FLARING TOOL OPERATING INSTRUCTIONS

The 2000 FS tool is designed for flaring, double flaring and swaging a variety of tubing materials. Individual size jaw sets are utilized for positive clamping compactness and operating versatility. Socket head screws are provided for clamping the jaws to the yoke and feeding the tube forming components. The screws are hand turned for all free travel movement when advancing or retracting. A hex socket and 3/8 square drive ratchet are furnished for easy operation of the threaded members under load. Tube forming components (flaring cones, double flaring adapters, swaging adapters) are retained on the feed screw by a ball detent mechanism and can be snapped on and off for quick change as required. The tool is designed to permit hand held or vise mounted operation. Operating procedures for each of the tool functions are as follow:

1. Before flaring, be sure that the tubing is cut off squarely, and remove the cut-off burrs.
2. Connect the proper size swaging adapter to the feed screw by snapping on end. Lubricate adapter.
3. Select the proper size jaw set and position on yoke. Rear jaw half relief hole must engage jaw retaining pin on yoke. Insert socket head clamping screws and loosely engage.
4. Insert the tubing into the jaw opening and position end to protrude above top surface approximately the tube diameter plus 1/8 inch (i.e. on 1/2 O.D. tubing [tube protrudes 5/8 inch above top jaw surface]).
5. Hand tighten the knurled socket head clamp screws evenly to engage tubing and then wrench tighten until bottomed to secure tubing.
6. Advance feedscrew by hand until adapter contacts tubing. Then wrench down until shoulder of adapter contacts end of tube.
7. Wrench jaw clamp screws loose 1/2 turn and then by hand continue backing until jaws can be spread enough to remove tubing.
8. Slip the flare nut onto the tubing.
9. Wrench jaw clamp screws loose 1/2 turn and then by hand continue backing out until jaws can be spread enough to remove tubing.
10. Retract feedscrew 1/2 turn using wrench and then by hand continue retracting until flaring cone clears tubing.
11. Wrench jaw clamp screws loose 1/2 turn and then by hand continue backing out until jaws can be spread enough to remove tubing.

FLARING-37° & 45°

Tubing material--soft copper, brass, aluminum, steel, stainless steel
Tubing Sizes--3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4

1. Before flaring, be sure that the tubing is cut off squarely, and remove the cut-off burrs.
2. Slip the flare nut onto the tubing.
3. Select the proper size jaw set and position on yoke. Rear jaw half relief hole must engage jaw retaining pin on yoke. Insert socket head clamping screws and loosely engage.
4. Insert the tubing into the jaw opening so that it is above the jaw chamfered top surface. Approximately: 1/32 for 45° flares, 1/16 for 37° flares.
5. Hand tighten the knurled socket head clamp screws evenly to engage tubing and then wrench tighten until bottomed to secure tubing.
6. Connect proper flaring cone (45° or 37°) to feed screw by snapping on at tip.

DOUBLE FLARING-45° ONLY

Tubing material--soft copper, aluminum, steel (Bundy or GM to .035 wall)
Tubing Sizes--3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4

1. Before flaring, be sure that the tubing is cut off squarely, and remove the cut-off burrs. Tubing also should be chamfered on the outside edge. This chamfering is very important as it influences the results obtained in the first forming operation. Chamfering can be done very easily with an Imperial No. 208-F inner and outer reamer or with an ordinary file.
2. Slip the flare nut onto the tubing.
3. Select the proper size jaw set and position on yoke. Rear jaw half relief hole must engage jaw retaining pin on yoke. Insert socket head clamping screws and loosely engage.
4. Insert the tubing into the jaw opening with the end of the tubing protruding above the top of jaws by a distance equal to the gage line on the double flaring adapter of the corresponding size. See Figure 2.
5. Hand tighten the knurled socket head clamp screws evenly to engage tubing and then wrench tighten until bottomed to secure tubing.
6. Connect double flaring adapter (45°) to feed screw by snapping on at tip.
7. Advance the feed screw by hand until the cone contacts the tubing. Then wrench down until resistance is felt indicating completion of the flare.
8. Retract feedscrew 1/2 turn using wrench and then by hand continue retracting until flaring cone clears tubing.
9. Wrench jaw clamp screws loose 1/2 turn and then by hand continue backing out until jaws can be spread enough to remove tubing.
10. Retract feedscrew 1/2 turn using wrench and then by hand continue retracting until flaring cone clears tubing.

NOTE: For optimum tool performance and service, maintain lubricant on all threads and entire tip of feed screw and underside of heads on clamp screws.

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WARNING:
For safety of operator, do not use tool without proper lubrication and protection of feed screw and nut. (Soft copper, aluminum, brass, steel tubing.)

Tubes having an inside diameter equal to .035 wall must be chamfered to .020 wall before flaring with Imperial tool. Chamfering can be done easily with an Imperial No. 208-F inner and outer reamer, or with an ordinary file.

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5. Hand tighten the knurled socket head clamp screws evenly to engage tubing and then wrench tighten until bottomed to secure tubing.
6. Advance feedscrew by hand until adapter contacts tubing. Then wrench down until shoulder of adapter contacts end of tube.
7. Wrench jaw clamp screws loose 1/2 turn and then by hand continue backing out until jaws can be spread enough to remove tubing.
8. Slip the flare nut onto the tubing.
9. Wrench jaw clamp screws loose 1/2 turn and then by hand continue backing out until jaws can be spread enough to remove tubing.
10. Retract feedscrew 1/2 turn using wrench and then by hand continue retracting until flaring cone clears tubing.
11. Wrench jaw clamp screws loose 1/2 turn and then by hand continue backing out until jaws can be spread enough to remove tubing.