

SIPTM
SIMPLEX IDEAL PEERLESS



IDEAL 6000

OPERATING MANUAL

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1. Introduction

1.0 Introduction

Thank you for selecting the Simplex•Ideal•Peerless Reel Mower Grinder. The Ideal 6000 Grinder is designed and built from top quality materials and components by people who care, and it will give you decades of service.

1.1 Safety guidelines

The following are general safety guidelines. Please read and understand these guidelines before proceeding. As is the case with most machinery, failure to operate it in a safe manner may result in damage, injury or loss of life. Please be careful.

1. Always close shield or wear safety glasses and face shield when grinding!
2. Keep all guards in place and functioning.
3. Do not wear any loose clothing or jewelry which may get caught in the machinery. Secure long hair.
4. Keep your work area clean and organized.
5. Set up the work properly, using the correct tools and fixtures. Ensure that work is securely clamped.
6. Use the wrenches provided when changing the grinding wheel and always ensure that the nut is tight. Do not overtightening as that may damage the grinding wheel.
7. Always replace damaged grinding wheel.
8. Never leave grinder running while unattended.

In addition to the safety guidelines just listed, there are safety notices through out this manual which are denoted as follows:

An Information Notice provides information or a caution where minor damage may occur.



***Running the spin motor too fast
may damage the indexer.***

A Warning Notice indicates a situation which could cause severe damage, serious injury or death.



***Always close shield or wear safety glasses
and face shield when grinding.***

A Danger Notice indicates a very dangerous situation which if continued will cause severe damage, serious injury or death.



***Do not overtighten the nut as it will cause
the grinding wheel to explode!***

Again, make sure that you read and understand these warnings before proceeding because failure to operate any machinery in a safe manner may result in damage, injury or loss of life.

1.2 Limited One Year Product Warranty

SIP Corporation warrants the grinder against defects in materials and workmanship for one year from date of original purchase. SIP Corporation will, at its option, repair or replace the defective part at no charge provided it is returned during the warranty period, with transportation charges prepaid, to our factory. Proof of purchase may be required.

This warranty is subject to proper use and maintenance in accordance with all instructional material and manuals provided with the grinder.

This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication; if the product has been modified without written permission of SIP Corporation or if the serial number has been removed or defaced

This warranty applies only to the original purchaser.

The warranty and remedies set forth above are exclusive in lieu of all others, whether oral or written, expressed or implied. SIP Corporation specifically disclaims any and all implied warranties, including without limitation, warranties of merchantability and fitness for a particular purpose.

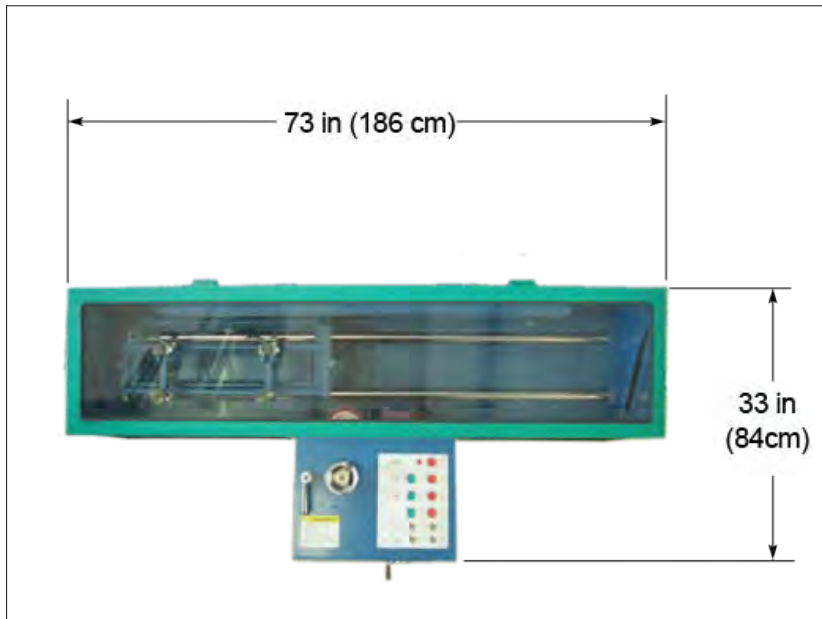
No SIP Corporation dealer, agent or employee is authorized to make any modification, extension or addition to this warranty.

SIP Corporation is not responsible for special, incidental, or consequential damages resulting from any breach of warranty, or any other legal theory, including but not limited to lost profits, downtime, or goodwill.

Some states do not allow the exclusion or limitation of incidental or consequential damages or exclusion of implied warranties, so the above limitations or exclusion may not apply. This warranty gives you specific legal right and you may also have other rights that vary from state to state.

You must obtain prior authorization before returning defective parts to SIP Corporation

2. Installation & Set Up



2.0 Locating the grinder

Determine where on a concrete slab the Ideal 6000 will be located.

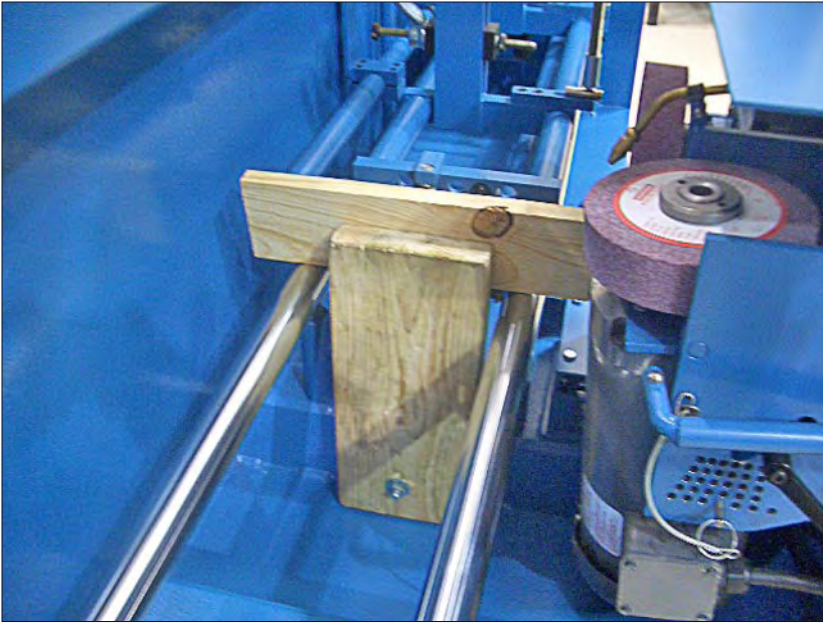
The Ideal 6000 requires standard 110 volt, 60 Hz, single phase service. Foreign versions with 200 volt, 50 Hz, single phase are available. The grinder comes with an 8 foot grounded cord for 110 volt service. The grinder also requires about 70 psi clean compressed air.



2.1 Unpacking the grinder

Before unpacking, examine carefully for any shipping damage. Any damage should be reported immediately to the carrier.

By now you have removed the plastic wrap from the main crate. After removing the box of accessories and any other optional equipment, unbolt the grinder from the pallet and place it in the location you have selected.



Unbolt and remove the wooden supports.
Place the plug provided in the hole.



Remove all packing material from around
the grinding head.



Remove the protective film from the
Lexan panels



Remove the bolt which holds the counterweight for transport.



2.2 Leveling the base



***Use caution when lifting the grinder.
It can be top heavy and front heavy.***

To adjust the height of the grinder, Carefully lift the grinder with a jack, lift table or fork lift. Make sure you support the center of the grinder when lifting or moving it. Remove the four bolts which hold each leg and adjust the leg to the desired height. Reinstall the to four bolts in each leg.

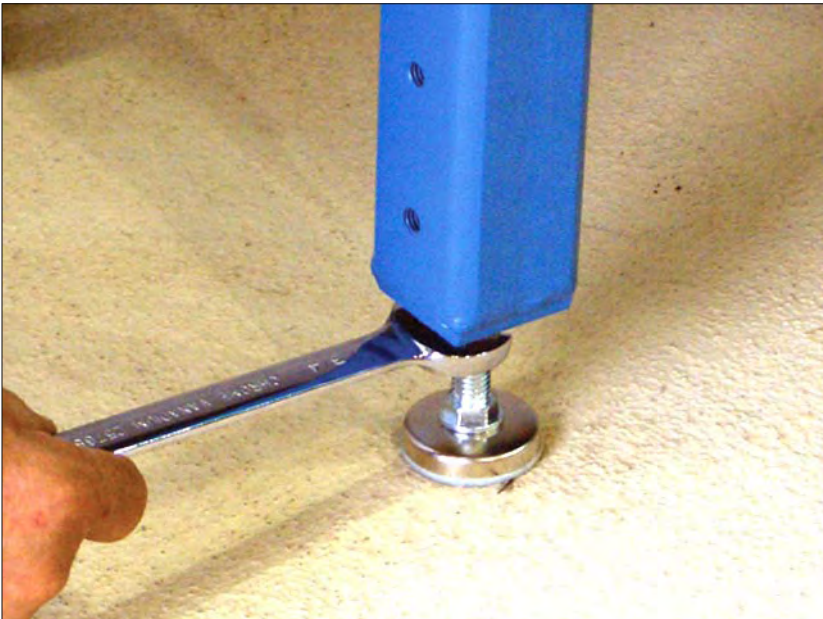


Mount the leveling pads provided in to the five legs of the grinder.

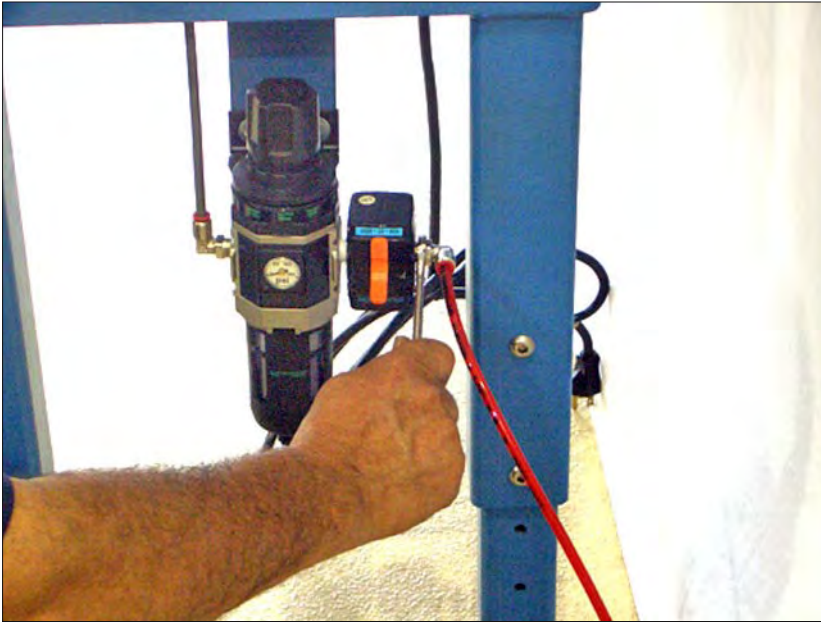


Lower the grinder in its final location. Check the grinder for level using a good quality carpenters level.

Adjust the leveling pads until grinder is level.



Lock the foot pad using the jam nut.



2.3 Connecting the service

Connect the air supply to the filter regulator and set the pressure gauge to 60 psi.



Plug the electrical cord into a 110 volt outlet.

3. Preparing to Grind



3.0 Preparing the bed knife for grinding

Clean all dirt, grass, rust, grease, and oil from the mower assembly, especially where it accumulates behind the lip of the bed knife.



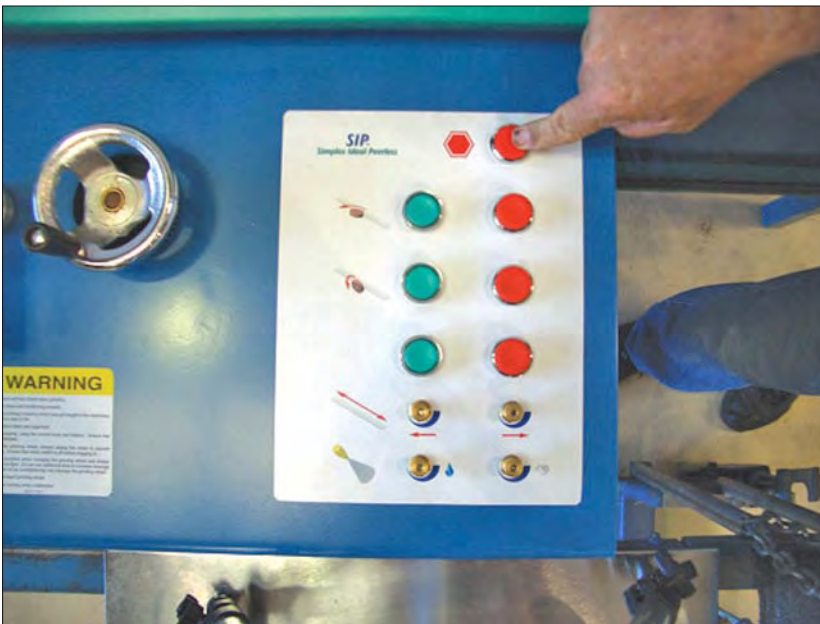
Inspect for a wavy appearance or condition along the top face of the bed knife. This would indicate that the bed knife has been adjusted to the reel with excessive pressure. This could cause worn or loose reel bearings.

3.1 Control panel



If you press any on button and all of the lights turn on and then off when you release the button, one of your doors is not completely closed and activating the safety switch.

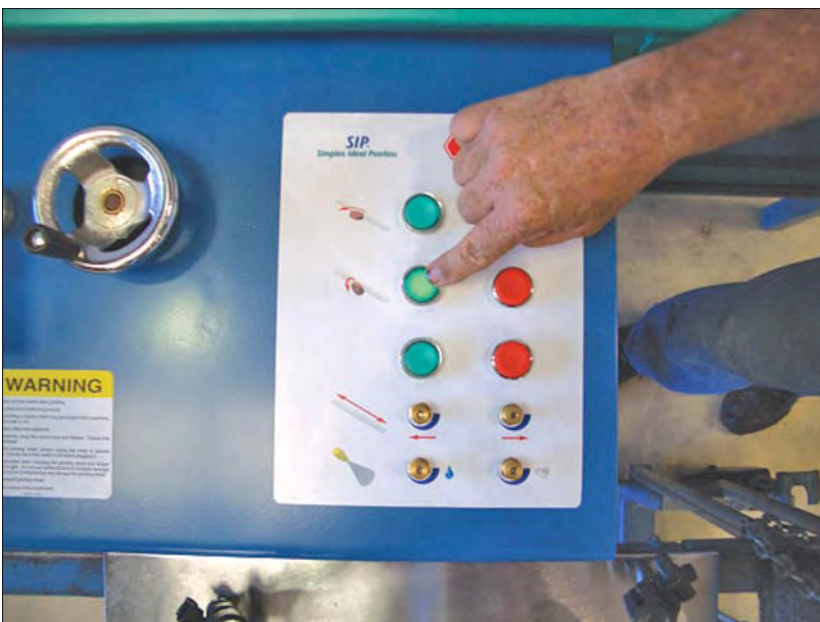
Emergency stop button controls the main power.



Left grinding wheel motor.



Right grinding wheel motor.





Carriage travel on-off. The carriage travel operates with air. This also turns the coolant mist on and off.



This controls the carriage speed. This is a needle valve which lets air bleed from the cylinder. Opening the valve counter clockwise increases the speed. Closing the valve clockwise decreases the speed.



This controls the liquid flow for the coolant mist. The coolant mist comes on when the carriage travel is turned on. If you want to operate one without the other, close the valves of either the carriage travel or coolant mist to turn it off.



This controls the air flow for the coolant mist.



3.2 Setting the top face relief angle
Open the hood.



Open the left access door.



There is a table of popular model bed knife top face angles.



Unclamp grinding head.



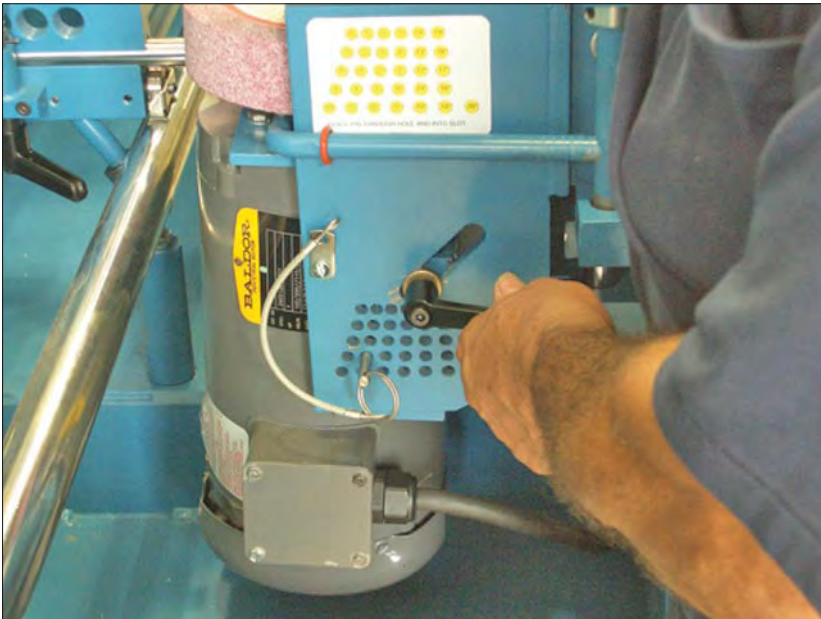
Remove the positioning pin.



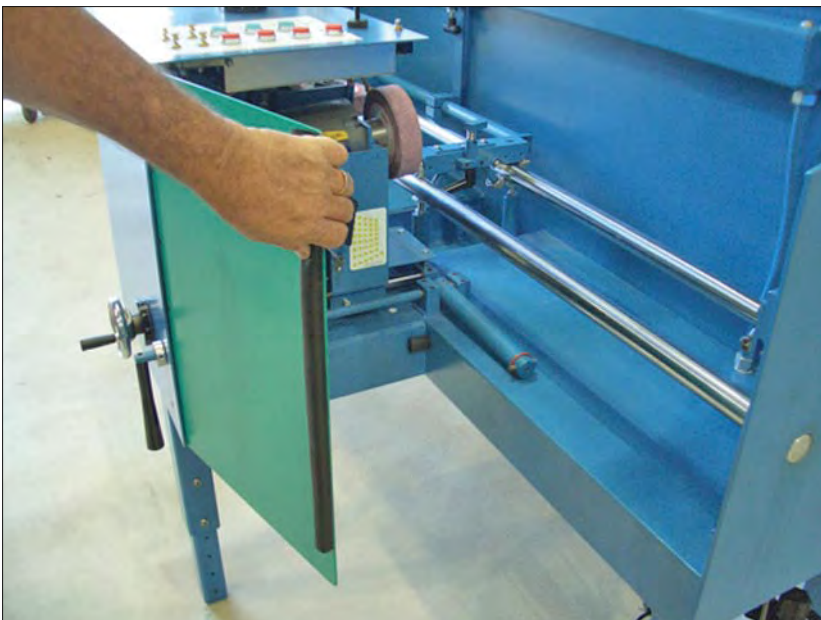
Using the chart, determine which hole will be used for the desired relief angle. Move the head so that the pin goes through the desired hole and into the slot attached to the motor.



You must make sure the pin goes into the slot for the correct angle.



Reclamp the grinding head.

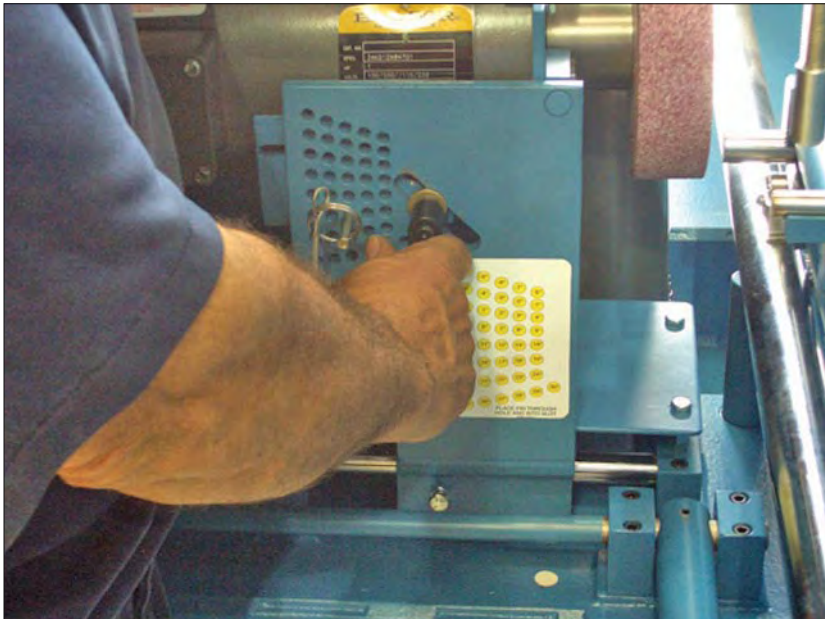


3.3 Setting the front face relief angle

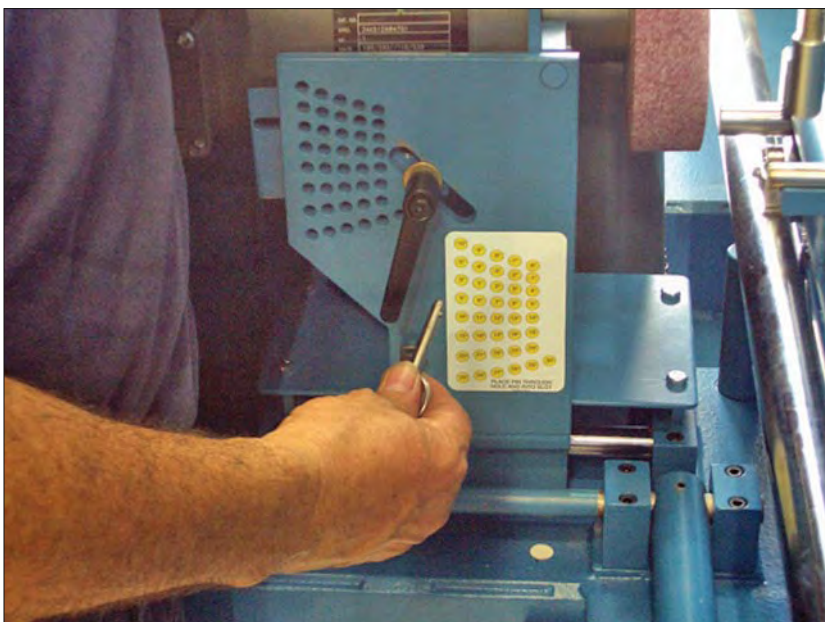
Open the right access door.



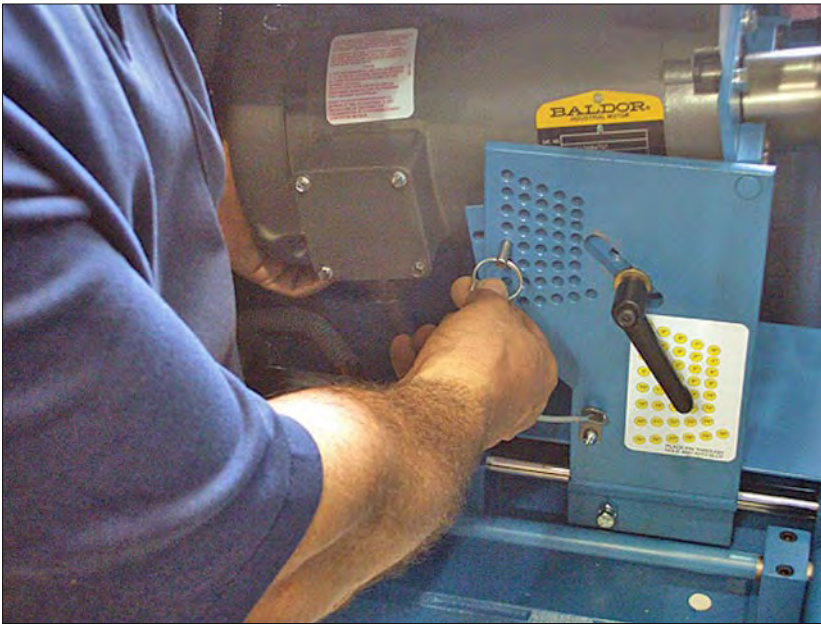
There is a table of popular model bed knife front face angles.



Unclamp the grinding head.



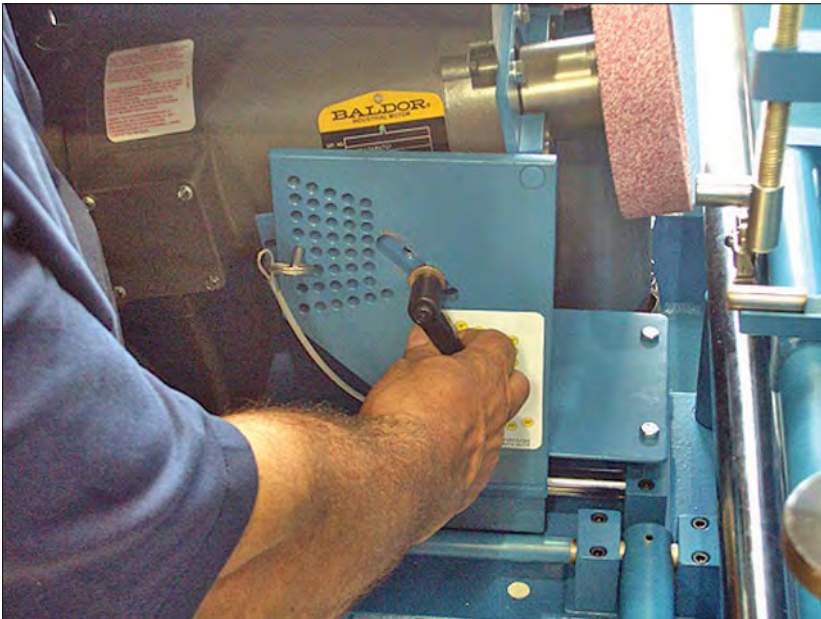
Remove the positioning pin.



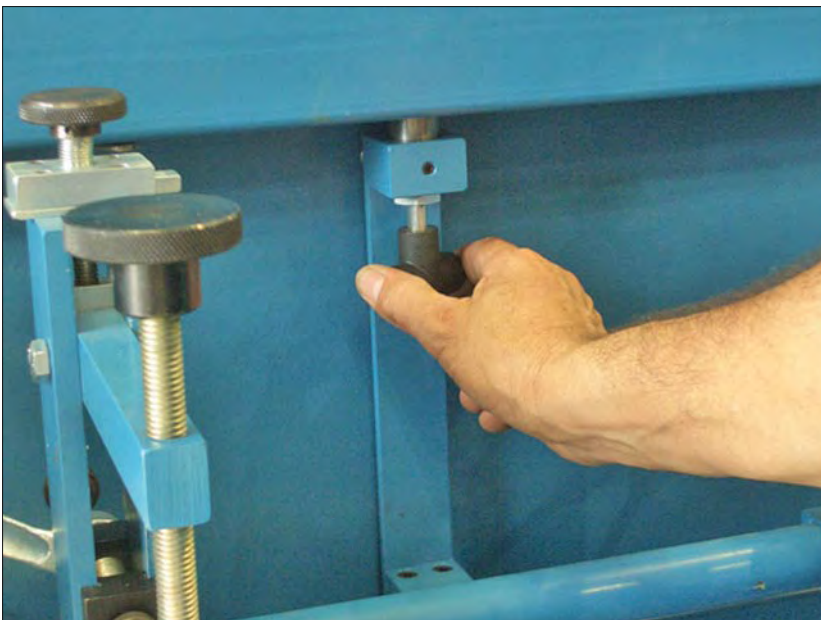
Using the chart, determine which hole will be used for the desired relief angle. Move the head so that the pin goes through the desired hole and into the slot attached to the motor.



You must make sure the pin goes into the slot for the correct angle.



Reclamp the grinding head.



3.4 Carriage travel

The carriage may be disengaged from the drive cylinder for easier set up by pulling down and turning the latch pin. To re-engage the drive cylinder, turn the latch pin until it pops up, when the cylinder and carriage are lined up, the pin will automatically snap into the cylinder.



The travel stops are set by loosening the locking screw, positioning the stop and retighten the locking screw.



3.5 Loading the bed knife

Unscrew the latch until you hear a click.



Push the button on the side to unlatch the arm.



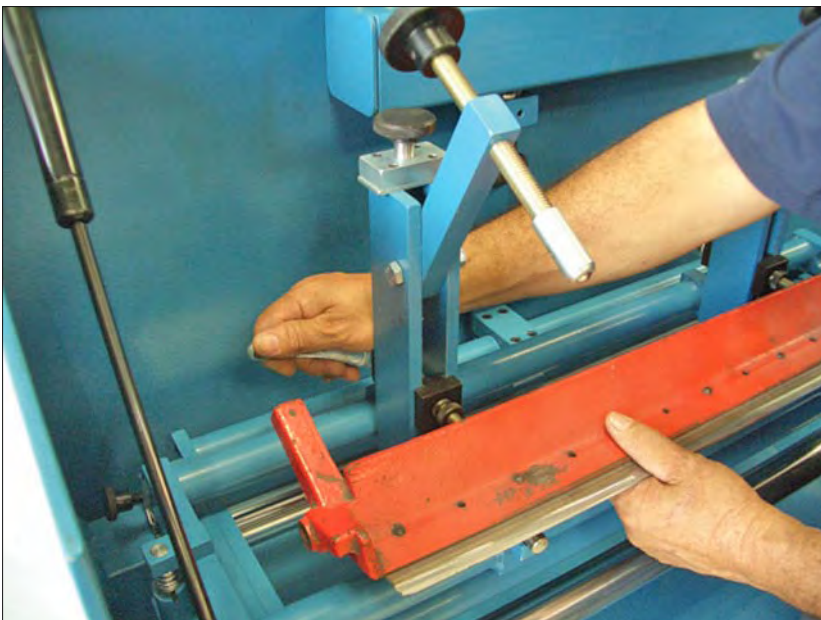
Swing the arm up...



and push the latch down to lock in the up position.



You only need to make these adjustments for the first bed knife of a group of similar bed knives.



Place the bed knife on the supports, then unclamp the rear support. Position the rear support to a suitable height on the back of the bed knife and reclamp.



Make sure that the rear flat of the bed knife is resting on the shaft and...



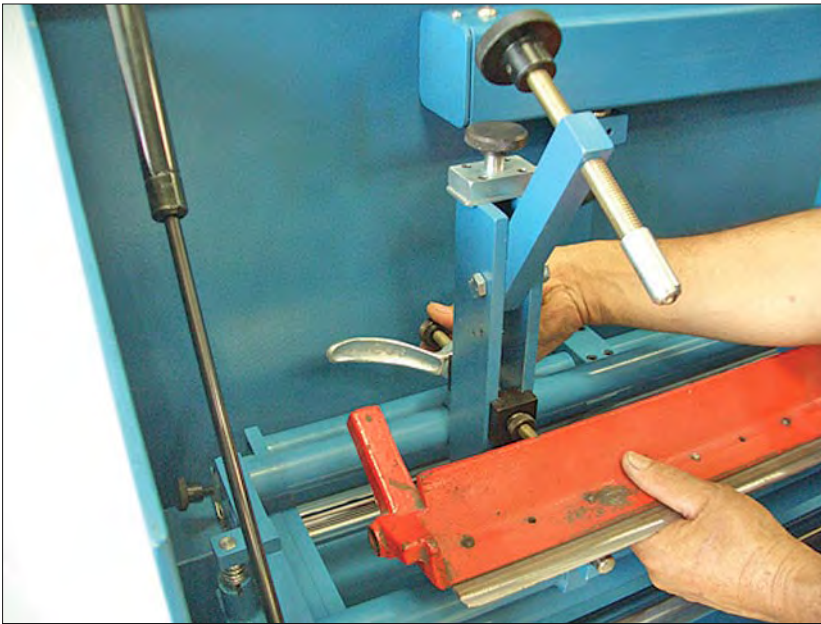
the ball and not on any screw heads.



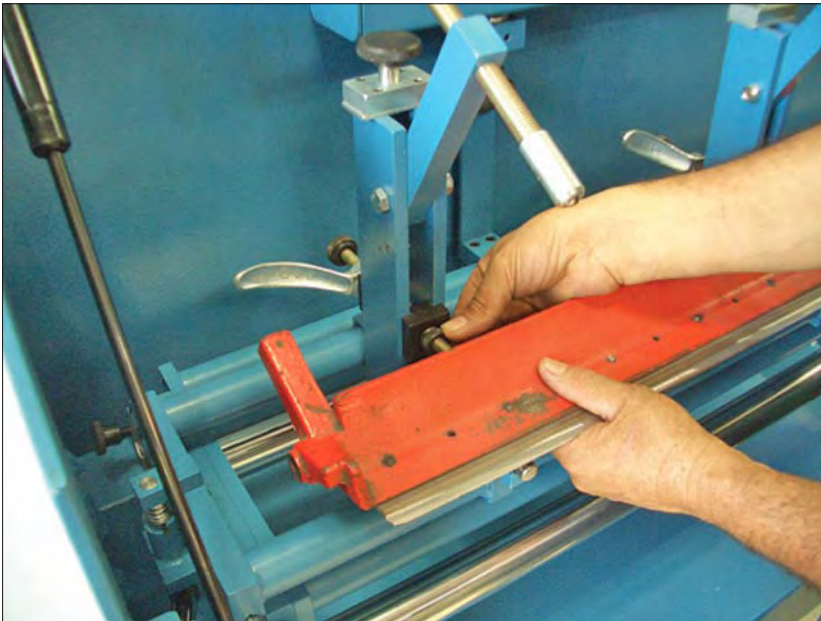
Make sure that the bed knife is not resting on any screw heads.



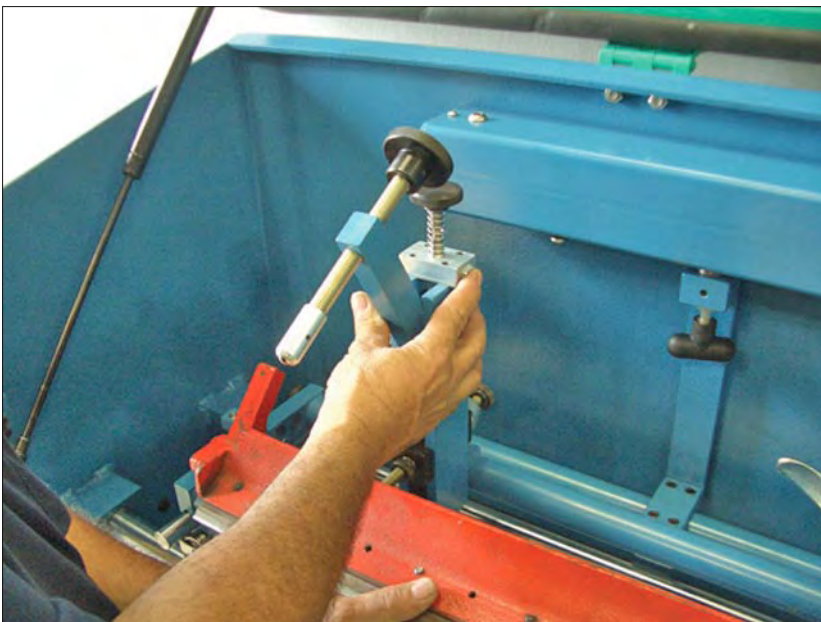
Unlock the rear screw support.



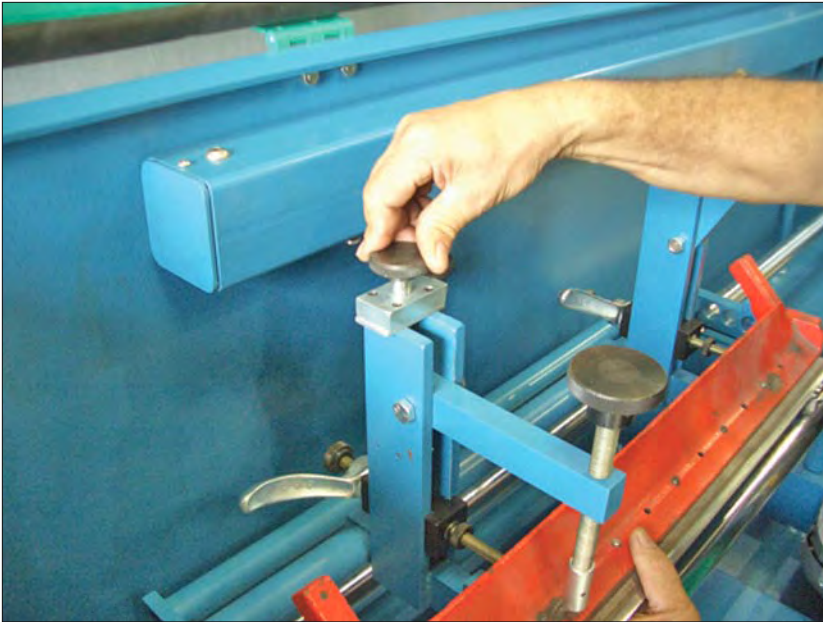
Adjust the rear support to get the front edge of the bed knife close to even. You will make the final adjustment on this later.



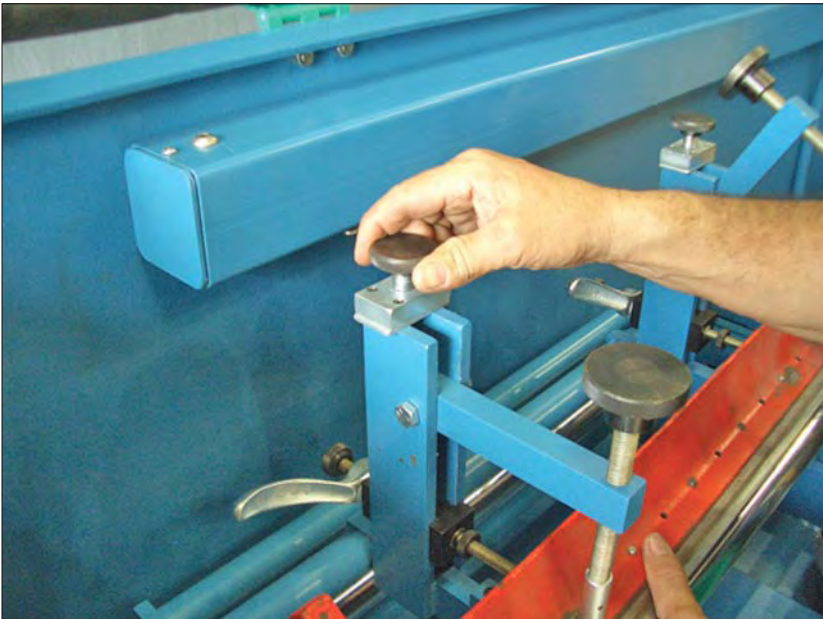
Relock the back support.



Push the button on the side to unlatch arm, then swing down on to bed knife.



Push latch down.



Screw in the latch to lock. Make sure the clamp is loose on the bed knife when you do this.



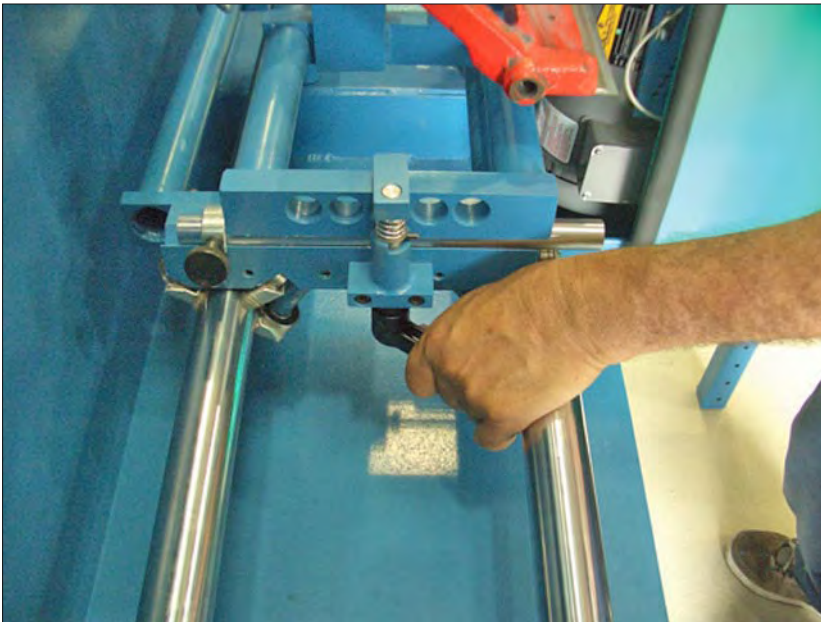
Tighten the bed knife clamp. Do not overtighten.

3.6 Position the pallet



You only need to make these adjustments for the first bed knife of a group of similar bed knives.

Unclamp the left pallet clamp.



Unclamp the right pallet clamp.



Slide the pallet up or back ...

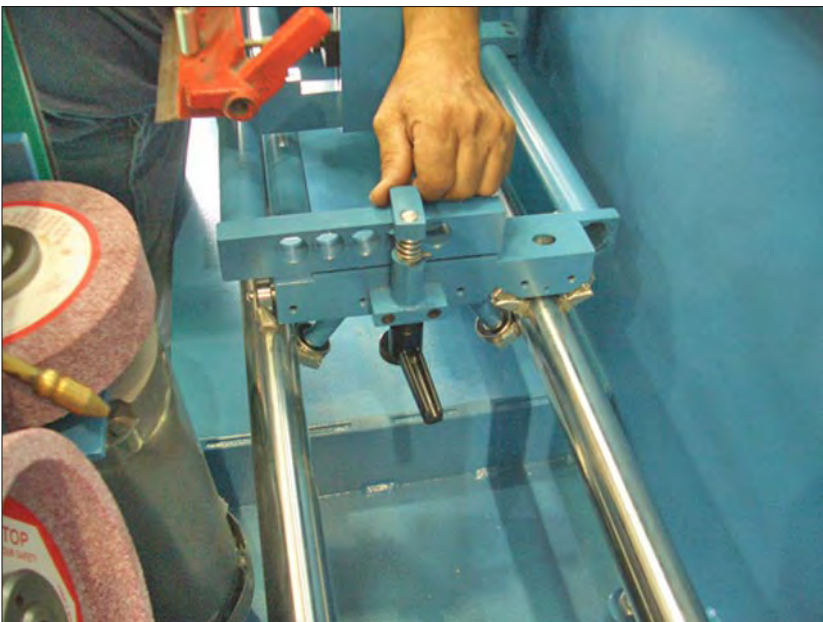




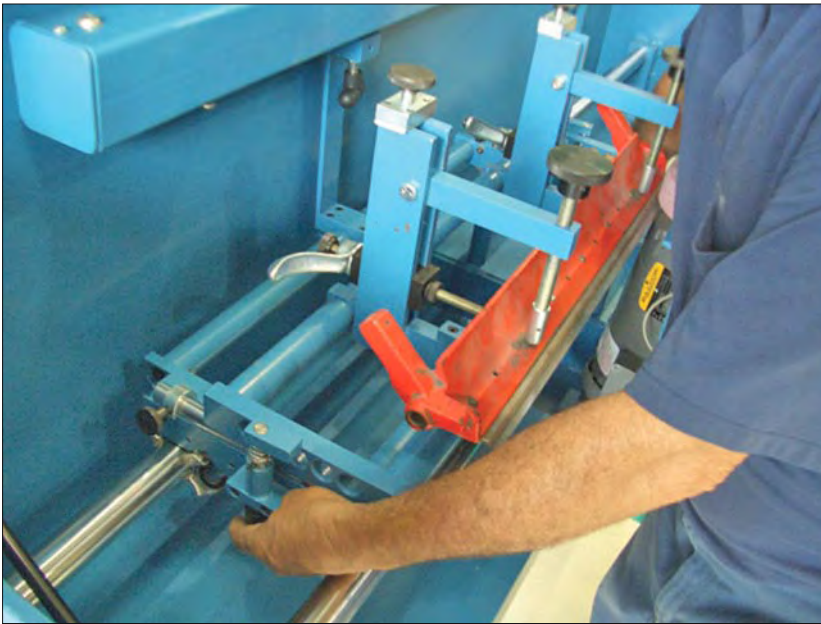
until the grinding stone is over the bed knife surface to be ground.



Lift up the right end of the pallet the set it back down. This ensures the left end is properly seated.



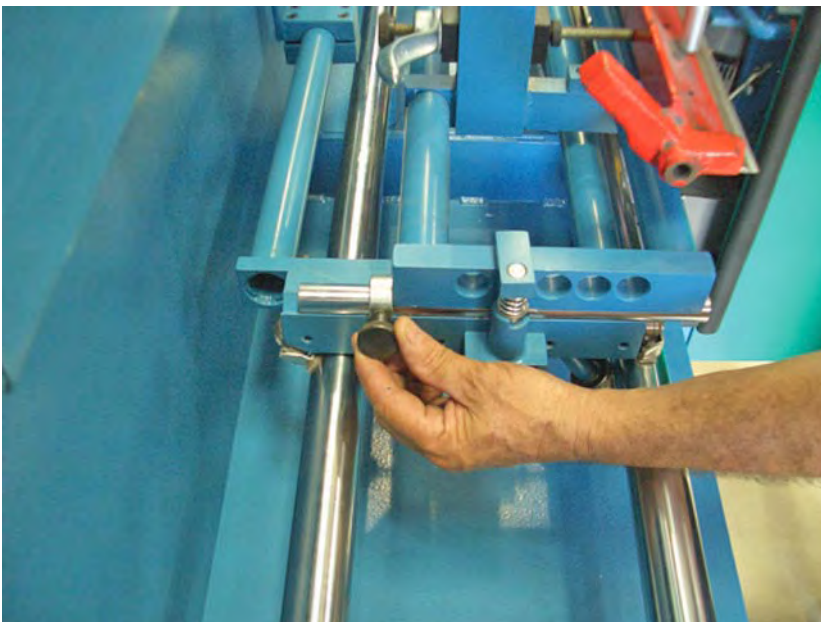
Rotate the clamps over the pallet.



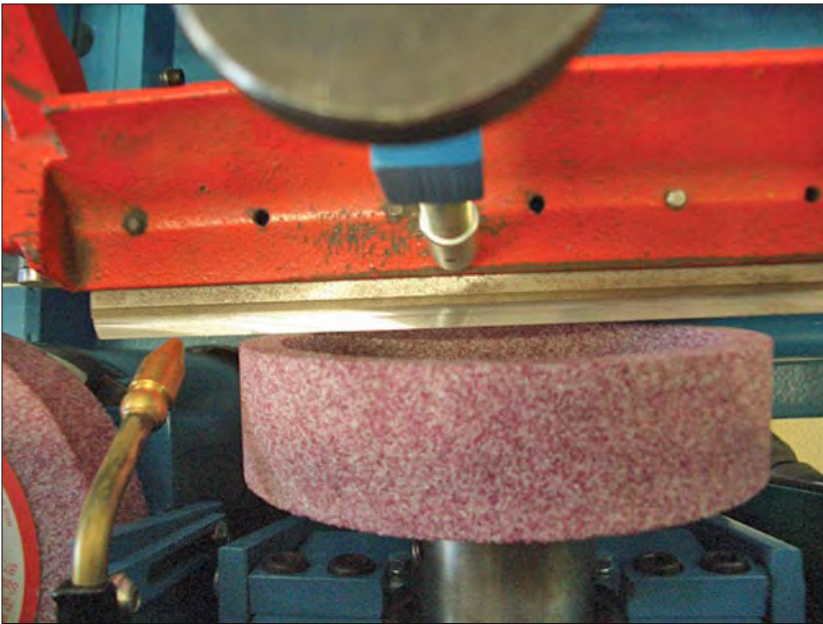
Reclamp the left end of the pallet.



Reclamp the right end of the pallet



Unlock the backstop screw. Position the backstop against the pallet then tighten the screw.



3.7 Adjusting the front face contact

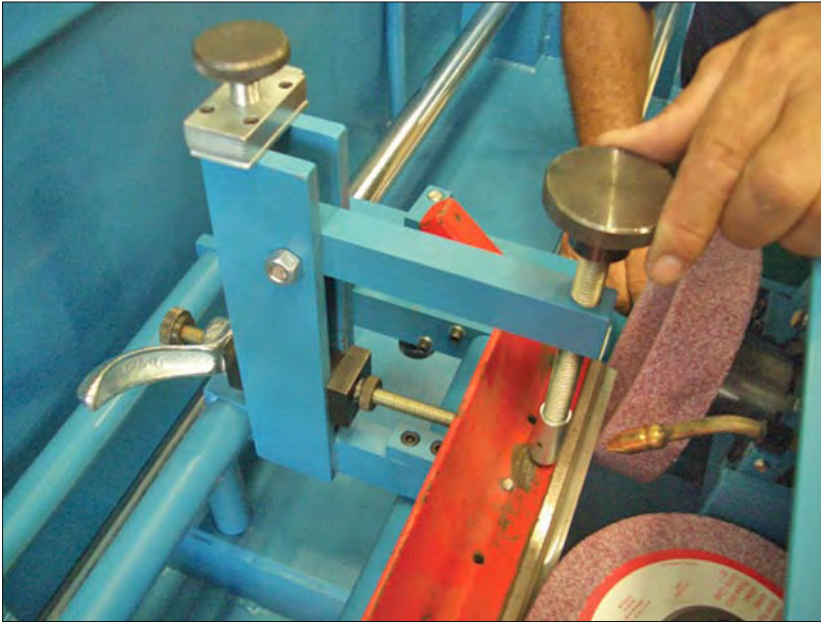
Move the carriage so the front face grinding wheel is aligned with the close end of the bed knife.



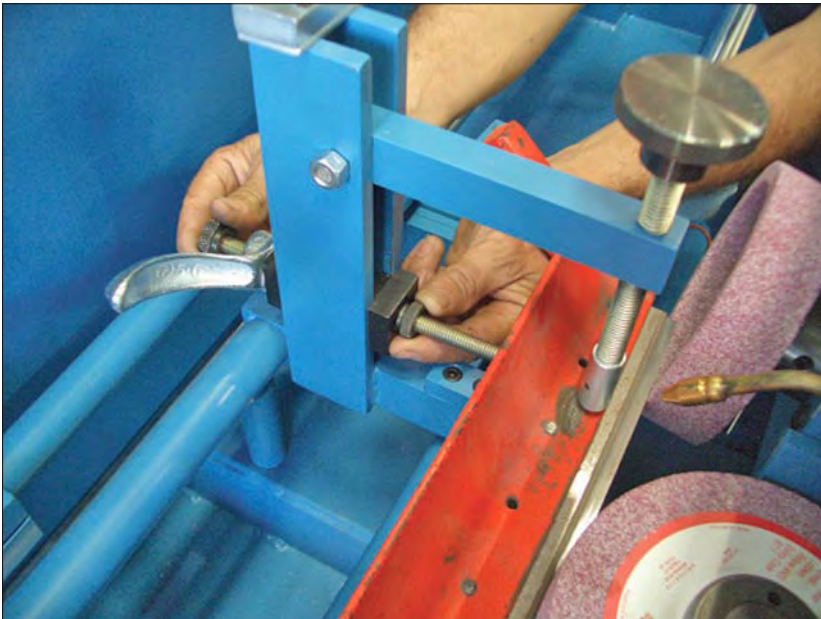
Adjust the hand wheel so the grinding stone is just touching the bed knife.



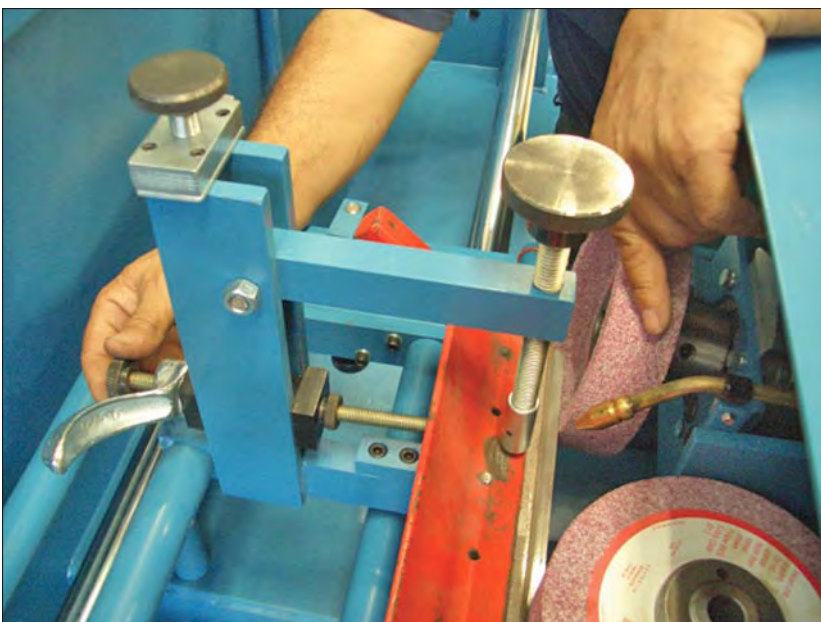
Move the carriage to the other end of the bed knife.



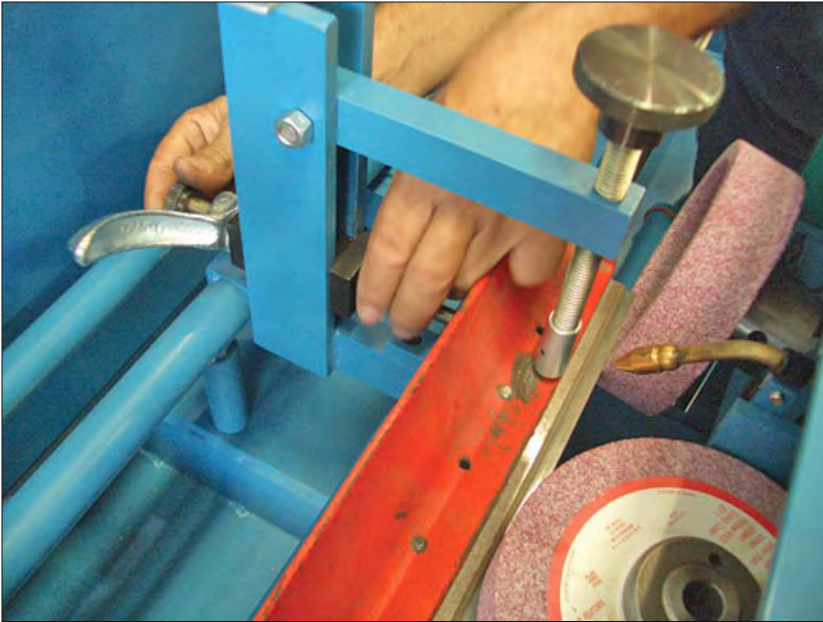
Just loosen the clamp.



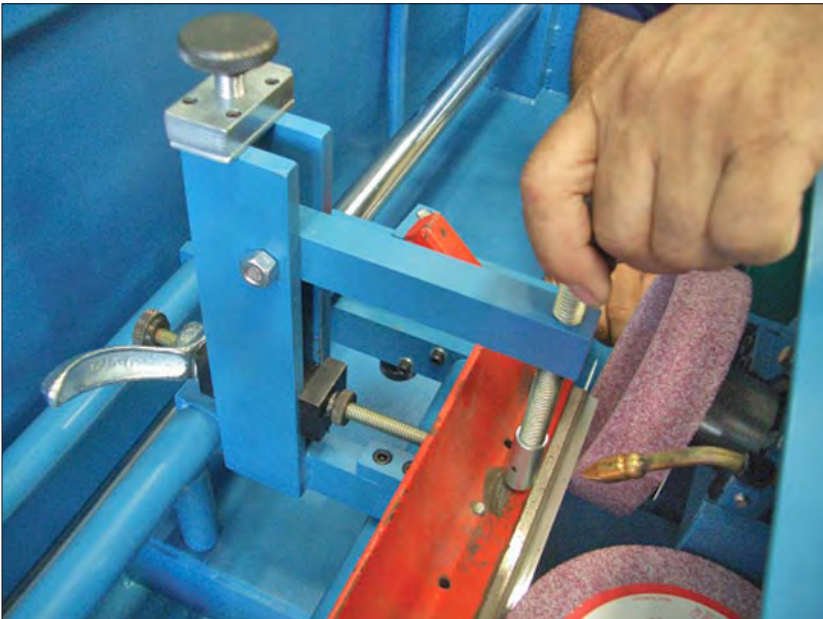
Unlock the back support screw.



While turning the grinding wheel, adjust the back support screw until you have the same contact on both ends.



Lock the back screw support.



Retighten the clamp. Double check contact on both ends and repeat if necessary

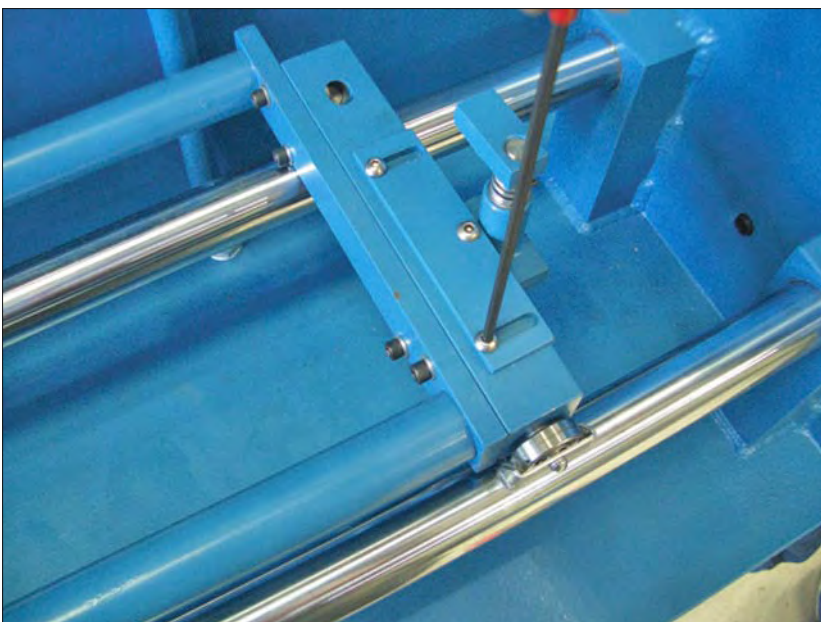


3.8 Checking contact

With the carriage at one end of the bed knife, adjust the top face stone down until...



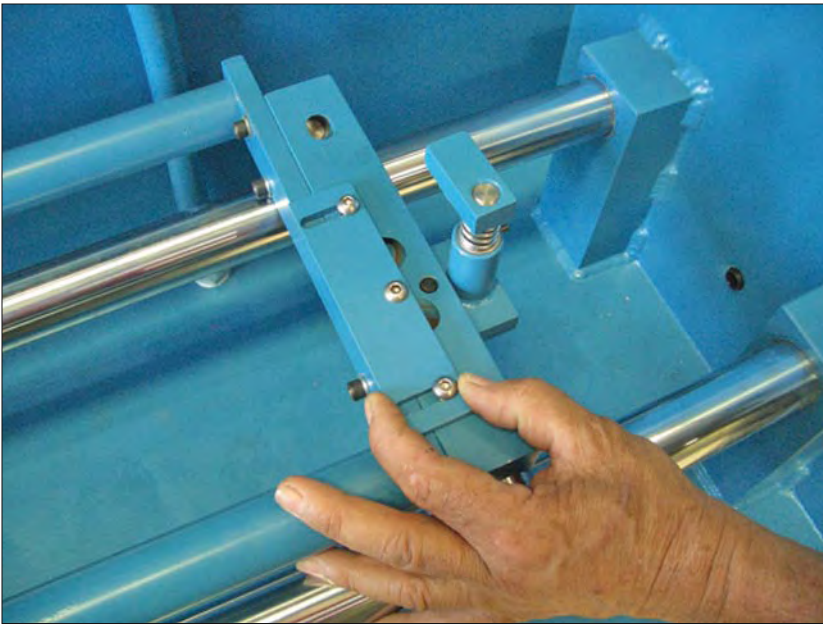
it just touches the bed knife. Move the grinding head across the bed knife. There should be even contact all the way across unless the bed knife is badly worn. If the contact is not even, recheck your set up. Repeat for the front face.



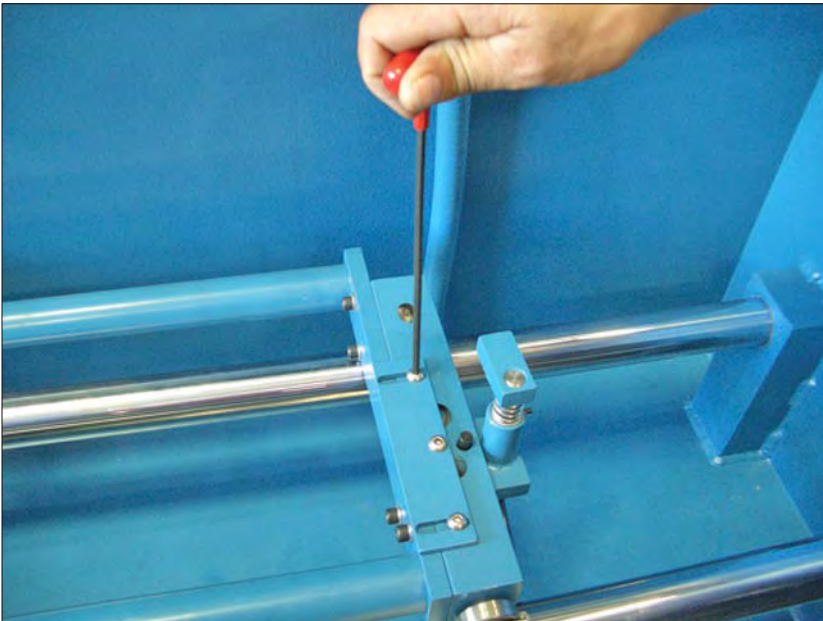
3.9 Vertical adjustment

In most cases, you will not need to make any vertical adjustments. If, for example, you have a thin tournament blade mounted to an uneven shoe, you may want to make a vertical adjustment to minimize the amount of metal removed.

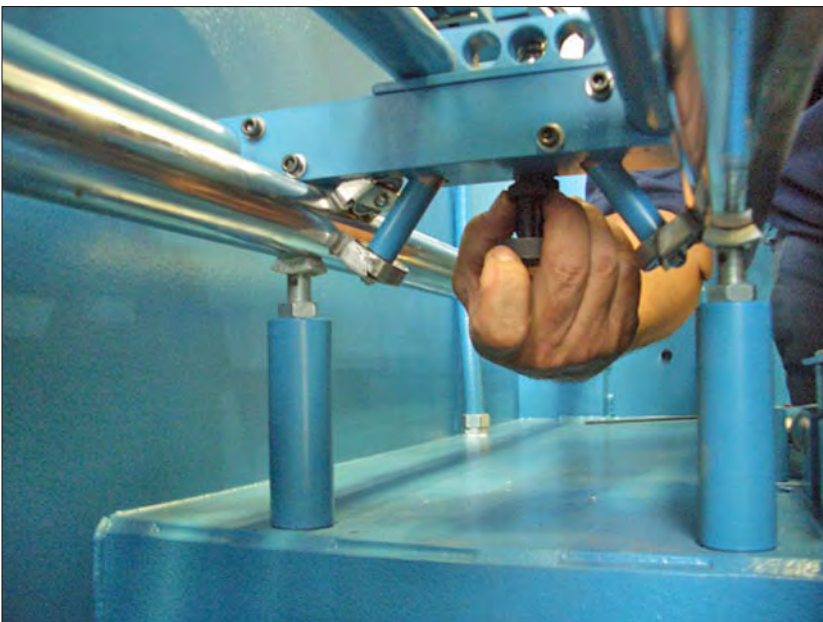
If necessary, remove the pallet, then loosen the two screws on the right end of the carriage which hold the vertical alignment pad.



Slide the pad to expose the vertical adjusting screw.



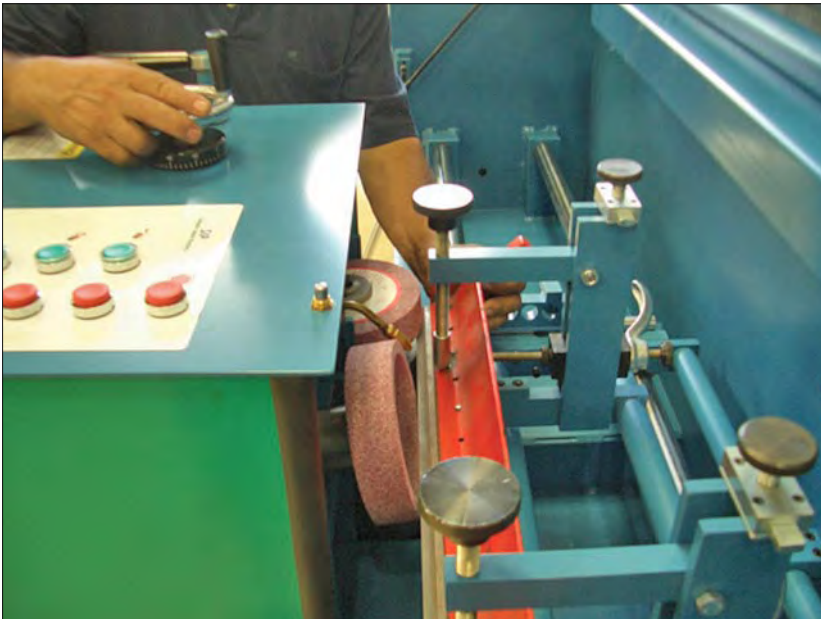
Retighten the two screws.



Unlock the vertical adjusting screw.



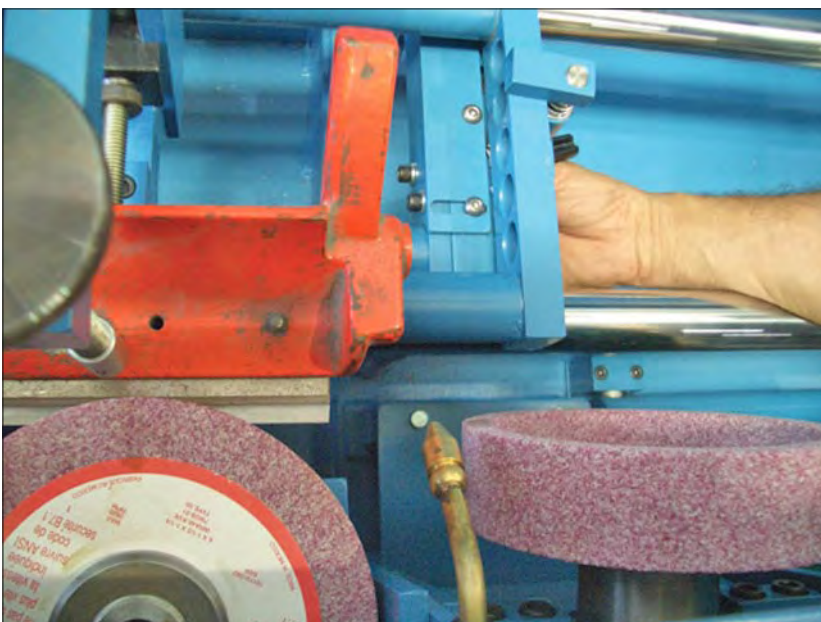
Infeed the vertical adjusting screw until the top is about even with the top of the vertical alignment pad.



If necessary, replace and clamp the pallet in place. Move the carriage to the left end of the bed knife. Infeed the grinding wheel until it just touches.



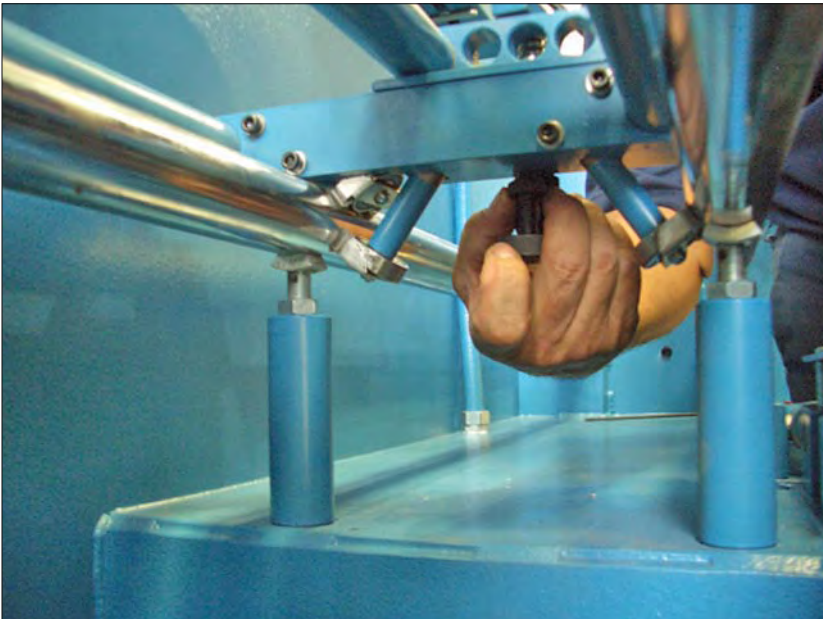
Whenever you move the pallet, you should lift and set down the right end to ensure the left end is properly seated.



Move the carriage to the right end of the bed knife.



Adjust the vertical adjusting screw until the bed knife has equal contact on both ends.



Lock the vertical adjusting screw.

4. Grinding



4.0 Grinding the bed knife.

Engage the carriage into the drive cylinder.



Set the grinding head stops so that...



the part of the grinding wheels touching the bed knife (the inside edge) clears the ends of the bed knife.



Turn the carriage on.



Set the speed.



Set the coolant mist..



and air flow



Turn the left grinding motor on.



Always close shield when grinding.



infeed the grinding wheel until..



it starts to grind. Continue infeeding the grinding wheel until it is grinding all the way across the bed knife.



Always close shield when grinding.



Turn the right grinding motor on.



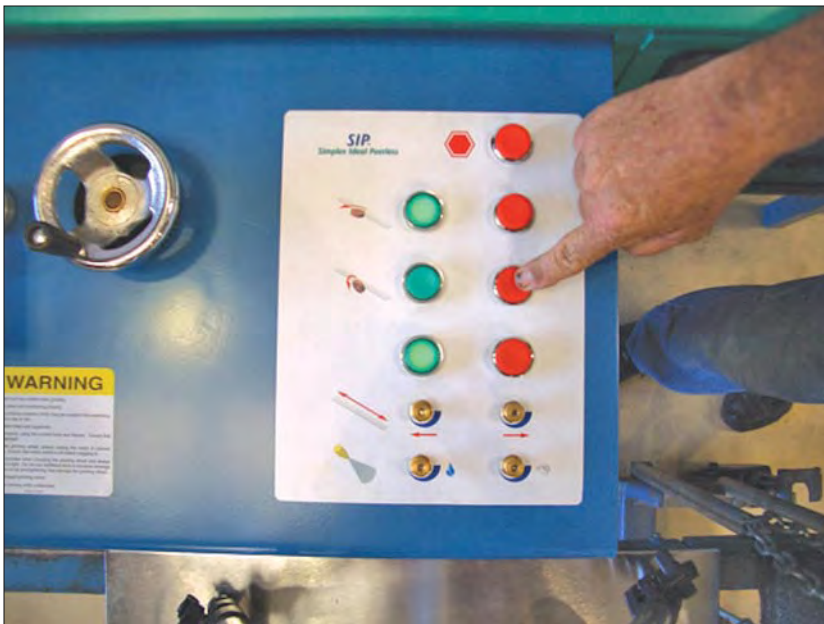
Infeed the grinding wheel until..



it starts to grind. Continue infeeding the grinding wheel until the front face is done.



Always close shield when grinding.



Back off the front face right grinding wheel and turn the right grinding motor off.



Continue infeeding left grinding head until the top face is done. Let the top face spark out after you have completed the front face.

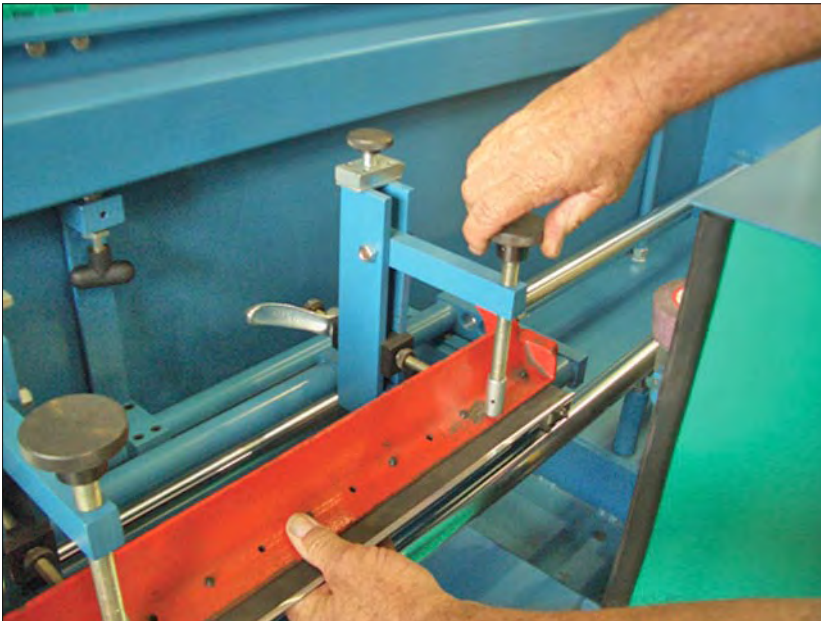


Turn the grinder off when the grinding head is off one end of the bed knife.



4.1 Removing the bed knife

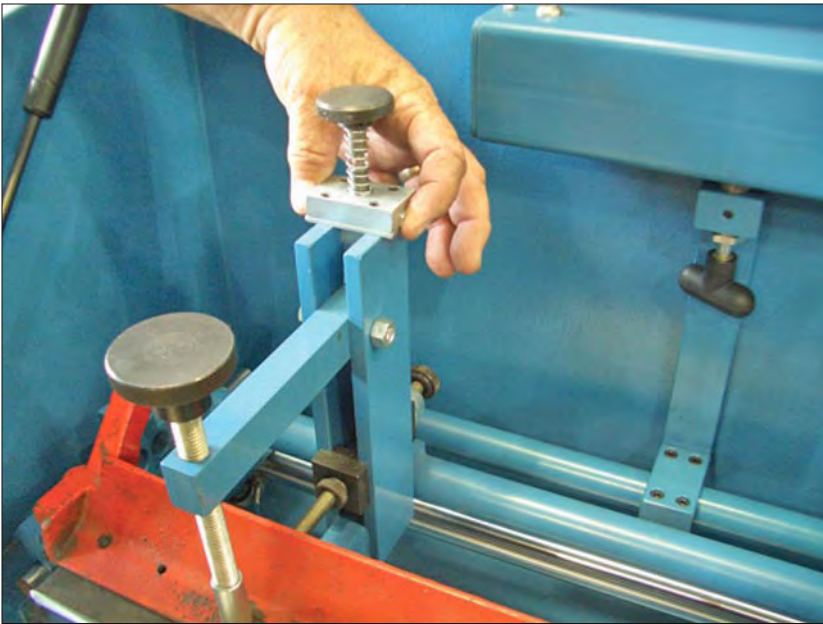
Unlatch the carriage from the cylinder and move the carriage to the left end of the grinder.



While holding the bed knife, loosen both clamps.



Loosen both latches.



Unlatch the clamps.

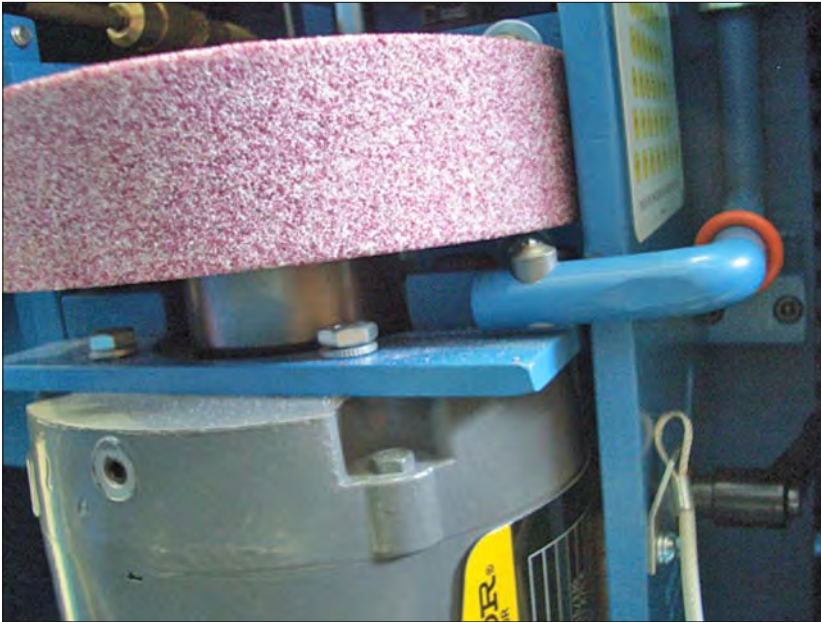


Swing the clamp arms up and remove the bed knife.



4.2 Dressing the top face stone

Move the top head up or down until ...



the diamond dresser just clears the stone.



Turn on the top face motor, then infeed the grinding head and swing the dresser until no sparks appear. Turn off the top face motor

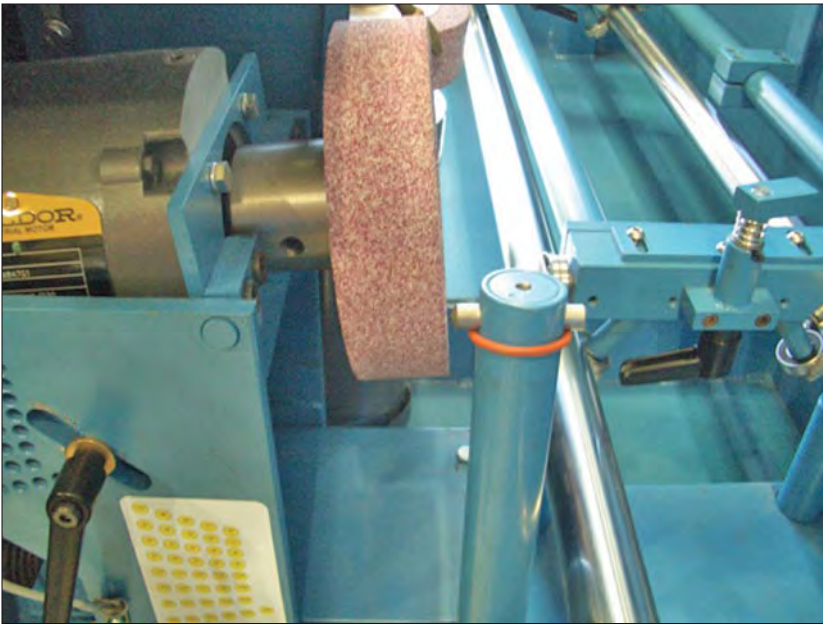


Always close shield when dressing the stone.



4. Dressing the front face stone

Move the front head in or out until ...



the diamond dresser clears the stone



Turn on the front face motor, the infeed the grinding head and ...

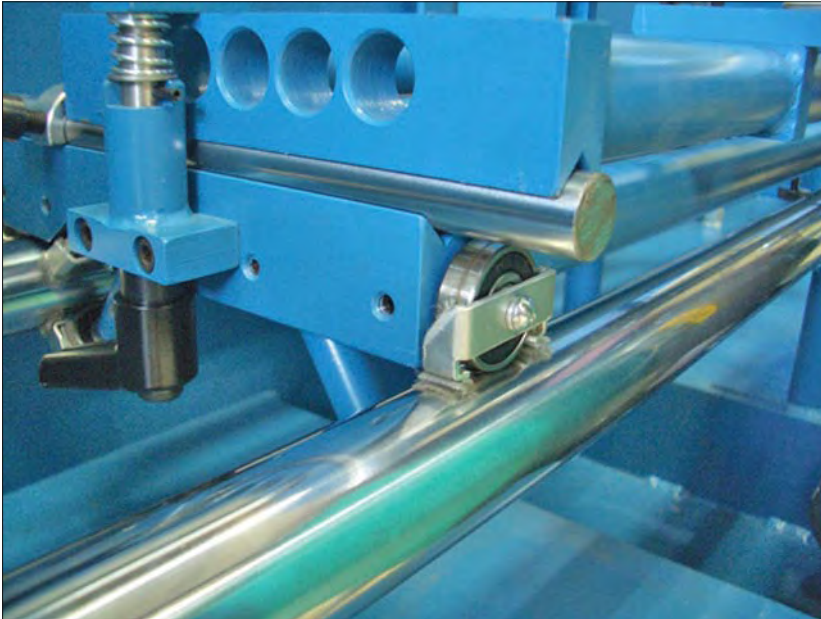


swing the dresser until no sparks appear.
Turn off the front face motor



***Always close shield when
dressing the stone.***

5. Maintenance



5.0 General maintenance

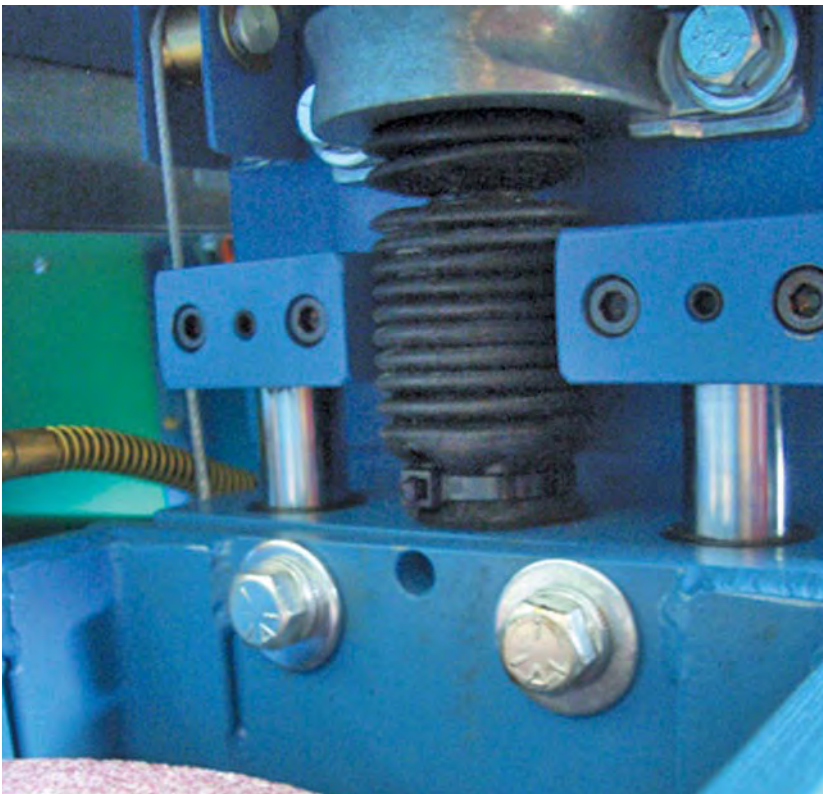
The carriage bearings are permanently sealed and lubricated. They require no lubrication or attention except to be kept clean.



The track shafts must also be kept clean and free from grinding dust and are equipped with integral wipes. Do not oil the track shafts as that will cause the grinding dust to cling to the track shafts and make the wipes ineffective.



The grinder is equipped with totally enclosed fan cooled motors which require no regular maintenance. The motors should be cleaned periodically with either a vacuum or compressed air.



The feed screws are fully enclosed and should not need any maintenance

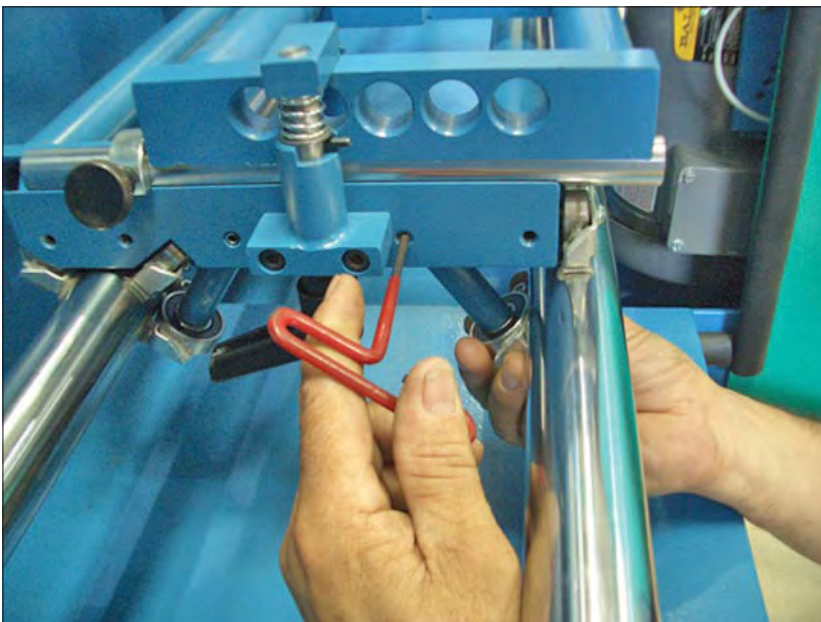


5.1 Adjusting the carriage bearings

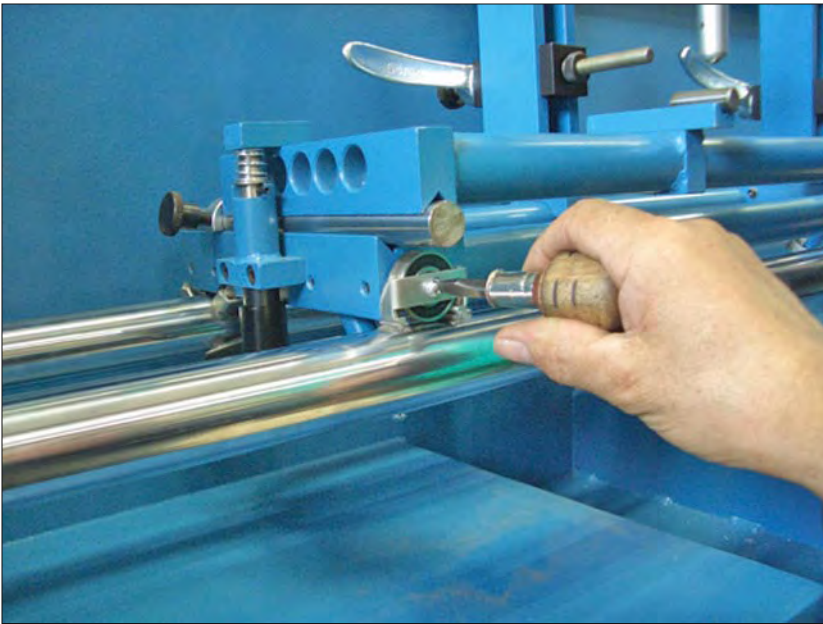
The six bearings on the top of the track shaft do not need adjusting.



The remaining four bearings are mounted on eccentric axles and may need occasional adjusting.

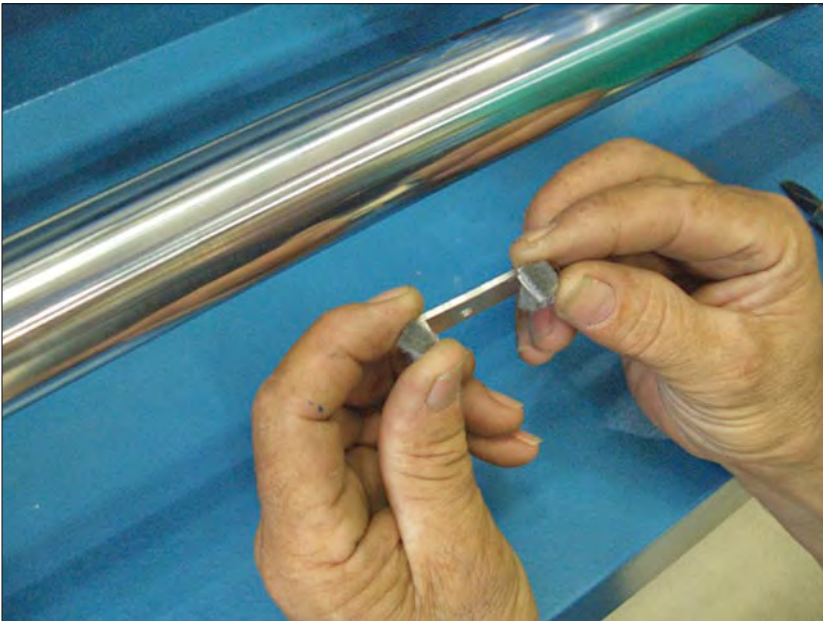


Loosen the set screw which locks the bearing axle and turn the axle so that bearing just touches the chromed track shaft. Retighten the locking set screw. The bottom bearings should just touch the track shaft and slip when turned. The top bearings should all contact the track shaft without the carriage rocking. Not all bearings will be in full contact with the track shaft over its full length.



5.2 Replacing wipes

Remove the screw in the end of the axle.



Peel the old wipe off, clean the surface with alcohol and adhere a new piece of wipe material.



5.3 Mounting grinding wheels



***Do not use damaged grinding wheel
as it may come apart and cause
damage, serious injury, or loss of life!***

Ring a new grinding wheel to ensure it is undamaged. Do this by holding it in the arbor hole and gently tapping it with a wooden handle of a screw driver or similar tool. If the grinding wheel does not ring, do not use it.



Using the u-wrench provided, hold the grinding wheel and unscrew the wheel nut. The left grinder is counterclockwise to loosen. The right grinder is clockwise to loosen.



Place the new grinding wheel on the hub.



Do not overtighten the nut as it will cause the grinding wheel to explode!



Tighten with the u-wrench provided. Do not overtighten as you may damage the grinding wheel. Use extra caution when turning the grinding motor on and off the first few times after you have mounted the grinding wheel. If the nut is not tight enough, it and the grinding wheel may come off when you turn the motor off.



5.4 Adding coolant

Open the hood and the left access door.



Remove the jug.



Remove the lid.



Add coolant and ...



water in accordance with package instructions.



Replace the jug and lid.