

Single-fiber Connector and Port Cleaning with the TKT-CLEAN-SFC-M Kit

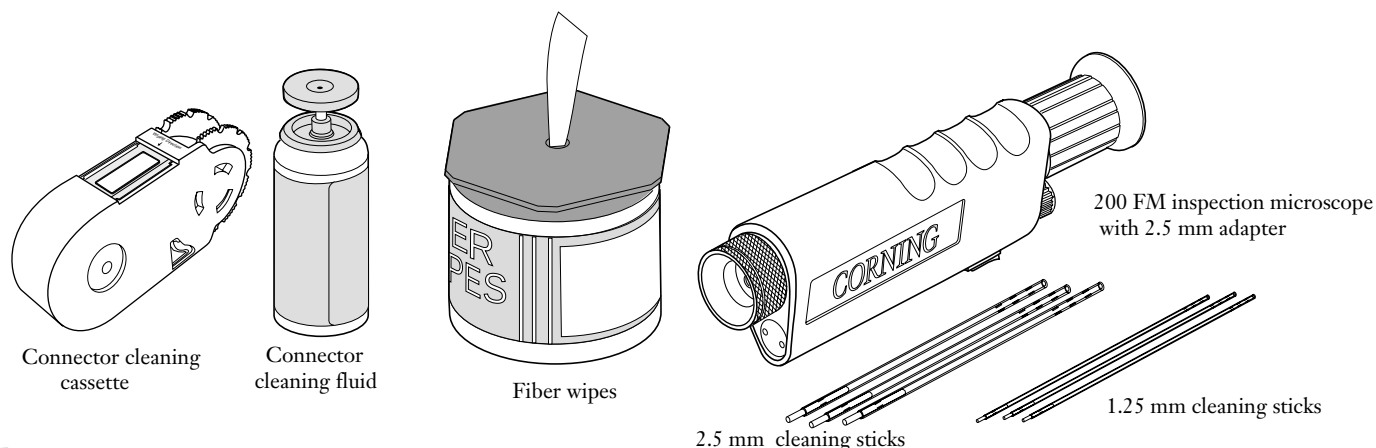


Figure 1

1. General

1.1 This procedure describes how to use a Corning Cable Systems Single-fiber Connector Cleaning Kit (p/n TKT-CLEAN-SFC-M) to clean and inspect fiber optic connector end-faces and connector ports. This procedure includes instructions for any rare “worst case” connectors which the kit’s cleaning cassette can not effectively clean. (Figure 1).

Corning Cable Systems recommends using this cleaning procedure every time a connector is unmated.

1.2 If this procedure is reissued, a summary of changes will appear in this paragraph.

2. Precautions

2.1 Laser Precautions

! WARNING: Laser light can damage your eyes. Laser light is invisible. Viewing it directly does not cause pain. The iris of the eye will not close involuntarily as when viewing a bright light. Consequently, serious damage to the retina of the eye is possible. Never look into the end of a fiber or at a connector or a connector in an inspection microscope which may have a laser coupled to it. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately.

2.2 Cable Handling Precautions

! CAUTION: Fiber optic cable is sensitive to excessive pulling, bending and crushing forces. Consult the cable specification sheet for the cable you are installing. Do not bend cable more sharply than the minimum recommended bend radius. Do not apply more pulling force to the cable than specified. Do not crush the cable or allow it to kink. Doing so may cause damage that can alter the transmission characteristics of the cable- the cable may have to be replaced.

2.3 General Precautions

! Safety Glasses
! WARNING: Corning Cable Systems strongly recommends that you wear safety glasses to protect your eyes from accidental injury when using a connector cleaning kit.

2.4 Chemical Precautions

! Fiber Optic Cleaning Fluid
! CAUTION: Can cause irritation to eyes on contact. Read and understand the MSDS supplied with the product before use. Keep out of the reach of children. Do not puncture or incinerate the container. contains decafluoropentane and isopropyl alcohol.

3. Connector Cleaning

Standard Connector Ferrule End-face Cleaning

Note: For Angled Polish Connector (APC) end-face cleaning, skip to Step 3.5.

3.1 Advance the cleaning cassette's front-reel enough to access a fresh area of the cleaning tape in the cassette's cleaning window (Figure 2).

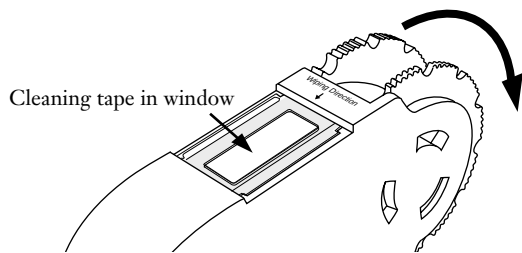


Figure 2

3.2 To clean a connector:

- a) Remove the connector dust cap.
- b) Place the connector end-face on the front end of the cleaning tape in the window.
- c) Using light pressure, slide the connector end-face in the direction of the arrow on the cassette (Figure 3).

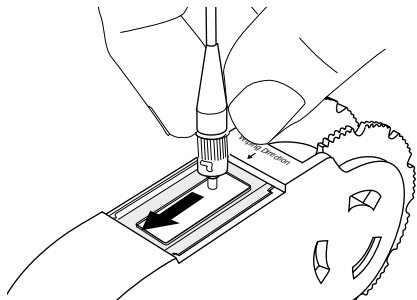


Figure 3

Make two additional passes on unused areas of the cleaning tape.

3.3 Insert the connector into adapter of the the 200 FM microscope (Figure 4).

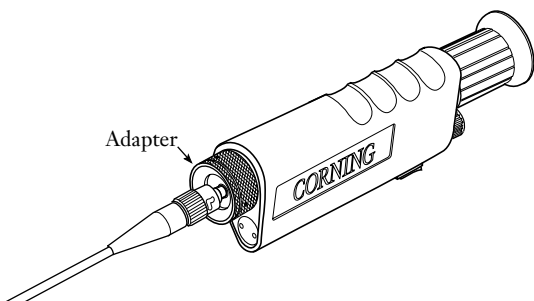


Figure 4

See Section 6 for complete microscope instructions.

3.4 Make a visual check of the connector end-face (Figure 5).

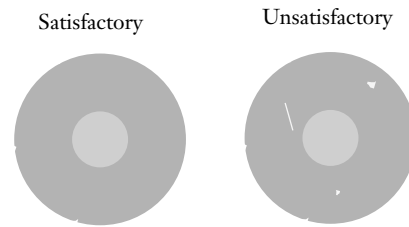


Figure 5

- If the connector is satisfactory, immediately mate it in the appropriate adapter or sleeve, or replace the dust cap.
- Repeat steps 3.2 a through c if additional cleaning is necessary.

If repeated cleaning with the cassette is ineffective, skip to Section 4.

Angled Polish Connector (APC) End-face cleaning

3.5 Currently, APC connectors are only available in SC and LC connector types. These types of connectors have a keyed surface dictating alignment. To clean an APC connector:

- a) Remove the connector dust cap.
- b) Locate the angled end-face surface, and position it so that it is parallel to the surface of the cleaning tape as shown in Figure 6.

Side view of angled polish connector

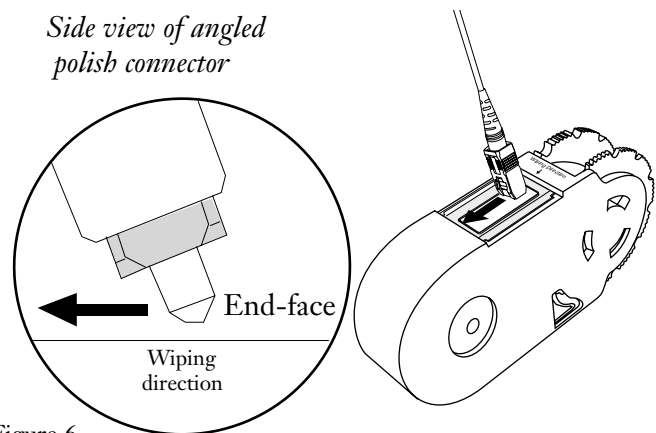


Figure 6

- c) Using light pressure, slide the connector end-face in the direction of the arrow on the cassette (Figure 3). Make two additional passes on unused areas of the cleaning tape.

3.6 Install the APC connector adapter in the 200 FM microscope as described in Section 6.

3.7 Make a visual check of the connector end-face and re-clean if necessary as described in step 3.4.

4. Cleaning Excessively Dirty Connectors

4.1 Connectors which have been subjected to harsh environments (dust, etc.) without dust cap protection, may require cleaning beyond that provided by the cleaning cassette. To clean such connectors:

- Use a Corning Fiber Wipe soaked with Corning Fiber Optic Cleaning Fluid to wipe the connector end faces (Figure 8).

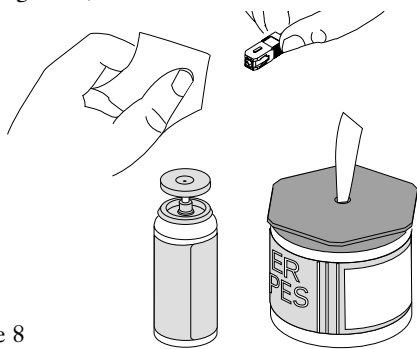


Figure 8

- Continue the cleaning by wiping the end face with a clean, dry tissue.
- Make a visual check of the connector end-face with the microscope. Repeat cleaning steps a and b if necessary.
- If the connector is satisfactory, immediately mate it in the appropriate adapter or sleeve, or replace the dust cap.

5. Cleaning Connector Ports

5.1 To clean a connector port (Figure 9):

- Select the first port to be cleaned and, if applicable, remove any mated connectors or remove the protective dust caps.
- Use a 2.5 mm cleaning stick to clean standard 2.5 mm ports and a 1.25 mm cleaning stick for LC or other small-form-factor connector ports:
- Insert a clean stick into the port and rotate it 360°. Remove the stick by pulling it straight out of the port.

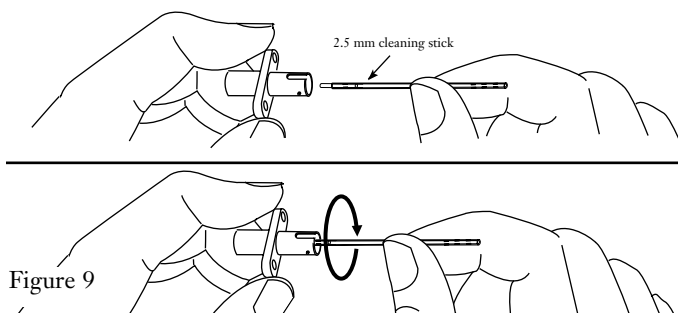


Figure 9

5.2 Visually inspect the port and if necessary, re-clean the port with a new stick.

6. 200 FM Microscope

6.1 This section describes how to use and maintain Corning Cable Systems 200FM (p/n 200FM) connector inspection microscope supplied in the TKT-CLEAN-SFC-M Kit. This microscope offers both oblique and coaxial light sources. As shipped, this microscope is suitable for inspecting the ferrule end faces of FC, SC, and ST®-connector compatible connectors; other connector adapters are available separately (see step 6.5).

Battery Installation

6.2 To install or replace the batteries in the microscope (Figure 10):

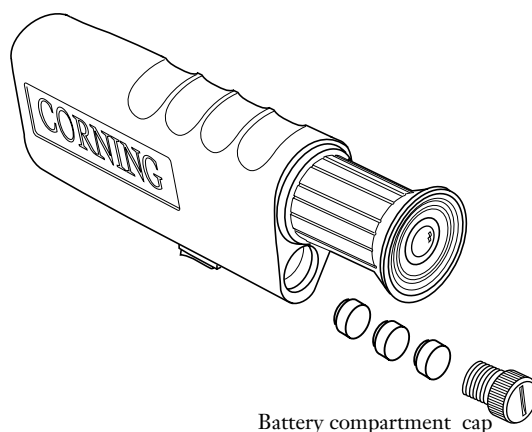


Figure 10

Note: The batteries are shipped in the pouch located inside the top of the microscope's soft sided case.

- Unscrew and remove the battery compartment cap beneath the eyepiece.
- Insert three LR44/AR44 alkaline cell batteries as indicated by the diagram on the side of the microscope.
- Screw the cap back into place.

Microscope Use

6.3 The 200FM microscope offers both oblique and coaxial light sources. Coaxial illumination provides the most critical view of fiber end-faces by rendering scratches highly visible. Oblique illumination allows for viewing of contamination and debris, but makes faint scratches not as visible. Typically, coaxial lighting is used for debris inspection while oblique lighting is used during connector installation to avoid over-polishing the connector end-face.

6.4 To view a connector end face with the 200 FM microscope:

- a) Insert the connector ferrule into the adapter receptacle at the end of the microscope, applying gentle pressure until the ferrule stops (Figure 11).

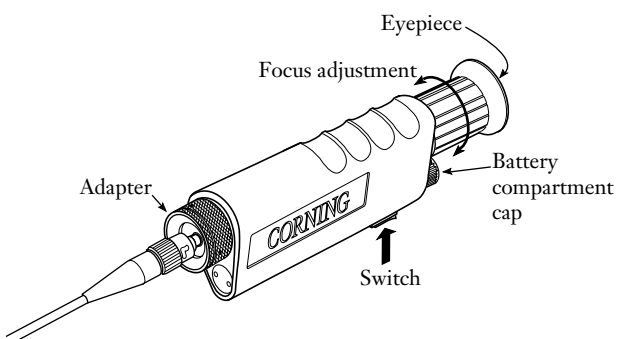


Figure 11

- b) Turn on the microscope light by pressing and holding in the rocker switch located on the bottom of the microscope body. Press down on the single bar end of the switch for oblique lighting or the double bar marked end for coaxial lighting (Figure 12).

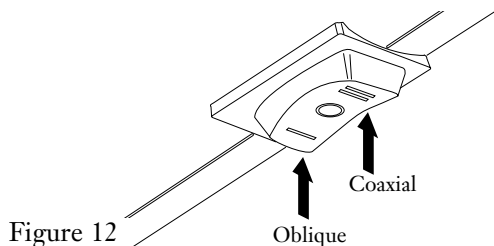


Figure 12

- c) Look through the eyepiece and bring the end face into sharp focus by using the focus adjustment (Figure 13).

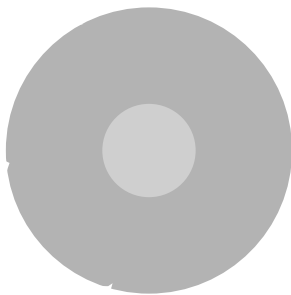


Figure 13

6.5 The following adapters are available separately:

Connector adapter type	Part number
Universal 1.25 adapter.....	FMFA-U12
Universal 2.5 adapter.....	FMFA-U25
Universal 2.5 APC adapter.....	FMFA-APC
MT-RJ adapter.....	FMFA-MTRJ
MTP adapter (MTP assembly)...	FMFA-MTP
ST adapter.....	FMFA-ST
FC adapter.....	FMFA-FC
SC adapter.....	FMFA-SC
LC adapter.....	FMFA-LC
Bare fiber adapter.....	FMFA-BF1
Ribbon cleave adapter.....	FA-RFC1

6.6 To install and use one of these dedicated adapters (Figure 14):

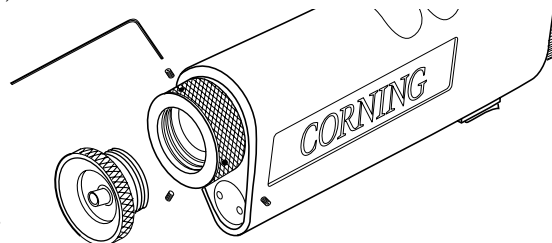


Figure 14

- Use a 1.5 mm hex wrench to remove the three set screws which secure the adapter in place.
- Unscrew and remove the universal adapter.
- Screw the dedicated adapter into place. Secure the adapter with the set screws.
- Align and mate the connector to the adapter using the connector's specific practice.

Maintenance

6.7 On as-needed basis, clean the eyepiece lens using a very soft tissue moistened with a glass cleaner or alcohol. Most camera lens cleaners or over-the-counter glass cleaners will work fine.

6.8 This microscope has no user serviceable internal components. The microscope LED has a rated life of over 100,000 hours, eliminating any need of replacement. Should your microscope ever have illumination problems, contact your customer service representative for instructions on how to return the unit for repair.

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