

Corning Cable Systems Optical Fiber Access Tool (OFT-000)

1. General

1.1 This procedure describes how to access fibers in a buffer tube in a mid-span location with or without slack using the Corning Cable Systems OFT-000 Optical Fiber Access Tool (OFAT) (Figure 1).

1.2 The Optical Fiber Access Tool is designed to split a buffer tube to expose the fibers inside without damaging them. The resulting buffer tube halves can be easily removed with scissors.

1.3 The tool utilizes blades mounted in two precisely machined grooves to cut the buffer tubes. The smaller groove cuts buffer tubes 2.4 mm - 2.6 mm (0.094 - 0.102 in.) in diameter; the larger groove cuts buffer tubes 2.7 mm - 3.1 mm (0.106 - 0.122 in.) in diameter.

1.4 The OFT-000 tool is equipped with a gauge to determine buffer tube diameter. A thumbscrew latch facilitates cutting buffer tubes in situations where it is difficult for the operator to grip the tool.

1.5 Both center pieces and all four outer pieces of the OFT-000 are marked with either one or two dots to aid in reassembling the tool after cleaning or blade replacement.

1.6 This issue illustrates OFT-000 tools manufactured after February, 1993. If you are using the previous model OFT-000 (Figure 2), please refer to issue 3 of this document.

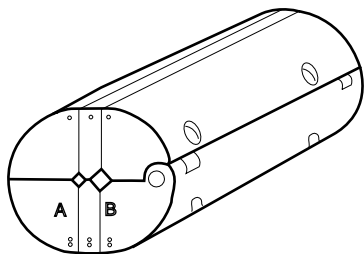


Figure 2

1.7 This issue reflects the introduction of Gel-free buffer tubes.

p/n 004-014

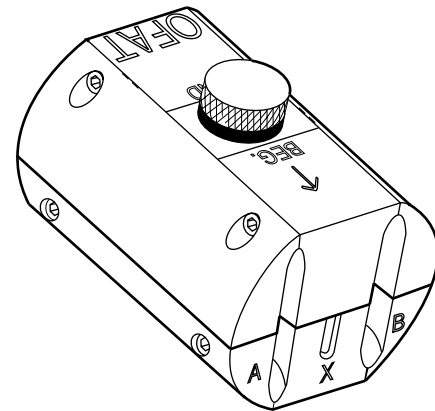


Figure 1

2. Precautions

2.1 Safety Precautions



Safety Glasses

WARNING: The wearing of safety glasses to protect the eyes from accidental injury is strongly recommended when handling chemicals and cutting fiber.



Safety Gloves

CAUTION: The wearing of safety gloves to protect your hands from accidental injury when using sharp-bladed tools is strongly recommended. Use extreme care when the utility knife's blade is exposed. Dispose of used blades

2.2 Chemical Precautions



Fiber-Clean Wipes

WARNING: Contains hydrocarbons. Apply in rooms having normal room ventilation. For prolonged and/or repeated use, gloves are recommended. Avoid eye contact. Keep away from open flames and ignition sources. If ingested, do not induce vomiting. Consult a physician. If contact with eyes, wash eyes with water for 15 minutes.

2.3 Buffer Tube Handling Precautions



CAUTION: Buffer tubes are sensitive to excessive pulling, bending and crushing forces. Great care should be exercised when handling buffer tubes. Excessive bending will cause kinking which may damage the fibers inside.

3. Tools and Materials

3.1 The following items are required to operate and/or change the blades in the OFT-000 Optical Fiber Access Tool:

- 7/64-inch hex wrench
- Scissors*
- Fiber-Clean®wipes if filling compound is present
- Replacement blades, p/n OFT-001

* Items found in the M67-003 Fusion Splicer Tool Kit or TKT-005 Sheath Removal Tool Kit.

4. Buffer Tube Measurement

4.1 This procedure assumes that the cable sheath has been removed and the buffer tubes exposed. If necessary, refer to the appropriate Corning Cable Systems cable stripping procedure for the cable you are installing.

4.2 Separate the buffer tube(s) to be accessed from the bundle of buffer tubes. Clean the buffer tube with cable cleaner.

4.3 Table 1 lists standard buffer tubes and the respective slot of the OFAT tool used to access the fibers inside the tube.

Tube Outside Diameter	OFAT Slot
2.4 to 2.6 mm (0.094 to 0.102 in.)	A
2.7 to 3.1 mm (0.106 to 0.122 in.)	B

Table 1

4.4 The tool is equipped with a gauge to measure buffer tubes when the tube size is unknown. This gauge determines the following:

- If the buffer tube is too small or too large for the tool.
- Which groove (A or B) should be used to cut the buffer tube.

4.5 To use the buffer tube gauge :

- Loosen the thumb screw until you can rotate the top half of the tool 90° to make the gauge accessible. Tighten the screw back down.
- Try to fit the buffer tube in the slot marked "X".
If the buffer tube fits, it is too small for the tool.

Note: Do not use force when placing the buffer tube in the gauge. Excessive force may damage the buffer tube or the fibers inside.

- If the buffer tube fits in "A", then use groove "A" when following the instructions in Section 4 (Figure 3).

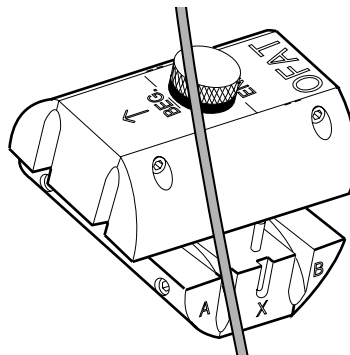


Figure 3

- If the buffer tube is too large for "A" but fits into "B", then use "B".
- If the buffer tube is too large for slot "B", it is too large for the tool.

5. Buffer Tube Access

5.1 Loosen the thumb screw again and rotate the top half of the tool 90° back to its normal position. Tighten the thumb screw only enough to seat the vertical guides from the bottom half of the tool into the holes in the OFAT's top half.

5.2 Slide the buffer tube to be accessed into the appropriate groove at the point where the cut must begin, as indicated by the "BEG." line engraved on top of the tool (Figure 4).

Notes: The exposed fiber length will depend on the hardware type and application. Confirm the exposed length before accessing the tube.

The arrows on the top and bottom of the tool indicate the direction the tool cuts. Make sure that you have correctly placed the tool on the buffer tube (A sample application is shown in Figure 5).

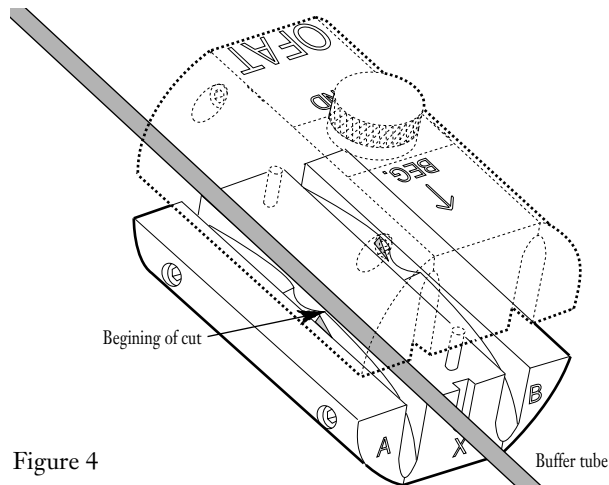


Figure 4

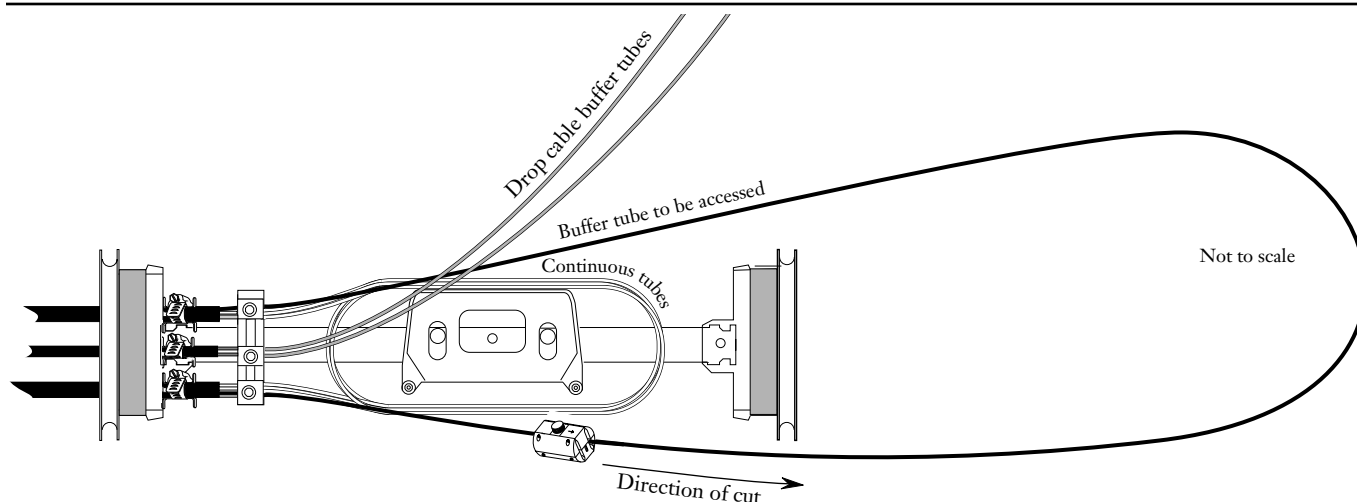


Figure 5

If the buffer tube is placed in the wrong groove, the tool may not cut the tube completely or fibers may be damaged.

5.3 Press the halves together and tighten the thumb screw. *Make sure that the tube is completely seated in the groove.*

5.4 Pull the tool slowly and steadily along the buffer tube in the direction of the arrows indicated on the tool for a distance of approximately 60 cm (24 in.) (Figure 5).

5.5 Once you have opened the tube for a length of 60 cm (24 in.), **stop** and:

- a) Carefully separate the split tube halves from the fibers.



Caution: *Fibers will be hanging loosely during the remainder of the access procedure. Use great care to avoid snagging or breaking the fibers.*

- b) Loop the split buffer tube halves around a finger to secure the uncut tube ahead of the tool (Figure 6).

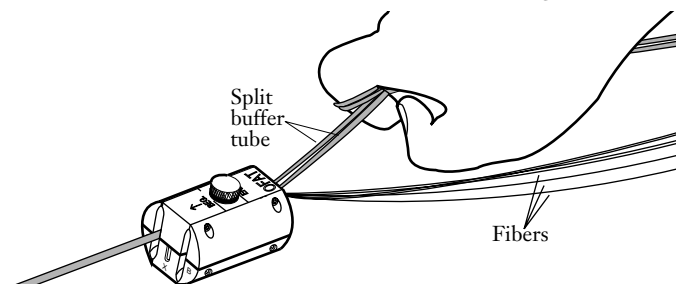


Figure 6

- c) Continue to pull the tool down the tube until you have split another 60 cm (24 in.) of tube. Repeat step b) at this point. You must move the finger holding the split tube after every 60 cm (24 in.) of splitting.

- d) Continue repeating steps a) through c) until the "END" mark on top of the tool has reached the desired end point on the buffer tube.

5.6 Loosen the thumbscrew and remove the tool from the buffer tube.

5.7 Use scissors *with great care* to remove the resulting buffer tube halves (Figure 7). If the buffer tube is Gel-free, carefully cut out the water-block yarns. If filling compound is present, wipe the filling compound from the exposed fibers with Fiber-clean wipes. The fiber is now ready to be cut at its proper end and spliced / connectorized to another fiber.

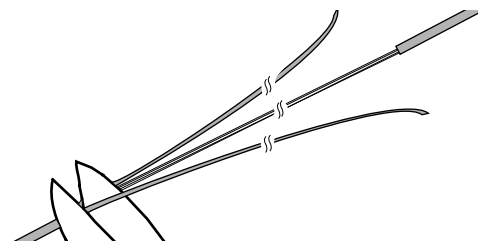


Figure 7

6. Blade Replacement

6.1 Loosen the thumbscrew until you can completely separate the halves of the OFAT (Figure 8).

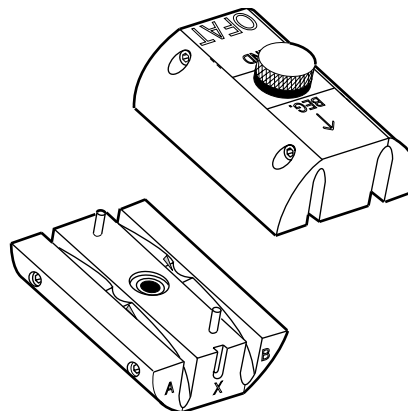


Figure 8

6.2 Starting with either tool half, use a 7/64-inch hex wrench to remove the screw closest to the first blade to be replaced; loosen but do not remove the other screw (see Figure 9).

6.3 Pivot the outer piece around the loosened screw so that the blade is exposed (Figure 9). Carefully remove the old blade and dispose of it properly.

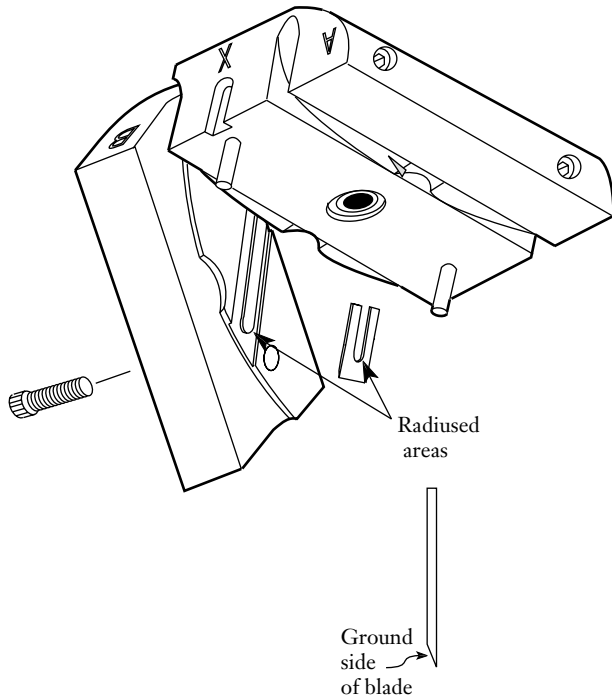


Figure 9

6.4 Place the new blade into the tool with the ground side of the new blade facing the piece of the tool with the recessed area provided for the blade (see Figure 9).

Make sure that the radiused section of the blade is fully seated against the radiused section on the tool.

6.5 Using the corner of a flat surface, such as a counter top or bench, press the tool down flush so that individual parts of the tool are properly aligned (Figure 10).

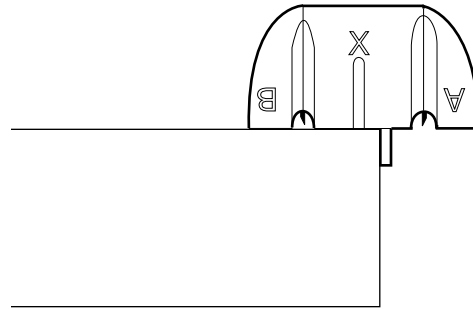


Figure 10

6.6 Hold the pieces of the tool so that they fit flush along the ends. Reinsert the screw removed in step 6.2. Tighten both screws with the hex wrench.

6.7 Repeat steps 6.2 through 6.6 for the remainder of the blades in the tool.

6.8 Place the two halves of the tool together. Re-thread the thumb screw and turn it enough to secure the tool in its open position.

6.9 Test the new blades on a scrap length of buffer tube to verify that the tool is properly assembled. *To prevent damage to the blades, tool, or fibers, make sure that all of the new blades are still properly seated.*

*Special Note:
Fiber Optic
Training
Programs*



Corning Cable Systems offers comprehensive, integrated training programs. Courses are structured for: Telephony, CATV, LAN, Intelligent Transportation Systems and Power Utilities.

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