



3/16" BRAKE LINE FLARE TOOL

Vise-Mounted Type • Model PRF103601

OWNER'S MANUAL

& Operating Instructions

Produces both Double (SAE 45°) and Bubble (DIN/ISO) flares
with one tool — no press required

Read this manual completely before use.
Retain for future reference.

Questions? We're here to help.

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1. About This Tool

The PRF103601 is a bench-mounted brake pipe flaring tool that clamps into a vise and uses a hammer-and-punch action instead of a screw press. One tool forms both SAE double flares and DIN/ISO bubble flares on 3/16" (4.8 mm) brake tubing, selected by moving the tube between the tool's marked "J" and "E" positions.

Specifications

Model	PRF103601
Type	Vise-mounted brake pipe flaring tool
Tube size	3/16 in (4.8 mm) outside diameter
Flare types	Double 45° (SAE, "J") and Bubble/Convex (DIN/ISO, "E")
Compatible tubing	DOT-approved steel or copper-nickel (Cunifer) brake line *
Included	Clamp body, height gauge bar, 2 tightening bars, J-punch set (#1–#3), E-punch, carrying case

* See Safety Information — plain copper or aluminum tubing is not rated for brake service, even though the tool can physically flare it.

2. Safety Information

BRAKE SYSTEM SAFETY — READ BEFORE USE

- Brake lines are a critical safety system. A poorly formed flare can leak or fail and cause loss of braking. If you are not fully confident performing this repair, have it done by a qualified technician.
- Use only DOT-approved double-walled steel or copper-nickel (Cunifer) brake line. Do not use plain copper or aluminum tubing for brake service — it is not rated for brake system pressure.
- After any brake line work: bleed the brake system, then pressure-test (firm pedal, no drift; check the fitting visually for leaks) before driving the vehicle.
- Never reuse a cracked, split, or previously over-formed flare. Cut it off and make a new one.
- Always follow your vehicle manufacturer's brake service procedures and torque specifications.

General Shop Safety

- Wear safety glasses whenever cutting, deburring, or hammering.
- Secure the clamp body firmly in a bench vise before use — an unsecured clamp can shift under hammer impact.

- Use a small ball-peen or brass hammer. Never use a full-size claw hammer or excessive force; let light, controlled taps do the work.
- Keep fingers clear of the clamp jaws and the path of the punch.
- Do not modify the punches, clamp body, or bars.

3. Parts Identification

Before your first use, lay out the case contents and confirm you have all six components shown below. The J-punch set is three separate numbered punches (#1, #2, #3) tapped in sequence — not a single punch.

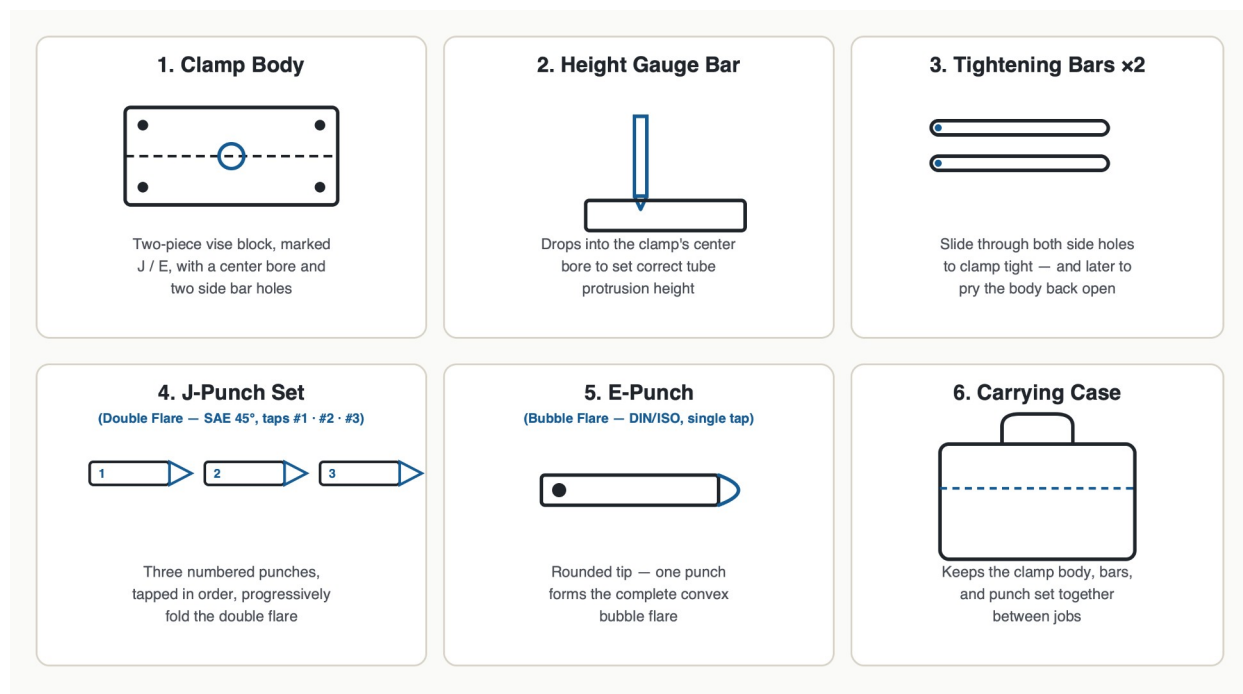


Figure 1 — PRF103601 kit contents

4. Understanding Your Flare Options

This tool forms two different flare profiles, marked directly on the clamp and punches so you always select the right one for the fitting you're replacing.

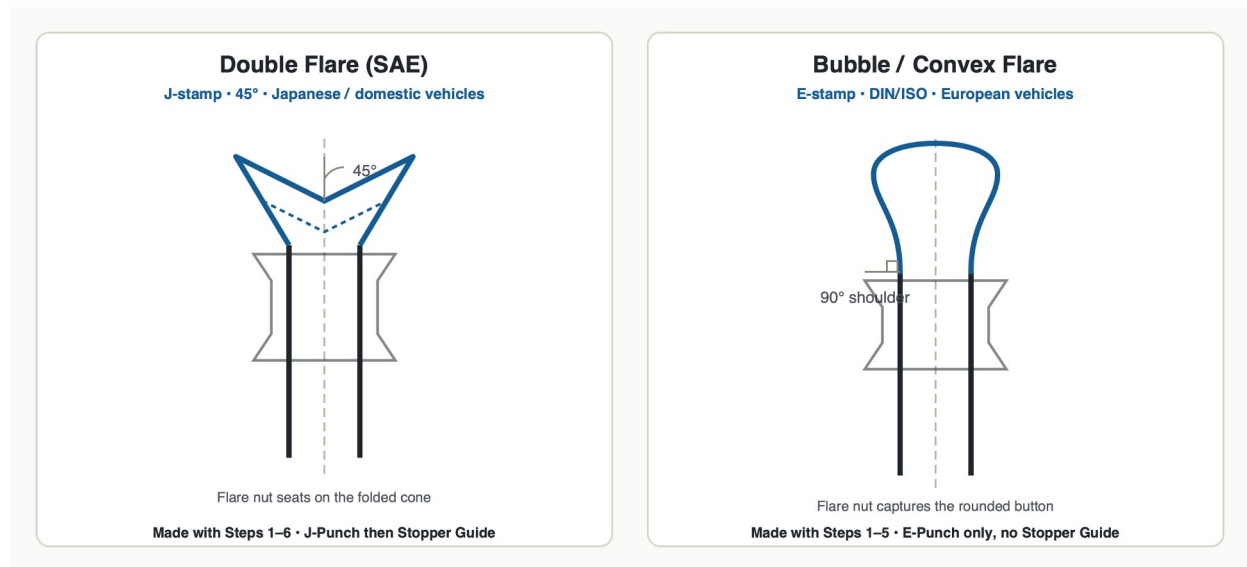


Figure 2 — Double (SAE) flare vs. Bubble/Convex (DIN/ISO) flare

Never Mix Flare Types

- Always match the new flare to the style of the fitting/nut you removed, or to the port on the caliper, hose, or master cylinder. A bubble flare seated in a double-flare nut (or the reverse) will not seal and can fail under brake pressure.

5. Before You Begin

Tools & Materials Needed

- Bench vise, to mount the clamp body
- Tubing cutter (or fine-tooth hacksaw) sized for brake pipe
- Deburring tool or fine file
- Light machine oil, for punch lubrication
- Small ball-peen or brass hammer
- Tape measure or ruler
- New flare nut(s) matching your fitting style
- Clean shop rag

Most Common Mistake

- Slide the flare nut onto the tube BEFORE forming the flare. Once the flare is formed, the nut can no longer be installed and the tube end must be cut off and redone.

6. Step-by-Step Operating Instructions

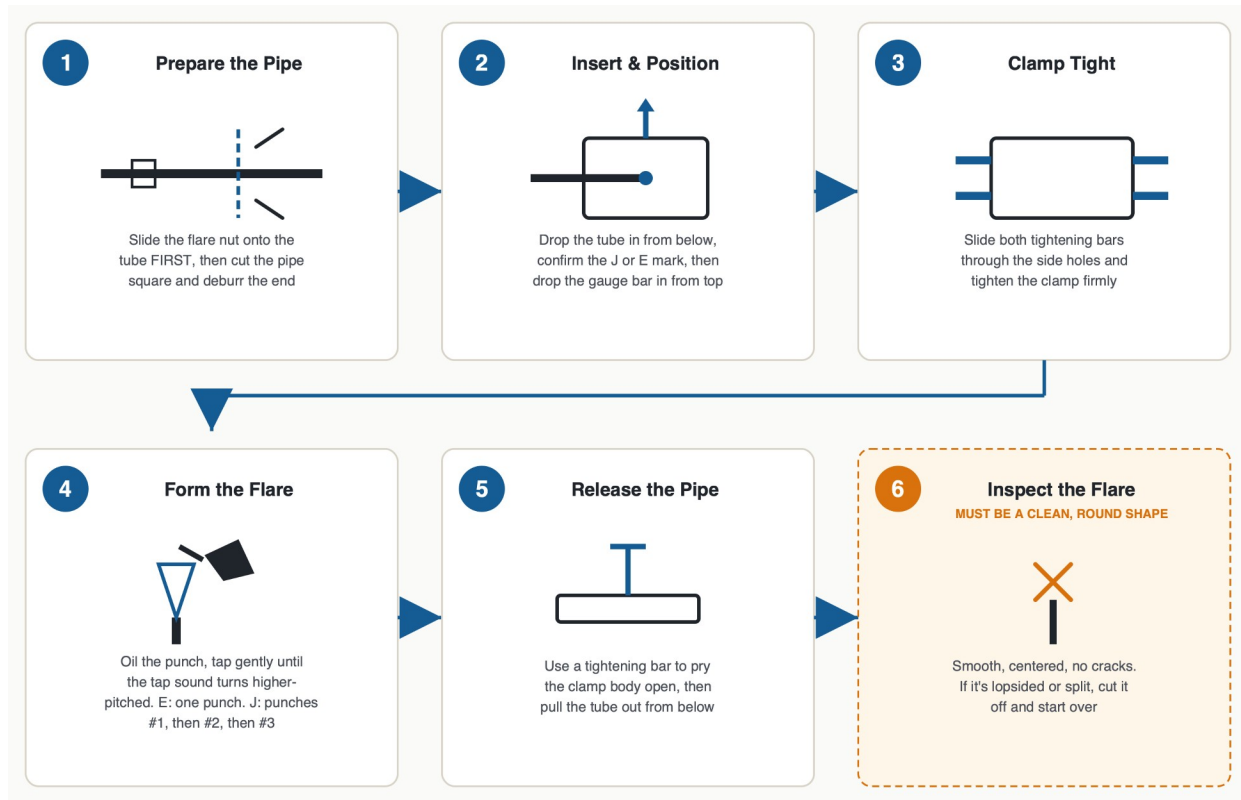


Figure 3 — Full operating sequence, Steps 1–6

Step 1 — Prepare the Pipe

- Slide the correct flare nut onto the tube first, threads facing the end you're about to flare.
- Cut the tube square using a tubing cutter.
- Deburr and lightly chamfer the inside and outside edges of the cut end so it doesn't score the punch or clamp bore.

Step 2 — Insert & Position

- Open the clamp body and drop the tube in from below, through the lower half's hole.
- Confirm the J (double flare) or E (bubble flare) mark on the clamp matches the flare you need.
- Drop the height gauge bar in from the top of the clamp — its tip sets the correct amount of tube protruding above the body.

Step 3 — Clamp Tight

- Slide both tightening bars through the holes on the sides of the clamp body.
- Snug them by hand first, then tighten fully. A loose clamp is the most common cause of an off-center flare.

Step 4 — Form the Flare

- Apply a small amount of light oil to the tip of the punch before every tap-in — this is not optional, it's how the tool is designed to run.
- Seat the punch in the clamp's center bore, on top of the tube, and tap it squarely and gently with a small hammer.
- Listen as you tap: the sound changes to a higher pitch once the punch has fully bottomed out — that's your cue to stop and move on.
- Bubble (E) flare: one punch, and you're done — skip to Step 5.
- Double (J) flare: repeat with punch #2, then punch #3, in that order — each one is oiled and tapped in the same way. All three are required to complete the fold.

Step 5 — Release the Pipe

- Use one of the tightening bars as a lever to pry the clamp body back open.
- Pull the finished tube out from below.

Step 6 — Inspect the Flare

- The finished flare must be a clean, round, centered shape with no cracks or splits.
- If it's lopsided, cracked, or split, cut it off and start over — do not attempt to reuse it.

7. Vise-Mounted vs. Handheld Flaring Tools

Your PRF103601 is the vise-mounted type. If you also own, or are considering, a handheld plier-style flaring tool, here's how the two compare so you can pick the right tool for the job.

Vise-Mounted Type YOUR PRF103601	Handheld (Plier) Type NOT INCLUDED — FOR REFERENCE
	
✓ 3-point clamping — very secure hold ✓ Produces a more uniform, consistent flare ✓ Handles slightly bent tubing well ✓ Ideal for fabricating new brake lines	✓ Works on lines still installed on the vehicle ✗ Only 2 clamping points — less secure hold ✗ Less room to grip the tube ✗ Rotates while hammering — a bent tube can flare unevenly
Best for: Lines that are OFF the vehicle — new line fabrication, bench work	Best for: Quick in-place field repairs without removing the line

Figure 4 — Vise-mounted (your tool) vs. handheld flaring tools

8. Maintenance & Care

- Wipe the clamp bore, punches, and bars clean after each use — brake fluid and moisture will corrode the polished punch tips.
- Keep a light film of oil on the punches when stored.
- Store all components in the carrying case to keep the set together and protect the punch tips from nicks.
- Periodically check the punch tips for burrs, flat spots, or wear. A damaged tip will telegraph defects into every flare it makes — replace worn punches (see Section 10).
- Keep the clamp's mating faces free of debris so the two halves close flush and the height gauge stays accurate.

9. Troubleshooting

Symptom	Likely Cause	Fix
Flare is off-center or lopsided	Clamp not fully tightened; tube not cut square	Retighten fully with both bars; re-cut the tube end square
Flare is cracked or split	Tube over-driven; too few/too hard hammer taps; wrong tube material	Cut off and redo with lighter, more frequent taps; confirm DOT steel or Cunifer tubing
Flare too small or won't seat in the fitting	Gauge bar height not set before punching	Reset tube height (Step 2) before punching
Double flare (J) looks unfinished or lopsided	Punch sequence stopped early — #2 or #3 was skipped	Repeat Step 4, tapping punches #1, #2, and #3 in full
Punch won't seat or binds	Insufficient lubrication; debris in clamp bore	Clean the bore; reapply light oil to the punch tip before every tap-in
Clamp won't close flush	Debris between clamp halves; bent tube	Clean the mating faces; verify the tube isn't kinked at the clamp point

10. Replacement Components

The punches and bars are the wear parts, since they absorb repeated hammer impact. If a component is damaged or worn:

- Contact your point of purchase, Racing Automotive Group (racingautomotivegroup.com), or Performance Fittings support with your model number, PRF103601, and the part needed — J-punch #1/#2/#3, E-punch, height gauge bar, or tightening bar.

- This tool shares its engineering with the RUNMAX RT3601 3/16" vise-mounted flaring tool platform; the equivalent component types are the punch set, gauge bar, and tightening bars shown in Figure 1. Ask your retailer to confirm the correct cross-reference part number before ordering.

11. Warranty & Support

Contact your point of purchase for warranty terms and support. Retain your receipt or order confirmation as proof of purchase.

Performance Fittings and Hoses **+1 (800) 764-7851** • sales@racingautomotivegroup.com

A Note on This Manual

No English-language manual ships with this tool. This guide was developed for Performance Fittings from the manufacturer's technical reference documentation, cross-checked step-by-step against the manufacturer's own instructional video, and standard SAE/DIN brake-line flaring practice. It is not an official manufacturer publication — always follow your vehicle's service manual for brake line work.