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## Technical Bulletin TB03-0130A

**To: Field Service Engineers/Project Managers/Field Technicians**

**From: Technical Assistance Center**

**Date: January 30, 2003**

RECOMMENDED FIBER OPTIC CONNECTOR/ADAPTER CLEANING PROCEDURES

WARNING: UNDER NO CIRCUMSTANCES SHOULD A CONNECTOR BE UNMATED FROM THE BOARD SIDE OF ANY HARDWARE. SEE PROCEDURE B FOR INSTRUCTIONS ON HOW TO CLEAN AN EMBEDDED CONNECTOR.

### PREFACE:

Dust and contaminant free connectors and adapters are critical to error free operation. Contamination can occur after leaving connectors uncovered, mishandling and can even be shipped from a supplier with contaminants present. Although we do not expect the latter to be prevalent, cleaning should take place at all stages of use.

### WHEN TO CLEAN:

Connectors should be cleaned with every use and if contamination is suspected, for example if a connector was left uncovered or mishandled. When in doubt, clean!

Equipment may need to be cleaned more than once. If after an initial cleaning, inspection shows contamination or performance is not restored, clean again.

### HOW TO CLEAN:

There are two different circumstances where an operator will be required to clean. One is when the connectors are removed from the mating adapter. I.e. both connectors end faces are exposed and accessible. See Procedure A. The second is when only one connector can be removed from the adapter leaving one connector still inserted. I.e. when facing an embedded fiber patch panel or an assembled piece of equipment. See Procedure B.

### LIST OF MATERIALS:

99% pure isopropyl alcohol

Lint free absorbent swabs

CLETOP dry cleaning sticks 2.5mm Part Number: CLST25

CLETOP dry cleaning sticks 1.25mm Part Number: CLST12

CLETOP Reel-type dry cleaning tool (shown below) Part Number: CLRSL

Filtered, non-residue, moisture free compressed air

#### PROCEDURE A:

This procedure describes how to clean unmated connectors and adapters. This procedure will work for 2.5mm connectors and adapters (ST, FC, SC) as well as 1.25mm connectors and adapters (LC).

Proper cleaning involves four steps:

1. Cleaning the ferrule
2. Cleaning the connector end face
3. Cleaning the adapter inside sleeve
4. Inspection

##### A-1. Cleaning the Ferrule

Using either a dry swab or swab moistened with 99% pure isopropyl alcohol, wipe the outside circumference of the ferrule. If a moistened wipe is used remember to wipe with dry wipe to clean potential alcohol residue.



##### A-2. Cleaning the Connector end face

This can be done using pre-moistened alcohol wipe, using dry lint free cleaning wipes and isopropyl alcohol or using a dry connector-cleaning tool like the Cletop Cassette Cleaner shown here. See list of recommended products. Using medium pressure, wipe surface end faces of connector in a straight motion 1 time in one slot then rotate the connector in your fingers 180 degrees and wipe the surface end face of the connector one more time. If a wet cloth is used, follow up with a dry cloth using the same motion to absorb any excess alcohol residue.

##### A-3. Cleaning the adapter inside sleeve

Using an alcohol-moistened swab like the Cletop Stick Cleaner shown here, insert into the adapter and pull out with a twisting motion. Follow up with a dry swab. Finally spray filtered non-residue compressed air through the adapter from both directions.



##### A-4. Inspection

After cleaning, connectors and adapters should be inspected. Singlemode connectors should be inspected with a 400X magnification handheld scope or a 400x magnification video scope (shown here) to view the end face of the connector of dust particles or dried residue. If contamination is still present, clean again.



#### PROCEDURE B:

This procedure describes how to clean a connector and adapters when one connector cannot be removed.

Follow instructions for cleaning the unmated connector as described in Procedure A.

Cleaning the mated adapter and connector involves three steps.

B-1. Use a swab moistened with 99% pure isopropyl alcohol. Insert swab into the open end of the adapter until gentle contact is made with the connector on the opposite side. Turn the swab in one circular motion as it is pulled from the adapter. (I.e. Do turn the swab in EITHER a clockwise or counter clockwise direction, DO NOT turn the



swab back and forth pressing against the connector, this may cause scratching if a large contaminant is present.)

B-2. Follow with a dry swab to absorb any excess alcohol.

B-3. Spray into the open end of the adapter with filtered non-residue compressed air.

**RECOMMENDED PRODUCTS:**

Dry cleaning products:

CLETOP dry cleaning sticks 2.5mm (shown) Part Number: CLST25

CLETOP dry cleaning sticks 1.25mm Part Number: CLST12

CLETOP Reel-type dry cleaning tool (shown) Part Number: CLRSL



Inspection products:

Westover Scientific 400x Handheld Microscope (shown) Part Number: FM-C400 (w/ 2.5mm adaptor)

Westover Scientific 400x Video Fiber Microscope (shown) Part Number: FVW-409 (w/ 2.5mm adaptor)

Westover Scientific adaptor 2.5mm Part Number: FMA-U25 and 1.25mm Part Number: FMA-U12



Compressed air:

Tech Spray™ ENVI-RO-TECH™ DUSTER 1671 Inert Dusting Gas

Any questions please contact Technical Assistance Center at 925-447-7500 or email [sales@ariatech.com](mailto:sales@ariatech.com) [www.ariatech.com](http://www.ariatech.com)