Standard PC-45 Semi Automatic 17.5" Electric Paper Cutter

Instruction Manual



Call Us at 1-800-944-4573



Important Information

- This manual is designed to help you to install, operate and maintain Paper Cutter, PC-45. Read, understand and keep this manual in a safe and convenient place.

- Do not operate PC-45 until you read and understand the instructions in this manual.

- Horizon International Inc. shall not be liable for incidental consequential damages resulting from : improper or inadequate maintenance by customer; unauthorized modification or misuse; operation outside of the environmental specifications for the product.

- Horizon International Inc. pursues a policy of continuing improvement in design and performance of the product. Therefore, the product design and specifications are subject to change without prior notice and without our legal obligation.

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Safety Precautions

- The signal word WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

- The signal word CAUTION indicates a potentially hazardous situation which, if not avoided, may result in damage on machines. It may also be used to alert against unsafe practices.

- Read and understand all safety instructions with signal word such as WARNING and CAUTION. If safety instructions are ignored, personal injury may result.

- Horizon International Inc. cannot anticipate every possible situation that might involve a potential hazard. The instructions in this manual and warning labels on the machine are therefore not all inclusive.

- All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device where it is locked or tagged out.

- Do not operate the machines when any covers are removed.

- Some of the drawings in this manual show the machine uncovered for explaining the detail or inside of machine.



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1. Before You Begin

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1-1 Purpose of PC-45

Horizon PC-45 is a machine for cutting printed sheets, wrapping paper, writing paper, or booklets.

1-2 Specifications

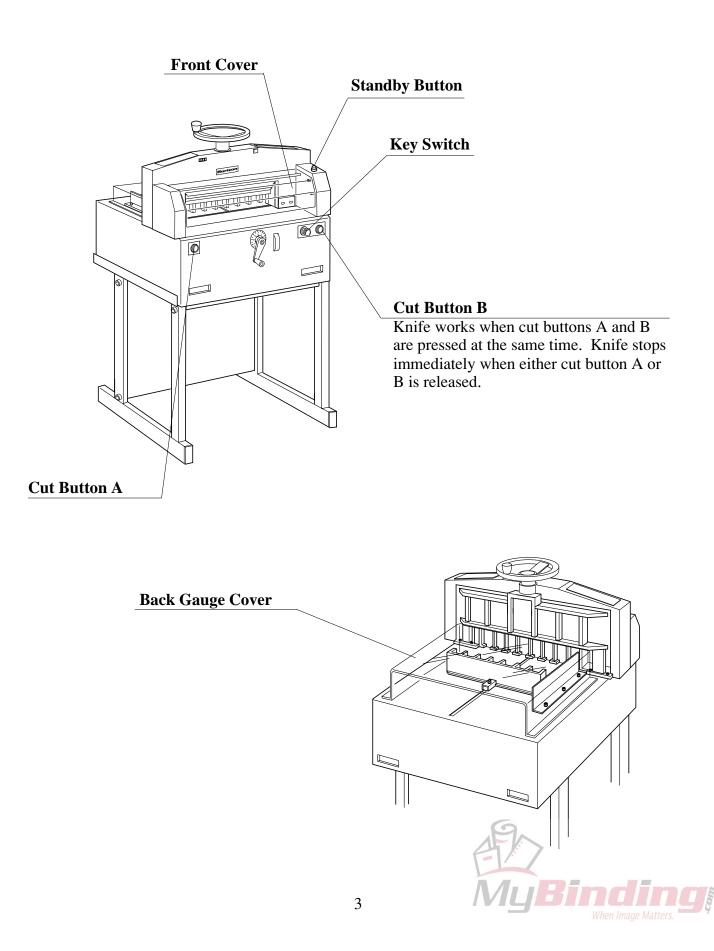
Model	PC-45
Maximum Cutting Width	446 mm (17.5")
Maximum Lift Height	(Clamp Opening) 70 mm (2.7")
Maximum Cutting Depth	450 mm (17.7")
Minimum Cutting Depth	20 mm (0.8")
Cutting Speed	2.5 sec./cut
Power	120 V 60 Hz 13 A, 220 V 50/60 Hz 4.0 A, 240 V 50 Hz 2.3 A
Power Consumption	1.1 kW
Machine Dimensions (L) x (W) x (H)	790 x 805 x 1,170 mm (31.1" x 31.7" x 46")
Height from the floor level to table top	880 mm (34.6")
Machine Weight	158 kg (348 lb)

The machine design and specifications are subject to change without any notice.



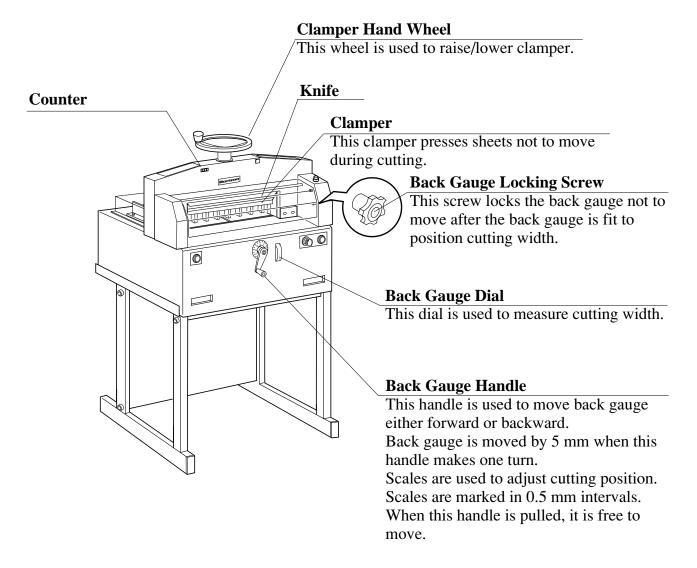
1-3 Machine Descriptions

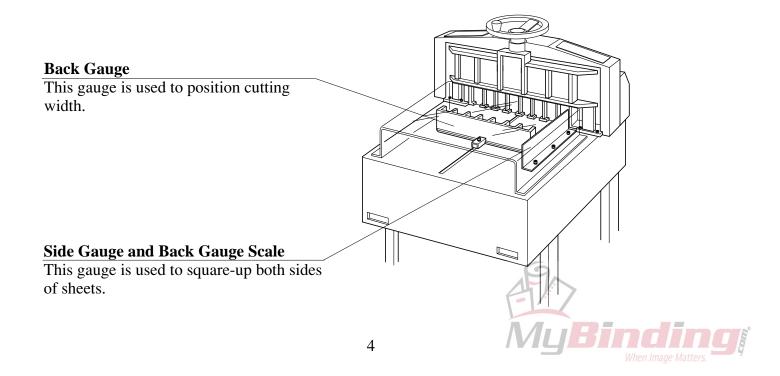
1-3-1 Safety Functions



1-3 Machine Descriptions

1-3-2 Main Parts Descriptions



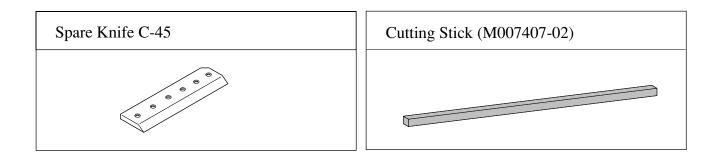


1-4 Accessories

Spare Knife and Knife Case 1 p	c Spanner 30 mm	1 pc
Box Wrench 1 p	c Knife Holder	2 pcs
Allen Wrench 3mm, 4 mm, 6mm, 8mm 1 pc ea	h Adjust Bar	1 pc
Ground Wire 1 p	c Tool Box	1 pc



1-5 Consumables





2. Safety Function Check

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2-3 Check on Safe Functions	9



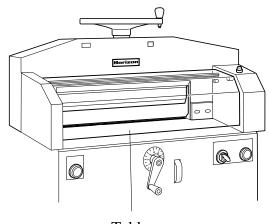
2-1 Check on Table

Table must be clean.

1. Check that trimmings, adhesive, or grease is not on table.

NOTE

- Clean table referring to "4-3 Cleaning table" if table is dirt.

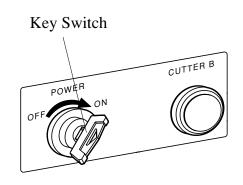


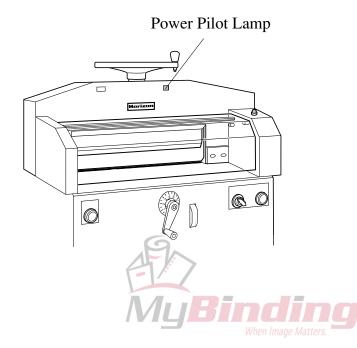
Table

2-2 Check on Power

Check that power turns on.

- **1.** Insert key into power switch and turn key clockwise to switch on power.
 - Power pilot lamp will illuminate.





2-3 Check on Safe Functions

MARNING

Do not put your hands under knife while power is on.
Assign only ''ONE'' operator to operate PC-45.

If your PC-45 do not work as shown in this book, ask your local dealer to fix the PC-45.

2-3-1 Check on Standby Button

Check that knife work only when Standby button is pressed.

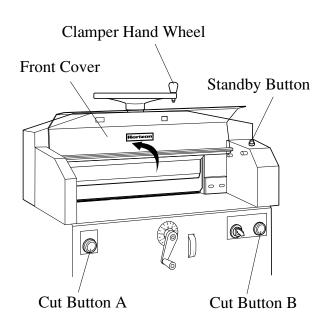
Check that the lamp on Standby button is turned off.

- **1.** Lower clamper to the bottom with clamper hand wheel.
- **2.** Check that knife does not work in spite of pressing cut buttons A and B at the same time.
- *3.* Press the Standby button.
 - Check that the Standby button lights.

2-3-2 Check on Front Cover

Check that knife do not work while front cover is open.

- **1.** Lower clamper to the bottom with clamper hand wheel.
- **2.** Open front cover.
- **3.** Check that knife does not work in spite of pressing cut buttons A and B at the same time.
- **4.** Close front cover.



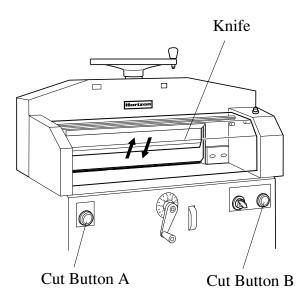


2-3 Check on Safe Functions

2-3-3 Check on Automatic Return of Knife

Check that knife at bottom position returns to home position automatically and then stops.

- *1.* Press cut buttons A and B at the same time.
- **2.** Release your hands from cut buttons when knife is on the way to home position.
 - Check that knife returns to home position without stopping and then stops at home position.



2-3-4 Check on One Cycle

Check that knife remains stationary if cut buttons are continued to press after knife returns to home position.

1. Continue pressing to cut buttons about 5 seconds after knife returns to home position. Check that knife does not work again.

Next, check that knife remains stationary unless both hands are released from cut buttons.

- **2.** Release your hand from cut button B with cut button A pressed.
- **3.** Press cut button B again. Check that knife does not work.



2-3 Check on Safe Functions

2-3-5 Check on Unworkable Knife with One Hand

Check that knife work only when both cut buttons A and B are pressed at the same time.

- **1.** Check that knife does not work by pressing only cut button A.
- 2. Check that knife does not work by pressing cut button B with cut button A pressed.

NOTE

- Knife works only when both cut buttons A and B are pressed at the same time (within 5 seconds).

- **3.** Release your hands from cut buttons.
- **4.** Check that knife does not work by repeating procedure 1 to 3, exchanging A with B.

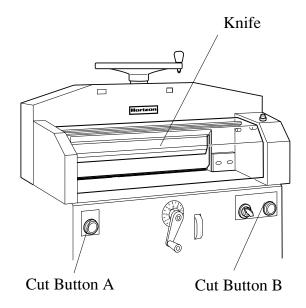
2-3-6 Check on Stop during Working

A WARNING

- Do not raise clamper when knife is stopped during cutting. Otherwise knife gets bare and, as a result, your fingers might be cut with knife.

Check that knife is stopped when you release your hand from even one cut button during lowering knife.

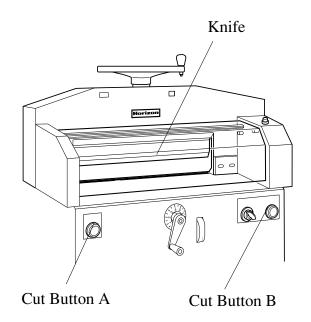
- **1.** Check that knife is stopped immediately when you release your hand from cut button A while knife is lowering after you press cut button A and B at the same time.
- 2. Release your hands from cut buttons.
- **3.** Press cut button A and B separately with the interval of 0.5 seconds or more to return the knife to the home position.



NOTE

- Knife can return to home position by pressing cut button A and B separately with the interval of 0.5 seconds or more when knife is stopped on the way to bottom.

4. Repeat procedure 1, exchanging A with B.





2. Safety Function Check



3. Operation Procedure

3-1 Operation Procedure 14



home position.

3-1 Operation Procedure

This section shows how to operate PC-45.

MARNING

Do not put your hands under knife while power is on.
Assign only ''ONE'' operator to operate PC-45.
It is dangerous to remain knife on half position for fear of cutting hands or fingers. Make sure to return knife to

CAUTION

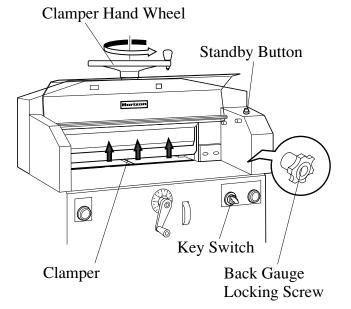
- Cut only paper sheets. Otherwise PC-45 may be broken.

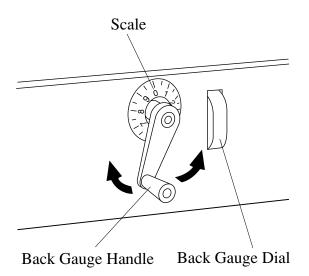
- *1.* Turn on power with key switch.
- **2.** Press the Standby button.
 - Check that the Standby button lights.
- **3.** Turn clamper hand wheel counterclock-wise to raise clamper.
- 4. Loosen the back gauge locking screw.
- **5.** Adjust back gauge according to cutting with back gauge handle.

NOTE

Move back gauge from rear side to front side. Otherwise, it errs in cutting width.
Cutting line helps to see cutting position. Cutting line is the beam that is reflected on sheets.

6. Tighten the back gauge locking screw.

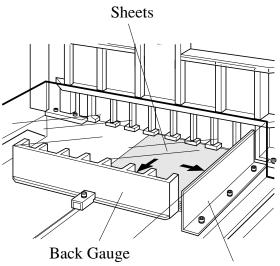






3-1 Operation Procedure

- 7. Open front cover and pile sheets on table.
- **8.** Square-up sheets with back gauge and side gauge.

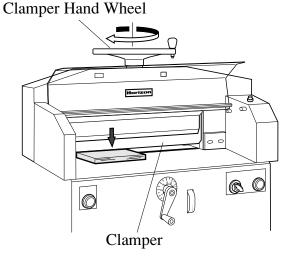




9. Turn clamper hand wheel, and clamper will press sheets to fix them.

NOTE

- Be careful not to shift sheets when fixing sheets.



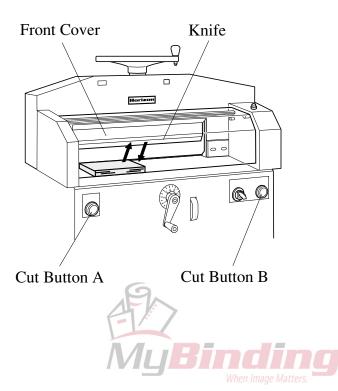
10. Close front cover.

11. Continue to press cut button A and B at the same time, and knife lowers and cuts sheets. You may release cut buttons when knife begins to rise because knife returns to home position automatically.

NOTE

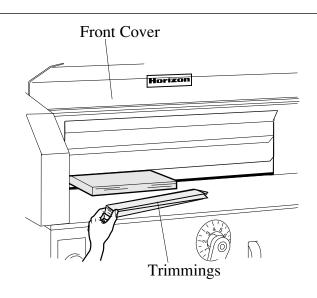
If you fail to press both cut buttons at the same time, release your hands from buttons and try it again 2 seconds later.
If you release your hand(s) from cut

button(s) while knife is lowering and cutting operation is stopped, press cut button A and B separately with the interval of 0.5 seconds or more, and knife returns to home position.



3-1 Operation Procedure

- **12.** Make sure knife has returned to home position after cutting.
- 13. Release your hands from cut buttons.
- 14. Turn off power with key switch.
- 15. Open front cover and remove trimmings on table.



Clamper Hand Wheel

- *16.* Loosen clamper hand wheel by turning it counterclockwise.
- 17. Take cut sheets out of table.
- *18.* Repeat procedure 1 to 14. Back gauge is not required to adjust in the case of the same cutting width.

Cut Shats

Cut Sheets



4. After Cutting

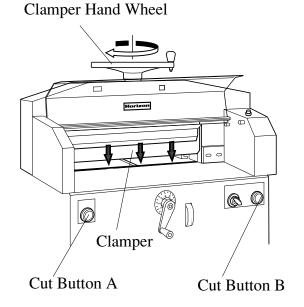
4-1 Original Condition	18
4-2 Power off	18
4-3 Cleaning Table	19



4-1 Original Condition

Clamper must be lowered to the bottom after finishing operation.

- **1.** Lower clamper to the bottom by turning clamper hand wheel clockwise.
- 2. If knife remains on half way, press cut button A and B separately with the interval of 0.5 seconds or more to return the knife to the home position.



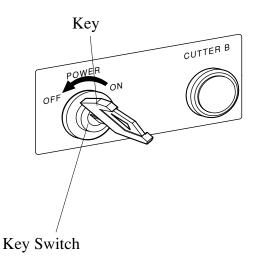
4-2 Power off

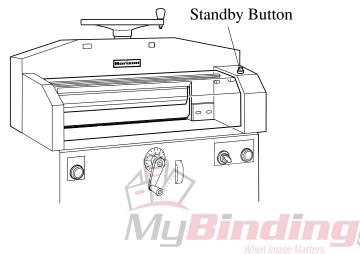
Power is turned off.

WARNING

- Only authorized operators should have access to key switch.

- *1.* Turn off power by turning key switch counterclockwise.
- When turning on the power again, turning it on after the Standby button completely goes out.
- **2.** Pull out key and keep it.

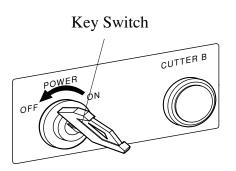




4-3 Cleaning Table

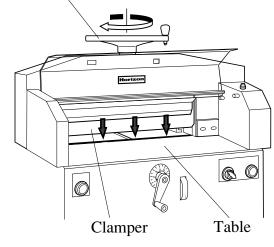
Clean table after operating PC-45.

1. Make sure power is off.



- **2.** Lower clamper to the bottom by turning clamper hand wheel clockwise.
- **3.** Wipe trimmings off table with soft cloth.

Clamper Hand Wheel







5. Troubleshooting

5-1 Cut Sheets Are Not Square	22
5-2 Cut Surface Has Diagonal Lines	23
5-3 Sheets Are Not Cut Equally	23
5-4 Sheets Are Not Cut Even After the Power Is Turned On	24

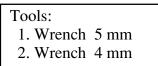


5-1 Cut Sheets Are Not Square

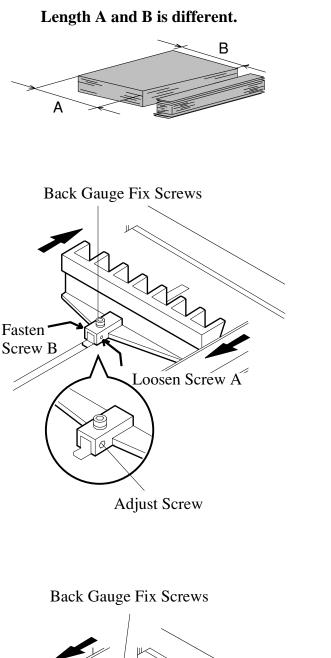
(Cause)

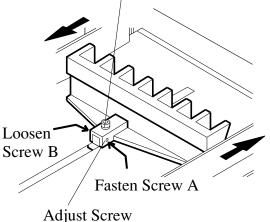
Back gauge is not parallel to knife.

(Remedy)



- *1.* Turn off power with key switch.
- **2.** Remove transparent cover in back gauge section.
- **3.** Loosen back gauge fix screws and adjust back gauge with adjust screw.
 - Back gauge moves clockwise by loosening screw A and fastening screw B.
 Length B is shortened by moving back gauge clockwise.
- **4.** Fasten back gauge fix screw after adjusting of back gauge.
- **5.** Turn on power and check that edges are parallel by test cutting.
- **6.** Repeat procedure 1 to 4 until one edge parallels another edge.







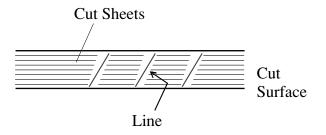
5-2 Cut Surface Has Diagonal Lines

(Cause)

Knife is worn or nicked.

(Remedy)

Replace knife with new one referring to "6-2 Knife Replacement".



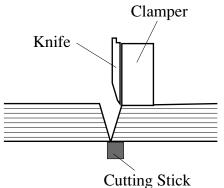
5-3 Sheets Are Not Cut Equally

(Cause 1)

Clamper presses sheets too strongly or knife moves forward slightly as knife moves down.

(Remedy)

Weaken clamper pressure or replace knife with new one.



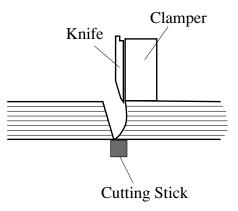


(Cause 2)

Weak clamper pressure sometimes causes bow-shaped section. Less than 20° angle of knife sometimes also causes knife to cut inward sheets.

(Remedy)

Tighten clamper or replace knife with new one.





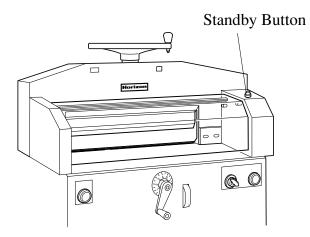
5-4 Sheets Are Not Cut Even After the Power Is Turned On

(Cause)

The Standby button is not pressed.

(Remedy)

Press the Standby button.





6. Maintenance

6-1 Cutting Stick Replacement	
6-2 Knife Replacement	
6-3 Knife Height Adjustment	34
6-4 Cutting Depth Balance Adjustment	35
6-5 Test Cutting	
6-6 Lubrication (Monthly)	



6-1 Cutting Stick Replacement

When the groove on cutting stick gets deep, last sheet is left uncut or torn off. Replace cutting stick with new one.

MARNING

- Do not touch knife. Otherwise you may be injured.

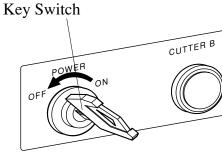
NOTE

- If knife remains on half way, press cut button A and B separately with the interval of 0.5 seconds or more to return the knife to the home position.

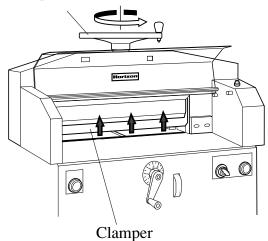
> Tool: 1. Straight Screwdriver

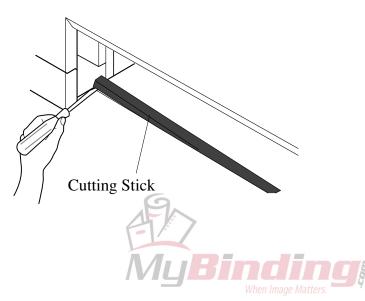
- *1.* Turn off power by turning key switch counterclockwise.
- **2.** Turn clamper hand wheel counterclockwise to raise clamper fully.

3. Insert Straight Screwdriver into the bottom of cutting stick and remove cutting stick.



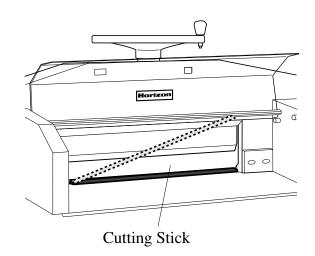
Clamper Hand Wheel





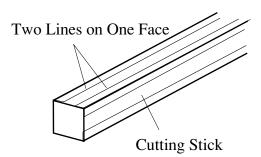
6-1 Cutting Stick Replacement

4. Replace face of cutting stick with new one.

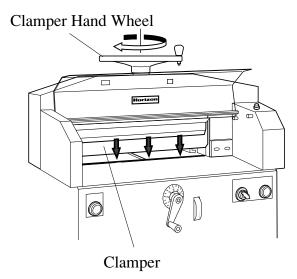


NOTE

- One face of cutting stick provides two working line. Replace face with another new face after both two lines on the same face are used.



5. Turn clamper hand wheel clockwise to lower clamper to the bottom.





This section shows how to replace knife.

- Replace knife in the following conditions;
 - 1. Some sheets are left uncut.
- 2. Cutting noise gets louder.
- 3. Trimmed sheets are not separated smoothly.
- 4. Knife stops during cutting.

6-2-1 Knife Removal

Remove knife to replace it with new one.

MARNING

Wear gloves when knife is replaced.
Be careful of knife. Do not touch knife.

Knife may cause serious injury.
Be careful of removed knife. Do not put it on unstable place with knife bare.

Tools;

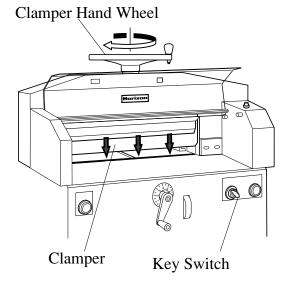
- 1. Felt Pen
- 2. Box Wrench
- 3. Two Knife Holder
- *1.* Turn off power with key switch.
- **2.** Turn clamper hand wheel to lower clamper to the bottom.
- **3.** Make sure knife is on home position.
- **4.** Open front cover.
- **5.** Mark knife position on clamper with felt pen.

NOTE

- This mark is used to adjust knife position.
 - **6.** Close front cover.

CAUTION

- When some sheets are left uncut, knife does not need to be replaced by adjusting cutting depth, but use of worn knife cause some troubles. Replace knife with new one when knife cuts sheets about 500 times.





- 7. Turn on power with key switch.
- **8.** Press cut buttons A and B to lower knife until all four knife securing bolts appear.

NOTE

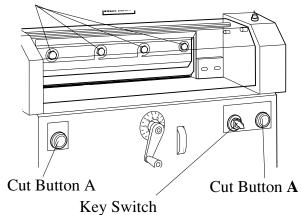
- Do not lower knife too low. Otherwise knife cannot be removed.

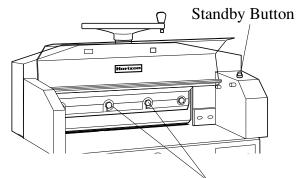
- **9.** Turn off power with key switch.
- *10.* Press the Standby button.Check that the Standby button lights.

12. Remove the center two of four knife secur-

11. Open front cover.

Knife Securing Bolts





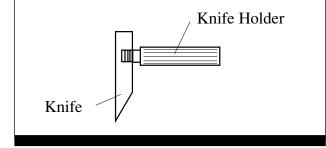
Knife Securing Bolts

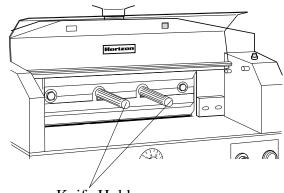
13. Fasten knife holders enough.

ing bolts with box wrench.

MARNING

- Fastening knife holder insufficiently may cause knife to fall and severe injury to operators as a result. Do fasten knife holder completely as shown in the drawing below.





Knife Holder



- *14.* Loosen the rest of two knife securing bolts with box wrench.
- *15* Remove knife securing bolts with box wrench turning knife holder clockwise not to fall knife.
- *16.* Slide knife to the left and remove it slowly.

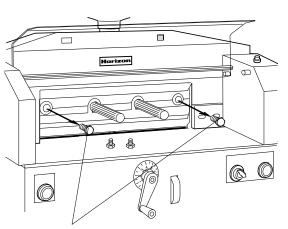
WARNING

- Knife may cause serious injury if you

touch it lightly. Take care knife is not

touched by other persons or falls.

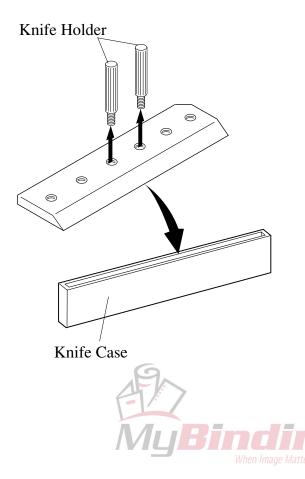
/



Knife Securing Bolts

Knife Holder

17. Put knife on safe place, remove knife holder, put knife in knife case, and request to sharpen knife to your local dealer or knife resharping shop.



0

0

0

0

0

0

20°

More Than 65 mm

6-2 Knife Replacement

6-2-2 Knife Installation

This section shows how to install knife.

MARNING

- Wear gloves when knife is replaced.

- Be careful of knife. Do not touch
- knife directly.

Knife may cause serious injury.
Be careful of removed knife. Do not put it on unstable place with knife bare.

NOTE

Sharpening Specifications

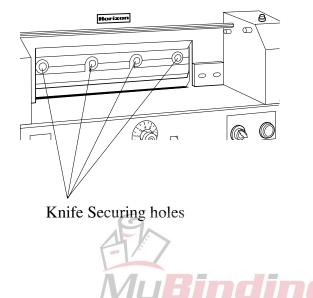
- Knife must be grounded to an angle of 20°.

- Grind knife as little an necessary.

- Sharpened knife must have at least 65 mm height. Replace knife whose height is less than 65 mm with new one.

1. Turn off power with key switch.

- Key Switch
- **2.** Make sure all four knife securing holes can be seen.



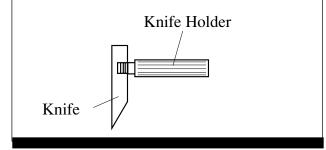
3. Fasten two knife holders in center two holes in the right drawing.

NOTE

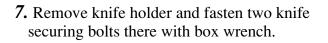
- Be careful not to mistake the right side of knife.

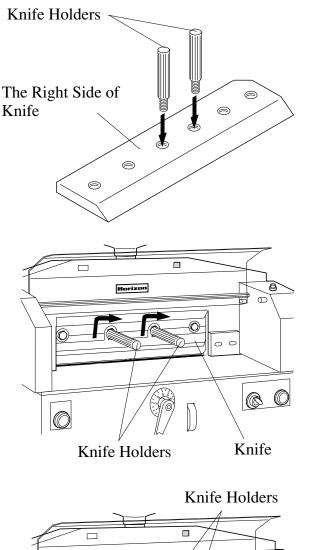
MARNING

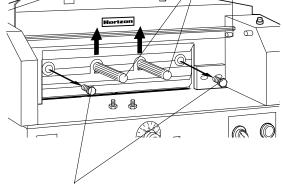
- Fastening knife holder insufficiently may cause knife to fall and severe injury to operators as a result. Do put screw section of knife holder completely as shown in the drawing below.

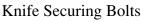


- 4. Open front cover.
- **5.** Raise knife holders fitting knife securing groove and slide knife holders to the right.
- **6.** Fasten knife securing bolts with box wrench, lifting knife with knife holder.









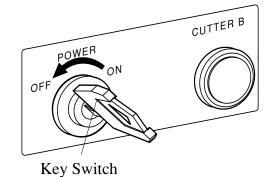


8. Close front cover.

- 9. Turn on power with key switch.
- 10. Press the Standby button.Check that the Standby button lights.
- Standby Button Knife
- 11. Press cut button A and B separately with the interval of 0.5 seconds or more to return the knife to the home position.

MARNING

- Do not lower knife until knife adjustment is finished. Otherwise PC-45 may be broken.



12. Turn off power with key switch.



6-3 Knife Height Adjustment

6-3-1 Cutting Depth Adjustment

Cutting depth must be adjusted after knife replacement.

MARNING

- Operating PC-45 before cutting depth is adjusted may cause some troubles.

- **1.** Turn clamper hand wheel to lower pressure.
- **2.** Unplug power cord.
- **3.** Open knife adjust cover.

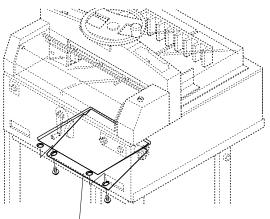
NOTE

- Turn lock nut clockwise to loose lock nut.
 - **4.** Loosen two lock nuts of knife height adjust screws with spanner.
 - **5.** Turn turnbuckle with adjust bar into adjust screws hole to fit knife with the mark with felt pen.

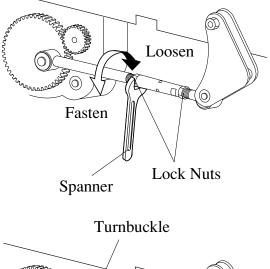
NOTE

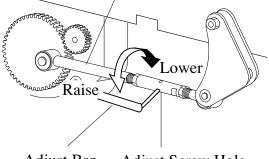
- 1/6 turn of knife height adjust bolts raise/ lower knife about 0.6 mm. Excessive cutting pressure does harm to PC-45. Maximum cutting depth is 0.5 mm.

- 6. Fasten two locknuts.
- 7. Close knife adjust cover on the bottom.



Knife Adjust Cover





Adjust Bar

Adjust Screw Hole



6-4 Cutting Depth Balance Adjustment

Cutting depth balance adjustment is required when cutting pressure is not the same in left and right sides.

MARNING

- Handle knife with utmost care. Do not touch knife.

CAUTION

- After adjusting cutting depth balance, knife height adjustment is required in some case.

- 1. Open left adjustment section cover.
- **2.** Loosen lock bolt with allen wrench.
- **3.** Insert allen wrench into balance adjust shaft hole and adjust knife height.

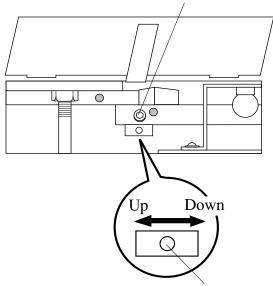
NOTE

- The left side of knife rises/lowers by turning balance adjust shaft.

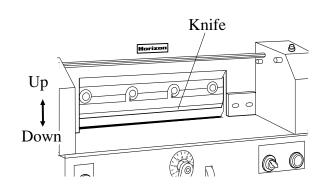
- **4.** Fasten lock bolt with allen wrench.
- **5.** Close cover of adjustment section.

Left Adjustment Section Cover





Balance Adjust Shaft Hole





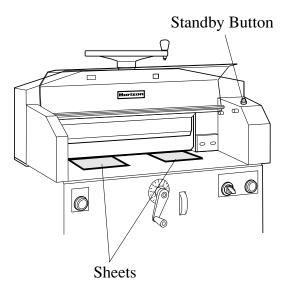
6-5 Test Cutting

Check on knife cutting condition.

/ WARNING

Do not put your hands and fingers under knife. Otherwise you may be injured seriously.
Do not put your hands under knife while power is on.
Assign only ''ONE'' operator to operate PC-45.
It is dangerous to remain knife on half position for fear of cutting hands or fingers. Make sure to return knife to home position.

- **1.** Place sheets on both edge of table one by one.
- 2. Turn power on with key switch.
- 3. Press the Standby button.Check that the Standby button lights.
- **4.** Operate PC-45 referring to "3-1 Operation Procedure".
- **5.** If both sheets are left uncut partially, adjust knife height again. (Page 32)
- **6.** If either paper is left uncut partially, adjust knife height.

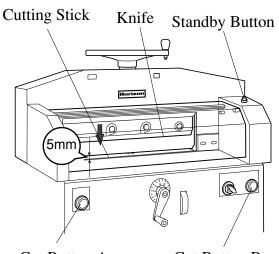




6-6 Lubrication (Monthly)

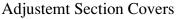
Lubricate the following sections to maintain PC-45 in the best condition.

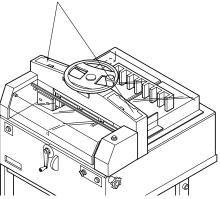
- 1. Turn on power with key switch.
- **2.** Press the Standby button. - Check that the Standby button lights.
- **3.** Turn clamper hand wheel to lower clamper to the surface of table.
- **4.** Press cut buttons A and B to lower knife. Release cut buttons when clearance between knife and cutting stick is about 5 mm, and knife will stop.
- **5.** Turn off with key switch.
- 6. Open adjustment section covers (right and left).
- 7. Lubricate sliding faces between marks.
- 8. Close tops of lubricate section.

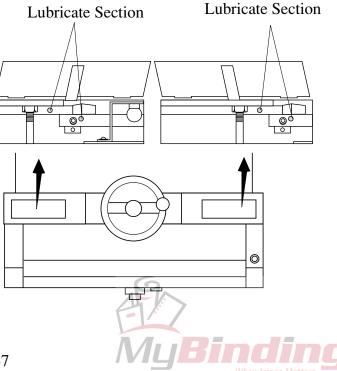


Cut Button A

Cut Button B

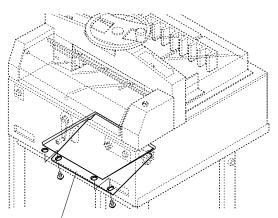




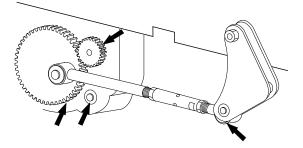


6-6 Lubrication (Monthly)

9. Open knife adjust cover and apply grease on driving and rotating section. (Arrow marks)



Knife Adjust Cover



10. Close knife adjust cover.

- *11.* Turn on power with key switch.
- *12.* Press cut button A and B separately with the interval of 0.5 seconds or more to return the knife to the home position.



7. Installation

7-1 Installation 40



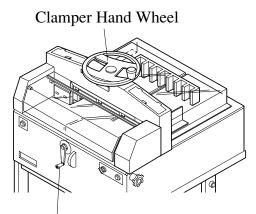
7-1 Installation

Place PC-45 properly according to its machine dimensions.

MARNING

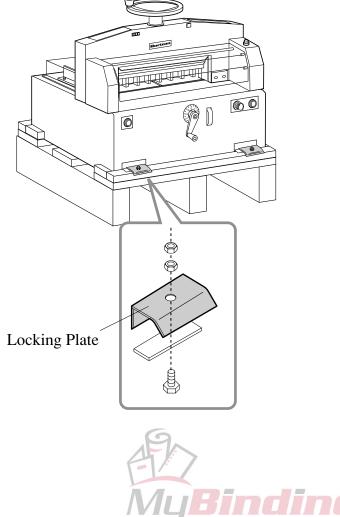
PC-45 weighs about 160 kg/332 lb totally. Move it with utmost care.
Do not grip back gauge handle or clamper hand wheel when PC-45 is moved because serious injury may be caused and back gauge and clamper may lack in precision.

Select flat floor considering the machine weight (about 160 kg/332 lb).
Select a place free from extremely high temperature and humidity.



Back Gauge Handle

1. Unpack the machine and remove four locking plates (at the front and rear).

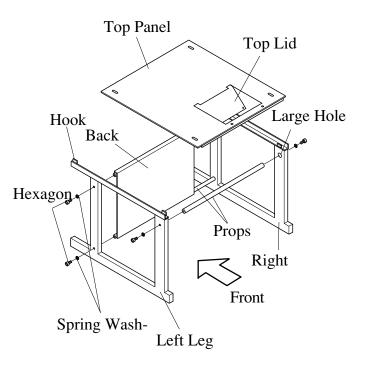


7-1 Installation

Assembling the pedestal for PC-45.

- **2.** Insert one end of the prop (3 pcs) into the large holes at the right leg and fix the props with the spring washers and the hexagon head bolts with using of the supplied box wrench.
- **3.** Put the back panel on the props and secure them to the left leg.
- **4.** Place the both semi-assembled legs on the flat floor and secure firmly the hexagon head bolts at the left leg.
- **5.** Fit a top lid on the top panel and mount it on the leg assembly as shown in the right drawing.
- 6. Mount the PC-45 machine on the top panel so that the hooks on the right leg are fitted in the bottom notches of the PC-45 machine.

Legs	2	Top Panel	1	Hexagon Bolts	(
Props		Top Lid	1		0
Back Panel	1			Washers	6



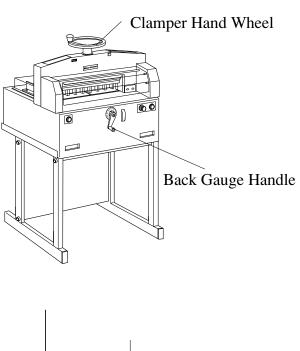


7-1 Installation

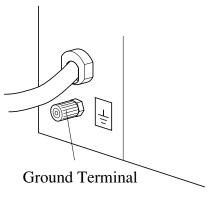
7. Place PC-45 on the stand in correct direction.

NOTE

- Make sure PC-45 is not placed on hook.
 - **8.** Install clamper hand wheel.
 - **9.** Install back gauge handle.



10. Connect ground wire. (Contact electrical appliance store.)



11. Plug power plug into outlet.

