

Serial Numbers 071755 & Up

OPERATOR'S MANUAL



The Challenge Machinery Company
6125 Norton Center Drive
Norton Shores, MI 49441-6081 USA

ChallengeMachinery.com

TITAN 265 XT ***PAPER CUTTING*** ***MACHINE***

Sold and Serviced by

F.265XT-EO
May 2008

1.0 Introduction

THIS MANUAL is designed to help you get the most from your Challenge equipment. Keep this manual in a safe, convenient place for quick reference by operators and service personnel.

CAUTION

SAFETY ALERT! This symbol means **CAUTION: Personal safety instructions!** Pay special attention to the instructions in bold type. Personal injury may result if the precautions are not read and followed.

READ THIS MANUAL BEFORE OPERATING! Follow precautions and instructions given and you should have years of trouble-free operation. If after reading the manual questions still remain, contact your Authorized Challenge Dealer.

FOR PARTS AND SERVICE contact the Authorized Challenge Dealer from whom you purchased your machine. Use the illustrations and parts lists at the back of this manual to identify the correct parts needed. Always give the **SERIAL NUMBER** and **MODEL** of your machine to insure the correct parts are sent as soon as possible.

Take a few minutes right now to **RECORD YOUR MACHINE SERIAL NUMBER** in the space provided on the front cover of this manual. Also be sure to fill out the warranty card accompanying your machine and return it **DIRECTLY TO CHALLENGE**.

If you bought a used machine, it is important to have the following information on record at Challenge. Copy this page, fill in the information and send it care of The Challenge Service Department, Norton Center Drive • Norton Shores • MI 49441-6081.

CHALLENGE MODEL	SERIAL NUMBER	
ATTN	COMPANY	
ADDRESS		
CITY	STATE/PROVINCE	ZIP
PHONE	DATE INSTALLED	
DEALER NAME & CITY		

* WARRANTY INFORMATION *

It is very important that you read and understand the conditions outlined in the *Warranty Information Sheet* attached to the outside of the shipping container of your machine.

The *Warranty Information Sheet* must be filled out completely and returned to THE CHALLENGE MACHINERY COMPANY in order for the warranty to be issued for this machine.

TABLE OF CONTENTS

1.0 Introduction	2
2.0 Safety	5
2.1 Precautions	5
2.2 Power Lockout Procedure	5
2.3 Warning Label Definitions	6
3.0 Packing List	8
Optional Items	8
4.0 Specifications	9
5.0 Installation & Setup	10
5.1 Inspecting Shipment	10
5.2 Uncrating	10
5.3 Cleaning	11
5.4 Fitting Through Narrow Door	11
5.4.1 Removing the Extension Tables	11
5.4.2 Removing the Table	12
5.4.3 Removing the Electric Eyes	14
5.4.4 Removing the Footswitch	14
5.4.5 Attaching the Table	14
5.4.6 Attaching the Extension Tables	14
5.4.7 Attaching the Electric Eyes	15
5.4.8 Attaching the Footswitch	15
5.5 Hydraulic System Check	15
5.6 Optional False Clamp Plate	16
5.7 Power Hook-Up	17
5.7.1 Single Phase Hook-Up	18
5.7.2 Three Phase Hook-Up	18
5.8 Line Light	19
6.0 Operation	20
6.1 Main Power and Start Up	20
6.2 Making a Cut	20
6.3 Jogging Aid	21
6.4 Adjusting the Clamp Pressure	21
6.5 Manual Clamping	Error! Bookmark not defined.
6.6 Sleep Mode	22
6.7 Definition of Keys	Error! Bookmark not defined.
6.7.1 Touch Screen	22
6.7.2 Backgauge Glide Control	23
6.7.3 IN/MM Key	23
6.7.4 Air Table ON/OFF Key	23
6.7.5 CANCEL Key	23
6.7.6 SEND Key	23
6.7.7 Push-Out Key	23
6.7.8 CLEAR Key	24
6.7.9 ENTER Key	24
6.7.10 Priority Add (X/Y) Key	24
6.7.11 Arrow Keys	24
6.7.12 PAGE Keys	24
6.8 Interface	24
6.8.1 Icons	25
6.8.2 Main Window	25
6.8.3 Job Statistics	26
6.9 Jobs	27
6.9.1 Programming a Job	27

1.0 Introduction

6.9.2 Opening a Previously Saved Job.....	29
6.9.3 Editing an Open Job	29
6.9.4 Saving an Open Job	30
6.9.5 Delete a Previously Saved Job.....	30
6.9.6 Copy a Job To/From a USB Storage Device	30
6.9.7 Locking/Unlocking a Job	30
6.10 Safety Systems	31
6.10.1 False Clamp Holder	31
6.10.2 Safety Eyes	31
6.11 Maintenance.....	31
6.11.1 Maintenance	31
6.12 Upgrade.....	34
6.12.1 Calculator.....	35
6.13 Diagnostic.....	35
6.13.1 Sensor Data	35
6.13.2 Last Error Code.....	36
7.0 Knife Installation/Changing.....	37
7.1 Knife Removal	37
7.2 Knife Installation	39
7.3 Knife Care Tips.....	40
7.3.1 Knife Blade Life.....	40
7.3.2 Cutting Stick.....	41
7.3.3 Bevel Angle.....	41
7.3.4 Helpful Suggestions	41
7.3.5 Knife Care	41
8.0 Safety Systems Test.....	44

2.0 Safety

2.1 Precautions

- This machine is designed for one-person operation. Never operate the machine with more than one person.
- Safe use of this machine is the responsibility of the operator. Use good judgment and common sense when working with and around this machine.
- Read and understand all instructions thoroughly before using the machine. If questions remain, contact the dealer from which you purchased this machine. Failure to understand the operating instructions may result in personal injury.
- Only trained and authorized people should operate this machine.
- Do not alter safety guards or devices. They are for your protection. Severe personal injury may result.
- Disconnect power before cleaning or performing maintenance. See Section 2.2 Power Lockout Procedure.
- Observe all caution labels on this machine.
- Be sure the cutter is properly grounded.
- Be sure there is sufficient power to operate the cutter properly.
- Observe all caution plates mounted on this cutter.
- Keep foreign objects off table and away from cutter blade.
- **BE EXTREMELY CAREFUL** when handling and changing the cutter knife. Severe lacerations or dismemberment could result from careless handling procedures.
- Keep the floor around the cutter free of trim, debris, oil and grease.
- When replacing hydraulic parts, loosen the connections slowly to release pressure. Never loosen connections with the machine running.
- If the cutter sounds or operates unusually, turn it off and consult the troubleshooting section of this manual. If the problem cannot be corrected, have it checked by a qualified service person.
- **CRUSH HAZARD**, keep hand and fingers from under the clamp when clamping paper. Use Jogging Aid to load paper, and use the backgauge to push paper out before unloading. **DO NOT REACH UNDER THE KNIFE AND CLAMP AREA!**

2.2 Power Lockout Procedure

For maximum safety when making adjustments or repairs to your machine, be sure to lock out the main power control switch to which the machine is connected. The switch should be moved to the OFF position and a padlock placed in the loop. The key should be held by the person servicing the machine.

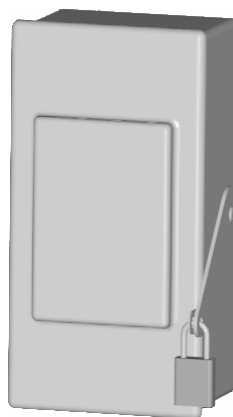


Figure 1

2.3 Warning Label Definitions

The following warning labels are found at various locations on your machine. Read and understand the meaning of each symbol. If a label is lost from the machine, it should be replaced.



HAZARDOUS AREA

Disconnect power before cleaning, servicing, or making adjustments not requiring power. Do not alter safety guards or devices; they are for your protection. Replace all guards. Do not operate with any guards removed.



SHOCK HAZARD

Disconnect power before removing cover. Replace cover before operation.



SHOCK HAZARD

Disconnect power before removing cover. Replace cover before operation.



SINGLE OPERATOR

Do not operate with more than one person.

!OJO!



CAUTION This Este simbolo de alerta de seguridad significa ¡ OJO ! - INSTRUCCIONES DE SEGURIDAD PERSONAL. Lea las instrucciones porque se refieren a su seguridad personal. Fall de obedecer las instrucciones que siguen podria resultar en lesiones corporales.

- Esta maquina, junto con sus mecanismos de seguridad, esta disenada para ser manejada por
- **UNA SOLA PERSONA** a la vez. Jamas debe ser manejada por mas de una persona al mismo
- tiempo.
- La seguridad es la responsabilidad del operario que usa esta maquina.
- **LEA DETENIDAMENTE** el manual de instrucciones y las **PRECAUCIONES DE SEGURIDAD** antes de poner a funcionar la cortadora. Pidale a su supervisor una copia.
- El manejo de la guillotina debe estar exclusivamente a cargo de personal entrenado y autorizado para ello.
- **NO MODIFIQUE LOS MECANISMOS DE SEGURIDAD**, estan ahi para su proteccion no deben ni modificarse ni quitarse.
- **DESCONECTE LA CORRIENTE ELECTRICA** antes de proceder a hacerle servicio de limpieza, engrasar, o de hacer ajustes que no requieren corriente. Trabe el interruptor en la posicion **OFF** (apagado); vea "Procedimiento para cortar la corriente electrica" al pie de esta pagina.
- Eche llave a la guillotina y quite la llave cuando la maquina no esta en operacion; vea "Corriente electrica".
- Asegurese de que la guillotina este debidamente a tierra. Vea "Conexion de la fuerza electrica".
- Verifique el voltaje y asegurese de que este sea suficiente para el debido funcionamiento de la guillotina.
- Preste atencion a todas las placas con advertencias instaladas en esta guillotina.
- No permita que objetos estranos esten en la mesa o cerca de la cuchilla cortadora.
- **TENGA SUMO CUIDADO** al tocar y cambiar la cuchilla. Heridas severas y hasta desmembramiento pueden resultar del manejo sin cuidado o negligente.
- El suelo alrededor de la guillotina debe mantenerse despejado y libre de recortes, desperdicios, aceite y grasa.
- Al haber la necesidad de reemplazar partes hidraulicas, afloje todas las conexiones poco a poco para dejar escapar la presion. Jamas debe aflojarse conexiones mientras la maquina este
- andando.
- Si la guillotina empezara a sonar o trabajar diferentemente a lo acostumbrado, desconectela y consulte la seccion "Troubleshooting" (Reparador) de este manual. Si no es posible corregir el problema, llame a su servicio autorizado para que le examinen la maquina.
- **PELIGRO DE MACHUQUE** - Mantenga manos y dedos fuera de la agarradera mientras sujeta el papel. Use el calibrador trasero y su rueda de mano para empujar el papel cortado. **NO PONGA SUS MANOS BAJOLA CUCHILLA O AREA DE LA AGARRADERA.**
- **NO OPERE SIN LAS GUARDAS PROTECTORAS!**

¡ OJO ! PRECAUCION - Como proceder para desconectar la corriente electrica.

Para maxima seguridad durante ajustes y reparaciones de su maquina, verifique bien que el interruptor principal de control de corriente al cual la maquina esta conectada, este desconectado. El interruptor deba ser puesto en la posicion "OFF" (desconectado) y se debe poner un candado en la anilla. La llave del candado debe ser guardada por la persona que estara efectuando los trabajos de servicio o de reparacion en la guillotina.

Desconecte la corriente electrica antes de proceder a hacer cualquier ajuste o reparacion o de efectuar el engrase en cualquier maquina.

3.0 Packing List

Part No.	Description	Qty.
2263-2	Knife	2
4165	Cutting Stick (in addition to one installed in machine)	3
F.265XT-EO	Operator's Manual	1
A-12608-4	Jogging Aid	1
20-2150-4	Tool Kit	1
H-6918-608	Knife Bolts, 3/8 – 16 x 1"	6
8815	Knife Washers, Special	6
5064	Cutting Stick Puller	1
44183	Knife Lifter Assembly	1
W-141	1/8" Allen Wrench	1
W-137	5/32" Allen Wrench	1
W-164	5/16" Hex 'T' Wrench	1
W-158	3/8 x 5/16" Wrench	1

Optional Items

Part No.	Description	Qty.
44027	False Clamp Plate	
4165	Cutting Stick	
2263-3	High Speed Steel Knife	
41058	Waste Wagon	

4.0 Specifications

Description	Inch Units	Metric Units
Cutting Width	26 ½"	67.3 cm
Minimum Cut*	5/8"	16 mm
Clamp Opening	4"	10.2 cm
Table Space		
Front:	24 ¼"	62 cm
Back:	28"	71 cm
Dimensions		
Table Height	36"	91 cm
Overall Height	59"	150 cm
Overall Length**	69 ½"	176.5 cm
Overall Width	54"	137.2 cm
Approx. Net Weight	1780 lbs	807 kg
Approx. Shipping Weight	2020 lbs	916 kg
Electrical		
208/230 Volts, 25 Amps, 3 Phase, 60 Hz, AC. Service size 30 Amps		
<i>Optional:</i>		
208/230 Volts, 30 Amps, 1 Phase, 60 Hz, AC. Service size 40 Amps		
208/230 Volts, 30 Amps, 1 Phase, 50 Hz, AC. Service size 40 Amps		
380/415 Volts, 15 Amps, 3 Phase, 50 Hz, AC. Service size 20 Amps		
Sound Emission		
A-weighted sound pressure level measured in an enclosed room at operator level (6 feet/183 cm):		
Machine in idle state:		60 dB
Machine cycling without cutting paper:		70 dB

*With false clamp plate attached, minimum cut is 1-7/8" (48 mm).

**With table, electric eyes, and footswitch removed, can be fit through a 32" (81.3 cm) door opening.

Challenge reserves the right to make changes to any product or specification without notice and without incurring responsibility to existing units.

5.0 Installation & Setup

5.1 Inspecting Shipment


This machine has been carefully packed to prevent damage during shipment. However, claims for damage or loss are the responsibility of the recipient. Inspect all shipments as soon as they are received. If there is any noticeable damage, note it on the freight bill. Visual and/or hidden damage must be reported to the claims department of the carrier within 15 days. Contact your dealer if you need any assistance. Check the contents of the box against the packing list on page 8. Make sure there are no missing items.

5.2 Uncrating

The Titan 265 weighs approximately 1780 lbs (807kg). DO NOT risk personal injury or damage by attempting to move machinery with makeshift equipment or inadequate manpower. This machine is shipped on a wooden skid and enclosed in a protective, corrugated top. The machine is secured in place with (4) lag screws. All accessories are packed in a separate box.

Remove the carton by removing the nails or staples holding it to the skid and lift it straight up over the cutter. If you don't have the ceiling clearance to do this, carefully slit the carton down the side and then unwrap it from around the cutter. Remove the accessory box. Remove the lag screws that secure the machine to the skid. Cut shipping straps on the hydraulic reservoir and remove wood spacer from under reservoir.

The machine may then be removed from the skid. A fork-lift may be used if the forks will extend to the back of the machine base. Raise the machine enough to create a small clearance between the skid and machine. Make sure the forks engage the fork pockets found beneath the base. Remove the skid.

 CAUTION DO NOT place hands under machine at any time during skid removal. Place the machine on the ground and readjust placement of the forks for safe transport to its destination.

Alternately, the following method may be used to lift the machine from the skid. Remove the table extensions (page 11) and the lower front cover. Using lifting straps rated at 2000 lbs. or more, wrap the straps around the machine base from front to back on each side of the table as shown in Figure 2 & Figure 3. Hoist the machine and remove its skid.

IMPORTANT! Do not lift the machine by any portion of the table. The aluminum table may pull from the base and strip its mounting threads. Injury may result.

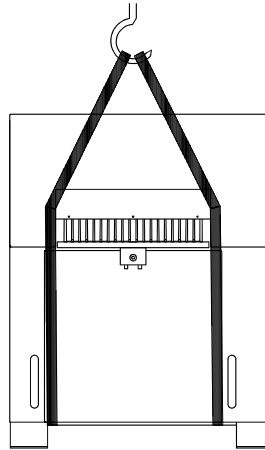


Figure 2

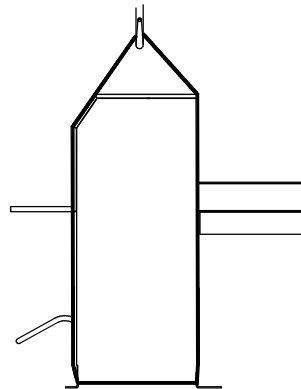


Figure 3

5.3 Cleaning

After unpacking, wipe down all machine panels and clean the table surface. The touch screen and control console should be cleaned using a mild water-based soap solution. **DO NOT use petroleum or oil based solvents as they will damage the touch screen and control console.**

5.4 Fitting Through Narrow Door

As shipped, the Titan 265 cutter will not fit through an opening less than 57" (137 cm). With the extension tables removed, it will fit through a 46-1/2" (118 cm) opening. With the table and electric eyes removed, it will fit through a 32" (81.3 cm) opening.

5.4.1 Removing the Extension Tables

Make sure power is disconnected from the machine. Remove the front table plate (Figure 4) by removing the hex nuts. Remove the extension table hardware and remove extension tables.

NOTE: There may be shims located between the extension tables and the extension table brackets. These are used for leveling the extension tables at the factory. Take note as to where they are located so they can be placed in the proper position when reattaching the extension tables later.

5.0 Installation & Setup

Now remove the two extension table support brackets (Figure 4).

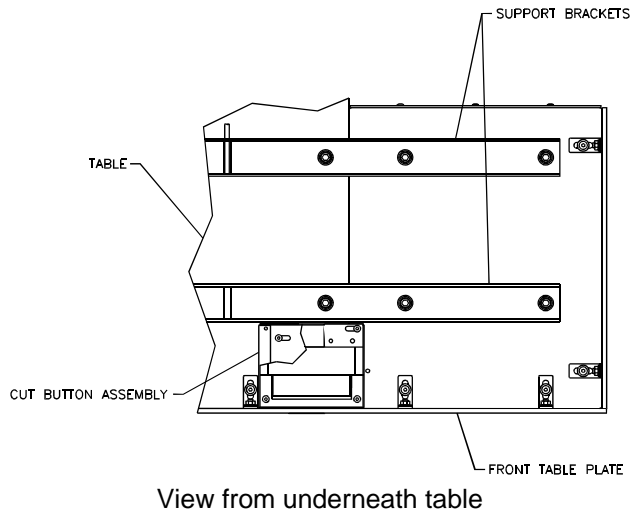


Figure 4

5.4.2 Removing the Table

Make sure the knife has been removed from the machine and that the knife and clamp are in the “up” position. If they are not, read the Power Hookup Section (page 17) to connect power to the machine. Turn on the power using the red and yellow main power switch, and press the CLEAR button. This will preset the backgauge and send the knife and clamp up.

Turn off the machine and disconnect the power.

Make sure the extension tables have been removed (page 11). Remove the 2-hand button controls. Remove the sheet metal covers from the rear of the table. Remove the backgauge motor cover, the lower back panel, and the lower front cover of the machine.

Unplug the cable to the encoder at the back of the machine (Figure 5). Remove the motor junction box cover and disconnect the wires to the motor (Figure 5). Remove the leadscrew cover and the nylon tyrap that are attached to the bottom of the table. The motor wires and encoder wires should now be free from the table.

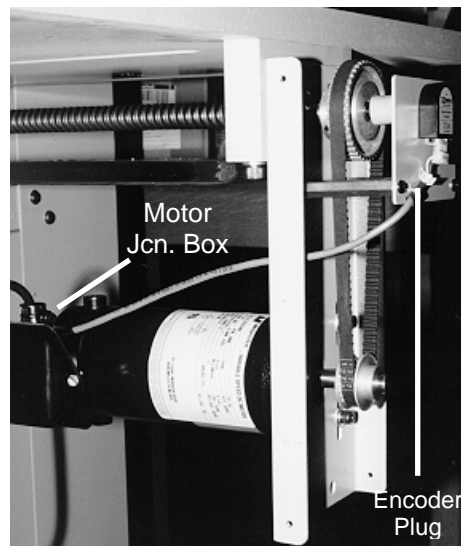


Figure 5

Remove the preset board assembly from the bottom of table (Figure 6).

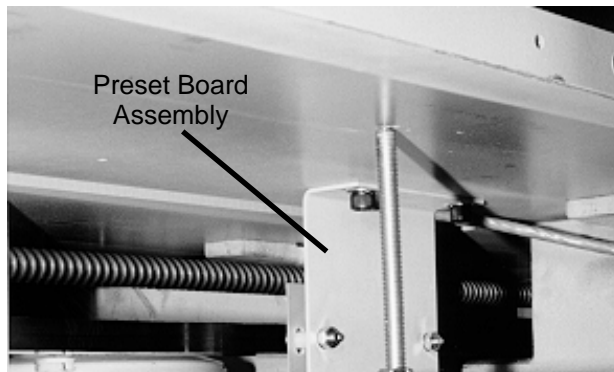


Figure 6

Open the top hood and loosen the jam nut on left hand side guide support screw and turn it in a few turns for clearance, then remove the left and right side guides as shown in Figure 7 & Figure 8.

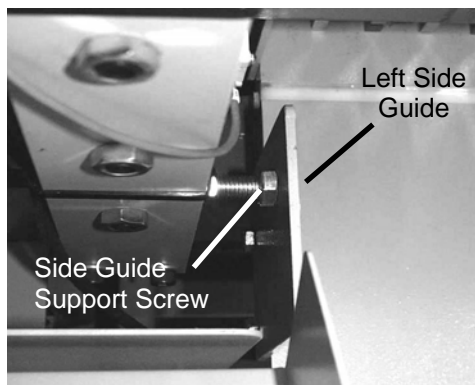


Figure 7



Figure 8

Remove the two taper pins from the bottom side of the table by tightening the jam nut on the taper pin. Then remove the four screws that mount the table to the base. **CAUTION: the table assembly is very heavy and requires at least four people to remove.** Pull the table out towards the back of the machine.

5.4.3 Removing the Electric Eyes

Make sure power is disconnected from the machine. Open top cover. Remove the four hex-head screws for each electric eye assembly from the inside of the machine. By sliding some of the slack in the cable through the side of the machine, the eye assemblies can be set on the machine. If it is necessary to completely remove the eyes from the machine, the wires must be disconnected from the power panel.

5.4.4 Removing the Footswitch

Make sure power is disconnected from the machine. Remove lower front cover. Remove the two screws that mount the footswitch bracket (Figure 9). Lay footswitch assembly inside the machine.

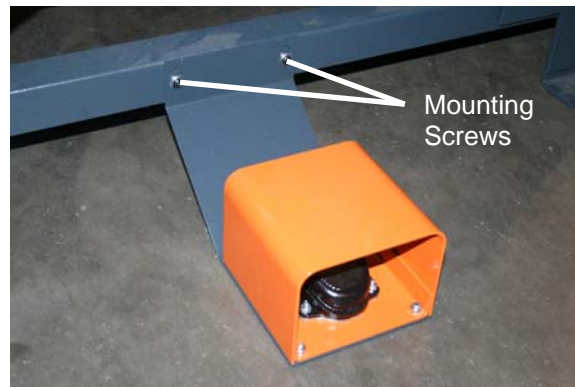


Figure 9

5.4.5 Attaching the Table

Set the table in position, and start its front two mounting screws. Then start the rear two mounting screws. Replace the two taper pins (must be snug to seat the table), and then tighten all four screws. Attach the right and left side guides then re-adjust the left hand side guide support screw until it contacts the side guide and tighten the jam nut. (Figure 7 & Figure 8 on page 13), the preset board assembly (Figure 6 on page 13), the motor and encoder wire (Figure 5 on page 12) and all guards and panels.

Once the table is installed, the backgauge squareness and accuracy must be readjusted. See the Titan 265 Technical Service and Parts manual for information on how to do this.

5.4.6 Attaching the Extension Tables

Attach the extension table support brackets to the under side of the main table as shown in Figure 10, but do not tighten screws completely. Route each cut button wire through the slots in the brackets while attaching them. Next, place any shims that were installed at the factory in the position they were in when the extension tables were removed. Lay the table extensions in place and insert the screws. Align the front edges of the tables and tighten screws. Attach the front table plate.

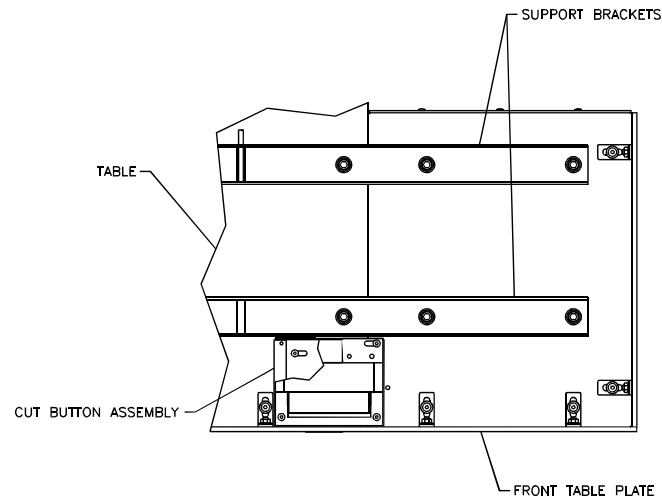


Figure 10

5.4.7 Attaching the Electric Eyes

Make sure power is disconnected from the machine. If necessary, connect the wires to the power panel. Attach electric eye assemblies with provided hardware, making sure that the bottom of the electric eye housings are parallel to the table. Once power is hooked up, the electric eyes should be checked for alignment. See the Titan 265 Technical Service and Parts manual for information on how to do this.

5.4.8 Attaching the Footswitch

Make sure power is disconnected from the machine. Attach the footswitch bracket using the mounting hardware (Figure 9, page 14).

5.5 Hydraulic System Check

The Titan 265 is powered by a hydraulic system consisting of an electric motor coupled directly to a hydraulic pump.

The hydraulic reservoir holds 5 gallons of hydraulic fluid. It is filled with Tellus #46 hydraulic fluid at the factory but should be checked before operation. Remove the lower rear panel cover. Check the sight gauge on the rear side of the hydraulic tank. Fluid should just be visible in the sight gauge (Figure 11, next page). Add fluid if necessary, but avoid overfilling. For more information about checking and changing the hydraulic fluid, including a cross-reference chart of approved fluids, See the Titan 265 Technical Service and Parts manual. When finished, replace the panel.

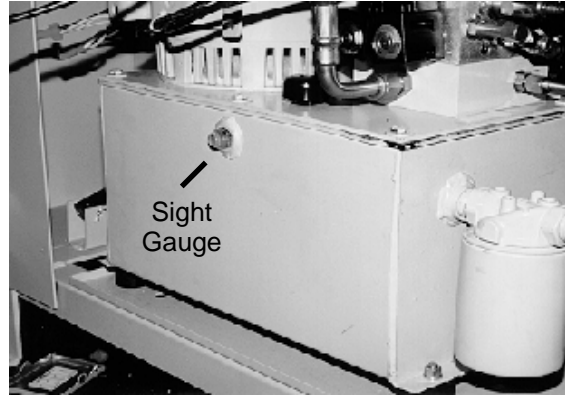


Figure 11

The hydraulic fluid should be checked weekly and changed **AT LEAST ONCE-PER-YEAR** or after every 1,000 hours of operation.

5.6 Optional False Clamp Plate

To prevent marking on pressure sensitive jobs, a false clamp plate is available as an optional item for your machine. This plate attaches to the bottom of the clamp. It is secured with (3) setscrews located in holes on the lower front face of the clamp.

To install:

1. Make sure the knife and clamp are in the up position. If they are not, turn on the power using the red and yellow main power switch. Press the CLEAR button. This will preset the backgauge and send the knife and clamp up.
2. REMOVE KNIFE. See Section 7.1 Knife Removal, page 37.
3. Turn the power off and disconnect the power cord.
4. Slide the false clamp plate under the clamp and slide the plate up into position.
5. Hold the plate in position and secure with the (3) setscrews located in the lower front face of the clamp, Figure 12.
6. A sensor detects that the false clamp is installed and the computer setting will automatically be set to ON.

NOTE: The minimum cut with the false clamp plate attached is 1-7/8”.

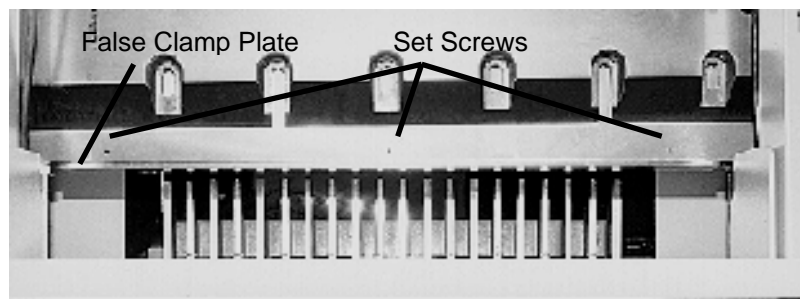


Figure 12

5.7 Power Hook-Up

For satisfactory operation, be sure that your cutter is wired for the correct phase and voltage and has adequate power. The correct electrical specifications for your machine are shown on the serial plate. Check the machine serial plate before connecting the power. For future reference, transfer this information to the front cover of this manual.

Watch Setup Voltage- Inadequate power to the cutter can be a major source of problems. Too many machines on the same circuit will reduce the power to each machine. Inadequate voltage will frequently cause overheating, loss of power, and in extreme cases, failure to operate. Test your voltage when the shop is at actual working levels. Challenge recommends a dedicated line with a lockable disconnect to provide adequate power for this machine.

CAUTION CAUTION: SHOCK HAZARD! Always disconnect power at main power panel before working on the cutter. Lock it out to prevent accidental power up. (See Power Lockout Procedure page 5).

Important: You must have an adequate size circuit and heavy enough wiring for this machine. The circuit size should be a minimum of 20% greater than the amperage rating on the machine nameplate. If a wire is run over 75 feet (23 meters), the next size wire should be used. Check local electrical codes.

Electrical Specifications for the Titan 265:

	Voltage	Amperage	Circuit Size	Wire Size
Three Ph.:	208/230 V	25 A	30 A	#10 AWG
Single Ph.:	208/230 V	30 A	40 A	#8 AWG

Check incoming voltage and position voltage selection jumper in proper location as shown in (Figure 13).

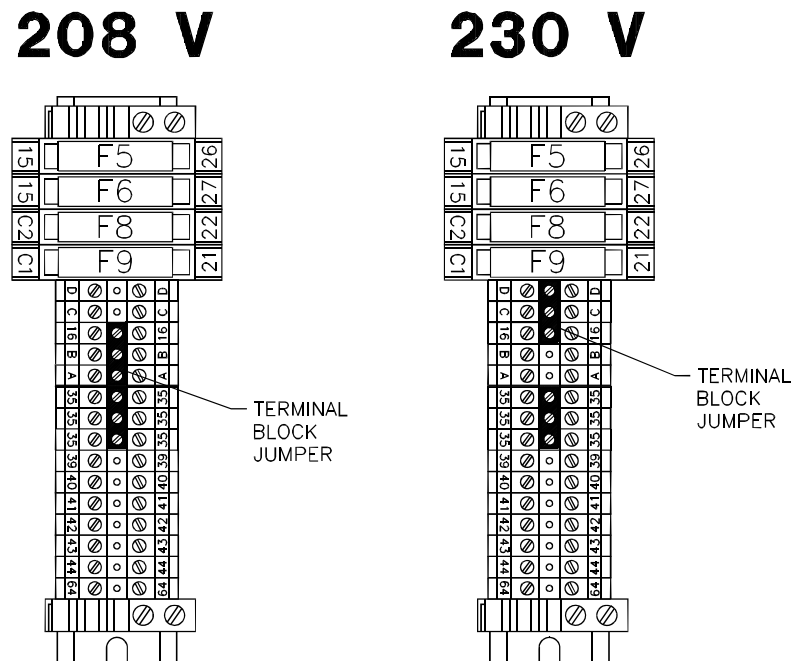


Figure 13

5.0 Installation & Setup

NOTE: The terminal block jumper must be set to the correct location according to the supply voltage of the machine. **Failure to set the terminal block jumper will cause damage to the machine!**

The power source is connected to the cutter at in the junction box located at the rear, right hand side of the machine.

5.7.1 Single Phase Hook-Up

1. Disconnect the power at the main power panel and lock it out to prevent accidental power-up. See Power Lock-Out procedure, page 5.
2. Thread the power cord through the knock-out hole in the junction box located near the floor in the lower left hand corner of the machine rear. Secure it with a conduit connector.
3. Fasten the ground lead to the ground terminal lug found in the junction box.
4. Use wire nuts to join the two power leads to the L1 and L2 leads found in the junction box.
5. Close all doors and guards, unlock the main power and switch it on. The machine should now have power.

5.7.2 Three Phase Hook-Up

1. Disconnect the power at the main power panel and lock it out to prevent accidental power-up. See Power Lock-Out procedure, page 5.
2. Thread the power cord through the knock-out hole in the junction box located near the floor in the lower left hand corner of the machine rear. Secure it with a conduit connector.
3. Fasten the ground lead to the ground terminal lug found in the junction box.
4. Use wire nuts to join the three power leads to the L1, L2 and L3 leads found in the junction box.
5. Close all doors and guards, unlock the main power and switch it on. The machine should now have power.
6. Press both cut buttons simultaneously to activate the motor and check to make sure it is turning the same direction as the arrow on the motor casing. If it isn't, disconnect the power and simply exchange any two leads of the power cord as in Figure 14 on page 18. The motor will now turn the correct direction. Double check to make sure.

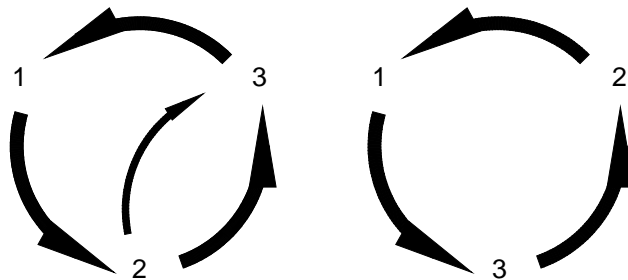


Figure 14

5.8 Line Light

The Titan 265 is equipped with two lights, which provide a line of light on the paper in the approximate location of where the paper will be cut. The lights come on when power to the machine is turned on. The light from each bulb reaches the table after passing between the knife and clamp. Each light is focused with a socket head capscrew (Figure 15).

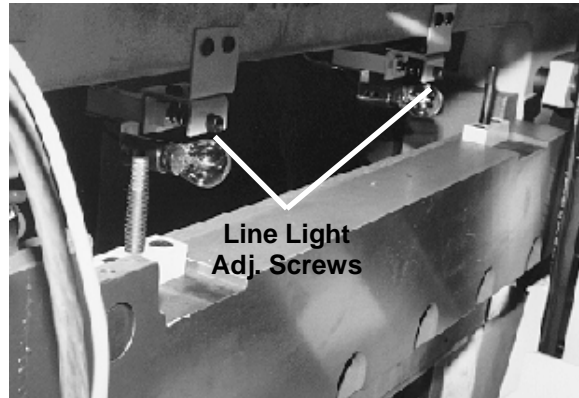


Figure 15

To Adjust:

1. Place a wide sheet of paper on the cut stick to view the line light.
2. Using a 3/16" hex allen wrench, turn one of the cap screws until you see a 1/16-1/8" beam. NOTE: it is best to start by turning the screw clockwise. If the screw turns all the way in before a line appears, begin turning the screw counterclockwise.
3. Similarly, turn the adjustment screw of the other bulb, until one continuous beam is seen across the cut stick.

⚠ CAUTION **SHOCK HAZARD!** Always disconnect power at main power panel before working on the cutter. Lock it out to prevent accidental power up. See Power Lockout Procedure, page 5.

Bulb replacement:

1. Make sure power is off (see Power Lockout Procedure, page 5).
2. Remove the old bulb by lightly pushing the bulb into the socket and turning it 1/4 turn counterclockwise. **CAUTION! If the bulb is still hot, allow a few minutes for it to cool.**
3. Insert the new bulb into the socket, push it in and twist it clockwise until the bulb locks into place.
4. Reconnect power and turn the main power switch on. Readjust the line if necessary.

6.0 Operation

IMPORTANT: DO NOT ATTEMPT TO OPERATE THE CUTTER UNTIL YOU HAVE THOROUGHLY READ AND UNDERSTAND ALL OF THE FOLLOWING INSTRUCTIONS. CALL YOUR AUTHORIZED CHALLENGE DEALER IF YOU STILL HAVE ANY QUESTIONS.

6.1 Main Power and Start Up

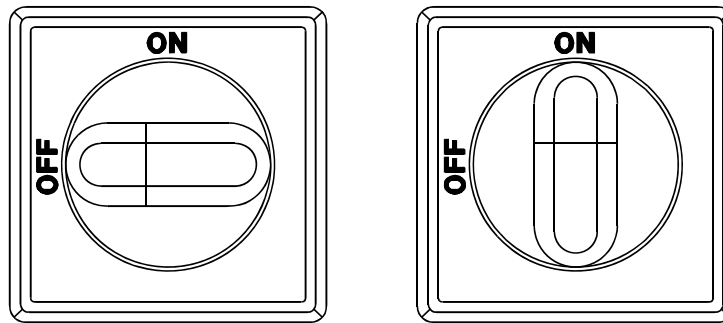


Figure 16 - Main Power Switch

Power is brought to the machine when the main power switch is turned to the “ON” position (Figure 16). The Lower and upper boards receive power and line lights are turned on at this time. The LCD screen does not light up for approximately one minute. The program starts and waits for the ‘Clear’ button to be pressed. The upper board then queries the lower board for the settings and checks them against its settings. If they both agree, the startup continues. The backgauge moves to the preset location and waits for user input. If they do not agree, once the backgauge reaches the preset, a window will show asking for user input to choose which board is correct. After the values are set the cutter is ready to use.

NOTE If the knife and clamp are not in the “up” position, the display will prompt the operator to raise them by pressing the cut buttons prior to presetting the backgauge.

The screen saver will activate and the line lights will shut off after 5 minutes without any activity. This shut-off time can be changed in the Parameters screen of the Maintenance Mode. To restore power to the display and line lights, press any button on the keyboard or touch the screen.

6.2 Making a Cut

Place the paper against the backgauge and side guide. Press and release both cut buttons once to start the hydraulic motor. Then press and hold both cut buttons to start the cut cycle. While holding the cut buttons, the knife and clamp will complete the cut cycle. If the buttons are released at any time during the cycle, the knife and clamp will immediately return to the up position.

NOTE Both cut buttons must be released before a new cut can be made. Also, the cut buttons must be pressed within 0.5 seconds of each other in order to initiate a cut.

CAUTION **DO NOT ATTEMPT TO REMOVE TRIM UNTIL THE KNIFE AND CLAMP HAVE STOPPED IN THE UP POSITION!** Due to static buildup, fine trim may have a tendency to stick to the clamp or knife surfaces. Fingertips might be drawn into the knife by

the clamp if this is attempted. Wait until the knife and clamp have BOTH STOPPED MOVING before removing stock trim.

The hydraulic motor can be shut off at any time by pressing the 'Stop Motor' button or pressing and holding one cut button for about five seconds. The hydraulic motor will also shut off when the screen saver is activated. This shut-off time can be changed in the Parameters screen of the Maintenance Mode. (See Section 6.1.3 – Figure 14)

6.3 Air Table Option

Machines equipped with an air table option can have the air table feature turned on or off by pressing Air Table ON/OFF key or by pressing and holding the left cut button for three seconds.

6.4 Jogging Aid

All Titan 265 cutters include a jogging aid as standard equipment. The jogging aid allows the operator to load and align stock without placing hands or arms under the clamp and knife area.

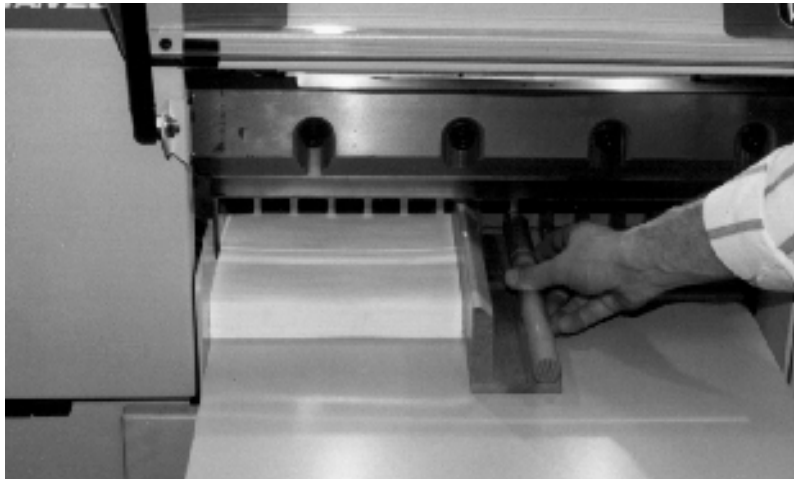


Figure 17

Load and align the paper against the side guide (Figure 17), then square it to the backgauge for cutting.

⚠ CAUTION Always remove the jogging aid from the table before making a cut.

Additional jogging aids can be purchased by contacting your authorized Challenge dealer.

6.5 Adjusting the Clamp Pressure

Touch the 'Clamp Pressure' number or the 'False Clamp' symbol and a set of arrows will appear. Touch these arrows to vary the pressure. The pressure scale ranges from 0 to 15, 15 being the maximum. (See Section 6.12.2 B, C and D)

6.6 Pre-Clamping

The Titan 265 is equipped with a low-pressure clamping feature, which allows the operator to clamp paper under low pressure before beginning the cut cycle. To use this feature, press down on the foot

6.0 Operation

switch located at the front of the machine until the clamp comes down on the paper. To raise the clamp, release the foot switch. To make a cut, keep the foot switch pressed and press the cut buttons. Release the foot switch once the cut has been completed. Avoid placing hands under the clamp.

6.7 Electric Eyes

The electric eyes prevent reaching into the cutting area while a cut is being made. If the beams are broken while a cut is being made, the knife and clamp will return to the up position.

6.8 False Clamp Plate

The false clamp plate is an optional attachment, which reduces the creasing of paper caused by the clamp. The disadvantage of using the false clamp plate is that it limits the smallest cut dimension. The machine has a built-in sensor that detects when the false clamp plate is installed, and the computer will automatically restrict the backgauge position accordingly.

6.9 Sleep Mode

The Sleep Mode starts after a time of inactivity. This is to save the screen and other parts of the cutter from wear. Touch the screen, press a cut button or press a key on the keyboard to bring the cutter out of Sleep Mode. To change the Time Out for the Sleep Mode see Section 6.15.1.3 under 'Maintenance - Memory'.

6.10 Display Panel

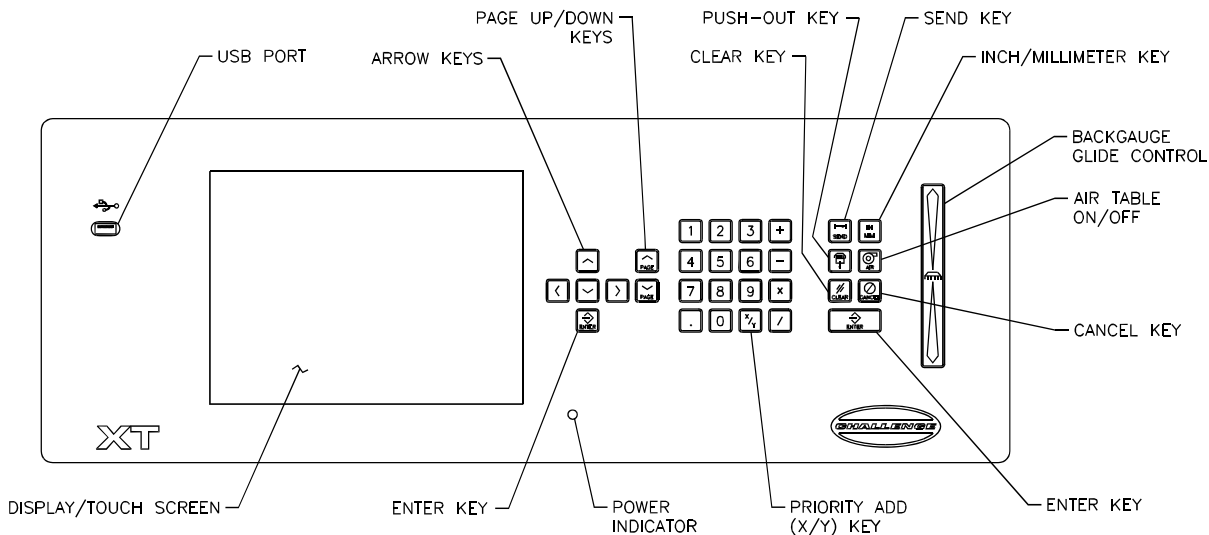


Figure 18 - Console Layout

6.11 Definition of Keys

6.11.1 Touch Screen

The touch screen can be used to make many selections. Use by touching the appropriate area with a light touch of your finger. Do not use sharp objects such as a ballpoint pen when using the touch screen.

6.11.2 Backgauge Glide Control

The Backgauge Glide Control is used to manually position the backgauge. The speed of the backgauge will depend upon where the actuator is pressed. Press farther from center for a faster speed and closer to center for a slower speed. To move the backgauge forward, press downward. To move the backgauge backward, press upward. Pressing the center displays true position.

6.11.3 IN/MM Key



This key toggles the display to show the position and programmed send values in inches (e.g. 5.250), inch fractions to the nearest 1/64" (e.g. 5_1/4), or millimeters (e.g. 133.3).

6.11.4 Air Table ON/OFF Key



This key turns the air pump on and off.

6.11.5 CANCEL Key



The CANCEL key closes the current mode. Some modes need multiple presses of CANCEL to return to the Send mode.

6.11.6 SEND Key



The SEND key is used to send the backgauge to any valid position. If an attempt is made to send the backgauge to an illegal position, an error message will be displayed. In the Job mode, the SEND key will move the backgauge to the location in the Current Cut box (See Section 6.12.3).

 **NOTE** The job must be open and running to send to the location in the Current Cut box.

6.11.7 Push-Out Key



The push-out key will move the backgauge forward 5 inches (127 MM) (or to the most forward position) and then return it to its previous position. This allows paper to be removed from the cutter without putting hands under the knife and clamp.

⚠ CAUTION

Never place hands in the clamp and knife area. Use the push-out key or the backgauge glide control to move the paper to an area where it can be reached.

6.11.8 CLEAR Key



The CLEAR key is used to clear error messages or the current entry line.

6.11.9 ENTER Key



The ENTER keys select options and stores typed data.

6.11.10 Priority Add (X/Y) Key

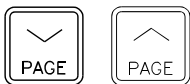


The Priority Add key is used for entering fractions when they are combined with whole numbers. The symbol displayed when this key is pressed is the underline symbol “_”. An example of a number entered using the Priority Add key is 1_1/2.

6.11.11 Arrow Keys

The four arrow keys can be used in almost all screens. The arrow keys are primarily used for moving the cursor around on the screen, or to toggle between highlighted selections. In some screens, the left arrow key acts as a backspace key.

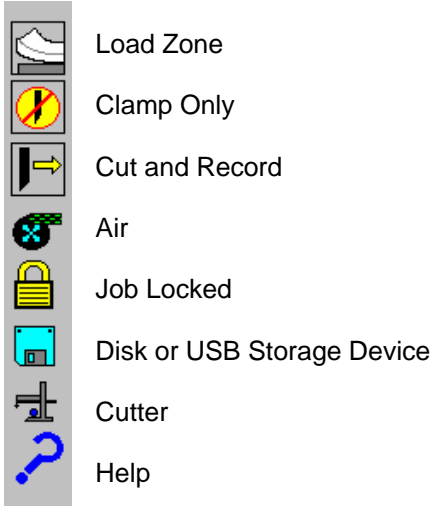
6.11.12 PAGE Keys



The PAGE keys are used with lists. Pressing a PAGE key when a job is open moves the cut location eighteen cuts. If the cut location is beyond the first or last cut, the PAGE keys move to the first cut (PAGE Up) or to the last cut (PAGE Down). Pressing a PAGE key when a list of jobs is displayed will move ten lines to display more of the list.

6.12 Interface

6.12.1 Icons



6.12.2 Main Window

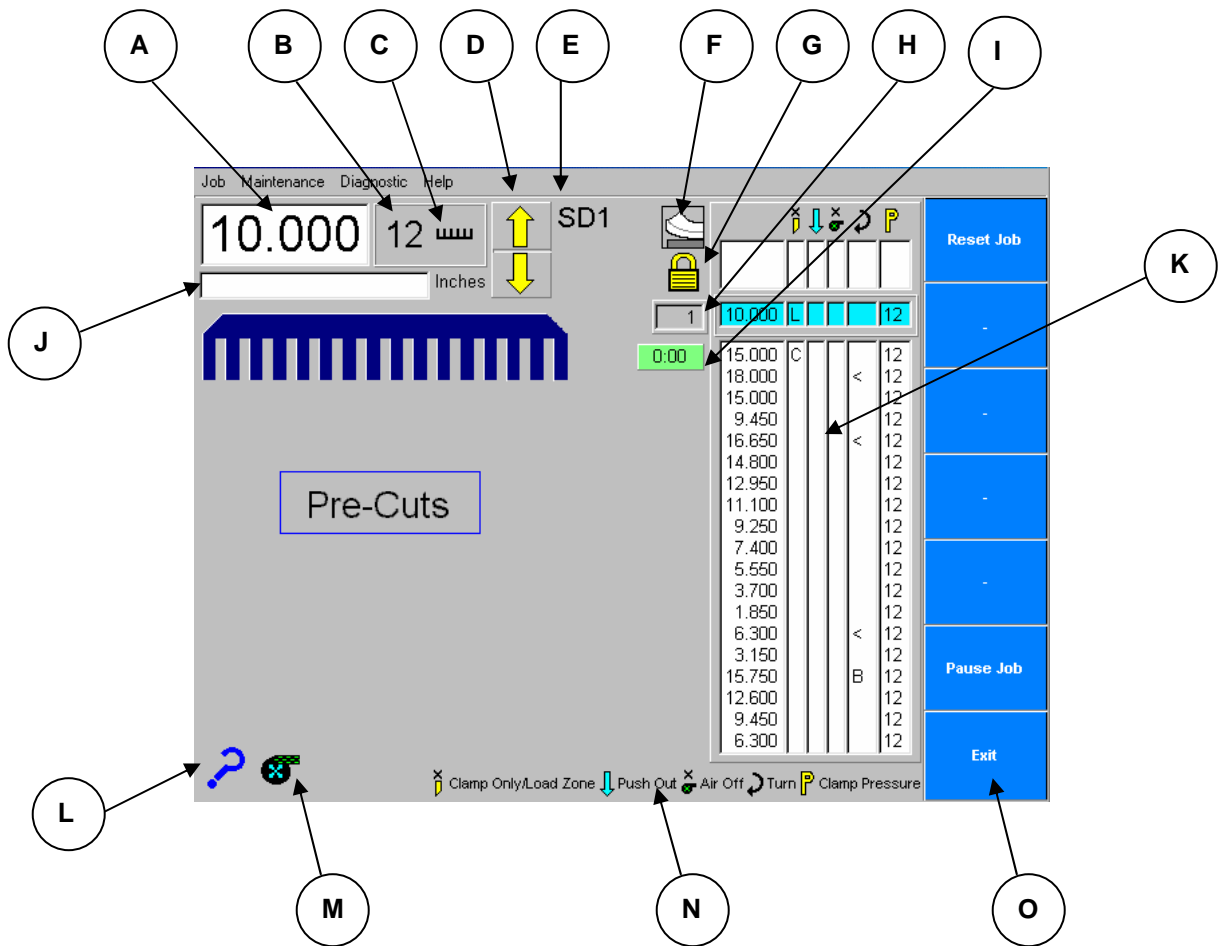


Figure 19 - Main Window

6.0 Operation

- A. Backgauge location
- B. Clamp Pressure (0 – 15)
- C. False Clamp Indicator



No False Clamp | False Clamp On

- D. Clamp Pressure Change
- E. Job Name
- F. Clamp Only / Load Zone Indicator
- G. Locked Job Indicator
- H. Current Cut Number
- I. Job Timer (Touch to get more information)(See Section 0)

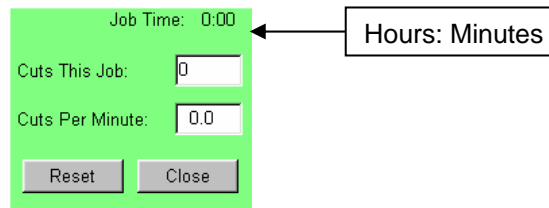


Figure 20 - Job Timer

Additional Information

- J. Edit Box
- K. Job Statistics (See Section 6.12.3 ,Figure 21)
- L. Help Button
- M. Air On/Off indicator. Also used for the 'Air Off' option in an open job.
- N. Job Statistics Icon Reference (Not Function Keys)
- O. Function Key Column

6.12.3 Job Statistics

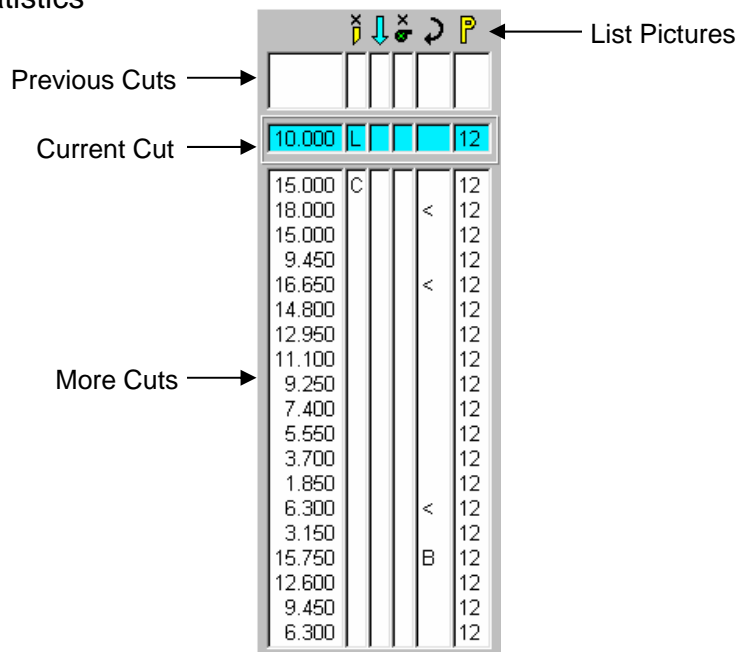


Figure 21 – Job Statistics

- List Pictures

The List Pictures show graphically what information each column contains.



The Clamp Only/Load Zone column shows that when there is a 'C' (Clamp Only) or an "L" (Load Zone) in the current cut there will be no cut made for that location, but the Backgauge will advance to the next position in memory.



If there is an "X" in the Push Out Column, the backgauge will not perform a push out when going to that position. When there is a "P" in the cut the backgauge will be forced to perform a push out when going to that position.



An "X" in the current cut of the Air Off column overrides the table air turning it off when moving to that cut. The air turns back on again after the next cut.



There are four options in the Turn column. The symbol "<" means rotate the lift left (clockwise) 90° and replace it against the backgauge. The symbol "<<" means rotate the lift 180° and replace it against the backgauge. The symbol ">" means rotate the lift right (counter clockwise) 90° and replace it against the backgauge. The symbol "B" means bring back a previous lift to finish it (automatic programming only).



The Pressure column allows you to set the clamp pressure for the current cut.

- Previous Cuts

The previous cuts rows are the cuts that have already been made or passed. See Section 6.11.11 and 6.11.12 for more information on how to move around in a job.

- Current Cut

The cut contained in this row is the current cut of the job.

- More Cuts

The More Cuts rows contain the next nineteen cuts of the job.

6.13 Jobs

6.13.1 Programming a Job

6.13.1.1 Manual Entry / By Cut

Select 'New Job' from the 'Job' menu or 'New Job' from the function key column. Select 'Manual Entry' and fill in the box with the job name.

All cut positions for the job will be entered in the 'Edit Box'. If there is not a number in the 'Edit Box' the current backgauge position will be used when 'Enter' is pressed or a cut is made. Any new position can be entered from the number keys, the result from a math formula or sending to a location and then pressing 'Enter'. Each successive position will appear below the previous position in the programming column.

Options may be entered to the cut position line using the function keys. Pressing the yellow up and down arrows changes clamp pressure number. 'Load Zone' "L" indicates load zone position (no cut or clamp). 'Turn' "<" indicates turn lift clockwise. 'Turn' ">" indicates turn lift counterclockwise. 'Turn' "<<" indicates turn lift 180 degrees. 'Push Out' "P" indicates a push out and "x" indicates no push out for that cut. 'Air' "x" indicates the air off between cuts.

6.0 Operation

When one cut position is complete, repeat the same procedure for the next position. The blue box will turn yellow when the value inside is a send value or if the slide bar for the backgauge is used. To save this value, press 'Enter'. Press 'Finish' when the program is complete.

In the 'Manual Job' there is a 'Cut Record' option. This allows the operator to make cuts and the location of the cut is entered automatically into the new job. The job is incremented and is ready for the next cut. To start the 'Cut Record' mode press the 'Cut Record On' function button while making a 'Manual Job'.

6.13.1.2 Sheet Division

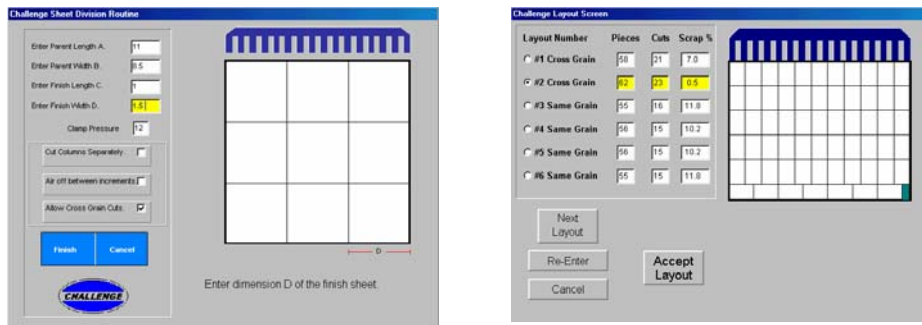


Figure 22

Select 'New Job' from the 'Job' menu or 'New Job' from the function key column. Select 'Sheet Division' and fill in the box with the job name. The program will ask if you want 'Pre-Trims'. 'Pre-Trims' are entered just like a 'Manual' job. Press the 'Pre-Trims Done' function button when the 'Pre-Trims' have all been entered. Enter the dimensions of the 'Parent Size' and the dimensions of the 'Finish Product'. Use the up and down arrows to move from one dimension to the next or press 'Enter' when the value is complete. The left arrow key is a backspace. Set the 'Clamp Pressure' using the number keys from 0 to 15. Select "Air off between cuts", "Allow cross grain cuts" and "Cut columns separately" by touching the box. Choose 'Finish' to move on to the 'Layout' screen.

On the 'Layout' screen, select the layout that best suits the job. Press 'Next Layout' or touch the text of the desired layout to view each option. To enter new numbers without starting over, press the 'Reenter' button. Press the 'Accept Layout' when the desired layout is selected and the cutter will calculate the new job. The Layout should be saved to the cutter memory or to a disk. The 'Save Job' window will show when the new job is ready (see 6.13.4 "Saving an Open Job" for help in saving a job).

6.13.1.3 Label Cut

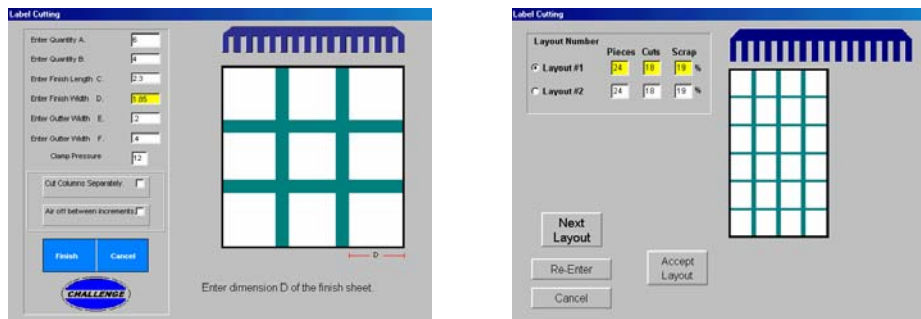


Figure 23

Select 'New Job' from the 'Job' menu or 'New Job' from the function key column. Select 'Label Cutting' and fill in the box with the job name.

The program will ask for two 'Pre-Trims'. 'Pre-Trims' are entered just like a 'Manual' job. Press the 'Pre-Trims Done' function button when the 'Pre-Trims' have all been entered.

Enter the quantity of the finished pieces horizontal and vertical, the dimensions of the 'Finish Product' and the dimensions of the 'Gutters'. Use the up and down arrows to move from one dimension to the next or press 'Enter' when the value is complete. The left arrow key is a backspace. Set the 'Clamp Pressure' using the number keys from 0 to 15. Select "Air off between cuts" and "Cut columns separately" by touching the box. Choose 'Finish' to move on to the 'Layout' screen.

On the 'Layout' screen, select the layout that best suits the job. Press 'Next Layout' or touch the text of the desired layout to view each option. To enter new numbers without starting over, press the 'Reenter' button. Press the 'Accept Layout' when the desired layout is selected and the cutter will calculate the new job. The Layout should be saved to the cutter memory or to a disk. The 'Save Job' window will show when the new job is ready (see 6.13.4 "Saving an Open Job" for help in saving a job).

6.13.1.4 Repeat Cut

Press the 'Repeat Cut' option from the function key column. Enter the length of the lift in the 'Backgauge Start' box and press 'Enter'. Enter the cut dimension in the 'Step Size' box and press 'Enter' to accept the job or 'Exit' to reject the values. When the job is accepted the backgauge will move to the start location and each cut will send the backgauge to the next 'Step Size' dimension. Press 'Exit' from the function key column to close the 'Repeat Cut' job.

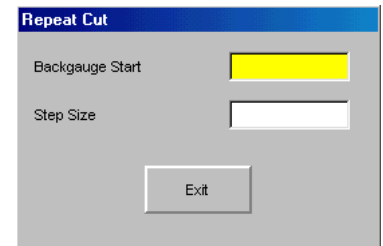


Figure 24

6.13.2 Opening a Previously Saved Job

Choose the 'Open Job' option from the 'Job' menu or the 'Open Job' key from the function key column. Use the arrow keys (on the keyboard), the arrows on the window, and 'Page Up' and 'Page Down' keys to scroll through the job names. If you see the name you want you may also just touch the name and it will appear as the selection. Press the 'Open' function button or the 'Enter' button to open the selected job. (See

Figure 25 for Open Job Window layout.)

6.13.3 Editing an Open Job

Editing an open job is similar to 'Manual Entry'. Edit the location using the keypad and use the function button column to change the options. When a job is closed without being saved, the save window will show. If the changes are unwanted, press the 'Exit' function button to skip saving. Otherwise, choose either the disk, or the cutter to save it to.

A job written with 'Sheet Division' or 'Label Cut' can only have some of its variables changed. No new cuts may be added and no cuts can be removed. The options can be changed using the function key column.

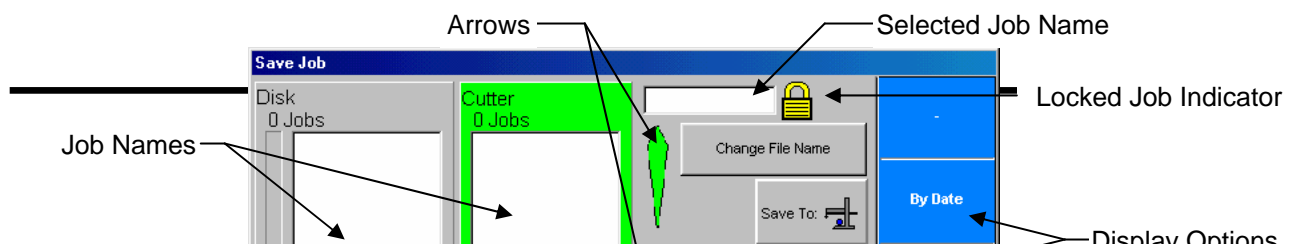


Figure 25 Job Window

6.13.4 Saving an Open Job

Choose the 'Save Job' option from the 'Job' menu or the 'Save Job' key from the function key column. The name of the job can be changed on the 'Save Job' window. The job can be saved to either the cutter or a USB Storage Device. Press the "Save To:" cutter button or "Save To:" disk button (Must have a USB Storage Device in the drive before opening the Save Job Window) to save the job. A job must be open to be saved. (See

Figure 25 for Save Job Window layout.)

6.13.5 Delete a Previously Saved Job

Choose 'Delete Job' from the 'Job' menu. Choose the job to be deleted from the menu and press the 'Delete' button. The 'Delete All' check box allows for erasing all of the jobs on a USB Storage Device or the cutter. Deleting all files will delete all locked jobs as well. Select the 'Delete All' check box and then delete the jobs on the cutter or the USB Storage Device. (See Figure 10 for Delete Job Window layout.)

Press 'Exit' when finished deleting jobs.

6.13.6 Copy a Job To/From a USB Storage Device

Choose 'Copy Job' option from the 'Job' menu. To copy one job, select the job to be copied and press the 'Copy' button. To copy all jobs, select the 'Copy All' check box and choose the destination of the jobs (Cutter or USB Storage Device). The 'Copy To:' buttons will copy from the other to the one selected. (See Figure 10 for Copy Job Window layout.)

Press 'Exit' when finished copying jobs.

6.13.7 Locking/Unlocking a Job



Locking a job prevents changes from being saved to the job that is locked. A locked job can be changed and saved with a different name. Jobs can be locked or unlocked from the 'Open Job', 'Save Job', 'Delete Job' and 'Copy Job' windows using the 'Lock (Unlock) Job' button or the 'Lock-Password' button. The Lock-Password button gives an added level to locking a job since changes cannot be saved to the job without first unlocking it with the password. When a job is locked a

padlock will appear beside the name on the Job window and next to the open job on the Main window. (See Figure 19 and Figure 10)

NOTE A locked job can be deleted using the 'Delete All' command.

NOTE Remember to write down the password for each file for later reference.

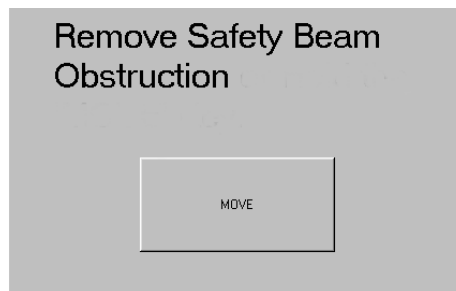
6.14 Safety Systems

6.14.1 False Clamp Plate

If a false clamp is installed, the cutter will detect it and show the false clamp as “on”.

6.14.2 Safety Eyes

The safety eyes stop the backgauge and prevent a cut. When the backgauge is moving forward and the safety eyes are broken, the backgauge will stop at about 3.5 inches and a message will ask that the eyes be cleared. The message includes the 'MOVE' button to move the backgauge forward slowly without clearing the eyes. Pressing the slider will also allow movement.



Safety Beam Broken Message

6.15 Maintenance

There are three options under the 'Maintenance' pull-down menu: 'Maintenance', 'Upgrade' and 'Calculator'.

6.15.1 Maintenance

The 'Maintenance' window contains six tabs for changing the variables that affect the performance of the cutter: 'Parameters', 'Miscellaneous', 'Memory', 'Adjust', 'Knife Adjust' and 'Language'.

6.15.1.1 Parameters

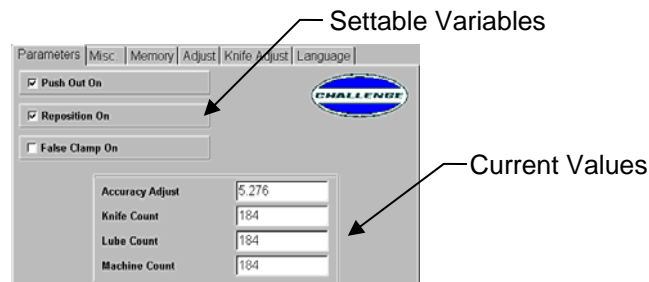


Figure 26 – Parameters Tab

The 'Parameters' tab has three settable variables; 'Push Out On', 'Reposition On', and 'False Clamp On' (PC version only). It also shows the current values of 'Accuracy Adjust', 'Knife Count', 'Lube Count' and 'Machine Count'.

6.15.1.2 Miscellaneous (Misc.)



Figure 27 - Miscellaneous Tab

6.15.1.2.1 Job Timer

Check the 'Job Timer' check box to turn on the Job Timer. The Job Timer keeps track of the amount of time a job has been running. Pausing the job will pause the timer as well. Touching the timer display beside an open job opens a window to more information (See 6.12.2 - I for a picture). The window shows how many cuts have been made in the open job and how many cuts were made per minute. If a job is running or paused, the time cannot be reset. The values may only be reset when a job is not running. Closing a job resets the timer.

6.15.1.2.2 Keyboard Layout

There are two choices for the keyboard layouts. 'ABCDEF' stands for setting the keys in alphabetical order. 'QWERTY' stands for setting the keys in the standard keyboard layout. The keyboards are used to enter job names, dealer information, etc... (See Figure 28)

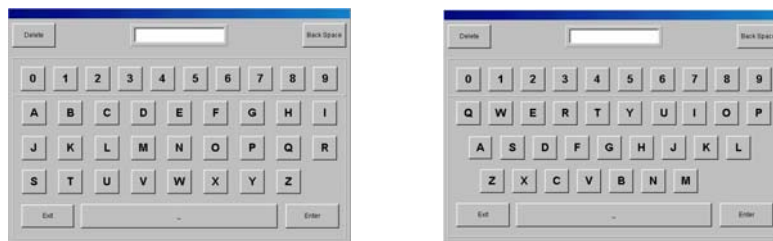


Figure 28 – Keyboard Layouts

6.15.1.3 Memory

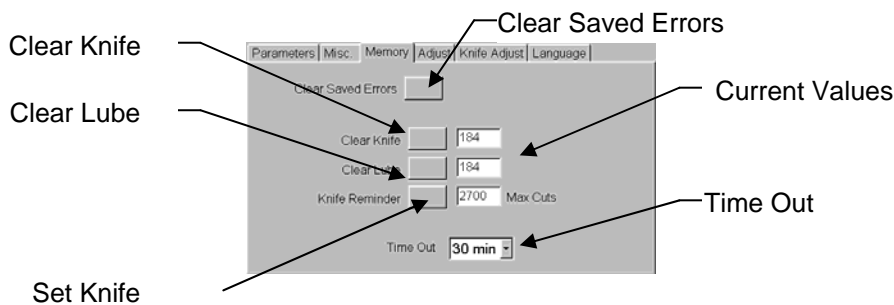
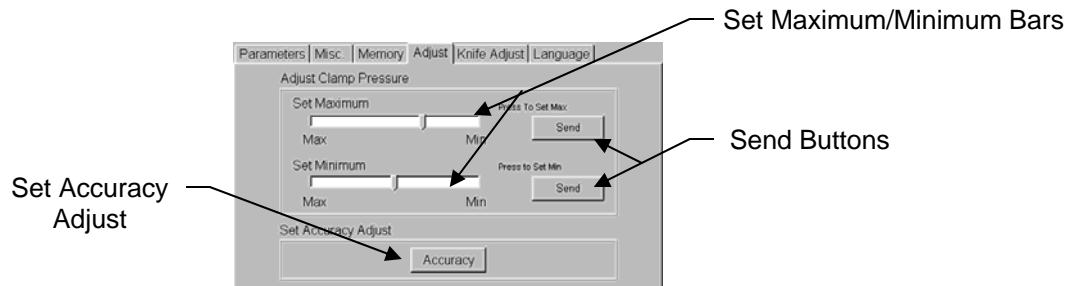


Figure 29 - Memory Tab

The 'Memory' tab contains buttons to change variables in memory. The 'Clear Saved Errors' button removes the stored errors from the cutter. The 'Clear Knife' button clears the Knife Count. The 'Clear Lube' button clears the Lube Count. The 'Knife Reminder' button allows the user to set the number of cuts before the 'Sharpen Knife' reminder shows on the main window. The 'Time Out' box sets the amount of time that will elapse before the cutter goes into sleep mode. (See Section 6.9)

6.15.1.4 Adjust

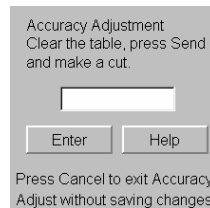
**Figure 30 - Adjust Tab**

6.15.1.4.1 Max / Min Clamp Pressure

Touch the 'Set Maximum' or 'Set Minimum' bar to change the Maximum/Minimum Clamp Pressure setting. Press the 'Send' button corresponding to the pressure changed to send the new maximum or minimum pressure settings to the lower board. These buttons also set the current pressure to 15 or 0 so that the pressure can be tested in the 'Maintenance' screen by making a cut. Repeat the changes and cuts until the pressure is set. See the Technical Manual for instructions on how to adjust clamp pressure.

6.15.1.4.2 Accuracy Adjust

The Accuracy Adjust window (Figure 31) is used to adjust the accuracy of the backgauge. Press the 'Accuracy' button (Figure 30) to set.

**Figure 31**

There are three ways to set the Accuracy Adjust:

Option 1: Measure and Record

After pressing the 'Set Accuracy Adjust' button the 'Accuracy Adjustment' window appears. Two inches (50.8 MM) is automatically entered into the 'Edit Box'. This number can either be accepted by pressing 'Send' or a different position entered and pressing 'Send'. The backgauge will move into position for a cut. Place a small stack of paper onto the table and square it to the middle of the backgauge. Make a cut and remove the scrap. Take the stack and measure it. Enter the length into the text box and press the 'Enter' button. After the cutter has reset, this process may be repeated or press the 'Finish' button to return to the 'Maintenance' window. Press 'OK' on the maintenance window to save the new values.

Option 2: Cut and Compare

The second procedure is much like the first. Press the 'Accuracy' button to start the 'Accuracy Adjustment'. Two inches (50.8 MM) is automatically entered into the 'Edit Box'. This number can either be accepted by pressing 'Send' or a different position entered and pressing 'Send'. The backgauge will move into position for a cut. Place a small stack of paper greater than 4 inches (102 MM) onto the table and square it to the middle of the backgauge. Make a cut and remove the scrap.

Press Cancel and send the backgauge to half the distance of the first cut. Make a second cut. Place the two halves together. Compare the two stacks to see how closely they match. The stack that was still against the backgauge is suspect. THE STACK CUT OFF IS THE EXACT LENGTH. Type + or - the difference between the two stacks based on the stack cut off (Example +.03 or -.053) and press 'Enter'. After the cutter has reset, this process may be repeated or press the 'Finish' button to return to the 'Maintenance' window. Press 'OK' to save the new values.

Option 3: Send and Record

The third procedure is for a coarse setting of the Accuracy Adjustment. Press the Accuracy button to start the 'Accuracy Adjustment'. Two inches (50.8 MM) is automatically entered into the 'Edit Box'. This number can either be accepted by pressing 'Send' or a different position entered and pressing 'Send'. With a ruler, measure the distance from the backgauge to the cut line on the cut stick. Enter this distance into the text box and press 'Enter'. After the cutter has reset, this process may be repeated or press the 'Finish' button to return to the 'Maintenance' window. Press 'OK' to save the new values.

6.15.1.5 Knife Adjust

The 'Knife Adjust' (Figure 32) tab provides a way to send the knife up or down (which is necessary to change or adjust the knife). To send the knife to the down position, press the 'Knife Down' button, clear the table, and press and hold the cut buttons until the hydraulic motor stops. To send the knife to the up position, press the 'Knife Up' button and press both cut buttons.



Figure 32 – Knife Adjust Tab

6.15.1.6 Language

In this tab, the user selects the language that will be displayed.

6.16 Upgrade

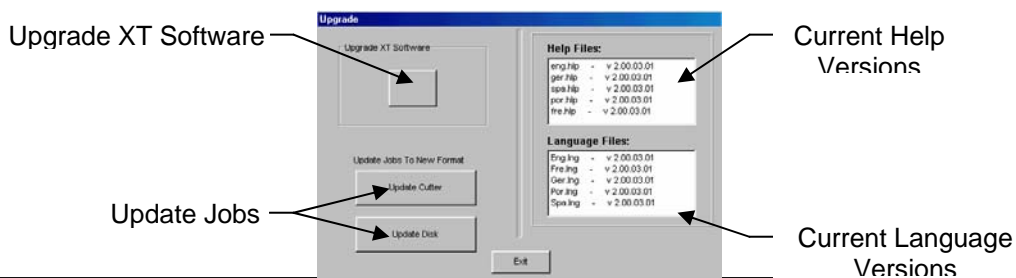


Figure 33 – Upgrade Window

- **Update Jobs**

The 'Upgrade' window shows the files that are used with the program and the version number they are using. The 'Update Cutter' and 'Update Disk' buttons change the job files previously saved to the newest version.

- **Upgrade XT Program**

To install the newest XT upgrade place the 'XT Upgrade' disk (EE-2933-1-X) supplied by Challenge into the disk drive. Select the 'Upgrade XT Software' button to start the XT Upgrade program. Press 'Upgrade' to start the process. If the disk has an older version of software, the upgrade program will allow it to be installed. This is useful if the older software is more desirable than the new software. When upgrading is complete, shut down the cutter and restart it. The cutter will now run with the upgraded software.

NOTE Because of changes in the upgrade program, the upgrade program versions previous to 3.01.08.01 do not install all upgrades before the first restart. To rectify this, the XT software will ask for the upgrade disk to be reinserted when the new XT software is started for the first time. The final upgrades are then installed and can be used without restarting the machine.

6.16.1 Calculator

The calculator is present for miscellaneous calculating needs. The number calculated can be used as a position if the 'Send' key is pressed after the '=' button is pressed. Press the 'Exit' button when finished.

6.17 Diagnostic

6.17.1 Sensor Data



Figure 34 - Sensor Data

The 'Sensor Data' area shows the status of the inputs and outputs on the cutter. The inputs and outputs do not update during a cut so the lower board can concentrate on the safety systems. To check input sensors that are only active during a cut, place a piece of metal on the prox's to activate them.



DO NOT ATTEMPT TO MAKE A CUT WHILE INSIDE THE CUTTER!

6.17.2 Last Error Code

The 'Last Error Codes' window shows the last five errors that the cutter had. There are 'Help' buttons next to each error for more information concerning that error. The errors can be cleared in the 'Maintenance' window.

7.0 Knife Installation/Changing

⚠ CAUTION

Changing knives can be very dangerous unless safety precautions are observed and extreme care is taken when handling knives.

- Make sure knife lifters are properly installed, see instructions following.
- Keep handling of unprotected knives to an absolute minimum.
- Clear off cutter table before removing knife.
- Have scabbard on cutter table and insert knife immediately.
- Warn people of any unprotected knife.
- Knife changing is a **ONE PERSON OPERATION**. Having more than one person trying to change knives invites accidents.

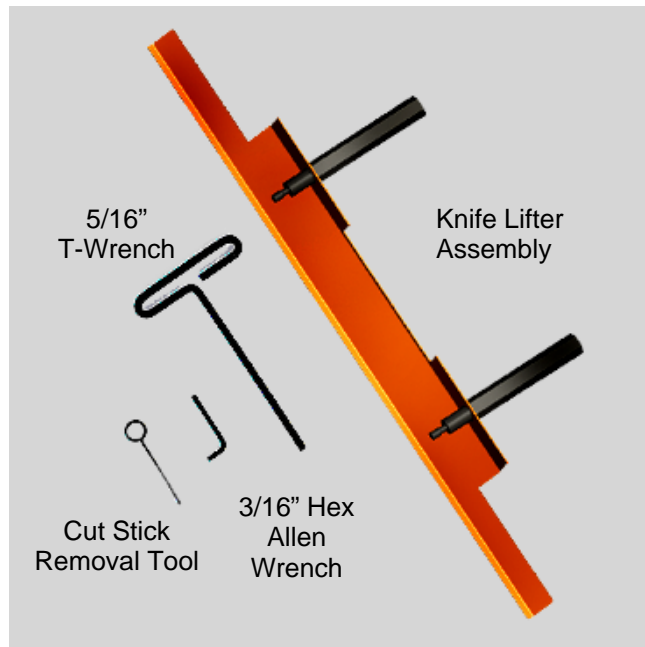


Figure 35 – Knife Changing Equipment

The knife changing equipment shown in Figure 35 is included in the cutter tool kit. The following instructions show how to remove and install a new or re-sharpened knife. Read through these instructions **AT LEAST ONCE** before attempting to actually change or install any blades.

7.1 Knife Removal

1. Make sure the knife and clamp are in the “up” position. Turn the power off and lockout power to machine, see Power Lockout Procedure, page 5.
2. Back off the knife adjusting screws on top of the knife bar several turns (Figure 36). A new knife will cut deeper than one that has been ground several times. Failure to back off the screws could damage the knife and/or the cutting stick.

7.0 Knife Installation/Changing

Knife Adjusting Screws

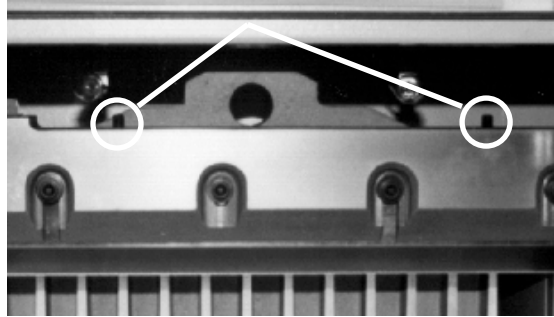


Figure 36

3. Remove the knife bolts from the two slotted knife bar holes and replace with the knife lifters (Figure 37). Tighten the lifters to hold the knife in place, and then remove the remaining knife bolts.



Figure 37

4. Clear the table surfaces and place the empty knife scabbard on the table. Remove the scabbard's knife retaining screws.
5. Grasp the knife lifters firmly and, at the same time, turn them counterclockwise to release the knife from the knife bar (Figure 38). Lower the left end first, then lower the right end as you shift the knife sideways to the left. Bring the right end of the knife out from the machine. Shift the knife to the right and bring out the left end. Put the blade in the scabbard immediately and secure the knife retainer screws.



Figure 38

7.2 Knife Installation



Knives are heavy and always very sharp! Be sure to keep the edge away from your body and keep other people out of the area while handling the blade. Severe lacerations or dismemberment could result from careless handling procedures.

1. Make sure the knife and clamp are in the up position. If they are not, turn on the power and press the CLEAR button. Once the backgauge is preset, press both cut buttons to send the knife and clamp up.
2. Turn the power off and lockout power to machine, see Power Lockout Procedure, page 5.
3. Pull out the cutting stick using the cut stick removal tool and turn it to a new surface. If the cutting stick is not level or flush with the table, 1/2" strips of paper can be placed in the table slot under the cutting stick to shim it.
4. Remove the left retainer screw from the new blade and screw the knife lifter assembly into the new blade. Screw the lifters all the way in and then back them out a 3/4 turn).
5. Remove the other scabbard retainer screw.
6. Double check to make sure the knife adjusting screws have been backed out all the way (Figure 36, page 38). Guide the blade, left edge first, into the space between the knife bar guide frames on the left. Move the right end of the blade into the machine, under the knife bar slot. Align the lifters with the slots in the knife bar, raise the knife into the knife bar slot as high as it will go and tighten the lifters.

NOTE: If the blade will not go in, either the lifters are screwed into the blade too far, or the end of the blade is hitting the cylinder bracket at the right end of the knife slot. In this case, drop the left end when inserting the knife.

7. Insert the knife bolts with washers and snug to hold the knife, but don't tighten them yet.
8. Remove the knife lifter assembly and replace with bolts and washers.
9. Place a few sheets of paper over the cut stick, covering the stick end-to-end.
10. Restore power to machine and turn power on.
11. Go to the MAINTENANCE screen and choose KNIFE ADJUST. Choose KNIFE DOWN, then press and hold the cut buttons to send the knife to the down position.
12. Turn the power off and lockout power to machine.
13. Turn the knife adjusters down evenly, a little at a time, until the knife cuts through the bottom sheet of paper the entire length of the cutting stick (Figure 39). Turning the screws down evenly prevents uneven wear on the knife and cutting stick.

7.0 Knife Installation/Changing

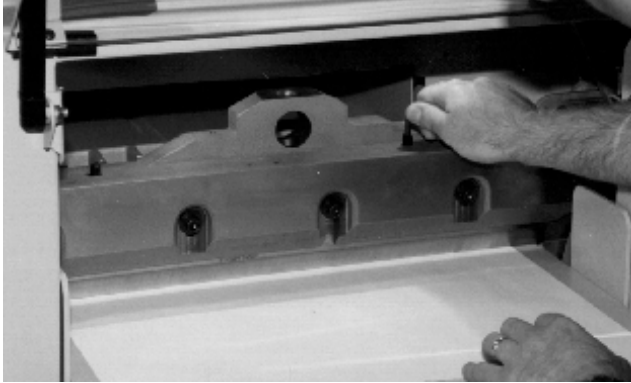


Figure 39

14. Restore power to machine and turn power on.
15. Press CLEAR. This will raise the knife and clamp to the up position.
16. Turn the power off and lockout power to machine.
17. Tighten all knife bolts securely.
18. Restore power to machine and turn power on. Make a test cut through a full lift of paper and make minor adjustments if necessary by repeating steps 9 through 17. **NOTE:** If the knife ends cut but the middle doesn't, you could have dips or uneven spots in the knife and/or cutting stick. These can be eliminated by placing 1/2" strips of paper in the table slot beneath the cutting stick to shim it.
19. Send the dull knife to a knife grinder. Do not attempt to sharpen your own knives! See the Knife Care Tips Section below to determine the knife bevel angle.

7.3 Knife Care Tips

⚠ CAUTION ! KNIFE SAFETY ! Knives are **DANGEROUS!!!** They are heavy and very sharp, even after use. Keep the edge away from your body and keep the area clear of others when handling knives. Never touch the cutting edge! To prevent personal injury and damage to the knife, always keep knives in their holders with screws tightened. You are aware of the dangers, but others may not be. Never attempt to hone, polish, or service the knife in any way. Failure to follow safety procedures may result in severe lacerations or dismemberment.

7.3.1 Knife Blade Life

Knife blade life, or the time between sharpenings, can be affected by many factors. One important factor is the type of paper being cut. Abrasive paper, such as recycled paper, soft paper such as newsprint paper, and bound books can all significantly shorten knife blade life. Also, if the knife depth is set too deep, the knife will cut too deep into the cutting stick and can dull the knife blade.

A knife can last between 2,000 and 5,000 cuts before it needs to be sharpened. Cutting soft paper (such as newsprint paper) or paper with high post-consumer recycled content can cause the knife to need sharpening after only 2,000 to 3,000 cuts. Cutting pure paper, such as bond paper with no recycled content, or hard paper can allow the knife to be used for as many as 5,000 cuts before it needs to be sharpened. In all cases, the operator should continually check the quality of the cut to determine when the knife blade needs to be sharpened. Some characteristics that indicate a blade needs sharpening are:

- The knife hesitates or stalls while making a cut.
- The sheets are not all cut to the same length (usually the top few sheets are longer than the rest of the sheets - this is sometimes called “draw”).
- Cut marks appear on the cut face of the paper.
- The profile of the cut (side view) is not perpendicular to the table.
- The cut does not appear straight when viewed from the top.
- The knife makes a “rougher” sound as it passes through paper.
- Nicks are visible on the cutting edge of the knife.

7.3.2 Cutting Stick

A worn cutting stick can affect the cut quality of the bottom sheets. When this happens, the cut stick can be rotated. Usually, the stick should be rotated one or two times between knife sharpenings.

There are 8 possible cut stick positions. The stick can be rotated 4 times, and then turned end to end, and rotated 4 times again.

7.3.3 Bevel Angle

Challenge recommends that bevel angles for the Titan 265 knives be in the range of 21° to 23°. In general, a 21° bevel angle will provide better cut quality when cutting soft paper (such as newsprint), recycled paper, or bound books. However, 21° angle knives can become dull sooner than 23° knives, which results in shorter knife blade life. A knife with a 23° bevel angle, on the other hand, will not dull as easily, and can provide satisfactory results when cutting most types of paper. Knives shipped with the Titan 265 from the factory have a bevel angle of 23°.

7.3.4 Helpful Suggestions

- If your establishment is large enough to purchase more than one set of knives, have one set beveled at 21° and the other at 23°. Note: A set consists of 3 knives: one in the machine, one as a back up, and one at the grinder.
- If the machine seems to strain but the cut quality is still good, reduce the pile height. You may also carefully apply glycerin to the bevel when cutting hard, coated paper. Tie a cloth to the end of a stick; dip the stick in glycerin, and apply. Never apply by hand! In lieu of glycerin you may lightly rub white bar soap along the bevel. Lubrication will prolong the life of your machine and reduce maintenance.

7.3.5 Knife Care

- To prevent corrosion, knives are coated with light oil. It should be REMOVED WITH CARE.
- While removing or installing a knife, be careful not to allow the edge to bump against the machine. Nicks will result.
- If a knife bolt is damaged, replace it.

7.0 Knife Installation/Changing

- Always keep knife bolts securely tightened.
- Always use the heavy-duty knife bolt washers provided by Challenge. Failure to do so could result in scratching or marring of the clamp face.
- Store knives in a dry environment to prevent corrosion.
- Never attempt to service a knife in any way.

NOTES

8.0 Safety Systems Test

Machine manufacturer CHALLENGE

Model TITAN 265

Serial Number _____

Frequency of test: **THESE TESTS SHOULD BE PERFORMED AT THE BEGINNING OF EACH WORK DAY.**

Turn the power on and press CLEAR to preset the backgauge. Make sure the knife and clamp are in the up position (if they are not, follow the instructions in this manual to send them up).

Test #1: Wave a test object 12mm in diameter between the electric eye beams. The indicator lights should indicate the eyes are blocked. If they do not, do not use the machine. Repair or adjustment is needed.

Test #2: While making a cut, lean into the electric eye beams. The knife and clamp should immediately return to the up position. If they do not, do not use the machine. Repair or adjustment is needed.

