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NOTES:

- 1

LABEL AS INDICATED.
- 2

ALL DIMENSIONS IN mm.
- 3

LENGTH TOLERANCE IS ±10 mm EXCEPT AS NOTED.
- 4

ON J1-J3, USE AN 8mm ±1mm LENGTH OF 1.2mm I.D. HEATSHRINK, ITEM 14, ON THE INSULATION OF EACH INDIVIDUAL WIRE TO ENSURE A GOOD SEAL WITH THE CONNECTOR HOUSING.
- 5

INSULATE DRAIN WIRES INSIDE P1 BACKSHELL WITH TEFLON TUBE SLEEVING, ITEM 18, (FOIL SHIELDS DO NOT NEED TO BE ISOLATED FROM EACH OTHER INSIDE THE P1 BACKSHELL.)
- 6

USE MANUFACTURER SPECIFIED TOOLING FOR ALL CONTACTS AND CONNECTORS.
- 7

STRIP CABLE JACKET AND WIRE INSULATION PER NASA-STD-8739.4A, SECTION 10. (TMT.CTR.TEC.16.052.DRF01)
INSPECT PER NASA-STD-8739.4A, SECTIONS 20.5.1a, 20.5.2a, A.3, A.4, AND A.5. (TMT.CTR.TEC.16.052.DRF01)
- 8

USE ADHESIVE LINED HEAT SHRINK TUBING, ITEM 16 ON EACH CABLE AT P1 AND J1-J3 TO SEAL IT.
- 9

CRIMP ITEM 1 AND ITEM 4 CONTACTS PER NASA-STD-8739.4A, SECTION 12. (TMT.CTR.TEC.16.052.DRF01)
INSPECT PER NASA-STD-8739.4A, SECTIONS 20.5.1c, 20.5.2c, A.8, A.9, AND A.10 (TMT.CTR.TEC.16.052.DRF01)
- 10

CRIMP AND INSPECT ITEM 10 PER JST "PRECAUTION FOR CRIMPING PROCESS." (TMT.CTR.TEC.16.051.DRF01)
- 11

WIRE PULLOUT TEST: VALIDATE CRIMPING PROCESSES PER NASA-STD-8739.4A, SECTION 12. (TMT.CTR.TEC.16.052.DRF01)
- ITEM 1, AXIAL FORCE = 36 N
- ITEM 4, AXIAL FORCE = 22 N
- ITEM 10, AXIAL FORCE = 20 N (PER WWW.JST-MFG.COM)
- 12

CONTACT RETENTION TEST: EACH CONTACT SHALL BE PUSH OR PULL TESTED 100% FOR SEATING PER NASA-STD8739.4A SECTION 13. (TMT.CTR.TEC.16.052.DRF01)
- ITEM 1, AXIAL FORCE = 22.1 N - 31.1 N (PUSH) or 13.3 N - 22.2 N (PULL)
- ITEM 4, AXIAL FORCE = 14 N
- ITEM 10, AXIAL FORCE = 10 N

REVISION HISTORY

LTR	DESCRIPTION	CLASS	DWN	ENGR	SEE JPL DATA MANAGEMENT SYSTEM FOR APPROVAL SIGNATURES AND DATES.
A	----- INITIAL RELEASE -----	E			
B	CHANGED TO IP64+ RATED CONNECTORS.	E			

- 13

SPOT TIE CABLE BUNDLE TOGETHER UNDER BLACK HEAT SHRINK AS NEEDED USING ITEM 20.
- 14

USE FUSION WRAP, ITEM 19, TO BUILD UP DIAMETER OF THE WIRE BUNDLE FOR THE STRAIN RELIEF INSIDE OF THE P1 BACKSHELL, ITEM 2.
- 15

EACH CABLE SHALL BE 100% ELECTRICALLY TESTED.
- CONNECTION RESISTANCE LESS THAN 5 OHMS.
- INSULATION RESISTANCE MORE THAN 5 MOHMS.
- 16

–1 CONFIGURATION ONLY
- 17

P1 BACKSHELL SUPPORTS CABLE EGRESS FROM EITHER SIDE. CONNECT AS SHOWN.
- 18

LEMO CONNECTOR FEG.0B.304.CYBD42Z (BRASS) CAN BE USED FOR PROTOTYPES WITH TMT PERMISSION.
- 19

JST CONTACT SWPR-001T-P025 (TIN FINISH) CAN BE USED FOR PROTOTYPES WITH TMT PERMISSION.

		MATERIAL:		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		CONTRACT NO _____		JET PROPULSION LABORATORY			
		PER SPECIFICATION		LINEAR TOLERANCES: .XX ± .03 .XXX ± .010		APPD _____ DATE _____		CALIFORNIA INSTITUTE OF TECHNOLOGY PASADENA, CA 91109			
				ANGULAR TOLERANCE: ± 0.5°		DWN D. PALMER		CABLE ASSEMBLY, STRAIN GAUGE HYDRA			
				SURFACE ROUGHNESS (MICROMETERS) ✓		ENGR D. PALMER					
		THIRD ANGLE PROJECTION		DO NOT SCALE DRAWING INTERPRET DIMENSIONING AND TOLERANCING PER ASME Y14.5-2009 INTERPRET DWG PER ASME Y14.100		SEE JPL DATA MANAGEMENT SYSTEM FOR APPROVAL SIGNATURES AND DATES.		SIZE			
NEXT ASSEMBLY		TMT						CAGE CODE		REV	
USED ON		23835						10398529		B	
APPLICATION								SCALE: 1/1		SHEET 1 OF 4	
								UNCLASSIFIED		4	

LEGEND

AL = ADHESIVE LINED
QL = QUICK LOCK
PBT = POLYBUTYLENE TEREPHTHALATE
PTFE = POLYTETRAFLUOROETHYLENE
POS = POSITION
REC = RECEPTACLE
SOC = SOCKET
TBD = TO BE DETERMINED
TPU = THERMOPLASTIC POLYURETHANE ELASTOMER (DESMOPAN 786)

AR	AR	20		92194	LTN-4C	LACING TAPE, 0.05" WIDE	ALPHA WIRE	NYLON
AR	AR	19	P1	62081	P36728 OR EQUIV.	SEAL-TITE FUSION WRAP	LAWSON PROD.	
AR	AR	18	P1	92194	TFT20026 NA005	TUBING, 0.4mm I.D. NATURAL	ALPHA WIRE	PTFE
AR	AR	17	P1	92194	F2213/4 BK105	HEAT SHRINK, 19mm I.D. BLACK	ALPHA WIRE	POLYOLEFIN
AR	AR	16	P1 J1-J3	92194	F3211/4 BK103	HEAT SHRINK, 6.4mm I.D. BLACK, AL	ALPHA WIRE	POLYOLEFIN
AR	AR	15		92194	F221B3/16 CL100	HEAT SHRINK, 4.8mm I.D. CLEAR	ALPHA WIRE	POLYOLEFIN
AR	AR	14	J1-J3	92194	F221B3/64 CL100	HEAT SHRINK, 1.2mm I.D. CLEAR	ALPHA WIRE	POLYOLEFIN
-	AR	13		92194	78113	CABLE, SJ, 3 CONDUCTOR, 26AWG	ALPHA WIRE	
AR	AR	12		92194	78112	CABLE, SJ, 2 CONDUCTOR, 26AWG	ALPHA WIRE	
AR	AR	11		92194	78152	CABLE, SJ, 2 PAIR, 28AWG	ALPHA WIRE	
2	7	10	J1-J3	67D17	SWPR-001GH-P025	TERMINAL, SOC, 22-26 AWG	JST SALES AMER.	19
-	1	9	J3	67D17	04R-JWPF-VSLE-S	HOUSING, 4 POS, REC, 2mm	JST SALES AMER.	PBT
-	1	8	J2	67D17	03R-JWPF-VSLE-S	HOUSING, 3 POS, REC, 2mm	JST SALES AMER.	PBT
1	1	7	J1	67D17	02R-JWPF-VSLE-S	HOUSING, 2 POS, REC, 2mm	JST SALES AMER.	PBT
3	3	6	P3, P5-P6	2P953	GMA.0B.035.DV	BEND RELIEF, GREEN	LEMO	TPU
4	4	5	P2, P4, P7-P8	2P953	GMA.0B.035.DR	BEND RELIEF, RED	LEMO	TPU
7	7	4	P2-P8	2P953	FEG.0B.304.U1716	CONNECTOR, 4-Pin LEMO PLUG	LEMO	18
1	1	3	P1	00779	1-2308272-7	CABLE CLAMP, SIZE 5, 14-16 mm	TE CONNECTIVITY	ZINC ALLOY
1	1	2	P1	00779	1-2308338-1	BACKSHELL, 50 POSITION DSUB, QL	TE CONNECTIVITY	ZINC ALLOY
1	1	1	P1	28198	EVD50P00000/AA-1289.2	PLUG, D-SUB 50 PIN MALE CRIMP	POSITRONIC	INCLUDES PINS
-2, -3	-1	ITEM NO	REF DES	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL OR NOTE
PARTS LIST								

TABLE 1: FINISHED CABLE LENGTHS			
CONNECTOR	LENGTH		
	-1	-2	-3
P2	1090 mm	1090 mm	1090 mm
P3	935 mm	935 mm	935 mm
P4	805 mm	805 mm	805 mm
P5	655 mm	655 mm	655 mm
P6	815 mm	815 mm	815 mm
P7	560 mm	560 mm	560 mm
P8	690 mm	690 mm	690 mm
J1	860 mm	300 mm	620 mm
J2	885 mm	-	-
J3	490 mm	-	-



