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.

ON J1-J3, USE AN 8mm ±1mm LENGTH OF 1.2mm I.D. HEAT SHRINK, 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)

7. CRIMP AND INSPECT ITEM 6 PER JST "PRECAUTION FOR CRIMPING PROCESS." (TMT.CTR.TEC.16.051.DRF01)

8. CRIMP ITEM 1 CONTACTS PER NASA-STD-8739.4A, SECTION 12. (TMT.CTR.TEC.16.052.DRF01)

9. CONTACT RETENTION TEST: 100% OF CONTACTS SHALL BE PUSH TESTED FOR SEATING PER NASA-STD-8739.4A SECTION 13. (TMT.CTR.TEC.16.052.DRF01)

10. WIRE PULLOUT TEST; VALIDATE CRIMPING PROCESSES PER NASA-STD-8739.4A, SECTION 10. (TMT.CTR.TEC.16.052.DRF01)

11. CONTACT RETENTION TEST: 100% OF CONTACTS SHALL BE PUSH TESTED FOR SEATING PER NASA-STD-8739.4A SECTION 13. (TMT.CTR.TEC.16.052.DRF01)

12. CYLINDRICAL CONTACTS 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 MOHM.

P1 BACKSHELL SUPPORTS EGRESS FROM EITHER SIDE OR TOP. ASSEMBLE AS SHOWN.

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

SILicone INTERFAcIAL SEAL (INCLUDED WITH ITEM 1) TO BE INSTALLED ON Mating FACE OF CONNECTOR P1.

ALl CONNECTor PINS SHALL BE FITTED TO EACH CONNECTOR EVEN IF NOT USED FOR CONNECTIVITY.

INSTAll SEAlING PlUGS, ITEM 14, IN CONNECTor P1, ITEM 1, IN ALL UNUSED LOCtIONS (1, 4, 7, 10, 11, 12, 13, 14, AND 15).

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.)

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

JET PROPULSION LABORATORY
CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CA 91109

CABLE ASSEMBLY,
LOWER BOX HYDRA

TMT.CTR.DWG.16.018.REL03

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### TABLE 1: CABLE MARKING TEXT

<table>
<thead>
<tr>
<th>LINE 1</th>
<th>LOWER BOX HYDRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINE 2</td>
<td>10398531-L  REV M</td>
</tr>
<tr>
<td>LINE 3</td>
<td>S/N NNN-XXXXX</td>
</tr>
</tbody>
</table>

**NOTES:**
- **L** is the dash number from the parts list.
- **M** is the current revision.
- **NNN** is a 3-letter vendor designation (assigned by TMT).
- XXXXX is a unique serial number for each cable assembly.

---

**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

---

**PARTS LIST**

<table>
<thead>
<tr>
<th>QTY REQD</th>
<th>ITEM NO</th>
<th>REF DES</th>
<th>CAGE CODE</th>
<th>PART OR IDENTIFYING NO</th>
<th>NOMENCLATURE OR DESCRIPTION</th>
<th>MATERIAL OR NOTE</th>
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<tbody>
<tr>
<td>22</td>
<td>6</td>
<td>1-2308321-1</td>
<td>08-00000005</td>
<td>TUBING, 0.4mm I.D. NATURAL</td>
<td>ALPHA WIRE</td>
<td>PTFE</td>
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<tr>
<td>6</td>
<td>14</td>
<td>P-224-3/4</td>
<td>51846</td>
<td>TAPE, 19mm WIDE KAPTON FILM</td>
<td>LOCKWOOD IND.</td>
<td>KAPTON</td>
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<tr>
<td>7</td>
<td>13</td>
<td>28198</td>
<td>4737-37-0-0</td>
<td>SEALING PLUG</td>
<td>POSITRONIC</td>
<td>PTFE</td>
</tr>
<tr>
<td>12</td>
<td>11</td>
<td>92194</td>
<td>F2211/4 BK105</td>
<td>HEAT SHRINK, 6.4mm I.D. BLACK</td>
<td>ALPHA WIRE</td>
<td>POLYOLEFIN</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>92194</td>
<td>F3211/4 BK103</td>
<td>HEAT SHRINK, 6.4mm I.D. BLACK, AL</td>
<td>ALPHA WIRE</td>
<td>POLYOLEFIN</td>
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<tr>
<td>9</td>
<td>9</td>
<td>92194</td>
<td>F22183/16 CL100</td>
<td>HEAT SHRINK, 4.8mm I.D. CLEAR</td>
<td>ALPHA WIRE</td>
<td>POLYOLEFIN</td>
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<tr>
<td>8</td>
<td>8</td>
<td>92194</td>
<td>F22183/64 CL100</td>
<td>HEAT SHRINK, 1.2mm I.D. CLEAR</td>
<td>ALPHA WIRE</td>
<td>POLYOLEFIN</td>
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<tr>
<td>7</td>
<td>7</td>
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<td>78112</td>
<td>CABLE, SJ, 2 CONDUCTOR, 26AWG</td>
<td>ALPHA WIRE</td>
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<tr>
<td>6</td>
<td>6</td>
<td>67D17</td>
<td>7WPR-001GH-P025</td>
<td>TERMINAL, SOCKET, 22-26 AWG</td>
<td>JST SALES AMER.</td>
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<tr>
<td>5</td>
<td>5</td>
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<td>02R-JWPF-VSLE-S</td>
<td>HOUSING, 2 POS, REC, 2mm</td>
<td>JST SALES AMER.</td>
<td>PBT</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
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<td>03R-JWPF-VSLE-S</td>
<td>HOUSING, 3 POS, REC, 2mm</td>
<td>JST SALES AMER.</td>
<td>PBT</td>
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<td>3</td>
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<td>1-2308272-1</td>
<td>CABLE CLAMP, SIZE 1-4, 4-7 mm</td>
<td>TE CONNECTIVITY</td>
<td>ZINC ALLOY</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>00779</td>
<td>1-2308321-1</td>
<td>BACKSHELL, 15 POSITION D-SUB, QL</td>
<td>TE CONNECTIVITY</td>
<td>ZINC ALLOY</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>28198</td>
<td>EVD15P000000AA1289.2</td>
<td>PLUG, D-SUB 15 PIN MALE CRIMP</td>
<td>POSTITRONIC</td>
<td>INCLUDES PINS</td>
</tr>
</tbody>
</table>

---

**SPECIFICATIONS**

- **DIA. MONOFILAMENT**
- **POLYOLEFIN**
- **PTFE**
- **KAPTON**
- **KOATON**
- **TE CONNECTIVITY**
- **ZINC ALLOY**
- ** Includes Pins**

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**FOR PRODUCTION**

- **TMT.CTR.DWG.16.018.REL03**
- **SIZE 23835**
- **CAGE CODE 10398531**
- **REV C**

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**NOTES:**
- FOR PRODUCTION
- TMT.DOCUSHARE NO TMT.CTR.DWG.16.018.REL03
- SIZE B 23835 10398531 REV C
- SCALE: 1/1
- UNCLASSIFIED SHEET 2 OF 3
TABLE 2: FINISHED CABLE LENGTHS

<table>
<thead>
<tr>
<th>CONNECTOR</th>
<th>1 (A-C-E)</th>
<th>2 (B-D-F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>J1</td>
<td>500 mm</td>
<td>500 mm</td>
</tr>
<tr>
<td>J2</td>
<td>759 mm</td>
<td>915 mm</td>
</tr>
<tr>
<td>J3</td>
<td>440 mm</td>
<td>440 mm</td>
</tr>
</tbody>
</table>

SEE TABLE 2 FOR CABLE LENGTHS

SEE TABLE 2 FOR CABLE LENGTHS