

REV.	DATE	DCN #	DRAWING TREE #

**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 100 FOR THE FIRST ANGLE AND PROCEED CONSECUTIVELY. USE 07 HIGH CHARACTERS. EXAMPLE: A DXXXXXX.YY.5N.001

6. APPROXIMATE WEIGHT - X.XXXX LB.

7. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH. USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED. REFER TO LIGO-ED900364.

8. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION ED900364.

9. ALL HELI-COIL HOLES TO BE PREPARED ACCORDING TO EMHART HELI-COIL PRODUCT CATALOG, HC2000, REV 4

NOTES 13 and 14 DO NOT APPLY TO THIS PART

10. ALL HELI-COIL INSERTS TO BE INSTALLED BY LIGO PERSONNEL AFTER DELIVERY OF FINISHED PARTS. USE NITRONIC 60 THREADED INSERTS.

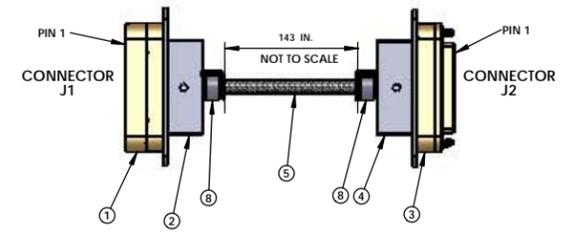
11. ALL MATERIAL IS TO BE VIRGIN MATERIAL (i.e. NO WELD REPAIRS, PULGS OR RECYCLED MATERIAL. NO REPAIRS SHALL BE MADE UNLESS APPROVED IN ADVANCE. AND IN WRITING, BY LIGO LABORATORY. REFER TO LIGO-ED900364.

12. SURFACE FINISH TO BE AS PROCESSED FROM MILL/SUPPLIER, FREE FROM SCRATCHES OR GAUGES.

13. PART WILL BE PORCELAIN COATED PER LIGO SPECIFICATION ED900364 AFTER FABRICATION. THE NOTED DIMENSIONS WILL BE MASKED PRIOR TO PORCELAIN COATING. THE HOLE DIAMETER TOLERANCE ON BOTH SIDES OF THE HOLE.

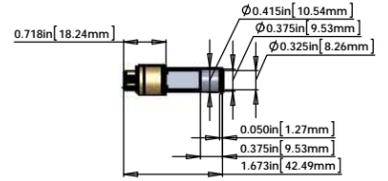
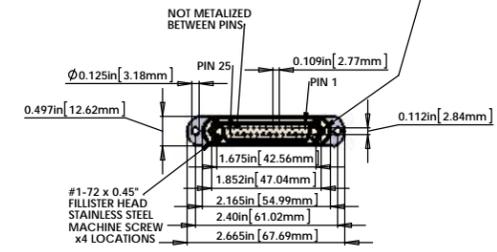
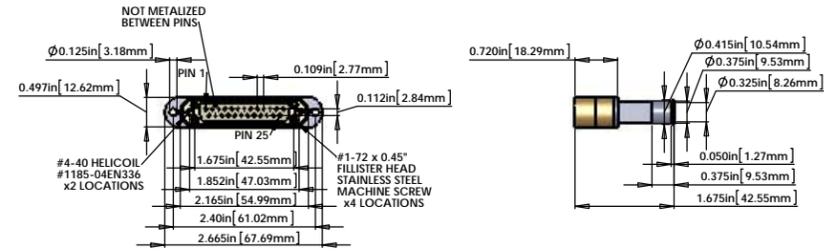
14. THE HOLE DIAMETER SHALL BE A MINIMUM OF .12" OUTSIDE RADIUS OF BEND UNLESS OTHERWISE NOTED.

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.



**CONNECTOR J1**

**CONNECTOR J2**



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	LENGTH
1	TICOR # (IS0149-25CG20B51-325F) OR EQUIVALENT **	DB25 MALE CONNECTOR (J1) FOR UHV (GOLD METALIZED PEEK)	1	
2	TICOR # (IS0148-25CG20B51-325F) OR EQUIVALENT **	DB25 CONNECTOR BACKSHELL (WITH EARS) (LARGE PORT) FOR UHV (STAINLESS) WITH ø0.325" I.D. PORT	1	
3	TICOR # (IS0149-25CG20B51-325F) OR EQUIVALENT **	DB25 FEMALE CONNECTOR (J2) FOR UHV (GOLD METALIZED PEEK)	1	
4	TICOR # (IS0148-25CG20B51-325F) OR EQUIVALENT **	DB25 CONNECTOR BACKSHELL (WITH EARS) (LARGE PORT) FOR UHV (STAINLESS) WITH ø0.325" I.D. PORT	1	
5	COONER WIRE # C22205	16 COND. 22GA. (8 TWISTED PAIR) CABLE WITH COPPER BRAID (SHIELD) AND PEEK OVERBRAID	1	
6	CONTINENTAL PART #24x3x40BC	COPPER BRAID - CONTINENTAL CORDAGE PART #24x3x40BC	1	143in *
7	#6759	PEEK BRAID - PART #6759 MANUFACTURED WITH ZEUS 0.016" BLACK PEEK DRAWN MONOFILAMENT	1	
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	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.

\*\* NOTE: SEE THE "TICOR CONNECTOR PART NUMBER BUILDER" DCC#D1000219 FOR DETAILS ON THIS PART NUMBER.

CABLE NAME	COND. - WIRE ID	TWISTED PAIR	LENGTH *	FROM	TO
V25A-143	16 COND. CABLE	(8 TOTAL)	143 in.	Conn. J1	Conn. J2
	SHIELD		143 in	PIN 1, SHELL	PIN 1, SHELL
	W13	TP-1	143 in	PIN 13	PIN 13
	W25		143 in	PIN 25	PIN 25
	W12	TP-2	143 in	PIN 12	PIN 12
	W24		143 in	PIN 24	PIN 24
	W11	TP-3	143 in	PIN 11	PIN 11
	W23		143 in	PIN 23	PIN 23
	W10	TP-4	143 in	PIN 10	PIN 10
	W22		143 in	PIN 22	PIN 22
	W9	TP-5	143 in	PIN 9	PIN 9
	W21		143 in	PIN 21	PIN 21
	W8	TP-6	143 in	PIN 8	PIN 8
	W20		143 in	PIN 20	PIN 20
	W7	TP-7	143 in	PIN 7	PIN 7
	W19		143 in	PIN 19	PIN 19
W6	TP-8	143 in	PIN 6	PIN 6	
W18		143 in	PIN 18	PIN 18	

PIN 14, 2, 15, 3, 16, 4, 17, 5 N/C (NOT CONNECTED)

\* THE LENGTH SHOWN IN THIS LIST IS THE LENGTH OF THE CABLE BETWEEN THE TWO CONNECTORS. ADD ADDITIONAL LENGTH AS NECESSARY FOR THE INTERNAL WIRING OF THE CONNECTORS AND STRIP LENGTH.

SEE REFERENCE DCC# LIGO-D1100670

STANDARD USE FOR THIS CABLE		
SUBSYSTEM	AIR/VAC	STANDARD USE
ISC	IN-VAC	PICOMOTORS TOP TO TABLE

**NOTES: ( UNLESS OTHERWISE SPECIFIED )**

A. MATERIAL: a. J1 CONNECTOR SHELL - GOLD OVER ELECTRO-LESS NICKEL SELECTIVELY METALIZED PEEK VICTREX 450GL30. b. J2 CONNECTOR SHELL - GOLD OVER ELECTRO-LESS NICKEL SELECTIVELY METALIZED PEEK VICTREX 450GL30. c. BACKSHELLS - STAINLESS STEEL WITH VENT HOLE. d. CONTACTS - BERYLLIUM COPPER ALLOY C17300, 0.00050 MIN. GOLD OVER NICKEL. e. HARDWARE - STAINLESS STEEL, PASSIVATED. f. PEEK BRAID - PEEK VICTREX GRADE TDS-450CA30 CARBON LOADED - SUPPLIED BY LIGO.

B. CABLE: 16 COND. 22 AWG, (150 STRD 44 AWG) WITH 0.005" PFA INSULATION. (COONER WIRE #C22205) 8 TWISTED PAIRS ( 4 TO 5 TWISTS PER INCH ). OVERALL 40AWG COPPER BRAID 50% COVERAGE - SUPPLIED BY LIGO. OVERALL PEEK BRAID MIN. 50% COVERAGE. OVERALL CABLE O.D. WILL BE 0.240 IN.

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

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)		CALIFORNIA INSTITUTE OF TECHNOLOGY		PART NAME	
1. INTERPRET DRAWING PER ASME Y14.5-1994.		LIGO MASSACHUSETTS INSTITUTE OF TECHNOLOGY		CUSTOM CABLE SPECIFICATION V25C-143	
2. REMOVE ALL SHARP EDGES. 0.05-0.15 FOR MACHINED PARTS. ROUND ALL EDGES APPROXIMATELY R.02 FOR SHEET METAL PARTS.		SYSTEM		DESIGNER R. ABBOTT JUL/02/2012	
3. DO NOT SCALE FROM DRAWING.		SUB-SYSTEM		SITE DWG. NO.	
4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.		ISC		E D1000921	
MATERIAL		FINISH		CHECKER	
Material <not specified>		inch		E	
DIMENSIONS ARE IN		NEXT ASSY		APPROVAL	
TOLERANCES:				SCALE: 1:1	
XX ±				PROJECTION:	
XXX ±				SHEET 1 OF 1	
ANGULAR ±				REV. v7	