



## 1. INTRODUCTION

This sheet covers the application of CORELINK Fiber Optic Mechanical Splice 503577-1 Singlemode and 503901-1 Multimode (12-Splice Pack), which provide a low-loss splice between any combination of 250- $\mu$ m coated fiber and 900- $\mu$ m buffered fiber.

**NOTE** Use of CORELINK Splice Workstation S23605-1 is recommended to enhance the reliability and ease of producing low-loss splices.

**NOTE** Measurements are in millimeters (followed by inch equivalents in brackets). Figures and illustrations are for identification only and are not drawn to scale.

Reasons for reissue of this document are provided in Section 3, REVISION SUMMARY.

## 2. ASSEMBLY PROCEDURE

### 2.1. Preparation

- Strip and cleave each fiber, leaving an exposed glass length after cleaving of:
  - 8 to 9 mm [.31 to .35 in.] for 250- $\mu$ m fibers
  - 18 to 19 mm [.71 to .75 in.] for 900- $\mu$ m fibers

**NOTE** To ensure a reliable low-loss splice, use a cleaver that consistently provides a high-quality cleaved fiber end. Fiber ends that have not been squarely and smoothly cleaved may contain loss-producing surface conditions, such as spurs, chips, and jagged edges.

- Dab the ends of the fibers on an isopropyl alcohol-soaked, lint-free wipe to clean the cleaved end surfaces. Keep fibers clean to minimize the transport of foreign matter into the splice.

**DANGER** To avoid personal injury, always wear safety glasses when working with optical fibers.

**DANGER** Be very careful to dispose of fiber ends properly. The fibers create shivers that can easily puncture the skin and cause irritation.

### 2.2. Installation

- Open the package and remove the CORELINK splice.

**NOTE** To prevent contamination, do NOT remove the CORELINK splice until ready for use.

- Remove the spreader keys from the key card supplied with the CORELINK splice. Holding the splice as shown in Figure 1, insert the keys into the key entry ports (the holes closest to the edge of the splice). The key handle tabs should be parallel to the flat side and pointing away from the splice. Insert the keys all the way to their shoulders.

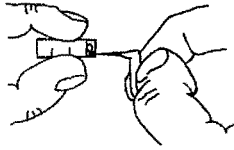


Figure 1

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- Turn both key handle tabs 90° downward. The splice is now open.

- Align each fiber with the entry port nearest the center of each end face. Insert the fiber slowly, making sure it travels smoothly through the channel into the center element. A 250- $\mu$ m fiber's coating will stop at the edge of the aluminum element, whereas a 900- $\mu$ m fiber's buffer will stop at the end of the wide part of the channel. Slide the fibers left or right and visually check that both gaps between the buffer and the aluminum element are equal. See Figure 2.

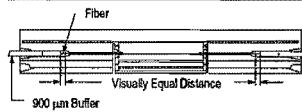


Figure 2

**NOTE** If the fiber sticks to or slides out of the channel during insertion, pull it back slightly and continue to insert it until the fiber coating or buffer contacts the appropriate stop.

5. While applying gentle, inward pressure with the thumb and forefinger, gently rotate the key handle, turning it 90° as shown in Figure 3 (do NOT snap it closed). This locks the first fiber in place. Inspect the fiber to make sure it remained in the channel during locking.

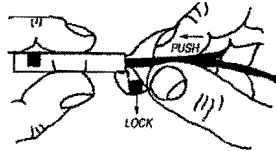


Figure 3

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6. Be sure to maintain gentle, inward pressure on the second fiber while turning the key to ensure that the fibers butt against each other. Gently rotate the key when locking the second fiber to prevent the fiber tips from bouncing apart. Inspect the fiber to make sure it remained in the channel during locking. This completes the splice.

7. To tune the splice, unlock one of the fibers and pull it back slightly, rotate it 90° to tune it, then push it forward and relock it. Tuning is usually not necessary.

**NOTE** The spreader keys can be conveniently stored by lapping them in or near the splice tray. Otherwise, they can be slipped into the holder and stored in a wafer or tool box.

**CAUTION** The interior material of the CORELINK splice contains index matching gel. If the interior material comes in contact with skin or with eyes, it may cause irritation. If contact occurs, wipe off the material and flush the area with water immediately. Consideration must be given to safety requirements of this gel. Refer to AMP Material Safety Data Sheet (MSDS) 125-6370, which is available by contacting the AMP Technical Assistance Center at the number listed at the bottom of this page.

### 3. REVISION SUMMARY

Since the previous release of this document, the following changes were made per EC 0A00-0410-95:

- Modified text of Steps 4, 5, and 6
- Added new Figure 2, renumbered Figure 3