

Installation Instructions

for AFL Compression Dead End Installed on TS HTLS Conductor



NOTE:

EXCEPT AS MAY BE OTHERWISE PROVIDED BY CONTRACT, THESE DRAWINGS AND/OR SPECIFICATIONS ARE THE PROPERTY OF AFL, ARE ISSUED IN STRICT CONFIDENCE, AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR MANUFACTURE OR SALE OF PRODUCT WITHOUT PERMISSION.

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.

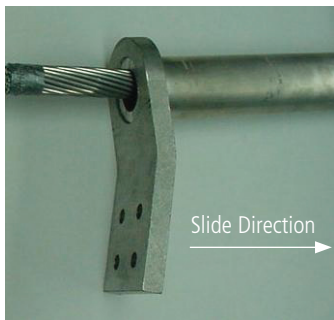
Seal the conductor, prior to cutting, with tape to help maintain the round contour making it easier to slide the end through the aluminum dead end.



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

Assembly

Dead End Assemblies consist of an Aluminum Body and Steel Eye Forging. A 15 degree jumper terminal is typically also included as part of the complete dead end assembly.



Slide aluminum dead end body (barrel first) over the conductor until sufficient working length protrudes from tongue end.

Suggested Method of Cutting Back Aluminum Strands

1. Tape location where "cutting back" is needed.
2. Position RIGID 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.



Eye Assembly Installation onto Core/Encapsulation

Remove prescribed amount of aluminum stranding from core/ encapsulation (see Table 1 below for the total amount to expose). Ensure the core and encapsulation are not damaged when cutting the inner aluminum strands. This can be achieved by lightly scoring the strands then bending the inner strands back and forth to remove.

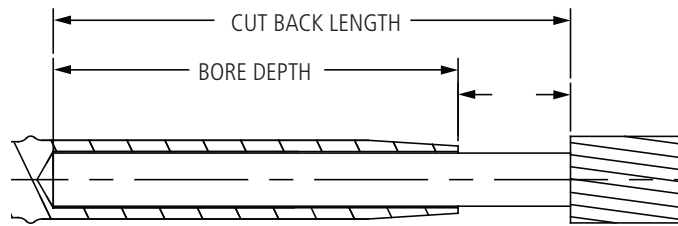


Table 1—Length of Exposed Core for Dead Ends and Splices

AFL SH DIE SIZE	TOTAL EXPOSED CORE/ENCAPSULATION LENGTH (INCH)	TOTAL EXPOSED CORE/ENCAPSULATION LENGTH (MM)
14SH, 16SH, 18SH, 20SH	7.0	180
24SH	13.5	343

Select die size for compressing steel barrel. The die size on die and die size marked on steel barrel must be the same.

NOTE: 100-ton dies are required when compressing TS Accessories.

Lubricate barrel with “Accu-Lube” or similar lubricant, or cover it with the plastic accessory shipping wrapper to ensure a straight compression barrel.

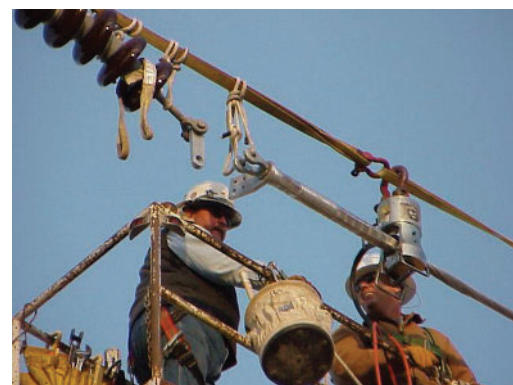
Using the proper SH die set, compress the steel barrel into span direction making initial compression adjacent to corrugation closest to barrel. Overlap each successive compression by at least ¼ inch (6.4 mm) making sure not to rotate the press head or steel sleeve. Complete die closure is required on all compressions, pressing the whole steel barrel all the way to the end.



Suggested Arrangement of Compressor and Accessory During Field Installation of Dead End

The photo at right illustrates a setup, which works well to ensure a straight compression and easy maneuverability of the compressor. The conductor has been “tied off” to the tower with a sling and chain wench. The compressor is then 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 in-line. The compressor can easily be slid along to each successive compression.

Remove tape from ends of aluminum strands and slide aluminum dead end body over steel forging until tongue butts solidly against felt washer and shoulder of steel forging. Align eye with tongue of dead end to ensure proper positioning when dead end is fastened to insulator hardware.



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.

Inject AFL Filler Compound, AFCHT or HiTUC into filler hole until compound emerges at the felt washer. Insert and drive filler plug into hole and peen edge of hole over top surface of plug.

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

The dead end 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 end of the dead end.

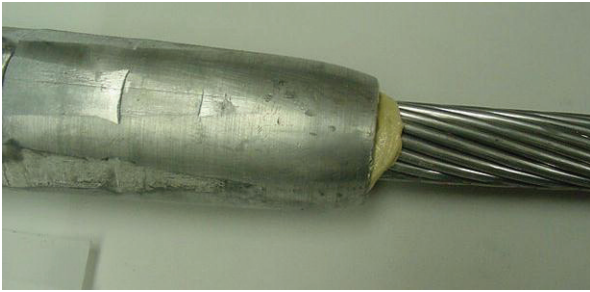


Lubricate area to be compressed from "Start" knurl to "Stop" knurl as illustrated.



Make initial compression on the dead end body over the steel shank beginning at the start knurl nearest the dead end tongue. Continue making compressions to the stop knurl, **overlapping the previous compression by approximately .50 inch (1.27 cm). Complete die closure is required for each compression.**

Press the dead end body over the conductor. Lubricate area to be compressed from "Start" knurl to end of barrel. Make the initial compression at the start knurl. Continue making compressions to the end of the dead end body, **overlapping the previous compression by approximately .50 inches (1.27 cm). Complete die closure is required for each compression.**



Filler Compound must be injected into the accessory per manufacturer's specified amount as shown on the accessory's sales files, and must be visible at end of the barrel during the final compressions.



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

Installation of Terminal Connector

Terminal assemblies consist of Terminal Connector and attachment hardware.

See "Preparation" on page 2, for notes on preparation of conductor.

Insert conductor full depth into terminal bore and mark the conductor at end of barrel. Remove conductor after marking.

Inject sufficient filler compound in the end of the terminal bore per manufacturer's specified amount as shown on the accessory's sales files (see photo), and on the conductor so that excess compound is visible at terminal end when barrel is completely compressed.

Insert conductor end into terminal barrel to the mark on the conductor.

Select die size to compress Terminal Connector. Die size for Terminal Connector and die size marked on the die must be the same.



Compression Dead Ends

Press the Terminal Connector over the conductor. Make the initial compression at the start knurl. Continue making compressions to the end of the Terminal Connector barrel, **overlapping the previous compression by approximately .50 inches (1.27 cm).** **Complete die closure is required for each compression.**



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 Terminal Connector should have a smooth uniform appearance. Remove flash, if present, with file or emery cloth. Clean contact surface of Terminal Connector and Dead End pad.



Coat surfaces with AFL Alnox or HiTUC Compound. Then wire brush through compound. Do not remove coating.

Bolt Terminal Connector to Dead End pad. Partially tighten all bolts and then re-tighten each bolt to recommended torque.
Aluminum Bolts: (1/2" bolts – 25 lbf-ft (34 N.m); 5/8" bolts – 40 lbf-ft (54 N.m).

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 systems.