35kV 600/900A CLASS DEADBREAK T-BODY INSTALLATION & OPERATING INSTRUCTIONS



DESCRIPTION:

The CHARDON 600/900A class deadbreak elbow connector used to terminate high-voltage cable on dead front apparatus transformers and switchgear or make separable splice or junction connections. They are fully shielded, fully submersible and are interchangeable with all other manufacturers that certify compliance with IEEE standard 386.

KIT CONTENT:

- T-body
- Compression Connector
- Cable Adapter
- Insulating Plug
- Conductive Cap
- Stud
- Vent String
- Silicone Grease (5g)
- Paper Towel
- Instruction Sheet

PRIOR TO THE INSTALLATION OF CHARDON CABLE ACCESSORIES, MAKE SURE YOU HAVE THE TOOLS NEEDED

CAUTION:

- The installation of Chardon products must be carried out by qualified technical personnel.
- Contact with energized equipment can cause serious damage and even death.
- Wear appropriate protective equipment.
- Make sure Chardon Accessories are completely dry and in good condition at the time of installation.

DANGER:

- Do not touch or handle energized products without adequate protective equipment. Errors in the compliance of this instruction can result in damage to the product, serious injuries to people and even death.
- All associated equipment must be de-energized during installation and maintenance.
- The following instructions do not cover details or variables in the change / installation of the product, to prevent contingencies, please contact the team of Chardon technicians if required.

SAFETY INFORMATION

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians, who are familiar with this equipment should install, operate and service it.

Warranty

Chardon products are guaranteed for a period of 2 years after their date of purchase, to make this guarantee effective you can come only by presenting a purchase invoice to your authorized Chardon distributor. The warranty will not be valid in the following cases:

1. When the product has been used under conditions other than normal.
2. When the product has not been operated according to the instructions for use.
3. When the product has been altered or repaired by persons not authorized by Chardon.
4. When using components that are no compatible with Chardon accessories.

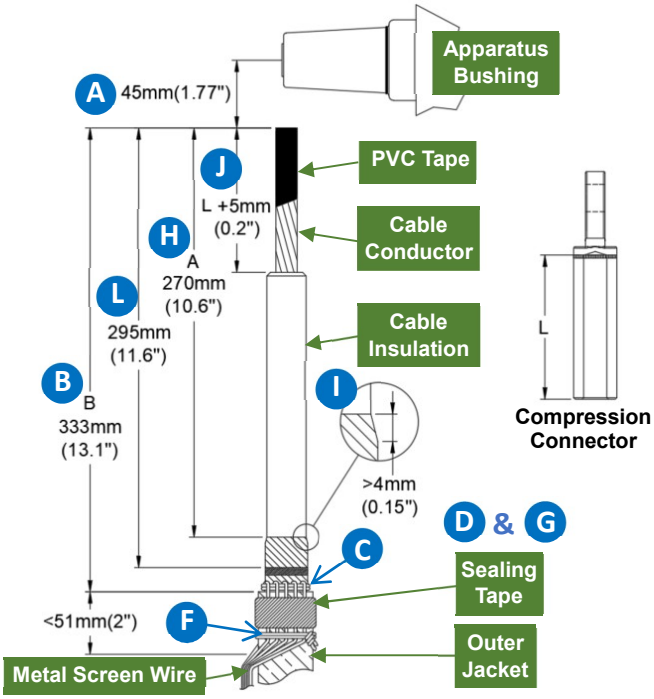
Inasmuch as CHARDON GROUP, Inc. has no control over the use which others may put the material, it does not guarantee that the same results as those described herein will be obtained, each user of the material should make his own tests to determine the material's suitability for his own particular use. Statements concerning possible uses of the materials described herein are not to be construed as constituting a license under any CHARDON GROUP, inc. patent covering such use or as recommendations for use of such materials in the infringement of any patent.

FOR MORE INFORMATION, PLEASE CONTACT YOUR LOCAL DEALER.

STEP 1:

Check kit components to ensure correct fit according to your project's requirements of **Voltage**, **Cable Diameter** and **Conductor Size** to be used in your installation.

WIRE SHIELD CABLE



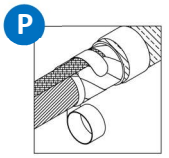
For installing a **Shield Adapter(SADP)**, remove the Cable Outer Jacket for a distance **B**:

- SADP-B/C/D: B:350mm(13.8")
- SADP-E/F/G/H: B:362mm(14.3")

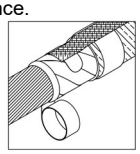
Measure 25.4mm(1.00") from the Cable Outer Jacket down and mark with PVC tape. Install the shield adapter up to the mark following its **Instruction Sheet**.

After installing a Shield Adapter, move to Step 2A-H.

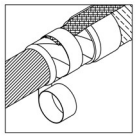
TAPE SHIELD CABLE



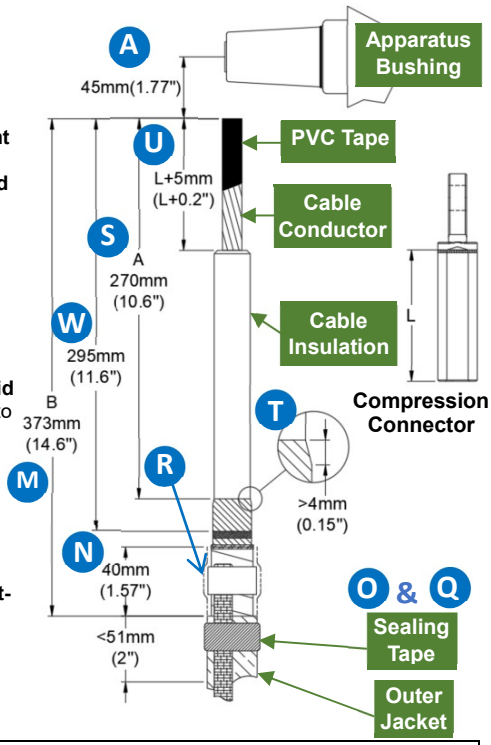
Press the **Constant -Force Spring** against the **Ground Braid** and wind it once.



Bend **Ground Braid** down and parallel to the cable.



Wind the **Constant-Force Spring** until complete.



For installing a **Shield Adapter with a radiator clamp (SADPC)**, remove the Cable Outer Jacket for a distance M:

- SADP-B/C/D: B:350mm(13.8")
- SADP-E/F/G/H: B:362mm(14.3")

Measure 25.4mm(1.00") from the Cable Outer Jacket down and mark with PVC tape. Install the shield adapter up to the mark following its Instruction Sheet.

After installing a Shield Adapter, move to Step 2B-S.

STEP 2:

A. Allow 45mm(1.77") clearance between cable tip and bushing for **T-body** installation.

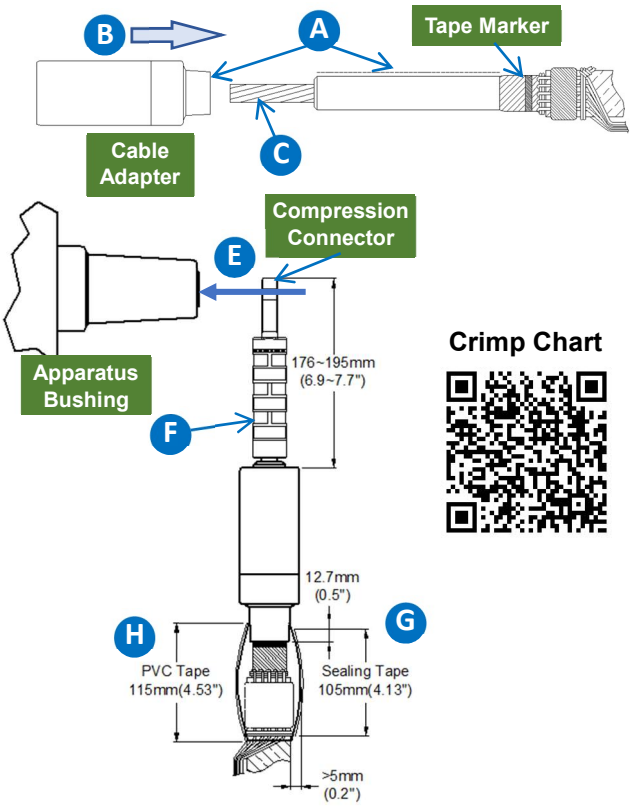
Check CABLE TYPE, for WIRE SHIELD CABLE follow **STEP 2A**, for TAPE SHIELD CABLE follow **STEP 2B**,

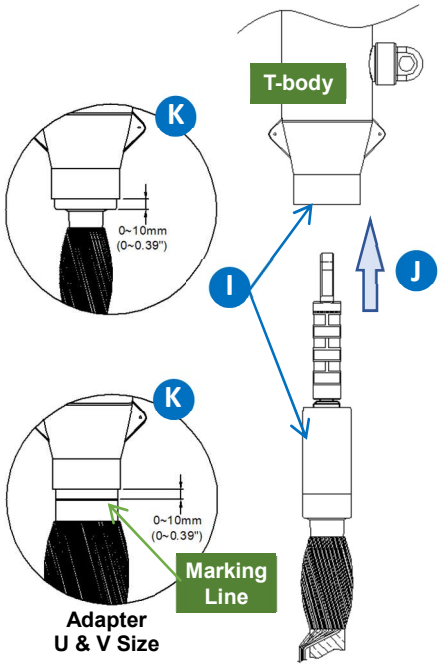
STEP 2A
Preparation of WIRE SHIELD CABLE:

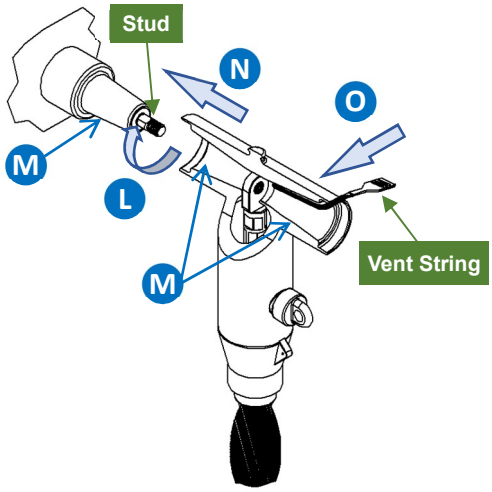
B. Remove the Cable Outer Jacket for a distance B:333mm (13.1") from the end of the cable. If present, remove the mylar tape.
C. Take a wire from the Metal Screen Wires and use it to secure the Cable Metal Screen Wires to cable Insulation shield.
D. Use Sandpaper to grind 51mm(2") the Cable Outer Jacket to rough the surface, clean the grinded surface apply the Sealing Tape.
E. Bend the Cable Metal Screen Wires down and parallel to cable.
F. Take a wire from the Metal Screen Wires and use it to secure the Cable Metal Screen Wires to Cable Outer Jacket.
G. Wrap the Sealing tape onto the Cable Metal Screen Wires.
H. Remove A:270mm(10.6") of insulation shield. Do not damage the cable Insulation.
I. Apply a chamfer on the insulation shield.
J. Remove L+5mm (L+0.2") of Cable insulation. Use PVC tape to secure the exposed ends of the cable conductors. Apply a chamfer 3.2mm (0.125") maximum on the insulation.
K. Polish and thoroughly clean the cable insulation using Sandpaper and **Paper Towel.**
L. Wrap PVC tape to serve as a marker at a distance of 295mm (11.6") from the end of the cable.

STEP 2B
Preparation of TAPE SHIELD CABLE:

M. Remove the Cable Outer Jacket for a distance B:373mm (14.6") from the end of the cable. If present, remove the mylar tape.
N. Keep the 40mm(1.57") Cable Copper Tape Shield and remove excess. Apply a Copper Tape at the end of Cable Copper Tape Shield.
O. Use Sandpaper to grind 51mm(2") the Cable Outer Jacket to rough the surface, clean the grinded surface apply the Sealing Tape.
P. From the top of the Cable Outer Jacket, cover the Ground Braid with a Constant-force Spring. Install constant-force spring as shown.
Q. Wrap the Sealing Tape onto the Ground Braid and the Cable Outer Jacket.
R. Wrap the Cable Copper Tape Shield, the Constant-force Spring and the Ground Braid with 2 layers of PVC Tape.
S. Remove A:270mm (10.6") of insulation shield. Do not damage the cable Insulation.
T. Apply a chamfer on the insulation shield.
U. Remove L+5mm (L+0.2") mm of Cable insulation. Apply a chamfer 3.2mm (0.125") maximum on the insulation.
V. Polish and thoroughly clean the cable insulation using Sandpaper and **Paper Towel.**
W. Wrap PVC tape to serve as a marker at a distance of 295mm (11.6") from the end of the cable.







STEP 3:

A. Lubricate the exposed Cable Insulation and the internal interface of the Cable Adapter.

B. Slide the Cable Adapter onto the cable, until the end is flush with **tape marker**. Wipe off grease from the end of the Cable Adapter.

> **NOTE:**
> Do not substitute other lubricants for those provided.

C. Remove PVC Tape. If necessary clean the exposed Cable Conductor with a wire brush.

D. Place the **Compression connector** on the Cable Conductor. Make sure that the hole of the connector is facing the apparatus bushing where the T-body will be installed.

E. See Crimp Chart for recommended crimp tools and dies. Compress once as shown in the image. Make sure the distance from the end of the connector to the cable adapter should be between 176 to 195mm(6.9 to 7.7").

F. Rotate the tool 90° between each successive crimp to prevent connector distortion. Re-align the Compression connector with the cable to eliminate any bends caused by crimping.

STEP 4:

G. Measure **12.7mm(0.5")** above the end of Cable Adapter, wrap highly stretched half-lapped with **105mm(4.13") Sealing Tape**. Note that the height of the tape layer should be **5mm(0.2")** higher than that of the Cable Outer Jacket.

H. Wrap with **115mm(4.53")** 4 layers of **PVC Tape** to cover the Sealing Tape.

STEP 5:

I. Clean and evenly lubricate the **Cable Adapter** with silicone lubricant. Lubricate inside the cable entrance of the T-body at least 51mm(2") deep. If a test point T-body is used, ensure that test point is facing towards the installer.

J. Slide the T-body onto the cable with a twisting motion. The final seating of the T-body should align the connector.

K. Make sure the distance from the end of T-body to the cable adapter step should be between 0~10mm(0~0.39").

Note: For **adapter U & V size**, the distance between the reference **Marking Line** on the adapter body and the end of the T-body shall be maintained within 0–10mm(0~0.39").

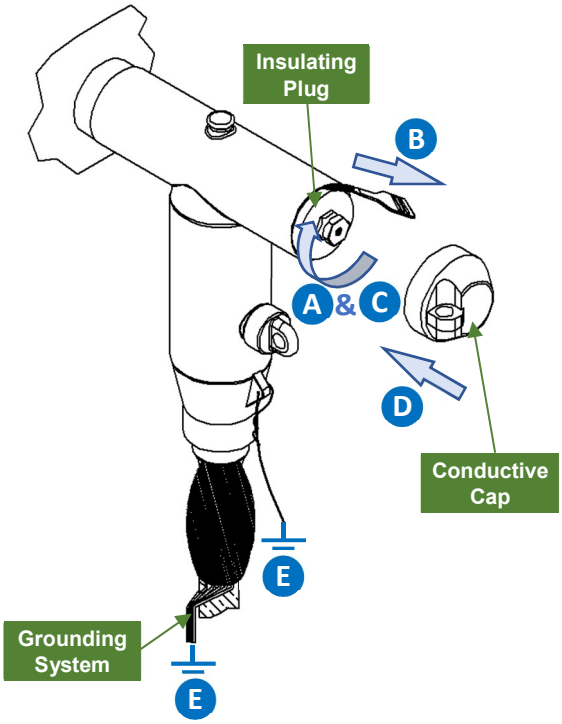
STEP 6:

L. Thread **stud** into the apparatus bushing until firmly tight.

M. Clean and evenly lubricate the interfaces of T-body,apparatus bushing and **Insulating Plug**

N. Push the T-body onto the apparatus bushing. Make sure the stud passes through the hole of connector.

O. Position the **Vent String** along the bushing extender interface. Continue to push the vent string in until the depth reaches 80% to 90% of the total length, then stop.



STEP 7:

A. Engage the mating component threads to the thread of apparatus bushing stud for four to five turns.
B. Remove vent string by pulling it steadily and slowly.
C. Tighten the insulating plug to 75Nm (55 ft-lbs) by using a torque wrench with 25.4mm (1.00”) socket. The insulating plug provides a capacitive test point for detecting system voltage.

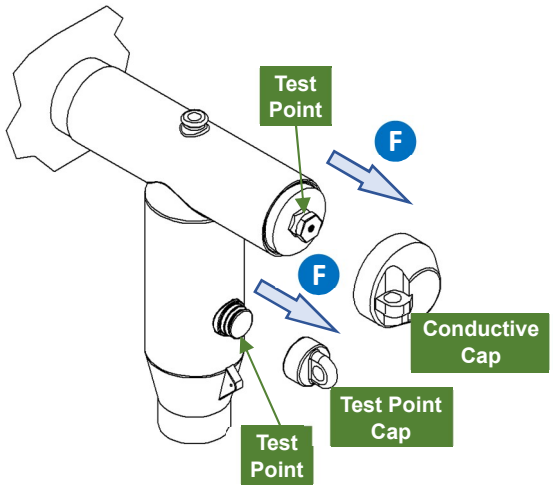
> **NOTE:**
> Do not pull out the vent string after fully tightening.

STEP 8:

D. Clean the interior surface of the **Conductive Cap**. Place it over the insulating plug and push it until it snaps into place.
E. Connect grounding wire (Wire size > 2.5mm^2 / #14AWG) on T-body to the grounding system. Attach the cable metal screen wire or ground braid to the system ground.

> **CAUTION:**
> A connector / bushing mated combination should not be allowed to carry the full weight of the cable. Therefore, it is necessary to clamp the cable as close as possible to the connector.

VOLTAGE DETECTION



F. Remove test point cap with a hot stick.
G. Attach a suitable sensing device to the hot stick and determine if the cable is energized by moving the device closer to the test point.
H. After voltage detection is done, replace the cap on the test point with a hot stick.