DO THE JOB RIGHT.®

Item #31562

HYDRAULIC FLARING TOOL

INSTRUCTIONS

The **EASTWOOD HYDRAULIC FLARING TOOL** provides the ability to produce repeatable, perfect, OE-precision brake and fuel line flares in steel and soft-metal tubing. The tool is designed with a powerful Hydraulic Cylinder to easily form 45° single, double flares in 3/16", 1/4", 5/16", 3/8" & 1/2" tubing sizes and 4.75mm, 6mm, 8mm &10mm ISO/DIN bubble flares both on the car and off the car. In addition, dies are included to create Push-Connect type flares in 1/4", 5/16", 3/8" and 1/2" as well as GM style fuel line flares in 5/16", 3/8" & 1/2".

CONTENTS

- **(1)** Hydraulic Cylinder with integral Pump Handle
- **(17)** Complete sets of Female Split Dies for creating 45° Single or Double Flares, ISO/DIN Bubble Flares, Push-Connect and GM Fuel Line Flares
- **(19)** Male Flare Dies
- **(1)** Yoke
- **(1)** 4-1/2", rubber-gripped, Yoke Handle
- **(1)** Clamping Screw Tightening Handle
- **(1)** Plastic Blow Molded Case

TOOLS REQUIRED

- A good quality Tubing Cutter such as Eastwood #14502 or #13732
- A Brake Line Deburring Tool such as Eastwood #30448

SAFETY INFORMATION

The following explanations are displayed in this manual, on the labeling, and on all other information provided with this product:

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

⚠ NOTICE

NOTICE is used to address practices not related to personal injury.

SAFETY INFORMATION

⚠ READ INSTRUCTIONS

- Thoroughly read and understand these product instructions before using the Eastwood Hydraulic Flaring Tool.
- Keep these product instructions for future reference.

⚠ WARNING PINCH AND CRUSH HAZARD!

- Keep fingers and hands away from moving parts when operating.

⚠ WARNING IMPROPER MOTOR VEHICLE BRAKE WORK CAN RESULT IN INJURY OR DEATH!

- Performing brake work without adequate training in motor vehicle brake systems can cause injury, death and vehicle accidents. DO NOT attempt to use this tool or begin motor vehicle brake work without proper training and a thorough understanding of motor vehicle braking systems.
- Always consult an authorized service manual or instructional material on the particular vehicle for the proper brake line repair procedure before using this tool.

⚠ WARNING FAILURE TO PROPERLY JACK & SUPPORT A VEHICLE CAN RESULT IN INJURY OR DEATH!

- The Eastwood Hydraulic Flaring Tool must be used only on properly jacked and supported vehicles by properly trained individuals with thorough knowledge of automotive braking systems.
- Failure to use on a properly supported vehicle can result in serious bodily injury and property damage.
- Always consult an authorized service manual on the particular vehicle for the proper jacking/supporting procedure before using tool.

⚠ CAUTION EXPOSURE TO AUTOMOTIVE BRAKE FLUID CAN BE A HEALTH HAZARD!

- Be sure to follow all precautions listed on the brake fluid container before using.
- Wear NIOSH approved eye protection while handling brake fluid.
- Wear appropriate automotive brake fluid resistant gloves while handling brake fluid.

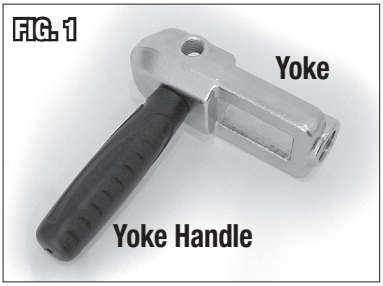
PREPARATION AND OPERATION

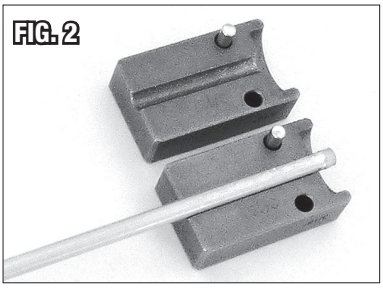
PRE-FLARE TUBING PREPARATION

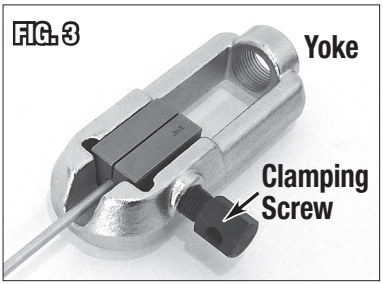
- Square-cut the tube end using only a good quality Tubing Cutter (Eastwood #14502 or #13732 work well).
  NOTICE: To form a proper flare, it is extremely important that the end of the tubing to be flared be cut perfectly square and clean. DO NOT use a hacksaw or cut-off wheel to cut tubing.
- Thoroughly chamfer the outside and ream the inside of tubing to remove all burrs and rough edges. (Eastwood #30448 Deburring Tool works well). Be sure to clear metal chips from inside tubing.
- Clean outside of tubing before placing into jaws.
  NOTICE: Very lightly lubricate the end of the cut and prepared tubing with a dab of clean brake fluid.
- Before creating the Flare, be sure to first place the appropriate brake line fittings over ends of tubing, with the flared and threaded end facing outward.

FORMING DOUBLE 45° FLARES

- Thread the Yoke Handle into the bottom of the Yoke **(FIG. 1)**.
- Place halves of the corresponding Fractional sized Female Split-Die set around the tubing making sure the Alignment Pins are seated in the holes **(FIG. 2)**.
- Place the Female Split-Die set with tubing into the Yoke and **finger-tighten** the Clamping Screw to hold them in place **(FIG. 3)**. The end of the tubing must extend a small amount beyond the face of the Split Die.
- Turn the Release Knob Counter-Clockwise to the "Open" position.







- Thread the Hydraulic Cylinder portion of the tool partially into the Yoke **(FIG. 4)**.
- Select the "OP 0", flat-faced Male Die and insert it into the retaining slot on the end of the Plunger **(FIG. 5)**. Make sure the spring loaded detent ball is seated in the recess on the back of the Die.
- Thread the Hydraulic Cylinder the remainder of the way into the Yoke **(FIG. 6)**.
- Turn the Release Knob Clockwise to the "Closed" position.
- Compress the Lever on the Hydraulic Cylinder repeatedly to advance the Plunger and Male Die toward the face of the Female Die. Continue until the Male Die contacts the face of the Split Die. This will slide the tubing into the correct "flush with the face of the Female Die" location with the "OP 0" acting as a stop-gauge **(FIG. 6)**.
  NOTE: The tube end **MUST BE FLUSH** with the end of the die set to create a complete flare **(FIG. 7)**.
- Insert the Tightening Bar into the hole in the Clamping Screw of the Yoke and use it to securely tighten the Clamping Screw and locking the Female Die set in place **(FIG. 8)**.
  NOTE: This is critical as tubing slippage at this point will result in a faulty flare.
- Turn the Release Knob Counter-Clockwise to the "Open" position. This will allow the Plunger to retract. The Hydraulic Cylinder may need to be partially unthreaded from the Yoke.
- Remove the "OP 0" Die from the Plunger and replace it with the desired Fractional size "OP 1" Male Die **(FIG. 8)**.
- Turn the Release Knob Clockwise to the "Closed" position.
- Compress the Lever on the Hydraulic Cylinder repeatedly to advance the Plunger and Male Die toward the face of the Female Die. Continue until the Male Die contacts the face of the Split Die. This will form the bubble in the end of the tubing.
- Once again, Turn the Release Knob Counter-Clockwise to the "Open" position and allow the Plunger to retract.

FIG. 4

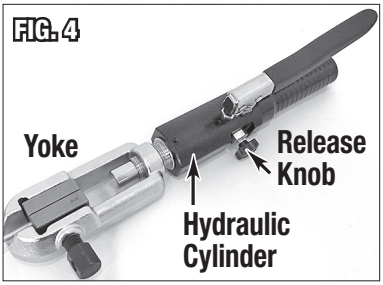


FIG. 5

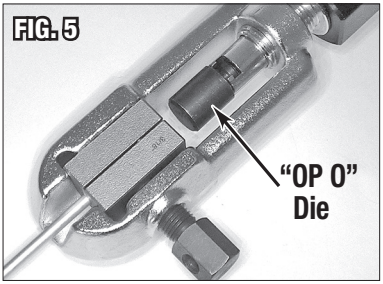


FIG. 6

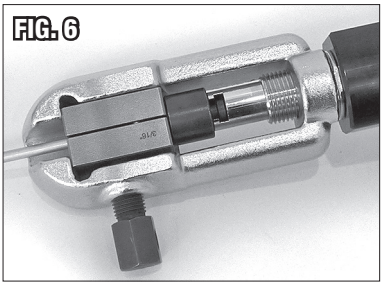


FIG. 7

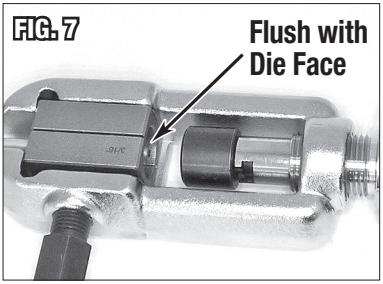
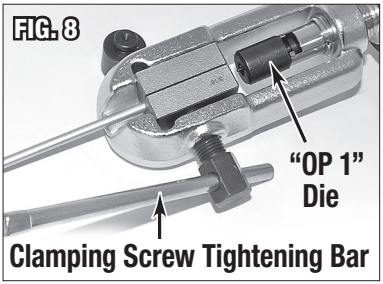
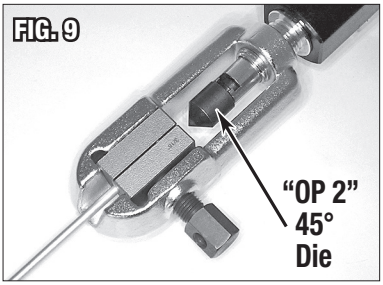
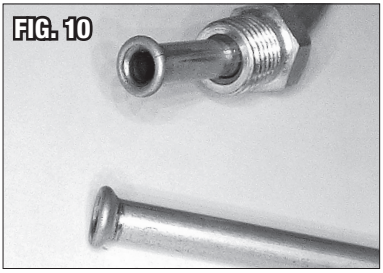


FIG. 8



- Remove the “OP 1” Die from the Plunger and replace it with the conical “OP 2”, 45° Male Die **(FIG. 9)**. The Hydraulic Cylinder may need to be partially unthreaded from the Yoke to remove Die.
- Turn the Release Knob Clockwise to the “Closed” position.
- Compress the Lever on the Hydraulic Cylinder repeatedly to advance the Plunger and Male Die toward the face of the Female Die. Continue until significant resistance is felt. This will complete the 45° Double Flare in the end of the tubing.
- The Release Knob may be opened, the “OP 2” Male Die removed, the Clamping Screw loosened and the Female Die halves with the flared tubing removed.
- Remove the finished flared tube from the dies. A slight tap may be required to release the tube from the dies.



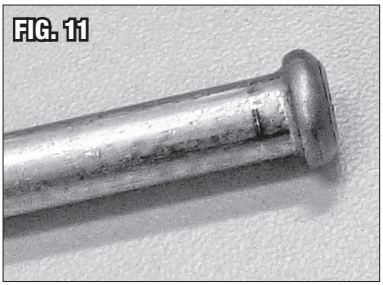


- You now have a finished, pro-quality, 45° double flare **(FIG. 10)**.

FORMING DIN/ISO BUBBLE FLARES

- Thread the Yoke Handle into the bottom of the Yoke **(FIG. 1)**.
- Place halves of the corresponding DIN/ISO sized Female Split-Die set around the tubing making sure the Alignment Pins are seated in the holes **(FIG. 2)**.
- Place the Female Split-Die set with tubing into the Yoke and **finger-tighten** the Clamping Screw to hold them in place **(FIG. 3)**. The end of the tubing must extend a small amount beyond the face of the Split Die.
- Turn the Release Knob Counter-Clockwise to the “Open” position.
- Thread the Hydraulic Cylinder portion of the tool partially into the Yoke **(FIG. 4)**.
- Select the “OP 0”, flat-faced Male Die and insert it into the retaining slot on the end of the Plunger **(FIG. 5)**. Make sure the spring loaded detent ball is seated in the recess on the back of the Die.
- Thread the Hydraulic Cylinder the remainder of the way into the Yoke **(FIG. 6)**.
- Turn the Release Knob Clockwise to the “Closed” position.
- Compress the Lever on the Hydraulic Cylinder repeatedly to advance the Plunger and Male Die toward the face of the Female Die. Continue until the Male Die contacts the face of the Split Die. This will slide the tubing into the correct “flush with the face of the Female Die” location with the “OP 0” acting as a stop-gauge.
  NOTE: The tube end **MUST BE FLUSH** with the end of the die set to create a complete flare **(FIG. 7)**.

- Insert the Tightening Bar into the hole in the Clamping Screw of the Yoke and use it to securely tighten the Clamping Screw and locking the Female Die set in place **(FIG. 8)**. This is critical as tubing slippage at this point will result in a faulty flare.
- Turn the Release Knob Counter-Clockwise to the "Open" position. This will allow the Plunger to retract. The Hydraulic Cylinder may need to be partially unthreaded from the Yoke.
- Remove the "OP 0" Die from the Plunger and replace it with the desired DIN/ISO size "ISO" Male Die **(FIG. 8)**.
- Turn the Release Knob Clockwise to the "Closed" position.
- Compress the Lever on the Hydraulic Cylinder repeatedly to advance the Plunger and Male Die toward the face of the Female Die. Continue until the Male Die contacts the face of the Split Die. This will form the bubble in the end of the tubing.
- Once again, turn the Release Knob counter-clockwise to the "Open" position and allow the Plunger to retract.
- Remove the finished flared tube from the dies. A slight tap may be required to release the tube from the the dies.
- You now have a finished, pro-quality, DIN/IOS Bubble Flare **(FIG. 11)**.



FORMING A SINGLE 45° FLARE

- Thread the Yoke Handle into the bottom of the Yoke **(FIG. 1)**.
- Place halves of the corresponding sized Female Split-Die set around the tubing making sure the Alignment Pins are seated in the holes **(FIG. 2)**.
- Place the Female Split-Die set with tubing into the Yoke and **finger-tighten** the Clamping Screw to hold them in place **(FIG. 3)**. The end of the tubing must extend a small amount beyond the face of the Split Die.
- Turn the Release Knob Counter-Clockwise to the "Open" position.
- Thread the Hydraulic Cylinder portion of the tool partially into the Yoke **(FIG. 4)**.
- Select the "OP 0", flat-faced Male Die and insert it into the retaining slot on the end of the Plunger **(FIG. 5)**. Make sure the spring loaded detent ball is seated in the recess on the back of the Die.
- Thread the Hydraulic Cylinder the remainder of the way into the Yoke **(FIG. 6)**.
- Turn the Release Knob Clockwise to the "Closed" position.
- Compress the Lever on the Hydraulic Cylinder repeatedly to advance the Plunger and Male Die toward the face of the Female Die. Continue until the Male Die contacts the face of the Split Die. This will slide the tubing into the correct "flush with the face of the Female Die" location with the "OP 0" acting as a stop-gauge.

- Turn the Release Knob Counter-Clockwise to the “Open” position. This will allow the Plunger to retract. The Hydraulic Cylinder may need to be partially unthreaded from the Yoke.
- Remove the “OP 0” Die from the Plunger and replace it directly with the conical “OP 1”, 45° Male Die. The Hydraulic Cylinder may need to be partially unthreaded from the Yoke to remove Die.
- Turn the Release Knob Clockwise to the “Closed” position.
- Compress the Lever on the Hydraulic Cylinder repeatedly to advance the Plunger and Male Die toward the face of the Female Die. Continue until the Male Die bottoms out inside the Split Die.
- Insert the Tightening Bar into the hole in the Clamping Screw of the Yoke and use it to securely tighten the Clamping Screw and locking the Female Die set in place **(FIG. 8)**.
  NOTE: This is critical as tubing slippage at this point will result in a faulty flare.
- Once again, turn the Release Knob counter clockwise to the “Open” position and allow the Plunger to retract.
- Remove the “OP 1” Die from the Plunger and replace it with the conical “OP 2”, 45° Male Die **(FIG. 9)**. The Hydraulic Cylinder may need to be partially unthreaded from the Yoke to remove Die.
- Turn the Release Knob clockwise to the “Closed” position.
- Compress the Lever on the Hydraulic Cylinder repeatedly to advance the Plunger and Male Die toward the face of the Female Die. Continue until significant resistance is felt. This will complete the 45° single flare in the end of the tubing.
- Remove the finished flared tube from the dies. A slight tap may be required to release the tube from the dies.

FORMING PUSH-CONNECT AND GM FUEL LINE FLARES

- Thread the Yoke Handle into the bottom of the Yoke **(FIG. 1)**.
- Place halves of the corresponding Push-Connect or GM Fuel Line sized Female Split-Die set around the tubing making sure the Alignment Pins are seated in the holes **(FIG. 2)**.
- Place the Female Split-Die set with tubing into the Yoke and **finger-tighten** the Clamping Screw to hold them in place **(FIG. 3)**.
- Turn the Release Knob Counter-Clockwise to the “Open” position.
- Thread the Hydraulic Cylinder portion of the tool partially into the Yoke **(FIG. 4)**.
- Select the “OP 0”, flat-faced Male Die and insert it into the retaining slot on the end of the Plunger **(FIG. 5)**. Make sure the spring loaded detent ball is seated in the recess on the back of the Die.
- Thread the Hydraulic Cylinder the remainder of the way into the Yoke **(FIG. 6)**.
- Turn the Release Knob Clockwise to the “Closed” position.

- Compress the Lever on the Hydraulic Cylinder repeatedly to advance the Plunger and Male Die toward the face of the Female Die. Continue until the Male Die contacts the face of the Split Die. This will slide the tubing into the correct "flush with the face of the Female Die" location with the "OP 0" acting as a stop-gauge.
  NOTE: The tube end **MUST BE FLUSH** with the end of the die set to create a complete flare **(FIG. 7)**.
- Insert the Tightening Bar into the hole in the Clamping Screw of the Yoke and use it to securely tighten the Clamping Screw and locking the Female Die set in place **(FIG. 8)**. This is critical as tubing slippage at this point will result in a faulty flare.
- Turn the Release Knob Counter-Clockwise to the "Open" position. This will allow the Plunger to retract. The Hydraulic Cylinder may need to be partially unthreaded from the Yoke.
- Remove the "OP 0" Die from the Plunger and replace it with the desired Push-Connect or GM Fuel Male Die **(FIG. 8)**.
- Turn the Release Knob Clockwise to the "Closed" position.
- Compress the Lever on the Hydraulic Cylinder repeatedly to advance the Plunger and Male Die toward the face of the Female Die. Continue until the Male Die contacts the face of the Split Die. This will form the bubble in the end of the tubing.
- Once again, Turn the Release Knob Counter-Clockwise to the "Open" position and allow the Plunger to retract.
- Remove the Male Die from the Plunger. The Hydraulic Cylinder may need to be partially unthreaded from the Yoke to remove Die.
- Remove the finished flared tube from the dies. A slight tap may be required to release the tube from the dies.
- You now have a finished, pro-quality, Push-Connect or GM Fuel Flare.

MAINTENANCE

- Periodically add a minimal amount of a light-bodied oil to all pivoting, rotating and sliding parts of the tool as well as the sliding Guide Shafts to prevent binding.
- Keep all moving and mating surfaces of the tool free of dirt, chips and other debris.
- Check for cracked, broken or otherwise damaged components before each use. Do not use if damage is discovered. Contact Eastwood for replacement parts.

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Poorly Formed Flares	Tubing not Cut Squarely	Square-cut the tube end using only a good quality Tubing Cutter (Eastwood #14502 or #13732 work well).
	I.D. of Tubing not Reamed Free of Burs or Cutting Chaff	Thoroughly ream the inside of tubing to remove all burrs and rough edges. (Eastwood #30448 Deburring Tool works well). Be sure to clear metal chips from inside tubing.
	Burrs on O.D. of Tubing	Thoroughly chamfer the outside of tubing to remove all burrs and rough edges. (Eastwood #30448 Deburring Tool works well).
Binding, Galling of Tubing Against Male Die	Lack of Lubricant Between Die and Tubing	Add a minimal amount of brake fluid to working surface of male Die before forming. Be sure to clean all lubricant from tubing before putting in service.
Collapsed Flare	Tubing Improperly Located in Female Split Dies	See instructions for setting proper location of tubing in Female Split Dies.

ADDITIONAL ITEMS

#13732 Professional Ratcheting Tubing Cutter
#14502 Professional Tubing Cutter
#30448 Deburring Tool
#12435 Triple Head 180° Tubing Bender
#49074 Brake Line Forming Tool
#30537 Handheld Tubing Straightener, 3/16”
#30538 Handheld Tubing Straightener, 1/4”
#30539 Handheld Tubing Straightener, 3/8”
#31509 3pc. Brake Bleeding Wrench Set

If you have any questions about the use of this product, please contact
The Eastwood Technical Assistance Service Department: 800.343.9353 >> email: tech@eastwood.com
PDF version of this manual is available at eastwood.com
The Eastwood Company 263 Shoemaker Road, Pottstown, PA 19464, USA
800.343.9353 eastwood.com

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