AMP INCORPORATED
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APPLYING PLASTIC PIPE FITTINGS ON CA-3131 DRY AIR FEEDER PIPE

Instruction Sheet
IS 2539
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1. GENERAL

1.01 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. AMP-FIT★ Hand Tool, Part No. 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 IS 2540, supplied with tool.

1.02 This instruction sheet is being reissued because of changes to existing products and addition of new products. Since this reissue is a general revision, revision arrows have not been used to denote significant changes. Equipment Test Lists are not affected.

2. DESCRIPTION

2.01 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.

2.02 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 the grounding post.

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

2.04 Branch Tee Fittings (H and K Fittings — with and without ground) (2, 3, and 4, Fig. 1) 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.

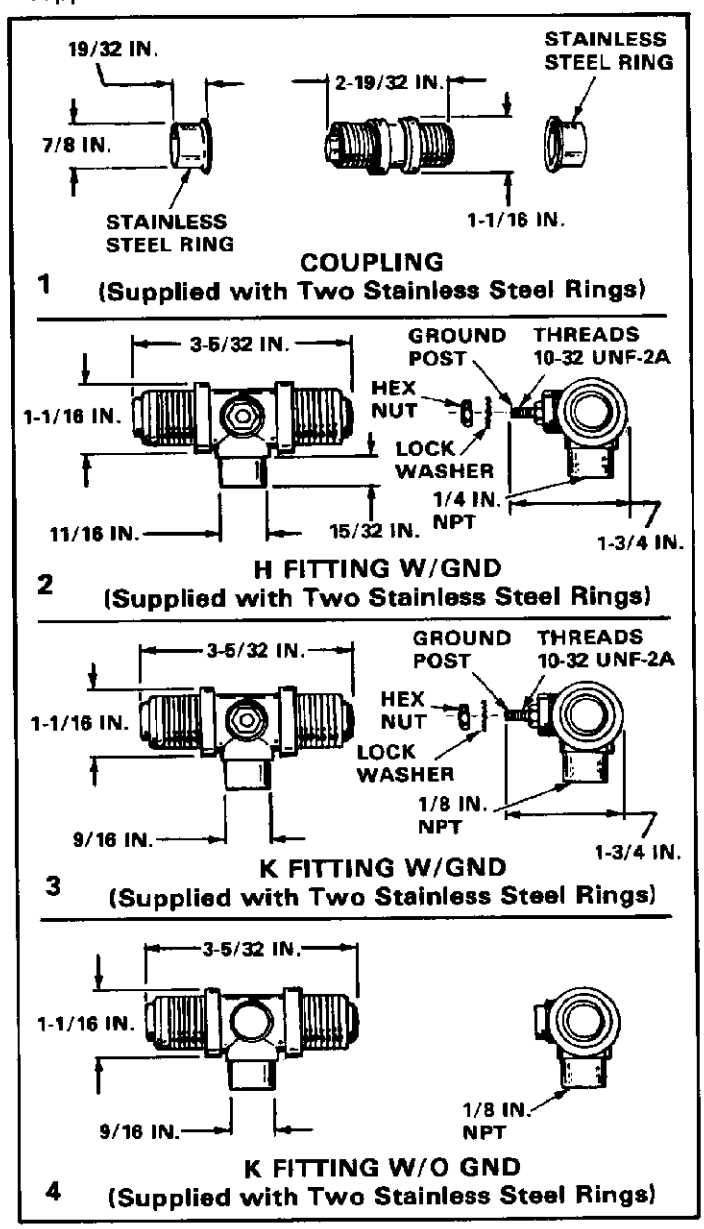

Fig. 1—Plastic Pipe Fittings (Contd on Page 2)

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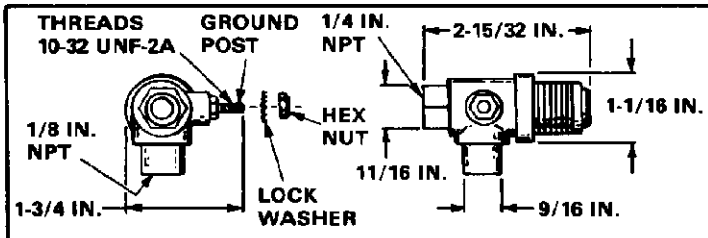
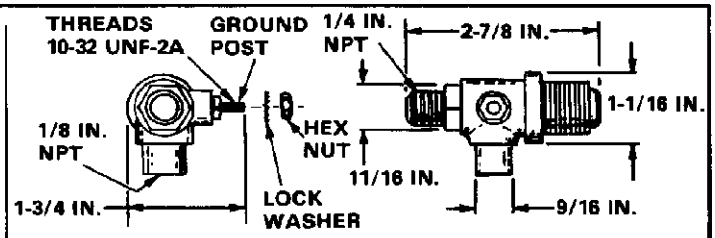
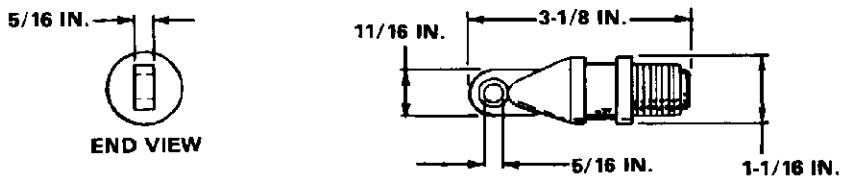


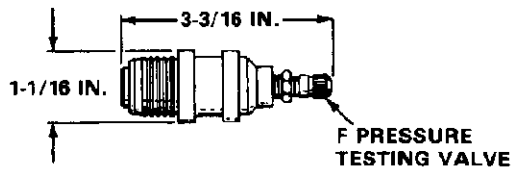
5 **J FITTING W/GND**
(Supplied with One Stainless Steel Ring)



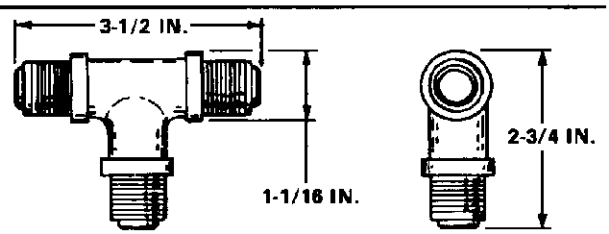
6 **L FITTING W/GND**
(Supplied with One Stainless Steel Ring)



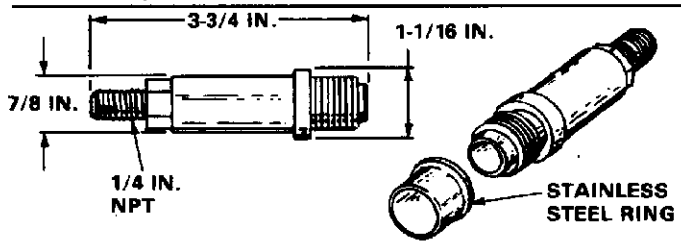
7 **PULLING EYE AND PIPE PLUG**
(Supplied with One Stainless Steel Ring)



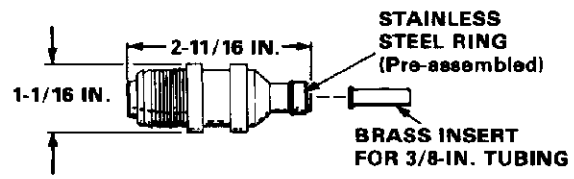
8 **PIPE PLUG WITH F PRESSURE TESTING VALVE**
(Supplied with One Stainless Steel Ring)



9 **TEE FITTING**
(Supplied with Three Stainless Steel Rings)



10 **PANEL FITTING**
(Supplied with One Stainless Steel Ring)



11 **TRANSITION FITTING**
(CA-3131 Feeder Pipe to 3/8-Inch Plastic Tubing)
(Supplied with One Stainless Steel Ring — Not Shown — and One Brass Insert)

Fig. 1—Plastic Pipe Fittings (Contd from Page 1)

2.05 Branch Tee Fittings (J and L Fittings — both with ground) (5 and 6, Fig. 1) 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 thread for use in installing a 1/4-inch 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).

2.06 The Pulling Eye and Pipe Plug Fitting (7, Fig. 1) has a 5/16-inch-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.

2.07 The Pipe Plug Fitting with F Pressure Testing Valve (8, Fig. 1) has a pre-assembled F Pressure Testing Valve. In addition to serving as a pipe plug, this fitting provides a convenient pressure testing point.

2.08 The Tee Fitting (9, Fig. 1) is used for tapping a CA-3131 Feeder Pipe. Three crimping rings, required for installation, are supplied with the fitting.

2.09 The Panel Fitting (10, Fig. 1) has a 1/4-inch male NPT thread on one end and is used as a panel connector.

2.10 The Transition Fitting (11, Fig. 1) is used to connect a section of CA-3131 Feeder Pipe to a section of 3/8-inch plastic tubing. The stainless steel

ring required to crimp the 3/8-inch tubing is pre-assembled to the fitting, and the brass insert to be fitted into the crimp end of the 3/8-inch tubing as a stiffener is supplied with the fitting. AMP-FIT Hand Tool, Part No. 68317-1 or Part No. 69671, is required to crimp the 3/8-inch fitting. Instructions for use, maintenance, and inspection of these hand tools are provided in Instruction Sheets IS 2730, supplied with Part No. 68317-1, and IS 2703, supplied with Part No. 69671.

3. PREPARATION AND ASSEMBLY

3.01 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.

3.02 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.

Pipe Preparation

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

(a) Cut the end of the pipe squarely. See Figure 2A.

(b) Size and chamfer the pipe using the appropriate pipe shaper.

Assembly of Pipe to Fitting

3.04 Assemble pipe to fitting as follows:

(a) Slide the stainless steel ring over the end of the pipe with flanged end of ring toward fitting, as shown in Fig. 2B.

(b) Slide fitting onto pipe until pipe bottoms inside fitting: minimum insertion depth is 5/8 inch (Fig. 2C).

(c) Slide stainless steel ring forward until it butts against end of fitting.

Crimping

3.05 Under normal temperature conditions, no special preparation is needed, and the fitting can be crimped to the pipe using AMP-FIT Hand Tool No. 69992

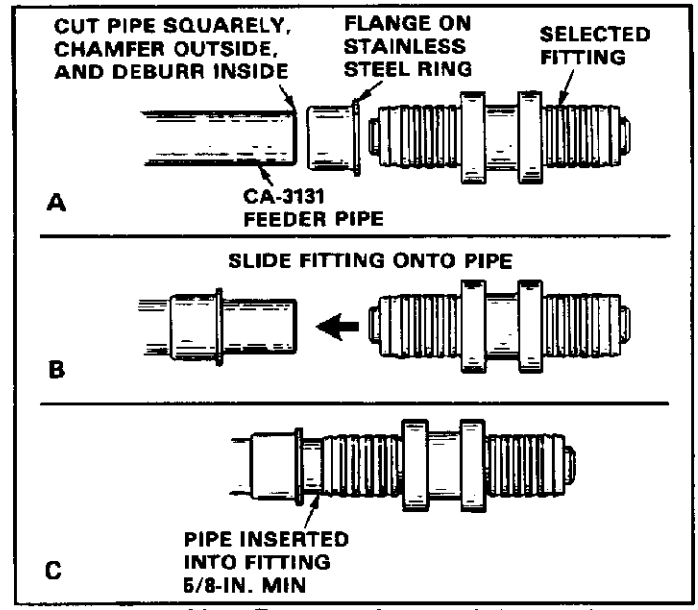


Fig. 2—Pipe Preparation and Assembly

after assembly of the pipe and fitting. Crimp pipe to fitting as follows:

(a) Open the handles of the tool. Place stationary jaw behind fitting shoulder and the movable jaw behind the ring flange, as shown in Fig. 3A.

(b) Close handles until ring flange is resting against fitting. Then apply a steady, even pressure on tool handles until the ring flange

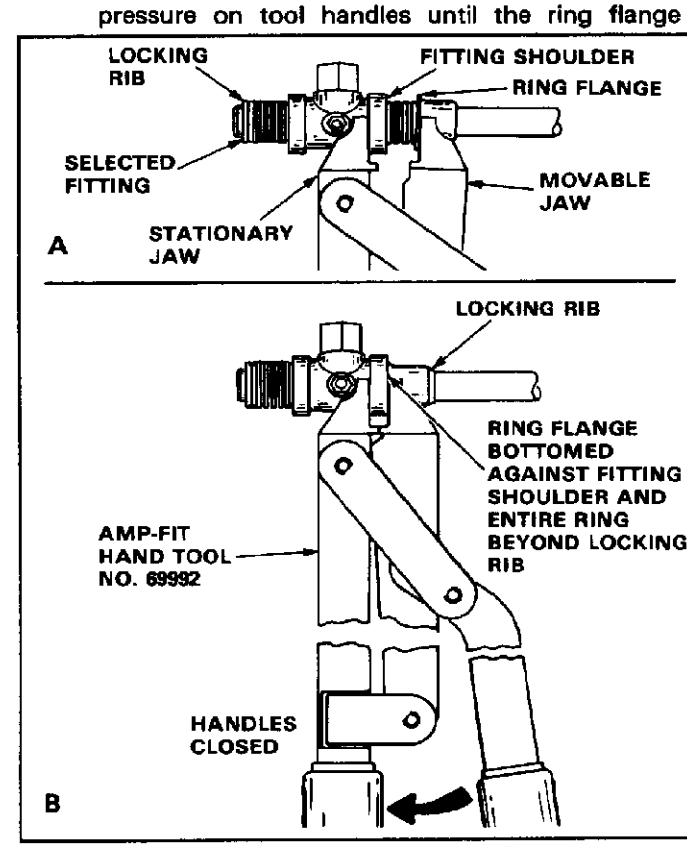


Fig. 3—Crimping Operation

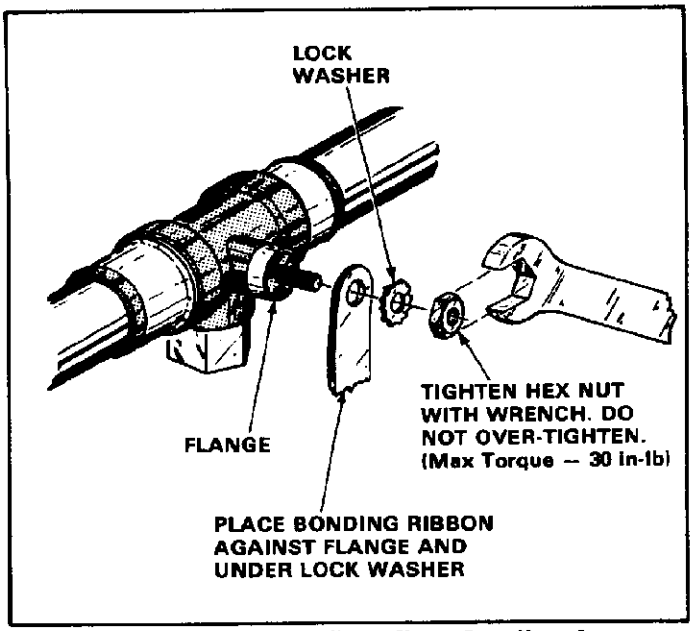


Fig. 4—Electrical Bonding Application

bottoms against the fitting shoulder and entire ring is beyond locking rib. (Do not *snap* tool closed.) See Fig. 3B. Open the handles to remove the assembly.

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

3.06 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.

Transition Fitting Assembly

3.07 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 3.05 and 3.06. Crimping of 3/8-inch tubing to the other end of the fitting is accomplished by using Hand Tool No. 68317-1, as described in Instruction Sheet IS 2730 (supplied with the tool), or Hand Tool No. 69671, as described in Instruction Sheet IS 2703 (supplied with the tool).

Note: Detailed instructions for applying plastic pipe fittings on 3/8-inch tubing are provided in Instruction Sheet IS 2703-1 (supplied with 3/8-inch plastic pipe fittings).

4. ELECTRICAL BONDING

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

(a) Remove hex nut and lock washer from grounding post. See Figure 4.

(b) Place bonding ribbon on grounding post.

(c) 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 30 inch-pounds.*

5. ORDERING INFORMATION

5.01 CA-3131 Feeder Pipe fittings and tooling required for assembly can be ordered as listed in Table A through your local AMP representative.

TABLE A
CA-3131 DRY AIR FEEDER PIPE FITTINGS AND ASSOCIATED TOOLING

FITTING	PART NO.
Coupling (1, Fig. 1)	332843
Branch Tee Fittings With and W/O Ground:	
H Fitting, W/Ground (2, Fig. 1)	332824
K Fitting, W/Ground (3, Fig. 1)	332823
K Fitting, W/O Ground (4, Fig. 1)	561759-1
J Fitting, W/Ground (5, Fig. 1)	332841
L Fitting, W/Ground (6, Fig. 1)	332842
Pulling Eye and Pipe Plug (7, Fig. 1)	561274-1
Pipe Plug with F Pressure Testing Valve (8, Fig. 1)	561683-1
Tee Fitting (9, Fig. 1)	561515-1
Panel Fitting (10, Fig. 1)	561411-1
Transition Fitting — CA-3131 Feeder Pipe to 3/8-Inch Plastic Tubing (11, Fig. 1)	561720-1
FITTING KIT	**PART NO.**
AMP-FIT Fitting Kit — Contains assortment of above fittings and AMP-FIT Hand Tool No. 69992	561475-1
AMP-FIT Fitting Kit — Contains assortment of above fittings but not the hand tool (69992)	561475-2
TOOL	**PART NO.**
AMP-FIT Hand Tool (CA-3131 Feeder Pipe Crimping Operation)	69992
AMP-FIT Hand Tool (3/8-Inch Tubing Crimping Operation)	68317-1 or 69671