

***tyco***

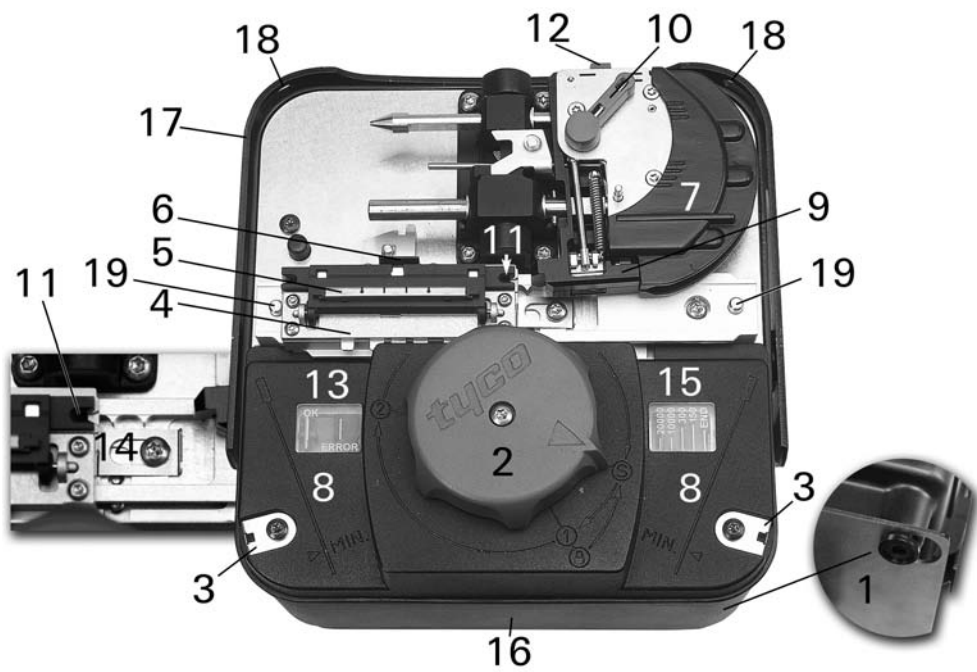
*Electronics*

**Recordsplice**

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**TELECOM OUTSIDE PLANT**

**Connectivity System**



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### 1 Introduction

The Recordsplice connectivity system is an innovative splicing system, designed primarily for fiber access networks, and is applicable to single mode and multi mode in any combination of 250 $\mu$  and 900 $\mu$  fiber.

The Recordsplice connectivity system exists out of two parts, the splice RPI-SA100 and the toolkit RPI-TK 100. The connectivity system provides ease of installation, a short set-up time and does not require a controlled environment. The tool is fully mechanical, maintenance free and does not call for settings in the field. The tool can make a total of 20.000 cleaves and stores safely all fiber cut-offs .

## 2 Safety

Laser irradiation can cause serious eye damages. Follow all local safety regulations related to optical fiber plant elements.

## 3 Content and part description

### 3.1 RCAT 100

- 1 Tool case
- 1 RCAT: Recordsplice cleaver and assembly tool. Provides a specified angled cleave of the fiber at a specified fiber length, and controls the steps needed for correct installation of the fiber(s) in the splice.
- 1 Mounting bracket: stainless steel plate that can be mounted on a network
- 1 Detailed installation instruction with a warranty return card.
- 1 Compact installation instruction.
- 1 Spare fiber funnel.

**Note:** an empty space is provided in the toolcase to accommodate a fiber stripper, a RECORDsplice unit pack and a bottle of fiber cleaning liquid.

### 3.2 Splice

- 1 Dustcap
- 2 Spring
- 3 Body
- 4 Badge number

## Assembly

- 1 **Fixation points.** Attaches the mounting plate to the RCAT 100 to mount the RCAT 100 on a network element or a Tripod.
- 2 **Program controller.** Activates the processes inside the tool when the knob is turned.
- 3 **Dust cap cutting plate.** Facilitates dust cap removal.
- 4 **Splice holder (SH).** Holds splice during assembly.
- 5 **Splice holder cover.** Aligns the splice into the splice holder and shows the correct position.
- 6 **Splice holder lever.** Opens the splice holder cover and lifts the splice when activated.
- 7 **Fiber holder (FH).** Ensures correct fiber alignment and insertion during cleaving and assembly.
- 8 **Strip length indicator.** Facilitates the verification of the minimum stripping length of the fiber.
- 9 **Front fiber clamp.** Clamps and aligns the fiber.
- 10 **Fiber clamp lever.** Activates the front and the back fiber clamp.
- 11 **Fiber entrance hole.** Entrance of the fiber towards the cleaver.
- 12 **Back fiber clamp.** Clamps the fiber to guarantee some spare fiber length.
- 13 **Cleave control window.** Informs the installer of a fiber break during the cleave process.
- 14 **Cleave length indicator.** Facilitates the verification of the length of the fiber after cleaving.
- 15 **Cleave counter window.** Informs the installer of the number of cleaves that can be made.
- 16 **Fiber cut-off storage.** Sealed storage basket for the cut-off fiber. (Can not be opened! )
- 17 **RCAT 100 handle + cover.** To carry and protect RCAT 100.
- 18 **RCAT 100 strap holder.** Fixation points to carry RCAT 100 with strap.
- 19 **Splice holder end stop.**

## 4 Ordering info

Description	Unit of measure	Unit pack	Shipping box	Group box
RPI-SA 100	pc	10pcs	10xunit pack	10xshipping box
RPI-TK 100	pc	1pc		

RPI-SA 100 = Recordsplice Sub Assembly ; the shipping box is the minimum order quantity  
RPI-TK 100 = RECORDsplice toolkit

## 5 Important guidelines

- The RCAT is maintenance free; do not put any oil on any part of the RCAT.
- When transporting the RCAT, use its transport case, to protect it from shock and impact.
- Carry the RCAT with its handle (17).



- Use a strap attached on the strap holder (18) when installing on ladders/heights .
- Do not submerge the RCAT in water.
- Never open the RCAT housing; it contains fiber waste and micro mechanisms.
- If needed, use a small soft brush to clean the RCAT; do not use any kind of chemicals!
- Never use a tool to activate parts on the RCAT.
- Do not insert anything in the fiber entrance hole except fiber.
- Clean the fibers with isopropyl alcohol.
- Only remove a splice from its package when it will be installed.
- Only remove the dustcap(s) from the splice when it will be installed.
- If a splice falls after the dust cap(s) are removed, do not use the splice.
- Performance is not guaranteed if splice is reused.
- Manipulate the splice only by hand, never use a tool.

- No other cleaver or assembly tool is approved for use with this system.

## 6 General installation advice

- The installer should be in a comfortable position to install.
- Before starting the installation, all tools should be within arm's reach.
- Leave the splice in the original package until it can be positioned in the tool.
- The minimum fiber lengths for cassettes are defined in the installation instruction of the network element. The tool and splice are designed such that, with proper positioning of the tool, splices can be made with fiber lengths as short as 200 mm or 8".
- The RCAT tool is designed to facilitate ease of installation. The program controller (2) will drive the appropriate mechanisms inside for each installation step and block the others, so that installation steps are performed in the correct order. The program controller knob can only be rotated up to the next position, and will be released when the appropriate following installation steps are taken. Do not use excessive force on locked components as this can result in malfunction of the tool.
- Verify the cleave counter window (15). An estimation can be made of the number of cleaves which still can be made. When the maximum number of cleaves is reached, it is impossible to turn the program control (2) and the tool can not be used anymore. Be aware that the counter mechanism is driven by the program control knob. Each full turn, will be registered as a cleave, even when this is done without fiber - e.g. demo purpose,
- Make sure that the network element and the tool are securely positioned in order

to avoid installation problems or fiber breakage. Correct positioning can be ensured by attaching the network element and the RCAT to the mounting bracket.

## 7 Complete and half installed splices

The Recordsplice connectivity system provides the possibility to install initially only one fiber in the splice and to add the second fiber at a later time. This second installation can be done with another RCAT tool without impact on the optical result. The first fiber can be installed in any of the two splice sides. In case that the second fiber will not be installed during the same job, it is important to remove only one dust cap - side of where the fiber will enter the splice. The second installer cannot do a correct job at a later date when the second dust cap was already removed. Remember that the splice can only be positioned in one direction into the splice holder (4). When positioning the splice in a wrong way, the splice holder cover (5) cannot be closed in a normal way. For a complete installation of the splice day 1 or the installation of the second fiber in a half installed splice, the seal cap at the outer end of the splice has to be removed.

The instructions below provides all the steps to install one fiber. Repeat these same steps for the second fiber.

## 8 Installation instruction

### 8.1 Installation of tool

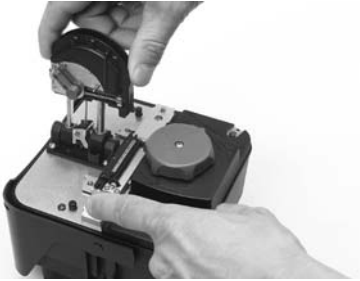


8.1.1 Place the RCAT100 on a table. Or mount the RCAT100 on a network element or tripod using the mounting plate.



8.1.2 To have access to the splice holder and fiber insert, hinge the handle (17) away. Turn the program control counter clockwise from locked (1) to start (S) position.

## 8.2 Installation of splice in tool

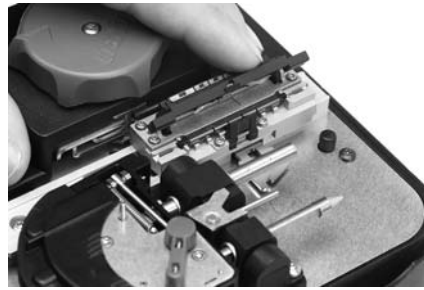


**Note: for partial installations,** determine in which side of the splice the fiber will enter, and remove the correct dust cap by using the dust cap cutting plate (3).

If needed slide SH (Splice Holder) (4) in left/right position (when fiber will enter the splice at the right side, slide the SH to the left). Continue from step 8.2.3.



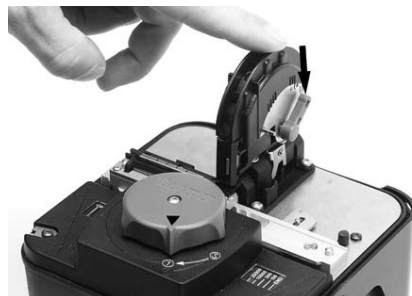
8.2.1 Remove the splice from the blister package. Remove the dust caps using the dust cap cutting plate (3).



8.2.2 Open the splice holder cover (5) by pulling splice and cover lever (6). Mount the splice into the splice holder (4). Close the splice holder cover.



8.2.3 Bring the FH (Fiber holder) (7) into the vertical position.



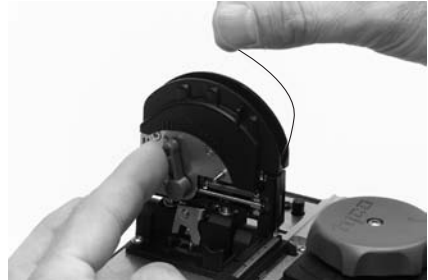
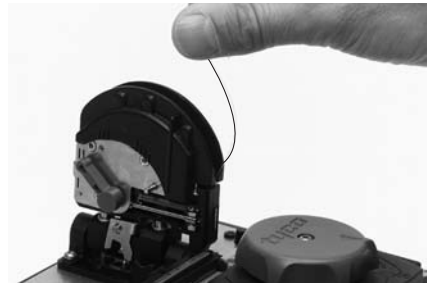
8.2.4 Turn the program control (2) clockwise to position (1). Verify if the splice holder (4) is in its locked position. Bring the FH (Fiber holder) (7) into the cleave position by pushing it down till it clicks.

### 8.3 Fiber stripping/cleaning

8.3.1 250 $\mu$  and 900 $\mu$  tight to 125 $\mu$ :

**Stripping length:** min.45mm-, 1.75" - max. 58mm-2.25".

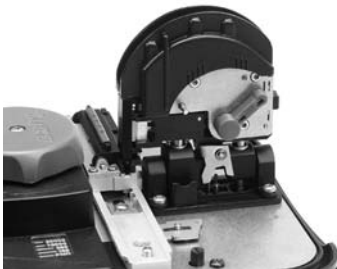
8.3.2 900 $\mu$  semi tight: for semi-tight it is recommended to strip the buffer over a long length as described in the network element and proceed as with the 250 $\mu$ .



8.3.3 Use the strip length indicator (8) to verify length.

8.3.4 Clean fiber using isopropylalcohol and following local procedures.

### 8.4 Cleaving/fiber insertion in splice

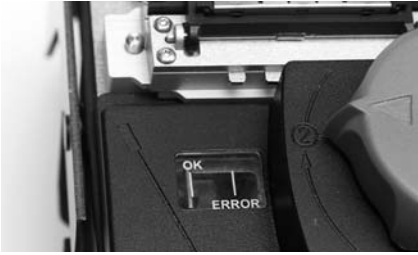


8.4.1 Make sure the fiber clamp (9) is in the "open" position. The clamp lever (10) should be in position II.

8.4.2 Guide the prepared fiber configuration through the front fiber clamp (9) and through the fiber entrance hole (11). Insert and push until it goes no further (the fiber will buckle). Be sure that the fiber is completely inserted. Hold the fiber under tension and close the front fiber clamp (9) by hinging the clamp lever (10) in position III.

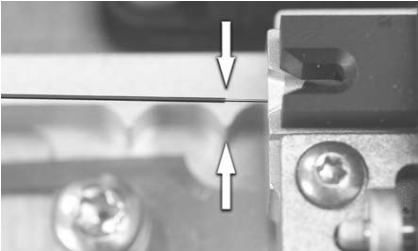


8.4.3 Bend the fiber over the FH. Clamp the fiber in back fiber clamp (12) by hinging the clamp lever (10) in position III.

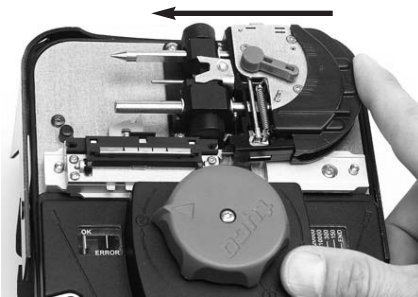


8.4.4 Turn the program control in position (2). Cleave status is marked in cleave control window (14).

**In case of error:** follow instructions in section 9.



8.4.5 Lift the FH (7) and hinge it to the horizontal position (without sliding). Control the cleave length and position of the coating using the cleave length indicator (15). If the length is not correct, follow instructions in section 9.2.



8.4.6 Guide the fiber into the splice by sliding the FH (7) until it clicks.



8.4.7 Turn the program control (2) to position (S).



8.4.8 Hinge the clamp lever (10) in position I and hold the lever in position during removing the fiber out of the two clamps.



8.4.9 In case of half installation, remove the splice by activating the splice and cover lever.

8.4.10 to install the second fiber, lift the FH (fiber holder) (7). Slide splice holder (4) to the opposite side. Repeat all the steps starting from point 8.2.4

8.4.11 Store fiber slack and the splice in the tray/organizer.

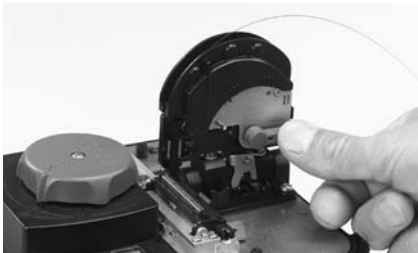
## 8.5 Locking and storing the tool after splicing



The tool must be set in lock position by hinging the FH (7) down and pushing it towards the center of the RCAT, turning the program control (2) in locked position (position 1) and hinging the carry handle (17) above the fiberholder (7). Place the tool in its toolcase.

## 9 Trouble shooting

· If the program control or any other part does not work correctly, verify that all required steps were done correctly and in the right sequence before contacting Tyco Electronics.



9.1 The cleave status is marked in cleave control window (14).

If the cleave status is **error**, hinge the clamp lever (10) in position I, and hold the lever in position while removing the fiber from the two clamps and fiber insert hole (11). Turn the program control (2) to position (S) and restart installation.



9.2 If the cleave length is not correct, hinge the clamp lever (10) in position I, and hold the lever in position during removing the fiber out of the two clamps and the splice, continue the installation as described in section 8.4.6 without fiber and restart at section 8.3.



If fiber cannot be inserted into the fiber entrance hole remove the fiber entrance funnel. Push the splice holder end stop (19) and slide the splice holder left or right. Slide the spring to the right, and lift out the funnel. Clean the funnel using a piece of 125 $\mu$  fiber and reinstall the funnel. If needed replace the funnel. Mount The funnel back in place, and secure it by sliding the spring to the left. Do not clean the fiber entrance hole funnel with metal brushes or any kind of abrasive items.

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