

Prysmian
Group
INSTALLATION INSTRUCTION

**MECHANICAL OVAL PORT INSTALLATION OF
COF209**

Description

How to prepare and install a mid-span loop of cable into the mechanical oval port of the closure. The kit is for cables of 8.0mm to 10.0mm in diameter.

Tools Required

Tools:

Large Screwdriver, File, Pliers, with 5mm Allen key bit.

| | | | |
|-------------------------|--------------|-------------------------------|--------------|
| 1 Rubber Seal | Qty 1 | 5 Grease Sachet | Qty 1 |
| 2 External Plate | Qty 2 | 6 Plastic sleeve 260mm | Qty 1 |
| 3 Internal Plate | Qty 2 | 7 Foam Tape | Qty 2 |
| 4 Screw M6x50mm | Qty 2 | 8 5mm Allen key | Qty 1 |

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 1



- Knock out the oval port end plate of the Joint from the inside using a large screwdriver and remove any burrs using a file.

MECHANICAL OVAL PORT INSTALLATION OF COF209

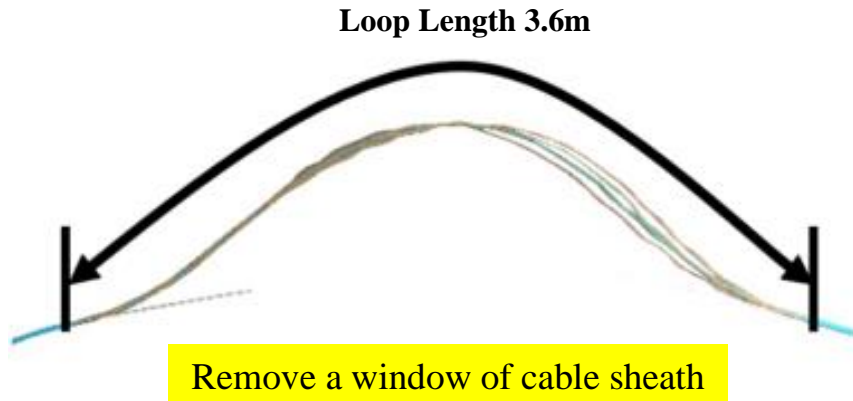
Step 2

Mark centre point of mid span window

- Remove the cables from the footway box and apply a reference mark to the cable where the centre of the window cut will be made.
- Note the catenary wire will be removed and only the cable will be installed into the joint.

MECHANICAL OVAL PORT INSTALLATION OF COF209

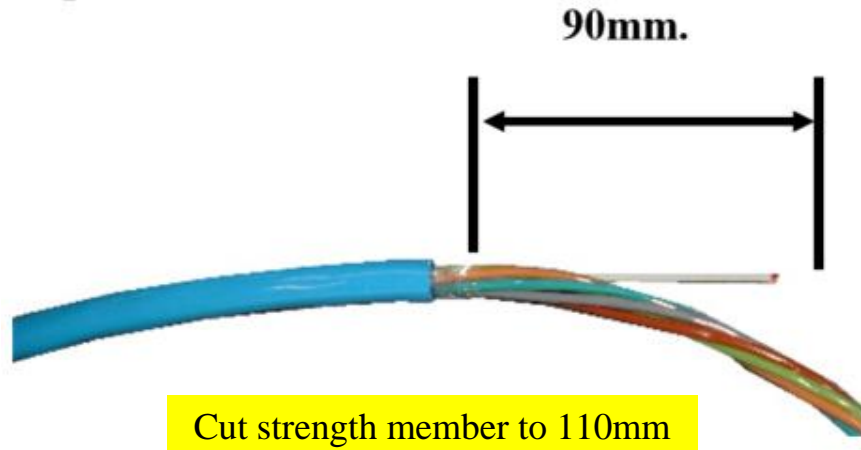
Step 3



- Apply two butt marks back either side of the mid span mark 1.8 metres to total a loop length of 3.6m overall. Before removing the sheath double check the two butt marks are the correct distance apart referring to the table in step 3.
- Remove the cable sheath between the two butt marks using approved practices.

MECHANICAL OVAL PORT INSTALLATION OF COF209

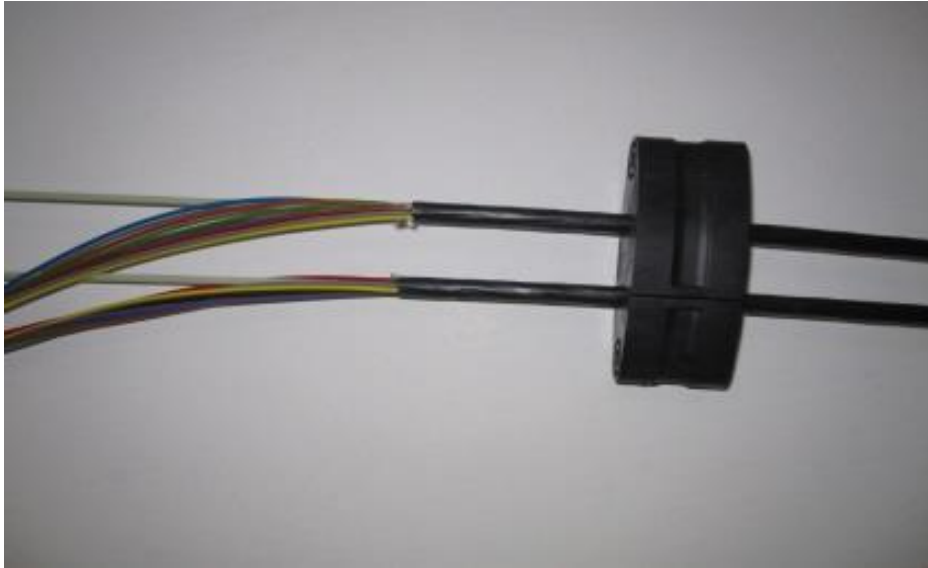
Step 4



- Remove all tapes and binders.
- Access the central strength member and cut it in the centre.
- Cut each end back to 90mm from the cable butt as shown.

MECHANICAL OVAL PORT INSTALLATION OF COF209

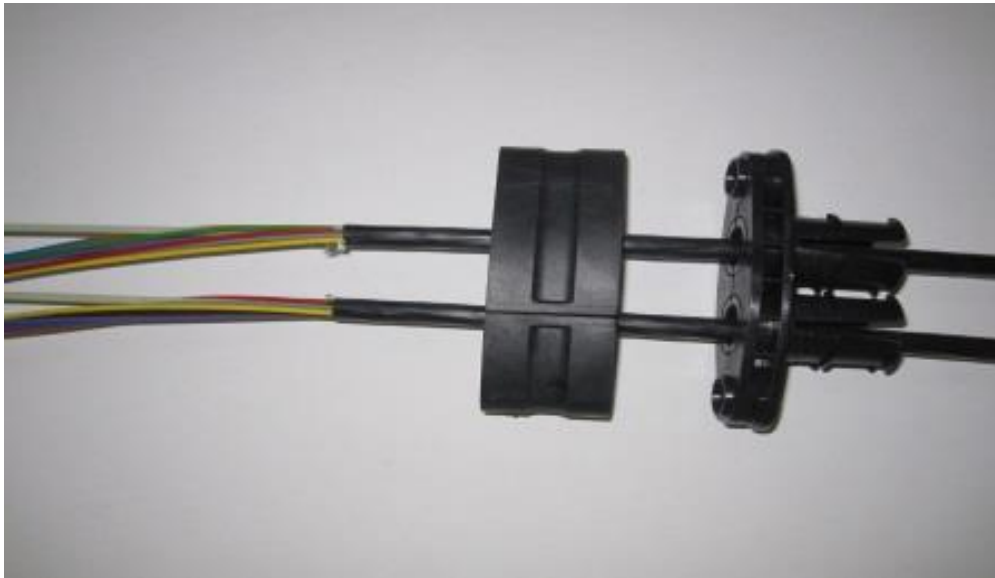
Step 5



- Abrade the cable sheath back 200mm to produce a smooth surface with no jagged edges where the catenary wire was removed.
- Attach rubber seal over the cables.

MECHANICAL OVAL PORT INSTALLATION OF COF209

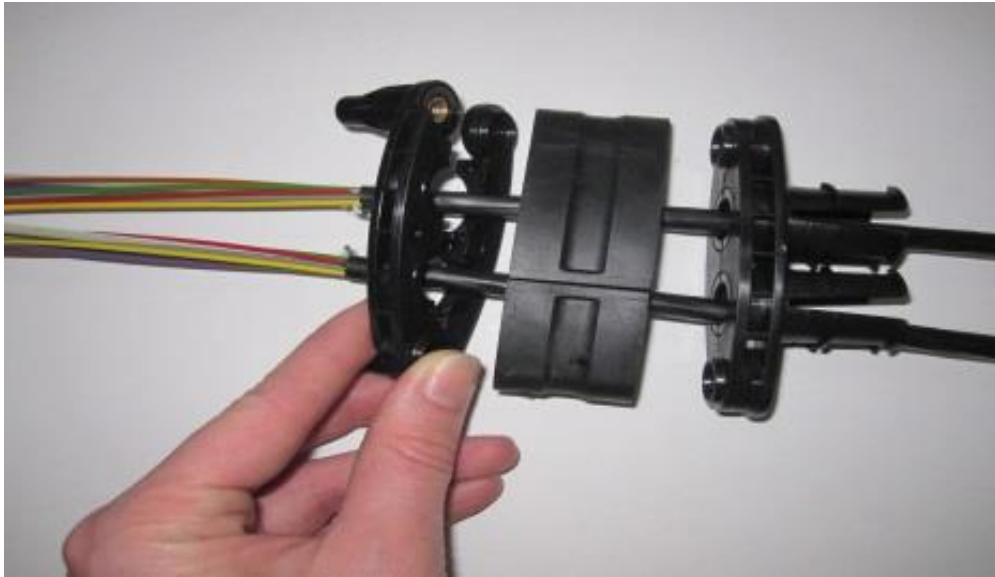
Step 6



- Assemble 2 parts of external plate to cable butt end.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 7



- Assemble 2 parts of internal plate to cable butt end.

MECHANICAL OVAL PORT INSTALLATION OF COF209

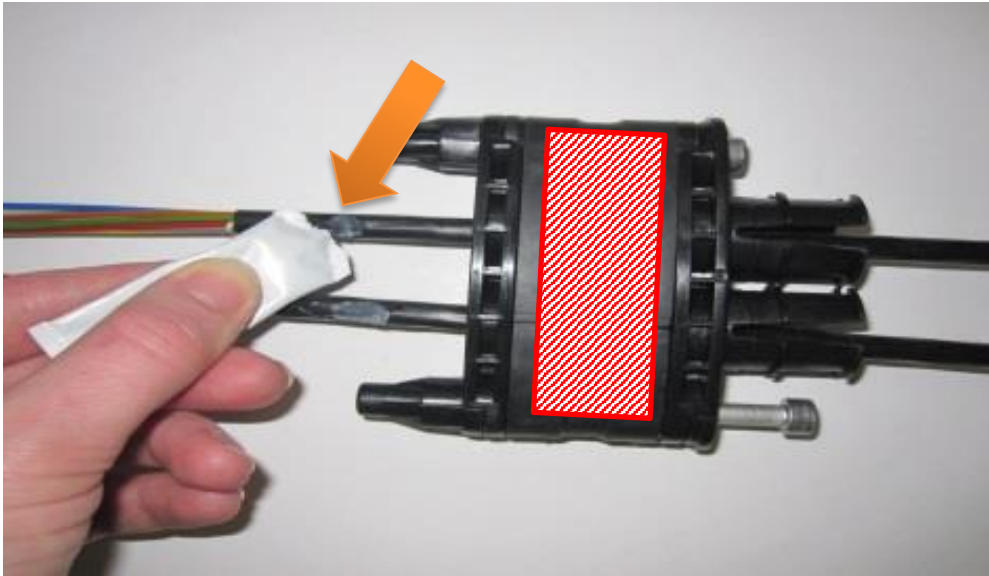
Step 8



- Insert screws into assembly and lightly screw together in place.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 9

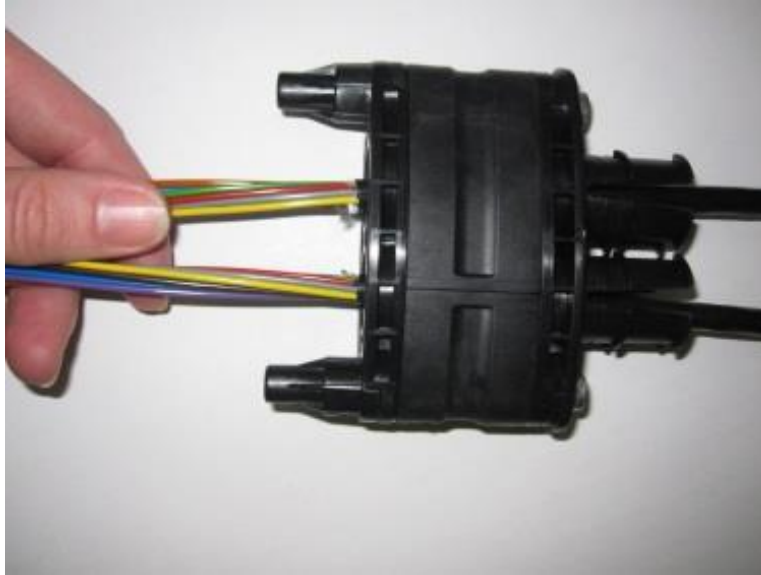


- Add grease to cable butt end.
- Ensure you spread the grease evenly.

NOTE: Ensure no grease is applied to external side of the seal.

MECHANICAL OVAL PORT INSTALLATION OF COF209

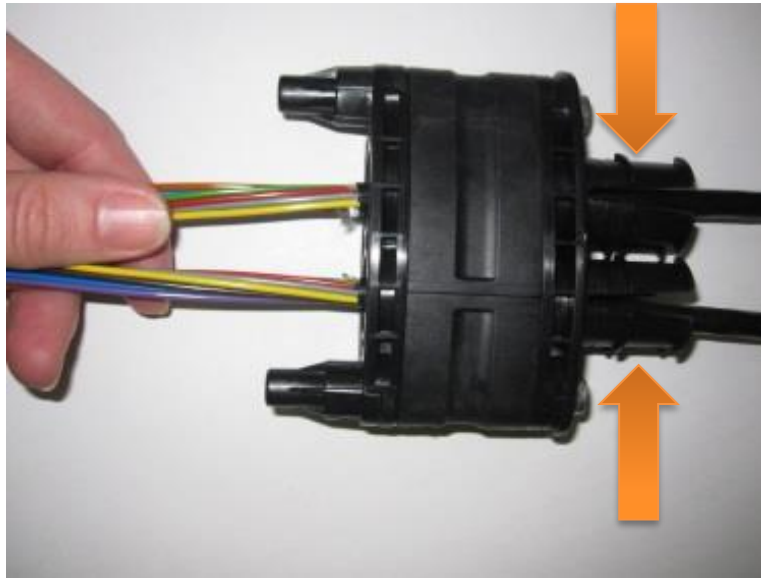
Step 10



- Push assembly towards cable butt end.

MECHANICAL OVAL PORT INSTALLATION OF COF209

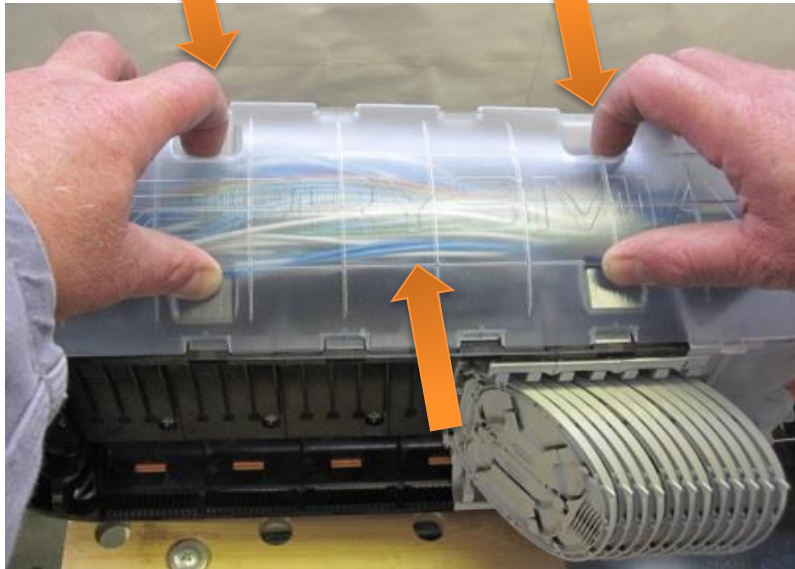
Step 11



- Mark the cable sheath in position shown.
- Pull cables through 30mm and apply one turn of foam tape to both cables 10 mm below marked position toward the cable butt end.
- Push cables back into correct position so the foam tape lays under the anti-torsion pieces.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 12



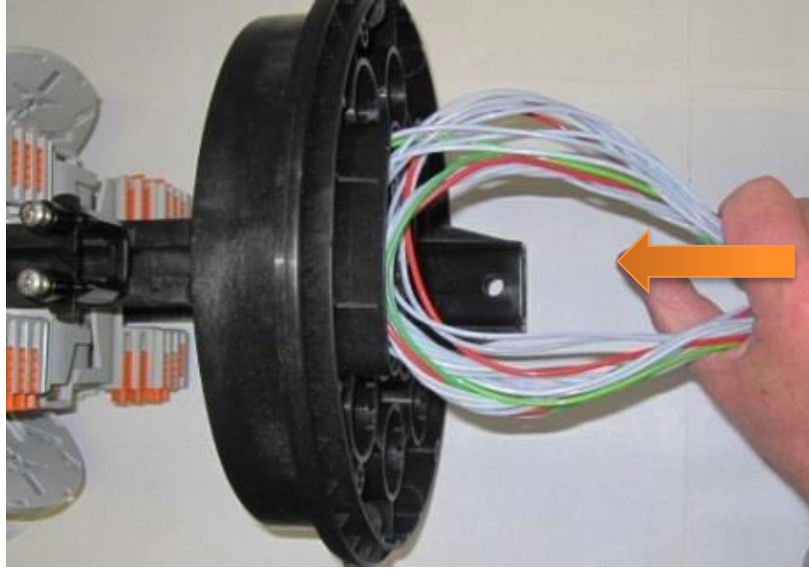
- Identify which UN joint you are installing. See table & remove loop storage guide cover or Velcro straps.

| BT Joint Type | Cover Type |
|--------------------------|---------------------|
| UN Large | 2 x Velcro Straps |
| UN X Large | Storage Guide Cover |

- Cover: Use 2 fingers in slots on one side. Flex to disengage clips.
- Velcro: Undo & pull the Velcro out of the slots.

MECHANICAL OVAL PORT INSTALLATION OF COF209

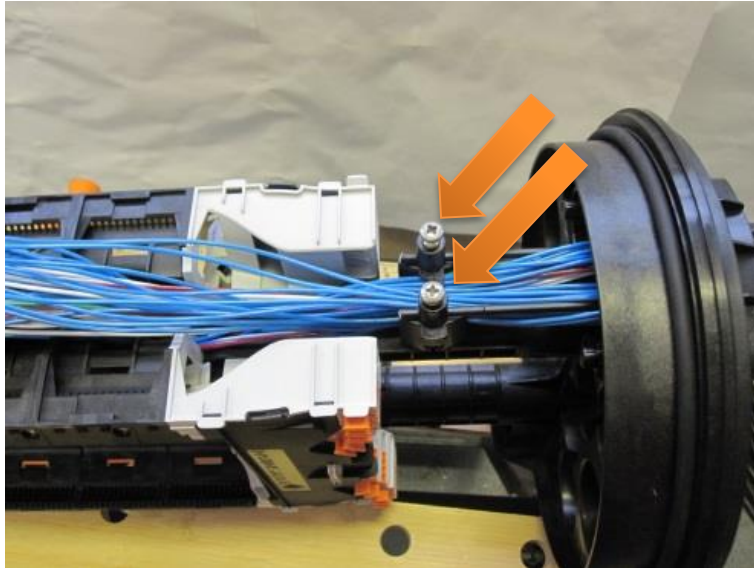
Step 13



- Carefully insert loop into the oval port.

MECHANICAL OVAL PORT INSTALLATION OF COF209

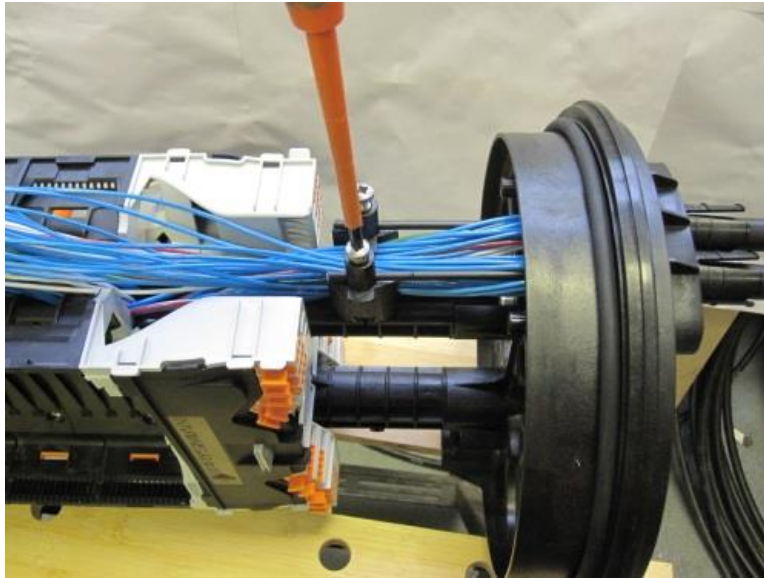
Step 14



- Fully insert the mechanical oval port assembly into the oval port.
- Ensure GRP is fully inserted in the cable anchor plate.

MECHANICAL OVAL PORT INSTALLATION OF COF209

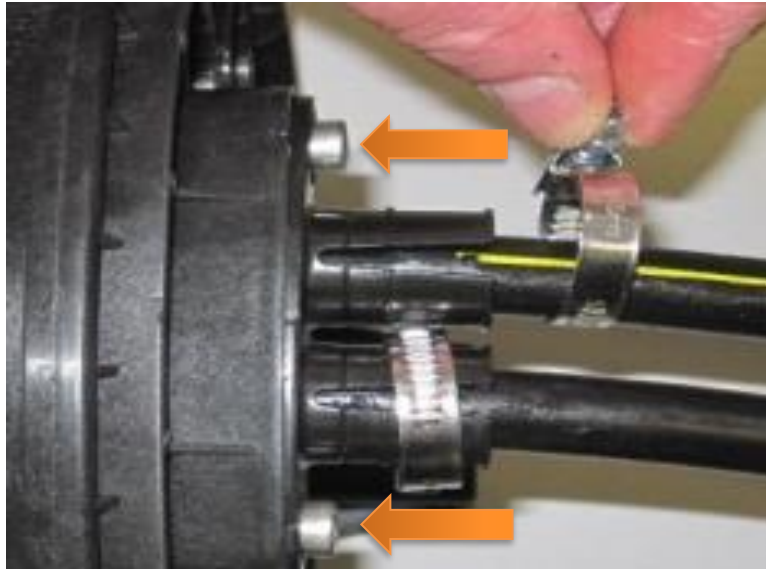
Step 15



- Ensure cable butts are still in correct position by visually checking inside the port.
- Tighten screws in the cable anchor plate until the GRP is secured.

MECHANICAL OVAL PORT INSTALLATION OF COF209

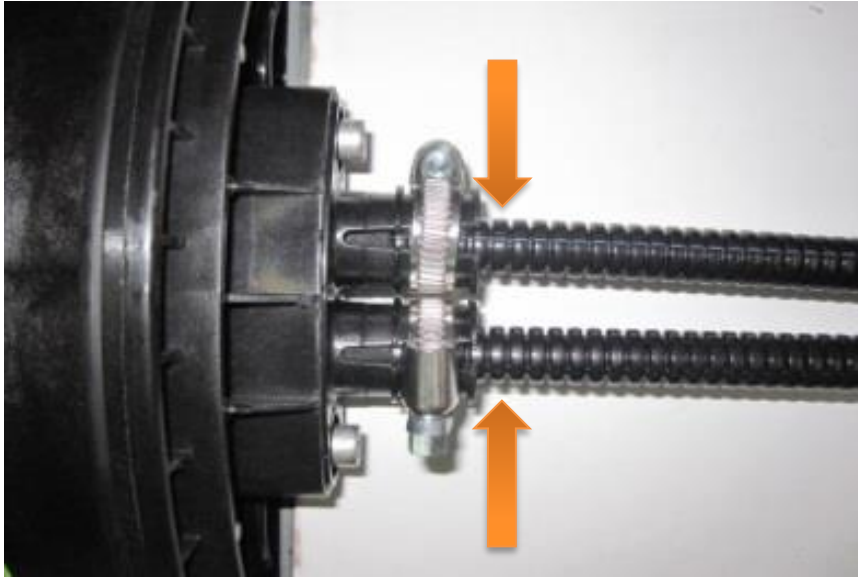
Step 16



- Tighten screws using a 5mm Allen Key.
- Ensure you tighten each screw evenly and in small increments until resistance is met.
- Ensure the port seal has not been damaged or cracked during installation of the screws.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 17



- Assemble jubilee clips and apply split conduit (BT Item Code 067408) to both cables level with foam tape.
- Tighten jubilee clips using a screwdriver.

NOTE: Make sure that conduit is placed under the anti-torsion pieces.

MECHANICAL OVAL PORT INSTALLATION OF COF209

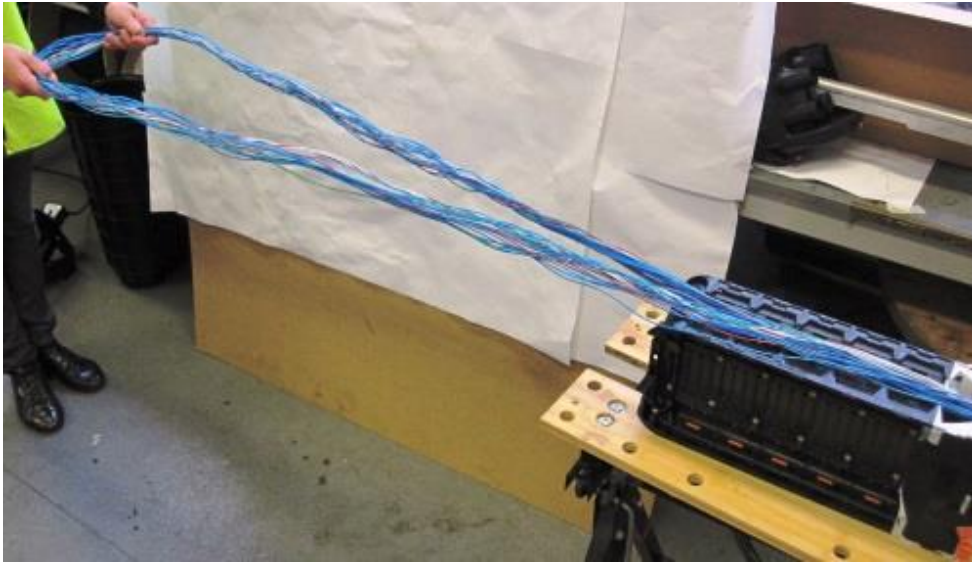
Step 18



- Apply 2 turns or electric tape around the jubilee clips.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 19



- Firstly, separate the two ends of the loop. Gently straighten the loop away from the LMJ ready to loop into the spine.

NOTE: Take care not to kink the cable elements when installing the loop. Do not rush and follow the instructions precisely. The loop guide is designed to store loose tube elements.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 20

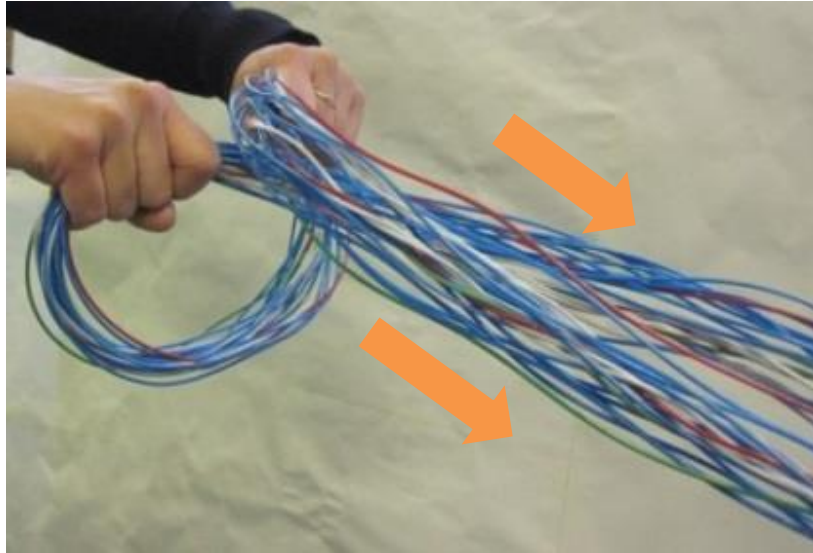


- See Table for number of loops to create.
- For the first loop, cross the elements at the top and flip the loop over to gather the elements.

| BT Joint Type | Cable Type | No. of Loops |
|--------------------------|-----------------------|---------------------|
| | | |
| UN Large | LT | 6 loops |
| UN X Large | LT | 4 loops |

MECHANICAL OVAL PORT INSTALLATION OF COF209

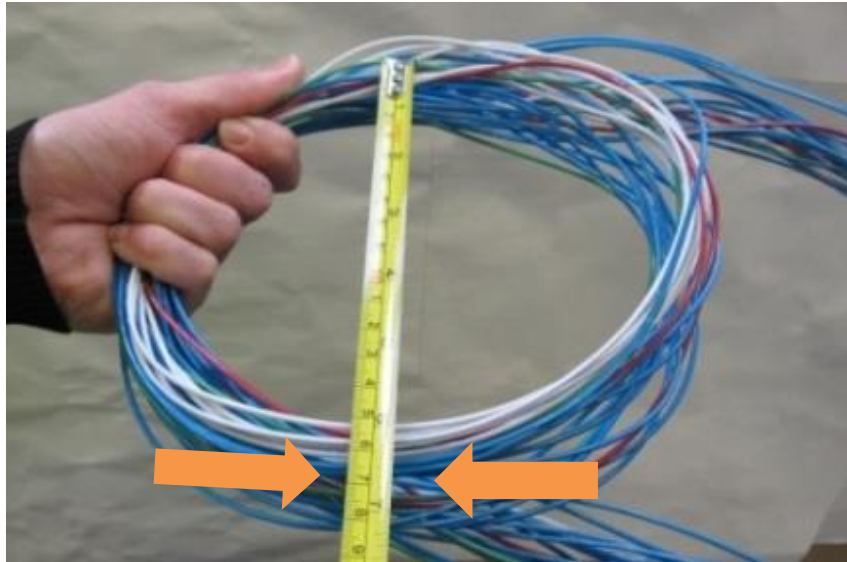
Step 21



- Ensure the loop lengths are straight, even and crossed over as shown.
- The loop lengths are not crossed at the joint end, only at the top where you are creating a loop each time.
- **Check each loop looks the same.**

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 22



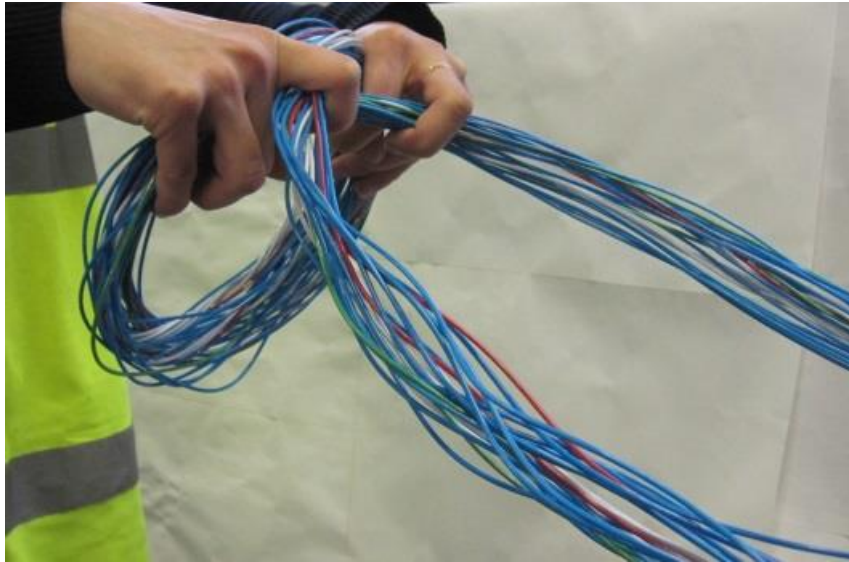
- Loosely holding the elements with one hand measure inside the loop diameter.
- See Table to select correct loop measurement for your joint.
- Return to Step 19 to 21 if you do not have the correct dimension.

| BT Joint Type | Cable Type | Loop Measurement |
|--------------------------|-----------------------|-----------------------------|
| UN Large | LT | 150mm |
| UN X Large | LT | 150mm |

NOTE: See table and measure carefully the outside diameter loop stated dimensions.

MECHANICAL OVAL PORT INSTALLATION OF COF209

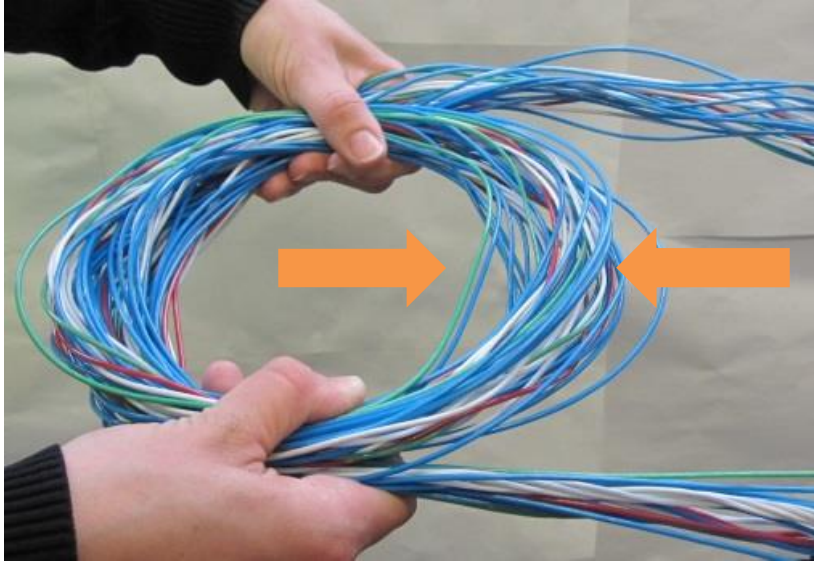
Step 23



- For the second loop, cross the elements at the top and flip the loop over to gather the elements.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 24

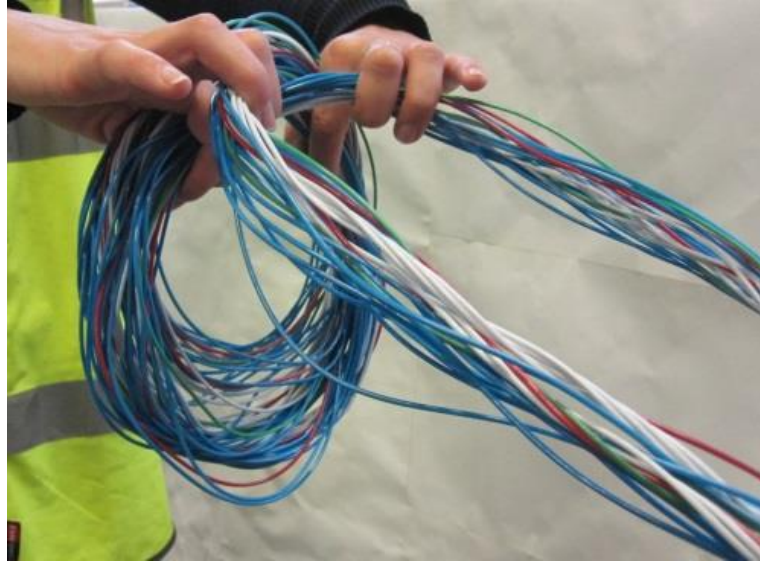


- Make the second loop, but ensure the loop is slightly larger than the first loop as shown in the photo.

NOTE: The loop diameter is now slightly wider than the first loop.

MECHANICAL OVAL PORT INSTALLATION OF COF209

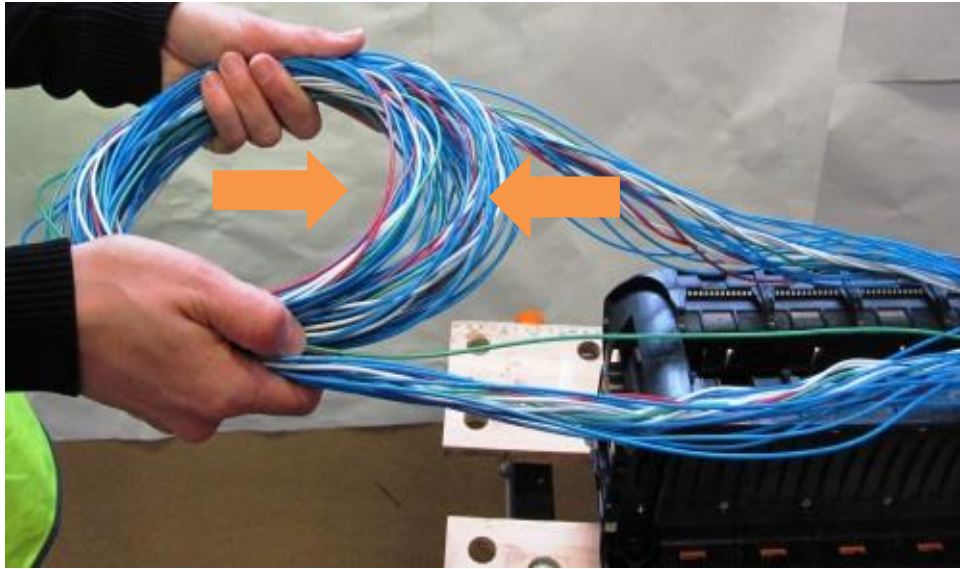
Step 25



- For the third loop, cross the elements at the top and flip the loop over to gather the elements.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 26

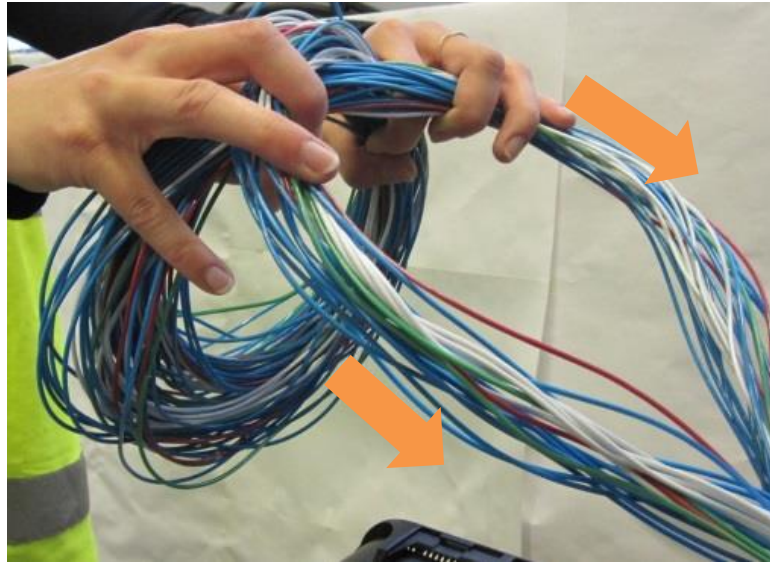


- Make the third loop, but ensure the loop is the same of slightly larger than the first & second loop as shown in the photo.

NOTE: The loop diameter is now slightly wider than the second loop.

MECHANICAL OVAL PORT INSTALLATION OF COF209

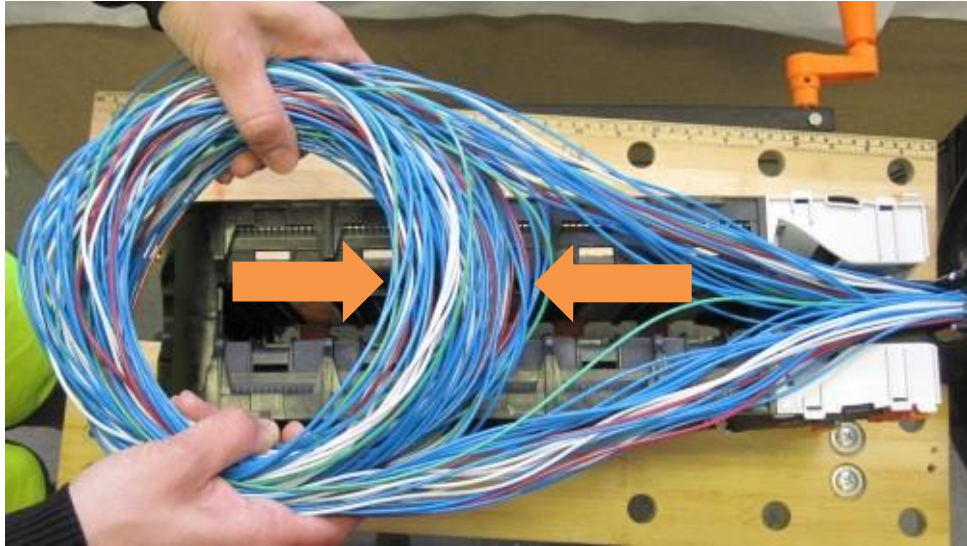
Step 27



- Repeat steps 25 and 26 for the fourth and fifth loops if required.
- For the final loop, cross the elements at the top and flip the loop over to gather the elements.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 28

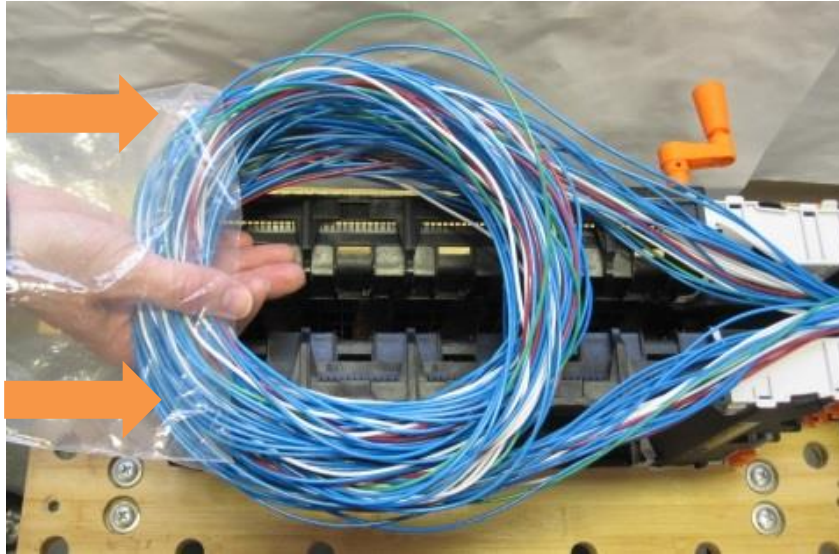


- Make the final loop, but ensure the loop is the same slightly larger than the first, second & third loop as shown in the photo.

NOTE: The loop diameter is now slightly wider than the third loop.

MECHANICAL OVAL PORT INSTALLATION OF COF209

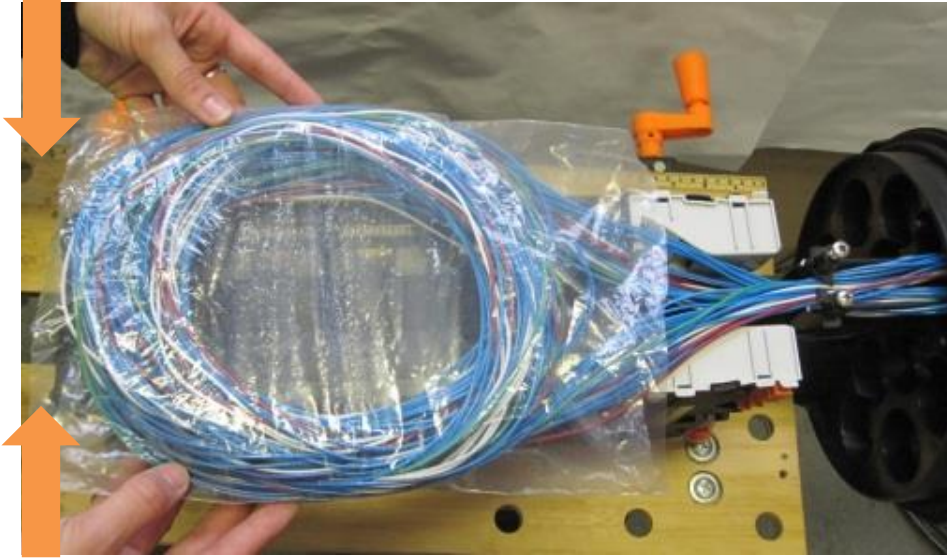
Step 29



- Gather the loop in place with one hand.
- Locate the plastic sleeve and place your hand through the sleeve and hold onto the loop at the top.

MECHANICAL OVAL PORT INSTALLATION OF COF209

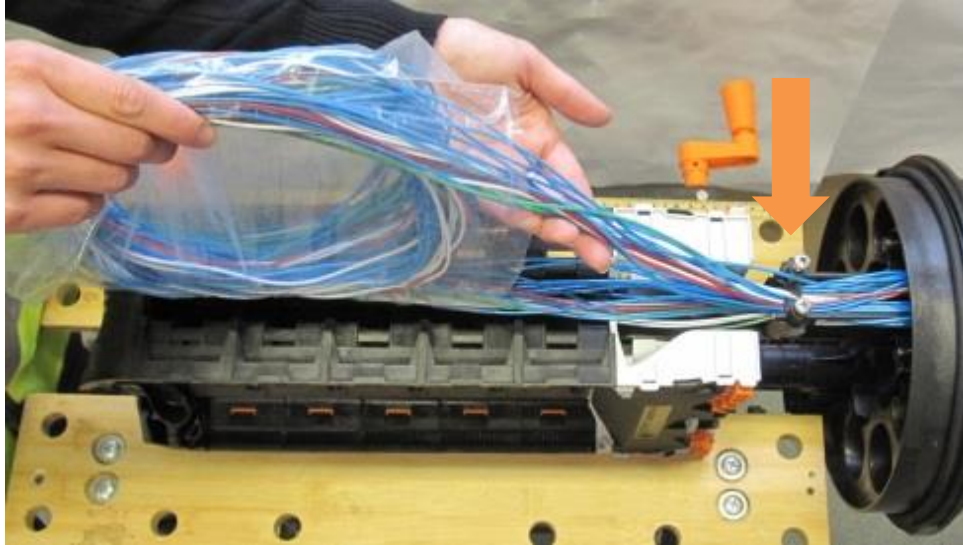
Step 30



- Using your free hand, carefully pull the plastic sleeve over the entire loop until the edge of the sleeve is in line with the top of loop.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 31

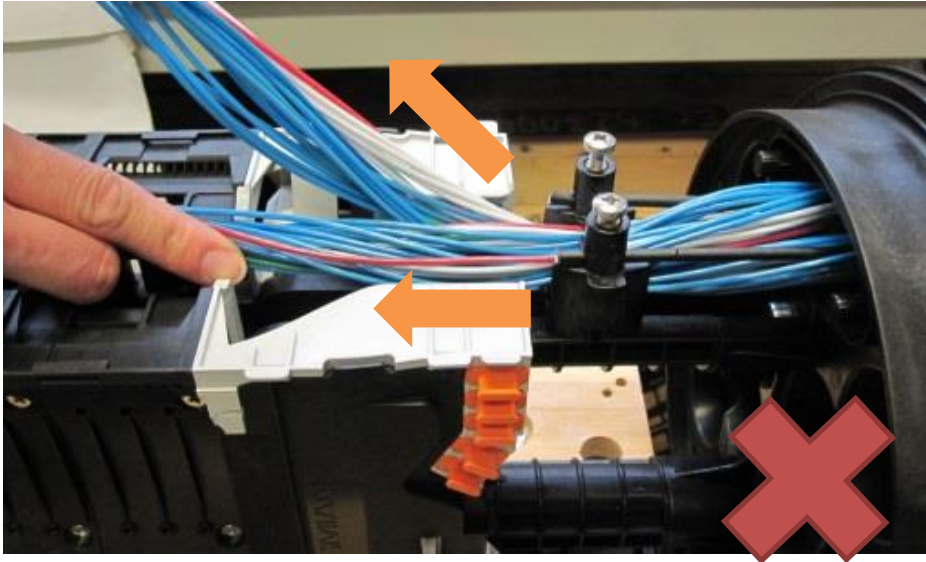


- Twist the loop 90 degrees ensuring elements are twisted in the natural direction that the element lay in the cable anchor position. See Steps 32 & 33 for incorrect and correct twist.

NOTE: Do not twist against the elements.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 32

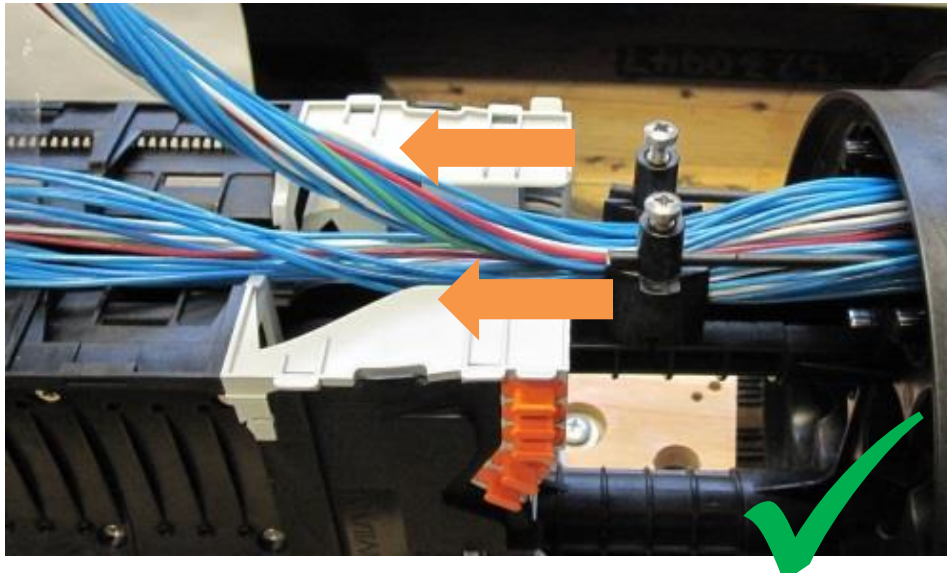


- Incorrect (unnatural) twist loop twist.

NOTE: The elements are twisted and do not sit neatly on top of one another.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 33

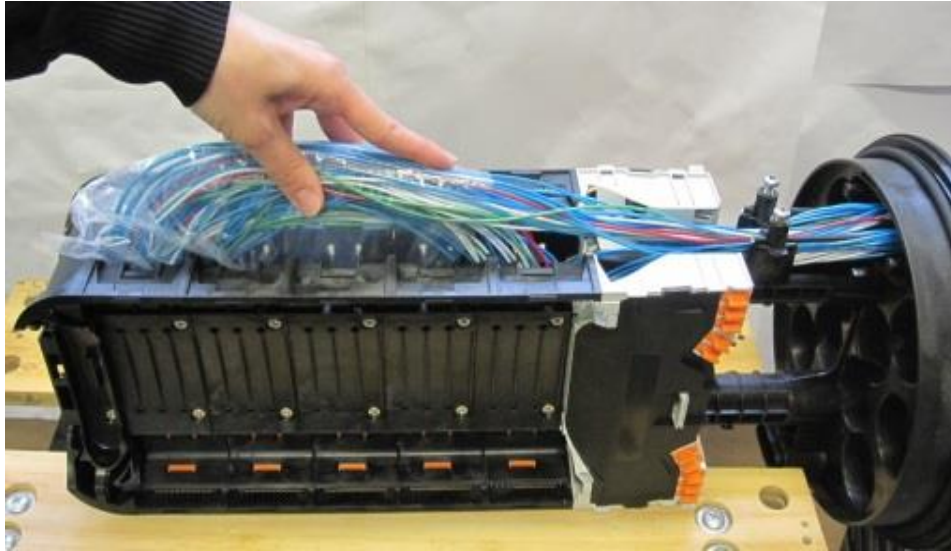


- Correct (natural) loop twist.

NOTE: The elements lay flat and neatly on top of one another.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 34



- Carefully push the loop into the open side of the loop storage area.
- Ensure to get the entire loop within the side walls of the spine.

NOTE: Ensure the plastic sleeve is pushed through evenly and without it twisting.

MECHANICAL OVAL PORT INSTALLATION OF COF209

Step 35



- Gently hold in place whilst you locate the loop storage cover or velcro.

NOTE: Take care not to kink the cable elements when installing the loop. Do not rush and follow the instructions precisely.

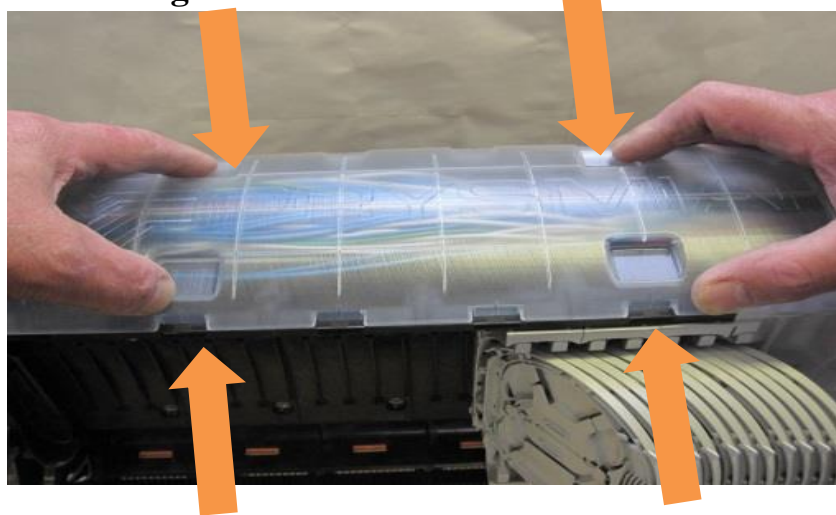
GO TO STEP 36 TO REPLACE LOOP COVER.

GO TO STEP 37 TO REPLACE VELCO STRAPS.

**MECHANICAL OVAL PORT INSTALLATION OF COF200,
COF201 & COF730**

Step 36

BT X Large



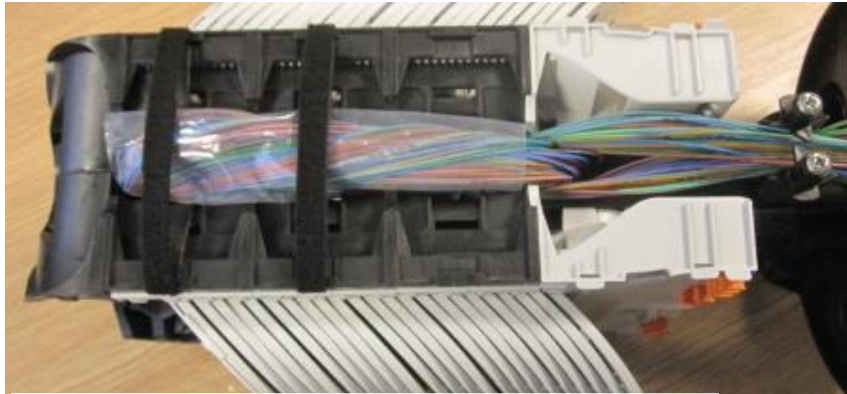
- Locate the tabs on one side of the loop storage cover and flex using 2 fingers.
- Push tabs on opposite side to clip the loop storage cover in place.

NOTE: Take care not to kink or catch the cable elements when installing the loop. Do not rush and follow the instructions precisely.

**MECHANICAL OVAL PORT INSTALLATION OF COF200,
COF201 & COF730**

Step 37

BT Large



BT X Large – Use loop storage cover

- Replace Velcro straps (see table for how many per node).
- Push the velcro into the slots, soft side down.
- Ensure loop is gently pushed down to ensure the velcro is as tight as possible securing the loop.

| BT Joint Type | Cover Type |
|----------------------|---------------------|
| UN Large | 2x Velcro Straps |
| UN X Large | Loop Storage Cover |

NOTE: Take care not to kink or catch the cable elements when installing the loop. Do not rush and follow the instructions precisely.