY
VµD25 M/1S-33-4_µD9 F/5S:B

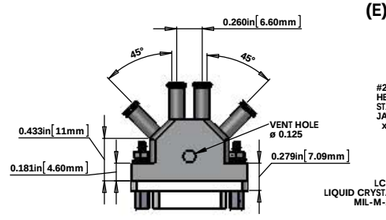
FROM

CONNECTOR J1 - 25 PIN MALE MICRO_D CONNECTOR

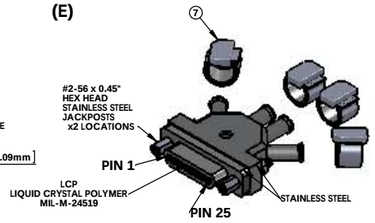
PIN	WIRE NAME	COLOR	LENGTH	TWISTED PAIR
E1	(CONNECTOR SHELL)			
E1	(CABLE 1 SHIELD)			(CABLE 1 SHIELD)
E1	(CABLE 1) WIRE 1	White	33 in.	SINGLE WIRE
E14	(CABLE 1) WIRE 14	White	33 in.	TP-1A
E2	(CABLE 1) WIRE 2	White	33 in.	TP-1A
E15	(CABLE 1) WIRE 15	White	33 in.	TP-2A
E3	(CABLE 1) WIRE 3	White	33 in.	TP-2A
E16	(CABLE 1) WIRE 16	White	33 in.	TP-3A
E4	(CABLE 1) WIRE 4	White	33 in.	TP-3A
E1	(CABLE 2 SHIELD)			(CABLE 2 SHIELD)
E17	(CABLE 2) WIRE 17	White	33 in.	TP-1B
E5	(CABLE 2) WIRE 5	White	33 in.	TP-1B
E18	(CABLE 2) WIRE 18	White	33 in.	TP-2B
E6	(CABLE 2) WIRE 6	White	33 in.	TP-2B
E19	(CABLE 2) WIRE 19	White	33 in.	TP-3B
E7	(CABLE 2) WIRE 7	White	33 in.	TP-3B
E1	(CABLE 3 SHIELD)			(CABLE 3 SHIELD)
E20	(CABLE 3) WIRE 20	White	33 in.	TP-1C
E8	(CABLE 3) WIRE 8	White	33 in.	TP-1C
E21	(CABLE 3) WIRE 21	White	33 in.	TP-2C
E9	(CABLE 3) WIRE 9	White	33 in.	TP-2C
E22	(CABLE 3) WIRE 22	White	33 in.	TP-3C
E10	(CABLE 3) WIRE 10	White	33 in.	TP-3C
E1	(CABLE 4 SHIELD)			(CABLE 4 SHIELD)
E23	(CABLE 4) WIRE 23	White	33 in.	TP-1D
E11	(CABLE 4) WIRE 11	White	33 in.	TP-1D
E24	(CABLE 4) WIRE 24	White	33 in.	TP-2D
E12	(CABLE 4) WIRE 12	White	33 in.	TP-2D
E25	(CABLE 4) WIRE 25	White	33 in.	TP-3D
E13	(CABLE 4) WIRE 13	White	33 in.	TP-3D

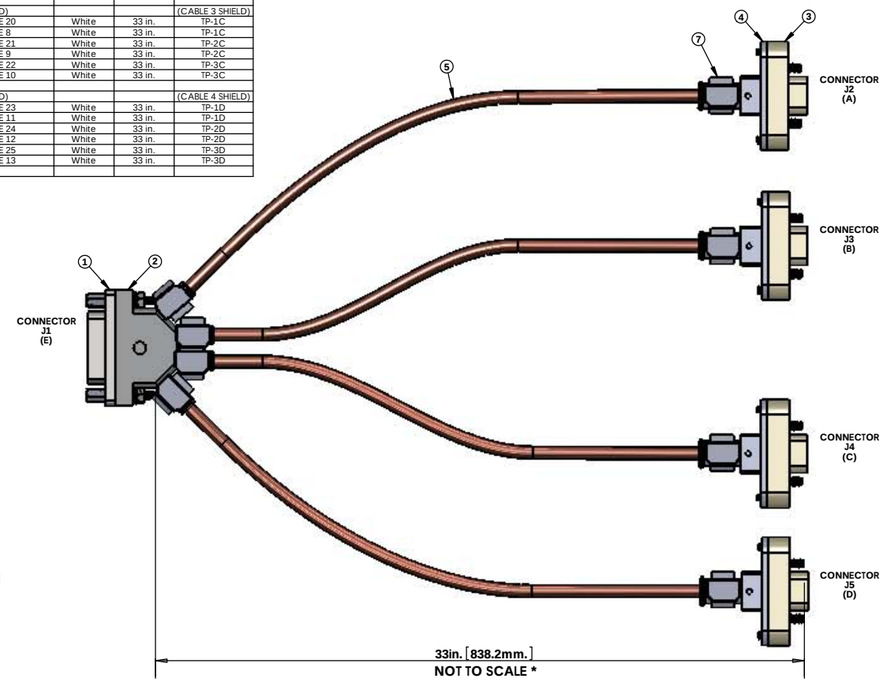
REV.	DATE	DCN #	DRAWING TREE #

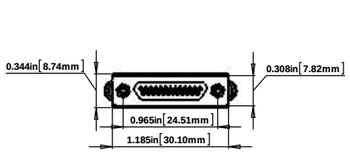
TEST LIST		TEST LIST		TEST LIST		TEST LIST	
FROM	TO	FROM	TO	FROM	TO	FROM	TO
J1	J2	J1	J3	J1	J4	J1	J5
PIN	PIN	PIN	PIN	PIN	PIN	PIN	PIN
J1 - 1, SHELL	J2 - 5 - SHELL	J1 - 1, SHELL	J3 - 5 - SHELL	J1 - 1, SHELL	J4 - 5 - SHELL	J1 - 1, SHELL	J5 - 5 - SHELL
J1 - 14	J2 - 1	J1 - 17	J3 - 1	**J1 - 20**	J4 - 1	J1 - 23	J5 -1
J1 - 2	J2 - 6	J1 - 5	J3 - 6	**J1 - 8**	J4 - 6	J1 - 11	J5 -6
J1 - 15	J2 - 2	**J1 - 18**	J3 - 2	J1 - 21	J4 - 2	**J1 - 24**	J5 -2
J1 - 3	J2 - 7	**J1 - 6**	J3 - 7	J1 - 9	J4 - 7	**J1 - 12**	J5 -7
J1 - 16	J2 - 4	J1 - 19	J3 - 4	**J1 - 22**	J4 - 4	J1 - 25	J5 -4
J1 - 4	J2 - 9	J1 - 7	J3 - 9	**J1 - 10**	J4 - 9	J1 - 13	J5 -9

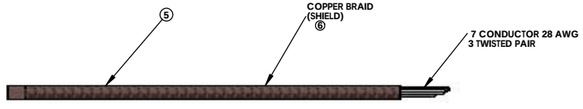


CONNECTOR J1 (E)

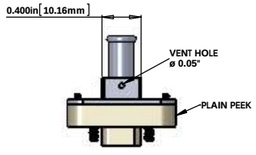


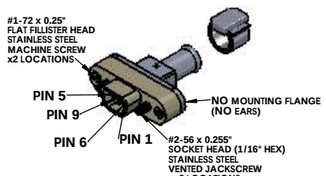




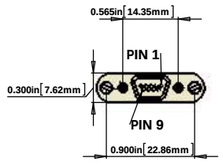


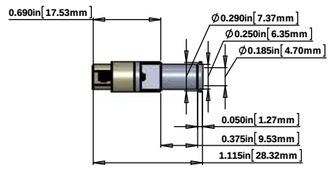
CONNECTOR J2, J3, J4, J5 (A, B, C, D)





GLENAIR
CLAMPING
BANDS # 600-052
(BAND-IT # A10086)
x8 LOCATIONS





BILL OF MATERIALS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	LENGTH
①	GLENAIR #MWDM3L-25PSP-598A TICOR # 040-1243-0025 OR EQUILVALENT	MicroD25 MALE CONNECTOR (J1) FOR UHV (STAINLESS STEEL OVER LCP)	1	
②		MicroD25 CONNECTOR 4-PORT BACKSHELL FOR UHV (STAINLESS STEEL) WITH ø0.100" i.d. PORTS	1	
③	TICOR # TS0094 WITH 60in. FLYING LEADS WITH BACKSHELL OR EQUILVALENT	MicroD9 FEMALE CONNECTOR (J2,J3,J4,J5) FOR UHV (PEEK)	4	
④		MicroD9 CONNECTOR BACKSHELL FOR UHV (STAINLESS STEEL)	4	
⑤	C1	7 COND. (3 TWISTED PAIR) CABLE WITH ⑥ COPPER BRAID (SHIELD)	4	33in.*
⑥	CONTINENTAL PART # 24x3x40BC	COPPER BRAID - CONTINENTAL CORDAGE PART # 24x3x40BC	4	
⑦	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)	8	

* NOTE: THE OVERALL LENGTH IS MEASURED FROM PIN TIP (25 PIN) TO PIN TIP (9 PIN) OF THE CABLE. USE WHATEVER LENGTH IS NECESSARY FOR THE INTERNAL WIRING OF THE CONNECTORS AND STRIP LENGTH TO ACHIEVE THE CORRECT OVERALL LENGTH.

NOTES: (UNLESS OTHERWISE SPECIFIED)

A. MATERIAL: a. 25 PIN MicroD CONNECTOR SHELL - J1 (E) STAINLESS STEEL OVER LCP - (LIQUID CRYSTAL POLYMER per MIL-M-24519).
b. 9 PIN MicroD CONNECTOR SHELL - J2 (A), J3 (B), J4 (C), J5 (D) - PEEK - VICTREX 450GL30.
c. CONTACTS - BERYLLIUM COPPER ALLOY C17300,
0.000050 MIN. GOLD OVER NICKEL.
d. HARDWARE: STAINLESS STEEL, PASSIVATED.
e. PEEK BRAID - PEEK VICTREX GRADE TDS-450CA30 CARBON LOADED - SUPPLIED BY LIGO.

B. CABLE 7 COND. 28 AWG, (40 STRD 44 AWG) WITH PFA INSULATION.
3 TWISTED PAIRS (4 TO 5 TWISTS PER INCH).
OVERALL 40AWG COPPER BRAID 90% COVERAGE.
OVERALL CABLE O.D. WILL BE APPROX. 0.240 IN.

C. CONNECTORS WILL BE SUPPLIED WITH HARDWARE. SCREWS SHOULD BE THE PROPER LENGTH FOR MATING.

V25AM-33-B CABLE ASSEMBLY CIRCUIT SUMMARY

TO

CONNECTOR J2 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)

PIN	WIRE NAME	SIGNAL
A5	(CONNECTOR SHELL)	SHIELD
A5	(CABLE 1) SHIELD	SHIELD
A5	(CABLE 1) WIRE 1	SHIELD
A1	(CABLE 1) WIRE 14	PD1-K
A6	(CABLE 1) WIRE 2	PD1-A
A2	(CABLE 1) WIRE 15	LED1-A
A7	(CABLE 1) WIRE 3	LED1-K
A4	(CABLE 1) WIRE 16	COIL1-FN
A9	(CABLE 1) WIRE 4	COIL1-ST

V25AM-33-B CABLE ASSEMBLY CIRCUIT SUMMARY

TO

CONNECTOR J3 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)

PIN	WIRE NAME	SIGNAL
B5	(CONNECTOR SHELL)	SHIELD
B5	(CABLE 2) SHIELD	SHIELD
B5	(CABLE 2) WIRE 1	SHIELD
B1	(CABLE 2) WIRE 17	PD2-K
B6	(CABLE 2) WIRE 5	PD2-A
B2	(CABLE 2) WIRE 18	LED2-A
B7	(CABLE 2) WIRE 6	LED2-K
B4	(CABLE 2) WIRE 19	COIL2-FN
B9	(CABLE 2) WIRE 7	COIL2-ST

V25AM-33-B CABLE ASSEMBLY CIRCUIT SUMMARY

TO

CONNECTOR J4 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)

PIN	WIRE NAME	SIGNAL
C5	(CONNECTOR SHELL)	SHIELD
C5	(CABLE 3) SHIELD	SHIELD
C5	(CABLE 3) WIRE 1	SHIELD
C1	(CABLE 3) WIRE 20	PD3-K
C6	(CABLE 3) WIRE 8	PD3-A
C2	(CABLE 3) WIRE 21	LED3-A
C7	(CABLE 3) WIRE 9	LED3-K
C4	(CABLE 3) WIRE 22	COIL3-FN
C9	(CABLE 3) WIRE 10	COIL3-ST

V25AM-33-B CABLE ASSEMBLY CIRCUIT SUMMARY

TO

CONNECTOR J5 - 9 PIN FEMALE MICRO_D CONNECTOR (PEEK)

PIN	WIRE NAME	SIGNAL
D5	(CONNECTOR SHELL)	SHIELD
D5	(CABLE 4) SHIELD	SHIELD
D5	(CABLE 4) WIRE 1	SHIELD
D1	(CABLE 4) WIRE 23	PD4-K
D6	(CABLE 4) WIRE 11	PD4-A
D2	(CABLE 4) WIRE 24	LED4-A
D7	(CABLE 4) WIRE 12	LED2-K
D4	(CABLE 4) WIRE 25	COIL4-FN
D9	(CABLE 4) WIRE 13	COIL4-ST

VµD25 M/1S-33-4_µD9 F/5S:B	
STANDARD USE FOR THIS CABLE	
SUBSYSTEM	STANDARD USE
SUS	QUAD SUSPENSIONS PUM

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)

DIMENSIONS ARE IN

TOLERANCES:
.XX ±
.XXX ±

ANGULAR± °

1. INTERPRET DRAWING PER ASME Y14.5-1994.
2. REMOVE ALL SHARP EDGES, .005-.015, FOR MACHINED PARTS. ROUND ALL EDGES APPROXIMATELY 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 | FINISH µinch

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SYSTEM | SUB-SYSTEM SUS

NEXT ASSY

PART NAME: CUSTOM CABLE SPECIFICATION V25AM-33-B

DESIGNER	J. HEEFNER	APR/15/2012	SIZE	DWG. NO.	REV.
DRAFTER	E. BROWN	JUN/28/2012	E	D1000565	v5
CHECKER					
APPROVAL			SCALE: 2:1	PROJECTION:	SHEET 1 OF 1

D1000565-v5 | ddm V25AM-33-B_PART FROM REV - DRAWING FROM REV