

# LOTOS TECHNOLOGY

## Shrinker & Stretcher LSSS01

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**⚠ You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep the manual and invoice in a safe and dry place for future reference.**

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## **SPECIFICATIONS**

Operation	Hand operated or Foot pedal
Capacity(mm/gauge)	1.2/18 Mild steel,1.5/16 Aluminum
Throat(mm/in)	25.4/1

## **SAFETY RULES**

**⚠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 may cause injuries.
2. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Do not expose to rain. Keep work area well-lit. 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 prevent rust. Always lock up tools and keep out of reach of children.
5. **Do not force tool.** Tool performance is more efficient and safer being used at the rate for which it was intended. Do not use inappropriate attachments in an attempt to exceed 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 reach over.** 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 the workpiece, use extreme caution. Be careful when handling metal debris and or objects with sharp edges. Use heavy duty gloves when handling the workpiece.

**NOTE:** Performance of this tool may vary depending on variations in local line voltage. Extension cord usage may also affect tool performance.

**⚠WARNING**

**The warnings 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. Easy for operation with foot pedals or handles.
4. 2 mounting holes on each base.

## **ASSEMBLY**

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.

Assemble the Handle (2) into the Back Block (4).

- Two holes, pre-drilled and tapped into each base, accept M10 bolts.
- Secure each tool to a workbench or the stand (sold separately) for it.
- For portability, the tool may also be clamped into the jaws of a vise.
- The more rigidly the tool is secured, the easier it can be used.

## **OPERATION INSTRUCTIONS**

1. Before fabricating on the Shrinker & Stretcher, bend the metal form a 90 °on a Sheet Metal Brake, creating a maximum flange depth that is no greater than 25.4mm/1”.
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 marking, depending on the hardness of the metal, which can be removed with an abrasive cloth or wheel.

### **The Basic Panel Fabrication**

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.

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.

### **Cautions**

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. Vacuuming also helps to get fillings out.

Most recommended procedure to maintain the metal former is to disassemble the jaws and clean as follows:

1. Loosen the Screws (#25) to remove the jaw assembly.
2. Remove the jaws and B-block as a single unit. Be careful not to lose the spring between the jaws.
3. Remove the Suspension Springs(#23)

**NOTICE:** There is a small jaw opposite to the 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 along the grooves.
5. Clean the V-blocks(#10,#13,#17,#20)
6. Lubricate the surface between the jaws and B-blocks.
7. When reassembling, make sure to place the large jaw opposite to the small jaw.
8. When not in use for extended periods of time, lightly oil the jaws to prevent corrosion.

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

**For warranty, service, and repair please go to [www.uwelding.com](http://www.uwelding.com)**

## PARTS LIST

PART NO.	DESCRIPTION	QTY
1	Base	2
2	Handle	2
3	Handle Cover	2
4	Back Block	2
5	Back Shaft	2
6	Front Block	2
7	Front Shaft	2
8	Jaw Cover	2
9	Shrinker Hook	1
10	Shrinker Upper V-Block	1
11	Shrinker Upper Small Jaw	1
12	Shrinker Lower Small Jaw	1
13	Shrinker Lower V-Block	1
14	Shrinker Upper Big Jaw	1
15	Shrinker Lower Big Jaw	1
16	Stretcher Hook	1
17	Stretcher Upper V-Block	1
18	Stretcher Upper Jaw 1	1
19	Stretcher Lower Jaw1	1
20	Stretcher Lower V-Block	1
21	Stretcher Upper Jaw 2	1
22	Stretcher Lower Jaw 2	1
23	Suspension Spring	4
24	Spring	2
25	Screw M5X8	8
26	Pin	4
27	Washer 10mm	4
28	Washer 13mm	4
29	C-Ring	4
30	C-Ring	4
31	Screw M5X12	4
32	Washer 5mm	4
33	Screw M5X25	2
34	Screw M5X20	2
35	Screw M6X10	2
36	Hex Head Wrench 3mm	1
37	Hex Head Wrench 4mm	1

# PARTS DIAGRAM

