

1. INTRODUCTION

This instruction sheet describes the application of plastic pipe fittings on CA-3131 Dry Air Feeder Pipe. Eleven different fittings are available for use in a variety of applications. Hand Tool 69992, available on separate order, is required to crimp these assemblies to the CA-3131 Feeder Pipe. Instructions for use, maintenance, and inspection of this hand tool are provided in Instruction Sheet 408-2540, supplied with the tool.

Reason for re-issue of this document is provided in Section 6, REVISION SUMMARY.

NOTE



Dimensions on this sheet are in millimeters [with inch equivalent dimensions in brackets]. Figures and illustrations are for identification only and are not drawn to scale.

2. DESCRIPTION

The eleven different types of fittings available for use on CA-3131 Feeder Pipe are shown in Figure 1. Each fitting consists of a plastic molding with a pre-assembled aluminum insert. The insert is serrated so that, during crimping, permanent electrical contact is established between the insert and the aluminum inner lining of the CA-3131 Feeder Pipe. Stainless steel rings are provided for crimping each fitting to the pipe.

Four of the five branch fittings are each equipped with a stainless steel grounding post which is electrically connected to the aluminum insert. A hex nut and a lock washer are provided on the grounding post for use in electrical bonding applications. Another branch fitting (K Fitting without Ground) is supplied without a grounding post.

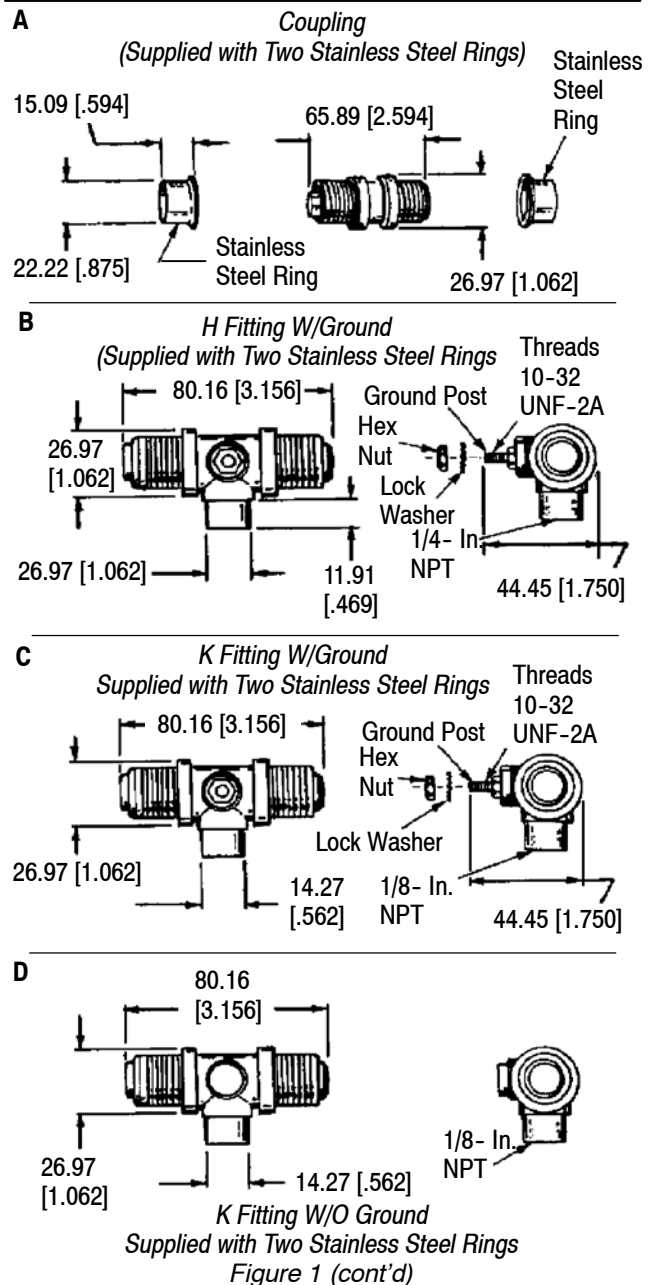
2.1. Coupling Fitting

The Coupling Fitting (Figure 1A) is used for the permanent joining of two sections of CA-3131 Feeder Pipe.

2.2. Branch Tee Fittings

Branch Tee Fittings (H and K Fittings - with and without ground) (Figure 1B, 1C, and 1D) are used for the permanent joining of two sections of CA-3131 Feeder Pipe. The H Fitting with ground has a side exit port with a 1/4-inch NPT thread for use in installing a 1/4-inch male NPT fitting. The K Fittings are available with or without ground. Both K Fittings have side exit ports with 1/8-inch NPT threads for use in installing F Pressure Testing Valves. The valves are not supplied.

Branch Tee Fittings (J and L Fittings - both with ground) (Figure 1E and 1F) are used for the permanent joining of one section of CA-3131 Feeder Pipe. The J Fitting has an exit port on one end with a 1/4-inch NPT thread for use in installing a 1/4-inch male NPT fitting. It also has a side exit port with a 1/8-inch NPT thread for use in installing an F Pressure Testing Valve (not supplied). The L Fitting has an end port with a 1/4-inch male NPT female NPT fitting. It also has a side exit port with a 1/8-inch NPT thread for use in installing an F Pressure Testing Valve (not supplied).



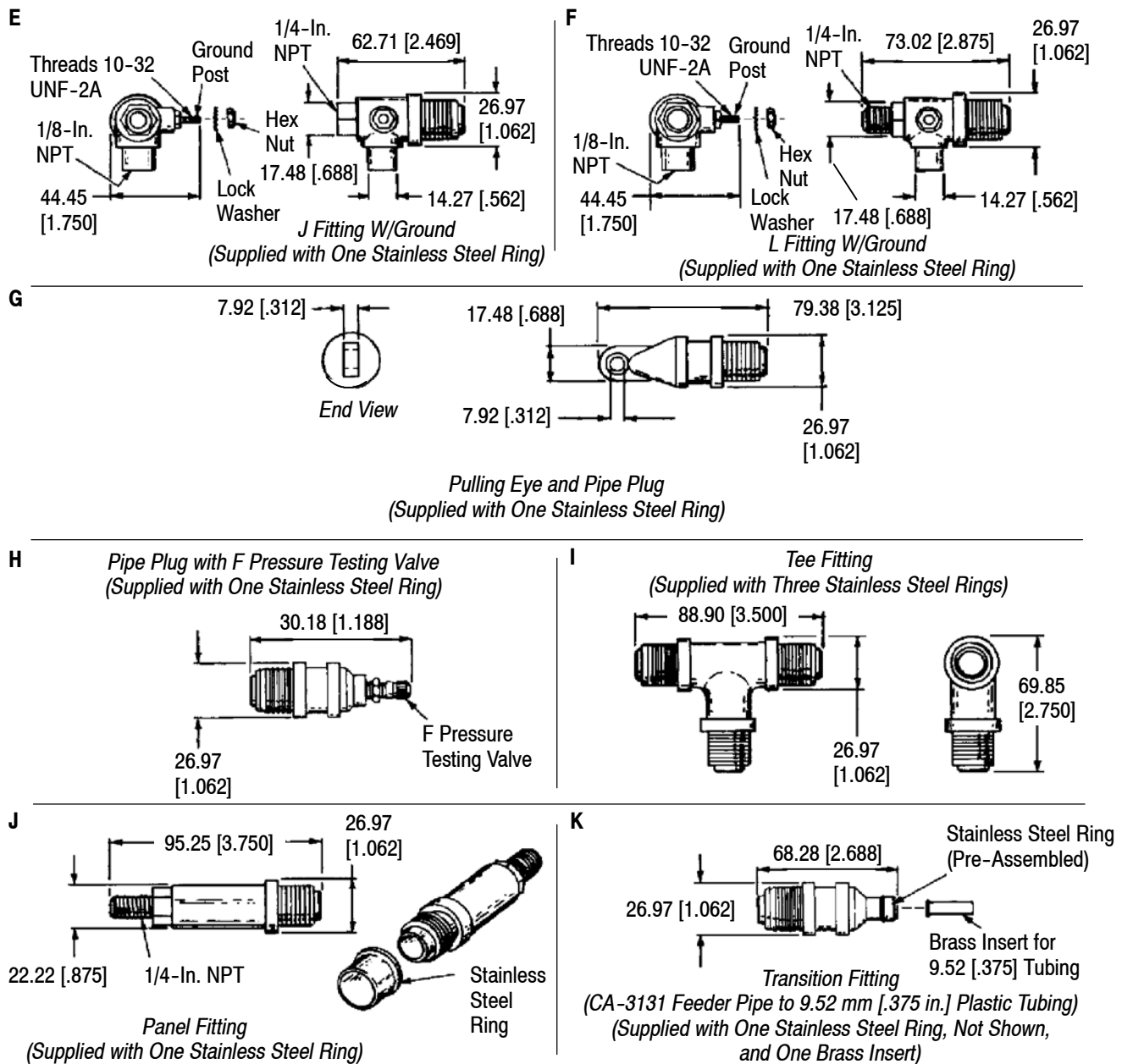


Figure 1 (end)

2.3. Pulling Eye and Pipe Plug Fitting

The Pulling Eye and Pipe Plug Fitting (Figure 1G) has a 7.92 mm [.312 in.] diameter pulling eye. This fitting is used as an aid in pulling pipe through a conduit and, in addition, can serve as a pipe plug.

2.4. Pipe Plug Fitting with F Pressure Testing Valve

The Pipe Plug Fitting with F Pressure Testing Valve (Figure 1H) has a pre-assembled F Pressure Testing Valve. In addition to serving as a pipe plug, this fitting provides a convenient pressure testing point.

2.5. Tee Fitting

The Tee Fitting (Figure 1I) is used for tapping a CA-3131 Feeder Pipe. Three crimping rings, required for installation, are supplied with the fitting.

2.6. Panel Fitting

The Panel Fitting (Figure 1J) has a 1/4-inch male NPT thread on one end and is used as a panel connector.

2.7. Transition Fitting

The Transition Fitting (Figure 1K) is used to connect a section of CA-3131 Feeder Pipe to a section of 9.52 mm [.375 in.] plastic tubing. The stainless steel

ring required to crimp the 9.52 mm [.375 in.] tubing is pre-assembled to the fitting, and the brass insert to be fitted into the crimp end of the 9.52 mm [.375 in.] tubing as a stiffener is supplied with the fitting. Hand Tool 69671 is required to crimp the 9.52 mm [.375 in.] fitting. Instructions for use, maintenance, and inspection of this hand tool is provided in Instruction Sheet 408-2703.

3. PREPARATION AND ASSEMBLY

When applicable, complete threaded connections on fittings prior to crimping CA-3131 Feeder Pipe connections. For example, install required F Pressure Testing Valves or pipe plugs before crimping pipe to fittings. Use pipe thread compound to coat threads. Hand tighten each connection and then use a wrench to tighten an additional 1-1/2 turns, leaving two or three threads exposed.

The procedures to follow are used to prepare the pipe, to assemble pipe to fitting, and for electrical bonding, as applicable, for each of the fittings shown in Figure 1.

3.1. Pipe Preparation

To prepare CA-3131 Feeder Pipe for assembly to any of the fittings shown in Figure 1, proceed as follows:

1. Cut the end of the pipe squarely. See Figure 2A.
2. Size and chamfer the pipe using the appropriate pipe shaper.

3.2. Assembly of Pipe to Fitting

Assemble pipe to fitting as follows:

1. Slide the stainless steel ring over the end of the pipe with flanged end of the ring toward fitting as shown in Figure 2B.
2. Slide fitting onto pipe until pipe bottoms inside fitting: minimum insertion depth is 15.88 mm [.625 in.].
3. Slide stainless steel ring forward until it butts against end of fitting.

3.3. Crimping

Under normal temperature conditions, no special preparation is needed, and the fitting can be crimped to the pipe using Hand Tool 69992. After assembly of the pipe and fitting, crimp the pipe to the fitting as follows:

1. Open the handles of the tool. Place stationary jaw behind fitting shoulder and the movable jaw behind the ring flange as shown in Figure 3A.

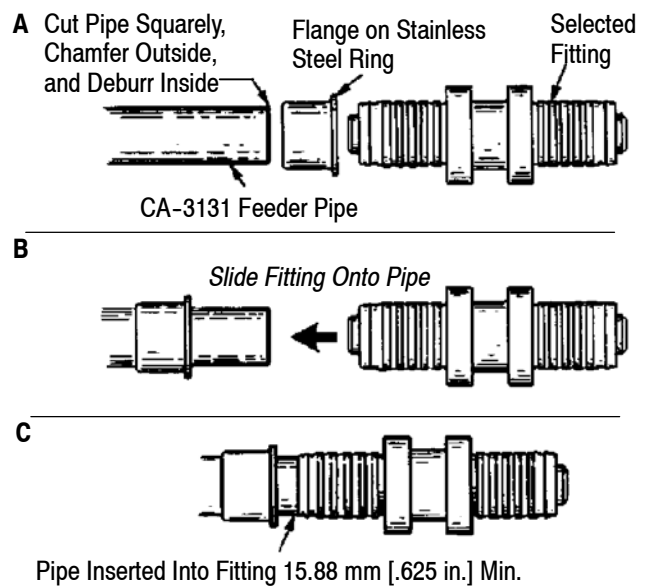


Figure 2

2. Close handles until ring flange is resting against fitting. Then apply a steady, even pressure on tool handles until the ring flange bottoms against the fitting shoulder and entire ring is beyond locking rib. (Do not *snap* tool closed.) See Figure 3B. Open the handles to remove the assembly.

3. Perform procedures under Pipe Preparation, Assembly of Pipe Fitting, and Crimping to crimp other ends of the fitting to the pipe.

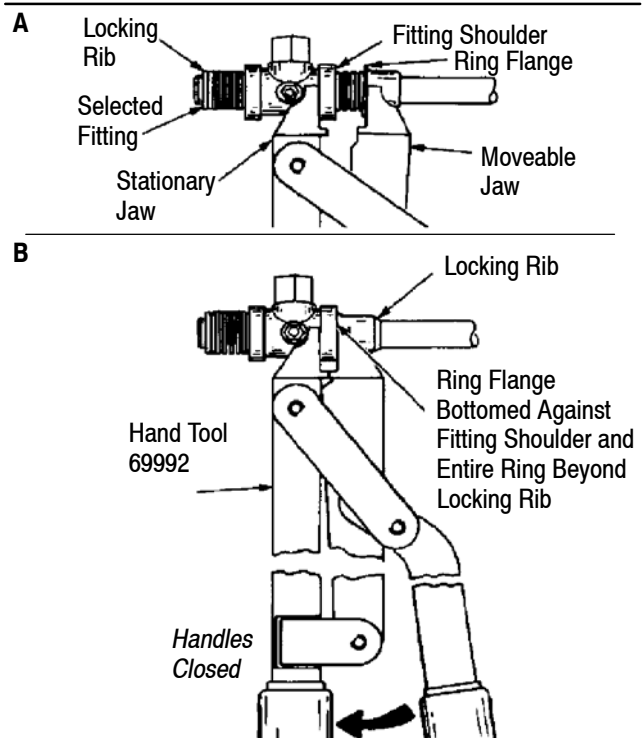


Figure 3

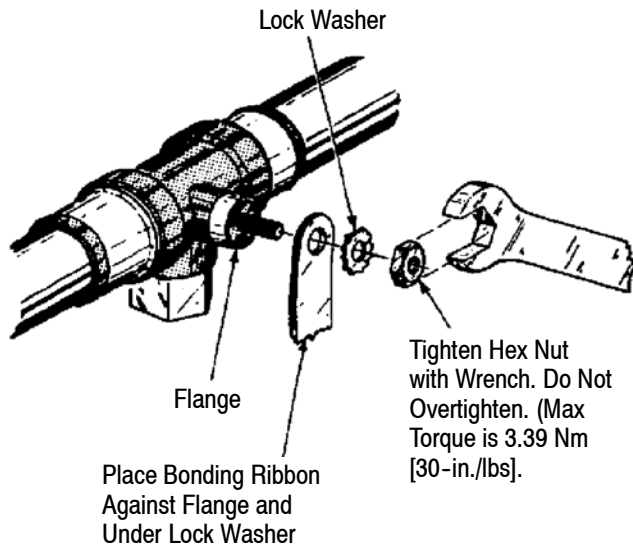


Figure 4

3.4. Cold Temperature

Under cold temperatures (below freezing), the ends of the fitting should be coated with the same soap solution that is used to provide leak detection. This should be done before starting the crimping procedures. The fitting is then ready for crimping using the procedures in Pipe Preparation, Assembly of Pipe to Fitting, and Crimping, previously listed.

3.5. Transition Fitting Assembly

Assembly of the transition fitting, shown in Figure 1, requires two different crimping operations. Crimping of CA-3131 Feeder Pipe to the fitting using tool 69992 is described in Paragraphs 3.3 and 3.4. Crimping of 9.52 mm [.375 in.] tubing to the other end of the fitting is accomplished by using Hand Tool 69671 using Instruction Sheet 408-2703.

NOTE



Detailed instructions for applying plastic pipe fittings on 9.52 mm [.375 in.] tubing are provided in Instruction Sheet 408-2703-1 (supplied with 9.52 mm [.375 in.] plastic pipe fittings).

4. ELECTRICAL BONDING

To complete electrical bonding of CA-3131 Feeder Pipe fittings, as required, proceed as follows:

1. Remove hex nut and lock washer from grounding post. See Figure 4.
2. Place bonding ribbon on grounding post.

3. Assemble lock washer and hex nut to grounding post, and tighten hex nut until teeth of lock washer firmly grip bonding ribbon. Do not over-tighten: maximum allowable torque is 3.39 Nm [30 in.-lbs].

5. ORDERING INFORMATION

CA-3131 Feeder Pipe fittings and tooling required for assembly can be ordered as listed in Figure 5 through your local Tyco Electronics Representative.

CA-3131 DRY AIR FEEDER PIPE FITTINGS AND ASSOCIATED TOOLING

FITTING	PART NO.
Coupling (Figure 1A)	332843
Branch Tee Fittings with and without Ground: H Fitting, W/Ground (Fig. 1B)	332824
K Fitting, W/Ground (Fig. 1C)	332823
K Fitting, W/O Ground (Fig. 1D)	561759-1
J Fitting, W/Ground (Fig. 1E)	332841
L Fitting, W/Ground (Fig. 1F)	332842
Pulling Eye and Pipe Plug (Fig. 1G)	561274-1
Pipe Plug with F Pressure Testing Valve (Figure 1H)	561683-1
Tee Fitting (Fig. 1I)	561515-1
Panel Fitting (Fig 1J)	561411-1
Transition Fitting - CA-3131 Feeder Pipe to 9.52 mm [.375 in.] Plastic Tubing (Fig. 1K)	561720-1
FITTING	PART NO.
AMP-FIT* Fitting Kit - Contains Assortment of Above Fittings and Hand Tool 69992	561475-1
AMP-FIT Fitting Kit - Contains Assortment of Above Fittings but Not the Hand Tool 69992	561475-2
TOOL	PART NO.
Hand Tool (CA-3131 Feeder Pipe Crimping Operation)	69992
Hand Tool (9.52 mm [.375 in.] Tubing Crimping Operation)	69671

Figure 5

6. REVISION SUMMARY

- Updated document to corporate requirements
- New logo and format
- Deleted obsolete tooling and related documentation