

**CAUTION:**

Read instructions thoroughly and completely prior to beginning installation.

## Installation Instructions

# 400LR<sub>x</sub>

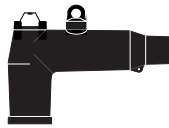
## Elbow Connector - Type B interface

Only to be used on copper wire screened cable with extruded easy strip conductive screen (Part A), bonded extruded conductive screen (Part B) or fabric tape screen (Part C).

For conductor sections up to 50 mm<sup>2</sup> only

**Contents :**

1 x Elbow connector housing



1 x 400CA Cable reducer



1 x 160CA Cable reducer



1 x Pin contact + hex. key



1 x Conductor contact



1 x Bail restraint



1 x 11TL adaptor

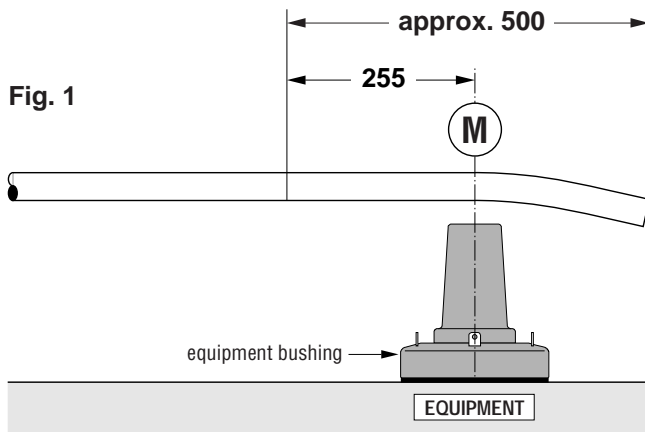


- Self amalgamating tape (optional, for outdoor use)

- Silicone grease

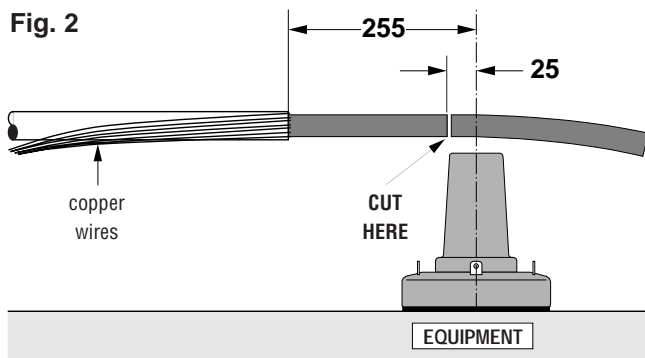
- Installation instructions + crimp chart

Fig. 1



1. Train the cable into the approximate finished position next to the equipment bushing.
2. Remove the outer cable sheath to a point 255 mm from the centre line "M" of the bushing.

Fig. 2



3. Bend back copper wires along the outer cable sheath.
4. Cut the cable to a distance 25 mm from the centre line of the bushing.

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This product should be installed only by competent personnel trained in good safety practices involving high voltage electrical equipment. These instructions are not intended as a substitute for adequate training or experience in such safety practices. These instructions do not attempt to provide for every possible contingency.

Failure to follow these instructions could result in damage to the product and serious or fatal injury.

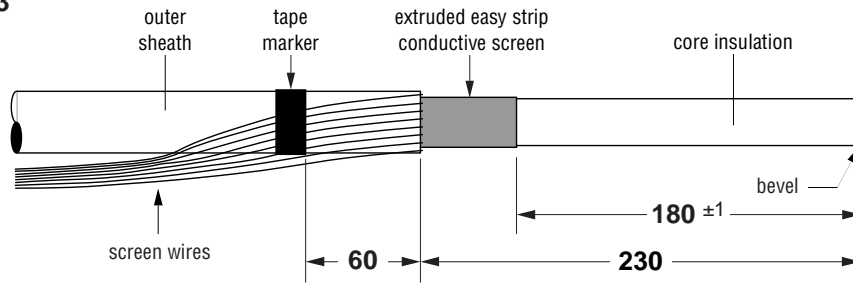
**IMPORTANT :** Cable and associated apparatus must be de-energised, locked out, and tagged prior to product installation.

# Part A

## Copper wire screened cable with extruded easy strip conductive screen

### CABLE PREPARATION

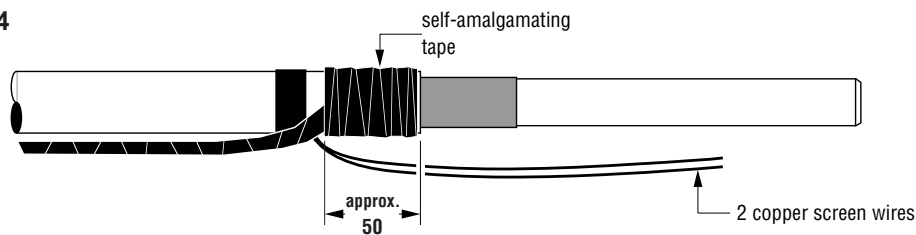
Fig. 3



1. Check distance of 230 mm.
2. Apply a tape marker on the outer sheath 60 mm from the end.
3. Remove the extruded conductive screen to a point 180 ±1 mm from the cable end.
4. Slightly break the edge of the core insulation.

### INSTALLATION OF THE 11TL ADAPTOR

Fig. 4



#### FOR OUTDOOR APPLICATIONS :

From the end of the outer sheath, apply on the outer sheath and the copper wires one layer of self-amalgamating tape over a distance of approx. 50 mm. Also tape the screen wires (except two) for the necessary distance. Bend the two copper wires out of the way. They will be connected to the earthing eye of the connector in a later step.

Fig. 5

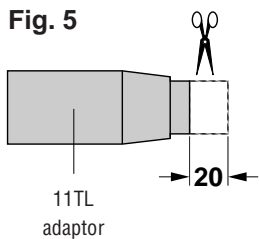


Fig. 6

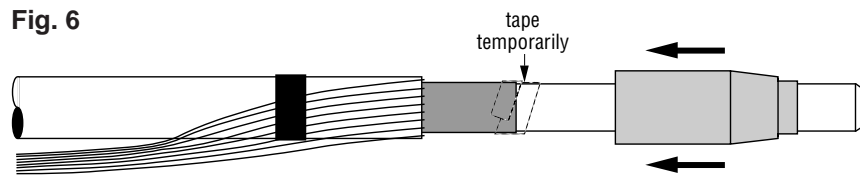
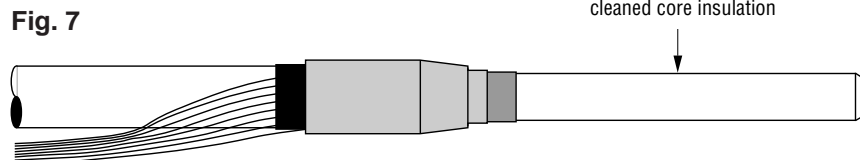


Fig. 7



1. Cut the collar of the 11TL adaptor for a distance of 20 mm (Fig. 5).
2. As an aid to install the adaptor, it is recommended to wrap one or two layers vinyl tape on the step of the extruded conductive screen (Fig. 6).
3. Lubricate core insulation and inside of the adaptor and slide it over the insulation until flush with the tape marker \* (Fig. 7).
4. Remove the vinyl tape applied in step 2.  
**USING THE WHITE WIPER, THOROUGHLY CLEAN THE CORE INSULATION.**  
Always wipe towards the screen wires.

**Proceed on page 5 for the installation of the cable reducers**

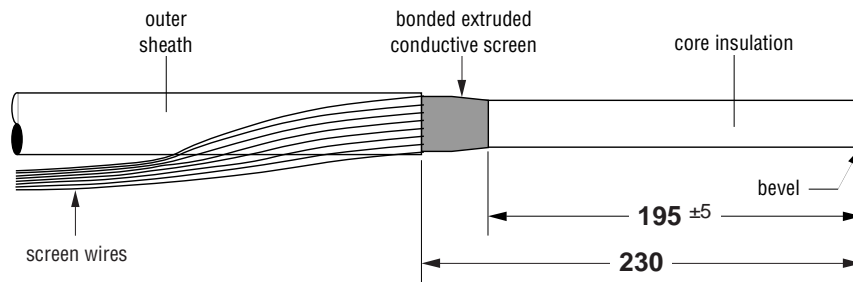
**\* USE ONLY THE SILICONE LUBRICANT SUPPLIED**

**Part B**

**Copper wire screened cable with bonded extruded conductive screen**

**CABLE PREPARATION**

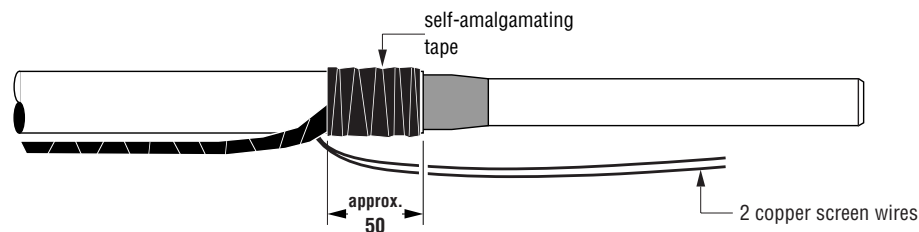
**Fig. 8**



1. Check distance of **230** mm.
2. Remove the extruded conductive screen to a point  $195 \pm 5$  mm from the end of the crimped contact.
3. Slightly break the edge of the core insulation.

**INSTALLATION OF THE 11TL ADAPTOR**

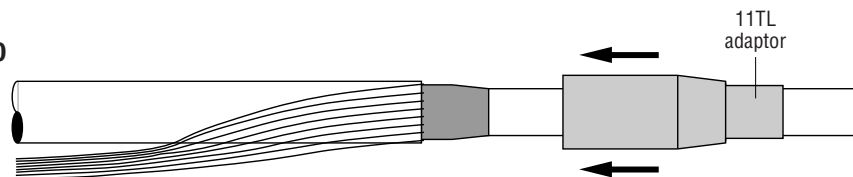
**Fig. 9**



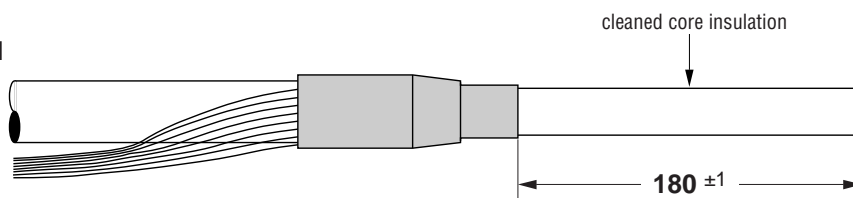
**FOR OUTDOOR APPLICATIONS :**

From the end of the outer sheath, apply on the outer sheath and the copper wires one layer of self-amalgamating tape over a distance of approx. **50** mm. Also tape the screen wires (except two) for the necessary distance. Bend the two copper wires out of the way. They will be connected to the earthing eye of the connector in a later step.

**Fig. 10**



**Fig. 11**



1. Lubricate core insulation and inside of the adaptor\* (Fig. 10).
2. Slide the adaptor up to a point  $180 \pm 1$  mm from the cable end (Fig. 11).  
**USING THE WHITE WIPER, THOROUGHLY CLEAN THE CORE INSULATION.**  
Always wipe towards the screen wires.

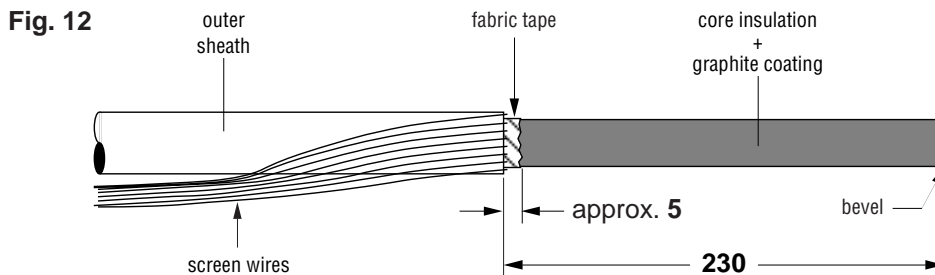
**Proceed on page 5 for the installation of the cable reducers**

**\* USE ONLY THE SILICONE LUBRICANT SUPPLIED**

**FOR INFORMATION ONLY Please always use the instructions supplied in the kit**

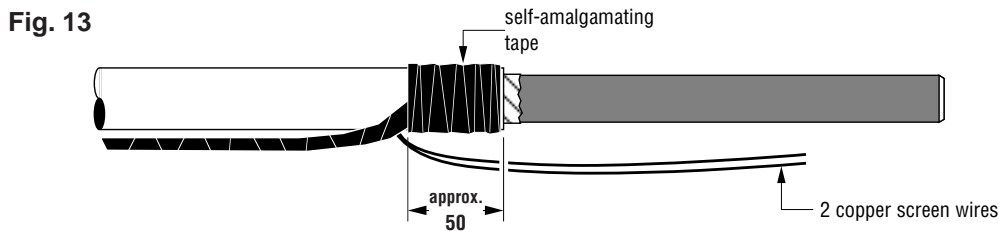
**Part C** **Copper wire screened cable with fabric tape screen**

**CABLE PREPARATION**



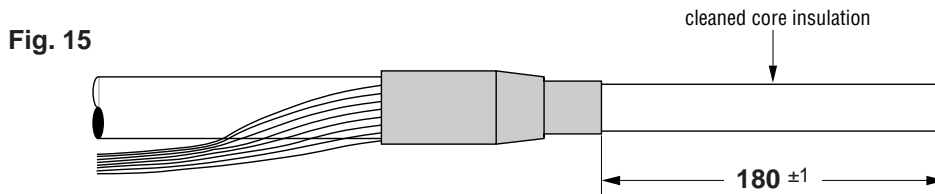
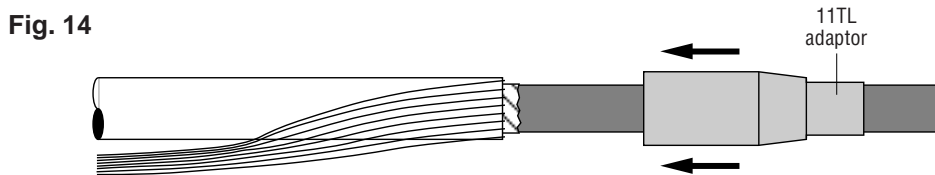
1. Check distance of **230** mm.
2. Remove the fabric tape to a point approx. **5** mm from the outer sheath.  
**DO NOT REMOVE THE GRAPHITE VARNISH AT THIS STAGE.**
3. Slightly break the edge of the core insulation.

**INSTALLATION OF THE 11TL ADAPTOR**



**FOR OUTDOOR APPLICATIONS :**

From the end of the outer sheath, apply on the outer sheath and the copper wires one layer of self-amalgamating tape over a distance of approx. **50** mm. Also tape the screen wires (except two) for the necessary distance. Bend the two copper wires out of the way. They will be connected to the earthing eye of the connector in a later step.



1. Lubricate core insulation and inside of the adaptor\* (Fig. 14).
2. Slide the adaptor up to a point  $180 \pm 1$  mm from the cable end (Fig. 15).
3. **THOROUGHLY REMOVE THE GRAPHITE COATING USING AN APPROPRIATE SOLVENT**  
Always wipe towards the screen wires (Fig. 15).

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## INSTALLATION OF THE CABLE REDUCERS

Fig. 16

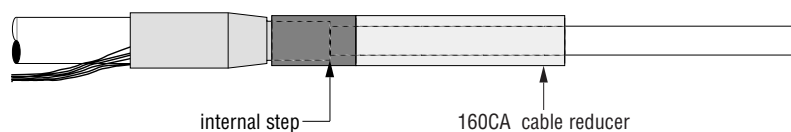
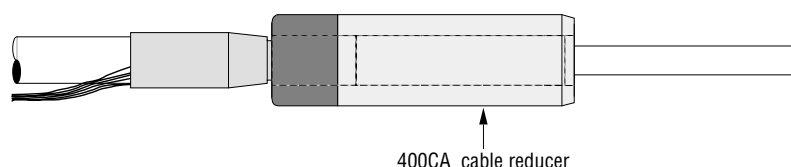


Fig. 17b



### 1. REMOVE ANY TRACES OF CONDUCTIVE RESIDUE FROM THE CORE INSULATION ABOVE THE ADAPTOR END.

Always wipe towards the screen wires.

### 2. Clean and lubricate core insulation and the inside surface of the 160CA cable reducer \*.

Slide the reducer down the cable until a very definite resistance is felt as the internal step bottoms on the adaptor (Fig. 16).

### 3. Clean and lubricate outside surface of the 160CA cable reducer and the inside surface of the 400CA cable reducer \*.

Slide the 400CA cable reducer over the 160CA reducer until it comes flush with the 160CA reducer (Fig. 17b).

## CRIMPING OF THE CONTACT

Fig. 18

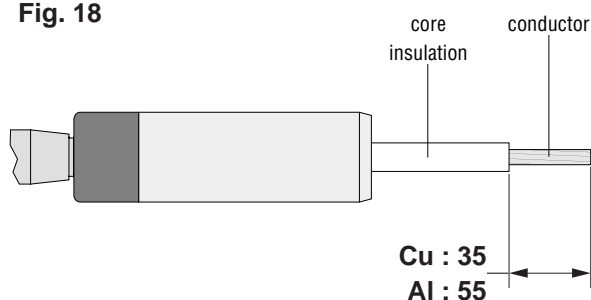
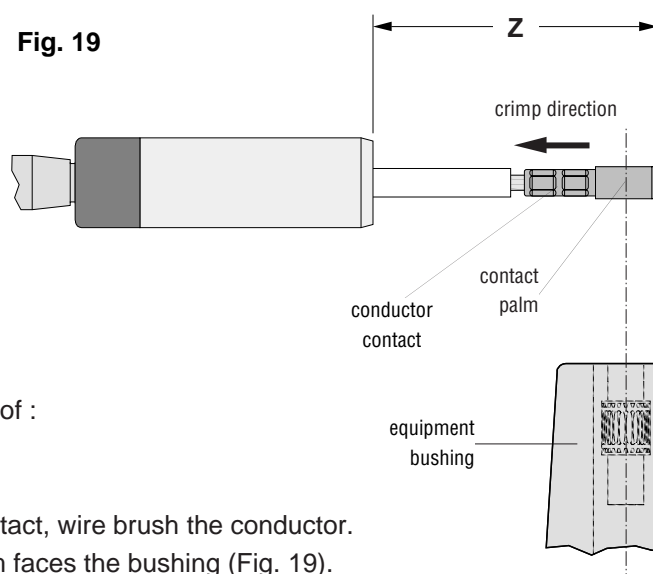


Fig. 19



### 1. Remove core insulation from the conductor for a distance of :

- 35 mm for copper conductors
- 55 mm for aluminium conductors (Fig. 18).

### 2. For aluminium conductors : before installing the crimp contact, wire brush the conductor.

### 3. Fit the contact onto the conductor. Check the contact palm faces the bushing (Fig. 19).

### 4. Prior to crimping distance "Z" must be between 115 and 125 mm.

### 5. Crimp the contact.

### 6. After crimping distance "Z" must be between 120 and 130 mm.

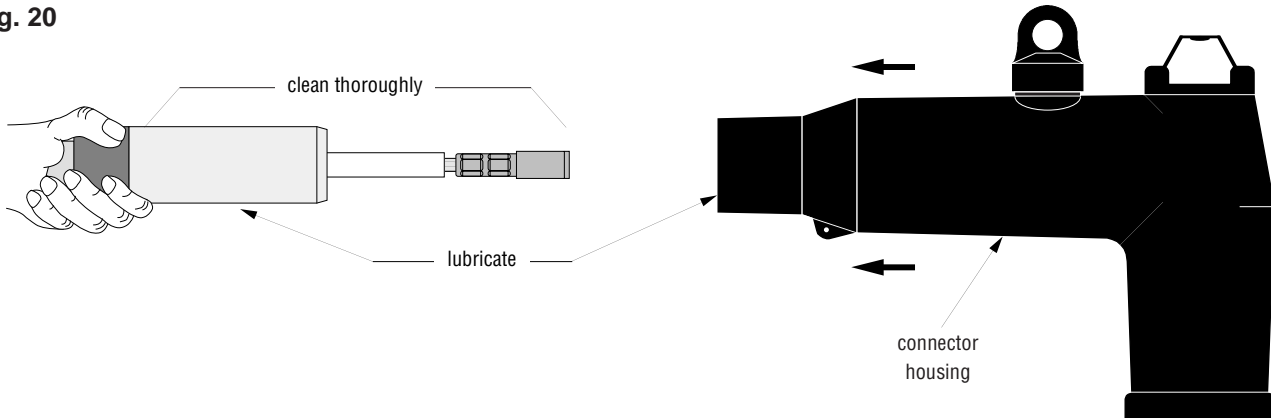
### 7. REMOVE ANY BURRS LEFT AFTER CRIMPING AND WIPE-OFF EXCESS INHIBITOR.

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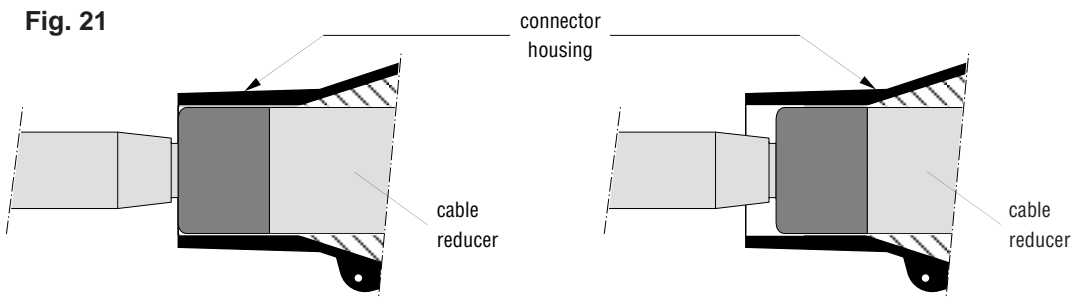
## CONNECTOR INSTALLATION ON CABLE

Fig. 20



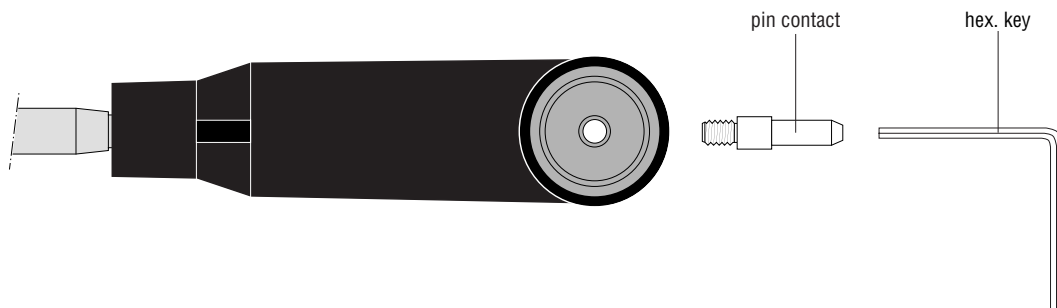
1. Clean and lightly lubricate the inside surface of the connector and outer surface of the cable reducer \* (Fig. 20).
2. Check if the angle of the elbow connector housing is correct relative to the palm of the crimp contact and gently slide the housing on the cable until it cannot advance any further (Fig. 20).

Fig. 21



The shoulder of the cable reducer must be flush or inside of the connector housing.

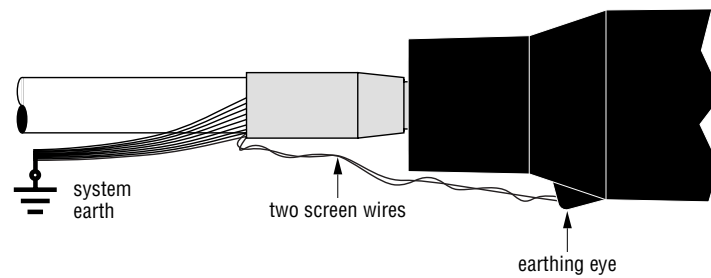
Fig. 22



3. Insert the threaded end of the pin contact into the mating part and tighten until the hex. key has taken a set (Fig. 22).

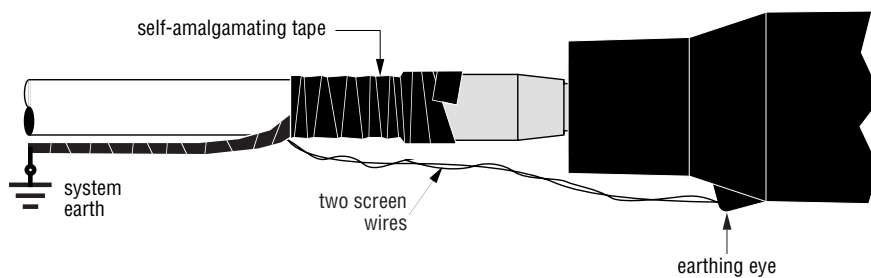
## SCREEN EARTHING

Fig. 23 : FOR INDOOR APPLICATIONS



1. Connect two copper screen wires to the earthing eye of the connector.
2. Connect the screen wires to system earth.

Fig. 24 : FOR OUTDOOR APPLICATIONS



1. Using self-amalgamating tape, fabricate a tape seal around the base of the cable reducer and continue the taping overlapping the self-amalgamating tape applied in a previous step.
2. Connect the two remaining copper screen wires to the earthing eye of the connector.
3. Connect the screen wires to system earth.

## CONNECTOR INSTALLATION ON BUSHING

Fig. 25

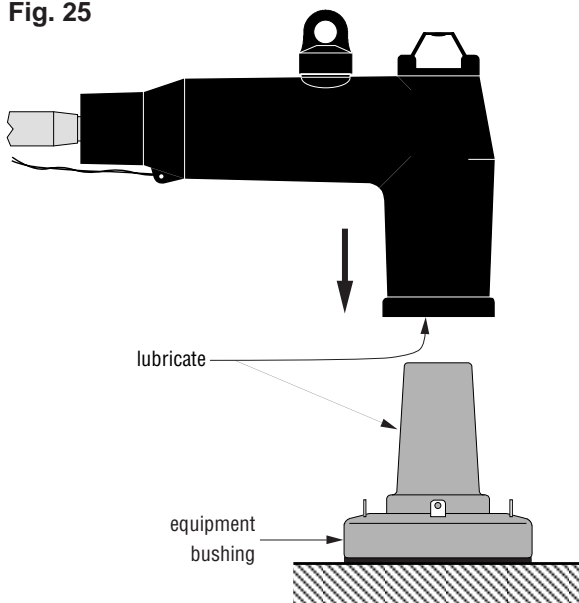
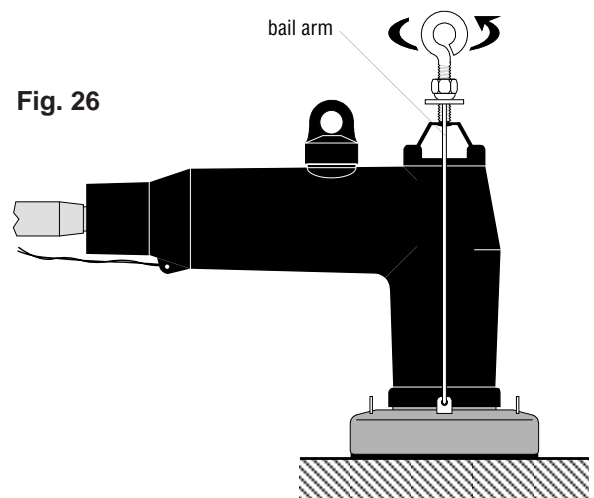


Fig. 26



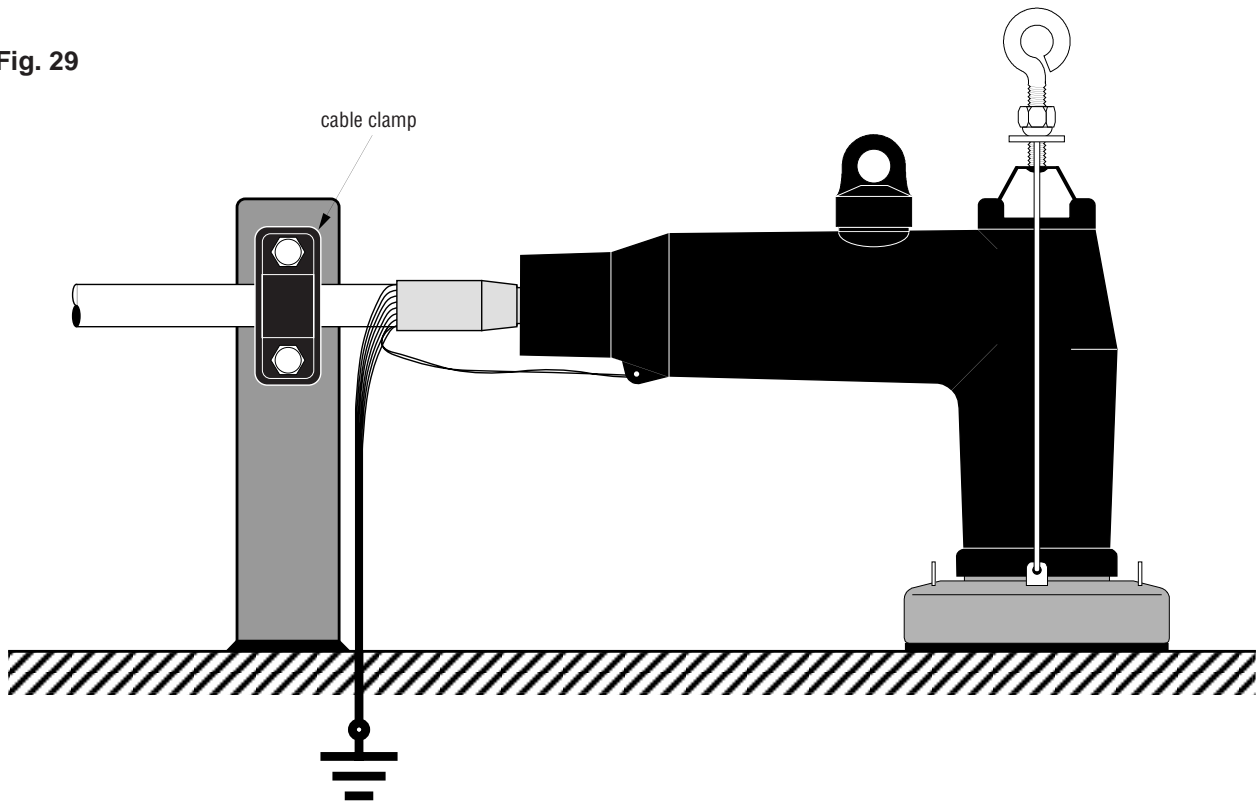
1. Clean and lubricate lightly both bushing interface and connector interface \* (Fig. 25).
2. Push the elbow connector on to the bushing.
3. Insert bail arm into the bushing tabs (Fig. 26).
4. Position bail arm and tighten eye bolt (Fig. 26).

**DO NOT APPLY EXCESSIVE FORCE ON THE ELBOW.**

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## CABLE CLAMPING

Fig. 29



### NOTE :

*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 immediately beyond the connector or cable screen adaptor.*

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### IMPORTANT NOTES :

- Never disconnect the connector from energised equipment nor energise a disconnected connector without previously installing on its corresponding Stand-off plug (K),(M)400SOP.
- Do not allow hydrocarbon oils or solvents to contaminate the E.P.D.M. rubber.  
In the event of contamination, wipe the surface clean with a dry cloth.

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