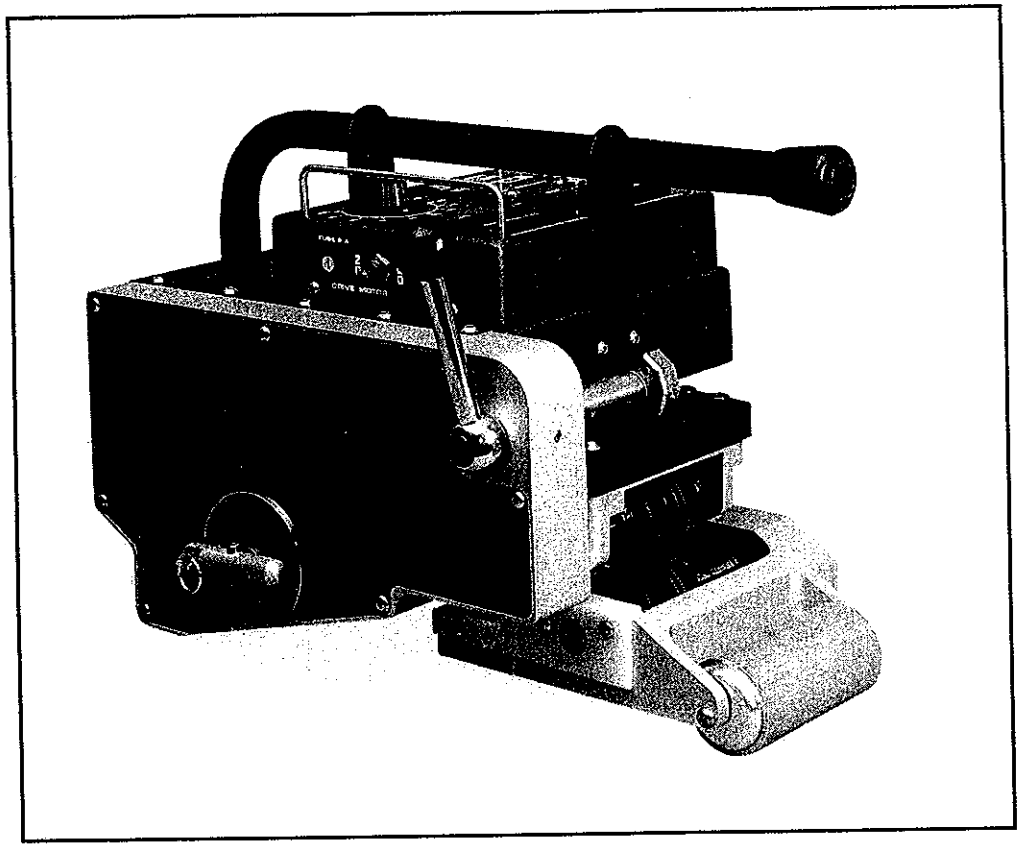
WEDGE IT

HOT WEDGE WELDER



INSTRUCTION MANUAL

SERIES 2000

Barnes
Plastic Welding Equipment Ltd.
Unit 11, Hamilton Street, Blackburn, Lancashire, BB2 4AJ
Tel: +44 (0) 1254 660910 Fax: +44 (0) 1254 660915
E-mail: info@plasticweldingequipment.co.uk
Website: www.plasticweldingequipment.co.uk

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Website: www.plasticweldingequipment.co.uk

LIMITED WARRANTY

Plastic Welding Technologies warrants that the products it manufactures are free from defects in materials and workmanship. If a product fails because of any such defect, and Plastic Welding Technologies is notified within twelve (12) months from the date of shipment, Plastic Welding Technologies will, at its option, repair the defective product and restore it to its normal operation, or provide a replacement in exchange for the defective product, providing the product has not been subjected to mechanical, electrical, or any other abuse or modification. Any product that fails under conditions other than those covered above will be repaired at Buyer's expense, at the price of parts and labor in effect at the time of repair. Such repairs are warranted for a period of twelve (12) months from the date of reshipment to Buyer. Replacement or spare components are also warranted for a period of twelve (12) months from date of shipment. Electronic components are warranted for a period of 90 days. Warranty does not include carbon motor brushes, bearings, bushings, ceramic heat elements and chains.

Products supplied by Plastic Welding Technologies and manufactured by others carry the respective manufacturer's warranty. Plastic Welding Technologies assumes no warranty obligation, either

expressed or implied, for equipment manufactured by others and supplied by Plastic Welding Technologies.

10-DAY SATISFACTION

All products manufactured by Plastic Welding Technologies carry an unconditional 10-day Satisfaction Guarantee. If for any reason our product does not meet with your approval, return it complete with all accessories and manuals in its original condition, shipping prepaid and insured and the purchase price will be refunded, or a credit memo will be issued within 30 days. The Buyer is required to pack the product in such a way as to ensure its safe delivery to Plastic Welding Technologies. Should the product be returned in damaged condition, the Buyer will be responsible for the cost of repair.

SHIPPING REQUIREMENTS

Shipping both ways is the responsibility of the Buyer. Should the product be received by the Buyer in damaged condition from the shipping company, it is the Buyer's responsibility to file a claim with the shipping company for the damages. It is also the Buyer's responsibility to inspect the outside of the container, if any, and visually inspect the product upon delivery for any damages.

DISCLAIMER

This publication, written by the technical staff of Plastic Welding Technologies, is recommended reading, as it is considered an

important source of information in the use of the **Wedge-It** Hot Wedge Welder.

The quality of any weld produced by the **Wedge-It** is the sole responsibility of the field technician/operator of the particular **Wedge-It** machine. Plastic Welding Technologies accepts no liability for any failure of seams produced by the **Wedge-It** Hot Wedge Welder.

PRODUCT IMPROVEMENT

Plastic Welding Technologies reserves the right to make any changes in or improvements on its products without incurring any liability or obligation to update or change previously sold machines and/or the accessories thereto.

TABLE OF CONTENTS

INTRODUCTION

The Wedge-It Hot Wedge Welder, designed and manufactured by PWT INTERNATIONAL INC, is a self-propelled, heat/pressure, fusion machine, used for the seaming of thermoplastic geomembranes and related materials. Although this unit was designed for use in the field, it can be used in-house as well.

CAUTION

This machine is an electro-mechanical device with moving parts capable of exerting powerful force. "Care should be taken to prevent the accidental engagement of clothing, hair, or personal extremities with any moving parts.

NOTES:

KEY ELECTRICAL CONTROLS AND COMPONENTS

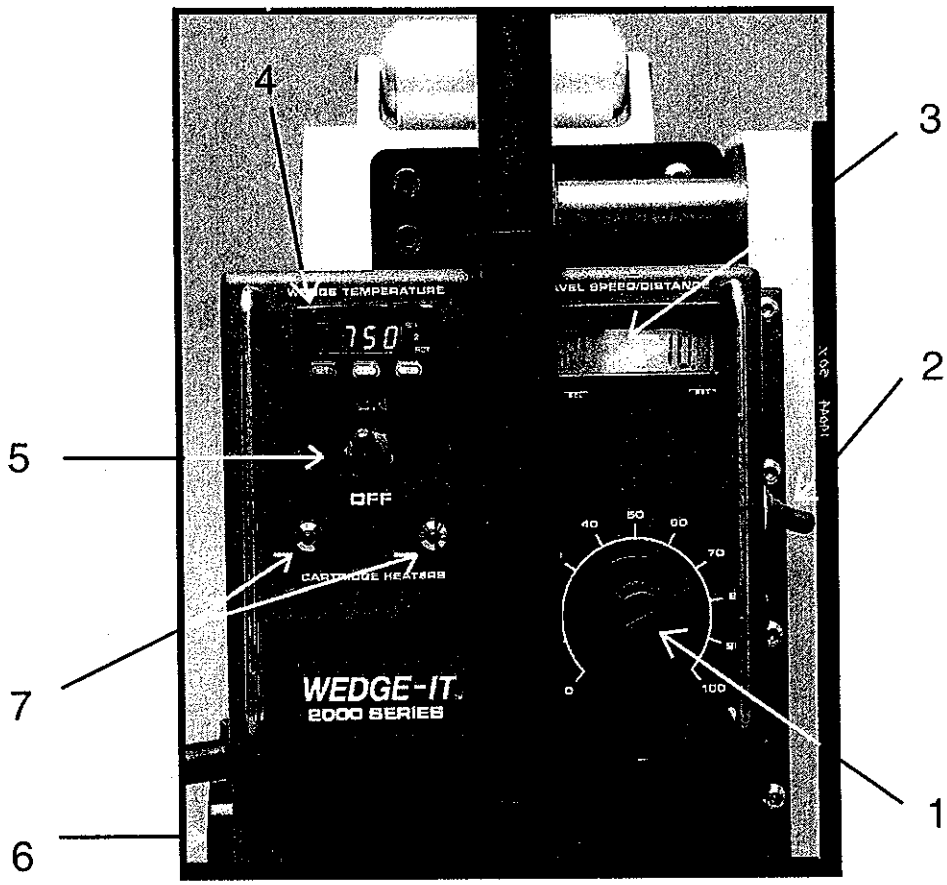


FIGURE 1

1. Motor Speed Control (Set Point)
2. On/Off Switch (Drive Motor)
3. Speed Readout
4. Temperature Control
5. On/Off Switch (Temperature)
6. Drive Motor
7. Heat Element Indicator Lights

KEY MECHANICAL COMPONENTS AND FUNCTIONS

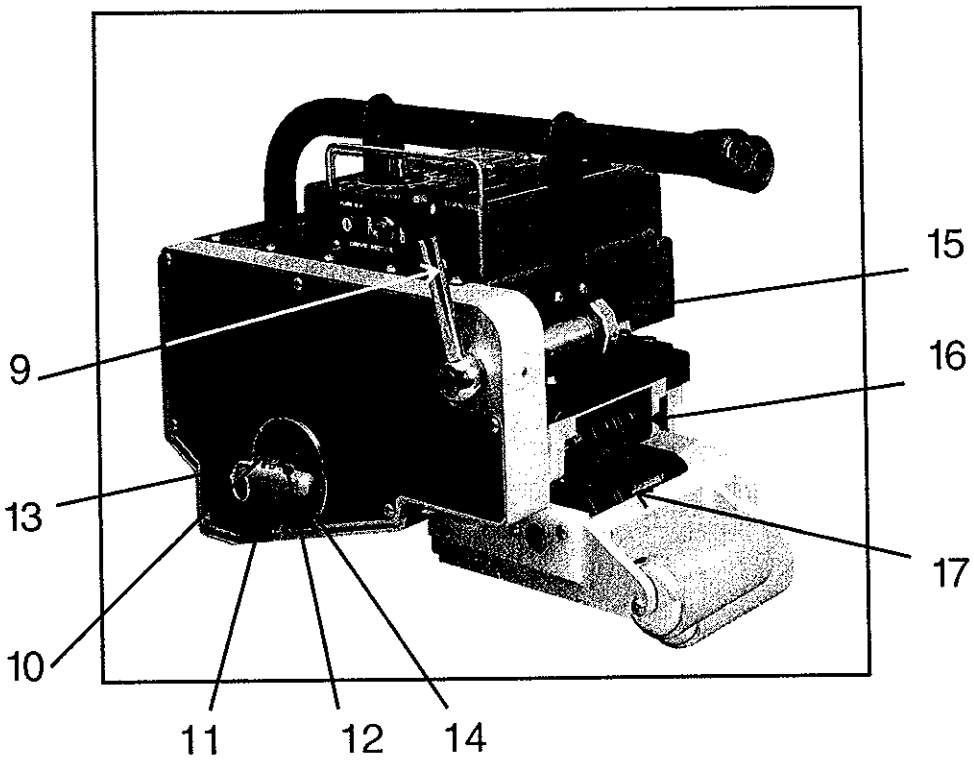


Figure 2

9. Nip Pressure Cam Lever
10. Lock-in Hole
11. Adjustment Hold-down Screw
12. Wedge Movement Handle
13. Wedge Lock-in Plunger
14. Wedge Lock-in Plate
15. Nip Pressure Cam
16. Upper Nip Roller
17. Lower Nip Roller

Figure 3

18. Lower Contour Roller Assembly
19. Lower Contour Roller Adjustment Cover
20. Wedge Up/Down Centering Adjustment
31. Contour Roller Plate

Figure 4

21. Wedge
22. Upper Contour Roller Adjustment
23. Upper Contour Roller Assembly

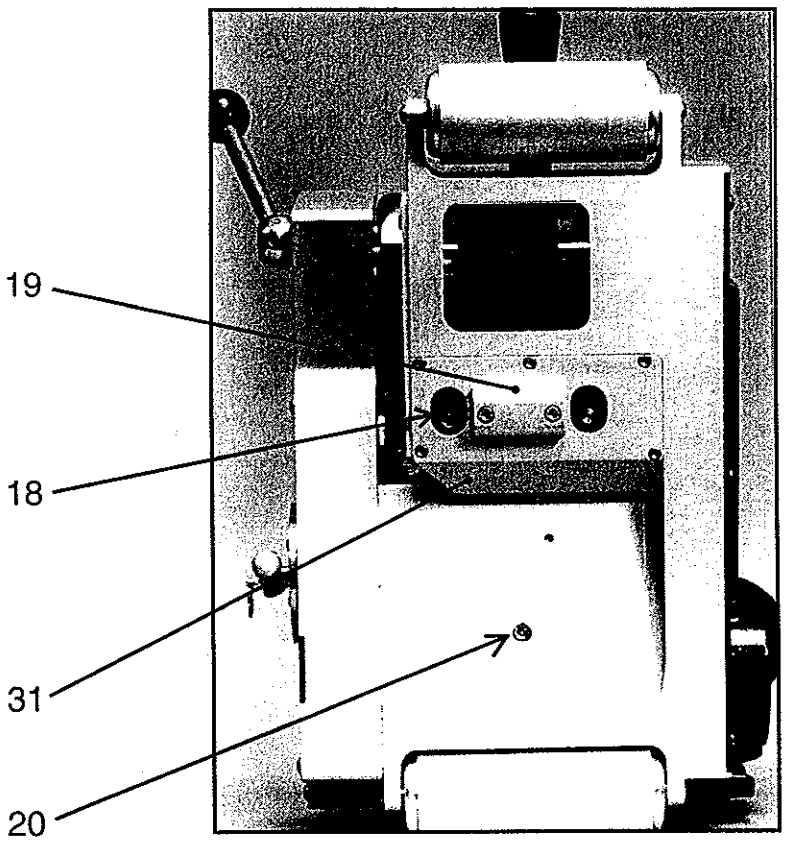


FIGURE 3

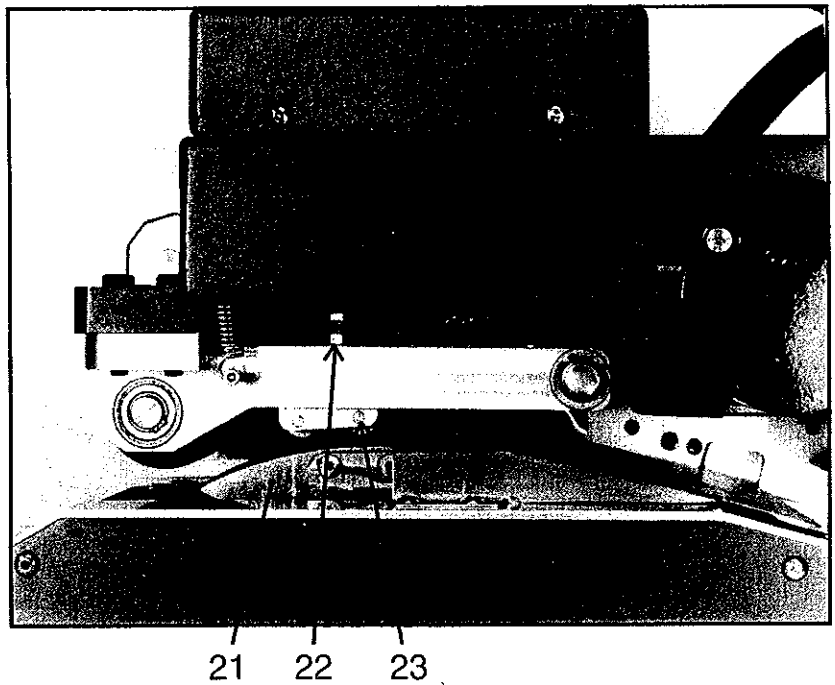


FIGURE 4

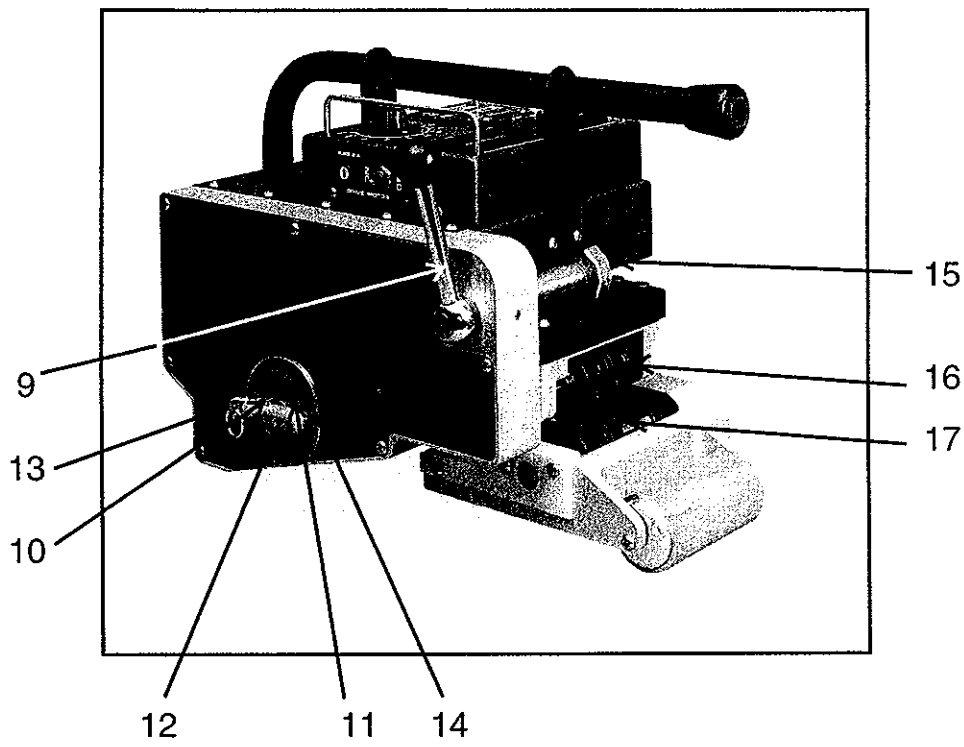


FIGURE 2 (REF)

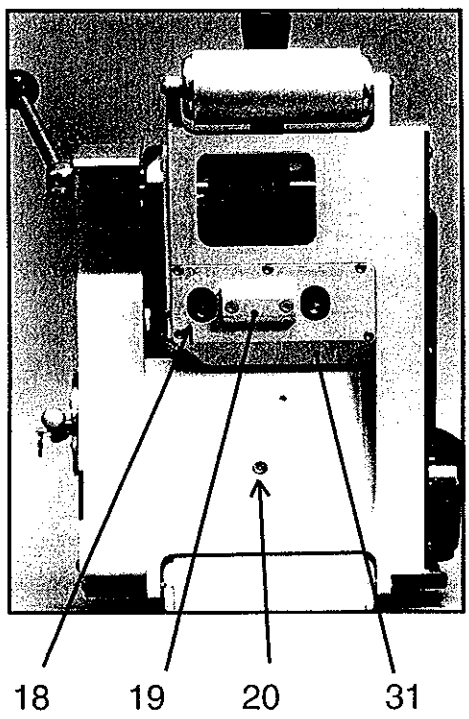


FIGURE 3 (REF)

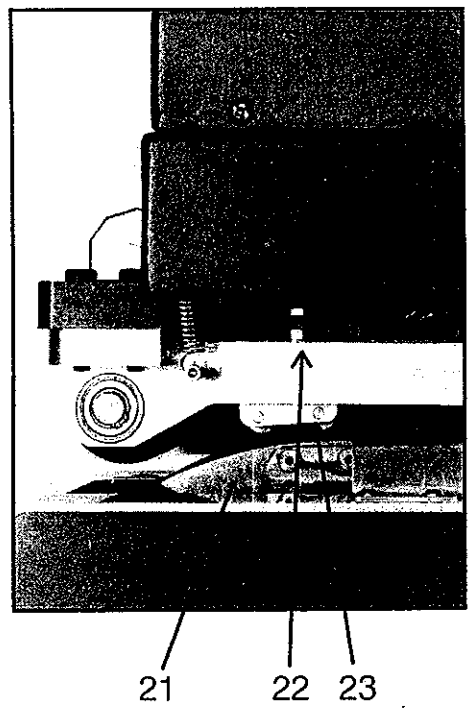


FIGURE 4 (REF)

SET-UP PROCEDURE

INITIAL SET-UP - various mil thickness tolerances

The initial set-up of the **Wedge-It** is by far the most critical aspect of not only quality welding results, but also wear and tear on the unit itself.

Adjusting the **Wedge-It** too tightly can result in excessive wear on drive-train parts, such as gears, chains, sprockets, etc.

THE RECOMMENDED SET-UP PROCEDURE-- BEFORE HEATING UP THE UNIT--IS AS FOLLOWS:

From the same mil thickness material as that to be welded, cut 2 pieces approximately 4" x 18", and 2 smaller pieces approximately 1/2" x 2". These 4 pieces of material will be used as "gauges" for setting the 3 adjustments.

ADJUSTMENT #1--WEDGE CENTERING

A. Place the two 1/2" x 2" pieces of material, each folded in half, between the Nip Rollers, Figure 2 (16 & 17). This is to simulate 2 layers of material between the rollers. Be sure these pieces do not extend past the Nip Rollers into the machine. Rotate the nip Pressure Cam (15) to FIRST POSITION by rotating the Nip Pressure Cam Lever (9) Clockwise one "click."

B. Move the Wedge , Figure 4 (21), to the ENGAGED position by rotating Wedge Movement Handle, Figure 2 (12) counterclockwise. With a 5mm hex wrench, adjust the Wedge as needed, up or down, to center the Wedge between the Nip Rollers by turning Wedge Up/Down Centering Adjustment, Figure 3 (20), clockwise, or counter-clockwise.

ADJUSTMENT #2--WEDGE FORWARD TRAVEL

This adjustment determines how close the Wedge is to the Nip Rollers when it is in the ENGAGED or WELDING position.

A. To set clearance, pull out the wedge Lock-in Plunger (13) on the Wedge Movement Handle (12), rotate the handle to a central position between the Hold-down Screws (11), loosen the screws and rotate the handle counter-clockwise until the lock-in Plunger drops into the Lock-in Hole (10).

> **NOTE: The distance from the upper tip of the Wedge to the Upper Nip Roller should be the same distance as between the two Nip Rollers. This same clearance should also be maintained between the lower tip of the Wedge and the Lower Nip Roller.**

To lock down the setting, hold down the Wedge Lock-In Plate, (14), pull Lock-in Plunger (13) out, and rotate handle to central location between Hold-down Screws (11). Tighten Hold-down Screws and move Lock-in Plunger back to Lock-in Hole.

ADJUSTMENT #3--UPPER AND LOWER CONTOUR ROLLERS

A. Remove the Lower Contour Roller Adjustment Cover, (19), to expose the adjustment. With a 10mm box end wrench, loosen the lock-nut. With a 3mm hex wrench, back off the adjustment until it bottoms out.

B. With a 10mm wrench, loosen the lock-nut on the Upper Contour roller Adjustment, (22). Turn the adjustment counter-clockwise, raising the Upper Contour Roller Assembly (23) out of the way.

C. With the Wedge (21) locked into the Engaged position, and the 1/2" x 2" pieces of material still between the Nip Rollers, you are ready to make adjustments.

   Insert one of the 4" x 18" pieces of material between the Lower Contour Roller Assembly (18) and Wedge. This piece should extend out of the Front of the machine (opposite end from the Nip Rollers).

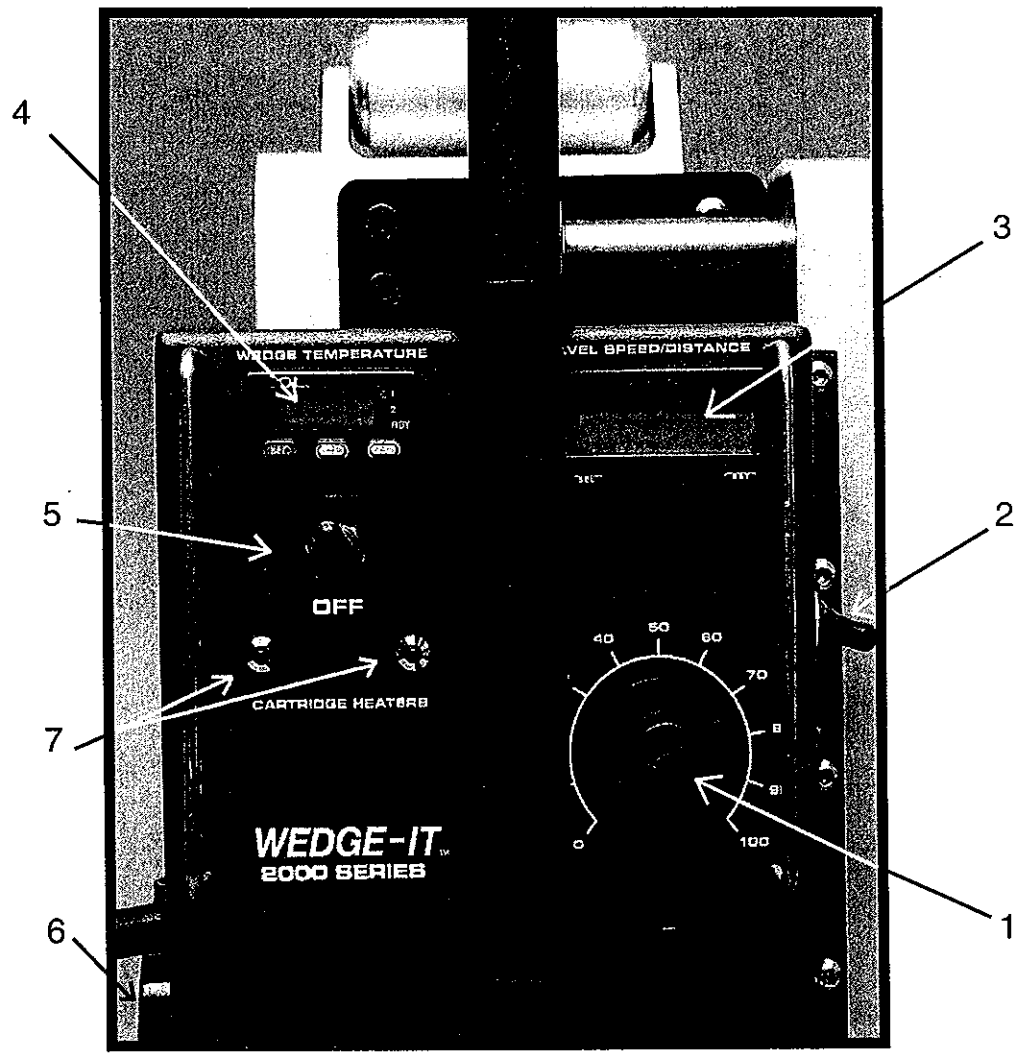


FIGURE 1 (REF)

BASIC WELDING OPERATION

HEATING UP THE WEDGE:

(See Figure 1 on opposite page for references)

A. Plug Power Cord (7) into a 110V or 220V power supply depending on which voltage the unit has been set-up for.

B. Turn Temperature ON/OFF Switch (5) to the ON position. L.E.D. Temperature Control (4) should display Ambient Temperature and audible alarm will sound.

C. **To silence audible alarm, press "Set" button once.**

D. Depress and hold "Set" button. Set Point Temperature will be displayed . While holding down "Set" button, select desired set point temperature using ^ and ^ buttons. Release "Set" button.

> **NOTE: Readout is in degrees Fahrenheit, unless othewise specified. Recommended temperature settings can be found on page 14 of this manual.**

E. Whether you are welding small sample pieces, or large sheets, the loading of the material will be the same--with the Nip Rollers and Wedge in the Disengaged Position and Motor On/Off Switch in the Off position.

Position the Wedge-It in the seam, inserting first the bottom sheet of material Under the Wedge, and between the Nip Rollers, and then the top sheet of material Over the Wedge and between the Nip Rollers. Sheet overlap should be approximately 5 to 6 inches.

> **NOTE: Once the bottom sheet of material has been loaded you may need to manually roll the welder forward and backward as you are loading the top sheet to prevent a "Burn-Out" at the beginning of the weld.**

YOU ARE NOW READY TO EXECUTE A WELD-- FOLLOW THESE STEPS:

STEP 1

Engage welding pressure by rotating Nip Pressure Cam Lever (9) clockwise to desired pressure setting for thickness of material being welded.

The following Nip Pressure Cam (15) positions will assist you in achieving the desired pressure:

FIRST POSITION (Click)	=	100 mil Setting
SECOND POSITION (Click)	=	80 mil Setting
THIRD POSITION (Click)	=	60 mil Setting
FOURTH POSITION (Click)	=	40 mil Setting
FIFTH POSITION (Click)	=	20 & 30 mil Setting

STEP 2

Turn Drive Motor ON/Off Switch (2) to the ON position and rotate the Motor Speed Control (1) to achieve the desired travel speed. (See Table on page 14). At this point, Speed Readout (3) should be displaying current travel speed.

> **NOTE:** The speed at which the **Wedge-It** must travel to produce a quality weld will vary according to the mil thickness of the material being welded, the temperature of the Wedge, the ambient (surrounding) temperature, and the temperature of the material, etc. All these variables must be taken into consideration when choosing a speed setting. (Again, refer to table on page 14)

STEP 3

As soon as the **Wedge-It** begins to travel, rotate the Wedge Movement Handle (12) counter-clockwise until the Wedge Lock-in Plunger drops into the Lock-in Hole. This should take little or no effort on the part of the operator. If it does, the Wedge has been set too close to the Nip Rollers and will need to be re-adjusted (See Set-Up, page 7)

REMOVING THE UNIT AT THE END OF THE SEAM

STEP 4

Just when the Nip Rollers have reached the end of the seam, extract the Wedge-It in the following order:

1. Disengage Nip Roller pressure.
2. Turn Drive Motor Switch (2) to OFF.
3. Disengage Wedge by pulling out ring on Wedge Lock-in Plunger (13) and rotating Wedge Movement Handle (12) clockwise.

WELDING PROCEDURE SUMMARY

STARTING WELD--

1. Engage welding pressure
2. Turn Drive Motor ON
3. Engage Wedge

ENDING WELD--

1. Disengage welding pressure
2. Turn Drive Motor OFF
3. Disengage Wedge

REMEMBER: Always engage wedge last when starting a weld and disengage wedge last at the end of the weld.

NOTES:

TABLE I

WELDING PARAMETERS -- HDPE AND LLDPE

NOTE: The parameters listed below are only suggested starting points to be used when making a "Prequalifying" sample weld. As ambient conditions and other variable change (i.e., dirt, moisture, etc.), the welding parameters must be adjusted by the field technician or operator.

Again, PWT INTERNATIONAL INC assumes no liability for weld quality, or lack thereof, when using a Wedge-It Hot Wedge Welder.

			Pressure Settings (See Page 13)	
Material	**Wedge Temp Setting**	**Travel Rate (Speed)**	**w/Nurled Steel Nip Rollers**	**w/Silicon Rubber Nip Rollers**
HDPE 20 mil	660°F / 350°C	18 ft./min.	--	20 & 30 mil or 40 mil
HDPE 30 mil	660°F / 350°C	16.5 ft./min.	20 & 30 mil or 40 mil	20 & 30 mil or 40 mil
HDPE 40 mil	660°F / 350°C	13.5 ft./min.	40 mil or 60 mil	40 mil or 60 mil
HDPE 60 mil	700°F / 370°C	10.5 ft./min.	60 mil	--
HDPE 80 mil	700°F / 370°C	7.5 ft./min.	80 mil	--
HDPE100 mil	700°F / 370°C	4.5-6 ft./min.	100 mil or 80 mil	--
HDPE 120 mil	700°F / 370°C	3-4.5 ft./min.	100 mil or 80 mil	--
LLDPE 20 mil	620°F / 326°C	18 ft./min.	--	40 mil or 60 mil
LLPE 30 mil	620°F / 326°C	16.5 ft./min.	--	40 mil or 60 mil
LLDPE 40 mil	640°F / 337°C	13.5 ft./min.	--	40 mil
LLDPE 60mil	660°F / 350°C	7.5 ft./min.	80 mil	80 mil
PVC, HYPALON XR5, POLYPRO ETC	625°F / 285°C	9 ft./min.	--	40 or 60 mil

All parameters above are specified for use with a split Wedge (air channel) and split steel, or rubber, Nip Rollers.

MAINTENANCE
(QUALIFIED PERSONNEL ONLY)

This section presents maintenance information for the **Wedge-It**, including preventive maintenance tips, troubleshooting, and other general information.

WARNING
THESE SERVICE INSTRUCTIONS ARE FOR USE BY QUALIFIED PERSONNEL ONLY. TO AVOID PERSONAL HARM, OR DAMAGE TO THE MACHINE, DO NOT PERFORM ANY PROCEDURES IN THIS SECTION UNLESS YOU ARE QUALIFIED TO DO SO.

REMEMBER...

...someone on **PWT INTL'S** technical staff is usually available 24 hours a day to help with any questions or problems you may have. Just call --

1-800-635-6693

PREVENTIVE MAINTENANCE TIPS

Keeping your **Wedge-It** clean is the most important factor in prolonging the life of the unit. Simple cleaning practices, such as brushing-off the hot wedge, and removing small rocks and dirt or mud from the lower contour roller area, should be performed after each seam is completed.

Other, more involved maintenance practices, should be performed on a daily or weekly basis, depending on how much welding you are doing. **Part I** of this Section will explain in detail how to accomplish these tasks.

PART I
LUBRICATING GEARS, SPROCKETS AND CHAINS

WARNING
TO PREVENT ELECTRIC SHOCK AND OTHER BODILY HARM, MAKE SURE UNIT IS UNPLUGGED!

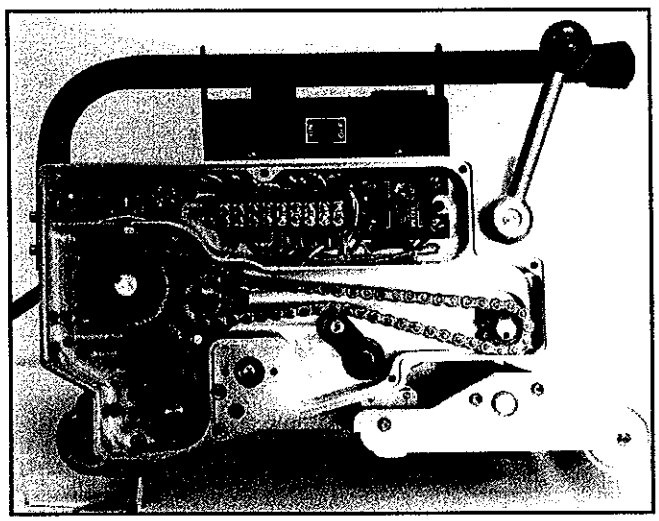


FIGURE 5

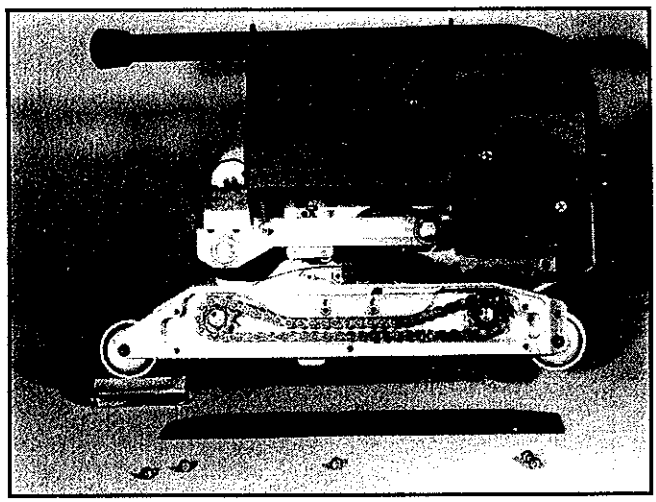


FIGURE 6

A. Remove blue Drive-side Cover to expose main drive mechanism and main wiring terminal (See Figure 5). The Wedge Movement Handle and Adjustment Plate will need to be removed for this. Also remove Lower Drive Chain Cover on opposite side to expose Lower Drive Chain (figure 6).

B. Clean all gears, sprockets and chains with brake cleaner or cleaning solvent of your choice and a parts brush. Wipe with a clean rag, or preferable, blow dry with compressed air. Make sure all components are clear of dirt and sand, etc. Lightly relubricate all gears, sprockets, and chains.

> **NOTE:** **PWT INTL recommends using spray-on white lithium grease** which is available at any hardware store or auto parts store. Use WD-40 as a last resort only.

C. Check chains for proper adjustment, and all shoulder bolts, set-screws, and retaining rings for tightness, including wiring terminal screws.

D. Replace both blue side-covers and wipe down the rest of the unit with a clean rag. Check all other screws and retaining rings on the machine for tightness.

PART II
REMOVING AND REINSTALLING HOT WEDGE ASSEMBLY

WARNING

TO PREVENT ELECTRIC SHOCK AND OTHER BODILY HARM, MAKE SURE UNIT IS UNPLUGGED!!

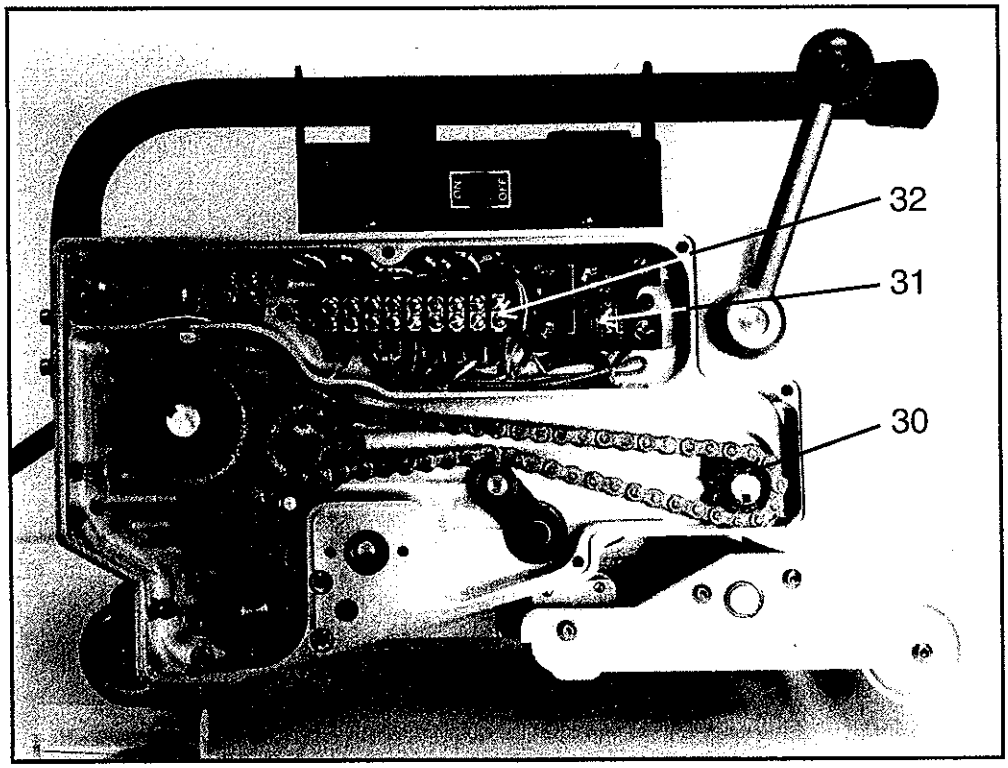


FIGURE 7

30. Upper Nip Sprocket Snap Ring
31. Solid State Relay
32. Main Terminal Block

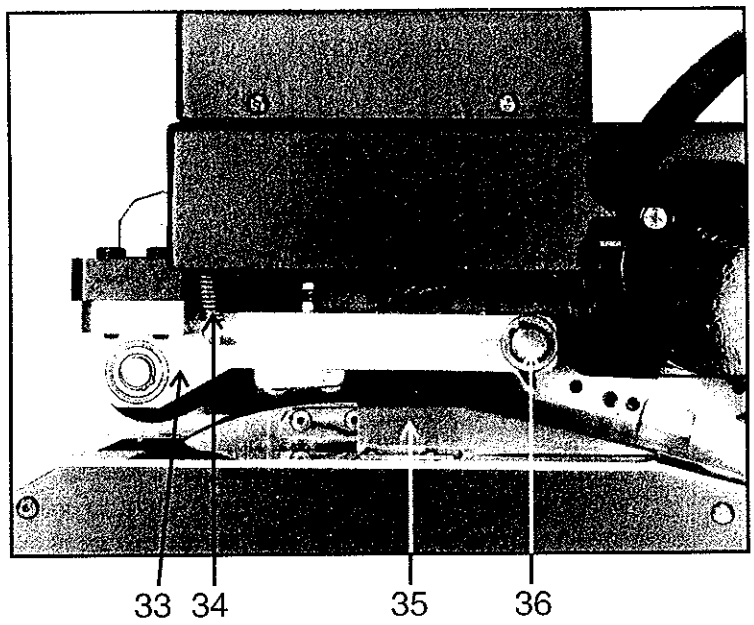


FIGURE 8

33. Nip Arm
34. Nip Arm spring
35. Upper Material Guide
36. Nip Pivot Shaft snap Ring

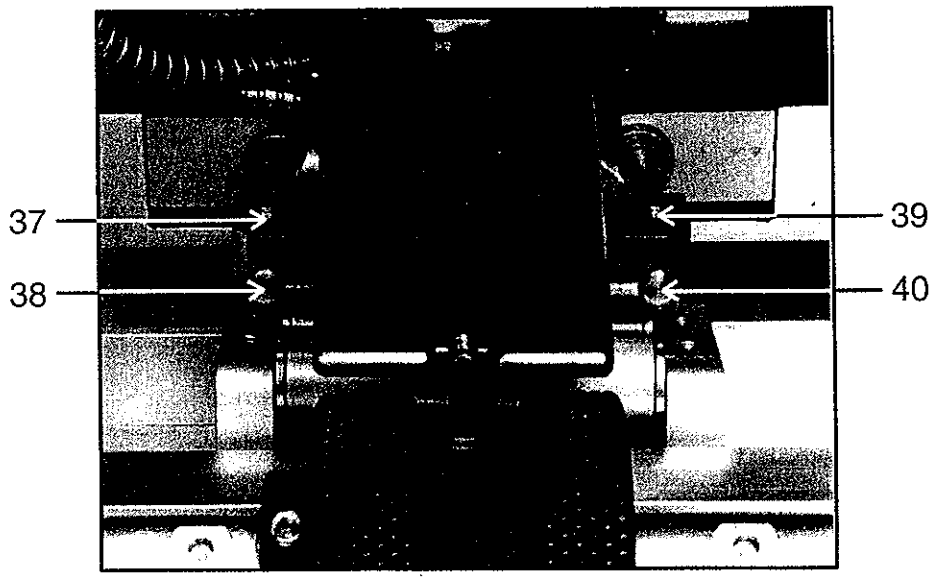


FIGURE 9

37. Wedge Mount Set Screw
38. Linear Shaft
39. Wedge Mount Set Screw
40. Linear shaft

PART II

REMOVING AND REINSTALLING HOT WEDGE ASSEMBLY

(To replace burned-out Heat Cartridges, Thermocouple, Wedge Style, etc...)

A. Remove Wedge Movement Handle, Lock-In Plate, and Side Cover to expose Main Drive Mechanism and Main Wiring Terminal (See Figure 7).

B. Disconnect Thermocouple and Heat Cartridge Wires from Terminal Block, Figure 7 (32).

> **NOTE:** Main Terminal Block is numbered 1-9 starting from left side. Thermocouple wires are 1 & 2 - Heat Cartridge Wires are 3-6.

C. Remove Upper Nip Sprocket Snap Ring (30) and slide Sprocket off Shaft.

D. Proceed to other side of welder. Disconnect Nip Arm Spring, Figure 8 (34) from Nip Arm and remove Nip Pivot Shaft Snap Ring (36).

E. Remove Nip Arm (33) from welder by sliding it off Nip Pivot Shaft. You can now inspect and clean Upper Contour Roller Assembly.

F. Remove Upper Material Guide (35) to further expose Heating Wedge Assembly.

G. Remove Wedge Mount Set Screws, Figure 9 (37 & 39), and with 1/4" punch or comparable tool, tap Linear Shafts (38 & 40) back through Wedge Mounts.

H. After gently guiding Heater and Thermocouple wires through Side Frame Hole, extract Wedge Assembly by carefully lifting up and out over Lower Nip Roller.

(Now the Wedge Assembly is ready for cleaning, servicing, replacement, etc...)

I. To replace Wedge Assembly, follow steps a-h in reverse order. Make sure Heat Cartridge and Thermocouple Wires are tucked neatly between Upper Material Guide and Side Frame. Also make sure there is enough slack in these wires to allow free fore and aft movement of wedge.

PART III
RE-SETTING TIMING OF RACK & PINION WEDGE MOVEMENT

Often when removing and reinstalling Hot Wedge Assembly , the relationship of the Lock-In Plate/Wedge Movement Handle to the Fore/Aft position of the wedge itself will be off slightly. This can be corrected by proceeding with the following steps.

A. With Lock-In Plate hold down screws loose, rotate Wedge Movement Handle counter-clockwise moving wedge back as close to Nip Rollers as possible.

B. Insert screwdriver through Access Slot at front of welder between Upper Material Guide and Front Travel Roller. Gently press downward on end of Rack Gear. This will release mesh between Rack Gear and Pinion Gear.

C. With Rack Gear still depressed, rotate Wedge Movement Handle until it is as close to horizontal as possible and Lock-In Plunger is in Lock-In Hole.

D. Remove screwdriver and check wedge movement to make sure Rack and Pinion Gears are meshing properly.

E. Re-set welding tolerances (See set-up section of this manual).

REMEMBER: Someone on **"PWT'S"** technical staff is usually available 24 hours a day to answer your questions and talk you through most repairs. Just call us.

GENERAL INFORMATION
KEY INTERNAL ELECTRONIC COMPONENTS

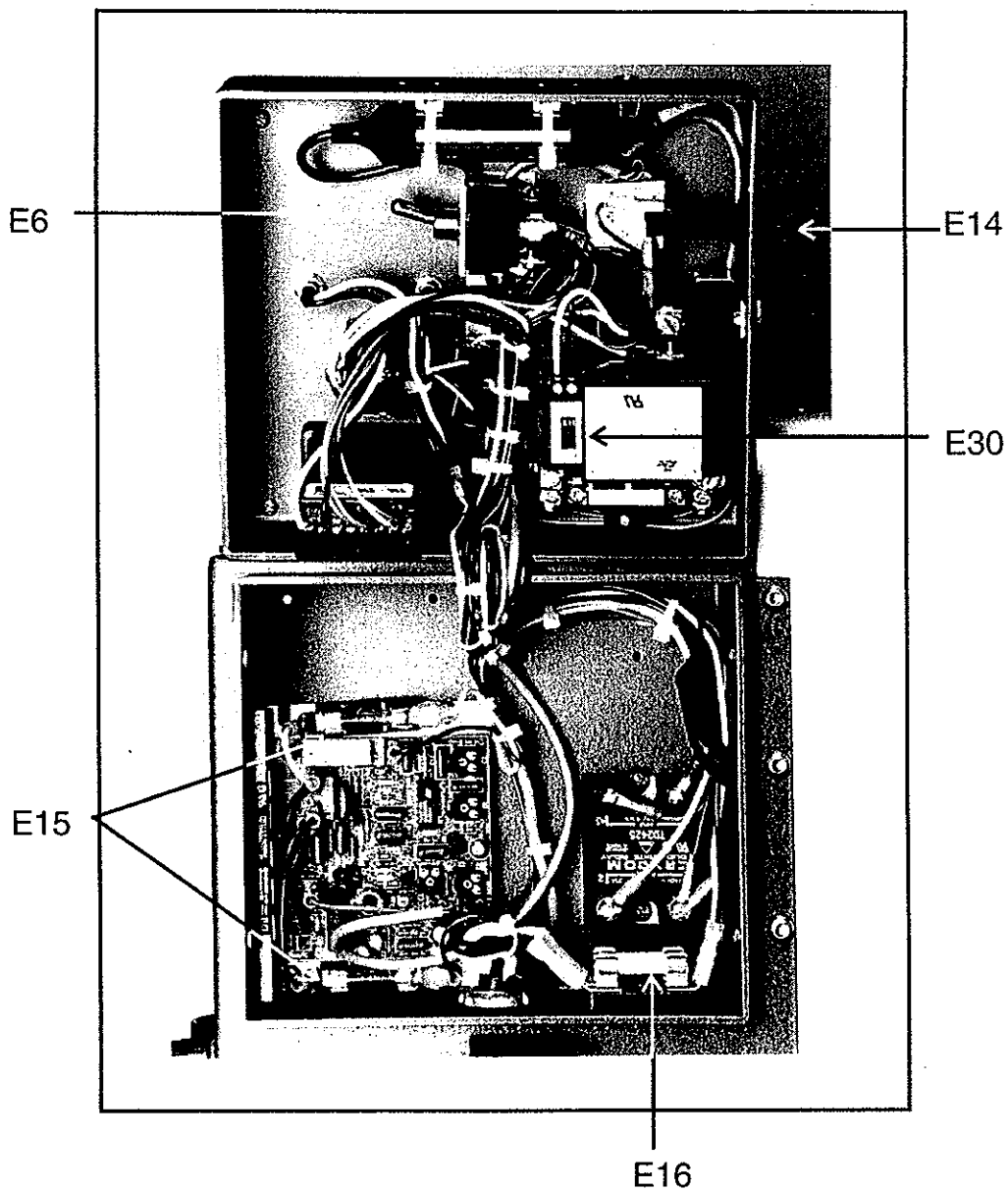


FIGURE 10

E16 Main Line Fuses (15 amp.) (2 ea.)
E15 Motor Board Fuses (4 amp.) (2 ea.)
E14 Motor Current Fuse (2 amp.)
E30 Speed Readout Voltage Selection Switch
E6 Main Operating Voltage Selection Switch

GENERAL INFORMATION (CONTINUED)

PART I

NOTE: To access key electronic components shown on page 23 Figure 10, the Top Handle, Handle Brackets, and Lid Screws will need to be removed.

A. CHANGING TEMPERATURE READOUT TO DISPLAY EITHER FAHRENHEIT OR CELSIUS.

For your convenience, **PWT INTL** has factory set each Wedge-It temperature readout to display either Fahrenheit or Celsius depending on the shipping destination and/or customer preference. To change readout from °F to °C or vise versa, use the following procedure:

1. With WEDGE-IT turned on, depress ⩓ and ⩔ on temperature control simultaneously for 4 seconds. Config. 9 will appear on display.

2. Hold down "set" button. "No" will appear on display. Change to yes with up or down arrow button and release "set" button.

3. Press ⩔ twice. C-F will appear. Hold down "Set" and select degrees C or F with ⩔ or ⩓.

4. Press ⩓ and ⩔ simultaneously for 2 seconds to return to operating mode.

B. **CHANGING OPERATING VOLTAGE OF WEDGE-IT UNIT.**

For you convenience, **PWT INTL** has factory set the operating voltage of each Wedge-It for either 110v or 220v operation depending on shipping destination and/or customer preference To change operating voltage from 110v to 220v or vise versa, use following procedure:

1. Access Electronic Box (see note on page 24 of this manual).

2. Switch Speed Readout Voltage Selection Switch, figure 10 (E30) and Main Operating Voltage Selection Switch (E6), to desired voltage (110v or 220v).

3. Replace Lid, Handle Brackets, Handle, etc.

C A U T I O N

Plugging a Wedge-It unit that has been set-up to run on 110v into a 220v power supply will result in serious damage to the unit!

TROUBLESHOOTING CHART

SYMPTOM	PROBLEM AND/OR REMEDY
No power supplied to "Wedge-It"	• Check power cord and power supply. • Check main fuses (Figure 10 (E1))
Wedge will not heat up	• Check temp. setting • If setting is correct and wedge still does not heat, contact PWT for advice
Wedge heats up to set point temp. and continues to increase infinitely (runaway Temp.)	• Turn temperature power switch off before temp. reaches 900°F (482°C) to avoid damage to wedge and/or elements. • Possible bad solid state relay • Possible bad temp. control • In either case, contact PWT
Temp. drops dramatically during welding and will not "catch-up"	• Possible bad heating element(s) • Possible bad relay or temp. control board. • In either case, contact PWT
Nip Rollers will not rotate (drive)	• Check motor on/off switch • Check motor speed setting • Check motor fuses (Figure 10 (E2))
Upper Nip Roller turns but Lower doesn't turn or Lower Nip Roller turns but Upper doesn't	• Check both Nip Roller set screws for tightness • Check drive chains & sprockets

NOTE

A detailed spare parts list is included with each **Wedge-It**. If you need an additional list, or would like pricing and availability information, contact:

PLASTIC WELDING TECHNOLOGIES -- 1-800-635-6693

Please call our 24 hour-a-day toll free service line if you are in need of assistance. *We are here to HELP!*

TEMPERATURE CONTROL SYSTEM ERROR CODES AND ACTIONS

Display	Probable Cause	Recommended Action
	Reversed thermocouple Connection + to –.	Change the sensor lead on Terminals 1 and 2.
	Sensor type mismatch or open RTD.	Go to In prompt, check selection (see p.22), or check RTD, replace as necessary.
	Sensor type mismatch.	Go to In prompt, check selection (see p.22).
	Open Thermocouple, bad connection, or broken wire.	Check the sensor, replace as necessary.
	Electrical noise.	Cycle power to system. See if error clears. Check system for electrical interference.
	Control is inoperable.	Check for line voltage at terminals #7 and #8.

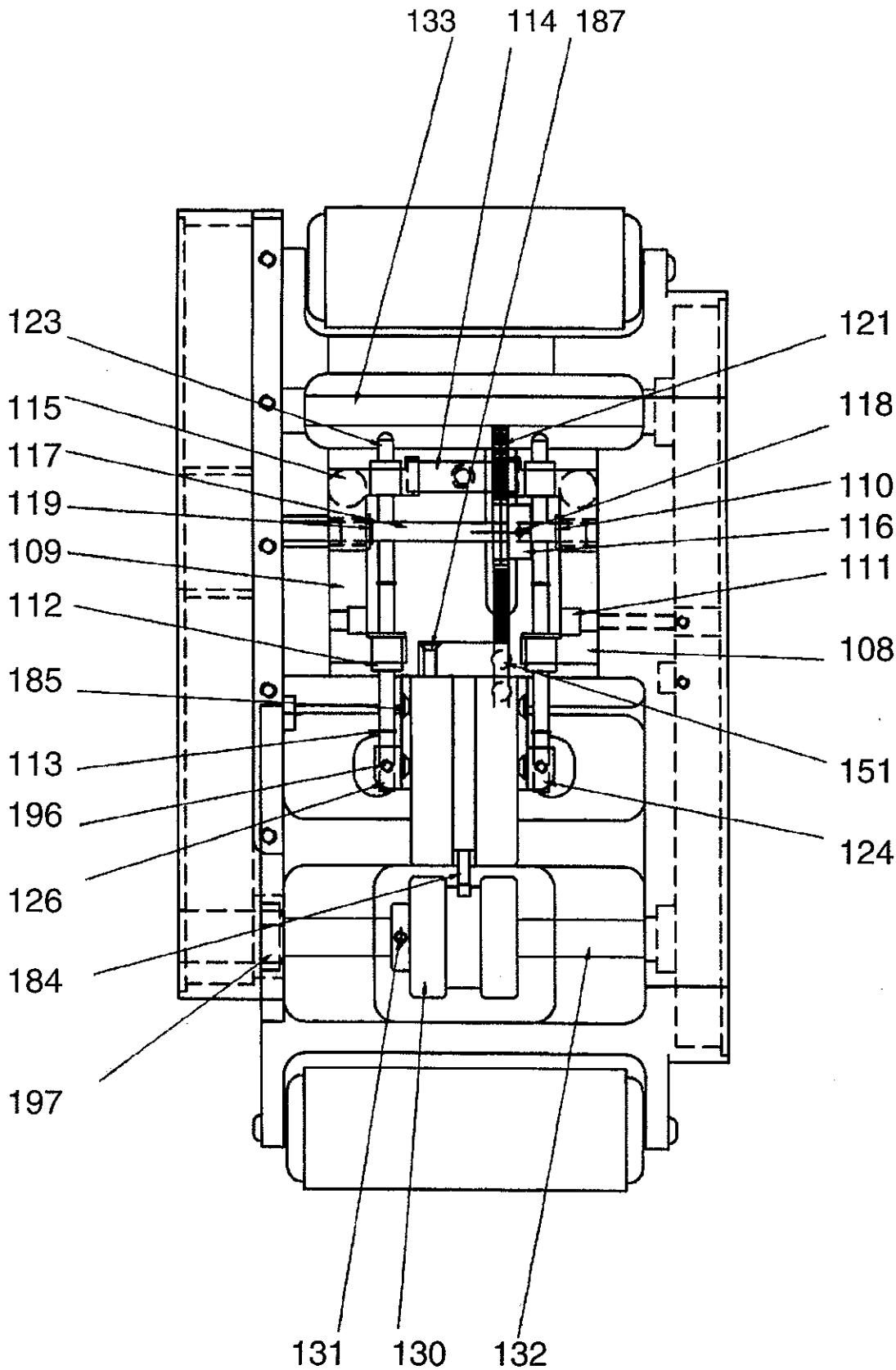


DIAGRAM A TOP VIEW

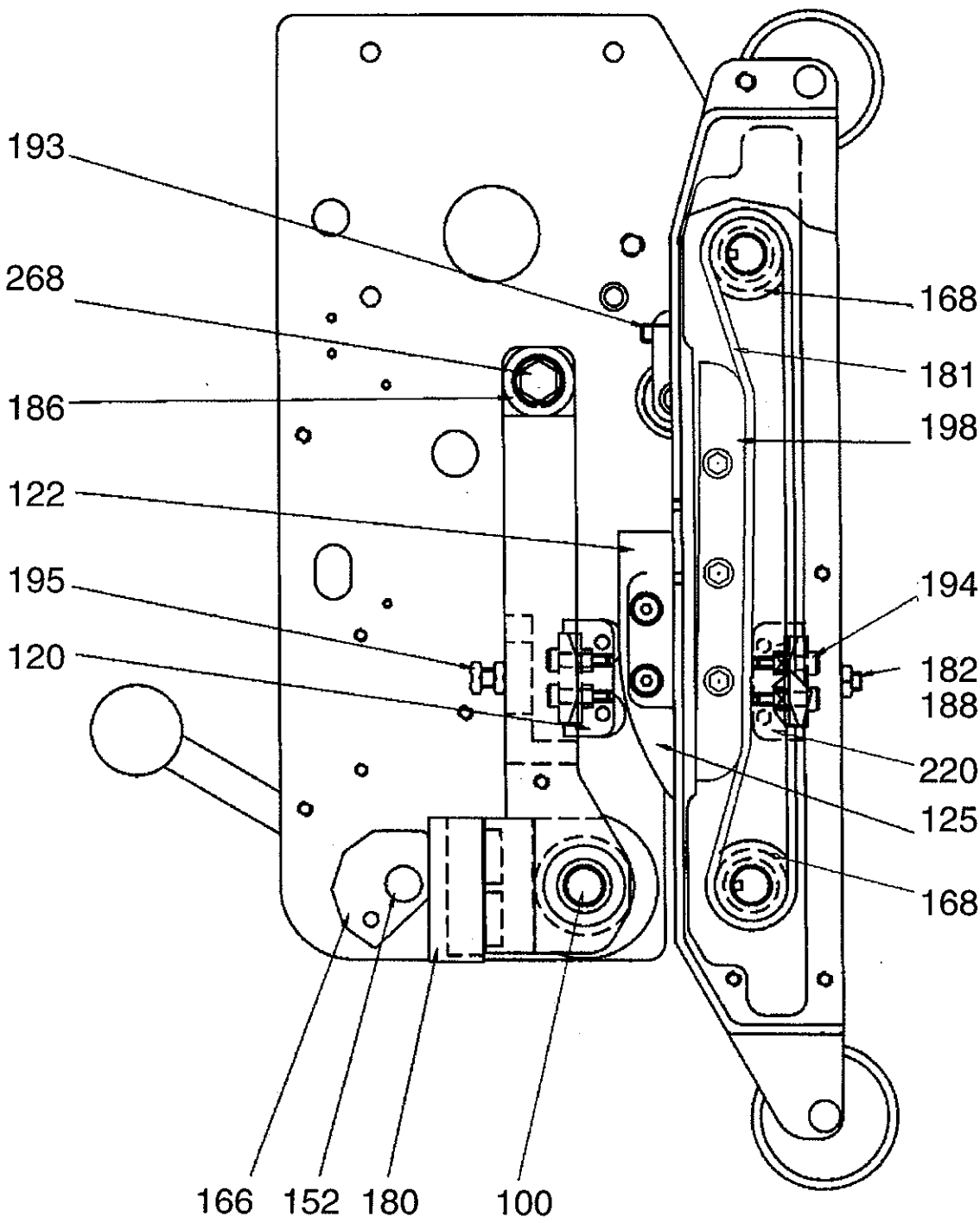


DIAGRAM B LEFT SIDE VIEW

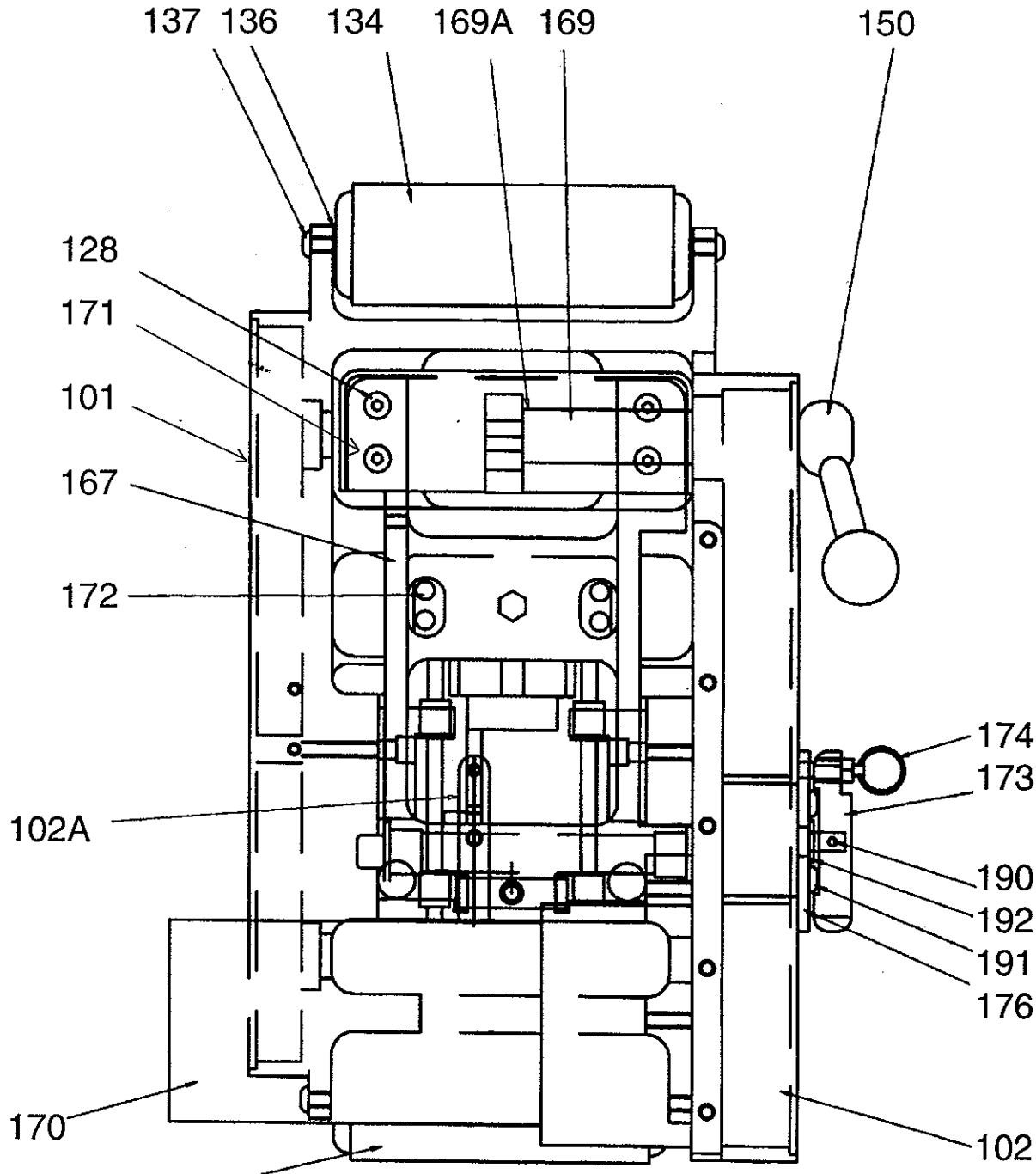


DIAGRAM C BOTTOM VIEW

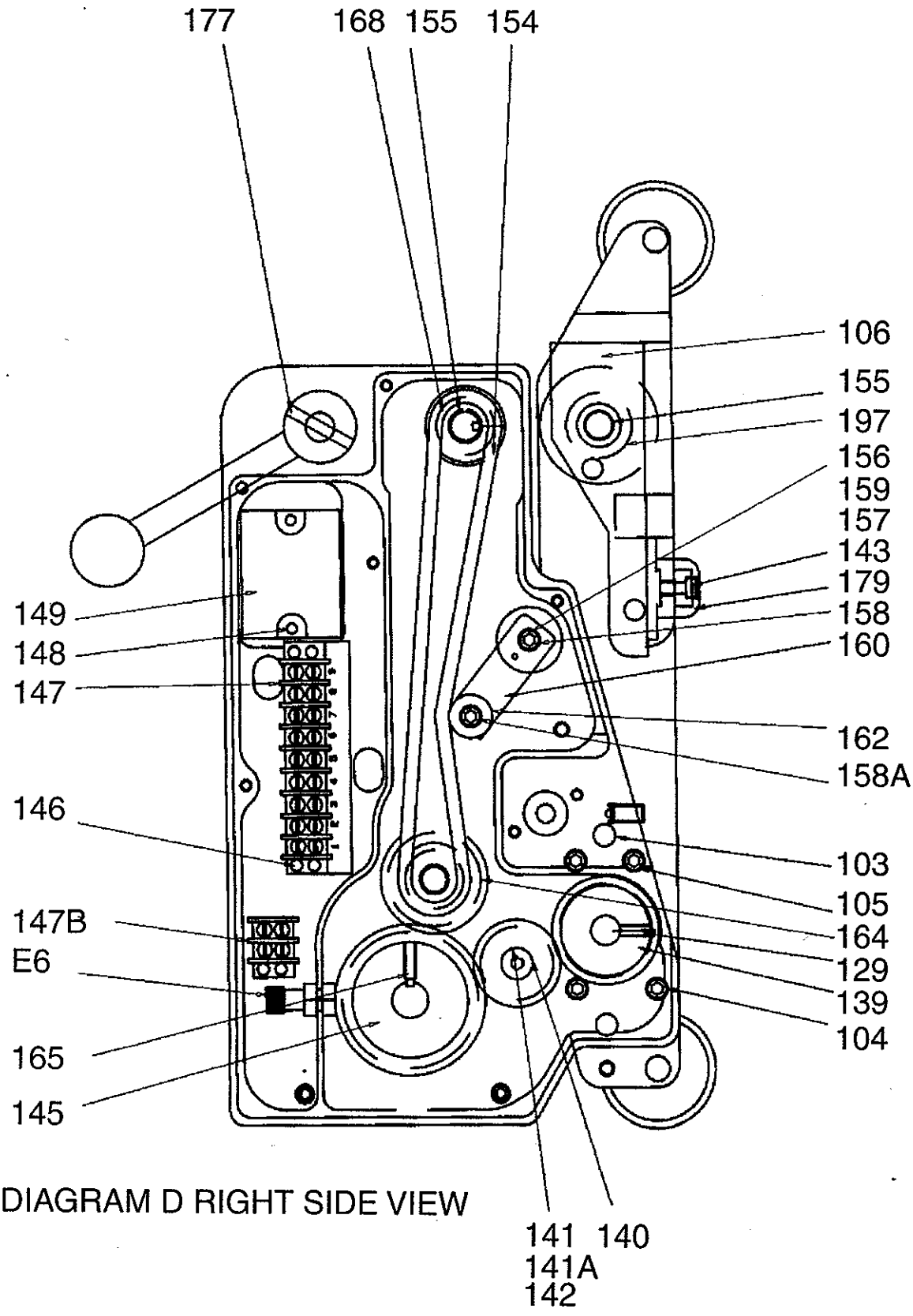


DIAGRAM D RIGHT SIDE VIEW

SPARE PARTS LIST FOR "WEDGE-IT" SERIES 2000

(See previous pages for detail drawings)

QTY:	PART#	DESCRIPTION:
101	CW101	MAIN FRAME
*	CW101.1	CONTOUR PLATE
102	CW102	SIDE PLATE
106	CW106.1	TEFLON SKID (NEW STYLE)
108	CW108	RIGHT PIVOT ARM
109	CW109	LEFT PIVOT ARM
111	CW111	SHOULDER BOLT (6x8x10)
110	CW110	PINION GEAR SHAFT BUSHING
112	CW112	OIL LIGHT LINEAR BUSHING
114	CW114	WEDGE PIVOT
115	CW115	PIVOT COMPRESSION SPRING
116	CW116	PINION GEAR
117	CW117	PINION GEAR SHAFT
220	CW120.2	LWR.CONTOUR ROLLER ASSY.
120	CW120.3	UPR. CONTOUR ROLLER ASSY.
121	CW121	RACK GEAR
122	CW122	WEDGE TAIL HOUSING
123	CW123	LINEAR SHAFT
124	CW124	RIGHT WEDGE MOUNT
126	CW126	LEFT WEDGE MOUNT
132	CW132	LOWER NIP SHAFT
133	CW133	DRIVE SHAFT
134	CW134	REAR TRAVEL ROLLER-W/CAPS
136	CW136	TRAVEL ROLLER BEARING
138	CW138	FRONT TRAVEL ROLLER-W/CAPS
139	CW139	DRIVE SHAFT DRIVE GEAR
140	CW140	IDLER GEAR
141	CW141	IDLER GEAR BEARING
141A	CW141A	GEAR SPROCKET COMP. BEARING
142	CW142	SHOULDER BOLT (8x10x20)
145	CW145	MOTOR DRIVE GEAR
147	CW147	TERMINAL BLOCK
147	CW147A	TERMINAL BLOCK MARKER
147B	CW147B	TERMINAL BLOCK-SRO
149	CW149	RELAY
150	CW150	CAM LEVER
152	CW152	CAM SHAFT
154	CW154-35	UPPER NIP CHAIN-52 LINK
156	CW156	IDLER TORSION SPRING
157	CW157	IDLER ARM BUSHING
158	CW158	SHOULDER BOLT (5x6x8)
158 A	CW158-35	SHOULDER BOLT (5x6x6)
159	CW159	IDLER SPRING MANDREL
160	CW160.1	IDLER SPRING ARM
162	CW162	IDLER BEARING
164	CW164-35	GEAR SPROCKET - COMPOSITE
166	CW166	CAM
167	CW167	NIP ARM

*NOT SHOWN ON DETAIL DRAWINGS

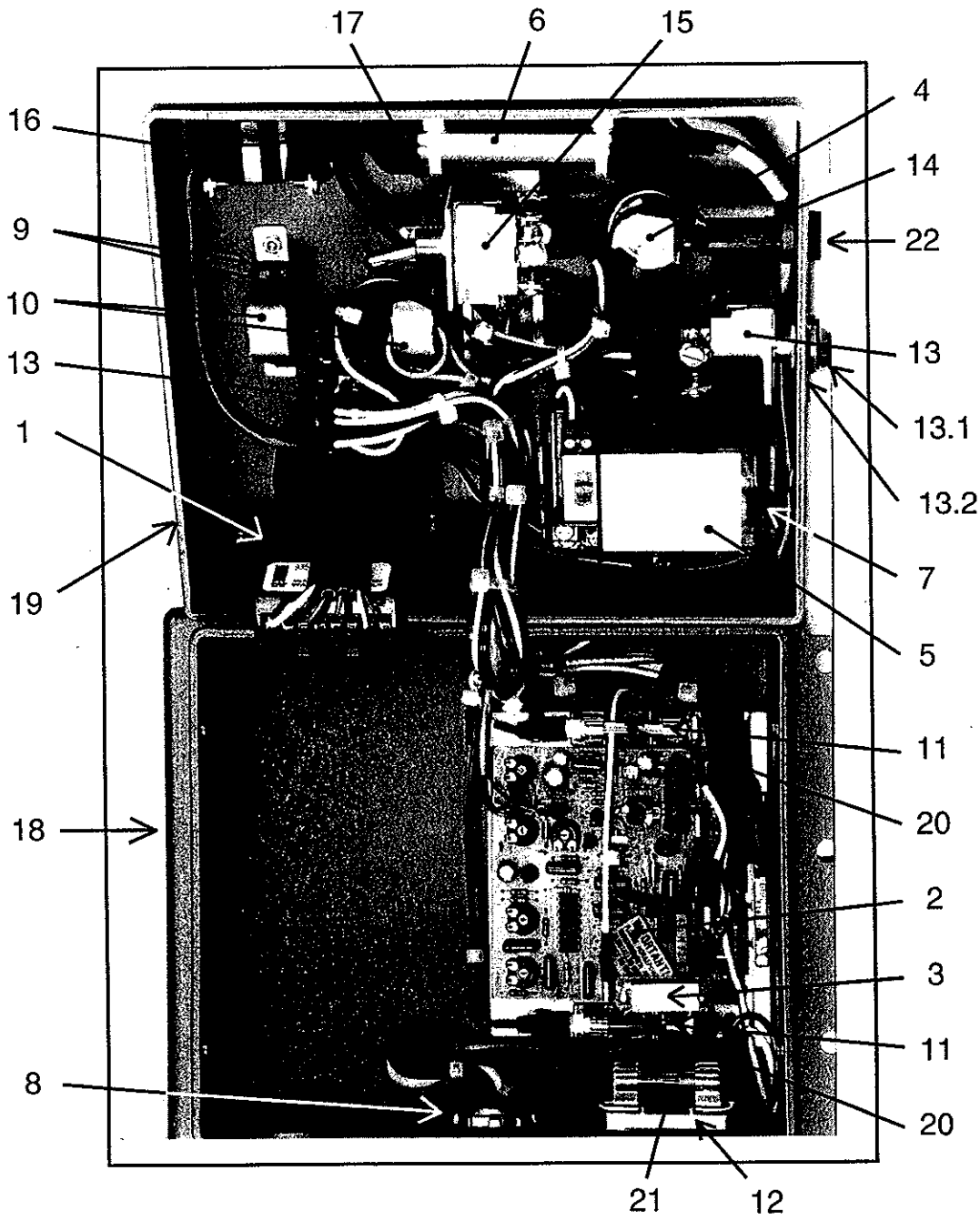
SPARE PARTS LIST FOR "WEDGE-IT" SERIES 2000

(See previous pages for detail drawings)

QTY:	PART#	DESCRIPTION:
168	CW168-35	UPPER/LOWER NIP SPROCKET
169	CW169	CAM SHAFT SLEEVE
170	CW170	WEDGE MOTOR
171	CW171	SHOULDER BOLT (6X8X25)
173	CW173	WEDGE HANDLE
174	CW174	HAND RETRACTABLE PLUNGER
176	CW176	DROP IN PLATE
179	CW179	CONTOUR ROLLER ADJ. COVER
180	CW180	PRESSURE PLATE
181	CW181-35	LOWER NIP CHAIN-57 LINK
186	CW186	UPPER NIP PIVOT BUSHING
192	CW192	DROP IN PLATE BUSHING
197	CW197	SHAFT BEARING
169A	CW199	CAM SHAFT BUSHING
26B	CW1001A	NIP PIVOT SHAFT
100	CW1002	UPPER NIP SHAFT
*	CW1007	HANDLE
*	CW1008	TOP HANDLE BRACKET
*	CW1009	REAR HANDLE BRACKET
*	CW1014	MATERIAL GUIDE, UPPER
*	CW1015	MATERIAL DEFLECTOR
*	CW1019	RUBBER BOOT
184	CW1020	AIR CHANNEL PIN
102A	CW1021	RACK GEAR SPRING
198	CW1023	CHAIN GUIDE
*	CW1027	NIP RETURN SPRING
128	CW1028	LOAD PLATE SPRING
E6	CWE6	MAGNETIC PICK-UP
*	CWE11.1	THERMOCOUPLE
178	536SS	CHAIN TENSION BEARING
*	CWE10B	102V/600W CARTRIDGE HEATER
*	CWE10C	120V/500W CARTRIDGE HEATER
125	CW125B	LONG SPLIT COPPER WEDGE
125	CW125PVC/S	SOLID STAINLESS PVC WEDGE
125	CW125PVC/SP	SPLIT STAINLESS PVC WEDGE
130	CW130	SPLIT STEEL NIP ROLLER
*	CW130B	SPLIT RUBBER NIP ROLLER
*	CW130PVC	SOLID RUBBER NIP ROLLER-PVC
*	CW1016A	OUTRIGGERS
*	CW1012B	SIDE FRAME CVR. PLATE-BLUE
*	CW1012G	SIDE FRAME CVR. PLATE-GREEN
*	CW1012R	SIDE FRAME CVR. PLATE-RED
*	CW1013B	LOWER CHAIN COVER-BLUE
*	CW1013G	LOWER CHAIN COVER-GREEN
*	CW1013R	LOWER CHAIN COVER-RED
*	MS14W47	110V PLUG END
*	MS1006	220V/20A PLUG END
*	CWCASE	WEDGE-IT CASE

*NOT SHOWN ON DETAIL DRAWINGS

ELECTRICAL COMPONENTS DETAIL (IDENTIFICATION)



ELECTRICAL COMPONENTS LIST FOR "WEDGE-IT" SERIES 2000

(See page 32 for photo)

REF #	ORDER #	DESCRIPTION
1	CWE3.1	935 TEMP.CONTROLLER
2	CWE5	MOTOR CONTROL BOARD
3	CWE5H	.1 HP RESISTOR
4	CWE5J	MOTOR CONTROL POT.
5	CWE7	POWER SUPPLY
6	CWE8	PRE-AMPLIFIER
7	CWE9	SPEED READOUT
8	CWE13	CABLE CLAMP 1/2" 90 DEG.
9	CWE14.1	RED L.E.D. W/TRANSFORMER
10	CWE14.2	TRANSFORMER BRACKET
11	CWE16	FUSE HOLDER-SINGLE
12	CWE16A	FUSE HOLDER-DUAL
13	CWE17	TOGGLE SWITCH-DPST
13.1	CWE17A	TOGGLE SWITCH BOOT
13.2	CWE17B	ON/OFF PLATE
14	1CWE20	FUSE HOLDER-PANEL MOUNT
15	CWE21	TOGGLE SWITCH-DPDT
*	CWE22	MOTOR CONTROL POT.KNOB
*	CWE22A	KNOB LOCK
16	CWE23	SONALERT ALARM
17	CW1004	TOGGLE SWITCH BRACKET
*	CW1010	CONTROL GUARD BRACKETS
18	CW1005B	ELEC.BOX CHASSIS-BLUE
19	CW1006B.1	ELEC.BOX COVER-BLUE
20	N/S	FUSE, MOTOR, 4 AMP., 250V
21	N/S	FUSE, LINE VOLTAGE, 15 AMP., 250V
22	N/S	FUSE, MOTOR, 3 AMP.

*NOT SHOWN ON PHOTO

METRIC FASTENERS FOR "WEDGE-IT" SERIES 2000

(See fold-out drawings)

DRAWING#	REQ'D	DESCRIPTION	ITEM USE
103	2	DOWEL PIN .375x.87 LONG	SIDE PLATE TO FRAME
104	2	SHCS M6x16MM LONG	SIDE PLATE TO FRAME
105	2	SHCS M6x50MM LONG	SIDE PLATE TO FRAME
107	19	BHCS M5x10MM LONG	SIDE COVERS ETC.
110	3	PINION GEAR SHAFT BUSHING	
111	2	SHLD.L SCREW M6x8x10MM LONG	WEDGE CARRIAGE PIVOT
113	8	RETAINING RING 5100-75	
118	1	SET SCREW M5x8MM LONG	PINION GEAR
119	1	SNAP RING 5/16"	PINION SHAFT
127	4	SET SCREW M5x6.35MM LONG	ONLY FOR OLDER VERSION
128	4	SPRING .70 OD.x.53Dx1.00 LONG	LOAD PLATE
129	2	SET SCREW M6x15.87MM LONG	MOTOR GEAR, LOWER DRIVE GEAR
131	2	SET SCREW M6x9.52MM LONG	NIP ROLLERS, OUTRIGGERS
137	4	BHCS M6x15.87MM LONG	TRAVEL ROLLERS
142	1	SHLD. SCREW M6x8x25MM LONG	IDLER GEAR
143	3	SHCS M6x22.22MM LONG	MOTOR MOUNT TO FRAME
144	1	SHCS M6x15.87MM LONG	MOTOR MOUNT TO FRAME
146	2	PHP SCREW M3x12MM LONG	TERMINAL BLOCK
148	2	PHP SCREW M4x12.70MM LONG	SOLID STATE RELAY
151	1	FHSCS M3x10MM LONG	RACK GEAR
155	3	RETAINING RING TRUARO 5100-50	NIP DRIVE SHAFTS
157	1	BUSHING BUNTING FF 312	IDLER ARM
158	2	SHLD. SCREW M5x6x8xMM LONG	IDLER ARM
165	1	.125 SQ.x.50 LONG KEYWAY	MOTOR DRIVE GEAR
171	4	SHLD. SCREW M6x8x25MM LONG	LOAD PLATE
172	4	SHCS M4X20MM LONG	UPPER CONTOUR ROLLER
175	1	CABLE HOLD DOWN 8N2596	
177	1	ROLL PIN 3/16" OD.x1" LONG	CAM LEVER
178	1	WASHER .50 OD.X.25IDx.06 THICK	GEAR SPROCKET COMPOSITE
182	1	SET SCREW M6x20MM LONG	LOWER CONTOUR ROLLER ADJ.
185	4	FHSCS M5x12MM LONG	WEDGE MOUNT
186	2	BRONZE BUSHING FB 1012-5	NIP ARM

METRIC FASTENERS FOR "WEDGE-IT" SERIES 2000 (CONTINUED)

187	4	FHSCS M4x20MM LONG	TAIL HOUSING
188	2	NUT M6xSTANDARD THICKNESS	UPPER & LOWER CONTOUR ADJ.
190	1	SHCS M4x20MM LONG	WEDGE HANDLE
191	2	BRONZE BUSHING FB-56-3	DROP-IN PLATE
192	1	BRONZE BUSHING FB-56-3	DROP-IN PLATE
193	1	SHCS M6x40MM LONG	WEDGE CARRIAGE ADJ.
194	4	SHLD. SCREW M4x5x14MM LONG	LOWER CONTOUR ROLLER
195	1	HEX BOLT M6x25MM LONG	UPPER CONTOUR ROLLER ADJ
196	2	SET SCREW M6x6.35MM LONG	WEDGE MOUNTS (EARS)
*	1	BHCS M5x8MM LONG	RACK GEAR TENSION SPRING
*	1	M4x20MMSHCS	DROP-IN HANDLE
*	1	M4 NYLOCK NUT	DROP-IN HANDLE

*ITEMS NOT SHOWN ON DETAIL DRAWINGS

Barnes
Plastic Welding Equipment Ltd.
Unit 11, Hamilton Street, Blackburn, Lancashire, BB2 4AJ
Tel: +44 (0) 1254 660910 Fax: +44 (0) 1254 660915
E-mail: info@plasticweldingequipment.co.uk
Website: www.plasticweldingequipment.co.uk

WEDGE-IT
HOT WEDGE WELDER

Advanced Software Map

Operations Menu

	°F	°C
[redacted]	750	400
Aut	NO	NO
[redacted]	-100	-38
[redacted]	100	38
PID	(NO - YES TO ACCESS MENU)	
CnF9	(NO - YES TO ACCESS MENU)	

To Access Menus:

IN --To CnF9 then clear TAG, choose deg. F or C -- OUT

IN --Operation Menu then P.I.D. Menu -- OUT

IN --CnF9 Menu - Enter Set Points, Redo TAG-- OUT

Check Set Points

PID Menu

	°F	°C
Pb h	30	17
Ct h	.4	.4
It	1.0	1.0
dE	.05	.05
CAL	0	0

** See reverse side for the settings for different styles and wattage of wedges. The settings to the left apply to the CW125C 800 Watt copper wedge only.

Configuration Menu

	°F	°C
[redacted] Input Type	J	
[redacted] Celsius/Fahrenheit	F	C
[redacted] Range Low	32	0
[redacted] Range High	850	455
Ot 1 Output 1 Function	HEAT	
Ot 2 Output 2 Function	ALT7	
[redacted] Display Default	AC	
[redacted] Alarm Type	dEno	
[redacted] Alarm Hysteresis	1	
[redacted] Alarm Latch	NO	
[redacted] Alarm Silencing	YES	
[redacted] Input Failure Mode	bPLS	
SLOC Set Point Lockout	NO	
tAG Lockout Tag	P--A	

Errors & Troubleshooting

Display	Probable Cause	Recommended Action
[redacted]	Reversed thermocouple connection + to -.	Change the sensor leads on Terminals 1 and 2
[redacted]	Sensor type mismatch or open RTD.	Go to "In" prompt, check selection or check RTD, replace as necessary
[redacted]	Sensor type mismatch.	Go to "In" prompt, check selection.
[redacted]	Open Thermocouple, bad connection, or broken wire.	Check the sensor, replace as necessary.
[redacted]	Electrical noise.	Cycle power to system. See if error clears. Check system for electrical interference.
[redacted]	Control is inoperable.	Check the line voltage at terminals 7 and 8.

935 Wedge-It Settings

CW125
Short Split Copper - 2 X 550

Pbh -
Cth -
It -
dE -
CAL -
ALO - (-100)
Ahl - (100)

CW125B
Long Split Copper - 2 X 600

Pbh - 20
Cth - .3
It - .75
dE - 0.0
CAL - 0
ALO - (-100)
Ahl - (100)

CW125PVC/SO
Solid Stainless PVC - 2 X 550

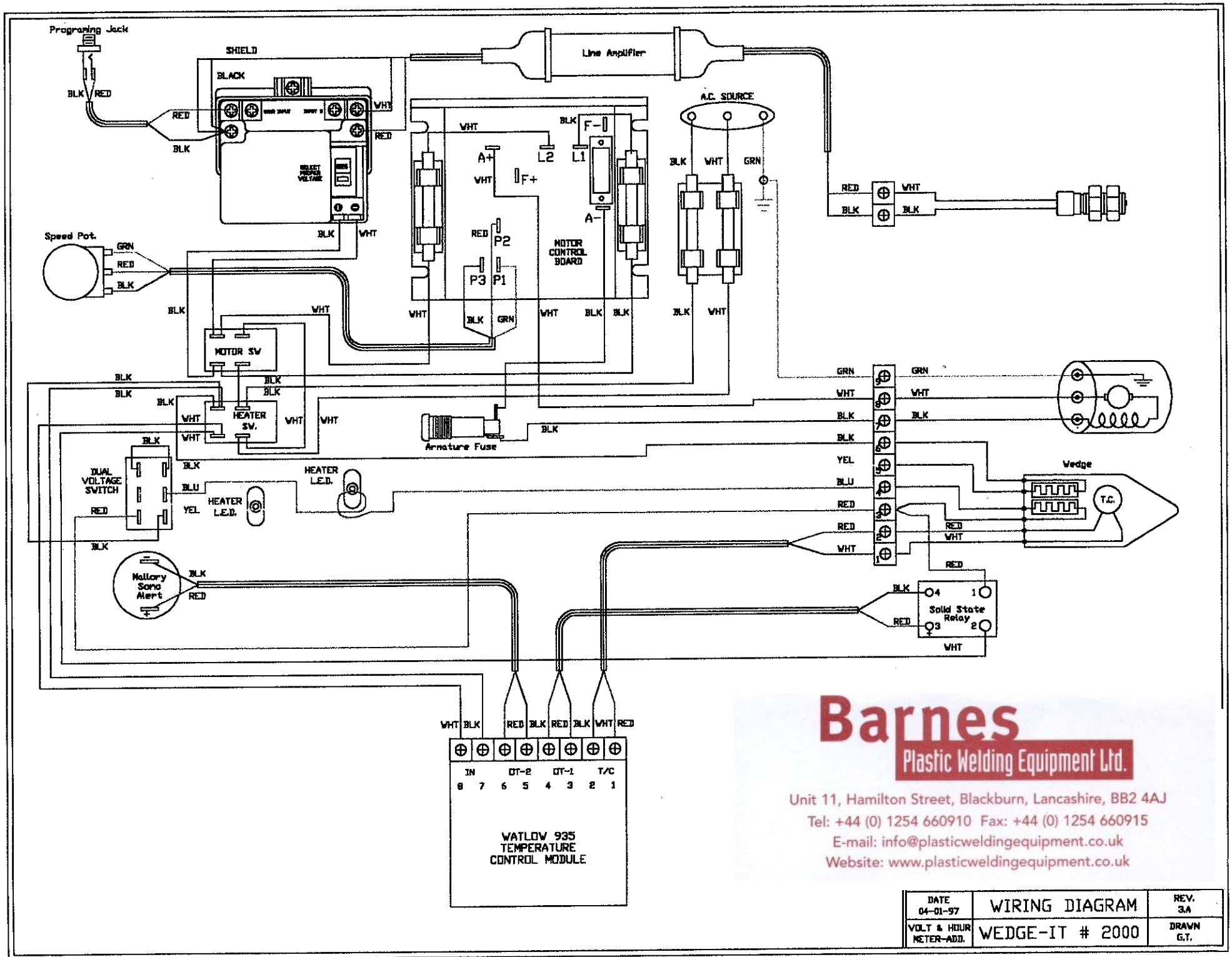
Pbh - 20
Cth - .3
It - 2.18
dE - .09
CAL - 0
ALO - (-100)
Ahl - (100)

CW125PVC/SP
Split Stainless PVC - 2 X 550

Pbh - 20
Cth - .3
It - 2.18
dE - .09
CAL - 0
ALO - (-100)
Ahl - (100)

CW125C
Long Split Copper - 2 X 800

Pbh - 30
Cth - .4
It - 1.0
dE - .05
CAL - 0
ALO - (-100)
Ahl - (100)



Barnes
Plastic Welding Equipment Ltd.
Unit 11, Hamilton Street, Blackburn, Lancashire, BB2 4AJ
Tel: +44 (0) 1254 660910 Fax: +44 (0) 1254 660915
E-mail: info@plasticweldingequipment.co.uk
Website: www.plasticweldingequipment.co.uk

DATE 04-01-97	WIRING DIAGRAM	REV. 3.A
VOLT & HOUR METER-ADD.	WEDGE-IT # 2000	DRAWN G.T.

WIRING DIAGRAM FOR WEDGE-IT SERIES 2000