

# METAL SHRINKER & STRETCHER WITH STAND

**ITEM MSS15**

## ASSEMBLY & OPERATING INSTRUCTIONS



Diagrams within this manual may not be drawn proportionally.  
Due to continuing improvements, actual product may differ slightly from the product described herein.



**Read this material before using this product.  
Failure to do so can result in serious injury.  
SAVE THIS MANUAL.**

## SPECIFICATIONS

Operation	Foot pedal
Capacity(mm/gauge)	1.5/16 Mild steel, 1.9/14 Aluminum
Throat(mm/in)	205/8

## SAVE THIS MANUAL

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

## SAFETY WARNINGS AND PRECAUTIONS

**WARNING:** When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage.

**Read all instructions before using this tool!**

- 1. Keep work area clean.** Cluttered areas invite injuries.
- 2. Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.
- 3. Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
- 4. Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
- 5. Do not force tool.** It will do the job better and more safely at the rate for which it was intended. Do not use inappropriate attachments in an attempt to exceed the tool capacity.
- 6. Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
- 7. Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
- 8. Use eye and ear protection.** Always wear ANSI approved impact safety goggles. Wear a full face shield if you are producing metal filings or wood chips. Wear an ANSI approved dust mask or respirator when working around metal, wood, and chemical dusts and mists.
- 9. Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines. Keep hands and fingers clear of the Dies when operating.

- 10. Maintain tools with care.** Keep tools clean for better and safer performance. Follow instructions for lubricating and changing accessories. The handle must be kept clean, dry, and free from oil and grease at all times.
- 11. Remove adjusting keys and wrenches.** Check that keys and adjusting wrenches are removed from the tool or machine work surface before plugging it in.
- 12. Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
- 13. Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn on and off properly.
- 14. Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool.
- 15. Do not operate tool if under the influence of alcohol or drugs.** Read warning labels if taking prescription medicine to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
- 16. Maintenance.** For your safety, service and maintenance should be performed regularly by a qualified technician.
- 17. Workpiece may be sharp.** After bending or cutting workpieces use caution. Be aware of sharp edges or metal debris of metal that may be created. Use heavy duty gloves when handling the workpiece.

**WARNING:** The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

## FEATURES

1. The shrinker contracts sheet metal for inside curves.
2. The stretcher expands sheet metal for outside curves.
3. Much more robust ,much better, also ideal for industrial use.
4. Easy for operation with foot pedal.

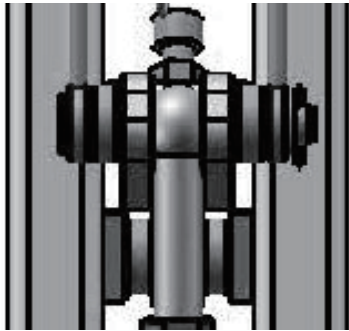
## UNPACKING

When unpacking, check to make sure that all parts shown in the Parts Diagram are included. If any parts are missing or broken, please contact the seller.

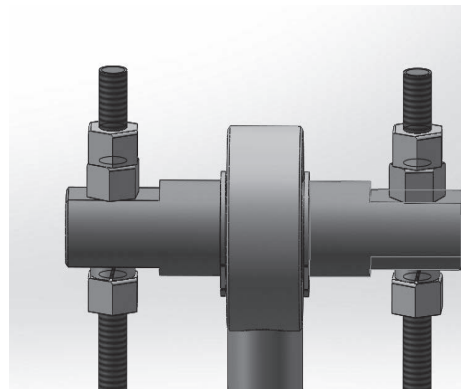
## ASSEMBLY

For additional information regarding the parts listed in the following pages, refer to the Parts Diagram.

1. Attach the Frame (1#) to the Base (2#) using four Screws (17#) and Washers (26#).
2. Install the Foot Pedal (3#) with Base (2#) using Shaft (11#), Washers (20#), and Pin (18#).
3. Connect the Swivle Bolt (15#) and Foot Pedal (3#) with Shaft (11#) and Pin (18#).
4. Attach the Swivle Bolt (10#) and Screws (7#) to the Y-Frame (5#) using Shaft (12#), Bushing (21#), and Pin (18#). See Figure 1.
5. Assemble the Metal Shrinker & Stretcher to the Frame (1#) by using four Bolts (23#), Washers (26#), Spring Washers (16#), and Nuts (24#).
6. Put the Driving Handle (55#) into the hole of the Back Block (31#) in the Metal Shrinker & Stretcher.
7. Attach two Screws (7#) to Shaft (6#) using Nuts (19#) and Spring Washers (22#). See Figure 2.
8. Connect the Shaft (6#) and Driving Handle (55#) with C-Ring (65#).



**Figuer 1**



**Figuer 2**

9. Periodically check to make sure all screws are tightly in place.

## OPERATION

1. Before fabricating on the Shrinker/Stretcher, bend the metal to be formed 90° on a Sheet Metal Brake, creating a maximum flange depth that is no greater than 205mm/8".
2. Make a template out of cardboard or a short piece of wire. A template is critical to achieve a good fit with minimal filler use.
3. Work the leading edge first. This breaks down the maximum resistance and permits easy and accurate working thereafter.
4. For best results and maximum forming power, insert metal only halfway into the jaws.
5. The bunching or pocketing that typically occurs when shrinking can be quickly hammered out.
6. Control the pressure exerted on the handle or the foot pedal while forming the metal.
7. Move the metal back and forth until the desired radius is obtained.
8. The jaws of the tools are "toothed" to better grip the metal. These teeth leave slight markings, depending on the hardness of the metal, which can be removed with an abrasive cloth or wheel.

## **THE BASIC PANEL FABRICATION USING THE SHRINKER & STRETCHER**

For rodders and restorers, fabricating body parts in the home shop is often the only way to go. With good planning, you can reproduce shapes to match original contours, or design shapes limited only by the imagination.

For an example, we made a replacement headlight assembly mounting flange. Most older cars catch and hold moisture, thus rusting out. Usually so much metal is gone that there is very little left to rescue. A new, fabricated part is the only way to go.

First, we made a cardboard template, tracing around the headlight opening. The flanged section went into the shrinker/stretcher shrinking jaws. By pressing firmly on the handle or the foot pedal and moving the metal back and forth, the jaws' teeth keep drawing the metal closer and closer, creating a smooth curve. We kept checking the new piece with the cardboard template, and within minutes we had a piece very close to size.

We made some final adjustments on the car, and it fits just fine. It took a total of 15 minutes to create this mounting flange.

Compound curves can be made by working the piece on alternating sides. Both Shrinker and Stretcher can take care to match work on both sides. This technique is especially useful when reproducing splash aprons and other large curved areas.

### **CAUTIONARY TIPS**

1. To avoid cuts and ease handling, wear gloves during all forming operations.
2. Avoid pressuring the jaws together accidentally.
3. To Avoid dulling the teeth, NEVER press without a separator between the jaws.
4. Remove handle when not in use.
5. Always insert a piece of metal or other material divider between the jaws when not in use.

### **MAINTENANCE**

Clean the jaws after every job! Blowing out with an air hose doesn't do a thorough job. Vacuuming helps to get the fillings out. The best way to maintain the metal former is to disassemble the jaws and clean as follows:

1. Loosen the Screws (53#) to remove the jaw assembly.
2. Remove the jaws and V-block as a single unit. Be careful, don't lose the spring between the jaws.
3. Remove the Suspension Springs(42#).

**NOTICE:** There is a small jaw opposite a large jaw, top and bottom.

4. Clean the jaws with cleaning fluid and a brush. Do not use a wire brush or a wire wheel. Always brush in the same direction as the teeth, with the grooves.

5. Clean the V-blocks(41#,45#,56# 57#).

6. Lubricate the surface between the jaws and V-blocks.

7. Reassemble.

8. Replace jaws. Be sure you place the large jaw opposite the small jaw. Then replace the V-blocks.

9. When not in use for extended periods of time, lightly oil the jaws to prevent corrosion.

**REMEMBER:** Clean the jaws after EVERY job.

## PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

## PARTS LIST

Part No.	Description	Qty
1	Frame	1
2	Base	1
3	Foot Pedal	1
4	Push Rod	1
5	Y-Frame	1
6	Shaft	1
7	Screw	2
8	Shaft 14X60	2
9	Shaft 6X40	2
10	Swivel Bolt M16	1
11	Shaft 14X35	1
12	Shaft 14X80	1
13	Wheel	2
14	Spring	1
15	Swivel Bolt M16	1
16	Spring Washer 10mm	4
17	Screw M10X25	4
18	Pin 3.2X28	4
19	Nut M6	6
20	Washer 14mm	3
21	Bushing	4
22	Spring Washer 6mm	2
23	Bolt M10X45	4
24	Nut M10	5
25	Screw M10X45	1
26	Washer 10mm	8
27	Hex Wrench 8mm	1
28	Base	1
29	Upper Spring Fixing Set	1
30	Hex Key Wrench 4mm	1
31	Back Block	1
32	Back Shaft	1
33	Front Block	1
34	Front Shaft	1

Part No.	Description	Qty
35	C-Ring 12mm	2
36	C-Ring 15mm	2
37	Lower Spring Fixing Set	1
38	Spring	1
39	Washer 5mm	2
40	Screw M5X20	2
41	Stretcher Bottom V-Block	1
42	Suspension Spring	4
43	Stretcher Jaw 1	1
44	Stretcher Hook	1
45	Stretcher Top V-Block	1
46	Stretcher Jaw 2	1
47	Stretcher Jaw 3	1
48	Stretcher Jaw 4	1
49	Screw M5X25	2
50	Lower Jaw Cover	1
51	Upper Jaw Cover	1
52	Screw M5X12	4
53	Screw M5X8	8
54	Screw M6X8	1
55	Driving Handle	1
56	Lower V-Block	1
57	Upper V-Block	1
58	Shrinker Jaw 1	1
59	Shrinker Jaw 2	1
60	Shrinker Jaw 3	1
61	Shrinker Jaw 4	1
62	Shrinker Hook	1
63	Washer 6mm	2
64	Pin 1.6X16	2
65	C-Ring 14mm	2
66	Nut M16	1
67	Lower Jaw Cover	1
68	Upper Jaw Cover	1

# PARTS DIAGRAM

