

## S E R V I C E N O T E

SUPERSEDES: None

**37717B PDH/SDH/ATM Test Set****Serial Numbers:** See Duplicate Service Notes**Cleaning Optical Surfaces****Duplicate Service Notes:**

37714A-10 Serials: 3339U00100 / 3339U09999

37717A-13 Serials: 3345U00100 / 3345U09999

37717B-16 Serials: 3509U00100 / GB00009999

37717C-09 Serials: GB00000100 / GB00009999

**To be Performed by:** Qualified Service Personnel**Parts Required**

<b>Item</b>	<b>Part Number</b>
Isopropyl alcohol	8500-5344
Cotton swabs	8520-0023
Small foam swabs	9300-1223
Compressed dust remover (non-residue)	8500-5262

*Continued*

DATE: March 1998

## ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

**INFORMATION ONLY**

AUTHOR:

DBG

ENTITY:

E610

ADDITIONAL INFORMATION:

**Situation**

The warranty fail rate of optical modules has risen dramatically. Some modules have been returned for failure analysis, and it has been found that the fault has been due to dirty optical connections rather than a genuine fault.

**Action**

If the following procedures are followed this could save expensive repairs on lightwave equipment, and it will reduce downtime and loss of productivity caused by the repairs.

**Cleaning**

Two cleaning processes are provided. The first process describes how to clean non-lensed lightwave connectors. The second process describes how to clean lightwave adapters.

**CAUTION**

These cleaning processes apply only when dry connections are used (no index matching compounds). Agilent strongly recommends against the use of index matching compounds, particularly gels, as they may be difficult to remove and can contain damaging particulates. If an index matching compound is used, contact the compound manufacturer for specific information about recommended solvents and cleaning procedures.

**Cleaning Non-Lensed Lightwave Connectors****Equipment**

The following is a list of the items that should be used to clean non-lensed lightwave connectors.

<b>Item</b>	<b>Part Number</b>
Isopropyl alcohol	8500-5344
Cotton swabs	8520-0023
Compressed air	8500-5262

**CAUTION**

Agilent recommends that you do not use any type of foam swab to clean optical fiber ends. Foam swabs can leave filmy deposits on fiber ends that can degrade performance.

**Process**

Before cleaning the fiber end, clean the ferrules and other parts of the connector. Use isopropyl alcohol, clean cotton swabs, and clean compressed air. Then use alcohol to clean the fiber end. Some amount of wiping or mild scrubbing of the fiber end can help remove particles when application of alcohol alone will not remove them. This can be done by applying the alcohol to a cotton swab and moving it back and forth across the fiber end several times. This technique can help remove or displace particles smaller than one micron.

Allow the connector to dry (about 1 min) or dry it immediately with clean compressed air. Compressed air lessens the chance of deposits remaining on the fiber end after the alcohol evaporates. It should be blown horizontally across the fiber end. Visually inspect the fiber end for stray cotton fibers. As soon as the connector is dry, the connection should be made.

### **CAUTION**

Inverting the compressed air cannister while spraying will produce residue on the sprayed surface. Refer to instructions provided on the compressed air cannister.

## **Cleaning Lightwave Adapters**

### **Equipment**

All of the items listed above for cleaning connectors may be used to clean lightwave adapters. In addition, small foam swabs (part number 9300-1270) may be used along with isopropyl alcohol and compressed air to clean the inside of lightwave connector adapters.

### **NOTE:**

As noted in a previous caution statement, the foam swabs can leave filmy deposits. These deposits are very thin however, and the risk of other contamination build upon the inside of adapters greatly outweighs the risk of contamination of foam swab deposits left from cleaning the inside of adapters.

### **Process**

Clean the adapter by applying isopropyl alcohol to the inside of the connector with a foam swab. Allow the adapter to air dry, or dry it immediately with clean compressed air.

### **Cleaning Lensed Connections**

Some instruments may have a connector that is "lensed." In other words: the connection does not provide a physically contacting connection, but the light is received into a lens rather than into a connecting fiber. These receiving lenses usually have an anti-reflective coating that is very easily damaged. Therefore, these connectors should never have cleaning solutions or any other substance applied to them unless it is specifically recommended by the manufacturer. You may wish to use clean compressed air to rid them of dust from time to time.