REQUIREMENTS:

1. GENERAL:
   A. INTERPRET DRAWING IN ACCORDANCE WITH STANDARDS PRESCRIBED
      BY MIL-D-70327.
   B. SWITCHES SHALL BE CAPABLE OF MEETING THE REQUIREMENTS OF
      MIL-S-6743, EXCEPT AS OTHERWISE SPECIFIED HEREIN.
   C. THE SUPPLIER SHALL CONFORM TO QUALITY ASSURANCE PROVISIONS
      AS CONTAINED IN ND 1015404, CLASS 1.
   D. UNITS SHALL BE CAPABLE OF MEETING THE QUALIFICATION RE-
      QUIREMENTS OF ND 1002055 UNLESS MODIFIED OR AMENDED BY
      DESIGN REQUIREMENT SECTION OF THIS DRAWING.
   E. PRESERVATION, PACKAGING, PACKING AND CONTAINER MARKING PER
      ND 1002215 CLASS 1 CODE 1.

2. INSPECTION AND ACCEPTANCE:
   A. MECHANICAL REQUIREMENTS:
      (1) ACTUATING FORCE: 7 OUNCES, MAXIMUM.
      (2) RELEASE FORCE: 1 OUNCE, MINIMUM.
      (3) PRETRAVEL: 0.030, MAXIMUM.
      (4) DIFFERENTIAL MOVEMENT: 0.006 MAXIMUM.
      (5) OVER TRAVEL: 0.003, MINIMUM.
      (6) OVER TRAVEL FORCE: 3 POUNDS MAXIMUM.
      (7) CONTACT ARRANGEMENT: SINGLE POLE, DOUBLE THROW.
      (8) MATERIAL AND FINISH:
         (a) EXTERNAL METAL PARTS (EXCEPT TERMINALS) - STAINLESS
             STEEL, PASSIVATED.
         (b) TERMINALS SOLDER LUG-NICKEL IRON ALLOY-SOLDER DIPPED.
         (c) TERMINAL AND LEAD IMBEDMENT-RTV SILICONE RUBBER
             PER NASA DRAWING 1006720.
   B. PIECEMARKING: PARTS SHALL BE PERMANENTLY AND LEGIBLY
      MARKED PER ND 1002191 WITH THE NASA DRAWING NUMBER, PLUS
      DASH NUMBER AND REVISION LETTER, AND MANUFACTURER'S SERIAL
      NUMBER. TERMINAL IDENTIFICATION SHALL BE PERMANENTLY AND
      LEGIBLY MARKED ON THE PARTS.
   C. PACKAGING: INTERNAL INDIVIDUAL OR COLLECTIVE PACKAGES
      AND EXTERNAL PACKAGING SHALL BE MARKED WITH THE FOLLOWING
      INFORMATION: MANUFACTURER'S NAME OR SYMBOL, NASA PART
      NUMBER AND REVISION LETTER, MANUFACTURER'S LOT OR SERIAL
      NUMBER, DATE CODE OR DATE OF MANUFACTURE.
   D. SEALING: (100%) LEAKAGE SHALL BE LESS THAN 10⁻⁶ CC/SEC.
      (CONVERTED TO LEAKAGE OF HELIUM) AT A PRESSURE DIFFER-
      ENTIAL OF 1 ATMOSPHERE. TEST SHALL BE PERFORMED WITH A
      MASS SPECTROMETER OR OTHER EQUIPMENT CAPABLE OF THE
      REQUIRED ACCURACY.

PRODUCE ONLY FROM APPROVED SOURCES LISTED ON
NO 1002204 FOR THIS DRAWING.
MOTICE — WHEN GOVERNMENT DRAWINGS, SPECIFICATIONS, OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE UNITED STATES GOVERNMENT THEREBY INCURS NO RESPONSIBILITY NOR ANY OBLIGATION WHATSOEVER. AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS, OR OTHER DATA IS NOT TO BE RECOGNIZED BY IMPLICATION OR OTHERWISE AS ANY LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE, OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

**INSPECTION AND ACCEPTANCE: (CONTINUED)**

<table>
<thead>
<tr>
<th>DASH NUMBER</th>
<th>DIMENSION &quot;A&quot;</th>
<th>TERMINATION</th>
<th>TERMINAL LEAD STRENGTH</th>
</tr>
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<tbody>
<tr>
<td>-3, 12 MIN</td>
<td>-2, 370 MAX</td>
<td>SOLDER LUGS</td>
<td>5 LBS</td>
</tr>
<tr>
<td>-2, 390 MAX</td>
<td>SOLDER LUGS</td>
<td>5 LBS</td>
<td></td>
</tr>
<tr>
<td>-3, 12 MIN</td>
<td>WIRE LEADS</td>
<td>10 LBS</td>
<td></td>
</tr>
<tr>
<td>-2, 390 MAX</td>
<td>SOLDER LUGS</td>
<td>5 LBS</td>
<td></td>
</tr>
</tbody>
</table>

**B. ELECTRICAL REQUIREMENTS:**

1. **Dielectric Withstanding Voltage:** 1000 Volts RMS, 70,000 Feet: 300 Volts RMS.
2. **Insulation Resistance:** (1000) shall be a minimum of 1000 megohms when measured with 100 V DC applied for a maximum of 1 minute between terminals and ground or case and mutually insulated parts.
3. **Contact Resistance:** (1000) shall be measured with 1 milliampere from a 6 volt DC open circuit voltage. The contacts shall not switch the measuring load. Limits shall be 1 ohm max. Initially, during and after the specified cycles of life.

**C. DESIGN:**

1. **Temperature Range:** Minus 300°F to plus 250°F.
2. **Contact Rating:** (20 volts DC/125 volts, 400 cycles):
   
   - **Resistive:** 5 amperes
   - **Inductive:** 3 amperes
3. **Strength of Terminals:** Per ND 1002055, except as otherwise noted in Table Below.
4. **Strength of Actuator and Stop:** 10 pounds.
5. **Minimum Operating Cycles:** 25,000
6. **Switches shall be hermetically sealed and filled with an inert gas.
7. **Terminals — Solder Lugs Only, shall be tinned for soldering.
8. **Dielectric Strength:** Per ND 1002055, except test voltage at a simulated altitude of 70,000 feet shall be 300 volts RMS at 60 CPS.
9. **Shock:** Per ND 1002055, except half sine wave shock input shall be used.
10. **Life:** Per ND 1002055, except dielectric strength shall be performed at a test voltage of 500 volts RMS at 60 CPS and contact resistance limits shall be 500 megohms maximum when checked under actual life test load conditions.

**3. DESIGN:**

- **Temperature Range:** Minus 300°F to plus 250°F.
- **Contact Rating:** (20 volts DC/125 volts, 400 cycles):
  
  - **Resistive:** 5 amperes
  - **Inductive:** 3 amperes
- **Strength of Terminals:** Per ND 1002055, except as otherwise noted in Table Below.
- **Strength of Actuator and Stop:** 10 pounds.
- **Minimum Operating Cycles:** 25,000
- **Switches shall be hermetically sealed and filled with an inert gas.
- **Terminals — Solder Lugs Only, shall be tinned for soldering.
- **Dielectric Strength:** Per ND 1002055, except test voltage at a simulated altitude of 70,000 feet shall be 300 volts RMS at 60 CPS.
- **Shock:** Per ND 1002055, except half sine wave shock input shall be used.
- **Life:** Per ND 1002055, except dielectric strength shall be performed at a test voltage of 500 volts RMS at 60 CPS and contact resistance limits shall be 500 megohms maximum when checked under actual life test load conditions.

**4. SPECIAL CONDITIONING:**

- **Exposed Surface of Terminal Imbedment Material for Solder Lug Terminals shall be roughened or abraded by sand blasting or other suitable means for future priming and water proofing.
MANNED SPACECRAFT CENTER
HOUSTON, TEXAS

SWITCH, SENSITIVE

SPECIFICATION CONTROL DRAWING

NO. 22 WIRE LEAD
PER MIL-W-16878
(TYPE E) 3 REQD

-.026 RADIUS

.036 SPHERICAL

.030 MAX
PRETRAVEL

.090 MAX
SEE NOTE 1

.375 SEE
NOTE 1

.090 MAX
SEE NOTE 1

.260 .240

.261

.290

.217 .197 .401 MAX

.610 REF

DASH -4

NOTE 1:

022.30C 1010901

MASTER