WARNING

Read this manual completely and observe all warning labels on the machine. Every attempt to provide a safe, reliable, easy-to-use piece of machinery. Safety, however, is ultimately the responsibility of the individual machine operator. As with any piece of machinery, the operator must exercise caution, patience, and common sense to safely run the machine. Before operating this product, become familiar with the safety rules in the following sections.

Safety Rule

Always keep guards and covers in place and in proper operating condition.

1. If you are not properly trained in the use of a planer do not use until the proper training has been obtained.

2. Read, understand and follow the safety instructions found in this manual. Know the limitations and hazards associated with this machine.

3. Make certain that the machine frame is electrically grounded and that a ground lead is included in the incoming electrical service. In cases where a cord and plug are used, make certain that the grounding plug connects to a suitable ground. Follow the grounding procedure indicated in the National Electrical Code.

4. Wear an approved safety shield, goggles, or glasses to protect eyes. Common eyeglasses are only impact-resistant, they are not safety glasses.

5. Before operating the machine, remove tie, rings, watch and other jewelry and roll up sleeves above the elbows. Remove all loose outer clothing and confine long hair. Protective type footwear should be used. Where the noise exceeds the level of exposure allowed in Section 1910.95 of the OSHA Regulations, use hearing protective devices. Do not wear gloves.

6. Keep the machine guards and covers in place for every operation. If any guards and covers are removed for maintenance, DO NOT OPERATE the machine until the guards and covers are reinstalled.

7. Keep the floor around the machine clean and free of scrap material, saw dust, oil and other liquids to minimize the danger of tripping or slipping. Be sure the table is free of all scrap, foreign material and tools before starting the planer. Make certain the work area is well lighted and that a proper exhaust system is used to minimize dust. Use anti-skid floor strips on the floor area where the operator normally stands and mark off machine work area. Provide adequate work space around the machine.

8. Maintain a balanced stance and keep your body under control at all times.

9. Before turning on machine, remove all extra equipment such as keys, wrenches, scraps, and cleaning rags away from the machine.

10. Give the work you are doing your undivided attention. Looking around, carrying on a conversation, and “horseplay” are careless acts that can result in serious injury.
11. Before performing any service, maintenance, adjustments or when changing knives disconnect the machine from power source. A machine under repair should be RED TAGGED to show it should not be used until the maintenance is complete.

12. Do not plane boards with loose knots, nails or any foreign material in the workpiece. Irregular, or warped stock should be jointed first on one side before planing a parallel surface.

13. If the operator leaves the machine area for any reason, the planer should be turned "off" and the cutterhead should come to a complete stop before their departure. In addition, if the operation is complete, they should clean the planer and the work area. NEVER clean the planer with power "on" and never use hands to clear sawdust and debris; use a brush or air hose.

14. Use only genuine Machinery factory authorized replacement parts and accessories; otherwise the warranty and guarantee is null and void.

15. Do not use this planer for other than its intended use. If used for other purposes, disclaims any real or implied warranty and holds itself harmless for any injury or damage which may result from that use.

16. Do not operate this machine while under the influence of drugs, alcohol, or any medication.

17. This machine is designed for planing wood products only. Do not use to plane any kind of substance other than wood.

18. Never start the planer while a workpiece is in contact with the cutterhead or knives.

19. Always feed workpiece against the rotation of the cutterhead.

20. Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are: Lead from lead-based paint. Crystalline silica from bricks and cement and other masonry products. Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specifically designed to filter out microscopic particles.

Familiarize yourself with the following safety notices used in this manual:

**CAUTION:** (This means that if precautions are not heeded, it may result in minor or moderate injury and/or possible machine damage)

**WARNING:** (This means that if precautions are not heeded, it could result in serious injury or possibly even death).
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</tbody>
</table>
Uncrating the Machine

Retain all packaging materials in case it becomes necessary to ship the machine to another site.

Machine Preparation and Setup

**WARNING!**
The equipment used to lift this machine must have a rated capacity at, or above the weight of the planer. Failure to comply may cause serious injury!

The planer can be lifted from over head using slings and the four lifting hooks A.

The planer must be positioned on a smooth, level surface. Install the leveling pads B under the four corners of the planer.

Clean all rust protected surfaces with a commercial solvent. Do not use acetone, gasoline, lacquer thinner or any type of flammable solvent, or a cleaner that may damage paint. Cover cleaned surfaces with WD-40 or a 20W machine oil.

Place a level on the table of planer and adjust leveling bolts C until the machine is resting level. Tighten the hex nuts D against the base of the planer to keep the leveling bolts from turning (Fig. 1)
Dust Chute Assembly
Mount the dust chute to the planer hood with eight M6x10 hex head screws B. Make sure the dust collection system has sufficient capacity and suction for your planer. Always turn on the dust collection system before starting the planer. (Fig. 2)

Table Roller Handle Assembly
Thread the handle C(Fig. 3) into the hub.

Control Panel
In Fig. 3
D: Emergency Stop Button: Stops all functions of machine, but the planer still has power. To reset rotate switch clockwise until the button pops out.
E: Main Motor: Starts rotation of Cutterhead. Will not work if the “Emergency Stop” switch is engaged, or hood is open.
F: Digital Thickness Controls: Displays and controls table position, units, etc..
G: Table Up: Raises the table.
Note: Table will contact the upper limit switch at about 5/8". You can continue to raise manually by using the handwheel.
H: Table Down: Lowers the table.
Note: Table will contact the lower limit switch at about 8-5/8". You can continue to lower manually by using the handwheel.

Digital Controller
In Fig. 4
I: LED readout displays the thickness setting.
J: The digital thickness controls are capable of operating and displaying in either inches, or millimeters by pressing the "Units" button.
K: The "+" and "-" buttons can be used to move the table up or down without keying in an exact numerical thickness value. Note: The "-" button raises the table to subtract from workpiece thickness. The "+" button lowers the table.
L: "Start" button is used to begin table travel after a numeric value has been keyed in.
M. The “Stop” button is used to stop the table travel after it has started.
N. The “Set” button is used when calibrating or setting the thickness scale.
Changing Units of Measure

Press unit button A (Fig. 5) to toggle back and forth between inches and millimeters.

Calibrating the Display

The following sections will describe the use of a calibrating board. The calibrating board should be made of a hardwood and have one side that has been run through a jointer.

1. With the planer turned “OFF – cutterhead NOT spinning”, place your calibrating board jointed surface down on the table and slide it into the machine.
2. Use the table “UP” button to raise the table so that the in-feed roller is about 1/32” above the calibrating board.
3. Remove calibrating board from planer and turn the planer “ON”.
4. Use the table “UP” button to raise the table about 0.1”, as indicated by LED and run the calibrating board through the planer.
5. Repeat Step 4 until the planer removes the entire top surface of your calibrating board.
6. Measure the thickness of the board using a pair of calipers.
7. Press the “SET” button C (Fig. 5) and then type in the measured thickness from step 6. Press the “SET” button again and hold in until the decimal point stops blinking (about three seconds).

Planning to a Specific Thickness

1. Measure thickest section of the workpiece.
2. Subtract the amount you wish to remove from the current thickness of the workpiece.
3. Press the “SET” button and enter the amount from step 2.
4. Press “START” button D (Fig. 5) to begin the table movement up, or down until the set value is achieved.

Note: Do not feed material through the planer while the table is raising or lowering.

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
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<tbody>
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Raising and Lowering Table
Turn the handwheel A (Fig. 7) clockwise to raise the table. One revolution equals 1/32” or 0.03”.
Note: The handwheel is spring loaded. Push in on the handwheel and rotate until the pins engage the detents.

Adjusting Thickness Scale
1. Run a board through the planer and measure the thickness of the planed board with a pair of calipers.
2. Adjust the pointer B (Fig. 7) by loosening the screw that holds it in place.
Note: This measurement should be the same as digital readout.

Table Roller Adjustment
Loosen the handle C and move the table rollers up, or down by raising, or lowering the handle D. When you reach the desired position tighten the handle (Fin. 7).

The rollers are usually set higher when planning rough stock. When planning smooth stock the table rollers should be set slightly above, or flush with the table.

Changing Feed Rate
The planer has three selectable feed speeds that feed stock at 20, 25 and 30 feet per minute. To adjust speed, turn lever E (Fig. 8) until it clicks into place. Change feed speed only while the feed system is RUNNING!

Table Stop
The socket head cap screws F (Fig. 8) act as a stop and prevent you from running the table into the cutting and feeding assembly.

Opening Hood
Turn the locks G to open the hood. The hood will open automatically. Use the handle H to shut the hood (Fig. 8).
ShearTec II CUTTERHEAD

Knife inserts are dangerously sharp. Use extreme caution when inspecting, removing, or replacing knife inserts.

The knife inserts on the 25” Planer are four-sided. When dull, simply remove each insert, rotate it 90° for a fresh edge, and re-install it. No further adjustment is necessary. Use the two provided torx wrench to remove the knife insert screw. Use one of the torx wrenches to help hold the cutterhead in Position, and the other to remove the screw. See Fig. 9. It is advisable to rotate all inserts at the same time to maintain consistent cutting. However, if one or more knife inserts develops a nick, rotate only those inserts that are affected. Each knife insert has an etched reference mark so you can keep track of the rotations.

IMPORTANT: When removing or rotating inserts, clean saw dust from the screw, the insert, and the cutterhead platform. Dust accumulation between these elements can prevent the insert from seating properly, and may affect the quality of the cut.

Before installing each screw, lightly coat the screw threads with machine oil and wipe off any excess. Securely tighten each screw which holds the knife inserts before operating the jointer!

Make sure all knife insert screws are tightened securely. Loose inserts can be propelled at high speed from a rotating cutterhead, causing injury.

Warning: Disconnect machine from power source.
Setup of Feed Rollers, Chip Breaker and Pressure Bar

**WARNING!**

Disconnect machine from the power source before performing any adjustments or maintenance. Failure to comply may cause serious injury!

The planer comes set up from the factory and shouldn't need any adjustment.

If you find adjustment is necessary, follow the below listed sections for setting the infeed roller, chip breaker, pressure bar and outfeed rollers.

Make a hardwood block to the specifications in drawing Fig.13. You can use this wood gauge along with 0.02" feeler gauge to set the planer up as shown in Fig. 12.

Setup for planning applications. Depending on the stock and cutterhead you may find that a different setup may work better for your particular planning operation.
Anti-Kickback Fingers
Anti-kickback fingers help prevent stock from being kicked out of the machine towards the user. Keep the fingers clean and free from sawdust, pitch gum, etc. so they operate smoothly.

Adjustment of In-Feed Roller
The in-feed roller should be set 0.02" below the lowest point of knife. Make sure the knives are set properly see the “Setting / Changing Knives” section on page 11 prior to making any adjustments.

1. Disconnect machine from power source.
2. Place a hard wood gauge (A, Figure 14) under a knife in cutterhead. Place a 0.02" feeler gauge (B, Figure 14) on top of wood block and raise table until feeler gauge contacts the knife in its lowest position.
3. Remove feeler gauge and place wood block under the left side of in-feed roller. The top of wood gauge should just contact the in-feed roller. If it doesn’t, loosen jam nut (C, Figure 15) and turn the adjusting screw (D, Figure 15) to raise, or lower the in-feed roller until it contacts wood gauge. Repeat for opposite side of the in-feed roller.

Adjustment of Chipbreaker
Chipbreaker should be set 0.02" below the lowest point of knife. Make sure the knives are set properly see the “Setting / Changing Knives” section on page 11 prior to making any adjustments.

1. Disconnect machine from power source.
2. Place a hard wood gauge (A, Figure 14) under a knife in the cutterhead. Place a 0.02" feeler gauge (B, Figure 14) on top of wood block and raise table until the gauge contacts the knife in its lowest position.
3. Remove feeler gauge and place wood gauge (E, Figure 16) under the left side of chipbreaker (F, Figure 16). The top of the wood gauge should just contact the chipbreaker. If it doesn’t, remove the socket head cap screw (G, Figure 15) and remove washer (H, Figure 15), or replace with shim of proper thickness to raise, or lower the chipbreaker until it contacts the wood gauge. Repeat for opposite side of the chipbreaker.
Adjustment of Pressure Bar

The pressure bar should be set even with the lowest point of knife.

1. Disconnect machine from power source.

2. Place a hard wood gauge under a knife in cutterhead. Raise table until wood gauge contacts the knife in its lowest position.

3. Place wood block A, Figure 17) under the left side of pressure bar (B, Figure 17). The top of wood gauge should just contact the pressure bar. If it doesn’t, loosen jam nut (C, Figure 18) and turn the adjusting screw (D, Figure 18) to raise, or lower the pressure bar until it contacts wood gauge. Repeat for opposite side of the pressure bar.

Adjustment of Out-feed Rollers

The out-feed rollers should be set 0.02” below the lowest point of knife. Make sure the knives are set properly see the “Setting / Changing Knives” section on page 11 prior to making any adjustments.

1. Disconnect machine from power source.

2. Place a hard wood gauge (A, Figure 14) under a knife in the cutterhead. Place a 0.02” feeler gauge (B, Figure 14) on top of wood block and raise table until the gauge contacts the knife in its lowest position.

3. Remove feeler gauge and place wood block (E, Figure 19) under the left side of out-feed roller (F, Figure 19). The top of wood gauge should just contact the out-feed roller. If it doesn’t, loosen jam nut (G, Figure 18) and turn the adjusting screw (H, Figure 18) to raise, or lower the out-feed roller until it contacts wood gauge. Repeat for opposite side of the out-feed roller.

4. Repeat for second out-feed roller
Helical Cutterhead

WARNING!
Knives are extremely sharp. Be very careful when handling knives. Failure to comply may cause serious injury!

The helical cutterhead is set-up with the same relationship to the in-feed roller, chipbreaker, pressure bar and outfeed rollers as the straight knife cutterhead. The planer comes set up from the factory and shouldn’t need any adjustment. If you find adjustment is necessary, follow the steps on pages 10-11 for setting the in-feed roller, chipbreaker, pressure bar and outfeed rollers in relation to the helical cutterhead.

When it is time to rotate the carbide knives ALL knives must be rotated at the same time. This is the same when replacing carbide knives ALL knives must be replaced at the same time. Mark the knives with a marker so you know which knives have been rotated. You can rotate the knives three times before replacing. Use the provided tork wrench to rotate, or remove knives.

V-Belt Adjustment

Three V-belts A, Figure 21) drive the cutterhead. The single V-belt (B, Figure 21) drives the in-feed and out-feed rollers. Belt tension has been set at the factory. If the belts have stretched and need adjustment.

1. **Disconnect machine from power source.**

2. Open lower rear, and lower left-hand side panels. Loosen and tighten four adjustment nuts (C, Figure 21) to move motor plate up, or down to increase, or decrease belt tension. Tighten nuts against motor plate after adjustment is made.

3. Belts are tensioned properly when moderate finger pressure can deflect the v-belts about a 1/4"-1/2" midway between the pulleys.
Adjusting Table Gibs

Adjust gib (D, Figure 22) by loosening the hex nuts (E, Figure 22), and turning gib screws (F, Figure 22) so that the ways (G, Figure 22) are lightly contacted. You should be able to get a 0.005" feeler gauge in between the gib and way.

Adjusting Table Rollers

The table rollers come pre-set from the factory and shouldn't need any adjustment. If you find adjustment is necessary, follow the below listed steps.

1. Lay a straight edge (A, Figure 23) on the table across the roller (B, Figure 23).

2. Raise the rollers until it contacts the straight edge and lock the handle. The pointer should be set at “0”. If not adjust the pointer to read zero. Note: Spin the roller by hand to know when roller makes contact with the straight edge.

3. Move straight edge to the opposite side of bed roller and check to see that the roller just contacts straight edge. If not loosen the hex nut (C, Figure 24) and turn the hex cap bolt (D, Figure 24) to raise or lower the bed roller until it just contacts the straight edge.
Maintenance

WARNING!
Disconnect the machine from power source before proceeding with any maintenance, lubrication or assembly! Failure to comply may cause serious injury!

Periodic, or regular inspections are required to ensure that the machine is in proper adjustment, and that all hardware is tight.

Clean out-feed rollers and table with a non-flammable solvent to remove pitch, gum and other unwanted build-up.

Periodically clean the inside of the machine for dust control.

Keep pulleys and belts free from dirt, dust, oil and grease. Replace worn V-belts as needed.

There are three limit switches on the planer, one that triggers if the hood is open, and a raising and a lowering limit switch to prevent the table from automatically traveling too far. Keep these clean and blown out with an air hose.

Lubrication

Add a few drops of medium weight oil to the six oil cups (A, Figure 25) weekly.

Lubricate the two table elevation screws (B, Figure 26) as needed. Raise the table and remove the two screws holding the top of the accordion cover (C, Figure 26) in place. Pull the cover down and lightly grease the elevating screws, see Figure 26.

Use an oiled cloth to wipe the ways (D, Figure 26) weekly.

Lubricate the chain system with an oiled cloth as needed.

The gear box oil should be changed once a year. Remove the drain plug (E, Figure 27) to drain the oil. Refill the gear box with 60-90 weight gear oil through the fill hole (F, Figure 27) until the sight glass reads full. The sight glass (G, Figure 27) should be checked periodically and oil added as necessary.
Halted Feeding

If the in-feed roll takes stock away from you while feeding, then feeding stops before contacting the knives, the chipbreaker is probably too low. Or the in-feed roller is not set low enough, or does not have enough pressure. In a similar situation, the in-feed roll takes the stock, the chipbreakers lift, and stops as you hear the knives contact the material. In this case the pressure bar is too low. Follow the steps on pages 12-14 for setting the in-feed roller, chipbreaker, pressure bar and outfeed rollers in relation to the cutterhead.

Troubleshooting

<table>
<thead>
<tr>
<th>Description of Symptoms</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine will not start</td>
<td>1. Fuse blown or circuit breaker tripped</td>
<td>1. Replace fuse or reset circuit breaker</td>
</tr>
<tr>
<td></td>
<td>2. Cord Damaged</td>
<td>2. Have cord replaced</td>
</tr>
<tr>
<td></td>
<td>3. Not connected to power source</td>
<td>3. Check connection</td>
</tr>
<tr>
<td></td>
<td>4. Connected to wrong voltage</td>
<td>4. Check voltage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Close top cover</td>
</tr>
<tr>
<td>Cutterhead does not come up to</td>
<td>1. Low current</td>
<td>1. Contact local electric company</td>
</tr>
<tr>
<td>speed</td>
<td>2. Motor not wired for correct voltage</td>
<td>2. Refer to motor nameplate for</td>
</tr>
<tr>
<td>Workpiece stops when feeding</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>1. Too much material being removed in one pass</td>
<td>1. Reduce the amount of material being removed</td>
</tr>
<tr>
<td></td>
<td>2. Chipbreaker or pressure bar set too low</td>
<td>2. Raise the Chipbreaker or pressure bar per Figure 12,</td>
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<tr>
<td></td>
<td>3. Insufficient pressure on in-feed or out-feed</td>
<td>page 12</td>
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