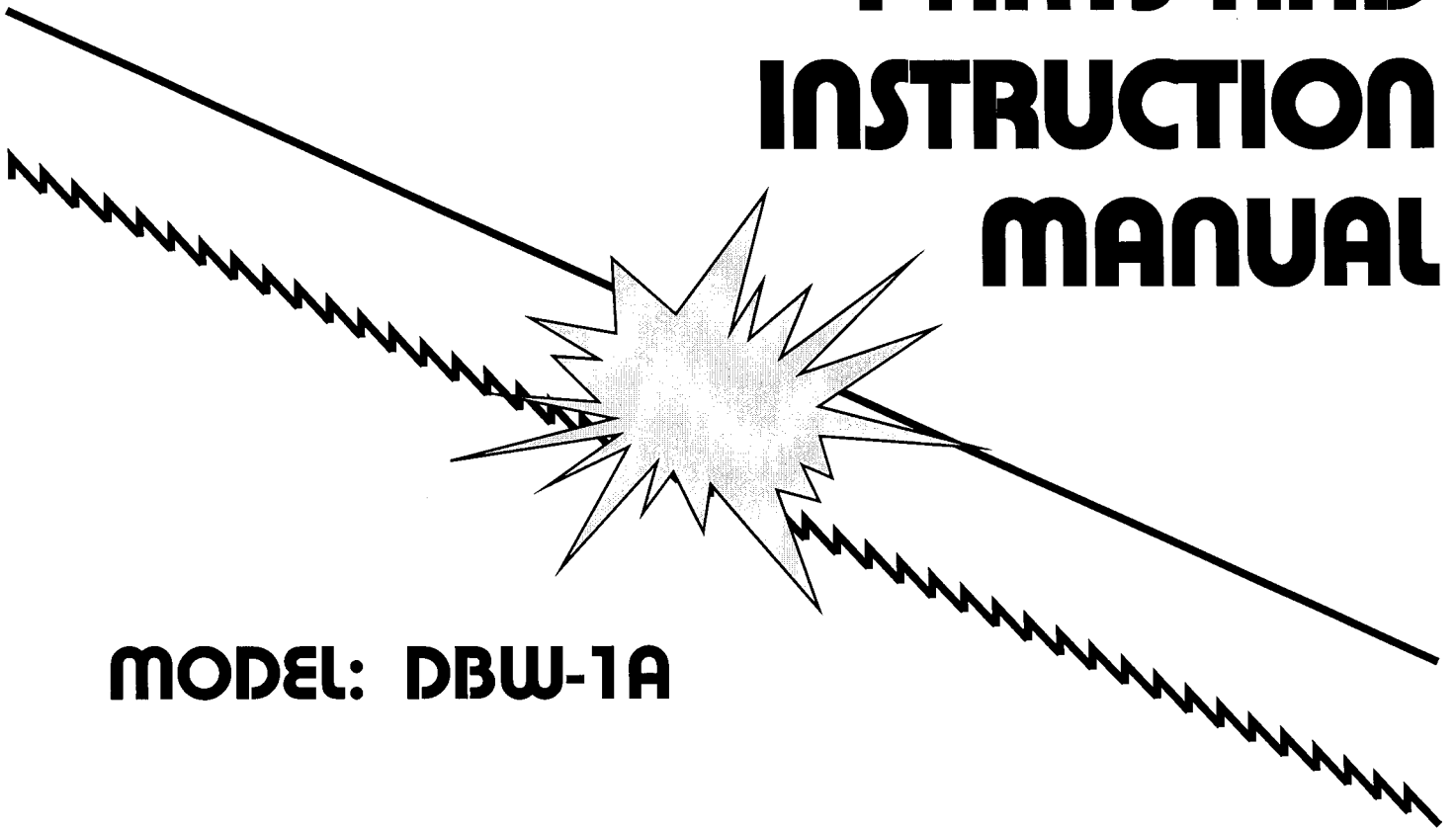




# **PARTS AND INSTRUCTION MANUAL**



**MODEL: DBW-1A**

**SERIAL NO: 4910600 to 6122999**

**BUTTWELDER**

# DAMAGE CLAIM PROCEDURE

## VISIBLE DAMAGE AT TIME OF DELIVERY:

1. Note damage on carrier's delivery receipt. Accept the shipment. It can be returned later if repairs are not possible in the field.
2. Request a "damage inspection" from the delivery carrier:
  - a. The carrier will send his own people or contract an independent agency to make the inspection.
  - b. The inspector will request a signature on the report and leave a copy.
  - c. The carrier "damage inspection" report is not final. If additional damage is found when repairs are started, contact the carrier for another inspection; or at least give them the details of the damage.
3. Do not move the equipment from the receiving area and keep all shipping materials until the carrier "damage inspection" report is complete.
4. If possible, take photographs of the damage and keep them for your file. Photos could possibly prove a claim at a later time.
5. Keep a record of all expenses and be sure they are documented.
6. Repair damage in the field whenever possible. Carriers encourage this to keep expenses down.
7. You have nine (9) months to file a claim.

## CONCEALED DAMAGE:

1. You have fourteen (14) days to report damage not noted at time of delivery.
  - a. Report damage as soon as possible. This makes it easier to prove that it did not happen cosignee's plant.
  - b. Inspect machines carefully before moving from the receiving area. Again if machine is not moved it is easier to prove your case.
2. Request a "damage inspection" from the delivery carrier:
  - a. The carrier will send his own people or contract an independent agency to make the inspection.
  - b. The inspector will request a signature on the report and leave a copy.
  - c. The carrier "damage inspection" report is not final. If additional damage is found when repairs are started, contact the carrier for another inspection; or, at least give them the details of the damage.
3. Do not move the equipment from the receiving area and keep all shipping materials until the carrier "damage inspection" report is complete.
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5. Keep a record of all expenses and be sure they are documented.
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## WELDER SPECIFICATIONS

MODEL NO.	<input type="text"/>	SERIAL NUMBER	<input type="text"/>		
VOLTAGE	<input type="text"/>	PHASE	<input type="text"/>	CYCLE	<input type="text"/>
AMP.	<input type="text"/>	INST. K.V.A.	<input type="text"/>	CONT. K.V.A.	<input type="text"/>

### FOREWORD

*For your information and future reference, pertinent data concerning your welder may be inserted in the spaces provided above. This information is stamped on the data plate mounted on the welder.*

*Always include the model and serial numbers in parts orders or correspondence concerning your welder.*

*The specifications contained herein were in effect at the time this manual was approved for printing. The DoALL Company, whose policy is one of continuous improvement, reserves the right, however, to change specifications or design at any time without incurring obligations.*



## INSTALLATION

**PLACEMENT** - Every consideration should be given to placing your DoALL Butt Welder where the operator will have sufficient room. In welding of saw bands, space should be allowed so that the coiled saw will not injure other persons passing up and down the aisles. The Butt Welder should be placed where the welding sparks will not ignite inflammable material.

**ELECTRICAL CONNECTION** - The Butt Welder will be supplied in accordance with your voltage requirements. Full line voltage to the Butt Welder will give the best performance.

DoALL Butt Welders will not operate on Direct Current. A converter must be installed. For this purpose, you will want to know that the DoALL Butt Welders have the following characteristics:

Maximum Secondary Voltage - 3.5 Volts  
Continuous Duty Rating - 500 Volt Amperes.

The Butt Welder performs five functions - preparation of material to be welded, welding, annealing, cleaning up of "flash" at weld, and etching.

Before Welding, familiarize yourself with controls and their function as given in the text and illustrations.

## OPERATION

**GENERAL SPECIFICATIONS** - Referring to the Butt Welder Panel, at the top of the panel a 15 watt lamp is housed and on either side of the panel you will note two oil fillers. These spring cap oil fillers are connected by means of tubing to the sleeve bearings of the grinder motor.

Below the oilers is the Tension Control dial or weld selector which regulates the tension of the moving jaw for each width of saw being welded. This dial is mechanical and enables the operator to control the pressure with which the movable jaw moves toward the stationary jaw. Wider saws need greater tension than smaller ones. Too much tension on small saws will cause climbing or lapping.

Below and to the right is the welder operating lever. Do not use the moving welder jaw as a support or grip when pressing the welding lever. Directly below the moving welder jaw is the annealing switch. This is not a snap switch and should be pushed in to a hard stop and held when annealing. To the left of the annealing switch is the grinder motor switch. Below the welder and annealing switches is the grinder wheel guard. Above the grinder wheel guard is a gauge to test the saw thickness after grinding. The saw weld should pass freely through this gauge.

**WELDING THE SAW** - For welding the ends of the saw, either in joining the saw for internal work or in repairing a broken band, it is only necessary to cut the ends of the band square so they make a butt joint when inserted in the welder jaws. An incomplete joint will cause an incomplete weld. It is suggested that a DoALL Blade shear be used as it assures automatically square cuts.

If internal sawing is to be done, the blade is inserted through the starting hole in the work, and then the ends of the saw are clamped into the welder jaws.

Insert the saw between the jaws with the back against the aligning ledge at the back of the jaws. This ledge lines up the saw, so that it will be in a straight line after welding. When clamped, the ends of the saw should meet at the center of the welding gap without any offset either in thickness or across the width. If the ends are clamped in an off-set manner, an over-lapping weld will result which will have to be ground too much, making the saw weak at the weld.

After the saw ends are lined up, clamp them securely (but not so tightly as to injure the saw set) between the welder jaws. Then the tension control switch should be set to the correct position for the width of saw being welded. Setting this selector determines the pressure or speed of the movable jaw. Incorrect setting can cause saw ends to overlap. (Use narrow position for 1/16", 3/32" and 1/8"; Medium for 3/16" and 1/4", and Wide for 5/16", 3/8", 1/2" and 5/8" wide saws.)

Press the operating lever down to make the weld. It is important that the lever be held down until the weld is automatically made and has cooled. Before releasing the lever, release the stationary jaw clamp. This will prevent scoring the welder jaw surface. The saw is then ready to be annealed.

**ANNEALING** - To anneal the weld unclamp the saw from the welder jaws and move it forward to the wide gap position at the front of the welder jaws, and reclamp the saw just back of the saw teeth. Then press the annealing switch button, until the saw comes up to a dull cherry red color. It is important that the weld be annealed properly or it will be too brittle to flex over the wheels. If the weld is allowed to get beyond a dull cherry red color, it will reharden, causing the joint to be brittle. It is best to turn off the welder light when annealing a weld so that the "color heat" of the weld can be accurately determined. Allow the saw to cool slowly by pressing the annealing button intermittently to prevent rapid air cooling.

After the weld is annealed, remove it from the jaws and grind off the flash from the weld on the grinding wheel. It is important that the welded joint in the saw be no thicker than the rest of the saw. The thickness of the weld should be tested in the gauging slot located on the grinding wheel guard before placing the saw on the wheels. The grinder switch operates the light which acts as a pilot against inadvertently leaving the silent grinder motor running after the weld is finished.

If trouble is encountered in welding 1/16" to 1/8" bands, place saws in jaws as usual, but leave a scant 1/64" gap between the ends of the band. Make sure saw ends are in alignment. A scant gap cuts down the travel of the movable jaw resulting in less upset at the weld.

Cut out old weld as each new weld is made. Only one weld in a saw is recommended. Use the blade shear or saw snips to cut away the small portion of the saw ends which become brittle during the butt welding process.

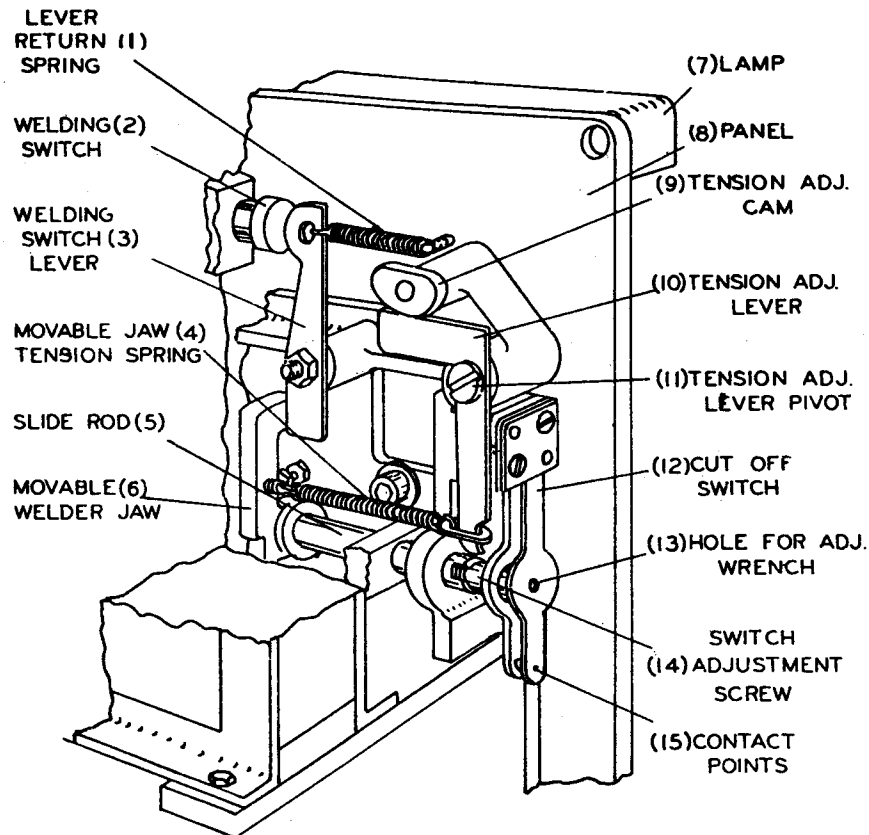
#### ETCHING

The Etching Pencil is used with the butt welder to mark tools, jigs, fixtures, templates, etc. To etch clamp the terminal strip of the Etching Pencil in the stationary jaw. Depress the anneal and etching switch and clamp the button down with the etching pencil clamp. This closes the circuit through the welder and also grounds the etching current to the case of the welder. Place the work to be etched so that it makes good contact with the welder. Etch with sufficient pressure to prevent the point from arcing, but not great enough to destroy the copper point.

#### ADJUSTMENTS TO WELDERS

Before servicing the Butt Welder, be sure to disconnect from the electric power supply.

Referring to the perspective drawing of the butt welder, this view shows the welder mechanism from the rear with the transformer cut away. The moving welder jaw is designed to give a straight line movement. The moving welder jaw is rigidly mounted on a single slide rod that slides in the welder frame. The slide rod, to which is secured the moving welder jaw, is set to give a definite amount of movement. This movement has been standardized at .040". This represents the amount of movement of the moving jaw during the weld. This movement cannot be changed as that is correct for all widths of saw from 1/16" to 5/8". The slide rod carries a switch cut-off knob at its left end. This knob is mounted on a socket head set screw so that it can be adjusted in or out, thus regulating the timing of the weld. The cut-off knob operating against the leaf of



the cut-off switch, opens the circuit when the moving jaw is in the closed position.

Again, referring to the drawing, you will note an opening in the end of the leaf switch. This opening permits the insertion of an Allen Wrench in the cut-off knob screw. An Allen Wrench is attached to each welder on a tag secured to the top of the transformer. It is used in adjusting the length of time current flows between the welder jaws. This timing adjustment is probably the most important part of the welding unit and all adjustment should be made at this point. A counterclockwise rotation will result in less bead on the weld. A clockwise rotation will result in more bead on the weld. Welders that may require adjustment can be corrected if the following procedure is used:

With the welding lever depressed, it will be noticed that the cut-off switch is open. This opening should be between  $1/32$ " and  $3/64$ ". Note -- do not make this adjustment if the welder is connected to the power line. The standard setting of the jaws in the open position is  $3/16$ ".

After the welder has been adjusted as above, make a sample weld using a  $1/2$ " saw. If the weld appears to be thick toward the teeth and tapering toward the back of the saw, the welder is operating correctly.

"Burning out" of welds may be caused by the points of the cut-off switch being stuck together, wrong timing adjustment or sticking slide rod. To check, set the tension indicator at the low setting, then press the weld lever, the movable jaw should have a free movement of .040". Check the web strap to the movable jaw to see that it does not bind the jaw.

The slide rod may be rusted due to condensation from temperature changes. A drop of oil on this rod, working it along the rod by repeated depressing of the welding lever will correct it.

The welding switch is a two circuit switch on which the annealing circuit is normally closed and the welding circuit normally open. When the welding lever is held down, there is no possibility of "shorting" the transformer or burning out fuses should the annealing switch accidentally be pressed.

#### MAINTENANCE

Free movement of the welder jaw is essential to good Butt Welding performance. Occasionally it is necessary to clean and lubricate the slide rod in order to assure this free movement, in the removal and servicing of the slide rod, it would be well to clamp a strap of metal about 1/8" x 3/4" securely in the welder jaws to maintain the 3/16" spacing between the welding jaws before removal of the slide rod.

To secure consistent results, the welder jaws and clamps must be kept clean. During the welding cycle, excess metal in the form of incandescent particles is blown out of the weld, causing a scale or flash to build up on the welder jaws and clamps. The welder will not weld properly unless the jaws and clamps are wiped clean after every weld.

Misalignment of the weld is usually caused by worn or dirty jaws. However, if the welder jaw inserts and clamps are clean and not worn and the welds are out of line, the jaws are not aligned properly. This misalignment can be determined by inspection of the weld after the flash has been removed. After determining which jaw is not in alignment, the jaws can be adjusted as desired. The movable jaw can be moved up or down in a vertical arc by adjusting the allen set screws in the rear of the jaw. These set screws also position button bearings in back of the movable jaw; consequently, if the position of the jaw is moved, care must be taken that the bearings are not set up too tight. If the position of the stationary jaw is changed, make certain that the gap or opening between the jaws is 3/16" in the open position.



Never file the silver contacts as silver oxide formed when the points burn is an excellent conductor.

#### LUBRICATION

The Grinder Motor located on the butt welder panel should be oiled through the outside oilers at least every 30 to 60 days, using 6 to 10 drops of machine oil. Occasionally lubricate slide rod to prevent condensation.

#### WELDER GRINDER CIRCUIT

The grinder circuit is coupled through the annealing side of the welder switch. When the welding lever is depressed, the circuit to both the annealing switch and the grinder is open. If the grinder is running while a weld is being made, the grinder will momentarily shut off when the welding lever is depressed.

The following information will be helpful to those plants having DC current who contemplate putting in an AC line for operation of the standard butt welder (1/16" to 5/8" wide saws).

The transformer of the butt welder is of the following characteristics:

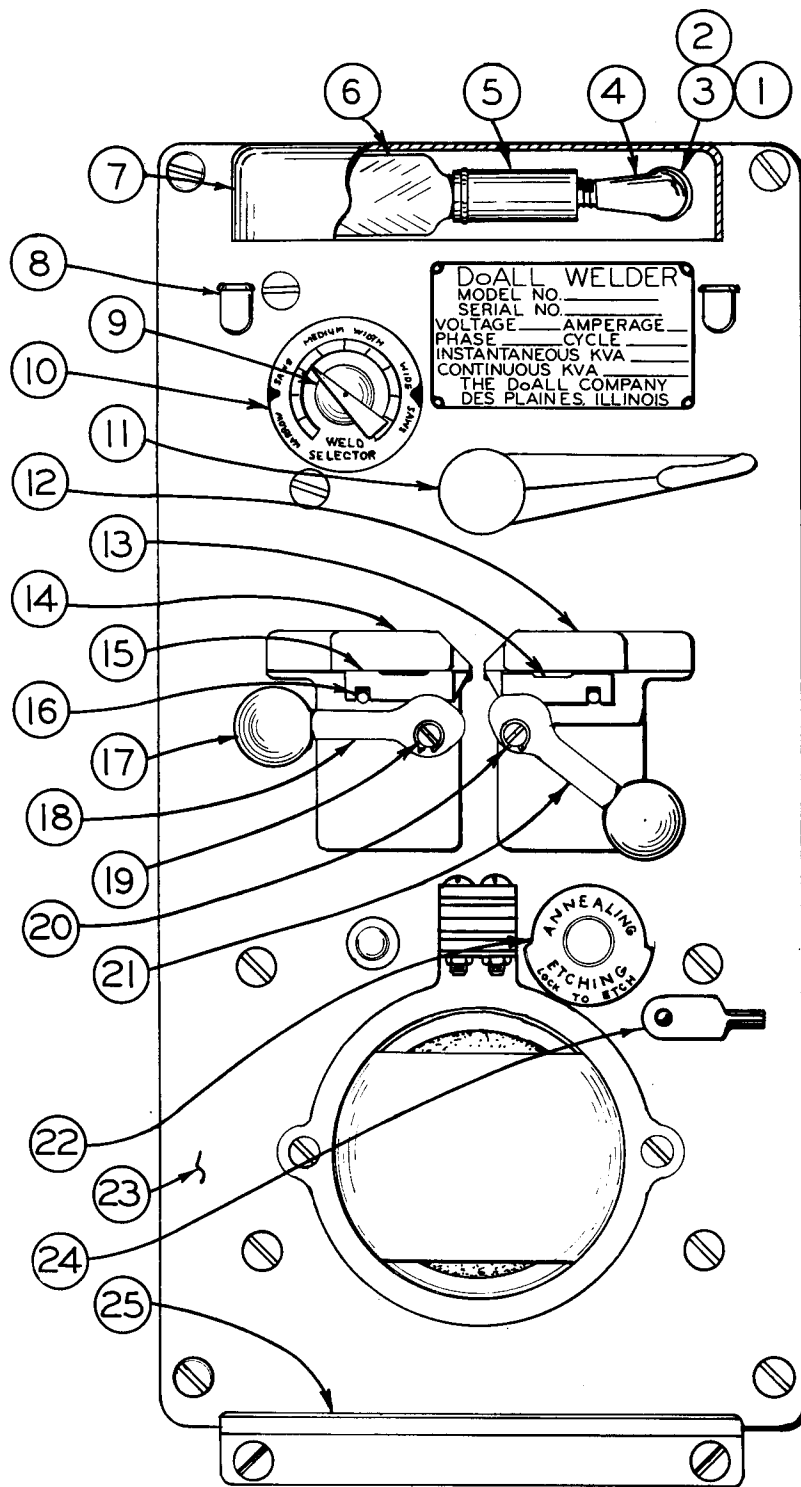
Instantaneous Primary Current - 28 Amperes or 2850 Volts Amperes  
Instantaneous Secondary Current at Maximum Setting - 880 Amperes  
Secondary Voltage - 3.5 Volts  
Continuous Duty Rating - 500 Volts Amperes

\*For diagram of welder giving Lead Voltages, please see escutcheon which is mounted to the top of Butt Welder transformer.



**DBW-1A WELDER**

**PARTS PAGES**



MODEL #1A  
BUTT WELDER ASSEMBLY

MODEL	FIRST MACH	LAST MACH
#1A	4910600	6122999
ML	4914304	541835
V16	1649590	48399
V36	36494536	36535628
16-2	45-53101	45-581123
16-3	50-53101	50-58854
36-2	52-53101	52-58451
36-3	53-53101	53-58546
1612-1	148-59101	148-61458
3613-1	149-59101	149-61195

MODEL #1A BUTTWELDER ASSEMBLY

INDEX NO.	PART NO.	DESCRIPTION	UNITS PER ASS'Y.
Ref.	53087	Model #1A Buttwelder Ass'y.	
1	7-015104	. Pipe Nut .....	1
2	35-5075	. Lamp Socket Ass'y. ....	1
3	34-06526	. . Nipple .....	1
4	5-04520	. . Elbow .....	1
5	19513E	. . Socket .....	1
6	19512A	. Lamp .....	1
7	34-06205	. Shade .....	1
8	1395	. Oiler .....	2
9	34-016518	. Knob .....	1
10	34-06347	. Escutcheon .....	1
11	35-5060	. Lever Ass'y. ....	1
	6-06106	. . Handle .....	1
	6-06412	. . Shaft .....	1
	4271	. . Roll Pin .....	1
*12	20628	. Movable Jaw .....	1
13	35-9546	. R.H. Clamp .....	1
*14	20603	. Stationary Jaw .....	1
15	35-9547	. L.H. Clamp .....	1
16	35-9565	. Pin .....	2
17	14-115183	. Ball Handle .....	2
18	35-9555	. L.H. Cam Ass'y. ....	1
*19	2749	. Pin .....	2
20	35-9616	. Snap Ring .....	2
21	35-9554	. R.H. Cam Ass'y. ....	1
22	35-778	. Escutcheon .....	1
23	35-9593	. Panel .....	1
24	35-2010	. Clamp .....	1
25	6-06320	. Support .....	1

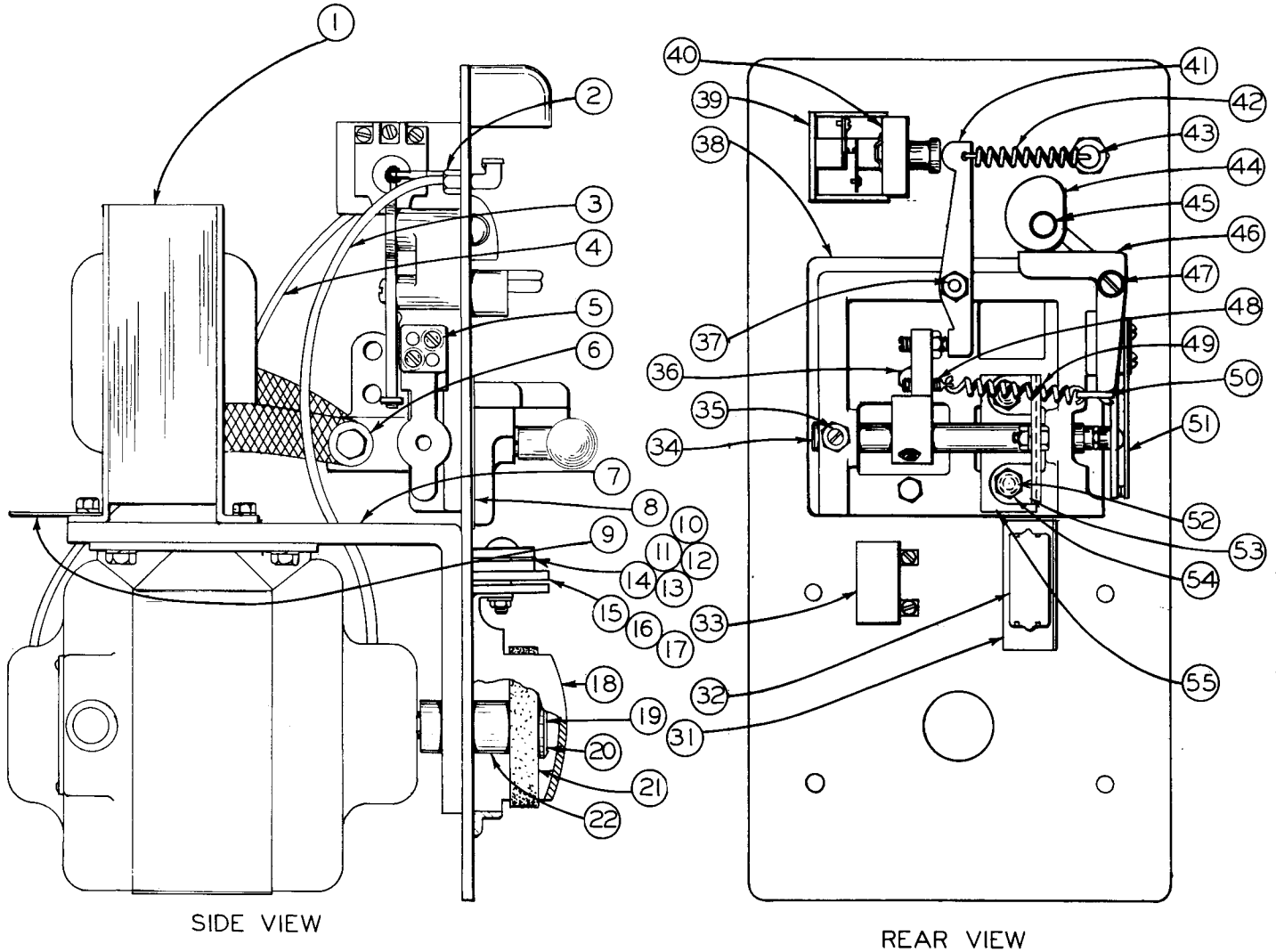
\*NOTE: Before the following serial numbers

NO. 1A    5011300  
V-16     1650670  
V-36     36504645  
ML       5014603

\*2749 - Pin was - - - - -35-9564

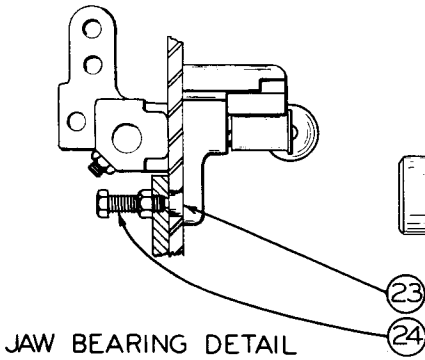
\*20603 - Stationary Jaw --35-9544

\*20628 - Movable Jaw - -35-9558

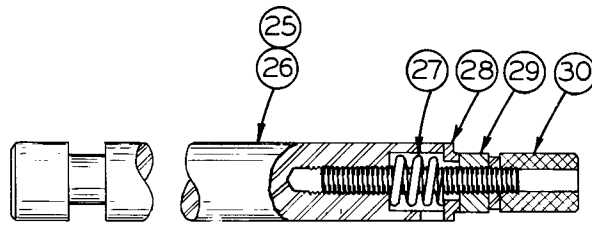


SIDE VIEW

REAR VIEW



JAW BEARING DETAIL



SLIDE ROD DETAIL  
35-5059

MODEL #1A  
BUTT WELDER ASSEMBLY  
HI-2.0.1

MODEL	FIRST MACH	LAST MACH
*1A	4910600	6122999
ML	4914304	541835
V16	1649590	48399
V36	36494536	36535628
16-2	45-53101	45-581123
16-3	50-53101	50-58854
36-2	52-53101	52-58451
36-3	53-53101	53-58546
1612-1	148-59101	148-61458
3613-1	149-59101	149-61195

PRINTED IN U.S.A.

MODEL #1A BUTTWELDER ASSEMBLY

INDEX NO.	PART NO.	DESCRIPTION	UNITS PER ASS'Y.
1	53087	Model #1A Buttwelder Ass'y.	
	6-06505	. Transformer 220 V-60 Cycle .....	
	6-06520	. Transformer 110 V-60 Cycle .....	USE
	6-06521	. Transformer 160 V-60 Cycle .....	ONE
	6-06522	. Transformer 220 V-25 Cycle .....	
	43915	. Transformer 208 V-60 Cycle .....	
2	6-06421	. Connector .....	2
3	6-06519	. Oil Tube 17" .....	1
4	6-06519	. Oil Tube 13" .....	1
5	1088	. Insulation Bushing .....	1
6	12736	. Washer .....	2
7	17256	. Motor Bracket L.H. ....	1
	17257	. Motor Bracket R.H. ....	1
	12442	. Stop .....	1
8	6-06317	. Insulator .....	1
9	35-9617	. Conduit Anchor .....	1
10	35-5056	. Grinder Wheel Guard Ass'y. ....	1
11	6-06306A	. . Gage Block .....	1
12	6-06307A	. . Spacer .....	1
13	6-06307B	. . Spacer .....	1
14	6-06306B	. . Gage Block .....	1
15	13-06303A	. . Gage Block .....	1
16	13-06304	. . Spacer .....	1
27	13-06303B	. . Gage Block .....	1
18	405735	. . Guard .....	1
19	6-06429	. Screw L.H. ....	1
20	34-12402	. Washer .....	1
21	6-06503	. Wheel .....	1
22	6-06406	. Motor Shaft Extension 60 Cy. For 1/2" D. Shaft .....	
	3496	. Motor Shaft Extension 60 Cy. For 5/8" D. Shaft .....	USE
	6-06428	. Motor Shaft Extension 25 or 50 Cy. ....	ONE
	11677	. Motor Shaft Extension 1/2" D. Shaft .....	
23	6-06417	. Bearing .....	2
24	1006	. Stud .....	2
25	35-5059	. Slide Rod Ass'y. ....	1
26	6-06407	. . Slide Rod .....	1
27	6-06338	. . Spring .....	1
28	6-06337	. . Key .....	1
29	6-06336	. . Collar .....	1
30	6-06418	. . Knob .....	1
31	6-06341	. Insulator .....	1
32	19505C	. Grinder Switch .....	1
33	34-06503	. Anneal Switch .....	1
34	35-5059	. Slide Rod Ass'y. (See Detail) .....	1
35	10258	. Stop Screw .....	1
36	See Detail	. Jaw Bearing (Parts 23 & 24) .....	1
37	6-06412	. Shaft .....	1
38	35-9557	. Frame .....	1
39	35-9545	. Switch Bracket .....	1
40	35-5078	. Welder Switch Sub-Ass'y. ....	1
	6-06506	. . Welder Switch .....	1
41	6-06311	. Lever .....	1
42	6-06339	. Spring .....	1
43	35-9592	. Spring Screw .....	1
44	6-06324	. Cam .....	1
45	35-9548	. Shaft .....	1
46	35-9550	. Lever .....	1
47	1005	. Pivot .....	1
48	35-9549	. Spring Stud .....	1
49	34-06330	. Spring .....	1
50	6-06313	. Insulator .....	1
51	20017	. Leaf Switch Ass'y. ....	1
52	35-9614	. Insulator Bushing .....	2
*53	2748	. Connector .....	1
54	3172	. Cap Screw .....	2
*55	2761	. Insulator .....	1

\*NOTE: Before the following serial numbers

NO. 1A 5011300  
V-16 1650670  
V-36 36504645  
ML 5014603

\*2761 Insulator was - 2-35-9515  
\*2748 Connector was Not Used

