



**Model: Pro-X5™**



**Part Number: 600-0105/X5/A**  
**High Output Thermoplastic Extrusion 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-X5™ Extrusion Welder.

**DEMTECH Services, Inc.**

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**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. Incorrect use of the product such as overheating of the material can present a fire and explosion hazard, especially near combustible materials and explosive gases.

**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.

**WARNING 7:** Do not touch the main housing, air nozzle and output molten material when they are hot as they can cause burns. After use allow ample time for the product to cool down before handling and stowing. Do not point the hot air flow and the output molten material in the direction of personnel.

**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-X5™ Thermoplastic Extrusion Welder, hereinafter referred to as the Pro-X5 or welder, is a high temperature and 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-X5 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 fifteen (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-X5 is intended as professional use equipment and is not intended for sale to the general public. The total input power of the Pro-X5 is specified as greater than 1 kW although in lightly loaded conditions the actual power may be less than 1 kW.

The Pro-X5 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-X5 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-X5.

No changes and/or modifications should be made to the Pro-X5 especially as it relates to safety.

## ***1.2. Maintenance***

Maintenance, inspection and adjustment of the Pro-X5 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-X5™ Thermoplastic Extrusion Welder, hereinafter referred to as the Pro-X5 or welder, dramatically speeds the welding of plastic sheet materials utilizing molten plastic. This function, combined with its simple construction and easy-to-use controls, makes performing welding tasks very efficient. With minimal setup, the welder speeds up processing time; while providing a very rugged and reliable welder. You can be assured the Pro-X5 has been built using the highest quality materials available which include billet aluminum, stainless steel 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-X5 is intended to be operated within the following environmental conditions. Operating the welder in environments which are less than, or greater than nominal can degrade and/or adversely affect performance.

Temperature .....+32 to +100°F; 74°F Nominal (+0 to +38°C; 23°C Nom)

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

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

## 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 use the Pro-X5. You should have an adequate power source capable of providing clean Alternating Current (AC) power at 220-240 Volts at the welder rated current. Refer to the welder serial plate affixed to the front side of the controller housing 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-X5. Carefully review the following information, sub-sections and each procedure before beginning unpacking and installation of the welder.

The Pro-X5 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-X5 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-X5, 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 any packing foam inserts inside the shipping case to facilitate storage of the welder after use.
- 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***

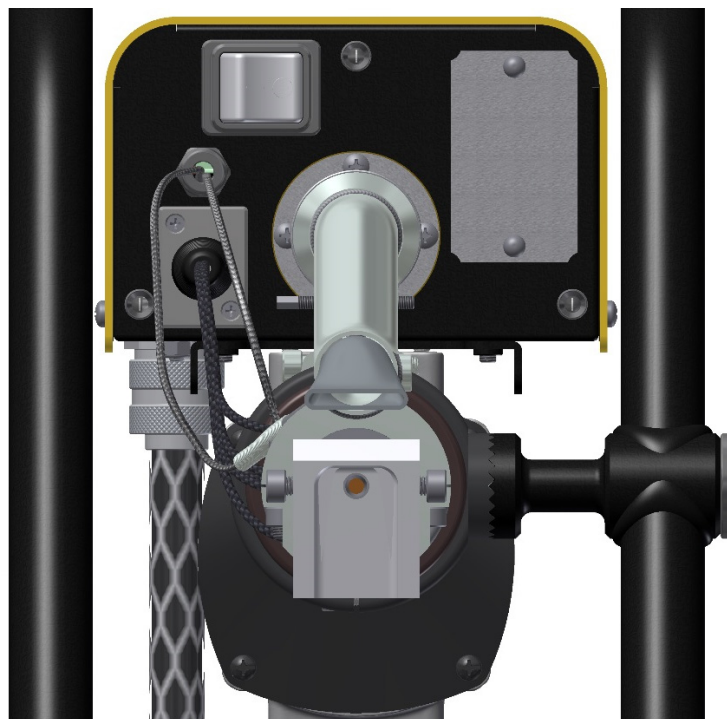
- a. The Pro-X5 is supplied with a power cord, which is permanently connected to the bottom side of the controller housing. Depending on the intended country of use, the plug at the other end of the power cord will vary but in all cases must be rated for the voltage and current requirements of the welder. 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 front of the controller housing for the voltage and current requirements of your welder.

- b. Verify basic operation of the Pro-X5 before proceeding with the remainder of the installation. Make sure all three rocker switches, two on the rear and one on the front of the controller housing (see figures 5.1 and 5.2), are in the “O” (OFF) position. Install the power cord plug into an appropriate electrical outlet supplying the proper ~(AC) power. In all cases, connection should only be made to a circuit with a maximum 15A breaker rating. Turn the main power rocker switch located on the front of the controller housing to the “I” (ON) position. The temperature controller displays should illuminate.
- c. Turn both rocker switches located on the rear side of the controller housing (see Figure 5.1) to the “I” (ON) position. This will turn on the Pre-Heat blower and heater and the Plastic Heat heaters. The green and red LED’s located below the Pre-Heat and Plastic Heat controllers will illuminate. Use caution as the Pre-Heat exhaust air can be very hot. This procedure verifies the Pro-X5 is receiving suitable power and the welder is functioning properly. If the temperature controller displays and LED’s illuminate 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. Turn all three rocker switches to the “O” (OFF) position and disconnect the AC power cord.
- d. The operating voltage requirement for the Pro-X5 is **220-240 Volts AC only**. This operating voltage range refers to the actual voltage as measured at the welder power cord 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) to be used and the proper AC source which may be an in-field generator supplying the power. If applicable, start the generator then turn all three rocker switches to the “I” (ON) position. While both the green and red LED’s located below the temperature controllers are illuminated, indicating that the Plastic Heat and Pre-Heat heaters are active and after the cold start protection temperature has been reached, power the drill motor by utilizing the trigger switch. Next, carefully separate the plug at the end of the welder power cord just enough to expose the prongs 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.

Rev. A: January 2015



**Figure 5.1**



**Figure 5.2**

### **Electrical Extension Cords**

The Pro-X5 is capable of welding along 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, as these factors 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 5.1 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 feet (76 meters)
<b>Length</b>		

**Table 5.1 Maximum recommended extension cord length.**

### ***5.3. Generator Recommendations***

When operating the Pro-X5 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 welder performance. 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 Controls

The Pro-X5 utilizes two temperature controllers located on the main control panel. The left controller operates the Pre-Heat temperature and the right controller operates the Plastic Heat (Barrel/molten rod) temperature (see Figure 6.1).



**Figure 6.1**

### ***6.1. Recommended Temperature Settings***

Pre-Heat and Plastic Heat temperature settings will vary a great deal due to the wide range of variables that can be experienced in the field. For example, ambient temperature, sheet material type, temperature and thickness, wind conditions and other factors are all variables that impact the appropriate temperature settings. These factors make it impractical to create a chart that can universally cover all these varying conditions. Therefore, we recommend contacting DEMTECH Services, Inc. or your authorized DEMTECH distributor where the product was purchased to receive guidance for appropriate settings.

### ***6.2. Setting Pre-Heat Temperature***

The left temperature controller regulates the Pre-Heat temperature. The current Pre-Heat temperature set point is displayed on the smaller green digits to the right of the controller display. The actual Pre-Heat temperature is displayed on the larger green digits to the left of the controller display. To adjust the set point, press the up or down arrow buttons. Once the set point has been adjusted to the desired temperature, allow approximately five minutes for the Pre-Heat temperature to rise or fall and stabilize at the new set point.

### ***6.3. Setting Plastic Heat Temperature***

The right temperature controller regulates the Plastic Heat temperature. The current Plastic Heat temperature set point is displayed on the smaller green digits to the right of the controller display. The actual Plastic Heat temperature is displayed on the larger green digits to the left of the controller display. To adjust the set point, press the up or down arrow buttons. Once the set point has been adjusted to the desired temperature, allow approximately five minutes for the welder Barrel temperature to rise or fall and stabilize at the new set point before attempting to feed welding rod. The Pro-X5 is equipped with electronic cold start protection, which prevents activation of the drill motor until a proper operating temperature has been reached. Feeding welding rod before the welder Barrel temperature has reached set point can cause damage to the drive motor unit.



## **7. Welder Set-Up and Operation**

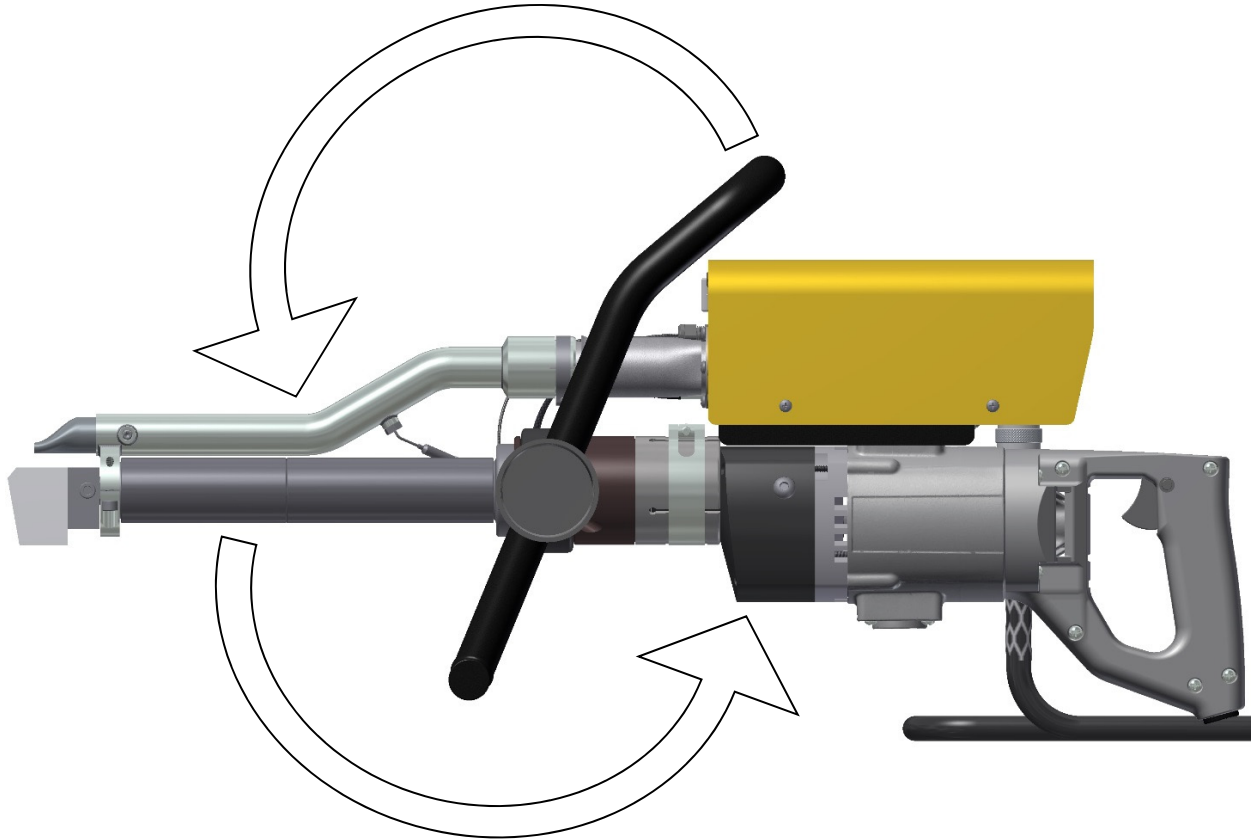
The initial set-up of the Pro-X5 is by far the most critical aspect for proper operation of the welder. Proper set-up not only leads to quality welding results, but also minimizes wear and tear on the welder itself. Improper adjusting of the welder can result in excessive wear on critical components.

### ***7.1. Set-Up Preparation***

The procedures described in the following sections cover the initial set-up required for welding. Initial operations must be made while the welder is at room temperature.

Install the desired welding shoe onto the end of the welder for the welding to be performed (refer to Section 7.7).

Adjust the grip handle to the best position for the welding to be performed (see Figure 7.1). Loosen the handle by gripping the round knob and turning counter-clockwise. This will loosen the handle clamp. Position the handle within its 45° swing and tighten the handle by turning the round knob clockwise.

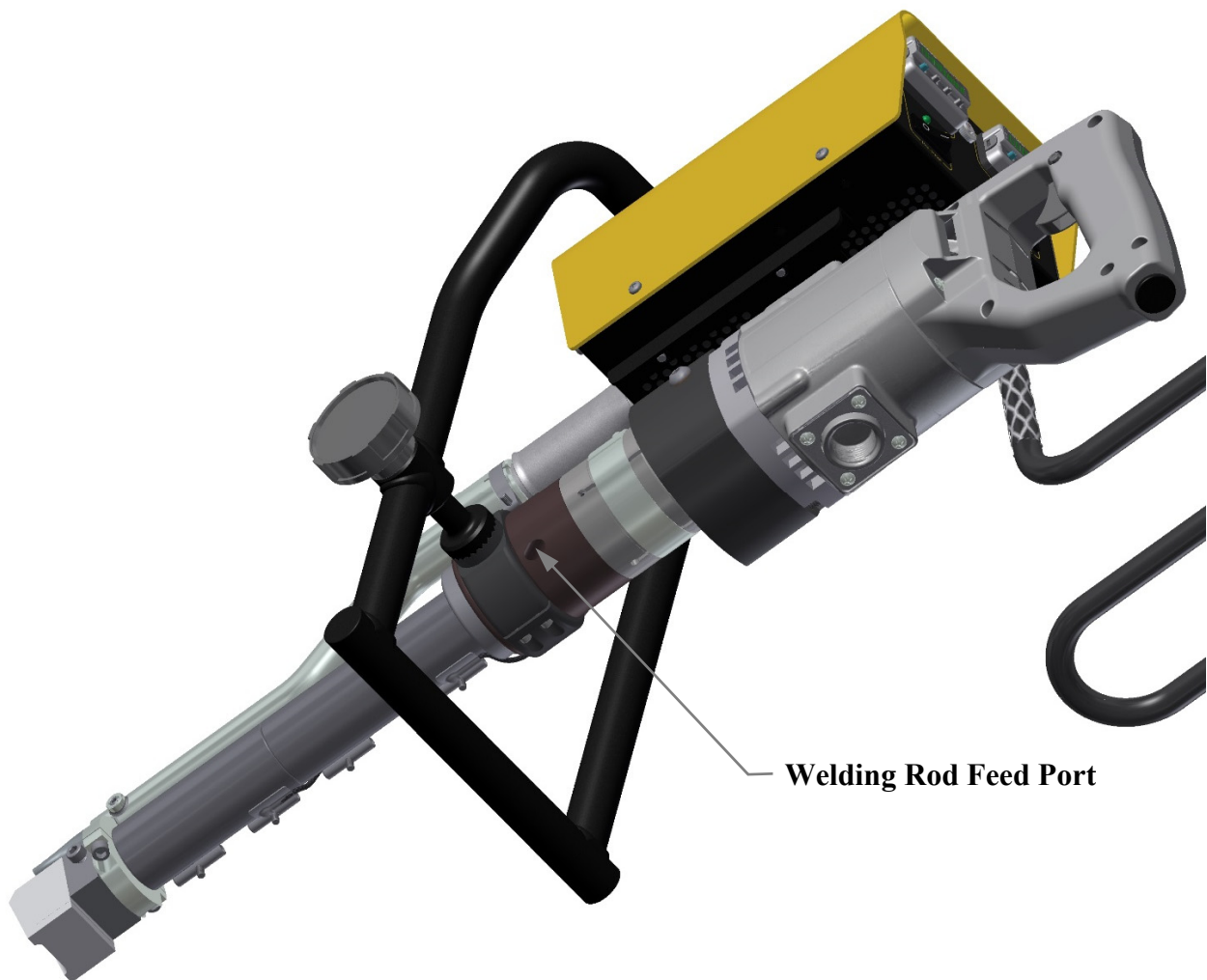


**Figure 7.1**

The welder contains a **cold start protection** feature that prevents operation of the drill motor before the welder has reached the proper operating temperature. To prepare the welder for operation, set the Pre-Heat and Plastic Heat temperatures. These settings will vary depending on the material to be welded and the ambient environment. Operator and operating experience will dictate the proper settings.

## **7.2. *Start a weld***

Once the welder has stabilized at the operating temperature, insert the end of the welding rod into the feed port while simultaneously powering the drill motor (see Figure 7.2). Once the welding rod has been started, it will continue to self-feed as you weld. The welder drill motor should only be operated when welding rod is being continuously fed into the welder and should never be run dry. Direct the Pre-Heat nozzle toward the area to be welded. Pre-warm the welding zone with back-and-forth movements of the welder tip. Position the welder on the prepared welding zone and operate the drill motor trigger switch.



**Figure 7.2**

### ***7.3. During a Weld***

Keep the welding rod being fed into the welder clean and dry. Foreign material such as dust, dirt, sand and water droplets introduced into the feed port can cause premature wear to the welder. For long welds, the Pro-X5 drill motor has a locking pin which allows you to lock the drill motor trigger switch in the “ON” position.

Additional adjustments to the Pre-Heat and Plastic Heat temperatures may be required.

### ***7.4. Stop a weld***

To stop welding, either release the drill motor trigger or, if the trigger is locked “ON”, pull and release the trigger to stop. If there is going to be a short pause before the next weld, clear the excess molten plastic from the tip of the welder shoe to prevent it from cooling and inadvertently blocking the welder output (refer to Section 7.5). If there is going to be a long pause before the next weld, it is recommended that the molten plastic inside the barrel be purged before commencing the next weld (refer to Section 7.5).

### ***7.5. Between welds***

After the drill motor is stopped and if there is going to be a short pause before the next weld, clear the excess molten plastic from the tip of the welder shoe to prevent it from cooling and inadvertently blocking the welder output. Take caution as the plastic is hot. Use a pair of pliers with insulated handles to perform this procedure. Grab the tip of extrudate protruding from the welding shoe and pull. This will remove a small plug of semi-cooled extrudate with a bit of molten plastic at the end.

With the Plastic Heat enabled, the plastic inside the barrel will continue to melt. If the welder sits idle between welds for 30 seconds or more, this causes the plastic in the barrel to become “overheated”. Before beginning the next weld it is important to purge this overheated plastic from the barrel. This should be done off to the side of the work area by activating the drill motor for a sufficient period of time to push out any “old” plastic and refilling the barrel with “new” plastic. This procedure assures good and consistent welds throughout the work shift.

## ***7.6. Shut-Down Procedure***

When all welding operations are complete, perform the following procedure to shut-down the Pro-X5 and ready it for storage.

1. Start the drive motor to cause one or two inches of extrudate to be pumped out of the Teflon Shoe exit orifice.
2. Stop the drive motor and allow the extrudate hanging from the exit orifice to cool for several minutes.
3. Cut the welding rod approximately 6-12 inches back from the Feed Port leaving the rod protruding from the Feed Port.
4. Once the extrudate hanging from the Teflon Shoe exit orifice has cooled, use a pair of pliers with insulated handles to pull it from the end of the welder in a twisting motion. This removes all material remaining in the Teflon Shoe Assembly area and prevents a “cold plug” from causing problems on next start-up.

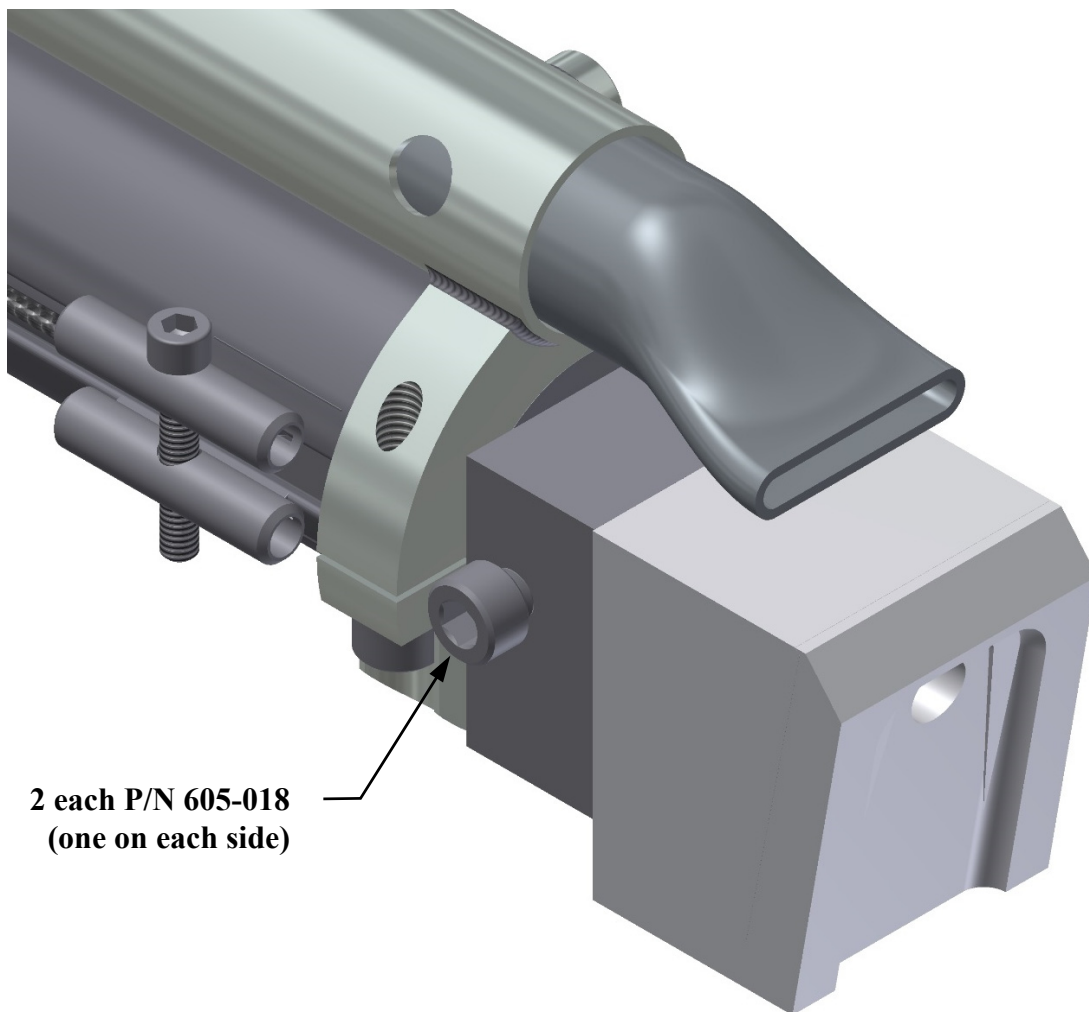
Switch the Pre-Heat and Plastic Heat rocker switches located on the rear of the controller housing to the “**○**” (OFF) position. Allow the Pre-Heat blower to run for several minutes or until the temperature displayed on the Pre-Heat controller display is at 200 °F or below, then switch the main rocker switch to the “**○**” (OFF) position.

Unplug the Pro-X5 AC power cord and allow the welder to cool for at least fifteen (15) minutes. Once safely cooled, place the welder into the shipping/storage case.

### ***7.7. Changing the Teflon Shoe Assembly***

Make sure all three rocker switches are in the “**O**” (OFF) position. Remove the ~ (AC) line cord from the power outlet and allow the welder to cool before attempting to service the equipment. Do not perform service unless you are qualified and trained to do so.

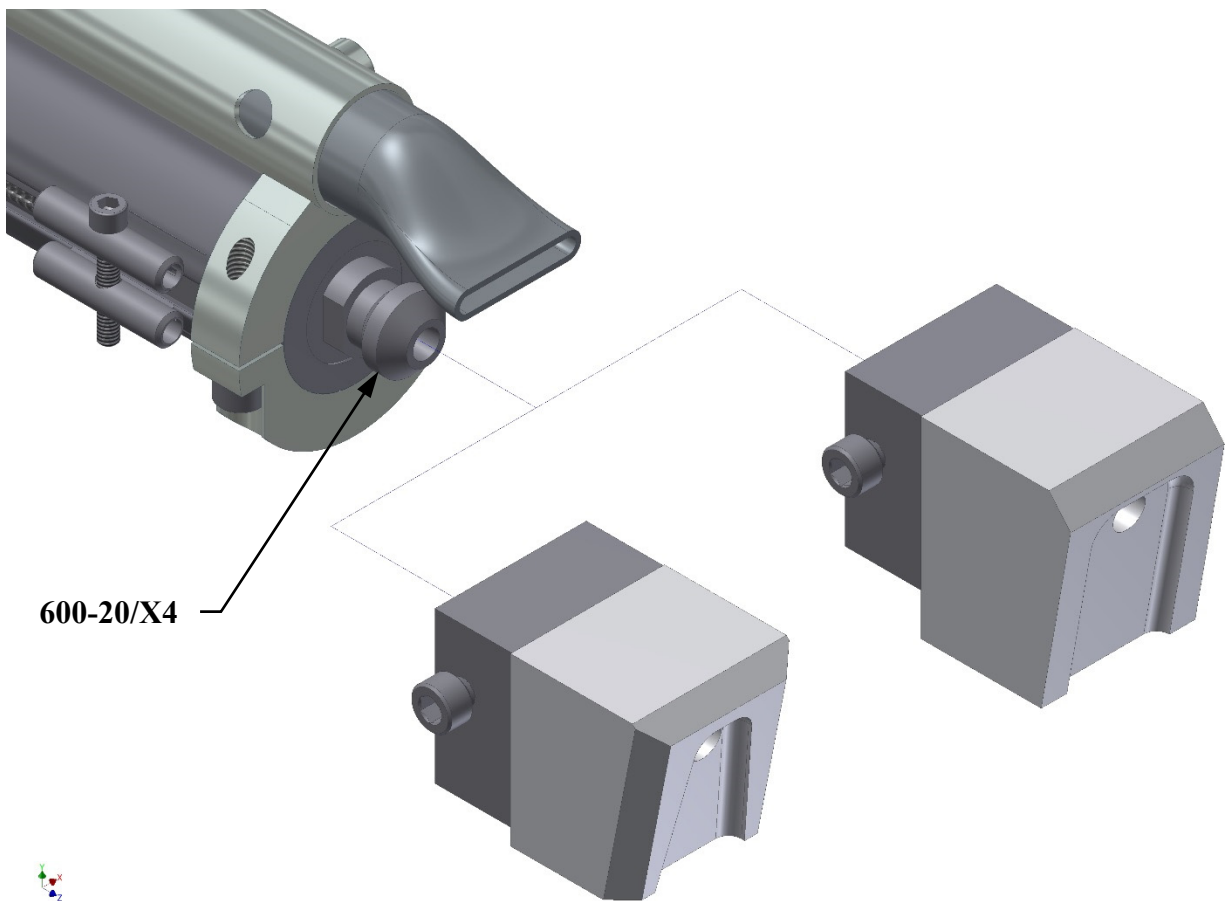
- a. Using a 5mm hex Allen wrench, loosen the two socket head cap Screws, DEMTECH part number 605-018, located on opposite sides of the Teflon Shoe Assembly (see Figure 7.4).



**2 each P/N 605-018  
(one on each side)**

**Figure 7.4**

- b. Remove the Teflon Shoe Assembly from the Nozzle, DEMTECH part number 600-20/X4. Due to melted plastic material buildup, removal of the Shoe may require strong twisting motion clockwise and counterclockwise and significant pulling force to remove (see Figure 7.5). There are several different Teflon Shoe Assemblies available; those shown in Figure 7.5 are DEMTECH part numbers TS-600-60/A (on the right) and TS-600-60-AEG/A (on the left). Please go to [www.demtech.com](http://www.demtech.com) for a complete listing of Teflon Shoe Assemblies and other available Pro-X5 accessories.



**Figure 7.5**

- c. Clean any residual melted plastic material from the Teflon Shoe Assembly and Nozzle to facilitate and ease reinstallation of the new Shoe.
- d. Install the new Teflon Shoe Assembly in the reverse order.

## 8. Factory Servicing

In the event your Pro-X5 should require factory service, the entire welder needs to be returned to DEMTECH Services, Inc. or to your authorized DEMTECH distributor where the product was purchased. Refer to the following steps for preparing the Pro-X5 for return.

Carefully pack the Pro-X5 in the reusable portable shipping/storage case provided with the welder for return to DEMTECH Services, Inc. or to your authorized DEMTECH distributor where the product was purchased. Unless previous arrangements are made, shipping charges and insurance are the customer's responsibility. Ship the Pro-X5 to DEMTECH Services, Inc. at:

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

or to your authorized DEMTECH distributor where the product was purchased.

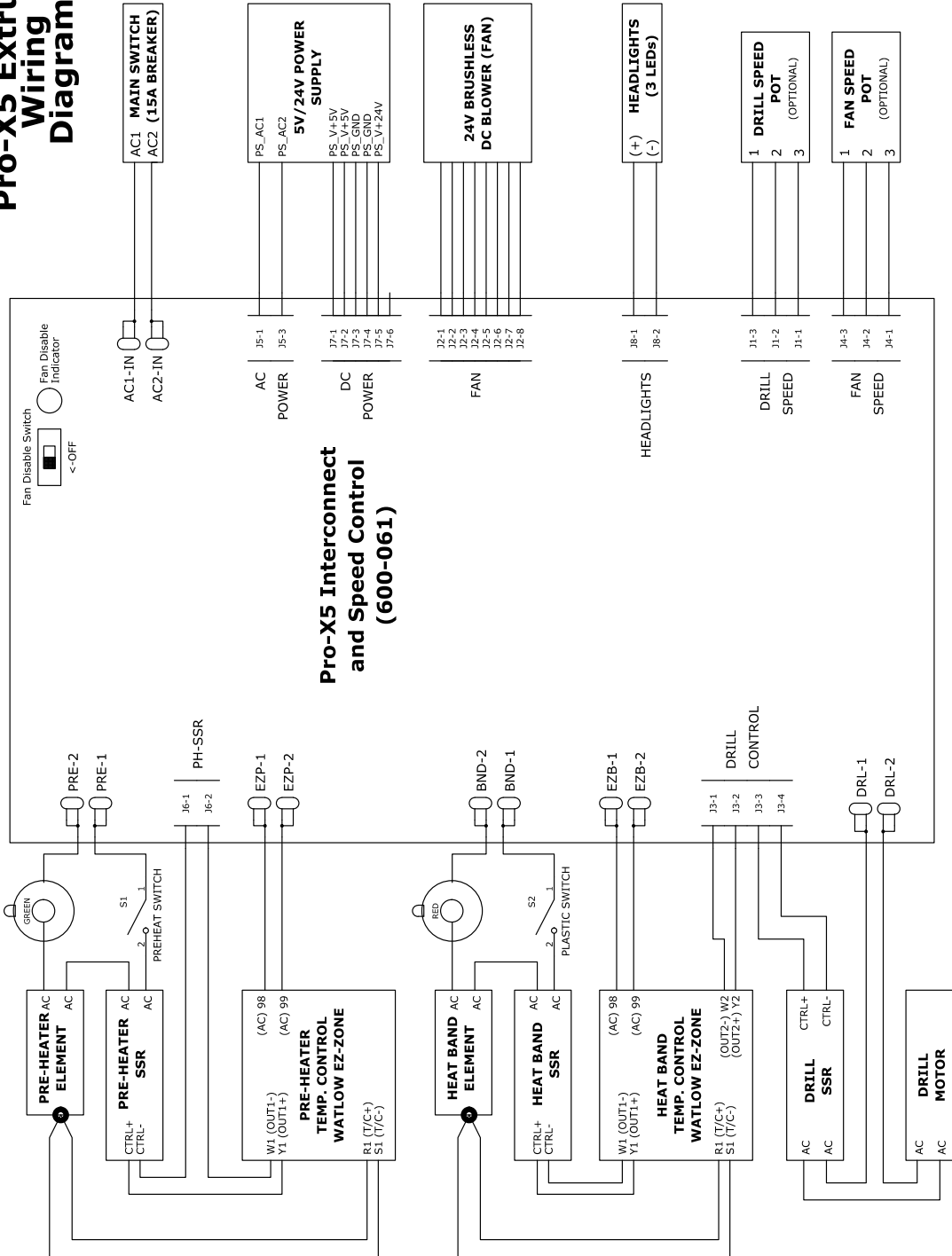
## 9. Welder Wiring Diagram

Refer to Diagram 9.1 for the Pro-X5 Welder Wiring Interconnect Diagram.



Rev. A: January 2015

# Pro-X5 Extruder Wiring Diagram

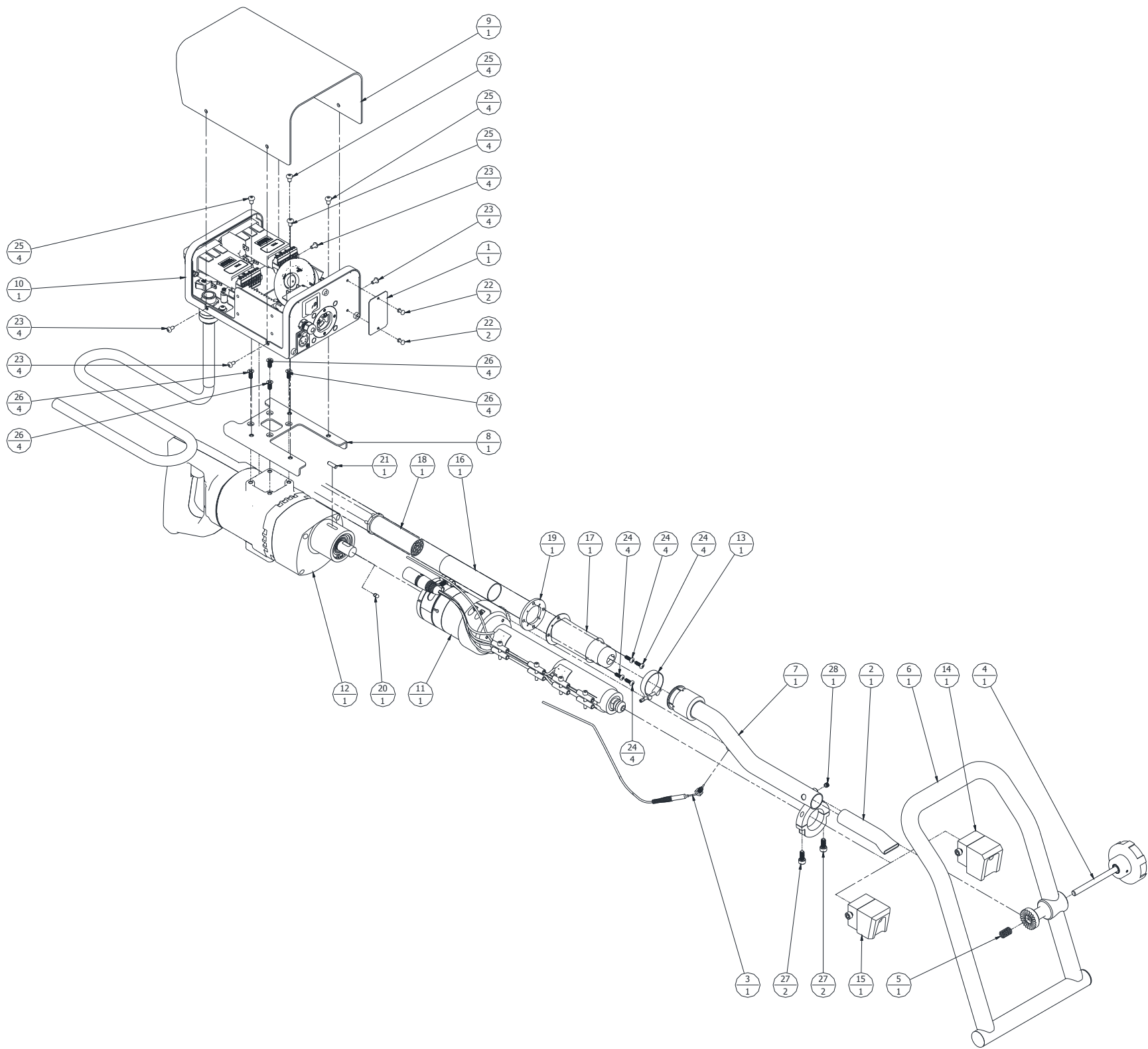


**Diagram 9.1**

## 10. Service/Spare Parts ID

Refer to the diagrams and related parts lists on the following pages to identify service/spare parts for the Pro-X5. To locate a part, find it visually on the exploded assembly diagram 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 accompanying parts list to identify the corresponding DEMTECH part number. The diagrams and parts lists provided in this manual are as follows:

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10.10.	600-D08/X5/A, Assy, Motor Housing Complete, Pro-X5 (Parts List).....	30
10.11.	600-D100/X4/A, Assembly, Gear Box Complete, w/o Armature (Parts ID).....	31
10.12.	600-D100/X4/A, Assy, Gear Box Complete, w/o Armature (Parts List) .....	32
10.13.	600-D100A/X5/A, Assembly, Gear Box Complete, w/ Armature (Parts ID).....	33
10.14.	600-D100A/X5/A, Assy, Gear Box Complete, w/ Armature (P/L).....	34



10.1.      600-0105/X5/A, Assembly, Pro-X5 Extrusion Welder (Parts ID)

Rev. A: January 2015

28	STOCK	SCREW, SET, M6 X 1.0 X 6mm LONG, CUP POINT, 18-8 STAINLESS STEEL	1
27	STOCK	SCREW, M6 X 1 X 14mm LONG, SOCKET HEAD CAP, 18-8 STAINLESS STEEL	2
26	STOCK	SCREW, M5 X 0.8 X 12mm LONG, FLAT HEAD PHILLIPS, 18-8 STAINLESS STEEL	4
25	STOCK	SCREW, M5 X 0.8 X 8mm LONG, BUTTON HEAD SOCKET CAP, 18-8 STAINLESS STEEL	4
24	STOCK	SCREW, M4 X .7 X 12mm LONG, PAN HEAD PHILLIPS, 18-8 STAINLESS STEEL	4
23	STOCK	SCREW, M4 X .7 X 8mm LONG, PAN HEAD PHILLIPS, 18-8 STAINLESS STEEL	4
22	STOCK	RIVET, 1/8" BLIND, DOME STYLE, STAINLESS STEEL	2
21	STOCK	PIN, DOWEL, 3/16" OD X 5/8" LONG, 18-8 STAINLESS STEEL	1
20	STOCK	PIN, DOWEL, 3/16" OD X 5/16" LONG, 18-8 STAINLESS STEEL	1
19	L-103.224	RING, FIBER	1
18	L-100.689	ELEMENT, HEAT, 230V, 1550 WATTS	1
17	A-6100300	SLEEVE, HEAT	1
16	A-6100297	TUBE, MICA, INSULATION	1
15	TS-600-60-AEG/A	ASSEMBLY, SHOE, OVERLAP, NARROW FOR 1.0-2.0mm (40-80mil) SHEET THICKNESS	1
14	TS-600-60/A	ASSEMBLY, SHOE, OVERLAP FOR 1.0-2.0mm (40-80mil) SHEET THICKNESS	1
13	605-058	CLAMP, SCREW, 30-36mm RANGE, STAINLESS STEEL	1
12	600-DRILL/X5/A	ASSEMBLY, DRILL MOTOR COMPLETE, PRO-X5	1
11	600-BARREL/X5/A	ASSEMBLY, BARREL COMPLETE, PRO-X5	1
10	600-100/X5/A	ASSEMBLY, CONTROLLER, PRO-X5	1
9	600-056	COVER, CONTROLLER HOUSING, X5	1
8	600-64/X4	BRACKET, CONTROLLER HOUSING	1
7	600-38/AL/X4	MANIFOLD, EXTRUDER, PRE-HEAT, WELDMENT	1
6	600-27/X4/A	ASSEMBLY, ADJUSTABLE HANDLE STAND	1
5	600-22.2	SPRING, STANDLE	1
4	600-22.0/X4	ASSEMBLY, HANDLE STAND KNOB	1
3	600-21/X5	ASSEMBLY, THERMOCOUPLE	1
2	600-13	NOZZLE, PRE-HEAT MANIFOLD	1
1	100-399	NAME PLATE / SERIAL # PLATE	1
ITEM	PART NUMBER	DESCRIPTION	QTY
PARTS LIST			

## 10.2. 600-0105/X5/A, Assembly, Pro-X5 Extrusion Welder (Parts List)

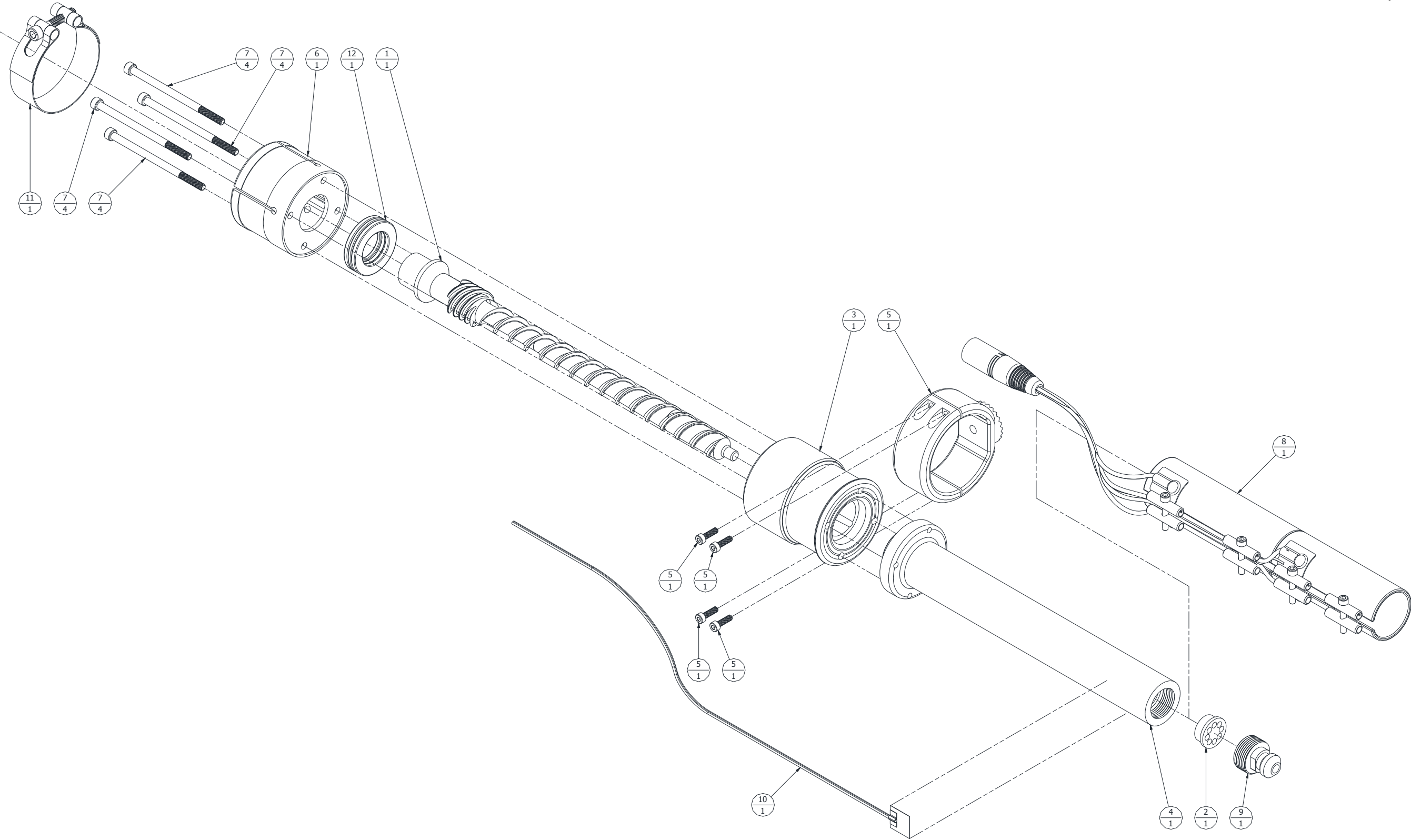


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44	605-E011	LED, HIGH INTENSITY, 5mm, 15 DEGREE VIEWING ANGLE, WHITE	3
43	605-E010	POWER SUPPLY, DUAL OUTPUT, +5VDC @ 3.5A / +24VDC @ 1.5A	1
42	605-E009	SWITCH, POWER/BREAKER, DPST, ON/OFF, 15A @ 240 VAC, WHITE OPAQUE	1
41	605-E007	CONTACT, 4mm DIA, DUAL CRIMP	2
40	605-E004	BLOWER, MINIATURE RADIAL, 70.2mm X 74.6mm X 47.5mm, 24 VDC	1
39	605-082	CLAMP, BLOWER MOUNT, TYPE 2	1
38	605-081	BRACKET, BLOWER MOUNT, TYPE 2	1
37	605-074	CORDGRIP, LIQUID TIGHT, STRAIGHT-THRU, PG HUB, BLACK	1
36	605-073	GROMMET, 3/4" ID X 1-3/8" OD X 1/16" PANEL THK X 1-1/16" DIA PANEL HOLE, BUNA-N	1
35	605-072	SPACER, LED, 5mm	3
34	605-071	CLIP, LED, 5mm, W/ BEZEL	3
33	605-060	HOUSING, BLOWER, INTERNAL	1
32	605-051	MOUNT, HEATER, INTERNAL	1
31	605-037	SCREW, M4 X 0.7 X 16mm LONG, PAN HEAD PHILLIPS, 18-8 SS	1
30	600-065	NUT, CONDUIT FITTING LOCK, 1/2" NPT, ZINC PLATED STEEL	1
29	600-064	MOUNT, VIBRATION-DAMPING SANDWICH, 8-32 FEMALE X 8-32 FEMALE	4
28	600-063	THREAD ADAPTER, 8-32 MALE TO 4-40 MALE, STAINLESS STEEL	4
27	600-062	STRAIN RELIEF, 1/2" MNPT STRAIGHT X .50-.63" DIA CORD, ALUMINUM	1
26	600-061	ASSEMBLY, CONTROLLER INTERCONNECT PCB	1
25	600-060	RELAY, SOLID STATE, 24-280 VAC, DC INPUT, 25 AMP	3
24	600-057	OVERLAY, CONTROL PANEL, X5	1
23	600-055G	GASKET, CONTROLLER HOUSING, X5	1
22	600-055F	FILTER, CONTROLLER HOUSING, X5	1
21	600-055.14	NUT, 6-32 HEX W/ TOOTH WASHER, 5/16" WIDE X 7/64" THICK, 18-8 STAINLESS STEEL	4
20	600-055.13	NUT, M5 X 0.8 HEX, NYLON-INSERT LOCKNUT, 18-8 STAINLESS STEEL	1
19	600-055.12	WASHER, M4 REGULAR SPLIT LOCK, 18-8 STAINLESS STEEL	9
18	600-055.10	WASHER, M3 REGULAR SPLIT LOCK, 18-8 STAINLESS STEEL	2
17	600-055.09	SCREW, M5 X 0.8 X 10mm LONG, BUTTON HEAD SOCKET CAP, 18-8 STAINLESS STEEL	1
16	600-055.08	NUT, ALLEN, 4-40 X .18" LONG, ALLOY STEEL	4
15	600-055.07	SCREW, M3 X 0.5 X 6mm LONG, FLAT HEAD PHILLIPS, 18-8 STAINLESS STEEL	2
14	600-055.06	SCREW, M4 X 0.7 X 10mm LONG, PAN HEAD PHILLIPS, 18-8 STAINLESS STEEL	4
13	600-055.05	SCREW, M3 X 0.5 X 22mm LONG, SOCKET HEAD CAP, 18-8 STAINLESS STEEL	2
12	600-055.04	NUT, M4 X 0.7 HEX, 7mm WIDE X 3.2mm THICK, 18-8 STAINLESS STEEL	6
11	600-055.03	SCREW, M4 X 0.7 X 30mm LONG, SOCKET HEAD CAP, 18-8 STAINLESS STEEL	4
10	600-055.02	WASHER, #8 FLAT, .150" ID X .312" OD X .062" THICK, NEOPRENE RUBBER	4
9	600-055	HOUSING, CONTROLLER, X5	1
8	600-41EX	RECEPTACLE, HEATBAND	1
7	600-29EX	CIRCUIT BREAKER, 5A	1
6	600-11	BRACKET, CURRENT INDICATOR	2
5	600-10	CURRENT INDICATOR, GREEN	1
4	600-09	CURRENT INDICATOR, RED	1
3	600-06	SWITCH, PREHEATER, BLOWER ON/OFF	2
2	100-475	CABLE, POWER CORD	5
1	100-426	TEMPERATURE CONTROLLER, EZ-ZONE	2
ITEM	PART NUMBER	DESCRIPTION	QTY

Parts List

#### **10.4. 600-100/X5/A, Assembly, Controller, Pro-X5 (Parts List)**

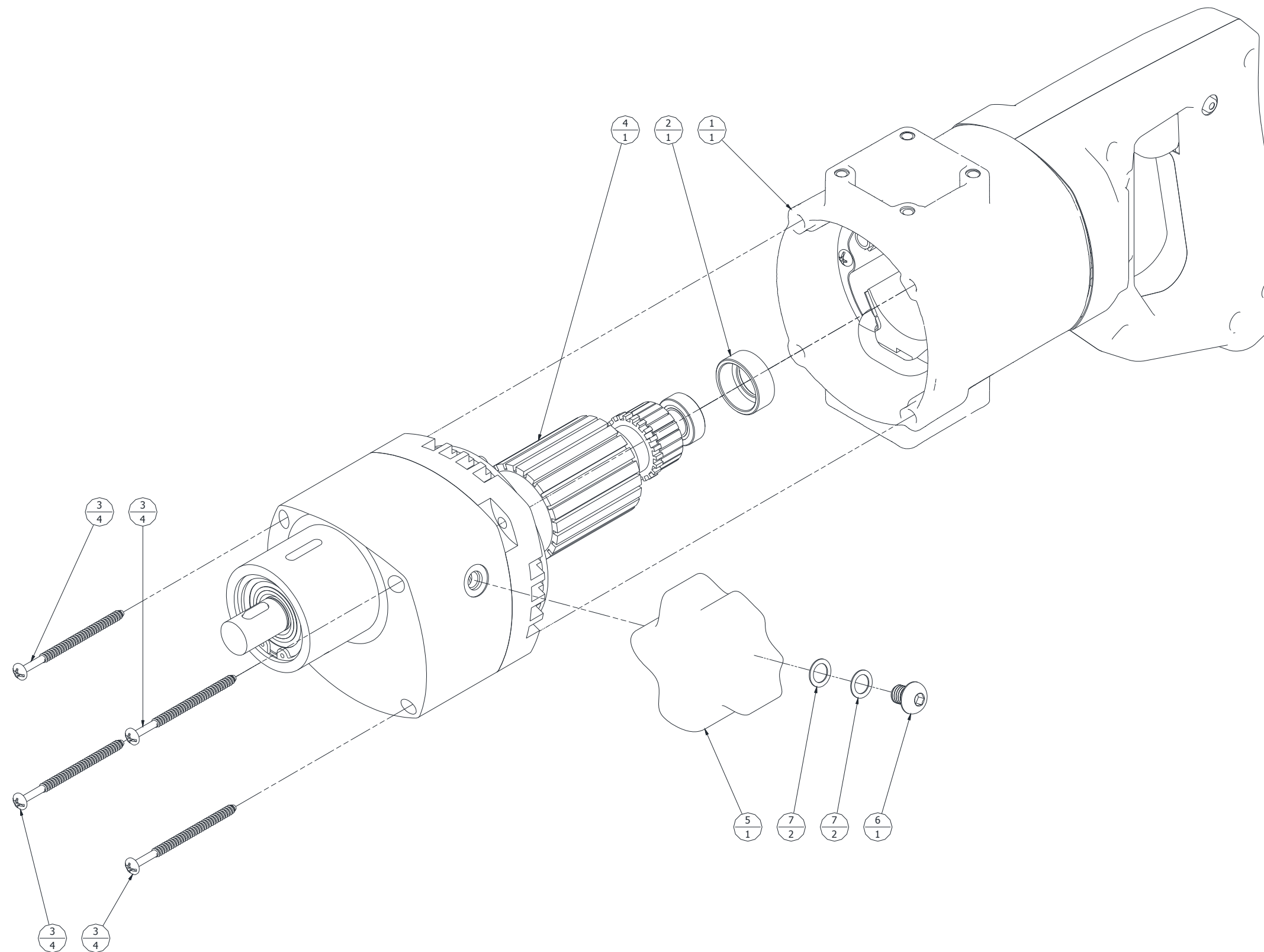


**10.5. 600-BARREL/X5/A, Assembly, Barrel Complete, Pro-X5 (Parts ID)**

12	600-D20	BEARING, THRUST	1
11	600-31/X5	CLAMP, BARREL	1
10	600-23/X4	ASSEMBLY, THERMOCOUPLE	1
9	600-20/X4	NOZZLE, BARREL OUTPUT, X4	1
8	600-03EX/A	ASSEMBLY, HEAT BAND, PRO-X, W/ PLUG	1
7	600-02H-SC	SCREW, M5 X 0.8 X 90mm LONG, SOCKET HEAD CAP, BLACK-OXIDE CLASS 12.9 ALLOY STEEL	4
6	600-02H	MOUNT, BARREL/ DRIVE MOTOR	1
5	600-02F	CLAMP, STANDLE MOUNT	1
4	600-02E	BARREL, EXTRUDER, COMPOSITE	1
3	600-02D	ISOLATOR, EXTRUDER, COMPOSITE	1
2	600-02B.1/BR	INSERT, SCREW SUPPORT, BRONZE	1
1	600-01A	SCREW, EXTRUSION	1
ITEM	PART NUMBER	DESCRIPTION	QTY
PARTS LIST			

**10.6. 600-BARREL/X5/A, Assembly, Barrel Complete, Pro-X5 (Parts List)**



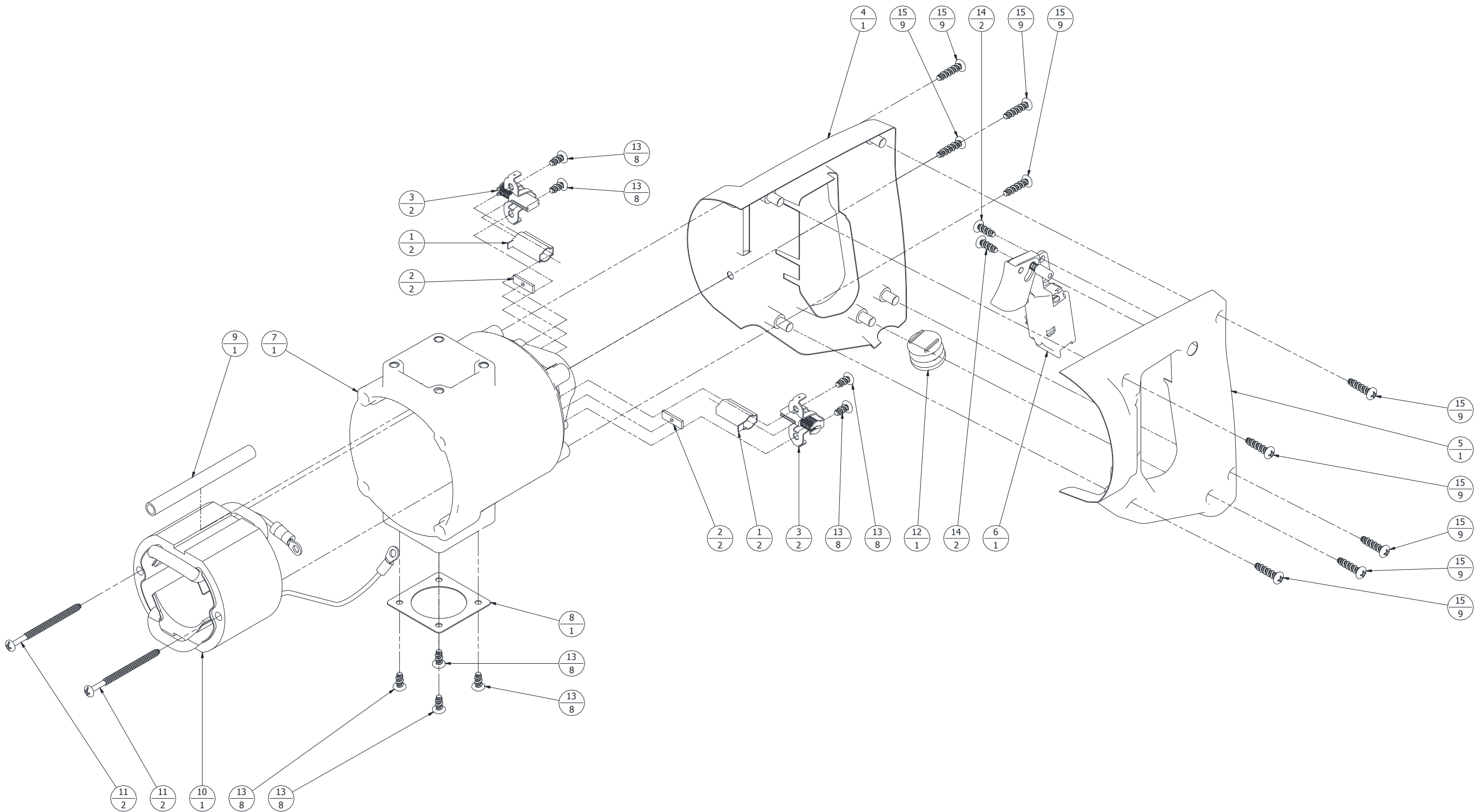


### 10.7. 600-DRILL/X5/A, Assembly, Drill Motor Complete, Pro-X5 (Parts ID)

Rev. A: January 2015

7	STOCK	WASHER, .328" ID X .482" OD X .020" THICK, COPPER	2
6	STOCK	SCREW, M8 X 1.25 X 10mm LONG, BUTTON HEAD CAP, 18-8 STAINLESS STEEL	1
5	600-OIL	OIL, GEAR, 75W90, 5 OZ. VOLUME	1
4	600-D100A/X5/A	ASSEMBLY, GEAR BOX COMPLETE, W/ ARMATURE	1
3	600-D24.1EX	SCREW, GEAR HOUSING	4
2	600-D23	SEAT, ARMATURE BEARING, CUP	1
1	600-D08/X5/A	ASSEMBLY, MOTOR HOUSING COMPLETE, PRO-X5	1
ITEM	PART NUMBER	DESCRIPTION	QTY
PARTS LIST			

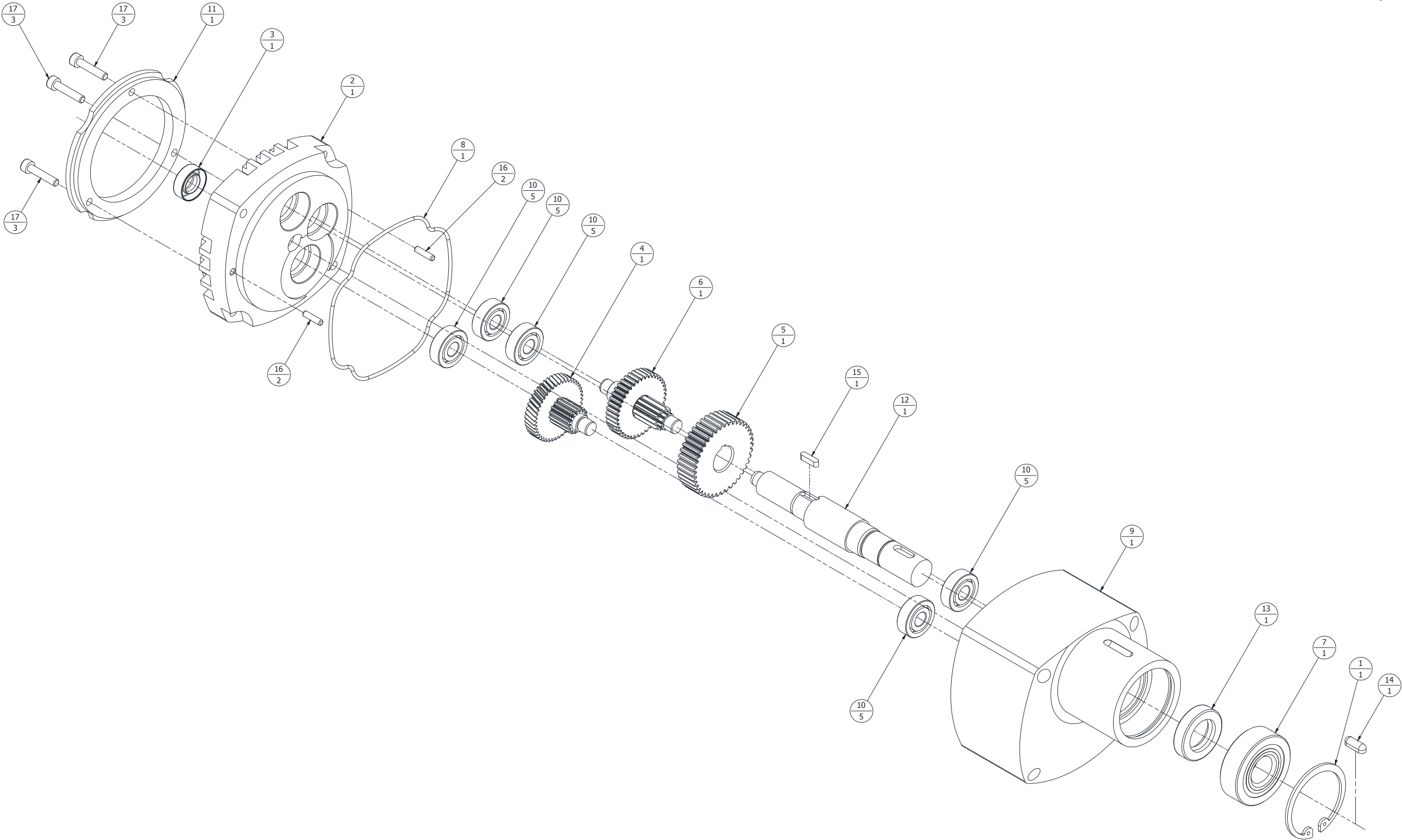
**10.8. 600-DRILL/X5/A, Assembly, Drill Motor Complete, Pro-X5 (Parts List)**



10.9. 600-D08/X5/A, Assembly, Motor Housing Complete, Pro-X5 (Parts ID)

15	STOCK	SCREW, #10 X 3/4" LONG, PAN HEAD PHILLIPS, HIGH-LOW, ZINC PLATED STEEL	9
14	STOCK	SCREW, #10 X 1/2" LONG, PAN HEAD PHILLIPS, HIGH-LOW, ZINC PLATED STEEL	2
13	STOCK	SCREW, #10 X 3/8" LONG, PAN HEAD PHILLIPS, HIGH-LOW, ZINC PLATED STEEL	8
12	600-D30	PLUG, "D" HANDLE	1
11	600-D24.1EX	SCREW, GEAR HOUSING	2
10	600-D22/X5	FIELD COIL, X5	1
9	600-D22/S	SLEEVING, FIELD WINDING WIRES, 3.5" LONG	1
8	600-D08C	COVER, MOTOR HOUSING BOSS	1
7	600-D08	HOUSING, MOTOR	1
6	600-D07	SWITCH, TRIGGER	1
5	600-D06	KIT, "D" HANDLE (LEFT)	1
4	600-D06	KIT, "D" HANDLE (RIGHT)	1
3	600-D05	BRUSH, DRILL MOTOR	2
2	600-D04	INSULATOR, BRUSH	2
1	600-D03	HOLDER, BRUSH	2
ITEM	PART NUMBER	DESCRIPTION	QTY
PARTS LIST			

***10.10. 600-D08/X5/A, Assy, Motor Housing Complete, Pro-X5 (Parts List)***

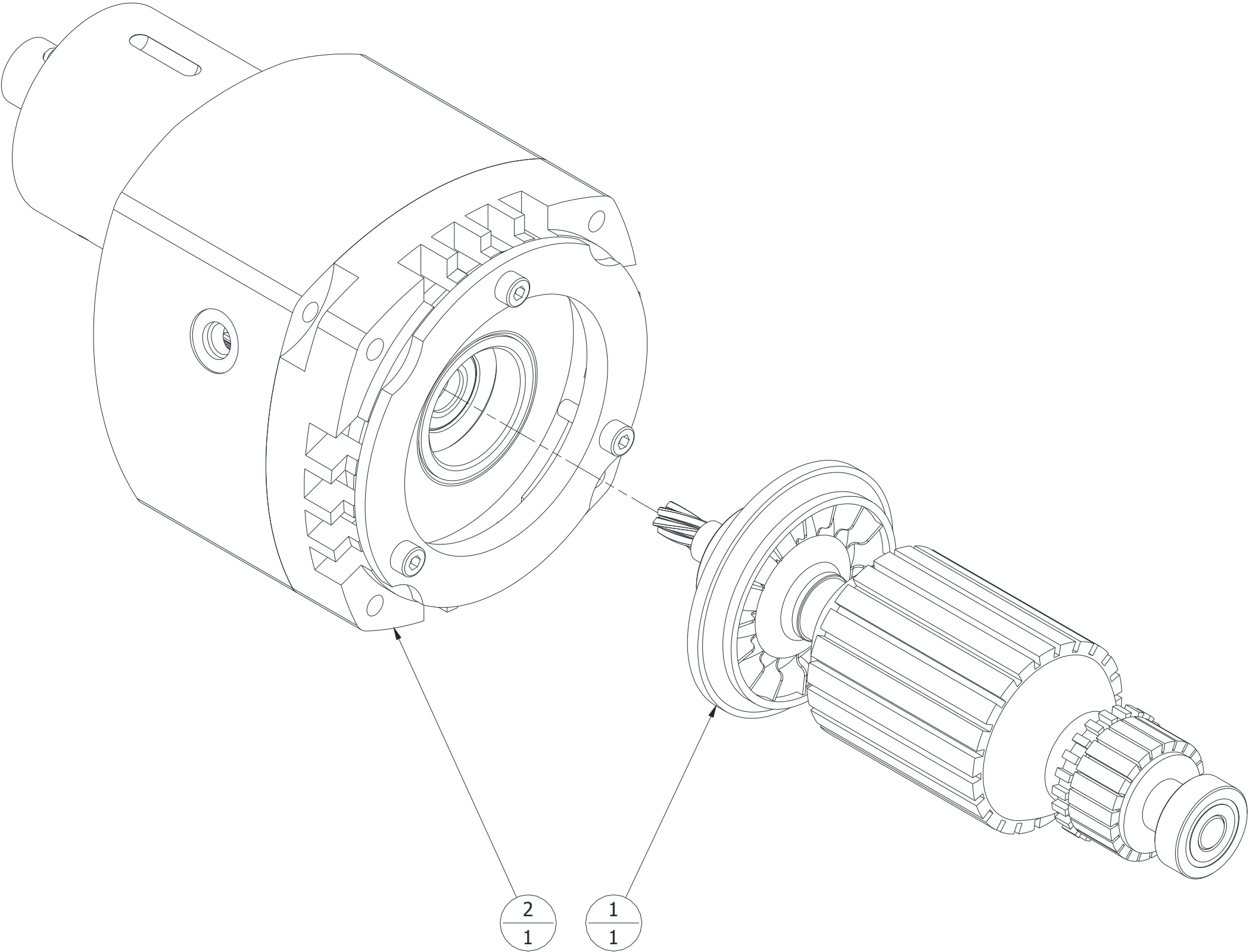


**10.11. 600-D100/X4/A, Assembly, Gear Box Complete, w/o Armature (Parts ID)**

Rev. A: January 2015

17	STOCK	SCREW, M4 X .7 X 20mm LONG, SOCKET HEAD CAP, 18-8 STAINLESS STEEL	3
16	STOCK	PIN, DOWEL, 1/8" OD X 1/2" LONG, 18-8 STAINLESS STEEL	2
15	600-D31K	KEY, LARGE GEAR TO OUTPUT SHAFT	1
14	600-D31EX	KEY, OUTPUT SHAFT TO EXTRUSION SCREW	1
13	600-D30/S/X4	SEAL, OUTPUT SHAFT, GEAR BOX, PRO-X4	1
12	600-D30.0	SHAFT, DRIVE	1
11	600-D26	DISC, BEARING PLATE, VENTILATION	1
10	600-D25	BEARING, GEARBOX	5
9	600-D24EX	CASING, DRILL MOTOR, GEAR	1
8	600-D24/O	O-RING, GEARBOX	1
7	600-D17	BEARING, DRIVE SHAFT	1
6	600-D15	ASSEMBLY, PINION / SPUR GEAR SET	1
5	600-D12	GEAR, DRIVE SHAFT, LARGE	1
4	600-D11	ASSEMBLY, PINION / HELICAL GEAR SET	1
3	600-D02/S	SEAL, ARMATURE	1
2	600-D01EX	PLATE, GEAR CASING, BEARING	1
1	600-50	SNAP RING, THRUST BEARING & DRIVE SHAFT	1
ITEM	PART NUMBER	DESCRIPTION	QTY
PARTS LIST			

***10.12. 600-D100/X4/A, Assy, Gear Box Complete, w/o Armature (Parts List)***



**10.13.      600-D100A/X5/A, Assembly, Gear Box Complete, w/ Armature (Parts ID)**

Rev. A: January 2015

2	600-D100/X4/A	ASSEMBLY, GEAR BOX COMPLETE, W/O ARMATURE	1
1	600-D02/X5/A	ASSEMBLY, MOTOR ARMATURE, PRO-X5	1
ITEM	PART NUMBER	DESCRIPTION	QTY
PARTS LIST			

***10.14. 600-D100A/X5/A, Assy, Gear Box Complete, w/ Armature (P/L)***



## 11. 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**