1 Purpose:

1.1 The purpose of this document is to provide information on the operating instructions as well as care of the POD-375 Pinch Off Device.

2 Procedure:

2.1 Unpack the POD-375 Pinch-Off Tool.

2.2 Inspect the tool for any shipping damage. If damage is found, contact CHA Industries before using.

2.3 Open and close the handles while observing the jaws sliding in the head. The jaws and handle should operate freely with a small amount of drag. The small amount of drag is due to the close fitting of mating parts.

2.4 Holding both handles, one in your left hand and the other in your right hand, close the jaws and insure that the jaws meet parallel without light penetrating between the jaws.

2.5 The above inspection may be repeated any time to insure the tool is in proper working order.

2.6 With the above inspection completed, you are now ready to use the POD-375 Cold Weld Pinch-Off Tool.

2.7 Insure that the material to be pinched off falls in the following categories:

2.7.1 The tool is designed to produce a hermetically perfect cold-weld of tube walls on fully annealed tubing with a maximum diameter of 3/8 inch. Most pinch-off applications are performed on OFHC copper.

2.7.2 Other soft metals, such as fully annealed aluminum, .070 inch OD x .010 wall Kovar, annealed nickel, thin wall 52 alloy, and platinum, can be pinched off.

2.7.3 Tubing is to be free from oxides which are harder than the base metal and can interfere with the cold welding process.

2.8 Insure the tubing to be pinched off is fully annealed and free of oxide and any foreign particulate.

2.9 Clean the hardened jaws to remove any work-hardened metal that might remain from the previous pinch off. Since the pinch-off is a cold

extrusion, a light coating of clean #10 machine oil may be used to aid the material flow. Make sure the oil is compatible with the process.

2.10 In most cases a short length of the tubing to be pinched off is connected to the part/chamber to be evacuated by welding, soldering, or brazing. This tube is then connected to the vacuum pumping systems using an o-ring sealed quick coupling.

2.11 Evacuate the part/chamber and tube to be pinched off as required.

2.12 Insure that the part to be pinched off is properly supported so it will not fall and cause damage to the part or injury to personnel.

2.13 Using both hands, grip the tool by the handles.

2.14 Place the tool so the tubing is centered, left to right, between the pinch-off tool jaws. Also make sure the tool is perpendicular (90 degrees) to the centerline of the tubing.

2.15 Slowly start closing the handles until the jaws make contact with the tubing.

2.16 Continue closing the handles using steady pressure until the jaws meet and the tubing separates.

2.17 Sometimes the tubing will not separate. The cold weld is completed, but there is a very thin layer of metal still connecting the tubing ends. When this happens, remove the tool, disconnect the vacuum line, and gently bend the tubing back and forth parallel to the cold weld until separation occurs. If any effort is required to bend back and forth the pinched tubing, either the tubing exceeds the capacity of the device or the jaws are worn and need to be replaced. Any excessive force required to break the weld could compromise the cold weld.

2.18 After pinch off, the tubing ends are razor sharp and may cause injury if not properly handled.

2.19 Most pinch-off's are encapsulated to prevent damage to the cold-weld and also to prevent injury to personnel from the razor sharp edge.

2.20 Properly store the pinch-off tool to prevent damage.

2.21 For replacement jaws and other parts, contact CHA Industries.