

SAE Flare coupling installation

Most EHE Through flow impeder are supplied with SAE flare fittings. The following series of photographs illustrates how these fittings are used.



1 Slide the flare nut over the copper tubing used to attach the impeder.



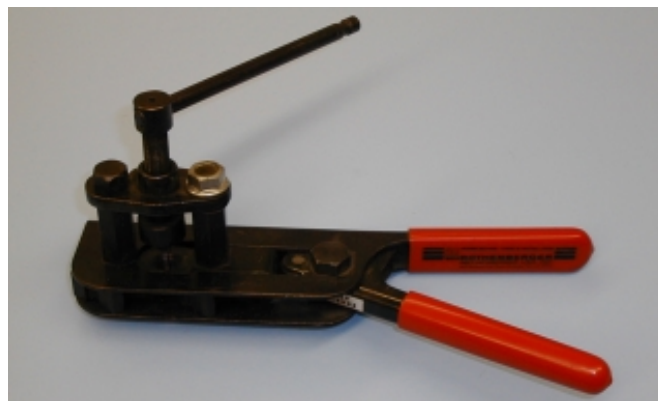
2 Use a flaring tool or punch to flare the tube end at 45°.



3 Flared end should look like this.



4 Thread nut onto impeder to provide leak tight coolant connection.



Flare nuts & flaring tools are available from EHE and from most hardware stores. The heavy duty 3/16" to 5/8" flaring tool shown here is priced at \$88.00 from EHE, & will fit all flare fittings used on EHE impeder.

In order to properly flare coping tubing for use with Parker 45° Flared Fittings and Inverted Flared Fittings, the following procedures and specifications should be met in preparation and make-up of flares.

FLARING INSTRUCTIONS

1) CUT TUBE WITH TUBE CUTTER:

To minimize the burr and workhardening, use a light feed on the cutting wheel and make several revolutions.

2) REAM THE TUBING:

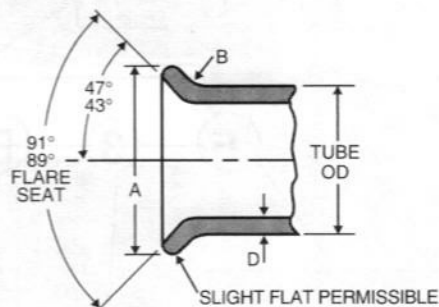
Cutting with a tube cutter will always create a burr. The burr must be removed to obtain maximum sealing surface. Remove only the burr, do not remove material from the original wall thickness. Also clean the tube end thoroughly to remove burrs.

3) FLARE TUBING:

Flare with a compression or generating type flaring tool. Follow tool manufacturer's instructions for: (A) positioning the tube in tool and (B) for the correct number of turns on the feed handle.

4) INSPECT TUBING:

The flare cone should be checked for a smooth surface on the I.D. of the cone and measure with micrometer over largest O.D. for proper size. (See dimensions below for flare size for each tubing size.)



Nominal Tube	A Single Flare Diameter		B Single Flare Radius	D Single Flare Wall Thickness
	in		in	in
	Max.	Min.	±0.01	Max.
1/8	0.0181	0.171	0.02	0.035
3/16	0.0249	0.239	0.02	0.035
1/4	0.325	0.315	0.02	0.049
5/16	0.404	0.388	0.02	0.049
3/8	0.487	0.471	0.02	0.065
7/16	0.561	0.545	0.02	0.065
1/2	0.623	0.607	0.02	0.083
9/16	0.676	0.660	0.02	0.083
5/8	0.748	0.732	0.02	0.095
3/4	0.916	0.900	0.02	0.109
7/8	1.041	1.025	0.02	0.109
1	1.157	1.141	0.02	0.120

Straight Thread Size Comparison Chart

	Tube O.D.										
	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
SAE 45° Flared	5/16 -24	3/8 -24	7/16 -20	1/2 -20	5/8 -18	11/16 -16	3/4 -16	7/8 -14	1-1/16 -14	1-1/4 -12	-
Inverted Flared	5/16 -28	3/8 -24	7/16 -24	1/2 -20	5/8 -18	11/16 -18	3/4 -18	7/8 -18	1-1/16 -16	1-3/16 -16	-
Air Brake/NTA	-	-	7/16 -24	-	17/32 -24	-	11/16 -20	13/16 -18	1 -18	-	1 1/4 -16
Std. Comp./ Compress-Align	5/16 -24	3/8 -24	7/16 -24	1/2 -24	9/16 -24	5/8 -24	11/16 -20	13/16 -18	1 -18	1-1/8 -18	1 1/4 -18
Poly-Tite	5/16 -24	3/8 -24	3/8 -24	7/16 -24	1/2 -24	-	11/16 -20	-	-	-	-
Vibra-Lok	3/8 -24	7/16 -24	1/2 -24	9/16 -24	5/8 -24	-	13/16 -18	1 -18	1-1/8 -18	-	-
V510 Ball Valves	-	-	7/16 -20	-	9/16 -18	-	3/4 -16	7/8 -14	1-1/16 -12	-	1-5/16 -12