

INSTALLATION INSTRUCTIONS

FOR THE

FRBU

(HINGED TRAYS)

FIBRE RESIDENTIAL BUSINESS UNIT



Whilst every care is taken to ensure that the information contained in this publication is correct no legal responsibility can be accepted for any inaccuracy. The company reserves the right to alter or modify the information contained herein at any time in light of technical or other developments.

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INTRODUCTION

The FRBU is a cap-ended ready access enclosure of compact size used for the organisation and protection of fibre optic cable splices in both aerial and underground installations.

Ideally suited for cables of capacity up to 72 fibre, the closure system is available with up to 6 Hellapon™ splice trays and two base profiles.

The cover is environmentally sealed to the base using our patented rolling 'O' ring. Cable sealing is achieved with our unique Cablelok™ non-heatshrink seals or our heatshrink sleeving.

- Approvals from PTT's worldwide
- Cablelok™ non-heatshrink cable sealing option
- Compact size
- Multi-port base profiles with 8 or 10 round and 1 oval cable entry.
- Up to 16 fusion splice locations per tray (12 recommended)
- Express" (uncut) fibre storage basket option
- FRBU kits are supplied with cable surface preparation and identification materials.

CABLE SEALING METHODS

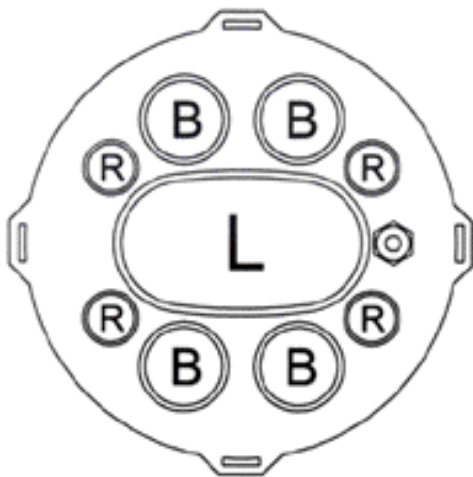
1. HEATSHRINK SEAL (CABLE DIAMETERS IN MM).

Heatshrink seal Cable range L ports.	2 x (8-24)
Heatshrink seal Cable range LM ports.	2 x (8-22)
Heatshrink seal Cable range B drop ports.	6-18

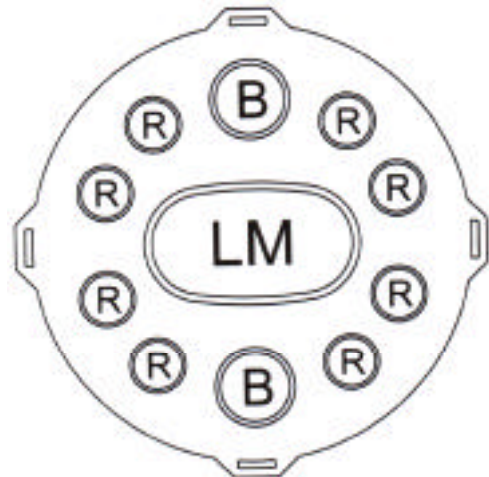
2. NON-HEATSHRINK SEAL, 'CABLELOK™' (CABLE DIAMETERS IN MM).

'Cablelok™' seal Cable range L drop ports.	L1	L2	L3	L4	
	12.2-15	15-18	20-21.5		
'Cablelok™' seal Cable range LM drop ports.	LM1	LM1A	LM2	LM2A	
	9.5-11.5	12-14.5	17.5-18.5	18.5-22	
'Cablelok™' seal Cable range B drop ports.	B1	B2	B3	B4	
	8-14	13-16.5	Port Plug	4.8-9.0	
'Cablelok™' seal Cable range R drop ports.	R1	R2	R3	R4	R5
	3.8-5.2	5.2-8	8-9.5	Port Plug	2x3.8-4.8

BASE PORT CONFIGURATION



Standard 9 Port Base



Standard 11 Port Base

Number of Ports	Port	Port Dimensions	Port Length	Heatshrink (Y/N)	Cablelok™ (Y/N)	Applications
1	L	X66, Y36	73	Y	Y	Dual Cable Loop Through
1	LM	X52, Y27	73	Y	Y	
2/4	B	19	55	Y	Y	CATV/Business Telephony Copper Drop Cables
4/8	R	12	35	Y	Y	

INSTALLATION INSTRUCTIONS



1. Read the instructions carefully before proceeding.



2. Open packaging and remove the closure. Remove the clamp and cover.



3. Fit the closure into the installation bracket, for easier installation.



4. Abrade the oval port.



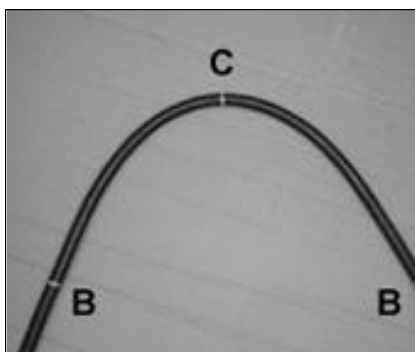
5. Remove the end of the port using a suitable tool.



6. Warm the oval port prior to applying the heatshrink.



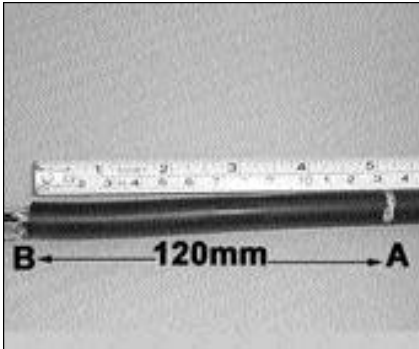
7. Place heatshrink on to port and recover, leaving approximately 10mm unrecovered at the end of the port.



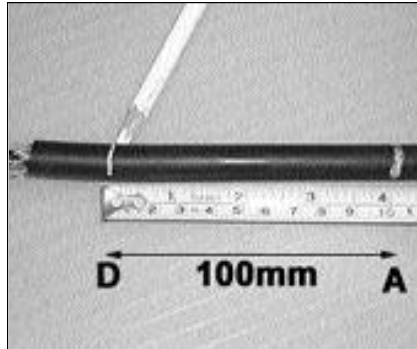
8. Mark the cable position 'C' in the centre of the loop. Refer to Appendix D for further details.



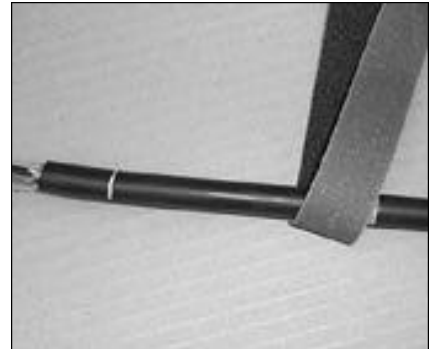
9. Prepare the cables in accordance with normal procedures.



10. Mark the cable position "A" 120 from sheath butt position 'B'.



11. Mark the cable 100mm from position 'A' towards position 'B'.



12. Abrade the cable between positions 'A' and 'D'.



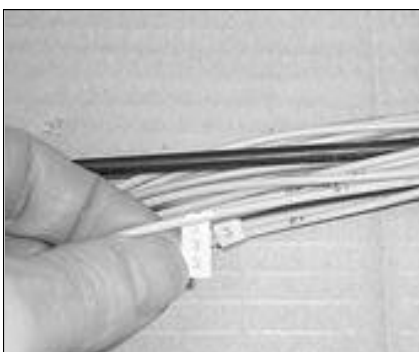
13. Apply the foil adjacent to the abraded area at position 'A'.



14. Rub the foil using a suitable tool.



15. Cut the central strength member 150mm from position 'B'.



16. Label each of the fibre units.



17. Apply PVC tape to the fibre units at position 'C'.



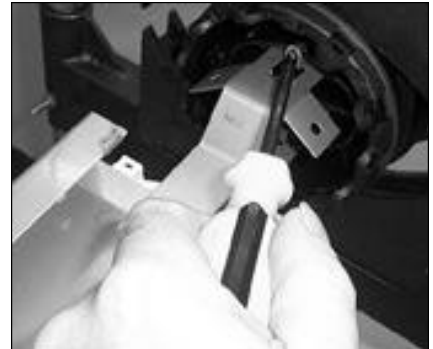
18. Fit a cable tie to the unit tubes at position 'C'.



19. Remove the loop restraining strap on the basket.



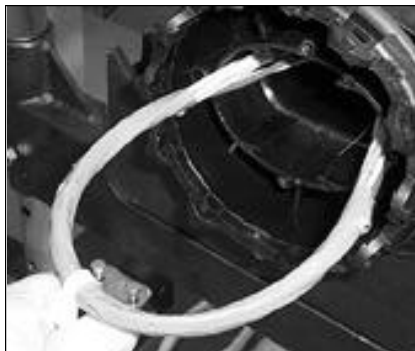
20. Clean the abraded area of the cable using an IPA wipe supplied.



21. Remove the organiser from the base by removing both of the securing screws.



22. At position 'C' bend fibre tubes and insert in to the oval port, with the aid of the cable tie.



23. Pull the entire loop through the oval port.



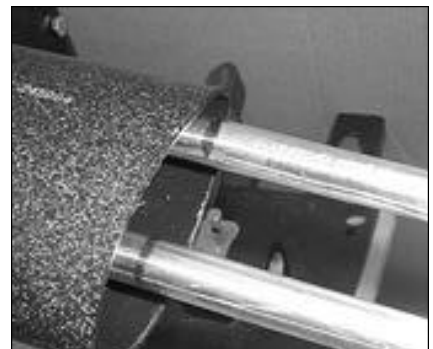
24. Place organiser in between the cables and fit to the base, secure using the screws.



25. Mark the foil 20mm from position 'A'.



26. Ensure the central strength member is separated from the fibre units.



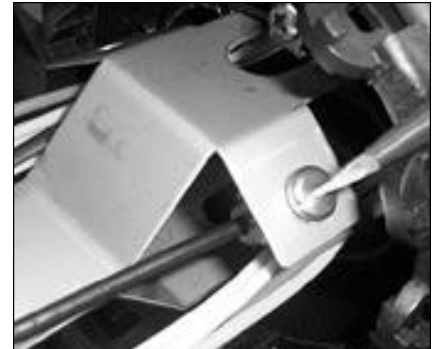
27. Line the mark on the foil with the edge of the heatshrink.



28. Place the "anchor in" over the central strength member.



29. Fit the "anchor out" onto the "anchor in".



30. Slide fixings along strength member up to the support arm. Locate screw into anchor fixings and tighten to secure.



31. Cut the central strength member 5 to 10mm from the anchor fixing.



32. Lay each of the fibre unit bundles into the basket.



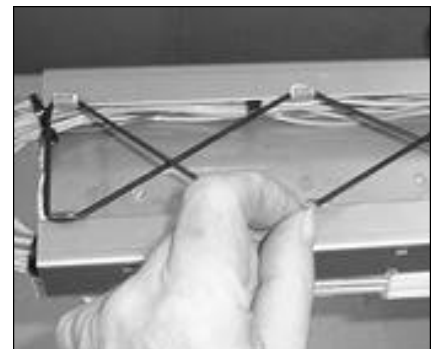
33. Create a loop by folding one bundle back into the basket on the opposite side. Take the next bundle and fold it into the basket.



34. Repeat steps 33 until the fibre bundle is stored in to the basket.



35. Ensure the looped fibre units do not exceed height of cover, then secure fibre units on each side of basket with cable ties.



36. Replace the loop-restraining strap on to the basket.



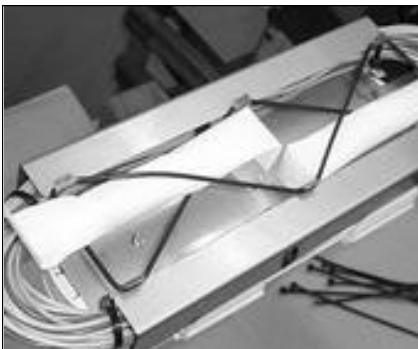
37. Separate the cables and insert the branch clip provided.



38. Recover the heatshrink onto the cable.



39. Ensure the 'O' ring is located in the position shown.



40. Remove the desiccant packs from protective bag and place in the loop restraining 'O' ring.



41. Fit the cover onto the closure.



42. Secure the cover to the base using the snapperband.

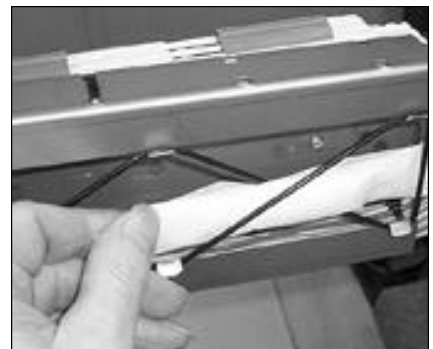
Spur Cable (using B port)



43. Release the snapperband and remove the cover.



44. Fit the closure into the installation bracket, for easier installation.



45. Release the desiccant packs.



46. Identify which port will be used for the spur cable.



47. Open the port using a suitable tool.



48. Abrade the B port.



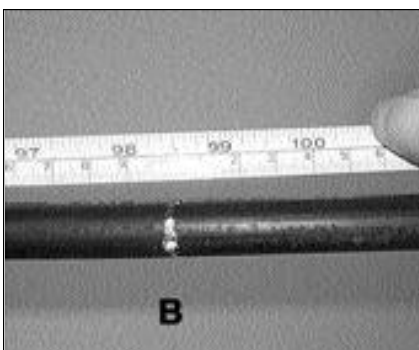
49. Place heatshrink on to port and recover, leaving approximately 10mm unrecovered at the end of the port.



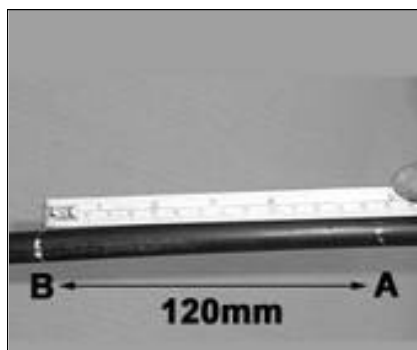
50. Clean the cable for distance of 4 metres.



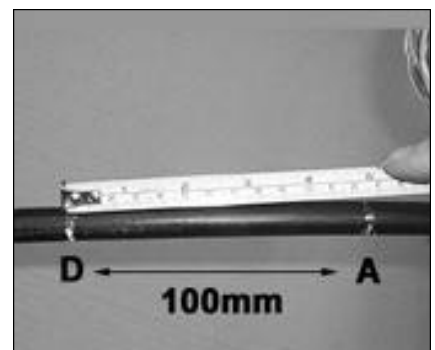
51. Insert cable in to the port.



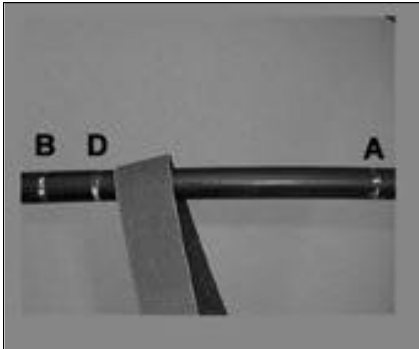
52. Mark position 'B' 2.5 metres from cable end.



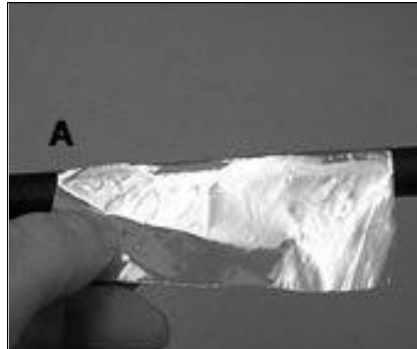
53. Mark the cable position 'A', 120mm from the sheath butt position 'B'.



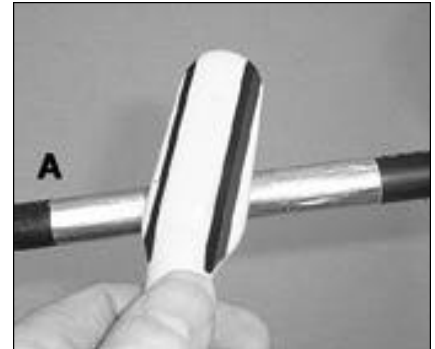
54. Mark the cable 100mm from position 'A' towards position 'B'.



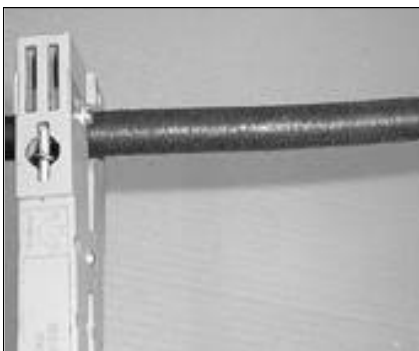
55. Abrade the cable between positions 'A' and 'D'.



56. Apply the foil adjacent to the abraded area at position 'A'.



57. Rub the foil using a suitable tool.



58. Prepare the cables in accordance with normal procedures.



59. Cut the central strength member 150mm from position 'B'.



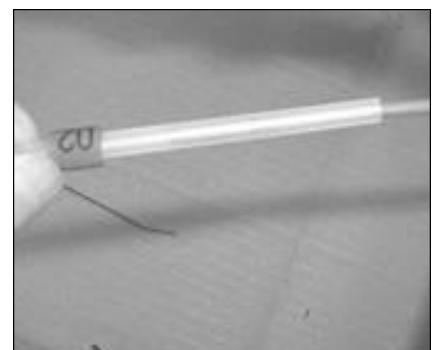
60. Mark each of the fibre units 70mm from the sheath butt position 'B'.



61. Place the correct number of coloured markers provided, onto each of the flexible tubes.



62. Cut the loose tube at the 70mm mark, ensuring not to damage the fibres.



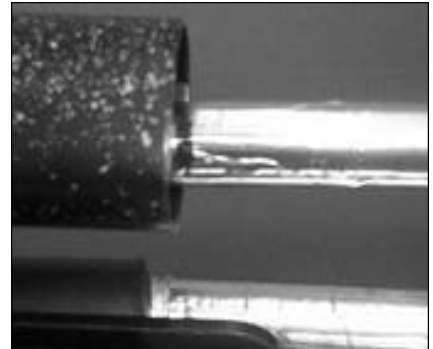
63. After cleaning the fibres, feed the flexible tubing over the bare fibres to position 'B'.



64. Clean the abraded area of the cable using an IPA wipe.



65. Mark the foil 20mm from position 'A'.



66. Line the mark on the foil with the edge of the heatshrink.



67. Secure the central strength member using the fixings provided. Refer to steps 28 to 30 for details.



68. Cut the central strength member, 5 to 10mm from the anchor fixing.



69. Recover the heatshrink on to the cable.



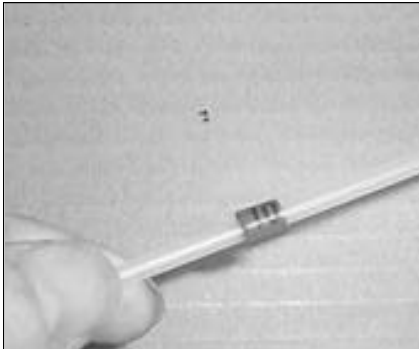
70. Remove the loop-restraining strap on to the basket.



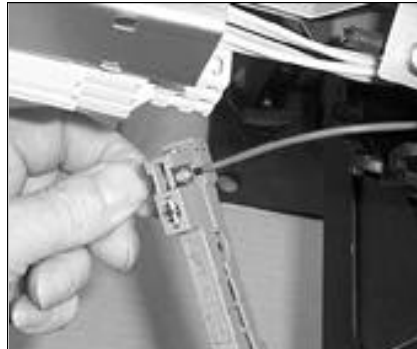
71. Cut the cable ties securing the fibre unit to the basket.



72. Remove the looped fibre bundles from the basket.



73. Place the correct number of coloured markers provided on to each of the flexible tubes.



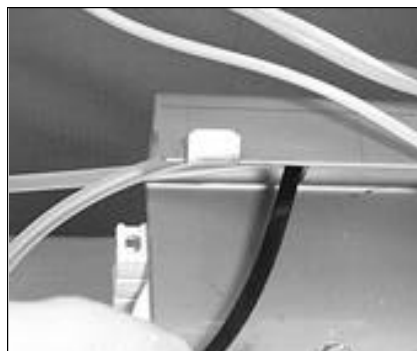
74. Cut the unit required for splicing and prepare in normal way, refer to steps 60 to 62.



75. After cleaning the fibres, feed the flexible tubing over the bare fibres to position 'B'.



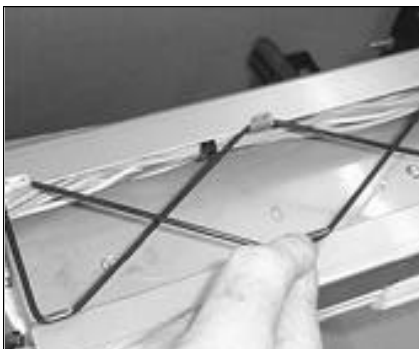
76. The flexible tube on the hinged (yellow) side of the basket, is routed back down the basket as shown.



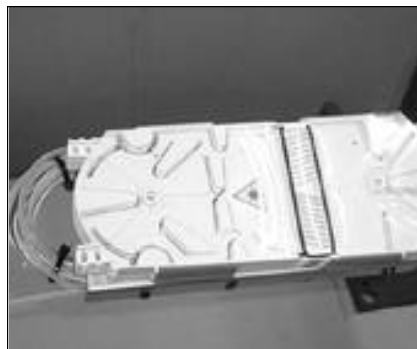
77. Fit cable ties to secure the routed fibre tubes.



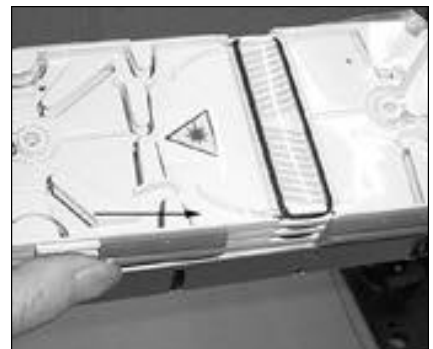
78. Replace looped tubes into the basket refer to steps 32 to 35 details.



79. Replace the 'O' ring.



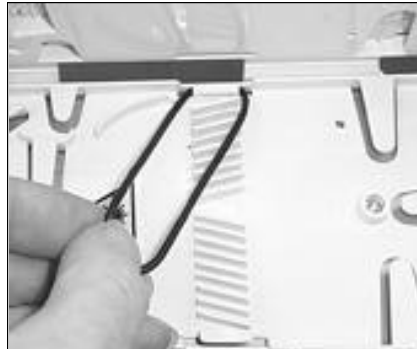
80. Rotate the closure so that the trays are facing upwards.



81. Slide the blue retaining clips, towards the centre of the tray to remove.



82. Lift up the tray to access the bottom tray and insert the tray holder.



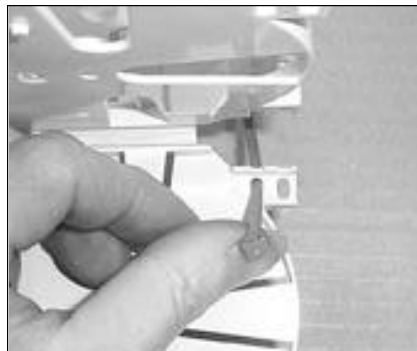
83. Remove the 'O' ring from the tray.



84. Take first tube from main cable & offer it up to tray, to create "round" bend. With the fibres offered up to tray mark tubing at end of tray entry point.



85. Cut the flexible tubing at the mark, ensuring not to damage the fibres.



86. Fit the coloured cable tie to the tray as shown.



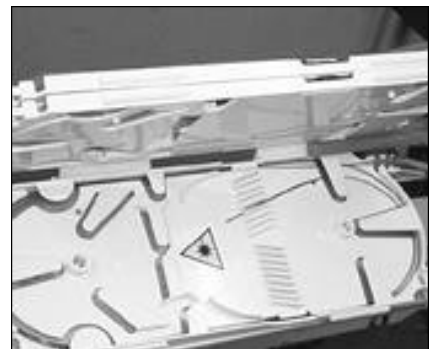
87. Fit the flexible tube to the tray and use the cable ties to hold in position.



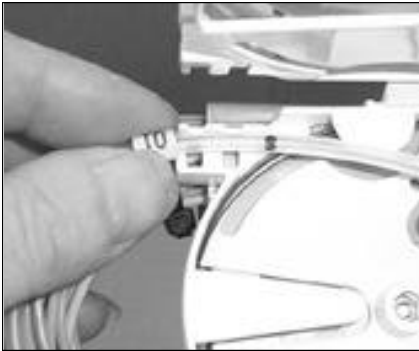
88. Tighten cable ties, using a suitable tool.



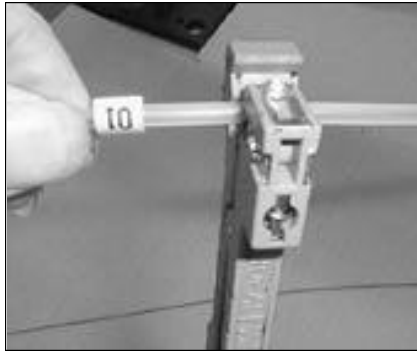
89. Test the fibre by pulling gently to ensure it is not trapped and refer to Appendix B for fibre routing.



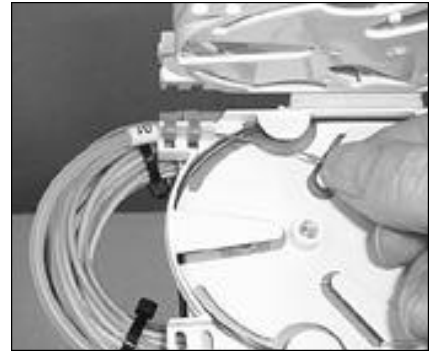
90. Fit the tray holder at the opposite end of the tray.



91. Take first fibre tube & offer it up to tray, to create "round" bend. With the fibres offered up to tray mark tubing at end of tray entry point.



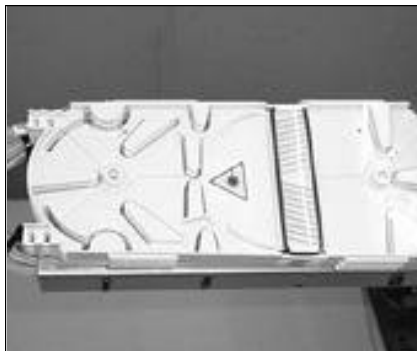
92. Cut the flexible tubing at the mark, ensuring not to damage the fibres.



93. Secure the tubing to the tray and then route fibre into the tray.



94. Replace the 'O' ring.



95. Repeat steps 91 to 93 for each flexible tube to be installed. Remove tray holder and close trays.



96. Slide the blue retaining clips towards the end of the tray to replace.



97. Check the 'O' ring is seated in the base correctly.



98. Remove the desiccant packs from protective bag and place in the loop-restraining 'O' ring.



99. Fit the cover onto the closure.



100. Secure the cover to the base using the snapperband.

APPENDIX A



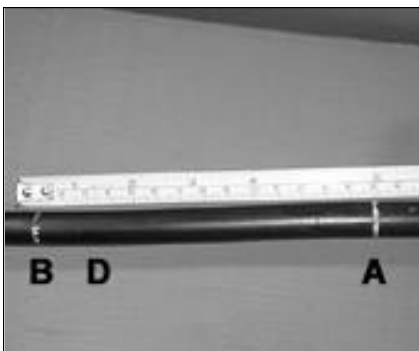
1. Clean the cable for distance of 4 metres.



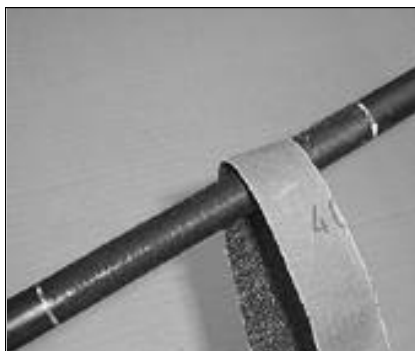
2. Insert the cables in to the oval port.



3. Mark the cable positions. Refer to Appendix D for further details.



4. Mark the cable position 'A' 120mm from 'B' and 'D' 100mm from 'A'.



5. Abrade the cable between positions 'A' and 'D'.



6. Apply the foil adjacent to the abraded area at position 'A'



7. Rub the foil using a suitable tool.



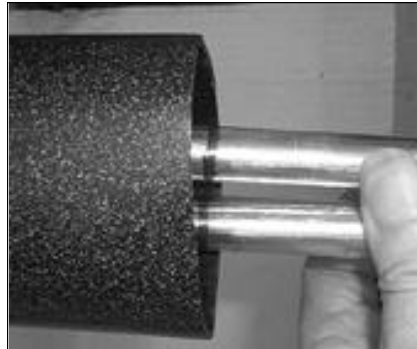
8. Prepare the cables in accordance with normal procedures.



9. Cut the central strength member 150mm from position 'B'.



10. Mark the foil 20mm from position 'A'.



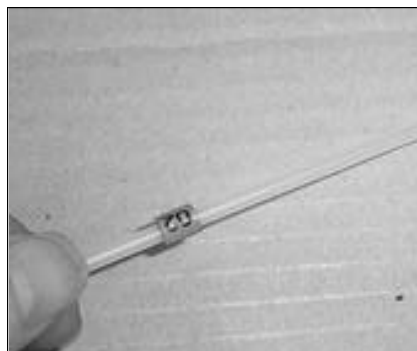
11. Line the mark on the foil with the edge of the heatshrink.



12. Secure the central strength member using the fixings provided. Refer to steps 28 to 30 for details.



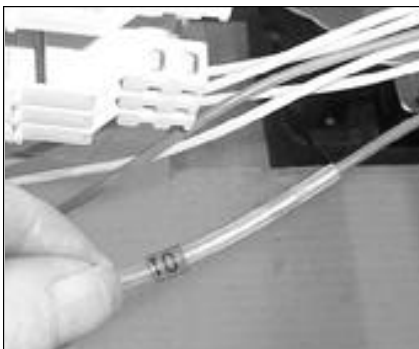
13. Cut the central strength member 5 to 10mm from the anchor fixing.



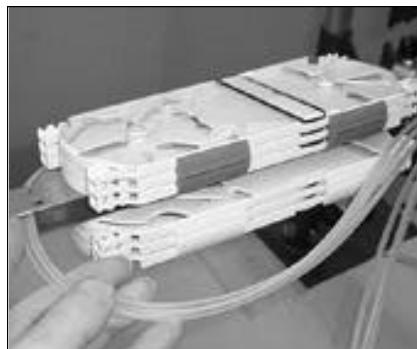
14. Place the correct number of coloured markers provided onto each of the flexible tubes.



15. Cut the loose tube at a suitable position, ensuring not to damage the fibres.



16. After cleaning the fibres, feed the flexible tubing over the bare fibres to position 'B'.



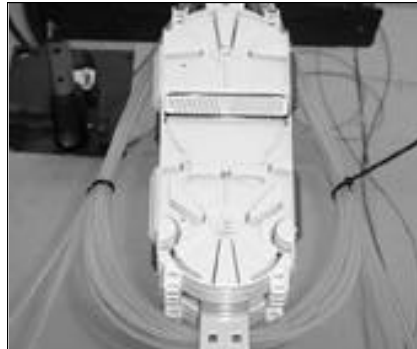
17. Take the fibre tubes 1 to 3 (on the incoming cable) and pass them through the centre of the organiser.



18. Take the fibre tubes 4 to 6 (on the outgoing cable) and pass them through the centre of the organiser.



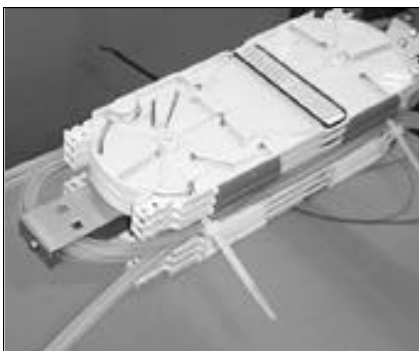
19. Secure the units together using a cable tie.



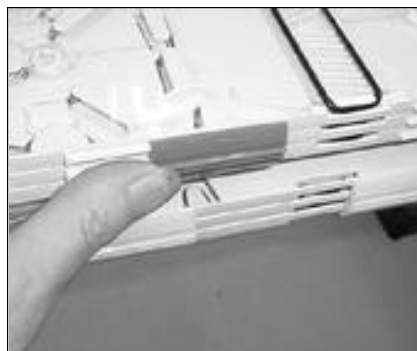
20. Repeat step 19 for the opposite side.



21. Loop a cable tie over all of the units near the base. Tighten until the units on both sides are in line with the trays.



22. Repeat step 21 towards the top of the organiser.



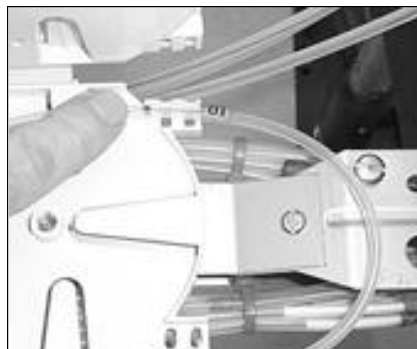
23. Slide the blue retaining clips towards the centre of the tray to remove.



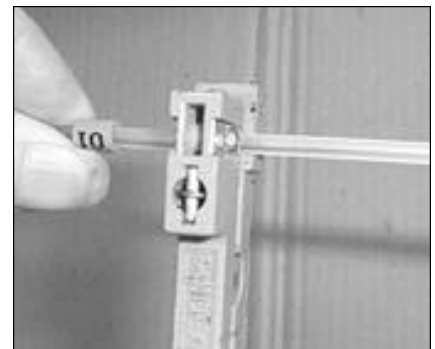
24. Lift up the tray to access the bottom tray and insert the tray holder.



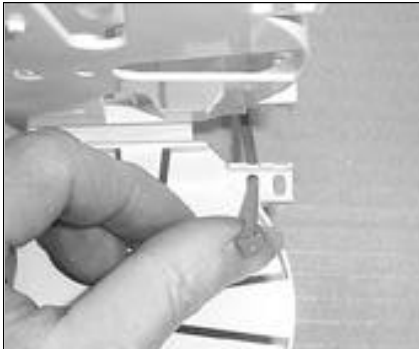
25. Remove the 'O' ring from the tray.



26. Take the first fibre tube and offer it up to the tray, to create "round" bend.



27. With fibre unit offered up to tray, mark tubing at end of tray entry point. Cut flexible tubing at mark, ensuring not to damage fibres.



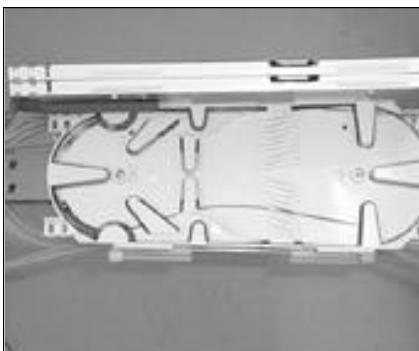
28. Fit the coloured cable tie to the tray as shown.



29. Fit the flexible tube to the tray and use cable ties to hold in position.



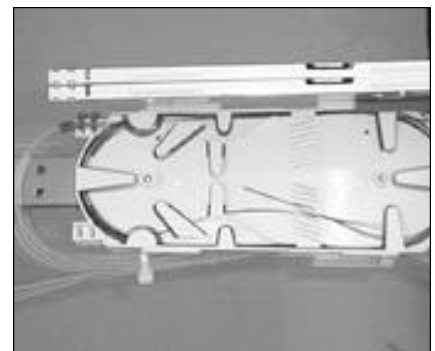
30. Tighten cable ties using a suitable tool.



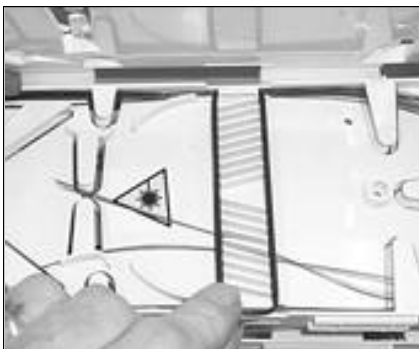
31. Test the fibre by pulling gently to ensure it is not trapped and refer to Appendix B for fibre routing.



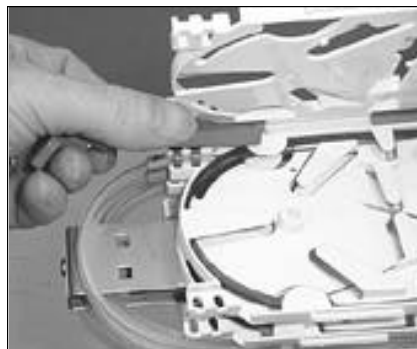
32. Fit the tray holder at the opposite end of the tray.



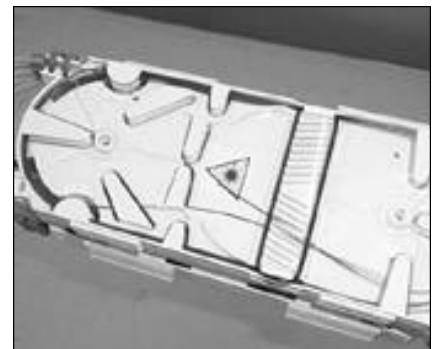
33. Fit the corresponding fibre tube to the opposite end of the tray. Refer to steps 26 to 30.



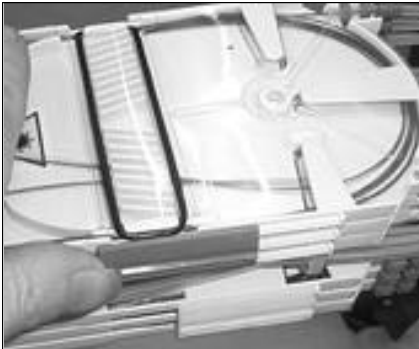
34. Replace the 'O' ring.



35. Remove the tray holder.



36. Close the trays.



37. Slide the blue retaining clips towards the end of the tray to replace.



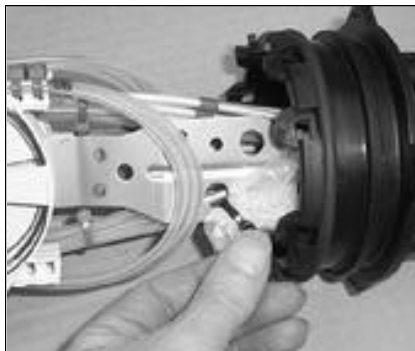
38. Separate the cables and insert the branch clip provided.



39. Recover the heatshrink on to the cable.



40. Ensure the 'O' ring is located in the position shown.



41. Remove the desiccant packs from protective bag and secure to the organiser.



42. Fit the cover onto the closure.



43. Secure the cover to the base using the snapperband.

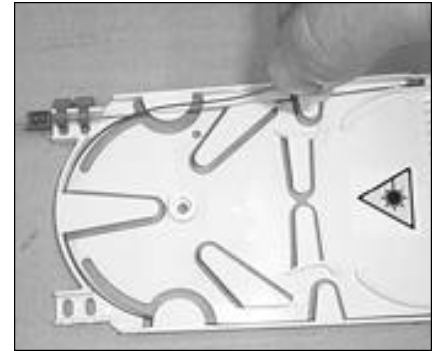
APPENDIX B



1. Route the fibre from the tray entry point down the side of the tray.



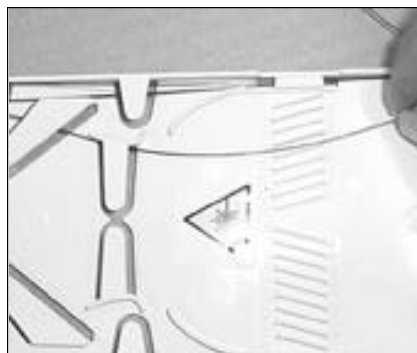
2. Place fibre under retaining fins at the bottom of the tray and then back up the opposite side of the tray.



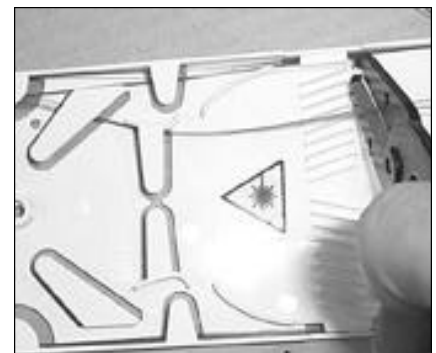
3. Route fibre under the fins of the top of the tray. Repeat steps 1 to 3, to have 2 to 4 complete turns of fibre in the tray.



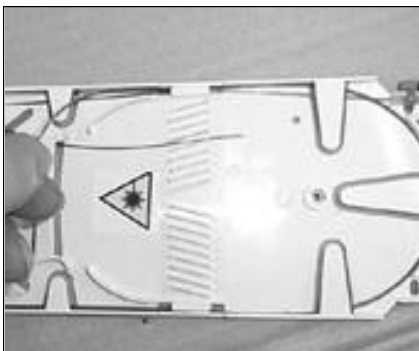
4. On the last turn, route fibre under large angled fin and between the small retainer fins.



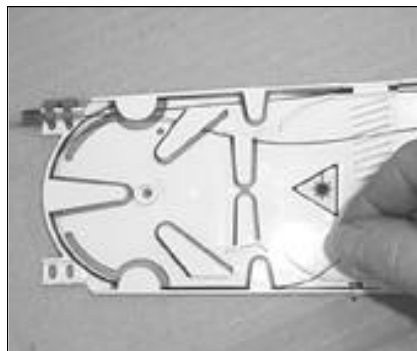
5. Lay the fibre bundle in the centre of the splice protector fins.



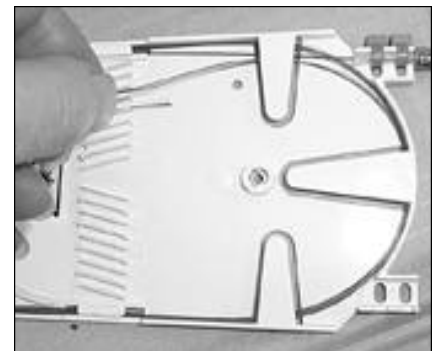
6. Cut the fibres on the opposite side of the fins.



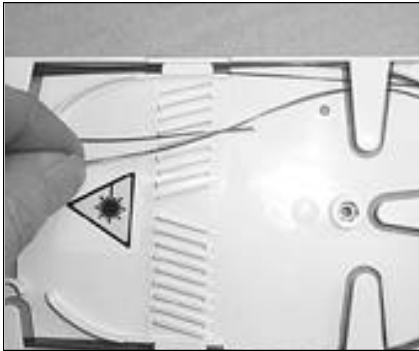
7. Route the fibre from the opposite tray entry point up the side of the tray.



8. Route fibre under the fins at the top of the tray and then back down the opposite side of the tray.



9. Place fibre under retaining fins at the bottom of the tray. Repeat steps 7 to 9, to have 2 to 4 complete turns of fibre in the tray.



10. On the last turn, route fibre across the splice protector fins.

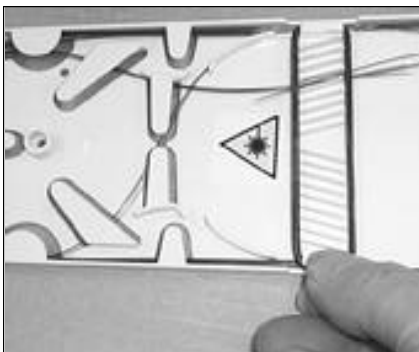


11. Cut the fibres on the opposite side of the fins.

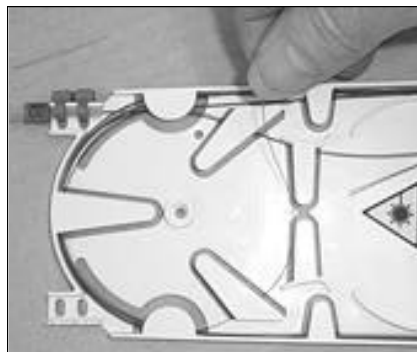


12. Splice the fibres using standard procedures

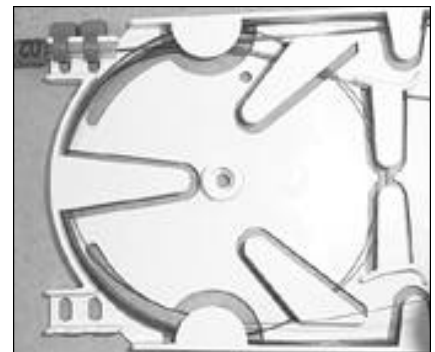
Alternative Fibre Storage 1



13. Replace the retaining 'O' ring.

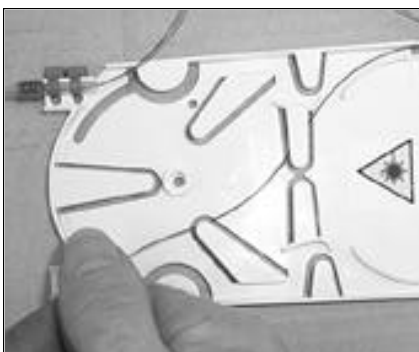


14. Route fibre (in a circle) around the top of the tray, using the angled retaining fins.

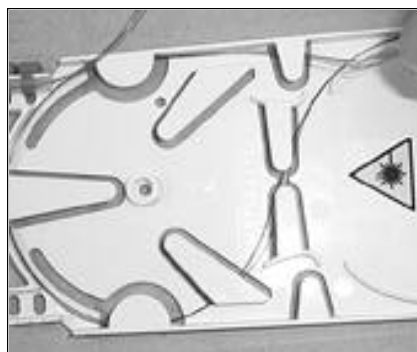


15. When excess fibre is stored refer to steps 1 to 13 for fibre routing to the splice fins.

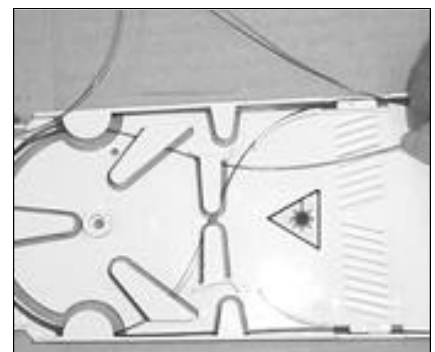
Alternative Fibre Storage 2



16. Fibres can be routed across the tray using curved retaining fin in the centre of the tray (recommended on 1st turn of turn).



17. the fibre is placed in between the small central fins, under the large angled fin and then around the top of the tray.



18. Route the fibre across the splice fins, refer to steps 1 to 13.

Loop Through Application (using L or LM Cablelok)



10. Push the cablelok back into the port.



11. Pull the Cablelok until the flange "snaps" into place.



12. Holding the Cablelok adjust the cables.

Spur Cables (using B or R Cablelok)



13. The cable sheath should protrude 5 to 10mm up from the Cablelok.



14. Prepare the cables in accordance with normal procedures. Refer to Appendix D for further details.



15. Wipe the cable from the sheath butt position 'B' for a distance of 200mm.



16. Squeeze the remaining drops of P80 into the Cablelok.



17. Feed the Cablelok onto the cable to the 50mm mark.



18. Wipe the Cablelok with a P80 tissue wipe.



19. Push the Cablelok back into the port.



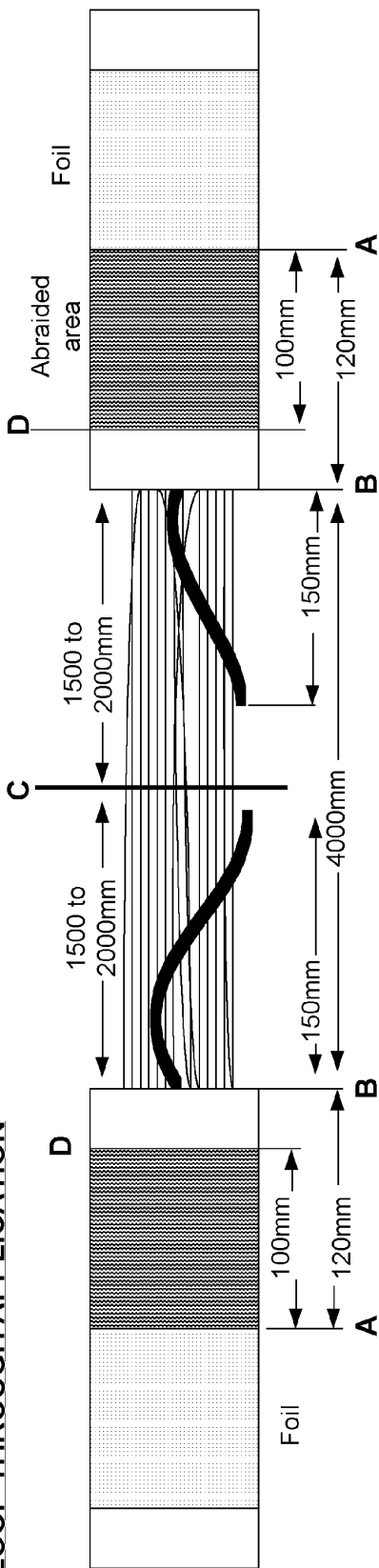
20. Pull the Cablelok until the flange "snaps" into place.



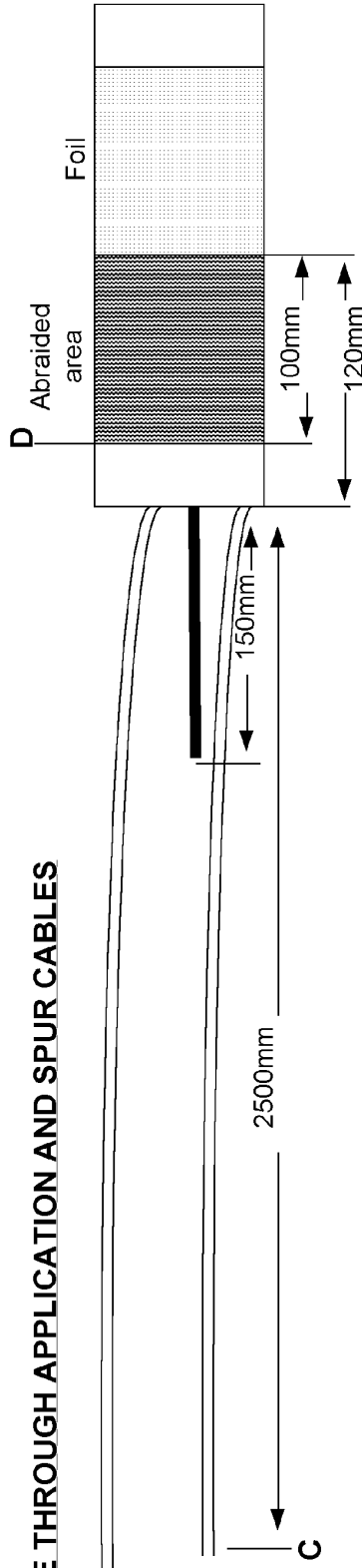
21. Holding the Cablelok adjust the cables. The cable sheath should protrude 5 to 10mm up from the Cablelok.

APPENDIX D

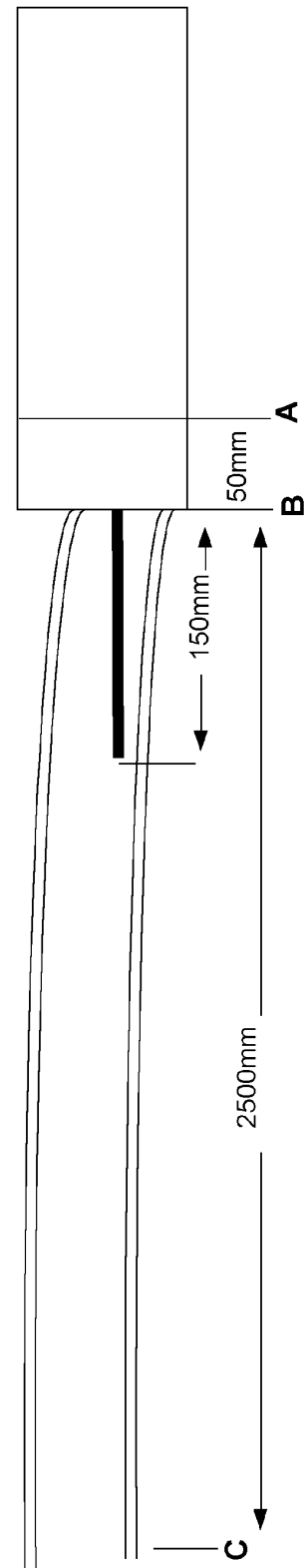
LOOP THROUGH APPLICATION



SPLICE THROUGH APPLICATION AND SPUR CABLES



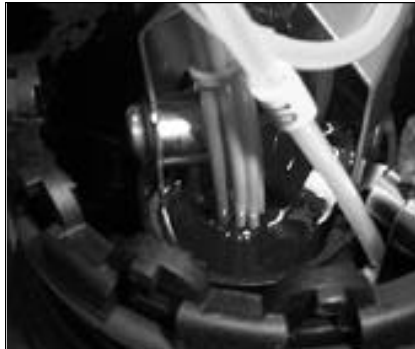
CABLE PREPARATION (CABLELOK)



APPENDIX E



1. Mix the resin and pour into the port resin.



2. Ensure not to over fill the ports with resin or contaminate the sealing 'O' ring.

APPENDIX F

Single Universal Mounting Block (Vertical Mounting)



1. Fit the mounting bracket to the wall with suitable fixings.



2. Insert the closure into the 'C' bracket (midway on cover) and secure using the cable tie.



3. Insert the 'C' bracket into the mounting bracket and secure with locking pin.

Double Universal Mounting Block (horizontal mounting)



4. Measure suitable distance on the FRBU cover and fix mounting brackets.



5. Insert the closure into the 'C' brackets and secure the cable ties.



6. Insert the 'c' brackets into the mounting brackets and secure with locking pins.

ACCESSORIES

POLE OR WALL MOUNTING BRACKET KIT
ACC1037

COVER RELEASE TOOL
TCR1726

REPLACEMENT 'O' RING
UBS1921

RESIN KIT
ACC715