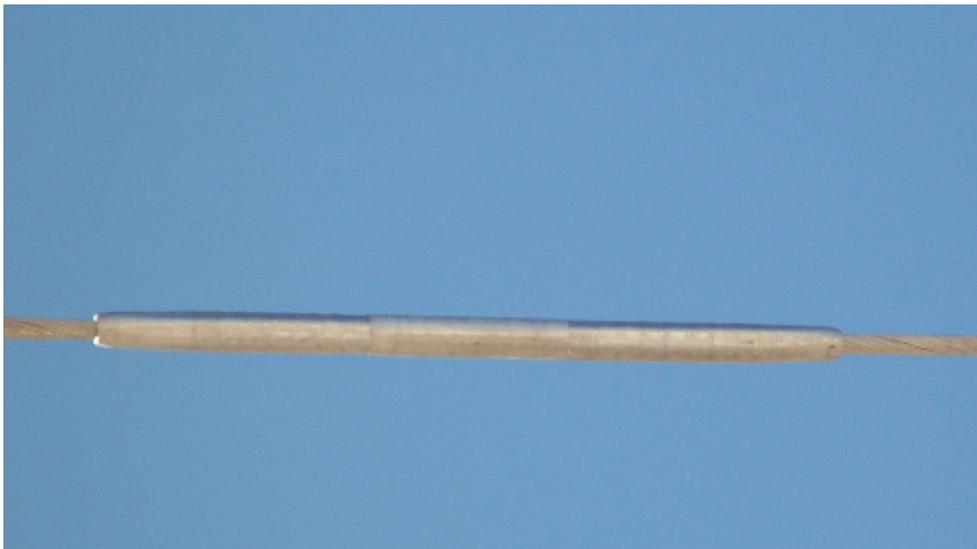

Installation Instructions

for AFL Collet Compression Joint

Installed on CTC Composite Core Conductor



NOTE:

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Preparation

Prior to making connections, the conductor and accessory bore must be clean. Clean conductor strands thoroughly with wire brush or abrasive cloth. (Wire brush “new” conductor also!) Check accessory bore for foreign particles, removing if present.

Serve the conductor, prior to cutting, with tape to help maintain the round contour. File a chamfer on the end of the conductor. (The larger the chamfer, the easier the conductor will slide through the joint).



Straighten several feet of the conductor removing the set caused by the reel.

Assembly

Joint Assemblies consist of an Aluminum Body, collet adapter, tapered collets and collet housings. The assembly may also contain body filler sleeves.

Installation

Measure back from each conductor and mark at a distance equal to 1/2 the length of the aluminum Joint.



Slide aluminum body over the conductor and beyond mark until sufficient working length protrudes from barrel end. Straightening the conductor as much as possible will also aid in this installation step.



NOTE: If the splice body uses filler sleeves, mark the conductor past half of the splice body at a distance equal to the filler sleeve protrusion.

Suggested method of cutting back aluminum strands

1. Tape location where "cutting back" is needed.
2. Position RIDGID cable trimmer around conductor at the tape location.
3. Cut outer aluminum strands by rotating tool until layer becomes loose.
4. Remove cut outer aluminum layer strand.
5. Bend inner layer wires back and forth until they fracture.
6. Remove the broken wires.



Collet assembly installation onto core

1. Remove prescribed amount of aluminum stranding from core. See Table 1 on the following page for amount of core to expose. Ensure the core is not damaged when cutting the inner strands. This can be achieved by lightly scoring the strands then bending the inner strands back and forth to remove.
2. Wipe the core clean to remove any oils and/or debris. Lightly remove shine from the core with sanding medium.
3. Clean and remove any dirt or particles from the exposed core with a clean cloth.
4. Clean inside sleeve of any dirt or oil.
5. Slide the first collet housing, wrench flats toward the aluminum strands onto the core, and butt it against the aluminum strands.
6. Install the collet, narrow end towards the housing, onto the core leaving ¼ inch (6 millimeters) of the core exposed from the wide end of the collet.
7. Install the stainless steel collet adapter and hand tighten before fully tightening with a wrench to 85 ft lbs (115 Newton meters) of torque.
8. Install the second collet assembly (per step 6 above) before hand-tightening onto the exposed end of collet adapter. Tighten with a wrench to 85 ft lbs (115 Newton meters) of torque.



Collet Housing (top) and Collet (bottom)

NOTE: It is extremely important not to nick the core during cutting back of the aluminum strands. If this is done, the ultimate strength of the Joint will be reduced.

Table 1—Length of Exposed Core for Dead Ends and Splices

ACCC® CONDUCTOR CODE NAME	KCMIL	MM ²	EXPOSED CORE LENGTH (INCH)	EXPOSED CORE LENGTH (MM)
Helsinki	303	153.7	7.0	180
Linnet	431	218.4	7.0	180
Copenhagen	440	223.0	7.0	180
Oriole	438	221.9	7.0	180
Reykjavik	447	226.3	7.0	180
Glasgow	473	239.8	7.0	180
Casablanca	546	276.8	7.0	180
Hawk	611	309.6	7.0	180
Lisbon	629	318.7	7.0	180
Amsterdam	733	317.4	7.0	180
Dove	713	361.3	7.0	180
Brussels	839	425.3	7.0	180
Grosbeak	816	413.5	7.0	180
Oslo	627	317.7	10.5	267
Stockholm	913	462.7	10.5	267
Warsaw	1016	514.8	10.5	267
Drake	1020	516.8	10.5	267
Dublin	1043	528.5	10.5	267
Hamburg	1092	553.3	10.5	267
Milan	1134	574.6	10.5	267
Rome	1183	599.4	10.5	267
Cardinal	1222	619.2	10.5	267
Vienna	1255	635.9	10.5	267
Budapest	1332	674.9	10.5	267
Prague	1377	697.7	10.5	267
Munich	1461	740.3	10.5	267
London	1512	766.1	10.5	267
Bittern	1572	796.5	10.5	267
Paris	1620	820.9	10.5	267
Antwerp	1879	952.1	10.5	267
Lapwing	1965	995.7	10.5	267
Berlin	2004	1015.4	10.5	267
Madrid	2020	1023.5	10.5	267
Chukar	2242	1136.0	10.5	267
Bluebird	2726	1381.5	10.5	267

Compressing

Suggested arrangement of compressor and accessory during field installation of Joint

The photo in Setup 1 illustrates setups, which works well to ensure a straight compression and easy maneuverability of the compressor. The photo in Setup 2 shows the conductor has been “tied off” (tensioned with slings and chain hoist) to slacken the conductor at point of installation.



Setup 1

The compressor is attached to the sling by a large shackle (the compressor is suspended upside down). The accessory and cable are tied to the sling ensuring all parts are straight and inline. The compressor can easily be slid along to each successive compression.



Setup 2

The compressor sits on a board, which sets on the rails of the high lift. The board and compressor can be slid along to each successive compression. The accessory and cable must be supported and all parts must be straight and inline or bowing will occur.

Remove tape from ends of aluminum strands and slide aluminum joint over steel sleeve until end of barrel aligns with marks placed on the conductors. This should center the outer aluminum sleeve over the collets.



Inject AFL Filler Compound into filler hole. AFL will specify amount needed base on accessory being used. Insert, then drive filler plug into hole and peen edge of hold over top surface of plug.

Filler Compound Information

Filler Compound does four things:

1. Protects the compressed barrels from corrosion. The filler compound acts as a barrier to moisture.
2. Contains aluminum particles, which clean the strands (removing oxides) while compressing. Compressing forces the compounds within the strands.
3. Blocks moisture, which can wick up through the strands. Compressing forces the compound throughout the conductor strands.
4. Aids in the holding strength of the accessory.

NOTE: Main reason for accessory failure is inadequate amount of filler compound in the accessory.

Select AFL/Alcoa die size to compress aluminum splice body. Die size for aluminum splice body and die size marked on the die must be the same. AFL/Alcoa dies are to be used in compressing AFL accessories.

The Joint will bow during compression unless reasonable care is taken to have about 15 ft. (4.5 m) of the conductor supported straight out from the ends of the Joint.



Lubricate area to be compressed from "Start" knurl to end of barrel as illustrated. Lubricate both ends of Joint.



Make initial compression on either side of Joint starting at the "Start" knurl. Make the second compression on the opposite end of the joint at the other "Start" knurl. Continue making compressions to the end of the joint. **Overlap each successive compression by approximately 0.50 inch (1.27 cm). Do not "skip bite." Complete die closure is required for each compression.** Go back and complete the compressions on the opposite end. The center portion of the Joint is not compressed.



Filler Compound should be visible at end of the barrel during the final compressions (if adequate amount has been pumped in).



Compressed portion of the dead end should have a smooth uniform appearance. Remove flash, if present, with file or emery cloth.

CAUTION: Follow Installation Instructions carefully. Improper installation can result in mechanical failure of the cable system and possible injury to persons handling or in the vicinity of the cable system.

Contact AFL if back-pressing of accessories is required.