OPTIMATE* DNP
Fiber Optic Plugs

Single–Position
Plug Assembly
228041–1

Dual–Position
Plug Assembly
228044–1

Retention Clip

Retention Clips
228046–1

PART NUMBER	DESCRIPTION	REMARKS
228087–1	Single–Position Plug Assembly	Single–Position Plug with Retention Clip
228088–1	Dual–Position Plug Assembly	Dual–Position Plug with Retention Clips
228046–1	Retention Clip	—
228837–1	Cutting Tool Fixture	For Single–Position Plug Assembly
228085–1	Hot Knife	Available Separately
501198–1	Insulation Stripping Tool	For Single– and Dual–Position Plug Assemblies

Figure 1

1. INTRODUCTION

This instruction sheet describes the termination of OPTIMATE Dry Non–Polish (DNP) Fiber–Optic plug assemblies as shown in Figure 1. The plug assemblies are designed to be used with 1000–μm plastic fibers.

The following tools are recommended for terminating DNP connectors:

- Hot Knife 228085–1 or equivalent,
- Insulation Stripping Tool 501198–1 for No. 20 AWG cable or 1000 μm fiber, and
- Insertion Tool (Pliers) 461 PL621 from Techni–Tool, Inc.

NOTE *All dimensions in this document are in metric units [with U.S. customary units in bracket], unless otherwise indicated.*

Reasons for reissue will be provided in Section 4, REVISION SUMMARY.

2. DESCRIPTION (Figure 1)

DNP connectors are available in both single– and dual–position plug versions with with retention clips pre–assembled in the connector. The retention clip, barbed both inside and out, engages the jacket of the fiber and the inside of the plug assembly. The plug assembly can be applied to fibers without the need for polishing or the use of epoxy. Single–position plugs mate with both single– and dual–position receptacles.

Fiber–to–fiber connections are made with bulkhead–mounting receptacle. The receptacles allow fiber– to–fiber connections which can be disconnected.

Fibers can also be mated to active devices (sources and detectors) mounted in an active device mount ADM. Refer to Instruction Sheet 408–9234 for information concerning DNP receptacles and ADMs.
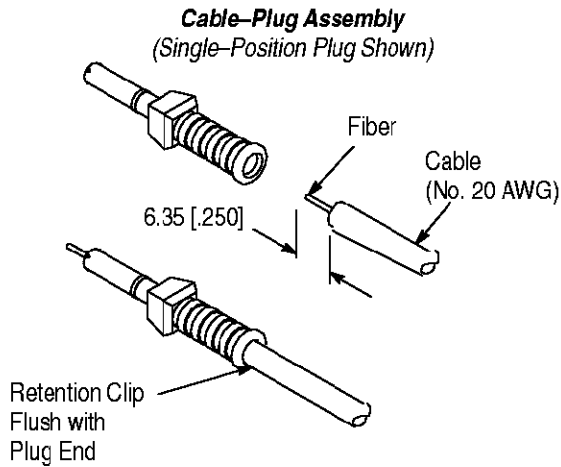
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Cable–Plug Assembly
(Single–Position Plug Shown)

Fiber

Cable
(No. 20 AWG)

6.35 [.250]

Retention Clip
Flush with
Plug End

Figure 2

(A)   *Slice Off Excess Fiber*

Hot Knife

Cutting
Tool
Fixture

Beveled Edge of
Blade Flat on
Cutting Tool
Fixture

(B)   *Melt Fiber End into Rivet*

Cutting
Surface

Melting
Surface

Figure 3

3. PLUG ASSEMBLY TERMINATION

The following procedure is for terminating a fiber in a single–position plug assembly. The same procedure is used for terminating the dual–position plug assembly, except that the procedure is repeated for the second plug.

NOTE *Although you do not have to use a hot knife to trim the fiber, using a hot knife will improve the optical and mechanical characteristics of the termination.*

1. Strip approximately 6.35mm [.250 in.] of jacket from the fiber using Insulation stripping tool. Make sure the stripping tool is set for No. 20 AWG cable or 1000–μm fiber. See Figure 2.

CAUTION *Do not nick or cut the fiber. If your stripping tool does not have a No. 20 AWG setting, use a small piece of fiber as a guide for setting the tool.*

2. Using the insertion tool, push the stripped cable into the plug until the cable bottoms and excess fiber extends out the nose of the plug. See Figure 2.

3. Pull back slightly on the cable to ensure that the barbs on the retention clip engage the jacket and plug.

4. Slide the plug into the cutting tool as shown in Figure 3.

DANGER *In the next several steps, the fiber is trimmed and riveted with the hot knife. BE SURE TO KEEP FINGERS AWAY FROM THE CUTTING TOOL FIXTURE. Allow the fixture to cool before removing it.*
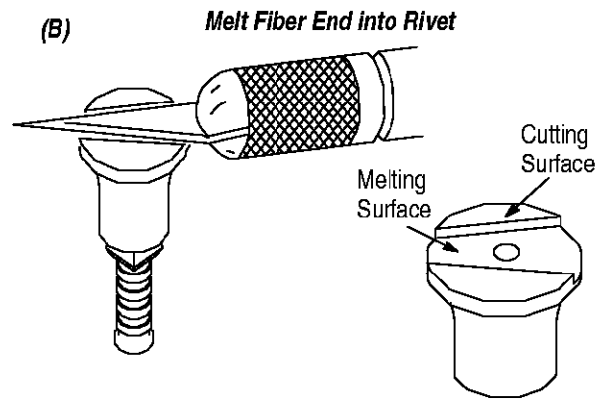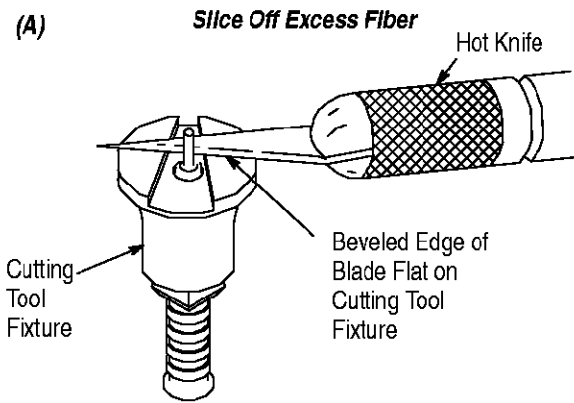
5. Place the flat side of the hot–knife blade in the *lower area* (melting area) of the fixture. Press down on the blade to melt the remaining fiber flush with the end of the plug. The fiber should form a small rivet in the plug to aid retention. See Figure 3.B.

6. Allow the fixture to cool and then remove it.

7. Inspect the plug for proper termination. The end of the fiber should form a rivet flush with the end of the plug

8. The plug is now ready to be mated with a single–position receptacle, or an ADM. Push the plug, nose first, into the receptacle or ADM until it latches tightly.

4. REVISION SUMMARY

Per EC–0990–0156–02:

- Updated document to corporate requirements
- Deleted part numbers 228836–1 and 1278297–1 in table in Figure 1 and Section 1
- Added new nomenclature in Section 1
- Deleted Note is Section 3.1