



PROFESSIONAL FLARING TOOL

001ERL – 37° & 45°

002ERL – 37°

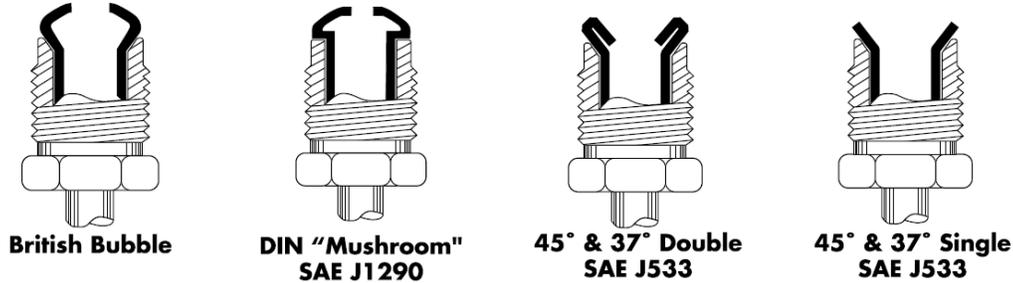


001ERL shown here

OWNER'S MANUAL 199R11215

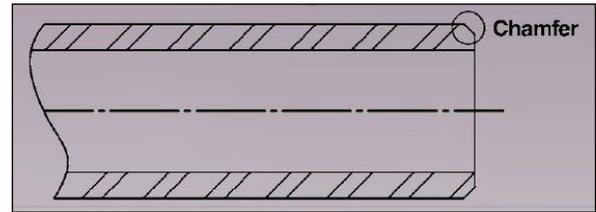
EDUCATIONAL

Flare Types



TIPS

- Make sure the end of the tube is cut off square.
- Before flaring, make sure the die clamp is tight.
- Remember to add the tube nuts before shaping the tube or performing the final flare.
- Remember to add any spring guards before performing the final flare.
- Adding a drop of lubricating oil to the tube end before flaring may provide a smoother flare.
- If the tube slips during flaring (due to worn dies or undersized tube), add a dab of grinding paste to the tube before clamping it in the dies.
- You will get a more professional finish if the outside of the tube is slightly chamfered and the inside of the tube is fully deburred (see illustration above).

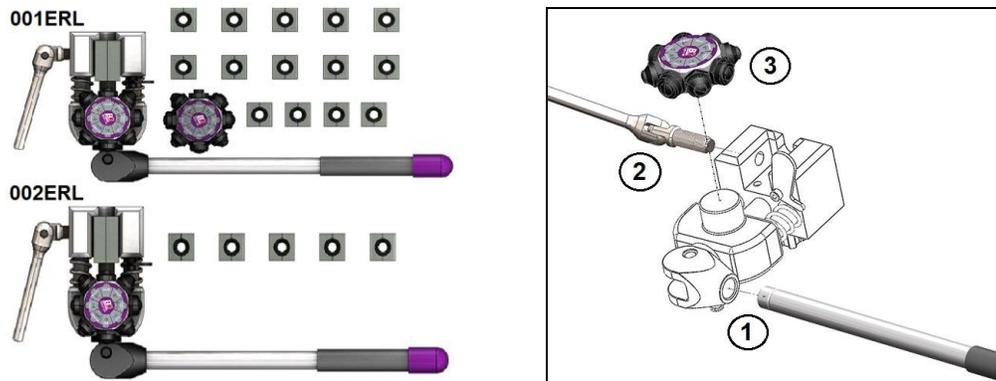


TROUBLESHOOTING

What if the tube splits during flaring? This happens when the tube has not been annealed or when the depth of the tube in the dies is set incorrectly.

What if I get a poor result? This usually happens when the tube slips in the dies or when the tube is not concentric.

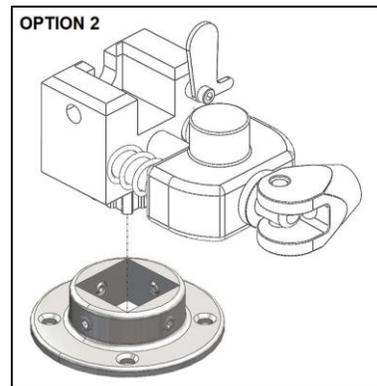
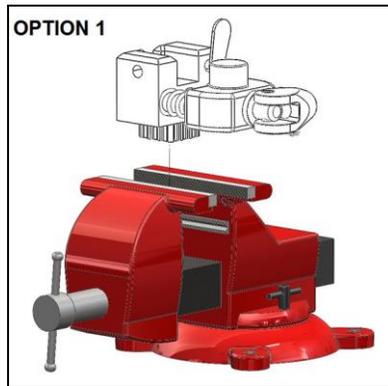
ASSEMBLY INSTRUCTIONS



1. Insert the handle into the operating cam until it snaps in place.
2. Screw the die-clamping handle into the side of the body until it is flush with the die cavity.
3. Select the required punch turret and push it all the way onto the turret post.

MOUNTING OPTIONS

Clamp the base of the tool in a suitable vise (option 1) or in a mounting flange (option 2).



OPERATING INSTRUCTIONS

1. Place the required die set into the die cavity with the forming end toward the turret (**Figure 1**).
2. Position the setting tab over the die set hole and insert the tube until the tube is flush with the tab (**Figure 2**).
3. Tighten the die-clamp bolt and swivel the setting tab away (**Figure 2**).

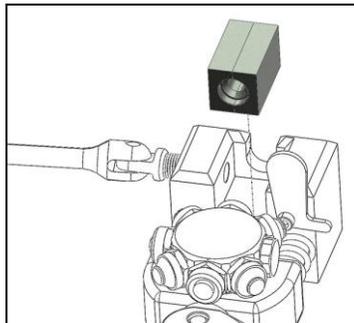


Figure 1

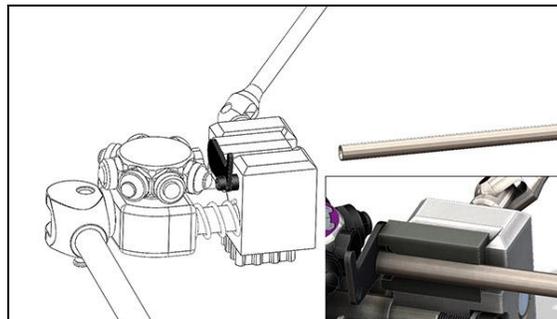


Figure 2

4. Rotate the turret until the required Operation 1 punch is aligned with the end of the tube (**Figure 3**).
5. Pull the handle slowly until the punch comes in contact with the tube, then pull the handle further until the punch bottoms out in the die set (**Figure 4**).

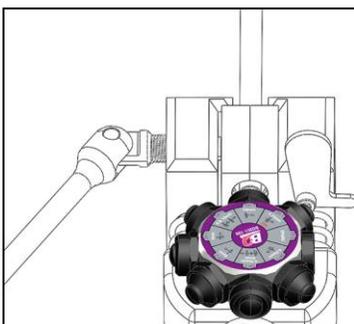


Figure 3

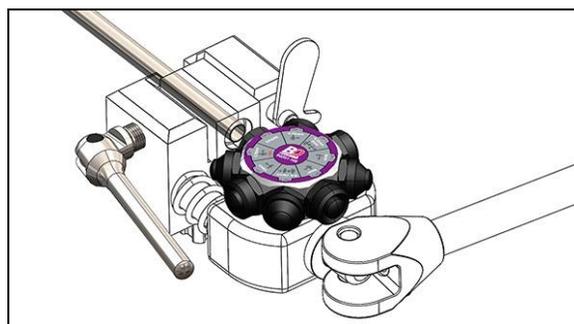


Figure 4

6. Repeat steps 4 & 5 for Operation 2 for double flares.
7. Loosen the die-clamp bolt and remove the tube from the die set. Inspect for any imperfections.

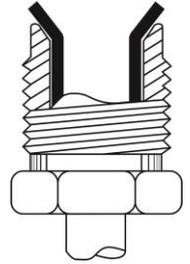
NOTES:

- Bubble and DIN flares require only one operation. Double flares require two operations.
- On the turret, Operation 2 is always next to Operation 1.
- Some Operation 2 punches share sizes.
- Tube sizes and flare types are marked on the end of the die.

PERFORMING A SINGLE FLARE

Single flares are used mainly in low-pressure applications. For high-pressure applications, such as brake lines, the single flare requires a thick-walled tube, a support collar, or both.

NOTE: Standard wall thickness is 0.028" (0.071mm).



1. Insert the tube into the die set but do not fully tighten the die-clamp bolt. (**Figure 5**).
2. Rotate the turret so that the "Single SET" punch is aligned with the tube (**Figure 6**).

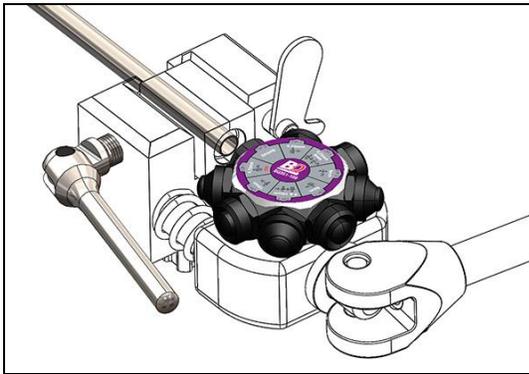


Figure 5

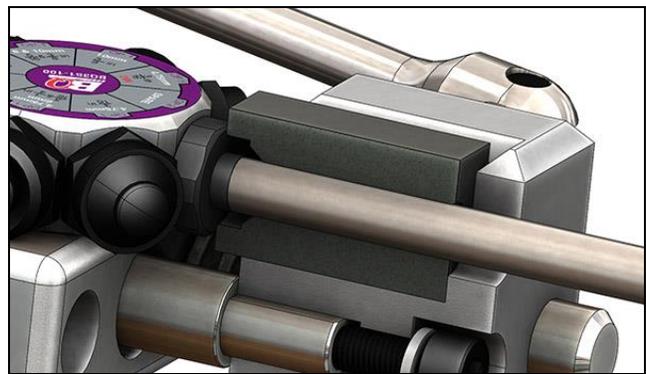


Figure 6

3. Pull the handle until the punch bottoms out onto the dies. Do not release the handle.
4. Fully tighten the die-clamp bolt, then release the handle.
5. Rotate the punch turret to align the required Operation 2 punch with the tube (**Figure 7**).
6. Pull the handle until the punch bottoms out onto the die set, then release the handle (**Figure 8**).
7. Loosen the die-clamp bolt and remove the tube from the die set. Inspect for any imperfections.

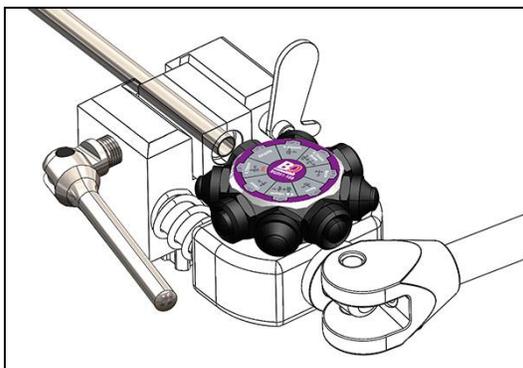


Figure 7

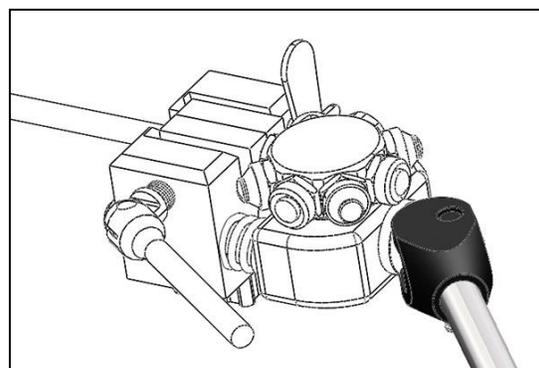
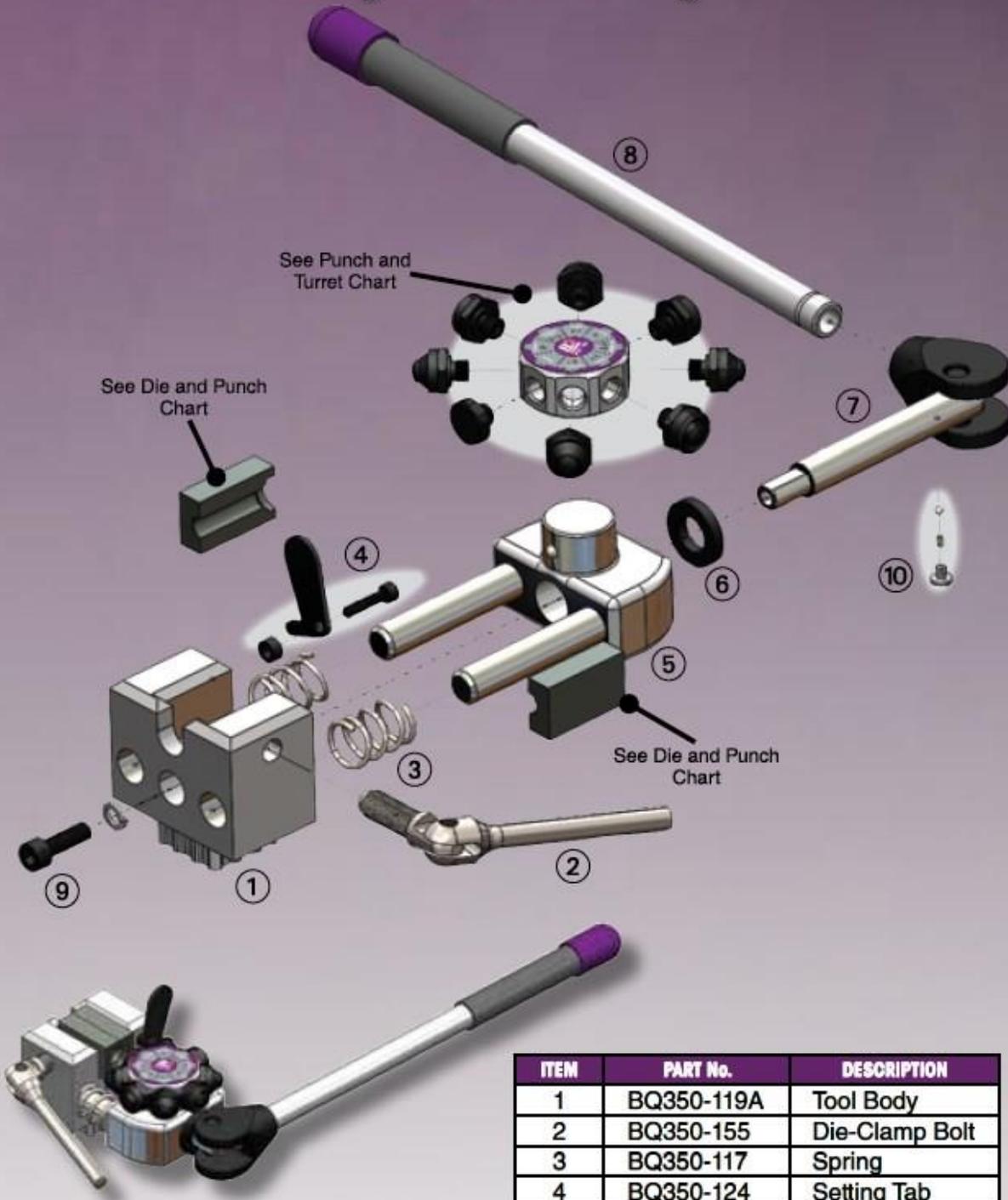


Figure 8

Flaring Tool Parts Listing



ITEM	PART No.	DESCRIPTION
1	BQ350-119A	Tool Body
2	BQ350-155	Die-Clamp Bolt
3	BQ350-117	Spring
4	BQ350-124	Setting Tab
5	BQ350-116	Turret Body
6	BQ350-115	Thrust Washer
7	BQ350-114	Cam Assembly
8	BQ350-110A	Handle
9	Bolt	M8x1.0-25mm
10	BQ350-113	Detent Assembly

Die & Punch Guide

45° Double Flare (both operations) or British Bubble Flare (OP. 1 only)

TUBE SIZE	DIE No.	PUNCH No. - OP.1	PUNCH No. - OP.2
3/16" (4.75mm)	BQ350-3	BQ350-21	BQ350-31
1/4"	BQ350-4	BQ350-22	BQ350-31
5/16"	BQ350-5	BQ350-23	BQ350-32
3/8"	BQ350-38	BQ350-24	BQ350-32
1/2"	BQ350-50	BQ350-25	BQ350-33
4.75mm (3/16")	BQ350-3	BQ350-21	BQ350-31
6mm	BQ350-6	BQ350-22	BQ350-31
8mm	BQ350-8	BQ350-23	BQ350-32
10mm	BQ350-10	BQ350-24	BQ350-32
12mm	BQ350-12	BQ350-25	BQ350-34

37° Double Flare

TUBE SIZE	DIE No.	PUNCH No. - OP.1	PUNCH No. - OP.2
3/16" (4.75mm)	BQ350-37	BQ350-21	BQ350-51
1/4"	BQ350-47	BQ350-22	BQ350-51
5/16"	BQ350-57	BQ350-23	BQ350-52
3/8"	BQ350-67	BQ350-24	BQ350-52
1/2"	BQ350-87	BQ350-25	BQ350-53
4.75mm (3/16")	BQ350-37	BQ350-21	BQ350-51
6mm	BQ350-637	BQ350-22	BQ350-51
8mm	BQ350-837	BQ350-23	BQ350-52
10mm	BQ350-137	BQ350-24	BQ350-52
12mm	BQ350-147	BQ350-25	BQ350-34

DIN Flare

TUBE SIZE	DIE No.	PUNCH No. - OP.1	PUNCH No. - OP.2
3/16" (4.75mm)	BQ350-3D	BQ350-61	
1/4"	BQ350-4D	BQ350-62	

37° or 45° Single Flare

TUBE SIZE	DIE No.	PUNCH No. - OP.1	PUNCH No. - OP.2
All Sizes	Same as Double	BQ350-S2	Same as Double

Punch Turret Chart

TURRET	PUNCHES							
BQ350-100 45°	BQ350-21 3/16" Opt. 1	BQ350-31 3/16"-1/4" Opt. 2	BQ350-22 1/4" Opt. 1	BQ350-23 5/16" Opt. 1	BQ350-32 5/16" - 3/8" Opt. 2	BQ350-24 3/8" Opt. 1	BQ350-25 1/2" Opt. 1	BQ350-33 1/2" Opt. 2
BQ350-101 37°+ DIN	BQ350-21 3/16" Opt. 1	BQ350-51 3/16"-1/4" Opt. 2	BQ350-22 1/4" Opt. 1	BQ350-23 5/16" Opt. 1	BQ350-52 5/16" - 3/8" Opt. 2	BQ350-24 3/8" Opt. 1	BQ350-61 3/16" DIN	BQ350-62 1/4" DIN
BQ351-100 45°+ DIN	BQ350-21 3/16" Opt. 1	BQ350-31 3/16"-1/4" Opt. 2	BQ350-22 1/4" Opt. 1	BQ350-23 5/16" Opt. 1	BQ350-32 5/16" - 3/8" Opt. 2	BQ350-24 3/8" Opt. 1	BQ350-61 3/16" DIN	BQ350-S2 SINGLE SET
BQ352-100 37°	BQ350-21 3/16" Opt. 1	BQ350-51 3/16"-1/4" Opt. 2	BQ350-22 1/4" Opt. 1	BQ350-23 5/16" Opt. 1	BQ350-52 5/16" - 3/8" Opt. 2	BQ350-24 3/8" Opt. 1	BQ350-25 1/2" Opt. 1	BQ350-53 1/2" Opt. 2

Technical Support: 1-866-464-6553

199R11215
Date: 11-2-16