

Thermopatch

DP2000T

Deco-Print

Operator's Manual



Rev 1215

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WARRANTY

Thermopatch Corporation, Syracuse, New York ("Seller") warrants this product to be free from defects in material and workmanship under normal use and service. Any part which proves to be defective in material or workmanship within one year of the date of original purchase for use, will be repaired or replaced, at Seller's option, free of service or labor charges, with a new or functionally operative part. Seller's liability under the Warranty shall be limited to repairing or replacing at its own factory or through an authorized service distributor or dealer, material which is determined by Seller to have been defective in manufacture and upon which a claim has been made by the original purchaser or user to Seller (or an authorized distributor or dealer) within the warranty period. Claims under this Warranty will be honored only upon written approval by an authorized officer of Seller. Approved return of parts or products will be on a prepaid transportation charges basis only. Claims under this Warranty will be honored only upon Seller's determination that the claim is covered by this Warranty, and Seller shall incur no obligation under this Warranty prior to such determination. This Warranty does not apply: (1) To any machinery or equipment which has been altered or repaired, except by Seller or its authorized representatives, or (2) to any machinery or equipment which has been subject to misuse, negligence, or accident, including, without limitation, use and operation of such machinery or equipment while parts are loose, broken, out of order, or damaged by the elements. Parts replaced under this Warranty are warranted only through the remainder of the original Warranty. Any and all claims for warranty service must include such information as Seller designates, and shall include specifically the serial number of each unit (if appropriate).

The foregoing shall constitute the sole and exclusive remedy of any using purchaser and the sole and exclusive liability of Seller in connection with this product. **THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS AND ALL OTHER OBLIGATIONS OR LIABILITIES OF SELLER, INCLUDING ANY TORT LIABILITY, FOR NEGLIGENT DESIGN OR MANUFACTURE OF THIS PRODUCT, OR OTHERWISE.** It is expressly agreed that Buyer shall not be entitled to recover any incidental or consequential damages, as those terms are defined in the Uniform Commercial Code, and that Buyer shall have no right of rejection or of revocation of acceptance of any part or of revocation of acceptance of any part or all of the goods covered hereby.

Section 1

Introduction to the Deco-Print, from Thermopatch

The DECO-PRINT Model DP2000T machine is shipped with the printing platen assembly (hard rubber) installed onto the machine. **The printing plate is not included and must be ordered separately.**

The machine cannot be used for direct printing without a printing plate installed into the machine.

New features on this machine include:

- A transfer sensor used to precisely align each transfer on the sealing platen as the transfer moves through the machine.
- An adjustable laser target dot to assist the operator in positioning the garment for print / transfer.

The DECO-PRINT Model DP2000T machine prints the customer's logo or text directly onto the garment using the hard rubber platen, "C" tape, and a printing plate (not included).

The printing plate is ordered separately in one of three configurations.

1. With the customer's logo,
2. With a plate with tracks, or
3. With a combination of a logo and tracks for individual lettering.

When using individual lettering, the type font kit, (not included), will need to be ordered separately.

With the sealing kit installed, the Deco-Print Model DP2000T machine can be used for heat sealing individual labels, mending patches and for applying hot paper transfers.

PLEASE NOTE: The time, temperature, and pressure settings needed to seal these products with the DP2000T may differ from the settings needed by other Thermopatch heat seal equipment. Contact a Thermopatch representative with any questions.

The DECO-PRINT model DP2000T prints a permanent mark directly onto most natural or synthetic fabrics by means of a printing plate, briefly striking the inked ribbon against the material to be marked. The machine is an air operated machine that uses a foot pedal, (included), to initiate the printing cycle. The transfer roll or "C" tape roll advances by means of a motor drive. The transfer sensor is used to accurately locate the transfer in the correct position for each application.

The heater is made from cast aluminum for durability. The electronic temperature control maintains the temperature within 5 degrees of the temperature setting for accurate printing / sealing conditions. The printing plate and sealing plate slide into guides mounted onto the sides of the heater. The plate can be easily changed by pulling the plate out and inserting another plate, using the plate holder (included).

ACCESSORIES INCLUDED:

- 45658 — Sealing kit. Use for sealing labels, mending materials and applying hot paper transfers
- 46780 — (3) Separator discs. Used between different colored ribbon rolls (C-TAPE) on supply side. See page 21.
- 46007 — Plate holder.
- 47312 — the Standard (SAE) Tool Kit (after January 2015)
- 47309 — 1.5 M of 6 mm tubing (after May 2015)
- 47310 — 6 mm OD Connection (after May 2015)

PRINTING OPTIONS:

- 45957 — Special adapter plate to mount narrow plates previously used in the Model PAP304 machine.
- PM-1330 — TYPE FONT KIT, 94 pieces, ¼" high to fit standard print plates listed below.
- PP0500-01 — Print plate with (1) track.
- PP0500-02 — Print plate with (2) tracks.
- PP0500-03 — Print plate with (3) tracks.
- PP0500-04 — Print plate with (4) tracks.
- PP0600-01 — Print plate with (1) extended track, up to 14 characters.
- PP0600-02 — Print plate with (2) extended track, up to 14 characters.
- PP0600-03 — Print plate with (3) extended track, up to 14 characters.

CUSTOM PRINT PLATES

Depending on a customer's requirements, the printing plate may be an engraved plate, changeable type slugs, or a combination. This will allow you to:

- Print property marks, logos, and other information on sheets and the inside layers of pants, jackets, and other garments.
- Print company logos directly on suit bags, hospital linen, table linen, or shop wear.
- Print any of the above with different colors - up to four, 1" wide ribbons or any combination up to 4" total width.

Print plates can be fabricated to fit individual requirements using customer supplied artwork. Design can include tracks for individual type fonts or full phrase slugs. **Maximum printing area is 4 ¾" x 3 ¾"**.

To print with (2) or more different colored ribbons, a relief or space between adjacent fonts or engravings should be 7/32".

The "C" tape ink ribbons are available in 13 standard colors, in 1", 2", 3", and 4" widths.

Custom colors are available. Contact customer service for information and pricing for custom colors.

Safety Information

Each DECO-PRINT machine is equipped with a Safety Guard feature for the protection of the operator. The Safety Guard is activated in two ways:

1. The metal bar senses the touch of your hand.
2. There are switches that sense any obstruction.

Once the safety guard is activated, the downward movement of the print will be interrupted and the "CLEAR" button must be pressed before the next print cycle. If an obstruction is met before this point, the power print cycle will not occur.

There is an Emergency Stop switch, on the front of the machine that will immediately interrupt the machine at any point in the power printing cycle, and return to the normal positions. The switch must be reset before resuming operation.

The electrical system is isolated and fully grounded. **The electrical power cord must always be plugged into a properly grounded outlet.**

THE USE OF POWER STRIPS AND EXTENTION CORDS IS NOT RECOMMENDED

CAUTION: PRESSURE READING ON AIR GAUGE MUST NOT EXCEED 100 PSI (7.0 BAR)

CAUTION: THE PRINTING HEAD AND PLATE MAY REACH TEMPERATURES AS HIGH AS 550°F (288°C) DURING NORMAL OPERATION. ALWAYS KEEP HANDS CLEAR OF THE PRINTING HEAD WHEN OPERATING MACHINE.

IF POWER IS ON, DO NOT LEAVE MACHINE UNATTENDED. IF A LOSS OF AIR PRESSURE OCCURS, AND IF A GARMENT IS RESTING ON THE PLATEN, THE HEAD CAN LOWER AND COULD CAUSE A FIRE. A CHECK VALVE IS BUILT INTO THE MACHINE TO PREVENT THIS, BUT WITH A LOSS OF AIR PRESSURE, THE HEAD WILL COME DOWN AT SOME POINT.

WARNING: BEFORE OPERATING THE MACHINE, MAKE SURE ALL COVERS ARE IN PLACE, AND KEEP LOOSE JEWELRY AND CLOTHING CLEAR OF THE MACHINE DURING OPERATION.

BEFORE SERVICING THE MACHINE, UNPLUG THE ELECTRICAL CORD, DISCONNECT THE AIR SUPPLY, AND LET THE PRINTING HEAD COOL DOWN TO ROOM TEMPERATURE

CLEAN MACHINE PARTS WITH NON-FLAMMABLE CLEANING FLUIDS ONLY.

MACHINE SPECIFICATIONS

Electrical Requirements:	5 Amps @ 110 VAC 50/60 HZ Or 2.5 Amps @ 220 VAC, 50/60 HZ
Operating Air Pressure:	25 PSI (1.8 BAR) Minimum to 70 PSI (4.8 BAR) Maximum 1.3 CFM (0.6 Liters/sec)
Dwell Time Setting:	0.1 Seconds to 99.9 Seconds
Heat Range:	200°-500°F (93° - 260°C)
Maximum Print Area:	4-3/4" wide x 3-3/4" deep
Transfer Advance (Roll)	Sensor controlled stop is adjustable from 7 ½" to 13 ½" from the centerline of the platen
Ribbon Advance:	0.1" to 6.0" (2.5mm to 152mm)
Ink Ribbon Width:	4, 3, 2, and 1 inch (102, 76, 51, and 25 mm)
Multiple colors and widths	any combinations up to 4" total width
Opening Height: (Between Printing Plate and Platen)	5.0" (127 mm)
Clearance: (From Back of Platen to Machine)	1-3/4" (44 mm)
Weight:	115 lbs. 52 kg.

FACTORY SETTINGS

Temperature:	500°F (260°C)
Transfer time:	2.0 seconds
Label seal time:	12.0 seconds
Printing time:	0.5 seconds
Air Pressure:	50 PSI (3.5 BAR)
Transfer (Roll) Advance:	5.0in (126-128mm)
Ribbon Advance:	5.0 in (126-128 mm)

Section 2

DP2000T SETUP

Step 1

Refer to Figure 1

Loosen the two screws on the top of the case in the back and install the control box bracket, Item 4.

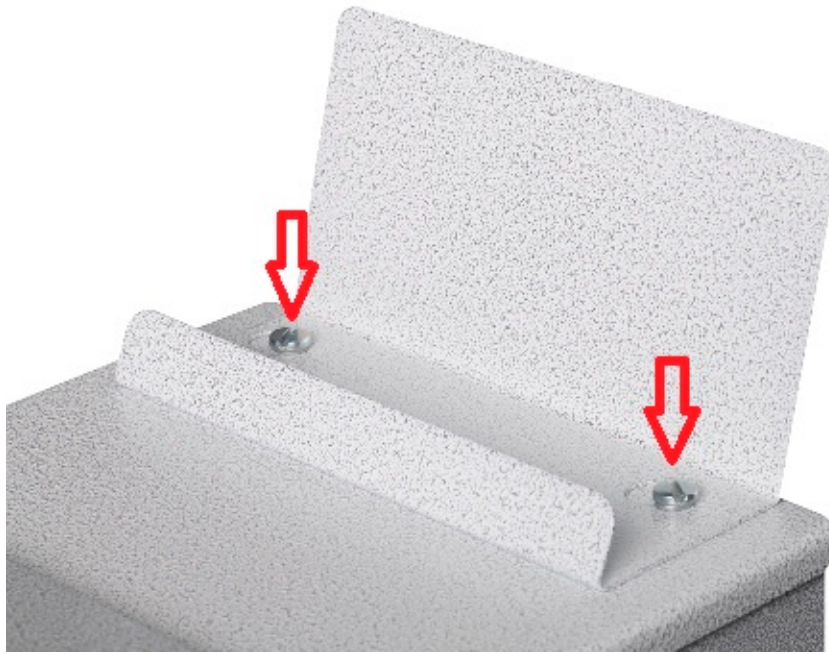


Figure 1 — Control Box Bracket

Plug one side of the display cable, Item A, into the control box, Item B, connector.

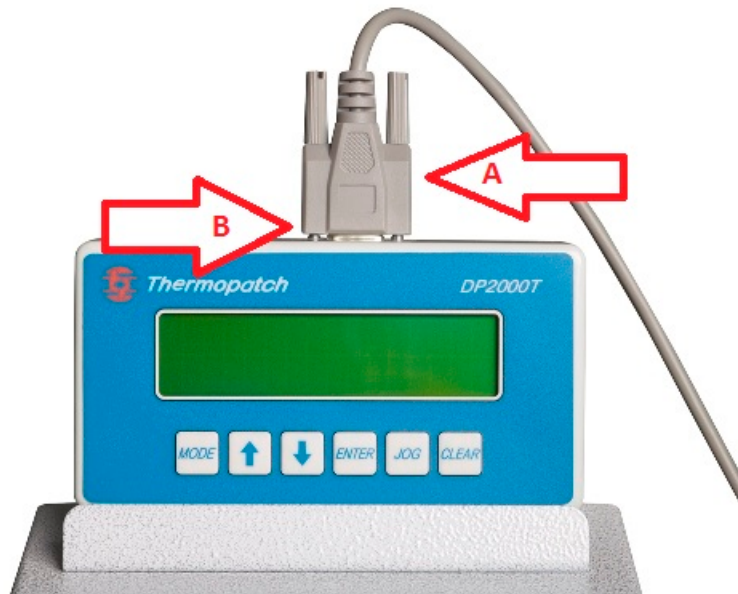


Figure 2 — Display

Plug the other end of the display cable, Item C, into the connector on the side of the machine.



Figure 3 — Electrical Plugs Connected

Step 2

Refer to Figure 4.

Turn the “Emergency Stop” switch, Item A, in the direction of the arrow to make sure it is out.



Figure 4 — Heater Cover Assembly, Installation

Step 3

Refer to Figure 5

Attach the air filter/regulator, with fittings to the bulkhead fitting, Item A, on the back of the machine. Orient as shown with the gauge facing forward.

Connect the air supply to the male hose adaptor, Item C.

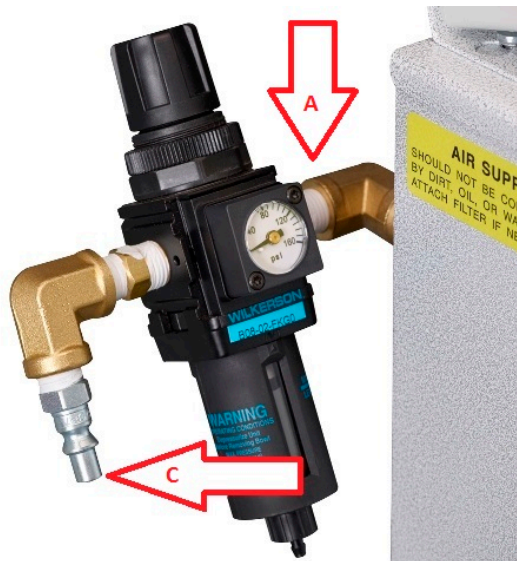


Figure 5 — Air Filter/Regulator, Installation

Step 4

Refer to Figure 6. This is the Electrical Enclosure Assembly, found on the right side of your machine
Connect the foot pedal plug into the FOOTSWITCH Plug, Item A.

Connect the power line cord to power entry module, Item B, and to the power outlet. Turn on the machine by pressing the on/off switch, Item D.

Item C depicts the display cable plugged in, previously discussed in connection on page 14

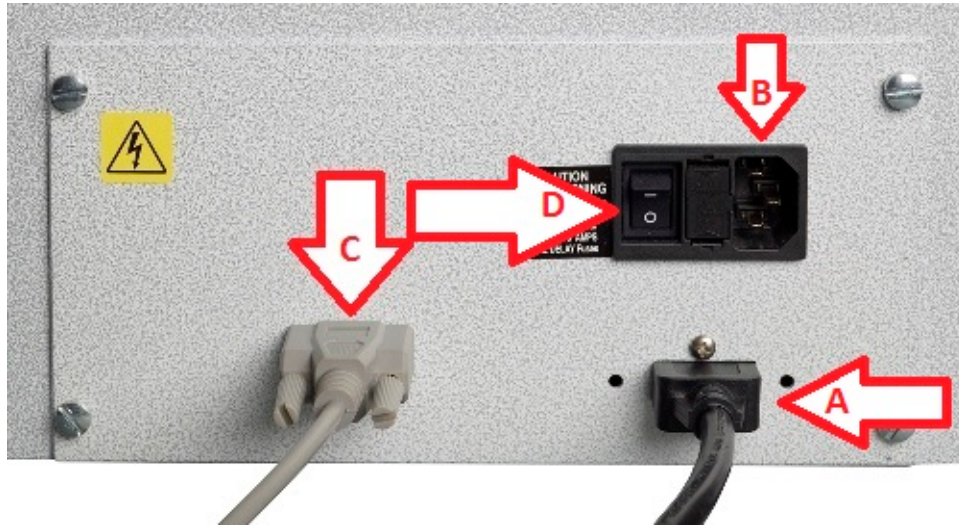


Figure 6 — Electrical Enclosure Assembly, Outside view

Step 5

Refer to Figures 7 & 8

Place flange assemblies, Item A, on supply and take-up shafts, Item B.

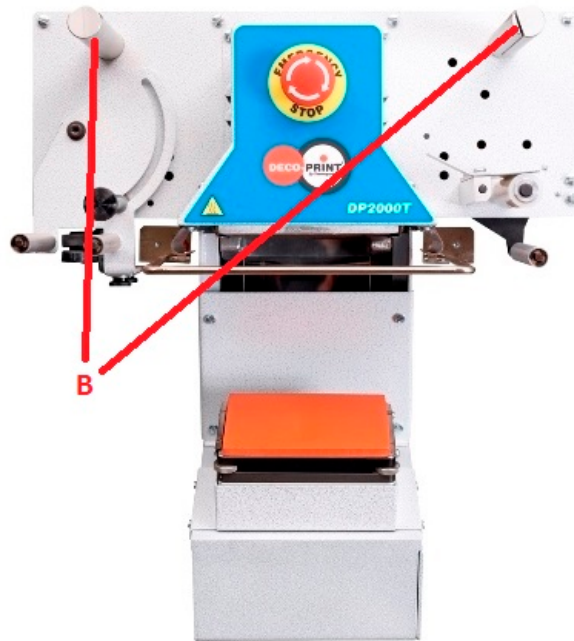


Figure 7 — Head Assembly, no Flanges

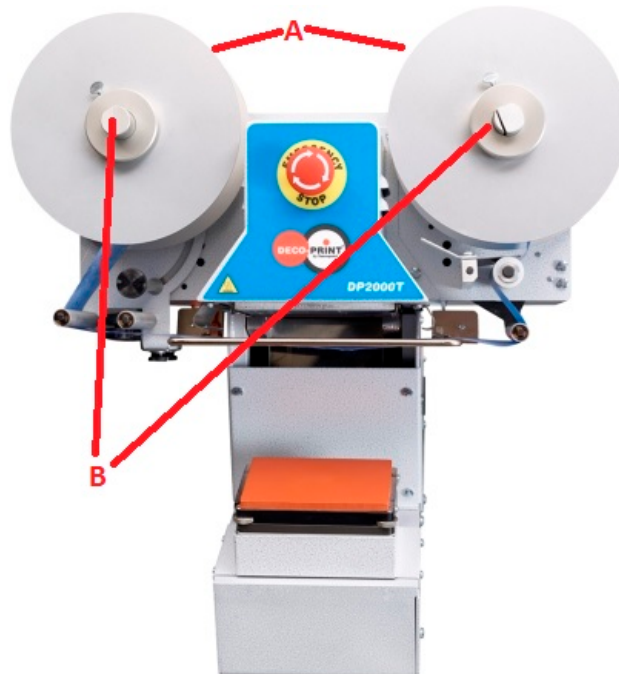


Figure 8 — Head Assembly, with Flanges

TRANSFER ROLL THREADING

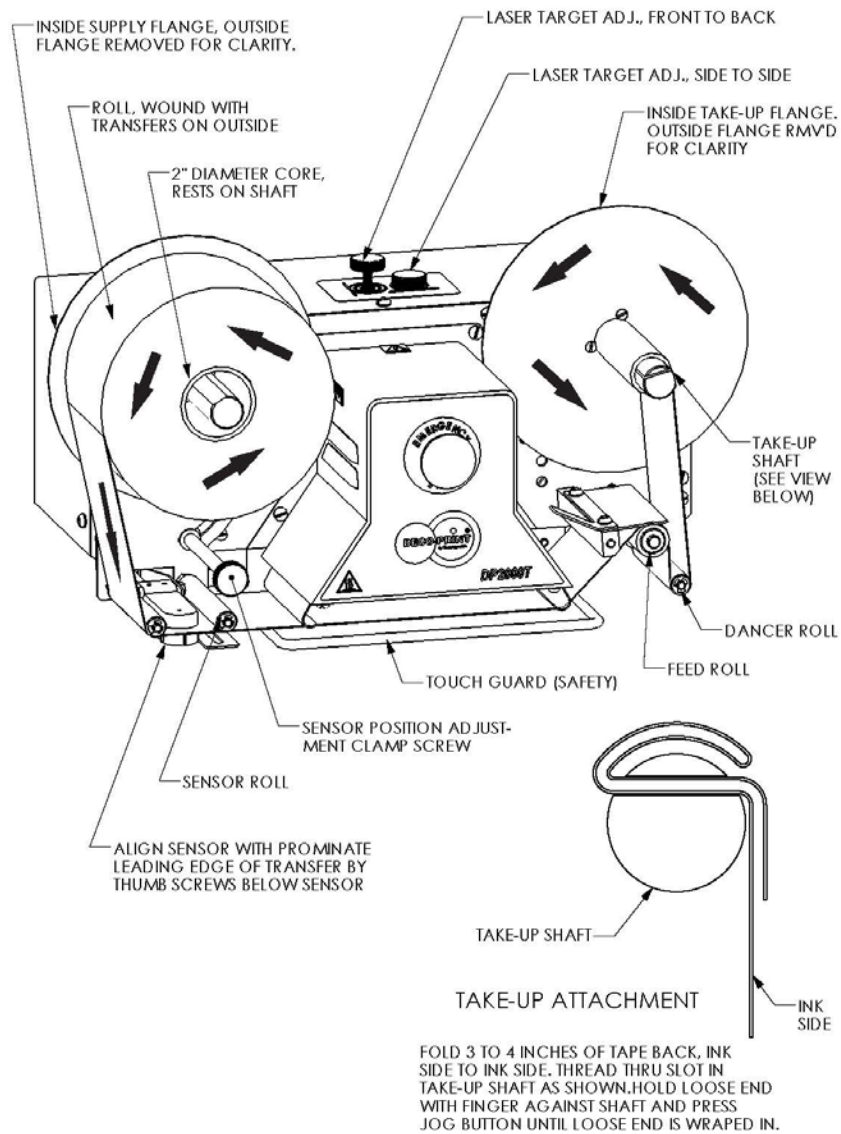


Figure 9 — Transfer Roll Threading

RIBBON ROLL THREADING (C-TAPE)

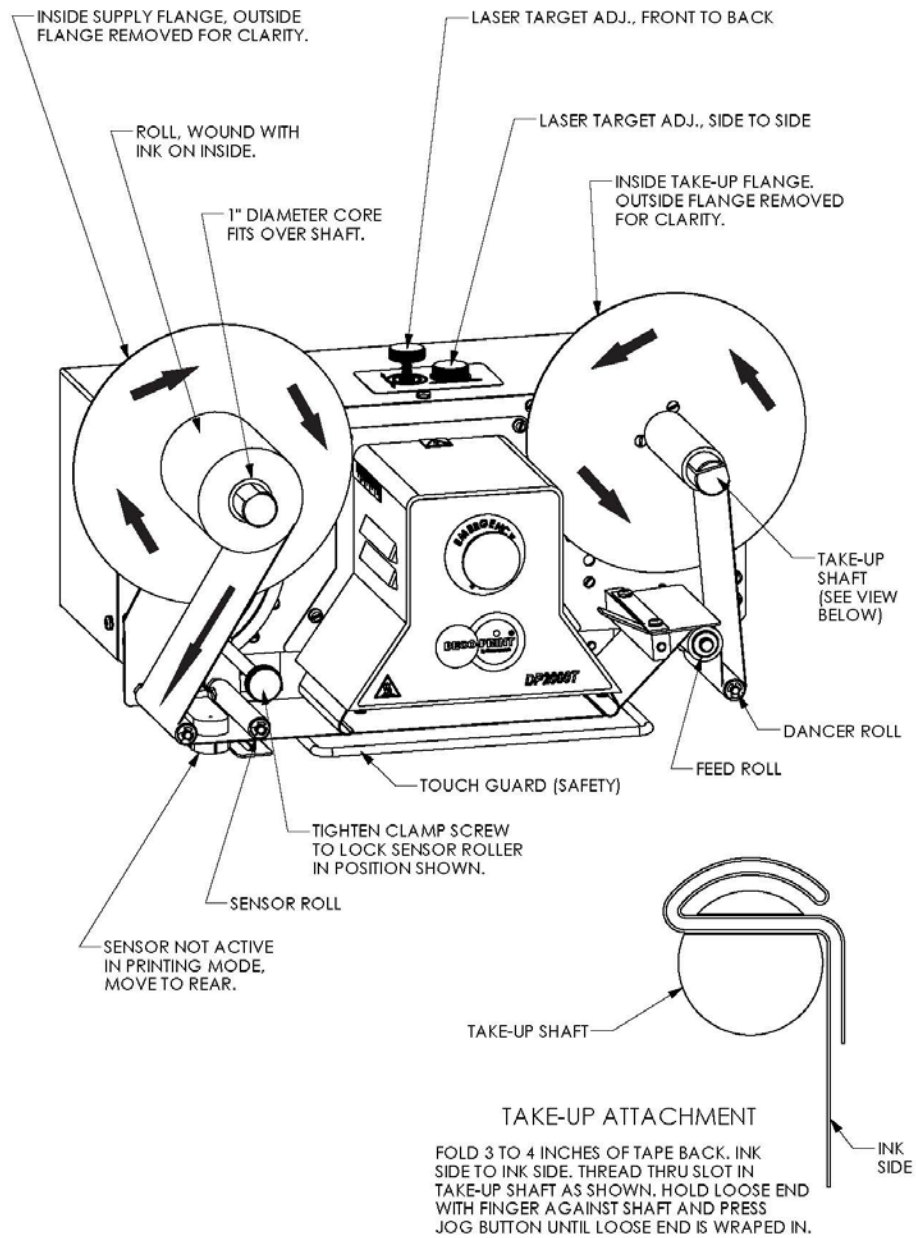
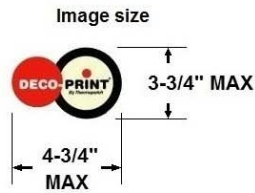


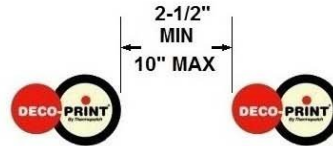
Figure 10 — Ribbon Roll Threading

DP2000T Transfer Specifications

DP2000T transfer size specifications



Space between images

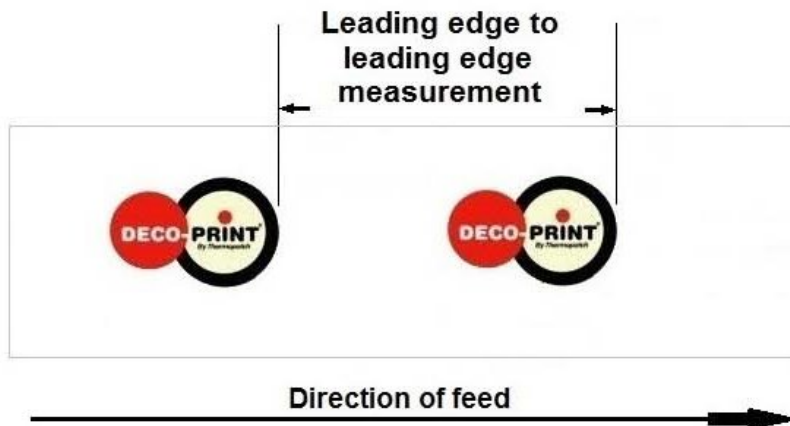


DP2000T Transfer Setup

1. Select the transfer for use and measure the distance from the leading edge of one image to the leading edge of the next transfer as shown.

A special platen is required if this measurement is less than 2-1/2 inches (64 mm)

Feed length measurement



2. Install the transfers onto the machine.
3. Use the JOG button to feed the transfer image until the image is in the center of the sealing platen.
4. Press the MENU button.
5. Press the ENTER button until the display reads " SET FEED LENGTH: ".
6. Subtract 2 tenths of an inch, (5 mm) from the transfer measurement in step 1 and use the UP or DOWN ARROW button to enter this number into the machine.

Example – The transfer measures 3 inches, (76 mm) from leading edge to leading edge. Subtract 2 tenths of an inch, (5 mm) from 3 inches. The number entered into the machine should be 2.8 inches, (71 mm).

7. Press the ENTER button until the display reads "PATTERN MARKER: ". Use the UP or DOWN ARROW button to select YES.
8. Press the MENU button to exit the menu.
9. Loosen the clamp screw, move the transfer sensor onto the space between the transfer images and tighten the clamp screw.
10. Press the TRANSLUCENT button and hold it until the lights on the sensor stop blinking.

NOTE: If green and red output lights are on and an * is displayed on the control box, push both (normal) and (translucent) buttons simultaneously. This procedure inverts the output to the correct status, green light on.



Figure 11 — Sensor



Figure 12 — Sensor location

11. Loosen the clamp screw and move the transfer sensor towards the leading edge of the transfer image closest to the sealing iron. When the edge of the image is detected by the transfer sensor, an asterisk (*) will appear on the display next to the feed length. When you see the asterisk (*), on the display, tighten the clamp screw. Test the machine. The transfer image should be centered on the sealing platen. If the image is moving after each cycle, re-adjust the position of the transfer sensor. If the image is not centered, repeat the setup procedure.

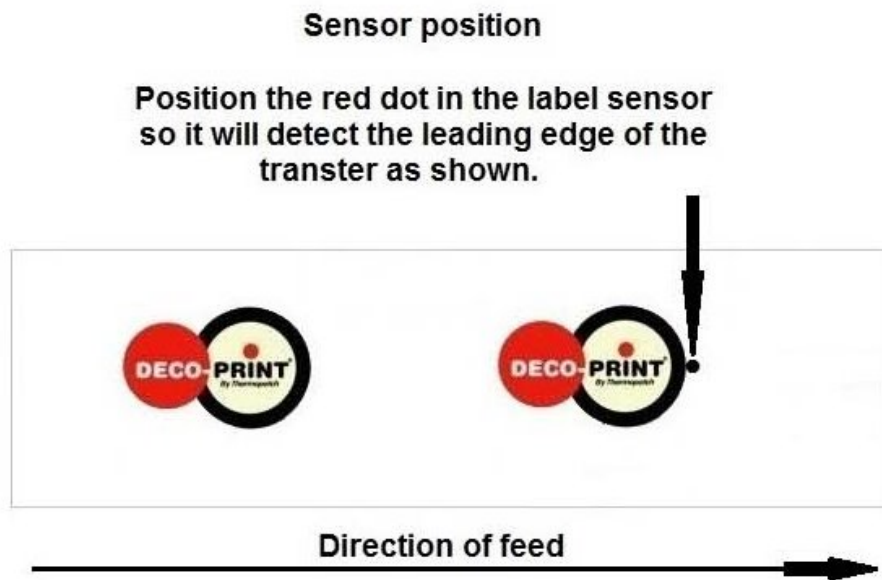


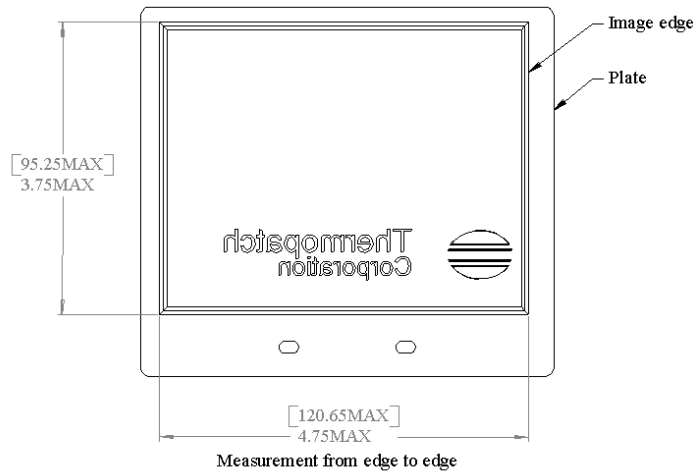
Figure 13 — Sensor Position

Ribbon Tape Setup Feed Adjustment

The first step is to adjust the feed. This feed value advances the tape after printing to the amount of the entered value, to set up for the next print. Using the control box, the user adjusts and controls the distance that the machine feeds.

Caution: tape tension may cause less feed length than what the display indicates. (See page 24) for adjusting tape feed length. (See page 22, step 3) for adjusting tape tension.

The distance between the left and right edges of the plate image determines the value for the amount of feed. Measure this distance and add .2 to .4 inches (5.1 mm to 10.2 mm) to it; this will give you your feed length.



The feed length on the controller box needs to be changed to the measurement taken. We will use 5.2 inches (132 mm) as an example of a measurement.

Adjusting the Printing Pressure and Platen Height printing Pressure

Printing pressure is preset at the factory to 50 PSI. The printing pressure range is from 25 PSI (1.8 BAR) minimum to 70 PSI (4.8 BAR) maximum. NEVER EXCEED 70 PSI. In general, the larger the printing area, the higher the pressure required. The air regulator is located outside, at the rear of the machine. At the top of the regulator is a black knob. Pull upward to change the current setting. Turn the knob clockwise to increase the air pressure or counterclockwise to decrease the air pressure. After pressing down on the foot pedal and then releasing, check the air gauge reading. Readjust if necessary, then activate the foot pedal and release again for a new gauge reading. To lock in a setting, push the black knob down into its original position.

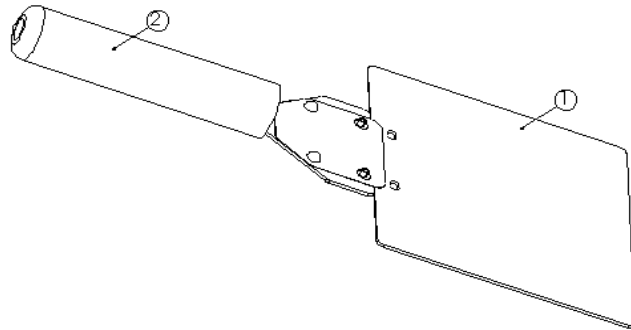
Printing Platen Adjustment

Occasionally, it may be necessary to increase the pressure on one corner or side of the printing platen in order to make it print better in that area. This might be true where an engraved design has a denser area in one corner. To adjust, locate the appropriate thumb screws below the rubber platen. Looking from the top, turn the screw counterclockwise to increase the pressure. **NOTE:** The platen is level when all screws are turned clockwise and the platen is put in its lowest position.

Setup for (2) or More Ribbons

1. Multiple ribbons of different colors are threaded the same as a single ribbon shown in Figure 10 — Ribbon Roll Threading.
 - a. The rolls must be separated by a thin disc, to prevent interaction, when they are different outside diameters. Three discs are provided in the Optional Printing Kit, and are to be used on the unwind, or supply shaft.
2. Place one roll on shaft followed by a disc and push to rear. Repeat this procedure for each roll added. No disc is required after the last roll added. Replace the supply flange and clamp collar. If a single ribbon is used, push the three thin separator discs to the rear, against the supply flange or remove from machine for storage.
3. Usually the outer clamp collar can be adjusted to minimize endplay of the roll, because of the drag from the roll insert on the shaft. If the roll turns freely on the shaft, push the clamp collar in to create drag on the roll. Too much drag may cause the ribbon to break or the motor to stall. Do not stall motor.
4. Thread the tape through the machine: Refer to Figure 10 for a visual aid.
 - Unroll approximately two feet of tape off the roll.
 - Feed the tape under the sensor roller, under the heating iron, up and around the feed roller, down under the dancer roll, and up to the take-up shaft.
 - Attach to take-up shaft as shown in Figure 10.
 - Press the JOG button until the tape is taut through the machine.

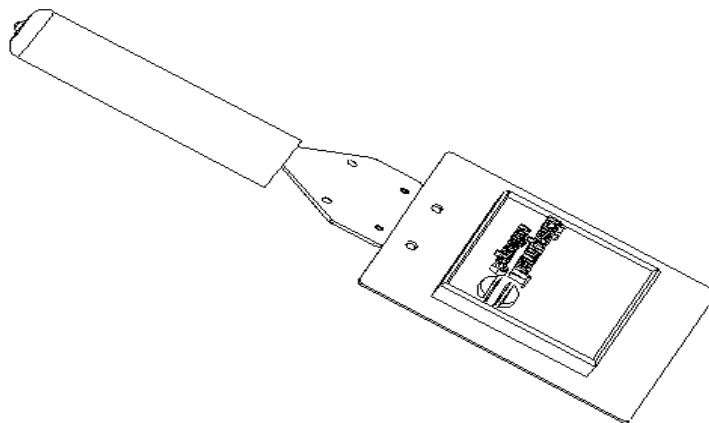
INSERTING THE PRINTING PLATE



The above drawing shows a DP2000T Printing Plate (Item 1) (CUSTOM PART) and a Printing Plate Holder (Item 2) P/N (46007). The Printing Plate Holder is provided for installation and removal of the Printing Plate.

- With the artwork facing down on the Printing Plate, apply a downward force just enough to slide the Printing Plate Holder forward. This locks the Printing Plate into place.
- Insert the plate into the plate mounting brackets on either side of the iron.
- Slide the plate in fully.
- Apply the same downward force and slide the Printing Plate Holder away from the machine.

To remove the Printing Plate from the machine, just reverse the process. The Printing Plate is extremely HOT so caution must be taken when removing and placing it on a heat protective surface. Avoid any side to side motion of the Plate Holder while inserting or withdrawing Print Plates. This motion tends to bend side guides and loosen heater mounting screws.



Note: If you bump the touch guard, press the CLEAR button on the controller box to reset.

Choosing The Platen

Be sure to use the proper platen. Use the hard rubber platens for printing, and the soft rubber platen for heat sealing and dry ink transfers. There should be a distance of at least 1/8" to 1/4" between the printed image and the outer edge of the platen.

Testing The Transfer Roll Feed Set-Up

Run the machine through a few cycles holding a scrap cloth in place over the platen. Check to see if the machine is properly feeding the transfer tape, enough to position the next transfer in the correct position. The transfer image target position is controlled by the location of the sensor when it stops the following transfer. To change this position, move sensor roll arm and retighten clamp screw.

The machine is ready for operation.

Testing the Ribbon Feed Roll Set-Up

Run the machine through a few cycles holding a scrap cloth in place over the platen. Check to see if the machine is properly feeding the tape, enough to clear for the next print. There should be a gap of 1/4" or more between the printed images on the used tape.

If there is less than 1/4", increase the feed value slightly. If there is more than 1/4", decrease the value slightly to reduce waste.

Correcting Take-Up Problems

Check that the used ribbon or transfer tape on the take-up shaft is not trying to fold over on the flange. If it is, the take-up flanges can be moved to the front or back of the machine to compensate. If this tracking problem continues, check for the following causes:

1. Not enough tape tension. Push in on the outer supply flange and tighten the thumb screw to produce more drag. A slack tape will tend to creep down the slope of the feed roll, since it is feeding in the up position.
2. The dancer or sensor roll being out of alignment. These rolls must be parallel, both horizontal and vertical with feed roll. The brackets these rolls are mounted to could become bent during shipment or by being bumped. Usually they can be bent and gauged by eye to the correct position.

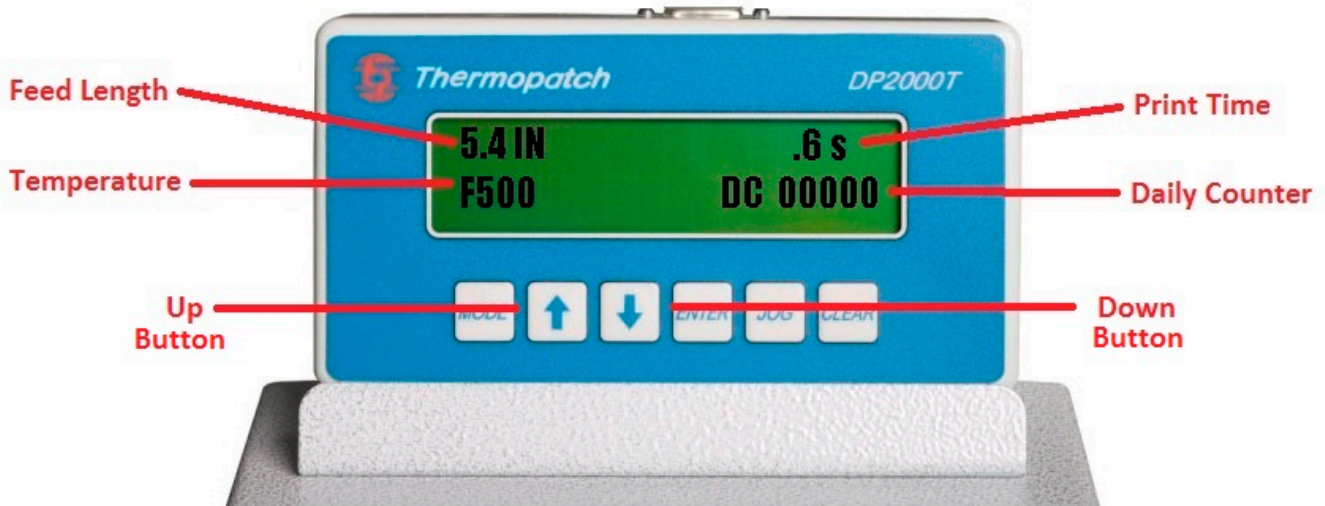
Make sure the used end of the ribbon is attached as shown in Figure 10. If the ink side of the ribbon is touching the take-up shaft or it's slot, or if tape tension is excessive the slot will close in and the used roll will be difficult to remove.

The machine is ready for operation.

Section 3

CONTROL BOX

The Deco-Print machine features a digital control box, with six control buttons, shown below:



The display on the control box in normal running mode shows:

Feed Length	*	Print Time	* (means sensor is sensing stop position on transfer)
Temperature		Daily Counter	

Press the **UP** or **DOWN** button once to change the Daily Counter (DC) to Continuous Counter (CC).

NOTE: The software version number will appear when machine is turned on.

To zero the Daily Counter (DC), press the **UP** and **DOWN** buttons simultaneously while the Daily Counter (DC) is displayed.

The Mode button switches the display to menu mode with 2 selections.

MACHINE SETUP

JOB SETUP

The **MACHINE SETUP** menu is used to set:

1. Display language (English, Nederlands, Italiano, Deutsch, Francais, Espanol)
2. Temperature scale (Fahrenheit, Celcius)
3. Feed length (Inches, Millimeters)
4. Counter mode (Daily, Continuous)

The **JOB SETUP** menu is used to set:

1. Temperature
2. Feed length
3. Print or Seal time
4. Seal only option
5. Pattern marker option

Press the **ENTER** button to cycle through the menu options when in menu mode. The **UP** and **DOWN** arrow buttons increase or decrease the settings.

The **JOG** button advances the tape.

Note: Once the Touch Guard is activated, you must press CLEAR before the machine can print.

Machine Setup

Press MODE to show choice of JOB SETUP or MACHINE SETUP. Press UP or DOWN button to select MACHINE SETUP.

1. Press ENTER and select language. Press UP or DOWN button to select ENGLISH.
2. Press ENTER and choose the temperature scale. Press UP or DOWN button to select FAHRENHEIT.
3. Press ENTER and select feed length unit. Press UP or DOWN button to select INCH.
4. Press and choose the counter, DC or CC. Press UP or DOWN button to select DC (daily counter).

Press Enter to save the last setting. JOB SETUP: To run Transfer Roll

Press MODE and select JOB SETUP with UP or DOWN button.

Press ENTER and set temperature at 500 degrees F, or to suit, with UP or DOWN button.

Press ENTER and set Feed Length at 4 inches by pressing UP or DOWN button

Press ENTER and set Print Time at 2 seconds by pressing UP or DOWN button.

Press ENTER and set Seal Only to NO, with the UP or DOWN button.

Press ENTER and set Pattern Marker to YES with the UP or DOWN button.

Press ENTER to save the last setting.

If the Job is using Ribbon (C-Tape), set Pattern Marker to NO. Leave Seal Only set to NO. Change temperature, feed length, and time to suit.

If the JOB is to seal individual labels, patches, or transfers, set Pattern Marker to NO. Set Seal Only to YES, this will disable the roll feed. Set temperature, time, and pressure to suit. Press ENTER Button after each selection to save the settings.

The machine will automatically exit the menu mode if none of the buttons are pressed within 5 seconds.

Section 4: Troubleshooting

Before referring to the information below, check for proper set-up and operation as outlined in “DP2000T Setup”.

Solutions are listed with the most probable ones listed first.

Some procedures may require completion by a person with some mechanical and electrical skill. Call Customer Service for assistance or to order replacement parts.

Problem	Possible Cause	Solution
Display is blank	Machine is unplugged or outlet has no power Emergency stop activated Electrical power switch or light not “ON” or is defective Loose or broken wires or connectors	Check Check Check/Replace Check/Repair
No heat	Machine is unplugged or outlet has no power Electrical power switch is not “ON” or is defective Temperature reading is incorrect Print Head heat is defective Heat sensor is defective Defective temperature control Loose or broken wires or connectors High limit thermostat is defective	Check Check/Replace Replace Replace Replace Replace Check/Repair Replace
High or low heat	Heat sensor is defective Defective temperature controller Temperature reading is incorrect Loose or bad connectors Short between sensor wires (high heat only)	Replace Replace Adjust Check/Repair Check/Repair
Print pressure drops or fluctuates (on air gauge) or hisses	Leak in air supply hose Dust is lodged in the air lines, regulator, or solenoid air Valves	Repair/Replace Disassemble and clean

Print head will not descend	Touch guard activated Temperature not ready Solenoid air valve not shifting Air supply not connected Foot switch is unplugged or bad Leak or restriction in air line or connections	Press Clear Wait Replace Check Check/Replace Check/Repair
Print head too slow or fast	Flow control(s) adjustment is incorrect Mechanical binding	See pg.44 item 14 Check & Correct
Timed power print cycle does not activate	Garment or cloth is too thick Leak in hose or connections Defective microswitch Mechanical binding	Check Repair/Replace Replace Check & Correct
Print Head does not rise to the open position	Air solenoid valve not shifting Leak or restriction in air line connections Mechanical binding	Check/Replace Check/Repair Check & Correct
Overall print is too light	Air pressure is too low Temperature is too low Time setting is too low	See pg 22 See pg 27 See pg 27
Parts of design are not printed	In ribbon feed not working properly Rubber print platen is dirty or worn In ribbon to properly guided left to right Overlap of printed impressions in used ink ribbon Ink ribbon not wide enough One corner of rubber platen needs adjustment	Check threading per pg 17 Clean or replace Check ink ribbon threading Adjust longer, see pg 24 Use wider ribbon See pg 22
Center of "O", "A", etc is filled with ink; imprint is unclear	Temperature is too low Time setting is too low Engraved plate is dirty Pressure incorrect	See pg 27 See pg 27 Clean Clean & Correct

When type slugs are used, print is unclear	Type slugs are dirty Deformed type slugs caused by high heat Pressure incorrect	Clean Adjust heat per pg 27; replace slugs Check & Correct
Ink marks on back side of garment	Ink build-up on rubber platen	Clean Platen. See pg 51
Emergency stop push button will not operate	Push button is defective	Replace, see pg 43

OPERATIONAL MESSAGES

On power-up, machine identification and version number will momentarily appear on the LCD display. The temperature wait message shown at the main display will be replaced by the continuous count or the daily count when the temperature is within 15 degrees Fahrenheit or 7 degrees Celsius of the set point temperature. The operator can change options during the warm-up period.

Temperature Controller Messages

The temperature controller will be interrogated and if a fault is detected one of the following messages will appear:

Line 1	Meaning/Response
Heater Failure Logic board	Temperature control board is either bad or unplugged
Heater Failure Heat Sensor	Temperature sensor is either bad or disconnected
Heater Failure Slow heat rise	Heater is bad or disconnected; or temperature sensor is bad, disconnected, or shorted
Heater Failure High temperature	Relay is bad or shorted; temperature sensor is bad or shorted; or bad connections
Heater failure Unknown	Contact Thermopatch
Seal Switch ERR Display when touch guard is activated.	This indicates the seal down switch was not activated During a seal cycle if the top platen did not come down Check seal down switch and wiring
TOUCH GUARD FAULT	This indicates the guard was hit. Press the CLEAR Button.

Section 5: Parts Identification and Location

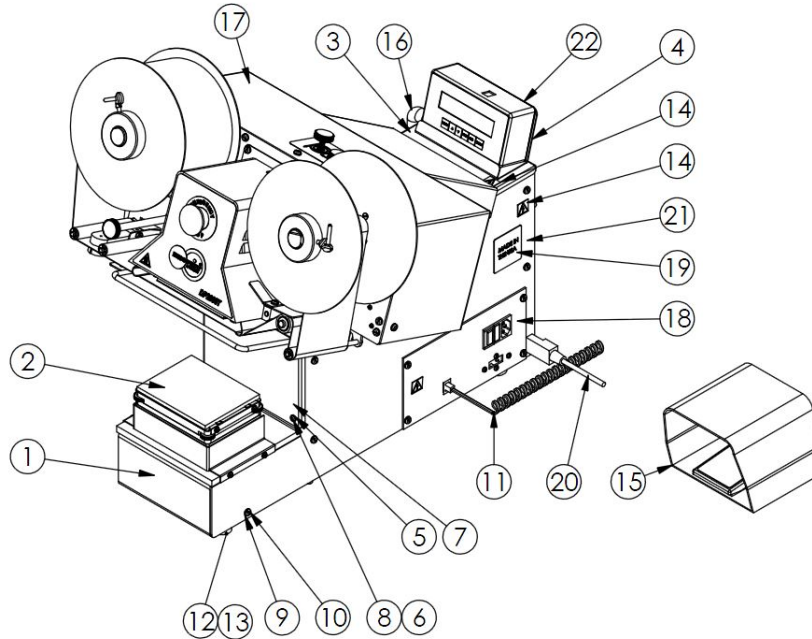


Figure 14 — DP2000T Machine Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	46876	CASE WELDMENT	1
2	PLATEN ASSEMBLY	SEE PAGE 33	1
3	46882	COVER, TOP REAR	1
4	46788	BRACKET, CONTROL BOX	1
5	21021-06-C	NO. 8 SPLIT LOCKWASHER	8
6	21028-36	HEX STANDOFF #8-32	4
7	45678	COVER, CASE FRONT	1
8	21058-05-F	PHS 8-32 X 3/8 LG	4
9	21021-07-C	NO. 10 Spring	11
10	21061-02-E	BUTTON HD 10-32 X 3/8 LG	11
11	20220-37	SHIELDED SERIAL CABLE	1
12	21028-38	RUBBER BUMPER	4
13	21060-04-H	BHS 10-32 X 5/16 LG	4
14	45426	LABEL, HIGH VOLTAGE	2
15	43025	FOOT SWITCH W/GUARD	1
16	PNEUMATICS	SEE PAGE 44	2
17	HEAD ASSY	SEE PAGE 37	1
18	ELECTRONICS MODULE	SEE PAGE 46	1
19	44771	LABEL – MADE IN USA	1
20	20080-70	CORD – LINE 110V IEC CONN	1
21	46879	PLATE, R.H. SIDE	1
22	47149	LCD CONTROL MODULE	1

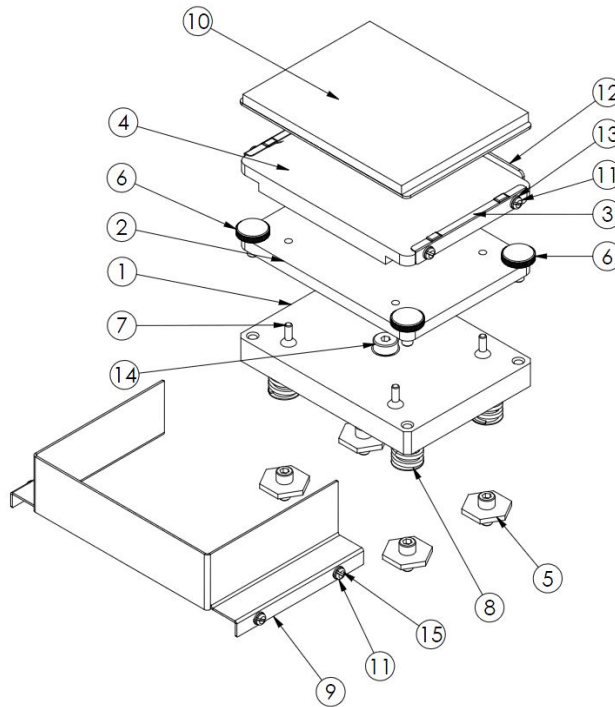


Figure 15 — Platen Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	45587	PLATEN BLOCK	1
2	45619	RETAINER, PLATEN HOLDER	1
3	45582	PLATEN HOLDER GUIDE WELDMENT	2
4	45621	PLATEN HOLDER	1
5	45642	SCREW ASSY	4
6	21029-32	THUMB SCREW 1/4-20 X 3/4 LG X 3/4	4
7	21062-03-D	FLAT SOC HD SCR 8-32 X 1/2	4
8	24075-26	SPRING - COMPRESSION	4
9	46833	COVER, PLATEN BASE	1
10	45637	HARD RUBBER PLATEN	2
11	21069-03-E	PHS 6-32 X 1/4 LG SS	4
12	45620	STOP, PLATEN HOLDER	1
13	21021-05-C	# 6 SPLIT LOCKWASHER	8
14	21006-06-C	SHLD SCR 3/8 X 1 1/4 LG	1
15	21061-01-B	BUTTON HD SCR 6-32 X 1/4"	4

**Note 1: If the machine is set up for printing, use print platen (45637.)
If the machine is set up for transfers, use sealing pad assembly (46009)**

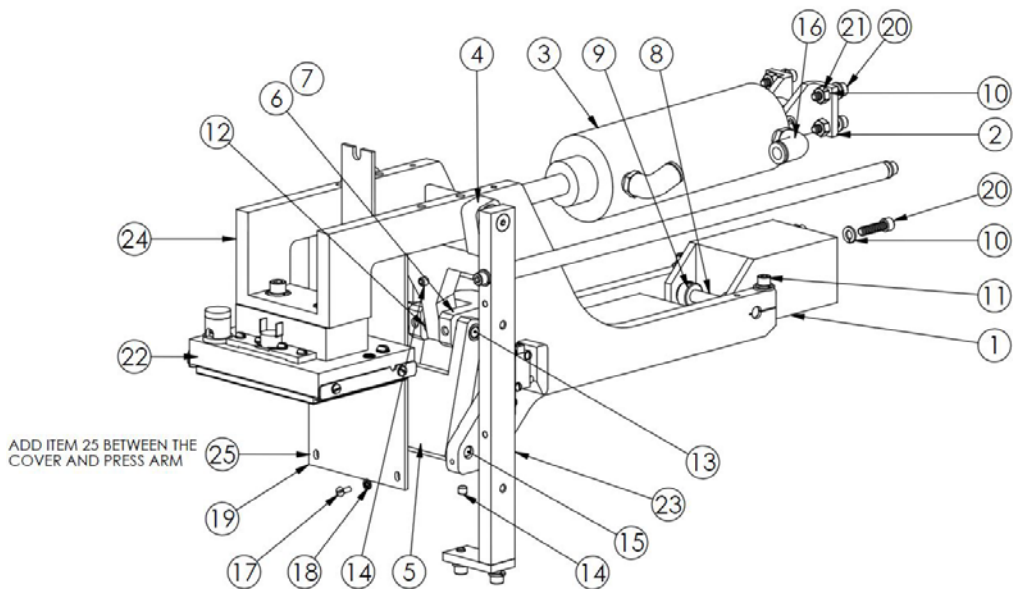


Figure 16 — Press Arm Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	45591	ARM SUPPORT ASSY	1
2	22010-57	PIVOT MOUNT BRKTS (BIMBA)	1
3	22010-56	AIR CYLINDER, 2 1/2 BORE 3 1/2	1
4	45578	UPPER LINK ASSY	1
5	46055	LOWER LINK ASSY	1
6	45589	CLEVIS, SEALING CYLINDER	1
7	21051-20-C	NUT, HEX JAM 1/2-20	1
8	45593	SHAFT, PRESS ARM	1
9	24016-22	SET SCREW COLLAR 3/8 BORE	2
10	21021-09-C	LOCKWASHER - SPLIT 1/4	10
11	21011-04-H	SET SCR 8 X 32 X 3/16	2
12	21022-12	THRUST WASHER 3/8	2
13	45573	SHAFT, CENTER LINK PIVOT	1
14	21011-05-L	SET SCW - CUP 1/4-20 X 1/4 LG	4
15	45583	SHAFT, LOWER LINK PIVOT	1
16	22015-34	ELBOW - 1/4 MPT X 3/8 TUBE	2
17	21029-48	BUT HD 8 X 32 X 3/8	2
18	21021-06-C	NO. 8 SPLIT LOCKWASHER	2
19	46937	COVER, FRONT	1
20	21063-08-K	SHCS 1/4-20 X 1.0 LG	8
21	21051-11-A	HEX NUT 1/4 - 20	4
22	HEATER ASSY	SEE PAGE 35	1
23	SUPPORT/SWITCH ASSY	SEE PAGE 36	1
24	46947	PRESS ARM MACHINING	1
25	21023-23	NO. 8 FLAT LOCKWASHER	2

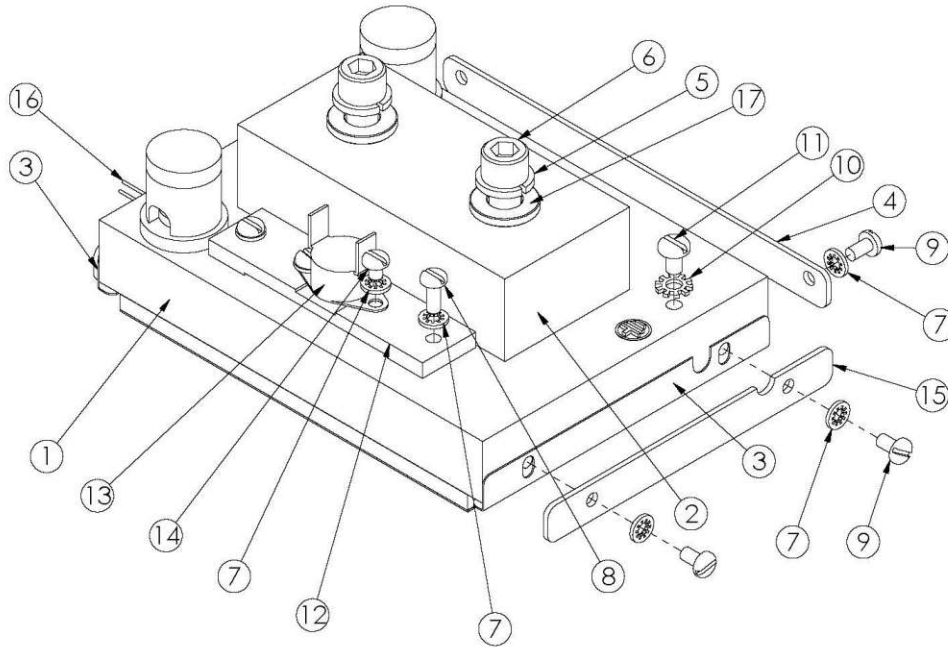


Figure 17 — Heater Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1*	45585	SEALING IRON MACHINING 110V	1
2	45579	ISOLATOR BLOCK	1
3	45849	GUIDE WELDMENT,	2
4	45643	STOP, PRINTING PLATE	1
5	21021-10-C	LOCKWASHER #5/16 SPLIT	2
6	21050-192	SHCS 5/16-18 X 2.0 LG S.S.	2
7	21021-06-C	NO. 8 SPLIT LOCKWASHER	10
8	21069-05-E	PHS 6-32 X 3/8 LG SS	2
9	21069-03-E	PHS 6-32 X 1/4 LG SS	6
10	21021-06-B	LOCKWASHER - EXT NO. 8	1
11	21069-03-F	PHS 8-32 X 1/4 LG SS	1
12	45451	ADAPTER, HIGH LIMIT	1
13	20018-24	THERMOSTAT- HI LIMIT	1
14	21069-02-E	PHS 6-32 X 3/16 LG SS	2
15	46942	PLATE, PRINT GUIDE SUPPORT	2
16	46904	TEMPERATURE SENSOR ASSY	1
17	21023-03	5/16 FLAT WASHER	2

Notes:

1. For a 220V machine, use sealing iron #45639
2. Apply anti-seize compound to threads when mounting. Torque to 60 in-lbs and re-torque after initial heating.
3. If machine is set up for printing, use custom print plate or multi-track print plate. See page 23

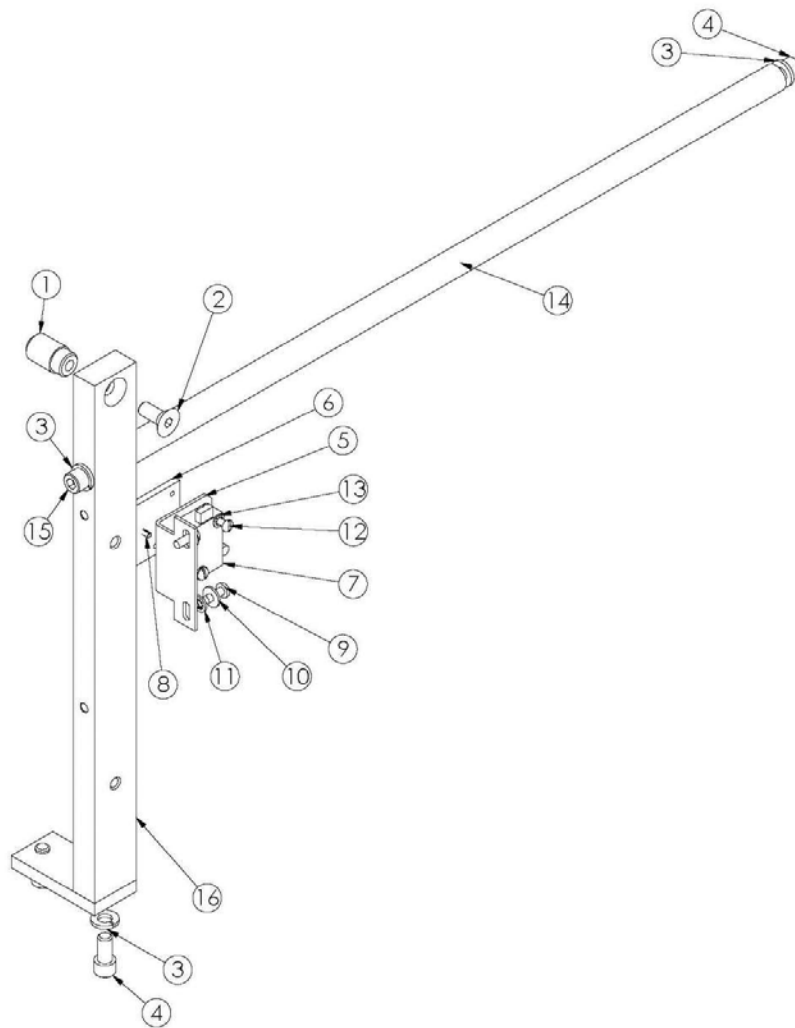


Figure 18 — Support & Switch Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	45576	STUD, PIVOT	1
2	21062-05-G	FHSCS 1/4 - 20 X 3/4 LG	1
3	21021-09-C	LOCKWASHER - SPLIT 1/4	4
4	21061-03-F	BUT HD SCR 1/4 X 20 X 1/2	3
5	45613	BRACKET, SEAL SWITCH	1
6	45712	NUT PLATE, SEAL SWITCH	1
7	20055-73	SWITCH - MICRO	1
8	21033-03-C	SPRING PIN, 1/8 X 3/8 LG	1
9	21029-48	BUT HD 8 X 32 X 3/8	2
10	21021-06-C	NO. 8 SPLIT LOCKWASHER	2
11	21023-22	WASHER - FLAT NO. 6	2
12	21057-08-C	RHS 4-40 X 5/8 LG	2
13	21021-03-A	NO. 4 LOCKWASHER, INTERNAL	2
14	46940	ROD, SUPPORT	1
15	21011-04-H	SET SCR 8 X 32 X 3/16	1
16	46946	SUPPORT, WELD & MACHING R.H.	1

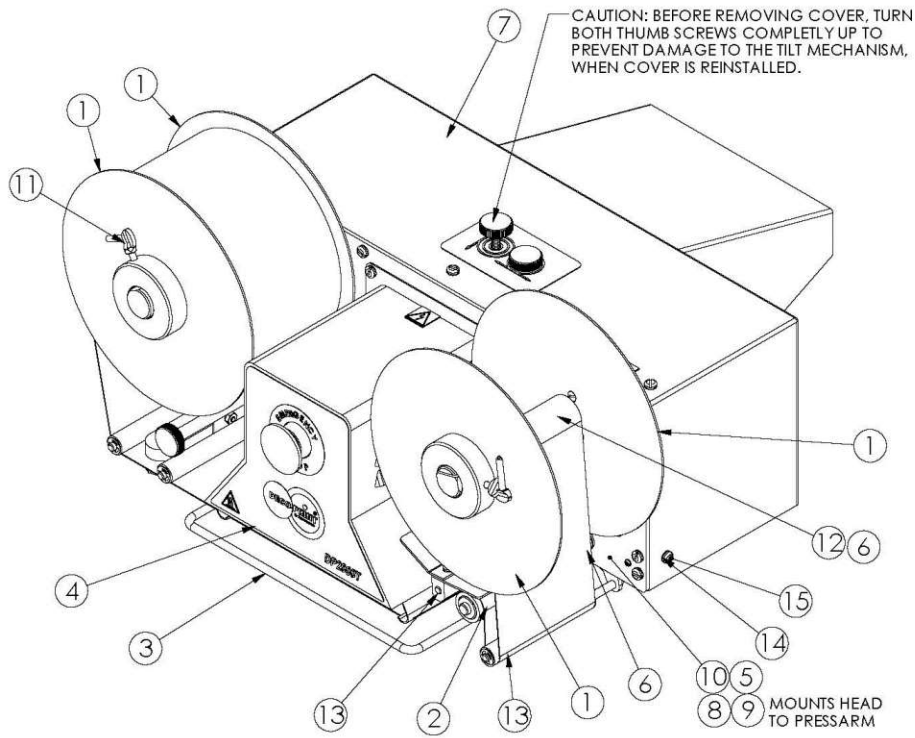


Figure 19 — Head Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	46893	FLANGE ASSY	4
2	46916	DRIVE ROLL ASSY	1
3	TOUCH GUARD ASSY	SEE PAGE 42	1
4	COVER ASSY, HEATER	SEE PAGE 43	1
5	REAR PLATE ASSY	SEE PAGE 39	1
6	21011-04-K	SET SCREW 10-32 X 3/16 LG	4
7	COVER ASSY, HEAD	SEE PAGE 5-13	1
8	21063-05-K	SHCS 1/4 - 20 X 5/8 LG	4
9	21021-09-C	LOCKWASHER - SPLIT 1/4	4
10	FRONT PLATE ASSEM	SEE PAGE 38	1
11	21065-05-D	THUMB SCREW 10-32 X 1" W/ NYLON	4
12	46895	SHAFT, TAKE UP	1
13	DANCER ROLL ASSY	SEE PAGE 41	1
14	21021-07-C	NO. 10 SPLIT LOCKWASHER	11
15	21060-05-H	BINDER HD 10-32 X 3/8 LG	11

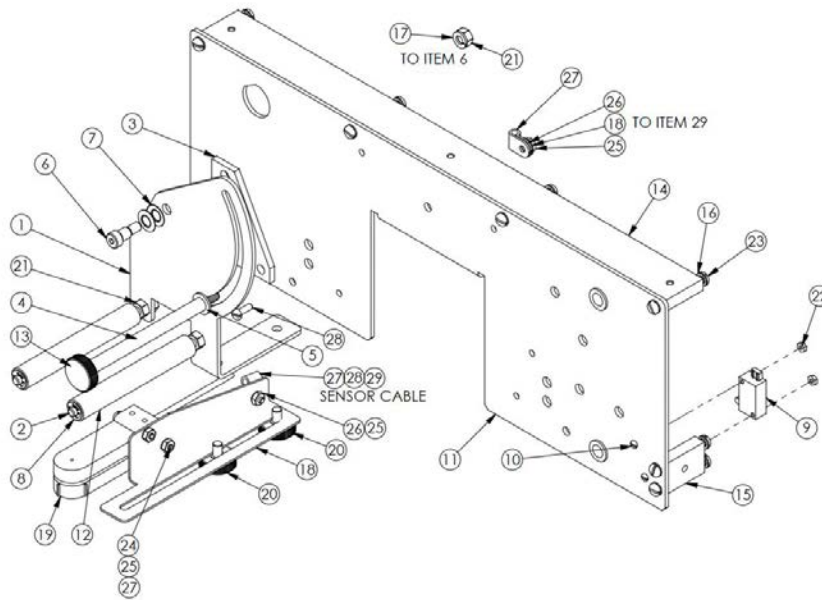


Figure 20 — Front Plate Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	46899	BRACKET, SENSOR	1
2	46900	SHAFT, SENSOR ROLL	2
3	46901	PLATE, SENSOR BRACKET SPACER	1
4	46902	SPACER, CLAMP SCREW	1
5	21023-02	WASHER, FLAT 1/4	1
6	21006-01-B	SHOULDER SCREW 5/16 X 3/8 LG	1
7	21050-232	BELLEVILLE DISC SPRING .317 X .625 X .042	2
8	D-9702	E-RING 1/4	4
9	20055-73	SWITCH - MICRO	1
10	21057-08-C	RD HD 4 X 40 X 5/8	2
11	46885	PLATE, FRONT	1
12	46939	ROLLER, IDLER	2
13	46941	THUMB SCREW ASSY 1/4-20 X 5"LG	1
14	46943	SPACER, MACHINE HEAD PLATES	1
15	46921	SPACER, HEAD PLATE	2
16	21021-07-C	NO. 10 SPLIT LOCKWASHER	16
17	21021-09-C	LOCKWASHER - SPLIT 1/4	1
18	46903	BRACKET, SENSOR ADJ.	1
19	46944	SENSOR ASSEMBLY	1
20	21023-02	WASHER, FLAT 1/4	2
21	21051-11-A	HEX NUT 1/4 - 20	5
22	21051-03-A	NO.4-40UNC HEX NUT, ZINC PLATED	2
23	21060-05-H	BINDER HD 10-32 X 3/8 LG	16
24	21058-13-F	PHS - 8-32 X 1 1/4 LG	2
25	21021-06-C	NO. 8 SPLIT LOCKWASHER	4
26	21051-07-A	HEX NUT - NO. 8-32	4
27	D-1453-1	CLAMP - 3/16 CABLE	2
28	21058-07-F	PHS 8-32 X 1/2 LG	2
29	21023-23	WASHER - FLAT NO. 8	2

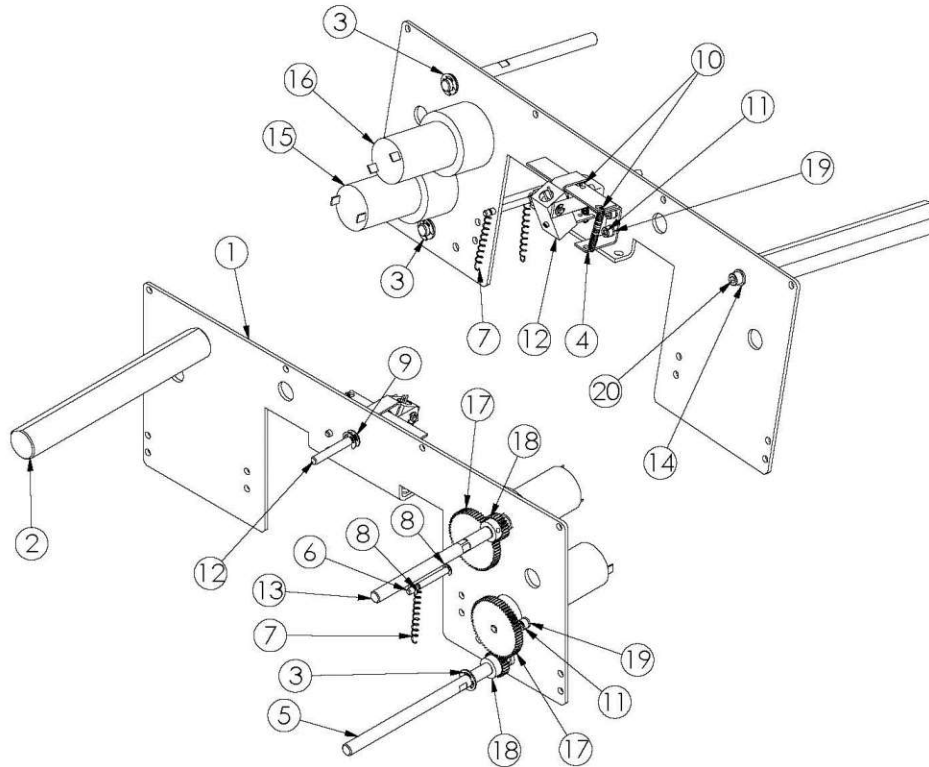


Figure 21 — Rear Plate Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	46886	PLATE, REAR	1
2	46778	SHAFT, UNWIND	1
3	D-9705	E-RING 3/8	3
4	46936	BRACKET, LASER SPRING	1
5	46915	SHAFT, DRIVE ROLL	1
6	46919	PIN, DRIVE ROLL SPRING	1
7	DF-7180	SPRING - EXT LE-029C-4	2
8	D-9701	E-RING 3/16	2
9	D-9702	E-RING 1/4	2
10	24080-36	SPRING - EXT LE-031C-1	2
11	21063-03-J	SHCS - 10-32 X 3/8 LONG	6
12	LASER ASSY	SEE PAGE 40	1
13	46881	SHAFT, TAKE-UP DRIVE	1
14	21021-09-C	LOCKWASHER - SPLIT 1/4	1
15	46892	MOTOR ASSY, CAPSTAN	1
16	46891	MOTOR ASSY, TAKE-UP	1
17	24035-26	GEAR, 60T 32DP 1/4 BORE	2
18	24035-27	GEAR, 24T 3/8 BORE MODIFIED	2
19	21021-07-C	LOCKWASHER - SPLIT NO. 10	6
20	21061-03-F	BUT HD SCR 1/4 X 20 X 1/2	1

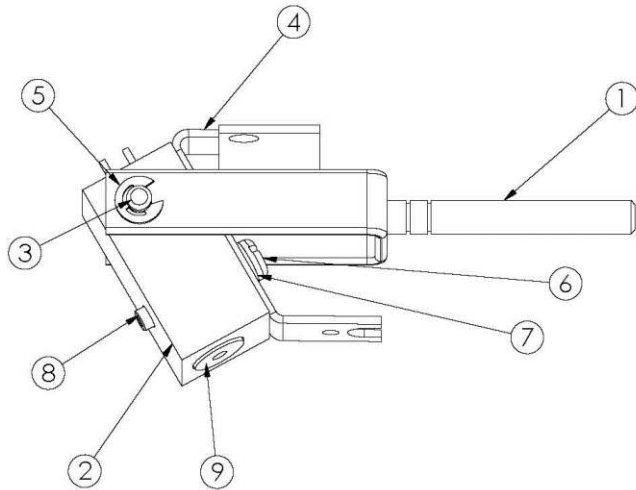


Figure 22 — Laser Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	46922	YOKE, LASER	1
2	46934	PIVOT BLOCK, LASER	1
3	46933	PIN, LASER BLOCK	1
4	46935	BRACKET, LASER BLOCK	1
5	D-9701	E-RING 3/16	2
6	21058-03-F	PHS 8 - 32 X 1/4 LG	2
7	21021-06-C	NO. 8 SPLIT LOCKWASHER	2
8	21011-04-H	SET SCREW 8-32 X 3/16 LG	1
9	46896	LASER LIGHT ASSY	1

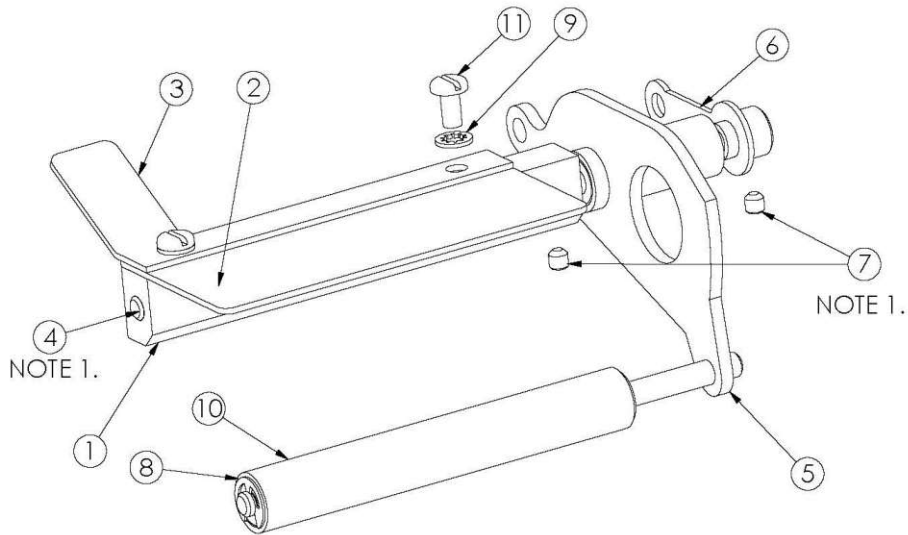


Figure 23 — Dancer Roller Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	46912	BLOCK, LEAF SPRING	1
2	46914	LEAF SPRING	1
3	46913	HANDLE, SPRING	1
4	46909	SHAFT, PIVOT	1
5	46905	DANCER ROLL ARM	1
6	46910	ARM ASSY, SPRING	1
7	21011-04-K	SET SCREW 10-32 X 3/16 LG	2
8	D-9702	E-RING 1/4	2
9	21021-07-C	NO. 10 SPLIT LOCKWASHER	2
10	46939	ROLLER, IDLER	1
11	21060-05-H	BINDER HD 10-32 X 3/8 LG	2

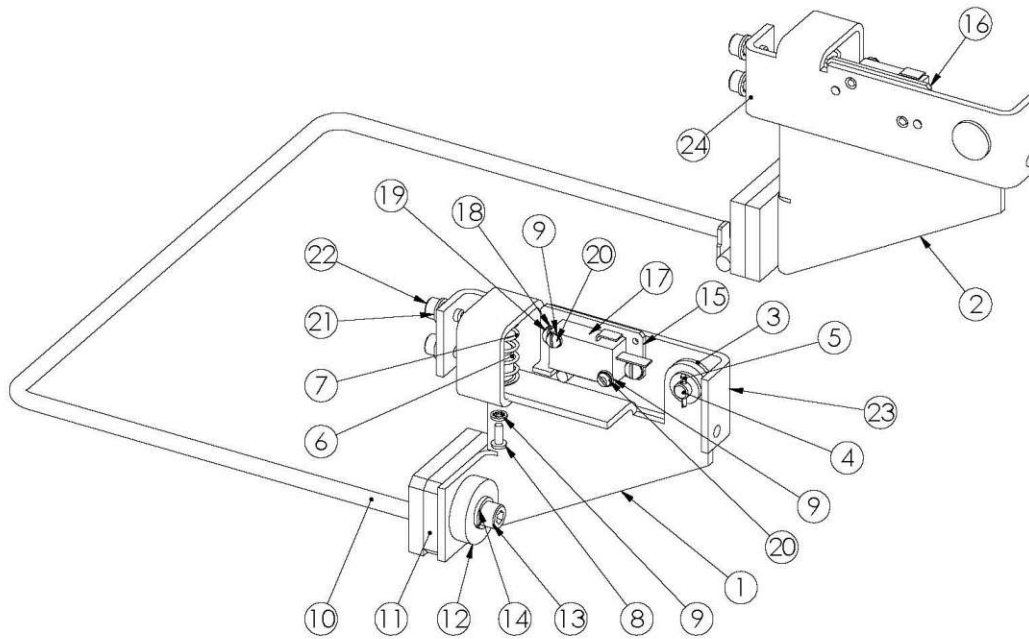


Figure 24 — Touch Guard Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	46053	SPRING BRKT, R.H.	1
2	46054	SPRING BRKT, L.H.	1
3	21022-12	THRUST WASHER 3/8	2
4	46056	PIN, SHOULDER	2
5	21050-111	COTTER PIN 1/16 X 1/2 LG	2
6	45612	SPRING RETAINER	2
7	24075-39	SPRING, COMPRESSION	2
8	21060-04-C	BHS 4-40 X 5/16 LG	2
9	21021-03-C	NO. 4 SPLIT LOCKWASHER	6
10	45606	TOUCH GUARD WELDMENT	1
11	45605	SPACER, TOUCH GUARD	2
12	45604	INSULATOR, TOUCH GUARD	2
13	21063-08-K	SHCS 1/4-20 X 1.0 LG	2
14	21021-09-C	1/4 SPLIT LOCKWASHER	2
15	45657	PLATE, R.H. SWITCH MTG	1
16	45658	PLATE, L.H. SWITCH MTG	1
17	20056-23	SWITCH - MICRO	2
18	21021-06-C	NO. 8 SPLIT LOCKWASHER	4
19	21058-03-E	PHS 6 - 32 X 1/4 LG	4
20	21057-08-C	RHS 4-40 X 5/8 LG	4
21	21021-07-C	NO. 10 SPLIT LOCKWASHER	4
22	21063-03-J	SHCS - 10-32 X 3/8 LONG	4
23	46948	BRACKET, R.H. GUARD SWITCH	1
24	46949	BRACKET, L.H. GUARD SWITCH	1

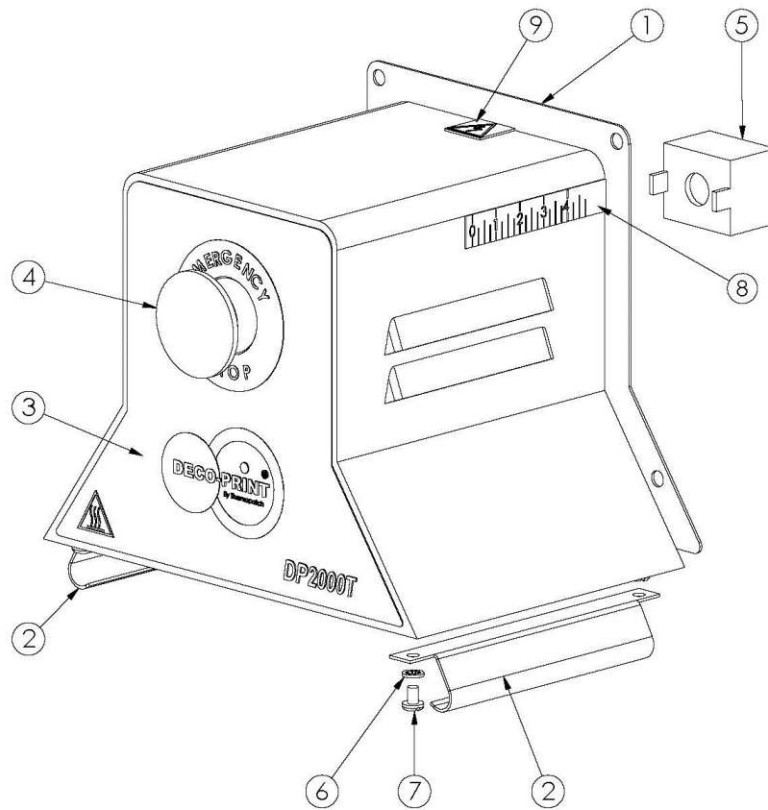


Figure 25 — Heater Cover Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	46884	COVER, HEATER	1
2	45597	TAPE GUIDE	2
3	46938	LABEL, DP2000T FRONT	1
4	20055-75	STOP SWITCH ACTUATOR	1
5	20056-28	CONTACT BLOCK, E-STOP	1
6	21021-06-C	NO. 8 SPLIT LOCKWASHER	4
7	21069-03-F	PHS 8-32 X 1/4 LG SS	4
8	46880	SCALE, 4" TAPE WIDTH	2
9	45426	LABEL, HIGH VOLTAGE	1

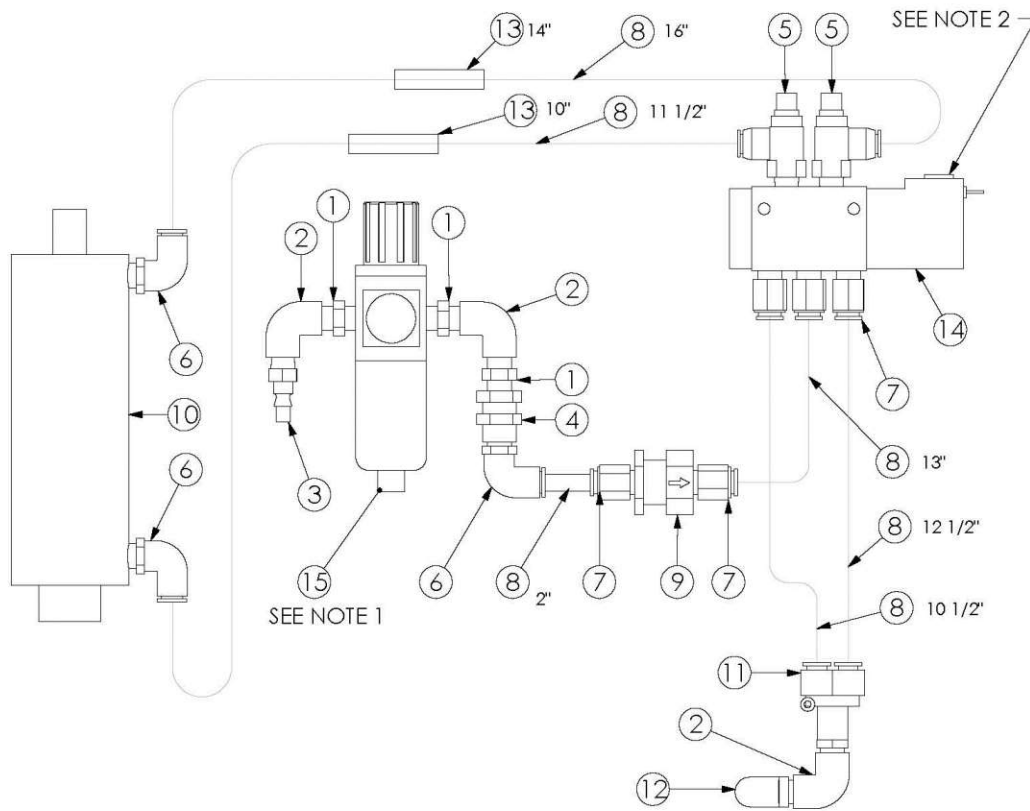


Figure 26 — Pneumatic Diagram

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	DH-6786	NIPPLE - HEX 1/4 NPT	3
2	DH-6761	ELBOW - 90 DEG 1/4 NPT	3
3	DH-6797	ADAPTER - MALE HOSE 1/4 MNPT	1
4	22030-38	FITTING - BULKHEAD 1/4 NPT	1
5	22046-09	AIR FLOW CONTROL RT ANGLE 1/4 NPT	2
6	22015-34	ELBOW - 1/4 MPT X 3/8 TUBE	3
7	22005-45	CONN - 1/4 MPT X 3/8 TUBE	5
8	22030-09	POLY-FLOW 3/8 O.D X 1/4 I.D.	65.5"
9	22045-89	VALVE - IN LINE CHECK 1/4 NPT	1
10	22010-56	AIR CYLINDER, 2 1/2 BORE 3 1/2 STROKE	1
11	22030-53	BRANCH WYE 1/4 MPT X 3/8 TUBE	1
12	22045-84	MUFFLER 1/4 MPT	1
13	20081-57	VARGLAS SLEEVING 7/16	24"
14	46898	AIR SOLENOID W/CONNECTOR	1
15	22045-91	AIR FILTER/REGULATOR & GAUGE	1

NOTE 1: FOR A 220V MACHINE, USE 22045-94 REGULATOR 0-10 BARS.

NOTE 2: PUSH BUTTON TO REMOVE AIR PRESSURE, THIS WILL PERMIT HEAD TO BE LOWERED FOR SHIPMENT OR MAINTAINANCE.

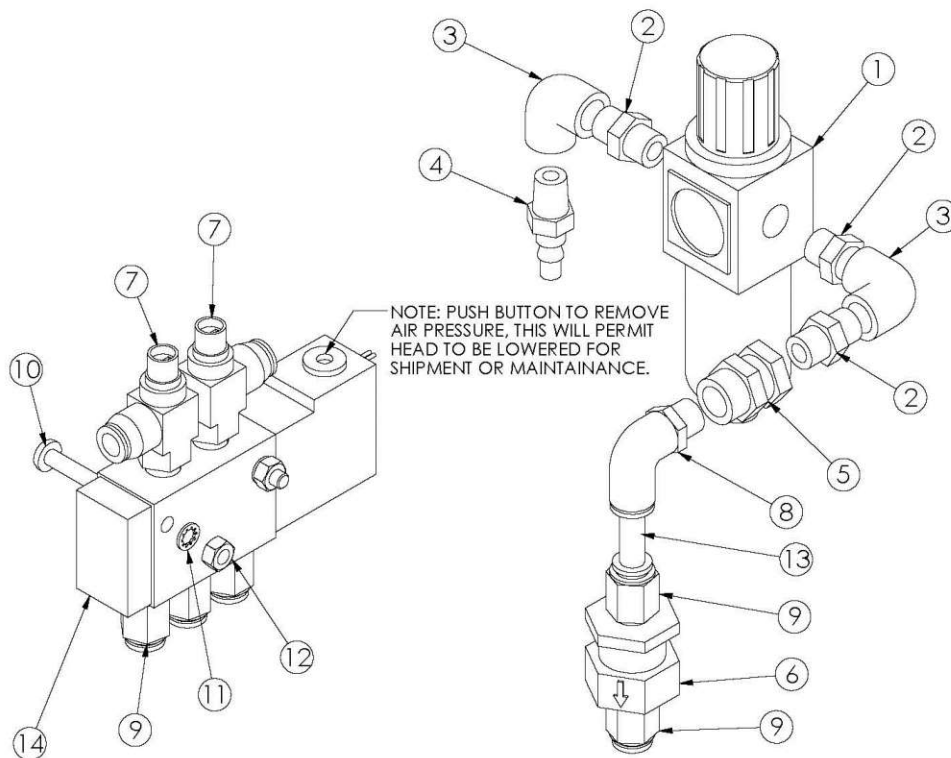


Figure 27 — Valve and Regulator Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	22045-91	AIR REGULATOR/FILTER/GAUGE 0-150 PSI	1
2	DH-6786	NIPPLE - HEX 1/4 NPT	3
3	DH-6761	ELBOW - 90 DEG 1/4 NPT	2
4	DH-6797	ADAPTER - MALE HOSE 1/4 MNPT	1
5	22030-38	FITTING - BULKHEAD 1/4	1
6	22045-89	VALVE - IN LINE CHECK 1/4 NPT	1
7	22046-09	AIR FLOW CONTROL RT ANGLE 1/4 NPT	2
8	22015-34	ELBOW - 1/4 MPT X 3/8 TUBE	1
9	22005-45	CONN - 1/4 MPT X 3/8 TUBE	5
10	21058-15-I	PAN HEAD SCREW 1/4-20 X 1 3/4	2
11	21021-09-C	1/4 SPLIT LOCKWASHER	2
12	21051-11-A	HEX NUT 1/4 - 20	2
13	TUBE, 2.0	POLY-FLOW 3/8 O.D X 1/4 I.D.	1
14	46898	AIR SOLENOID ASSY W/CONNECTOR	1

NOTE 1: FOR A 220V MACHINE, USE 22045-94 REGULATOR 0-10 BARS.

NOTE 2: SEE Figure 26 — Pneumatic FOR COMPLETE PNEUMATIC DIAGRAM.

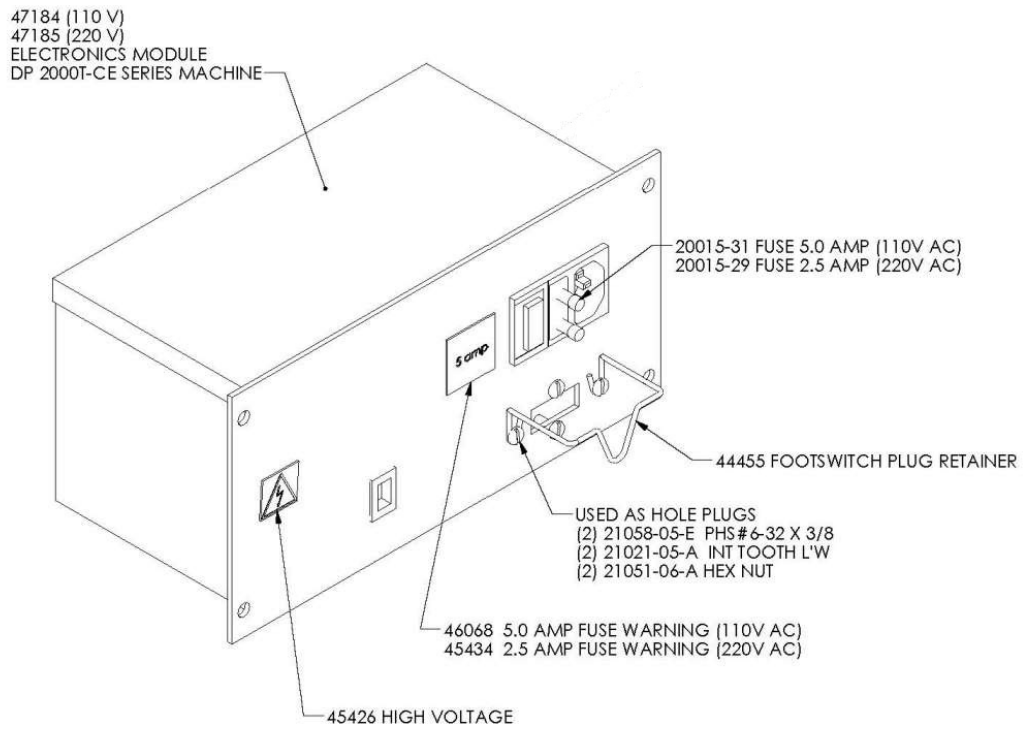


Figure 28 — Electronics Module

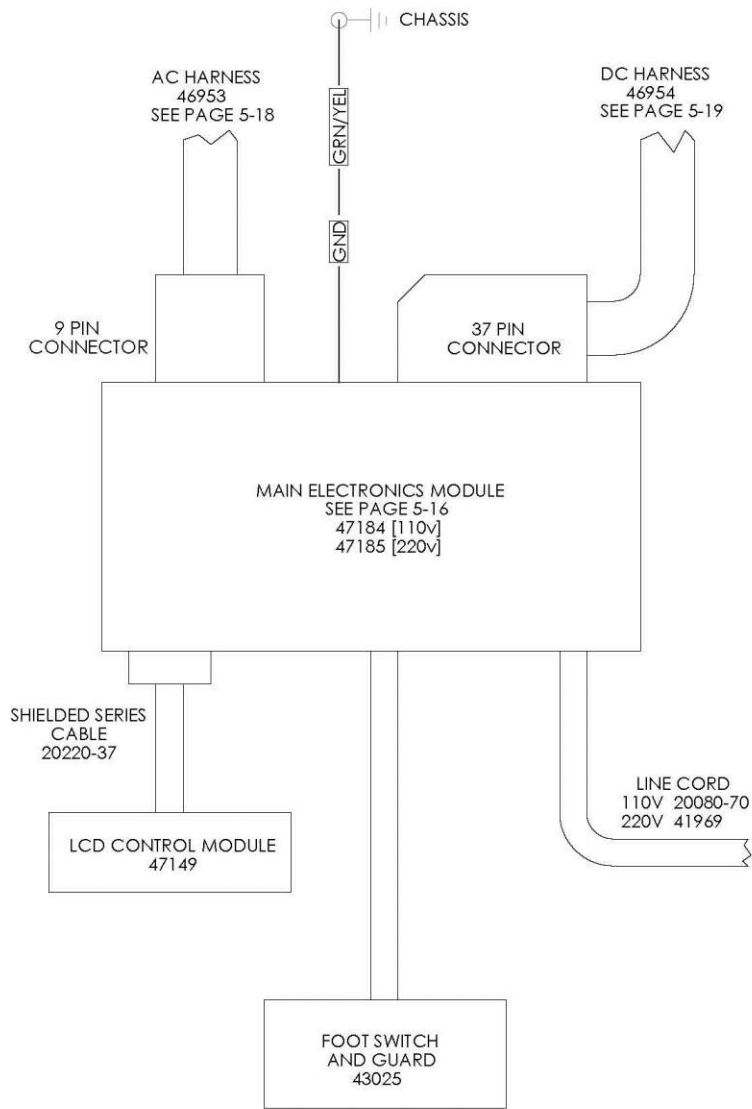


Figure 29 — Main Electronics Module

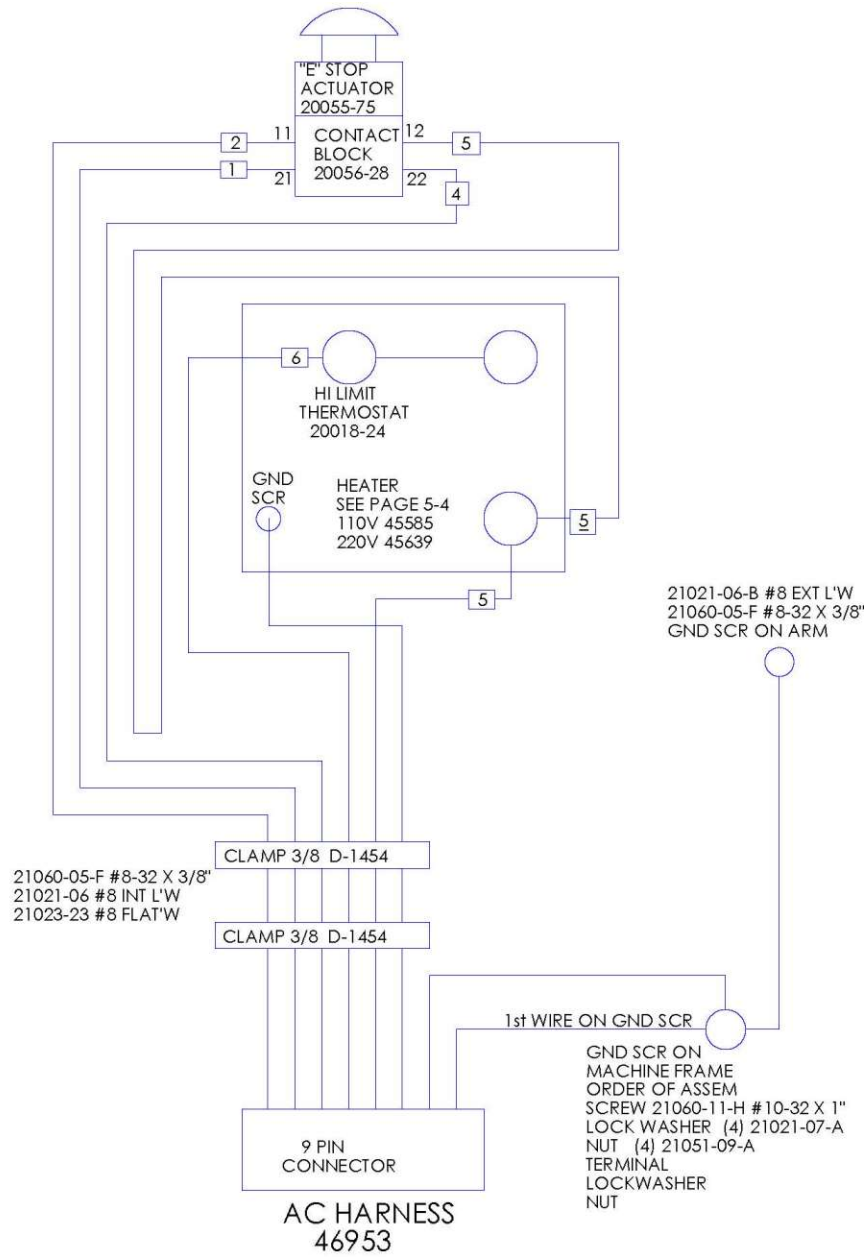
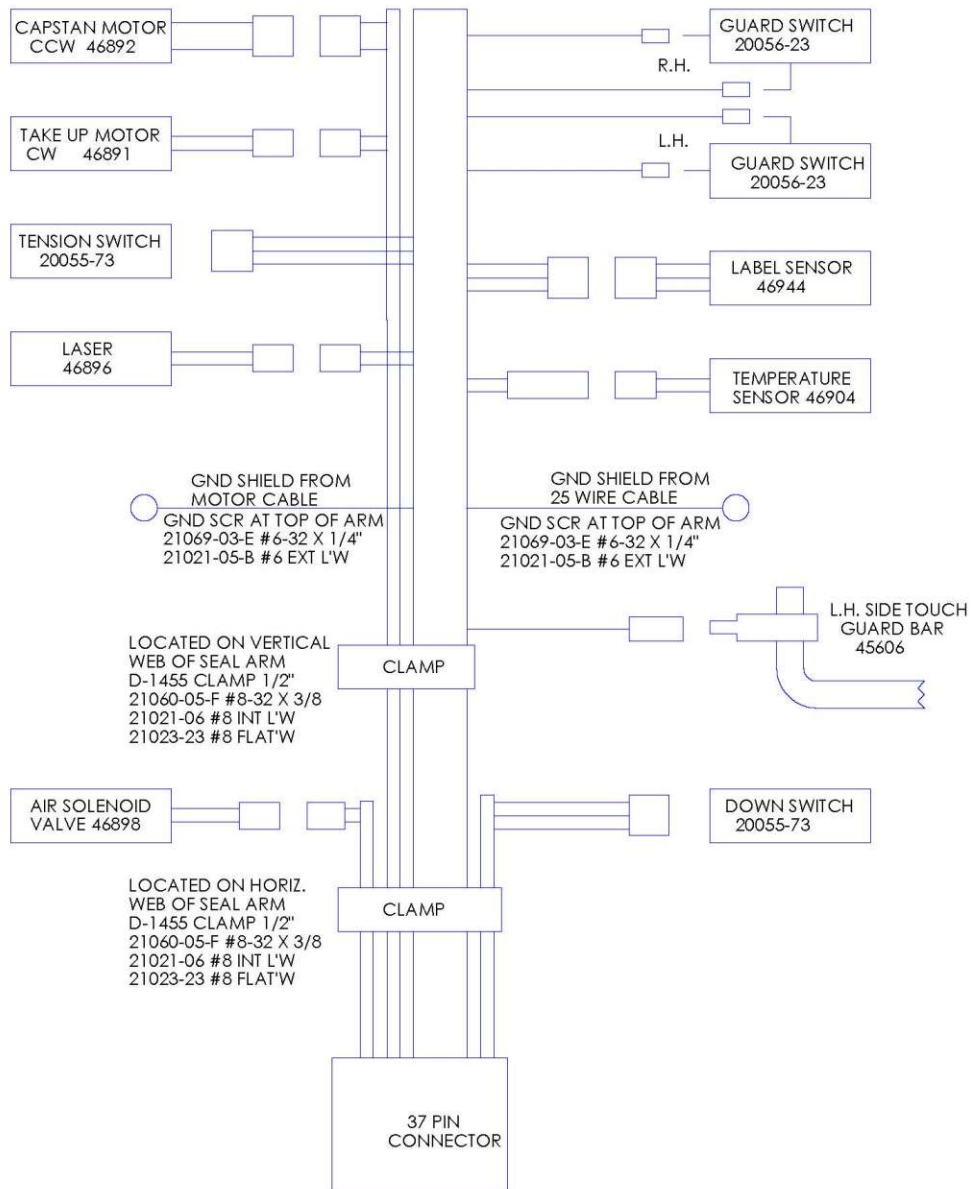


Figure 30 — AC Harness



DC HARNESS
46954

Figure 31 — DC Harness

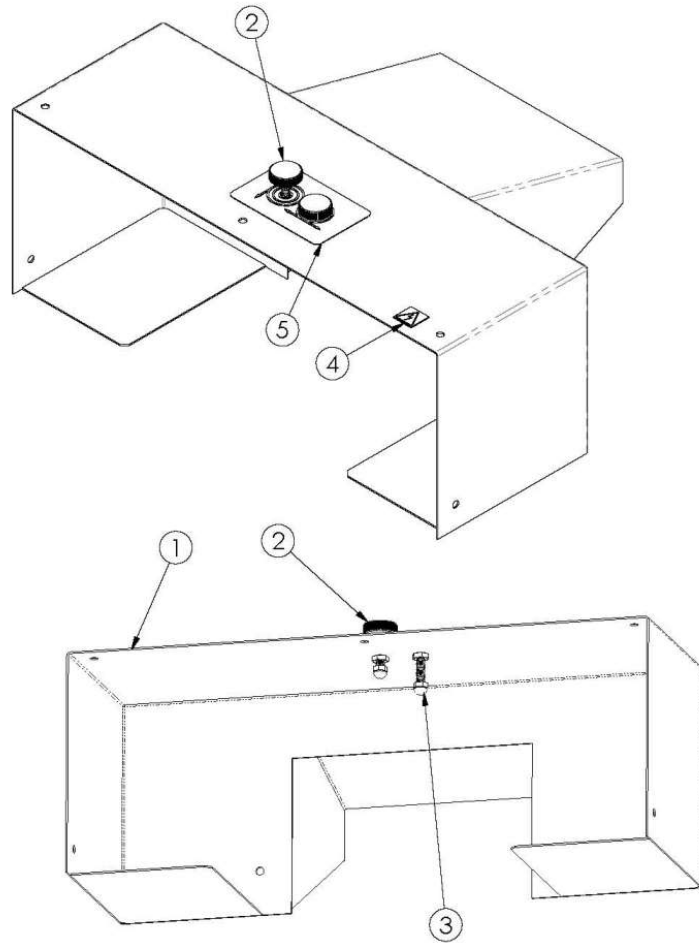


Figure 32 — Head Cover Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	46883	COVER, HEAD	1
2	21029-60	THUMB SCREW, 1" DIA KN'D HD, 1/4x20x1-1/4 LG	2
3	D-7212	ACORN HEX NUT 1/4-20	2
4	45426	LABEL, HIGH VOLTAGE	1
5	46945	LABEL, LASER TARGET	1

Section 6: Maintenance

Rubber Print Platen

Clean often by wiping with a soft, clean rag. Replace the pad when it becomes worn. To replace pad, slide old pad assembly out of the lower platen, and install a new assembly.

Compressed Air Supply

Maintain a filtered air supply. Check air filter daily. Drain by pushing up on button at bottom of filter bowl.

General

Keep inside of machine free of foreign material, including lint.

Teflon/Fiberglass Shield (Used for Heat Sealing)

Clean often by wiping with a soft, clean rag. A non-flammable cleaner such as “EZ-Off”, part no. DH-6873, may be used according to the manufacturer’s instructions.

Never use a flammable solvent or abrasive cleaner on this surface.

Shipping the DP2000T

Reverse the setup procedure shown above.

A check valve between the air supply and the air cylinder will prevent the head from lowering. To lower the head, remove the Cover, Top Rear, Item 3 on page 32. With a pen or other tool, push the button on the air solenoid to relieve pressure to the air cylinder. The air solenoid is located on the left side at the rear of the machine, slightly forward of the cover opening. See page 45.

Ship the machine in a suitable shipping container, preferably the container in which you received the machine.

Section 7: Customer Service

Thermopatch Customer Service

Thermopatch Corporation's U.S. and International network of Sales Representatives, as well as its internal Customer Service Department, offer their assistance in the development of effective heat-seal mending, marking, and identification programs.

Thermopatch markets a complete line of heat-seal and marking machines, as well as a complete line of materials and supplies.

- **Label Print Machines** – Manual, automatic, and computer controlled.
- **Marking Machines** – High speed permanent imprinting of decorative or informative marks on most woven fabrics.
- **Heat-Seal Machines** – Manual, semi-automatic, and completely automatic, with high inter-platen pressure to assure excellent adhesion of label tapes and mending materials.
- **Label Tapes** – Specially woven 100% cotton and blends with adhesives to match specific processing requirements.
- The **Deco-Print** line of products has been specifically designed to offer alternative solutions to sewn-in labeling and other methods of decorative trimming. An assortment of heat-sealable applications is available including hot paper transfers, screen printed transfers, direct printing, application equipment and supplies, and digital printed transfers.

When ordering machine parts, please include the model and serial numbers of your equipment.

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Syracuse, New York 13217-8007

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Fax: 315-445-8046

Toll Free: 800-252-6555 (in the USA only)

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If your country is not listed above, please contact Thermopatch Corporation or Thermopatch Netherlands.