

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	D PALMER	D PALMER	
C	UPDATES FOR PRODUCTION RELEASE.	E	D PALMER	D PALMER	

NOTES:

1. LASER MARK ON BACK SIDE OF P1 BACKSHELL (NOT THE COVERPLATE) WITH 1.0 mm MINIMUM HIGH CHARACTERS THE TEXT SHOWN IN TABLE 1. (THE VENDOR DESIGNATION AND THE STARTING SERIAL NUMBER SHALL BE IN ACCORDANCE WITH THE VALUES PROVIDED IN THE PURCHASE ORDER). LABEL INDIVIDUAL CABLE ENDS AS SHOWN.
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 8, ON THE INSULATION OF EACH INDIVIDUAL WIRE TO ENSURE A GOOD SEAL WITH THE CONNECTOR HOUSING.
5. USE MANUFACTURER SPECIFIED TOOLING FOR ITEMS 1, 4, 5 AND 6.
6. 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)
7. USE ADHESIVE-LINED HEAT SHRINK TUBING, ITEM 10 ON BOTH ENDS OF EACH CABLE TO SEAL IT.
8. CRIMP ITEM 1 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)
9. CRIMP AND INSPECT ITEM 6 PER JST "PRECAUTION FOR CRIMPING PROCESS." (TMT.CTR.TEC.16.051.DRF01)
10. WIRE PULLOUT TEST: VALIDATE CRIMPING PROCESSES PER NASA-STD-8739.4A, SECTION 12. (TMT.CTR.TEC.16.052.DRF01) CRIMP AND TEST 3 SAMPLE CONTACTS AT THE FREQUENCY SPECIFIED IN 12.3.5.

- ITEM 1, AXIAL FORCE = 36 N

- ITEM 6, AXIAL FORCE = 20 N (PER WWW.JST-MFG.COM)
11. CONTACT RETENTION TEST: 100% OF CONTACTS SHALL BE PUSH TESTED FOR SEATING PER NASA-STD8739.4A SECTION 13. (TMT.CTR.TEC.16.052.DRF01)

- ITEM 1, AXIAL FORCE = 22.1 N

- ITEM 6, AXIAL FORCE = 10 N
12. CABLES ARE TO EXIT FROM P1 SIDE-BY-SIDE IN A SINGLE ROW. USE A SMALL PIECE OF KAPTON TAPE, ITEM 14, TO HOLD CABLES IN THIS CONFIGURATION BEFORE APPLYING HEAT-SHRINK, ITEM 11.

13. DELETED
14. EACH CABLE SHALL BE 100% ELECTRICALLY TESTED.

- CONNECTION RESISTANCE LESS THAN 0.5 OHMS.

- INSULATION RESISTANCE MORE THAN 5 MOHMS.
15. P1 BACKSHELL SUPPORTS EGRESS FROM EITHER SIDE OR TOP. ASSEMBLE AS SHOWN.
16. ALTERNATE JST CONTACT SWPR-001T-P025 (TIN FINISH) CAN BE USED WITH TMT PERMISSION.
17. SILICONE INTERFACIAL SEAL (INCLUDED WITH ITEM 1) TO BE INSTALLED ON MATING FACE OF CONNECTOR P1.
18. ALL CONNECTOR PINS SHALL BE FITTED TO EACH CONNECTOR EVEN IF NOT USED FOR CONNECTIVITY.
19. INSTALL SEALING PLUGS, ITEM 14, IN CONNECTOR P1, ITEM 1, IN ALL UNUSED LOCTIONS (1, 4, 7, 10, 11, 12, 13, 14, AND 15).
20. INSULATE DRAIN WIRES INSIDE P1 BACKSHELL WITH TEFLON TUBE SLEEVING, ITEM 16, (FOIL SHIELDS DO NOT NEED TO BE ISOLATED FROM EACH OTHER INSIDE THE P1 BACKSHELL.)
21. UNUSED PIN IN THE JST CONNECTOR J1 TO BE SEALED WITH 1.3 mm DIAMETER NYLON MONOFILAMENT, ITEM 17, CRIMPED TO A TERMINAL, ITEM 6, AND INSERTED IN UNUSED LOCATION IN THE SAME MANNER AS A NORMAL WIRE. TRIM THE MONOFILAMENT FLUSH WITH THE SURFACE OF THE SILICONE SEALING GLAND.

FOR PRODUCTION

		MATERIAL:	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CONTRACT NO
		PER SPECIFICATION	LINEAR TOLERANCES:	APPD _____ DATE _____
			.XX ± .03	DWN D. PALMER
			.XXX ± .010	ENGR D. PALMER
			ANGULAR TOLERANCE: ± 0.5°	
		THIRD ANGLE PROJECTION	SURFACE ROUGHNESS (MICROMETERS) ✓	SEE JPL DATA MANAGEMENT SYSTEM FOR APPROVAL SIGNATURES AND DATES.
			DO NOT SCALE DRAWING INTERPRET DIMENSIONING AND TOLERANCING PER ASME Y14.5-2009 INTERPRET DWG PER ASME Y14.100	
TMT	USED ON			
NEXT ASSEMBLY				
APPLICATION				

TMT DOCUSHARE NO TMT.CTR.DWG.16.018.REL03			
JET PROPULSION LABORATORY			
CALIFORNIA INSTITUTE OF TECHNOLOGY PASADENA, CA 91109			
CABLE ASSEMBLY, LOWER BOX HYDRA			
SIZE B	CAGE CODE 23835	10398531	REV C
SCALE: 1/1	UNCLASSIFIED	SHEET 1 OF 3	

LEGEND

AL = ADHESIVE LINED
AR = AS REQUIRED
EQUIV. = EQUIVALENT
PBT = POLYBUTYLENE TEREPHTHALATE
PTFE = POLYTETRAFLUOROETHYLENE
POS = POSITION
QL = QUICK LOCK
REC = RECEPTACLE
SJ = SHIELDED JACKETED
SOC = SOCKET

AR	AR	17	J1	-	TFM-B100-150CL	1.3 mm DIA. MONOFILAMENT	TRIPLE FISH	NYLON 
AR	AR	16	P1	92194	TFT20026 NA005	TUBING, 0.4mm I.D. NATURAL	ALPHA WIRE	PTFE 
AR	AR	15	P1	51846	P-224-3/4	TAPE, 19mm WIDE KAPTON FILM	LOCKWOOD IND.	KAPTON 
6	6	14	P1	28198	4737-37-0-0	SEALING PLUG	POSITRONIC	PTFE 
		13						
		12						
AR	AR	11	P1	92194	F2211/4 BK105	HEAT SHRINK, 6.4mm I.D. BLACK	ALPHA WIRE	POLYOLEFIN
AR	AR	10	P1 J1-J3	92194	F3211/4 BK103	HEAT SHRINK, 6.4mm I.D. BLACK, AL	ALPHA WIRE	POLYOLEFIN
AR	AR	9		92194	F221B3/16 CL100	HEAT SHRINK, 4.8mm I.D. CLEAR	ALPHA WIRE	POLYOLEFIN
AR	AR	8	P1	92194	F221B3/64 CL100	HEAT SHRINK, 1.2mm I.D. CLEAR	ALPHA WIRE	POLYOLEFIN
AR	AR	7		92194	78112	CABLE, SJ, 2 CONDUCTOR, 26AWG	ALPHA WIRE	
7	7	6	J1-J3	67D17	SWPR-001GH-P025	TERMINAL, SOCKET, 22-26 AWG	JST SALES AMER.	
2	2	5	J2-J3	67D17	02R-JWPF-VSLE-S	HOUSING, 2 POS, REC, 2mm	JST SALES AMER.	PBT
1	1	4	J1	67D17	03R-JWPF-VSLE-S	HOUSING, 3 POS, REC, 2mm	JST SALES AMER.	PBT
1	1	3	P1	00779	1-2308272-1	CABLE CLAMP, SIZE 1-4, 4-7 mm	TE CONNECTIVITY	ZINC ALLOY
1	1	2	P1	00779	1-2308321-1	BACKSHELL, 15 POSITION D-SUB, QL	TE CONNECTIVITY	ZINC ALLOY
1	1	1	P1	28198	EVD15P00000/AA1289.2	PLUG, D-SUB 15 PIN MALE CRIMP	POSITRONIC	INCLUDES PINS
-2	-1	ITEM NO	REF DES	CAGE CODE	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	SPECIFICATION	MATERIAL OR NOTE
QTY REQD								
PARTS LIST								

TABLE 1: CABLE MARKING TEXT	
LINE 1	LOWER BOX HYDRA
LINE 2	10398531- L REV M
LINE 3	S/N NNN -XXXXX
WHERE L IS THE DASH NUMBER FROM THE PARTS LIST, M IS THE CURRENT REVISION, NNN IS A 3-LETTER VENDOR DESIGNATION (ASSIGNED BY TMT) AND XXXXX IS A UNIQUE SERIAL NUMBER FOR EACH CABLE ASSEMBLY.	

TABLE 2: FINISHED CABLE LENGTHS

CONNECTOR	LENGTH	
	-1 (A-C-E)	-2 (B-D-F)
J1	500 mm	500 mm
J2	759 mm	915 mm
J3	440 mm	440 mm

