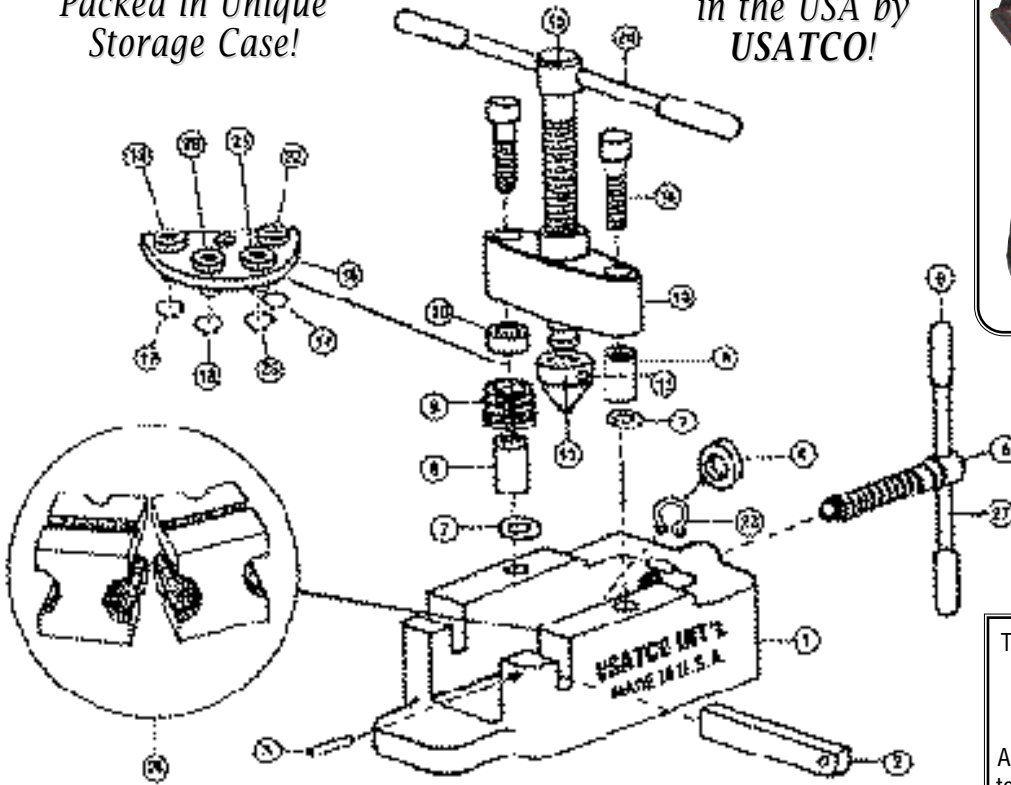




## 37° Double & Single Lap Tube Flaring Tool

*Two tools in one!  
Packed in Unique  
Storage Case!*

*Manufactured  
in the USA by  
USATCO!*



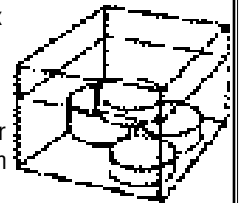
### 53-256FK Flaring Tool Kit



#### Kit Includes:

- Double Lap Flaring Tool (04-256-F)
- Tubing Cutter (02-512)
- Inner-Outer Reamer (02-208-FSS)
- Plastic Carrying Case

**Tool Includes** One Box of 4 Setting Gauges.  
**Saves Time and Wasted Tubing!**  
Accurately tells how far to protrude tubing from blocks before flaring.



Part No.	Item No.	Name	Quantity
38-93013	1	Frame	1
38-93014	2	Gate	1
38-93015	3	Pivot Pin	1
38-93016	4	Contact Block	1
38-93017	5	Flare Block Screw	1
38-93018	6	Cap	4
38-93019	7	Spacer, Lower	2
38-93020	8	Post	2
38-93021	9	Spring	1
38-93022	10	Spacer, Upper	1
38-93023	11	Cone	1
38-93024	12	Lock Screw	1
38-93025	13	Bridge	1
38-93026	14	Lock Bolt	2
38-93027	15	Flare Screw	1

Part No.	Item No.	Name	Quantity
38-93028	16	Turret	1
38-93029	17	Retaining Ring	2
38-93030	18	Retaining Ring	1
38-93031	19	Flare Set — 5	1
38-93032	20	Flare Set — 6	1
38-93033	21	Flare Set — 8—3	1
38-93034	22	Flare Set — 4	1
38-93035	23	Retaining Ring	1
38-93036	24	Tube Flare Block	2
38-93038	25	Retaining Ring	1
38-93039	26	T Handle-Flare	1
38-93040	27	T Handle-Flare	1
38-93041	28	Setting Gauges	4
—	—	—	—
—	—	—	—

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USATCO\U.S. AIR TOOL COMPANY, INC. [www.USATCO.com](http://www.USATCO.com) NEW YORK • CALIFORNIA

# INSTRUCTIONS FOR OPERATION

## 37° Double & Single Lap Tube Flaring Tool

**Note:** It is suggested that the user practice flaring according to the following instructions using scrap or spare tubing.

This precision Double Lap Flaring Tool provides a quick and convenient method making accurate 37° double & single flares which conform to aviation standard MS33583 on soft aluminum tubing. It can also be used for making single flares on soft aluminum tubing. Flares 3/16", 1/4", 5/16", 3/8", 1/2" O.D. tubing.

**Before Making Flare,** be sure end of tubing has been cut off squarely\*, then remove burr from inside and outside edges\*\*. Tubing should also be chamfered on the outside edge. The chamfer helps to guide the tubing in the first forming operation.

The clamping screw, compressor screw and adapter faces should be well lubricated at all times with an oil similar to S.A.E. 20.

**To Make Double Lap Flares:**

Operation of the tool is as follows:

1. Affix TOOL TAB in vise.
2. Back off compressor screw sufficiently to enable adapter plate to clear (do not back off beyond this point).
3. Rotate the adapter plate into neutral position then open the latch bar and remove the die blocks as shown in **figure 1**.
4. Select the proper dies for the size of tubing to be flared and insert the blocks into the body of the tool. Then close the latch bar.
5. Select the adapter corresponding to the size of the tubing to be flared and rotate into position over opening in dies (note that sizes of adapter are marked on the top edge of the adapter plate).
6. Insert tubing in the opening of die blocks and continue pushing tube upward to a distance equal to the height of proper gauge which is marked

with the same identifier as the die blocks. Tighten clamping screw to hold tubing securely in this position.

7. Turn down compressor screw until bottom edge of the adapter is flush with the top of the die blocks (**figure 2**). This first operation prepares tubing for next step.

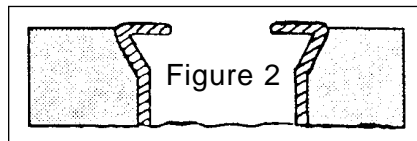
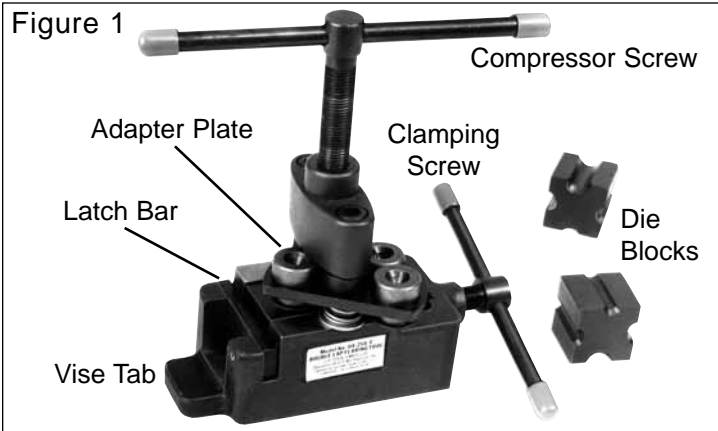
8. Retract compressor screw and rotate adapter carrier into neutral position. Again turn screw down firmly and double-flare is completed (**figure 3**). **Do not overtighten.**

9. To remove tubing after completing flare, loosen clamping screw and work tubing in a motion from clamp to latch and grip will be broken so that tubing can be slipped out.

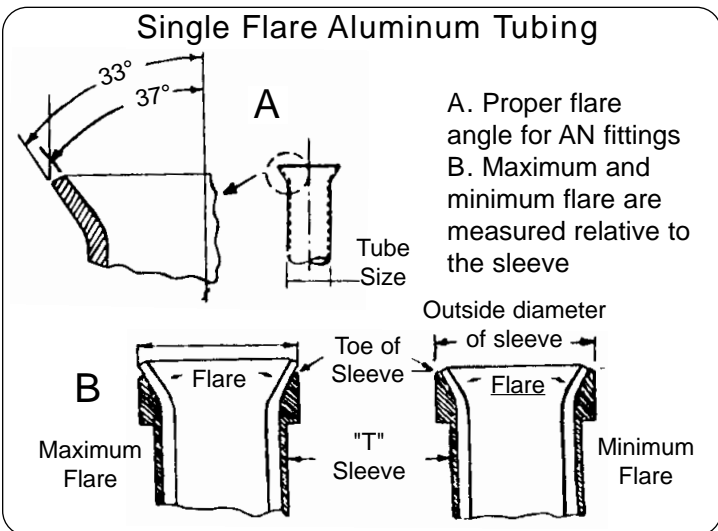
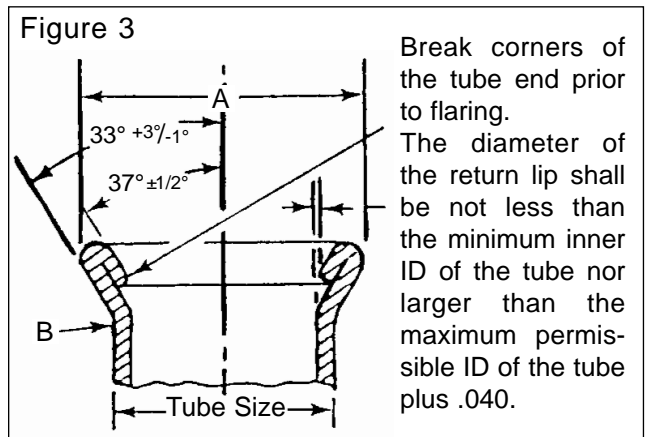
10. burnish flared end with abrasive cloth. Form cloth into cone shape, rotate inside, on top and side of flare. Then **you must** thoroughly wash and blow out entire tube to remove any contaminant.

11. For making single flares, position adapter carrier in neutral position, insert tubing approximately 1/32" to 1/16" above die blocks and clamp securely. Follow steps 6 and 7 above.

12. **It is extremely important** that the cone rotate freely during all phases of the flaring process. If frozen, loosen allen screw one turn and remove by backing out compressor screw until the cone detaches. Then clean up any burrs on screw end with fine emery cloth until cone fits on and rotates freely. Lubricate with a small amount of grease or oil. When tightening allen screw, do so lightly until contact is made with compressor screw end. Then, back off 1/2 turn to allow free rotation.



**Caution:**  
Clean Tubing before Installation. No oils or greases with oxygen lines!



STANDARD MS33583 DIMENSIONS FOR 37° DOUBLE FLARED TUBING

Tube Size Nominal OD Inches	A +.000 -.010 Dia. In.	B +.010 Radius Inches	Wall Thickness Inches	Min. ID Inches
1/4	.359	.032	.028	.178
			.035	.159
5/16	.421	.046	.035	.224
			.049	.198
3/8	.484	.046	.028	.310
			.035	.288
			.049	.261



\*Use our Tubing Cutter, 02-0274



\*\*Use our Inner Outer Reamer, 02-208-FSS

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