



## TOW CABLE FAIRING INSTALLATION

(ZT07-98-002)

The Zippertubing Marine Cable Fairing product is designed to reduce the strum and drag on cables that are subject to water flow across the cable surface due to tidal currents or from the flow created when a cable is towed behind a moving vessel. Zippertubing fairings are made from thin and flexible polymer coated fabric materials which make them easy to install and easy to reel in and out on cable take-up drums. There are four variations of the Zippertubing marine fairing and all use Zippertubing's standard Z-Track or M-Track closure mechanisms. Both the Z-Track and M-Track closures require the use an installation tool to facilitate closure. The table below indicates which tooling and installation procedure applies to each of the four standard fairing types. Select the correct tooling and installation procedure from the list below and familiarize yourself with the techniques described before proceeding with installation.

<b>Zippertubing Process Procedures</b>				
<b>ZT Procedure</b>	<b>Fairing P/N</b>	<b>Fairing Type</b>	<b>Closure</b>	<b>Tooling P/N</b>
ZT04-98-002	ZT94-14-003-*	Moored	Z-Track	ZTZ-SP
ZT04-98-002	ZT94-14-001-*	Towed (Z)	Z-Track	ZTZ-SP
ZT07-98-001	ZT03-14-001-*	Towed (M)	M-Track	SLM
ZT07-98-001	ZT94-14-002-*	Towed (HD)	M-Track	SLM
ZT93-98-003 (Method 2)	All	All	All	N/A

## **Installation**

Whenever possible, install the fairings on the tow cables and prep the cable reeling drum while the vessel is at the dock. Installation can be done at sea on the deck of the vessel if enough room exists and sea conditions allow, but installations while at sea will be more time consuming and awkward.

### **Step1. (Fairing Installation)**

Begin by zipping the fairing material around cable as described in the appropriate track closure installation document. Close the first 3-feet of fairing and then install a plastic cable tie-wrap or metal band clamp at the fairing end between the first and second fin. (Figure 1)

Note: Do not be alarmed if the fairing seems to be too baggy on the cable (not skin tight). This is the desired condition. The excess space will fill with water and help create a teardrop fairing shape as the cable is pulled through the water.

### **Step 1A. (Drain Holes, Optional)**

Some users have found it desirable to punch a 1/8-1/4" diameter hole every few feet in the fairing jacket material to reduce the time it takes for water to fill and drain from the space between the cable and jacket during the deployment and extraction cycle. If extraction speeds are fast and too much water remains trapped within the jacket as it winds up on the take-up drum, the pressure of the overlaying cable winds could burst the jacket closure seam on the layers below. A hand operated leather punch with varying size hole punches works well to apply the holes. Adding holes is mandatory if fairing overlap sections have been sealed with an adhesive tape instead of a cable clamp!

### **Step 2. (Fairing Clamps)**

Continue closing the fairing. At approximately twenty-five of cable length (and every 25' thereafter) install another plastic cable tie-wrap or metal band clamp. These clamps will keep the fairing from sliding down the cable as it moves through the water.

### **Step 3. (Fairing Splices)**

At some point along your cable you may find that it is necessary to splice two pieces of fairing material together. To do this, stop closing the first fairing segment at least 1-foot ahead of the splice area. Use a pair of scissors to cut off the first several fairing fins from the new segment that you intend to add (Figure 2). Install the first few feet of this new fairing segment around the cable. Slide the new segment up and under the area where the first segment will end. Finish

zipping the first segment closed over the second. Be sure that you have a lap splice area that is at least 3-4 inches long. Install two plastic tie-wraps or metal band clamps between the last two fins of the first fairing segment and trap the second segment underneath the end of the first. (Figure 3)

#### **Step 4. (Track Closure)**

Verify that the entire length of track mechanism is interlocked correctly. For fairings using the M-Track closure this is a visual examination only. For fairings using the Z-Track closure, squeeze the track halves together between you thumb and index finger as described in the ZT04-98-002 document.

#### **Step 5. (Track Sealing) (Optional)**

If your sea conditions are severe or your tow speed exceeds 5 knots you may find it advantageous to solvent weld the track halves together. The interlocked track halves can be permanently welded together by using the materials and procedure described in Zippertubing process document ZT93-98-003, Method 2. Zippertubing no longer recommends this procedure for general wire shop harness fabrication where ventilation may be marginal. However, it is an acceptable procedure when the solvent is used outdoors.

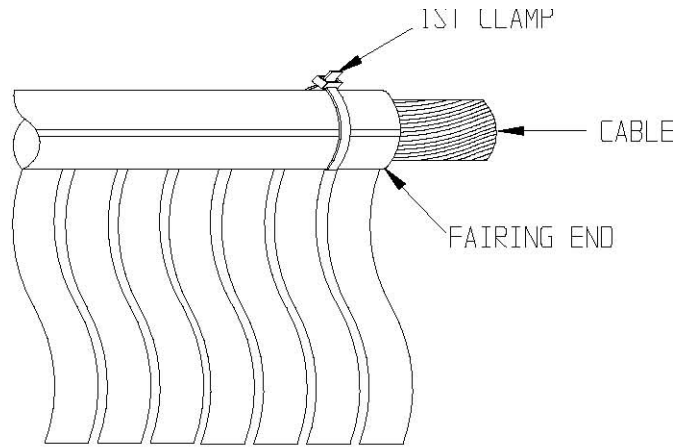


FIGURE 1. FIRST FAIRING CLAMP

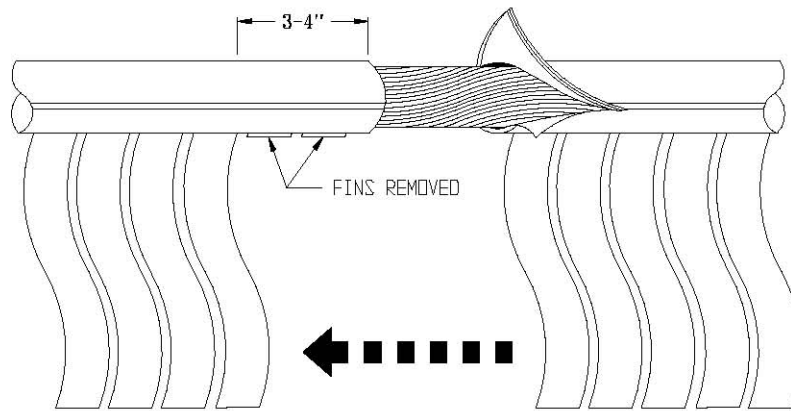


FIGURE 2. FIN REMOVAL FOR LAP SPLICE

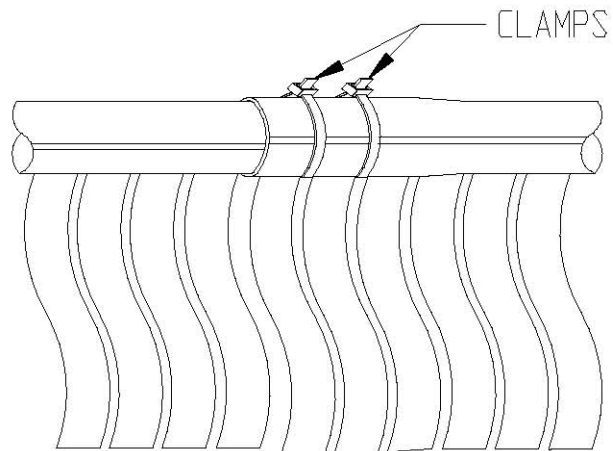


FIGURE 3. FINISHED LAP SPLICE