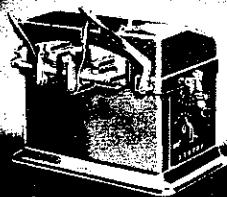


FASTER WELDS



BETTER WELDS

The Stryco Band Saw Welders are engineered to do one job well: To weld saw blades as perfectly, as easily, and as rapidly as possible. They are the culmination of years of close co-operation with saw shops and industrial users of band saws. They are fast, efficient machines and will produce dense, pure strong welds. They are built to earn their way and if they are given the moderate care due any fine piece of equipment, they will continue to produce better welds year after year with the very minimum of operator skill and attention.

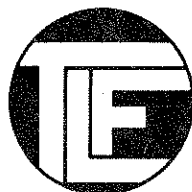
STRYCO WELDERS FOR NARROW BAND SAWS
ARE MADE IN THREE SIZES

SIZE	CAPACITY		KVA.
	IN	MM	
MF - 1	1"	25.4	4
MF - 2	1½"	38.1	6
MF - 3	2"	50.8	8

DATA ON LARGER SIZES, OR SPECIAL WELDING
PROBLEMS UPON APPLICATION

P. O. BOX 1412
BRANDON, FL 33511

TOLL FREE: 800-237-3829

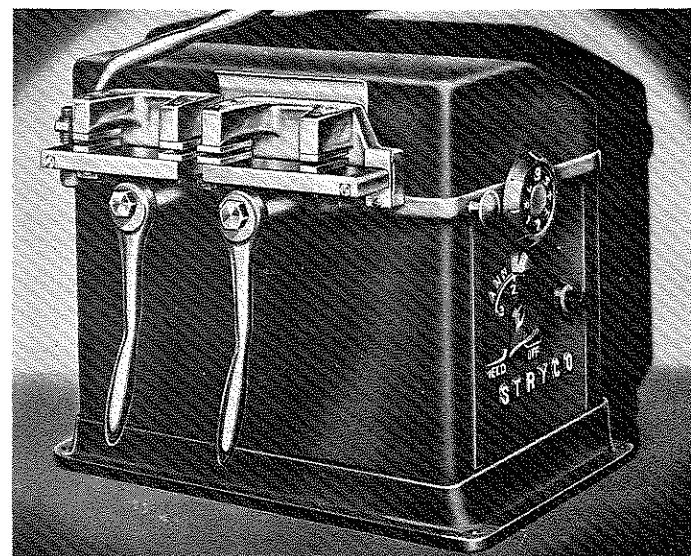


10103 CEDAR RUN RD.
TAMPA, FL 33619

IN FLORIDA: 813-681-2373

IMPORTANT OPERATING AND MAINTENANCE DATA

HOW TO WELD SAW BLADES



with the

STRYCO

AUTOMATIC BAND SAW WELDER

MODEL

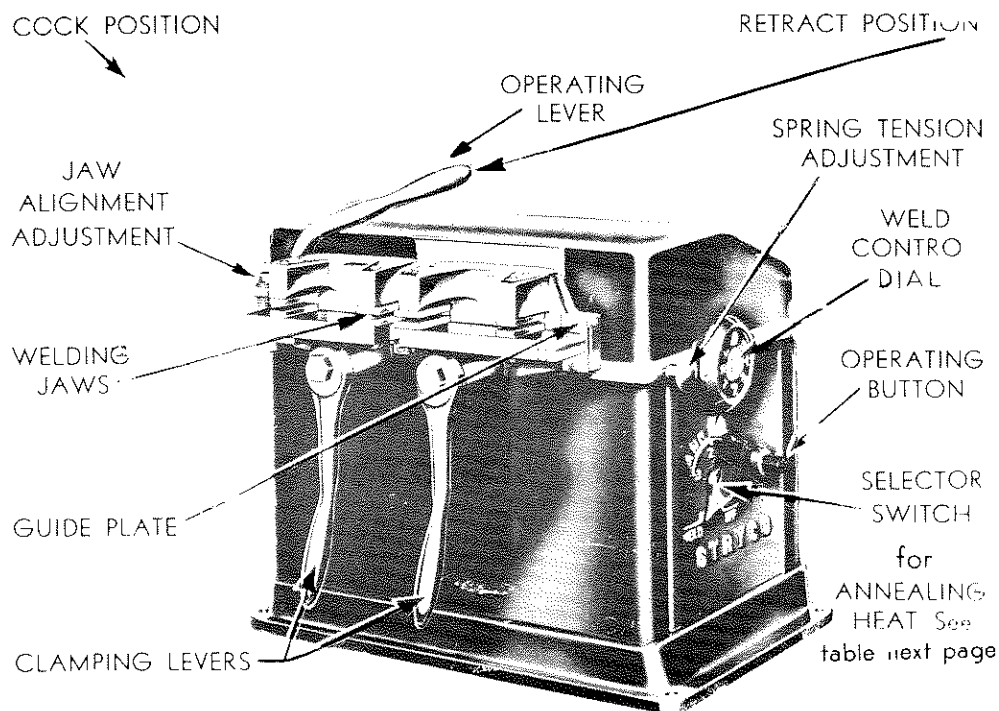
MF 2

1 ½" CAPACITY

BULLETIN 303
1054-AD-500

CONTROL SETTINGS					
BLADE THICKNESS		BLADE WIDTH		WELD CONTROL DIAL	SPRING TENSION SETTING
IN	MM	IN	MM		
.020 - .025	.51 - .64	1/16 - 1/2	1.6 - 12.7	1	1
.025 - .032	.64 - .81	1/2 - 5/8	12.7 - 15.9	2	2
.032 - .035	.81 - .89	5/8 - 3/4	15.9 - 19.1	2	3
.035 - .042	.89 - 1.07	3/4 - 1	19.1 - 25.4	3	3
.035 - .042	.89 - 1.07	1	25.4	3	3
.042	- 1.07	1-1/2	38.1	3	3

The above settings are given only as a general guide and may vary with types of steel and other special conditions.



SETTING UP AND WELDING

1. Set selector switch at "weld." Set weld control dial to correct setting for saw being welded. See table above.

2. Adjust upset pressure by screwing spring rod in or out. Numbered marks on rod indicate degree of pressure. No. 1 for lightest saws, No. 2 for medium and No. 3 for heaviest. With operating lever retracted calibration mark desired should be brought to outer surface of case.

3. Throw operating lever to full cock position. Clamp saw with ends butting midway between jaws. Press operating button fully home, then release. Switch is now locked closed and weld will be completed automatically. Switch will be released automatically at completion of the weld cycle.

ANNEALING

Unclamp saw and retract jaws by throwing operating lever to full retract position. Re-clamp saw with weld midway between jaws.

Set anneal selector switch as shown in table below.

SELECTOR SWITCH SETTING FOR ANNEALING

SAW SIZE	IN	MM	SETTING NO.
	1/16 - 1/2	1.6 - 12.7	1
	1/2 - 1	12.7 - 25.4	2
	OVER 1	OVER 25.4	3

The anneal selector is graduated to provide proper time for bringing various sizes of saws up to annealing heat.

Hold operating button until saw is annealed.

With jaws in the retracted or annealing position, the operating button does not latch but remains in contact for annealing as long as it is held.

A very dull red is the correct annealing heat for the average saw.

Owing to the wide variety of steel, however, the operator becomes the best judge of the temperature required by reason of his knowledge and experience with various alloys.

SERVICE INSTRUCTIONS

In making a flash weld, the actual fusion of the metal is not completed until the current ceases to flow. The flashing is simply a process of melting the two ends by means of an arc preparatory to pressing them together. This is accomplished by an accelerating motion governed by the motor-driven cam. At the end of the stroke, the jaws come together quickly, at which instant the current is broken by the primary switch. Setting of the weld control dial to suit the size of material, governs this last "push up" distance, also the point at which the switch breaks.

The correct position of the cam at the start of the weld is shown in Fig. 1 below.



Fig. 1

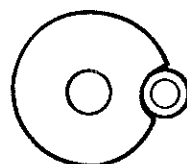


Fig. 2

In normal operation the cam will return to this position at the completion of each weld. Low voltage or attempting to weld too heavy material may sometimes cause the cam to stop as shown in Fig. 2, in which case the jaws will come completely together when cocking the operating lever preparatory to making a weld. To remedy, throw the operating lever to the retracted position, and with the selector switch on "weld," jog the operating button to return cam to the correct position. Or with cover removed, the gears may be turned by hand. In either case, before making a weld, one operation should be made with no material, to insure correct position of cam. Never make a weld with the cover removed, as the flash is injurious to the mechanism.

CAUTION
Always disconnect welder from line before removing cover.

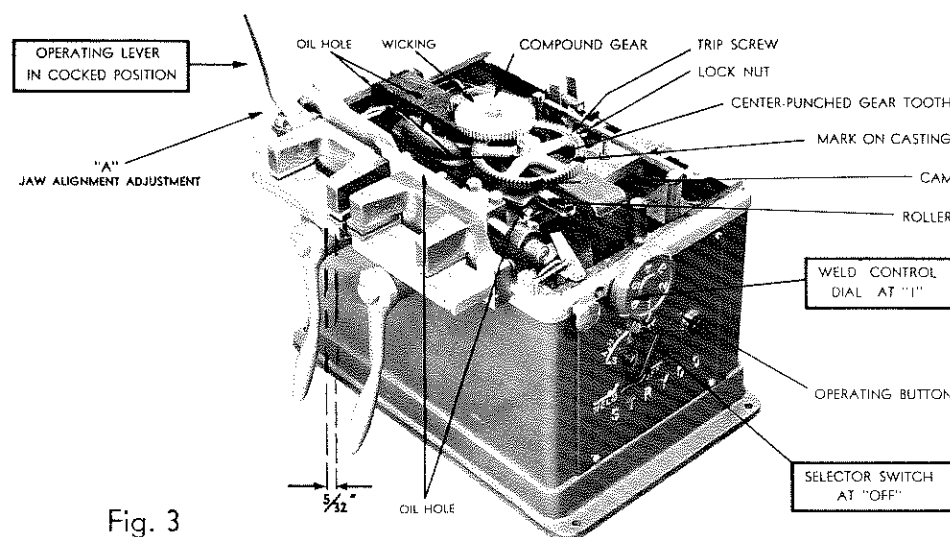


Fig. 3

TO CHECK COMPLETE SETTING OF WELDER

With cover removed (Fig. 3), set selector switch on "off." With weld control dial set at "1," cock operating lever as though to make a weld, and press operating button. Gears may now be turned by hand in direction indicated. (Turning compound gear is most practical.) As the center-punched tooth on the cam gear approaches the line in the casting, turn very slowly. The switch should snap open as these marks cross. If there is more than a half tooth difference, adjust by means of the trip screw. (It is not necessary to loosen lock nut.)

At point where marks cross, jaws should be $\frac{5}{32}$ " apart. This is correctly set at factory and can only change if dial has been forced past the stop. To rectify, insert lever between left-hand end of motor bar and welder frame. Compress retaining springs and allow dial to turn past stop.

Check tripping point several times before replacing cover.

LUBRICATION

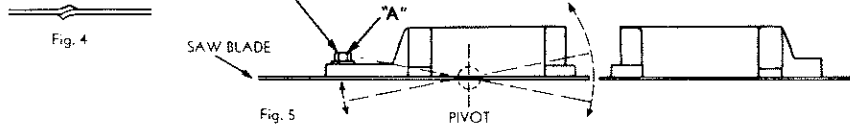
At least every six months, cover should be removed and a few drops of oil placed in the oil holes provided. The wicking on top of center gear should be saturated. A light oiling of linkage and other friction points is desirable.

IMPORTANT: Flash dust should be wiped from between the jaws at every operation. Any accumulation of particles will throw weld out of alignment.

Filing of jaws is not practical because of the difficulty of maintaining flat and parallel surfaces. However, when a surface grinder is available, they will stand re-surfacing several times before being discarded.

Correction of alignment at welding point is made by screw "A" (Figs. 3 and 5). Accurate alignment is most essential for a good weld. **ADJUST VERY CAUTIOUSLY:** Turning alignment adjusting screw "A" tilts left jaw, raising or lowering end of saw at welding point.

$\frac{1}{4}$ turn equals about .010".



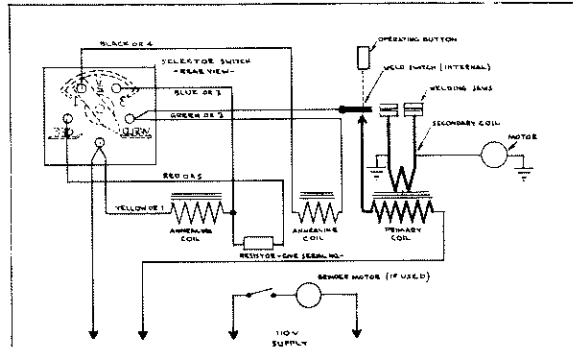
On very thin blades misalignment of but a few thousandths represents a substantial percentage of the stock, and when saw ends are brought together during the weld cycle, they may deflect owing to their molten state resulting in a semi-lap weld (Fig. 4).

Perfect alignment is best attained by welding and finishing thin samples of stock, noting whether right or left side of weld finishes flush first. This will reveal misalignment not apparent to the eye. By doing a number of sample welds as above and adjusting to overcome the discrepancy, perfect alignment can be obtained.

If welder produces an uneven or "fluttery" flash, it usually indicates insufficient current capacity to the welder.

At the point just preceding the breaking of the switch there is a momentary surge of current and it is very important that the line voltage does not drop at this critical instant, otherwise the weld will be imperfect. To eliminate this possibility, the source of supply should be ample to withstand 300% momentary overload with not more than 10% voltage drop.

The machine should be fused and wired according to the name plate amperage.



OPERATING PRINCIPLES and HINTS FOR STRYCO BAND SAW WELDERS

Stryco MF series welders use what is known as the flash-butt process. In this process the ends are butted together or a small gap is allowed between the ends just enough to permit an arc to form across the material. When the operating switch is closed, the current is turned on and is changed in the transformer from high voltage, low amperage to low voltage, high

amperage. The current begins flowing through the secondary and through the blade completing a circuit. Since there is a small gap between the ends of the blades, this causes the current to jump, or arc across the ends of the material. The arcing causes the material to burn away and as it burns away, the carriage is advanced by the timing motor maintaining the same gap so the arc will not quench. If the carriage advances too rapidly, the gap will be closed and the arcing will cease. If the carriage advances too slowly, the gap will become too wide for the arc to jump across, and the arcing process will cease. The timing motor is started simultaneously with the arcing process and by means of the cam, the carriage advances at the correct speed. If there is some restriction in the carriage that does not permit it to move forward freely, the arcing would be erratic, or if the motor speed is too slow due to some restriction in the gear mechanism or in binding of the armature, this will also cause the flashing to stop or to become erratic. Actually, the timing motor does not advance the carriage but rather controls its advance. The pressure is provided by an adjustable spring which forces the moveable carriage mechanism against the timing cam. The arcing or flashing process heats up the ends of the blades and when enough heat has been obtained in the ends to permit forging, the welding current is cut off and full pressure is applied against the ends of the blades. On the very small, thin blades, the current cuts

off at the moment of upset. On the wider, heavier sections, the current remains on for a short period of time while the upset is taking place. Therefore it is very important that the welder be timed properly. You will find instructions as to the proper timing of the welder in the instruction manual.

An understanding of the operating principles of the welders, should assist you greatly in determining any malfunction of the equipment. All moving parts should be regularly lubricated and cleaned so that there will be no restriction in any of their actions. The welding jaws should be kept clean and in good condition so that they will always make proper contact with the blade material. Ofttimes it will happen that there will be a coating of grease on the blade material and this will form an insulating film on the welding jaws. The accumulation of flash should be frequently removed from the flash guard so that it will not obstruct the movement of the carriage. Blade overlapping is frequently a cause of complaint. This is usually due to either worn sliding shaft or its supporting bushings. The cure for this is replacement. Also, if the welding jaws are badly worn, it will result in a bad alignment. This can be compensated for somewhat by adjustment of the leveling screw in the extreme left end of the stationary carriage. Poor edge alignment will normally be due to wear of the back guide plates on the carriages.

We recommend that the blades always be placed with the teeth against the guides so that the wear will always take place on the back edge of the jaws rather than at various points across the width of the jaws. If there is a considerable amount of skip tooth blade welded, we recommend that the back edge of the lower dies be relieved slightly. This will give better alignment and better contact and will also prevent breakage of the teeth.

On annealing we recommend that a very dull red color be used. This does not work in all cases, however, it will give results in 90% of the time, at least. Sometimes the analysis of the blade material varies, and experimentation must be done with the annealing in order to obtain good results. We find that sometimes heating the welded area to a bright red and then tapering the heat down slowly by tapping the button at regularly spaced intervals will give very good results on hard to anneal material.

We hope the above hints and suggestions will prove to be of value to you. If you should run into problems that we have not covered, please contact us, giving the details and we will attempt to give you further assistance and advice.

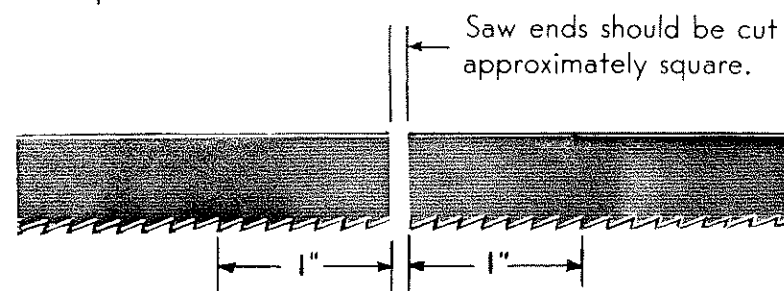
STRYCO MANUFACTURING COMPANY

IMPORTANT

The highest degree of weld perfection has been painstakingly engineered into the Stryco Band Saw Welder. With this machine there is nothing complicated about making first class saw welds. Performance is automatic, precise and completely dependable. Only a few simple working conditions must be maintained to assure this precision. Given the few moments necessary to properly prepare and set up the work in the machine, the user will find it easy to consistently produce welds of the very highest quality.

PREPARING BLADES FOR WELDING

If necessary to match teeth, allow approximately $\frac{1}{4}$ " for take-up in weld.



On saw blades 24 gauge or heavier it is advisable to remove set for about 1" from each end.

Removing set assures full electrical contact with welder jaws across full width of the blades. And on heavier saws avoids mutilation of the welding jaws when clamping pressure is applied.

Removing set is not practical on metal cutting blades because of the brittle nature of the hardened teeth. Always clamp this type of saw with the teeth against back guides.

Only a few parts of the Stryco Band Saw Welder will ever require replacement in normal service, but to provide for emergency damage a much larger listing is shown here. If additional parts not shown should be required, the manufacturer will make every effort to supply them promptly when furnished a full description of the parts desired.

IMPORTANT

Always give the Serial Number when ordering parts.

REPLACEMENT PARTS MF 2

