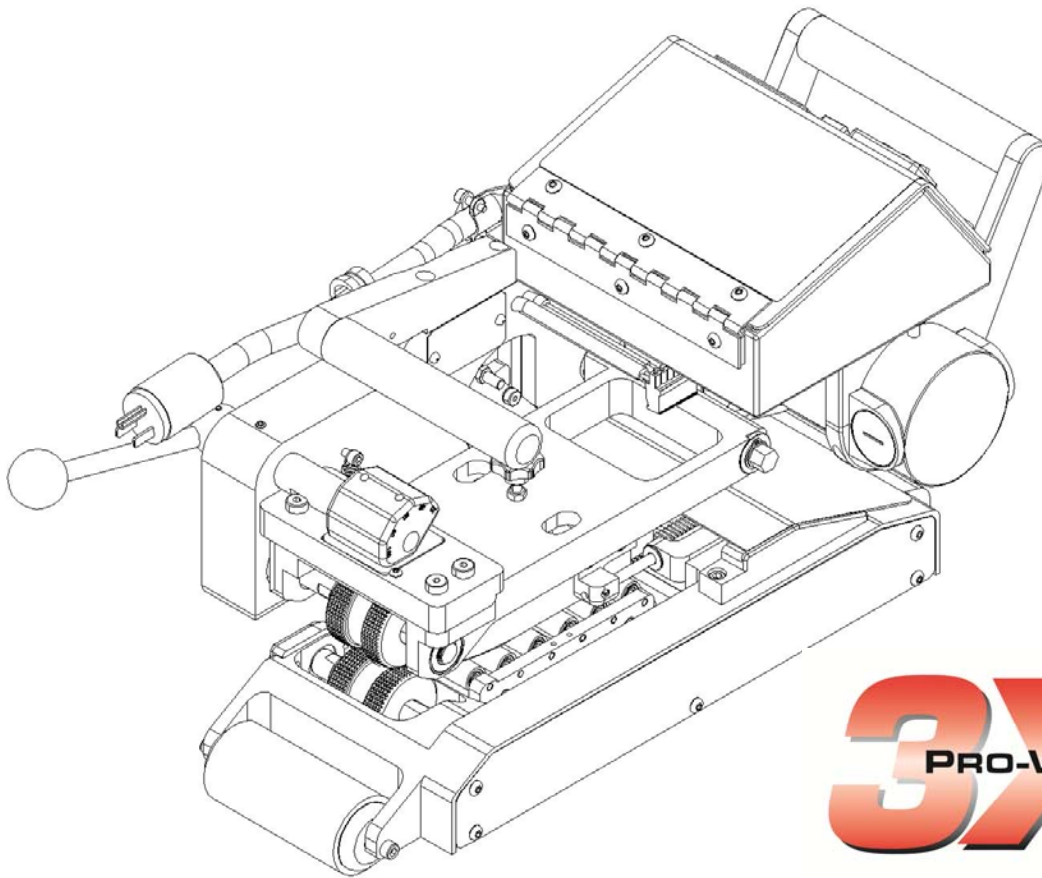




**Model: Pro-Wedge 3XL™**



**3XL**  
PRO-WEDGE

**Part Number: 500-0100/3XL/A**  
**Geo-membrane Wedge Welder**

## **Operator's Manual**

**Revision: A**

**Scope of Manual:** This manual contains procedures for safety, general unpacking, installation, setup and operation of your DEMTECH Services, Inc. Pro-Wedge 3XL™.

**DEMTECH Services, Inc.**

**Ship to address: 6414 Capitol Avenue**

**Diamond Springs, CA 95619 U.S.A.**

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## ***Safety Precautions***

Safety precautions for operating personnel and equipment:

**WARNING 1:** Operating personnel should perform only the procedures described and recommended in this manual. Only qualified service personnel familiar with electrical shock hazards and mechanical entanglement hazards present inside the equipment should perform disassembly or corrective maintenance of the equipment.

**WARNING 2:** To avoid shock hazards, the equipment must be grounded with an adequate earth ground in accordance with local and national electrical codes.

**WARNING 3:** The locations of potentially dangerous voltages and other hazards are identified and labeled on the equipment. Be careful to observe these warnings when installing, operating, maintaining or servicing the equipment. Observe all warnings in this manual.

**WARNING 4:** Make sure to turn off the equipment power and remove the ~ (AC) line cord from the power outlet before attempting to service the equipment. Do not perform service unless you are qualified and trained to do so.

**WARNING 5:** This product is intended for operator attended operation only. This product should never be left unattended at any time while it is plugged in and the power is turned on.

**WARNING 6:** This product is intended for operation in dry environments only. Higher humidity environments should be kept non-condensing by avoiding large temperature swings.

**CAUTION 1:** Observe the precautions given on the equipment and within this manual to prevent damage to the equipment.

**CAUTION 2:** Before connecting the equipment to its electrical source, check that the ~ (AC) voltage, frequency and current to be supplied to the equipment are correct and match the serial plate affixed to the welder.

**CAUTION 3:** Use proper handling and packaging procedures for Electro-Static Discharge (ESD) sensitive circuit boards. Assume that all circuit boards are sensitive to potential damage from ESD.

**CAUTION 4:** Unauthorized personnel should not remove from the equipment those panels that are provided for protection and/or require a tool to remove.

## 1. General Safety & Maintenance Information

The DEMTECH Services, Inc. Pro-Wedge 3XL™ Geo-Membrane Wedge Welder, hereinafter referred to as the Pro-Wedge 3XL or welder, is a high voltage piece of equipment. Always disconnect the power source before performing any service and/or maintenance procedures on the welder. Never pull or carry the welder by the power cord or electrical connection. Always maintain slack in any extension cords connected to the welder while in operation to avoid damage to the power connections. Keep hands, fingers and other body parts well clear of the heating element and related mounting components at all times. Always use the Pro-Wedge 3XL in a well ventilated area when welding materials such as PVC which can produce toxic fumes. Do not inhale toxic fumes when present. Do not operate near flammable materials of any kind. Do not apply flammable materials, including liquids, to seam area. Allow welder to cool completely, at least 15 minutes, before returning to the shipping/storage case. Protect welder from exposure to rain or standing water. Never attempt to weld in standing water.

### *1.1. Intended Use*

The Pro-Wedge 3XL is intended as professional use equipment and not intended for sale to the general public. The total input power of the Pro-Wedge 3XL is specified as greater than 1 kW although in lightly loaded conditions the actual power may be less than 1 kW.

The Pro-Wedge 3XL has been manufactured utilizing the latest technology and current safety standards and regulations. However, improper use or abuse may lead to hazardous conditions for the user or other personnel or cause damage to the welder.

Always keep this manual with the welder at or near the location where the Pro-Wedge 3XL is being used for quick and easy reference.

The technician assigned to operate this welder must have read through and become familiar with this manual, particularly all safety information, before using the Pro-Wedge 3XL.

No changes and/or modifications should be made to the Pro-Wedge 3XL especially as it relates to safety.

## ***1.2. Maintenance***

Maintenance, inspection and adjustment of the Pro-Wedge 3XL may only be carried out by qualified personnel. Before removing or installing spare parts or performing any other repair operations to the welder consult DEMTECH Services, Inc. or your authorized DEMTECH service center for advice on proper procedures. This will help insure a safe and successful outcome. Always make sure all screw connections are tight before attempting to operate the welder after maintenance and/or repair procedures have been performed. Make sure all covers, guards and other safety devices have been fully reinstalled before use.

## 2. General Product Data

The DEMTECH Services, Inc. Pro-Wedge 3XL Geo-Membrane Wedge Welder, hereinafter referred to as the Pro-Wedge 3XL or welder, dramatically speeds the welding of plastic sheet materials through the use of its wedge heating elements and multiple pressure roller design. These features combined with state-of-the-art electrical and electronics controls and an easy to use User Interface (UI) makes performing welding tasks very efficient. The semi-automated operation of the welder eliminates cumbersome setup and speeds up processing time while providing a very rugged and reliable welder. The enclosed controller sub-system is easy to maintain. You can be assured the Pro-Wedge 3XL has been built using the highest quality materials available which include Billet Aluminum and ground and hardened steel. DEMTECH Services, Inc. strives to make our welders easy to use and built to last. Just like all other DEMTECH Services, Inc. products, even a first time user will be productive in minutes.

## 3. Operating Environment

The Pro-Wedge 3XL is intended to be operated within the following environmental conditions. Operating the welder in environments which are less than or greater than nominal can adversely affect performance.

Temperature .....+65 to +90°F; 74°F Nominal (+18 to +32°C; 23°C Nom)

Humidity (non-condensing).....0 to 90%; 45% Nominal

Elevation .....0 to 7,000 Ft; 2,000 Ft Nom (0 to 2,134 meters; 610 meters Nom)

## 4. Site Preparation

Before proceeding with the unpacking and installation instructions in the following section(s) make sure the work site is prepared and ready to install the Pro-Wedge 3XL. You should have an adequate power source capable of provided clean Alternating Current (AC) power at 220-240 Volts at the rated current. Refer to the welder serial plate affixed to the inside side of the Side Frame near the Upper Nip Arm for the voltage and current requirements of your welder. The install area should be clean, dry and free of debris and provide adequate working area to allow efficient and effective use of the welder.

Follow the detailed unpacking and installation instructions carefully.

## 5. Unpacking & Installation Instructions

This section contains instructions for the unpacking, placement and installation of the Pro-Wedge 3XL. Carefully review the following information, sub-sections and each procedure before beginning unpacking and installation of the welder.

The Pro-Wedge 3XL comes complete in a sturdy, reusable portable shipping/storage case. The custom foam inserts protect the welder from damage during shipping and storage and should always be left inside the case at all times. When the welder is out of the case make sure to keep the lid closed to avoid dirt, dust, debris and/or water from getting inside. The welder must be removed from the case and placed onto the work site for use. When not in use the Pro-Wedge 3XL should always be stored in the shipping/storage case to protect it from the elements and potential damage.

**Note: The welder illustrated in this manual shows ALL available features for the Pro-Wedge 3XL, therefore, your welder may vary slightly in appearance from that depicted.**

### ***5.1. Unpacking and Preparation***

- a. Before opening the shipping/storage case for the first time and unpacking the welder, inspect the outside of the case thoroughly for any signs of mishandling or damage during shipping. Report any damage to the shipping carrier immediately and **do not proceed with unpacking**. You should consult your administration concerning claims for shipping damage. Please notify DEMTECH Services, Inc. or your authorized DEMTECH distributor where the product was purchased in the event of any shipping damage.
- b. Unlatch and open the shipping/storage case lid and inspect inside the case and equipment thoroughly for any signs of mishandling or damage during shipping. Report any damage to the shipping carrier immediately and **do not proceed with unpacking**. You should consult your administration concerning claims for shipping damage. Please notify DEMTECH Services, Inc. or your authorized DEMTECH distributor where the product was purchased in the event of any shipping damage.
- c. Make note of the orientation of the equipment and packing foam inserts inside the shipping case to facilitate any repackaging requirements in the future.
- d. To avoid injury and/or damage to the welder, be sure to use adequate care when lifting, removing or replacing the welder into the shipping/storage case.
- e. The welder must be removed from the shipping/storage case and placed in an appropriate location suitable for the welding you intend to perform.

## 5.2. *Electrical Plug Connection*

- a. The Pro-Wedge 3XL is supplied with a power cord permanently connected to the front of the welder through a right-angle strain relief. Depending on the intended country of use the plug at the other end of the power cord will vary but in all cases must be rated for the voltage and current requirements of the welder. It is highly recommended to use a twist-lock or twist-to-connect type plug with a permanent ground connection. Refer to the welder serial plate affixed to the inside side of the Side Frame near the Upper Nip Arm for the voltage and current requirements of the welder. Connect the power cord and plug to an appropriate electrical outlet supplying the proper ~(AC) power. In all cases connection should only be made to a circuit with a maximum 20A breaker rating.
- b. Verify basic operation of the Pro-Wedge 3XL before proceeding with the remainder of the installation. The welder utilizes a rocker power switch on the main controller panel of the welder. Toggle the switch left to turn the welder ON. Toggle the switch right to turn the welder OFF. Toggle the main power switch to the ON position.
- c. The various control LED/LCD displays should turn on. This procedure verifies the Pro-Wedge 3XL is receiving suitable power and the controller is functioning properly. If the welder powers-up as described you are now ready to operate the welder. If the welder does not power-up as described please contact DEMTECH Services, Inc. or your authorized DEMTECH service center.
- d. The operating voltage requirement for the Pro-Wedge 3XL is 220-240 Volts AC only. This operating voltage range refers to the actual voltage as measured at the welder power cord input plug after any extension cords while operating the welder under load. **The following procedure should only be performed by a qualified electrician.** To measure the voltage under load connect the welder to any extension cord(s) used and the generator supplying power. Start the generator and turn both welder power switches to the ON position. While the Number 1 indicator light on the temperature controller is illuminated and the wedge is heating, separate the plug at the end of the welder power cord just enough to expose the prongs but without disconnecting the power. Using a digital volt meter measure the voltage under load between the prongs. The measured value must be between 220 and 240 Volts AC.

### ***5.3. Electrical Extension Cords***

The Pro-Wedge 3XL is capable of welding very long seams. This ability may warrant the use of electrical extension cords. It is imperative to take into account the length and wire gauge of any extension cord used will ultimately determine the actual operating voltage of the welder. Extension cords should be a minimum of 12 gauge and regardless of overall length should have a minimum number of plug connections. Table 1 lists extension cord gauge and length recommendations.

<b>Conductor Size</b>	<u>3-Wire</u> 10 AWG (5.3 mm <sup>2</sup> )	<u>3-Wire</u> 12 AWG (3.3 mm <sup>2</sup> )
	500 feet (152 meters)	250 (76 meters)
<b>Length</b>		

**Table 1 Maximum recommended extension cord length.**

### ***5.4. Generator Recommendations***

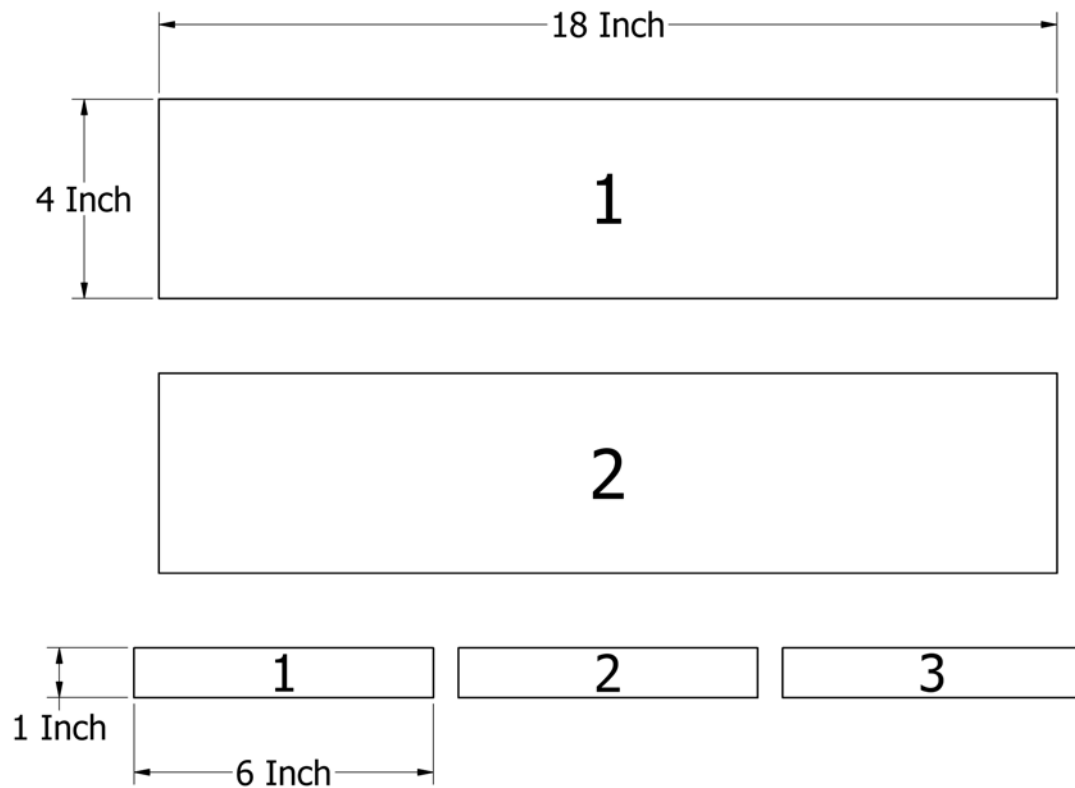
When operating the Pro-Wedge 3XL using house power from a building circuit use the appropriate plug and power cord configuration. When in-field generators are used they must be rated for a minimum of 5000 watts, however a rating of 6500 watts or more is highly recommended in order to obtain the best welder performance and temperature control. As a rule higher wattage generators provide better performance of the welder. Keep in mind the length and wire gauge of any extension cord being used combined with the capacity of the generator ultimately determines the operating voltage and therefore performance of the welder.

## 6. Welder Set-Up

The initial set-up of the Pro-Wedge 3XL is by far the most critical aspect for proper operation of the welder. Proper set-up not only leads to quality welding results but also minimizes wear and tear on the welder itself. Adjusting the welder too tight can result in excessive wear on drive-train parts such as gears, chains, sprockets, etc.

### *6.1. Set-Up Preparation*

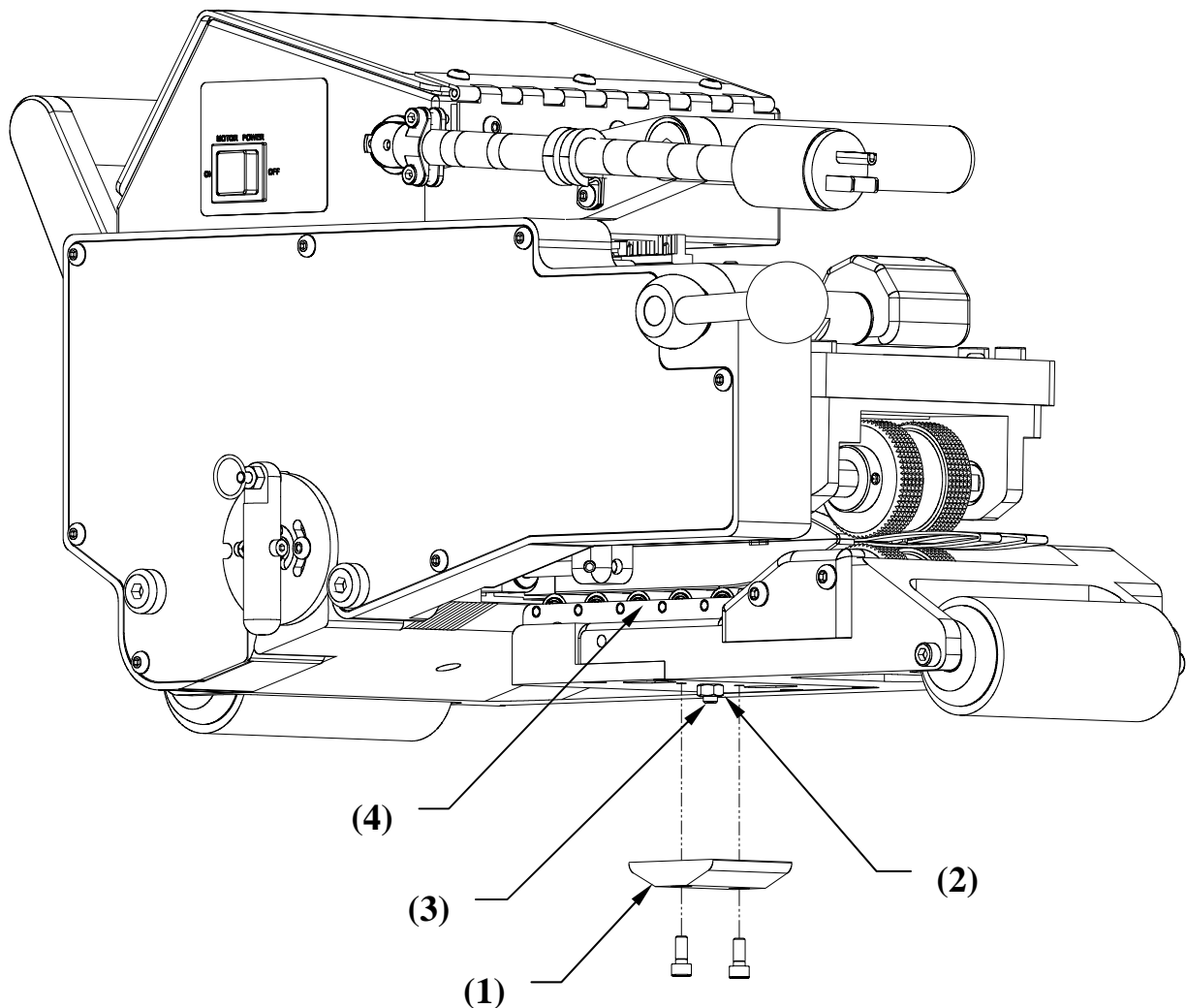
The procedures described in the following sections cover the initial set-up required for various mil thickness materials and tolerances. These adjustments must be made while the wedge heater is at room temperature. Refer to Figures 1 through 7 on the following pages while performing these procedures. Referring to Diagram 1, use the actual material you intend to weld, or if this is not possible use material that is the same mil thickness, cut two pieces approximately 4 inches wide by 18 inches long and three smaller pieces approximately 1/2 inch wide by 6 inches long. These five pieces of material will be used as "gauges" for setting three adjustments on the Pro-Wedge 3XL.



**Diagram 1**

## 6.2. Adjustment #1: Wedge Centering

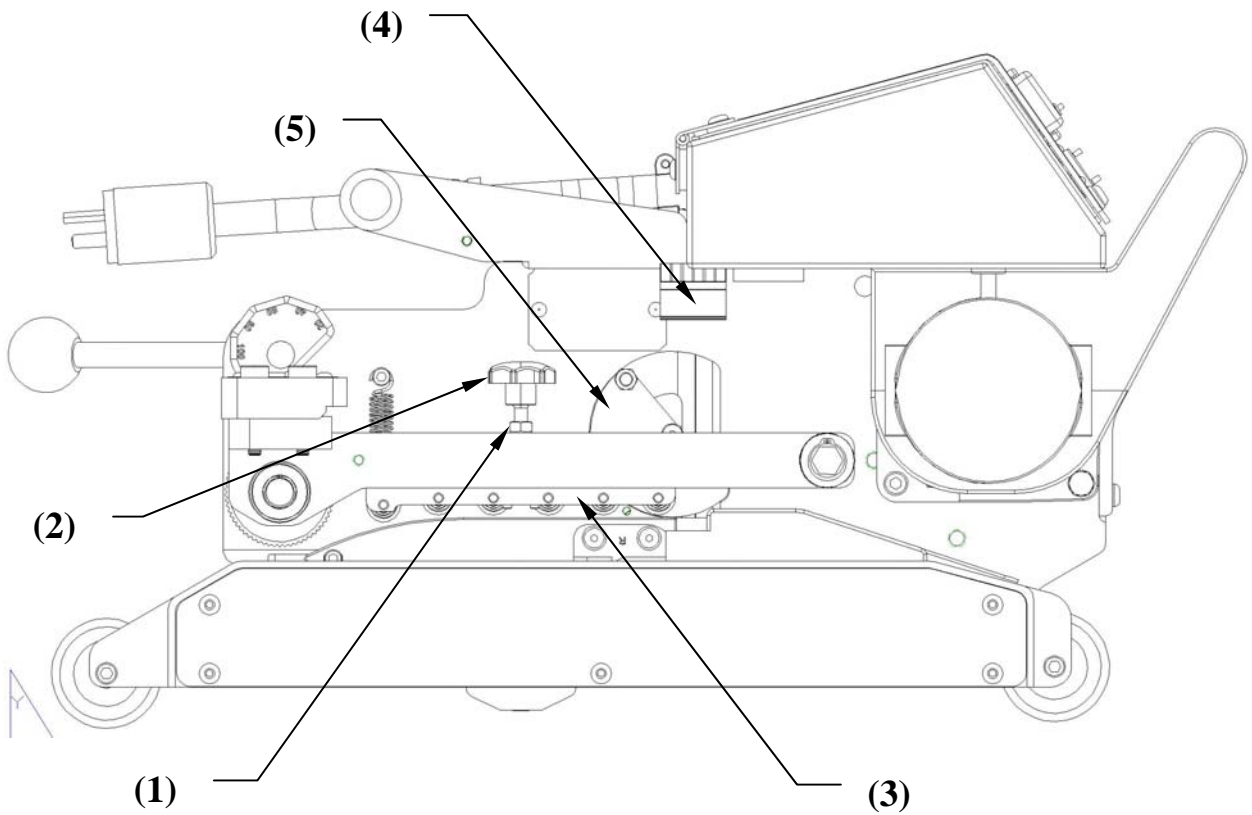
- a. Adjust the upper and lower contour rollers away from the wedge so they will not interfere with the wedge centering adjustment. Using a 4mm hex wrench remove the Lower Contour Roller Adjustment Cover (1) (see Figure 1) to expose the Adjustment Screw. Using a 10mm box end wrench loosen the Locknut (2) (see Figure 1). Using a 3mm hex wrench turn the Adjustment Screw (3) (see Figure 1) counter-clockwise, lowering the Lower Contour Roller Assembly (4) (see Figure 1) away from the Wedge.



**Figure 1**

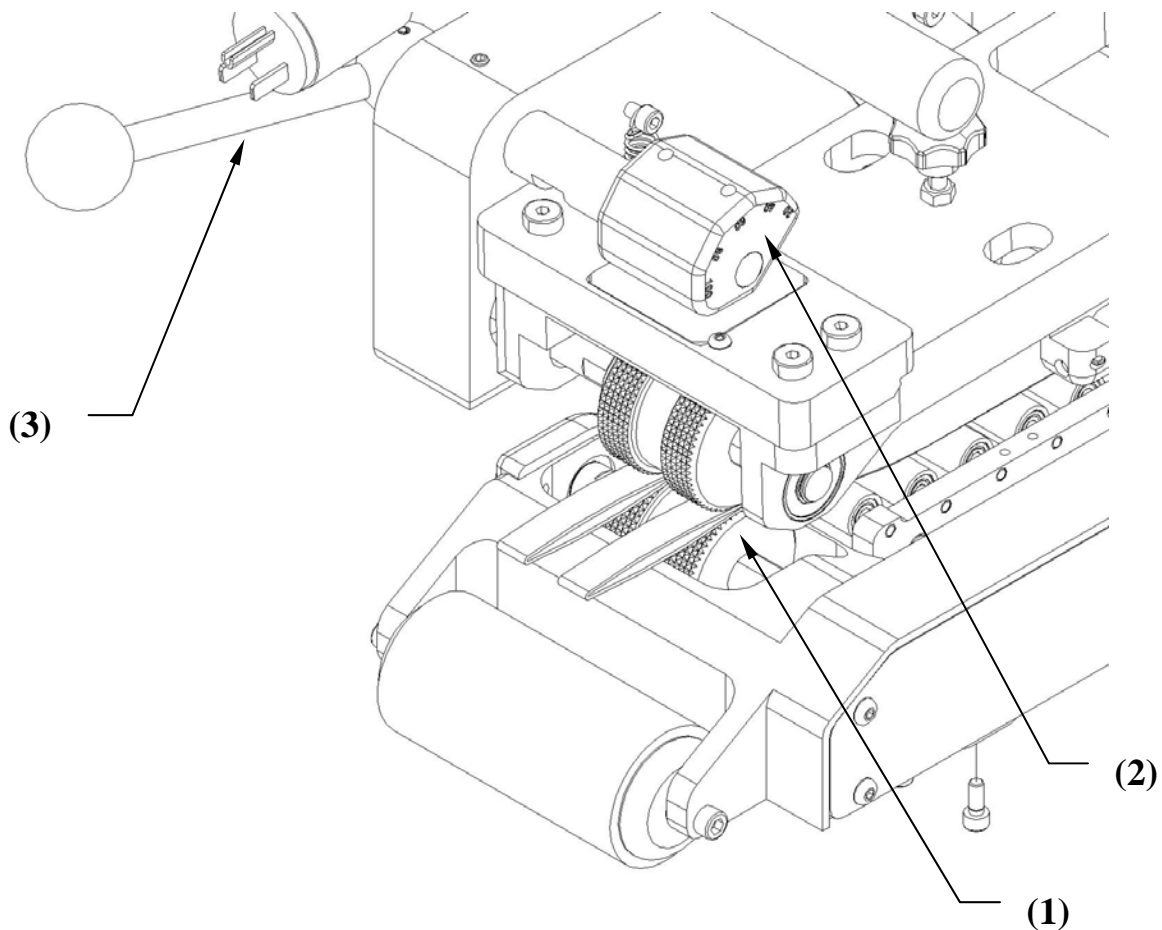
Rev A: May 2010

- b. Using a 10mm box end wrench loosen the Locknut (1) (see Figure 2) on the Upper Contour Roller Adjustment Knob. Turn the Adjustment Knob (2) (see Figure 2) counter-clockwise, raising the Upper Contour Roller Assembly (3) (see Figure 2) away from the Wedge.



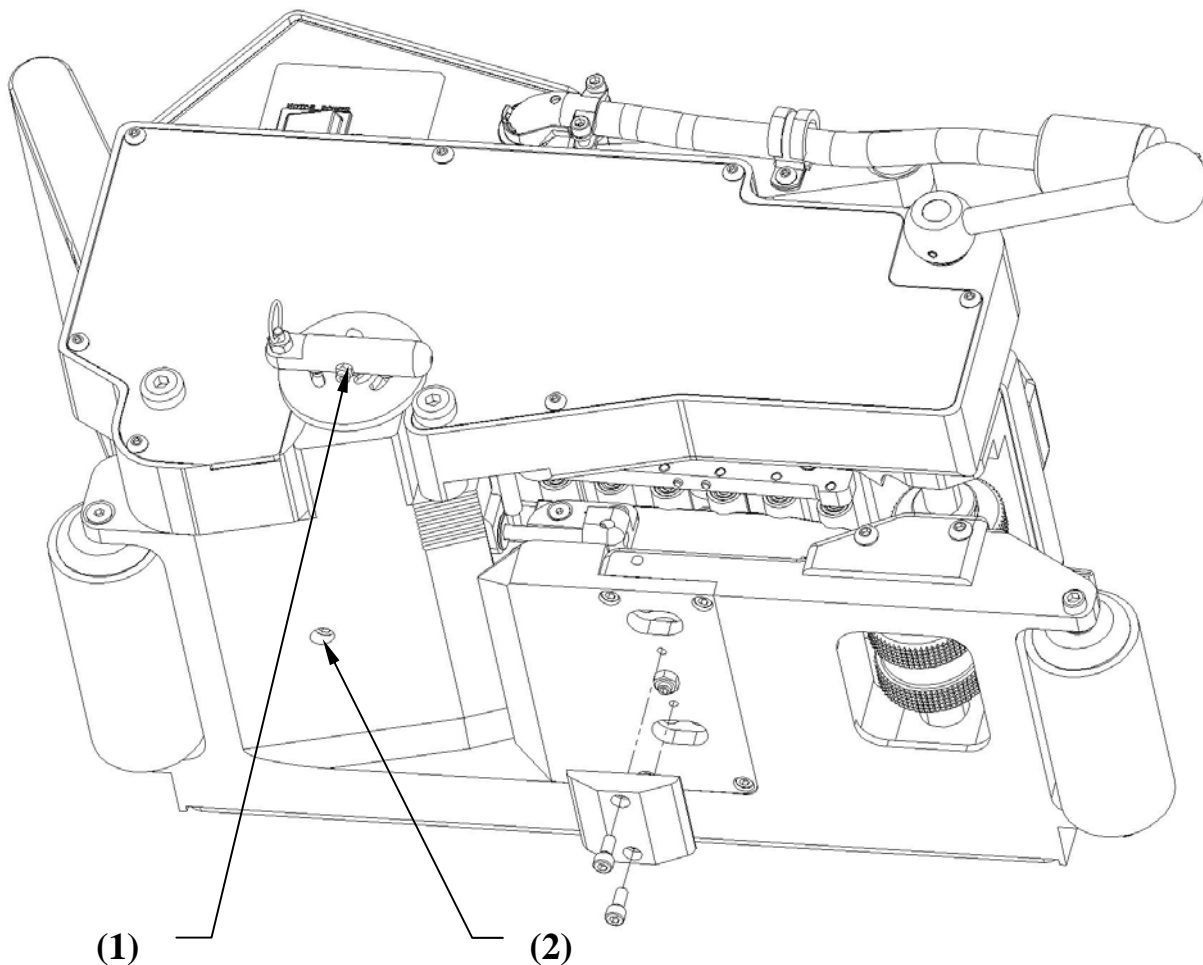
**Figure 2**

- c. Place two of the 1/2" X 6" material pieces, each folded in half, between the Nip Rollers (1) (see Figure 3). This procedure simulates two layers of material between the Rollers. Be sure these pieces do not extend past the Nip Rollers into the welder. Rotate the Nip Pressure Cam (2) (see Figure 3) to the corresponding mil thickness position indicated on the side of the Pressure Cam by rotating the Nip Pressure Cam Lever (3) (see Figure 3) clockwise.



**Figure 3**

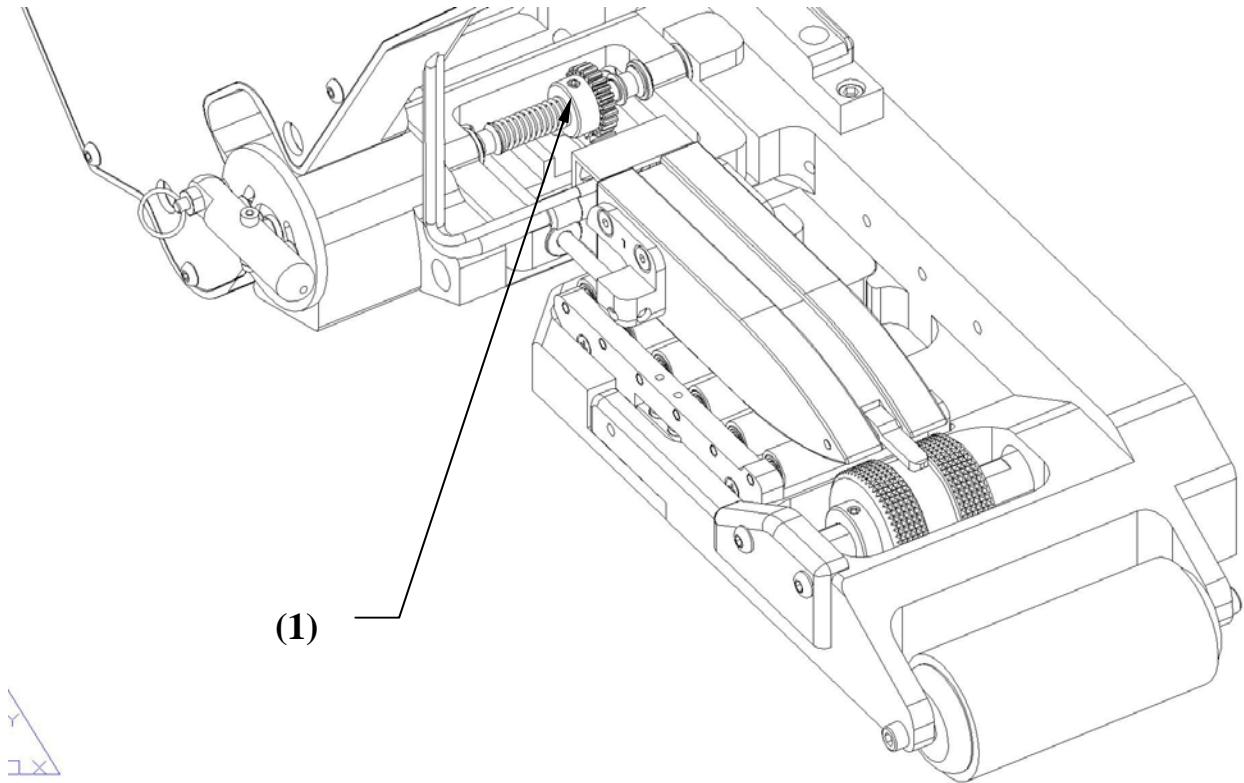
- d. Move the Wedge to the Engaged/Welding position by rotating the Wedge Engagement Handle (1) (see Figure 4) counter-clockwise. Using a 5mm hex wrench adjust the Wedge Height Adjustment Screw (2) (see Figure 4) as needed, up or down, to center the Wedge between the Nip Rollers. Turning the Adjustment Screw clockwise raises the Wedge, counter-clockwise lowers it.



**Figure 4**

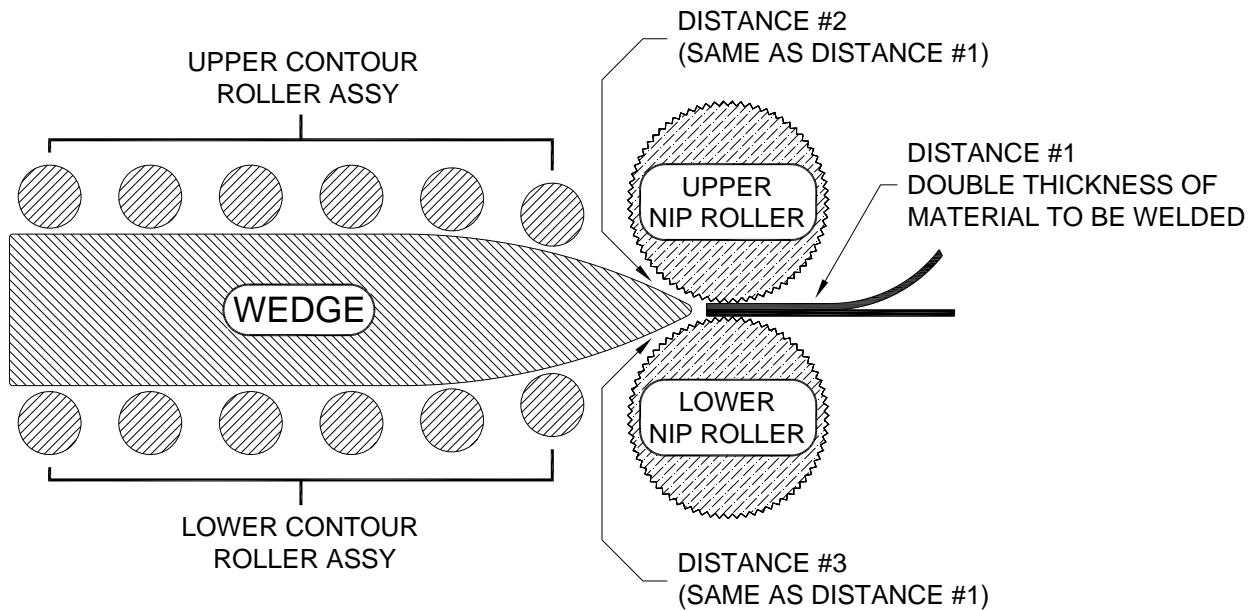
### **6.3. Adjustment #2: Wedge Engagement Position**

Before beginning Adjustment #2 make sure the Wedge Engagement Handle has no free play. If it does tighten the Pinion Gear Set Screw (1) (see Figure 5). This adjustment controls how close the Wedge is to the Nip Rollers when it is in the Engaged/Welding position.

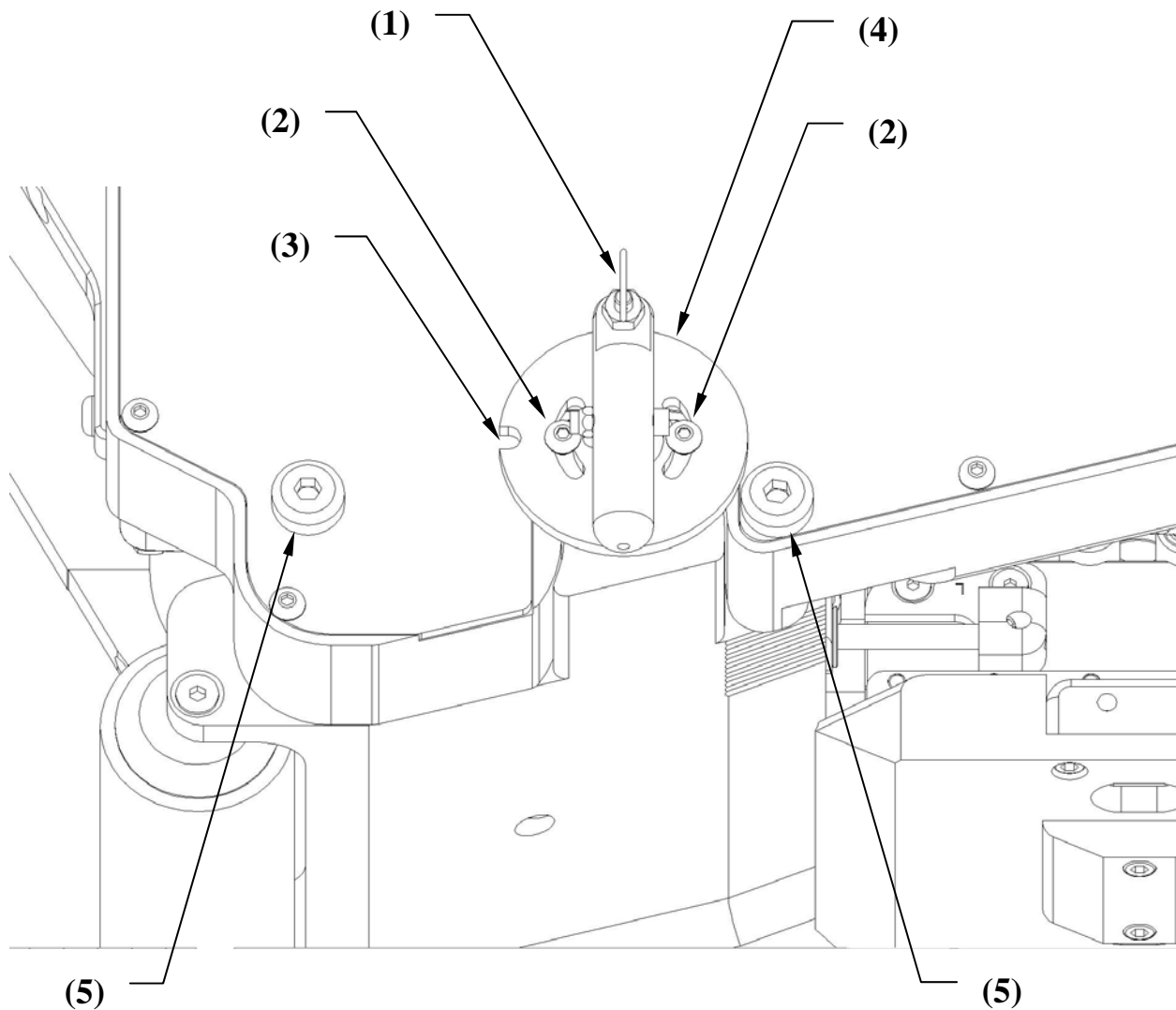


**Figure 5**

- a. While adjusting the Wedge engagement position refer to Diagram 2 and Figure 6. Pull out the Wedge Engagement Handle Lock-In Plunger (1) (see Figure 6) and rotate the Handle to a central position between the two Hold-Down Screws (2) (see Figure 6). Loosen the Hold-Down Screws and rotate the Wedge Engagement Handle counter-clockwise until the Lock-In Plunger drops into the Lock-In Hole (3) (see Figure 6). The Lock-In Disc (4) (see Figure 6) should now rotate with the Engagement Handle.
- b. Slowly turn the Engagement Handle to position the Wedge so the distance between the upper tip surface of the Wedge and the Upper Nip Roller is the same distance as between the two Nip Rollers. This distance will be equal to twice the thickness of the material to be welded. This same clearance should be maintained between the lower tip surface of the Wedge and the Lower Nip Roller.



**Diagram 2**

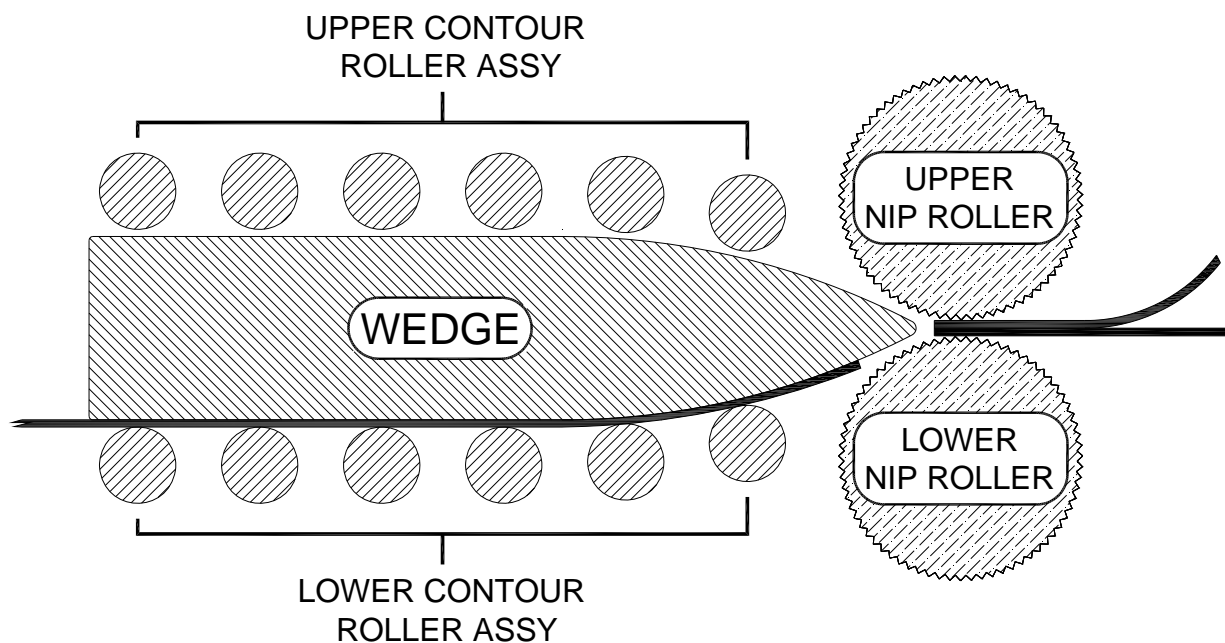
**Figure 6**

- c. Once adjusted the Lock-In Disc must be tightened in place. Firmly hold down the Lock-In Disc, pull out the Wedge Engagement Handle Lock-In Plunger and rotate the Handle to a central position between the two Hold-Down Screws. Do not allow the Lock-In Disc to move during this procedure. Firmly tighten both Hold-Down Screws then rotate the Wedge Engagement Handle counter-clockwise until the Lock-In Plunger drops into the Lock-In Hole. Verify that the Wedge engaged position did not change during this procedure.

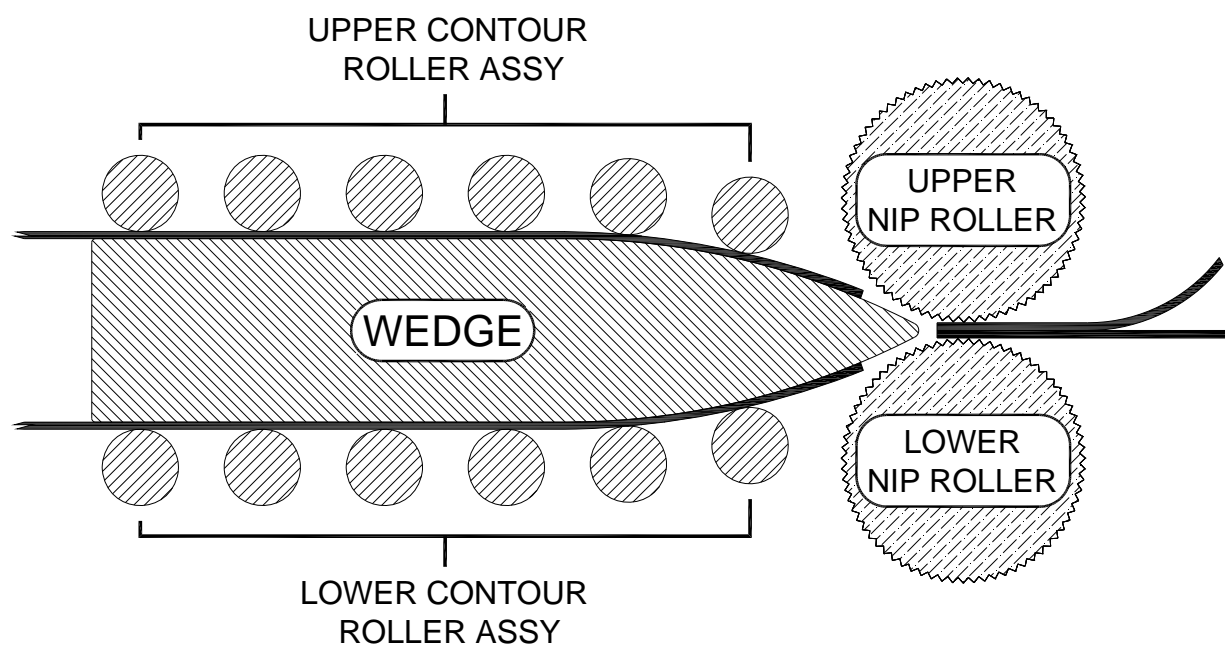
#### ***6.4. Adjustment #3: Upper and Lower Contour Rollers***

Before beginning Adjustment #3 make sure the Wedge is locked into the Engaged/Welding position and the two folded 1/2" X 6" material pieces are still locked between the Nip Rollers. **This Adjustment may seem time consuming at first but with practice and experience the entire set-up process takes only a few minutes.**

- a. Insert one of the 4" X 18" material pieces between the Lower Contour Roller Assembly and the Wedge (see Diagram 3). This piece should extend out of the front of the welder (opposite end from the Nip Rollers). Adjust the Lower Contour Roller Assembly upwards by turning the Adjustment Screw (3) (see Figure 1) clockwise until the Wedge begins to move up slightly.
- b. Insert the remaining 4" X 18" material piece between the Upper Contour Roller Assembly and the Wedge (see Diagram 4). This piece should extend out of the front of the welder (opposite end from the Nip Rollers). Adjust the Upper Contour Roller Assembly downwards by turning the Upper Contour Roller Adjustment Knob (2) (see Figure 2) clockwise until the desired tension is achieved.
- c. Check for proper adjustment by grabbing hold of the upper material piece protruding from the front of the welder and move it forward and backward. The fit should be snug causing a drag on the material. Check the lower material piece in the same way. Further adjust the Upper and/or Lower Contour Roller Assemblies as necessary to achieve the desired snug fit. When finished the drag (friction) on the upper and lower material pieces should feel the same. During all adjustments make sure the Wedge remains centered between the Nip Rollers.
- d. Once the desired tension is achieved tighten both Upper and Lower Contour Roller Assembly Locknuts being careful not to over-tighten, replace the Lower Contour Roller Adjustment Cover remove all material pieces from welder.



**Diagram 3**



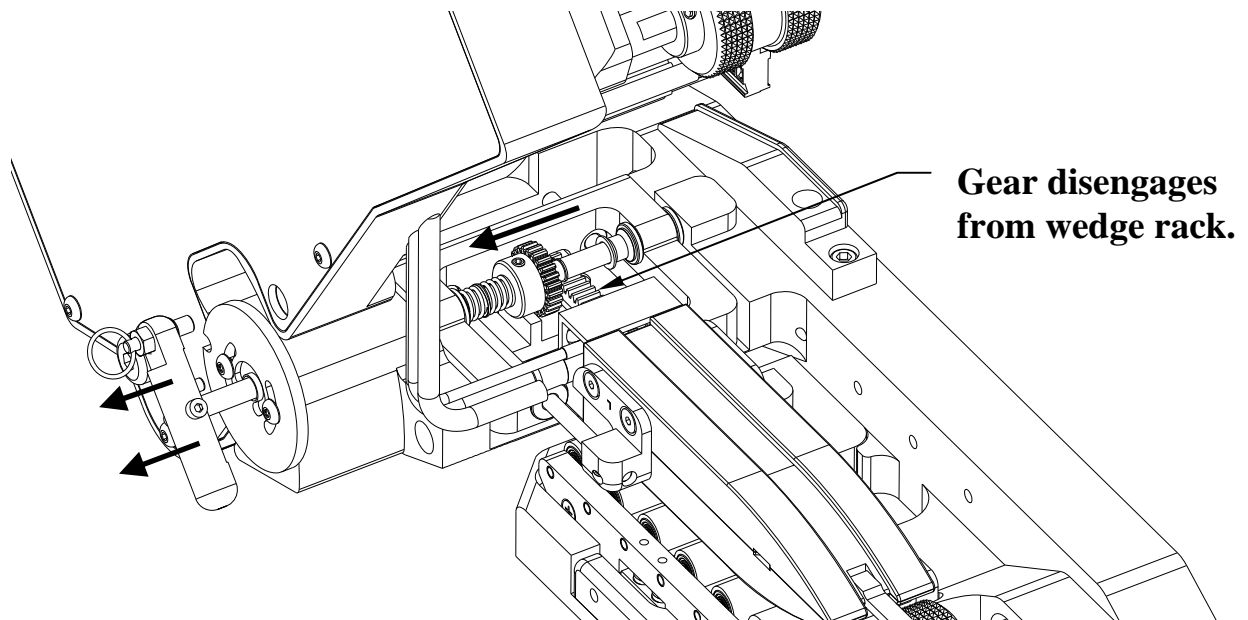
**Diagram 4**

### ***6.5. Wedge Timing Definition***

Wedge timing is the position of the Wedge in its Engaged/Welding position in relation to the Engagement Handle Lock-In Plunger to Lock-In Hole position. If the Wedge timing is off the ability to adjust the welder through its full range of adjustment is compromised. Full range travel is between the two positions of the Wedge in the Engaged/Welding position and the Wedge in the Retracted/Loading position.

### ***6.6. Wedge Re-Timing***

Loosen the two Lock-In Disc Hold-Down Screws (2) (see Figure 6). Position the Lock-In Disc so the two Hold-Down Screws are centered in the arced grooves of the Disc (see Figure 6). Tighten the Hold-Down Screws. Pull out the Engagement Handle as far as possible, approximately 5/8" (see Figure 7) which disengages the Pinion Gear from the Wedge Rack and rotate the Engagement Handle approximately 15 degrees clockwise. Release the Handle back in and rotate handle counter-clockwise moving the wedge towards the Nip Rollers. This resets the engagement of the Pinion Gear to the Wedge Rack by approximately one gear tooth. Repeat this process as many times as necessary until the Lock-In Plunger drops into the Lock-In Hole on the Lock-In Disc and the tip of the Wedge has approximately 1/8" clearance between it and the lower nip roller. The Wedge has now been re-timed.

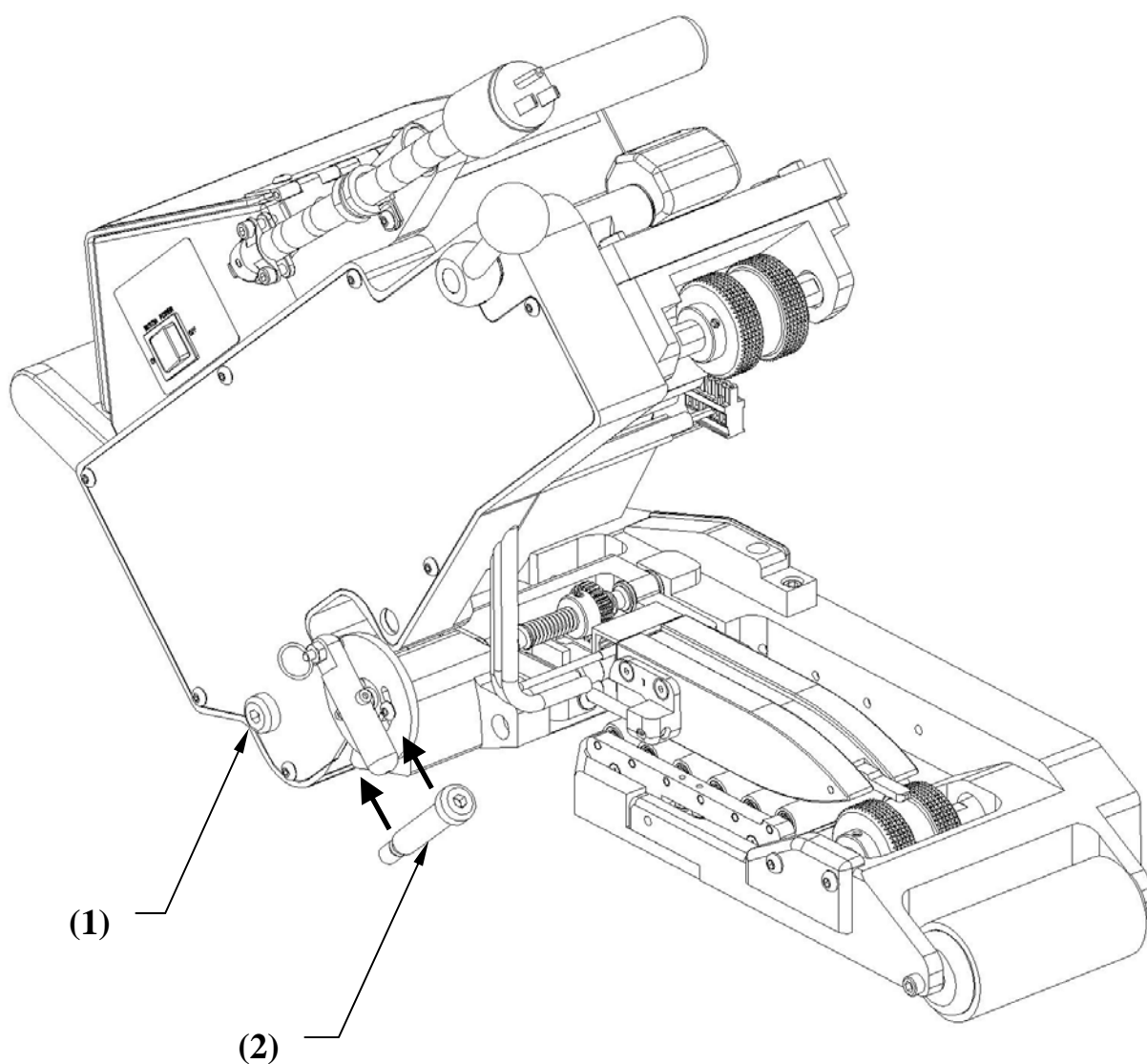


**Figure 7**  
(Shown with side housing open for clarity.)

## ***6.7. Wedge Removal***

- a. Disconnect the Cartridge Heater / Thermocouple Plug (4) (see Figure 2) from the bottom of the controller cabinet.
- b. Using 1/4" or 6mm hex wrench remove the front and rear Frame Shoulder Bolts (5) (see Figure 6).
- c. Hinge Side Frame up and install one of the Frame Shoulder Bolts into the front bolt hole to hold the Side Frame in the open position. When the Side Frame is in the correct open position there is a threaded hole into which the Bolt can be installed (1) (see Figure 8).
- d. Rotate the Wedge Engagement Handle counter-clockwise until the Lock-In Plunger drops into the Lock-In Hole on the Lock-In Disc.
- e. Pull the Wedge Engagement Handle out far enough to insert the remaining Frame Shoulder Bolt between the Handle and the Lock-In Disc (2) (see Figure 8). This holds the Pinion Gear disengaged from the Wedge Rack so the Heater Assembly Can be removed.
- f. Release the Cartridge Heater and Thermocouple cables from behind the Heater Cable Retention Disk (5) (see Figure 2).
- g. Push down on the front of the Wedge Carriage Assembly while lifting up the tip of the Wedge and slowly pull the Wedge Assembly out of the welder.

**Note: To prevent the Wedge Timing from being changed do not disturb the Wedge Engagement Handle position while the Wedge Assembly is removed from the welder.**



**Figure 8**

## 7. Factory Servicing

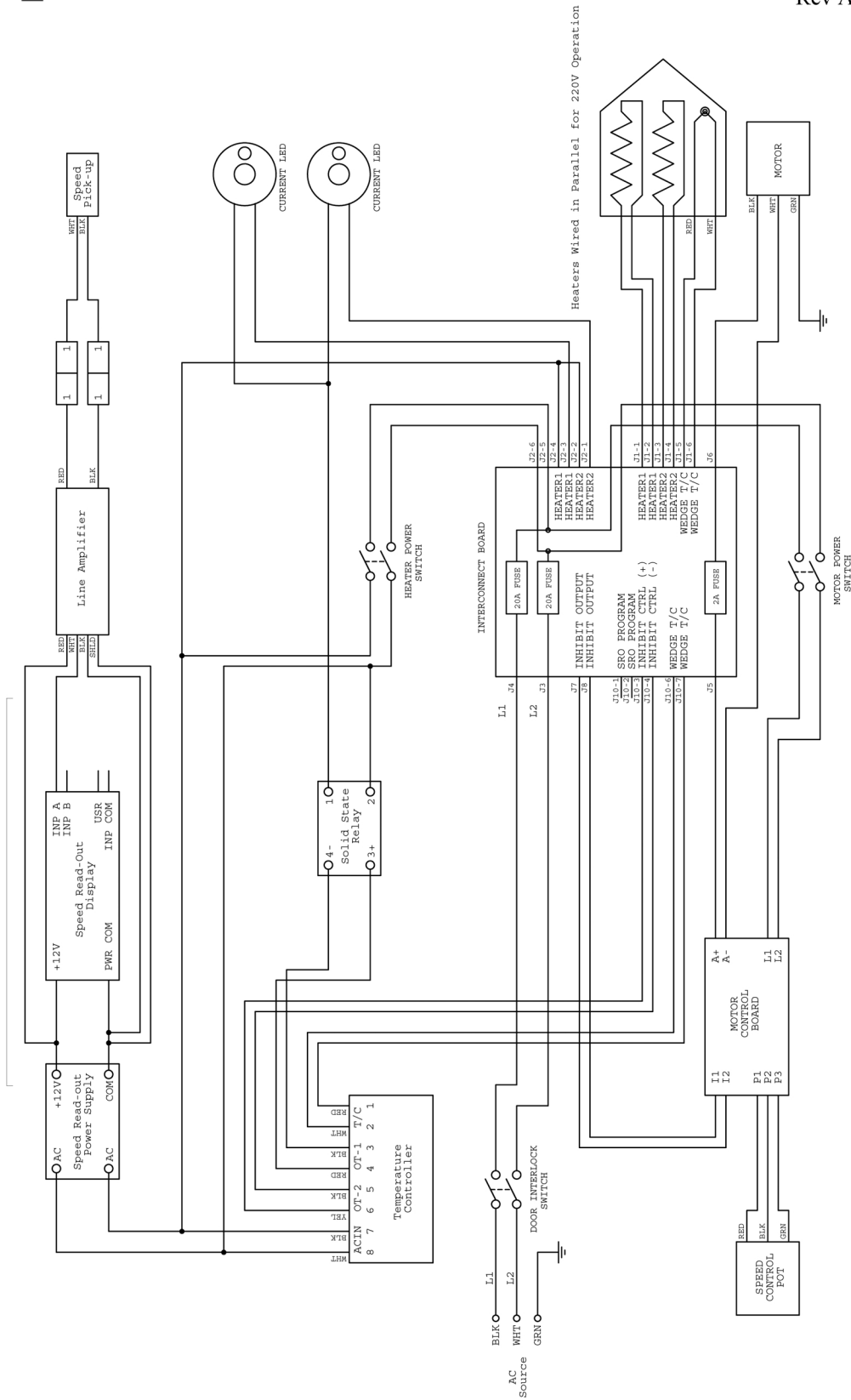
In the event your Pro-Wedge 3XL should require factory service, the entire welder needs to be returned to the factory. Refer to the following step for preparing the Pro-Wedge 3XL for return.

Carefully pack the Pro-Wedge 3XL in the reusable portable shipping/storage case provided with the welder for return to DEMTECH Services, Inc.'s factory for service. Unless previous arrangements are made shipping charges and insurance are the customer's responsibility. Ship the Pro-Wedge 3XL to DEMTECH Services, Inc. at:

**DemTech Services, Inc**  
**Ship to address: 6414 Capitol Avenue**  
**Diamond Springs, CA 95619**  
**U.S.A.**

## 8. Welder Wiring Diagram

Refer to Diagram 5 for the Pro-Wedge 3XL Welder Wiring Interconnect Diagram.

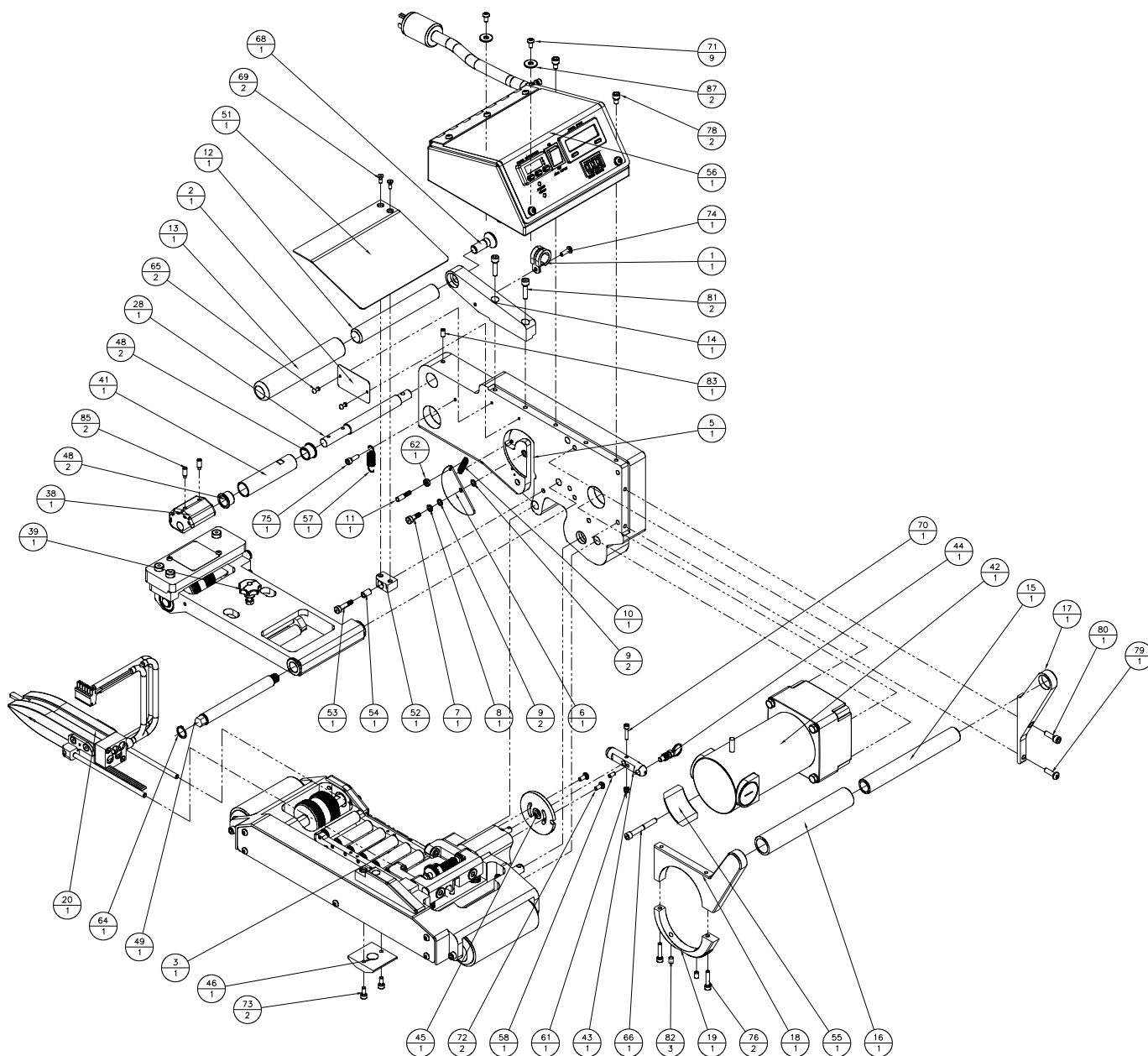


**Diagram 5**

## 9. Service/Spare Parts ID

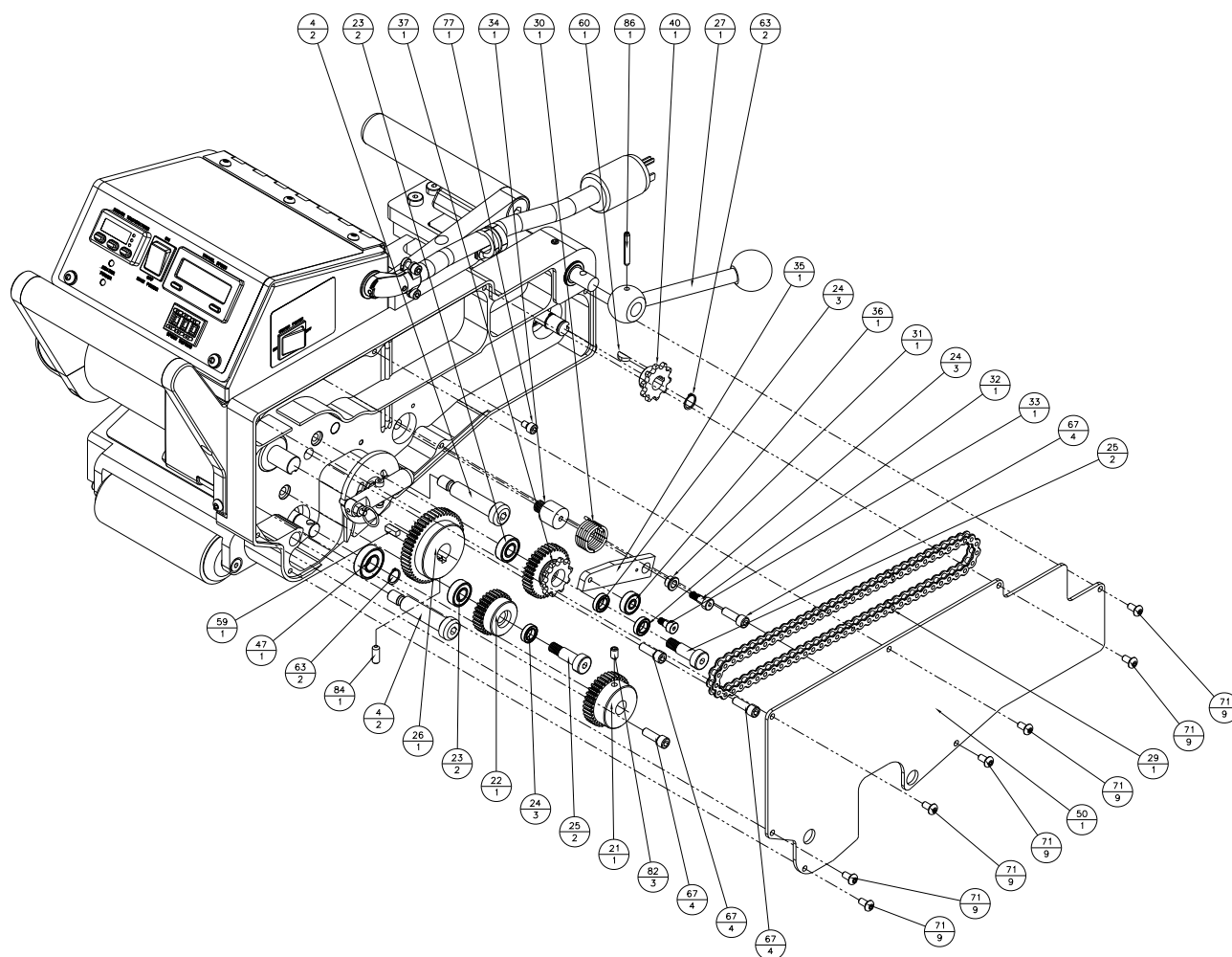
Refer to the diagrams and related parts lists on the following pages to identify service/spare parts for the Pro-Wedge 3XL. To locate a part find it visually on one of the exploded assembly diagrams and note its item number. The item number is the upper digit in the item identification balloon. The lower digit in the balloon is the quantity used per assembly. Next refer to the related parts list to identify the corresponding DemTech part number. The diagram and parts lists provided are as follows:

<b>9.1.</b>	<b>500-0100/3XL/A, Assembly, Pro-Wedge 3XL (Front) .....</b>	<b>26</b>
<b>9.2.</b>	<b>500-0100/3XL/A, Assembly, Pro-Wedge 3XL (Rear).....</b>	<b>27</b>
<b>9.3.</b>	<b>500-0100/3XL/A, Assy, Pro-Wedge 3XL (Parts List, Items 1-44).....</b>	<b>28</b>
<b>9.4.</b>	<b>500-0100/3XL/A, Assy, Pro-Wedge 3XL (Parts List, Items 45-87).....</b>	<b>29</b>
<b>9.5.</b>	<b>500-1005XL/A, Assembly, Pro-Wedge XL Controller Housing .....</b>	<b>30</b>
<b>9.6.</b>	<b>500-1005XL/A, Assy, Pro-Wedge XL Cntrlr Housing (Parts List) .....</b>	<b>31</b>
<b>9.7.</b>	<b>500-1006/3XL/A, Assembly, Pro-Wedge 3XL Control Panel.....</b>	<b>32</b>
<b>9.8.</b>	<b>500-1006/3XL/A, Assy, Pro-Wedge 3XL Cntrl Panel (Parts List).....</b>	<b>33</b>
<b>9.9.</b>	<b>500-101/3XL/A, Assembly, Main Frame .....</b>	<b>34</b>
<b>9.10.</b>	<b>500-101/3XL/A, Assembly, Main Frame (Parts List).....</b>	<b>35</b>
<b>9.11.</b>	<b>500-167/3XL/A, Assembly, Nip Arm .....</b>	<b>36</b>
<b>9.12.</b>	<b>500-167/3XL/A, Assembly, Nip Arm (Parts List).....</b>	<b>37</b>
<b>9.13.</b>	<b>500-125CMPLT/3000/3XL, Assy, Wedge, Split, Complete, 3XL.....</b>	<b>38</b>
<b>9.14.</b>	<b>500-125CMPLT/3000/3XL, Assy, Wedge, Split, Cmplt, 3XL (P/L) .....</b>	<b>39</b>
<b>9.15.</b>	<b>500-120.6/3XL/A, Assembly, Contour Roller, Lower .....</b>	<b>40</b>
<b>9.16.</b>	<b>500-120.6/3XL/A, Assy, Contour Roller, Lower (Parts List) .....</b>	<b>41</b>
<b>9.17.</b>	<b>500-120.7/3XL/A, Assembly, Contour Roller, Lower .....</b>	<b>42</b>
<b>9.18.</b>	<b>500-120.7/3XL/A, Assy, Contour Roller, Lower (Parts List) .....</b>	<b>43</b>



### 9.1. 500-0100/3XL/A, Assembly, Pro-Wedge 3XL (Front)

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## 9.2. 500-0100/3XL/A, Assembly, Pro-Wedge 3XL (Rear)

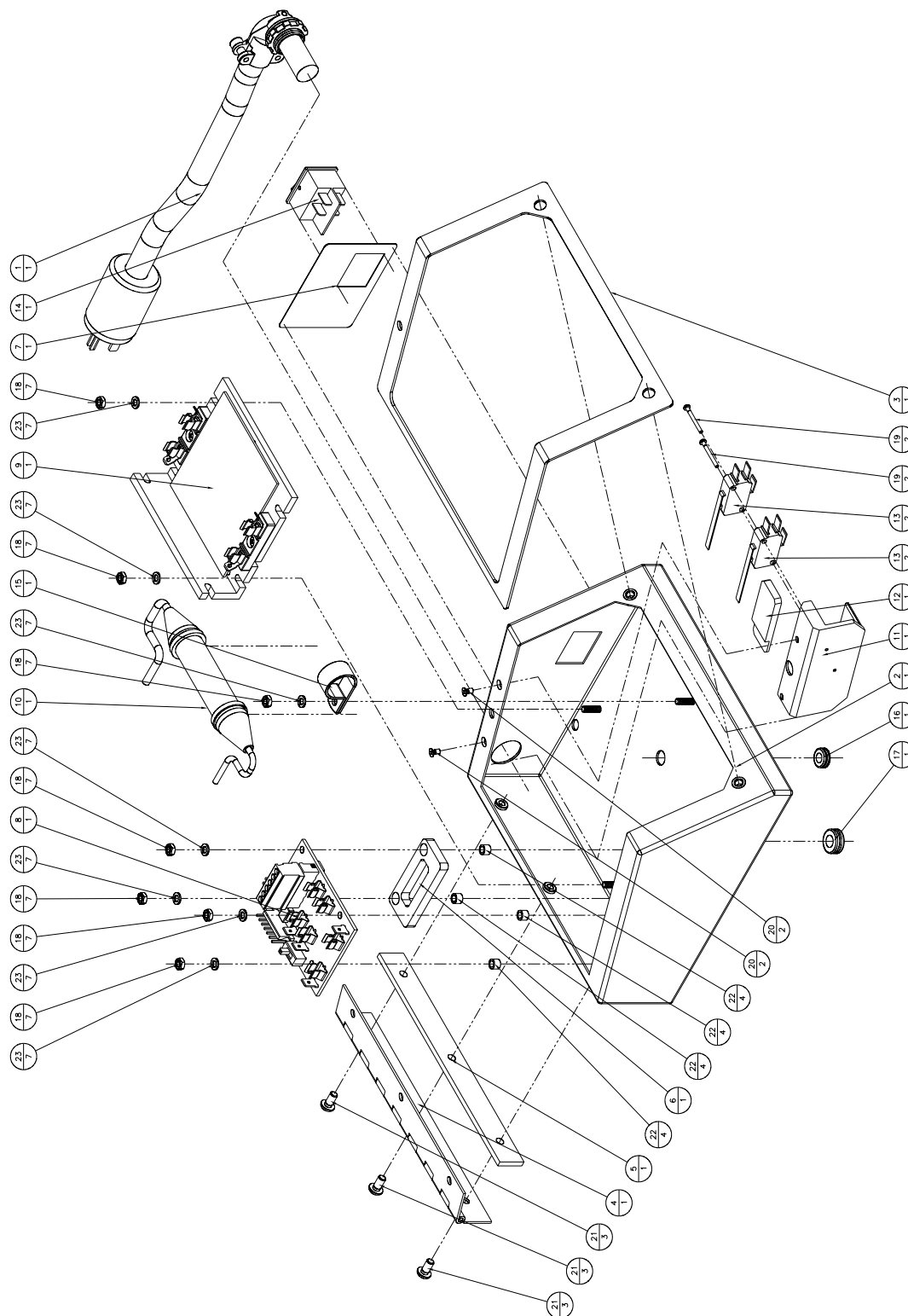
44	500-174	PLUNGER, HAND RETRACTABLE	1
43	500-173XL	HANDLE, WEDGE ENGAGE	1
42	500-170	MOTOR, DRIVE	1
41	500-169/3XL	SLEEVE, CAM SHAFT, 3XL	1
40	500-168.35	SPROCKET, NIP DRIVE, 10 TOOTH, MODIFIED	1
39	500-167/3XL/A	ASSEMBLY, NIP ARM	1
38	500-166/3XL	CAM, ADJUSTMENT, 3XL	1
37	500-164-35	GEAR, COMPOSITE, WELDMENT	1
36	500-162	BEARING, UPPER NIP CHAIN TENSIONER	1
35	500-160.1	ARM, IDLER, NEW	1
34	500-159	MANDREL, IDLER ARM	1
33	500-158.35	SHOULDER BOLT, BEARING TO IDLER ARM	1
32	500-158	SHOULDER BOLT, IDLER ARM PIVOT	1
31	500-157	BUSHING, IDLER ARM PIVOT	1
30	500-156	SPRING, IDLER ARM	1
29	500-154.35/3XL	NIP CHAIN, UPPER, #35, 68 PINS	1
28	500-152/3XL	SHAFT, CAM, 3XL	1
27	500-150	LEVER, CAM SHAFT W/ KNOB	1
26	500-145	GEAR, MOTOR DRIVE, 50 TOOTH, MODIFIED	1
25	500-142	SHOULDER BOLT, IDLER GEAR	2
24	500-141A	BEARING, IDLER & COMP GEAR, SMALL	3
23	500-141	BEARING, IDLER & COMP GEAR	2
22	500-140	GEAR, IDLER, 28 TOOTH, MODIFIED	1
21	500-139	GEAR, LOWER DRIVE SHAFT, 35 TOOTH, MODIFIED	1
20	500-125CMPLT/3000/3XL	WEDGE ASSY, SPLIT, COMPLETE W/ SHAFTS & PLUGS, 3XL	1
19	500-113XL	CLAMP, MOTOR BRACKET	1
18	500-109XL	BRACKET, DRIVE MOTOR	1
17	500-107XL	BRACKET, FRONT HANDLE	1
16	500-105AXL	GRIP, FRONT HANDLE	1
15	500-105XL	HANDLE, FRONT	1
14	500-104XL	BRACKET, REAR HANDLE	1
13	500-103AXL	GRIP, REAR HANDLE	1
12	500-103XL	HANDLE, REAR	1
11	500-102GXL	THUMB SCREW, RETENTION DISC	1
10	500-102FXL	RETURN SPRING, RETENTION DISC	1
9	500-102EXL	NYLON WASHER, RETENTION DISC	2
8	500-102DXL	SPRING WASHER, RETENTION DISC	1
7	500-102BXL	SHOULDER SCREW, RETENTION DISC	1
6	500-102AXL	DISC, HEATER CABLE RETENTION	1
5	500-102/3XL	FRAME, SIDE	1
4	500-101AXL	SHOULDER BOLT, FRAME LOCK, 1/2" X 2"	2
3	500-101/3XL/A	ASSEMBLY, MAIN FRAME	1
2	100-399	NAME PLATE / SERIAL # PLATE	1
1	100-235	MOUNT, CONDUIT, #MS21919-WDG10	1
Item	Part Number	Title/Description	Qty.
Parts List			

### 9.3. 500-0100/3XL/A, Assy, Pro-Wedge 3XL (Parts List, Items 1-44)

Rev A: May 2010

87	STOCK	WASHER, FENDER, M6, 6.4mm ID X 18mm OD X 1.6mm THICK, ZINC PLATED STEEL	2
86	STOCK	SPRING PIN, 3/16" OD X 1-1/4" LONG, SS	1
85	STOCK	SCREW, SET, M6 X 1 X 16mm LONG, FULL DOG POINT ALLEN, SS	2
84	STOCK	SCREW, SET, M6 X 1 X 16mm LONG, CUP POINT ALLEN, SS	1
83	STOCK	SCREW, SET, M6 X 1 X 12mm LONG, CUP POINT ALLEN, SS	1
82	STOCK	SCREW, SET, M6 X 1 X 10mm LONG, CUP POINT ALLEN, SS	3
81	STOCK	SCREW, M6 X 1 X 25mm LONG, SOCKET HEAD CAP, SS	2
80	STOCK	SCREW, M6 X 1 X 20mm LONG, SOCKET HEAD CAP, SS	1
79	STOCK	SCREW, M6 X 1 X 20mm LONG, BUTTON HEAD CAP, SS	1
78	STOCK	SCREW, M6 X 1 X 10mm LONG, SOCKET HEAD CAP, SS	2
77	STOCK	SCREW, M5 X .8 X 8mm LONG, SOCKET HEAD CAP, SS	1
76	STOCK	SCREW, M5 X .8 X 25mm LONG, SOCKET HEAD CAP, SS	2
75	STOCK	SCREW, M5 X .8 X 16mm LONG, SOCKET HEAD CAP, SS	1
74	STOCK	SCREW, M5 X .8 X 16mm LONG, BUTTON HEAD CAP, SS	1
73	STOCK	SCREW, M5 X .8 X 12mm LONG, SOCKET HEAD CAP, SS	2
72	STOCK	SCREW, M5 X .8 X 12mm LONG, BUTTON HEAD CAP, SS	2
71	STOCK	SCREW, M5 X .8 X 10mm LONG, BUTTON HEAD CAP, SS	9
70	STOCK	SCREW, M4 X .7 X 20mm LONG, SOCKET HEAD CAP, SS	1
69	STOCK	SCREW, M4 X .7 X 12mm LONG, FLAT HEAD CAP, SS	2
68	STOCK	SCREW, M12 X 1.75 X 35mm LONG, FLAT HEAD CAP, SS	1
67	STOCK	SCREW, 1/4-28 X 3/4" LONG, SOCKET HEAD CAP, SS	4
66	STOCK	SCREW, 1/4-20 X 2" LONG, SOCKET HEAD CAP, SS	1
65	STOCK	RIVET, 1/8" BLIND, DOME STYLE, STAINLESS STEEL	2
64	STOCK	RETAINING RING, EXTERNAL, 5/8" SHAFT, BLACK PHOSPHATE STEEL	1
63	STOCK	RETAINING RING, EXTERNAL, 1/2" SHAFT, BLACK PHOSPHATE STEEL	2
62	STOCK	NUT, MACHINE SCREW HEX, 10-32, SMALL-PATTERN, SS	1
61	STOCK	NUT, HEX-LOCK, M4, NYLON INSERT, SS	1
60	STOCK	KEY, WOODRUFF, 1/8" X 1/2" FLAT BOTTOM, ALLOY STEEL	1
59	STOCK	KEY, 3/16" X 3/16" X 1/2" LONG, STANDARD, HIGH CARBON PLAIN STEEL	1
58	STOCK	DOWEL PIN, 3/16" OD X 3/8" LONG, HARDENED 416 SS	1
57	500-1027	SPRING, NIP RETURN	1
56	500-1026YXL	ASSEMBLY, CONTROLLER COMPLETE, XL, YELLOW	1
55	500-1015	DEFLECTOR, MATERIAL	1
54	500-1014DXL	BUSHING, MATERIAL GUIDE, MOUNT	1
53	500-1014CXL	SHOULDER BOLT, MATERIAL GUIDE, M6 X 16	1
52	500-1014AXL	MOUNT, MATERIAL GUIDE	1
51	500-1014XL	GUIDE, MATERIAL	1
50	500-1012/3XL	COVER, SIDE FRAME	1
49	500-1001A	SHAFT, NIP PIVOT, NEW	1
48	500-199	BUSHING, CAM SHAFT SLEEVE	2
47	500-197	BEARING, SHAFT / 99R8 2RS	1
46	500-179XL	COVER, LOWER CONTOUR, ADJUSTMENT	1
45	500-176XL	PLATE, DROP-IN	1

#### **9.4. 500-0100/3XL/A, Assy, Pro-Wedge 3XL (Parts List, Items 45-87)**

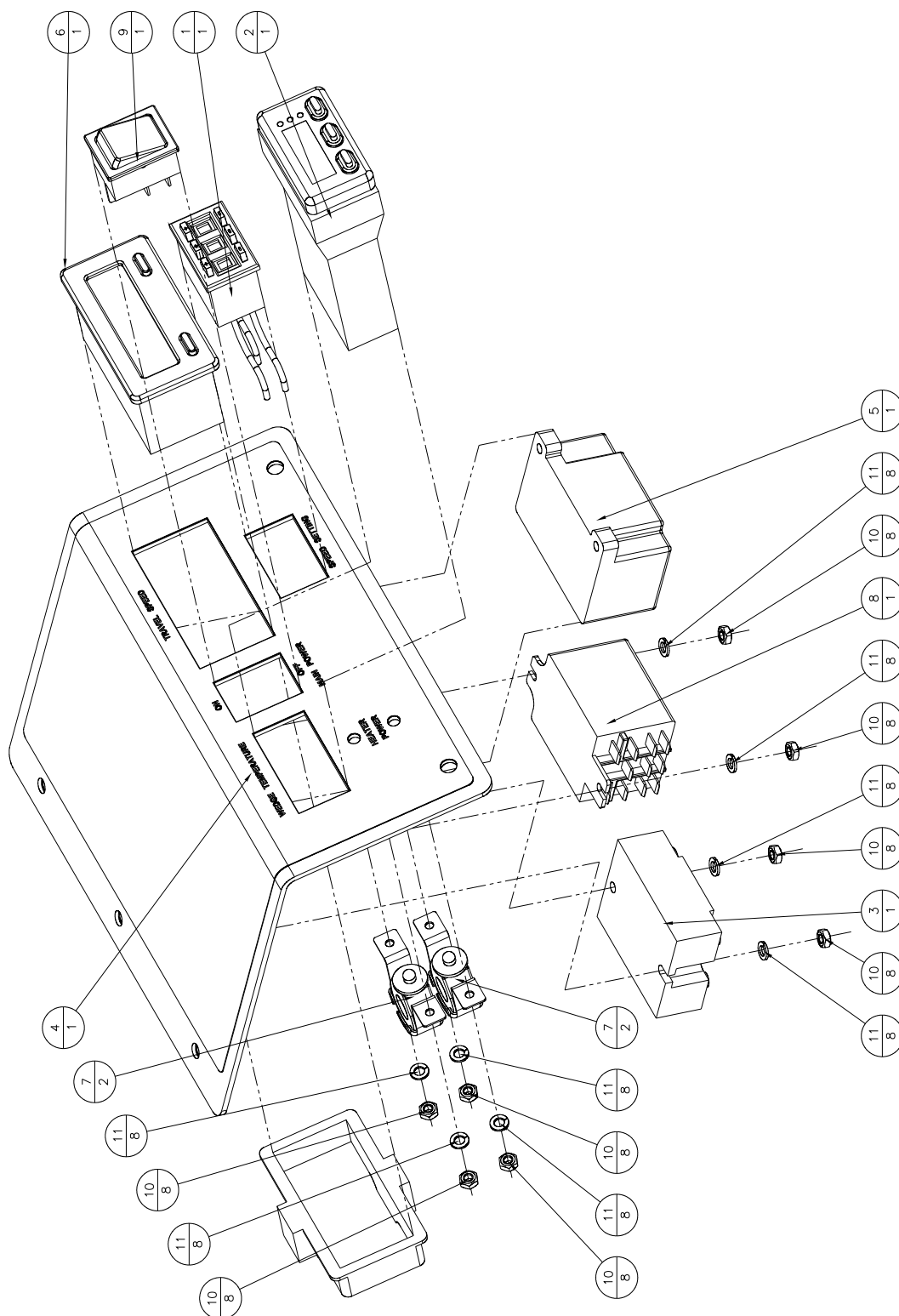


### 9.5. 500-1005XL/A, Assembly, Pro-Wedge XL Controller Housing

Rev A: May 2010

23	STOCK	WASHER, M4 SPLIT LOCK, SS	7
22	STOCK	SPACER, .250" OD X .166" ID X .187" LONG, NYLON	4
21	STOCK	SCREW, M5 X .8 X 10mm LONG, BUTTON HEAD SOCKET, SS	3
20	STOCK	SCREW, M3 X 6mm LONG, FLAT HEAD PHILLIPS, SS	2
19	STOCK	SCREW, 2-56 X 7.8" LONG, PAN HEAD SLOTTED, SS	2
18	STOCK	NUT, M4 X .7 HEX, SS	7
17	STOCK	GROMMET, .312" ID X .500" GROOVE OD, SBR RUBBER	1
16	STOCK	GROMMET, .250" ID X .375" GROOVE OD, SBR RUBBER	1
15	STOCK	CLAMP, 3/4" ID X 1/2" WIDE, NYLON	1
14	600-06PH	SWITCH, MOTOR/POWER, ON/OFF	1
13	500-E26XL	SWITCH, COVER INTERLOCK	2
12	500-E19BXL	PAD, SWITCH LEVER, REACTION	1
11	500-E19AXL	BRACKET, AC POWER INTERLOCK SWITCH	1
10	500-E8	AMPLIFIER, PICK-UP	1
9	500-E5	MOTOR CONTROL BOARD	1
8	500-E2XL	CIRCUIT BOARD, INTERCONNECT	1
7	500-1006BXL	OVERLAY, MOTOR SWITCH	1
6	500-1005DXL	GASKET, HEATER INTERFACE CONNECTOR	1
5	500-1005CXL	SPACER, HINGE, CONTROLLER HOUSING	1
4	500-1005BXL	HINGE, CONTROLLER HOUSING	1
3	500-1005AXL	GASKET, CONTROLLER HOUSING	1
2	500-1005XL	HOUSING, CONTROLLER	1
1	100-475/A	ASSEMBLY, POWER CORD, 120V	1
Item	Part Number	Title/Description	Qty.
Parts List			

## 9.6. 500-1005XL/A, Assy, Pro-Wedge XL Cntrlr Housing (Parts List)

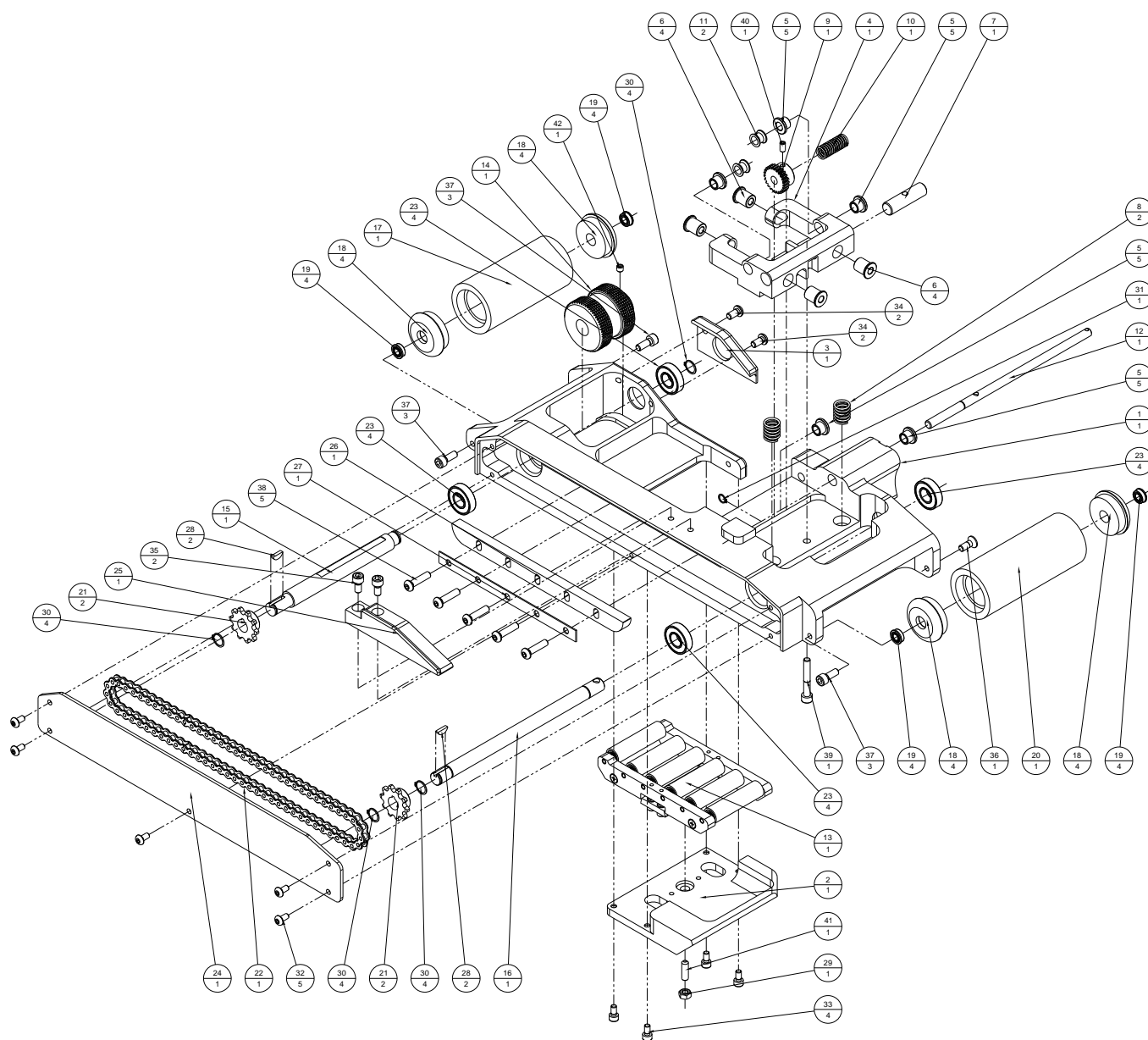


### 9.7. 500-1006/3XL/A, Assembly, Pro-Wedge 3XL Control Panel

Rev A: May 2010

11	STOCK	WASKER, M4 SPLIT LOCK, SS	8
10	STOCK	NUT, M4 X .7 HEX, SS	8
9	600-06PH	SWITCH, MOTOR/POWER, ON/OFF	1
8	500-E17RXL	RELAY, VOLTAGE SWITCHING	1
7	500-E15	CURRENT INDICATOR, RED	2
6	500-E9	SPEED READOUT	1
5	500-E7	SRO POWER SUPPLY	1
4	500-1006/3XL	PANEL, CONTROL, 3XL	1
3	100-430	RELAY, #SSR-240-25A-DC1	1
2	100-425	CONTROL BOARD, TEMPERATURE, #935A-1CC0-000G	1
1	100-416	POTENTIOMETER, PUSH BUTTON, MOTOR, #754-7975	1
Item	Part Number	Title/Description	Qty.
Parts List			

### ***9.8. 500-1006/3XL/A, Assy, Pro-Wedge 3XL Cntrl Panel (Parts List)***

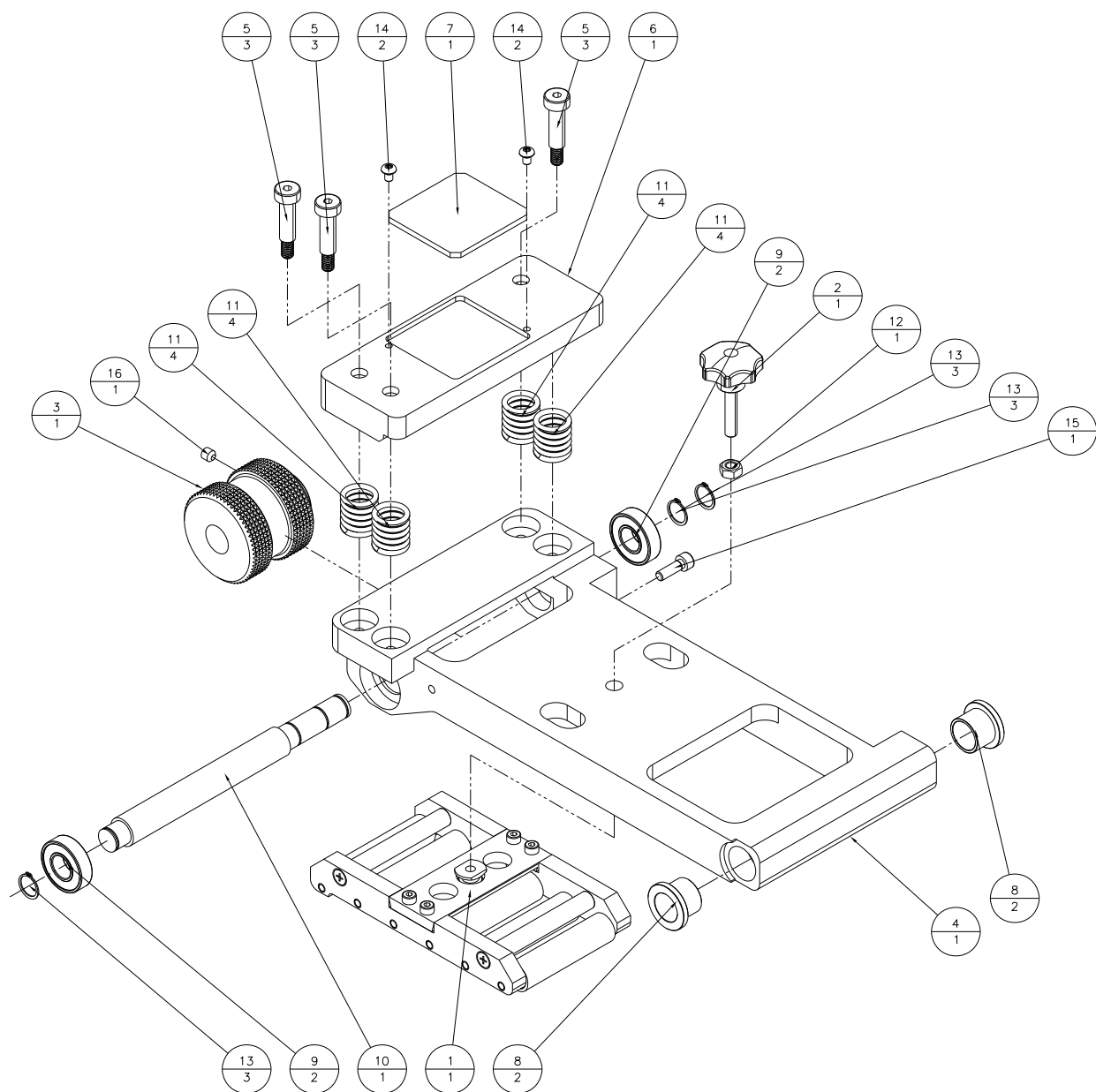


## 9.9. 500-101/3XL/A, Assembly, Main Frame

Rev A: May 2010

42	STOCK	SCREW, SET, M6 X 1 X 6mm LONG, CUP POINT ALLEN, SS	1
41	STOCK	SCREW, SET, M6 X 1 X 20mm LONG, CUP POINT ALLEN, SS	1
40	STOCK	SCREW, SET, M5 X .8 X 10mm LONG, CUP POINT ALLEN, SS	1
39	STOCK	SCREW, M6 X 1 X 40mm LONG, SOCKET HEAD CAP, STEEL, SELF-LOCK	1
38	STOCK	SCREW, M6 X 1 X 25mm LONG, BUTTON HEAD CAP, SS	5
37	STOCK	SCREW, M6 X 1 X 16mm LONG, SOCKET HEAD CAP, SS	3
36	STOCK	SCREW, M6 X 1 X 16mm LONG, FLAT HEAD CAP, SS	1
35	STOCK	SCREW, M6 X 1 X 12mm LONG, SOCKET HEAD CAP, SS	2
34	STOCK	SCREW, M6 X 1 X 12mm LONG, BUTTON HEAD CAP, SS	2
33	STOCK	SCREW, M5 X .8 X 10mm LONG, SOCKET HEAD CAP, SS	4
32	STOCK	SCREW, M5 X .8 X 10mm LONG, BUTTON HEAD CAP, SS	5
31	STOCK	RETAINING RING, EXTERNAL, 5/16" SHAFT, BLACK PHOSPHATE STEEL	1
30	STOCK	RETAINING RING, EXTERNAL, 1/2" SHAFT, BLACK PHOSPHATE STEEL	4
29	STOCK	NUT, HEX, M6 X 1 X 10mm WIDE X 5mm THICK, SS	1
28	STOCK	KEY, WOODRUFF, 1/8" X 1/2" FLAT BOTTOM, ALLOY STEEL	2
27	500-1023A	WASHER, LOWER CHAIN GUIDE	1
26	500-1023/3XL	CHAIN TENSIONER, GUIDE	1
25	500-1014BXL	SUPPORT, MATERIAL GUIDE	1
24	500-1013/3XL	COVER, LOWER CHAIN	1
23	500-197	BEARING, SHAFT / 99R8 2RS	4
22	500-181.35/3XL	NIP CHAIN, LOWER, #35, 73 PINS	1
21	500-168.35	SPROCKET, NIP DRIVE, 10 TOOTH, MODIFIED	2
20	500-138	ROLLER, TRAVEL, FRONT	1
19	500-136	BEARING, TRAVEL ROLLER, 1/4" ID X 1/2" OD X 3/16" WIDE, FLANGED	4
18	500-135	ROLLER, TRAVEL, END	4
17	500-134	ROLLER, TRAVEL, REAR	1
16	500-133	SHAFT, LOWER NIP, DRIVE	1
15	500-132	SHAFT, LOWER NIP	1
14	500-130	NIP ROLLER, SPLIT, HDPE	1
13	500-120.6/3XL/A	ASSEMBLY, CONTOUR ROLLER, LOWER	1
12	500-117XL	SHAFT, PINION GEAR, XL	1
11	500-117CXL	BUSHING, PINION GEAR SHAFT	2
10	500-117BXL	SPRING, PINION SHAFT	1
9	500-116	GEAR, PINION, 24 TOOTH, MODIFIED	1
8	500-115	SPRING, WEDGE, PIVOT	2
7	500-114	BAR, CARRIAGE ADJUSTMENT	1
6	500-112	BUSHING, FLANGED, WEDGE LINEAR SHAFT, .250 ID X .500 OD X .625 LONG	4
5	500-110XL	BUSHING, FLANGED, PINION SHAFT, .312 ID X .437 OD X .375 LONG	5
4	500-108XL	CRADLE, WEDGE PIVOT	1
3	500-106.1XL	SKID, MATERIAL	1
2	500-101.1/3XL	PLATE, DROP OUT, LOWER CONTOUR ROLLER	1
1	500-101/3XL	FRAME, MAIN	1
Item	Part Number	Title/Description	Qty.
Parts List			

### 9.10. 500-101/3XL/A, Assembly, Main Frame (Parts List)

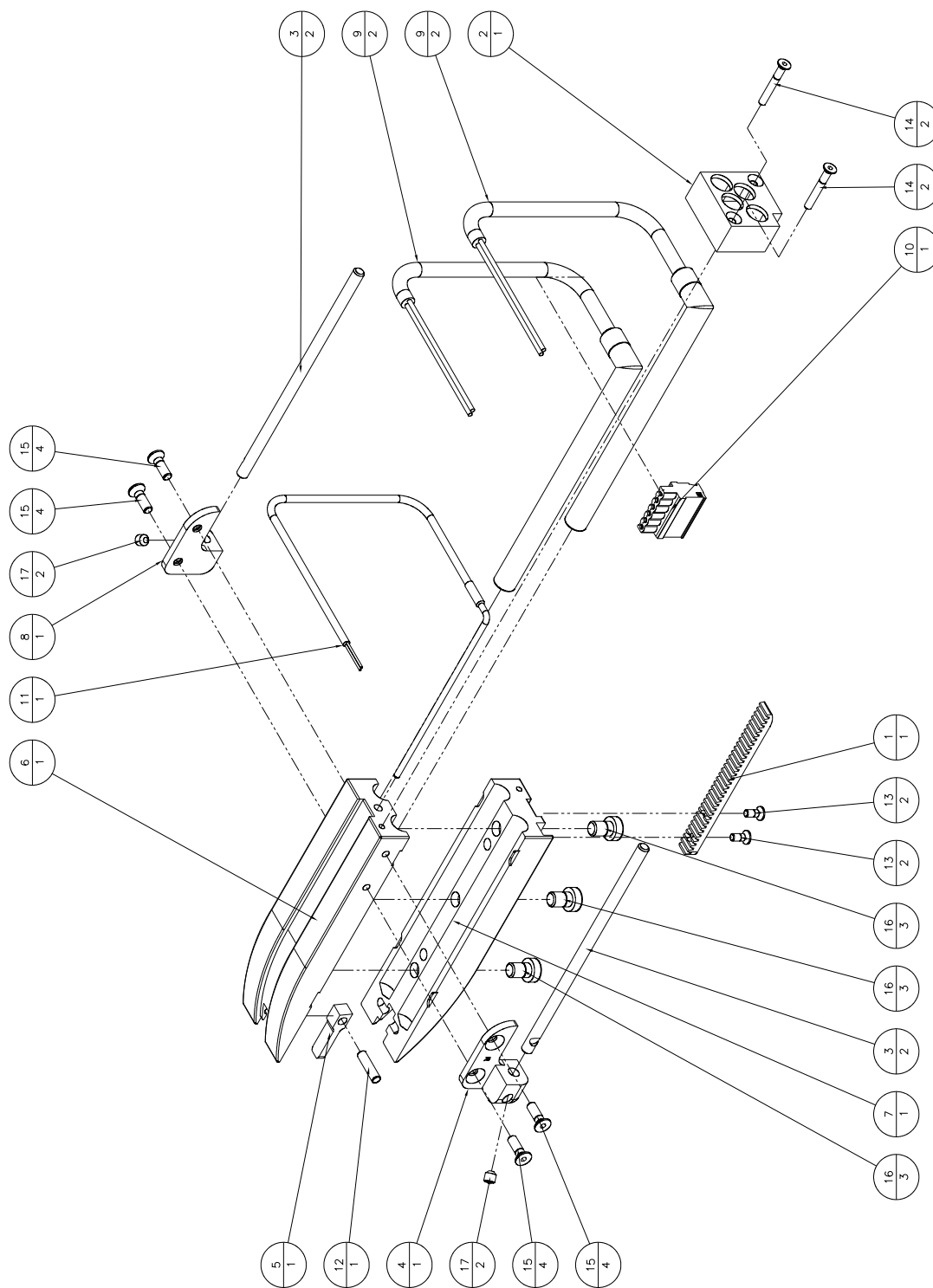


### 9.11. 500-167/3XL/A, Assembly, Nip Arm

Rev A: May 2010

16	STOCK	SCREW, SET, M6 X 1 X 6mm LONG, CUP POINT ALLEN, SS	1
15	STOCK	SCREW, M5 X .8 X 20mm LONG, SOCKET HEAD CAP, SS	1
14	STOCK	SCREW, M4 X .7 X 6mm LONG, BUTTON HEAD CAP, SS	2
13	STOCK	RETAINING RING, EXTERNAL, 1/2" SHAFT, BLACK PHOSPHATE STEEL	3
12	STOCK	NUT, HEX, M6 X 1 X 10mm WIDE X 5mm THICK, SS	1
11	500-1028	SPRING, LOAD PLATE	4
10	500-1002	SHAFT, UPPER NIP	1
9	500-197	BEARING, SHAFT / 99R8 2RS	2
8	500-186	BUSHING, NIP PIVOT	2
7	500-180A/3XL	PLATE, CAM WEAR	1
6	500-180/3XL	PLATE, LOAD	1
5	500-171	SHOULDER BOLT, LOAD PLATE, M8 X 25	3
4	500-167/3XL	ARM, NIP	1
3	500-130	NIP ROLLER, SPLIT, HDPE	1
2	500-120C	KNOB, UPPER CONTOUR ROLLER ADJUSTMENT	1
1	500-120.7/3XL/A	ASSEMBLY, CONTOUR ROLLER, UPPER	1
Item	Part Number	Title/Description	Qty.
Parts List			

### ***9.12. 500-167/3XL/A, Assembly, Nip Arm (Parts List)***

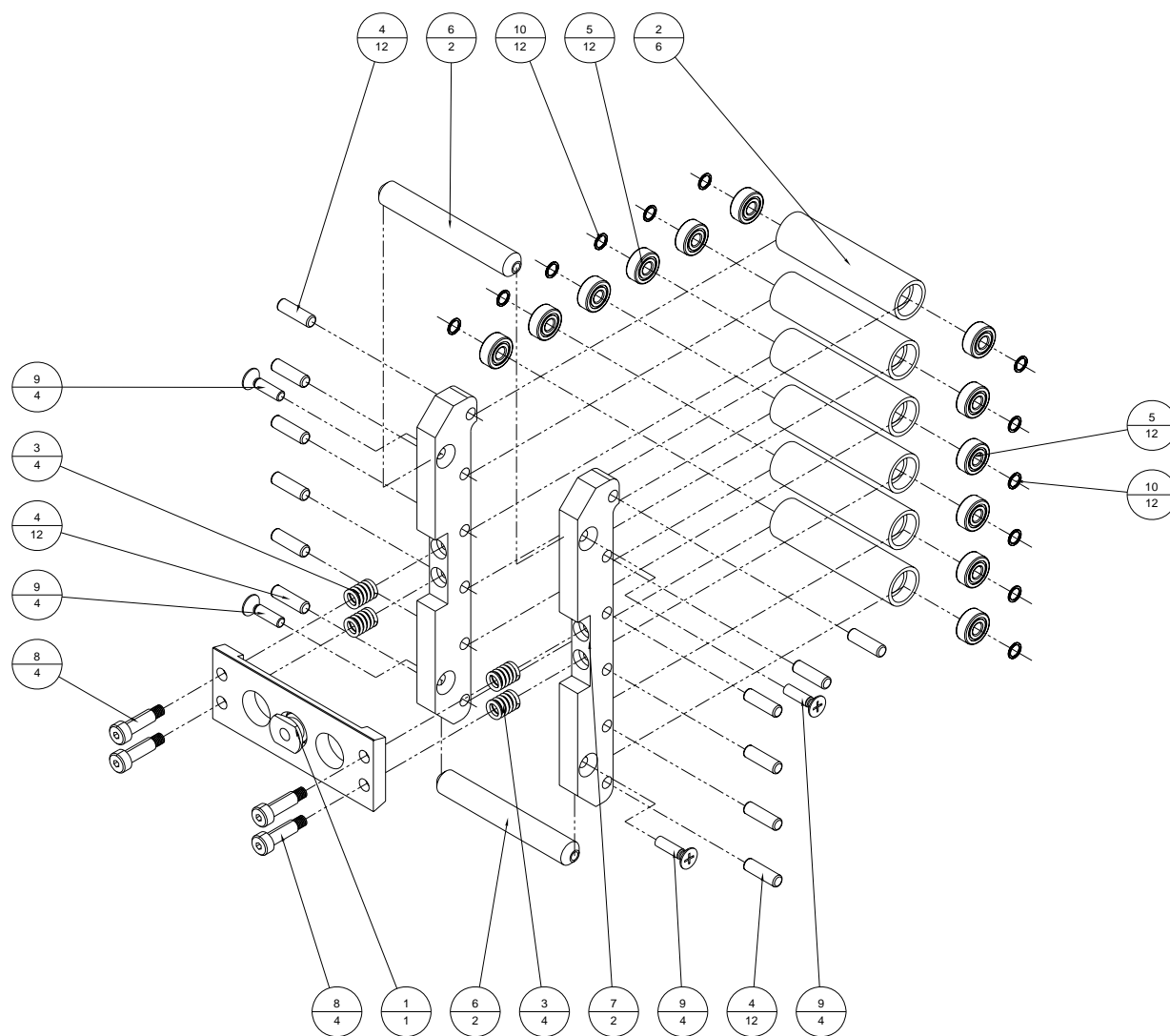


**9.13. 500-125CMPLT/3000/3XL, Assy, Wedge, Split, Complete, 3XL**

Rev A: May 2010

17	STOCK	SCREW, SET, M6 X 1 X 6mm LONG, CUP POINT ALLEN, SS	2
16	STOCK	SCREW, M8 X 1.25 X 12mm LONG, SOCKET HEAD CAP, SS	3
15	STOCK	SCREW, M5 X .8 X 16mm LONG, FLAT HEAD CAP, SS	4
14	STOCK	SCREW, M4 X .7 X 30mm LONG, FLAT HEAD CAP, SS	2
13	STOCK	SCREW, M4 X .7 X 10mm LONG, FLAT HEAD CAP, SS	2
12	STOCK	PIN, DOWEL, M5 OD X 20mm LONG, SS	1
11	500-E11/3XL	THERMOCOUPLE ASSEMBLY, 90 DEGREE	1
10	500-E10PLUG	PLUG, HEATER/T.C. CONNECTION	1
9	500-E10/3XL	CARTRIDGE HEATER, 220V, 1500W	2
8	500-126.1	MOUNT, WEDGE, LEFT HAND	1
7	500-125B.2/3XL	WEDGE, SPLIT, COPPER, BOTTOM-HALF	1
6	500-125B.1/3XL	WEDGE, SPLIT, COPPER, TOP-HALF	1
5	500-125.3	PIN, FLOATING, AIR CHANNEL	1
4	500-124.1	MOUNT, WEDGE, RIGHT HAND	1
3	500-123	SHAFT, LINEAR	2
2	500-122.1	HOUSING, WEDGE TAIL /800	1
1	500-121	RACK, GEAR, 3/8	1
Item	Part Number	Title/Description	Qty.
Parts List			

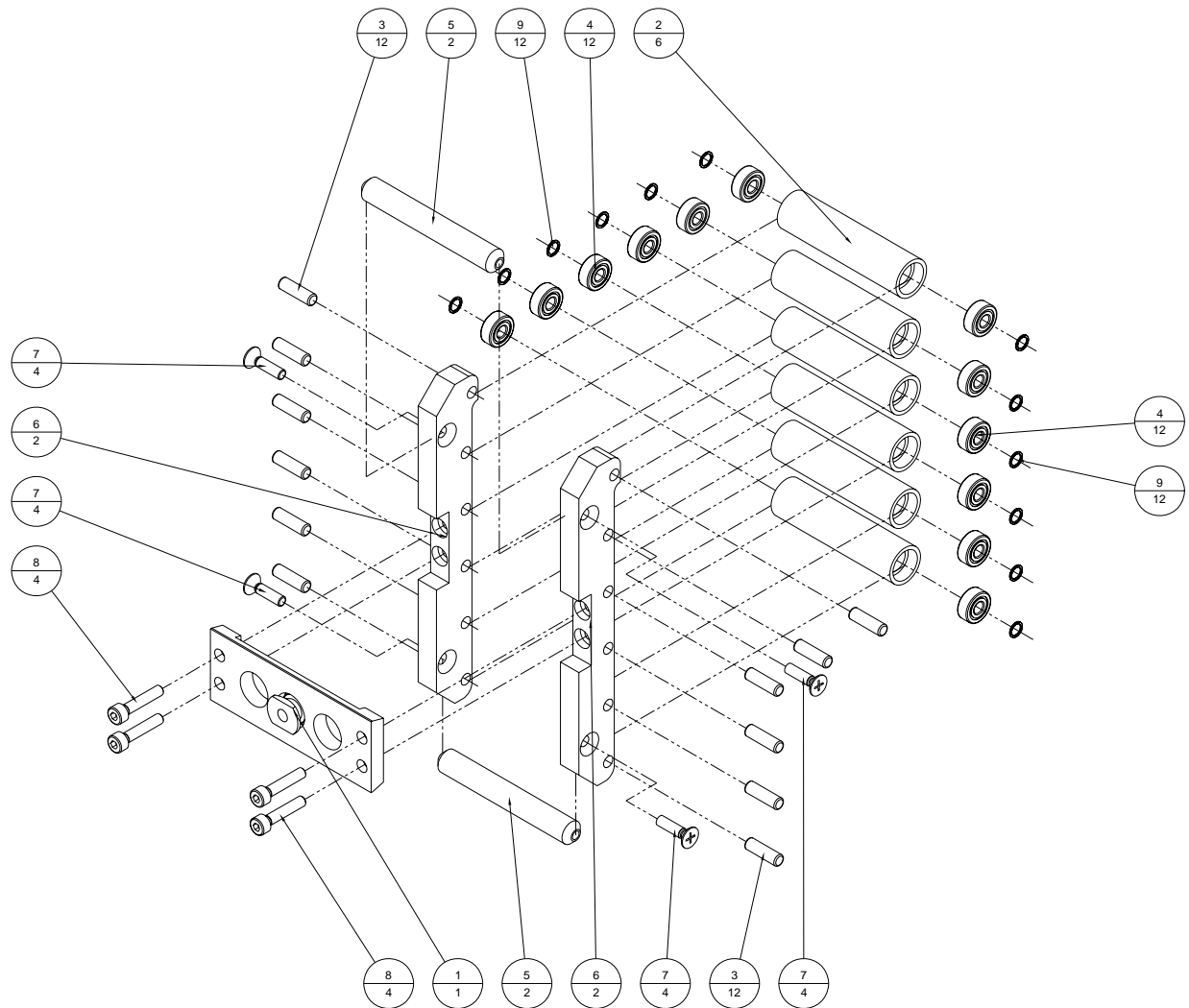
#### ***9.14. 500-125CMPLT/3000/3XL, Assy, Wedge, Split, Cmplt, 3XL (P/L)***



### 9.15. 500-120.6/3XL/A, Assembly, Contour Roller, Lower

10	STOCK	SHIM, SHAFT SPACER, .187" ID X .250" OD X .016" THK, 18-8 SS	12
9	STOCK	SCREW, M4 X .7 X 16mm LONG, FLAT HEAD PHILLIPS, SS	4
8	500-194	SHOULDER BOLT, LOWER CONTOUR	4
7	500-120T/3XL	PLATE, ROLLER BLOCK, SIDE	2
6	500-120J/3XL	STANDOFF, ROLLER PLATE	2
5	500-120H	BEARING, CONTOUR ROLLER, .500" OD X .187" ID X .196" WIDE, DOUBLE SEALED	12
4	500-120G	DOWEL PIN, CONTOUR ROLLER ASSEMBLY, 3/16" OD X 5/8" LONG, SS	12
3	500-120F	SPRING, CONTOUR ROLLER	4
2	500-120E.1	ROLLER, CONTOUR	6
1	500-120A/B	PLATE, CONTOUR ROLLER, W/SWIVEL	1
Item	Part Number	Title/Description	Qty.
Parts List			

### ***9.16. 500-120.6/3XL/A, Assy, Contour Roller, Lower (Parts List)***



**9.17. 500-120.7/3XL/A, Assembly, Contour Roller, Lower**

Rev A: May 2010

9	STOCK	SHIM, SHAFT SPACER, .187" ID X .250" OD X .016" THK, 18-8 SS	12
8	STOCK	SCREW, M4 X .7 X 20mm LONG, SOCKET HEAD CAP, SS	4
7	STOCK	SCREW, M4 X .7 X 16mm LONG, FLAT HEAD PHILLIPS, SS	4
6	500-120T/3XL	PLATE, ROLLER BLOCK, SIDE	2
5	500-120J/3XL	STANDOFF, ROLLER PLATE	2
4	500-120H	BEARING, CONTOUR ROLLER, .500" OD X .187" ID X .196" WIDE, DOUBLE SEALED	12
3	500-120G	DOWEL PIN, CONTOUR ROLLER ASSEMBLY, 3/16" OD X 5/8" LONG, SS	12
2	500-120E.1	ROLLER, CONTOUR	6
1	500-120A/B	PLATE, CONTOUR ROLLER, W/SWIVEL	1
Item	Part Number	Title/Description	Qty.
Parts List			

### ***9.18. 500-120.7/3XL/A, Assy, Contour Roller, Lower (Parts List)***

## 10. Product Warranty

### *Warranty*

DEMTECH Services, Inc. warrants all equipment of its manufacture to be free from defects in materials and workmanship for a period of one year from the date of shipment to the original buyer. The liability under this warranty is limited to replacement parts and labor on equipment when the equipment is returned prepaid to the factory or its authorized service center with prior authorization from DEMTECH Services, Inc., and upon examination by DEMTECH Services, Inc., is determined to be defective. At DEMTECH Services, Inc.'s option, a service representative may be dispatched to the equipment location.

As an additional protection, DEMTECH Services, Inc. warrants that for a period of 90 days from the date of shipment to the original buyer, pending prior authorization from DEMTECH Services, Inc., there will be no charge for service related shipping of parts and/or equipment or for authorized travel of a service representative to the equipment location. After 90 days, all costs incurred for shipping the equipment or parts thereof or for travel are the responsibility of the buyer. Our warranty for this equipment is rendered void if the welder has been repaired, taken apart or modified, or attempted to be, unless such actions have been taken in accordance with written instructions received from DEMTECH Services, Inc. The warranty is also void if the equipment has been subjected to abuse, accident or other abnormal conditions.

#### IF ANY FAULT DEVELOPS, THE FOLLOWING STEPS SHOULD BE TAKEN:

1. Notify DEMTECH Services, Inc. by calling 1-888-324-9353. Overseas customers should contact the local DEMTECH authorized service center. Please be prepared with the model number, serial number and full details of the difficulty. Upon receipt of this information, service data or shipping instructions will be provided by DEMTECH Services, Inc. Do not return the welder for repair without first contacting the factory or its representative for instructions.
2. After the initial 90 day period, on receipt of shipping instructions, forward the equipment prepaid to the factory or its authorized service center as instructed. If requested, an estimate of the charges will be made before work begins, especially with those cases where the DEMTECH Services, Inc. product is not covered by the warranty.
3. If the original carton and packing are not available, the product should be packed in a container with a strong exterior and surrounded by a protective layer of shock-absorbing material. DEMTECH Services, Inc. advises returning the equipment at full value to the carrier.

DEMTECH Services, Inc. reserves the right to make changes in design at any time without incurring any obligation to install the same changes on welders previously purchased.

This warranty states the essence of the obligations or liabilities on the part of DEMTECH Services, Inc. THE FORMAL, COMPLETE AND EXCLUSIVE STATEMENT OF DEMTECH SERVICES, INC.'S WARRANTY IS CONTAINED IN ITS QUOTATIONS, ACKNOWLEDGEMENTS AND INVOICES. DEMTECH Services, Inc. neither assumes, nor authorizes any person to assume for it, any liability in connection with the sale of its equipment other than those set forth herein.

### **END OF MANUAL**