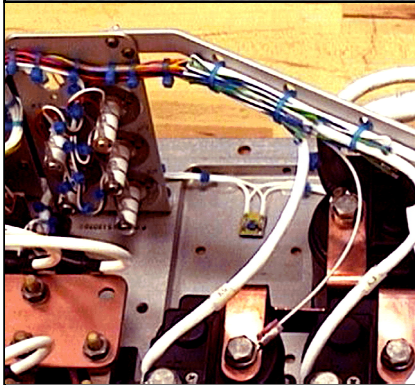


**CABLE AND HARNESS
MULTI-CONDUCTOR**

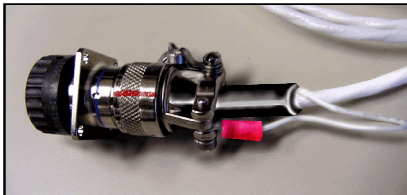


MULTI-CONDUCTOR

Multi-conductor cable is an engineered wiring product, typically constructed of two (2) or more individually insulated conductors, bound together by an overall insulation jacket (unshielded); or, bound and wrapped with an overall metallic covering (braid or foil), and covered by an overall insulation jacket (shielded).

Multiconductor cable is used primarily for the transmission of control and/or data signals.

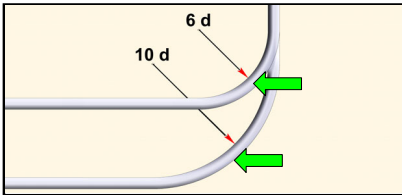
See Section 4.01 "Cable and Harness, General Requirements", for common accept / reject criteria.



GENERAL REQUIREMENTS

Cable and connectors are clean, damage-free, and free of contamination and/or corrosion. Shields are terminated per engineering requirements. Dimensions, layout, and identification meet design requirements.

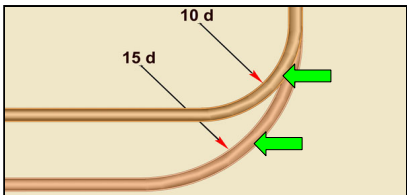
[NASA-STD-8739.4 \[19.6.1 \]](#)



**PREFERRED
BEND RADIUS
(EXCLUDING KAPTON®)**

Cables insulated with materials other than Kapton® shall not be bent less than six (6) outer diameters. The recommended long-term bend radius is ten (10) diameters.

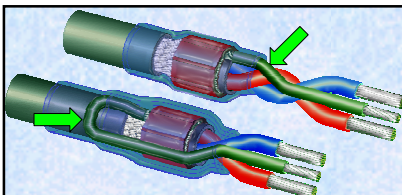
[NASA-STD-8739.4 \[7.3.21 \]](#)



**PREFERRED
BEND RADIUS
(KAPTON®)**

Kapton® insulated cables shall not be bent less than ten (10) outer diameters. The recommended long-term bend radius is fifteen (15) diameters.

[NASA-STD-8739.4 \[7.3.21 \]](#)



**ACCEPTABLE
SHIELD TERMINATION – CRIMP SLEEVE**

Heat shrink sections are properly installed, tightly shrunk, and the termination is visible. Overlaps meet minimum electrical spacing. Ground wire exhibits proper bend radius and strain relief.

[NASA-STD-8739.4 \[7.3.22 \]](#), [19.6.1]

NASA WORKMANSHIP STANDARDS

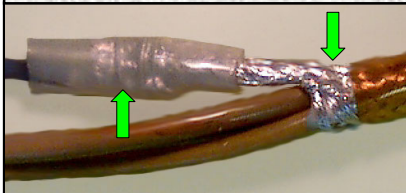


NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION

JOHNSON SPACE CENTER
HOUSTON, TEXAS USA 77058

Released: 04.05.2002	Revision:	Revision Date:
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**CABLE AND HARNESS
MULTI-CONDUCTOR (cont.)**



**ACCEPTABLE
SHIELD TERMINATION – LASH SPLICE
INTERIM ASSEMBLY**

The termination exhibits a fully wetted solder termination. Shield braid is smooth and evenly dressed with no sharp edges or projections. Shrink tubing properly installed and tight.

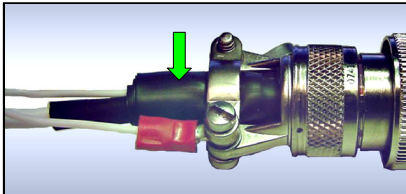
[Best Workmanship Practice](#)



**ACCEPTABLE
SOLDER SLEEVE TERMINATION**

The solder sleeve has been properly installed and tightly shrunk. Strain relief is acceptable. Overlaps are of sufficient length to meet minimum electrical spacing. Solder fillet is visible, fully flowed, and smooth.

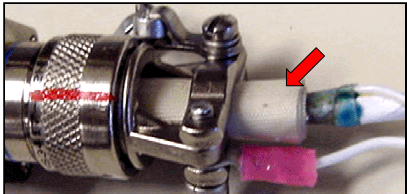
[NASA-STD-8739.4 \[11.4 \]](#)



**ACCEPTABLE
STRAIN RELIEF**

The cable (shielded / unshielded) should be dressed to ensure that the strain relief mechanism transfers structural stresses from the connector to the cable sheath (or strength member) rather than to the individual conductors.

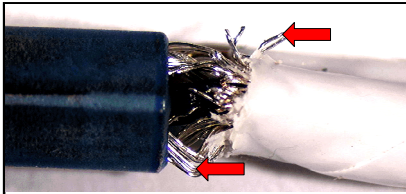
[Best Workmanship Practice](#)



**UNACCEPTABLE
IMPROPER STRAIN RELIEF**

The cable has been dressed in a manner that results in the possible transfer of stress from the connector to the individual conductors, rather than to the cable sheath or stress member.


[Best Workmanship Practice](#)



**UNACCEPTABLE
PROJECTING SHIELD STRANDS**

The shield strands have been improperly dressed, resulting in projecting strands that may result in an electrical short or sharp object (puncture / snag) concern.

[Best Workmanship Practice](#)

NASA WORKMANSHIP STANDARDS				
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