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Item #51088

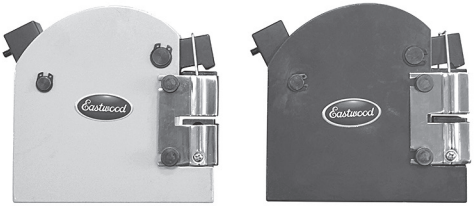
SHRINKER STRETCHER COMBO SET

INSTRUCTIONS

The **EASTWOOD SHRINKER/STRETCHER METAL-SHAPING COMBO SET** allows easy fabrication of many auto body sections including window reveal openings, wheel well lips, dog legs, trunk corners, headlamp flanges, body bracing...almost any metal fabrication requiring a combination curve and angle. Use the shrinker to contract metal for inside curves; use the stretcher to expand metal for outside curves.

CONTENTS

- **(2)** Housings
- **(1)** Set of Shrinker Jaws (installed in Housing)
- **(1)** Set of Stretcher Jaws (installed in Housing)
- **(8)** M4 x 0.70 x 8mm Thumb Screws (installed in Housing)
- **(2)** Handles



TOOLS REQUIRED (not included)

- 3mm Hex Key
- 9/16" Wrench

SPECIFICATIONS

Maximum Throat Depth:	1"	
Maximum Workable Panel Width/Diameter:	2"	
Maximum Workable Material Thickness:	Mild Carbon Steel:	18 Gauge
	Aluminum:	16 Gauge
	Stainless:	20 Gauge
Minimum Shrinking Radius:	3" (For mild carbon steel only, aluminum, high carbon steel and stainless will be greater)	

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.

⚠ READ INSTRUCTIONS

- Thoroughly read and understand this manual before using.
- Save for future reference.

⚠ WARNING INJURY HAZARD!

- This tool has leveraged components that generate amplified crushing and bending forces which can quickly cause severe injury! Keep fingers and hands away from moving parts when operating.
- Tremendous external torque loads are placed on this Shrinker Stretcher during operation. This tool cannot be operated without adequate support or severe personal injury or property damage can occur if it should suddenly be become dislodged or moves while in use. Before beginning ANY work with this tool, it is absolutely necessary that it be securely bolted to a solid work surface.
- Strenuous physical force may need to be applied to the Shrinker Stretcher during use. Failure to ensure proper footing can quickly result in a fall which could inflict serious personal injury or property damage. Always work in a clean, uncluttered environment.
- Be sure there is sufficient working room around the tool to allow for safe handling of various lengths of material.
- The Shrinker Stretcher is equipped with a Handle of the proper length to provide adequate bending force. DO NOT add pipe, bars or any other devices which would add additional length to the Handle to increase bending force. This will exceed the design limits of the tool and can result in serious injury and/or component failure.

⚠ CAUTION CUT HAZARD!

- Handling sharp metal can cause serious cuts. Wear thick, well-fitting work gloves to prevent cuts from handling sharp metal.

⚠ CAUTION EYE INJURY HAZARD!

- Pieces of mill scale, rust and other debris may be ejected from the workpiece during operation. Wear ANSI approved eye protection while operating.

⚠ NOTICE

- Excessive resistance while operating could indicate a defect with the workpiece material or broken or damaged Shrinker Stretcher components. To avoid injury, stop work immediately and inspect workpiece material for nicks, dents, welds, excessive scale or remaining coatings. Clean or repair as necessary or discard and begin with a new piece. Also inspect Shrinker Stretcher components for looseness or damage.

⚠ CAUTION

The Shrinker Stretcher consists of heavy metal components which can present a hand/finger pinch hazard and cause potentially serious injuries if dropped on feet. Avoid pinching hands while handling parts during assembly and wear thick, well-fitting work gloves to prevent cuts from handling sharp metal. The use of safety shoes is strongly recommended.

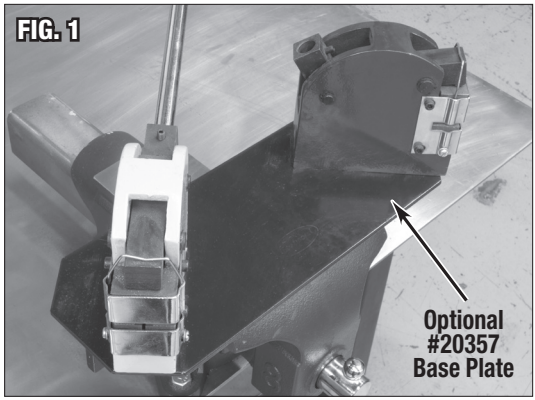
⚠ WARNING

High external loads are placed on this Shrinker Stretcher during operation. This tool cannot be operated without adequate support or severe personal injury or property damage can occur if it should suddenly be become dislodged or moves while in use. Before beginning ANY work with this tool, it is absolutely necessary that it be securely bolted to a solid, level, well supported surface capable of withstanding the tremendous torque and side loads this tool is subjected to during use.

⚠ NOTICE

The optionally available Eastwood #20357 Shrinker Stretcher Base Plate (not included) is strongly suggested for vice mounting the Shrinker & Stretcher (Fig 1). As an alternative, a sturdy, well anchored workbench with a minimum 3/16" steel or 3/4" of solid wood surface is recommended.

FIG. 1



SET-UP

- Select a clean, level work surface with clear access to Handle and sufficient room to manipulate workpieces through the Jaws.
- Drill two 3/8" [9.6mm] holes on a 2-3/4" [69.8mm] centerline spacing **(Fig 2)**.
  NOTE: A minimum thickness of 3/16" steel or 3/4" of solid wood surface is strongly recommended.
- Use (2) 3/8-16 x 1" bolts (not included) and washers to secure base to an optional #20357 Base Plate for vise mounting or drilled work surface **(Fig 3)**.

FIG. 2

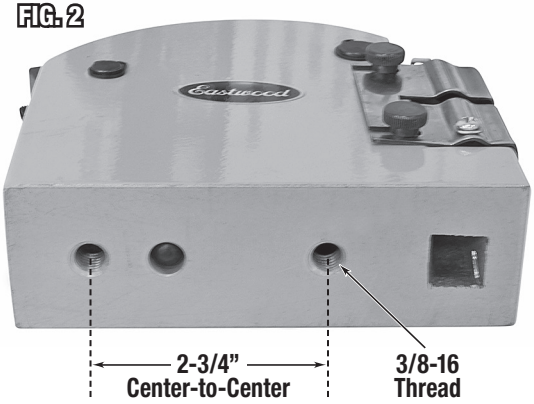
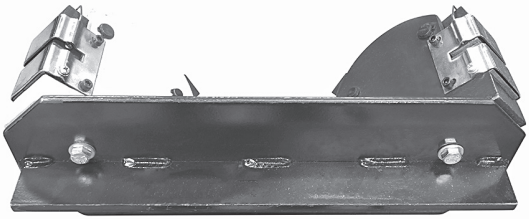


FIG. 3

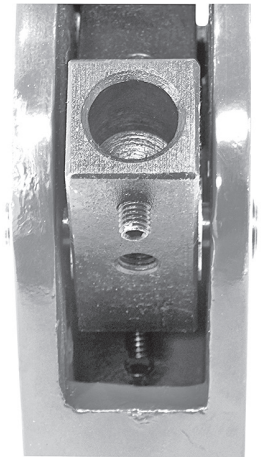


ASSEMBLY

- Place Handle into bore of the Fulcrum Lever so that the annular groove is positioned under the Set Screw **(FIG 4)**.
- Using a 3mm Hex Key (not included), tighten Set Screw in Fulcrum Lever to retain Handle **(FIG 5)**.

FIG. 4

FIG. 5



SWITCHING JAWS

The Upper and Lower Shrinker and Stretcher Jaws are attached by (4) M4 x 0.70 x 8mm Thumb Screws each.

REMOVING JAWS

- Loosen (Do Not Remove) Jaw Thumb Screws (2 per side) **(FIG 6)**.
- Pull Jaws away from Body and slide Wire Bail off the Actuating Bar **(FIG 7)**.

ATTACHING JAWS

- Slide Jaws onto Body with screw slots located under Thumb Screws.
- Place Wire Bail over top of Actuating Bar.
- Tighten Jaw Thumb Screws.

FIG. 6

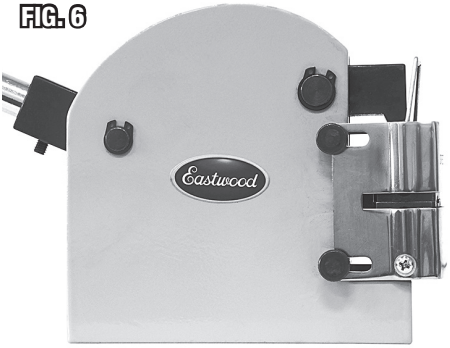
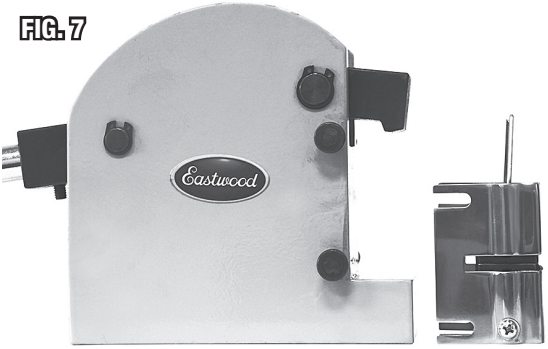


FIG. 7



OPERATION

⚠ WARNING

High torque loads are placed on this Shrinker Stretcher during operation. This tool cannot be operated without adequate support or severe personal injury or property damage can occur if it should suddenly be become dislodged or moves while in use. Before beginning ANY work with this tool, it is absolutely necessary that it be securely bolted to a properly anchored heavy, sturdy workbench or stand.

⚠ CAUTION

The Shrinker Stretcher exerts high bending and crushing forces in operation which can present a hand/finger pinch hazard and cause potentially serious injuries. Avoid moving parts while operating and wear thick, well-fitting work gloves to prevent cuts from handling sharp metal. The use of safety shoes is strongly recommended.

⚠ WARNING **INJURY HAZARD!**

The Shrinker Stretcher is equipped with a Handle of the proper length to provide adequate bending force. DO NOT add pipe, bars or any other devices which would add additional length to the Handle to increase bending force. This will exceed the design limits of the tool and can result in severe injury and/or component failure.

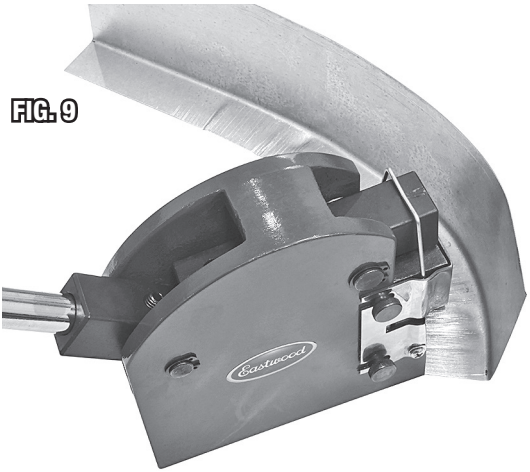
⚠ NOTICE

Workpiece material should be clean of any rust, burrs, nicks, welds or coatings before attempting to bend or interference and binding may occur.

- Pre-plan the piece to be formed by making a template out of medium-bodied cardboard or manila folder material.
- Before fabricating on the Shrinker Stretcher, pre-bend the metal to be formed to a 90˚ angle along its length on a sheet metal brake (The #14042 Eastwood Versa Bend 20 Inch Offset Sheet Metal Brake works well), creating a maximum flange depth that is no greater than 1" **(Fig 8)**.
- Tracing the outline of the piece to be formed from template to metal is critical to achieving a good initial fit with minimal adjustments **(Fig 8)**.
- Make multiple passes by working no more than 1/4" from the edge of the metal piece first then going deeper into the jaws with each successive pass. This "breaks down" the maximum resistance and permits easy and accurate working thereafter **(Fig 9)**.
- Always work the piece a little at a time moving the piece through the Jaws along its entire planned length so that each area is exposed to the Jaws numerous times rather than trying to shrink or stretch "all in one bite".

FIG. 8

FIG. 9



- For best results and maximum forming power, insert metal only halfway into the Jaws **(Fig 10)**.
- The “bunching” or “pocketing” that typically occurs when shrinking can be quickly hammered out or smoothed by inserting the metal deeper into the jaws.
- Maximum control is achieved with the pressure exerted on the handle and number of strokes used while forming the metal. Move the metal back and forth along its length until the desired radius is obtained.

FIG. 10

⚠ NOTICE

Never operate the Shrinker or Stretcher Jaws without a piece of metal between them as the hardened gripping teeth of the jaws will be permanently damaged.

⚠ NOTICE

The Shrinker and the Stretcher Jaws are “toothed” to allow them to grip and “push” inward toward the center together to shrink metal or “pull” outward toward the sides to stretch the metal. These teeth will leave slight indentations which, depending on the hardness of the metal, can be removed with an abrasive cloth or wheel.

At this point, the basic operating instructions have been described and practice using the Shrinker Stretcher on scrap material is highly recommended. As with many metal working tools, a period of “trial and error” is needed to achieve a degree of proficiency in their use. Remember, a little time and material wasted at this step will avoid disappointing results on an actual project.

STORAGE

- Remove Handle for safety.
- Apply a thin film of light oil or rust-preventive to all bare steel areas.
- Store in a clean, dust-free, dry, dampness free area preferably covered with plastic sheeting.

MAINTENANCE

> **⚠ NOTICE**
> **Maintenance should be performed before each use.**

- Clean dirt and debris from Jaw Gripping Teeth. Brushing with a brass or stainless-steel wire brush is highly recommended.

> **⚠ NOTICE**
> **Forming aluminum will quickly cause a buildup of aluminum in Gripping Teeth. They must be cleaned with a wire brush periodically when working with aluminum.**

- Check tightness of all hardware.
- Check operation for binding. Lubricate sliding parts and pivot points periodically with medium bodied oil.

> **⚠ NOTICE**
> **Use care to avoid getting oil on Jaw Gripping Teeth which will reduce their grip.**

ADDITIONAL ITEMS

#51437 Replacement Shrinker/Stretcher Jaw Set
#20357 Shrinker Stretcher Base Plate (for vise mounting)
#13475 Eastwood Electric Metal Shears
#11797 Throatless Shear
#14042 Versa Bend 20 Inch Offset Sheet Metal Brake
#20254 Eastwood 24" Slip Roll
#32044 Bead Roller

If you have any questions about the use of this product, please contact
The Eastwood Technical Assistance Service Department: 800.343.9353 >> email: techelp@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