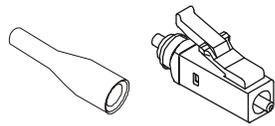
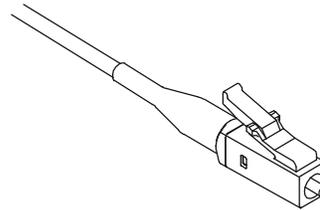


Epoxy and EZ Methods
Singlemode and Multimode Versions



Connector Components



Assembled Connector

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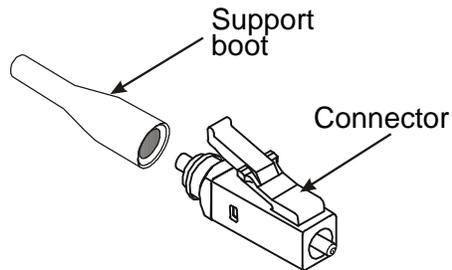
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1.0 General

1.1 Connector Description

The **LC™** Behind-The-Wall (BTW) connector is used to terminate outside plant (OSP) cables as well as building cables. It is intended for use in central offices, local area networks (LANs), premises distribution systems, computer backplane connections, computer peripheral interconnections, device terminations, and other applications where quality, small-size, high-density, low-loss, and a low-cost infrastructure are required.



Note: In addition to the BTW connector for 0.9-mm buffered fiber, a simplex and duplex **LC** jumper connector is offered for 1.6-mm **MiniCord™** jumper cords. Installation of the jumper connector is **not** covered in this customer information product (CIP). The jumper connector can be used in the assembly of various lengths of patch cords.

When installed on typical fiber, the following performance should be obtained:

Multimode	Singlemode (not tuned)
Insertion loss (avg.) = 0.1 dB	Insertion loss (avg.) = 0.2 dB
Return loss \geq 20 dB	Return loss \geq 50 dB

1.2 Epoxy Consumables Kits for Pre-radiused LC Connectors

Kit Type (Note)	Kit Number	Comcode	Kit Includes
Universal Polishing Kit (Singlemode & Multimode)	NA	300 472 651	Polishing paper and other materials required to polish 100 connectors. (Epoxy not included)
Universal Polishing Kit (Multimode Only)	NA	300 486 552	Polishing papers required to polish 100 multimode connectors. (Epoxy not included)
Epoxy (Hysol 0151)	NA	105 489 355	15 bi-packs of heat curable epoxy
Direct termination of OSP cables	D-181755	105 317 549	Buffer tubing and cable end prep materials for approximately 100 OSP fibers.

Note: Kits **do not** contain connectors, isopropyl alcohol, or nonozone-depleting canned air.

1.3 Tool and Upgrade Kits Required for Epoxy Method

Choose one of the following tool kits:

Kit Type	Kit Number	Comcode	Kit Includes
Epoxy Tool Kit	1032B5	106 705 213	Assembly tools and 110-volt curing oven
Epoxy Tool Kit	1032B6	106 919 012	Assembly tools and 220-volt curing oven

In addition to the tool kit, choose one of the following upgrade kits:

Kit Type	Kit Number	Comcode	Kit Terminates
Upgrade Kit	D-182905	107 852 139	BTW connectors
Upgrade Kit	D-182959	108 262 569	BTW and jumper connectors

1.4 EZ Consumables Kits for Pre-radiused LC Connectors

Kit Type (Note)	Kit Number	Comcode	Kit Includes
Universal Polishing Kit (Singlemode & Multimode)	NA	300 472 651	Polishing paper and other materials required to polish 100 connectors. (Adhesive and primer not included)
Universal Polishing Kit (Multimode Only)	NA	300 486 552	Polishing papers required to polish 100 multimode connectors. (Epoxy not included)
Adhesive	NA	106 730 856	1 bottle of anaerobic adhesive
Primer	NA	106 730 849	1 bottle of primer
Note: Kits do not contain connectors, isopropyl alcohol, or nonozone-depleting canned air.			

1.5 Tool and Upgrade Kits Required for EZ Method

Choose one of the following tool kits:

Kit Type	Kit Number	Comcode	Kit Terminates
EZ Tool Kit	1032F1	107 149 320	ST and SC, BTW and jumper connectors
EZ Tool Kit	1032H	108 267 279	ST, SC, and LC BTW connectors

In addition to the 1032F1 Tool Kit, choose one of the following upgrade kits:

Kit Type	Kit Number	Comcode	Kit Terminates
Upgrade Kit	D-182905	107 852 139	LC BTW connectors
Upgrade Kit	D-182959	108 262 569	LC BTW and jumper connectors

Note: The 1032H Tool Kit does not require an upgrade kit to terminate LC BTW Connectors using anaerobic adhesive

1.6 Ordering Information

Section **10** contains ordering information for the required tool kits and BTW connectors using the Epoxy assembly method.

Section **11** contains ordering information for the required tool kits and BTW connectors using the EZ (anaerobic adhesive) assembly method.

2.0 Safety Precautions

- Safety glasses should be worn at all times while performing these assembly instructions.
- Avoid skin contact with the epoxy, adhesive, and the primer.
- Place combustibles away from the curing oven when it is in operation. After the oven has reached its operating temperature, the oven ports are extremely **HOT** [266°F (130°C)].

- Allow the oven to cool before handling or storing.
- Optical fibers may emit radiation if the far end is connected with a working laser or light-emitting diode (LED). Never view the fiber end of a cable or plug with an optical instrument until absolute verification is established that the fiber is disconnected from any laser or LED source.

3.0 Assembly Instructions for Epoxy Method

Note: For EZ method, see Section 4.

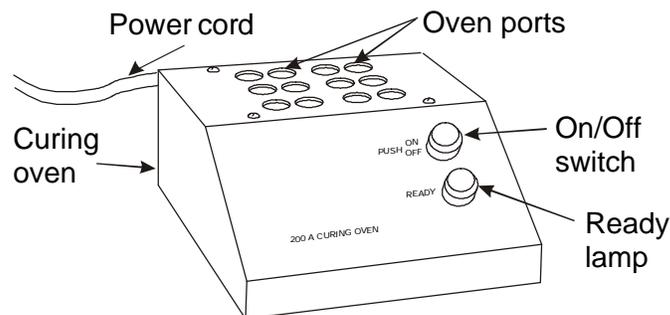
3.1 Set Up Curing Oven

1. Place oven on a level surface and away from combustibles.
2. Connect the power cord to a power source (120 V 60 Hz AC for the 200A oven and 220 V 50 Hz AC for the 200A1 international oven).
3. Push the **ON/OFF** switch to the **ON** position (lamp in switch illuminates).

Note: A **READY** lamp will illuminate when the oven reaches its operating temperature of **266°F (130°C)**.

Caution 1: After the oven reaches its operating temperature, the oven ports will be extremely **HOT** [266°F (130°C)].

Caution 2: Allow the oven to cool before handling and storing.



3.2 Fiber Preparation

1. Remove cable sheath and outer jacket.

Caution: Be careful not to cut into fibers while removing cable sheath and outer jacket.

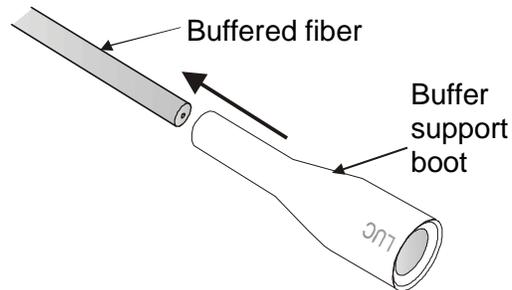
Note 1: For OFS cable, use sheath removal tool R-4366.

Note 2: Be certain to expose enough buffered fiber to:

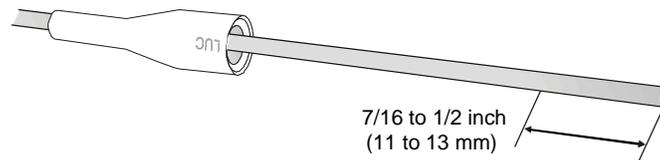
- Allow access to the curing oven and other connector preparation functions
- Prevent stress on fibers during connector preparation
- Provide adequate fiber length for placement in associated equipment cabinet.

Typical working length for buffered fibers is 24 to 36 inches (0.6 to 0.9 meters).

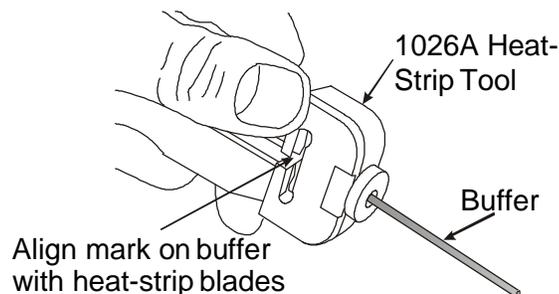
2. Install buffer support boot by slipping the small end of boot onto the buffered fiber.



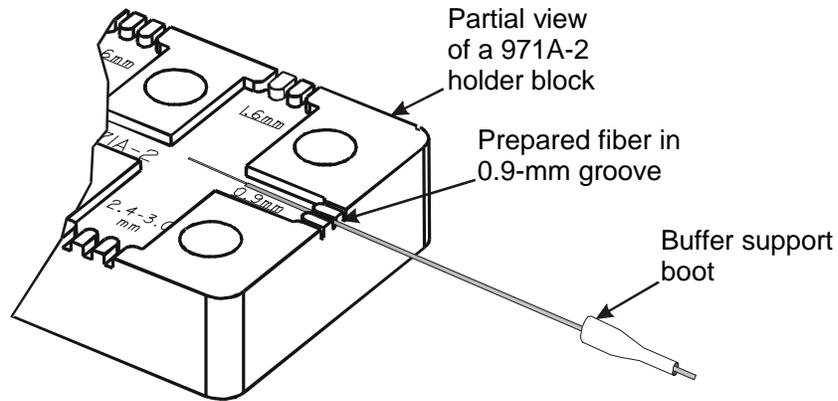
3. Measure and mark the buffered fiber 7/16 to 1/2 inch (11 to 13 mm) from the end by using the scale or template provided in the tool kit.



4. Locate 1026A Heat-Strip Tool (105 514 764) provided in the Tool Kit.
Note: Refer to 1026A Heat-Strip Tool operating instructions for setup.
5. Strip 7/16 to 1/2 inch (11 to 13 mm) of the buffered fiber.



6. Clean stripped fiber by saturating a wipe with isopropyl alcohol (>91% 2-propanol + water) and wiping the fiber from the edge of the buffer toward the end of the fiber.
Note: If residue remains on the fiber, use a clean wipe saturated with isopropyl alcohol to wipe the fiber again.
7. Place prepared buffer into the grooves of the 971A-2 holder block to avoid breaking or contamination of the fiber (holder blocks are provided in the D-182959 Upgrade Kit).



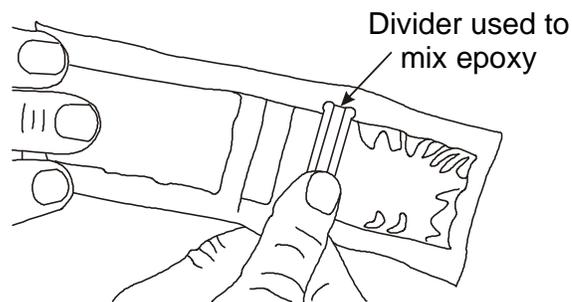
3.3 Epoxy Preparation

The supplied epoxy comes in a two-part package. A divider separates the resin from the hardener. The divider must be removed to allow the epoxy to be mixed. The epoxy is then loaded into a syringe.

Caution: Avoid contact of epoxy with skin.

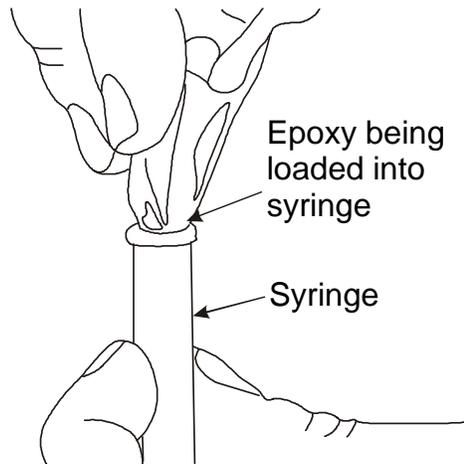
1. Remove the divider between the resin and the hardener.
2. Mix the epoxy using the divider.

Note: The epoxy must be thoroughly mixed until both parts are blended into a smooth uniform color.



3. Place the syringe tip on the syringe and twist to lock in place.
4. Remove the plunger from the syringe.
5. Fold the epoxy package in half and cut off one of the package corners.
6. Squeeze the mixed epoxy into the syringe.

Note: A ¾-inch (19 mm) length of epoxy will be enough for about 50 connectors.



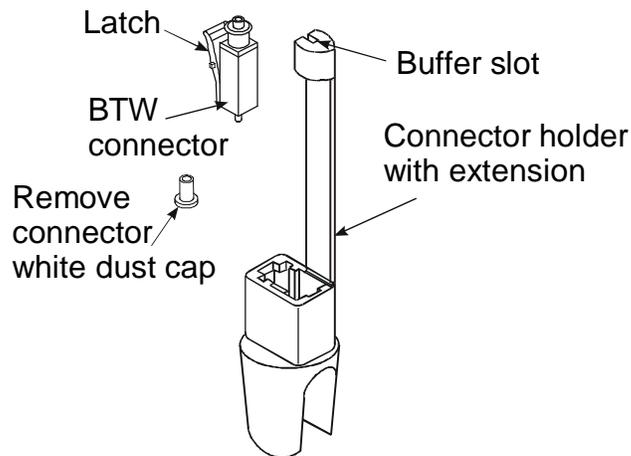
7. Replace the plunger into the syringe.
8. Remove air pockets from the syringe by holding the syringe tip upward and ejecting epoxy until the air pockets are removed.

3.4 Connector Installation

Connectors are provided in packages that must be ordered by product codes (see Section 8 for **LC** Connector Product Codes). Each connector is fitted with a white dust cap to protect the connector tip from damage and contamination. During the connector installation process, a holder with extension (provided in the D-182905, D-182959, and 1032H Kits) is used to protect the fiber protruding from the connector tip and to aid in the handling of the small connectors. The slot in the extension holds the buffer in the correct position until the epoxy sets.

3.4.1 Prepare the Connector

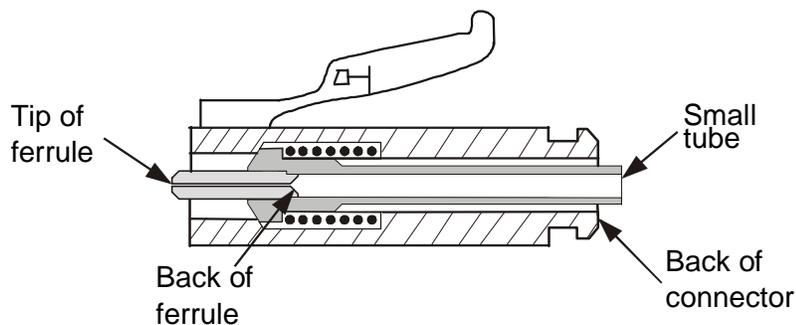
1. Locate the connector to be installed and remove the white dust cap.
2. Hold the connector towards the light and check to make sure the hole and the tip are clear.
If necessary, clear the hole using the music wire (furnished).
3. Locate a connector holder with extension (107 852 493).
4. Snap connector into the holder.



3.4.2 Apply Epoxy

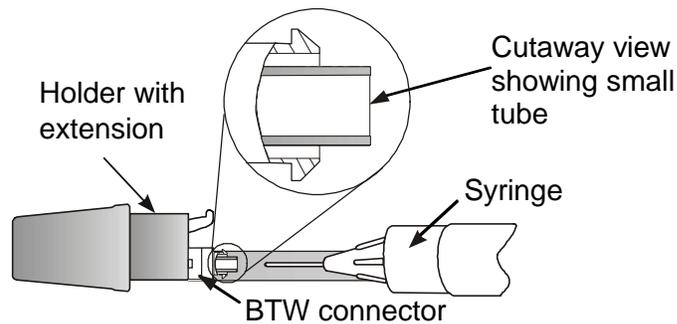
Epoxy is injected into two areas of the connector: (1) inside of the ferrule and (2) at the back of the ferrule. The syringe is first used to inject epoxy into the ferrule. This epoxy bonds the stripped fiber to the ferrule. Before removing the syringe from the connector, epoxy must next be deposited at the back of the ferrule. This epoxy bonds the buffer at the back of the ferrule.

DO NOT apply an excessive amount of epoxy to either the ferrule or at the back of the ferrule.



1. Locate the small tube inside the back of the connector.
2. Carefully insert the tip of the syringe into the small tube until it bottoms.
Caution: In the following step, do not apply excess epoxy to the tip of the ferrule.
3. Inject epoxy into the ferrule by slowly pressing the syringe plunger until the epoxy **just** appears at the connector tip (face of the ferrule).
4. Deposit epoxy at the back of the ferrule by pulling the tip of the syringe back slightly and momentarily injecting a small amount of epoxy at the back of the ferrule.
Caution: When removing syringe from the connector in the following step, do not allow epoxy on syringe tip to contaminate the small tube or the back of the connector.

5. Release pressure on plunger, wait a moment, and then remove the syringe from the connector.



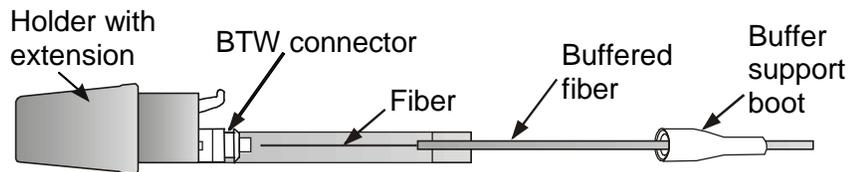
3.4.3 Insert Fiber

1. Remove prepared fiber from holder block.
2. Insert the exposed fiber into the small tube inside the connector and carefully feel for the opening in the ferrule.

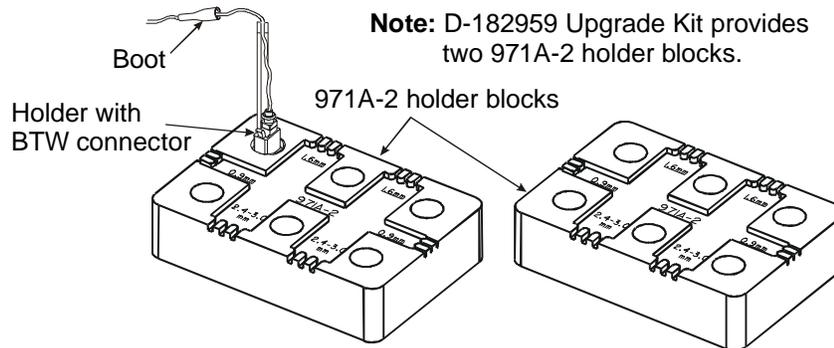
Note: Rotating the fiber or the connector assembly may help to locate the opening.

Caution: Only perform the following step once.

3. When the fiber is seated, pull it back slightly and watch for fiber movement at the tip of the connector to make sure the fiber is not broken.
4. Reposition the fiber back into the connector and lock buffer in the slot at the end of the holder extension.
5. Ensure that the buffer support boot is pushed back on cable.



6. Place buffer in slot on holder extension.
7. Store up to 12 BTW connectors in the 971A-2 holder blocks.



3.4.4 Cure Connector Assemblies

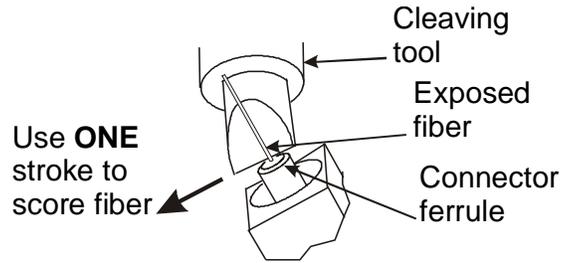
1. When the desired number of connectors has been prepared, place the holder block next to the preheated oven.
2. Place prepared connector assemblies into the oven ports.
3. Ensure that the connector assemblies are sitting at the bottom of the oven ports.
4. Remove the assemblies from the oven after they have cured for 10 minutes.

3.4.5 Cool Connector Assemblies and Attach Buffer Support Boot

1. Place cured assemblies back into the holder block to cool.
2. Select a connector assembly and remove the fiber buffer from the holder slot.
3. Push the cable support boot onto the connector.
4. Repeat Steps 2 and 3 for each connector assembly.

3.4.6 Score the Fiber

1. Remove the connector from the connector holder.
2. Obtain the 975A cleaving tool from the 1032B5, 1032B6, or 1032H Tool Kit.
Note: In the following step, score the fiber as close to the ferrule as possible, but same time being careful not to break the fiber.
3. Place the cleaving tool against the ferrule and exposed fiber.
4. Using one stroke of the cleaving tool, gently score the exposed fiber.
5. Remove the exposed fiber by gently pulling straight away from the connector.
Note: If fiber did not readily pull off, score fiber again on opposite side and gently pull fiber.
6. Dispose of the fiber scraps in a safe manner.
Note: The adhesive surface on a piece of tape is a convenient place to hold fiber pieces until disposal.



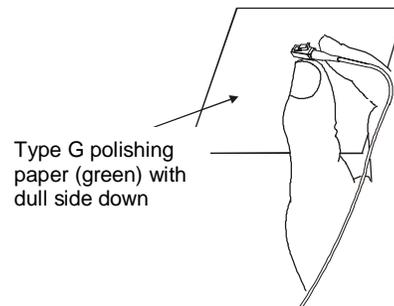
3.4.7 Polish Fiber End—Multimode and Singlemode (Epoxy)

Caution: Contaminants on polishing materials can cause scratches on the end face of the fiber/ferrule. Throughout the entire polishing process, keep work area and all polishing materials clean.

Note 1: Table A provides a quick reference for polishing. The Universal Rubber Polishing Pad (300 472 644) must be used to insure acceptable optical performance and end-face geometry.

Step 1. Remove Fiber Stub

- In one hand, hold one sheet of Type G polishing paper (dull side down).
 - In the other hand, hold the connector with the tip pointing upward.
- Note:** When performing the following step, be careful not to break the fiber stub.
- Air polish using light circular motions about 1 inch in diameter to carefully polish off the fiber stub.



Step 2. Remove Excess Epoxy

- Use canned air to clean the back and front of a piece of Type G polishing paper (green).
- Saturate a wipe with isopropyl alcohol (>91% 2-propanol + water).
- Obtain a 5" diameter Universal Polishing Pad (300 472 644) and a T2001A Polishing Tool.
- Clean the (unmarked) shiny side of the rubber pad and the polishing tool with the saturated wipe.
- Use canned air to blow the rubber pad and polishing tool dry.
- Insert the **LC** connector into the T2001A polishing tool.
- Stack four, 3-mil mylar spacers (clear) on top of the rubber pad.
- Place the sheet of Type G polishing paper (green), dull side up, over the spacers.
- Gently place the polishing tool and connector onto the polishing paper.

Note: In the following step, you should **not** feel any drag between the fiber and the paper. (If you do, repeat Step 1) Start with light pressure and use figure-8 strokes that are approximately 2 inches high and 1 inch wide. The figure-8 strokes must be well rounded to ensure complete removal of the epoxy from the end of the ferrule.

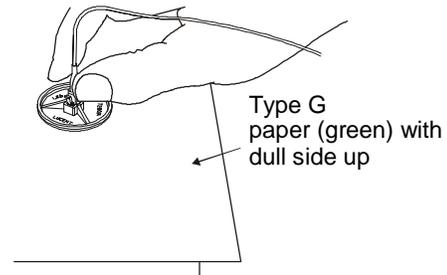
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Instruction Sheet

- i. Using moderate pressure, polish the connector for 45 figure-8 strokes. Move to an unused area of the paper for each connector being polished. Approximately six connectors may be polished on each sheet of Type G paper.

Danger: Optical fibers may emit radiation if the far end is connected with a working laser or light-emitting diode (LED). Never view the fiber end of a cable or plug with the naked eye or any optical instrument until absolute verification is established that the fiber is disconnected from any laser or LED source.

- j. Using a 7X magnifier or **LC** microscope supplied in the D-182905, D-182959, or 1032H Kit, check the tip of the ferrule. No excess epoxy should surround the fiber.

Note: If excess epoxy is found, continue to use Type G polishing paper (green) to remove the excess epoxy. Also, be sure there is no epoxy on the beveled edge of the connector ferrule. Step 2 concludes the polishing procedure for multimode fibers. Step 3 is to be performed for singlemode fibers



Step 3. Singlemode — Final Polish

- a. Remove the Type G paper and place a sheet of Type M paper (white) over the four spacers (clear), on the rubber pad.
Note: Step 3 is critical for excellent return loss.
- b. Dampen the sheet with distilled water (do not flood). Remove the connector from the polishing tool and use the tool to spread the water over the paper using a few strokes.
- c. Place the connector back into the polishing tool and buff polish the connector using 10 figure-8 strokes, approximately 2 inches high and 1 inch wide, using moderate pressure.
- d. Clean fiber end with a wipe dampened with water, then with a second wipe dampened with alcohol.

Table A. Polishing Overview (Epoxy)

Step	Polishing Materials	No. of Figure-8 Strokes	Notes
1 (SM & MM)	Type G (green)	As Required	Air polish to remove fiber stub.
2 (SM & MM)	Type G (green) placed over four spacers (clear) over 5" dia. Rubber Pad (300 472 644)	45, then as required	Dry polish to remove epoxy.
3 (SM Only)	Type M paper (white) placed over four spacers (clear) over 5" dia. Rubber Pad (300 472 644)	10	Wet polish. Wet paper with distilled water.
Repair polish, only if needed	Type F (yellow) placed over four spacers (clear) over 5" dia. Rubber Pad (300 472 644)	5 strokes, then as required to remove flaw (10 strokes max.)	Dry polish. For singlemode fibers, after flaw is removed, repeat Step 3

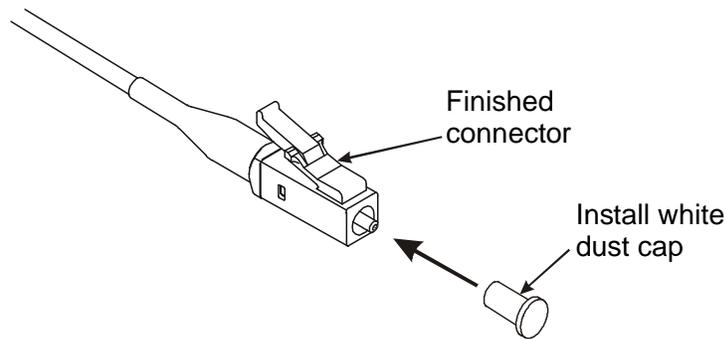
3.4.8 Repair Polishing (Only If Needed)

1. Place a sheet of Type F paper (yellow) over four spacers (clear) placed over the Universal Polishing Pad (300 472 644).
2. Using firm pressure, polish the connector 5 strokes or until the flaw has been removed; however, do not exceed 10 strokes to avoid over polishing the connector. This concludes the repair procedure for multimode connectors. Repeat Step 3 in Section 3.4.7 for singlemode connectors.

Note: Type F paper (5 sheets) is available as comcode 108601469.

3.4.9 Final Assembly

Once the polishing is finished and the end finish is acceptable, cover the end of the connector with a white dust cap.



4.0 Assembly Instructions for EZ Method

4.1 Fiber Preparation

1. Remove cable sheath and outer jacket.

Caution: Be careful not to cut into fibers while removing cable sheath and outer jacket.

Note 1: For OFS cable, use sheath removal tool R-4366.

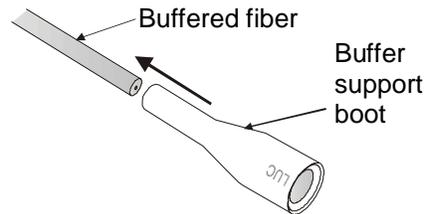
Note 2: Be certain to expose enough buffered fiber to:

- Allow access to the curing oven and other connector preparation functions
- Prevent stress on fibers during connector preparation
- Provide adequate fiber length for placement in associated equipment cabinet.

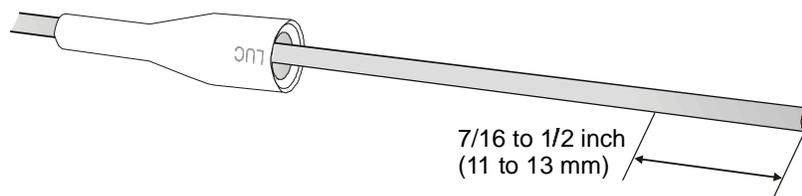
Typical working length for buffered fibers is 24 to 36 inches (0.6 to 0.9 meters).

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Instruction Sheet

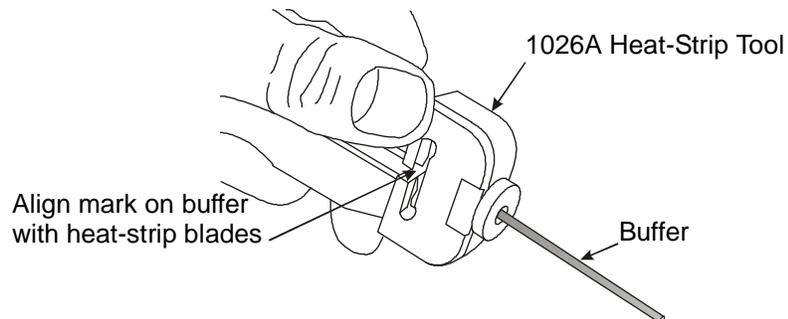
2. Install buffer support boot by slipping the small end of boot onto the buffered fiber.



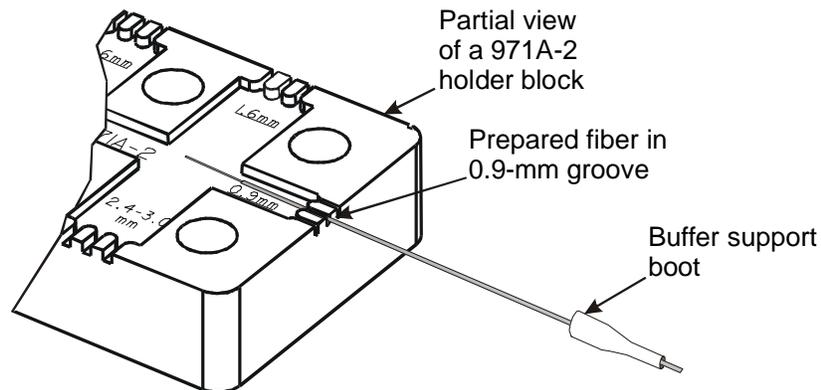
3. Measure and mark the buffered fiber 7/16 to 1/2 inch (11 to 13 mm) from the end by using the scale or template provided in the tool kit.



4. Locate 1026A Heat-Strip Tool (105 514 764) provided in the Tool Kit.
Note: Refer to 1026A Heat-Strip Tool operating instructions for setup.
5. Strip 7/16 to 1/2 inch (11 to 13 mm) of the buffered fiber.



6. Clean stripped fiber by saturating a wipe with isopropyl alcohol (>91% 2-propanol + water) and wiping the fiber from the edge of the buffer toward the end of the fiber.
Note: If residue remains on the fiber, use a clean wipe saturated with isopropyl alcohol to wipe the fiber again.
7. Place prepared buffer into the grooves of the 971A-2 holder block to avoid breaking or contamination of the fiber (holder blocks are provided in the D-182959 Upgrade Kit).



4.2 Prepare Adhesive

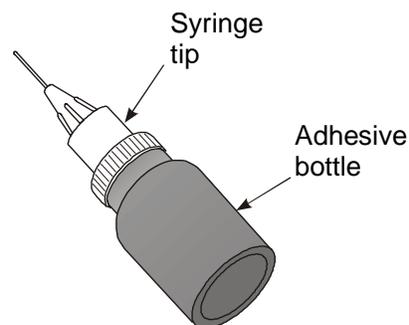
Caution: Avoid contact of adhesive with skin.

Note: Refer to **Table B** for recommended adhesive temperatures.

Table B. Recommended Usage Temperatures for Adhesive

Condition	Temperature
Storage	-5°C to 30°C (23°F to 86°F)
Installation	0°C to 38°C (32°F to 100°F)
Operating	-40°C to 75°C (-40°F to 167°F)

1. Shake the bottle of adhesive vigorously.
2. Remove the cap from the bottle.
Note: If the bottle has not been opened, use a straight pin to make a hole in the tip of nozzle.
3. Twist a syringe tip onto the nozzle of the bottle making sure that it fits snugly.



4.3 Prepare Primer

Caution: Avoid contact of primer with skin.

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Instruction Sheet

1. Shake the bottle of primer vigorously.
2. Remove the cap from the bottle.
Note: If the bottle has not been opened, use a straight pin to make a hole in the tip of nozzle.
3. Twist a syringe tip onto the nozzle of the bottle making sure it fits snugly.

4.4 Connector Installation

Connectors are provided in packages that must be ordered by product codes (see Section 9 for **LC** Connector Product Codes). Each connector is fitted with a white dust cap to protect the connector tip from damage and contamination. During the connector installation process a holder with extension (provided in the D-182905, D-182959, and 1032H Kits) is used to protect the fiber protruding from the connector tip and to aid in the handling of the small connectors. The slot in the extension holds the buffer in the correct position until the adhesive sets.

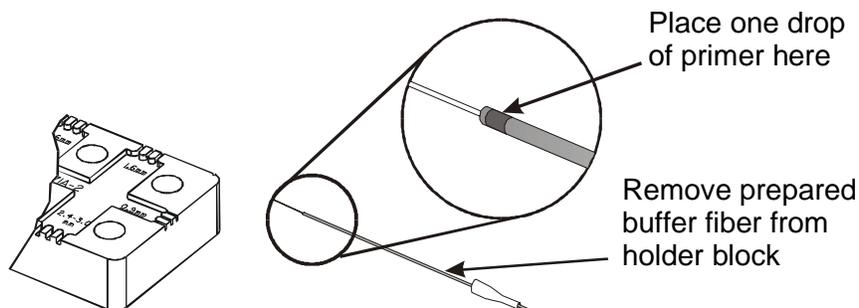
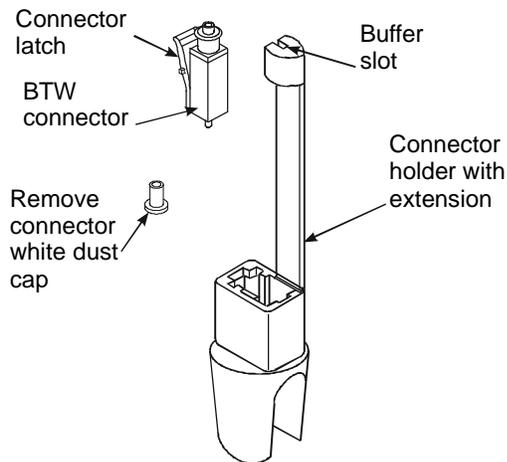
4.4.1 Prepare the Connector

1. Locate connector and connector holder with extension (107 852 493).
2. Remove the white dust cap from tip of connector.

4.4.2 Apply Primer to Buffer

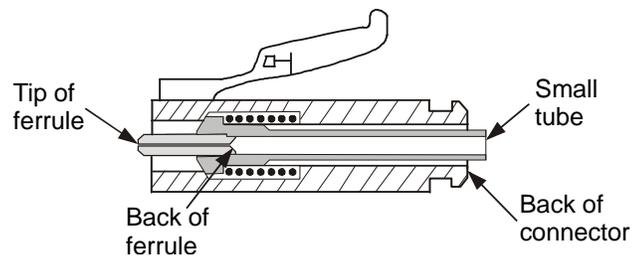
Caution 1: DO NOT get primer on the bare fiber.

1. Remove the prepared buffer fiber from the holder block.
2. Carefully place one drop of primer onto buffer just back from where the buffer was stripped.
3. Replace prepared buffer fiber in holder block or place on a texwipe.



4.4.3 Apply Adhesive to Connector

1. Place a texwipe on the work table.
2. Place one drop of primer on the texwipe.
3. Wipe the connector ferrule tip through the drop of primer on the texwipe one time.
4. Locate a connector holder with extension (107 852 493).
5. Snap connector into the holder.
6. Locate the small tube at the back of the connector.
7. Carefully insert syringe tip (with attached adhesive bottle) into the small tube until the tip bottoms at the back of the ferrule.

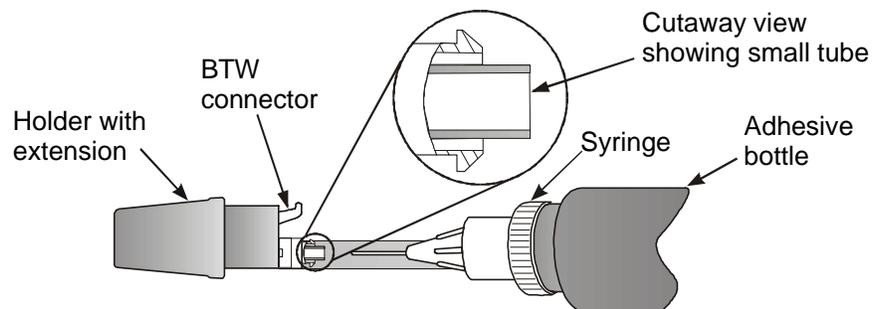


Caution: In the following step, do not apply excess adhesive to connector or tip of ferrule.

8. Inject adhesive into the ferrule by slowly pressing the adhesive bottle until a bead of adhesive just forms at the connector tip.
9. Deposit adhesive at the back of the ferrule by pulling the tip of the syringe back slightly and momentarily injecting a small amount of adhesive at the back of the ferrule.

Caution: When removing syringe from the connector in the following step, do not allow adhesive on syringe tip to contaminate the small tube or the back of the connector.

10. Release pressure on bottle, wait a moment, and then remove syringe tip from the connector.

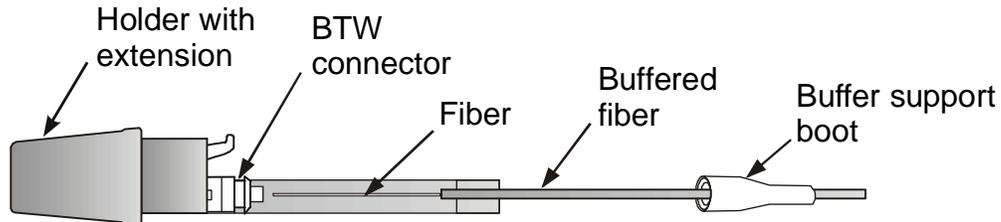


4.4.4 Insert Fiber into Connector

1. Remove prepared fiber from holder block.
2. Immediately insert the exposed fiber into the small tube inside the connector and carefully feel for the opening in the ferrule.

Note: Rotating the fiber or the connector assembly may help to locate the opening.

3. Press the buffer in the slot on the holder.
4. Ensure the buffer support boot is pushed well away from the holder extension slot.
5. Place the connector holder into holder block.



4.4.5 Cure Adhesive and Attach Buffer Support Boot

1. Allow adhesive to cure for 1 minute.
2. Remove the connector from connector holder.

Caution: In the following step, exercise care not to break the exposed fiber.

3. Use the edge of a wipe to clean any uncured adhesive from around the fiber where it protrudes from the ferrule tip.
4. Push the cable support boot onto the connector.

Note: Exercise care not to break the exposed fiber.

4.4.6 Score the Fiber

1. Obtain the 975A cleaving tool from the 1032B5, 1032B6, or 1032H Tool Kit.

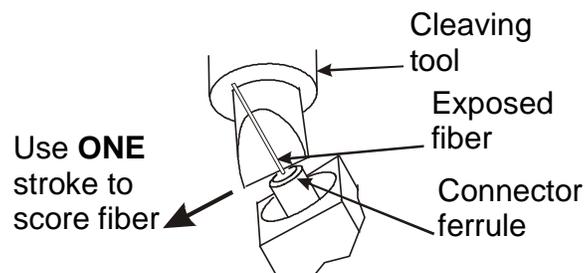
Note: In the following step, score the fiber as close to the ferrule as possible, but be careful not to break the fiber.

2. Place the cleaving tool against the ferrule and exposed fiber.
3. Using one stroke of the cleaving tool, gently score the exposed fiber.
4. Remove the exposed fiber by gently pulling straight away from the connector.

Note: If the fiber did not readily pull off, score the fiber again on opposite side and gently pull the fiber.

5. Dispose of the fiber scraps in a safe manner.

Note: The adhesive surface on a piece of tape is a convenient place to hold fiber pieces until disposal.



4.4.7 Polish Fiber End—Multimode and Singlemode (EZ Adhesive)

Caution: Contaminants on polishing materials can cause scratches on the end face of the fiber/ferrule. Throughout the entire polishing process, keep work area and all polishing materials clean.

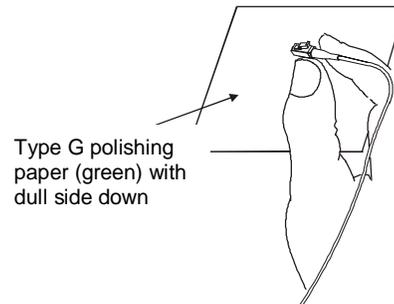
Note 1: Table C provides a quick reference for polishing. The Universal Rubber Polishing Pad (300 472 644) must be used to insure acceptable optical performance and end-face geometry.

Step 1. Remove Fiber Stub

- In one hand, hold one sheet of Type G polishing paper (dull side down).
- In the other hand, hold the connector with the tip pointing upward.

Note: When performing the following step, be careful not to break the fiber stub.

- Air polish using light circular motions about 1 inch in diameter to carefully polish off fiber stub.



Step 2. Remove Excess Adhesive

- Use canned air to clean the back and front of a full piece of Type G polishing paper (green).
- Saturate a wipe with isopropyl alcohol (>91% 2-propanol + water).
- Obtain a 5" diameter Universal Polishing Pad (300 472 644) and a T2001A Polishing Tool.
- Clean the (unmarked) shiny side of the rubber pad and the polishing tool with the saturated wipe.
- Use canned air to blow the rubber pad and polishing tool dry.
- Insert the **LC** connector into the T2001A polishing tool.
- Stack four, 3-mil mylar spacers (clear) on top of the rubber pad.
- Place the sheet of Type G polishing paper (green), dull side up, on the spacers.
- Gently place the polishing tool and connector onto the polishing paper.

Note: In the following step, you should **not** feel any drag between the fiber and the paper. (If you do, repeat Step 1) Start with light pressure and use figure-8 strokes that are approximately 2 inches high and 1 inch wide. The figure-8 strokes must be well rounded to ensure complete removal of the adhesive from the end of the ferrule.

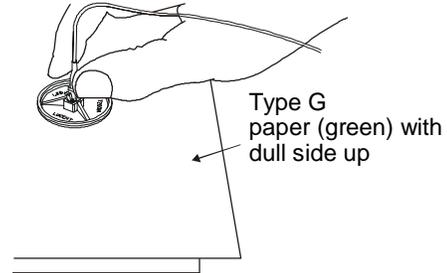
- Using moderate pressure, polish the connector for 30 figure-8 strokes. Move to an unused area of the paper for each connector being polished. Approximately six connectors may be polished on each sheet of Type G paper.

Danger: Optical fibers may emit radiation if the far end is connected with a working Laser or light-emitting diode (LED). Never view the fiber end of a cable or plug with the naked eye or any optical instrument until absolute verification is established that the fiber is disconnected from any laser or LED source.

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- j. Using a 7X magnifier or **LC** microscope supplied in the D-182905, D-182959, or 1032H Kit, check the tip of the ferrule. No excess adhesive should surround the fiber.

Note: If excess adhesive is found, continue to use Type G polishing paper (green) to remove the excess adhesive. Also, be sure there is no adhesive on the beveled edge of the ferrule. Step 2 concludes the polishing procedure for multimode fibers. Step 3 is to be performed for singlemode fibers



Step 3. Singlemode — Final Polish

- a. Remove the Type G paper and place a sheet of Type M paper (white) over the four spacers (clear), on the rubber pad.
- Note:** Step 3 is critical for excellent return loss.
- b. Dampen the sheet with distilled water (do not flood). Remove the connector from the polishing tool and use the tool to spread the water over the paper using a few strokes.
- c. Place the connector back into the polishing tool and buff polish using 10 figure-8 strokes, approximately 2 inches high and 1 inch wide, using moderate pressure.
- d. Clean fiber end with a wipe dampened with water, then with a second wipe dampened with alcohol.

Table C. Polishing Overview (EZ Adhesive)

Step	Polishing Materials	No. of Figure-8 Strokes	Notes
1 (SM & MM)	Type G (green)	As Required	Air polish to remove fiber stub.
2 (SM & MM)	Type G (green) placed over four spacers (clear) over 5" dia. Rubber Pad (300 472 644)	30, then as required	Dry polish to remove adhesive.
3 (SM Only)	Type M paper (white) placed over four spacers (clear) over 5" dia. Rubber Pad (300 472 644)	10	Wet polish. Wet paper with distilled water.
Repair polish, only if needed	Type F (yellow) placed over four spacers (clear) over 5" dia. Rubber Pad (300 472 644)	5 strokes, then as required to remove flaw (10 strokes max.)	Dry polish. For singlemode fibers, after flaw is removed, repeat Step 3

4.4.8 Repair Polishing (Only If Needed)

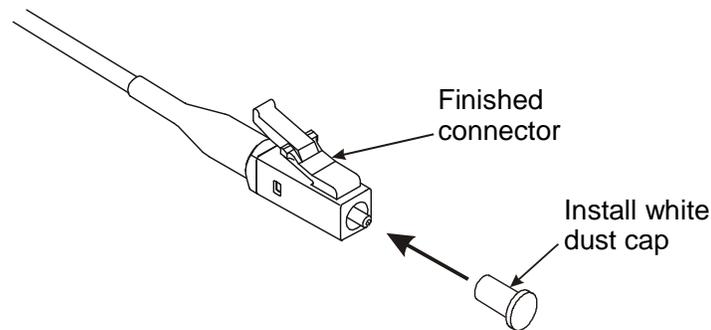
1. Place a sheet of Type F paper over four spacers (clear) placed over the Universal Rubber Polishing Pad (300 472 644).
2. Using firm pressure, polish the connector 5 strokes or until the flaw has been removed; however, do not exceed 10 strokes to avoid over polishing the connector. This concludes

the repair procedure for multimode connectors. Repeat Step 3 in Section 4.4.7 for singlemode connectors.

Note: Type F paper (5 sheets) is available as comcode 108601469

4.4.9 Final Assembly

Once the polishing is finished and the end finish is acceptable, cover the end of the connector with a white dust cap.



5.0 Assembly on Nonbuffered Fiber

Note: Use the appropriate procedures for preparing outside plant (OSP) cable. See **636-299-110** for more information on grounding, blocking, and buffering fiber optic cable.

1. Follow the instructions in the D-181755 Kit for direct termination.
 - Note 1:** To prevent cutting the fiber by mistake, do not attempt to remove the fiber coating until a buffer tube has been placed over the bare fiber.
 - Note 2:** The fiber should extend 5/8 inch (15.9 mm) beyond the end of the buffer tube.
2. Clean blade area on mechanical stripper and adjust the stop to remove 5/8 inch (15.9 mm) of coating from the fiber.
3. Insert the fiber through the guide tube until the fiber butts against the stop.
4. Close the tool handles and gently pull the fiber from the tool to strip the coating.
5. Complete the connector assembly on nonbuffered fiber by using Section 3 (Epoxy Method) or Section 4 (EZ Method).

6.0 Fiber Inspection and Ferrule Endface Geometry

6.1 Fiber Inspection

Danger: Optical fibers may emit radiation if the far end is connected with a working laser or light-emitting diode (LED). Never view the fiber end of a cable or plug with the naked eye or any optical instrument until absolute verification is established that the fiber is disconnected from any laser or LED source.

Note: The fiber endface should be clean and contaminant free.

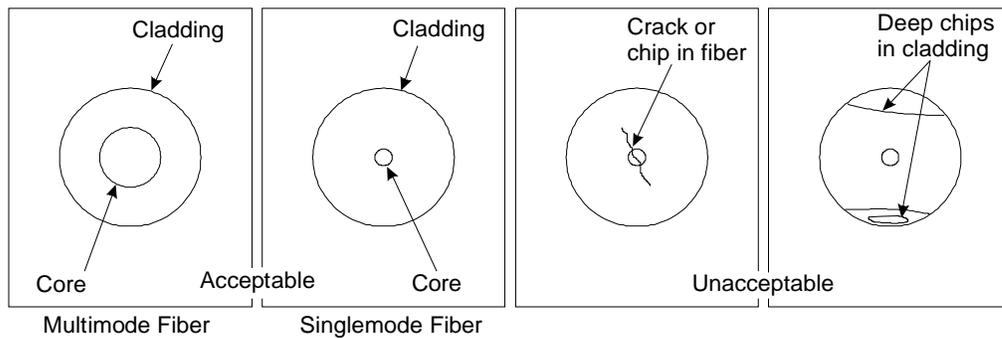
1. Dampen a wipe with isopropyl alcohol (>91% 2-propanol + water).
2. Clean the end of the ferrule with the dampened wipe, followed by a dry wipe.

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3. Blow the ferrule dry with canned air.
4. Locate the **LC** microscope supplied in the D-182905, D-182959, or 1032H Kit.
5. Insert the ferrule end of the connector into the microscope adapter (center hole).

Danger: A high-intensity light may be used at the other end of the fiber to illuminate fiber core.

6. Open the microscope barrels to illuminate the connector tip and use the side wheel to focus.



6.2 Ferrule Endface Geometry

The dimensions in Table D are for reference only and apply after all polishing procedures have been completed.

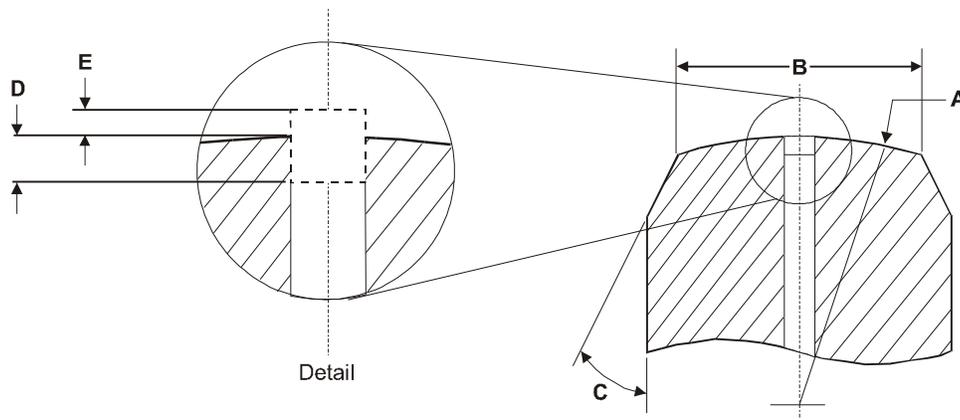
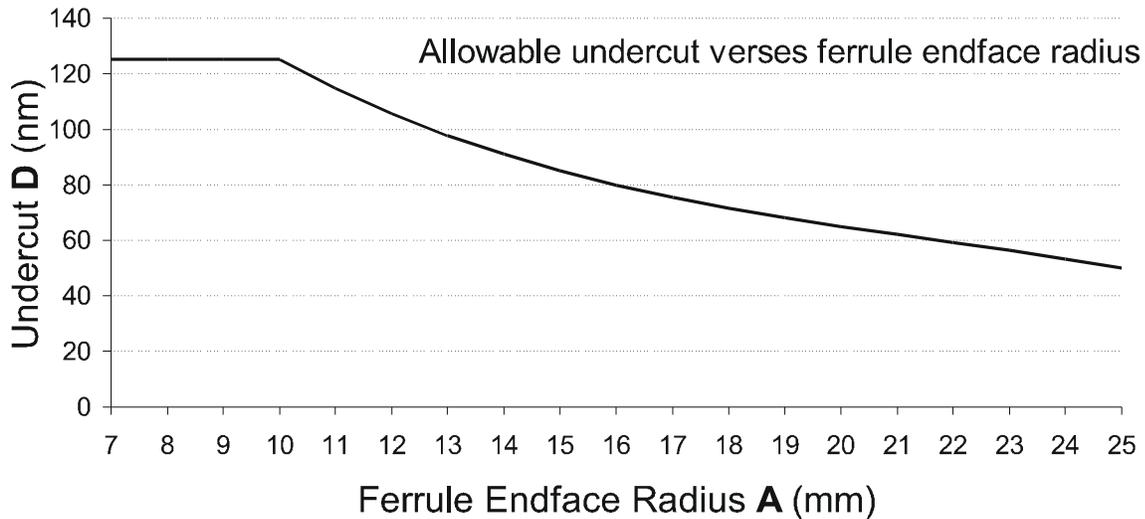


Table D. Recommended Singlemode Ferrule End Geometry (LC)

Item	Reference	Minimum	Nominal	Maximum	Dimensions
Radius	A	7	12	25	mm
Pedestal	B	0.65	---	1.0	mm
Dome Ecc	—	0	—	0.050	mm

Chamfer	C	25	30	35	degrees
Undercut	D	—	—	See Graph A	nm
Protrusion	E	—	—	50	nm

Graph A. Recommended Fiber Undercut (Reference D)



7.0 Cleaning Instructions

7.1 LC Connector

1. Dampen a wipe with isopropyl alcohol (>91% 2-propanol + water).
2. Clean the end of the ferrule with the dampened wipe.
3. Blow the ferrule dry with canned air.

Caution: Signal performance **will** be affected if the connector tip is not thoroughly cleaned.

7.2 LC Adapter

1. If access to the adapter is only available from one side, use canned air to blow inside of adapter.
2. If access is available from both sides of the adapter, clean the adapter with an **LC** adapter brush moistened with alcohol followed by canned air. The brush can be cleaned with alcohol and canned air.

Caution 1: Do not try to clean the inner adapter sleeve with a standard pipe cleaner. The inner diameter of the sleeve is too small.

Caution 2: Do not try to clean the adapter with an **LC** adapter brush if a connector is mounted in the adapter.

8.0 Tuning Instructions (Singlemode Simplex Only)

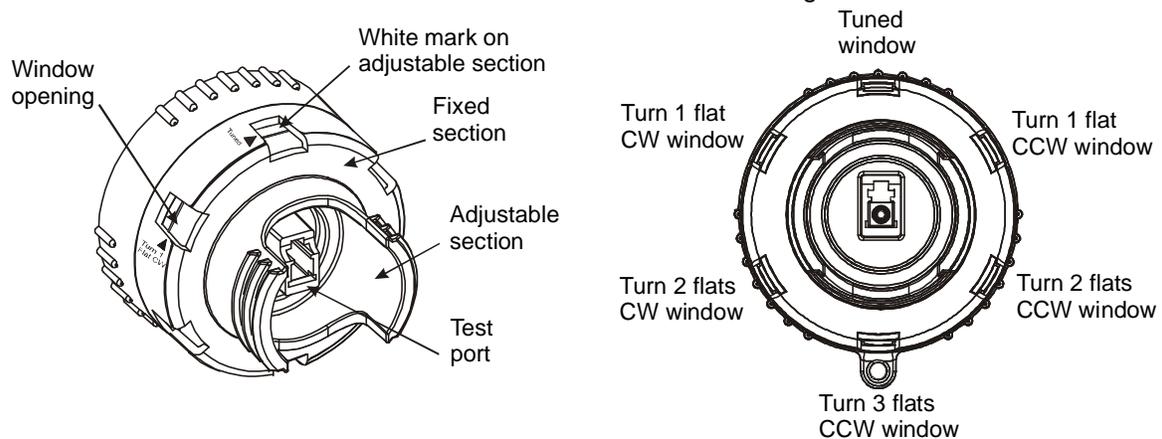
8.1 General Information

The D-183017 **LC** Tuning Kit* (108 476 094) is comprised of the following:

- Tuning Index Tool
- Tuning Wrench
- Singlemode Offset Tuning Jumper
- Hard case with foam insert
- Instruction card.

8.1.1 Tuning Index Tool

The Tuning Index Tool is used to determine which of six ferrule positions yields the lowest insertion loss in both jumper and Behind-The-Wall (BTW) connectors. The tool is made of high impact plastic with one fixed section and one adjustable section. These two sections are held together by an interior coil spring that maintains an inward tension on the two sections to keep them in a stationary position. Both sections are equipped with a test port that is used to install the Singlemode Offset Tuning Jumper and the jumper or BTW connector to be tuned. There are six window openings located around the rim of the fixed section. These window openings are 60 degrees apart and are used to view a white reference mark on the inner rim of the adjustable section. Stamping beside each window provides the number of turns needed to tune the connector ferrule of the jumper or BTW connector being tuned. The “flat” or “flats” reference in the window stamping indicates one of the six flat positions in the hexagon handle of the Tuning Wrench that is provided in the Tuning Kit. To move the Tuning Index Tool from its stationary position, pull the adjustable section away from the fixed section and rotate clockwise or counterclockwise in increments of 60 degrees.



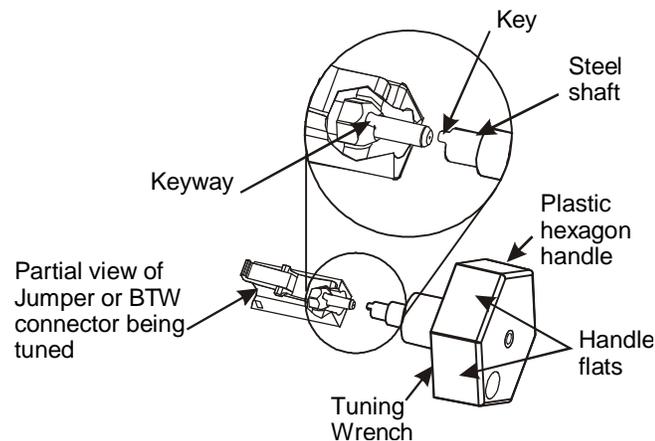
8.1.2 Tuning Wrench

The Tuning Wrench is used to rotate the barrel/ferrule of the connector being tuned to a position that will yield the lowest insertion loss. The Tuning Wrench is comprised of a steel shaft molded into a plastic hexagon handle. Two keys are milled into the end of the steel shaft and these keys are used to engage the keyways located in the barrel/ferrule of the connector being tuned. To rotate the barrel/ferrule, you must first place the Tuning Wrench keys in the barrel/ferrule keyways, second press in on the Tuning Wrench until it bottoms out

on the face of the connector housing, and third turn the wrench to the desired flat. The number of flats and the direction to be turned is obtained from the printing on the rim of the fixed section of the Tuning Index Tool [for example, Turn 2 flats CW (clockwise) or Turn 2 flats CCW (counterclockwise)].

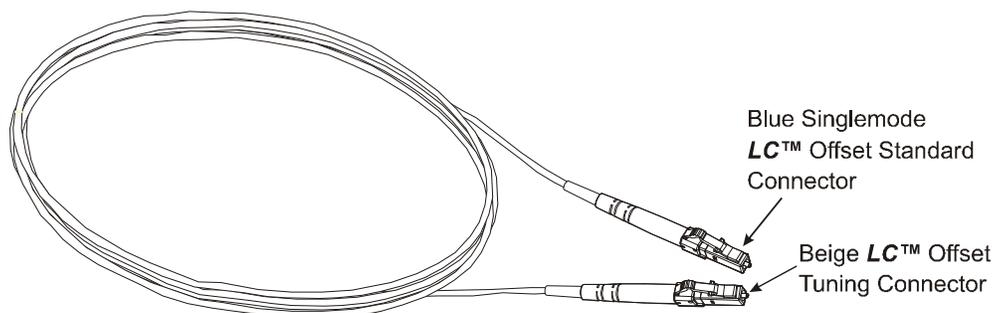
Caution 1: Damage will occur to the Tuning Wrench or the connector barrel/ferrule if the Tuning Wrench is rotated without the wrench being bottomed against the connector housing.

Caution 2: Damage may occur to a jumper connector if the barrel/ferrule is rotated more than 180 degrees (three flats) in either the clockwise or counterclockwise direction.



8.1.3 Singlemode Offset Tuning Jumper

The Singlemode Offset Tuning Jumper is used to make the connection between the insertion loss test set and the test port in the adjustable section of the Tuning Index Tool. The jumper consists of one beige **LC** tuning connector and one blue standard singlemode connector mounted on approximately 10 feet (3 m) of yellow cordage. The beige connector with the black trigger is the offset tuning end of the jumper.



8.1.4 Hard case with foam insert

The hard case provides a safe and convenient way to transport the **LC** tuning kit. It is made of high impact plastic with a foam insert.

8.1.5 Instruction card

The instruction card provides an abbreviated procedure for tuning **LC** singlemode connectors.

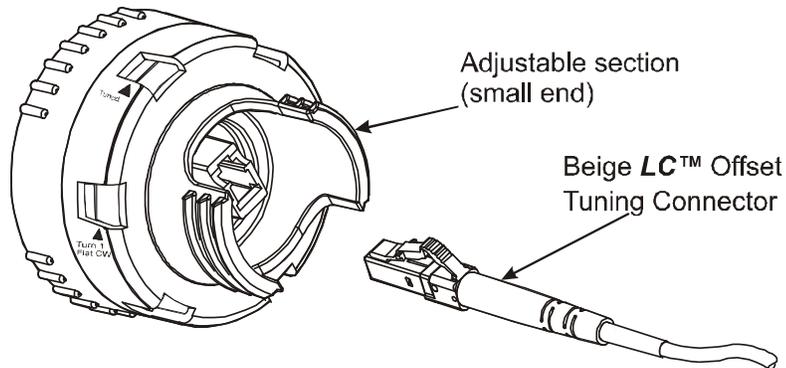
8.2 Safety Information

- Safety glasses should be worn at all times while working with **LC** connectors.
- Optical fibers may emit radiation if the far end is connected with a working laser or light-emitting diode (LED). Never view the fiber end of a cable or plug with an optical instrument until absolute verification is established that the fiber is disconnected from any laser or LED source.

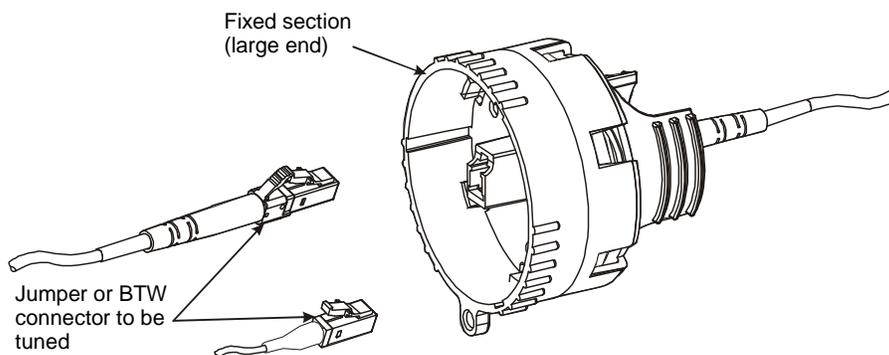
8.3 Tuning Procedure

Note: Before starting the tuning measurements, make a copy of the tuning sheet on the following page.

1. Install the beige **LC** Offset Tuning Connector into test port of the adjustable section (small end) of Tuning Index Tool.



2. Install jumper or BTW connector to be tuned into the test port of the fixed section (large end) of Tuning Index Tool.



3. Make insertion loss measurement and record in appropriate column on copied tuning sheet.

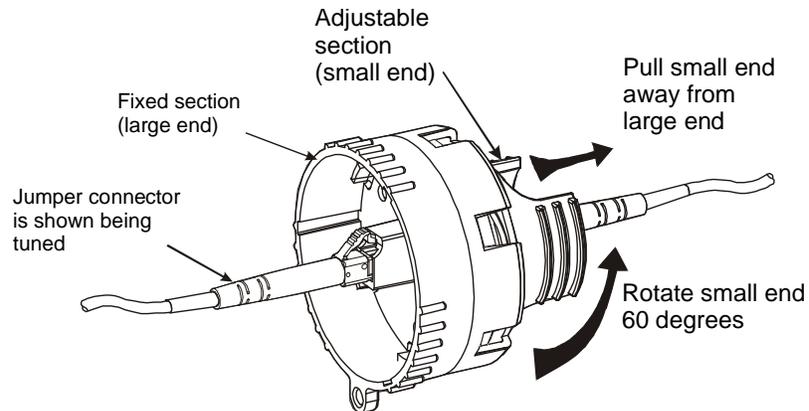
Note: It is not necessary to remove the tuning jumper or the jumper/BTW connector from the Tuning Index Tool until Step 10.

Jumper No.	Tuning Index Tool Position					
	Tuned	Turn 1 Flat CCW	Turn 2 Flats CCW	Turn 3 Flats CCW	Turn 2 Flats CW	Turn 1 Flat CW
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

4. Grasp the small end of the Tuning Index Tool with one hand and large end of the Tuning Index Tool with the other hand.
5. Pull small end away from large end and rotate small end 60 degrees in clockwise direction.

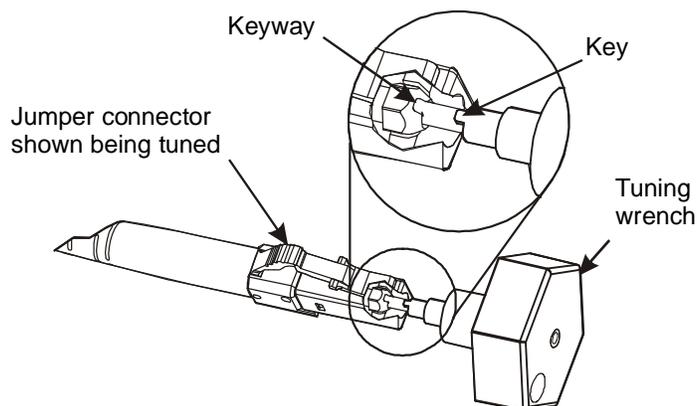
Note 1: It takes 3-4 pounds (0.9-1.8 kilograms) of force to separate the two halves of the Tuning Index Tool properly.

Note 2: White reference mark is now showing in a different window.



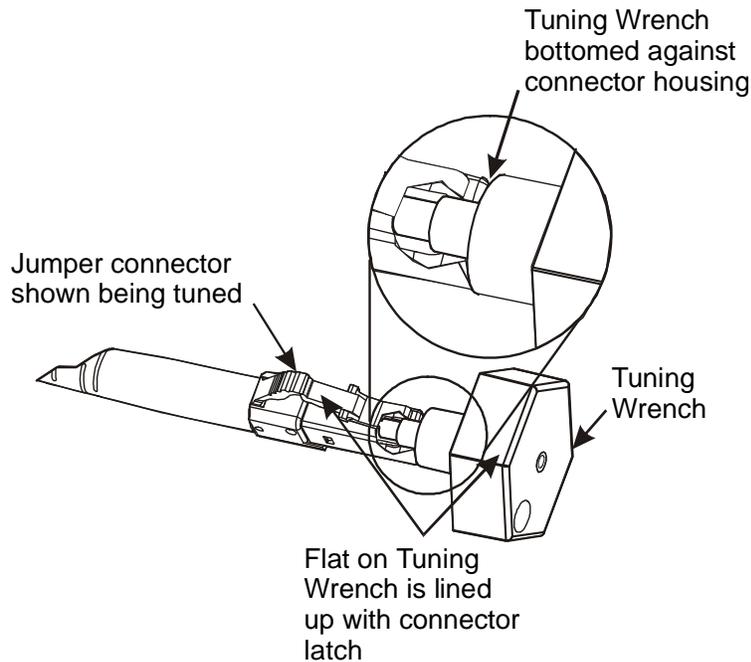
6. Record insertion loss measurement for each position or window in appropriate column on copied tuning sheet.
7. Repeat Steps 4 through 6 for the remaining four Tuning Index Tool window positions.
8. Refer to tuning sheet and determine which window position yielded the lowest insertion loss.
9. Note the number of turns and direction stamped next to the window position that yielded the lowest insertion loss (for example, **Turn 2 flats CW**).
10. Remove jumper or BTW connector being tuned from the Tuning Index Tool.
11. Place Tuning Wrench over jumper or BTW connector ferrule and engage the wrench keys into the connector keyways.

Note: The wrench keys are engaged in the connector keyways by applying very light inward pressure on the wrench and rotating until you feel the keys engage.



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12. With the wrench keys engaged in the connector keyways, push the wrench into the connector until the wrench bottoms against the connector housing.
13. Note that one of the flat portions of the Tuning Wrench is aligned with the connector latch.



Caution 1: Damage will occur to the Tuning Wrench or the connector barrel/ferrule if the

Tuning Wrench is rotated without the wrench being bottomed against the connector housing.

Caution 2: Damage may occur to a jumper connector being tuned if the barrel/ferrule is rotated more than 180 degrees (three flats) in either the clockwise or counterclockwise direction.

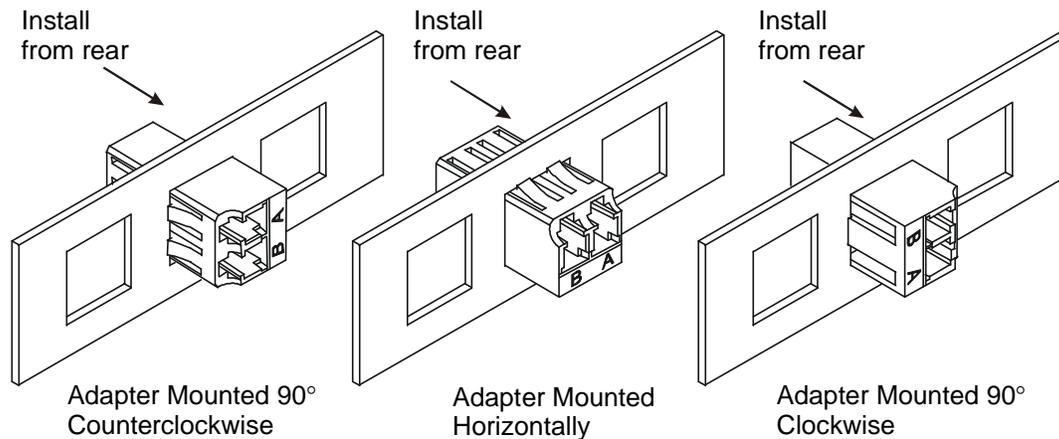
14. Hold connector stable and rotate the wrench the number of hex flats and in the direction determined in Step 9.
15. Remove the Tuning Wrench from connector.
Note: The jumper is now tuned per the measurements taken in Steps 3 through 7.
16. For a jumper, repeat this procedure for the connector on the other end of the jumper cable.
Note: The following steps are optional.
17. Realign the white reference mark on adjustable section of Tuning Index Tool in the **Tuned** window.
18. Repeat Steps 3 through 16 to ensure that the connector has been set to the position that provides the lowest insertion loss.

9.0 Mount Adapter

Caution: The adapter should never be installed from the front of a panel or outlet.

1. Locate the panel or outlet where the adapter is to be mounted.
2. Install the adapter **from the rear** of the panel or outlet.

Note: The channel markings (B A) are normally oriented horizontally. However, it is acceptable to orient the adapter 90° clockwise or 90° counterclockwise. This rotated orientation will allow finger access to the connectors for insertion and removal in dense applications.



10.0 Ordering Information for Epoxy Kits

1032B5 Tool Kit (106 705 213) for ST and SC Connectors

Kit Quantity	Description	Replacement	
		Comcode	Quantity
1	1510B Crimping Tool	106 918 998	1 Tool
1	300B Microscope	104 412 077	1 Microscope
1	1510A1 Polishing Tool	108 237 710	1 Tool
12	600B Connector Holders	107 118 549	12 Holders
1	700A Stripping Tool	104 278 478	1 Tool
1	1026A Heat Strip Tool	105 514 764	1 Tool
2	971A-1 Holder Blocks	104 229 398	1 Block
1	975A Cleaving Tool	103 808 770	1 Tool
1	Scissors	105 257 364	2 Pairs
1	6-inch Scale	105 257 356	5 Scales
1	Alcohol Bottle	105 257 463	2 Bottles
1	Glass Plate	105 075 618	2 Plates
1	Stripping Tool (R4366)	105 114 581	1 Tool
1	Instruction Manual	105 536 718	1 Manual
15	Micro Clips (1043A)	106 228 455	15 Clips
1	200A Curing Oven	104 055 058	1 Oven
12	SC Curing Fixtures	106 919 004	12 Fixtures
2	Modified SM/MM SC Grips	107 480 022	10 Grips

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1	Rubber Polishing Pad	106 978 992	10 Pads
1	1039B Cut-Length Template	107 149 783	5 Templates
1	ST [®] /SC Connectors Assembly Instructions - Epoxy and EZ Methods	See Note	1 Manual

Note: Obtain **ST**[®]/SC Connectors manual (640-252-044) from field support (1-888-342-3743).

1032B6 Tool Kit (106 919 012)

The 1032B6 Tool Kit contains the same tools and materials as the 1032B5 Tool Kit except the 200A Curing Oven is replaced by the 200A1 Curing Oven for use internationally. The 200A1 oven operates on 220 V 50 Hz. Replacement comcode for the 200A1 oven is 105 537 690 and is replaced in quantities of one each.

D-182905 Upgrade Kit for LC™ Behind-The-Wall Connectors (107 852 139)

Kit Quantity	Description	Replacement	
		Comcode	Quantity
1	T2001A Polishing Tool	108 209 651	1 Tool
1	LC Microscope	107 863 946	1 Microscope
12	LC Connector Holders	107 852 493	12 Holders
1	LC Polishing Pad/Template	NA	1 Pad
1	Assembly Instructions for LC Fiber Optic Behind-The-Wall (BTW) Connectors – Epoxy and EZ Methods - Singlemode and Multimode Versions	See Note	1 Manual

Note: Obtain BTW Connectors manual (640-252-053) from field support (1-888-342-3743).

D-182959 Upgrade Kit for LC™ Jumper and BTW Connectors (108 262 569)

Kit Quantity	Description	Replacement	
		Comcode	Quantity
1	T2001A Polishing Tool	108 209 651	1 Tool
1	LC Microscope	107 863 946	1 Microscope
12	LC BTW Connector Holders	107 852 493	12 Holders
12	LC Jumper Connector Holders	108 262 585	12 Holders
2	971A-2 Holder Blocks	108 266 123	1 Block
1	LC Cut-Length Template	108 262 536	5 Pads
1	1510LC Crimping Tool	108 262 551	1 Tool
1	LC Stripper Guide Tube for 1026A	108 262 577	1 Insert
1	Ultra-Fine-Point Permanent Pen	NA	1 Pen
6	Heat Tube Assemblies	108 261 835	6 Assemblies
6	LC Adapter Brushes	108 263 898	6 Brushes
1	C1001B-2 Multimode LC Adapter	108 072 497	1 Adapter
1	Assembly Instructions for LC Fiber Optic Jumper Connectors	See Note 1	1 Manual

1	Assembly Instructions for LC Fiber Optic Behind-The-Wall (BTW) Connectors – Epoxy and EZ Methods - Singlemode and Multimode Versions	See Note 2	1 Manual
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Note 1: Obtain Jumper Connectors manual (640-252-054) from field support (1-888-342-3743).

Note 2: Obtain BTW Connectors manual (640-252-053) from field support (1-888-342-3743).

Universal Polishing Kit (300 472 651) -- Contains enough supplies to field polish 100 SM or MM connectors.

Kit Quantity	Description	
1 Package	Wipes	
15 Syringes	Syringes	
25 Tips	Dispensing Tips	
20 Sheets	Type G Polishing Paper (green)	6 by 6 inches (152 by 152 mm)
10 Sheets	Type M Polishing Paper (white)	5" dia. disc (127 mm dia.)
5 Sheets	3-mil Mylar Spacer (clear)	6 by 6 inches (152 by 152 mm)

Universal Polishing Kit for Multimode Only (300 486 552) -- Contains enough supplies to field polish 100 MM connectors.

Kit Quantity	Description	
1 Package	Wipes	
15 Syringes	Syringes	
25 Tips	Dispensing Tips	
20 Sheets	Type G Polishing Paper (green)	6 by 6 inches (152 by 152 mm)
5 Sheets	3-mil Mylar Spacer (clear)	6 by 6 inches (152 by 152 mm)

Universal Rubber Polishing Pad (300 472 644) -- one 5" diameter rubber polishing pad for polishing pre-radiused LC, SC, and ST connectors

Type G Paper (300 472 669) -- Contains 20, 6"x 6" sheets of (green) Type G Polishing Paper

Type M Paper (300 472 677) -- Contains 10, 5" diameter sheets of (white) Type M Polishing Paper

Epoxy Kit (105 489 355) — Contains 15 bi-packs of Hysol 0151 heat curable epoxy.

Obtain Locally

- Distilled water.
- Isopropyl alcohol (>91% 2-propanol + water).
- Canned air (nonozone-depleting).
- Alternate epoxies: Locally obtained epoxies with shorter shelf life and higher T_g for outside plant use are acceptable alternates, such as:

EPO-TEK* 353ND adhesive
 Manufacturer:
 Epoxy Technology, Inc.
 14 Fortune Drive
 Billerica, MA 01821
 Phone: 1-800-227-2201

Tra-Bond** F123MV adhesive
 Manufacturer:
 Tra-Con, Incorporated
 45 Wiggins Avenue
 Bedford, MA 01730
 Phone: 800-TRA CON1

11.0 Ordering Information for EZ Kits

1032H Tool Kit (107 149 320) for BTW LC, SC, and ST

Kit Quantity	Description	Replacement	
		Comcode	Quantity
1	ST/SC Microscope Adapter	106 979 008	1 Adapter
2	1510A1 Polishing Tool	108 237 710	1 Tool
12	600B Connector Holders	107 118 549	12 Holders
1	5B5 Strip Tool	105 257 414	1 Tool
1	975A Cleaving Tool	103 808 770	1 Tool
1	Scissors	105 257 364	2 Pairs
1	Glass Plate	105 075 618	2 Plates
1	Stripping Tool (R-4366)	105 114 581	1 Tool
15	Micro Clips (1043A)	106 228 455	15 Clips
12	SC Curing Fixtures	106 919 004	12 Fixtures
1	Rubber Polishing Pad (Square)	106 978 992	1 Pad
1	1039B Template (SC/ST)	107 149 783	5 Templates
1	Magnifier	NA	
12	LC Connector Holder	107 852 493	12 Holders
2	LC Polishing Tool (T2001A)	108 209 651	1 Tool
1	LC Template	108 262 536	1 Template
1	LC Microscope	107 863 946	1 Microscope

* EPO-TEK is a registered trademark of Epoxy Technology Incorporated.

** Tra-Bond is a registered trademark of Tra-Con, Incorporated.

1032F1 Tool Kit (107 149 320) for SC and ST Connectors

Kit Quantity	Description	Replacement	
		Comcode	Quantity
1	1510B Crimping Tool	106 918 998	1 Tool
1	300B Microscope	104 412 077	1 Microscope
1	1510A1 Polishing Tool	108 237 710	1 Tool
12	600B Connector Holders	107 118 549	12 Holders
1	700A Stripping Tool	104 278 478	1 Tool
1	1026A Heat Strip Tool	105 514 764	1 Tool
2	971A-1 Holder Blocks	104 229 398	1 Block
1	975A Cleaving Tool	103 808 770	1 Tool
1	Scissors	105 257 364	2 Pairs
1	6-inch Scale	105 257 356	5 Scales
1	Alcohol Bottle	105 257 463	2 Bottles
1	Glass Plate	105 075 618	2 Plates
1	Stripping Tool (R-4366)	105 114 581	1 Tool
1	Instruction Manual	105 536 718	1 Manual
15	Micro Clips (1043A)	106 228 455	15 Clips
12	SC Curing Fixtures	106 919 004	12 Fixtures
2	Modified SM/MM SC Grips	107 480 022	10 Grips
1	Rubber Polishing Pad	106 978 992	10 Pads
1	1039B Cut-Length Template	107 149 783	5 Templates
1	Eye Loupe	NA	
1	ST [®] /SC Connectors Assembly Instructions - Epoxy and EZ Methods	See Note	1 Manual

Note: Obtain **ST**[®]/SC Connectors manual (640-252-044) from field support (1-888-342-3743).

D-182905 Upgrade Kit for BTW LC™ Connectors (107 852 139)

Kit Quantity	Description	Replacement	
		Comcode	Quantity
1	T2001A Polishing Tool	108 209 651	1 Tool
1	LC Microscope	107 863 946	1 Microscope
12	LC Connector Holders	107 852 493	12 Holders
1	LC Template	NA	1 Pad
1	Assembly Instructions for LC Fiber Optic Behind-The-Wall (BTW) Connectors – Epoxy and EZ Methods - Singlemode and Multimode Versions	See Note	1 Manual

Note: Obtain BTW Connectors manual (640-252-053) from field support (1-888-342-3743).

Universal Rubber Polishing Pad (300 472 644) -- one 5" diameter rubber polishing pad for polishing pre-radiused LC, SC, and ST connectors

640-252-053-UNIV
Instruction Sheet

Universal Polishing Kit (300 472 651) -- Contains enough supplies to field polish 100 SM or MM connectors.

Kit Quantity	Description	
1 Package	Wipes	
15 Syringes	Syringes	
25 Tips	Dispensing Tips	
20 Sheets	Type G Polishing Paper (green)	6 by 6 inches (152 by 152 mm)
10 Sheets	Type M Polishing Paper (white)	5" dia. disc (127 mm dia.)
5 Sheets	3-mil Mylar Spacer (clear)	6 by 6 inches (152 by 152 mm)

Universal Polishing Kit for Multimode Only (300 486 552) -- Contains enough supplies to field polish 100 MM connectors.

Kit Quantity	Description	
1 Package	Wipes	
15 Syringes	Syringes	
25 Tips	Dispensing Tips	
20 Sheets	Type G Polishing Paper (green)	6 by 6 inches (152 by 152 mm)
5 Sheets	3-mil Mylar Spacer (clear)	6 by 6 inches (152 by 152 mm)

Type G Paper (300 472 669) -- Contains 20, 6"x6" sheets of (green) Type G Polishing Paper

Type M Paper (300 472 677) -- Contains 10, 5" diameter sheets of (white) Type M Polishing Paper

EZ Adhesive (106 730 856) – One bottle of anaerobic adhesive.

EZ Primer (106 730 849) – One bottle of primer.

12.0 Miscellaneous Items

D-183017 Tuning Kit (108 476 094)

Qty.	Description	Replacement No.	
		Comcode	Quantity
1	LC™ Singlemode Offset Test Jumper	108 476 110	1
1	LC Tuning Index Tool Assembly	108 476 151	1
1	LC Tuning Wrench	108 476 136	1
1	Instruction card (See Note)	848 339 305	1
1	Hard case with foam insert	NA	NA

Note: Obtain instruction card from field support (1-888-342-3743).

Pre-radiused **LC™** Behind-the-Wall Connector Codes

Product Code	Description	Comcode	Quantity
P1001APR-127.0	Multimode BTW Connector	300 461 688	1
P1001APR-127.0 - 100	Multimode BTW Connector	300 472 354	1 package of 100
P1101APR-126.0	Singlemode BTW Connector	300 461 662	1
P1101APR-126.0 - 100	Singlemode BTW Connector	300 472 370	1 package of 100

Reference (Golden) Singlemode **LC™** Jumper Product Codes

The Reference (Golden) Singlemode **LC** Jumper can be used to measure optical performance using a standard singlemode **LC** adapter. This reference jumper has a yellow connector trigger.

Product Code	Description	Comcode	Quantity
MS1GLC-LC-5	SM Reference Jumper - LC Reference to Standard LC , Length 5 feet	108 513 045	1
MS1GLC-LC-10	SM Reference Jumper - LC Reference to Standard LC , Length 10 feet	108 513 052	1
MS1GLC-LC-15	SM Reference Jumper - LC Reference to Standard LC , Length 15 feet	108 513 060	1
MS1GLC-LC-20	SM Reference Jumper - LC Reference to Standard LC , Length 20 feet	108 513 078	1
MS1GLC-SC-10	SM Reference Jumper - LC Reference to Standard SC, Length 10 feet	108 513 086	1
MS1GLC-FC-10	SM Reference Jumper - LC Reference to Standard FC, Length 10 feet	108 513 094	1
MS1GLC-EP-10	SM Reference Jumper - LC Reference to Standard ST II+, Length 10 feet	108 513 102	1
MS1GLC-SCA-10	SM Reference Jumper - LC Reference to Standard Angled SC, Length 10 feet	108 547 860	1

13.0 Assistance Information

For more information, contact an OFS Sales Representative.

For fiber optic technical assistance, call **1-888-FIBERHELP** (1-888-342-3743).