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

ChallengeMachinery.com

CHAMP 150

Operator's Manual

**Serial Numbers:
150CH-A-190000 and up**

Sold and Serviced by



**SOUTHWEST
BUSINESS PRODUCTS LTD.**

— From Bindings to Branding —

F.150CHA-O.A

October 2020

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.



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, 6125 Norton Center Drive, Norton Shores MI. 49441.

CHALLENGE MODEL	CHAMP 150	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.

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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, switch 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 while making adjustments or repairs to your machine, be sure to disconnect power to the machine. Disconnect the power plug from its socket

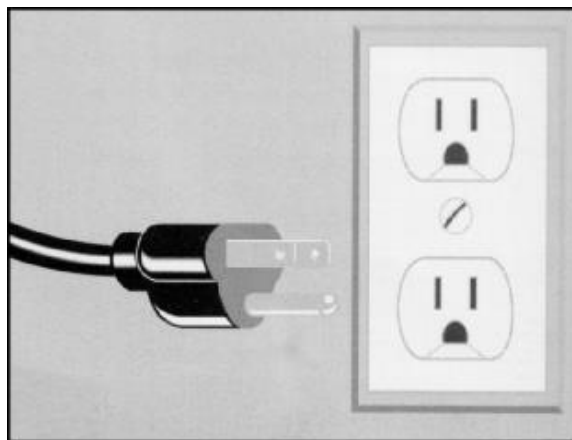
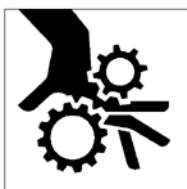


Figure 1 - Main Power Disconnect

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.
—	CHAMP 150 Paper Cutter	1
73012-1	Knife, HSS (installed)	1
H-6918-608	Knife Bolts, 3/8-16 x 1" Soc. Hd. (installed)	4
8815	Knife Washers (installed)	4
A-73050	Knife Lifter Assembly	1
—	Knife Scabbard (blade holder)	1
73055	Cutting Stick (1 installed, 1 separate)	2
73056	Jogging Aid	1
F.150CHA-O.A	Operation Manual	1
Tool Kit:		
5064	Cutting Stick Puller	1
W-130	3/16" Hex Key Wrench	1
W-137	5/32" Hex Key Wrench	1
W-141	1/8" Hex Key Wrench	1
W-164	5/16" T-Handle Hex Key Wrench	1

4.0 Specifications

Description	Inch Units	Metric Units
Cutting Width	15"	381 mm
Clamp Opening	2"	51 mm
Minimum Cut	1.75"	44 mm
Table Space		
Front:	12"	305 mm
Back (Maximum cut):	12"	305 mm
Dimensions		
Overall Width	28"	71 cm
Overall Depth	34"	86 cm
Overall Height	54"	137 cm
Table Height	36"	91 cm
Approx. Net Weight	600 lb	270 kg
Approx. Shipping Weight	750 lb	340 kg
Electrical		
120 Volts AC, 60 HZ, 1 Phase, 12 Amps		
Recommended service size: 20 Amps		
Receptacle type: NEMA 5-20R		

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 7. Make sure there are no missing items.

5.2 Uncrating

The CHAMP 150 weighs approximately 600 lb (270kg). 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 skid is designed to allow the machine to be rolled off without any special lifting equipment. The machine is held in place by two, 2x4 braces lag bolted to the skid. All accessories are shipped inside of the machine.

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 plywood "ramp" and set it aside for now. Also remove any accessories and set them aside.

Remove the lower front cover from the CHAMP 150. Then remove the four lag screws that hold the CHAMP 150 to the skid, as indicated in Figure 2.

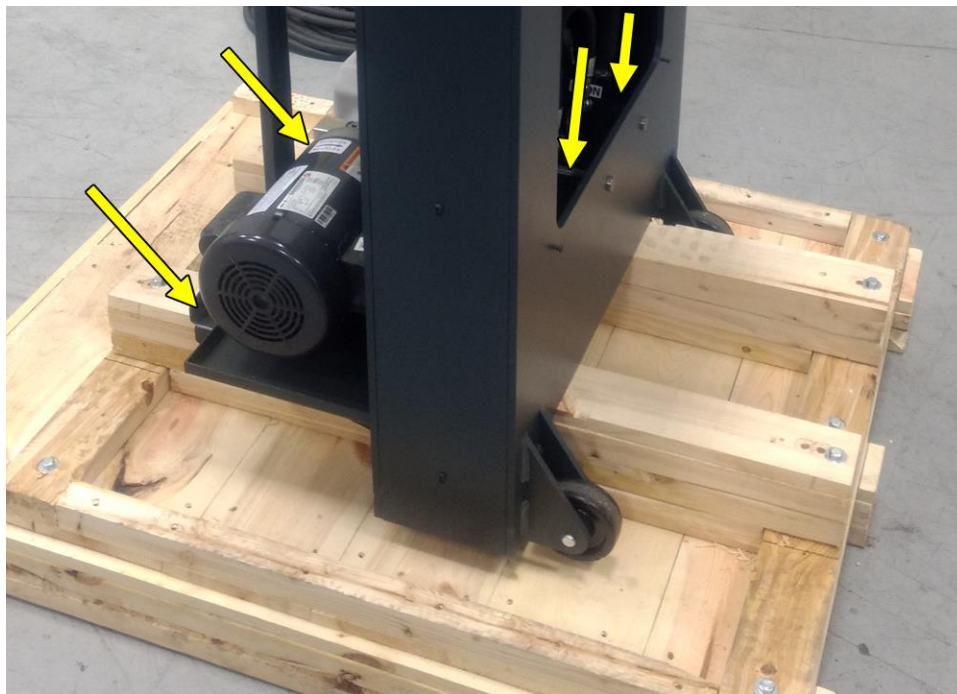


Figure 2

Remove the 4 lag screws from the top of the board stacks, and also the 3 lag screws located at the front of the skid, as indicated in Figure 3Figure 4.

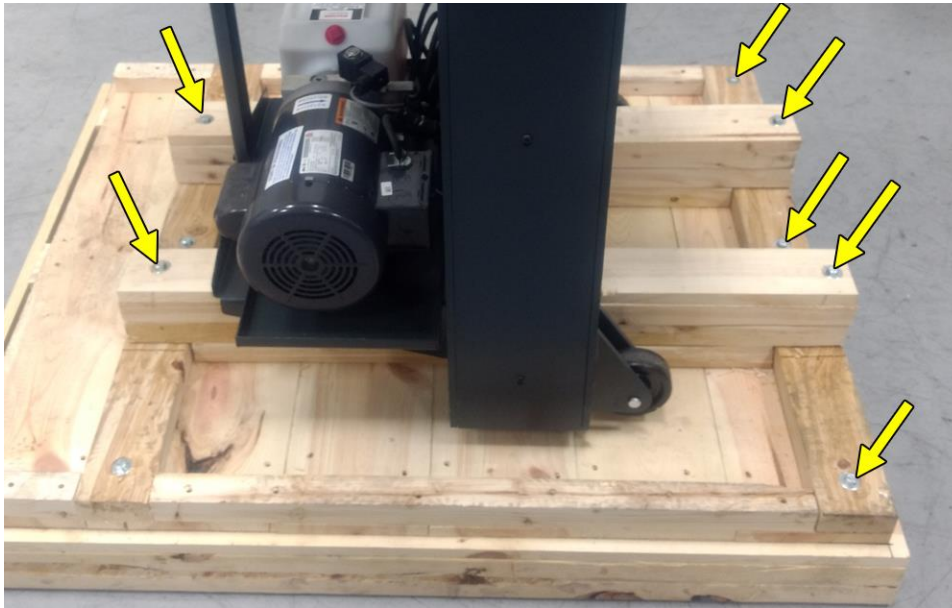


Figure 3

Carefully lean the CHAMP 150 forward slightly while having a second person pull out the two boards located at the top of the board stack from the rear side of the CHAMP 150, as shown in Figure 4.

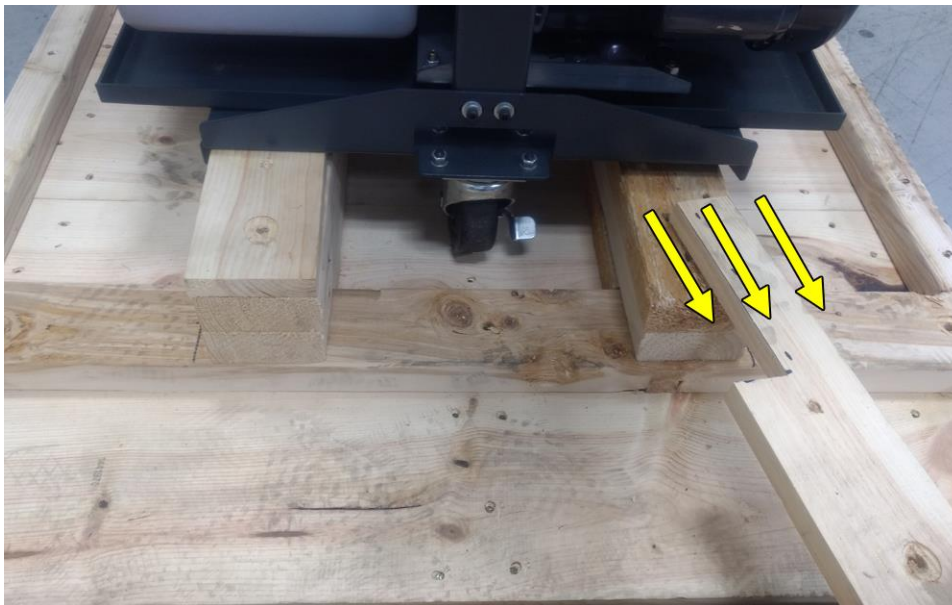


Figure 4

Now lean the CHAMP 150 rearward slightly and repeat the procedure for the top two boards at the front side of the machine.

Next, use the provided plywood board as a ramp by first placing it in position as shown in Figure 5. Then secure the ramp to the skid using the provided nails. There are pre-drilled holes in the plywood board, indicated by red circles.

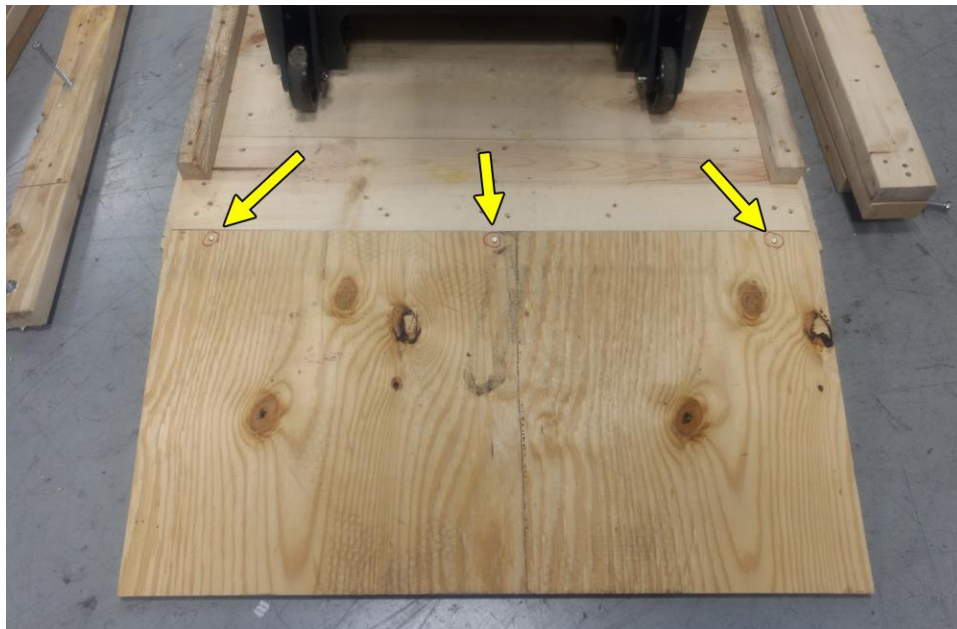


Figure 5

Make sure the casters are not locked and very carefully roll the machine down the ramp (Figure 6).
BE SURE TO USE 2 PEOPLE TO DO THIS SAFELY!

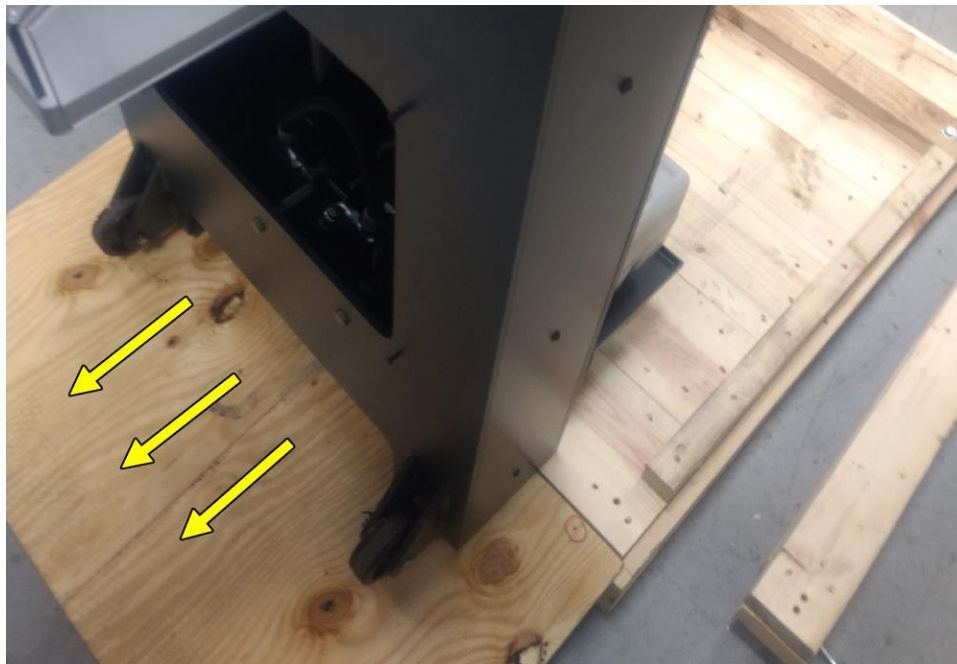


Figure 6

The CHAMP 150 may now be rolled into its final position. Replace the lower front cover.

5.3 Hydraulic System Check

The cutting/clamping mechanism of the CHAMP 150 is powered by a hydraulic system consisting of an electric motor coupled directly to a hydraulic pump.

The hydraulic reservoir holds approximately 0.7 gallons (2.6 liters) of with ISO VG 46 hydraulic fluid. It is filled at the factory but the level should be checked before operation. The tank is located at the rear of the machine. Fluid level should be approximately 1" from the top of the tank (Figure 7). Add fluid if necessary but avoid overfilling.

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

NOTE: Use only ISO (International Standards Organization) Viscosity Grade 46, rust, oxidation, and foam inhibiting, non-detergent hydraulic oil. **Oils other than the recommended type will cause seals, cups, and O-rings to deteriorate.** The proper hydraulic oil can be purchased in 5 gallon containers from your authorized Challenge Dealer using the Challenge part number: **S-1991-3**.

⚠ CAUTION NEVER USE Automatic transmission oil or brake fluid as a substitute! Oils other than the recommended type will cause seals, cups, and O-rings to deteriorate. Unsafe operations conditions will result.

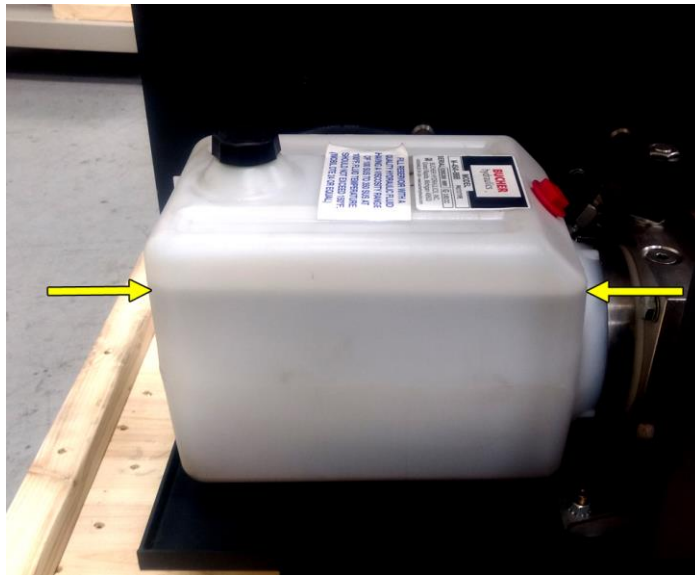


Figure 7

5.4 Power Hook-Up



CAUTION **SHOCK HAZARD! NEVER CUT THE GROUND TERMINAL** from a three-prong plug to fit a two-prong socket. Possible shock could cause personal injury or death. Hire a qualified electrician to provide a power source that meets electrical requirements and all local electrical codes.

It is the customer's responsibility to provide a properly grounded receptacle that meets the power requirements specified on the nameplate of this machine, as well as all local electrical codes. Have a qualified electrician install one if your location is not so equipped.

The CHAMP 150 is rated for use on a 120 Volts AC, 60 HZ, 20 Amp circuit. It requires the use of a NEMA 5-20R receptacle.

Connect the power cord into a grounded, 3-prong receptacle only!



Figure 8

6.0 Operation

⚠ CAUTION

IMPORTANT: DO NOT ATTEMPT TO OPERATE THE CHAMP 150 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 Console Controls

The console controls consist of a main power switch, inch/mm selector, and knife adjust switch, and cut/clamp buttons.

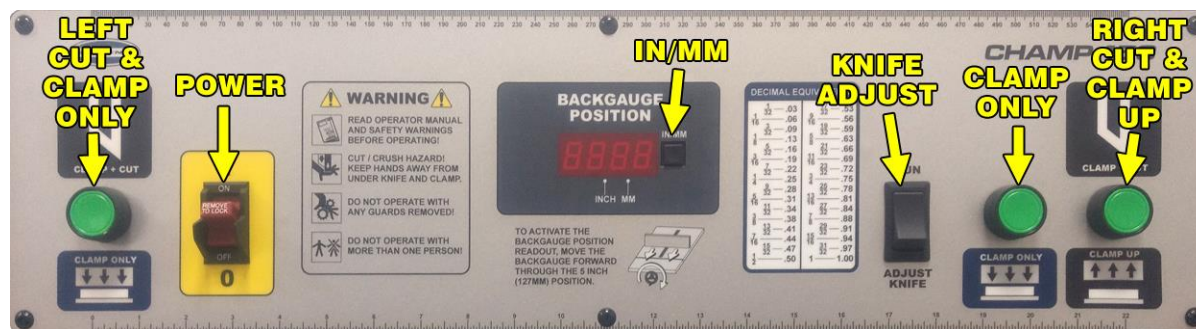


Figure 9

6.2 Backgauge Control

The position of backgauge on the CHAMP 150 is controlled by the handwheel located at the front of the machine. The knob to the right of the handwheel and under the table can be used to lock the handwheel in place to prevent it from moving.

Each time the CHAMP 150 is powered up, the backgauge must be preset in order for the display readout to display the position of the backgauge properly. This is accomplished by moving the backgauge forward through approximately the 5" (127mm) position. If the backgauge starts out closer than 5 inches, it must be moved back further than the 5" position, and then brought forward through it again. When the backgauge is preset properly, numeric digits will be displayed.

It is always best to bring the backgauge to the desired position by bringing it forward for the final movement. This will eliminate any slack in the leadscrew and backgauge components and result in a more accurate cut dimension.

6.3 Jogging Aid

⚠ CAUTION

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

A jogging aid is included as standard equipment with the CHAMP 150. This tool allows the operator to load and align paper without the need to place hands or arms under the knife or clamp.

Load the paper against backgauge and either side guide, then tap the pile with the jogging aid to align the sheets and press them tightly to the backgauge and side guide. (Figure 10 & Figure 11).

Note: When trimming off strips of paper less than 1/2" wide, place the paper against the right side guide. This will prevent the strips from getting caught in the small opening near the left side guide.

When finished, always remove the jogging aid from the table.

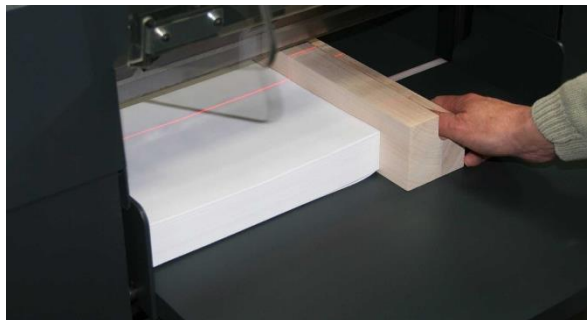


Figure 10

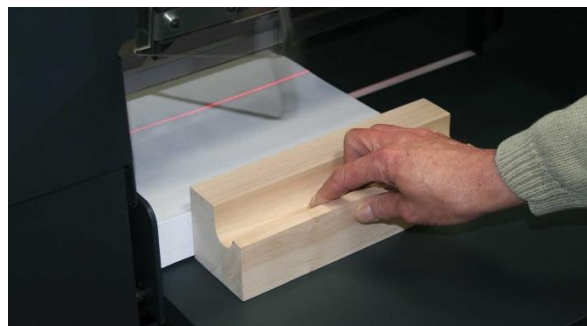


Figure 11

6.4 Making a Cut

With the power on, and the backgauge preset and in the desired location, open the front shield and place the stack of paper tightly against the backgauge and either side guide using the jogging aid as described above.

To make the cut, close the front shield and press the left and right cut buttons (Figure 9) simultaneously. Hold the buttons in until the knife reaches the table completely. Now release the cut buttons and the knife and clamp will return to the "up" position. Releasing the cut buttons or raising the shield at any time during the cut cycle will immediately send the knife and clamp to the "up" position.

Note: The shield must be opened and closed each time before making a cut.

See Section 6.6 Operating Tips, page 16 for more information about clamping and cutting.

6.5 Clamp Only Feature

The CHAMP 150 is equipped with a "clamp only" feature which allows the user to send the clamp down to the paper without cutting. This can be useful to double check the clamping location without making a cut. To use this feature, open the front shield and set the backgauge to the desired

position. Place the paper tight against the backgauge and either side guide using the jogging aid as described previously. Now close the front shield then press and hold both clamp-only down buttons (Figure 9).

A cut can now be completed with the paper already clamped, or the clamp can be released without making a cut. To make a cut, press and hold both cut buttons as described in the previous section. To release the clamp without cutting, press and release the clamp up button shown in Figure 9.

6.6 Operating Tips

- For best results, it is a **MUST** to have a sharp blade in the cutter. A dull blade will pull or draw the paper and cause uneven cutting.
- Carefully lay out each sheet before cutting. Find the best cut pattern that gives the most pieces out of the sheet. If the sheet will be folded, be sure the grain of the paper is running in the same direction as the fold to avoid getting a rough edge on the fold.
- Mark the gripper edge and the guide edge of printed paper and make sure the first cuts are with these guide edges against the backgauge.
- When cutting business cards or narrow strips of paper, place lifts of equal height on opposite sides of the table to provide better clamping.

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 lifter is properly installed, see instructions following.
- Keep handling of unprotected knives to an absolute minimum.
- Clear off cutter table before removing knife.
- Have scabbard on a stable surface very nearby and insert knife immediately.
- Warn people of any unprotected knife.
- Knife changing is a **ONE PERSON OPERATION**. Having more than one person change knives is dangerous.

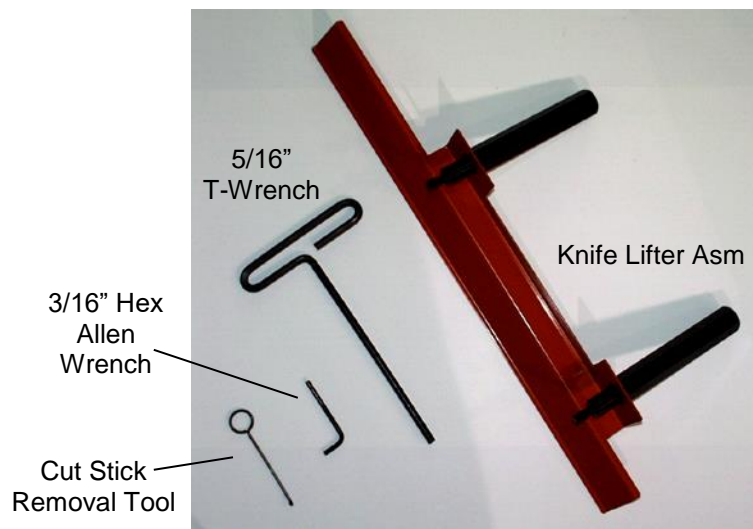


Figure 12 – Knife Changing Equipment

The knife changing equipment shown in Figure 12 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 begin changing or installing any blades.

7.1 Knife Removal

1. Make sure the knife and clamp are in the up position. Switch the main power to the OFF position and disconnect the machine power cord to prevent accidental power-up while servicing the cutter.
2. Unscrew the knife adjusting screws on top of the knife bar several turns (Figure 13). 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.



Figure 13

3. Remove the knife bolts from the two slotted knife bar holes and replace with the knife lifter assembly (Figure 14). Tighten the lifters to hold the knife in place, and then remove the remaining knife bolts.

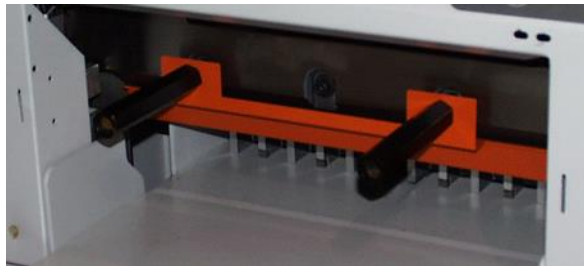


Figure 14

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 lifter handles firmly and, at the same time, turn them counterclockwise to release the knife from the knife bar (Figure 15). Lower the knife and maneuver it out of the cutter. Put the blade in the scabbard immediately and secure the knife retainer screws.



Figure 15

7.2 Knife Installation



CAUTION 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, switch on the power using the red and yellow main power switch, close the front shield, and press the cut buttons. This will send the knife and clamp up.
2. Switch off the machine and unplug the power cord.
3. Pull out the cut stick using the cut stick removal tool and turn it to a new surface. If the cut stick is not level or flush with the table, 1/2"/6mm strips of paper can be placed in the table slot under the cut stick to shim it.
4. Remove the retainer screws from the new blade and screw the knife lifters into the new blade. Screw the lifters all the way in and then back them out a 3/4 turn.
6. Double check to make sure the knife adjusting screws have been backed several turns (step #2, Knife Removal). Maneuver the knife into place and 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, the lifters are screwed down onto the blade too far.

7. Insert two knife bolts with washers into the accessible holes and snug them tight enough to hold the knife safely, but do not tighten to final tightness.
8. Remove the knife lifters and replace with the other two knife bolts and washers.
9. Place a few sheets of paper over the cut stick, covering the stick end-to-end.
10. Plug in the power cord and switch power on.
11. Locate the Knife Adjust Switch on the control console. Select the Adjust Knife mode, close the shield, and press the cut buttons to send the knife to the down position. Hold the cut buttons for a few seconds after the knife reaches the table to prevent it from shifting back up slightly.
12. Switch power off and disconnect the power cord.
13. Turn the knife adjusters down evenly, a small distance at a time, until the knife cuts through the bottom sheet of paper the entire length of the cut stick (Figure 16). Turning the screws down evenly prevents uneven wear on the knife and cut stick.



Figure 16

14. Plug in the power cord and switch the power on. Move the Knife Adjust Switch to the Run mode.
15. Close the front shield and push the clamp up button. This will raise the knife and clamp to the up position.
16. Switch power off and disconnect the power cord.
17. Tighten all knife bolts securely.
18. Plug in the power cord and switch 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 cut stick. These can be eliminated by placing 1/2"/6mm strips of paper in the table slot beneath the cut 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 sharpening, 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 sharpening.

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 CHAMP 150 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 CHAMP 150 from the factory have a bevel angle of 23°.

7.3.4 Helpful Suggestions

- It may be beneficial to have multiple sets of knives on hand – one set beveled at 21° and the other at 23°. Note: A set consists of 3 knives: one in the machine, one as a backup, 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.
- 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.

8.0 Maintenance and Troubleshooting

8.1 Maintenance



CAUTION All maintenance on this machine should be performed by trained service personnel. Attempting to perform repair and replacement procedures without proper training may cause machine damage or operator injury!

8.2 Troubleshooting

Problem	Possible Cause	Solution
1. The machine will not power up – no display, no line light, and machine will not cycle.	a) Power cord is disconnected. b) Main power switch is off. c) No power at electrical outlet.	a) Plug in cord. b) Turn power switch on. c) Check outlet. Repair or use another outlet.
2. Display and line light are on, but machine will not cycle.	a) Front guard is open. b) Front guard has not been opened and closed since previous cut cycle. c) Electrical supply circuit breaker is tripped.	a) Close front guard. b) Open and close front guard. c) Reset breaker switch.
3. Backgauge display shows: “----”.	a) Backgauge has not been preset.	a) Preset Backgauge by bringing backgauge to front of machine
4. Knife cuts deeper on one side than the other.	a) Knife is not seated all the way up in knife bar.	a) Loosen knife screws and use knife lifter assembly to raise knife up tight.
5. The machine strains through a cut.	a) Dull knife. b) Inadequate power source.	a) Change the knife with a new or sharpened one. b) The electrical outlet may not have sufficient power if other equipment is operating on the same line. Try another outlet on a different line.
6. Concave cutting – ends wide, center narrow.	a) Excessive moisture at edges of paper.	a) Keep paper in dry location.
7. Concave cutting – variation from top to bottom.	a) Knife dull or incorrectly ground.	a) Change the knife with a new or sharpened one.

9.0 Safety Systems Test

Machine manufacturer CHALLENGE

Model CHAMP 150

Serial Number _____

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

Switch power on and 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: With the front guard open, press the cut buttons. Nothing should happen. If the knife and/or clamp come down with the front guard open, do not use the machine. Repair or adjustment is needed.

Test #2: Close the front guard and press the cut buttons. While the clamp or knife is coming down, open the front guard. 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.

Please enter date and initials for both tests.

Date _____

Test 1 _____

Test 2 _____

Date _____

Test 1 _____

Test 2 _____

Date _____

Test 1 _____

Test 2 _____

Date _____

Test 1 _____

Test 2 _____

Date _____

Test 1 _____

Test 2 _____

Repairs	Initials of Repairer	Date
_____	_____	_____
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