DATE DCN# NOTES CONTINUED: 10. ALL HELI-COIL INSERTS TO BE INSTALLED BY LIGO PERSONNEL AFTER DELIVERY OF FINISHED PARTS, USE NITRONIC 60 THREADED INSERTS. (5) SCRIBE, ENGRAVE, OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER AND 11. ALL MATERIAL IS TO BE VIRGIN MATERIAL (i.e. NO WELD REPAIRS, REVISION ON NOTÉD SURFACE FOLLOWED ON THE NEXT LINE BY A THREE DIGIT SERIAL NUMBER, SERIAL PLUGS OR RECYCLED MATERIAL). NO REPAIRS SHALL BE MADE UNLESS APPROVED IN ADVANCE, AND IN WRITING, BY LIGO LABORATORY. NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE .07" HIGH CHARACTERS. **EXAMPLE:** 12. SURFACE FINISH TO BE AS-PROCESSED FROM MILL/SUPPLIER, FREE FROM DXXXXXXX-VY, S/N 001 SCRATCHES OR GOUGES. VIBRATORY TOOL MAY BE USED. 13. PART WILL BE PORCELAIN COATED PER LIGO SPECIFICATION E1000083 AFTER FABRICATION. THE INDICATED HOLES WILL BE MASKED PRIOR TO 6. APPROXIMATE WEIGHT = X.XXX LB. PORCELAIN COATING TO APPROXIMATELY 2.5-3X HOLE DIAMETER 7. MACHINE ALL SURFACES TO REMOVE OXIDES AND MILL FINISH USE OF ABRASIVE REMOVAL TECHNIQUES IS NOT ALLOWED. CENTERED ON BOTH SIDES OF THE HOLE REFER TO LIGO-E0900364 14. DIMENSIONS APPLY BEFORE PORCELAIN COATING UNLESS SPECIFIED 8. ALL PARTS SHALL BE MANUFACTURED IN ACCORDANCE WITH LIGO SPECIFICATION E0900364. 15. BEND RADIUS: UNLESS OTHERWISE NOTED, THE BEND RADIUS SHOULD BE TH MINIMUM REQUIRED TO FORM WITHOUT CRACKING OR REQUIRING ADDITIONAL WORK WHEN FORMING. IN PARTICULAR IF SHEET METAL IS TO BE PORCELAIN COATED, 9. ALL HELI-COIL HOLES TO BE PREPARED ACCORDING TO THE BEND RADIUS SHALL BE A MINIMUM OF .12" OUTSIDE RADIUS OF BEND UNLESS EMHART HELI-COIL PRODUCT CATALOG, HC2000, REV 4 143 IN NOTES 13 and 14 DO NOT APPLY TO THIS PART **NOT TO SCALE CONNECTOR CONNECTOR** CONNECTOR 1.600in 40.64mm 1.600in 40.64mm **VENT HOLE VENT HOLE** ø 0.125 Ø 0.125 PIN **PIN 25** -MOUNTING FLANGE (EARS) MOUNTING FLANGE (EARS) PIN GOLD METALIZED OVER **PIN 25 ELECTRO-LESS NICKEL** GOLD METALIZED OVER SELECTIVELY METALIZED PEEK **ELECTRO-LESS NICKEL SELECTIVELY METALIZED** NOT METALIZED BETWEEN OR NEXT TO PINS  $\emptyset$  0.125in 3.18mm 0.109in 2.77mm 0.109in 2.77mm  $\emptyset$  0.125in 3.18mm V25J-143 CABLE ASSEMBLY CIRCUIT SUMMARY V-DB25 M/S1-143-DB25 F/S1 #1-72 x 0.45" /#1-72 x 0.45" #4-40 x 0.305" FILLISTER HEAD FILLISTER HEAD **HEX SOCKET HEAD** #4-40 HELICOIL COND.-TWISTED | LENGTH STAINLESS STEEL **Ø** 0.315in 8mm otin 0.315 in 8 mmCABLE NAME STAINLESS STEEL STAINLESS STEEL #1185-04EN336 WIRE ID PAIR MACHINE SCREW **MACHINE SCREW VENTED JACKSCREW x2 LOCATIONS** Ø 0.275in 6.99mm **x4 LOCATIONS** otin 0.275 in 6.99 mm**x4 LOCATIONS** x 2 LOCATIONS 13 COND. (6 TOTAL) 143 in. V25J-143  $ot\supset$  0.225in $\mid$  5.72mm otin 0.225 in 5.72 mmCABLE 0.112in 2.84mm 143 in SHIELD 0000000000000 0.112in 2.85mm 0.497in 12.62mm 0\_0000000000 0.497in 12.62mm 000000000 143 in TP-1 **W20** 143 in 1.675in 42.55mm **PIN 25** W9 143 in **NOT METALIZED** PIN 25 0.050in 1.27mm 1.852in 47.03mm 0.050in 1.27mm 143 in BETWEEN OR NEXT TO PINS W21 1.675in 42.56mm 0.375in 9.53mm W10 143 in 2.165in 54.99mm 0.375in 9.53mm 143 in 1.852in 47.04mm 1.673in 42.49mm 2.40in 61.02mm W11 143 in 1.675in 42.55mm 2.165in 54.99mm 143 in W23 2.665in 67.69mm W12 143 in 2.40in 61.02mm TP-5 **W24** 143 in 2.665in 67.69mm 143 in W13 ITEM NO. **PART NUMBER DESCRIPTION** LENGTH W25 143 in PIN 14,2,15,3,16,4,17,5,18,6,19,7 N/C (NOT CONNECTED) TICOR # (TS0149-25CG20BS1-225F) DB25 MALE CONNECTOR (J1) FOR UHV (GOLD METALIZED PEEK) \* THE LENGTH SHOWN IN THIS LIST IS THE LENGTH OF THE CABLE BETWEEN THE TWO CONNECTORS. ADD **GLENAIR** OR EQUIVALENT \*\* DB25 CONNECTOR BACKSHELL (WITH EARS) FOR UHV (STAINLESS STEEL) WITH Ø0.225" i.d. PORT ADDITIONAL LENGTH AS NECESSARY FOR THE INTERNAL WIRING OF THE CONNECTORS AND STRIP LENGTH. CLAMPING BANDS # 600-052 3 TICOR# DB25 FEMALE CONNECTOR (J2) FOR UHV (GOLD METALIZED PEEK) (TS0148-25CG20BS1-225F) (BAND-IT # A10086) DB25 CONNECTOR BACKSHELL (WITH EARS) FOR UHV (STAINLESS STEEL) WITH Ø0.225" i.d. PORT OR EQUIVALENT \*\* COPPER BRAID 13 COND. (6 TW PAIR + 1 WIRE + SHIELD) CABLE PEEK OVERBRAID 1 CONDUCTOR (SHIELD) COONER WIRE # CZ1105 + (6) + (7)WITH 6 COPPER BRAID (SHIELD) AND 7 PEEK OVERBRAID 143in \* CONTINENTAL PART #24x3x40BC COPPER BRAID - CONTINENTAL CORDAGE PART #24x3x40BC PEEK BRAID - PART #6759 MANUFACTURED WITH #6759 ZEUS 0.016" BLACK PEEK DRAWN MONOFILAMENT ISC TRANSMON QPD CABLE 13 CONDUCTOR 28 AWG **6 TWISTED PAIR + 1 WIRE** SEISMIC TABLE TO SUSPENDED TRANSMON TABLE GLENAIR # 600-052 STANDARD BRAID CLAMP or GLENAIR # 600-052 or 2 BAND-IT PART # A10086 (0.240" WIDE) ("BAG OF 100" # A10089) BAND-IT # A10086 V-DB25 M/S1-143-DB25 F/S1 \* NOTE: USE WHATEVER LENGTH IS NECESSARY FOR THE INTERNAL WIRING OF THE CONNECTORS AND STRIP LENGTH TO ACHIEVE THE CORRECT OVERALL LENGTHS. STANDARD USE FOR THIS CABLE \*\* NOTE: SEE THE "TICOR CONNECTOR PART NUMBER BUILDER" DCC#D1000219 FOR DETAILS ON THIS PART NUMBER. NOTES: (UNLESS OTHERWISE SPECIFIED) SUBSYSTEM AIR/VAC STANDARD USE 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. TRANSMON TABLE TO SEISMIC TABLE ISC IN-VAC **QPD FOR TRANSMON** c. BACKSHELLS - 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. NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED) **PART NAME CALIFORNIA INSTITUTE OF TECHNOLOGY** INTERPRET DRAWING PER ASME Y14.5-1994. CUSTOM CABLE SPECIFICATION B. CABLE 13 COND. 28 AWG (65/46), WITH PFA INSULATION COONER WIRE #CZ1105. **LIGO** MASSACHUSETTS INSTITUTE OF TECHNOLOGY

2. REMOVE ALL SHARP EDGES, .005-.015. FOR MACHINED PARTS. ROUND

4. ALL MACHINING FLUIDS MUST BE FULLY SYNTHETIC, FULLY WATER

SYSTEM

μınch

**NEXT ASSY** 

SUB-SYSTEM

ISC

DESIGNER | R. ABBOTT

DRAFTER E. BROWN

CHECKER

**APPROVAL** 

ALL EDGES APPROXIMATLEY R.02 FOR SHEET METAL PARTS.

SOLUBLE AND FREE OF SULFUR, SILICONE, AND CHLORINE.

Material <not specified>

3. DO NOT SCALE FROM DRAWING.

DIMENSIONS ARE IN

TOLERANCES:

ANGULAR ±

.XX ±

.XXX ±

DRAWING TREE #

**CONNECTOR** 

**FROM** 

Conn. J1

SHELL

PIN 8

**PIN 20** 

PIN 9

PIN 21

**PIN 10** 

**PIN 22** 

PIN 11

PIN 23

**PIN 12** 

PIN 24

PIN 13

PIN 25

TO

Conn. J2

PIN 1,

SHELL

PIN 8

**PIN 20** 

PIN 9

PIN 21

PIN 10

**PIN 22** 

PIN 11

PIN 23

**PIN 12** 

**PIN 24** 

PIN 13

PIN 25

V25J-143

SHEET 1 OF 1

JUL/02/2012 | SIZE | DWG. NO.

SCALE: 1:1

PROJECTION:

JUL/02/2012

6 TWISTED PAIRS ( 4 TO 5 TWISTS PER INCH ) + 1 WIRE.

OVERALL PEEK BRAID MIN. 50% COVERAGE.

OVERALL CABLE O.D. WILL BE ~ 0.240 IN.

OVERALL 40AWG COPPER BRAID 50% COVERAGE - SUPPLIED BY LIGO.

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