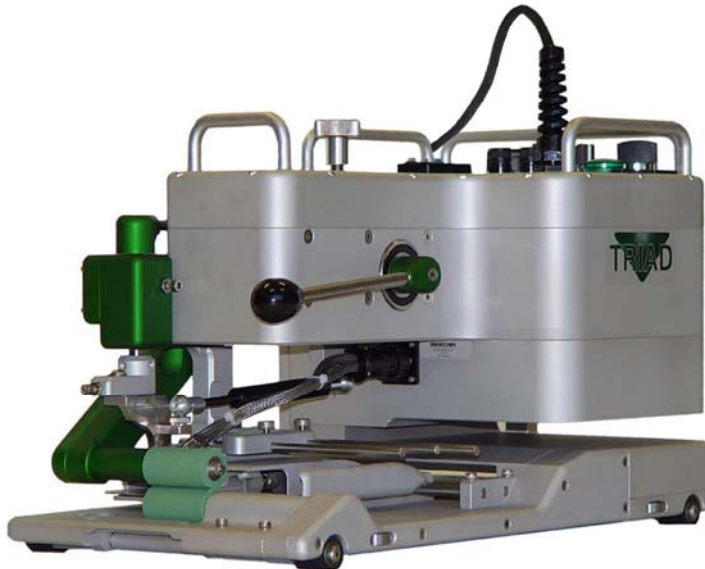


TRIAD

WEDGE WELDING SYSTEM

OPERATING INSTRUCTIONS



U.S. PATENT NO 5,865,942



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INTRODUCTION

The **Triad Wedge Welding System** is designed for in house fabrication of a wide range of flexible membranes. This includes, but is not limited to, PVC, PP, PE, LDPE, Urethane, etc.

Thickness of material that can be welded will vary also with product. Normal range is 5-100 mil thickness and can be supported or non-supported material.

The **Triad** comes complete with three different guides. This will allow you to perform the overlap weld, hem weld, prayer weld and many more welding options.

The **Triad** uses a hot wedge as its heat source. This method will give you smokeless and quiet operation. The wedge also allows for welding thinner products without distortion.

The **Triad** can be used as a stationary welder or in an automatic mode. When using the Triad in an automatic mode, a track system is suggested. Please refer to Track System Specifications.

We suggest that you make samples welds of your product to achieve the correct settings for heat, speed and wedge alignment before you start welding

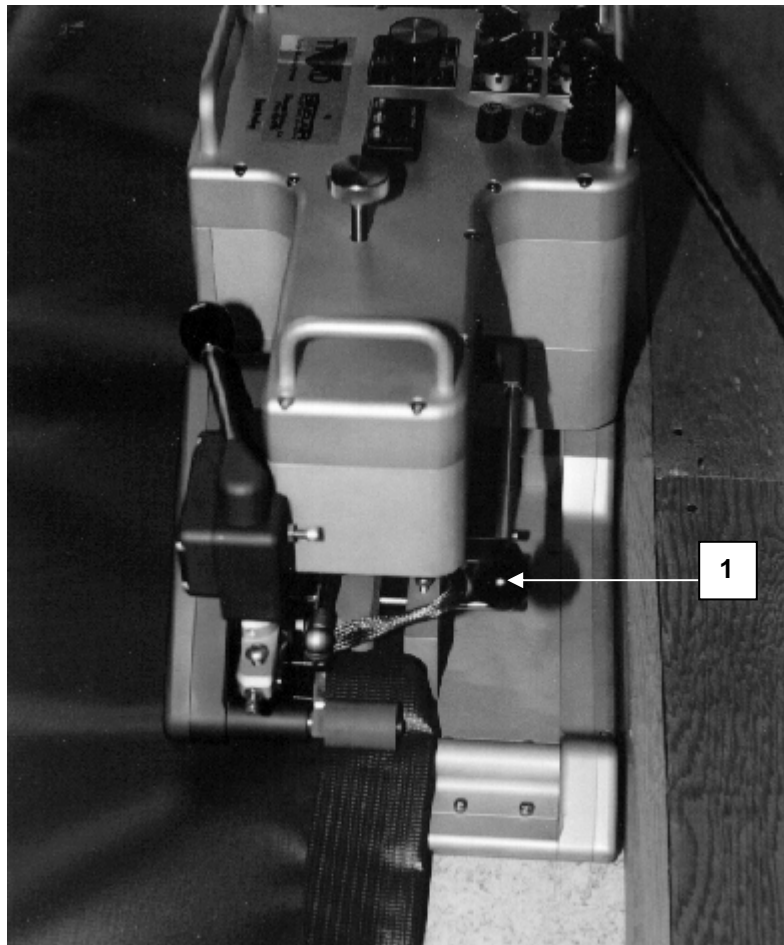
WEDGE ADJUSTMENT AND IDENTIFICATION

Proper wedge alignment is essential to achieve a proper weld. Units are preset at the factory. Sample welds should be made prior to actual use of the machine.

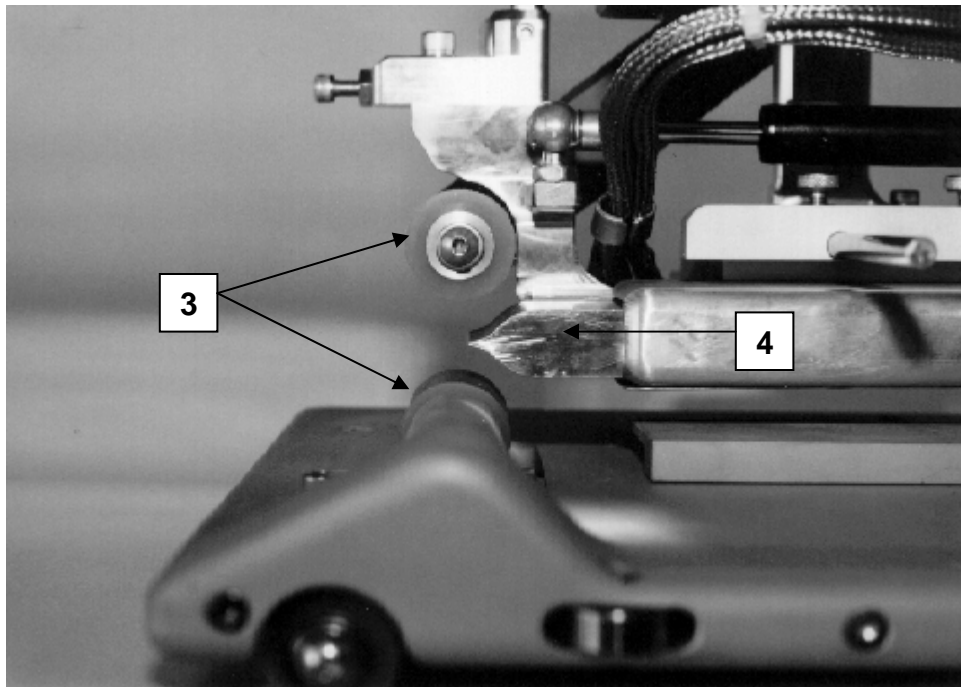
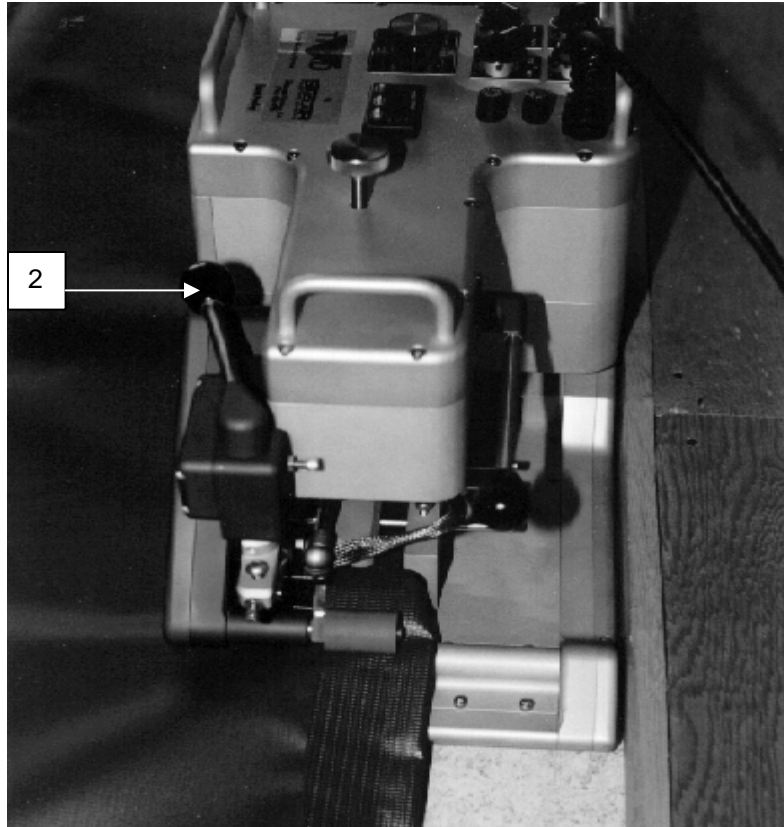
If sample welds are good only on one side or the other, or only partially welded, this means the wedge is not aligned or square to the rollers, and alignment adjustment is needed.

Unplug unit from power source and make sure the wedge is cool before you work on the machine.

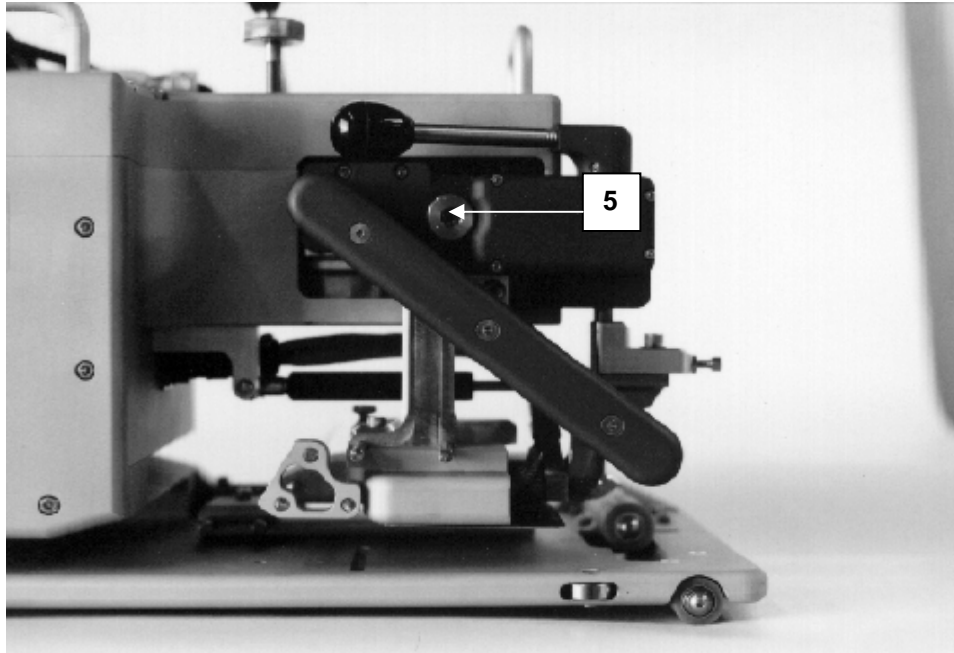
1. Pull Pressure Roller Handle #1 down. This will close Pressure Rollers.



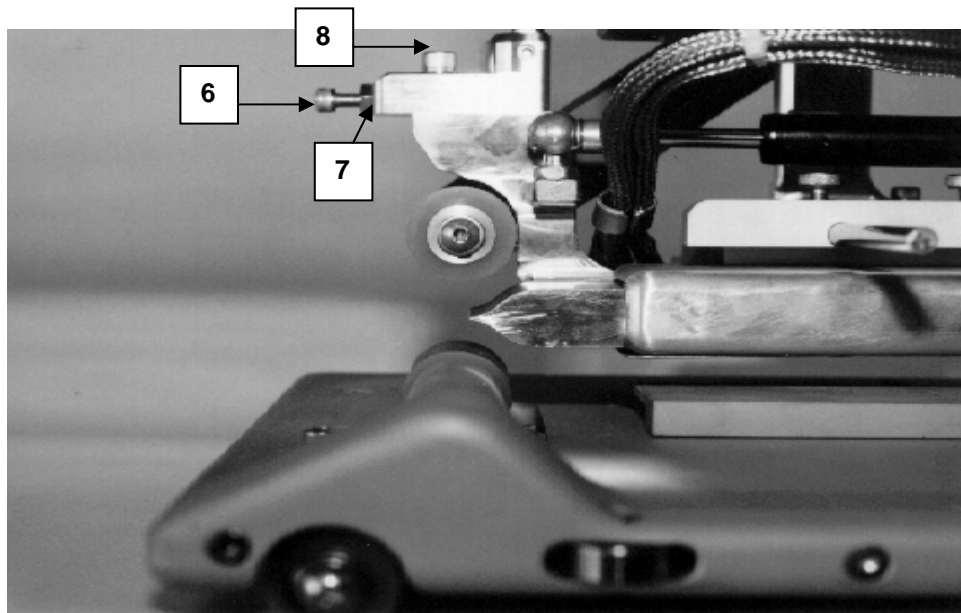
2. Swing Wedge Handle #2 in. This will engage wedge with rollers. The wedge #4 should rest or fit snug into the rollers #3 on both sides and should be centered.



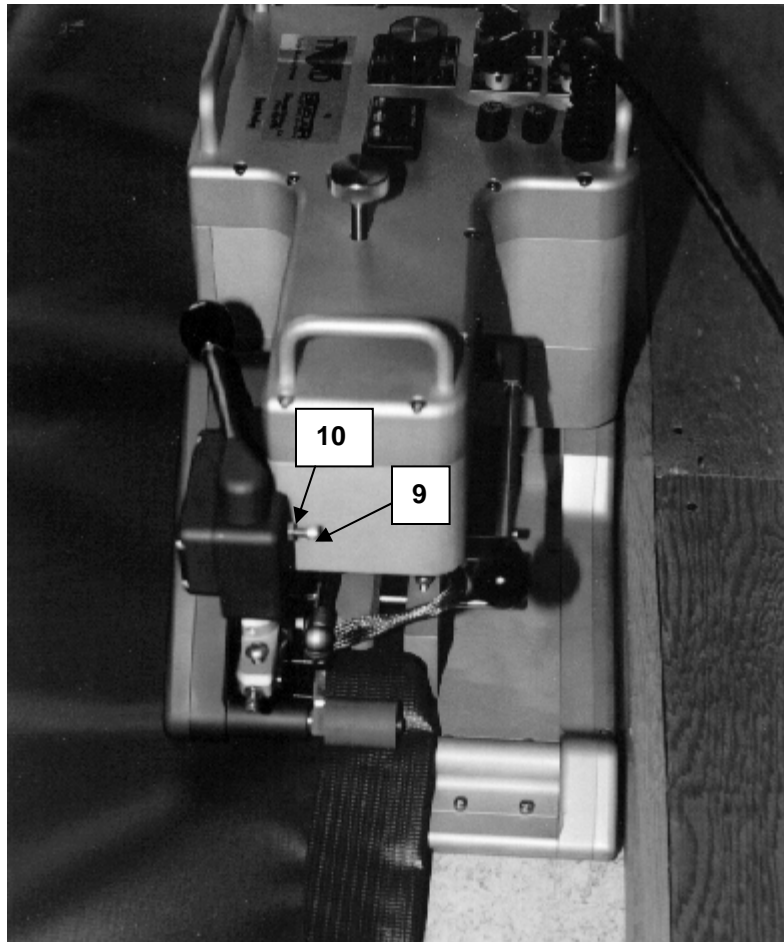
3. To center wedge between rollers, turn screw #5, this will fine tune wedge up and down. Only a 1/8 or 1/4 turn is necessary. Do not overturn. Move Pressure Roller Handle up and down slowly to check centering adjustment. Swing wedge handle in and out to ensure proper positioning.



4. Adjustment Screw #6 will move wedge on a center axis left and right. Loosen Locking Screw #8 to make adjustment. Loosen Lock Nut #7, turn Adjustment Screw clockwise to bring right side of wedge in and counterclockwise to bring left side in. When adjusted properly, tighten Locking Screw and Lock Nut.



5. Wedge Stop Screw #9 will stop travel of wedge when positioning wedge in weld position. Loosen Locknut #10 , turn Adjustment Screw in or out to proper position. The edge of the wedge should fit snug and square into the rollers on each end.



Make a test weld before proceeding with job. Fine tuning your adjustments can be made while wedge is hot. Do not run Hot Wedge into Silicon Rollers without material in machine for extended periods, as it will distort the silicon.

Note: For thicker products (30mil and up) backing the wedge out may be necessary to allow room for material.

WEDGE CLEANING AND HONING

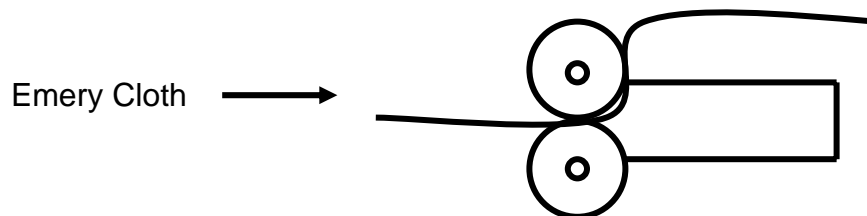
For accurate welds and longer wedge life, the wedge should be cleaned and honed on a regular basis.

CLEANING: Wedge cleaning should be done daily. There are two ways to clean the wedge.

1. With the Pressure Rollers in the up position and the wedge in the weld position, use the Brass Brush provided and clean wedge top and bottom. This can be done after every weld or as needed.
2. The second method of cleaning the wedge is to increase the temperature to 510 degrees C for 5-10 minutes. This will burn the residue on the wedge and it will flake off. Use the Brass Brush to remove.

HONING: Wedge Honing should be done if there are signs of wear on the wedge. This is evident with uneven welds, rounding edges or corners on the wedge.

1. Install both smooth steel rollers on machine, (do not hone the wedge with the Silicon rollers on machine).
2. Turn the forward/reverse switch to reverse position.
3. Swing wedge into weld position and close rollers.
4. Take the fine Emery Cloth provided, and run it back through the rollers on top of the wedge. Repeat this step on the bottom of the wedge.
5. Repeat step 4 top and bottom until there is even wear the full length of wedge.
6. If Honing does not true up the wedge, refer to Wedge Adjustment section. A combination of honing and adjustment may be necessary.

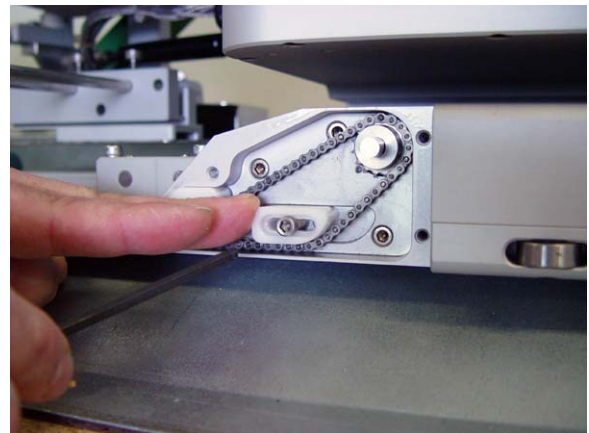


Drive System Maintenance

The drive system of the Triad is made from a series of chains running within the machine. Maintenance to the drive system can be a result of various factors including slack in the chain tension, wear to the plastic chain rubs, and a disconnection of the chain.

Lower Final Drive Chain:

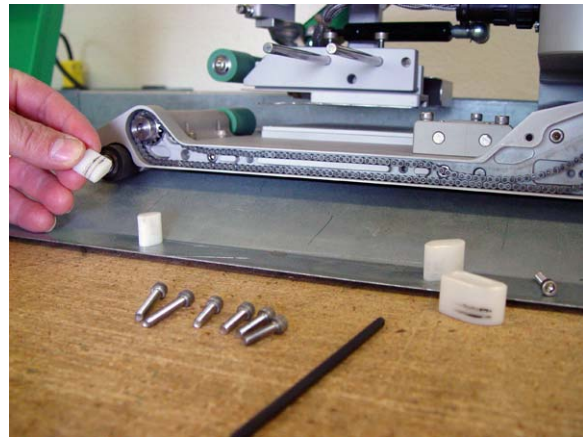
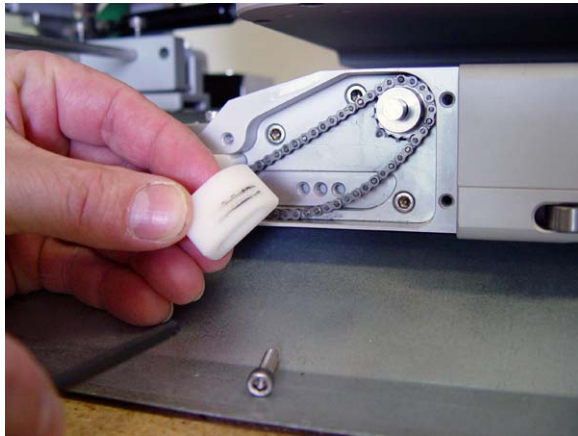
1. Use a 9/64" hex wrench to remove the screws on the bottom side panel of the Triad. Removing this panel will expose the chain, master link, tension plastic rub, three additional plastic rubs, sprockets, and bearings.
2. Rotate the lower pressure roller back and forth to observe the slack in the chain.
3. Loosen the screw for the tension plastic rub and push forward to remove slack from the chain. Tighten the screw and recheck. The screw for the plastic tension rub can be placed in successive threaded holes to make several tension adjustments.
4. **Note:** Do not apply any tension on the chain as this will cause stress and possible failure to various parts in this area. Adjust only enough to remove slack in the chain.



It is recommended to check wear to all the plastic rubs when the chain is adjusted. When a 1/16" to 1/8" (1.5 to 3 mm) depth is cut into the plastic, these parts will need to be replaced.

To evaluate and replace the plastic rubs:

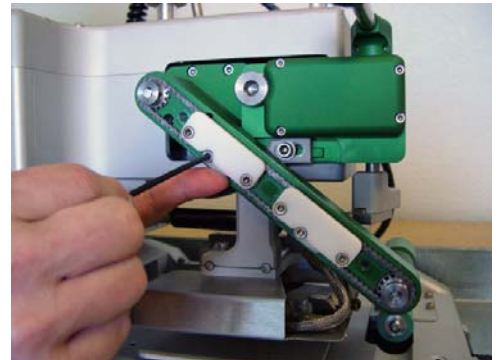
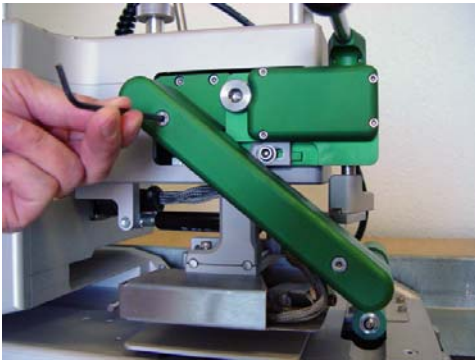
1. Remove the tension in the chain by loosening and sliding back the tension plastic rub.
2. Remove the screw and tension rub screw to examine the wear to the tension plastic rub. Remove the remaining three plastic rubs to examine. Follow the guidelines mentioned above.
3. Replace the rubs within the same position by using the indentation cut in the Triad body. Then replace the tension plastic rub and screw. Adjust the chain as described previously.



Check the chain connecting link to make sure the safety clip is intact. If the chain has come apart during operation, the chain and/or master link will possibly need replacement. When reassembling a master link, make sure the safety clip is installed with the proper direction of travel (as shown).

Upper Final Drive Chain:

1. Use a 1/8" hex wrench to remove the screws on the green side cover of the upper pressure roller arm. When removing the cover, the chain, master link, plastic rubs, plastic tension levers, and sprockets will be visible.
2. If a droop or sag in the upper portion of the chain is seen, adjustment is necessary.
3. Locate the two screws which hold the plastic tension levers in position. Use the 9/64" hex wrench to loosen one of these levers.
4. Push the lever up into the larger plastic rub section to remove the slack in the chain and retighten the screw. Again, do not over tighten.



Periodically examine the wear in the plastic rubs for this chain drive. They will not wear as quickly as the other chain yet will need replacement when worn. Follow the same wear factor as the other chain. Also check the connecting link for the chain. When reassembling a master link, make sure the safety clip is installed with the proper direction of travel (as shown).



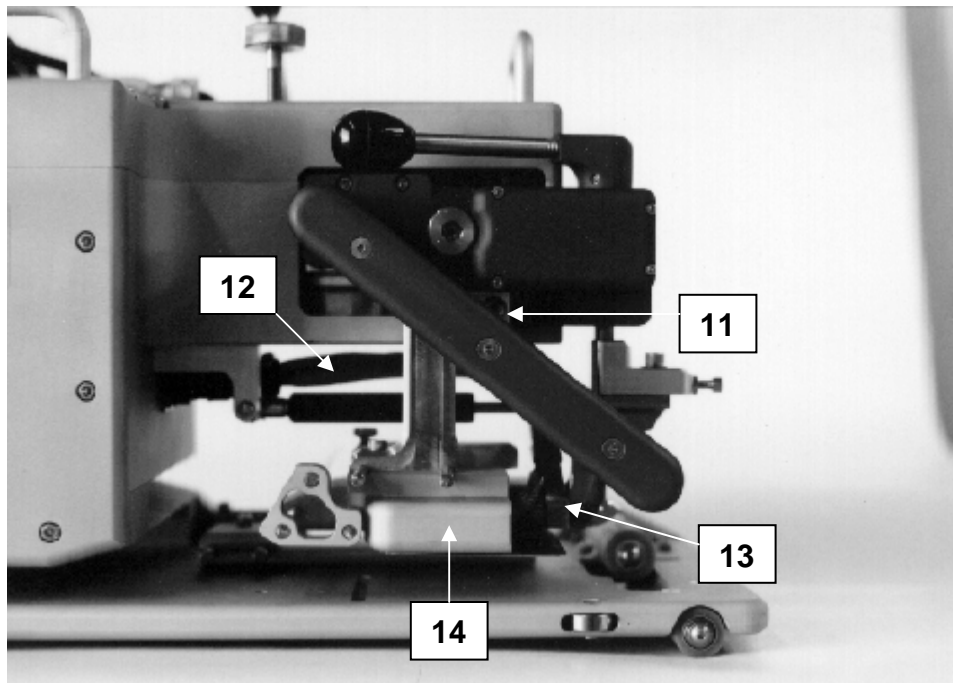
For further information regarding the various chains and other drive assemblies, refer to the support section of our website at www.sinclairequipment.com

WEDGE REPLACEMENT

The wedge should be replaced when honing and adjustment is no longer effective. If heater failure occurs after a period of time, the heaters may not be easily removed. The wedge and heater will most likely have to be replaced together.

1. Unplug machine and make sure wedge is cool.
2. Remove Horn Bracket Screw #11 and remove Wedge Horn Assembly #14.
3. Unscrew and detach Heater Connector #12.
4. Remove both Wedge Screws #13, and remove wedge.
7. Install new wedge with Wedge Screws. Attach Heater Connector and re-attach Wedge Horn.
6. Center Horn Bracket slot with Screw #11 and tighten.
7. Wedge alignment may be necessary, please refer to Wedge Adjustment Section.

Note: Wedge Horn assembly will move back and forth in slot for #11 screw. Moving the horn will increase or decrease exposure of material to wedge for different preheat time or exposure. Thinner products need little preheat, thicker material need more.

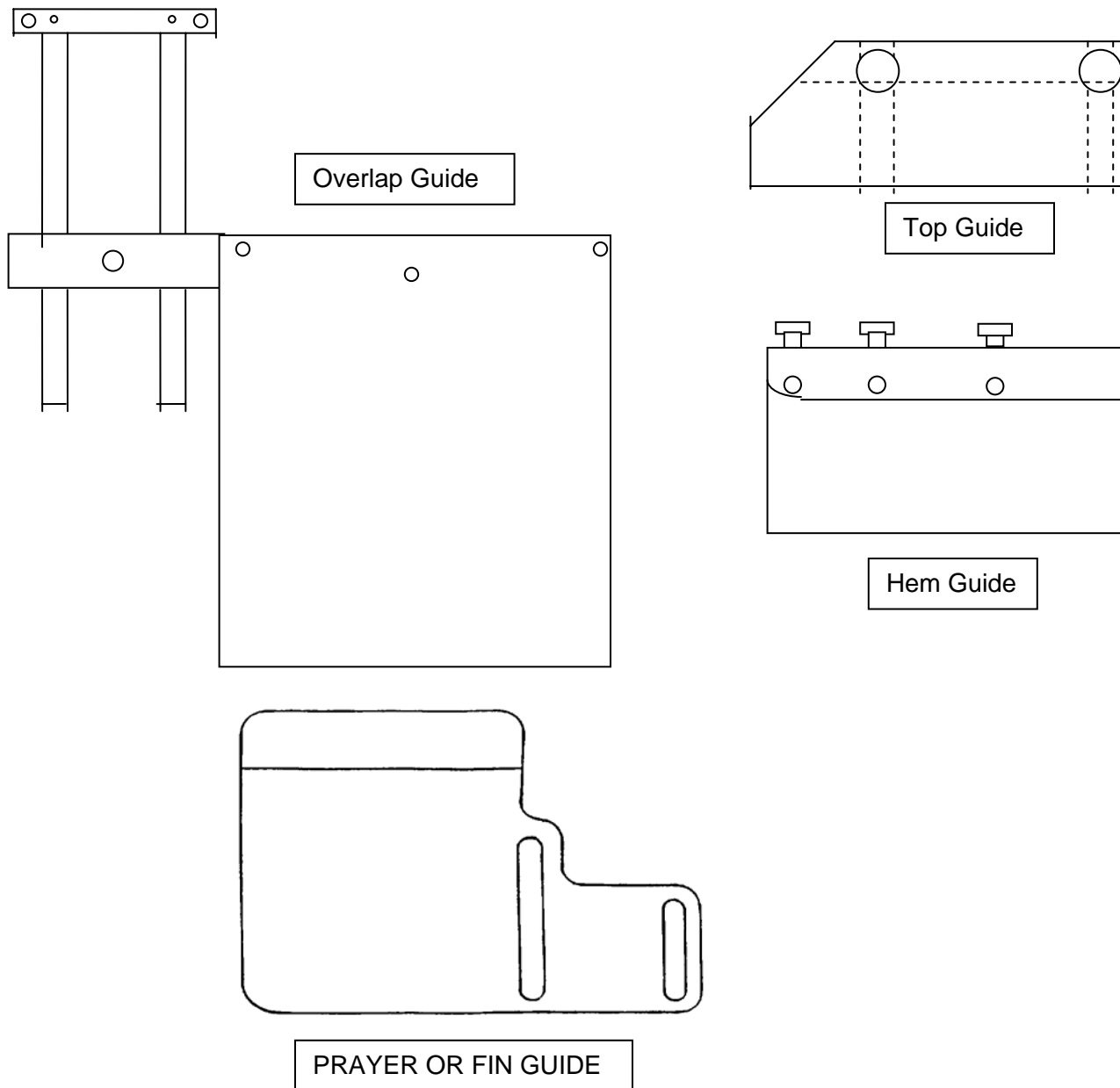


GUIDES

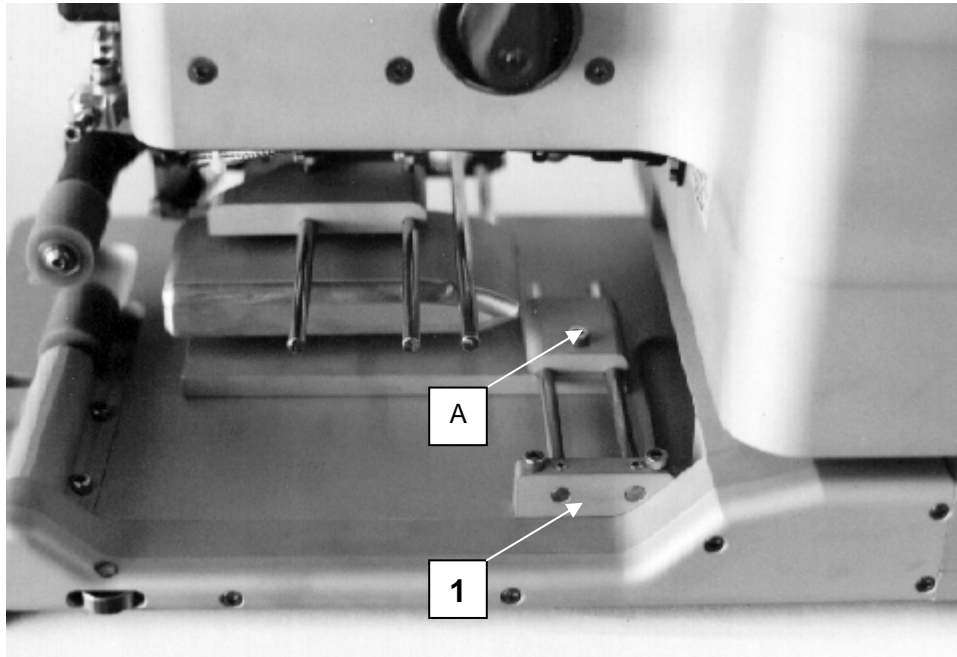
All Guides shown below are included with the purchase of the standard machine. Each guide will give you a specific type of weld and more. You can only use one guide system at a time.

The **Top Guide** will be used with all three different welding functions, overlap, hem and prayer welds. All Guides are adjustable.

To achieve a precise weld with no loose flap on top or bottom of sheet, guides should be adjusted so that they are even with the width of wedge, or welding area.



1. **Overlap Weld.** Attach Overlap Guide #1 to base plate with the two screws provided. Loosen screw (A) to adjust bottom side of overlap for proper alignment and re-screw.



2. **Hem Weld.** Slide Hem Guide #2 onto the three stainless rods up to the outer Horn Guide #3 (**Diagram #1**), leaving enough area between the two so material will slide easily. Tighten thumbscrew (B) (**Diagram #1**), this will allow the outer Horn guide and Hem guide to move as one. This dictates the size of the hem to be welded. Push on Hem Slide #4 (**Diagram #2**) to achieve desired hem width or size. When this is done, tighten thumbscrews (C) (**Diagram #1**) to lock in place.

Diagram #1

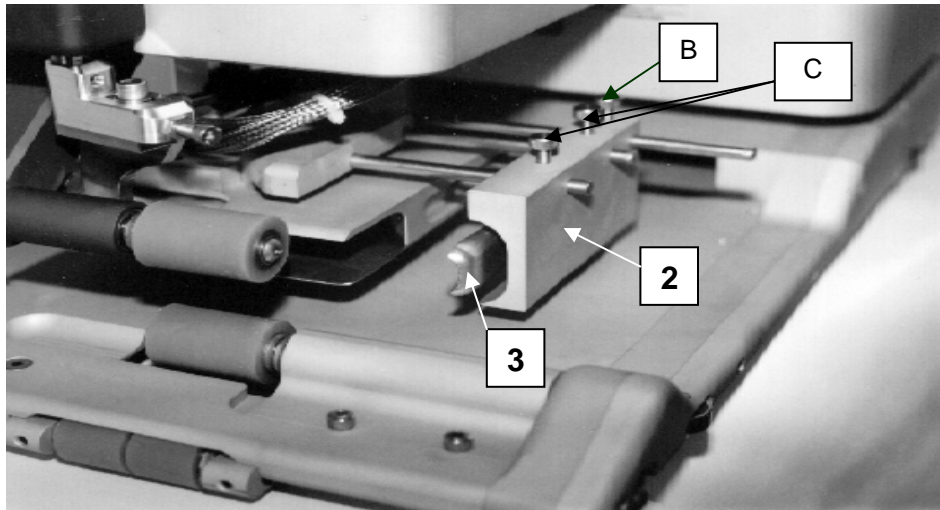
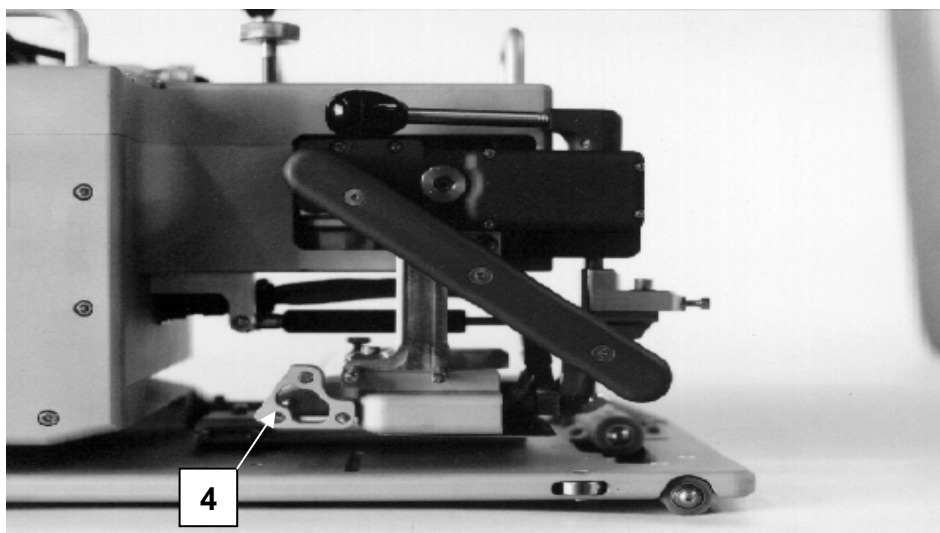
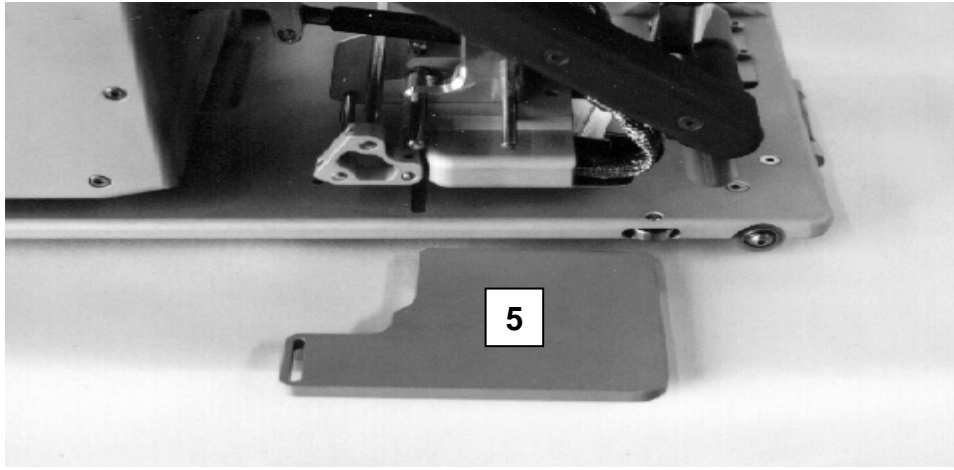


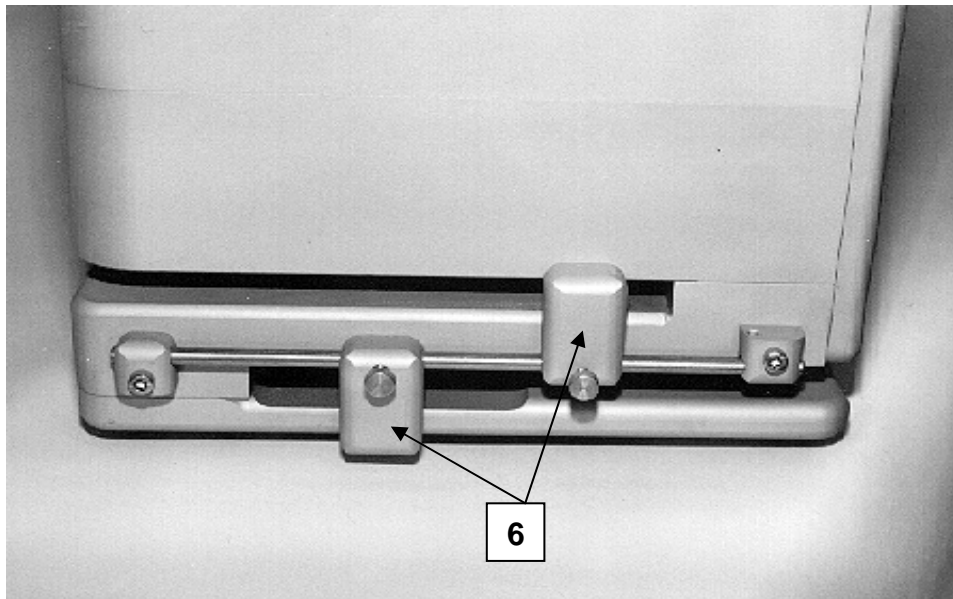
Diagram #2



3. **Prayer or Fin Weld.** Position the Prayer Guide #5 under the Welding Horn, placing the key way into the slot. Fasten with screw provided once proper alignment is completed.



4. Front Guides #6 are adjustable to pre-align material before you reach the welding process. This will help the operator in feeding material into machine properly.

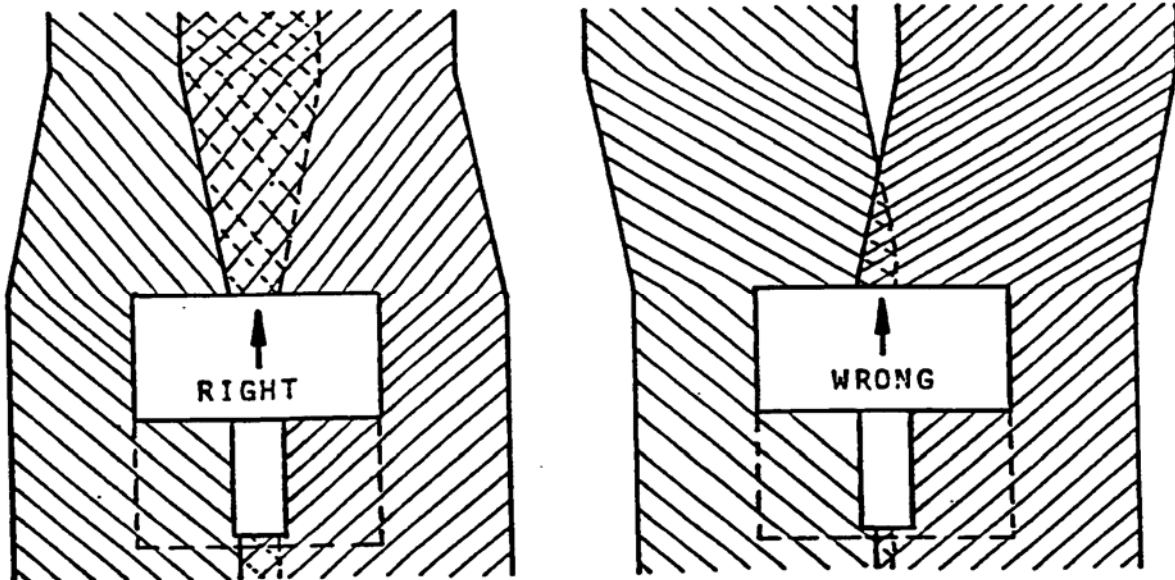


MATERIAL SETUP

Material should be laid out as flat as possible, either on the floor or table depending on how you set up your fabrication area. With most material and especially thinner goods, it is preferred to pull out the wrinkles or pull taunt. The use of sheet metal in or next to the machine on the table, allows for the use of magnets to position and hold the material. Taping material taunt is a good practice.

To perform overlap welds, always overlap material more than the final weld width.

Example: With a 1 1/2" weld width, overlap the end of material or run 2 to 2 1/2". The machine and front guides will push the material to the desired overlap. If the material is not overlapped or positioned properly, the machine will not make the desired overlap weld. See sample below.



TRACK WELDING SPECIFICATIONS

Listed below in Figure 1 are the dimensions for building your Track System. Always check the **Triad** in the track to make sure it does not bind up or that the track is too big so the **Triad** will not be crisscrossing the track.

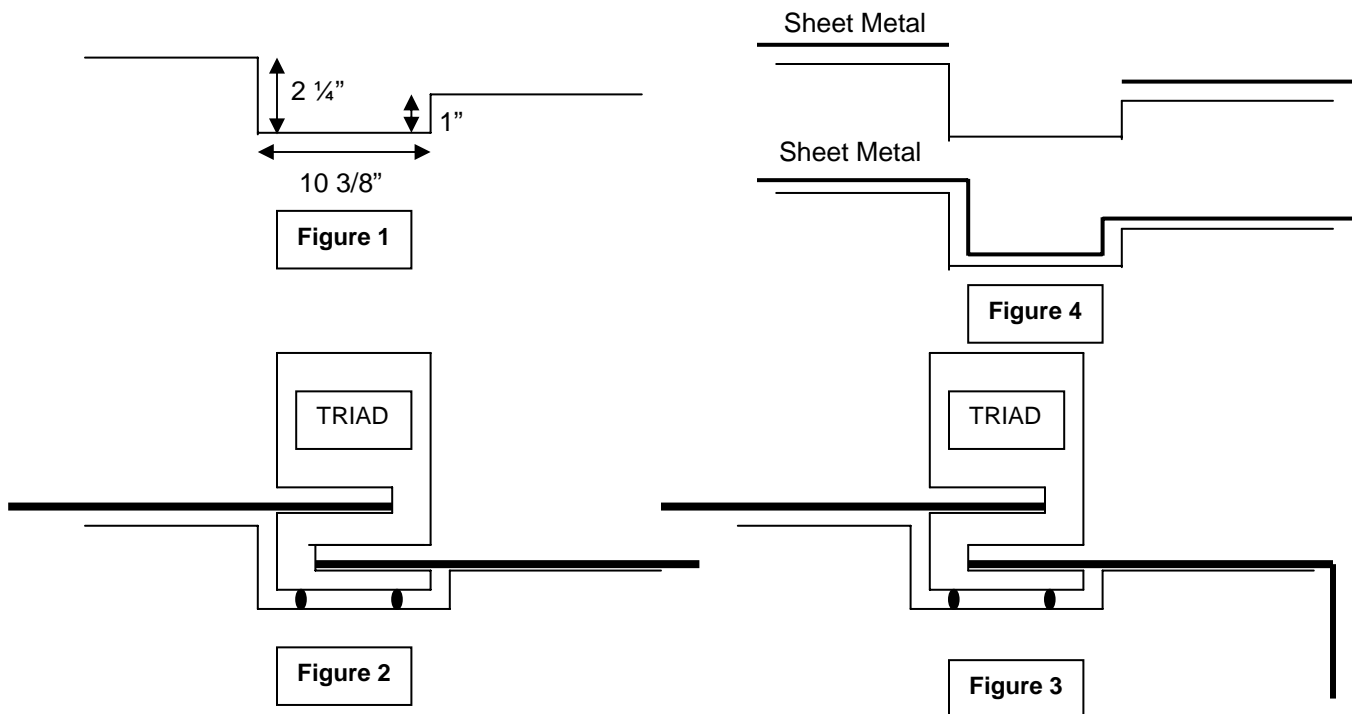
Make sure you always have a smooth, clean flat surface for the **Triad** to run on.

TABLE MOUNT TRACK: You may design your track in several ways. The best is to build the Track into the table as shown in Figure 2 below. This will allow the material to lay flat at all times, this is helpful in the welding process.

TABLE MOUNT ADD ON: You may want to add a Track on to the end of your existing table as shown in Figure 3 below. Material on the short side will then fold on the floor.

FLOOR MOUNT TRACK: By using L iron or 1" by 1" wood strips, you can mount on the floor with pins so they may be removed when not in use. This method can be used on a table for removal also.

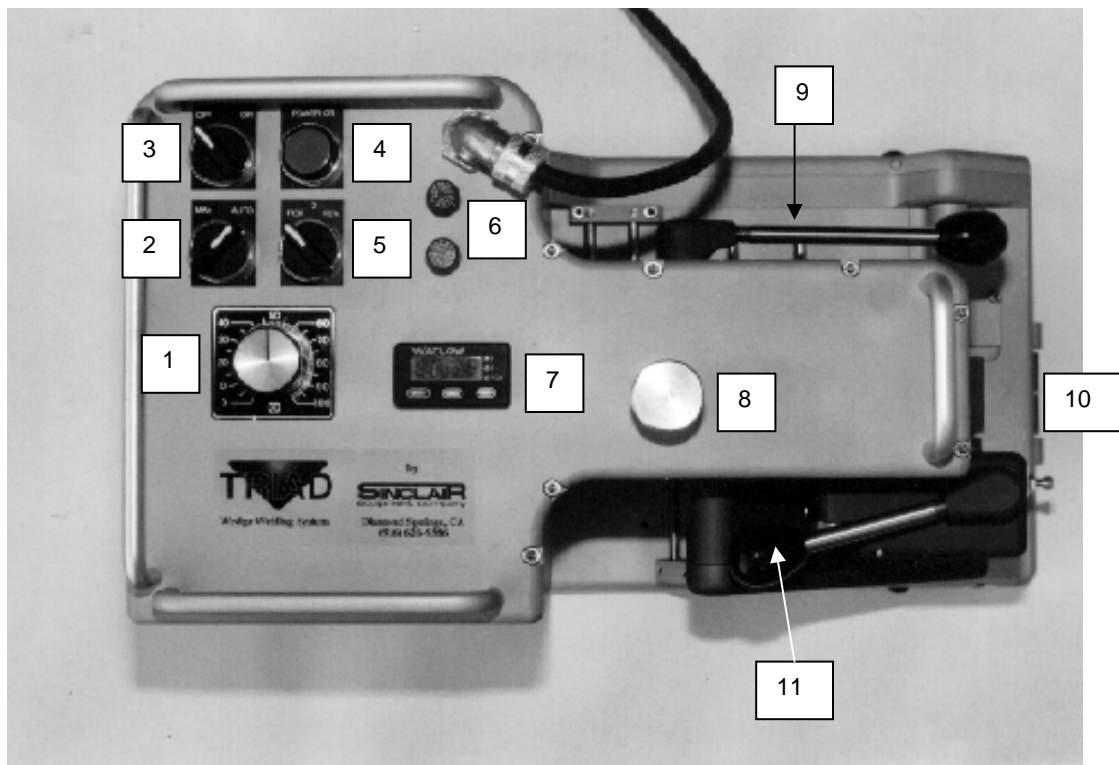
We also can suggest using sheet metal on top of the table so you may use magnets to hold and position the material. See Figure 4.



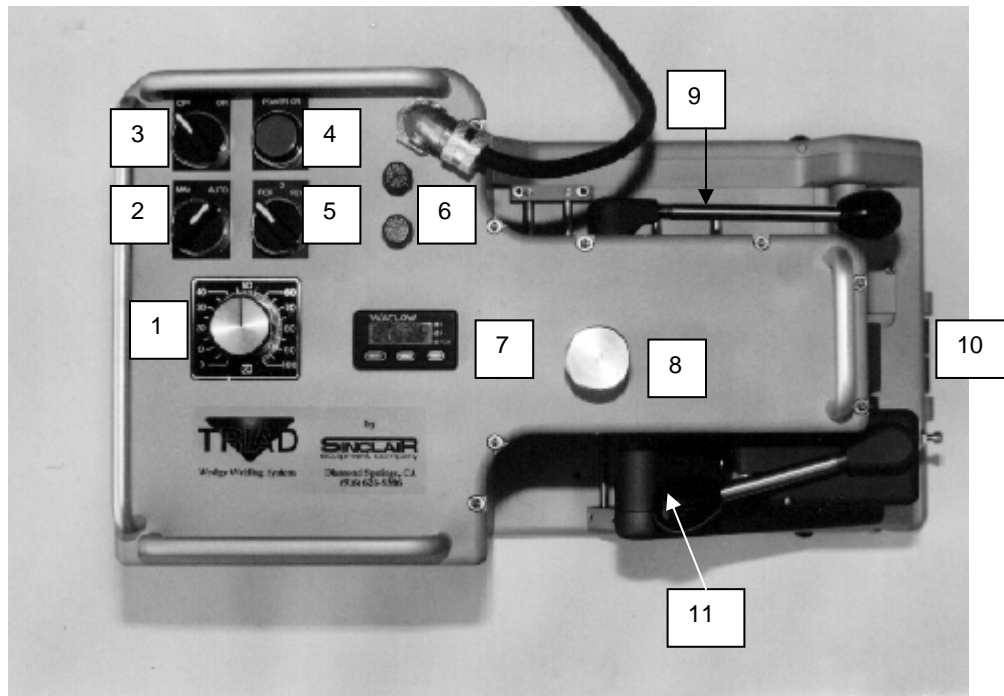
TRIAD OPERATING INSTRUCTIONS

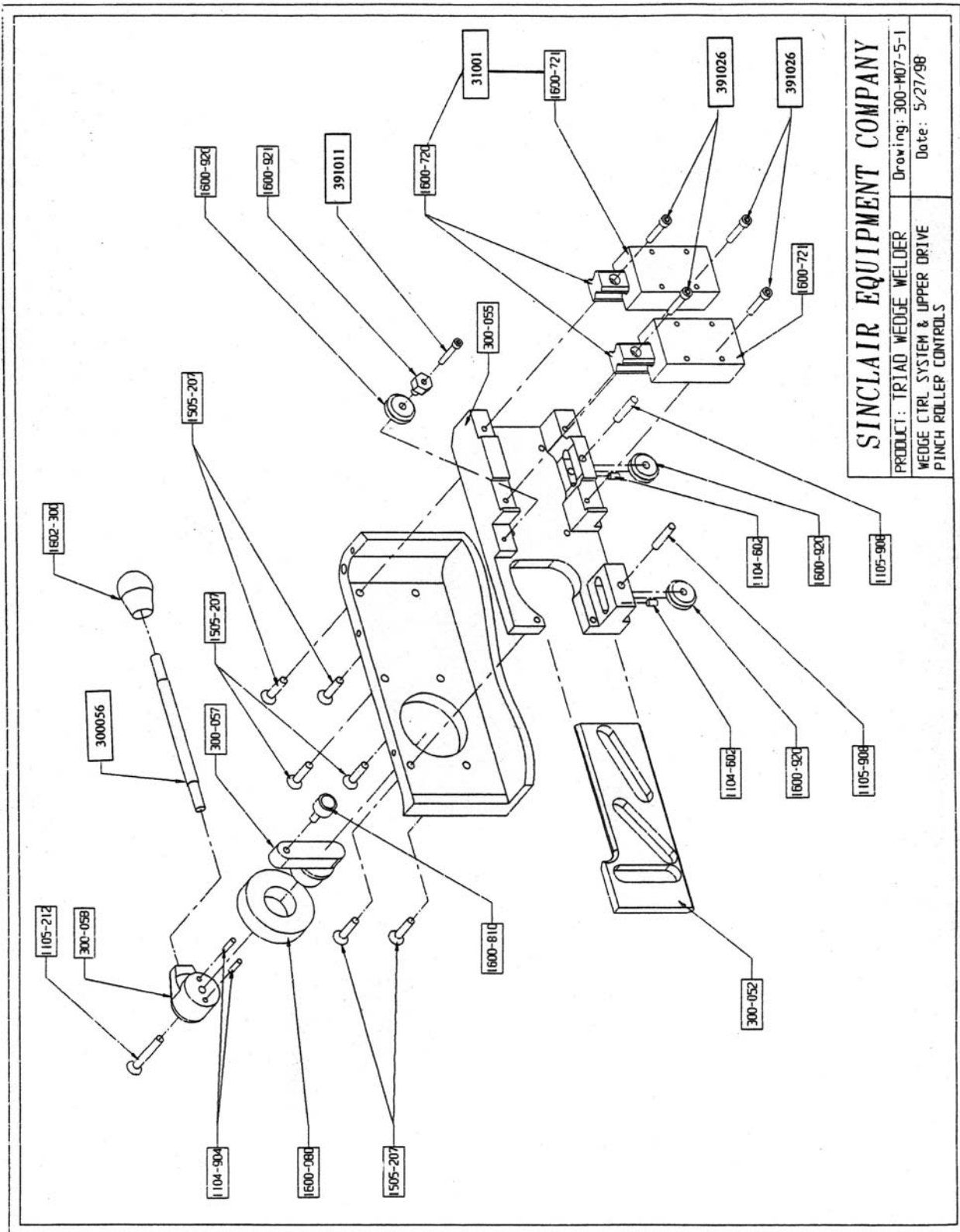
The following procedures should be followed only after you have followed the Wedge Adjustment and Guide adjustment procedures.

1. Pull up on Red Power Switch #3 to turn machine on. The Green Power Light #4 will go on with a one second delay. The Green light will remain on as an indicator that you have power to the machine. (Push down on Red Power Switch #3 to turn machine off)
2. Temperature Controller #7 will come on with a 1-2 second delay after Green Power Light goes on. Units are set in celsius at the factory. Press the Set Button and hold, now press the up or down button until you reach your desired temperature. Heat up time is only one to two minutes. Do not adjust heat over 510 degrees C. For sample welds, set controller to 400 degrees C. This may not be your final setting.
3. Set For/Rev Switch #5 to Forward position. This indicates direction of machine and drive/pressure roller movement.
4. Set Man/Auto Switch #2 to Auto position. This will engage or start Drive/Pressure rollers when wedge is moved into welding position.



5. Swing Drive Wheel Assembly #10 under bottom Pressure Roller. This will make the machine move or automatic. With Drive Wheel Assembly out, the machine can be used in a stationary mode.
6. #1 is the Speed Control. It is adjustable from 0-30 feet per minute. Normal setting will be in the 30 to 60 range, for 12-30 mil goods.
7. #8 is the Pressure Knob. It can be adjusted for more or less pressure, depending on the thickness of material.
8. Insert material into the machine with proper guides installed and close Pressure Wheel Handle #9.
9. Swing Wedge Engagement Handle #11 in toward the machine, this will automatically start forward motion of the **Triad** and engage wedge with material.
10. Adjust speed control up or down until you can verify you are getting a proper weld.





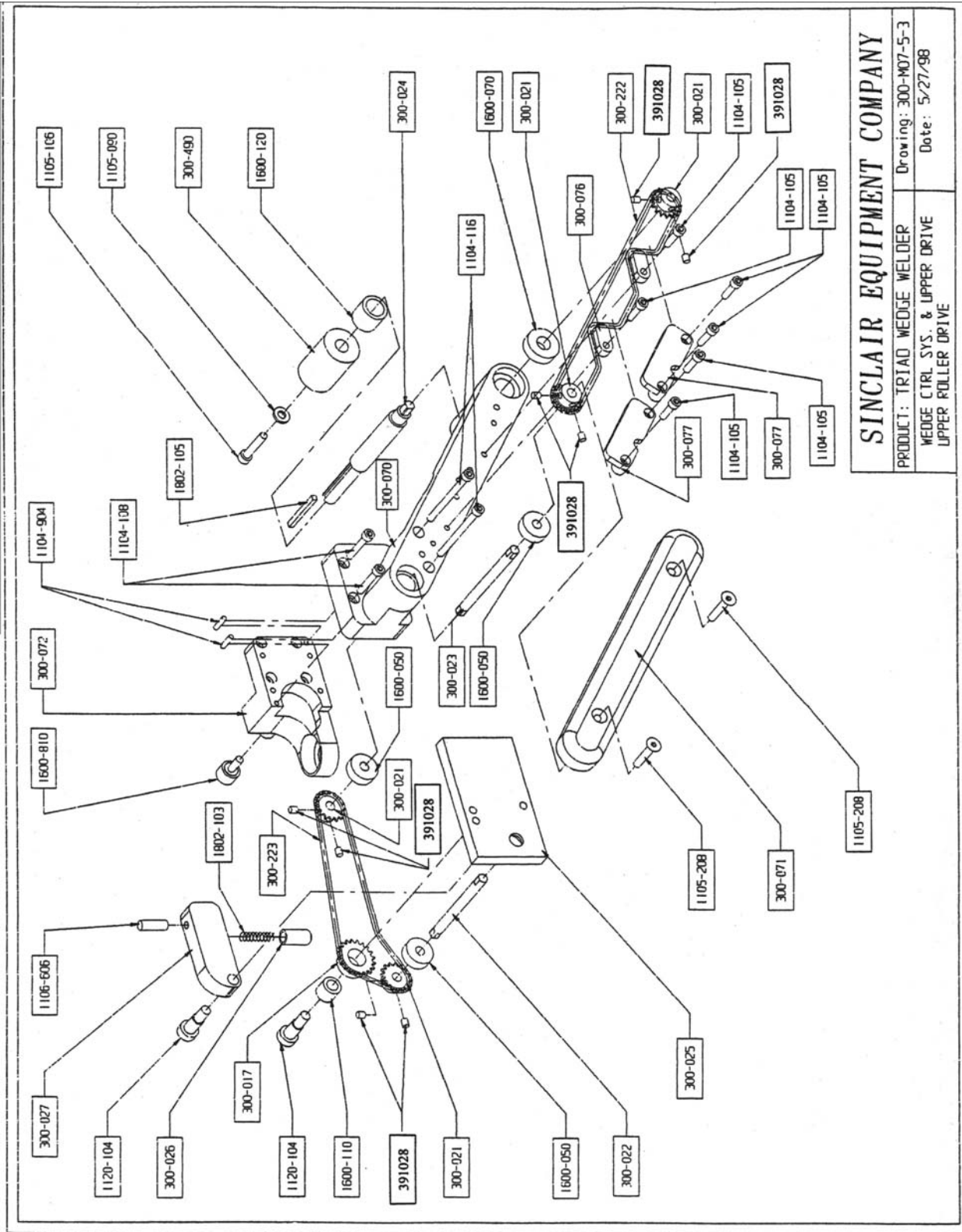
SINCLAIR EQUIPMENT COMPANY

PRODUCT: TRIAD WEDGE WELDER Drawing: 300-M07-5-1

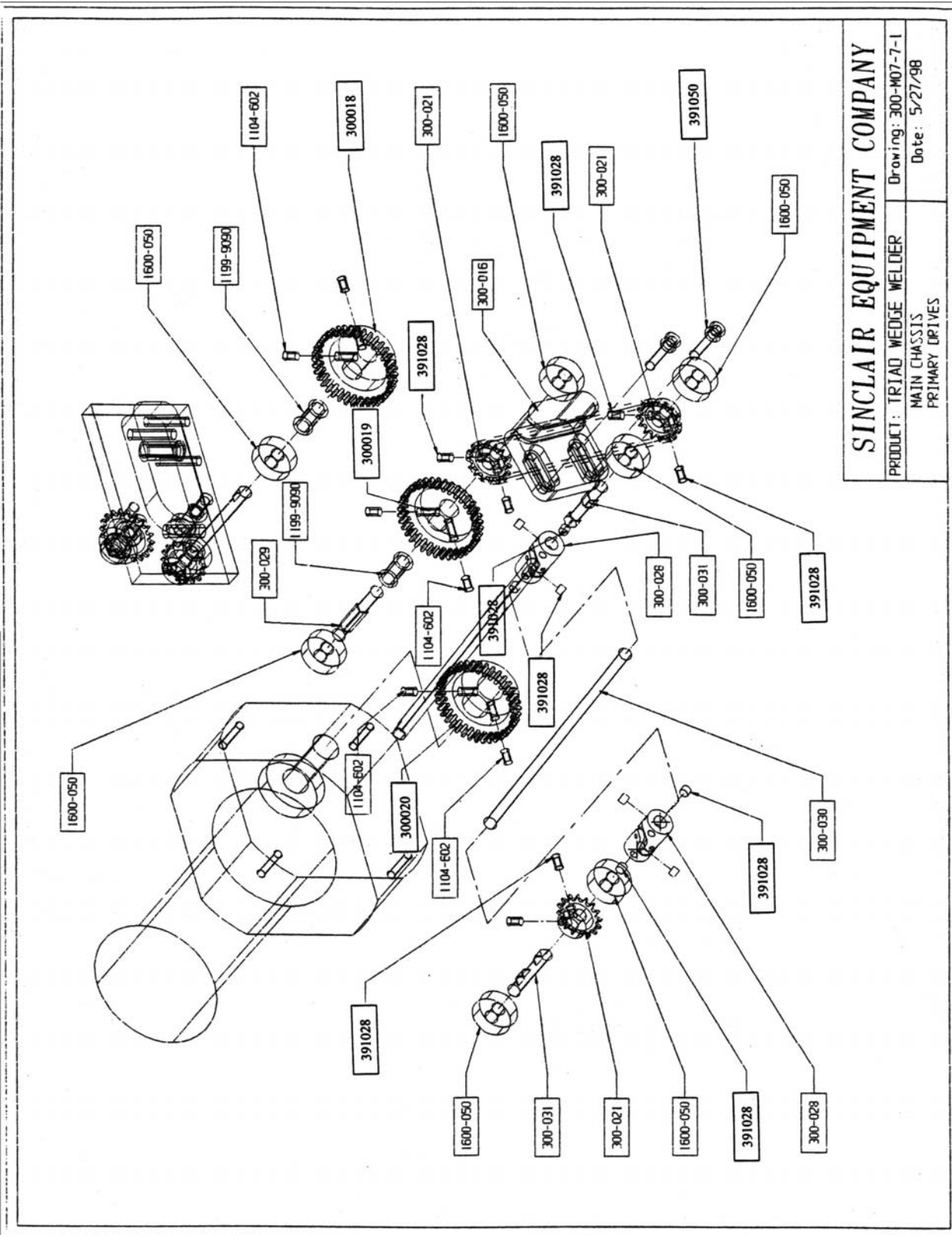
Date: 5/27/98

WEDGE CTRL SYSTEM & UPPER DRIVE

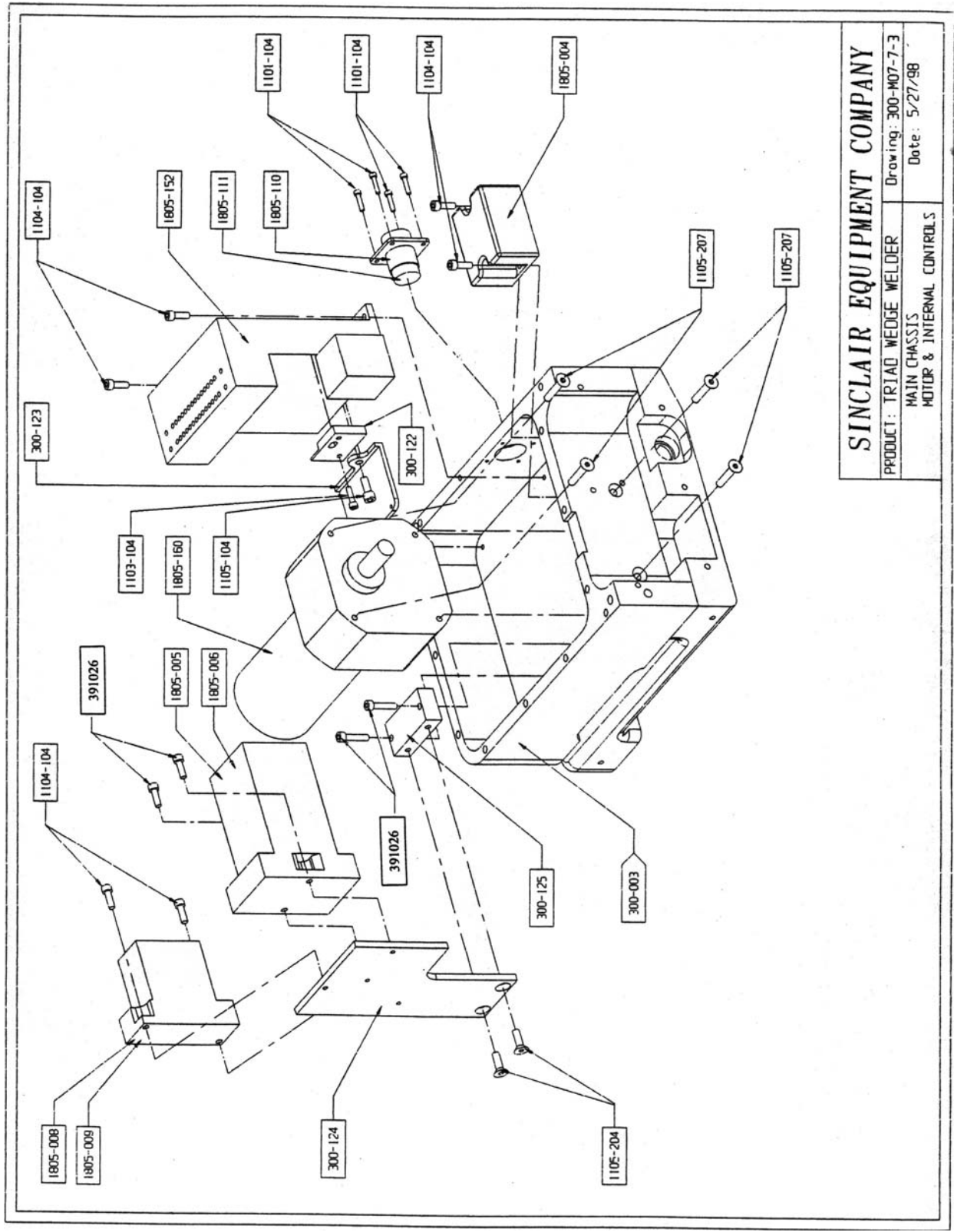
PINCH ROLLER CONTROLS



SINCLAIR EQUIPMENT COMPANY
 PRODUCT: TRIAD WEDGE WELDER
 WEDGE CTRL SYS. & UPPER DRIVE
 UPPER ROLLER DRIVE
 Drawing: 300-M07-5-3
 Date: 5/27/98



SINCLAIR EQUIPMENT COMPANY
 PRODUCT: TRIAD WEDGE WELDER
 MAIN CHASSIS
 PRIMARY DRIVES
 Drawing: 300-M07-7-1
 Date: 5/27/98



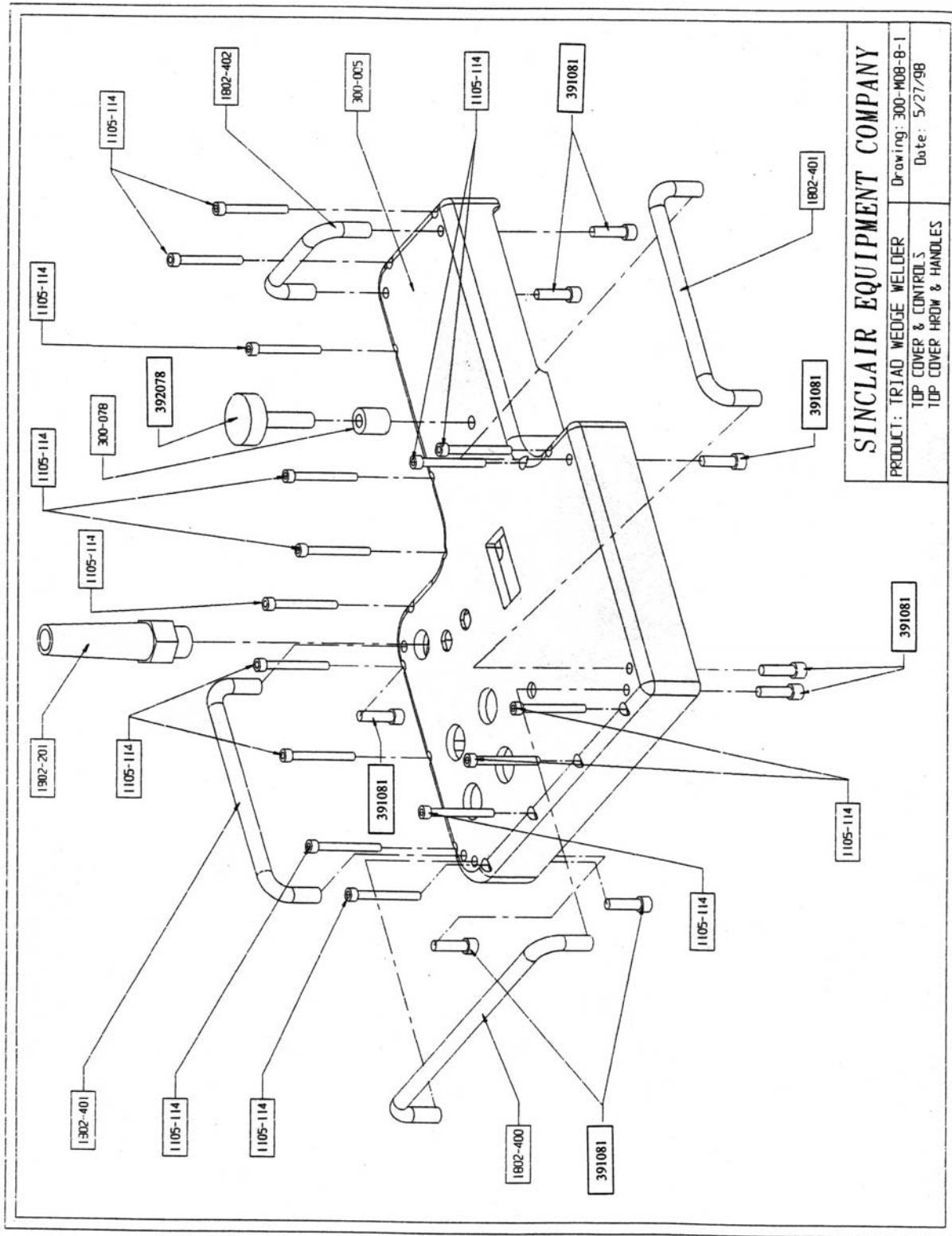
SINCLAIR EQUIPMENT COMPANY

PRODUCT: TRIAD WEDGE WELDER

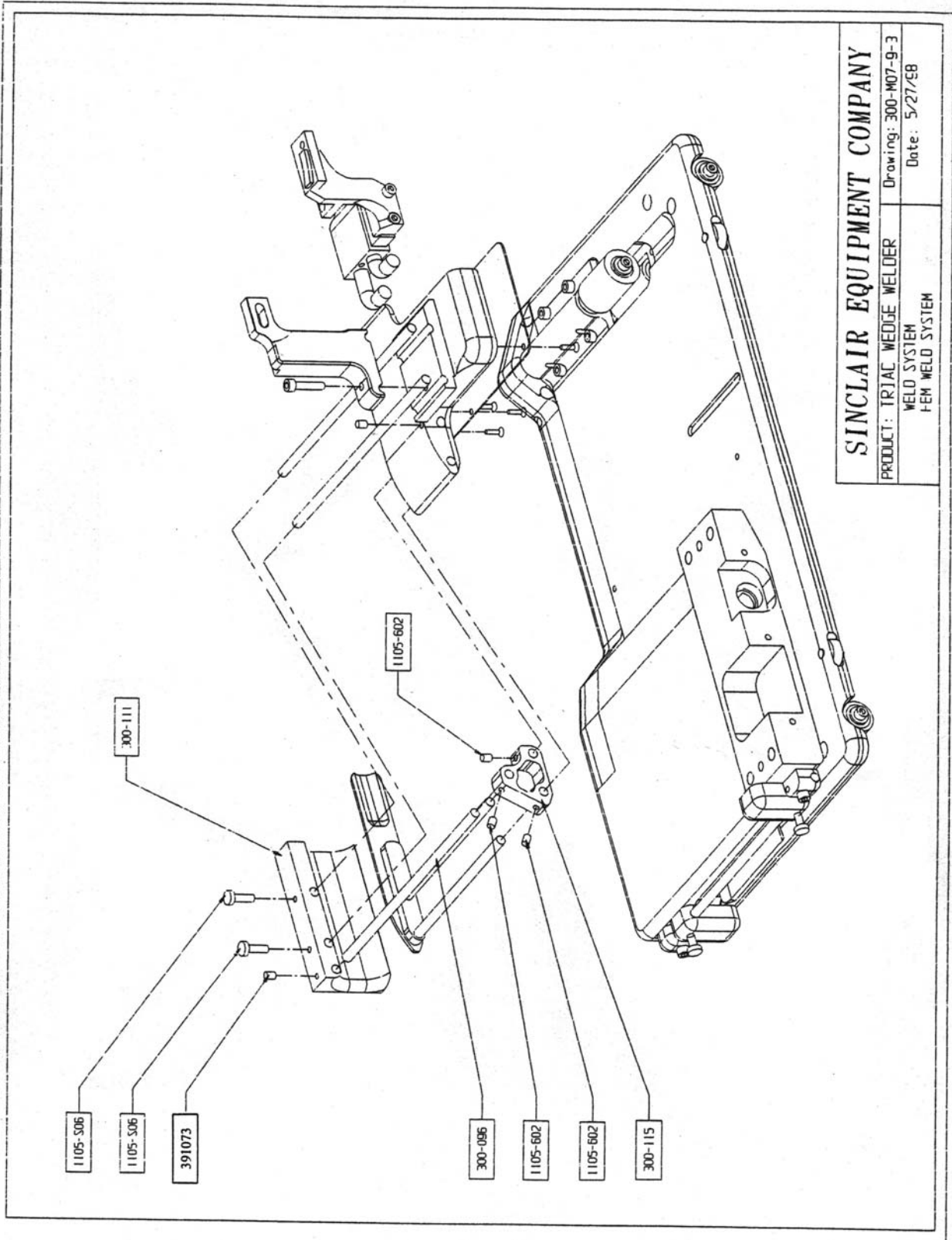
Drawing: 300-M07-7-3

MAIN CHASSIS
MOTOR & INTERNAL CONTROLS

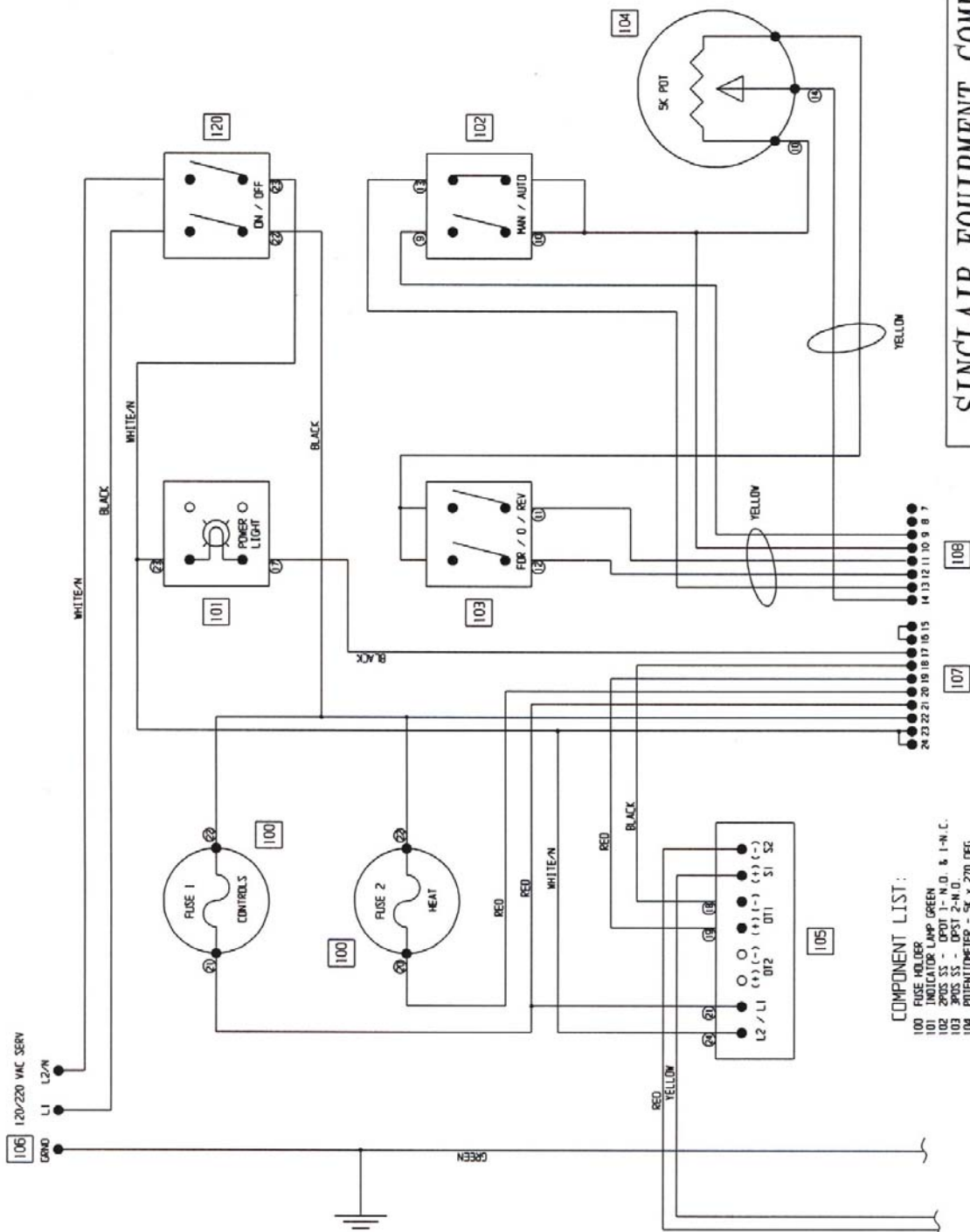
Date: 5/27/98



SINCLAIR EQUIPMENT COMPANY
 PRODUCT: TRIAD WEDGE WELDER
 TOP COVER & CONTROLS
 TOP COVER HDW & HANDLES
 Drawing: 300-M08-B-1
 Date: 5/27/98



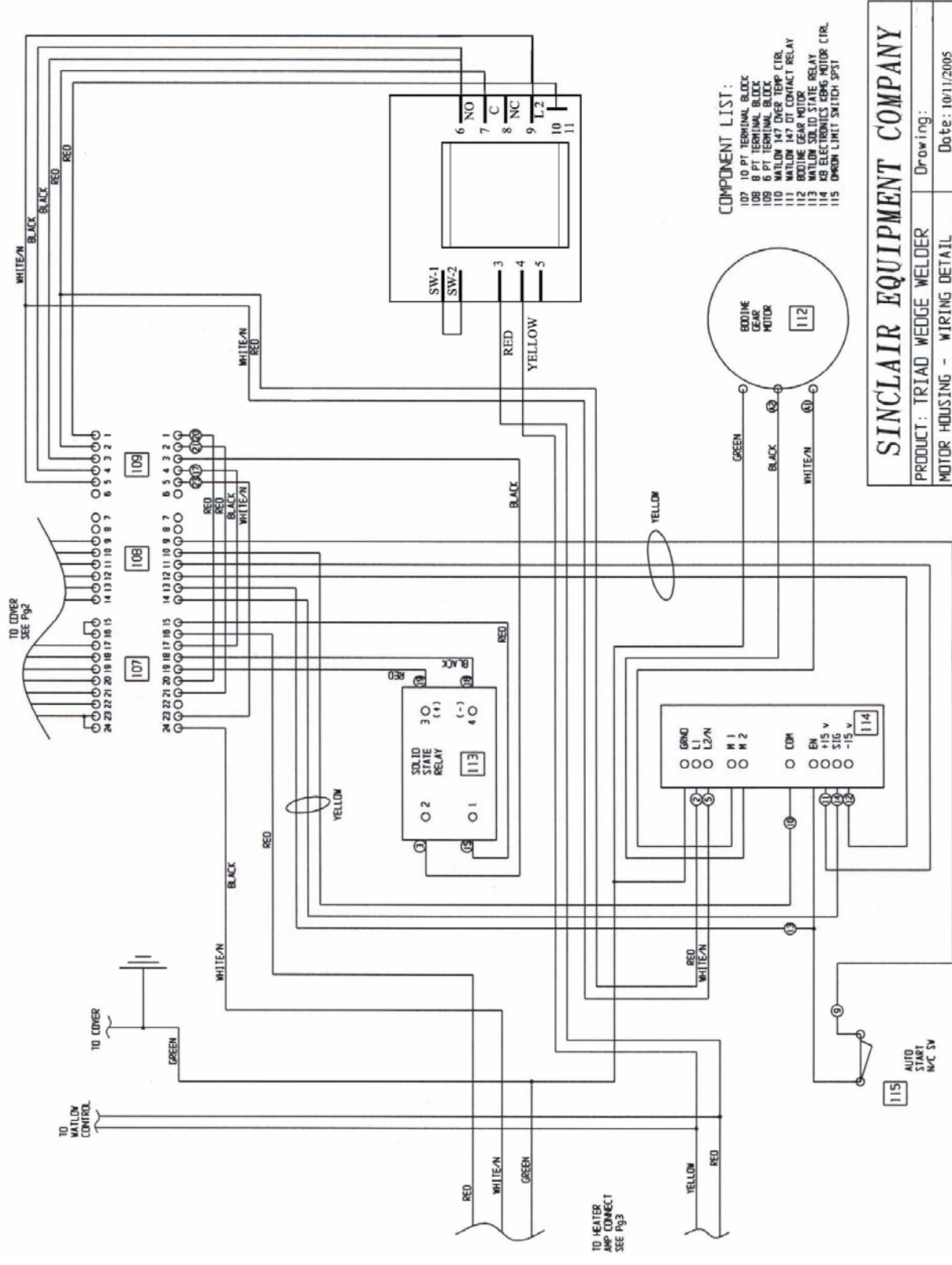
SINCLAIR EQUIPMENT COMPANY
 PRODUCT: TRJAC WEDGE WELDER
 WELD SYSTEM
 FEM WELD SYSTEM
 Drawing: 300-M07-9-3
 Date: 5/27/68



COMPONENT LIST:

- 100 FUSE HOLDER
- 101 FUSE 1/2 AMP GREEN
- 102 2POS SS - DPST 1-N.O. & 1-N.C.
- 103 3POS SS - DPST 2-N.O.
- 104 POTENTIOMETER - 5K x 270 DEG
- 105 WATLOW TEMP CONTROL
- 106 STRAIN RELIEF
- 107 10 PT TERMINAL BLOCK
- 108 8 PT TERMINAL BLOCK
- 120 2POS SS - DPST 2-N.O.

SINCLAIR EQUIPMENT COMPANY	
PRODUCT: TRIAD WEDGE WELDER	Drawing: 300-514 Pg1
TOP COVER - WIRING DETAIL	Date: 6/4/03
KBMG MTR / WATLOW 147 & 935 CTRLS	

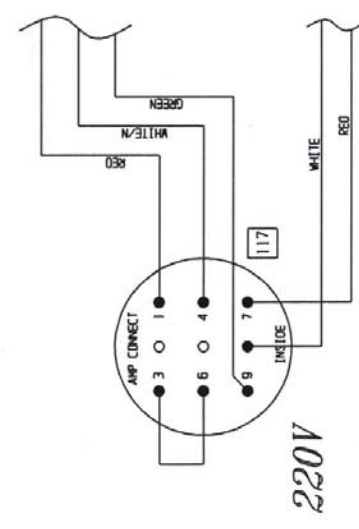
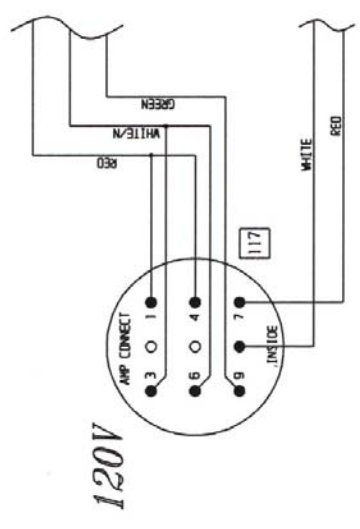
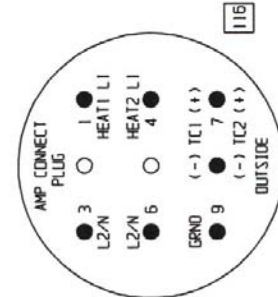
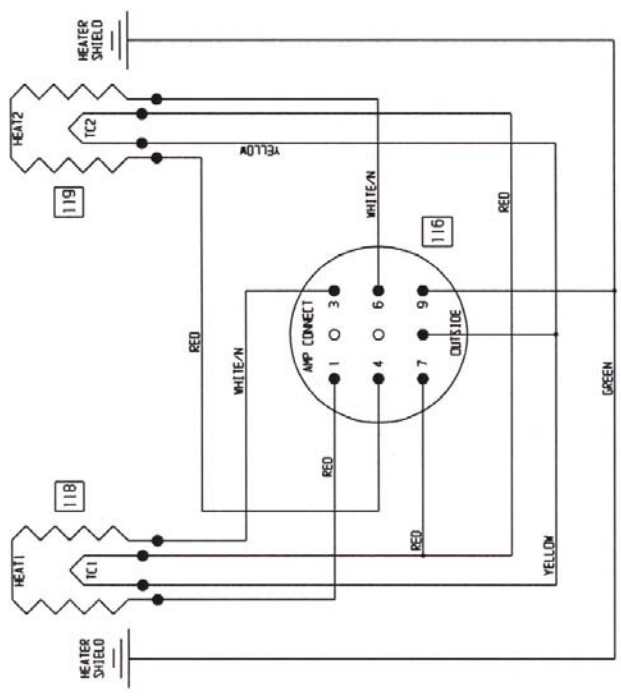


- COMPONENT LIST:**
- 107 10 PT TERMINAL BLOCK
 - 108 8 PT TERMINAL BLOCK
 - 109 24 PT TERMINAL BLOCK
 - 110 WATLOW 147 OVER-TEMP. CTRL
 - 111 WATLOW 147 DT CONTACT RELAY
 - 112 BODINE GEAR MOTOR
 - 113 WATLOW SOLID STATE RELAY
 - 114 KB ELECTRONICS KBMG MOTOR CTRL
 - 115 OPRN LIMIT SWITCH SPST

SINCLAIR EQUIPMENT COMPANY

PRODUCT: TRIAD WEDGE WELDER
 MOTOR HOUSING - WIRING DETAIL
 KBMG MTR / WATLOW 147 & 935 CTRLS

Drawing: _____
 Date: 10/11/2005

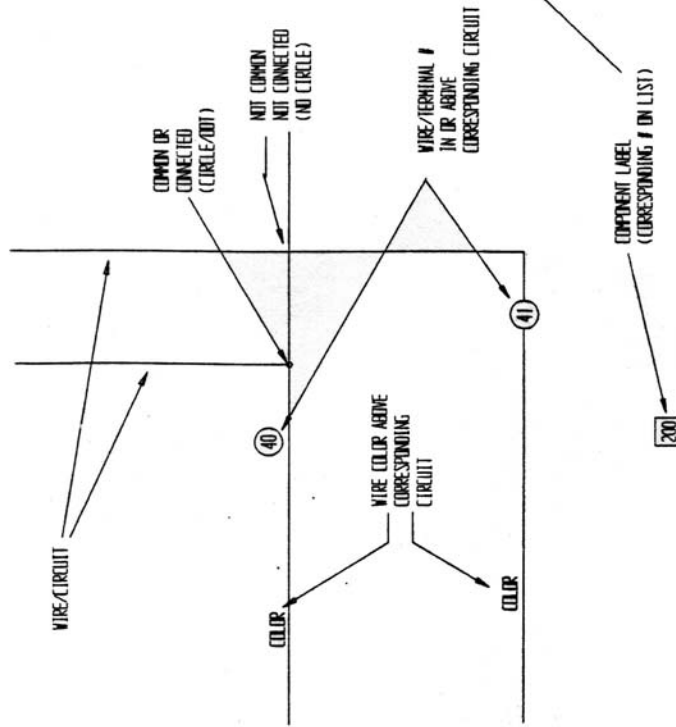


- COMPONENT LIST:
- 116 A.M.P. CIRCULAR CONNECTOR PLUG
 - 117 A.M.P. CIRCULAR CONNECTOR RECEPTACLE
 - 118 SHORT HEATER
 - 119 LONG HEATER

SINCLAIR EQUIPMENT COMPANY

PRODUCT: TRIAD WEDGE WELDER WEDGE HEATER WIRING DETAIL (FOR 120V & 220V)	Drawing: 300-514 Pg3 Date: 6/4/03
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SCHEMATIC LEGEND/STANDARDS:



COMPONENT LIST:

- 100 FUSE HOLDER
- 101 INDICATOR LAMP GREEN
- 102 2POS SS DPDT
- 103 3POS SS 2SPST W/C
- 104 5K POTENTIOMETER
- 105 WATLOW TEMP CONTROLLER
- 106 STRAIN RELIEF
- 107 10 PT TERMINAL BLOCK
- 108 8 PT TERMINAL BLOCK
- 109 6 PT TERMINAL BLOCK
- 110 OPEN TEMP CONTROLLER
- 111 OPEN CONTACT RELAY DPST
- 112 BEDDINE GEAR MOTOR
- 113 WATLOW SOLID STATE RELAY
- 114 KB ELECTRONICS MOTOR CONTROLLER
- 115 OPEN LIMIT SWITCH SPST
- 116 A.M.P. CIRCULAR CONNECTOR 9PT

Schematic Pos. #	Description	Part #
1101-104	4-40 X1/4 SOC CAP STNLS	391000
1101-106	4-40 X1/2 SOC CAP STNLS	391001
1103-103	6-32 X1/4 SOC CAP ALLY	391010
1103-104	6-32 X1/4 BUTTON SOC ALLOY	391012
1103-107	6-32 X 3/4 SOC CAP STNLS	391014
1104-104	8-32 X 1/2 SOC CAP ALLOY	391025
1104-105	8-32 X 1/2 SOC CAP STNLS	391030
1104-106	8-32 X 5/8 SOC CAP STNLS	391031
1104-108	8-32 X1 SOC CAP STNLS	391033
1104-116	8-32 X 2 SOC CAP STNLS	391034
1104-602	8-32 X 1/4 SOC SET CUP ALLOY	391029
1104-904	1/8 X 1/2 DOWEL PIN STNLS	392012
1105-090	#10 FLAT WASHER (.437, 203, 062)	392025
1105-105	10-3 X 3/8 BUTTON SOC STNLS	391070
1105-108	10-32 X 1 SOC CAP STNLS	391053
1105-109	10-32 X 7/8 SOC CAP STNLS	391052
1105-114	10-32 X 7/8 SOC CAP STNLS	391054
1105-122	10-32 X 3/4 SOC CAP STNLS	391055
1105-204	10-32 X 2-3/4 SOC CAP ALLOY	391060
1105-205	10-32 X 5/8 FLAT SOC STNLS	391061
1105-207	10-32 X 1 FLAT SOC STNLS	391063
1105-208	10-32 x 7/8 FLAT SOC STNLS	391062
1105-212	10-32 X 1-1/2 FLAT SOC STNLS	391064
1105-390	10x32 HEX NUT STNLS	392020
1105-502/1105-506	10-32 X 1/2 THUMB SCREW SS 3/8 HEAD	391073
1105-602	10-32 X 1/4 BUTTON SOC STNLS	391071
1105-908	3/16 X 1-1/4 DOWEL PIN STNLS	392010
1106-070	¼ FLAT WASHER SS (.500..265..032)	392026
1106-107	1/4 - 20 x 3/4 BUTTON SOC STNLS	391082
1106-406	1/4 - 20 X 3/4 SOC CAP STNLS	391080
1106-603	1/4-20 1/4 SOC SET BRASS TIP ALLOY	391085
1106-904/1106-905	1/4 X 5/8 DOWEL PIN STNLS	392007
1108-107/1108-109	3/16-18 X 7/8 SOC CAP ALLOY	391090
1108-110	5/16-18 X 1 SOC CAP ALLOY	391091
1108-924	3/8 X 3" SS DOWEL PIN	392000
1120-104	5/16 X 1/2 SHOULDER BOLT STNLS	392040
1199-9090	BORE RDCR IN/IN .37/.25	310133
1301-503A	4-40 X 5/16 FLAT SOC CAP	391003
1301-504	4-40 X 3/8 FLAT SOC STNLS	391002
1505-207	4-40 X 3/8 FLAT SOC STNLS	392063
1600-050	99R4A BEARING	310158

Schematic Pos. #	Description	Part #
1600-070	99R6 BEARING	310159
1600-080	99R14 BEARING	310160
1600-110	IDLER BEARING SCE57PP	320024
1600-120	ROLLER BEARING SCE 810PP	310128
1600-810	CRSB-8 CAM FOLLOWER	310157
1600-920	STAINLESS SEALED BEARINGS	310145
1600-921	STAINLESS STEEL BUSHING	310146
1802-100	10MM BALL METAL END FITTING M6	392056
1802-101	10MM BALL STUD 5/16" - 18" MALE THRD	392057
1802-103	1/4 "ODX1" LDTH COMPRES SPRING	392050
1802-105	11-8SS 1/8" KEY BAR STOCK	392080
1802-200	MIN SNAP SWITCH 5 AMPS	393060
1802-300	3/8 x 16 PLASTIC OVAL LEVEL KNOB	392075
1802-310/1802-201	FLEX LTF 1/2" NPT BLK CONNECTOR	310173
1802-400	8 1/4" - 1/4 20 A-3 HANDLE	310149
1802-401	5 3/4" - 1/4 20 HANDLE	310148
1802-402	3" 20 A-3 HANDLE	310147
1804-056	BASE W/1 N.O.	310003
1804-057	3-POS SWITCH THROW	310004
1804-058	GREEN PTT LIGHT LENSE	310006
1804-063	2-POS SWITCH THROW	310002
1805-001	1/32 DIN TEMP CONTROL	310136
1805-004	SOLID STATE RELAY	310162
1805-005	OMRON 1 POLE RELAY	310155
1805-005	OMRON RELAY 1 240V	310155-240
1805-006	OMRON CONTROLLER BASE	310009
1805-008	OMRON 1 POLE RELAY	310155
1805-008	OMRON RELAY 1 240V	310155-240
1805-009	OMRON RELAY BASE	310156
1805-100	FUSE HOLDER	393050
1805-110	RECEPTICAL 9 PIN	310140
1805-111	SOCKET 24-20 AWG	310143
1805-150	SPEED CONTROL POTENTIOMETER	310110A
1805-151	KNOB DIAL KIT	310111
1805-152	MOTOR CONTROLLER ASSEMBLY 110V	38101
1805-152	MOTOR CONTROLLER ASSEMBLY 240V	38101.2
310109	MOTOR CONTROL NEW STYLE (SPECIFY VOLTAGE)	310109
1805-160	BODINE GEAR MOTOR 159	310129
300001	THK LM GUIDE/1 BRG BLK/ON RAIL	300001
300003	CHASSIS MOTOR HOUSING	300003
300004	CHASSIS MOTOR CONTROL HOUSING	300004
300005	CHASSIS CONTROLLER HOUSING-TOP COVER	300005

Schematic Pos. #	Description	Part #
300006	CHASSIS PRIMARY DRIVE COVER	300006
300007	DRIVE WHEEL TRUNION ARM	300007
300008	FRONT IDLER WHEEL AXLE	300008
300009	FRT WHEEL AXLE MTS	300009
300010	RT REAR WHEEL AXLE MTS	300010
300011	LEFT REAR WHEEL AXLE MTS	300011
300013	REAR IDLER WHEEL AXLE	300013
300016	LOWER PRIMARY CHAIN TENSIONER	300016
300017	UPPER PRIMARY CHAIN IDLER SPROCKET	300017
300018	UPPER DRIVE GEAR	300018
300019	DRIVE GEAR LOWER	300019
300020	DRIVE GEAR MAIN	300020
300021	SPROCKET STD .1475 PITCH X 16 TOOTH	300021
300022	UPPER ROLER LAYSHAFT	300022
300023	UPPER ROLLER PRIMARY SHAFT	300023
300024	UPPER ROLLER FINAL DRIVE SHAFT	300024
300025	UPPER ROLLER LAYSHAFT SUPPORT	300025
300026	UPPER PRIMARY CHAIN TENSIONER PLUNGER	300026
300027	UPPER PRIMARY CHAIN TENSIONER	300027
300028	U-JOINT STD	300028
300029	LOWER ROLLER LAYSHAFT	300029
300030	LOWER ROLLER PRIMARY MAIN SHAFT	300030
300031	LOWER ROLLER PRIMARY STUB SHAFT	300031
300032	LOWER FINAL DRIVE SHAFT	300032
300033	LOWER FINAL CHAIN HOUSING	300033
300034	LOWER FINAL CHAIN HOUSING COVER	300034
300035	LOWER FINAL DRIVE SHAFT HOUSING	300035
300040	WEDGE HEATER LEAD BRACKET	300040
300041	WEDGE HOUSING BOTTOM COVER	300041
300042	FRONT MATERIAL GUIDE	300042
300043	WEDGE HOUSING	300043
300046	FRONT MATERIAL GUIDE RETAINER MT	300046
300048	LOWER FIN WELD GUIDE	300048
300052	PINCH/WEDGE DRIVE PLATE	300052
300055	PINCH/WEDGE DRIVE PLATE HOUSING	300055
300056	PINCH/WEDGE ENGAGE ARM SHAFT	300056
300057	PINCH/WEDGE DRIVE ARM SPINDLE	300057
300058	PINCH/WEDGE DRIVE ARM HUB	300058
300070	PINCH ROLLER ARM	300070
300071	UPPER CHAIN COVER	300071
300072	UPPER ROLLER ARM LIFT MT	300072
300076	UPPER FINAL CHAIN TENSION BLOCK	300076
300077	UPPER FINAL CHAIN RUB-BLK	300077
300078	STOP TENSION ROLLER TEN ADJ	300078
300079	WEDGE HEIGHT ADJUSTER	300079
300080	WEDGE PIVOT SHAFT	300080
300082	WEDGE PIVOT LINEAR HOUSING	300082

Schematic Pos. #	Description	Part #
300083	WEDGE PIVOT HOUSING COVER	300083
300084	WEDGE PIVOT ARM SHAFT	300084
300085	WEDGE PIVOT ARM HUB	300085
300086	WEDGE TRAVEL/AUTO START CAM	300086
300088	WEDGE ANGLE ADJUSTER HUB	300088
300089	WEDGE TENSIONER UPPER MT	300089
300092	WEDGE MOUNT ARM	300092
300094	FRONT MATERIAL GUIDE RET ROD	300094
300095	LOWER LAP GUIDE RET ROD	300095
300096	HEM OUTER GUIDE RET ROD	300096
300097	HEM INNER GUIDE RET ROD	300097
300099	AUTO START SWITCH BRACKET	300099
300103	WEDGE HOUSING HANGER	300103
300111	HEM WELD OUTER GUIDE	300111
300112	HEM WELD INNER GUIDE	300112
300113	LOWER LAP GUIDE FRAME 5.0	300113
300114	UPPER LAP WELD GUIDE	300114
300115	INNER/OUTER HEM GUIDE LINK	300115
300118	LOWER LAP WELD GUIDE MT	300118
300119	LOWER LAP WELD GUIDE COVER 5.0	300119
300121	MTR CRTL RESISTOR MOUNT 110V	300121
300122	MTR CRTL SOLINOID MOUNT	300122
300123	MTR CRTL RESISTOR MOUNT 240V	300123
300124	OVER-TEMP CONTROL PANEL	300124
300125	OVER-TEMP CONTROL PANEL MT FT	300125
300130	LOWER FINAL CHAIN RUB BTM/REAR	300130
300131	LOWER FINAL CHAIN RUB TOP/REAR	300131
300132	LOWER FINAL CHAIN RUB BTM/FRONT	300132
300133	LOWER FINAL CHAIN RUB TOP/FRONT	300133
300152	HOT WEDGE 1.5 (STD)	300152
300220	LOWER PRIMARY CHAIN (10")	300220C
300221	LOWER FINAL CHAIN (26")	300221C
300222	UPPER FINAL CHAIN (17")	300222C
300223	UPPER PRIMARY CHAIN (13")	300223C
310001	THK LM GUIDE/1 BRG BLK/ON RAIL	310001
310002	2-POS SWITCH THROW	310002
310003	BASE W/1 N.O.	310003
310004	3-POS SWITCH THROW	310004
310005	BASE W/2 N.O. CONTACTS	310005
310006	GREEN PTT LIGHT LENSE	310006
310007B	PILOT LGT BASE (130 LAMP) 120V	310007B
310009	OMRON CONTROLLER BASE	310009
310111	SOCKER 24-20 AWG	310111
310124	1 13/16" BLK UNDER CARRIAGE ROLLER W/BRG	310124
310125	UNDER CARRIAGE ROLLER W/BRG	310125
310126	PRESSURE ROLLER SILICON (SEE "WITHOUT DRAWING")	
310128	ROLLER BEARING SCE 810PP	310128

Schematic Pos. #	Description	Part #
310129	BODINE GEAR MOTOR 159	310129
310133	BORE RDCR IN/IN .37/.25	310133
310135	.1475 CHAIN (sold by the inch)	310135
310136	1/32 DIN TEMP CONTROL	310136
310140	RECEPTICAL 9 PIN	310140
310143	FUSE HOLDER	310143
310145	STAINLESS SEALED BEARINGS	310145
310146	STAINLESS STEEL BUSHING	310146
310147	3" 20 A-3 HANDLE	310147
310148	5 3/4" - 1/4 20 HANDLE	310148
310149	8 1/4" - 1/4 20 A-3 HANDLE	310149
310155	OMRON 1 POLE RELAY	310155
310156	OMRON 1 POLE RELAY	310156
310157	CRSB-8 CAM FOLLOWER	310157
310158	99R4A BEARING	310158
310159	99R6 BEARING	310159
310160	99R14 BEARING	310160
310162	SOLID STATE RELAY	310162
310173	FLEX LTF 1/2" NPT BLK CONNECTOR	310173
320024	IDLER BEARING SCE57PP	320024
391000	4-40 X1/4 SOC CAP STNLS	391000
391001	4-40 X1/2 SOC CAP STNLS	391001
391002	4-40 X 3/8 FLAT SOC STNLS	391002
391003	4-40 X 5/16 FLAT SOC CAP	391003
391010	6-32 X1/4 SOC CAP ALLY	391010
391011	6-32 X 1 SOC CAP ALLOY	391011
391012	6-32 X1/4 BUTTON SOC ALLOY	391012
391014	6-32 X 3/4 SOC CAP STNLS	391014
391025	8-32 X 1/2 SOC CAP ALLOY	391025
391026	6-32 X 3/4 SOC CAP STNLS	391026
391027	8-32 X 3/8 SOC CAP ALLOY	391027
391028	8-32 X 1/8 SOC SET CAP ALLOY	391028
391029	8-32 X 1/4 SOC SET CUP ALLOY	391029
391030	8-32 X 1/2 SOC CAP STNLS	391030
391031	8-32 X 5/8 SOC CAP STNLS	391031
391033	8-32 X1 SOC CAP STNLS	391033
391034	8-32 X 2 SOC CAP STNLS	391034
391050	10-32 X 5/8 SOC CAP STNLS	391050
391051	10-32 X 3/4 SOC CAP STNLS	391051
391051	10-32 X 5/16 SOC CAP STNLS	391051
391052	10-32 X 7/8 SOC CAP STNLS	391052
391053	10-32 X 1 SOC CAP STNLS	391053
391054	10-32 X 7/8 SOC CAP STNLS	391054
391055	10-32 X 3/4 SOC CAP STNLS	391055
391060	10-32 X2 3/4 SOC CAP ALLOY	391060
391061	10-32 X 5/8 FLAT SOC STNLS	391061
391062	10-32 x 7/8 FLAT SOC STNLS	391062

Schematic Pos. #	Description	Part #
391063	10-32 X 1 FLAT SOC STNLS	391063
391064	10-32 X 1-1/2 FLAT SOC STNLS	391064
391070	10-3 X 3/8 BUTTON SOC STNLS	391070
391071	10-32 X 1/4 BUTTON SOC STNLS	391071
391072	10-32 X 1/4 SOC SET CUP STNLS	391072
391073	10-32 X 1/2 THUMB SCREW SS 3/8 HEAD	391073
391074	10-32 X 3/8 THUMB SCREW SS 7/16 HEAD	391074
391080	1/4 - 20 X 3/4 SOC CAP STNLS	391080
391081	1/4-20 X 1 SOC CAP STNLS	391081
391082	1/4 - 20 x 3/4 BUTTON SOC STNLS	391082
391085	1/4-20 1/4 SOC SET BRASS TIP ALLOY	391085
391090	3/16-18 X 7/8 SOC CAP ALLOY	391090
391091	5/16-18 X 1 SOC CAP ALLOY	391091
392000	3/8 X 3" SS DOWEL PIN	392000
392006	1/4 X 3/4 DOWEL PIN STNLS	392006
392007	1/4 X 5/8 DOWEL PIN STNLS	392007
392008	1/4 X 1/2 DOWEL PIN STNLS	392008
392010	3/16 X 1 1/4 DOWEL PIN STNLS	392010
392012	1/8 X 1/2 DOWEL PIN STNLS	392012
392020	10x32 HEX NUT STNLS	392020
392025	#10 FLAT WASHER (.437, 203, 062)	392025
392026	¼ FLAT WASHER SS (.500, .265, 0.32)	392026
392040	5/16 X 1/2 SHOULDER BOLT STNLS	392040
392050	1/4 "ODX1" LDTH COMPRES SPRING	392050
392055	FIX FORCE GAS SPRING #20	392055
392056	10MM BALL METAL END FITTING M6	392056
392057	10MM BALL STUD 5/16" - 18" MALE THRD	392057
392075	3/8 x 16 PLASTIC OVAL LEVEL KNOB	392075
392078	3/8 - 16 X 2" KNURL HD DOG FT THUMB SCREW	392078
392080	11-8SS 1/8" KEY BAR STOCK	392080
393050	OMRON RELAY 1 240V	393050
393051	ELECT. CIRC. FUSE 250V 5AMP	393051

Without Drawing

310-126.1	1" (25mm) Silicon Roller (each)
310-126	1-1/2" (38mm) Silicon Roller (each)
310-1262	2" (51mm) Silicon Roller (each)
310-134	.1475 Master Link (each)
310-008	Overtemp Control 120V
310-136	Watlow 935 Controller (1/32 Din)
33-200	Triad Hex Key Set
39-2058	Safety Clip
39-3025	Aluminum Oxide Abrasive 1-1/2" x 12"
42-401A	Aluminum Brush
33-202	End User Care Package
38-180	Standard Wedge Housing

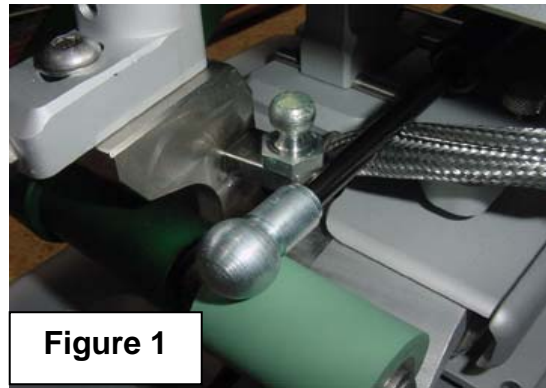
Wedges

Part #	Description
33-102	Hem Cord Wedge w/Heaters , 120V, 1" (25mm)
33-102.2	Hem Cord Wedge w/Heaters, 240V, 1" (25mm)
33-116	Wedge w/ Heaters, 120V/240V, 1/2" (13mm)
33-115	Wedge w/ Heaters, 120V/240V, 3/4" (19mm)
33-126	Wedge w/ Heaters, 120V/240V, 20mm
33-124	Wedge w/ Heaters, 120V/240V, 1" (25mm)
33-113	Wedge w/ Heaters, 120V/240V 1-1/4" (32mm)
33-123	Wedge w/ Heaters, 120V/240V, 1-1/2" (38mm)
33-117.5	Wedge w/ Heaters, 120V/240V, 1-1/2" Split (3/8" channel)
33-127	Wedge w/ Heaters, 120V/240V, 40mm
33-111	Wedge w/ Heaters, 120V/240V, 1-3/4" (44mm)
33-122	Wedge w/ Heaters, 120V/240V, 2" (51mm)
33-117	Wedge w/ Heaters, 120V/240V, 2 " Split (3/8" channel)
33-125	Wedge w/ Heaters, 120V, 3" (76mm)
33-125.2	Wedge w/ Heaters, 240V, 3" (76mm)

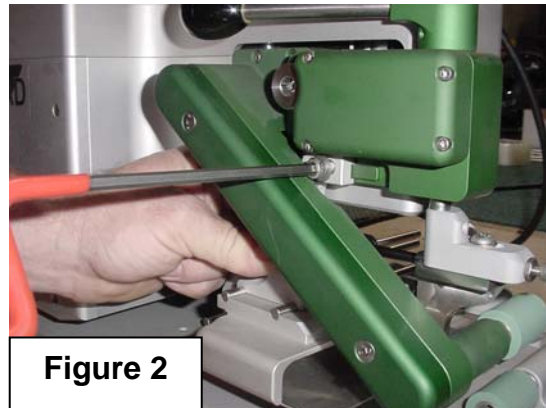
FLAT HEM / HEM CORD INSTALLATION INSTRUCTIONS

Wedge/Wedge Housing Installation:

1. Remove only the front most safety clip from the gas shock. Pull up on the front end of gas shock to dislodge from the ball end retainer, as shown in figure 1.



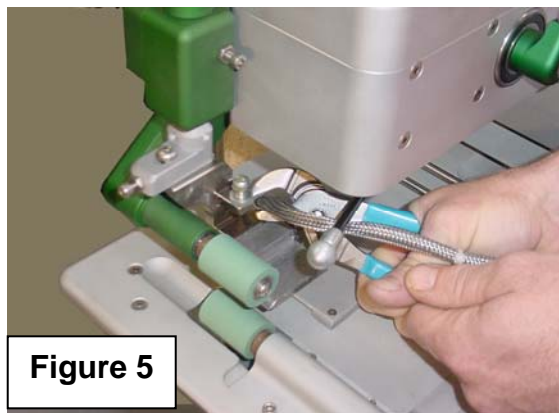
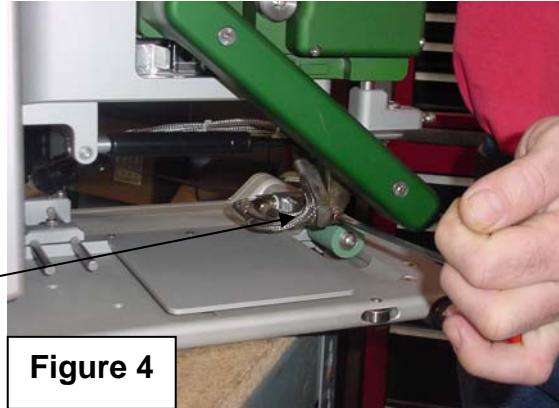
2. Remove the mounting screw to allow for removal of existing wedge housing. Slide the housing back along the green boss, to completely remove unit, as shown in figure 2.



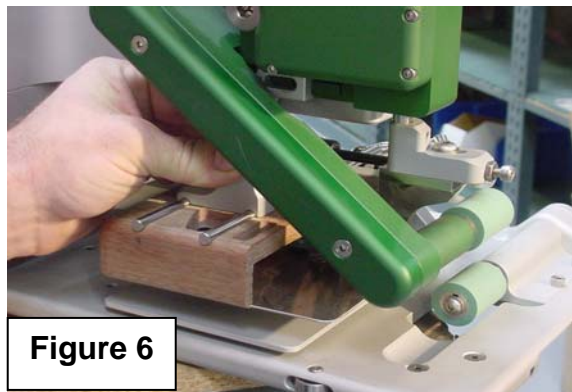
3. Disconnect wedge plug from chassis socket, as shown in figure 3. Unfasten both screws that secure wedge to hanger bracket and remove wedge. See figure 4. Carefully remove lead heater bracket from wedge. **Be careful not to twist or damage steel braid wire covering.**



4. Install new wedge to the wedge hanger with the lead bracket under the longer of the two screws. Tuck the leads in as close to the wedge hanger as possible and crimp the lead bracket tabs around the leads to hold them in place, as shown in figure 4 and 5.



5. Slide the wedge housing in place around the new wedge and over the boss provided for the slot in its hanger, as shown in figure 6. Put the mounting screw in place.



6. Loosen wedge adjustment hub set screws, figure 7.



7. Position the wedge either centered or slightly above center, by moving the adjustment hub up or down on its shaft. Retighten the screws, as shown in figure 8.

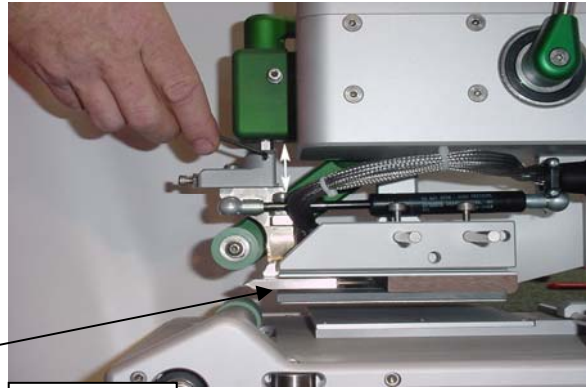
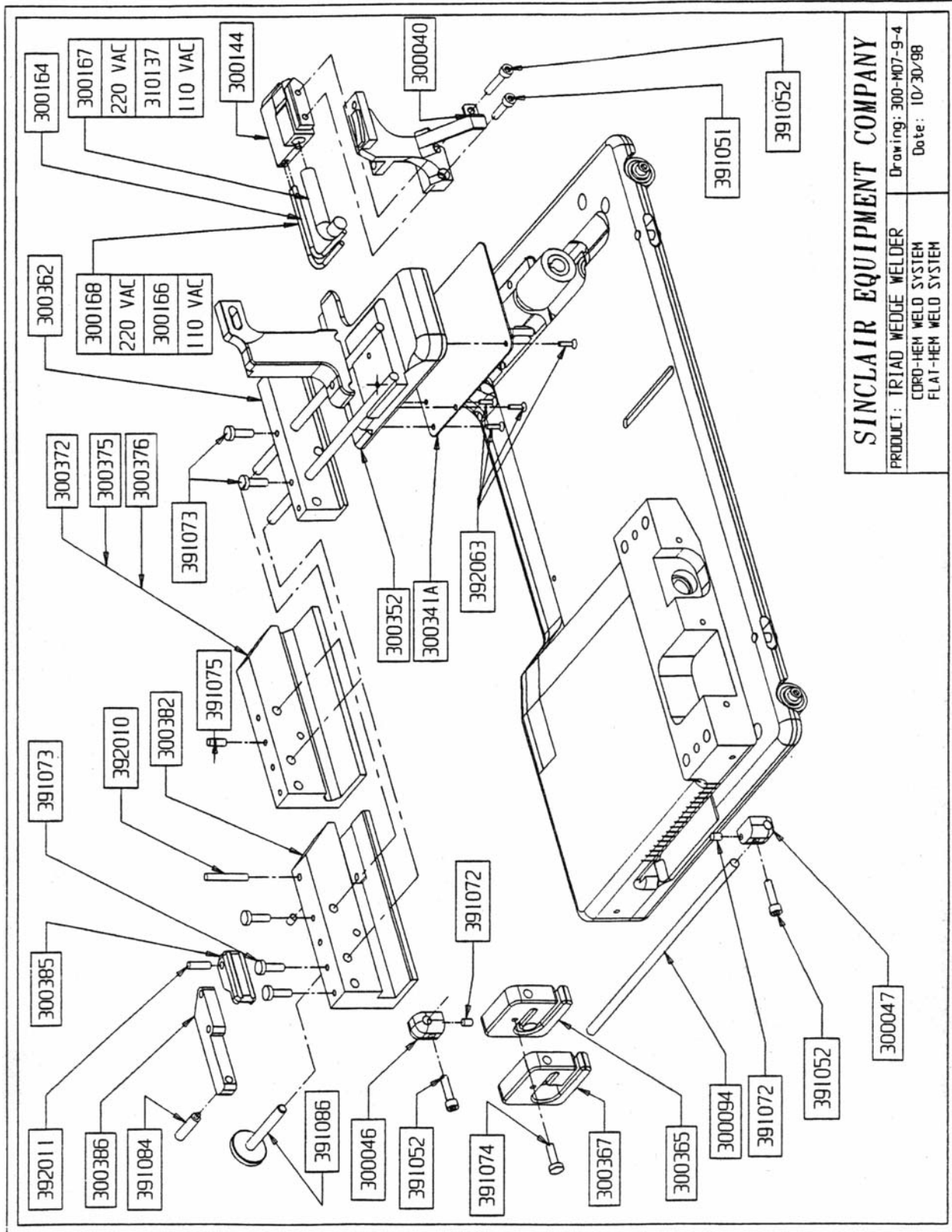


Figure 8

*****MAKE SURE THE WEDGE CAN MOVE FREELY*****

8. Secure the gas shock to its ball stud and replace the safety clip.
9. Adjust wedge as need. Refer to Wedge Adjustment Supplement provided for instructions.



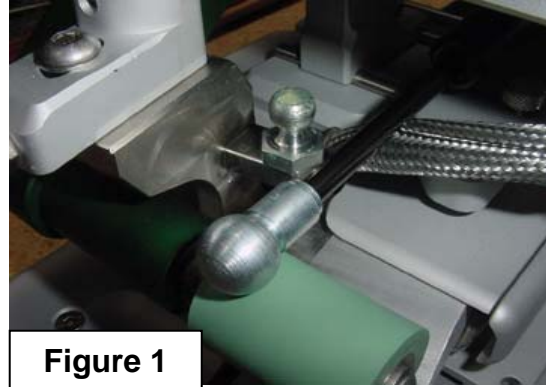
SINCLAIR EQUIPMENT COMPANY
 PRODUCT: TRIAD WEDGE WELDER
 CORO-HEM WELD SYSTEM
 FLAT-HEM WELD SYSTEM
 Drawing: 300-M07-9-4
 Date: 10/30/98

Item	Qty	SMS-P/N	Sinclair P/N	Title	Detail
1	1	300-046	300046	Front Mat. Guide Retainer Mount	
2	1	300-040	300040	Wedge Heater Lead Bracket	
3	1	300-144	300144	Cord-Hem Hot Wedge 1.00	
4	1	300-041A	300341A	Wedge Housing Bottom Cover	fits M6 and later housings
5	1	300-352	300352	Cord-Hem .25 Wedge Hsg 1.00 lp	1.00 lap x .25 thick wedge (replaces -045)
6	1	300-362	300362	Cord-Hem Out/Top Gd .750x.080	3/4" wide .080 clearance
7	1	300-365	300365	Cord-Hem Front Mat Gd 3/8	for 3/8 and smaller cord (replaces -050)
8	1	300-367	300367	Cord-Hem Front Mat Gd 3/8 & Lager	for 3/8 and larger cords
9	1	300-372	300372	Cord-Hem Out/Blm Gd 1.0x1/8-3/8	1.00 lap x 1/8-3/8 cord (replaces -106 & -11
10	1	300-375	300375	Cord-Hem .500 Out/Blm Gd 1.00 lp	1.00 lap x 1/2 cord
11	1	300-376	300376	Cord-Hem .625 Out/Blm Gd 1.00 lp	1.00 lap x 5/8 cord
12	1	300-382	300382	Flat-Hem Out/Blm Gd 1.0	1.00 wide base
13	1	300-385	300385	Flat-Hem Pressure Shoe	1.50 long
14	1	300-386	300386	Flat-Hem Pressure Arm	
15	1	1805-400	300168	Cartridge Heater - L1_2.81 220v	.125 x 1.75 (heat lg.) x 2.81 O.A. heater
16	1	1805-409	300164	Cartridge Thermal Cpl - S1_2.375 220v	.125 x 2.375 O.A.
17	1	1805-421	300167	Cartridge Heater - S3_2.25 220v	.375 x 1.5 (heat lg.) x 2.25 O.A. heater
18	1	300-094	300094	Front Material Guide Retainer Rod	.25x8.75
19	1	1105-905	392011	Dowel Pin .188x.625	8-18ss
20	1	1105-910	392010	Dowel Pin .188x1.25	8-18ss
21	1	1105-504	391074	10-32x.375 303ssThmb	thumb screw .438 dia. knurled head
22	5	1105-505	391073	10-32x.500 818ss Thmb	thumb screw .375 dia. knurled head
23	1	1105-704	391072	10-32x.500 818ss Soft-rip SS	
24	3	1105-107	391052	10-32x.875 818ss SHCS	
25	3	1105-602	391072	10-32x.25 818ss SS	set screw hex wrench cup point
26	1	1106-516	391086	Thumb Screw 1.00 Head	1/4-20 thread x 2.00 lg 818ss
27	4	1301-503	391002	4-40x.375 FHMS	phillips head
28	1	1805-402	300166	Cartridge Heater - L1_2.81 110v	.125 x 1.75 (heat lg.) x 2.81 O.A. heater
29	1	1805-426	300137	Cartridge Heater - S3_2.25 110v	.375 x 1.5 (heat lg.) x 2.25 O.A. heater
30	1	1105-106	391051	10-32x.75 818ss SHCS	

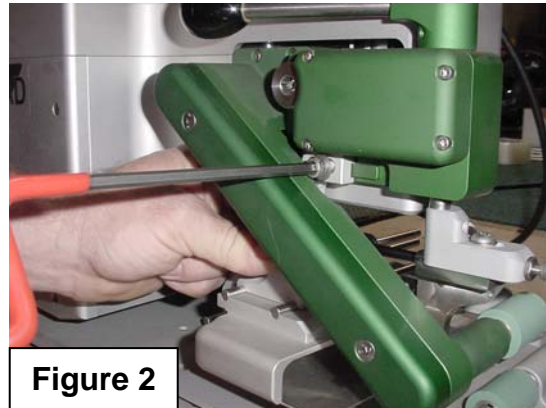
ACRYLIC TAPE ATTACHMENT KIT INSTALLATION INSTRUCTIONS

Wedge/Wedge Housing Installation:

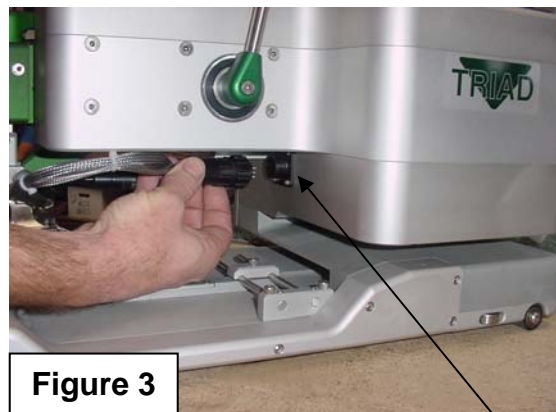
1. Remove only the front most safety clip from the gas shock. Pull up on the front end of gas shock to dislodge from the ball end retainer, as shown in figure 1.



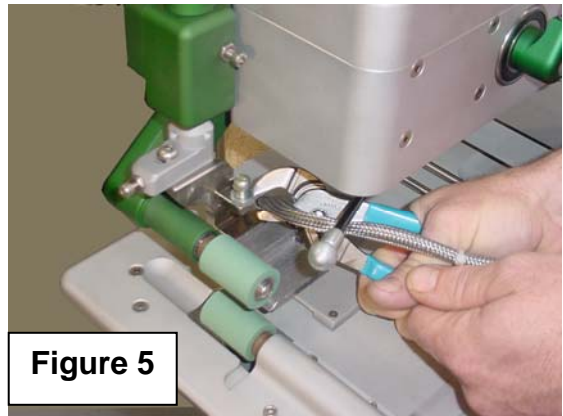
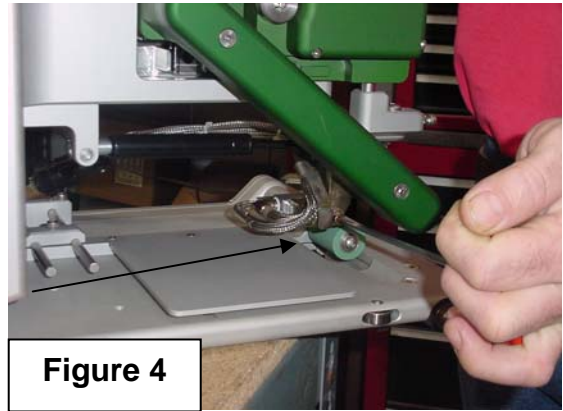
2. Remove the mounting screw to allow for removal of existing wedge housing. Slide the housing back along the green boss, to completely remove unit, as shown in figure 2.



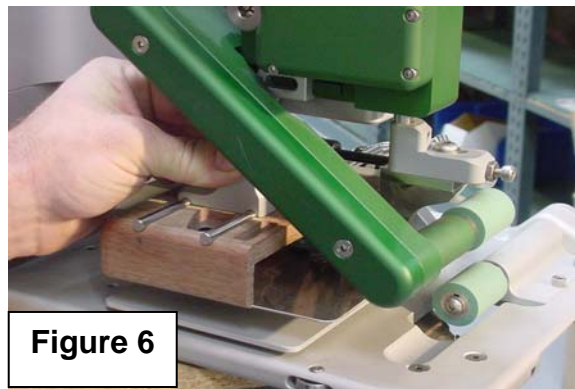
3. Disconnect wedge plug from chassis socket, as shown in figure 3. Unfasten both screws that secure wedge to hanger bracket and remove wedge. See figure 4. Carefully remove lead heater bracket from wedge. **Be careful not to twist or damage steel braid wire covering.**



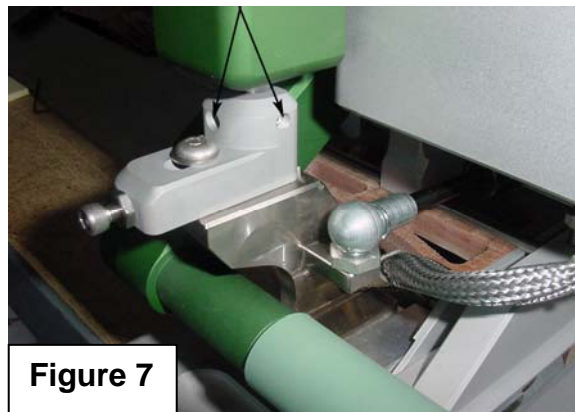
4. Install new wedge to the wedge hanger with the lead bracket under the longer of the two screws. Tuck the leads in as close to the wedge hanger as possible and crimp the lead bracket tabs around the leads to hold them in place, as shown in figure 4 and 5.



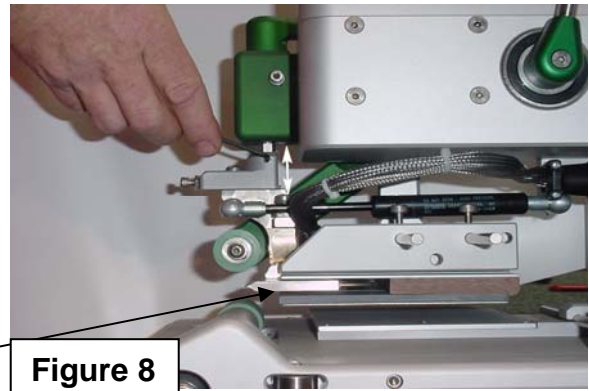
5. Slide the wedge housing in place around the new wedge and over the boss provided for the slot in its hanger, as shown in figure 6. Put the mounting screw in place.



6. Loosen wedge adjustment hub set screws, figure 7.



7. Position the wedge either centered or slightly above center, by moving the adjustment hub up or down on its shaft. Retighten the screws, as shown in figure 8.

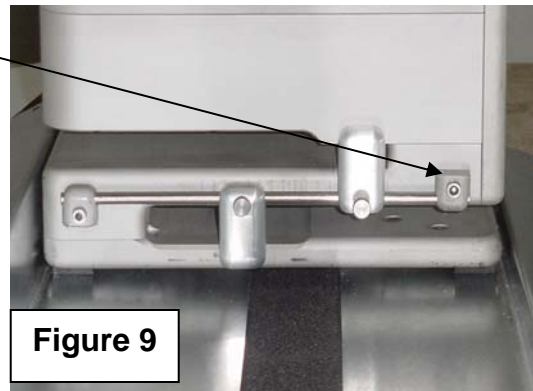


*****MAKE SURE THE WEDGE CAN MOVE FREELY*****

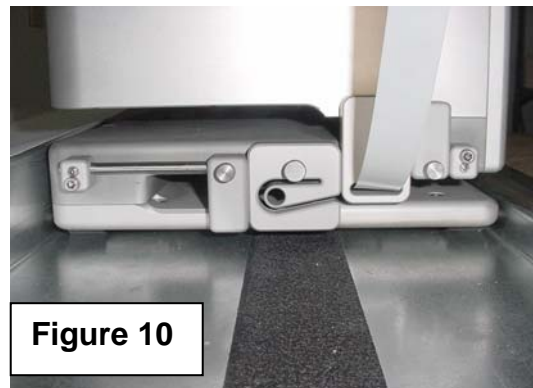
8. Secure the gas shock to its ball stud and replace the safety clip.
9. Adjust wedge as need. Refer to Wedge Adjustment Supplement provided for instructions.

Front Tape Guide Installation:

1. Remove screw and block.

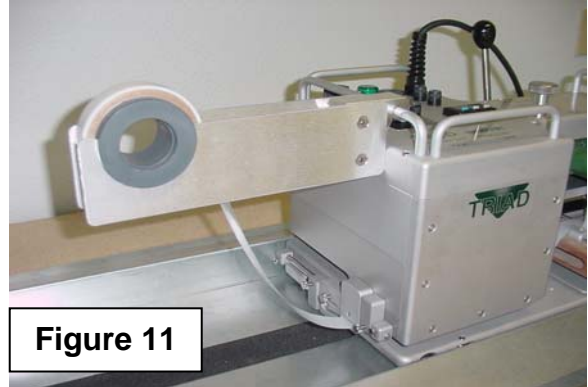


2. Remove standard front upper material guide and replace with New front tape guide. Orientation as shown.
3. Locate guide as shown in figure 10 (this is an approximate adjustment.)



Tape Dispenser Installation:

1. Hang tape dispenser on top rail and align tape to front guide, as shown in figure 11.
2. Tighten down thumbscrew to prevent movement of unit.

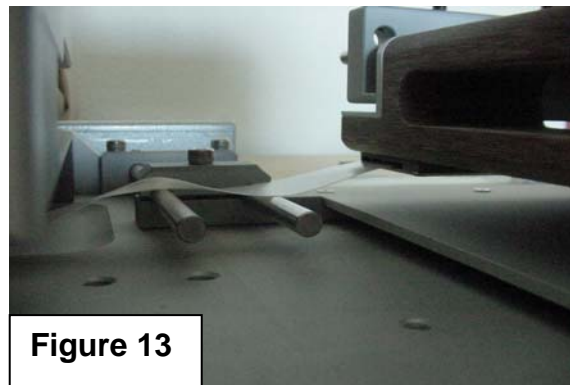


Acrylic Tape Path Details:

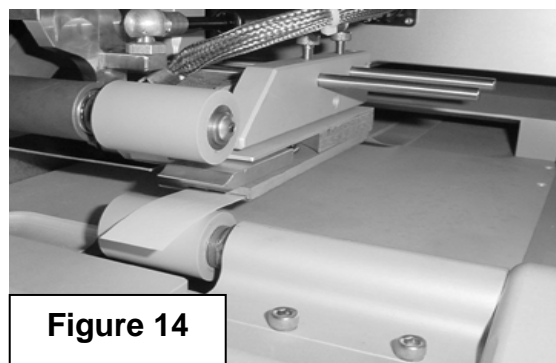
1. Insert tape into tape guide slot, as shown in figure 12.

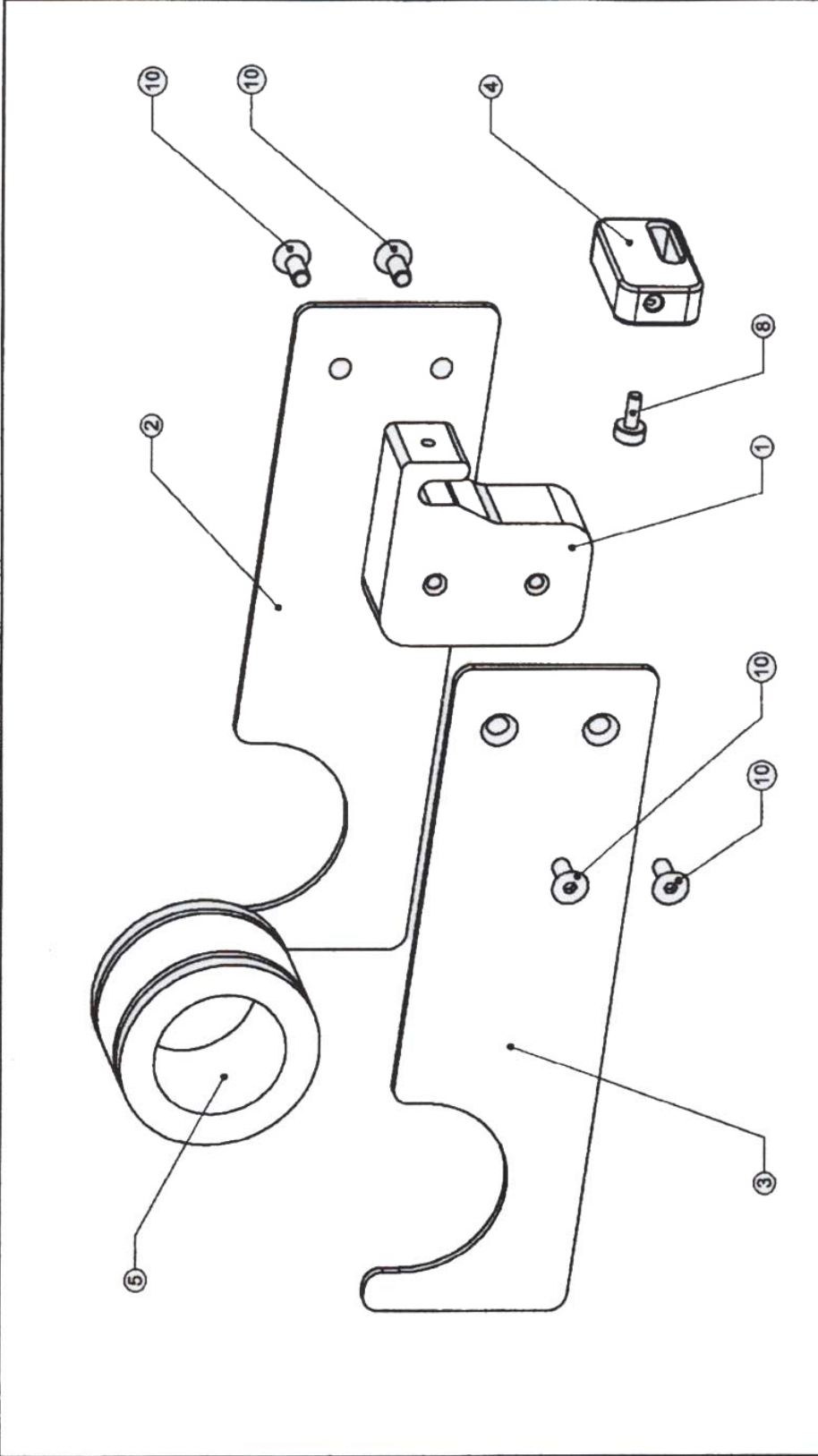


2. Run tape over guide rods and feed tape into wedge housing slot, as shown in figure 13. Be careful not to twist tape.



3. Tape should exit front of wedge housing slot as shown in figure 14.





ITEM	QTY	PART NO.	PART NAME	DESCRIPTION	VENDOR	VENDOR P/N
1	1	300-250	THERMAL ADHESIVE - ROLL HANGER MOUNT	ATTACHES TO TRIAD LIFT HANDLE	-0-	-0-
2	1	300-252	THERMAL ADHESIVE - ROLL RETAINER PLT	RETAINER / HANGER - LEFT HAND	-0-	-0-
3	1	300-251	THERMAL ADHESIVE - ROLL RETAINER PLT	RETAINER / HANGER - RIGHT HAND	-0-	-0-
4	1	300-253	THERMAL ADHESIVE - FRONT TAPE GUIDE	TAPE AND FRONT UPPER MAT GUIDE	-0-	-0-
5	1	300-254	THERMAL ADHESIVE - ROLL HUB	FITS INTO TAPE ROLL / HANGER	-0-	-0-
6	1	438 HEAD DIA x.188 HT. - SS	THMB	#10-32x.50 THUMB SCREW	MC MASTER CARR	91748A361
10	4	FHSCS .25-20x.63 SS	FHSCS	FLAT HEAD SOCKET CAP SCREW	-0-	-0-

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- Not responsible for lost job or down time.

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- Nature of failure;
- Name and address of distributor where tool was purchased;
- Application of tool when rendered defective; and
- Proof of purchase.

To obtain individual repair parts, contact SINCLAIR EQUIPMENT COMPANY with the following information:

- Tool model number;
- Item part number; and
- Description of part.

