

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

Description	Tools Required																
<p>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 6.0mm to 8.0mm in diameter.</p>	<p><b>Tools:</b> Large Screwdriver, File, Pliers, with 5mm Allen key bit.</p>																
<table border="0"> <tr> <td><b>1 Rubber Seal</b></td> <td><b>Qty 1</b></td> </tr> <tr> <td><b>2 External Plate</b></td> <td><b>Qty 2</b></td> </tr> <tr> <td><b>3 Internal Plate</b></td> <td><b>Qty 2</b></td> </tr> <tr> <td><b>4 Screw M6x50mm</b></td> <td><b>Qty 2</b></td> </tr> </table>	<b>1 Rubber Seal</b>	<b>Qty 1</b>	<b>2 External Plate</b>	<b>Qty 2</b>	<b>3 Internal Plate</b>	<b>Qty 2</b>	<b>4 Screw M6x50mm</b>	<b>Qty 2</b>	<table border="0"> <tr> <td><b>5 Grease Sachet</b></td> <td><b>Qty 1</b></td> </tr> <tr> <td><b>6 Plastic sleeve 260mm</b></td> <td><b>Qty 1</b></td> </tr> <tr> <td><b>7 Foam Tape</b></td> <td><b>Qty 2</b></td> </tr> <tr> <td><b>8 5mm Allen key</b></td> <td><b>Qty 1</b></td> </tr> </table>	<b>5 Grease Sachet</b>	<b>Qty 1</b>	<b>6 Plastic sleeve 260mm</b>	<b>Qty 1</b>	<b>7 Foam Tape</b>	<b>Qty 2</b>	<b>8 5mm Allen key</b>	<b>Qty 1</b>
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**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**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  
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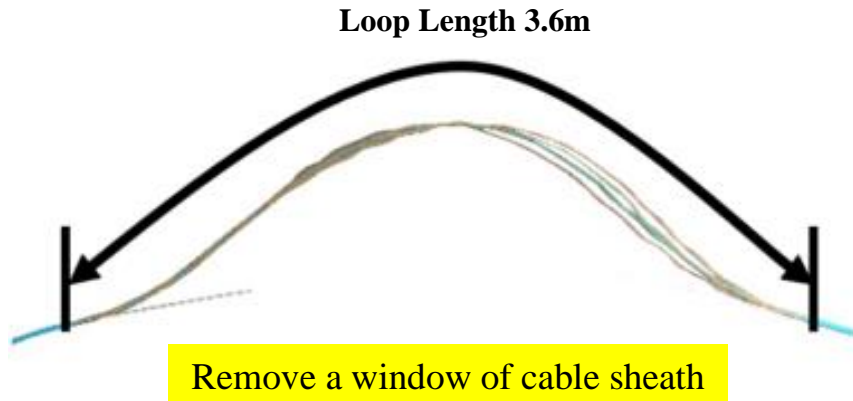
**Step 2**

**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.

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

### 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  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 4**

**ATTENTION!**

**CHECK THE CABLE DIAMETER BEFORE INSTALLING  
THE MECHANICAL SEAL.**

- It is important to IDENTIFY at this point the nominal CABLE diameter.
- Use the lower tolerance to measure the appropriate oval seal size to install.

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 5**

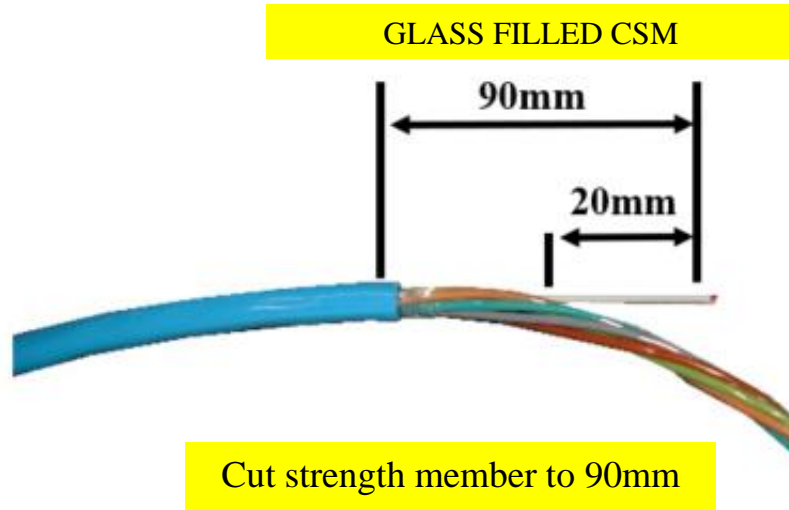
**IF USING GLASS FILLED CSM GO TO STEP 6**

**IF USING WIRE CSM GO TO STEP 7**

- **If using the GLASS FILLED reinforced csm GO TO STEP 6.**
- **If using the WIRE reinforced csm GO TO STEP 7.**

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 6**

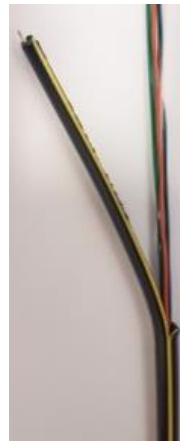


- Remove all tapes and binders.
- Access the glass filled central strength member (CSM) and cut it in the centre.
- Cut glass filled CSM back to 90mm at the cable butt as shown.
- Remove 20mm of sheath from CSM if the CSM diameter is greater than 5mm.
- GO TO STEP 9.

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 7**

**WIRE CSM**



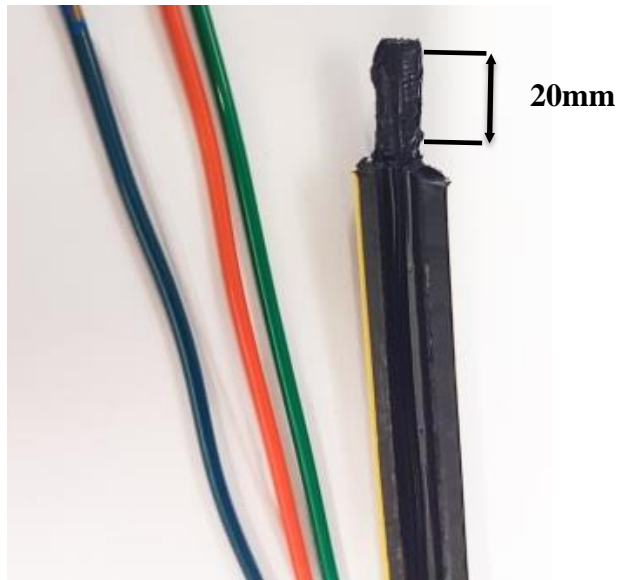
**90mm  
CSM**

- Remove all tapes and binders.
- Follow the practices detailed in ept/cof/d931 to longitudinally slit 2m of cable sheath along the yellow lines. The resulting two halves of the cable sheath should each contain strength members.
- Cut one of the sheath halves containing a strength member to a length of 90mm from the cable butt, cut the other sheath half containing a strength member flush with the cable butt.



## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

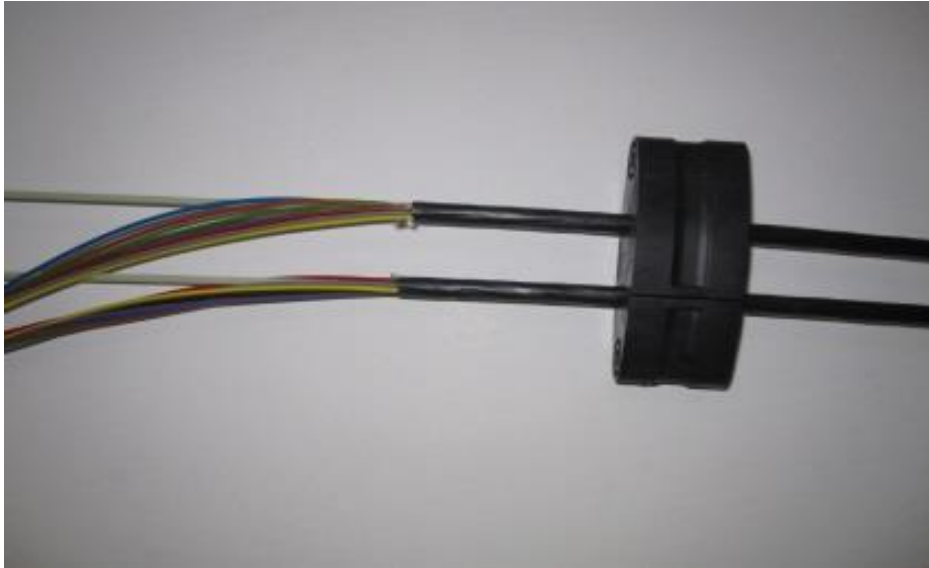
### Step 8



- Using nipper diagonal cutting, item code 127405, trim the end of the remaining sheath half to a diameter of approximately 5mm such that 20mm length can be inserted into the strength member restraint hole.
- GO TO STEP 9.

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 9**



- Attach rubber seal over the cables.

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 10**



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

**MECHANICAL OVAL PORT INSTALLATION OF  
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**Step 11**



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

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

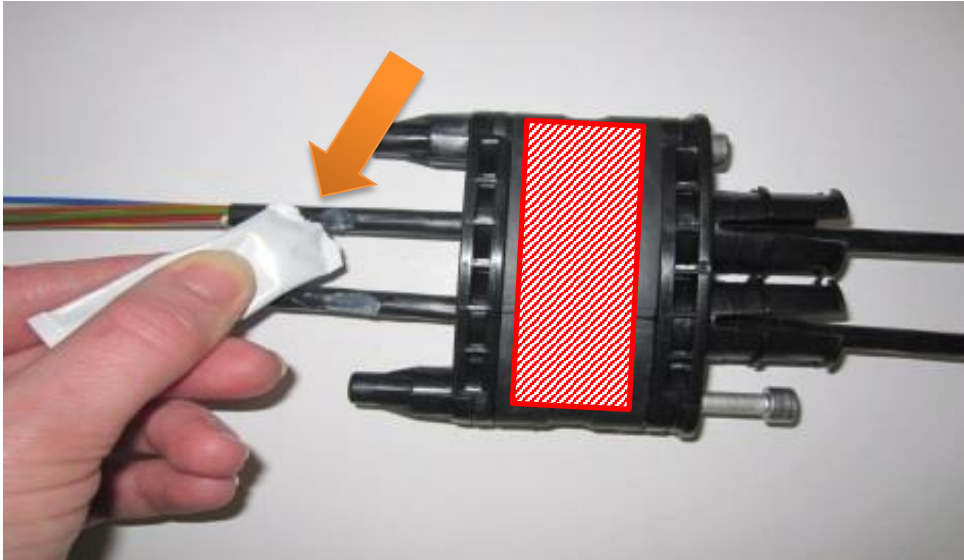
**Step 12**



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

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 13**

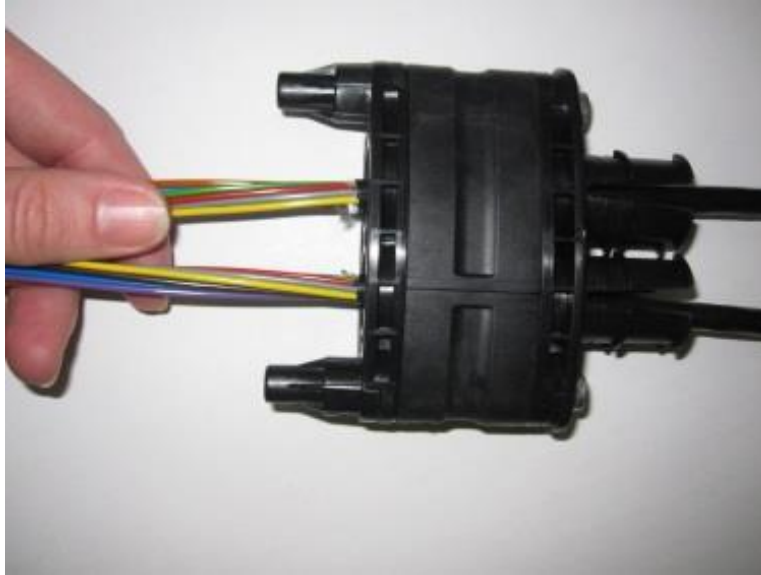


- Add grease to cable butt end.
- Ensure you spread the grease evenly.

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

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

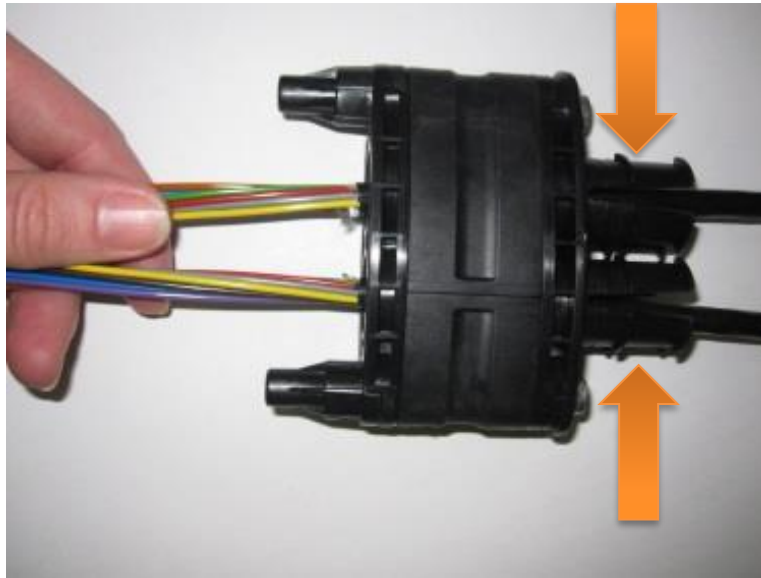
**Step 14**



- Push assembly towards cable butt end.

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

### Step 15

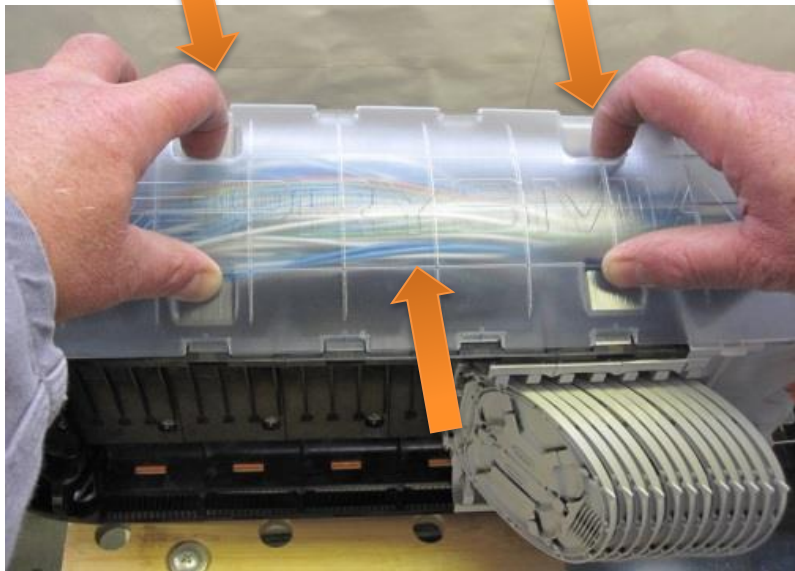


- Mark the cable sheath in position shown.
- Pull cables through 30mm and apply one turn of foam tape to both cables 10 mm below marked position toward the cable butt end.
- Push cables back into correct position so the foam tape lays under the anti-torsion pieces.



**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 16**



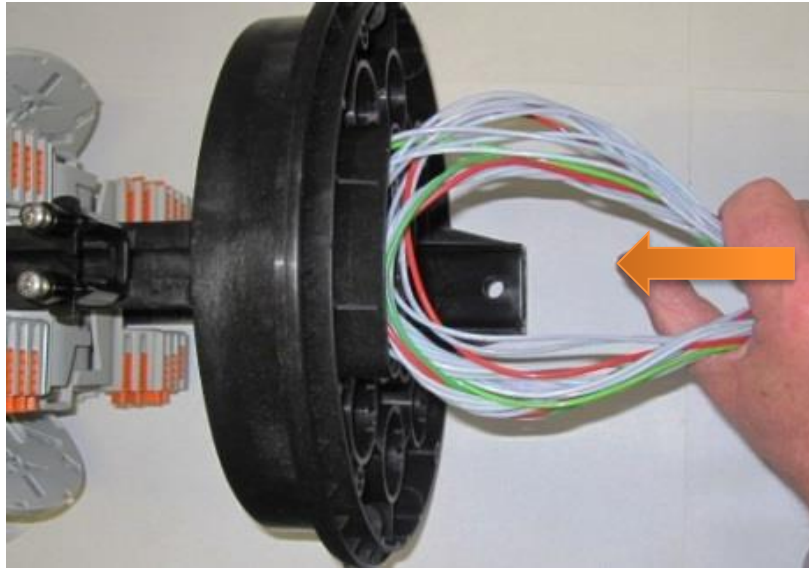
- Identify which UN joint you are installing. See table & remove loop storage guide cover or Velcro straps.

<b>BT Joint Type</b>	<b>Cover Type</b>
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  
COF205, COF260, 36f ULW, 4f and 12f FDC**

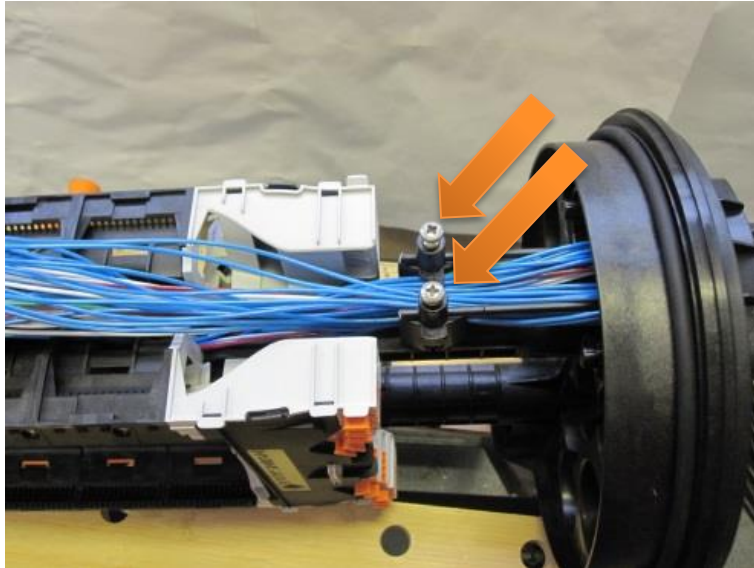
**Step 17**



- Carefully insert loop into the oval port.

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

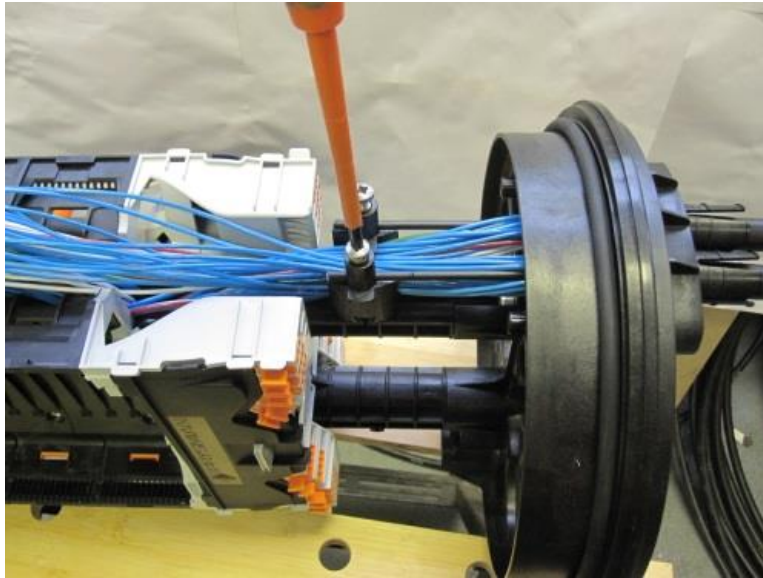
### Step 18



- Fully insert the mechanical oval port assembly into the oval port.
- Ensure CSM OR ENCASED WIRE is fully inserted in the cable anchor plate.

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

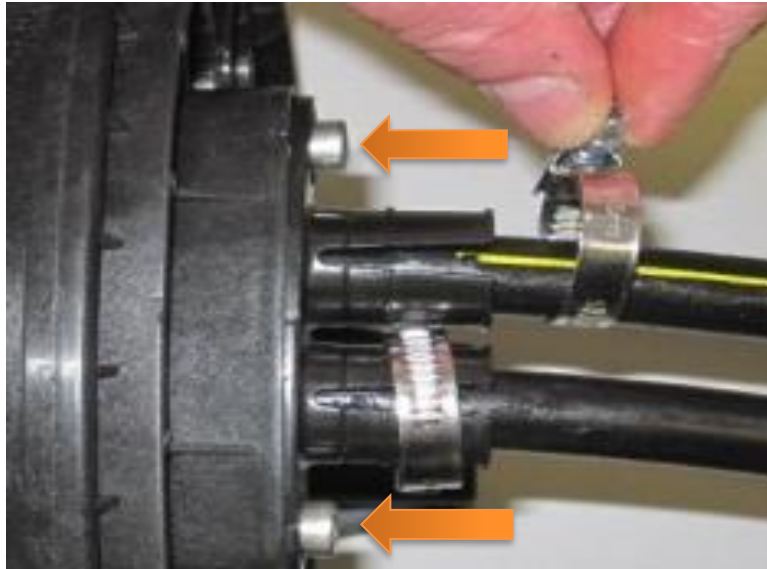
### Step 19



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

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

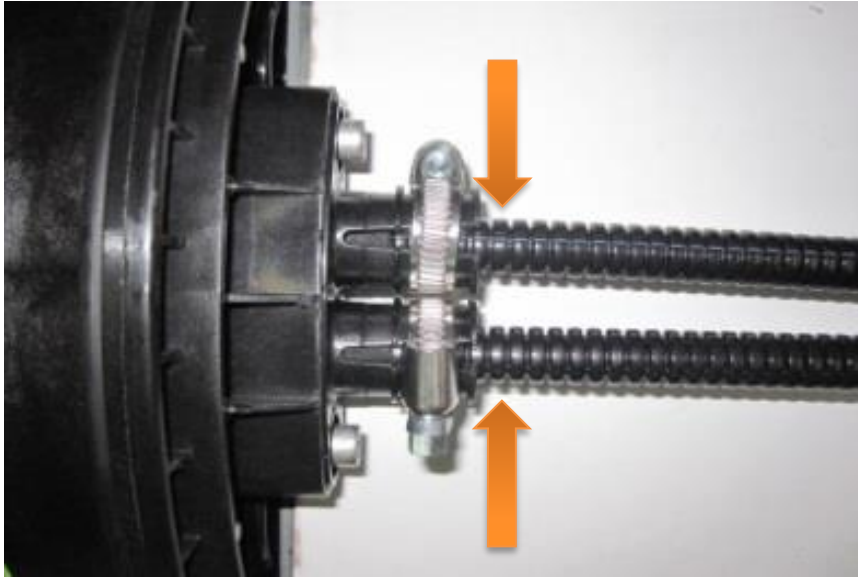
### Step 20



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

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

### Step 21



- 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  
COF205, COF260, 36f ULW, 4f and 12f FDC**

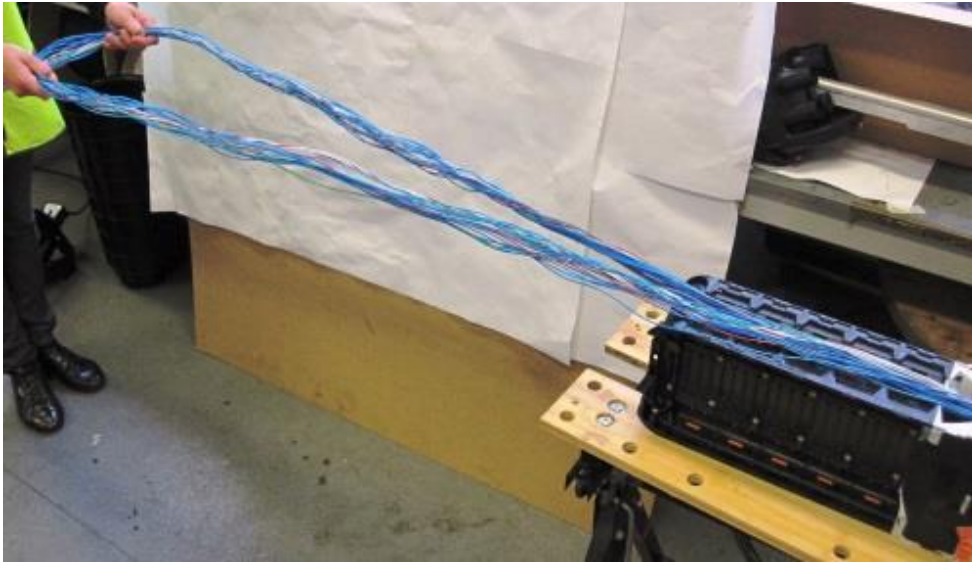
**Step 22**



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

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

### Step 23



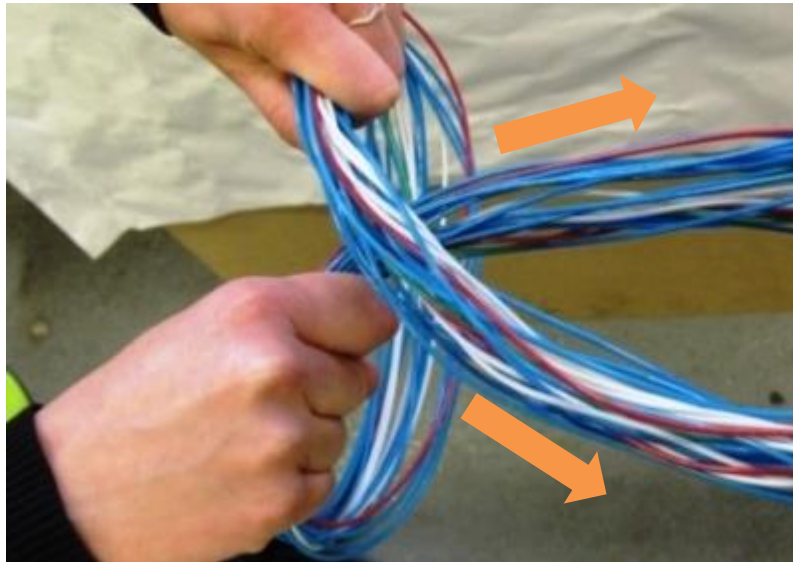
- Firstly, separate the two ends of the loop. Gently straighten the loop away from the LMJ ready to loop into the spine.

**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  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 24**

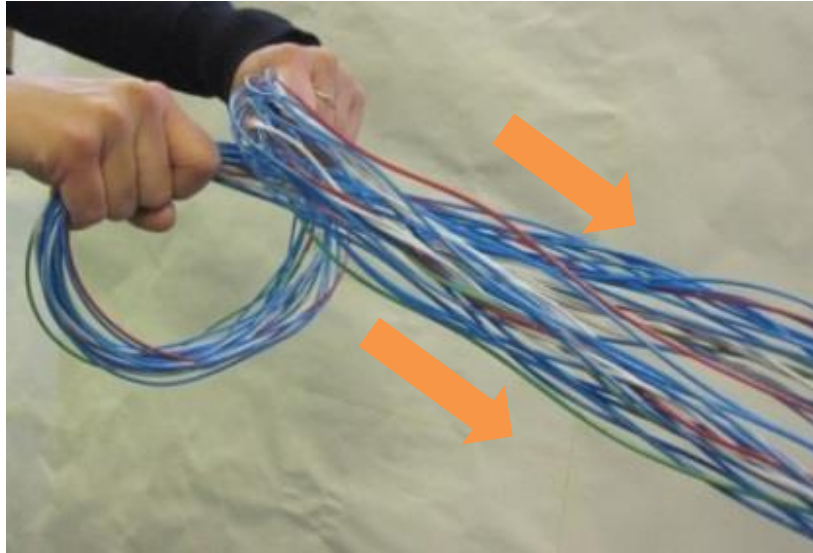


- See Table for number of loops to create.
- For the first loop, cross the elements at the top and flip the loop over to gather the elements.

<b>BT Joint Type</b>	<b>Cable Type</b>	<b>No. of Loops</b>
UN Large	LT	6 loops
UN X Large	LT	4 loops

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

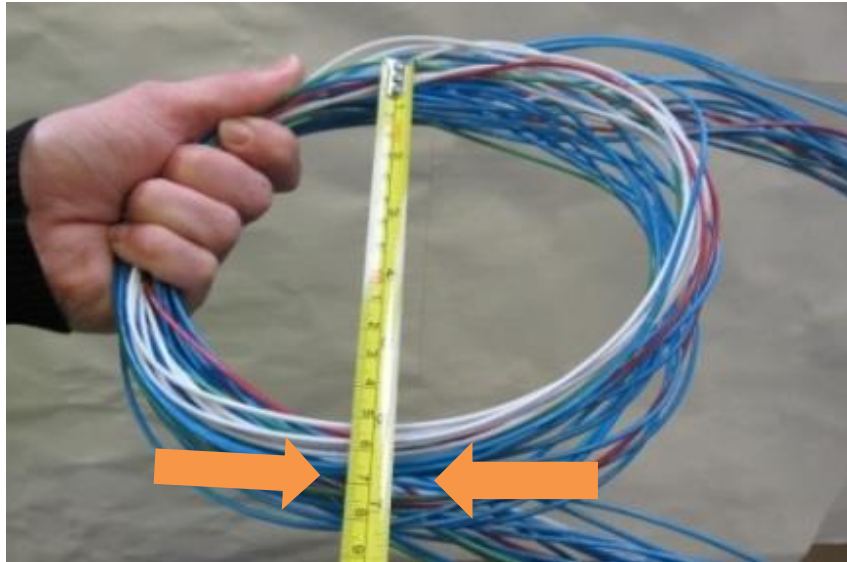
### Step 25



- 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  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 26**



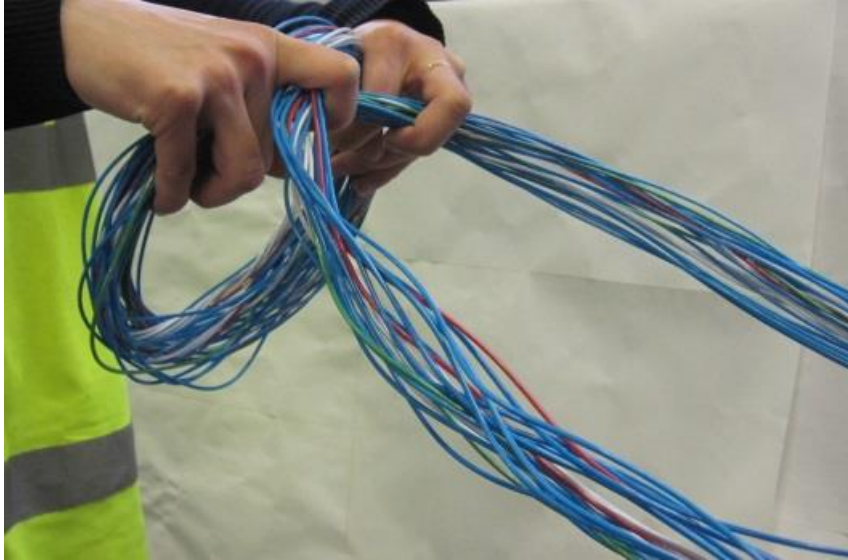
- Loosely holding the elements with one hand measure inside the loop diameter.
- See Table to select correct loop measurement for your joint.
- Return to Step 23 to 25 if you do not have the correct dimension.

<b>BT Joint Type</b>	<b>Cable Type</b>	<b>Loop Measurement</b>
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  
COF205, COF260, 36f ULW, 4f and 12f FDC**

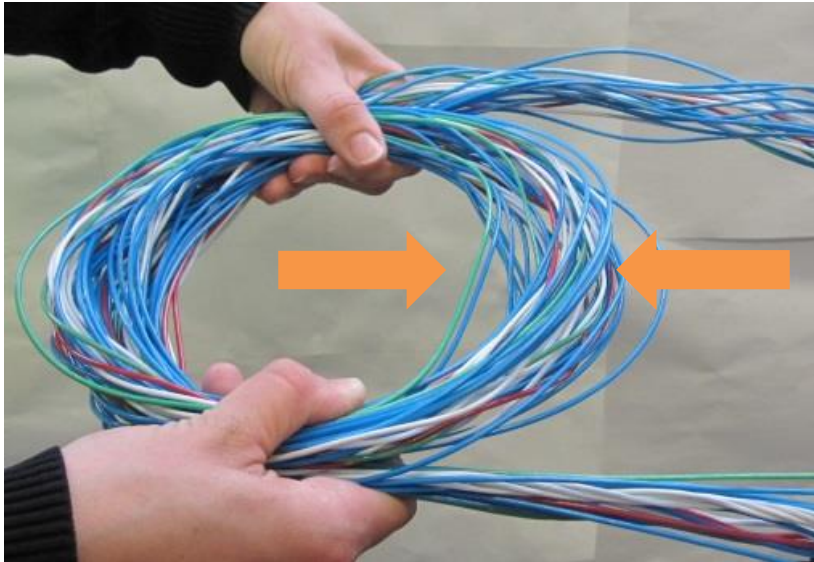
**Step 27**



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

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

### Step 28

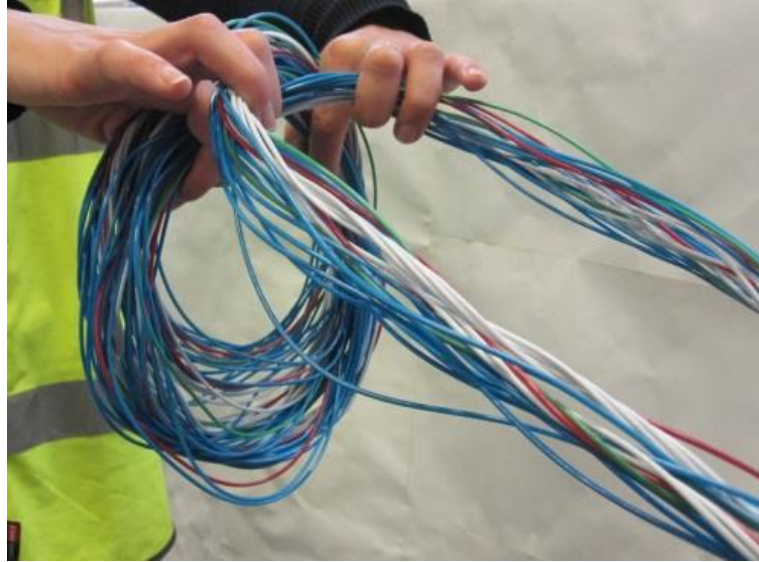


- Make the second loop, but ensure the loop is slightly larger than the first loop as shown in the photo.

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

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

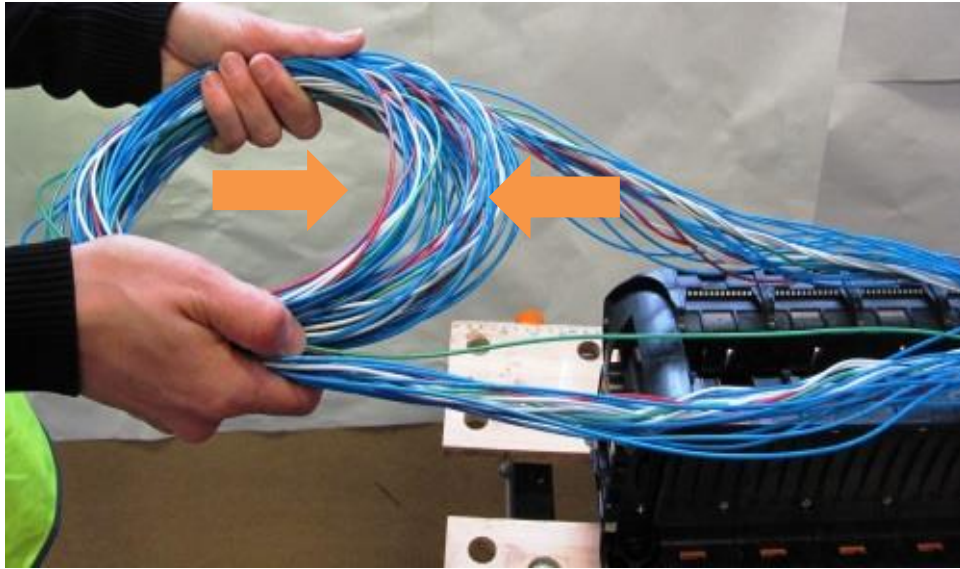
**Step 29**



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

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

### Step 30

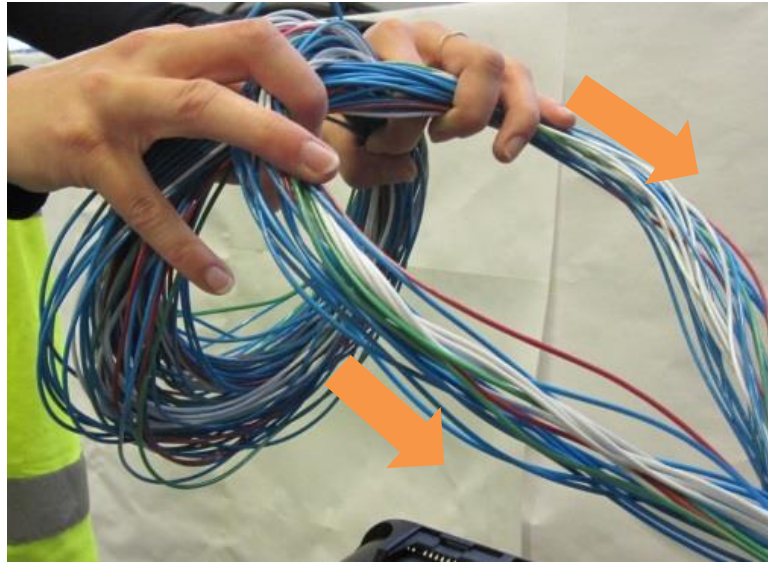


- Make the third loop, but ensure the loop is the same of slightly larger than the first & second loop as shown in the photo.

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

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

### Step 31

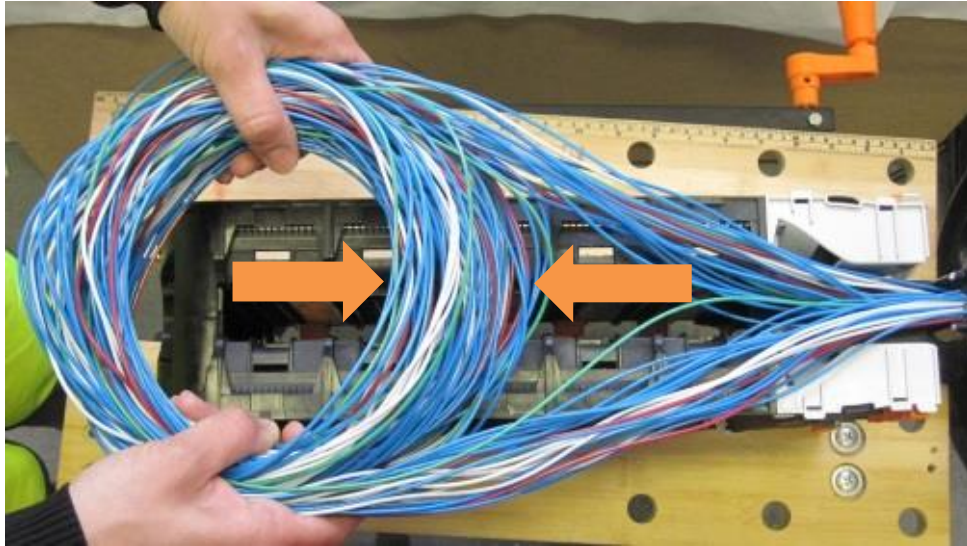


- Repeat steps 28 and 29 for the fourth and fifth loops if required.
- For the final loop, cross the elements at the top and flip the loop over to gather the elements.



## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

### Step 32

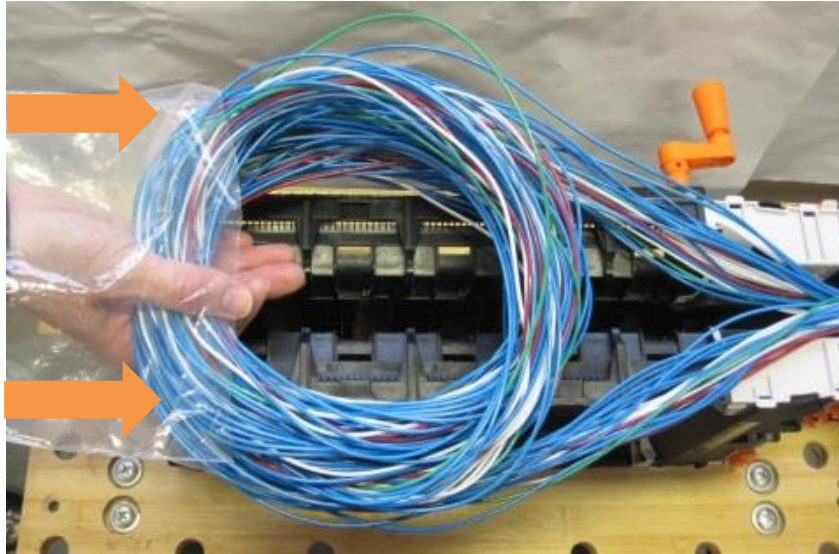


- Make the final loop, but ensure the loop is the same slightly larger than the first, second & third loop as shown in the photo.

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

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

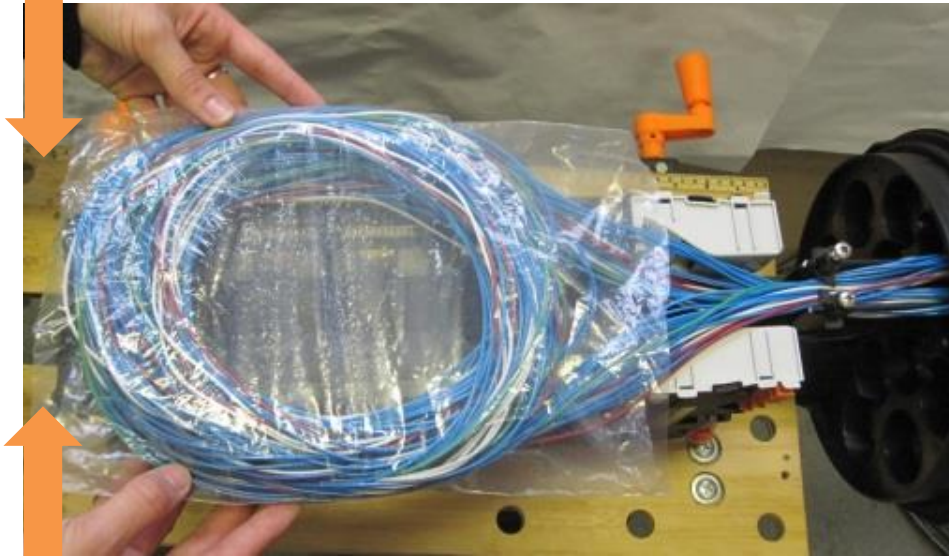
### Step 33



- 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  
COF205, COF260, 36f ULW, 4f and 12f FDC**

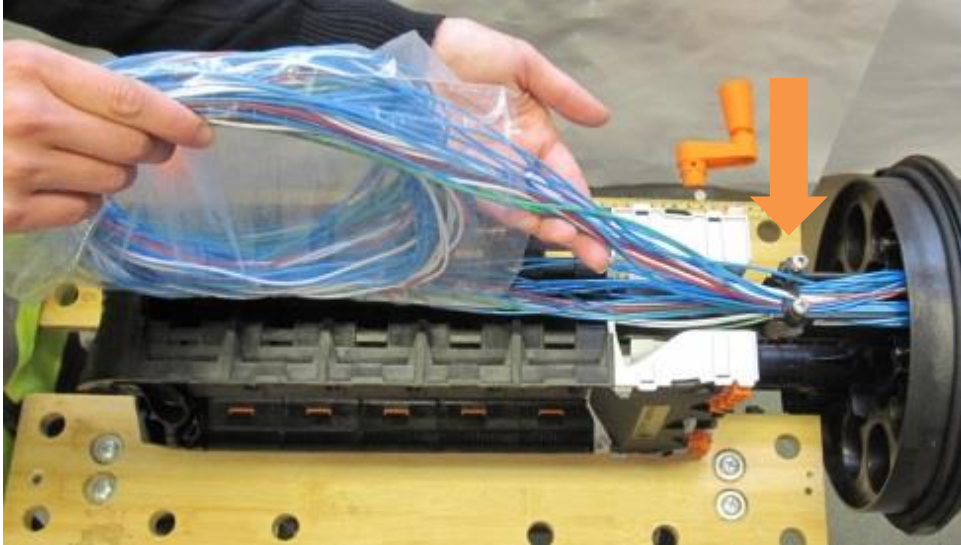
Step 34



- 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 COF205, COF260, 36f ULW, 4f and 12f FDC

### Step 35

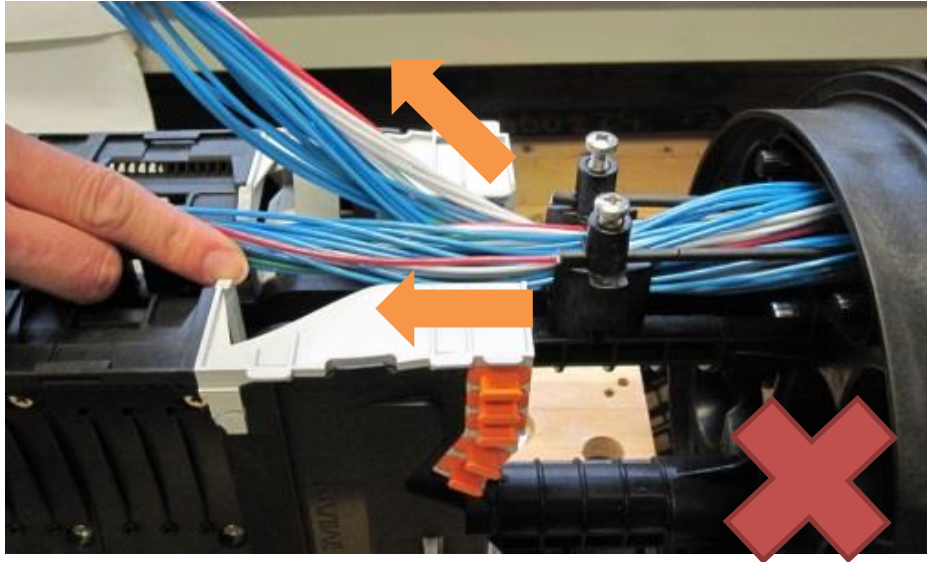


- Twist the loop 90 degrees ensuring elements are twisted in the natural direction that the element lay in the cable anchor position. See Steps 36 & 37 for incorrect and correct twist.

**NOTE:** Do not twist against the elements.

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

Step 36

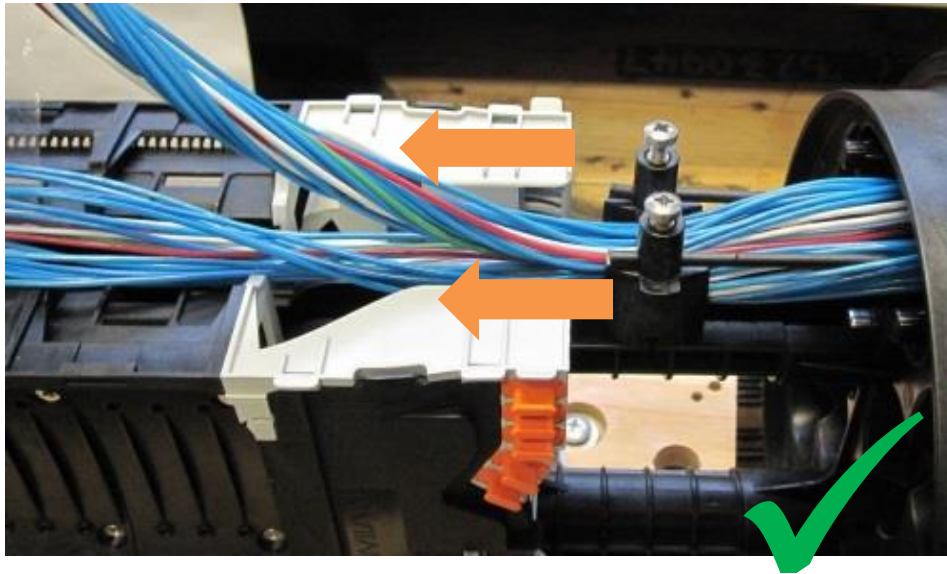


- Incorrect (unnatural) twist loop twist.

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

**MECHANICAL OVAL PORT INSTALLATION OF  
COF205, COF260, 36f ULW, 4f and 12f FDC**

Step 37

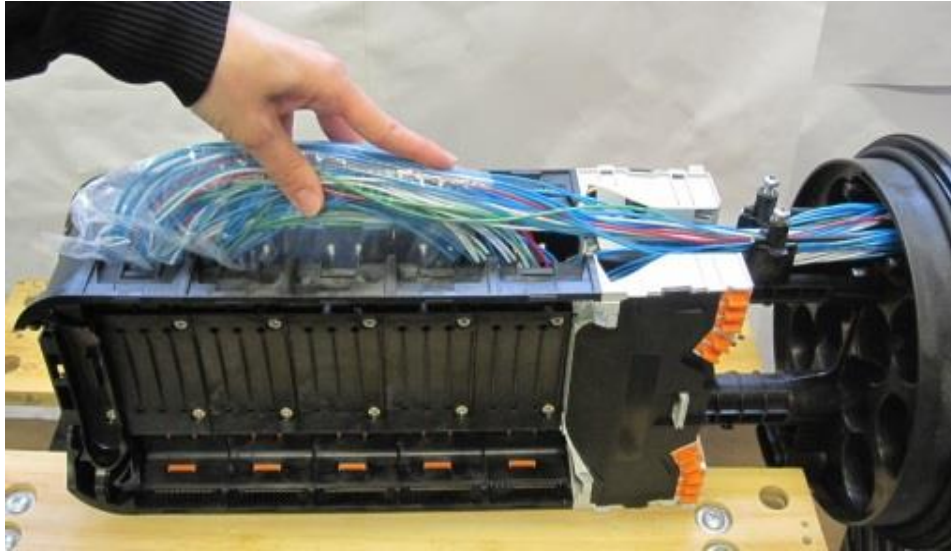


- Correct (natural) loop twist.

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

## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

### Step 38



- 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 COF205, COF260, 36f ULW, 4f and 12f FDC

### Step 39



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

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

**GO TO STEP 40 TO REPLACE LOOP COVER.**

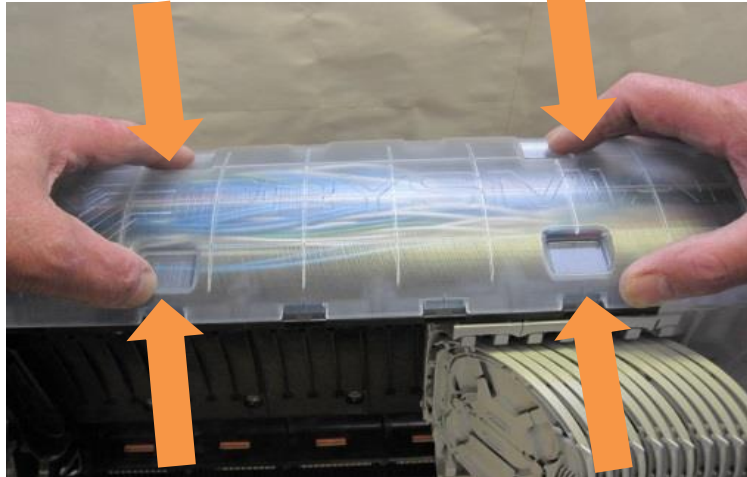
**GO TO STEP 41 TO REPLACE VELCO STRAPS.**



## MECHANICAL OVAL PORT INSTALLATION OF COF205, COF260, 36f ULW, 4f and 12f FDC

**Step 40**

**BT X Large**



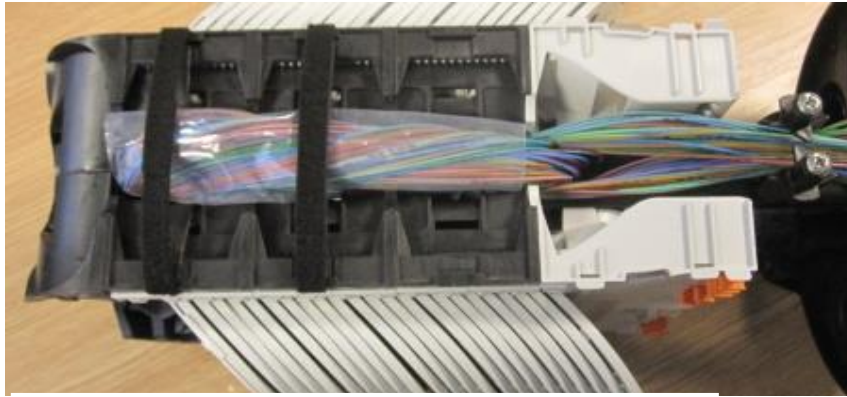
- Locate the tabs on one side of the loop storage cover and flex using 2 fingers.
- Push tabs on opposite side to clip the loop storage cover in place.

**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  
COF205, COF260, 36f ULW, 4f and 12f FDC**

**Step 41**

**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.

<b>BT Joint Type</b>	<b>Cover Type</b>
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.

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