Prysmian Group

INSTALLATION INSTRUCTION

OAsys® Equipment meets BT
OTIAN® Equipment Specifications

OAsys® INTERNAL PLANT

RACK SPLICING MODULE 3A

Part Number: XPFSC00001 BT Item Code: 076041

Description

Allows the termination of up to 3 input cables top or bottom fed.
All current cable element fibre counts can be accommodated.
Any fibre from any cable can be routed to any of the Splice Trays within the unit.
Supplied as 12 discrete Splice Modules.
Each Splice Module houses 2 Splice Trays.
Each Splice Tray has the capacity to store up to 12 shrink down Splice Protectors (45mm long 2.2mm diameter).
Can be positioned in any of 12 pre-determined positions in the GR.
SPACE ENVELOPE: 510 mm x 230 mm x 150 mm (W x D x H)

Tools & Additional Items Required

Additional Items:	**Prysmian Part No.**	**BT Item Code**
Restraint Kit 2A	XAPSC00417	075869
Splice Protectors (pk 50 - optional)	XPESC00053	075110

Tools:	**Prysmian Part No.**	**BT Item Code**
Flush Cutting Tool 1A	XPFSC00150	076080
Pozidrive Screwdriver No.2	N/A	N/A

Component Parts (pictures not to scale)

1 Cable Termination Assembly **Qty 1** 	**2 Splice Module** **Qty 12** 	**3 Bend Manager** **Qty 12** 
4 Screw M4 x 8 mm Pozi Pan Head **Qty 5**	**5** M4 Retaining Washers **Qty 5**	**6** Pre-cut Grey Transport Tubes **Qty 6**
7 Coil of Grey Transport Tube **Qty 2**	**8** Cable Ties **Qty 3**	**9** Fibre Threading Tube **1mtr**

RACK SPLICING MODULE INSTALLATION

Step 1

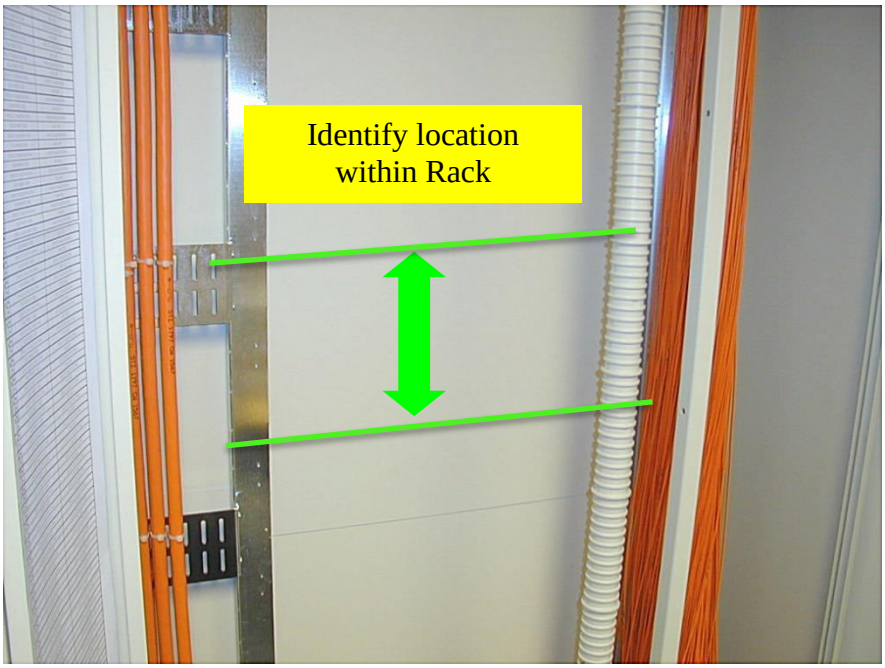
Partial view of CTA shown.

Fit retainers to hold screws in 4 corner positions on rear face.

- Select the Cable Termination Assembly (CTA) **(1)** and position it as its shown in the component part illustration. Pre-fit two M4 screws **(4)** through the two plate holes on the right-hand side and hold into position using two M4 Retaining Washers **(5)** fitted on the rear face.

- Fit two further screws and washers to the **inner two holes** on the left-hand side. Note: Use the outer holes only if fitting to a Generic Rack 2A.

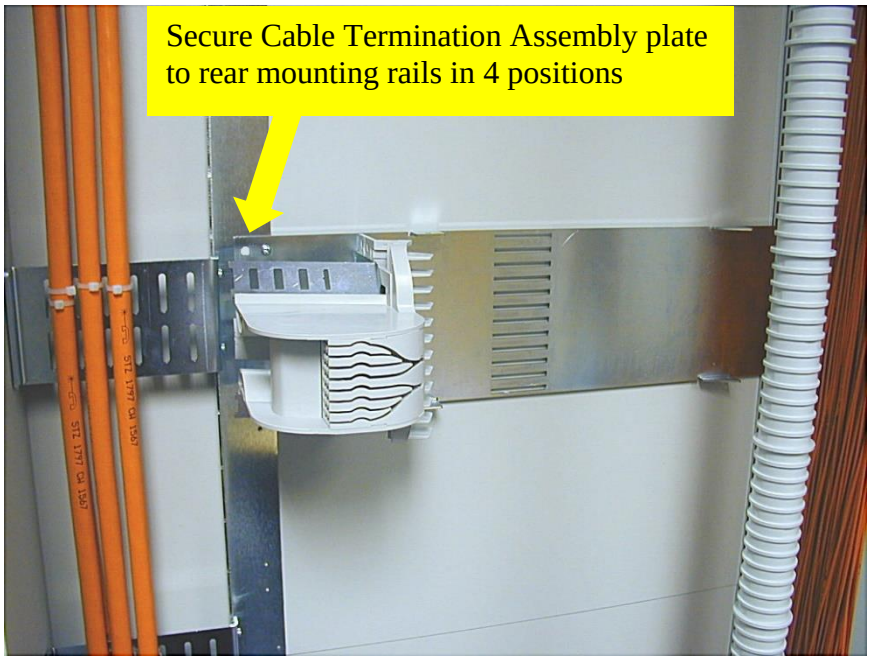
Step 2



- Identify one of the twelve predetermined Rack Splicing Module 3A (RSM3A) mounting positions within the Generic Rack 3A (GR3A).

RACK SPLICING MODULE INSTALLATION

Step 3



- Screw the CTA plate **(1)** onto the Mounting Rails.

INSTALLATION ADVICE

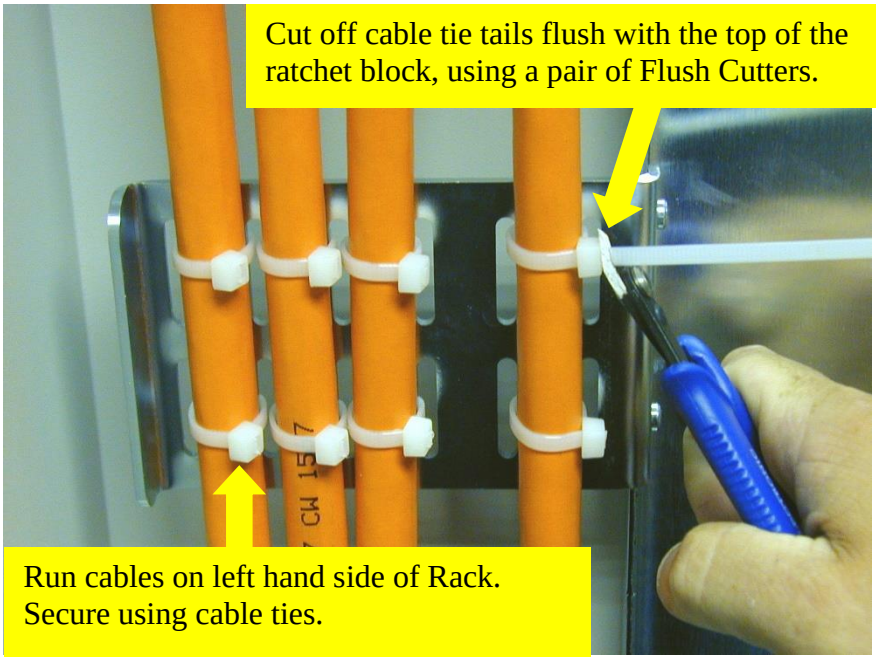
Inserting the two screws ON the right-hand side first aids installation.

INPUT CABLE INSTALLATION

The following operations require the use of cable ties. Cables ties must be hand tightened only, do not use mechanical aids. A Flush Cutting Tool 1A (Prysmian Part Number: XPFSC00150, BT Item Code 076080) must be used to cut off the excess cable tie tails, flush with the top of the cable tie ratchet block. This ensures that no sharp edges protrude from the top of the block. Refer to Installation Instruction IP010 supplied with the Flush Cutting Tool 1A for full instructions.

INPUT CABLE INSTALLATION

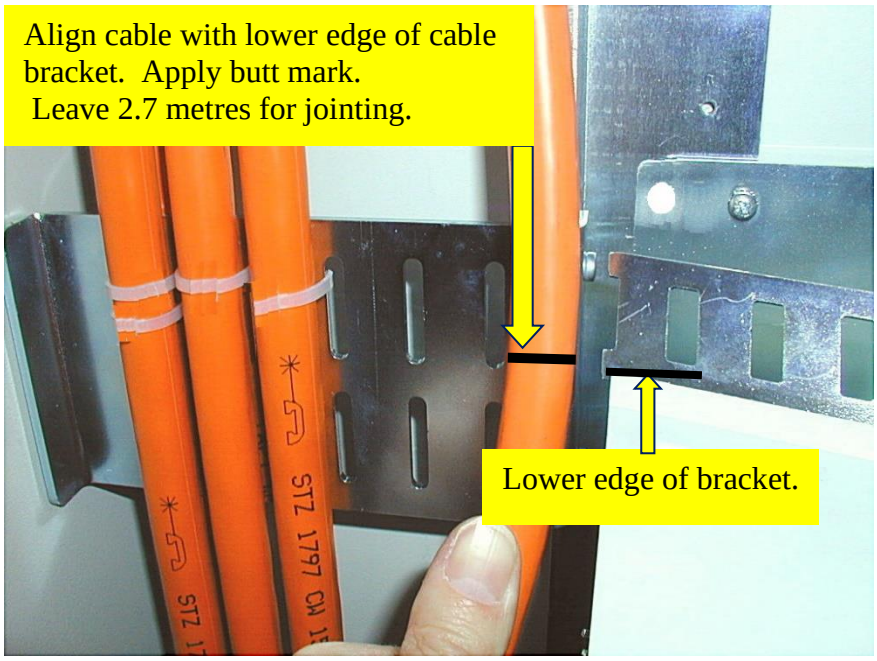
Step 4



- Route the input cable up or down the left-hand side of the rack. Position and secure the cables to the brackets using suitable ties. (Not supplied – use ties 3.5 to 5 mm wide).
- Cut off cable tie tails flush with the top of the cable tie ratchet block, using a pair of Flush Cutters. Refer to the note at the top of the page.
- As a rule, run the cables on the left side of the bracket and sweep to the right approximately 0.5 metres above (or below) the required CTA.

INPUT CABLE INSTALLATION

Step 5



INSTALLATION ADVICE

For a cable with a fibre count greater than can be accommodated on 1 RSM, add a second or third RSM as required.

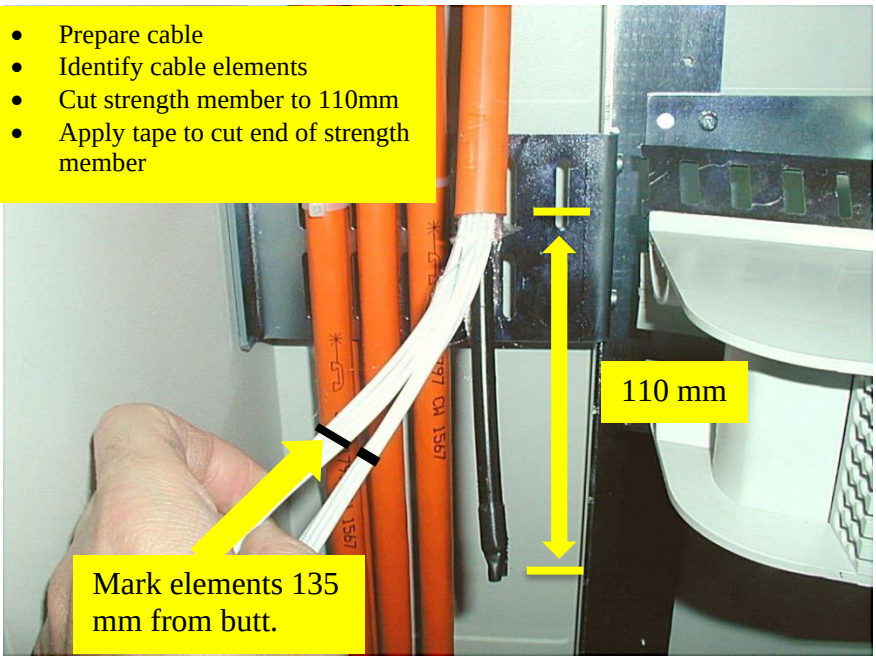
- Line the cable up to the CTA **(1)** as shown. Apply a butt mark to the cable sheath.
- Cut the cable to a length of **2.7 m** from this point.

INSTALLATION ADVICE

For cable spanning more than 1 RSM refer to the installation advice in step 23.

INPUT CABLE INSTALLATION

Step 6

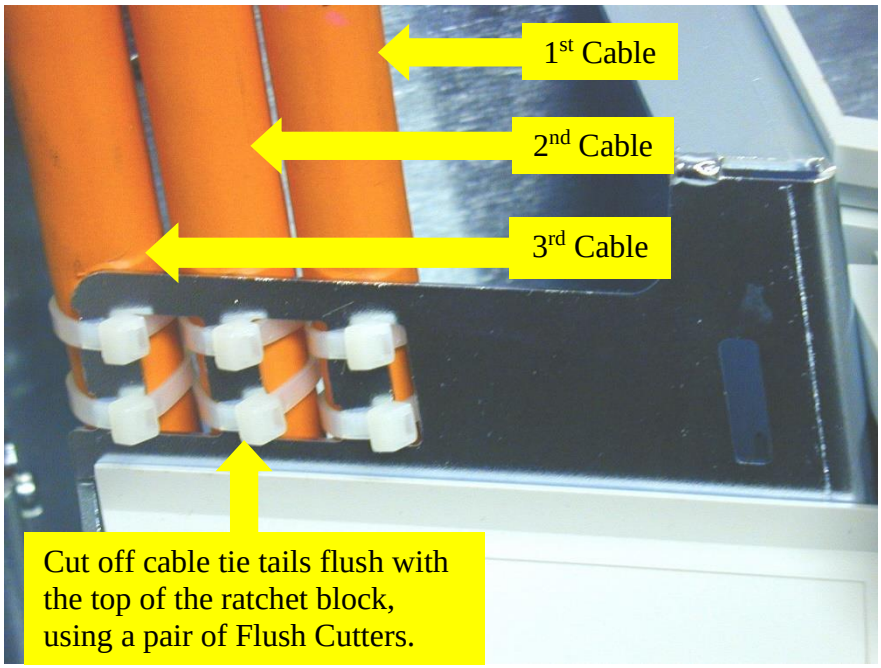


- Draw the cable free from the rack and strip the sheath back to the butt position.
- Prepare and number the cable elements.
- Cut the centre strength member **110 mm** from the sheath butt position and apply insulation tape to the end.
- Apply a reference mark to each cable element 135mm from the cable butt.

Note: If the cable elements are to be routed to adjacent RSM's, the elements will require different length markings. Refer to step 23.

INPUT CABLE INSTALLATION

Step 7

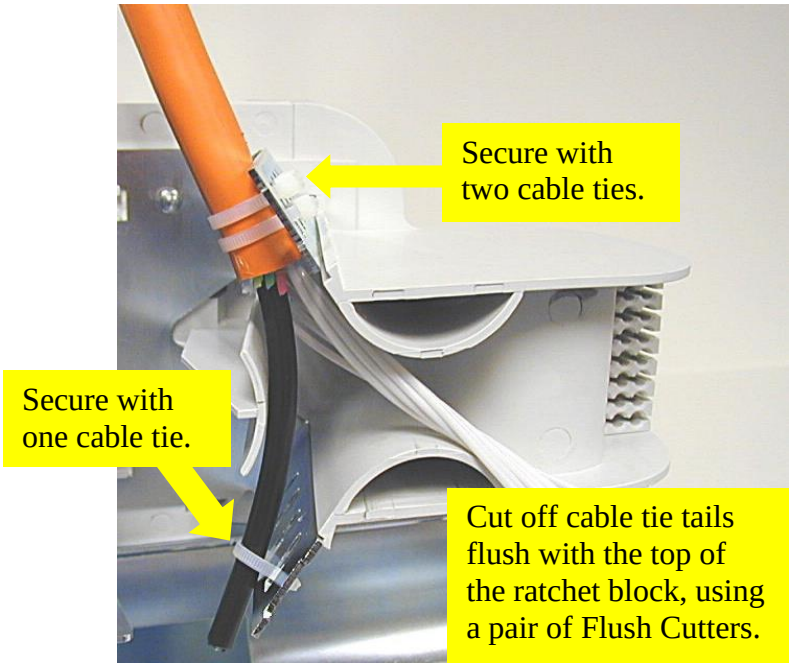


INSTALLATION ADVICE

- When fitting more than one cable into the CTA **(1)**, secure the first cable to the inner right most position as shown.
- Add second and third cables into the positions shown.
- Cut off cable tie tails flush with the top of the cable tie ratchet block, using a Flush Cutting Tool 1A. Refer to the note at the top of the page.

INPUT CABLE INSTALLATION

Step 8

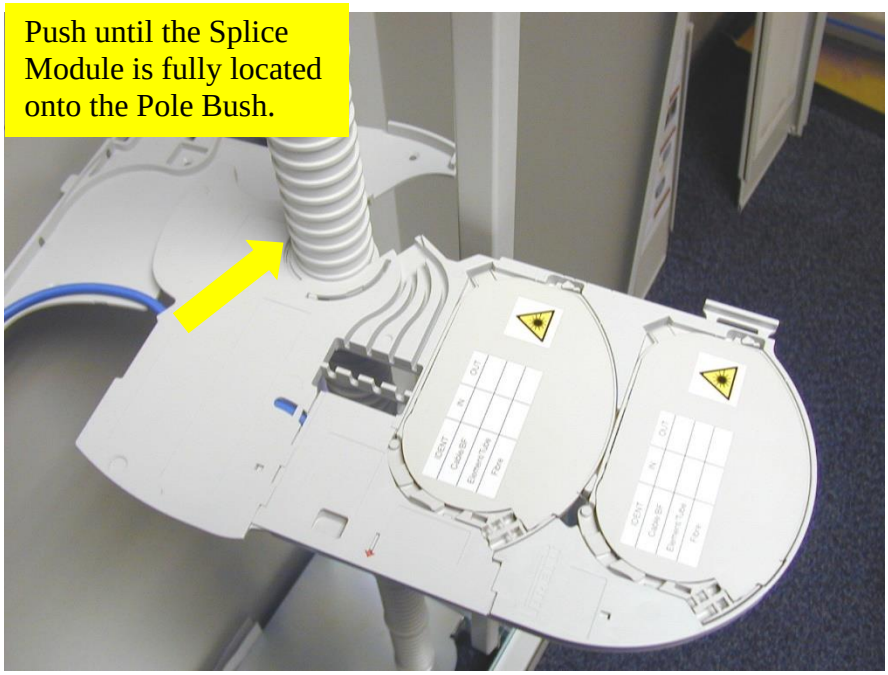


- Position the cable sheath butt as shown and secure with 2 cable ties (supplied).
- Position the centre strength member as shown and secure with 1 cable tie (supplied).
- Cut off cable tie tails flush with the top of the cable tie ratchet block, using a Flush Cutting Tool 1A. Refer to the note at the top of the page.

⚠ **Ensure the cable elements are not trapped behind the central strength member.**

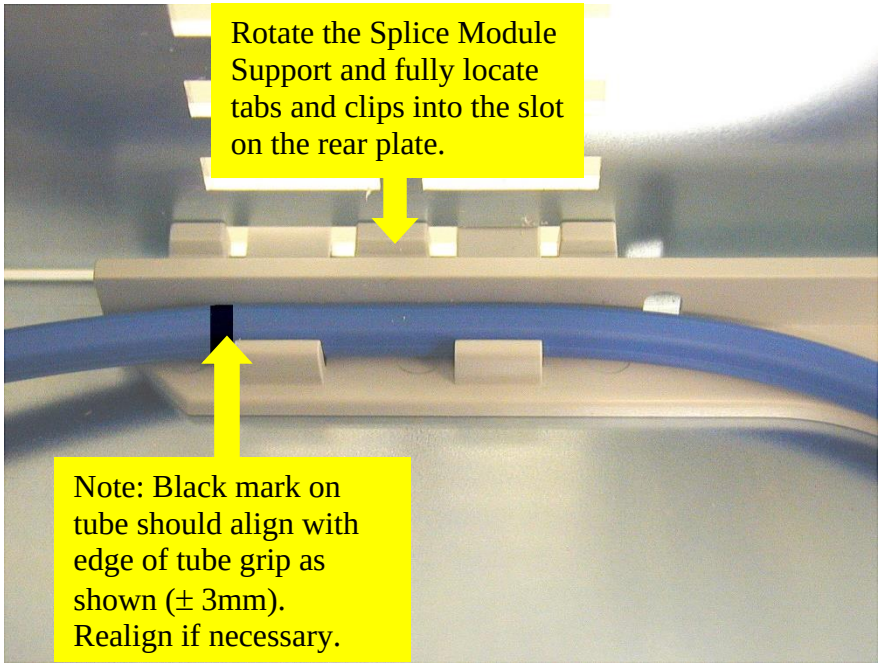
INPUT CABLE INSTALLATION

Step 9



- Select one Splice Module **(2)**.
- Fully open the Splice Module from its support as shown (A click should be felt).
- Offer the module to the first position on the Pole Bush as shown. The first position is indicated by its larger diameter.
- Fully locate the Splice Module onto the bush.
- Do not load more than one Splice Module at this stage.

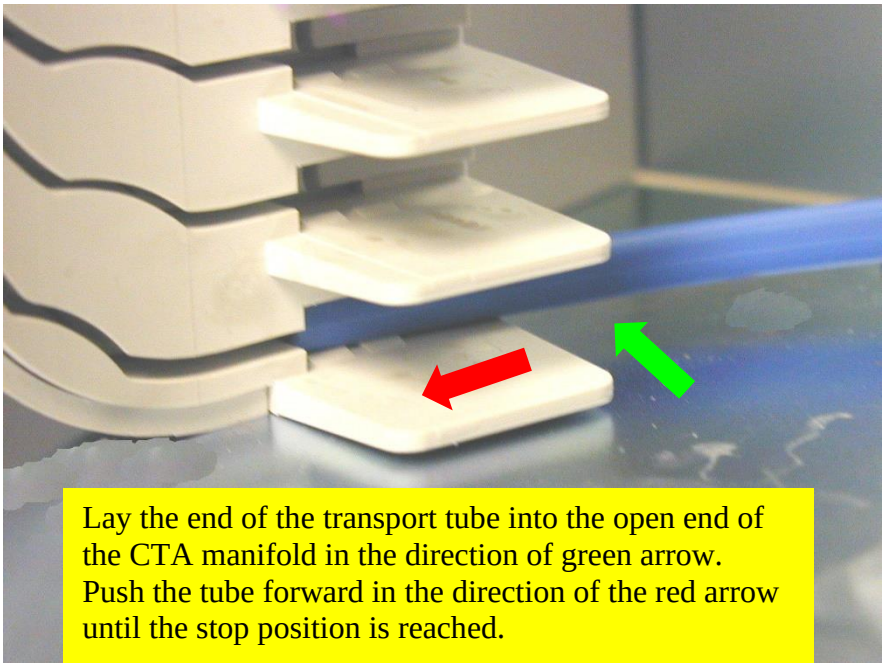
Step 10



- Rotate the Splice Module Support and secure by locating the tabs into the slot of the rear plate of the CTA **(1)** as shown.

INPUT CABLE INSTALLATION

Step 11



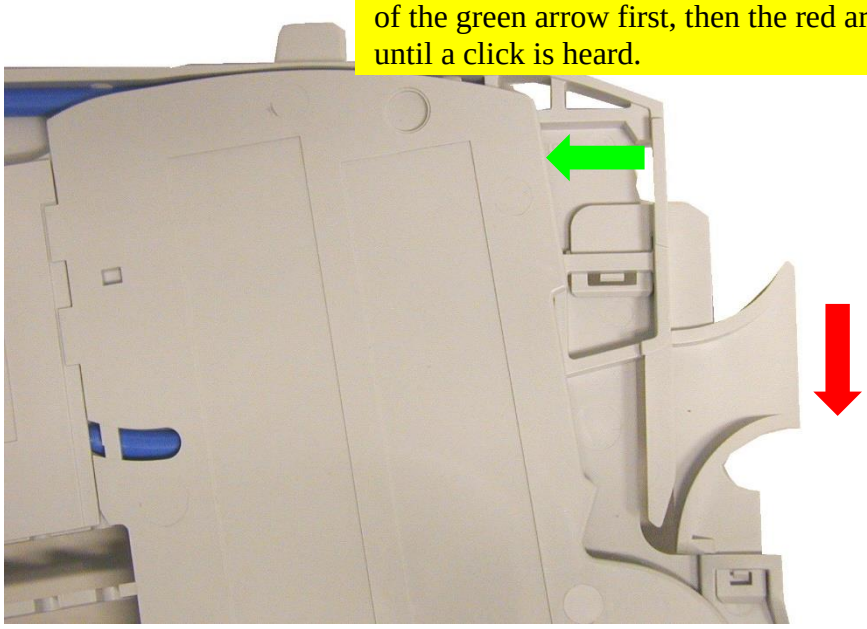
- Secure the free end of the Transport Tube into the corresponding port of the CTA manifold **(1)**, ensuring that it is pushed right up to the stop. Check alignment of black tube mark in step 10.

- Fully close the Splice Module ensuring its correct location level into the CTA.

INPUT CABLE INSTALLATION

Step 12

Fit Bend Manager by pushing in the direction of the green arrow first, then the red arrow until a click is heard.



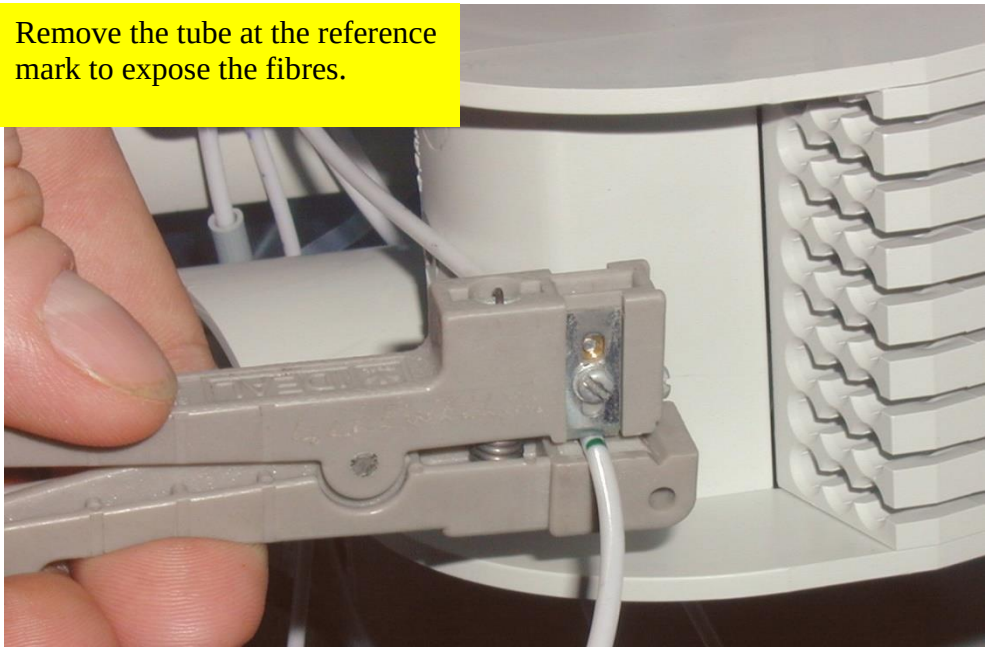
- Partially open the Splice Module and fit the Bend Manager **(3)** as shown. Ensure that both tab clips are correctly located.

Note: Fitting the bend manager at this stage will not inhibit later installation of the jumper cables.

INPUT CABLE INSTALLATION

Step 13

Remove the tube at the reference mark to expose the fibres.



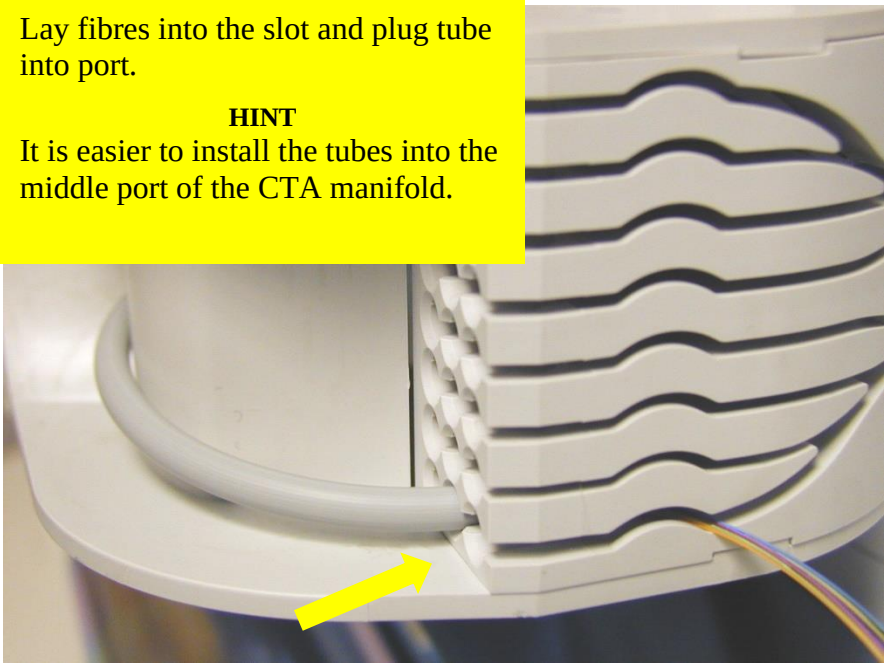
- Select the first cable element and remove the tube to expose the fibres, back to the reference mark applied earlier.
- The remaining cable elements should be routed below the RSM3A, coiled and taped temporarily out of the way.
- Over sleeve the fibres with a pre-cut length of Transport Tube **(6)**. Carefully slide the tube back **towards** the cable butt.

INPUT CABLE INSTALLATION

Step 14

Lay fibres into the slot and plug tube into port.

HINT
It is easier to install the tubes into the middle port of the CTA manifold.

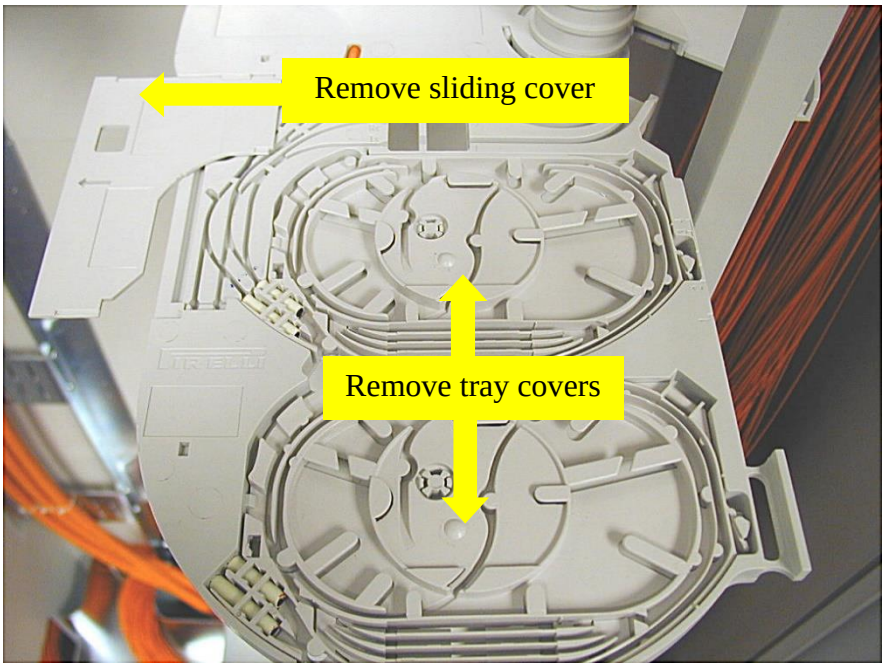


- Lay the fibres into the lower slot in the CTA manifold **(1)** and plug the Transport Tube into the middle column of ports until the stop position is reached.

- Carefully feed any remaining element slack at the cable butt into the transport tube. Ensure that the tube does not protrude past the outer profile of the CTA manifold.

INPUT CABLE INSTALLATION

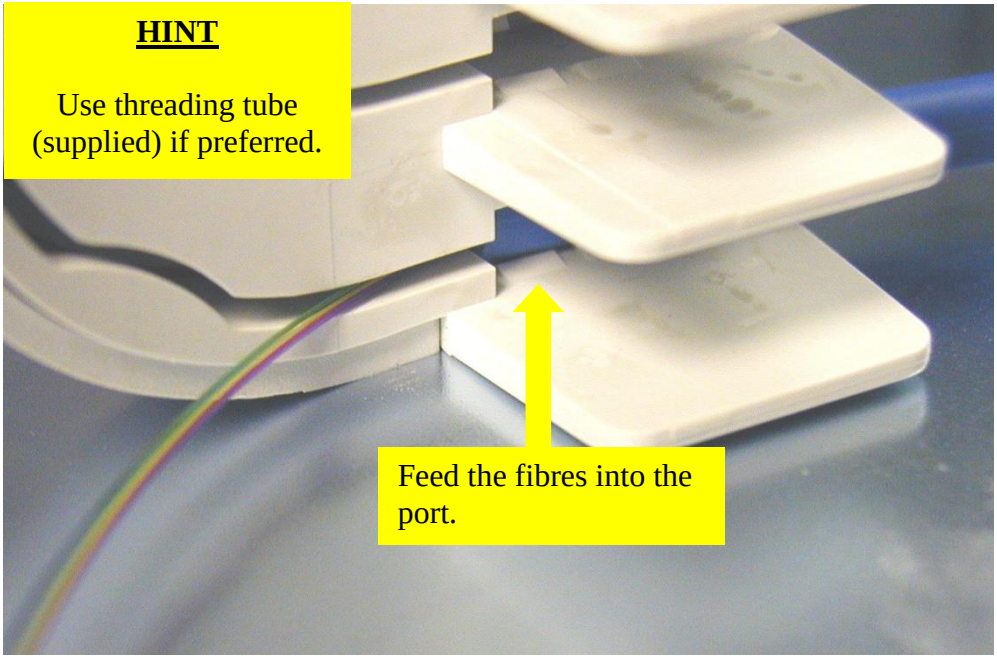
Step 15



- Temporarily store the exposed fibres.
- Fully open the Splice Module.
- Open and remove both splice tray covers by releasing the clip accessed from the underside of the Splice. Remove the sliding cover of the Splice Module to reveal the fibre tracks and the fibre guiding pin.

INPUT CABLE INSTALLATION

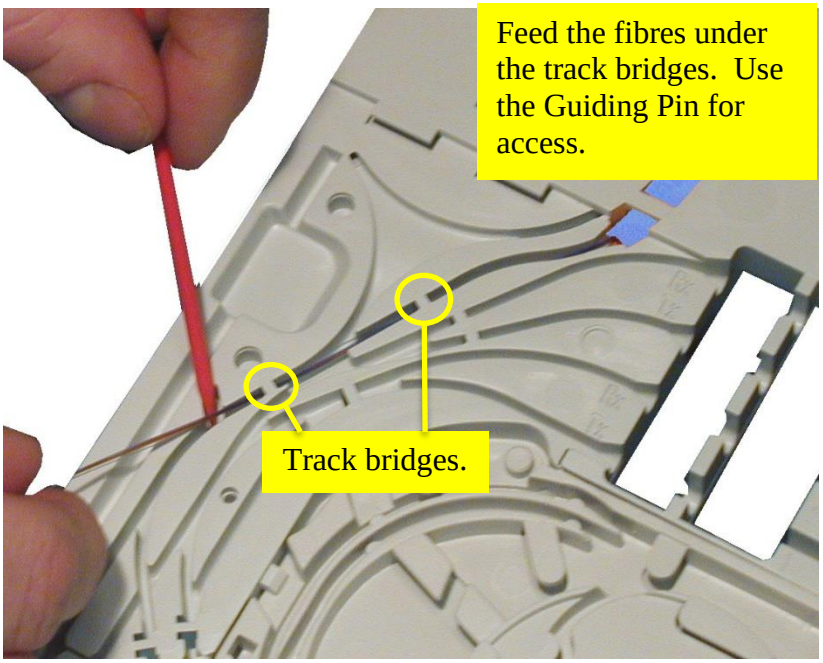
Step 16



- Split the fibres into their required groups.
- At the CTA manifold **(1)** feed the selected fibres into the first port until they emerge on the Splice module.

INPUT CABLE INSTALLATION

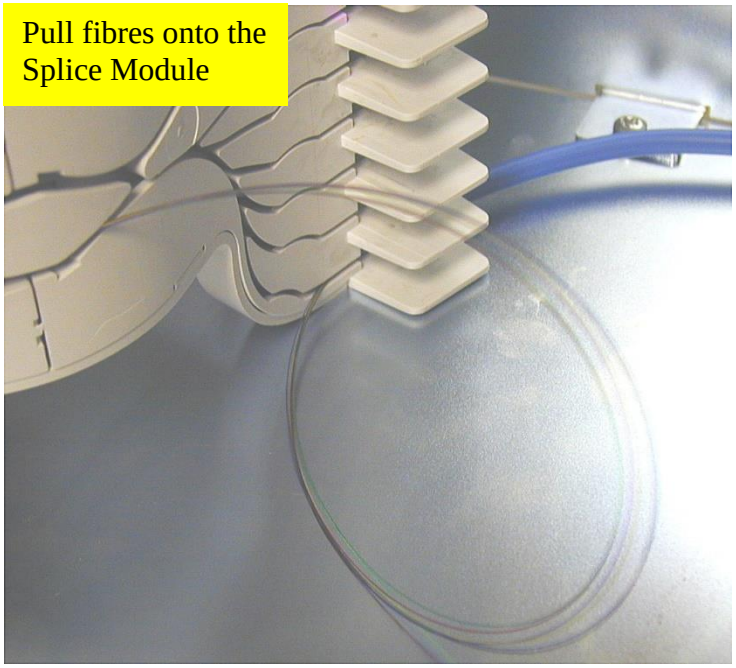
Step 17



- Continue feeding fibres onto the Splice Module, along the track, and under the first two track bridges. Use the Fibre Guiding pin to access the fibre ends.

INPUT CABLE INSTALLATION

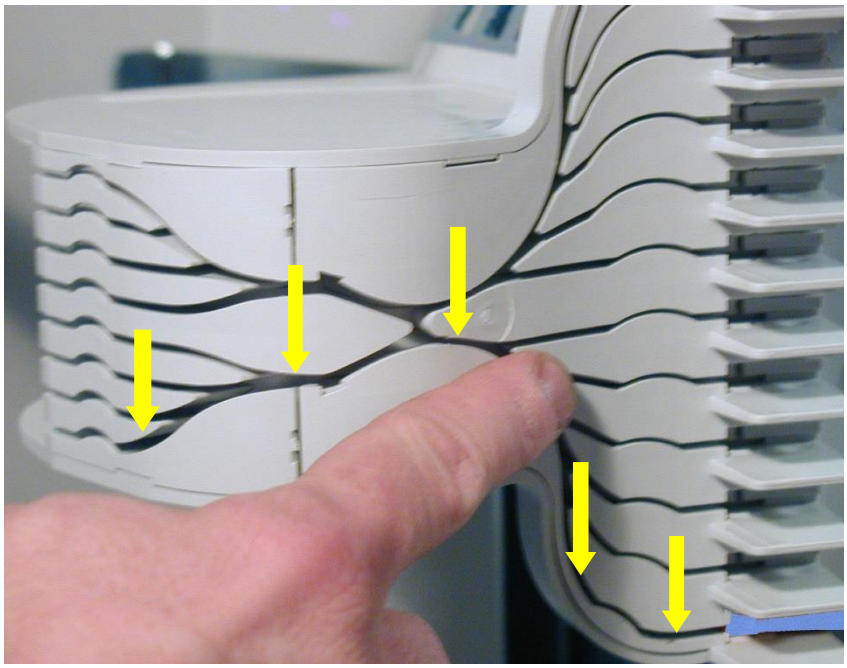
Step 18



- Pull the remaining length of the fibres onto the Splice Module, whilst carefully guiding the decreasing loop of fibre at the CTA manifold **(1)**.

INPUT CABLE INSTALLATION

Step 19

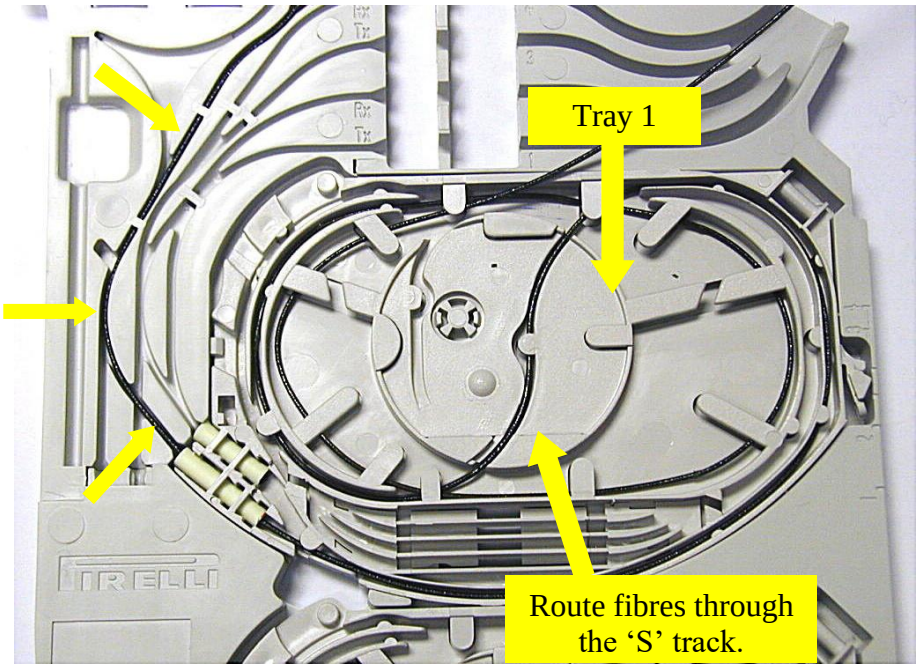


- Continue pulling the fibre using light finger pressure to guide all the fibres into the deep slots of the CTA manifold **(1).** A light pulls on the fibre will ensure its correct location within the CTA.

- Ensure no fibres protrude out of the slots of the CTA manifold.

INPUT CABLE INSTALLATION

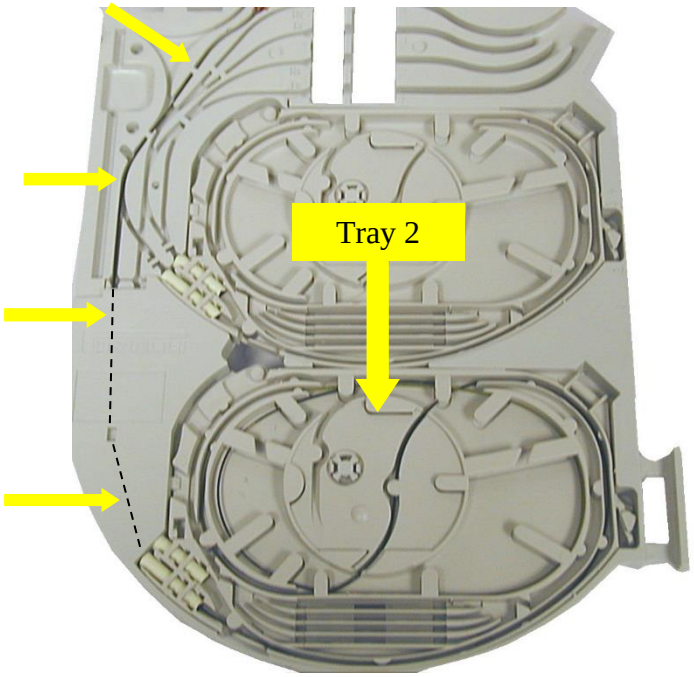
Step 20



- Segregate the fibres into their required groups.
- Route the first group onto splice tray 1 (nearest Pole Bush).
- Route the fibres anticlockwise ½ a turn around the tray, through the 'S' track and coil within the tray storage area for later use.

INPUT CABLE INSTALLATION

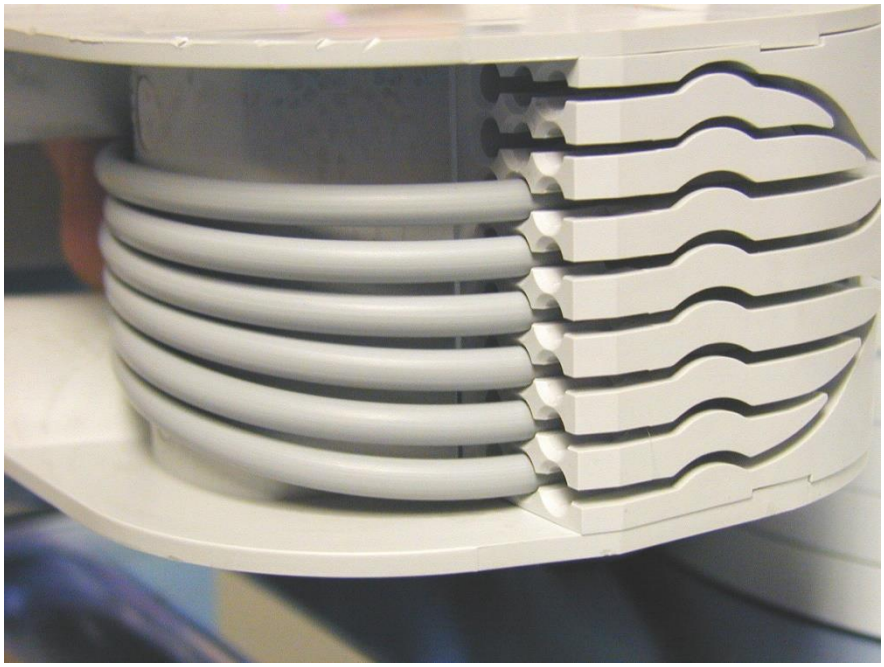
Step 21



- Route the second group of fibres through the outer hidden track (under the Pirelli logo) onto splice tray 2 nearest the user.
- Coil the fibres as previously described.
- Check that all fibres are within their respective tracks.
- Replace the splice tray and module covers. Close the Splice Module.

INPUT CABLE INSTALLATION

Step 22



- Select the second Splice Module **(2)** and assemble as before in the position directly above the installed Splice Module.
- Continue installation for remaining cable elements and arrange the Transport Tube into the ports of the CTA manifold as shown.
- Where the cable size necessitates, a second or third RSM3A will be required.

Installation Advice

If finger access to the inside of the CTA **(1)** is restricted, leave the previously installed Splice Modules open.

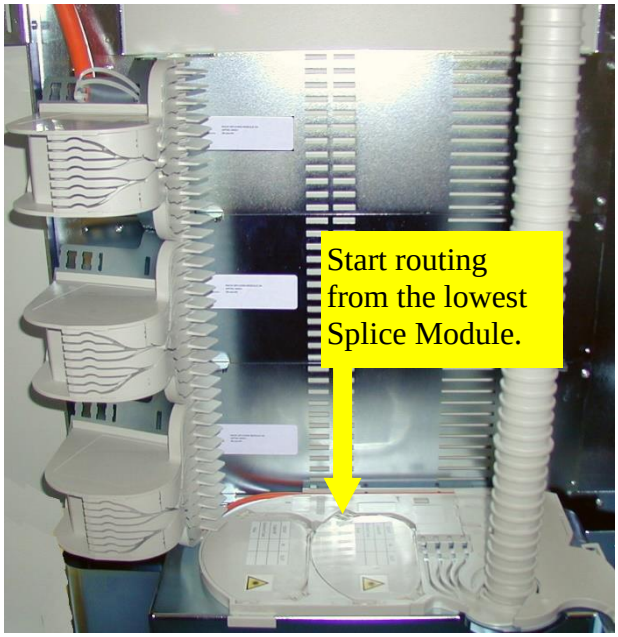
INPUT CABLE INSTALLATION

Step 23 (optional)

Secure cable to topmost CTA (lowest CTA for underfloor cable entry).

Route tubes as shown

Secure tubes to bracket using cable ties. Do not overtighten.



Start routing from the lowest Splice Module.

Step 23 (optional)

Installation Advice for Cables Spanning 2-3 Stacked RSM Units

- Fit the required number of CTA's **(1)** to form a stack of 2 to 3 RSM3A's.
- Prepare the cable as in step 6 but allow 3 metres from the butt mark for the jointing allowance.
- Mark the cable elements: - 135mm for the first CTA position (as normal)
  - 300mm for the second CTA position
  - 450mm for the third CTA position
- Secure the cable and strength member to the uppermost CTA as instructed in steps 7 and 8 (secure the cable to the lower CTA for under floor entry).
- Split and route the cable elements to their respective CTA's.
- Start routing the fibres at the lowest Splice Module position in the stack and work upwards.
- Use the pre-cut lengths of tube for the first RSM3A. Cut the following lengths from the coil **(7)** supplied for the 2nd and 3rd RSM3A's:

  Second RSM3A = 310mm
  Third RSM3A = 460mm

- Secure the transport tubes to the 2nd and 3rd (if applicable) CTA brackets using cable ties. Do not overtighten.

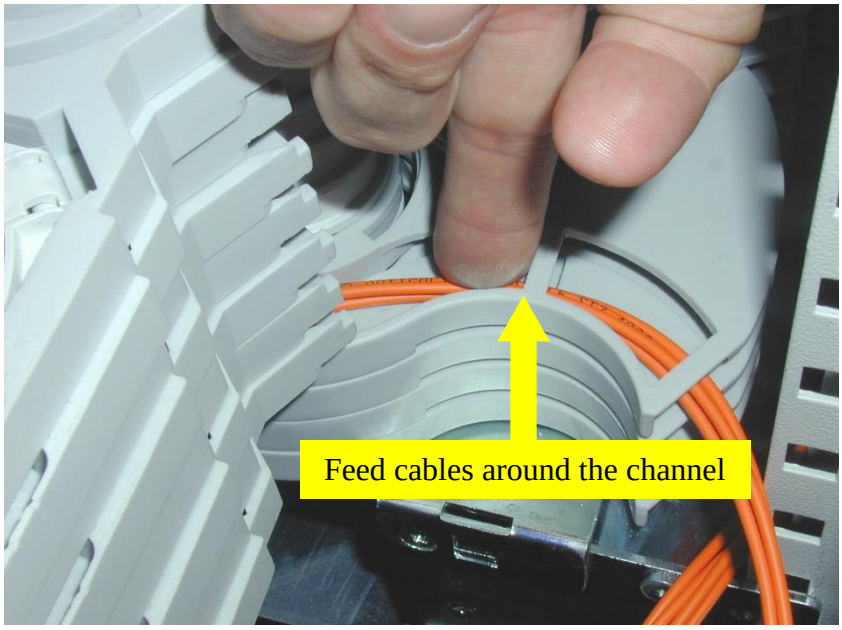
JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

Step 24

- Identify the required Splice Module **(2)** and open several of the Splice Modules above it to gain access to the jumper cable feeding area.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

Step 25

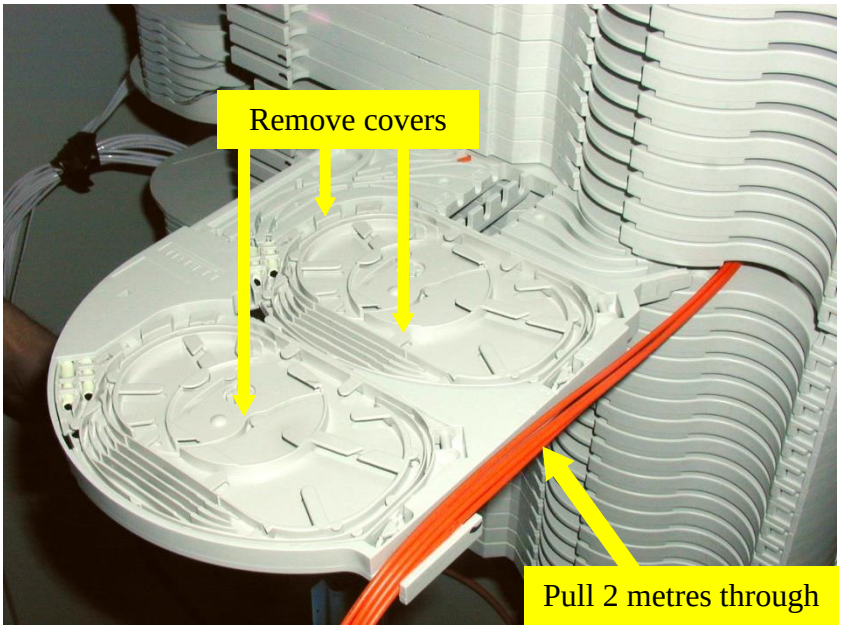


- Feed the jumper cables around the channel until they protrude from the front of the Splice Module **(2)**. Ensure that the jumper cables are correctly located under the three channel bridges.

- Pull 2 metres of cable through to the front of the Splice Module.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

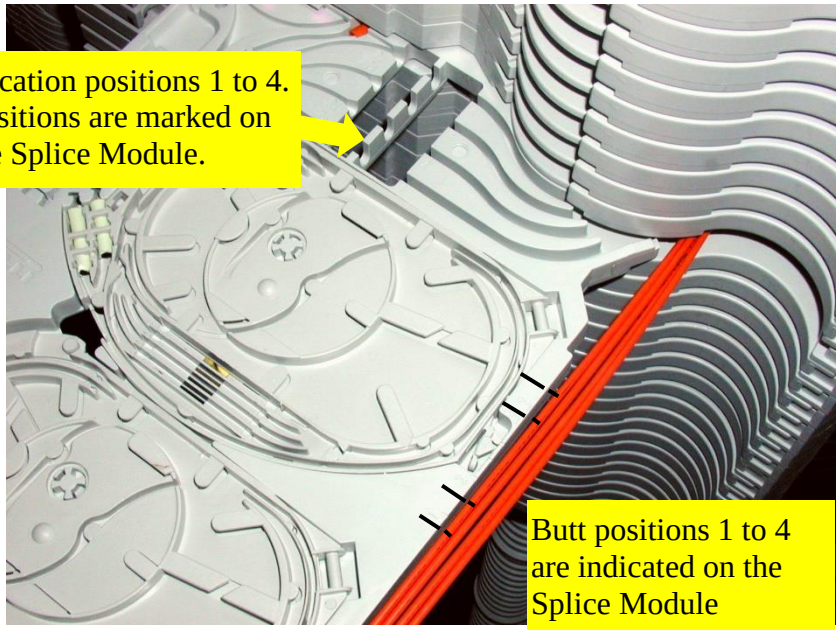
Step 26



- Open the Splice Module **(2)** and close all the other Splice Modules.
- Remove both splice tray covers and the module cover.
- Ensure all jumpers cable ends are fed through to their appropriate level and that 2 metres is available for the jointing allowance.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

Step 27

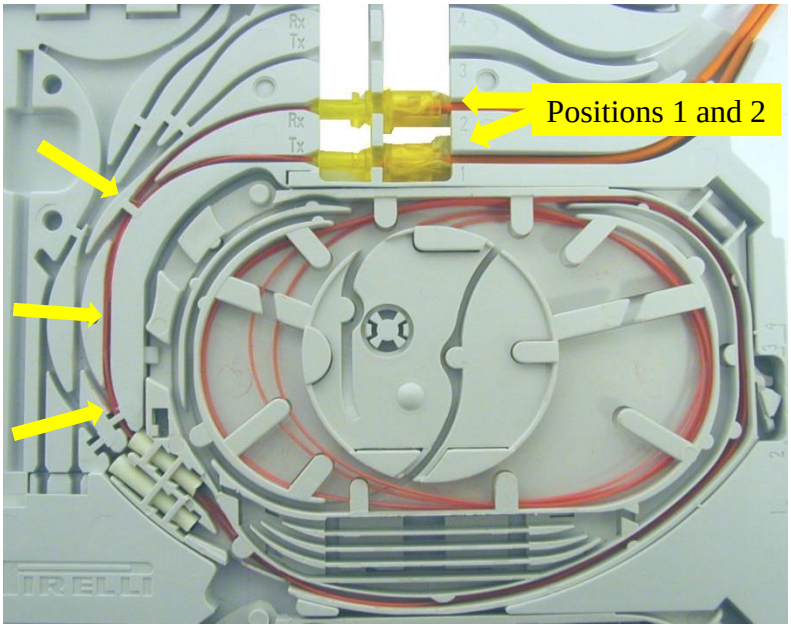


- Apply a butt mark to each jumper cable in accordance with its planned position within the Splice Module **(2)**. Positions 1 and 2 are for routing to splice tray 1 and positions 3 and 4 are for routing to splice tray 2.

- Remove the sheath to the butt mark. Prepare aramid yarn and assemble a Restraint device (not supplied) to each cable in accordance with instructions supplied with restraints.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

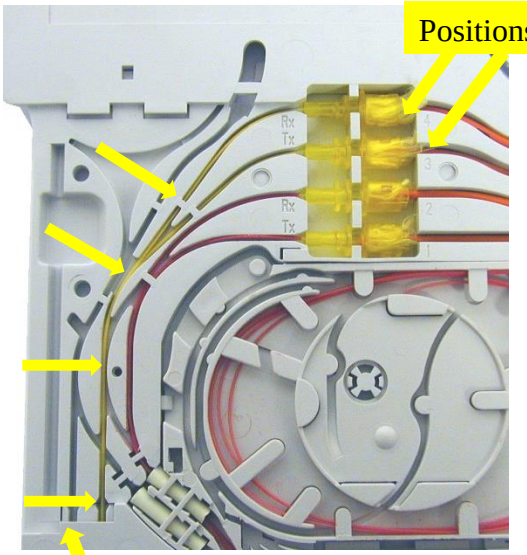
Step 28

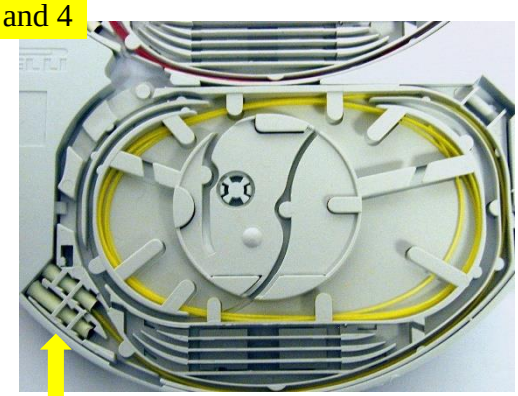


- Assemble restraints 1 and 2 onto the Splice Module **(2)** in their numbered positions.
- Route the secondary coated fibres in individual tracks (under the two bridges) to the inner port of splice tray 1 as shown.
- Coil the fibres anti-clockwise around the tray and store beneath the tray tabs for later use.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

Step 29

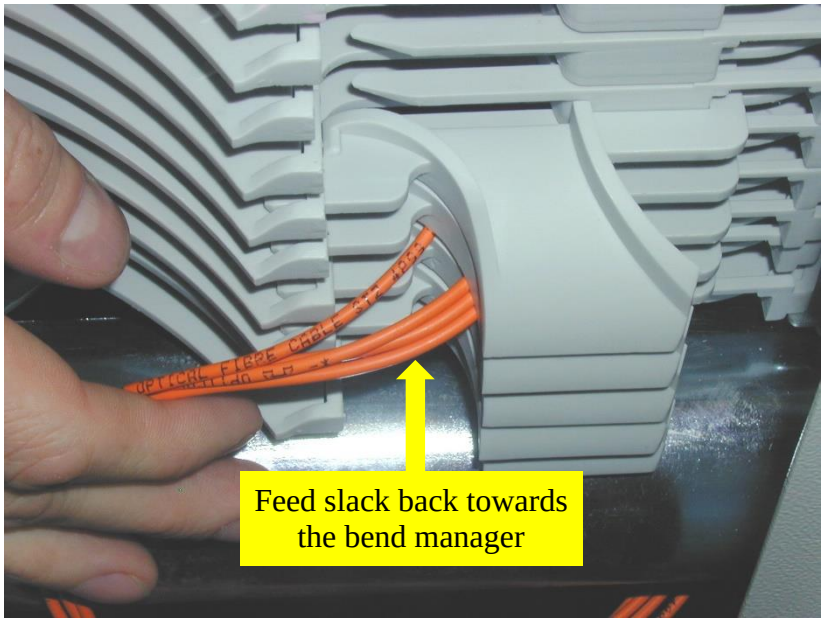




- Assemble restraints 3 and 4 onto the Splice Module **(2)** in their numbered positions.
- Route the secondary coated fibres in the individual tracks (under the bridge) as shown. Continue routing via the inner hidden track (under the logo) through to the inner port of splice tray 2.
- Coil the fibres and replace both splice tray covers and the module cover.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

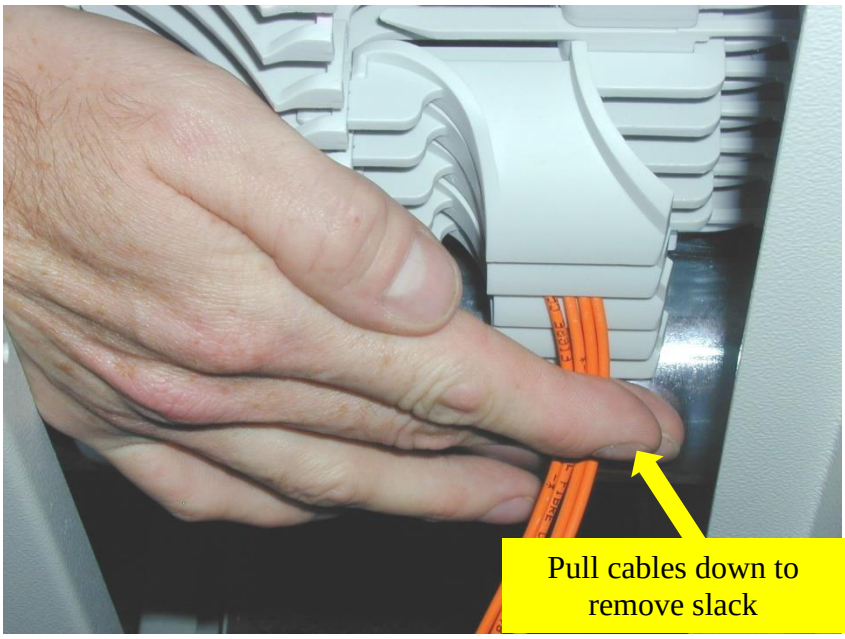
Step 30



- Holding the jumper cable between fingers, feed approximately 50mm of slack back into the side of the Splice Module **near** the bend manager.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

Step 31



- Pull cables downward towards rear of the rack until all slack is removed. The cables will now be located into the bend manager.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

Step 32

- Close the Splice Module and fill in the record sheet located on the left-hand door of the rack.

Before routing a jumper to a corresponding Splice Module, ensure that a Minimum Length of 250mm up to a Maximum Length of 400mm of jumper slack is available. This ensures that existing and future jumpers are not compromised by being pulled tight. This could result in the loss of optical performance, or in worst case circuit loss.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

Step 33

Module Support omitted for clarity.

- For jumper cables routed out of the rack through the rear right aperture, route the cables as shown. Ensure the cables are routed around the rear side of the mandrel. Refer to note above.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

Step 34

- For jumper cables routed out of the rack through the right-side aperture, route the cables as shown. Ensure the cables are routed around the rear side of the mandrel. Refer to note above.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

Step 35

Module Support omitted for clarity.

- For jumper cables routed out of the rack through the left side or rear apertures, route the cables as shown. Ensure the cables are routed around the rear side of the mandrel. Refer to note above.

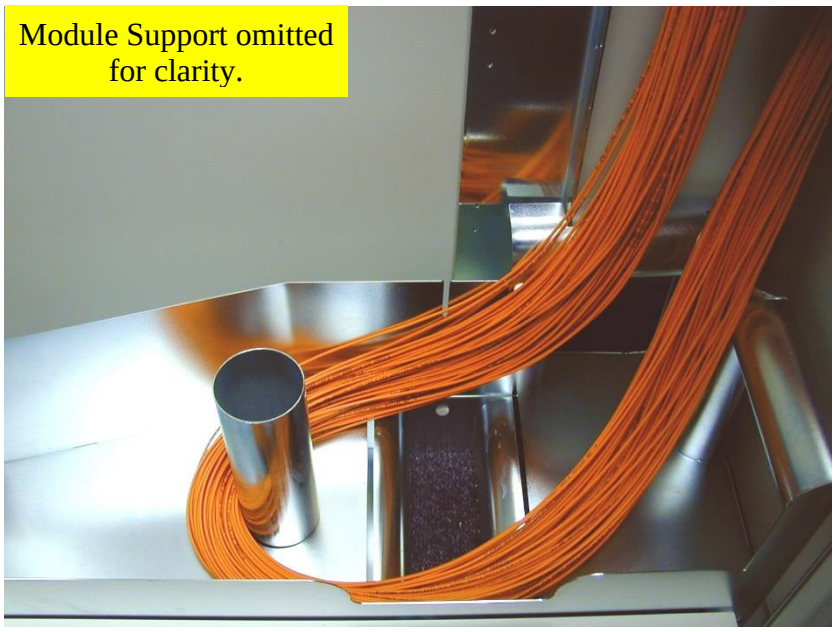
JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

Step 36

- For jumper cables routed out of the rack through the underfloor aperture, route the cables as shown. Ensure the cables are routed around the rear side of the mandrel. Refer to note above.

JUMPER CABLE INSTALLATION (ASSUMES ALL PRIMARY FIBRES ARE INSTALLED)

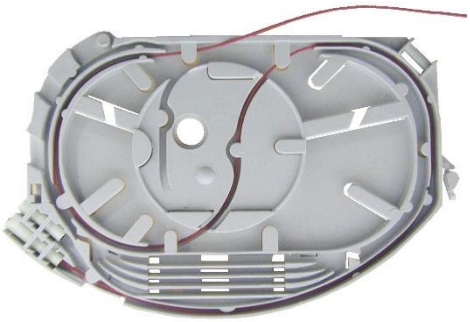
Step 37



- For jumper cables routed back within the same rack, route the cables as shown. Ensure the cables are routed around the rear side of the mandrel. Refer to note above.

SPLICING

Step 38



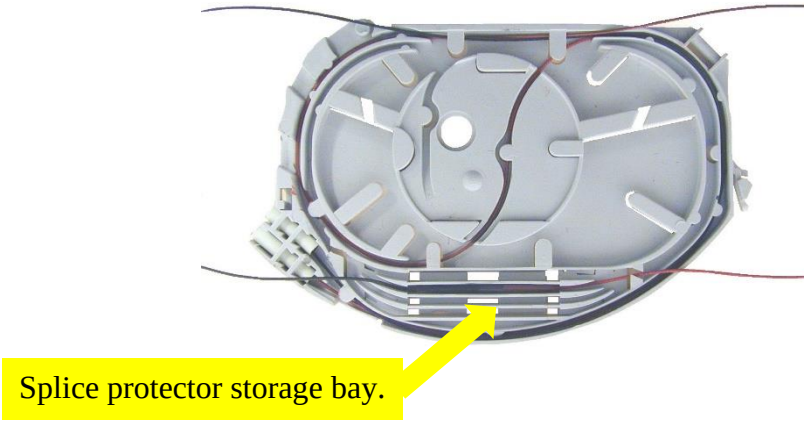
Primary coated fibres.

Secondary coated fibres.

- Carefully uncoil all fibres from the storage area.
- Separate the primary coated fibres from the secondary coated fibres and safely store fibres for splicing.
- Splice fibres.

SPLICING

Step 39



- Place the splice protector in storage bay.
- Ensure the splice protector has been pushed down to the lowest available position in the storage bay. Repeat for remaining fibre.

SPLICING

Step 40

Fold loops into splice tray.

- Put loops of fibre away as shown. Ensure fibre is stored below tabs.
- Expand the fibre coils using light finger pressure and close splice tray cover.

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