



Operating Instructions and Parts Manual Shrinker / Stretcher

Model MSS-16F



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BA9-1005710
Edition 2 08/2025
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2.0 Safety Instructions

WARNING

Failure to follow these rules may result in serious personal injury

1. FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE. Learn the machine's application and limitations as well as the specific hazards.
2. Only trained and qualified personnel can operate this machine.
3. Make sure guards are in place and in proper working order before operating machinery.
4. Remove any adjusting tools. Before operating the machine, make sure any adjusting tools have been removed.
5. Keep work area clean. Cluttered areas invite injuries.
6. Overloading machine. By overloading the machine, you may cause injury from flying parts. DO NOT exceed the specified machine capacities.
7. Dressing material edges. Always chamfer and deburr all sharp edges.
8. Do not force tool. Your machine will do a better and safer job if used as intended. DO NOT use inappropriate attachments in an attempt to exceed the machine's rated capacity.
9. Use the right tool for the job. DO NOT attempt to force a small tool or attachment to do the work of a large industrial tool. DO NOT use a tool for a purpose for which it was not intended.
10. Dress appropriately. DO NOT wear loose fitting clothing or jewelry as they can be caught in moving machine parts. Protective clothing and steel toe shoes are recommended when using machinery. Wear a restrictive hair covering to contain long hair.
11. Use eye protection. Always wear ISO approved protective eye wear when operating machinery. Wear a full-face shield if you are producing metal filings. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specification. Use of eye wear which does not comply with ANSI Z87.1 specification could result in severe injury from breakage of eye protection.
12. Do not overreach. Maintain proper footing and balance at all times. DO NOT reach over or across a running machine.
13. Stay alert. Watch what you are doing and use common sense. DO NOT operate any tool or machine when you are tired.
14. Check for damaged parts. Before using any tool or machine, carefully check any part that appears damaged. Check for alignment and binding of moving parts that may affect proper machine operation.
15. 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 lighted.
16. Keep children away. Children must never be allowed in the work area. DO NOT let them handle machines, tools, or extension cords.
17. Keep visitors a safe distance from the work area.
18. Store idle equipment. When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep them out of reach of children.
19. DO NOT operate machine if under the influence of alcohol or drugs. Read warning labels on prescriptions. If there is any doubt, DO NOT operate the machine.

Familiarize yourself with the following safety notices used in this manual:

CAUTION

This means that if precautions are not heeded, it may result in minor injury and/or machine damage.

WARNING

This means that if precautions are not heeded, it may result in serious injury or death.

DANGER

This means that if precautions are not heeded, it will result in serious or fatal, injury.

Save the Instructions

3.0 About This Manual

This manual is provided by Baileigh Industrial, covering the safe operation and maintenance procedures for a Baileigh Model MSS-16F Shrinker / Stretcher. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide consistent, long-term operation if used in accordance with the instructions as set forth in this document.

Technical Support handles questions on setup, operation, schematics, warranty issues, and individual parts needed. Our Technical Support department can be reached at 920-684-4990.

If there are questions or comments, please contact your local supplier or Baileigh Industrial. We can also be reached at our web site: www.baileigh.com.

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

WARNING

Read and understand the entire contents of this manual before attempting assembly or operation! Failure to comply may cause serious injury!

Register your product online -

<https://baileigh.com/product-registration>



4.0 Specifications

Table 4-1

Model number	MSS-16F
Stock Number	BA9-1005710
General Specifications	
Working Depth	6" (153mm)
Capacity	16 ga (1.5mm)
Mild Steel	14 ga (1.6mm)
Aluminum	
Weights and Dimensions	
Dimensions (L x W x H)	36.25" x 16.12" x 46.25" (920 x 410 x 1175mm)
Shipping Weight (approx.)	92 lbs (42kg)
Shipping Dimensions (L x W x H)	45.5" x 20" x 8" (1156 x 508 x 203mm)

! WARNING

Read and understand the entire contents of this manual before attempting assembly or operation. Failure to comply may cause serious injury.

5.0 Setup and Assembly

5.1 Unpacking and Checking Contents

Your Baileigh machine is shipped complete. Separate all parts from the packing material and check each item carefully. Make certain all items are accounted for before discarding any packing material.

! WARNING

SUFFOCATION HAZARD! Immediately discard any plastic bags and packing materials to eliminate choking and suffocation hazards to children and animals.

! WARNING

If any parts are missing, **DO NOT** place the machine into service until the missing parts are obtained and installed correctly.

5.2 Cleaning

! WARNING

DO NOT USE gasoline or other petroleum products to clean the machine. They have low flash points and can explode or cause fire.

! CAUTION

When using cleaning solvents work in a well-ventilated area. Many cleaning solvents are toxic if inhaled.

Your machine may be shipped with a rustproof waxy coating and/or grease on the exposed unpainted metal surfaces. Fully and completely remove this protective coating using a degreaser or solvent cleaner. Moving items will need to be moved along their travel path to allow for cleaning the entire surface. For a more thorough cleaning, some parts will occasionally have to be removed. **DO NOT USE** acetone or brake cleaner as they may damage painted surfaces.

Follow manufacturer's label instructions when using any type of cleaning product. After cleaning, wipe unpainted metal surfaces with a light coating of quality oil or grease for protection.

IMPORTANT: This waxy coating is NOT a lubricant and will cause the machine to stick and lose performance as the coating continues to dry.

5.3 Installation

5.3.1 Leveling

The machine should be sited on a level, concrete floor. Provisions for securing it should be in position prior to placing the machine. The accuracy of any machine depends on the precise placement of it to the mounting surface.

IMPORTANT:

- Consider current and future needs, size of material to be processed through each machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your new machine.
- Maintain an adequate working area around the machine for safety.
- Have the work area well illuminated with proper lighting.
- Remove scrap and waste materials regularly, and make sure the work area is free from obstructing objects.
- Keep the floor free of oil and make sure it is not slippery.
- If long lengths of material are to be fed into the machine, make sure that they will not extend into any aisles.

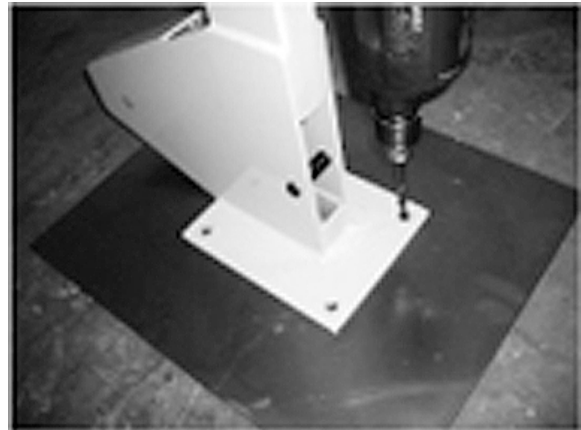


Figure 5-1

It is recommended that you mount your new machine to the floor. Because flooring material may vary, floor mounting hardware is not included. Generally, you can either bolt your machine to the floor or mount it on machine mounts. Both options are described below.

5.3.2 Bolting to Concrete Floors

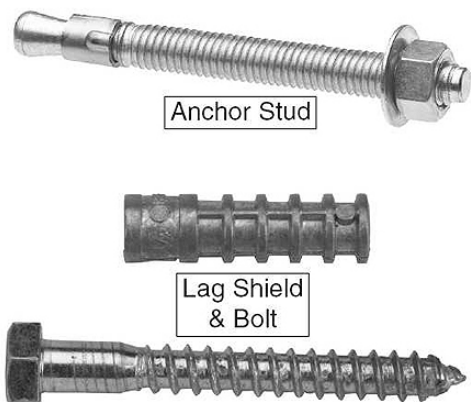


Figure 5-2

Lag shield anchors with lag bolts and anchor studs are two popular methods for anchoring an object to a concrete floor. We suggest you research the many options and methods for mounting your machine and choose the best that fits your specific application.

Note: Anchor studs are stronger and more permanent alternatives to lag shield anchors; however, they will stick out of the floor, which may cause a tripping hazard if you decide to move your machine.

As an alternative you can mount the shrinker / stretcher on a movable stand. The stand must be strong enough to support the weight of the machine and the material being processed, as well as providing the ballast to prevent the machine from tipping over.

5.4 Assembly



Figure 5-3

1. Grease the pivot shaft and install the pivot shaft in the hole on the end of the foot pedal.
2. Mount the foot pedal and pivot shaft with the M10 screws.



Figure 5-4

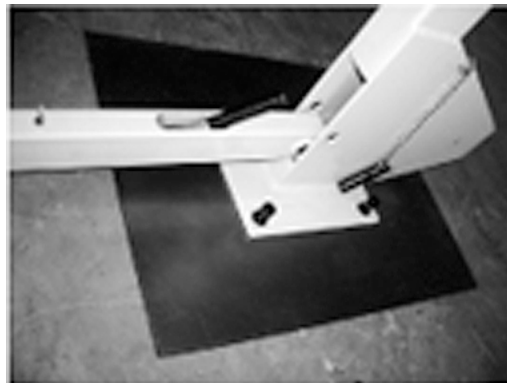


Figure 5-5

3. Place the foot pedal into the base. Make sure the threaded link screw is pointing up and into the main unit.
4. Move the foot pedal in to the main unit and at the same time, with your other hand guide the threaded link screw up in the opening.
5. Install the two (2) M10 screws for the pivot shaft and at the same time keep the screw threaded link in the opening.



Figure 5-6



Figure 5-7



Figure 5-8

6. Tighten both screws.



Figure 5-8



Figure 5-9

7. Mount the spring, first into the main unit, then to the foot pedal.



Figure 5-10



Figure 5-11

8. Grease the foot pedal axle and install the axle in the hole in the end of the foot pedal.
9. Mount the foot pedal link and the axle with the two (2) M8 screws.



Figure 5-12



Figure 5-13

10. Connect the link to the threaded link screw and screw it in about 15 turns.



Figure 5-14

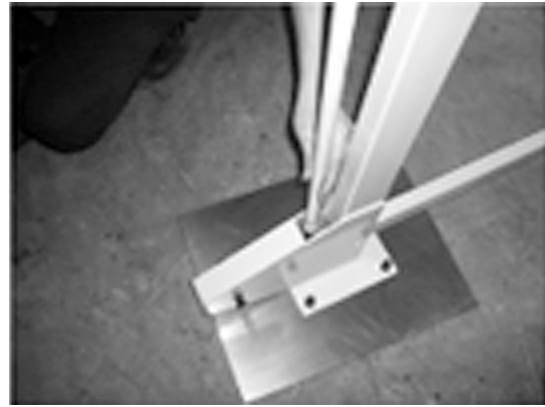


Figure 5-15

11. The length of the link has to be adjusted so that the height of the low side of the foot pedal is $7.5'' \pm .5''$ (190.5mm $\pm$ 12.7mm). Place a 7.5" (190.5mm) block under the foot pedal and adjust the link until the upper screws will install easily.

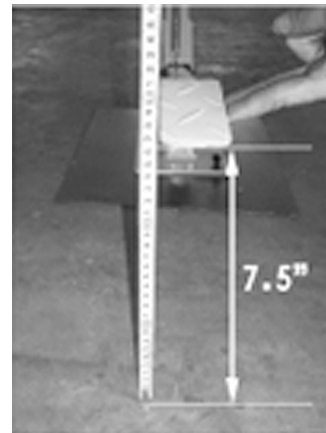


Figure 5-16



Figure 5-17

12. Install the two (2) M8 screws for the upper link and tighten.



Figure 5-18



Figure 5-19

13. Mount the jaws by first installing the screws into the jaw.



Figure 5-20

14. Place the jaws one at a time with the text to the outside. Then tighten the jaws.



Figure 5-21



Figure 5-22

15. It is very important to use the same type of jaws; shrinker with shrinker or stretcher with stretcher jaws. DO NOT interchange. It is also important to have the text in the same direction. Best results are text to the outside.
16. On the shrinker jaws the openings have to be placed forward.
17. Oil the jaws every week depending on usage.

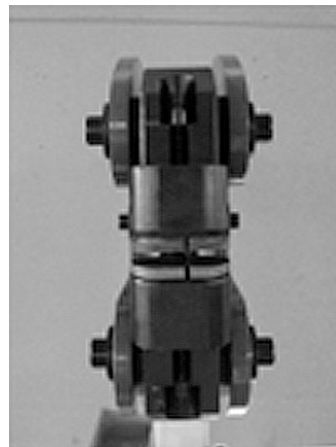


Figure 5-23

18. When the machine is not in use, the securing pin shall be installed to prevent unintended usage.

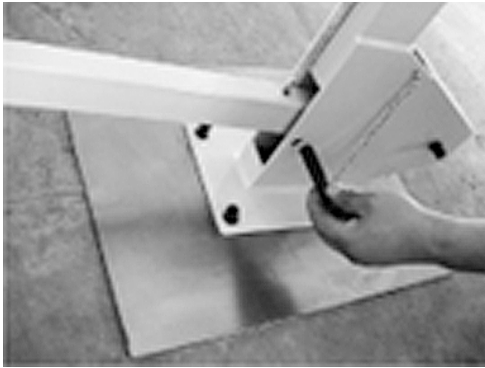


Figure 5-24



Figure 5-25

19. Use the holder on the side of the machine to store the jaws that are not in use.



Figure 5-26

6.0 Operation

⚠ WARNING

DO NOT step on the foot pedal without having work material between the jaws. The jaws may chip or break causing injury from fling objects.

⚠ CAUTION

Always wear proper eye protection with side shields, safety footwear, and leather gloves to protect from burrs and sharp edges.

⚠ CAUTION

Keep hands and fingers clear of the dies. When handling large heavy sheets make sure they are properly supported.

The function of this tool is to shrink or stretch sheet metal up to 16 ga. (1.5mm) with radius down to 1" (25.4mm)

The principal operation is made when the sheet work piece is placed between the jaws and then applying and releasing force with the foot on the foot pedal. The work piece is moved as required each time the foot pedal is released. By moving smoothly you will be able to make smooth shapes quickly and easily. **PRACTICE.**

Do a quick test by placing a sample piece of material between the jaws, and then stepping down on the foot pedal and ensuring that the jaws bite down and pull apart for the stretcher. For the shrinker the jaws should bite down and squeeze together. The jaws should return to their open relaxed position when the handle is raised.

Try using the tool with a sample piece of metal to get a feel for how it operates. Place the material in the middle of the jaw box and step down on the pedal to form the metal. Work the leading edge of the material first to break down the initial resistance of the metal. Move the metal back and forth until the desired radius is obtained. You can control the pressure exerted on the metal by how far you step down on the pedal.

The jaws have fine toothed edges to hold the piece part in place. Marks left on your piece part can be removed with either an abrasive cloth or a wheel for appearance.

7.0 Material Selection

⚠ CAUTION

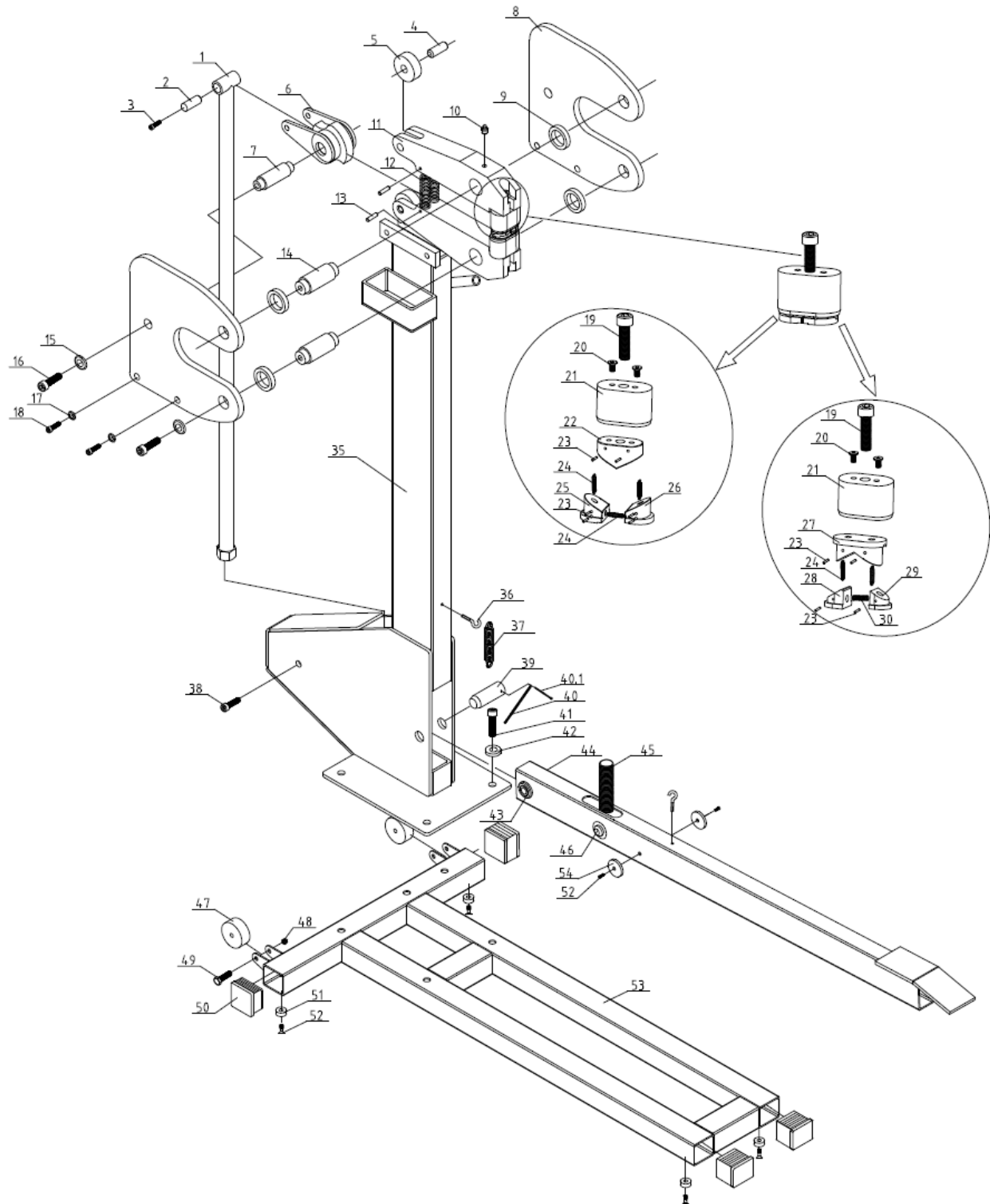
It must be determined by the customer that materials being processed through the machine are NOT potentially hazardous to operator or personnel working nearby.

When selecting materials keep these instructions in mind:

- Material must be clean and dry. (without oil)
- Material should have a smooth surface so it processes easily.
- Dimensional properties of material must be consistent and not exceed the machine capacity values.
- Chemical structure of material must be consistent.
- Buy certificated steel from the same vendor when possible.

8.0 Replacement Parts

8.1.1 Shrinker / Stretcher Assembly – Exploded View



8.1.2 Shrinker / Stretcher Assembly – Parts List

Index No.	Part No.	Description	Size	Qty.
1	BA9-1005711	Foot Pedal Link		1
2	BA9-1005712	Axle Link		1
3	BA9-1005713	Socket Head Cap Screw	M8X16	2
4	BA9-1012353	Lock Axle		1
5	BA9-1013435	Wheel		2
6	BA9-1015704	Rotary Table		1
7	BA9-1005716	Shoulder Shaft		1
8	BA9-1018447	Side Plate		2
9	BA9-1018448	Set Collar	25 x 35 x 7	4
10	BA9-1018452	Straight Grease Fittings	M6P1.0	2
11	BA9-1018453	Die Frame		2
12	BA9-1010867	Extension Spring		2
13	BA9-1018454	Roll Pin	3X30	2
14	BA9-1016622	Side Plate Big Axle		2
15	BA9-1018455	Washer		2
16	BA9-1018456	Socket Head Cap Screw	M8X20	2
17	BA9-1018457	Flat Washer	M8	4
18	BA9-1018458	Socket Head Cap Screw	M8X20	4
19	JT9-TS-1504061	Socket Head Cap Screw	M8X30	4
20	JT9-TS-2284081	MACH Screw, Flat HD	M4X8	8
21	BA9-1224886	Outer Die Cover		4
22	BA9-1005721	Shrink Die Kit Ba9-1005722 Stretch Die Kit		
		Upper Inner Die 1		2
23	**	Roll Pin, 2 x 20	2X20	20
24	BA1-9556	Little Spring		10
25	BA9-1005721	Shrink Die Kit Ba9-1005722 Stretch Die Kit		
		Lower Inner Die II		2
26	BA9-1005721	Shrink Die Kit Ba9-1005722 Stretch Die Kit		
		Lower Inner Die 2		2
27	BA9-1005721	Shrink Die Kit Ba9-1005722 Stretch Die Kit		
		Upper Inner Die II		2
28	BA9-1005721	Shrink Die Kit Ba9-1005722 Stretch Die Kit		
		Lower Inner Die IV		2
29	BA9-1005721	Shrink Die Kit Ba9-1005722 Stretch Die Kit		
		Lower Inner Die 4		2
30	BA1-9557	Bearing Spring		2
35	BA9-1015705	Frame		1
36	BA9-1012354	Pothook		2
37	BA9-1010866	Extension Spring		1
38	BA9-1005714	Socket Head Cap Screw	M10X16	2
39	BA9-1005715	Axle	16 x 71mm	1
40	BA9-1015706	Hanging Chain		1
40.1	BA9-1015707	Cotter Pin	3X25	2
41	BA9-1015708	Socket Head Cap Screw	M10X20	4
42	BA9-1015709	Flat Washer	M10	4
43	BA9-1012353	Fixed Shaft		1
44	BA9-1015710	Foot Pedal		1

Index No.	Part No.	Description	Size	Qty.
45	BA9-1015711	Localizer shaft		1
46	BA9-1015712	Link Shaft		1
47	BA9-1015713	Wheel		2
48	BA9-1015714	Hex Nut, Nylon Lock	M6P1.0	2
49	BA9-1015715	Bolt, M6x40	M6X40	2
50	BA9-1015716	Lid		4
51	BA9-1013435	Plastic Washer		4
52	BA9-1015717	MACH Screw, Flat HD	M4X10	4
53	BA9-1015718	Base		1
54	**	Pad		2
	BA9-1005717	Set of Shrinker Jaws for Aluminum, less marking ...		1
	BA9-1005718	Set of Stretcher Jaws for Aluminum, less marking ..		1
	BA9-1005721	Set of Shrinker Jaws for Mild Steel		1
	BA9-1005722	Set of Stretcher Jaws for Mild Steel		1

** These parts are shown for reference only and are not available for order individually. Non-proprietary parts, such as fasteners, can usually be found at local hardware stores.