Ti-1000-Z
Inline Thermal Printer

Operation Guide, Ver 1
Setup, Operation and Parts Manual

Advanced
Poly-Packaging, Inc.

1331 Emmitt Road • Akron, OH 44306 • 1-800-754-4403 • fax 330-785-4010 • www.advancedpoly.com

Acknowledgments

Manual written by: Stuart Baker

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Limited Warranty & Disclaimer

Warranty period is 12 months or 1,000,000 cycles whichever comes first. The warranty commences on the date of delivery of the equipment to the Purchaser. Print head warranty period is 90 days (wear item). APPI warrants to the Purchaser that the equipment is free from defects in workmanship or material under normal use and service. During the warranty period, APPI agrees to repair or replace, at its sole option, without charge to Purchaser, any defective component part of the equipment. To obtain service, Purchaser must return the equipment or component to APPI or an authorized APPI distributor or service representative in an adequate container for shipping. Any shipping charges, insurance, or other fees must be paid by Purchaser and all risk for the equipment shall remain with Purchaser until such time as APPI takes receipt of the equipment. Upon receipt, APPI, the authorized distributor or service representative will promptly repair or replace the defective component and then return the equipment or component to Purchaser, shipping charges, insurance, and additional fees prepaid. APPI may use reconditioned or like new parts or units, at its sole option, when repairing any component or equipment. Repaired products shall carry the same amount of outstanding warranty as from original purchase. Any claim under the warranty must include a dated proof of delivery. In any event, APPI's liability for defective components or equipment is limited to repairing or replacing the components.
This warranty is contingent upon proper use of the equipment by Purchaser and does not cover: expendable component part such as Print Heads, thermocouple wire, heater cartridge, rollers, bushings, and the like; or if damage is due to accident, unusual physical, electrical, or electromechanical stress, neglect, misuse, failure of electric power, water damage (from airlines), improper environmental conditions, transportation, tampering with or altering of the equipment, packaging of corrosive or contaminating products or other products damaging to components, and equipment or components not owned or in the possession of original Purchaser. APPI will not be liable for loss of production, profits, lost savings, special, incidental, consequential, indirect or other similar damages arising from breach of warranty, breach of contract, negligence, or their legal action even if APPI or its agent has been advised of the possibility of such damages or for any claim brought against the Purchaser by another party. This warranty allocates risks of equipment failure between Purchaser and APPI. APPI's pricing reflects this allocation of risk and the limitations of liability contained in this warranty. The warranty set forth above is in lieu of all other express warranties, whether oral or written. The agents, employees, distributors, and dealers of APPI are not authorized to make modifications to this warranty, or additional warranties binding on APPI. Accordingly, additional statements such as dealer advertising or presentations, whether oral or written, do not constitute warranties by APPI and should not be relied upon. Warranty on equipment is considered void when outstanding balances become delinquent (over 30 days late - 60 days after ship date). Equipment Integration to other Equipment: APPI assumes no responsibility for the integration of its products to other products or within a system unless APPI performs the integration, testing and provides the results of the tests to the purchaser in writing. Furthermore, APPI assumes no responsibility for bag sizing whether suggested or recommended.

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Chapter 1, Introduction

Welcome
Overview
Special Features
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1.1 Welcome

Now that you've decided to upgrade your packaging facilities with the Ti-1000Z Inline Thermal Printer from Advanced Poly-Packaging, Inc., we thank you for selecting our equipment, materials and service.

1.2 Overview

The Ti-1000Z Roll -a Print is designed to lower your printing costs with high speeds, versatility, reliability, and simplicity. The Ti-1000Z prints at rates up to 10" per second in increments of 1" per second. A user-friendly menu-driven touch screen program allows operators to setup the printer, save the settings in memory, and recall those settings for repeat runs.

1.3 Special Features

Ribbon saver: ribbon usage is based on the label download size in the software. The print head lowers to print onto the film. A screen saver is provided to extend the life of the touch screen.

Preset Counter - Preset the Ti-1000Z to stop after a predetermined number of bags have been printed. Set the quantity of finished bags to complete a print job.

Totalizing Counter - Reset this counter at the beginning of each shift or day to record printing production over a period of time.

1.4 Using this Manual - Typographical Conventions

The following manual conventions are frequently used to assist in understanding important information, alerting the operator of potentially dangerous or damaging practices, and the normal functions of the Ti-1000Z Inline Thermal Printer.

text	Normal text
<ENTER>	<> Used to show Touch Screen keys
Italics	Used for emphasis
***CAUTION*:**	Warning messages: To avoid physical harm, damage to equipment or damage to the product. Be sure to read these messages carefully.

1.5 Warranty Registration

(This section must be completed and returned to Advanced Poly Packaging, Inc. to register the Ti-1000Z for Warranty Protection)

Ti-1000Z Serial Number

_____
(Serial Number located on the back panel)

Company Name & Address	Contact Name(s) / Title(s) / Phone Number
_____	_____
_____	_____
_____	_____

Please fax or mail this page to:

Service Manager
Advanced Poly-Packaging, Inc.
1331 Emmitt Road
Akron, OH 44306
USA

Fax # (USA) 330-785-4010
Or email the information above to: Sales@advancedpoly.com

Chapter 2, Getting Started

Installation Procedures
Air and Power Requirements
Assembly Instructions
Air & Power Hookup
Main Power
Bag Threading
Ribbon Threading
Cycle Operation
Tension
Note on Adjustments

2. Getting Started

This chapter describes in detail procedures to receive and setup the Ti-1000Z, including uncrating, environmental, air and power requirements, assembly, and height adjustments. Additionally, this chapter describes how to turn on power to the Ti-1000Z, properly thread film and the through the machine, and properly thread the ribbon through the printer.

2.1 Installation Procedures

The Ti-1000Z is transported completed assembled in a container designed to protect the machine during shipment. If purchased with a T-1000 Advanced Poly Bagger, the printer will be bolted onto the bagger.

Unpacking: After removing the stretch wrapping, remove the carton from the skid, open the top and cut all four corners using a safety knife. Then, transport the Ti-1000Z to the operating location.

CAUTION: Do not attempt to lift the Ti-1000Z from the carton without first cutting all sides open. Also, to prevent injury, do not attempt to lift the machine without assistance.

Operating Environment/Location: The Ti-1000Z should be placed in an area free of excessive heat, moisture, dirt and dust. Operating room temperature should range from 50 to 100 degrees Fahrenheit.

2.2 Air & Power Requirements

Power Requirements: Provision must be made for 110 VAC, 60 Hz line current with ground. Optional 220V/50hz voltage may have been supplied based on your local electrical requirements. Full Load Current for Ti-1000Z is 3 AMPS.

CAUTION: A qualified electrician should ensure that the Ti-1000Z power outlet is properly grounded, voltages are as required and amperage capacity is sufficient. Note: APPI recommends a dedicated 15 Amp circuit for the Ti-1000Z.

Air Requirements: At least .5 CFM free air is required, regulated from 25 to 60 PSI, to obtain the best print quality and drive roller compression.

An air regulator is provided to adjust the pressure to the print head assembly. This regulator should be set from 35 to 50 PSI to obtain the best print quality.

A separate air regulator is provided to adjust the pressure to the compression rollers. The pressure should be sufficient to drive the film, but not to high which will cause the film to wrinkle. This regulator should be set from 20 to 30 PSI.

Note: Air should be dry and oil-free.

Note: Operating the Ti-1000Z at a higher PSI setting than 60 PSI will cause excessive wear and may cause damage to components on the printer.

An air line supply should be fed to the Ti-1000Z with 3/8 ID flexible tubing; this tubing affixes to the coupler adapter (quick disconnect not provided). Connect the air to the regulator by holding the regulator firmly in one hand and pushing the air line connector on the male regulator connector. After connecting air, the regulator.

Insert the Ti-1000Z power cord into a 110VAC, 60Hz, grounded power outlet.

2.3 Main Power

The main power switch is located on the rear panel. Press the switch to ON position so that the red main power light is illuminated. When the power is in the ON position, the Touch Screen will power up

displaying the Introduction Screen. The Operation menu is accessed from this screen., Where the Main Menu screen is accessed from. *Note: If the Touch Screen does not power up, see Chapter 7, Trouble-Shooting.*

2.4 Bag / Film Threading

See Fig. 2-1

Refer to figure 2-1 for the proper bag / film threading. Alternate threading may be required based on your bagger. Refer to the bagger Operating Manual for additional information.

2.5 Ribbon Threading

See Fig. 2-2.

The print head assembly can be rotating up and back for ease of ribbon changes. Release the locking mechanism and raise the print head assembly.

Caution: To avoid injury or damage to the print head, do not release the print head assembly. Lower is carefully into position and lock the mechanism prior to operation of the printer.

2.6 Cycle Operation of the Ti-1000Z

If all prior installation procedures have been performed properly, the Ti-1000Z should be in its operating location with air and power connected. All covers should be in position and securely fastened.

Note: Web of bags may track right or left for a few feet until "settled" on the web path. The roll of bags or the roller guide may require readjustments or realignment after the first few feet of bags are indexed.

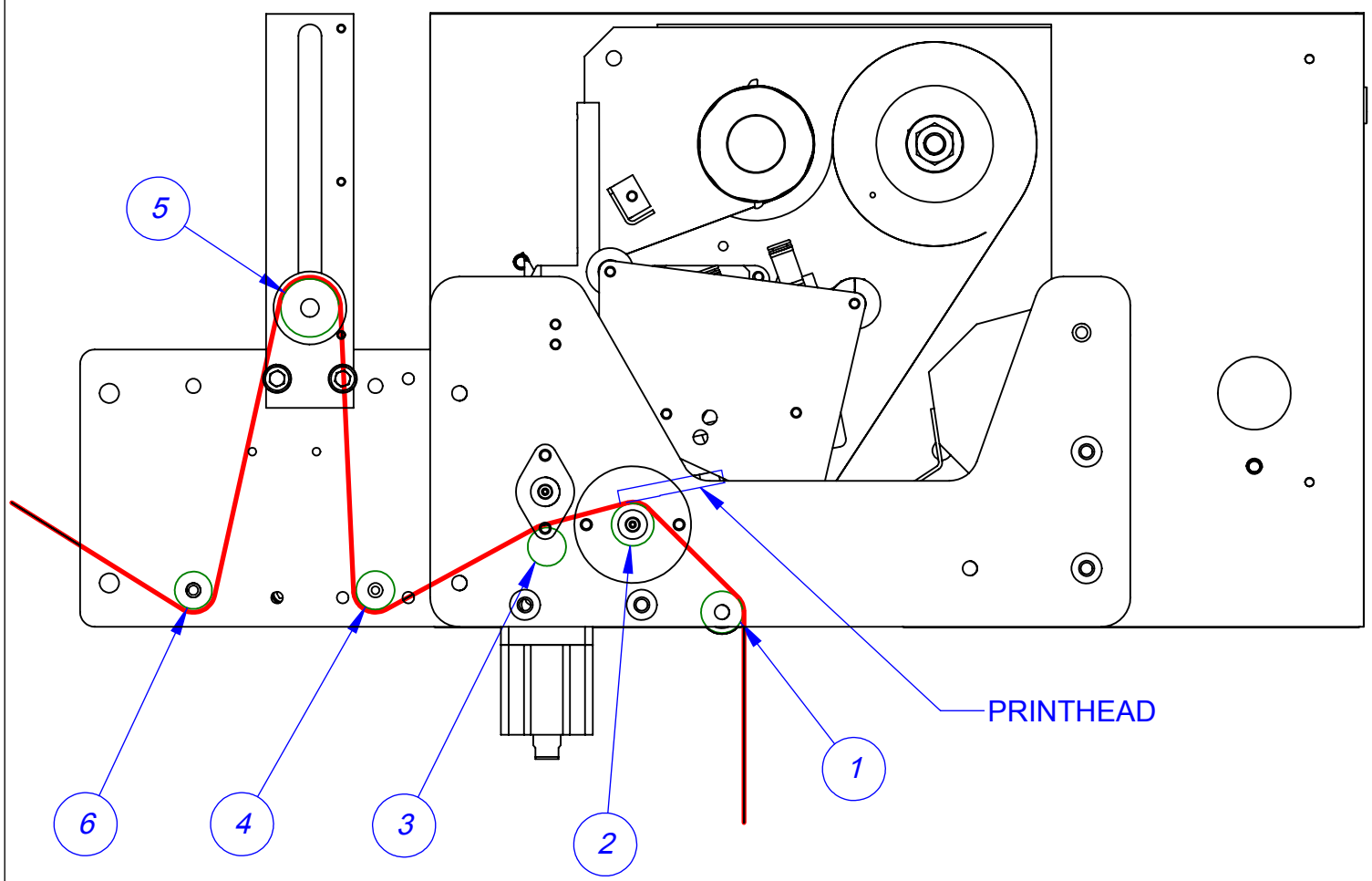
To test cycle the printer with a test label that has been downloaded from Advanced Poly, Load Label 001 from the Stored Labels screen. Then, in the Setup mode, press the Manual Cycle button. This procedure will cause the compression (nip) roller to clamp onto the film, then the print head will lower and the nip rollers will pull the film through the print head while printing. Label 001 has graphics, small print and a line which provides a good test for print quality.

2.7 Adjusting Rear Tension

The printer is not designed to cause heavy rolls to unwind. Havy rolls may requier a driven unwind stand and dancer system. If the film cannot properly feed through the nip rollers, first try to increase or decrease the nip pressure by adjust the air pressure. If the film does not feed properly through the nip rollers, increase or decrease film tension (rear tension).

2.8 Note on Adjustments to the Ti-1000Z

Upon receipt, it is not unusual for the print head to be out of alignment due to shipping and excessive handling. Unless physically damaged, the printer will function properly after minor adjustments are accomplished. Read Chapter 4 for information on adjustments of the Ti-1000Z.



1 IDLER ROLLER

2 PLANTEN (PRINT) ROLLER

3 PINCH ROLLER

4 IDLER ROLLER

5 REPOSITIONING (REGISTER) ROLLER

6 IDLER ROLLER

FIG. 2-1

DIMENSIONS ARE IN INCHES **TOLERANCES:** **FRACTIONAL: ±1/64** **ANGULAR: MACH: ±1°** **TWO PLACE DECIMAL: ±0.010** **THREE PLACE DECIMAL: ±0.003** **UNLESS OTHERWISE SPECIFIED**	**PROPRIETARY AND CONFIDENTIAL** THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ***Advanced Poly-Packaging, Inc.*** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ***APPI*** IS PROHIBITED.
BOM REF:	DRAWN: W.P.S. ***12/1/2010***
NUMBER REQ'D: 1	APPROVED: ***Stuart Baker***
MATERIAL:	PROJECT: WO# 141168
FINISH:	P/N:

Advanced Poly-Packaging, Inc.
1331 Emmitt Road • Akron, OH 44306 • 1-800-754-4403 • fax 330-785-4010 • www.advancedpoly.com

DESCRIPTION: Ti-1000Z BAG/FILM THREADING

SIZE	DWG. NO.	REV
A	141168	

SCALE: 1:3 | WEIGHT: 82.80# | SHEET 3 OF 9

5 4 3 2 1

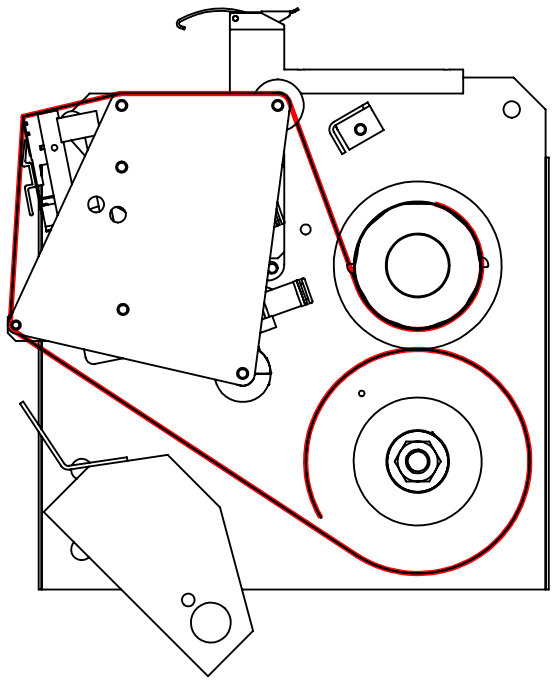


FIG. 2-2

DIMENSIONS ARE IN INCHES **TOLERANCES:** **FRACTIONAL: ±1/64** **ANGULAR: MACH: ±1°** **TWO PLACE DECIMAL: ±0.010** **THREE PLACE DECIMAL: ±0.003** **UNLESS OTHERWISE SPECIFIED**	**PROPRIETARY AND CONFIDENTIAL** THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ***Advanced Poly-Packaging, Inc.*** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ***APPI*** IS PROHIBITED.	Advanced Poly-Packaging, Inc. 1331 Emmitt Road • Akron, OH 44306 • 1-800-754-4403 • fax 330-785-4010 • www.advancedpoly.com
BOM REF:	DRAWN: W.P.S. ***12/1/2010***	DESCRIPTION: Ti-1000Z RIBBON THREADING
NUMBER REQ'D: 1	APPROVED: ***Stuart Baker***	SIZE **A** / DWG. NO. 141168 / REV
MATERIAL:	PROJECT: W.O. #141168	
FINISH:	P/N:	SCALE: 1:3 / WEIGHT: 14.90# / SHEET 4 OF 9

5 4 3 2 1

Chapter 3, Touch Screen Operation

Touch Screen Part Names
Specifications
Contrast Adjustment
Touch Screen Program

3. Touch Screen Operation

This section describes in detail, the identification, operation and settings of the Touch Screen Program.

3.1 Touch Screen Part Names - Back Panel (See diagram 3.1.1)

IOP Cable to Touch Screen / PLC Program Port
PLC Wiring / Power
Battery Cover / Battery Location
DIP Switch Setting

Caution: Do not attempt to reprogram the PLC or Touch Screen. Doing so may cause an unsafe operating condition. Doing so will also void the warranty. Additionally, do not change the DIP switch settings.

3.2 Touch Screen Specifications/Features

Specifications	
Screen, Resolution	4.7", 320 x 240 pixels, 256 STN Colors
Features	Real time clock, recipes
LCD	256 Colors, QVGA
Memory	6.5MB
Communication	RS232C
Touch Key Res.	Free, Analog
Languages	English, Spanish, French, German, Italian, Japanese, Chinese, Korean
Dimension	142x112x29.9mm (W, H, D)
Back Light	White LEDs (No maintenance)
Power Supply	24V DC, 0.2A
Protection (Front)	IP65
Conforming	CE, UL, cUL

3.3 Touch Screen Program

The Touch Screen Program is a "user-friendly" menu-driven setup and operation program. Popup windows are incorporated for quick and easy setting adjustments. Each time a setting is changed, the settings are saved so that if power is lost, the "job" will be recalled automatically without the need for reprogramming. Moving around through the program, entering menu levels and entering setup options are easily and quickly achieved by just one touch of the screen to set the options you choose. A general color scheme has been used for consistency with operation:

Blue: Background color. Blue is used as a background or text only color. Pressing this area will typically do nothing.

Yellow: Yellow buttons are Menu buttons which will take you to other available screens. Yellow buttons may be located anywhere on the screen.

Green: Setting button. Green buttons are used to change settings or mode of operation.

Red: Stop functions, warning messages or off positions.

3.4 Introductory Screen

When the Ti-1000Z is turned on, an Introductory screen is displayed. See Fig. 3-1.

The Introductory screen is a welcome screen and has a button to take you to the Operation Menu which the Main Menu will be accessed from. When initially powered up, the machine will be in the Stop mode.

3.5 Operation Screen

The Operation Screen acts as a *default* screen when the Level 2 Pass Code has been enabled in the Technical Assistance / Pass code Setup screen (See Fig. 3-26). This screen has limited functionality, other than allowing for test printing and reseting cycle counters.

LEDs:
Ready – The printer will display Ready after self testing, during startup if an error does not exist.
Labels – If labels are downloaded, the Labels LED will be displayed.
Printing – This LED illuminates when the print is in cycle.
Error & Pause – These two errors occur when an error exists or if a Pause input is received.

Clear Labels button can clear the downloaded label format, or the label format that is recalled from Stored Memory. However, if data records are downloaded from a database, this button will not erase stored labels unless there are less than 90 records remaining.

The Clear Labels button also resets the Stored Label function. Store Label function will need to be turned on if Clear Labels button is pressed.

Darkness, Print Speed and Quantity are parameters that are setup in the label software, displayed here only for information. However, the Darkness setting can be changed from the Printer Settings screen.

When the Pass code is active, the operator must enter the Level 2 Pass Code to go to the Main Menu. Without this pass code, the operator will be restricted to the Operation Screen only. An LED is located on the Main Menu button. If this LED is Green, access is granted to the Main Menu. If the LED is Red, the access is denied, unless the pass code is entered.

Note: Contact APPI Technical Support if the pass code is unknown. APPI will describe how to gain access to the pass code setup screen, to view and change the codes.

3.6 Main Menu

The Main Menu is initially accessed from the Operation Screen. This screen allows the operator to go to most other screen locations. See Fig. 3-3.

On most screens, there is the Setup/Auto button which allows for manual or test cycling while in the Setup mode.

The Auto mode turns on auxiliary communication with the bagger.

3.7 Printer Setup Screen

To access the Printer setup menu, press the <Printer> menu button from the Main Menu Setup Screen. All functions pertaining to print location and print resolution will be accessed from this menu. See Fig. 3-7.

The same LEDs that are on the Operation Screen are located on this screen.

Print Delay – this setting causes the nip rollers to compress first, thus delaying the print head from lowering. This will ensure that the film is captured and ready to start feeding prior to the print head lowering to print. A standard setting is .1 to .3 seconds. Increasing this delay time will cause loss of production.

Darkness: Darkness can be set between 1 and 30. Darkness settings can be set in your label software, but can also be overridden by adjusting the Darkness setting on the Printer Setup Screen. Increase the Darkness setting to improve print quality. A typical setting is 20.

Note: APPI resells several software packages including: Labelview, Zebra Design Pro and Bartender. If you are using other than software, APPI may not be familiar with the specific settings available in your software. Refer to your software manual for print speed and darkness settings.

The Printer Settings screen will also display downloaded parameters: darkness, print speed and quantity.

3.8 Stored Labels

This screen can be accessed from the Printer Settings screen or the Main Menu. See Fig. 3-8.
After storing the preferred label in the Labelview software program and then storing it into the Ti-1000Z, jobs can be easily accessed and a constant PC connection and software program will not be necessarry. Up to 999 label can be stored. See Section 4.5 to setup Label view settings and storing the labels.

Press the OFF button to toggle the Stored Label function to ON.

Then press the Label# button and type in a number from 001 to 999, depending on the label that you would like to recall. From the factory, Advanced Poly has included at least one sample label format (001) for testing.

Because the length of the label is not saved when downloading labels in memory, APPI recommends that stored labels are the same length. Otherwise, you must use a chart which describes the label format length for each stored label.

<Reset> button will cause the printer to be set to the factory settings. Press this button if the printer does not respond to a downloaded label.

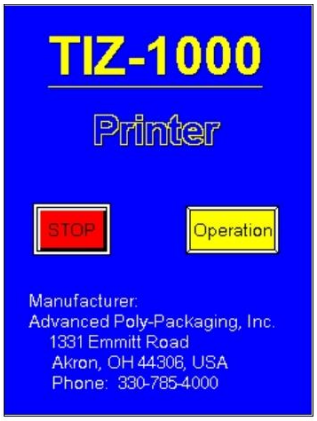


Fig. 3-1

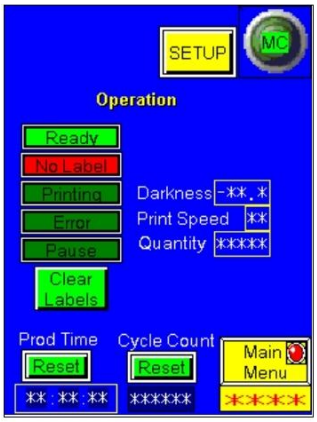


Fig. 3-2

Fig. 3-3

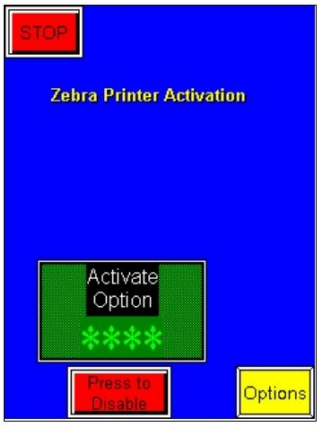


Fig. 3-6

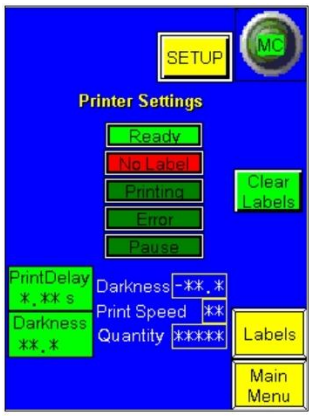


Fig. 3-7

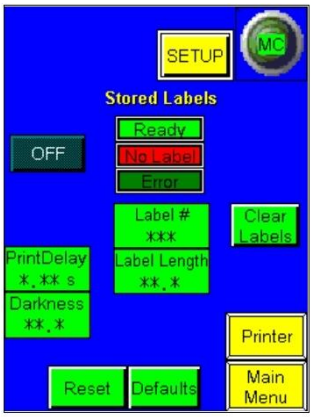


Fig. 3-8

Fig. 3-9

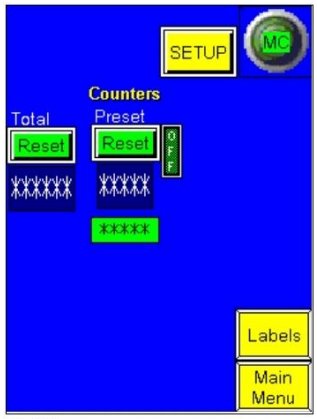


Fig. 3-20

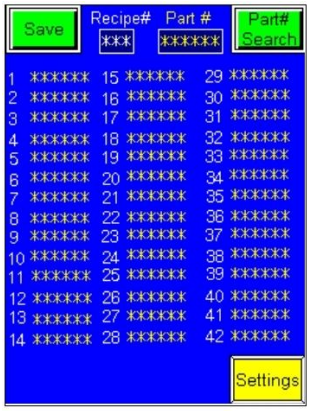


Fig. 3-21

<Defaults> button will reset parameters in the printer to be reset, to include the Mode in which turns on the communication of the PLC to the Printer Main PCB.

Reset and Defaults button are provided in case the parameters in your label software are not set correctly. However, if you continue to download labels that are not properly formatted, with the correct parameter settings, then the printer will continue to function improperly. The Default and Reset buttons are provided to reset the unit, so that when the proper settings & parameters are downloaded, that the printer will be ready to accept the label format.

APPI provides the settings and parameters for the most popular label software. However, APPI is not familiar with all label software programs. By reviewing the settings described in this manual, you may be able to setup your software with the proper settings.

3.9 Counters Screen

The Ti-1000Z is equipped with two internal counters as a standard feature. To access the counter screen press the <Counter> button from the Main Menu. See Fig. 3-20.

Totalizing Counter: To track production, use the Totalizing Counter to count cycle operations of the Ti-1000Z. Press the <Reset> button to reset the counter to zero. This counter value is also displayed on the Operation Screen.

Preset Counter: To halt production after a preset number of cycle operations, use the Predetermining Counter. When the final count has been reached, a message screen will be displayed.
Set the value by pressing the numeric button located below the Preset Reset button. Then type the value on the number keypad followed by the <Enter> button. To disable the Predetermining Counter set the value to "0".

Another method of stopping the printer is by entering the quantity of labels in your label software. When the quantity of downloaded labels reaches zero, the printer will stop operation and a "Printer Waiting" screen will be displayed. See Fig 3-9.

3.10 Job Save / Recall

The Ti-1000Z is able to store machine settings, called *recipes*. See Fig. 3-21.

Each time a setting is changed on the Ti-1000Z, the settings are immediately saved in memory so that if power is lost, the Ti-1000Z will power on with the job that was running before power was lost.

To Save a job to a memory location, first enter the Recipe (memory location), enter your Part Number Then, press the <Save> button. You will prompted to confirm your the save function. See Fig. 3-23.

To Recall a Recipe that has already been saved to a memory location, enter the Recipe Number and then press the Settings button. You can then review the settings before pressing the <Load> button. See Fig. 3-22.

If you don't know the Recipe Number, enter your Part Number, then press the Part # Search button. You can then press the Settings button to view and load your settings.

Note: If power is lost to the printer, the downloaded labels will be lost and will require downloading again, unless the Stored Labels function is used to recall the label.

3.11 Auxiliary Screen

The Ti-1000Z Touch Screen Program is preprogrammed to accept closed contact inputs so that the two or more pieces of equipment "talk" to each. See Fig. 3-24.

Fig. 3-22

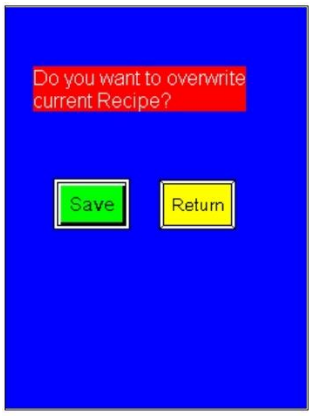


Fig. 3-23

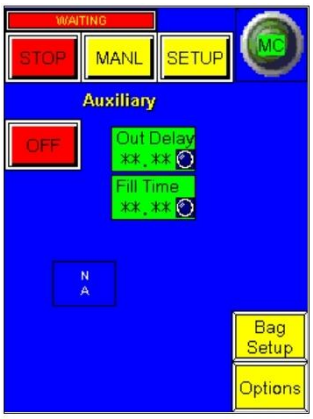


Fig. 3-24

Fig. 3-25

Fig. 3-26

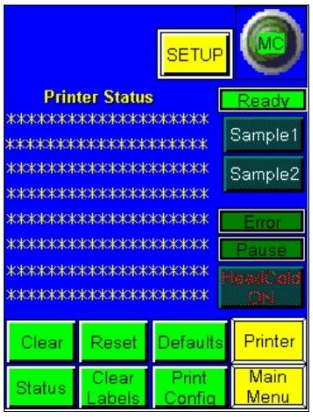


Fig. 3-27

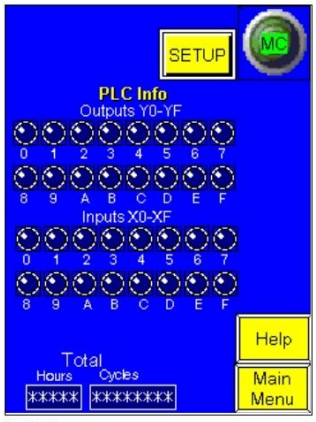


Fig. 3-28

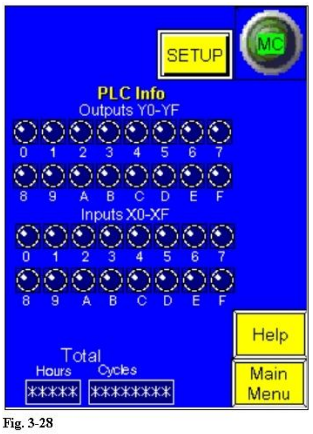


Fig. 3-28

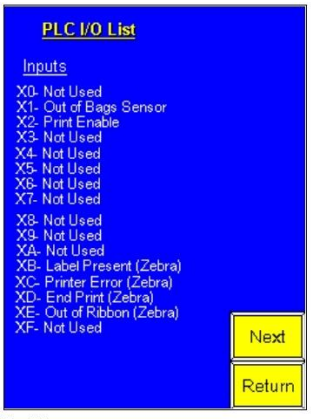


Fig. 3-29

Occasionally, reprogramming will be necessary to interface auxiliary (infeed) equipment that is not manufacturer by APPI. Special cabling may also be required.

Once connected and with both systems running independently, turn the Auxiliary Signal ON by pressing the ON/OFF toggle button from the Auxiliary Screen.

An output time delay is provided which delays the bagger from sealing or otherwise cycling after the auxiliary infeed signal has cycled and signaled the bagger to seal. To adjust the delay timer, press the <Output Delay> button and enter the value, in seconds, on the number keypad.
When the Auxiliary setup procedures are complete, Press the <ON> button on the Auxiliary Screen. Then toggle the Ti-1000Z from manual to automatic operation by pressing the <Setup/Auto> toggle button. This will place Ti-1000Z in the Automatic / Auxiliary mode.

3.12 Technical Assistance / Service Center

Technical Assistance screen provides manufacturer information, printer status, factory settings adjustments and functions testing and troubleshooting. It also displays program version for PLC controller and touch screen. See Fig. 3-25.

Note: Before entering the Technical Assistance Screen, you must enter a Level 1 pass code. This code is set to 1001 at the factory, and may be changed at a later date.

3.13 License Activation

Advanced Poly equipment firmware must be activated to avoid operation disruption. If you notice a Screen that requires an Activation code, please contact APPI to request this code.

The Service Center screen provided contact information to request the activation code. See Fig. 3-25.

When requesting assistance, please not the Touch Screen (TS) Version and Programmable Logic Controller (PLC) Version information located on the top of the Service Center screen.

From the Service Center/Technical Assistance Screen, other Technical Assistance screens can be displayed.

3.14 PassW (Pass Code) Setup Screen

Advanced Poly-Packaging, Inc. (APPI) has included a pass code function in all touch screen equipment to prevent operators from changing factory or other infrequent settings. See Fig. 3-26.

There are two pass code levels described as follows:
1. Level 1: This is the highest level pass code which prevents operators from accessing the Technical Assistance functions of the machine. The default pass code, when shipped from the factory, is 1001.
2. Level 2: This level pass code, when the pass code function is enabled, prevents the operator from accessing settings screens that affect the operation of the equipment.

Pass codes prevent unauthorized individuals from tampering with settings. When equipment is shipped, APPI uses the following codes which should be changed prior to putting the Ti-1000Z into operation.

Factory Set Pass Codes:
1. Level 1 pass code: 1001
2. Level 2 pass code: 1002

Fig. 3-30

Fig. 3-31

Fig. 3-40

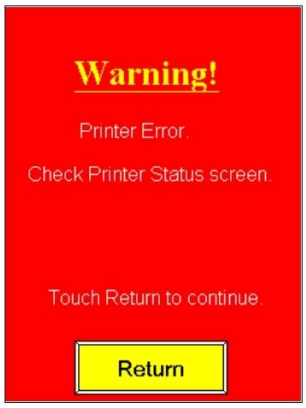


Fig. 3-41

Fig. 3-42

Fig. 3-43

Fig. 3-45

Fig. 3-46

Fig. 3-47

To enable the pass code function, press the <Tech Assist> button from the Main Menu. Type in the Level 1 pass code (1001 by default from APPI). Press <Bagger PassW> Then press ON to toggle the pass code function ON. If you change the pass codes, ensure that these codes are written down.

Once the pass code function is enabled, the operator will have a programmed amount of time (time-out time) to make changes. Once this time has elapsed, the Operation Screen will automatically be displayed.

This time can be changed by accessing the Pass Code setup screen. If you misplace or forget the pass codes, contact APPI Service Dept for assistance. APPI will prove a "factory code" so that the current pass codes can be displayed.

3.15 Printer Status Screen

The Printer Status screen is used for troubleshooting the printer. See Fig. 3-27.

The printer sends a status message when powered on and after each print. If an Error LED on the Printer Setup Screen is displayed, the actual error message will be displayed on the Printer Status Screen.

You can also reset and recall the status by pressing the <Clear> and <Status> buttons.

Two Sample labels have been downloaded to the printer memory. Before selecting one of these sample labels, press the <Print Config> button. Then, press either Sample1 or Sample2. When one of these buttons is pressed, it will remain highlighted until pressed again. Before exiting this screen, you should press the highlighted button to turn off the Sample print function. If an error message is displayed here, contact APPI technical support.

3.16 PLC Info

The PLC I/O screen is provided for maintenance personnel to determine the status of the PLC and review the mode of Outputs and Inputs. PLC I/O screen(s) are also used to assist APPI Service Technicians, working with your Maintenance Personnel to troubleshoot the T-300/T-375 in the field. See Figure 3-28.

To determine the function of each Input / Output, press the Help button to display a brief description of each input or output LED. See Figs. 3-29 and 3-30.

The PLC I/O screen also provide the run Hours and Cycles counters. These counters cannot be reset by the operator.

3.17 Factory Settings Screen:

These settings are additional bagger settings which should only be set by qualified technicians or by the factory. See Fig. 3-31.

3.18 Information Screens / Message Screens

If an error occurs the Touchscreen program will notify the operator with a red Warning Signal. For specific problems, detailed messages will appear with solutions to fix a specific problem. See Fig. 3-40 +

Some messages provide functional messages that describe errors or the status of equipment and some provide instructions for operators to follow to bring the bagger back online. To reset a message screen, clear the condition first (if required) and then touch the screen.

Chapter 4, Settings & Adjustments

Machine Adjustments
Component Replacement

4.1 Machine Adjustments

Periodically, Ti-1000Z will require readjustment or realignment of components to ensure proper operation. Adjustments may be required after transportation, excessive handling, or due to normal wear and tear.

Caution: Machine adjustments, electrical troubleshooting and component replacement should be performed by qualified maintenance technicians, familiar with safety practices including but not limited to equipment lock-out/tag-out, voltages, and pneumatics. If you are not familiar with the equipment or have not received training on the Ti-1000Z, you should consult with APPI technical support before attempting adjustments or repairs.

4.2 Tracking and Alignment Adjustments

Tracking problems can cause the thermally printed information to be out of the proper location.
To avoid printing problems, machine adjustments to correct the tracking and alignment of the web of bags may be required.

However, before considering adjustment, check that there is sufficient tension on the film / bag web. When feeding or stopping, the bag roll should not spin freely or feed excess film.

4.3 Compression (NIP) Roller Adjustment

The drive roll compression is the force that exists between the two feed rolls (rubber covered grooved roll and grooved steel roll). Too much drive roll compression will cause extra wear on the drive roll and the motor.

Adjust the regulator pressure to adjust the nip roller tension. Pressure should be set as low as possible to cause the film to pull the film through the print head evenly without wrinkling.

4.4 Idler roller Guides

Two plastic web guides, are located on the rear idler roller. These guides are used for *fine* adjustment of tracking. Once the web is tracking within +/- 1/8" left to right, the plastic web guides can be used to further assist tracking. Hold the upper roller in place while turning and sliding the plastic guides close to the bags without touching the bags.

NOTE: If the bags are not tracking properly, the plastic guides could cause the bag web to turn or fold over. If this occurs, slide the guides further away from the web and make adjustments to correct tracking issues.

4.5 Labelview Software Settings

Follow the screens in this sequence and make sure all the settings match.

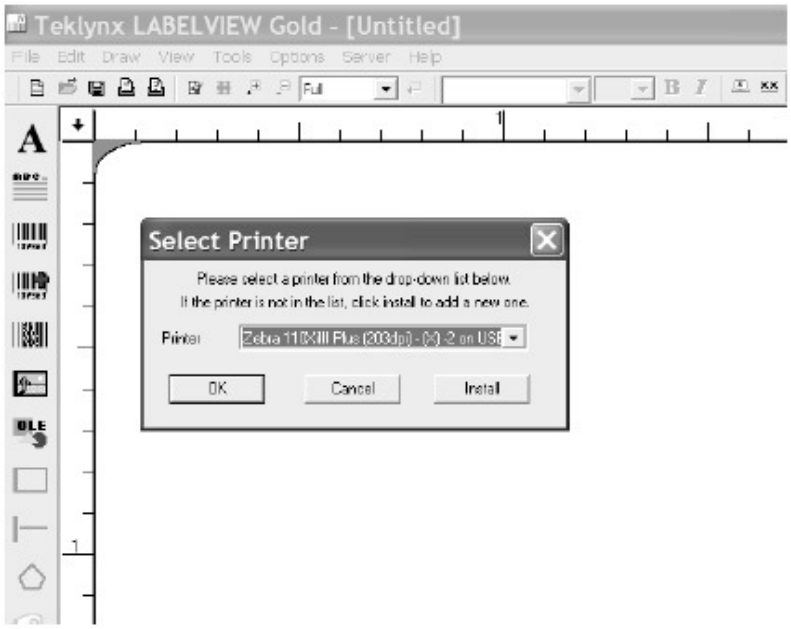

Teklynx LABELVIEW Gold - [Untitled]
File Edit Draw View Tools Options Server Help
Select Printer
Please select a printer from the drop-down list below.
If the printer is not in the list, click install to add a new one.
Printer
OK
Cancel
Install

Fig. 4-3

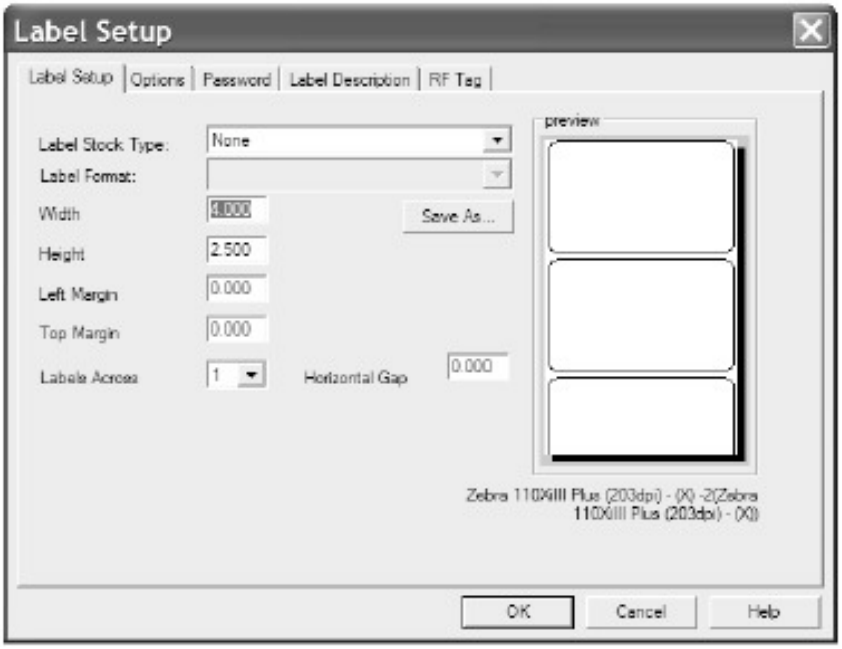

Label Setup
Label Setup
Options
Password
Label Description
RF Tag
Label Stock Type:
None
Label Format:
Width
4.000
Save As...
Height
2.500
Left Margin
0.000
Top Margin
0.000
Labels Across
1
Horizontal Gap
0.000
preview
Zebra 110XIII Plus (203dpi) - (X) -2(Zebra 110XIII Plus (203dpi) - (X))
OK
Cancel
Help

Fig. 4-4

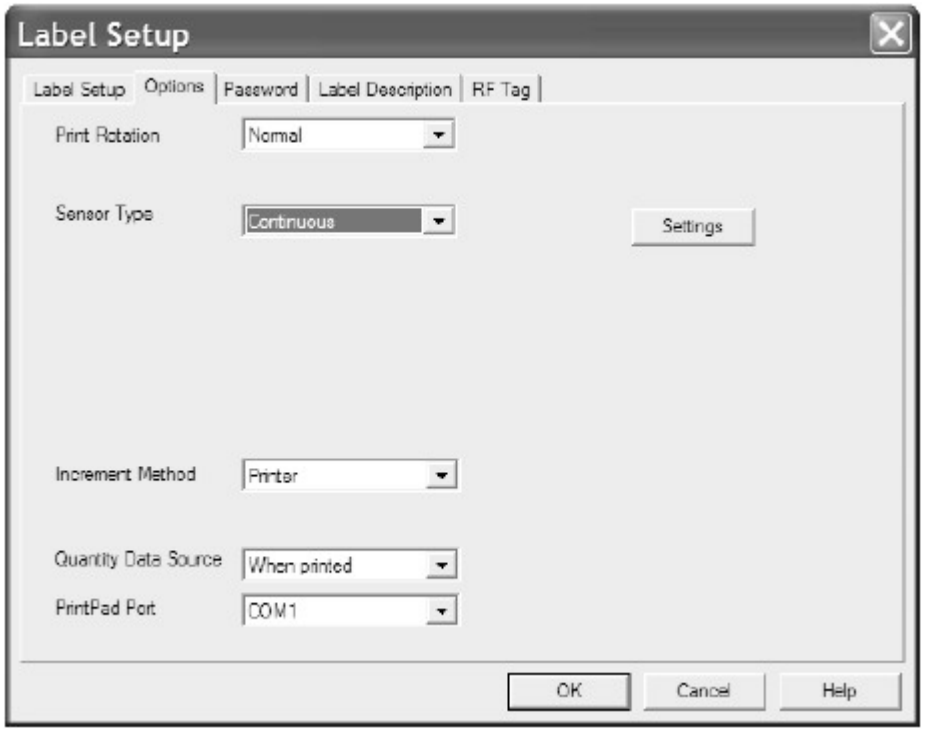

Label Setup
Label Setup
Options
Password
Label Description
RF Tag
Print Rotation
Normal
Sensor Type
Continuous
Settings
Increment Method
Printer
Quantity Data Source
When printed
PrintPad Port
COM1
OK
Cancel
Help

Fig. 4-5

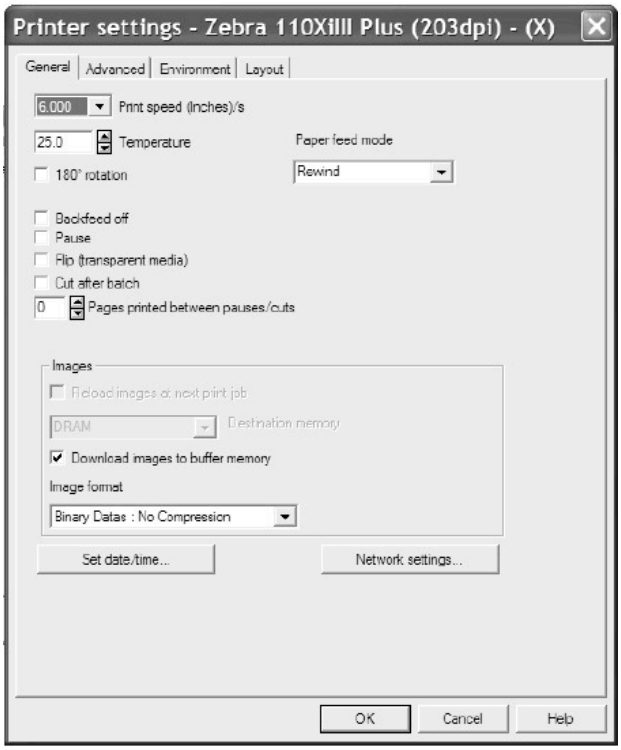

Printer settings - Zebra 110Xilll Plus (203dpi) - (X)
General
Advanced
Environment
Layout
6.000
Print speed (Inches)/s
25.0
Temperature
180° rotation
Paper feed mode
Rewind
Backfeed off
Pause
Flip (transparent media)
Cut after batch
0
Pages printed between pauses/cuts
Images
Reload images at next print job
DRAM
Destination memory
Download images to buffer memory
Image format
Binary Datas : No Compression
Set date/time...
Network settings...
OK
Cancel
Help

Fig. 4-6

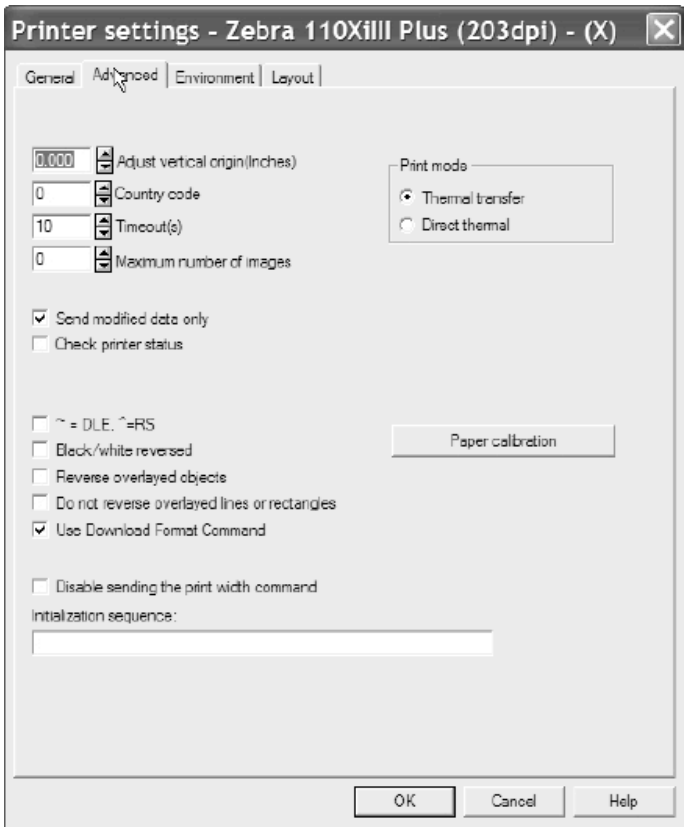

Printer settings - Zebra 110Xilll Plus (203dpi) - (X)
General
Advanced
Environment
Layout
0.000
Adjust vertical origin(inches)
0
Country code
10
Timeout(s)
0
Maximum number of images
Print mode
Thermal transfer
Direct thermal
Send modified data only
Check printer status
~ = DLE, ^=RS
Black/white reversed
Reverse overlayed objects
Do not reverse overlayed lines or rectangles
Use Download Format Command
Paper calibration
Disable sending the print width command
Initialization sequence:
OK
Cancel
Help

Fig. 4-7

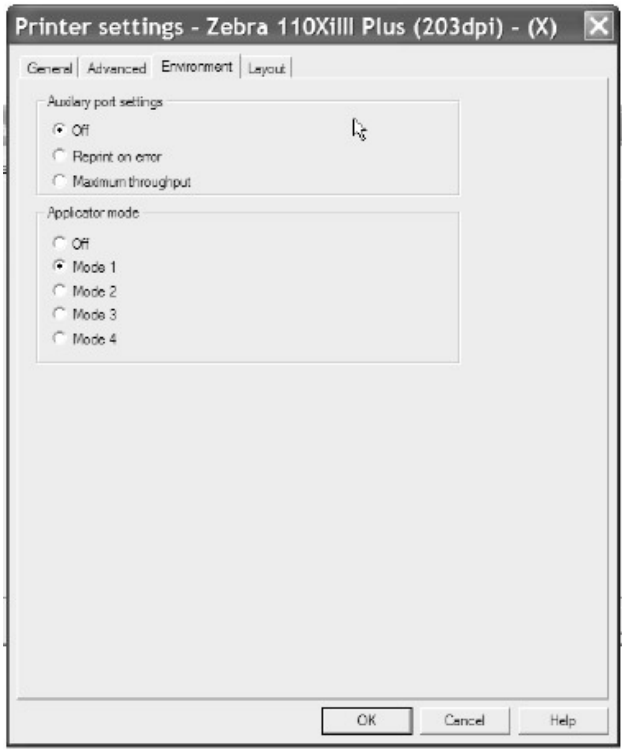

Printer settings - Zebra 110Xilll Plus (203dpi) - (X)
General
Advanced
Environment
Layout
Auxiliary port settings
Off
Reprint on error
Maximum throughput
Applicator mode
Off
Mode 1
Mode 2
Mode 3
Mode 4
OK
Cancel
Help

Fig. 4-8

Special Note : The settings below are for saving labels in the T-375 Bagger. Leave these settings as the defaults if you wish to print normally. See Section 4.6 for storing labels into theT-375 RAP.

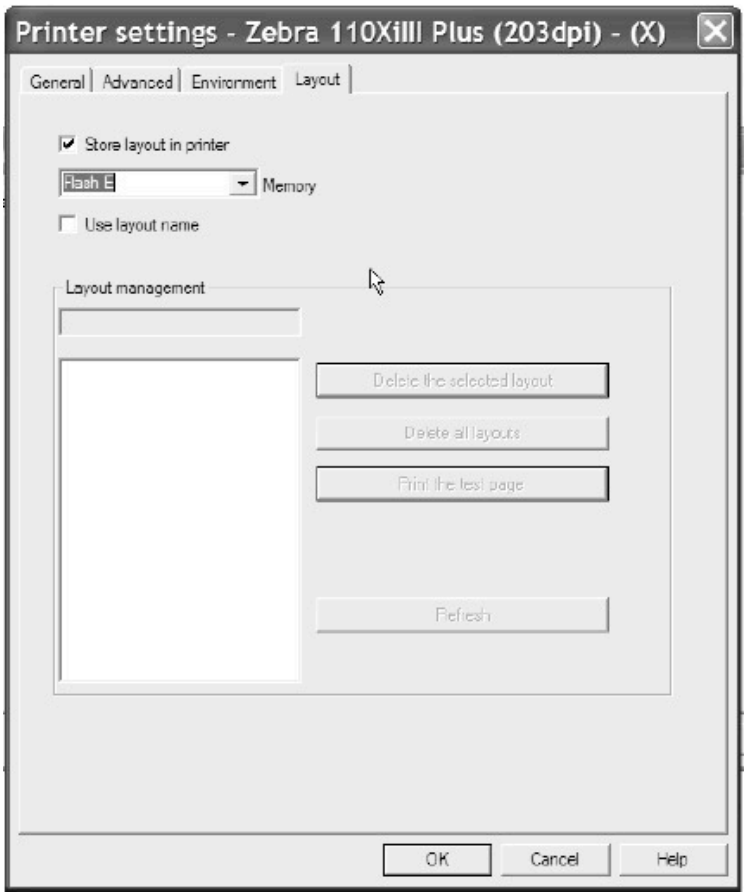


Fig. 4-9

4.6 Storing Labels from the LabelView program into the Ti-1000Z

The Ti-1000Z can be programmed to electronically store labels. From the Main Menu on the Ti-1000Z touch screen , go to the "Labels" Screen. See screen below. Select the “OFF” button to toggle “ON” and then select "Clear Labels".

From the LabelView program go to Edit, Label Setup, Options, Settings, then Layout. See Figure 4-9

Check mark the box "Store Layout In Printer". "Memory" must be "Flash E".

Un-check the box "Use Layout Name"

Click on "OK"

On the next screen Click on "OK"

Go to "File" then "Print" and send 1 label.

In "Layout Name" screen, type in a maximum 3 digit number associated with that label.

(Do Not include any "0" zero before any numbers). Example, do not type 006, just type 6.

Click on "OK"

Go Back to the Ti-1000Z “Stored Labels screen” and toggle the "OFF" button to “ON”.

The “No Labels” bar will be in red. Select the stored “Label # button” and on the numerical keypad enter the stored label number entered into the LabelView program. The “No Labels” bar that was red will now be green and read “Labels.” Cycle the Ti-1000Z to print the Stored Label by pressing the MC (Manul Cycle) button while in the Setup mode.

4.7 Seagull Scientific Driver Settings

NOTE: For 300 DPI simply choose the 300DPI driver when installing the Seagull Scientific Driver. All Zebra models are in the same download file from Seagull Scientific.

Seagull Drivers are true Windows drivers. This allows them to operate with any Windows program and output to printers anywhere on your network. Written specifically for thermal label printers, they exploit thermal printing features that are unavailable using conventional Windows drivers.

To access the driver settings, right click on your label printer and go to properties. See Fig. 4-11

Seagull’s driver is very powerful and provides many settings which can be tweaked. Most settings should NOT be changed without researching what cause and effect each setting will produce. That being said, this document will attempt to address the most common settings that users may want to change. These settings are located under the GENERAL TAB. See Fig. 4-12

Printing Preferences. See Figure 4-13

Select “Options” to adjust the Darkness and Speed Settings. When the checkboxes are checked, the driver defaults to the Current Printer Settings for Darkness and Speed. See Fig. 4-14

When the checkboxes are unchecked, the settings can be controlled via the slider bar and dropdown settings on Figure 4-15…Adjust the Darkness (Temperature) setting and speed settings as necessary.

Next, click on the “Stock” tab. Under Media Settings, change Print Method to Thermal Transfer and Media Type to Continuous. Under Feed Mode, change Mode to Use Current Printer Settings, Pause to No Pause, and Backfeed to Default Setting. Feed option boxes should both be unchecked. See Fig. 4-16

The settings shown here under Stock have been tested and worked for the Zebra 110XiIII plus (203 dpi) but might need tweaked based on your specific driver and preferences.

Also, keep in mind when using USB ports, the port can and usually does change every time the USB cable is unplugged and plugged in again. The port settings are located under PORTS. see Fig 4-17

The current printer driver selected can be viewed and changed under the ADVANCED tab as shown here, but be aware that not all of these drivers are Seagull Scientific drivers, but rather just a listing of all printer drivers you currently have installed. This should match the name of the Seagull printer driver installed originally. In this example it is the Zebra 110xiIII plus (203 DPI), but should match the specific model for which the appropriate Seagull Printer Driver has been installed. See Fig. 4-18

Now click on the About tab and then the Version button and you will see the following screen….Make sure the printer is set to Zebra 110xiIII plus (203 DPI), or the appropriate model for which the Seagull driver version of 7.1.6 or later has been installed, the port setting is correct for your application (in this case the port is USB001 but this will vary according to port usage and method). To download the latest driver files from Seagull go to http://www.seagullscientific.com or to download the Zebra version 7.1.6 click the following FTP link. ftp://ftp.seagullscientific.com/drivers/archive/7.1/7.1.6/Zebra_7.1.6.exe See Fig. 4-19

You should be ready to set up a label and perform a test print. Make any further adjustments to your label settings as needed.

Fig. 4-11

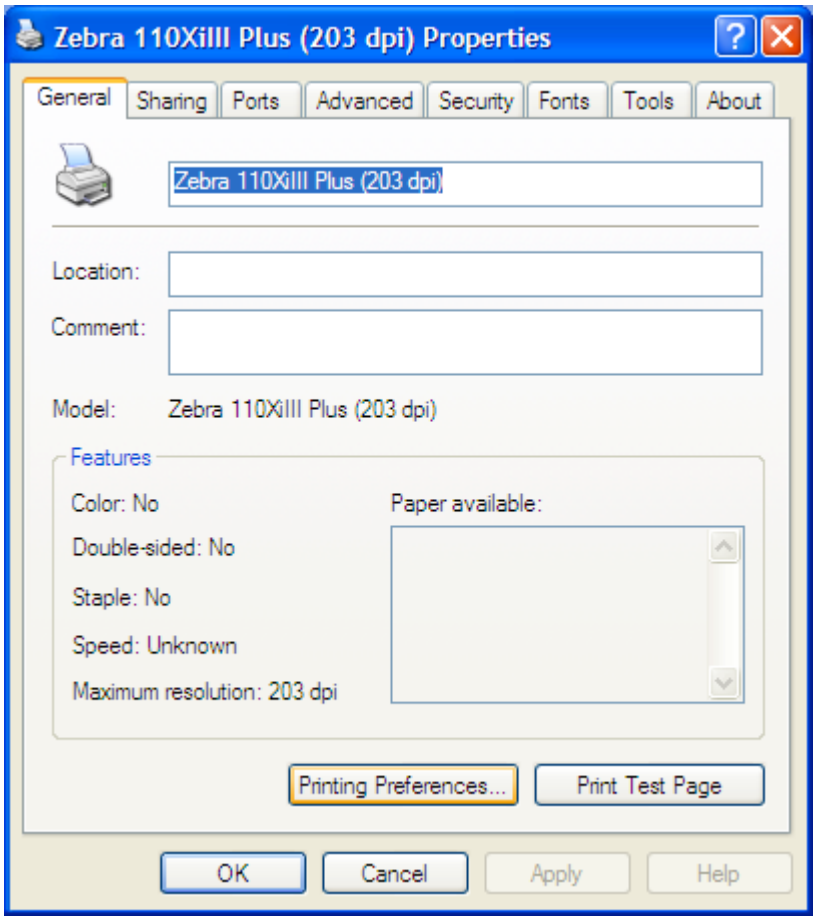


Fig. 4-12

Fig. 4-13

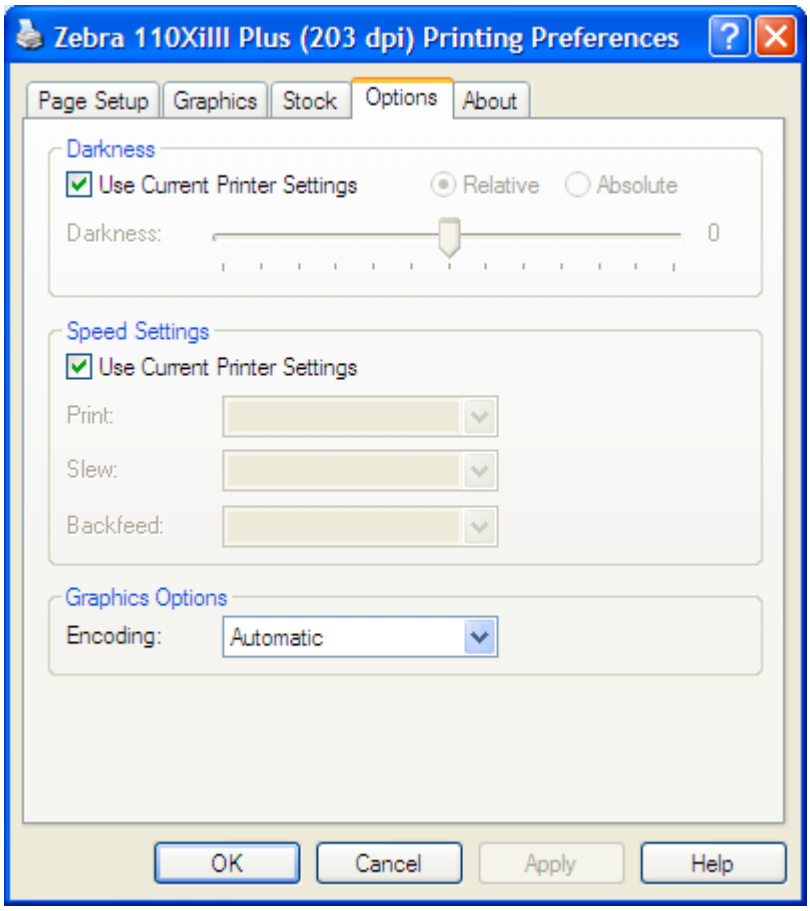


Fig. 4-14

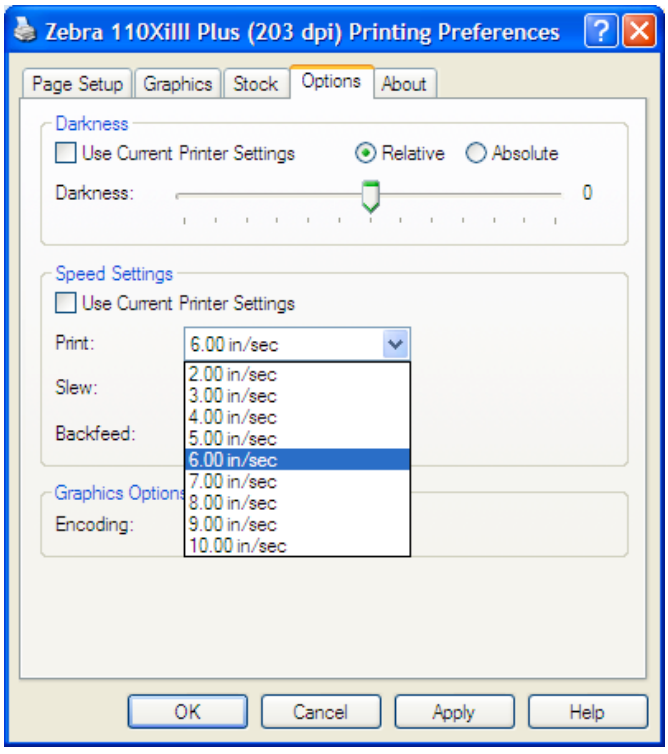


Fig. 4-15

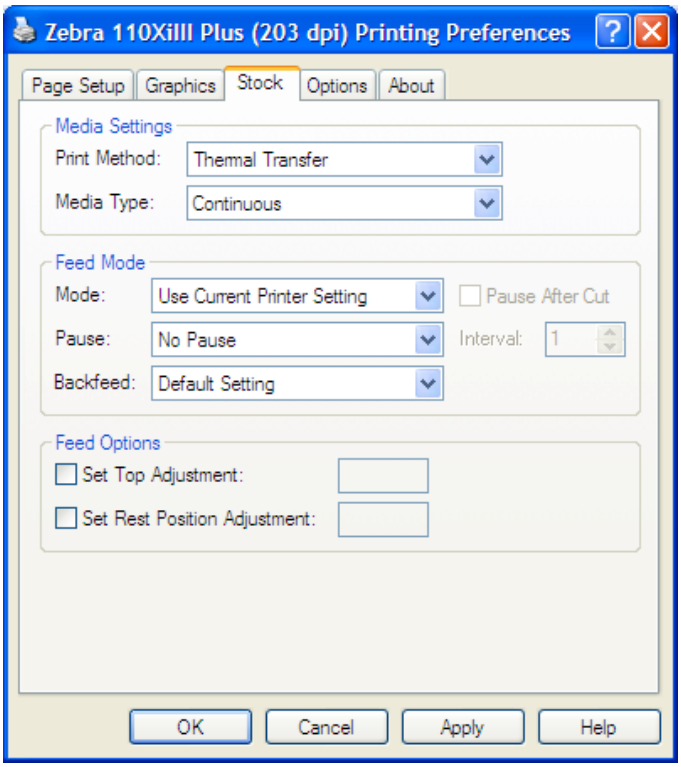


Fig. 4-16

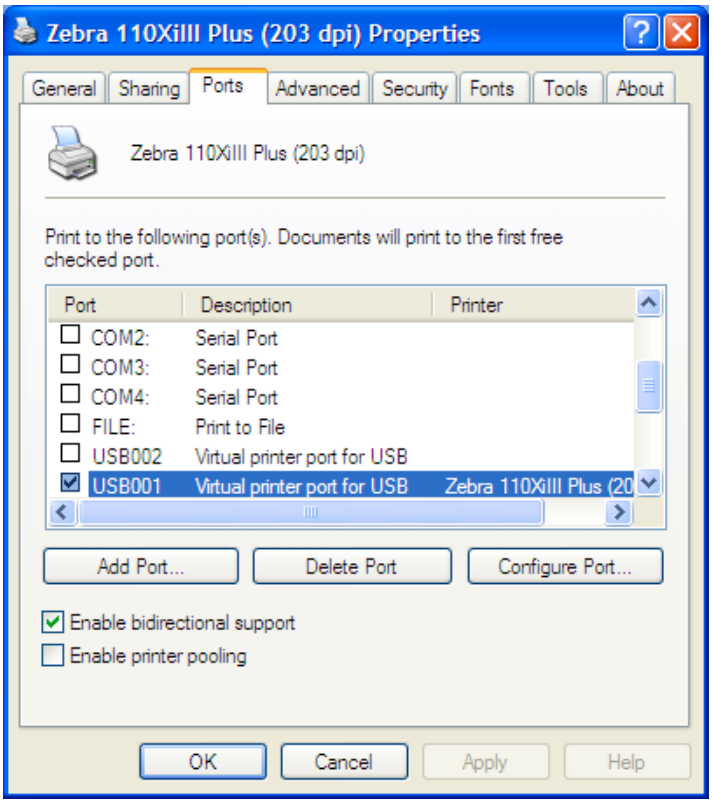


Fig. 4-17

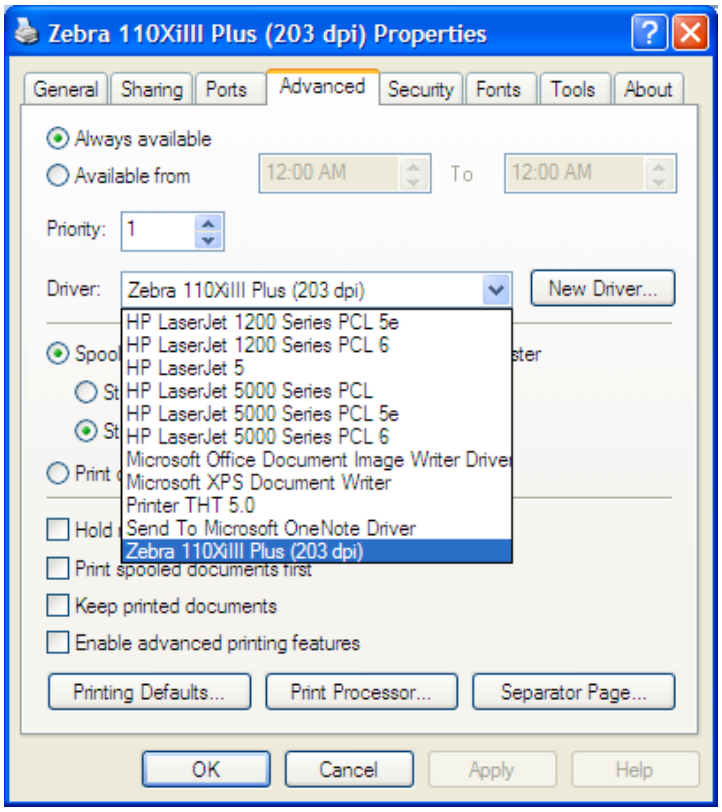


Fig. 4-18

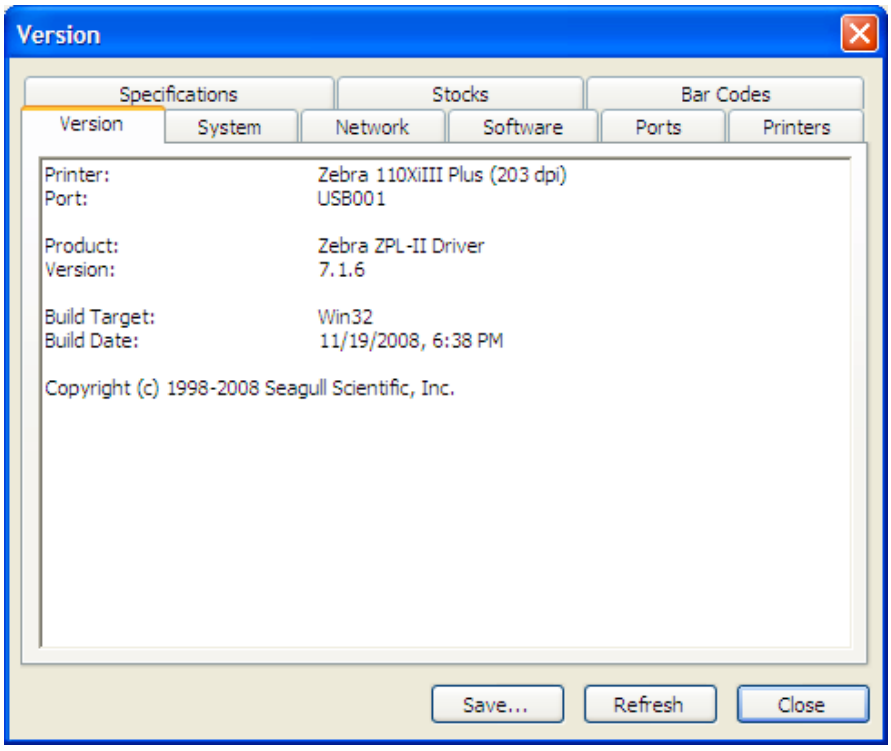
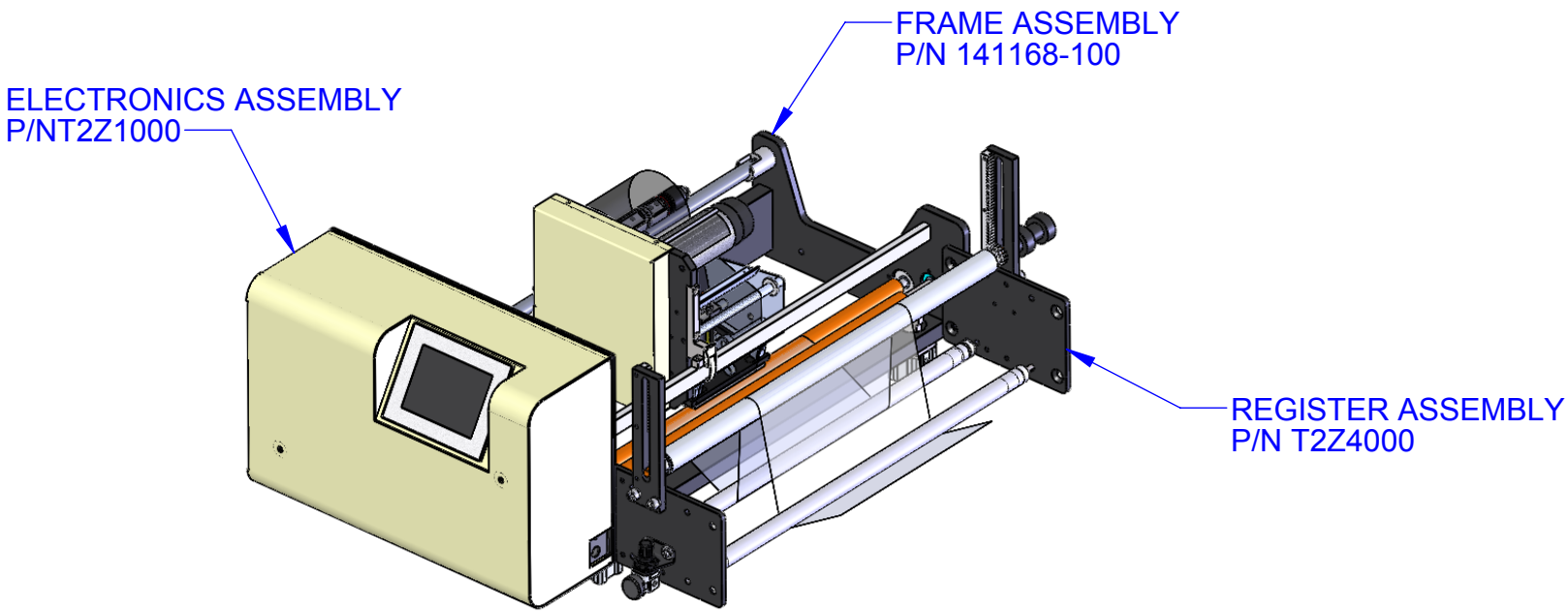


Fig. 4-19

Chapter 5, Parts

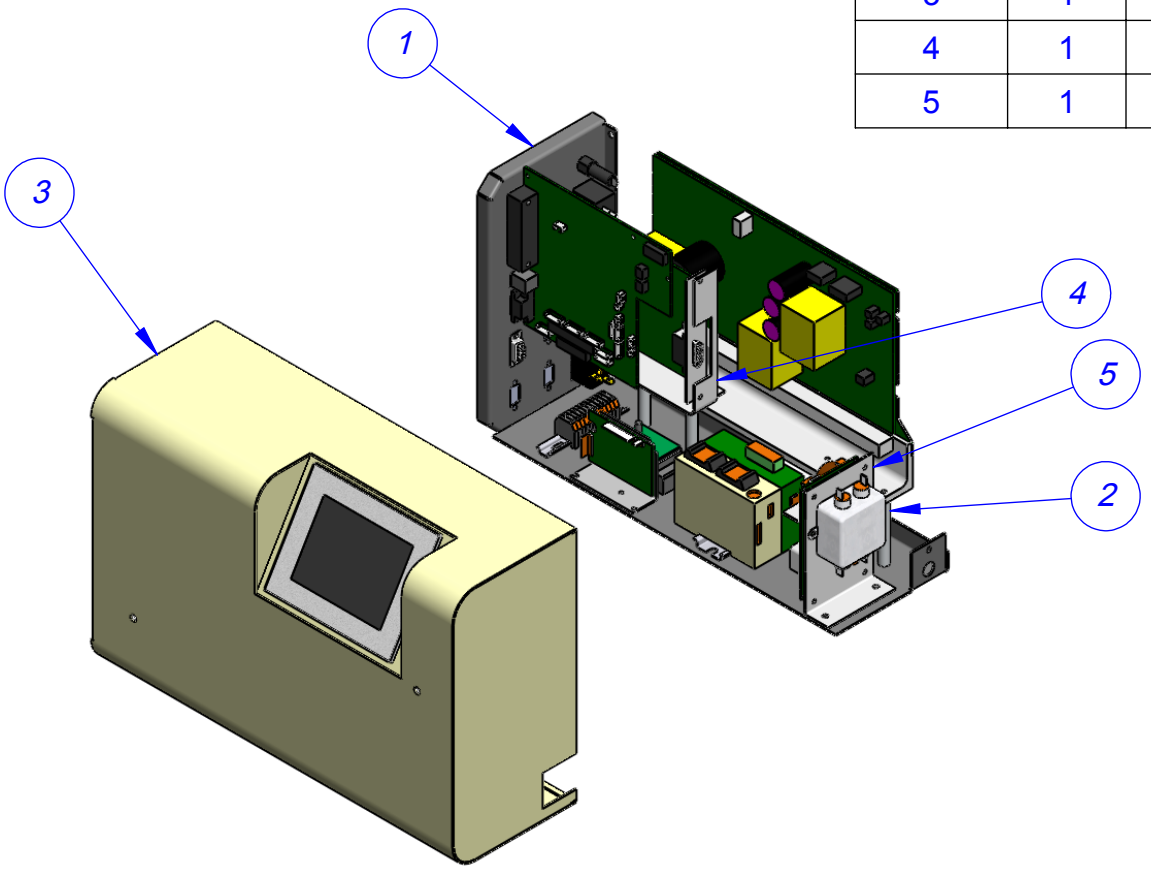
Mechanical Drawings
Parts Listing / Bill of Materials



DIMENSIONS ARE IN INCHES **TOLERANCES:** **FRACTIONAL: ±1/64** **ANGULAR: MACH: ±1°** **TWO PLACE DECIMAL: ±0.010** **THREE PLACE DECIMAL: ±0.003** **UNLESS OTHERWISE SPECIFIED**	**PROPRIETARY AND CONFIDENTIAL** THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ***Advanced Poly-Packaging, Inc.*** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ***APPI*** IS PROHIBITED.	Advanced Poly-Packaging, Inc. 1331 Emmitt Road • Akron, OH 44306 • 1-800-754-4403 • fax 330-785-4010 • www.advancedpoly.com
BOM REF:	DRAWN: W.P.S. ***12/1/2010***	DESCRIPTION: Ti-1000Z PRINTER
NUMBER REQ'D: 1	APPROVED: ***Stuart Baker***	SIZE **A** / DWG. NO. 141168 / REV
MATERIAL:	PROJECT: WO# 141168	
FINISH:	P/N:	SCALE: 1:8 / WEIGHT: 82.80# / SHEET 2 OF 9

5 4 3 2 1

ITEM NO.	QTY.	PART NO	DESCRIPTION
1	1	TP-T2Z1005	BASE/BACK PANEL
2	4	TP- T2Z1008	STAND-OFF - 2.5"
3	1	TP-T2Z1003	SIDE COVER
4	1	TP-T2Z-1004	MOUNTING BRACKET
5	1	TP-T2Z1006	MOUNTING BRACKET



DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/64
ANGULAR: MACH: ±1°
TWO PLACE DECIMAL: ±0.010
THREE PLACE DECIMAL: ±0.003
UNLESS OTHERWISE SPECIFIED

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BOM REF:

DRAWN: W.P.S. ***12/1/2010***

NUMBER REQ'D: 1

APPROVED: ***Tony Baker***

MATERIAL:

PROJECT: Ti-1000z

FINISH:

P/N:

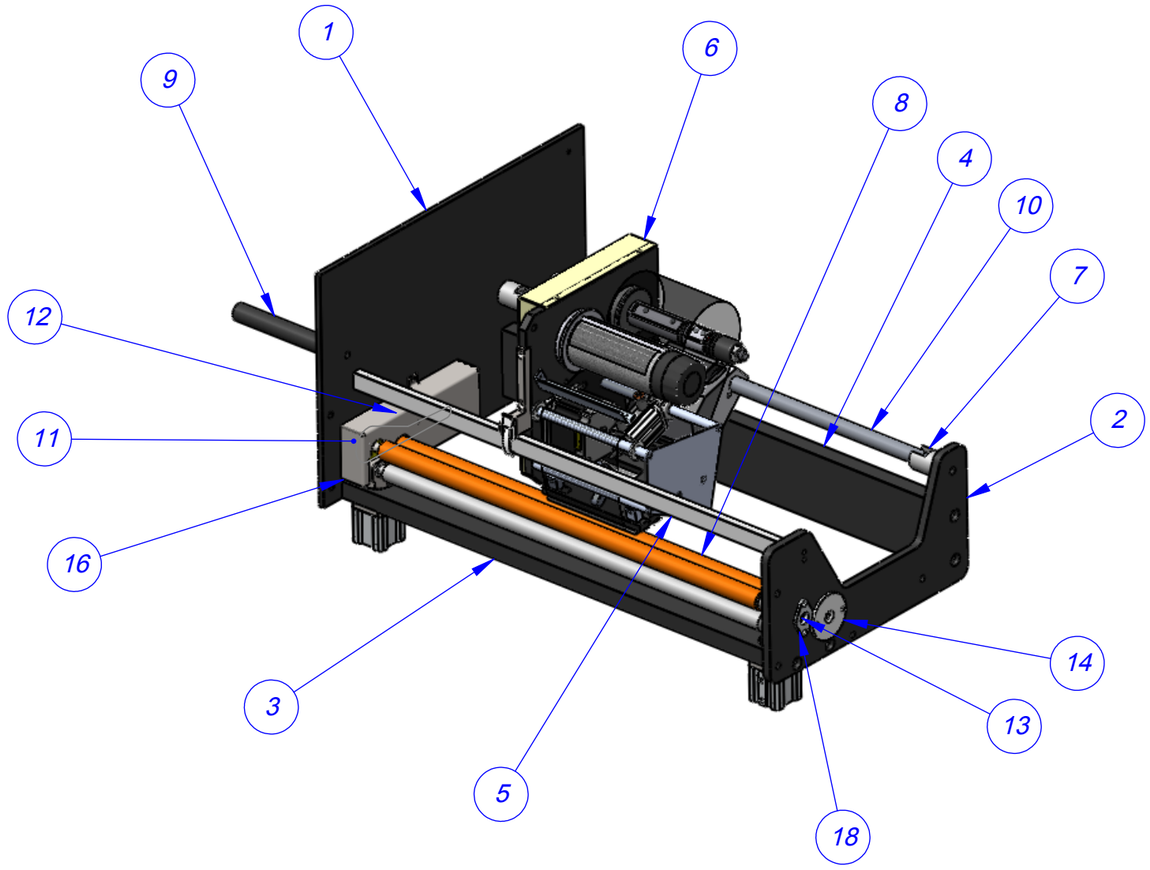
DESCRIPTION: ELECTRONICS ASSEMBLY

SIZE **A** | DWG. NO. Ti-1000Z | REV

SCALE: 1:6 | WEIGHT: 13.49# | SHEET 7 OF 8

REMOVE ALL SHARP EDGES

5 4 3 2 1



ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	D9-141158-109	MOUNTING SIDE PLATE - LEFT SIDE
2	1	D9-141168-108	MOUNTING SIDE PLATE - RIGHT SIDE
3	1	D9-141168-115	NIP ROLL SUPPORT BRACE
4	1	TP- T2Z2007-S18	SUPPORT BRACE
5	1	TP-T2Z2005-S18	LATCH BAR
6	1	T15-8000	PRINT HEAD ASSEMBLY
7	2	T14M1035	GUIDE ROD HOLDER
8	1	TP-T2Z2006-S18	PRINT HEAD ROLLER
9	2	TP-T2Z2012	COVER PANEL STANDOFF
10	1	TP-T2Z2004-S18	PIVOT SHAFT
11	1	TP- 503188	BELT
12	1	TP- T15M8007	BELT TENSIONER
13	2	TP- 504097	PRECISION FLANGED BALL BEARING
14	1	TP-T2Z2011	BEARING PLATE
16	1	D9-141168-112	BELT COVER
18	1	D9-141168-114	NIP BEARING PLATE

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/64
ANGULAR: MACH: ±1°
TWO PLACE DECIMAL: ±0.010
THREE PLACE DECIMAL: ±0.003
UNLESS OTHERWISE SPECIFIED

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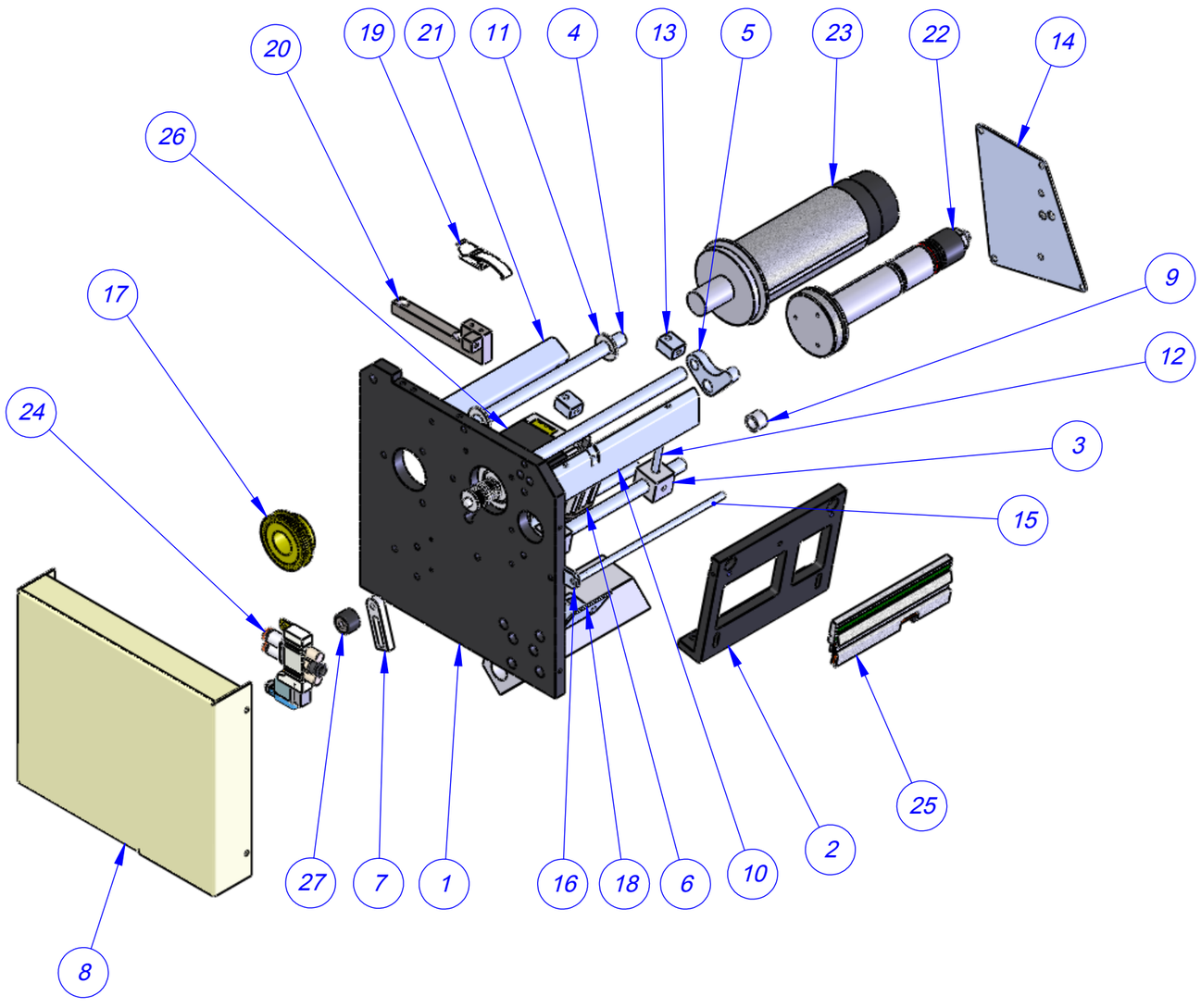
BOM REF:
DRAWN: W.P.S. *12/1/2010*
NUMBER REQ'D: 1
APPROVED: *Tony Baker*
MATERIAL:
PROJECT: WO# 141168
FINISH:
P/N:

DESCRIPTION:
Ti-1000Z PRINTER FRAME

SIZE **B** | DWG. NO. 141168 | REV

SCALE: 1:8 | WEIGHT: 56.68# | SHEET 5 OF 9



ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	TP- T15M8001	PRINTER SIDE PLATE
2	1	TP- T15M8002	MOUNTING PLATE PRINT HEAD
3	2	TP- T15M8003	ADJUSTMENT BLOCK
4	5	TP- T15M8004	SUPPORT ROD
5	1	TP- T15M8005	CAM-PRINT HEAD
6	1	TP- T15M8006	CYLINDER MOUNT
7	1	TP- T15M8007	BELT TENSIONER
8	1	TP- T15M8008	BELT GUARD
9	1	TP- T15M8010	LOCATING SPACER
10	1	TP-T15M8011	SENSOR BRACKET
11	2	TP- T15M8012	SPRING MOUNT
12	2	TP- T15M8013	ADJUSTMENT ROD
13	2	TP- T15M8014	ADJUSTMENT ROD BLOCK
14	1	TP- T15M8030	END PLATE
15	1	TP- T15M8031	ROLLER SHAFT
16	1	TP- T15M8032	SHAFT MOUNT
17	1	TP- T15M8042	RIBBON TAKE-UP PULLEY
18	1	TP- T15M8040	BAG-OUT SENSOR BRACKET
19	1	TP-115111	BLADE DRAW LATCH
20	1	TP- T2Z2010	STOP BAR
21	1	TP- T15M8039	MOUNTING STRIP
22	1	VA-Z-41151M	SUPPLY SPINDLE
23	1	VP-Z-41150M	TAKE-UP SPIN
24	1	TP-402255	VALVE
25	1	VP-Z-41000M	PRINT HEAD
26	1	VP-Z-46198M	MOTOR
27	1	TP-504138	CAM FOLLOWER

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/64
ANGULAR: MACH: ±1°
TWO PLACE DECIMAL: ±0.010
THREE PLACE DECIMAL: ±0.003
UNLESS OTHERWISE SPECIFIED

BOM REF:
NUMBER REQ'D: 1
MATERIAL:
FINISH:

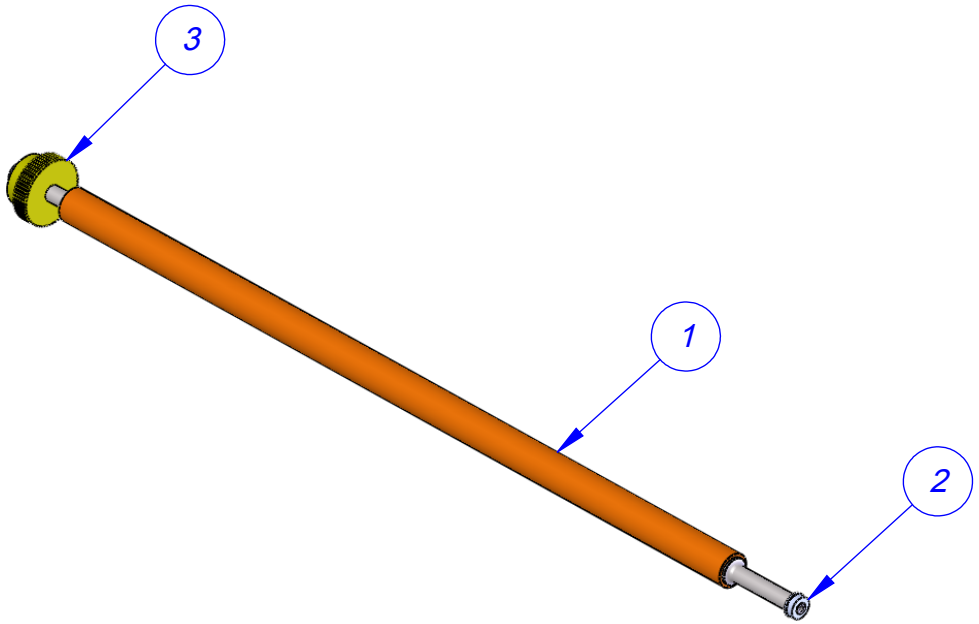
DRAWN: W.P.S. *12/1/2010*
APPROVED: *Tony Baker*
PROJECT: WO #141168
P/N:

Advanced Poly-Packaging, Inc.
1331 Emmitt Road • Akron, OH 44306 • 1-800-754-4403 • fax 330-785-4010 • www.advancedpoly.com

DESCRIPTION:
PRINT HEAD ASSEMBLY

SIZE: B
DWG. NO.: 141168
REV:
SCALE: 1:3
WEIGHT: 15.41#
SHEET 9 OF 9

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	D9-141168-105	DRIVEN NIP ROLL
2	2	TP-504097	PRECISION FLANGED BALL BEARING
3	1	D9-141168-107	STEEL ROLL PULLEY



DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/64
ANGULAR: MACH: ±1°
TWO PLACE DECIMAL: ±0.010
THREE PLACE DECIMAL: ±0.003
UNLESS OTHERWISE SPECIFIED

BOM REF:

DRAWN: W.P.S. ***12/1/2010***

NUMBER REQ'D: 1

APPROVED: ***Tony Baker***

MATERIAL:

PROJECT: WO# 141168

FINISH:

P/N:

Advanced Poly-Packaging, Inc.
1331 Emmitt Road • Akron, OH 44306 • 1-800-754-4403 • fax 330-785-4010 • www.advancedpoly.com

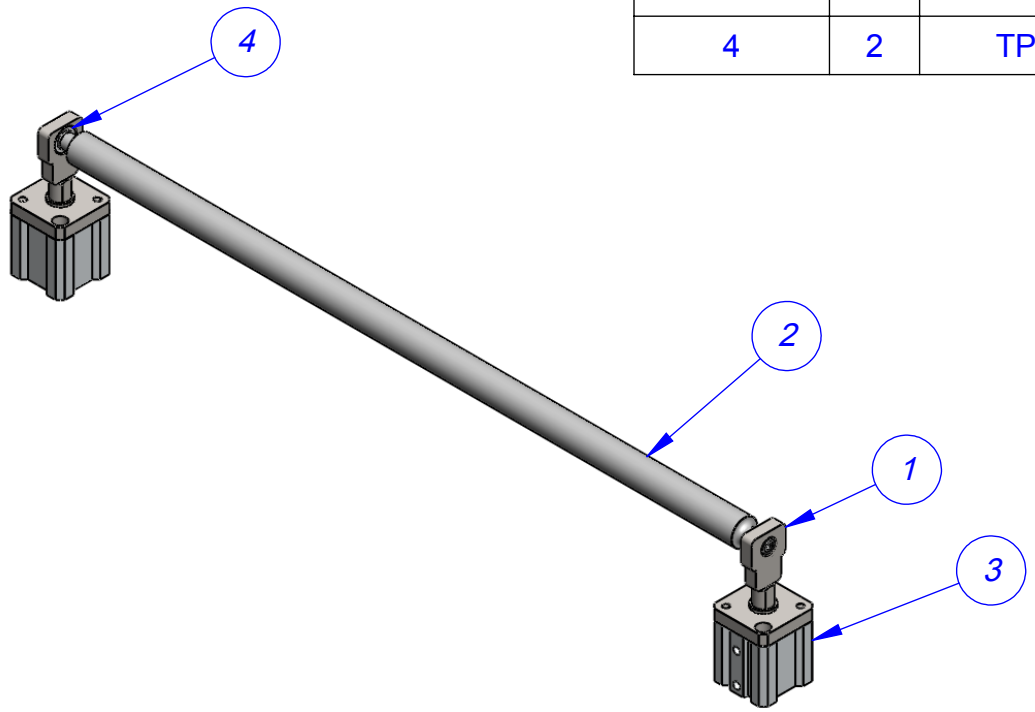
DESCRIPTION: STEEL ROLL ASSEMBLY

SIZE **A** | DWG. NO. 141168 | REV

SCALE: 1:4 | WEIGHT: 0.47# | SHEET 7 OF 9

5 4 3 2 1

ITEM NO.	QTY.	PART NO	DESCRIPTION
1	2	D9-141168-110	BEARING MOUNT
2	1	D9-141168-113	NIP ROLL
3	2	TP-403236	NIP ROLL CYLINDER
4	2	TP- 504190	BEARING



DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/64
ANGULAR: MACH: ±1°
TWO PLACE DECIMAL: ±0.010
THREE PLACE DECIMAL: ±0.003
UNLESS OTHERWISE SPECIFIED

BOM REF:

DRAWN: W.P.S. ***12/1/2010***

NUMBER REQ'D: 1

APPROVED: ***Tony Baker***

MATERIAL:

PROJECT: WO #141168

FINISH:

P/N:

Advanced Poly-Packaging, Inc.
1331 Emmitt Road • Akron, OH 44306 • 1-800-754-4403 • fax 330-785-4010 • www.advancedpoly.com

DESCRIPTION:
PRINTER NIP ROLL ASSEMBLY

SIZE	DWG. NO.	REV
A	141168	

SCALE: 1:4 | WEIGHT: 0.87# | SHEET 6 OF 9

5 4 3 2 1

Chapter 6, Preventive Maintenance & Scheduled Maintenance

PM Checklist
Schedule Maintenance (CHART)

6.1 Preventive Maintenance & Scheduled Maintenance

To extend the life of the Ti-1000Z qualified maintenance personnel must perform all required maintenance tasks. Failure to perform scheduled and preventive maintenance may cause excessive wear to components and will void the warranty. For the purpose of this manual, preventive maintenance (PM) tasks are considered periodic tasks which should be performed on a daily, weekly or monthly basis. Scheduled maintenance tasks are performed when the Ti-1000Z Maintenance Chart Number changes to a higher number. Scheduled maintenance tasks (CHART items) are performed dependent upon the number of machine cycles and therefore are not considered "periodic" tasks.

Legend for Preventive Maintenance Checklist

D	Daily
W	Weekly
M	Monthly

6.2 Preventive Maintenance Checklist

ITEM	DESCRIPTION	PERIOD
Filter / Air regulator	Drain water from filter	D
Air regulator	Adjust pressure to required / tested settings (varies)	D
Drive rollers	Clean with alcohol	D
Perforation sensor (if equipped)	Clean sensor assembly with alcohol	D
Platen print roller	Inspect for nicks or cuts, clean with alcohol	D
Print head	Clean with alcohol (also after each ribbon change)	D
Micron filter (if equipped)	Inspect for contamination of filter, replace as needed Inspect for blockage / air restriction	W
Wiring / Connectors	Inspect for loose wiring / connectors, tighten as needed	M
Air lines / Valves / Cylinders	Inspect for loose air lines, listen for leaks, tighten or replace poly tubing as needed	M
Compartments / Covers	Remove all covers, clean and blow out compartments with compressed air to remove dust and dirt	M
Compression (drive rollers)	Inspect for proper / free movement (with air disconnected)	M
Drive belt	Inspect for wear / fraying, replace if needed	M
Drive Belt (print head assembly)	Inspect for wear, looseness, tighten as required	M

CAUTION: Unplug power cord and disconnect air line prior to removing guards, funnels or covers. Preventive Maintenance must be performed by qualified maintenance personnel.

6.3 Scheduled Maintenance Chart (perform every 500,000 cycles)

		CHART									
ITEM	DESCRIPTION	1	2	3	4	5	6	7	8	9	10
Drive belt (left panel)	Adjust/Inspect for wear replace when necessary.	O	O	O	O	O	O	O	O	O	O
Guide rollers	Inspect for free movement	O	O	O	O	O	O	O	O	O	O
Roller bearings	Inspect for free movement	O	O	O	O	O	O	O	O	O	O
Perf sensor & spring	Inspect for wear, replace if required.	O	O	O	O	O	O	O	O	O	O
Rubber drive roll	Inspect for cuts, unevenness	O	O	O	O	O	O	O	O	O	O
Steel roller	Clean w/ alcohol, inspect for burs	O	O	O	O	O	O	O	O	O	O
Printed circuit boards / wiring	Blow off with clean, dry air, inspect for loose wires, connectors	O	O	O	O	O	O	O	O	O	O
Cylinders	Listen for air leakage, replace	O	O	O	O	O	O	O	O	O	O

	or repair as required										
Filter	Inspect for contamination, replace as necessary	O	O	O	O	O	O	O	O	O	O
Air lines & connectors	Inspect for wear, cuts, leaking, replace as required	O	O	O	O	O	O	O	O	O	O
Print platen roller	Inspect for free movement, inspect for wear, replace roller or bearings as required.	O	O	O	O	O	O	O	O	O	O
Print head belt	Inspect for tightness and wear, tighten or replace as required.	O	O	O	O	O	O	O	O	O	O
Print head	Clean, inspect for wear, inspect print quality (missing pixels), replace as required.	O	O	O	O	O	O	O	O	O	O
	INITIALS										

6.3 Preventive Maintenance (PM) Chart, Continued...

CHART ITEM	DESCRIPTION	1	2	3	4	5	6	7	8	9	10
	Inspected by: (Initials)										

Chapter 7

Trouble Shooting

7.1 Trouble Shooting Guide

The items included in this section cover the common causes of trouble which an operator might encounter during the operation of the Ti-1000Z. When operating difficulties occur, the best procedure is to observe what is happening and attempt to isolate the problem. Make only one adjustment at a time, checking the results of each adjustment. If an adjustment does not help or escalates the problems, return the settings back to the former position.

CAUTION: These tests and repairs should be performed only by qualified mechanics or electricians.

7.2 Troubleshooting Checklist

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Touch Screen does not display	1. Screen saver is active 2. Power off 3. Loose connection 4. Fuse blown 5. Cable shorted / failed	1. Touch the screen 2. Plug in power cord / turn on 3. Tighten connections 4. Replace fuse(s) 5. Replace cable
No main power light	1. Blown fuse 2. Bulb out	1. Replace fuse 2. Replace bulb
Two bags index from rollers	1. Bag is folded over 2. Perf sensor dirty / damaged 3. Perf sensitivity out of adjustment 4. Ungrounded perf sensor circuit 5. Seal point value too high 6. Feed distance too high 7. Zero perf function incorrectly set	1. Straighten bag, thread bags again 2. Clean / replace perf sensor 3. Adjust pot on High Voltage PCB 4. Attach grounding rod to roller 5. Change seal point setting 6. Set value to zero 7. Reset Zero Perf.
Bag does not completely index	1. Perf is sensing hole in bag (vent) 2. Seal position setting too low 3. Zero perf function incorrectly set	1. Reposition bag left or right 2. Increase seal position setting 3. Reset Zero Perf.
First bag after threading indexing multiple bags	1. Thread bags at proper seal position 2. Perf Sensor not sensing bag 3. Dirty / damaged sensor 4. Pot on High Voltage PCB out of adjustment	1. Pull bags through pinch rollers to proper seal point, then cycle machine again. 2. Clean / replace sensor 3. Adjust Pot
Bags web breaking prematurely in machine	1. Improper web tension 2. Index speed too high 3. Improper threading / web contact 4. Bag roll side-plates bent inward	1. Adjust tension 2. Reduce speed setting 3. Rethread / remove obstructions 4. Repair / remove side-plates

7.3 110V Circuit

Circuit drawings are provided to assist in troubleshooting the functionality of the Ti-1000Z and also the interface signaling with auxiliary infeed equipment. A circuit diagram of the 110V circuit is comprised of main power to the bagger, through the fuse, Corcom filter, motor controller, solid state relay line out, and into the power supply printed circuit board. See Dwg T375-E1.

7.4 PLC IO LEDs

A Dwg is provided which illustrates the PLC LEDs along with wire colors / pin-outs. See Dwg T375-E2.

7.5 Analog Card, Temperature Controller, Heater Circuit

A circuit diagram of the Analog controller FPO-A21 with correct Dip switch settings is provided. With a Thermocouple input (TC), the analog card has built in PID and auto tuning functions with 16 bit resolution for very accurate temperature controls. See Dwg T375-E3.

7.6 Stepper Motor Circuit (High Speed Printer only)

A circuit diagram of the stepper motor controller is provided with correct Dip switch and Pot settings. See Dwg T375-E4.

7.7 H.V. PCB (High Speed Printer only)

APPI manufactures the printed circuit board for accurate and consistent perforation detection, for accurate bag positioning and registration. A circuit diagram is provided for this PCB. See Dwg T375-E5

7.8 Zebra 110PAX4 Interface PCB

The Ti-1000Z Incorporates a Zebra 110PAX4 Interface PCB to provide the status of the Zebra Main CPU and Print Head. Wiring and descriptions of IO is described on this drawing. See Dwg T375-E6.

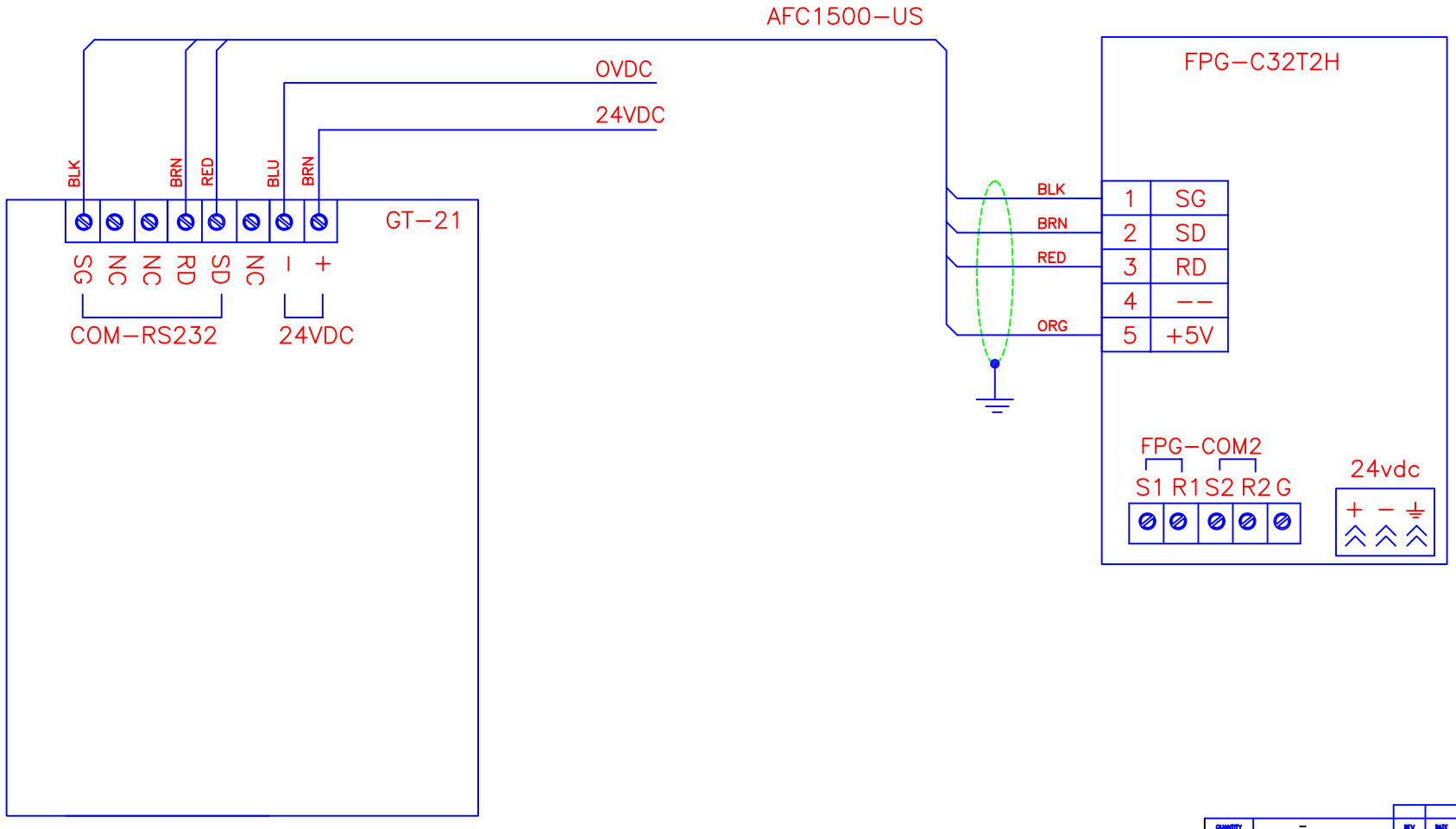
7.9 Touch Screen Circuit

The Ti-1000Z is equipped with a color touch screen. Wiring circuit is provided in this drawing. See Dwg T300-E7.

7.11 PLC IO Listing

Main PLC and Expansion PLC IO (Inputs and Outputs) Listing is provided to assist in troubleshooting the Ti-1000Z.

Main PLC	Input	Description	Output	Description
	X0	Stepper Control (if equipped)	Y0	Stepper Motor Forward (if equipped)
	X1	Bag Out Sensor	Y1	Stepper Motor Reverse (if equipped)
	X2	Print enable	Y2	Ribbon Drive
	X3	Perf Sensor (if equipped)	Y3	Printer Busy
	X4	Spare	Y4	Printer Fault
	X5	Spare	Y5	Spare
	X6	Unwind Low (if equipped)	Y6	Spare
	X7	Unwind High (if	Y7	Spare



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FINISH	–				

TOLERANCES UNLESS OTHERWISE NOTED
+/- .XX ON FRACTIONAL DIMENSIONS
+/- .XX ON TWO PLACE DECIMAL DIMENSIONS
+/- .XXX ON THREE PLACE DECIMAL DIMENSIONS
125 ✓ ON MACHINED SURFACES
ALL DIMENSIONS ARE IN INCHES
PART MUST BE FREE OF BURRS AND SHARP EDGES

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TYPE EQUIPMENT	T-300	B/M REF. NO.	PART NO.
SCALE	1:1	DRAWN BY	APPROVED
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		DATE 07/28/2008	DATE
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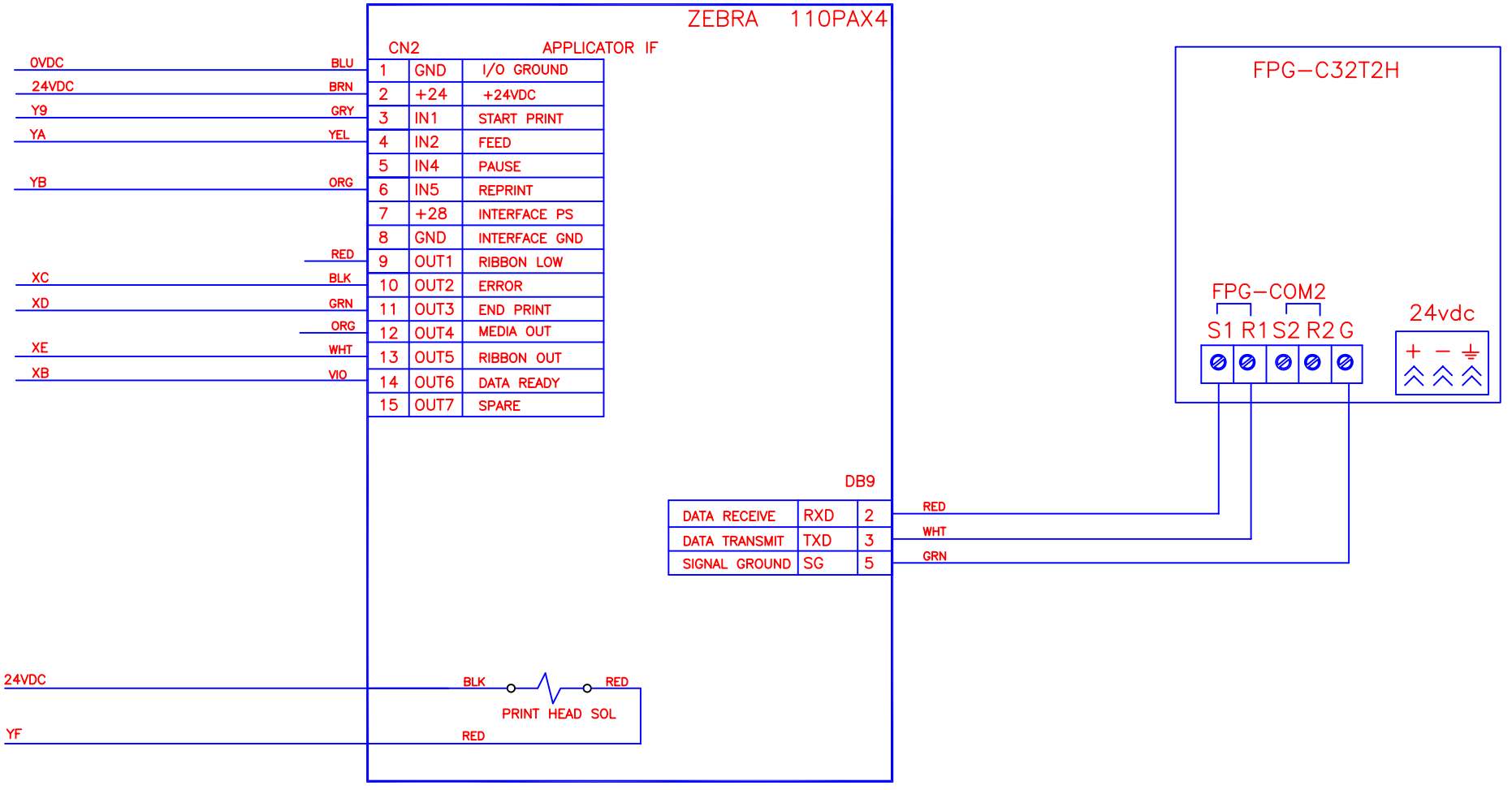

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+/- .XX ON TWO PLACE DECIMAL DIMENSIONS
+/- .XXX ON THREE PLACE DECIMAL DIMENSIONS
XXX ON MACHINED SURFACES
ALL DIMENSIONS ARE IN INCHES
PART MUST BE FREE OF BURRS AND SHARP EDGES

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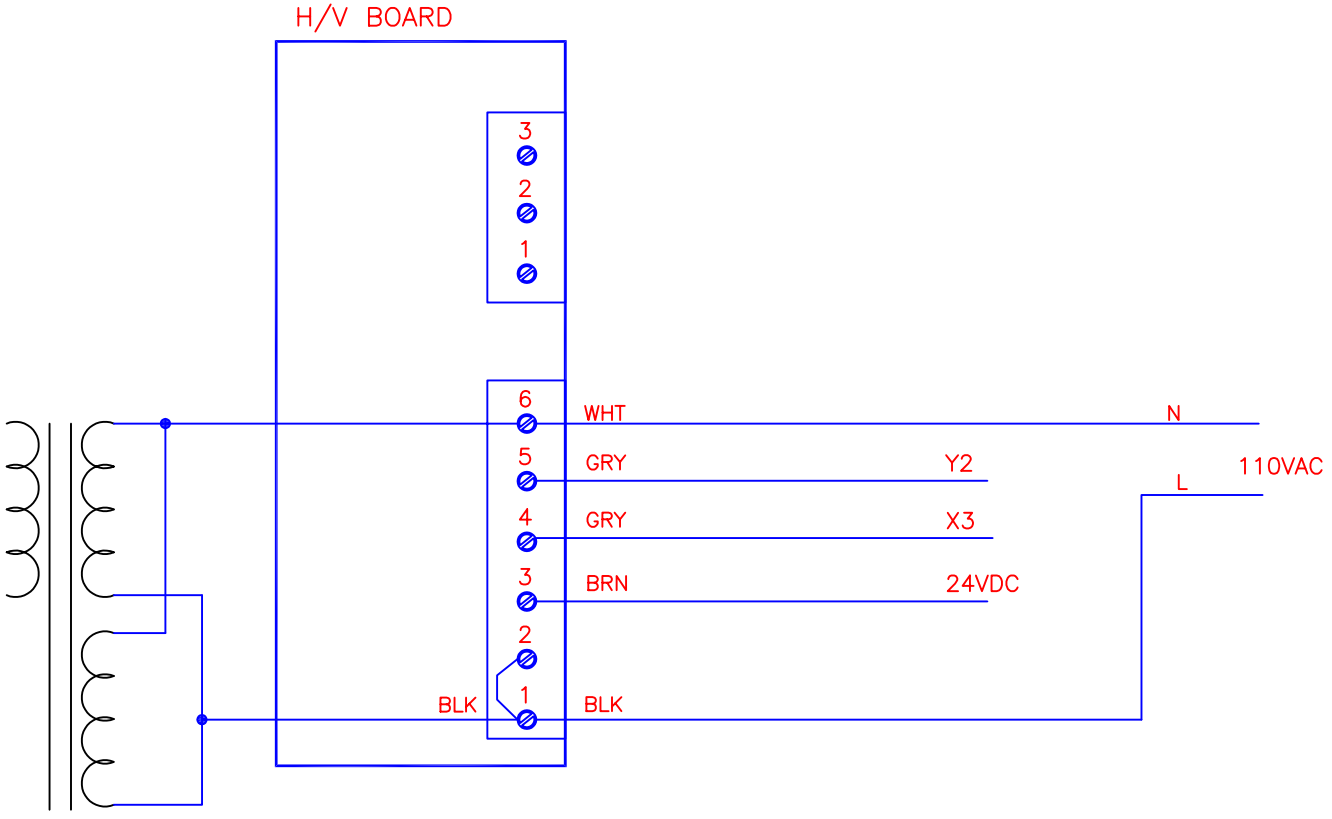

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FINISH	–				

TOLERANCES UNLESS OTHERWISE NOTED
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+/- .XX ON TWO PLACE DECIMAL DIMENSIONS
+/- .XXX ON THREE PLACE DECIMAL DIMENSIONS
125 ✓ ON MACHINED SURFACES
ALL DIMENSIONS ARE IN INCHES
PART MUST BE FREE OF BURRS AND SHARP EDGES

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TYPE EQUIPMENT: T-375	B/M REF. NO.	PART NO.
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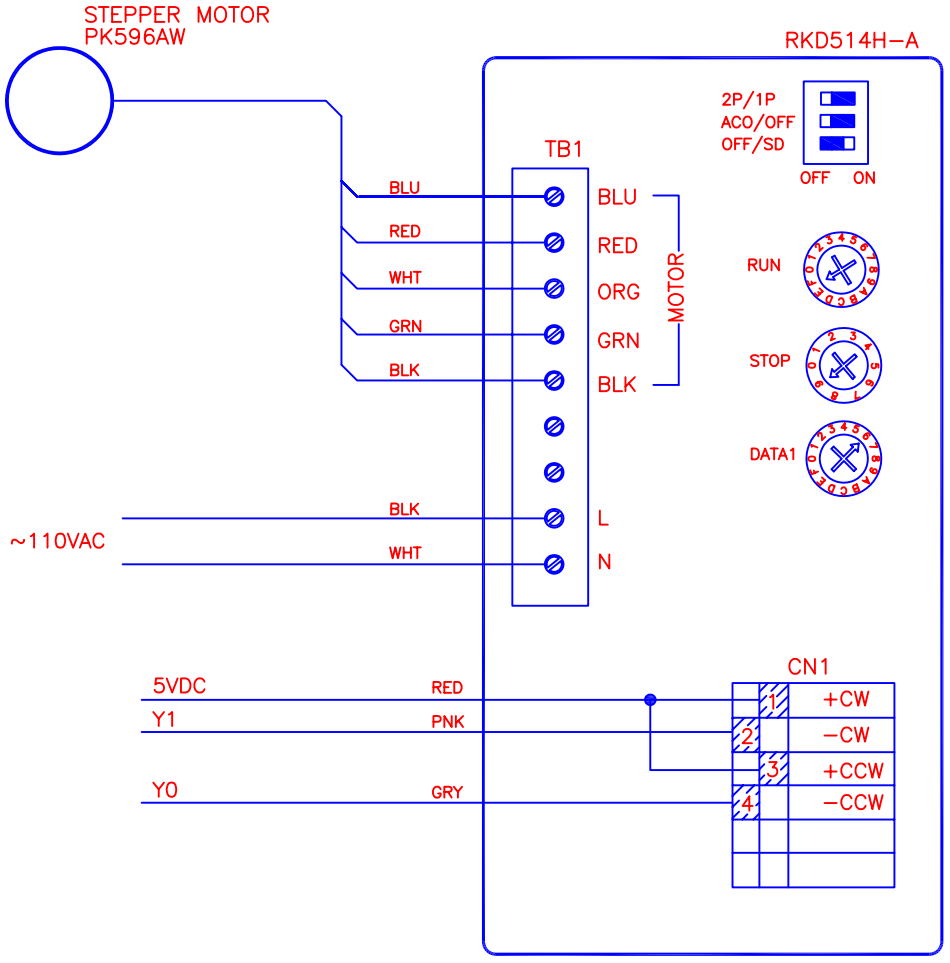
TITLE: H/V BOARD	DRAWING NO.: T375-E5	REV.: –



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TOLERANCES UNLESS OTHERWISE NOTED
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+/- .XX ON TWO PLACE DECIMAL DIMENSIONS
+/- .XXX ON THREE PLACE DECIMAL DIMENSIONS
125 ✓ ON MACHINED SURFACES
ALL DIMENSIONS ARE IN INCHES
PART MUST BE FREE OF BURRS AND SHARP EDGES

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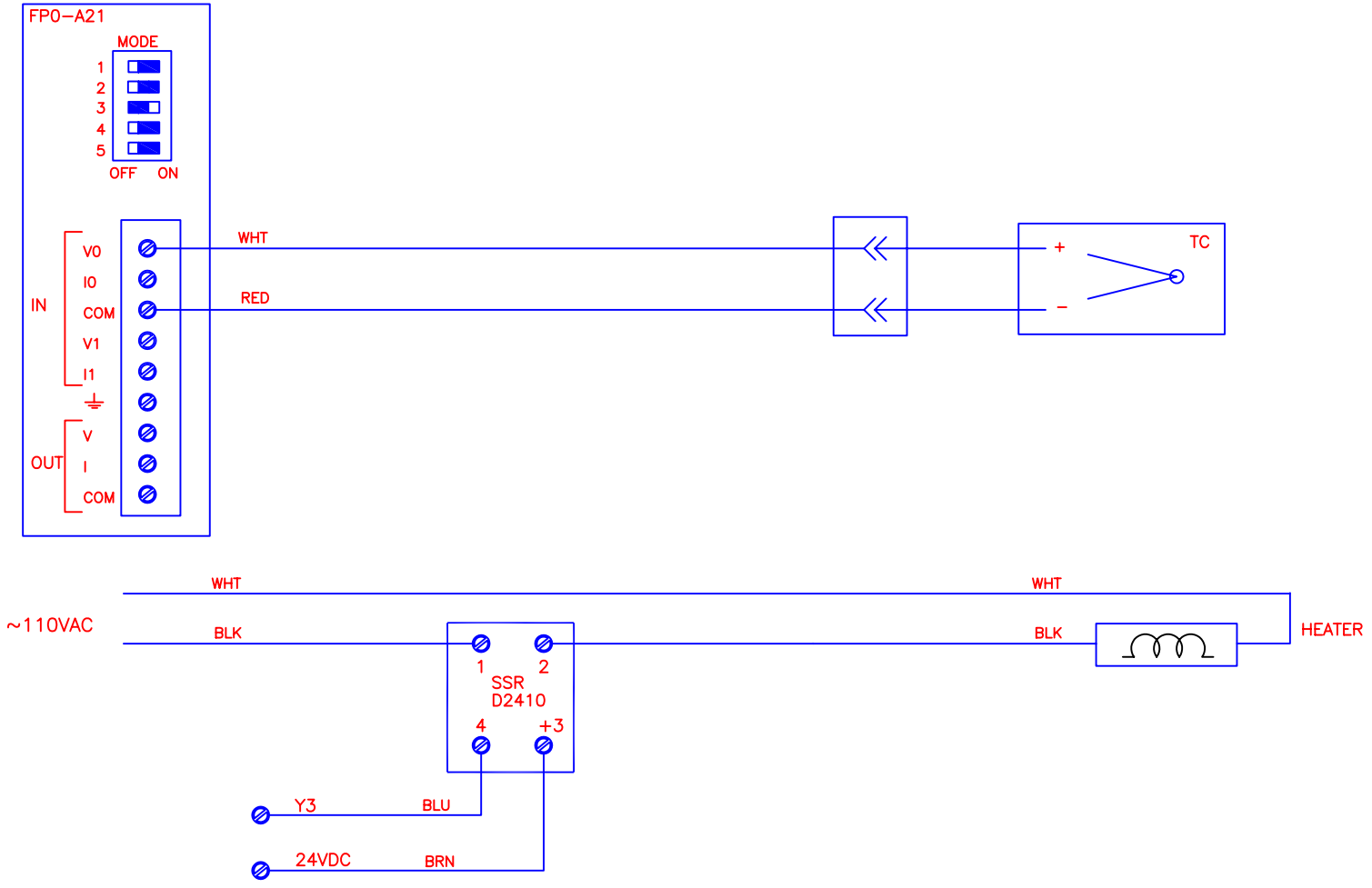

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MATERIAL	–				
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+/- .XX ON TWO PLACE DECIMAL DIMENSIONS
+/- .XXX ON THREE PLACE DECIMAL DIMENSIONS
125 ✓ ON MACHINED SURFACES
ALL DIMENSIONS ARE IN INCHES
PART MUST BE FREE OF BURRS AND SHARP EDGES

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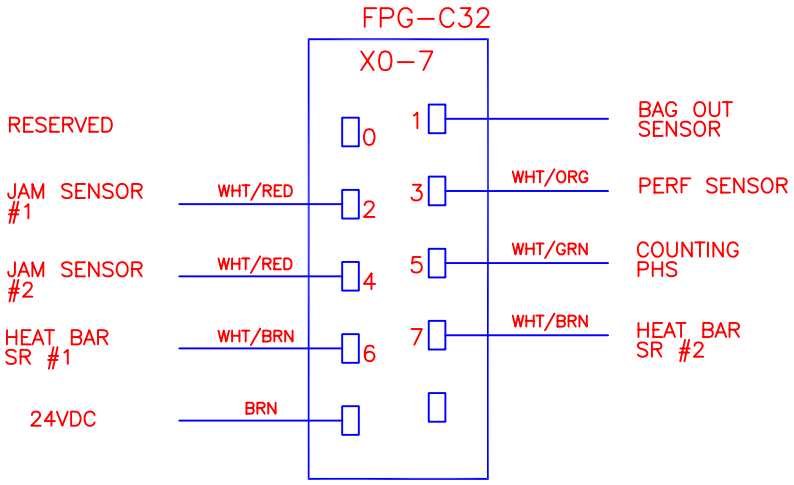

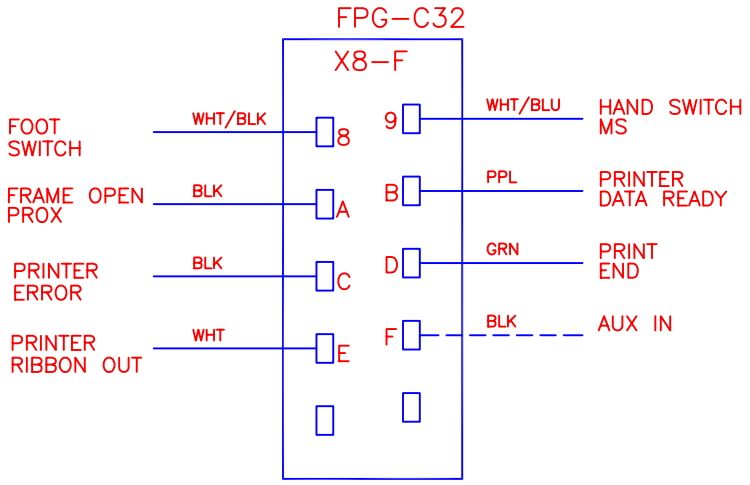

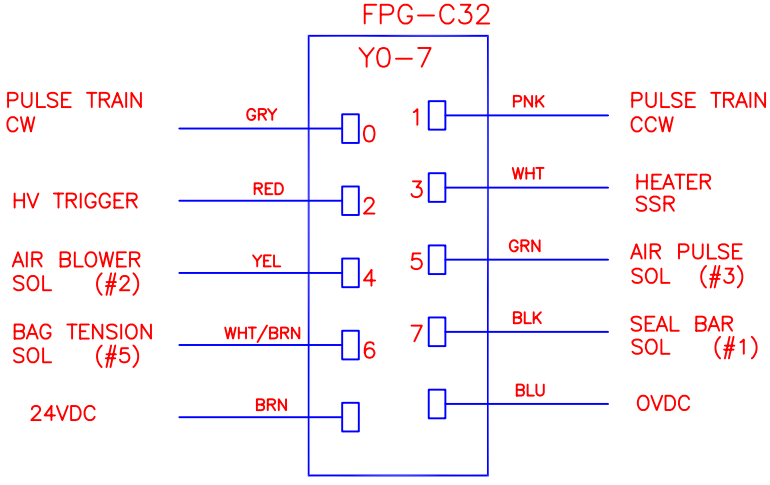

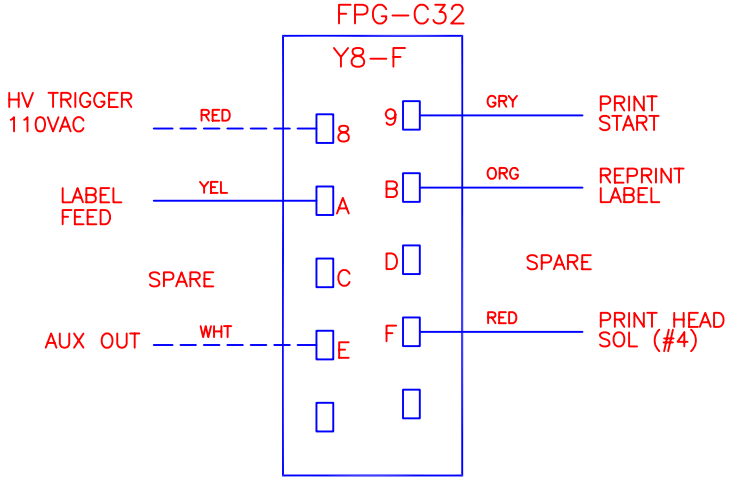

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+/- .010 ON TWO PLACE DECIMAL DIMENSIONS
+/- .005 ON THREE PLACE DECIMAL DIMENSIONS
125 √ ON MACHINED SURFACES
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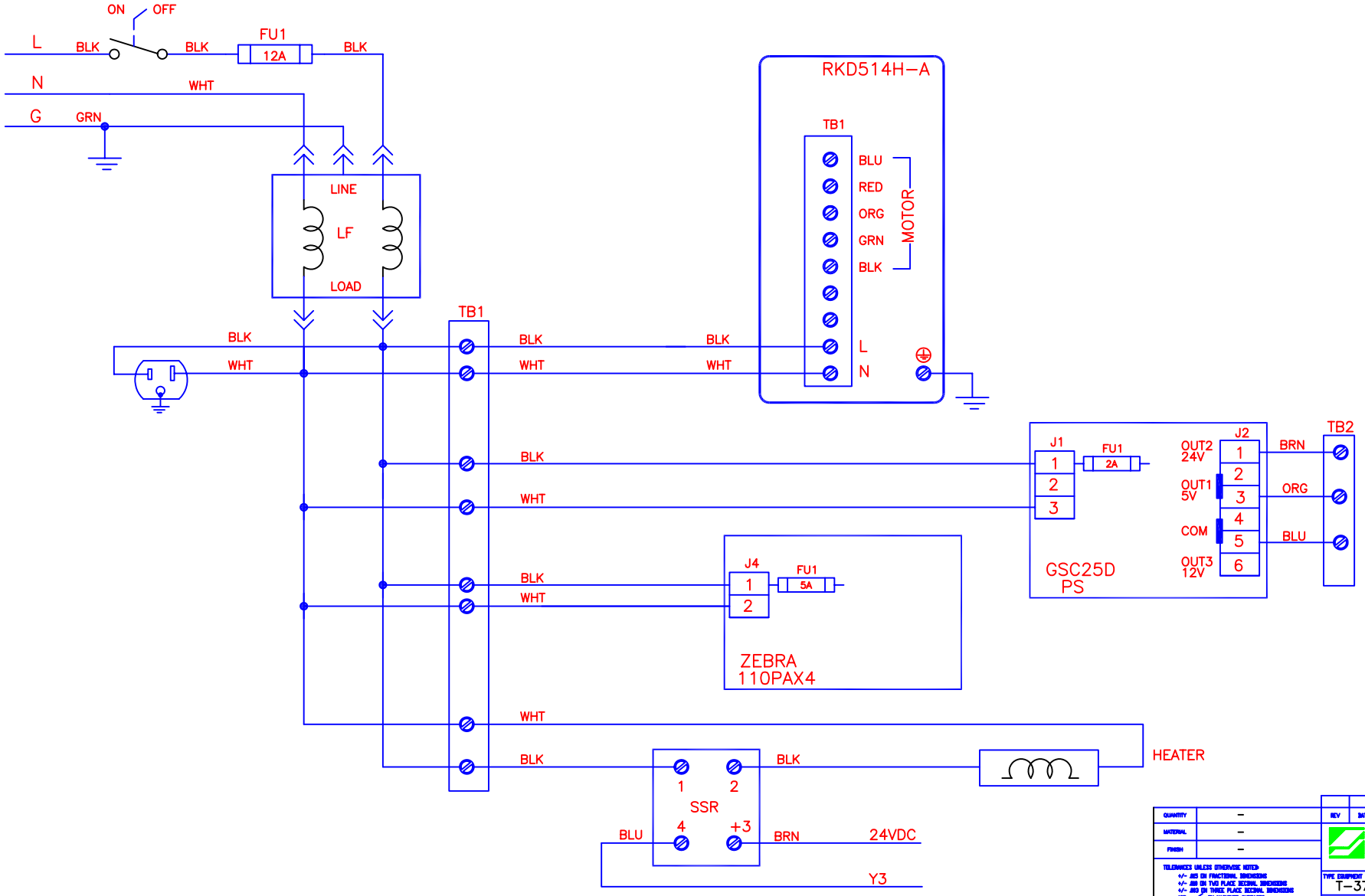

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TOLERANCES UNLESS OTHERWISE NOTED:
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+/- .XX ON TWO PLACE DECIMAL DIMENSIONS
+/- .XXX ON THREE PLACE DECIMAL DIMENSIONS
125 ✓ ON MACHINED SURFACES
ALL DIMENSIONS ARE IN INCHES
PART MUST BE FREE OF BURRS AND SHARP EDGES

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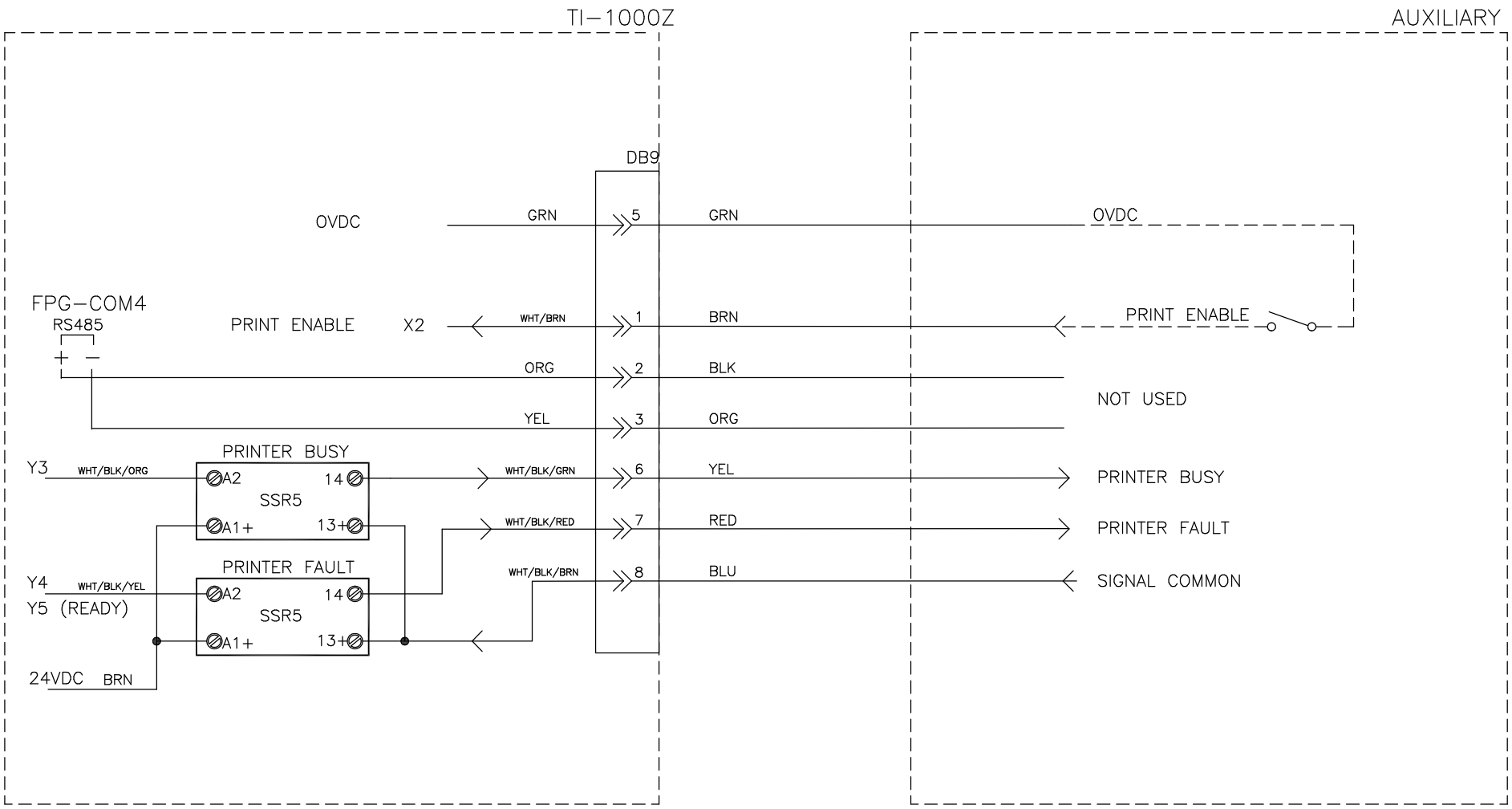

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FINISH	–				

TOLERANCES UNLESS OTHERWISE NOTED:
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+/- .010 ON TWO PLACE DECIMAL DIMENSIONS
+/- .003 ON THREE PLACE DECIMAL DIMENSIONS
125 ✓ ON MACHINED SURFACES
ALL DIMENSIONS ARE IN INCHES
PART MUST BE FREE OF BURRS AND SHARP EDGES

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TYPE EQUIPMENT: TIZ-1000	B/M REF. NO.	VERSION NO. 104	
SCALE: 1:1	DRAWN BY: NAME LF, DATE 11/13/09	APPROVED: NAME, DATE	
TITLE: AUX IF	DRAWING NO. TIZ1K-E8	REV. 1	

		equipped)		
	X8	Spare	Y8	H.V. 120V Activate (if equipped)
	X9	Spare	Y9	Start Print
	XA	Spare	YA	Spare
	XB	Label Loaded (Z) Downloaded	YB	Spare
	XC	Printer Error (Z)	YC	Spare
	XD	End Print (Z)	YD	Spare
	XE	Ribbon Out Sensor (Z)	YE	Spare
	XF	Spare	YF	Print Head Solenoid
Expansion PLC	X20	Spare	Y20	Spare
(if equipped)	X21	Spare	Y21	Spare
	X22	Spare	Y22	Spare
	X23	Spare	Y23	Spare
	X24	Spare	Y24	Spare
	X25	Spare	Y25	Spare
	X26	Spare	Y26	Spare
	X27	Spare	Y27	Spare
	X28-X2F	Spare	Y28-Y2F	Spare

7.12 Troubleshooting Notes / Technical Support Information

Date	Notes