Richards MANUFACTURING CO.
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Fax: 973-371-4304
www.richards-mfg.com

Product Family
JSCS

Installation Instructions

JSCS Series I Cold Shrink Disconnectable Joint

Applicable Current Ratings

600A (Aluminum) | 900A (Copper)

Applicable Housing Sizes

O, P, & Q

Applicable Catalog Prefix

15/25/28kV Class

P625JSCS-
P925JSCS-

35kV Class

P635JSCS-
P935JSCS-

For Use With the Following Cable Types

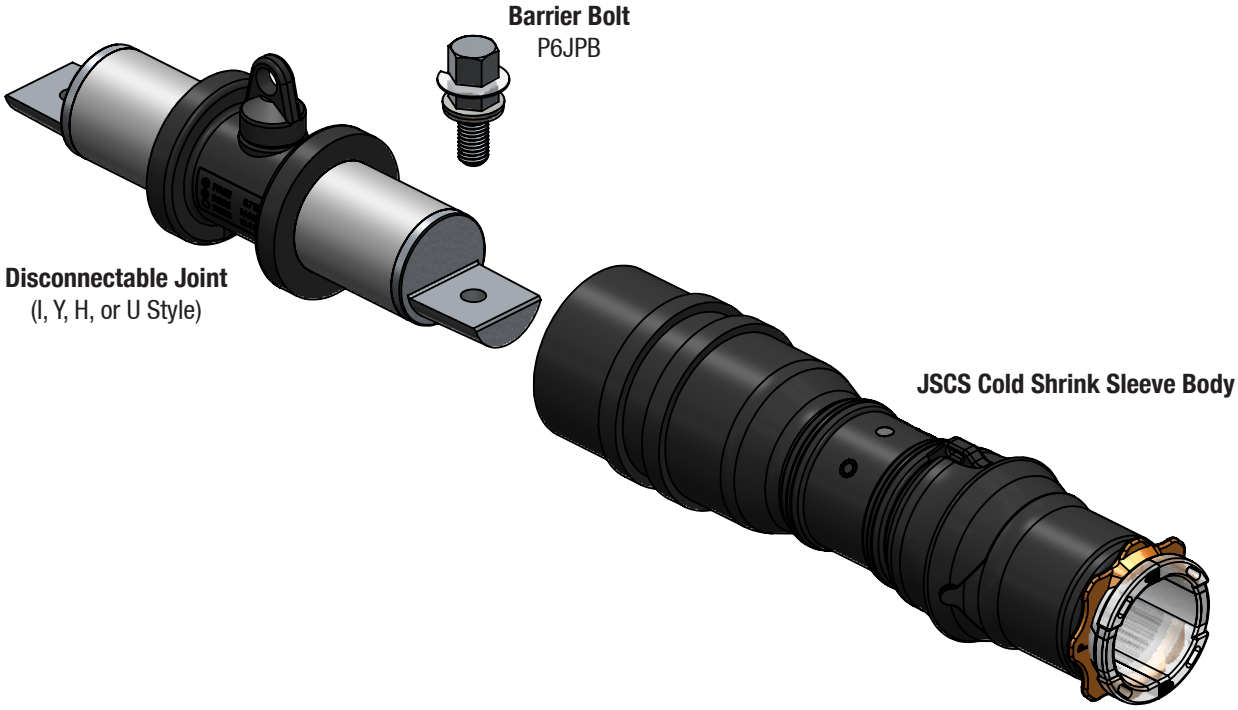
Jacketed Concentric Neutral (JCN)
Longitudinally Corrugated Neutral (LC)
Tape Shield Neutral

WARNING

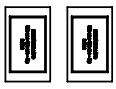
- System must be de-energized during installation or future operation of this product or its components.
- Do not touch or move energized connectors or components by hand.
- Excess distortion of the assembled connector may result in its failure.
- Failure to follow these instructions will result in damage to the connector and serious or fatal injury.
- This product should only be installed and/or operated by trained personnel in accordance with normal and safe work procedures.
- Variations in equipment or configuration or work procedures may not be covered in these instructions.
- Please contact Richards Manufacturing for any additional questions.

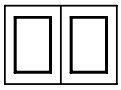
KIT CONTENTS

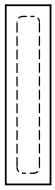
Standard kits may include the following. Custom kits may vary.
Check package contents to be sure they are complete, undamaged,and properly sized for the application.

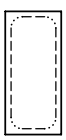


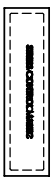
(1) Cable Prep Pack containing:


Grease

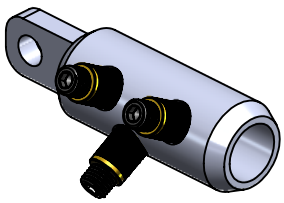

Cable Prep Wipes


Jacket Mastic
(1 Piece)

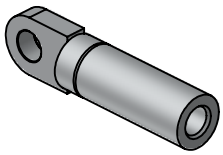

Sealing Mastic
(1 Piece)


Stress Control Mastic
(1 Piece)


Latex Gloves
(1) Pair


Shear Bolt Lug
P6ALR-X

OR


Compression Lug
P6AL-X
P7ALCU-X
P9CU-X

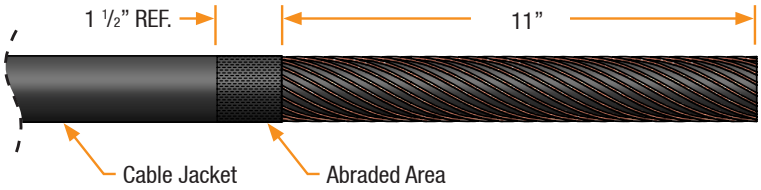
TIP: Use To-Scale Cable Cutback Template as aid to prepare cable.
NOTE: Certain items used, such as PVC tape, may not be included.

1 Positioning Cable & Exposing Metallic Shield

A. Straighten and train cable ends.
B. Cut cables with 15" between them to allow for Bus.
C. Clean cable jacket up to 36" from end of cable.

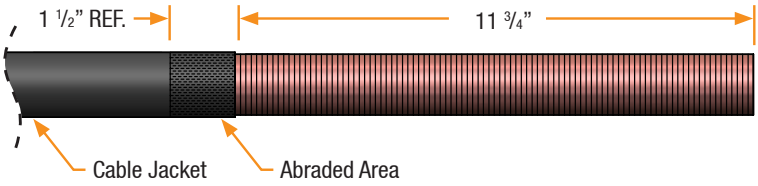
For Strap/Wire Shielded Cable

D. Remove cable jacket to dimensions shown.
E. Abrade area as shown.



For Metallic Tape/LC Shielded Cable

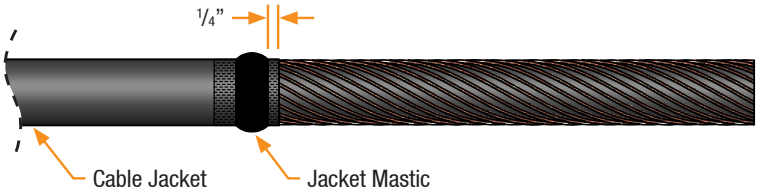
D. Remove cable jacket to dimensions shown.
E. Abrade area as shown.



2 Applying Jacket Mastic

For Strap/Wire Shielded Cable

A. Apply one piece of **jacket mastic** at position shown by stretching and wrapping with light tension fully around outer jacket.



For Metallic Tape/LC Shielded Cable

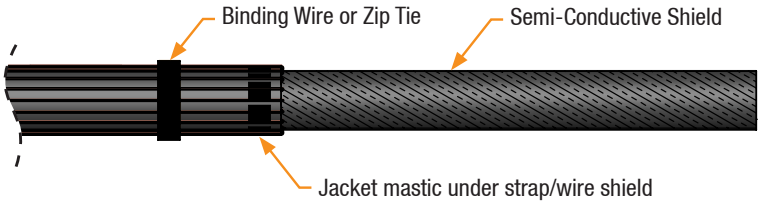
Go to Step 3

NOTE: Jacket mastic will be applied in Step 10.2

3 Exposing Cable Semi-Conductive Shield

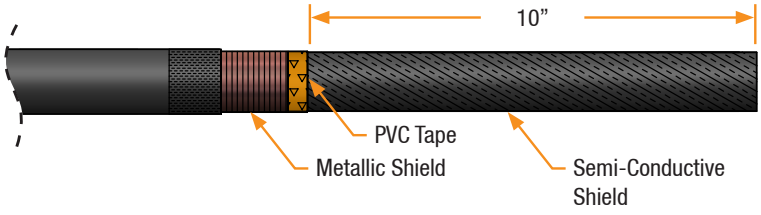
For Strap/Wire Shielded Cable

A. Fold back strap/wire shields and press firmly into jacket mastic.
B. Secure strap/wire shields 3" back from jacket mastic with binding wire or zip tie as shown.



For Metallic Tape/LC Shielded Cable

A. Wrap 2 layers of PVC tape at dimension shown to secure metallic shield.
B. Remove metallic shield up to PVC tape as shown.

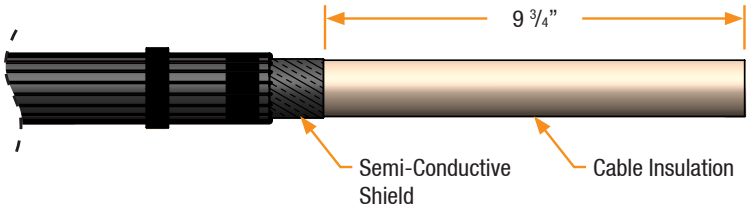


4 Exposing Cable Insulation

For Strap/Wire Shielded Cable

A. Remove semi-conductive shield to dimension shown.

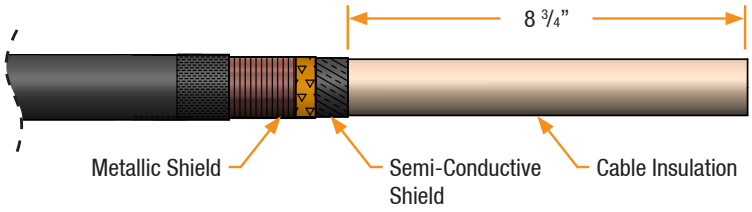
WARNING: Do not nick or cut the cable insulation.



For Metallic Tape/LC Shielded Cable

A. Remove semi-conductive shield to dimension shown.

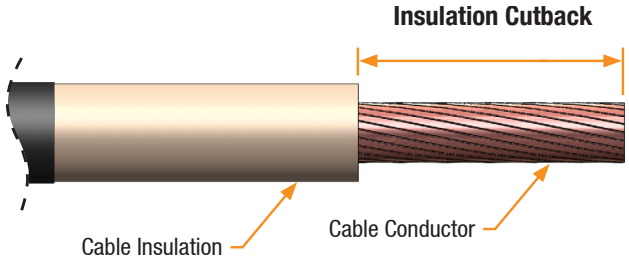
WARNING: Do not nick or cut the cable insulation.



5 Exposing Conductor

A. Remove cable insulation. Refer to instructions provided with lug for insulation cutback dimension. Cutback dimension should not exceed 4 3/8".

WARNING: Do not nick or cut the conductor strands.



NOTE: Confirm all dimensions with To-Scale Cable Cutback Template before proceeding.

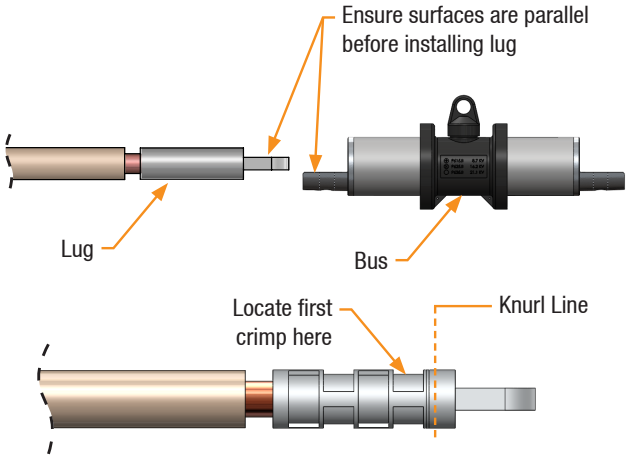
Repeat Steps 1-5 for other cable(s)

6 Installing Lug

A. Clean conductor of any debris. For aluminum conductor, wire brush and immediately insert lug onto conductor. Slide lug until the conductor is fully seated within the lug barrel.

B. Rotate lug so that spade is parallel to the contact face of the bus as shown.

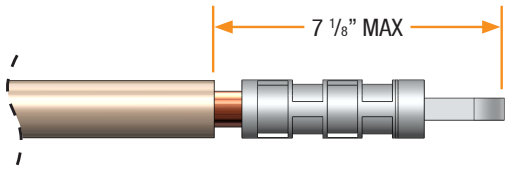
C. **For Shear Bolt Connectors:** Install lug using separate instructions provided with lug.
For Crimp Connectors: Select correct tool and die using crimp chart supplied with lug. Crimp lug (min. number indicated in crimp chart) starting just below knurl line adjacent to pad. Carefully wipe any excess inhibitor from lug and cable insulation.



7 Checking Lug

A. After installing lug, confirm distance from lug end to insulation cutback does not exceed dimension shown.

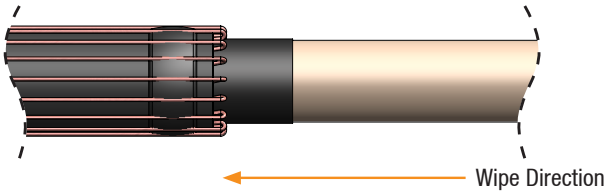
WARNING: Do not exceed maximum dimension shown.



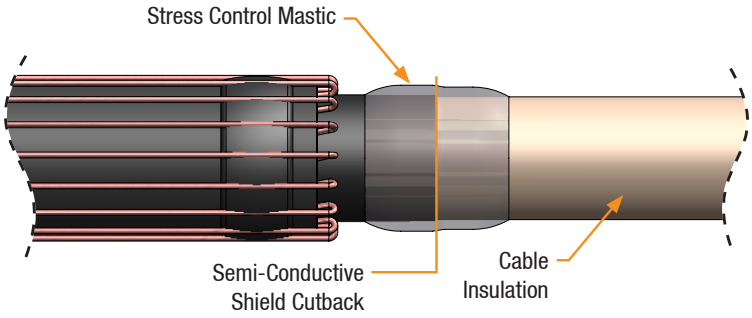
8 Applying Stress Control Mastic

For Strap/Wire Shielded Cable

A. Clean insulation with approved cleaning wipes by wiping from lug to shielding.
B. Apply supplied **stress control mastic** centered over edge of semi-conductive shield cutback. Apply the mastic with light tension so it slightly stretches and completely wraps the cable.

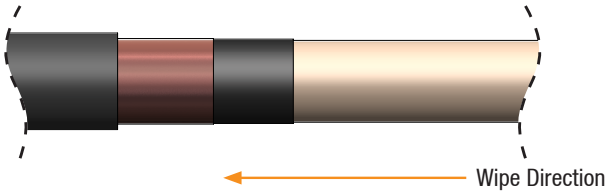


Applied Stress Control Mastic

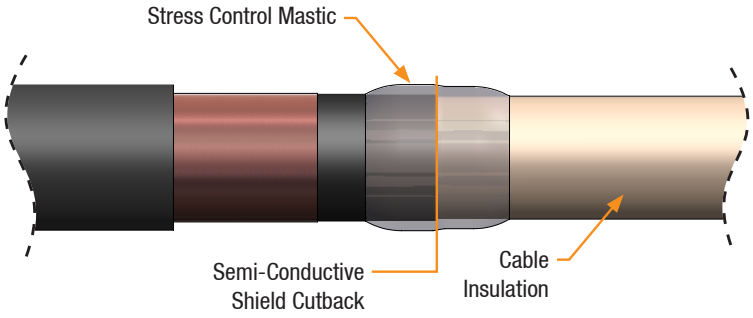


For Metallic Tape/LC Shielded

A. Clean insulation with approved cleaning wipes by wiping from lug to shielding.
B. Remove PVC tape from Step 3.
C. Apply supplied **stress control mastic** centered over edge of semi-conductive shield cutback. Apply the mastic with light tension so it slightly stretches and completely wraps the cable.

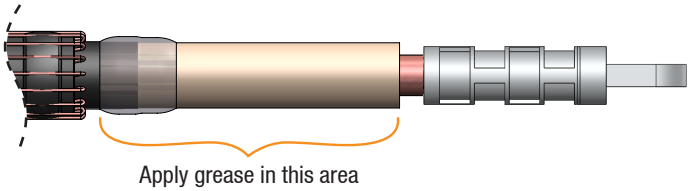


Applied Stress Control Mastic



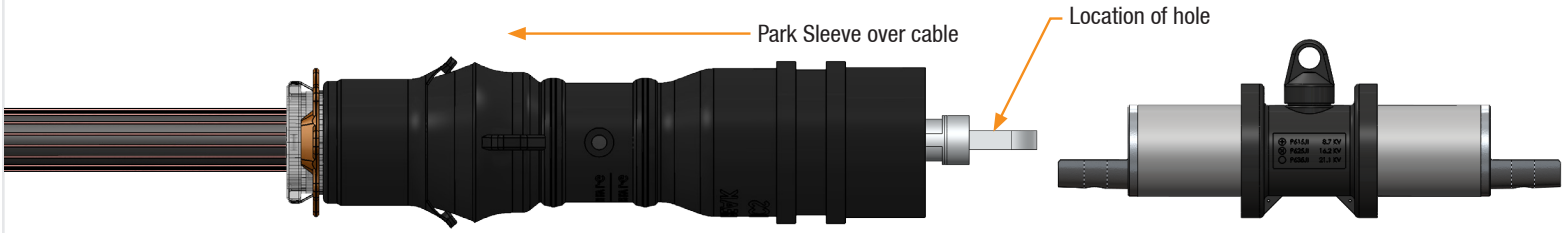
9.1 Applying Grease

A. Apply grease over exposed cable insulation and stress control mastic as shown. Use only supplied or approved silicone grease.



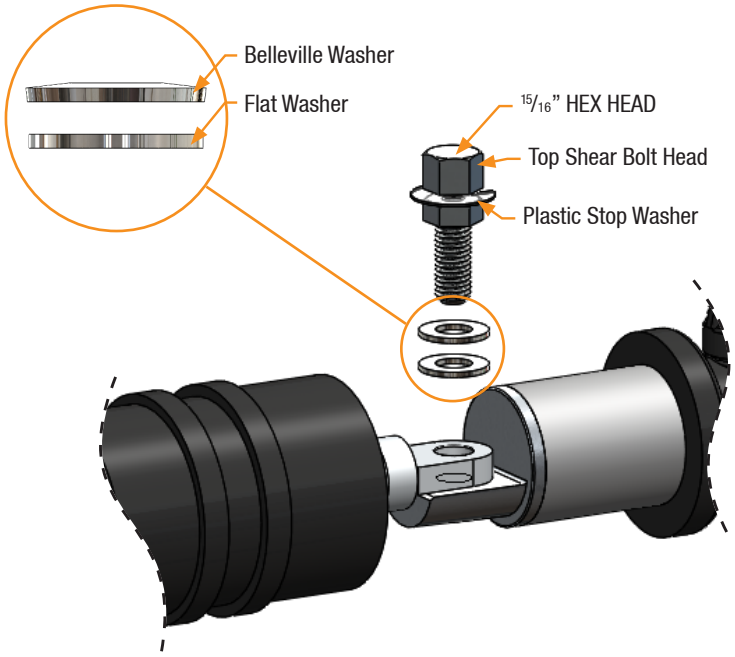
9.2 Parking Sleeve

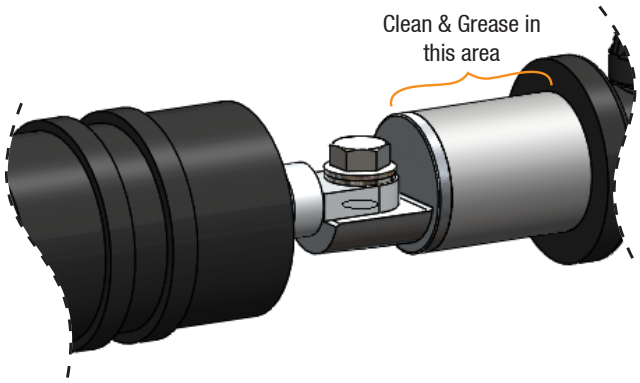
A. Slide sleeve body over cable so that hole in lug is visible as shown.

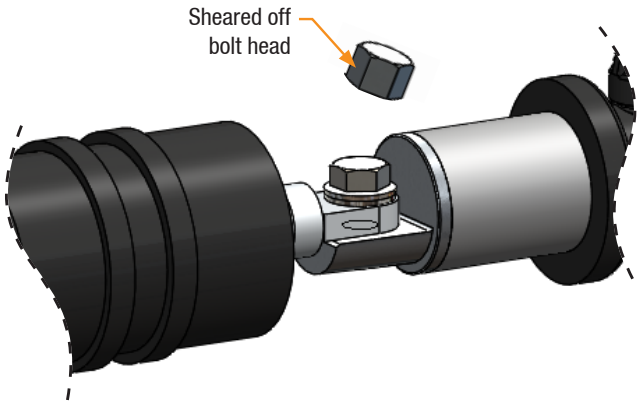


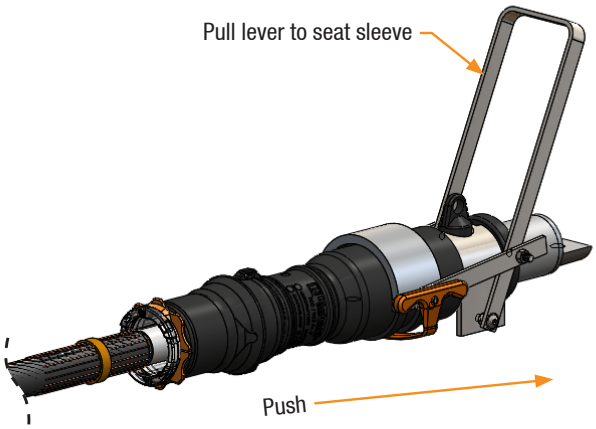
9.3 Installing Sleeve

A. Position belleville washer and flat washer on bolt as shown.
B. Insert bolt through lug and hand-tighten bolt to ensure all cables fit on bus.
C. Tighten the top shear bolt head until it shears off.
D. Clean joint interface as shown.
E. Apply grease over bus interface as shown. Use only supplied or approved silicone grease.
F. Slide sleeve body over lug and push onto bus. This can be accomplished by hand or by use of one of the installation tools shown below.

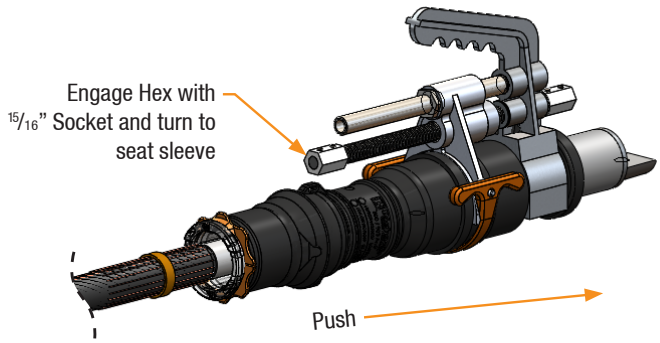








P6JAT1
Installation/Removal tool (optional)



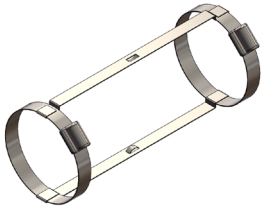
P6JAT3
Installation/Removal tool (optional)

Repeat Steps 6-9.3 for other cable(s)

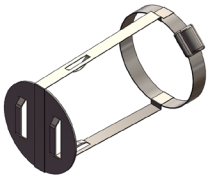
9.4 Installing Sleeve Restraints

NOTE: This step applies for installations using sleeve restraints only. If not using sleeve restraints proceed to next step.

A. Seat sleeve restraints in sleeve housing channels as shown below. Apply appropriate type and number of sleeve restraints as follows:
- I Joint: (1) JRI
- Y Joint: (1) JRI, (1) JRE
- H Joint: (2) JRI
- U Joint: (2) JRE



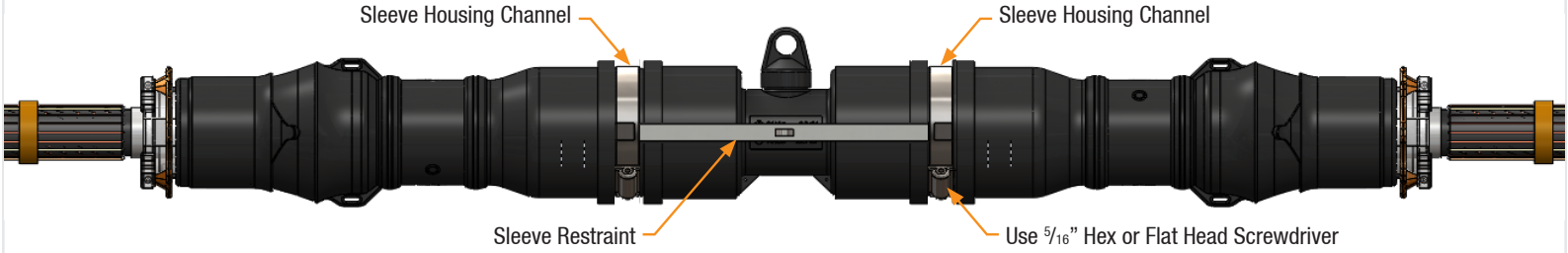
JRI



JRE

B. Tighten all sides of sleeve restraint with a 5/16" hex or a flat head screwdriver. Fully tighten until the screw "clicks". Sleeve restraint is designed to click when fully installed and will not over-tighten.

NOTE: If sleeves are not fully seated onto joint, sleeve restraints cannot be installed.



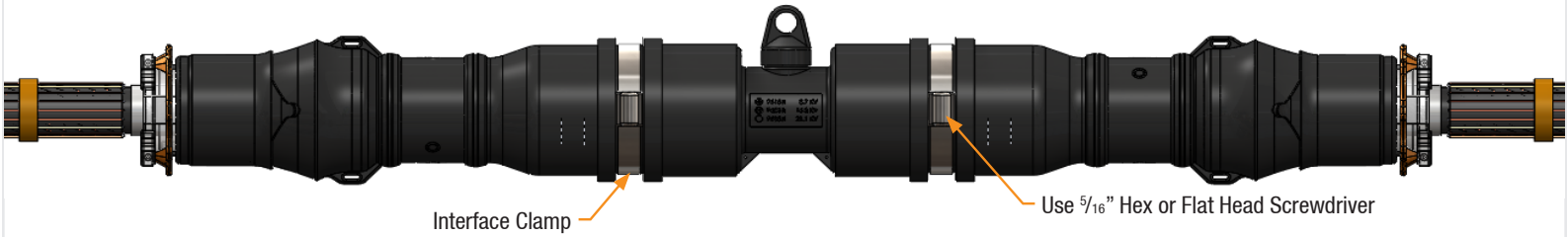
9.5 Installing Interface Clamps

NOTE: This step applies to 35kV only and is only applicable if sleeve restraints were not installed in the previous step. If installation is below 35kV and/or sleeve restraints were installed in previous step, proceed to next step.

WARNING: If Sleeve Restraints are not included with kit, Interface Clamps MUST be installed on EACH sleeve.

A. Seat interface clamps in all sleeve housing channels as shown.
B. Tighten with a 5/16" hex or a flat head screwdriver. Fully tighten until the screw "clicks". Interface clamp is designed to click when fully installed and will not over-tighten.

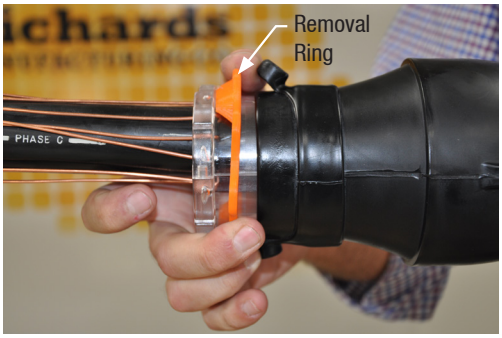
Interface Clamp



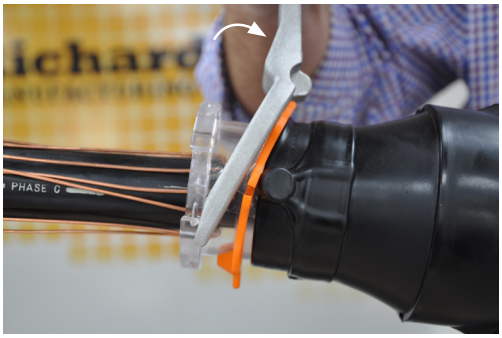
10.1 Removing Core

A. Grasp removal ring. Push ring against core flange and twist so that cutting teeth breaks tape on both sides. Check that tape is broken.
B. **To remove core by hand:** Proceed to Step D.
To remove core using P6AT-CS2 Tool: Insert one half of tool between removal ring and core flange. Pry core slightly away from housing.
C. Insert second half of core removal tool between removal ring and core flange. Press handles inwards to eject core.
D. Completely remove core from rubber housing by hand. **DO NOT** twist core while removing.
E. Separate core into two halves and clip any plastic rings that remain on cable.

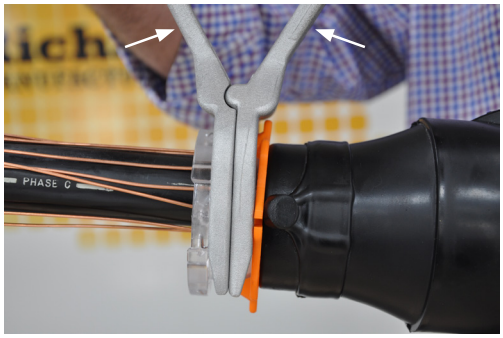
A



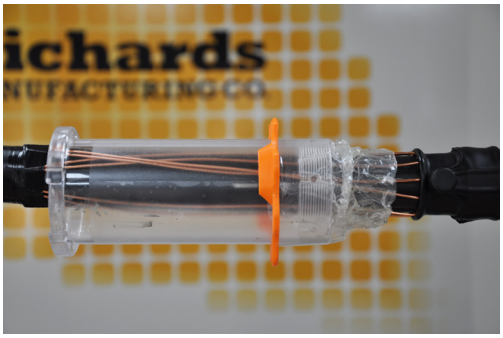
B



C



D



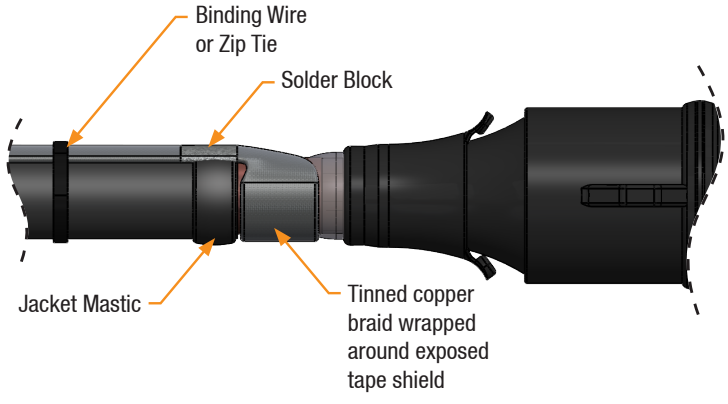
10.2 Preparing Metallic Shield

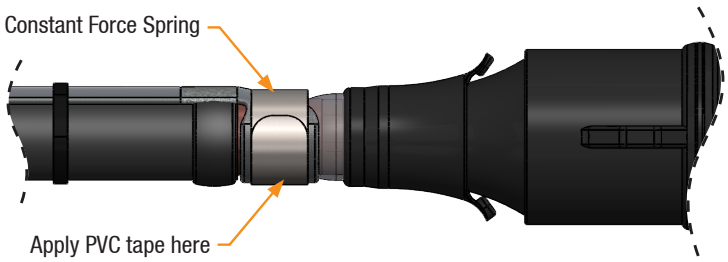
For Strap/ Wire Shielded Cable

Go to Step 11

For Metallic Tape/LC Shielded

A. Install **jacket mastic** on cable jacket aligned with jacket cutback.
B. Wrap tinned copper braid around exposed metallic shield.
C. Align edge of solder block with jacket cutback.
D. Secure copper braid 3” back from end of jacket mastic with zip tie or binding wire.
E. Unwind constant force spring over wrapped copper braid as shown.
F. Tighten constant force spring by hand and wrap two layers of PVC tape (in direction of spring) to secure.
G. Press solder block into jacket mastic.

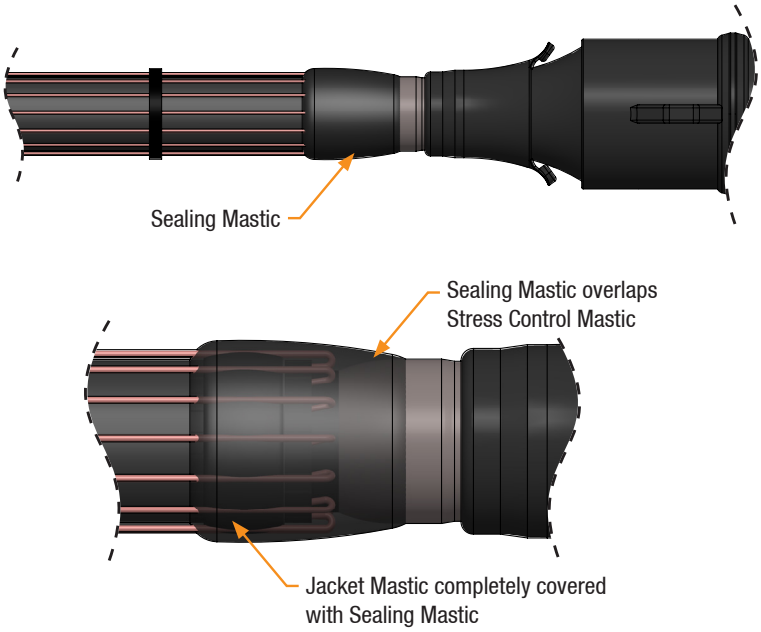




11 Applying Sealing Mastic

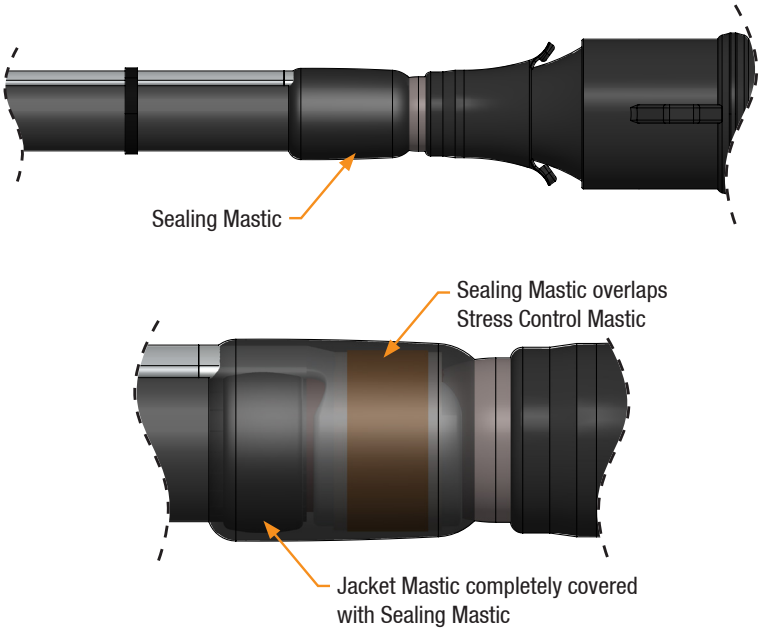
For Strap/Wire Shielded Cable

A. Apply **sealing mastic** to overlap the stress control mastic and completely overlap jacket mastic as shown below.
B. Compress sealing mastic to create a smooth transition to stress control mastic; this will assist during jacket seal application.



For Metallic Tape/LC Shielded

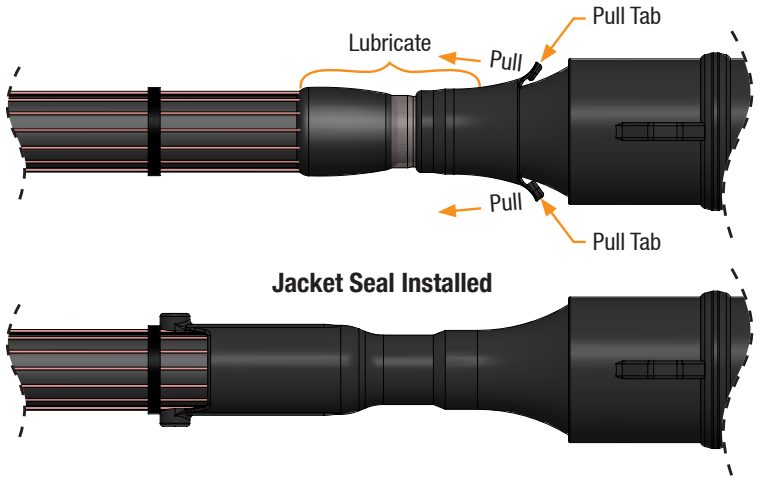
A. Apply **sealing mastic** to completely overlap jacket mastic as shown below.
B. Compress sealing mastic to create a smooth transition to stress control mastic; this will assist during jacket seal application.



12 Applying Jacket Seal

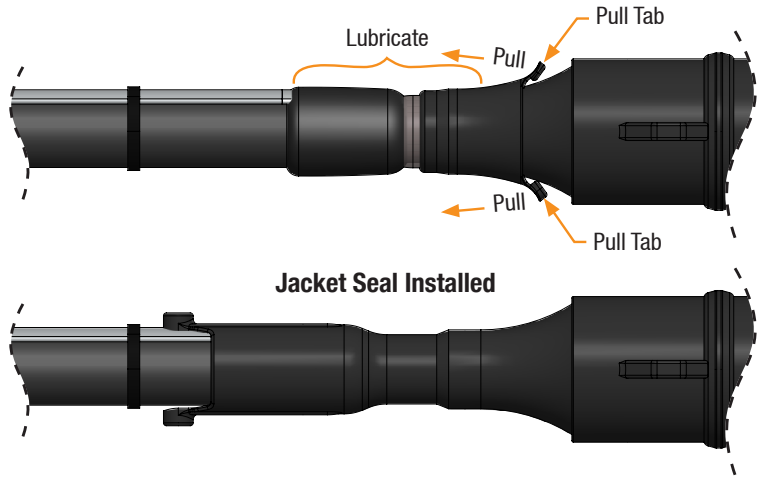
For Strap/Wire Shielded Cable

A. Apply grease over area as shown. Only use grease supplied with kit or approved silicone grease.
B. Hold both tabs and pull out to completely cover sealing mastics as shown below. Ensure sealing mastic is not dislodged when unfolding seal.



For Metallic Tape/LC Shielded

A. Apply grease over area shown below. Only use grease supplied with kit or approved silicone grease.
B. Hold both tabs and pull out to completely cover sealing mastics as shown below. Ensure sealing mastic is not dislodged when unfolding seal.



Repeat Steps 10.1-12 for other cable(s)

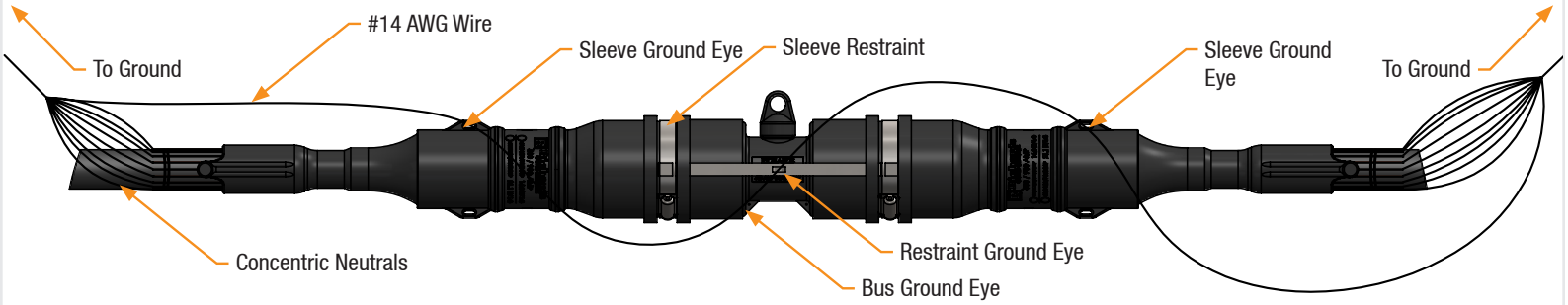
13

Connecting Joint to Ground

For Strap/Wire Shielded Cable

NOTE: Each component (sleeve, bus, sleeve restraints) is equipped with 1 or more ground eyes. It is important that all components are properly grounded.

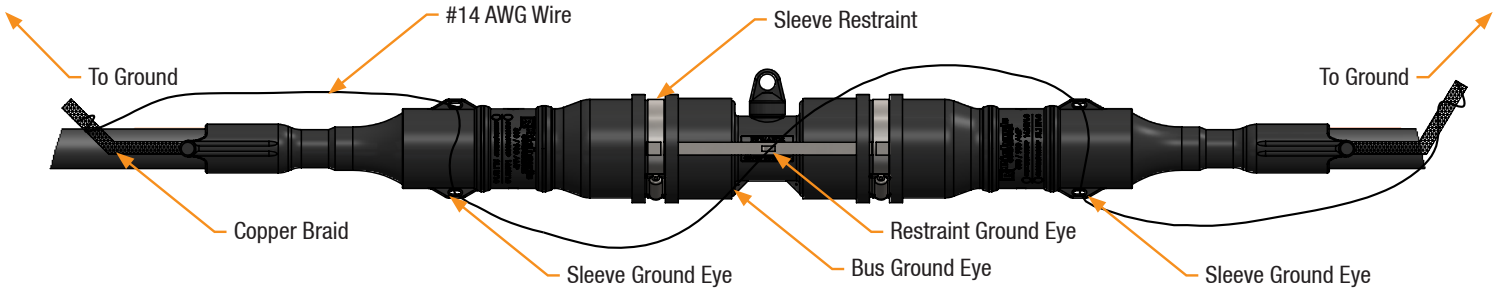
A. Install bleeder wire (#14 AWG or larger) through ground eye of each component. If using sleeve restraint(s) connection through bus and sleeve ground eye is optional. Twist to make a snug connection, taking care not to damage or tear ground eye.
B. Connect bleeder wire(s) to shield wires.
C. Ground the cable shield according to appropriate/approved practice.



For Metallic Tape/LC Shielded

Note: Each component (sleeve, bus, sleeve restraints) is equipped with 1 or more ground eyes. It is important that all components are properly grounded.

A. Install bleeder wire (#14 AWG or larger) through ground eye of each component. If using sleeve restraint(s) connection through bus and sleeve ground eye is optional. Twist to make a snug connection, taking care not to damage or tear ground eye.
B. Connect bleeder wire(s) to copper braid.
C. Ground the cable shield according to appropriate/approved practice.



Installation Complete

Richards MANUFACTURING CO.

Cutback Template

Product Family

JSCS

SCALE 1:1

Strap/Wire Shielded Cable

Metallic Tape/LC Shielded

Conductor

Conductor intentionally not shown exposed. Multiple insulation cutback lengths exist depending on lug being installed. Locate appropriate dimension within instructions (dimension should not exceed 4 3/8").

9 3/4”

11”

8 3/4”

10”

11 3/4”

Insulation

To-Scale Cutback Template Provided by the factory

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