STANDARD
FIBER OPTIC CLEAVER

USER GUIDE

R301-CLEAVE-STD

Introduction

The TREND Networks Standard Cleaver (R301-CLEAVE-STD), is a precision cleaver for single optical fibers. The cleaver features a blade carrier that resets automatically after each cleave. The cleaver features a universal fiber clamp that is compatible with 250µm and 900µm coated fibers and 900µm buffered fibers as well as 2-3 mm jacketed fiber cable.

The fiber clamp can be easily removed to allow the use of dedicated fiber holders for individual fiber sizes. The blade has 24 cutting edges and is user-rotatable with a useful life of 48,000 total cleaves. The blade is easy to change with the included hex wrench (allen keys). An integrated waste bin allows for convenient collection of fiber scraps during operation.

Note

Please read this manual carefully before use.

Warning

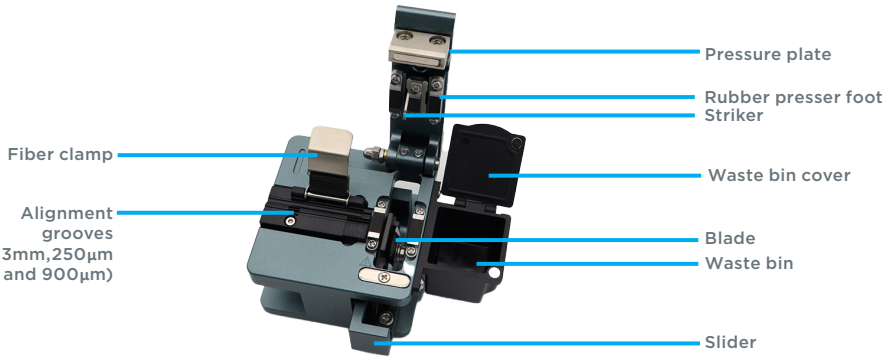
Fiber optic cables and debris are very fine and sharp, it is important to prevent any contact from skin and eyes. It is advised to collect all fiber optic debris in a dedicated container.

Caution

Please do not disassemble the cutting blade. Please contact the TREND Networks if repairs are needed.

Specification:	
Applicable fiber	Single count fiber
Cladding diameter	125µm
Fiber diameter	250µm, 900µm, 3mm
Cleave length	9-24mm (⅜"-1 15/16")
Cleaving angle	≤ 0.8°
Blade	24 edge, >48,000 total cleaves
Dimensions	58mm (W) x 68mm (D) x 58mm (H)2 5/16" (W) x 2 11/16" (D) x 2 5/16"(H)
Weight	270g (9.52oz.)

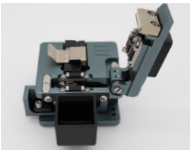
Operation



Follow these steps to cleave the fiber:

1. Open the pressure plate, and fiber clamp. Strip the buffer and coating layer from the optical fiber using fiber strippers, resulting in a bare fiber length of 20-30mm (⅞"- 1⅛").

2. Clean the bare optical fiber with a lint-free wipe and ≥99% isopropyl alcohol.



Open the pressure plate

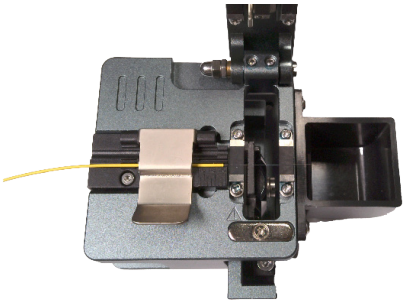
3. Put the cleaned fiber into the cleaver using the alignment grooves. Align the edge of the fiber coating within the range of 10-16mm (⅜"-⅝") using the markings across the two rubber pads as illustrated on the right.

Top groove: 2-3mm jacketed cable

Middle groove: 250µm coated fiber

Bottom groove: 900µm buffered fiber

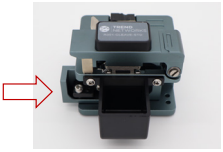
4. Close the fiber clamp and pressure plate.



Put clean fiber in position across the two rubber pads

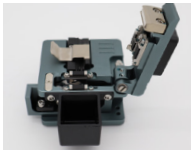
5. Slide the blade carrier forward until it locks to cleave the fiber.

6. Open the press plate which releases the blade carrier. Ensure the scrap fiber falls into the waste bin. Do not touch the end of the cleaved fiber.



Close and slide the blade carrier forward

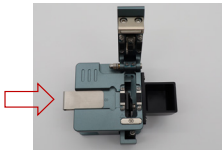
7. Pinch the optical fiber with your left hand while opening the fiber clamp with your right hand then remove the cleaved fiber.



Open the pressure plate and remove the fiber

Removable holders & SoC Connectors:

If using any type of removable holder, completely slide supplied metal clip into guide slot as per right photo. Continue operation steps as above.
The SoC LC connector holder on the cleaver is illustrated in right bottom photo.



Metal clip for removable holder

Caution

Don't let the optical fiber touch any other objects to avoid damage or contamination of the end face of optical fiber.

Broken fiber scraps are dangerous. Collect and dispose of the broken fibers properly.

SoC holder in cleaver

Note

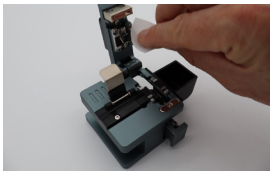
Possible causes of poor cleaving results:

- The fiber is not properly aligned in the guide groves or on rubber pads.
- The blade height is too high. Lower it with the height adjustment screw.
- Dust or other foreign objects are present on the blade, pressure pad or optical fiber groove guides

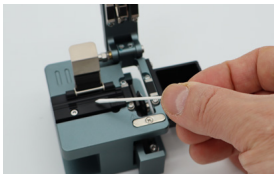
Maintenance

Daily cleaning:

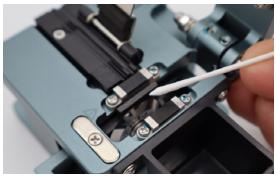
Ensure the rubber pressure pads and fiber guide grooves are clean of dust and debris Regularly clean the rubber pad and the edge of the cutting blade using cotton swabs. And ≥99% isopropyl alcohol.



Cleaning top rubber pads



Cleaning universal holder grooves



Cleaning bottom rubber pads

Adjust blade position:

1. Loosen the screws on both sides of waste bin with phillips screw driver and lift up.

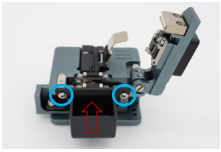
2. Loosen the blade locking screw. Rotate to the next scale number using cotton swab. Hold the side of the blade face and tighten the screw.

Note

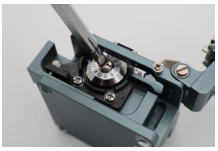
Change the blade position (24 positions) when cleaving quality deteriorates (usually between 1000 to 2000 cleaves).

Warning

Never touch the blade during the position change.



Loosen screws of waste bin



Loosen the blade locking screw

Rotate blade with cotton swab

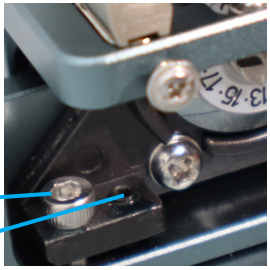
Adjusting the blade height:

1.

Increase Height: 1/4 turn counterclockwise on screw (1) by using large supplied allen key. Then turn screw (2) clockwise using small supplied allen key to tighten the position of the blade.

2.

Decrease Height: 1/4 turn counterclockwise on screw (2) by using small supplied allen key. Then turn screw (1) clockwise using large supplied allen key to tighten the position of the blade.



1. Upper level height adjustment

2. Lower level height adjustment

Replacing the blade:

Follow these steps to replace the blade if the cleaving quality cannot be improved by changing the position.

1. Loosen screws of waste bin and take off. Lay down the cleaver on its side and keep the pressure plate open.

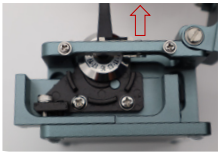
2. Unscrew the blade locking screw, use tweezers to remove the screw and gasket.

3. Turn the blade to the tool holder side, then grasp the old blade with tweezers, gently shake it loose and remove it.

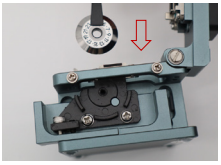
4. Grasp the new blade with tweezers and flatten it. Position it slightly higher than the blade axle so the blade hole falls onto the axle without the cutting edge touch anything.

5. Reinstall the gasket and screws.

Unscrew blade



Use tweezers to remove blade



Carefully install new blade

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