4680 Band Resaw

Owner's Manual

Oliver Machinery **M-4680 10/2013**

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Warranty

Oliver makes every effort possible to assure that its equipment meets the highest possible standards of quality and durability. All products sold by Oliver are warranted to the original customer to be free from defects for a period of 2 (two) years on all parts, excluding electronics and motors, which are warranted for 1 year. Oliver's obligation under this warranty shall be exclusively limited to repairing or replacing (at Oliver's option) products which are determined by Oliver to be defective upon delivery F.O.B. (return freight paid by customer) to Oliver, and on inspection by Oliver. This warranty does not apply to defects due, directly or indirectly, to misuse, abuse, negligence, accidents, unauthorized repairs, alterations, lack of maintenance, acts of nature, or items that would normally be consumed or require replacement due to normal wear. In no event shall Oliver be liable for death, personal or property injury, or damages arising from the use of its products.

Warning

Read this manual thoroughly before operating the machine. Oliver Machinery disclaims any liability for machines that have been altered or abused. Oliver Machinery reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever.

For More Information

Oliver Machinery is always adding new Industrial Woodworking products to the line. For complete, up-to-date product information, check with your local Oliver Machinery distributor, or visit www.olivermachinery.net

SECTION 1：SPECIFICATIONS

Model 4680 SINGLE HEAD BAND SAW	
Max. Workpiece Size	300mm(W) x 250mm(H)（12"x10"）
Conveyor Belt Size	285mm(W) x 5470mm(L)
Saw Wheel Diameter	28"
Saw Wheel Width	1"
Saw Blade Size	168"(L)x1"(W)
Dust Hood Diameter	4"x4
Main Specifications：Digital Readout Type	CH-525
In-feed Speed	5~25M/m
Controlling Blade Tension	Hydraulic System
Main Motor：Horsepower	20HP
Voltage / Cycle / Phase	
Hydraulic System Motor：In-feed Speed	OMP200
Horsepower	3HP
Construction：Base Construction	Steel
Saw Wheel	Steel
Conveyor Belt	Steel
Conveyor Table	Rubber
Saw Blade Guide	Steel
Machine Dimensions	210cm(L) x 112cm(W) x 100cm(T) 286cm(L) x 64cm(W) x 60cm(T)
Machine Weight	700kgs 200kgs
Packing Type	Pallet
Packing Dimensions	210cm(L) x 112cm(W) x 114cm(T) 287cm(L) x 65cm(W) x 77cm(T)
Packing Weight	780kgs 280kgs
Country of Origin	Taiwan
Warranty	1 year

SECTION 2：SAFETY

⚠ WARNING：

For Your Own Safety, Read Instruction Manual before Operating this Equipment

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words which are intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.

⚠ DANGER：

Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

⚠ WARNING：

Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

⚠ CAUTION：

Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE：

This symbol is used to alert the user to useful information about proper operation of the equipment.

⚠ WARNING：

Safety Instructions for Power Tools

1. Keep guards in place and in working order.
2. Remove adjusting keys and wrenches. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning on.
3. Keep work area clean. Cluttered areas and benches invite accidents.
4. Do not use in dangerous environment. Do not use power tools in damp or wet locations, or where any flammable or noxious fumes may exist. Keep work area well lighted.
5. Keep children and visitors away. All children and visitors should be kept at a safe distance from work area.
6. Make workshop child proof with padlocks, master switches, or by removing starter keys.
7. Do not force tool. It will do the job better and safer at the rate for which it was designed.
8. Use right tool. Do not force tool or attachment to do a job for which it was not designed.
9. Use proper extension cord. Make sure your extension cord is in good condition. Conductor size should be in accordance with the chart below. The amperage rating should be listed on the motor or tool

nameplate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Your extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords if they become damaged.

Minimum gauge for extension cords

AMP RATING	LENGTH		
	25ft	50ft	100ft
0-6	16	16	14
7-10	16	16	14
11-12	16	16	14
13-16	14	12	12
17-20	12	12	10
21-30	10	10	No

10. Wear proper apparel. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.
11. Always use safety glasses. Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are not safety glasses.
12. Secure work. Use clamps or a vise to hold work when practical. It is safer than using your hand and frees both hands to operate tool.
13. Do not overreach. Keep proper footing and balance at all times.
14. Maintain tools with care. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. Use recommended accessories. Consult the instruction manual for recommended accessories. The use of improper accessories may cause risk of injury.
16. Reduce the risk of unintentional starting. On machines with magnetic contact starting switches there is a risk of starting if the machine is bumped or jarred. Always disconnect from power source before adjusting or servicing. Make sure switch is in off position before reconnecting.
17. Many woodworking tools can “kickback” the workpiece toward the operator if not handled properly. Know what conditions can create “kickback” and know how to avoid them. Read the manual accompanying the machine thoroughly.
18. Check damaged parts. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
19. Never leave tool running unattended. Turn power off. Do not leave tool until it comes to a complete stop.
20. Never operate a machine when tired, or under the influence of drugs or alcohol. Full mental alertness is required at all times when running a machine.
21. Never allow unsupervised or untrained personnel to operate the machine. Make sure any instructions

you give in regards to the operation of the machine are approved, correct, safe, and clearly understood.

⚠ WARNING：

Additional Safety Instructions for Bandsaw

1. Do not operate with dull or badly worn blades. Dull blades require more demand on the motor and are less likely to cut precisely. Inspect blades before each use.
2. Never position fingers or thumbs in line with the cut. Serious personal injury could occur.
3. Do not operate this bandsaw without wheel guards, pulley guards, and blade guards in place.
4. When replacing blades, make sure the teeth face toward the front of the saw.
5. Cuts should always be fully supported against the side of the conveyor table and by the pressure rollers.
6. Do not back workpiece away from the blade while the saw is running. If you need to back the work out, stop the bandsaw and wait for the blade to stop. Do not twist or put excessive stress on blade while backing work away.
7. Blade should be running at full speed before beginning a cut.
8. Always feed stock evenly and smoothly. Do not change conveyor speeds during a cut.
9. This machine is not designed to cut metal or other material except wood.
10. Do not manually stop or slow blade after turning the saw off. Allow it to come to a complete stop before you leave it unattended.
11. All inspections, adjustments, and maintenance must be done with the power off and the circuit breaker shut off. Wait for all moving parts to come to a complete stop.
12. Habits – good and bad – are hard to break. Develop good habits in your shop and safety will become second- nature to you.
13. If at any time you are experiencing difficulties performing the intended operation, stop using the bandsaw. Then contact our service department or ask a qualified expert how the operation should be performed.
14. Make sure blade is properly tensioned before operating machine.
15. Keep loose clothing and long hair away from moving conveyors!

⚠ WARNING：

Like all power tools, there is danger associated with the Model HP-11P. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this tool with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

⚠ CAUTION：

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.

⚠ WARNING：

Additional Safety Instructions for Hydraulics

1. Be familiar with the hazards of hydraulic injection injuries. Leaking hydraulic fluid may have enough pressure to penetrate skin. Never use your hands to check for suspected hydraulic leaks.
   Hydraulic fluid that is injected into skin is a medical emergency that may cause infection, disability, amputation or death.
   The average injection injury may be a small wound that has barely broken the skin. Do not be fooled by this type of injury. Immediately get to an emergency medical facility!
   Minimizing the time between the injury and when the injected material is removed is critical to minimizing the seriousness of the injury.
2. Use a piece of cardboard to check for suspected hydraulic leaks. Pressurized hydraulic fluid may cause injection injuries and can be extremely hot. Never use your hands to check for suspected hydraulic leaks.
3. Protect your eyes around hydraulic systems. Safety glasses may not always protect your eyes from hot, pressurized fluid. The best way to protect yourself is to stay away from leaks until you can depressurize the system.
4. Stop the machine if you notice a hydraulic leak. Allowing the machine to continue running with a leak may increase the hazard of the situation.
5. Depressurize the hydraulic system before attempting to adjust any hydraulic lines or fittings. Stop the resaw, open the conveyor speed valves, and make sure the pressure gauge reads 0 psi.
6. Depressurize the hydraulic system before attempting any maintenance or service. Stop the resaw, open the conveyor speed valves, and make sure the pressure gauge reads 0 psi.
7. Regularly inspect and perform the proper maintenance on the hydraulic system. A well-maintained hydraulic system will have much few problems and hazards than a neglected system.
8. Make sure any hydraulic system maintenance is performed in a clean and dust-free work area. Remove any sawdust, grime or water from hydraulic system openings or components before maintenance. Always use lint-free rags when wiping components.
9. Only use high pressure hydraulic hose and steel hydraulic fittings when replacing components in the hydraulic system. Do not use brass or aluminum.

⚠ WARNING：

Additional Safety Instructions for Machine Lifting

1. Use enough capacity of forklift to raise or move the machine.
2. Pay special attention to the machine balance while in lifting.
3. Have another person to help guiding the way when lifting the machine.
4. Make sure the fork of the forklift protrudes over the machine bottom.
5. Do not raise the machine too high as this will cause poor stability.
6. Forklift should be driven by experienced personnel only.

SECTION 3：CIRCUIT REQUIREMENTS

⚠ WARNING：

Serious personal injury could occur if you connect your machine to the power source before you have completed the setup process. Do not connect the machine to the power source until instructed to do so.

The Model 4680 is wired for 3-phase operation.
The Model 4680 has 20 HP main motor.

Circuit Breaker Requirements
Install your bandsaw on a dedicated circuit to reduce the possibility of overloading the circuit and tripping the circuit breaker. However, if an unusual load does not exist, and the circuit breaker still trips, have the circuit inspected by a qualified electrician. Never use a larger circuit breaker than stated below, or you will increase the risk of fire.

Connection Type
Because of the high amperage draw from this machine, we recommend that you hardwire it directly to your circuit breaker and install a locking shut-off lever near the machine as a way to quickly disconnect the power.

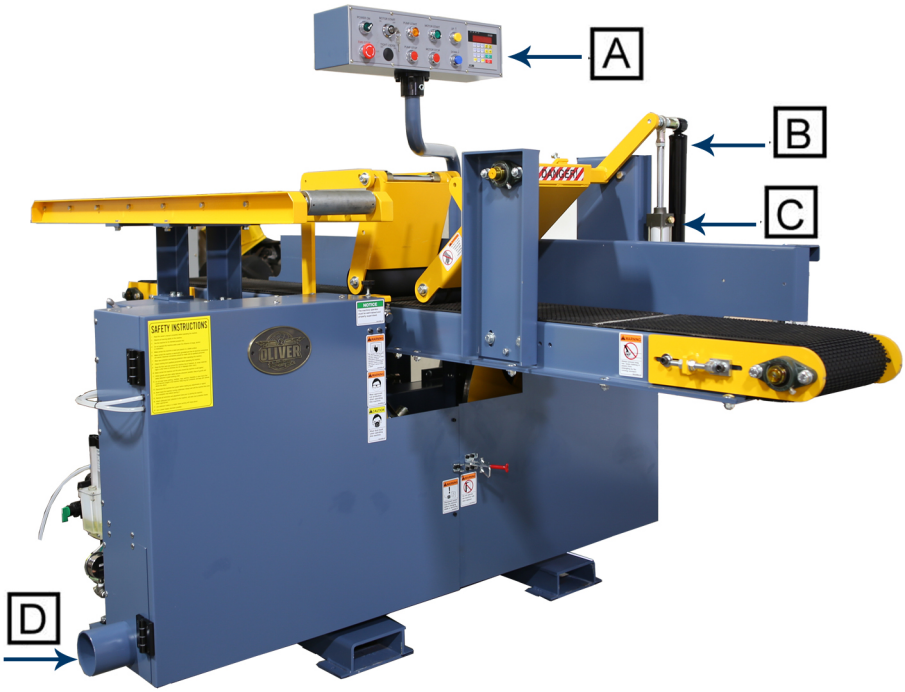
Your factory Circuit Capacity
Always check to see if the wires in your circuit are capable of handling the amperage draw from your machine, as well as any other machines that could be operating on the same circuit. If you are unsure, consult a qualified electrician.
If the circuit breaker trips or the fuse blows regularly, your machine may be operating on a circuit that is close to its amperage draw capacity. However, if an unusual amperage draw does not exist and a power failure still occurs, refer to the troubleshooting section in this manual or contact a qualified electrician or our service department.

⚠ CAUTION：

Be sure that your particular electrical configuration complies with local and state codes. The best way to ensure compliance is to check with your local municipality or a licensed electrician.

SECTION 5：MACHINE FEATURES

Main Features



A. Control Panel – Digital Readout

B. Shock Absorber

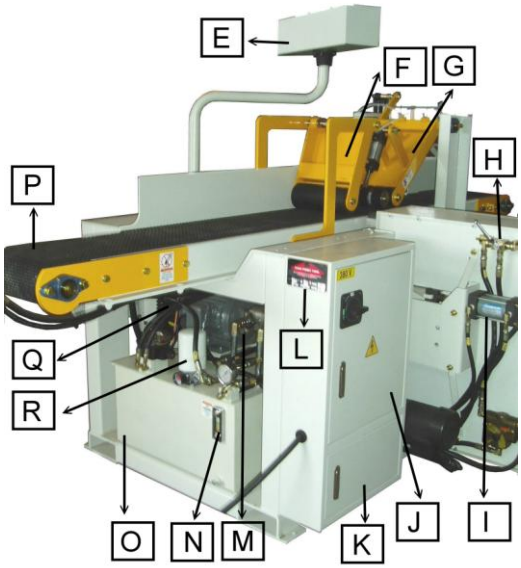
For front pressure roller go down.

C. Air Cylinder

For front pressure roller go down.

D. 4" Dust Port

Allows the resaw to be connected to a dust collection system.



E. Control Panel

Controls power to the main motor and the hydraulic motor.

F. Front Pressure Rollers

Maintain downward pressure on the board to keep it steady during cutting.

G. Back Pressure Rollers

Maintain downward pressure on the board to keep it steady during cutting.

H. Conveyor Belt Controls

Controls ON/OFF and conveyor speed.

I. Saw Blade Tension

Control the saw blade tension for hydraulic.

J. Electrical Control Box

Main area for wiring, rewiring, and changing the fuses. Should never be opened when the machine was connected with the power source!

K. Tool Box

L. Mark Brand

Including the voltage, hertz, phase, model number, date, serial number.

M. Hydraulic Pump

Create hydraulic oil flow which drives the conveyor motor.

N. Hydraulic Fluid Level

Display oil capacity inside of the hydraulic tank.

O. Hydraulic Tank

Holds and cools the hydraulic fluid.

P. In-feed Conveyor

Move the board through the band-saw blade during cutting.

Q. Hydraulic System Oil Coolant

Cool the hydraulic fluid for the hydraulic system.

R. Hydraulic Fluid Filter

Remove contaminating particles from the hydraulic fluid.

SECTION 6：INSTALLATION

Mounting resaw to the floor

We recommend that you bolt your new resaw to the floor. Because this is optional and floor materials may vary, floor mounting hardware is not included. It may be necessary to level the floor before installing this machine.

Note：The instructions below are given for a typical heavy-duty shop floor made of 6" thick concrete. Also, anchor studs may be substituted for lag bolts, but they will stick out of the floor if you decide to move your machine at a later point.

To mount the re-saw machine to the floor：

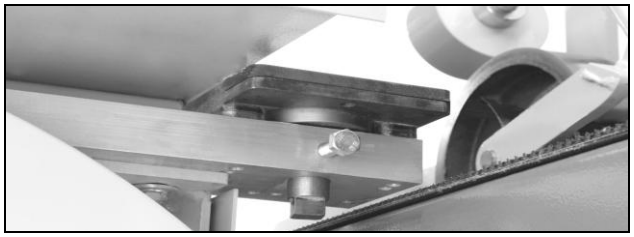
1. Put on safety glasses and a dust mask before starting!
2. Use the mounting holes in the resaw stand feet to act as a guide for drilling into your floor, and drill approximately 3-1⁄2" deep into the concrete floor.
3. Using compressed air and a vacuum, remove the concrete dust from the newly drilled holes.
4. Using the hammer and punch, pound the lag shields into the concrete below the stand feet and flush with the surface of the concrete.
5. Secure the resaw to the floor with the lag bolts and washers.

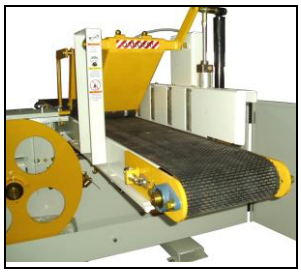
Mounting the conveyor belt

To install the conveyor belt onto the re-saw：

1. Remove the lag bolts that secure the conveyor belt assembly to the crate pallet.

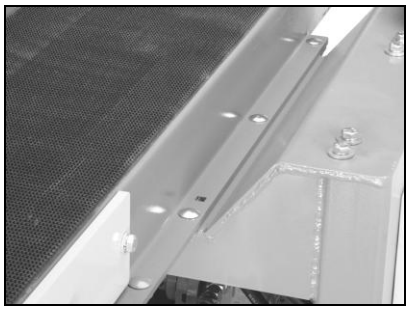
2. Remove the blade guide from the wheel housing.



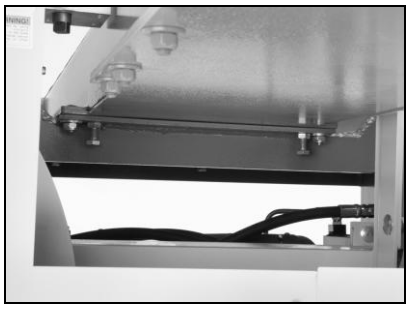


3. Lift the conveyor belt onto the resaw body as shown in the right.

4. Line up the holes and insert the carriage bolts**.**



5. Look under the conveyor for the carriage bolts**.** Place the flat washers and lock nuts on the carriage bolts and tighten.



6. Re-install the blade guard in the wheel housing.

Connect power wires

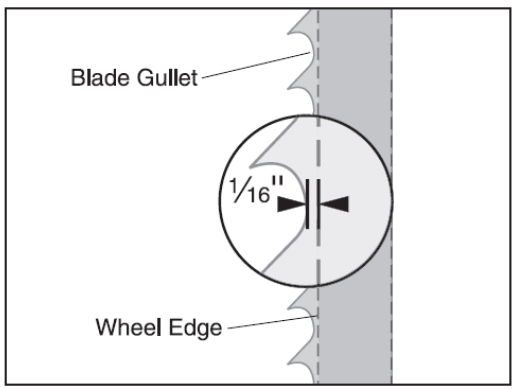
1. Before connecting the power source of your machine to the factory power supply, make sure the voltage, Hertz, and phase are compatible. The machine is prewar before shipment according to customers' requested voltage.
2. The power source connection points are provided inside of the electrical control box, located at back side of the machine. Power wire connection points are marked as "R, S, T". The ground wire connection points are marked "E".
3. Make sure the machine is properly ground to prevent the danger of electric shock.

Check power wire connection

After the power source wires have been connected, check if the power wires are connected to the correct points or not. This can be identified by checking the running direction of the conveyor. If the conveyor belt runs to the connect direction, this means the power wires are connected to the correct points. Otherwise you should change any two of the three power wires.

Installing the saw blade

1. Disconnet the resaw from the power source.
2. Press the saw blade tension button “off”. (please note that if lower saw blade lower than 40mm, the button can not be changed to “off”. Prevent saw wheel from hitting conveyor table.)
3. Put on protective gloves.
4. open the wheel covers for access to the wheels.
5. Hold the blade from each side, and position it in front of the wheels so the blade teeth are facing the front of the machine.
6. Carefully fit the blade over each wheel and position it between the blade guides. Make sure the teeth point toward the right-hand side of the machine, as you are facing the front.
7. Position the blade on the wheels so the tooth gullet is approximated 1/16” over the edge of the wheel.
8. Slide the upper guide block up, place a dollar bill (as a quick gauge for 0.004" clearance) underneath the upper guide block, then let the upper guide block slide down to sandwich the dollar between the blade and the upper guide.



SECTION 7：CONTROL PANEL SYSTEM

Safety rules for control system

1. Do not alter or bypass any protective interlocking systems.

2. All electrical/electronic trouble shooting and repairs should be undertaken only by personnel who are properly trained and skilled.

3. Do not alter the electrical circuits unless authorized to do so by the machine manufacturer.

4. Be fore starting the machine, read and observe all warning labels and markings such as the name plates and indication plated.

5. Be alert and make sure you work without outside distractions.

6. Make sure your tools and body are clear of forming an electrical ground.

7. The control panel doors should be opened only when it is necessary to check out the electrical equipment or electrical wiring.

8. Take extra precautions in damp environments to protect you from accidental grounding.

9. Be fore applying power to any equipment; ensure without doubt that all persons are clear.

10. When replacing conductors make sure they conform to the manufacturers specifications, including correct color coding.

11. Avoid wearing metal frame glasses or metallic necklaces and chains. Never use electrical equipment while wearing rings, watches or bracelets.

12. Give capacitors time to discharge. Otherwise it should be done manually with care.

13. Always assume that electrical power is “ON” and treat the circuit as live. The habit will help prevent accidents.

14. Use correct testing equipment to make certain you have an open circuit. Test equipment must be checked and calibrated at regular intervals.

15. Do not alter over current protective devices.

16. All covers on the junction boxes must be closed before leaving any job.

Switch function control panel

A. POWER ON

Before pressing this power switch, remember to turn on the master power switch located at left side of the control box.

When this switch is pressed and it's indication lamp lights on, it means the machine is underpowered.

B. **EMERGENCY STOP**

When this emergency stop switch is pressed, all motions of the machine stop immediately.

If there is any abnormal condition occurs during operation press this switch to stop all motions.

Before restarting the machine, remember to reset this emergency stop switch by turning it clockwise.

C. MOTOR START ON/OFF

Controls motor for start or stop.

D. TIGHT LOOSE ON/OFF

Controls saw blade tension.

E. PUMP STOP

Stops the hydraulic pump motor.

F. PUMP START

Starts the hydraulic pump motor.

G. MOTOR STOP

Stops the main motor.

H. MOTOR START

Starts the main motor and the saw blade.

I. UP

This is a jog switch. When it is pressed, the upper saw head raises. When this switch is released the saw head raising motion stops immediately.

J. DOWN

This is a jog a switch. When it is pressed, the upper saw head lowers. When this switch is released the saw head lowering motion stops immediately.

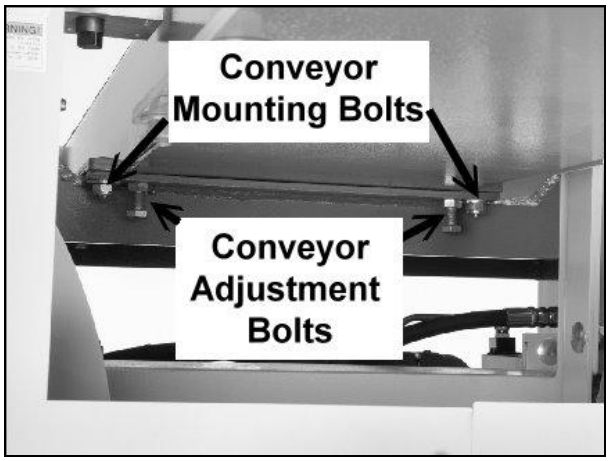
K. DITITAL READOUT

SECTION 8 : ADJUSTMENT INSTRUCTION

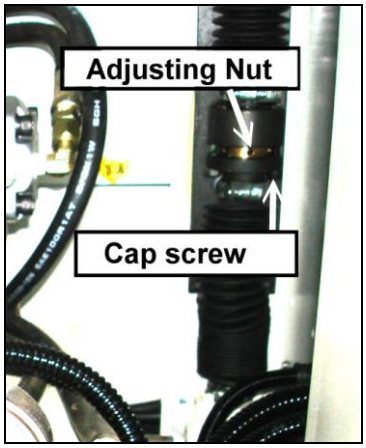
Adjust conveyor table

To adjust the conveyor table left to right:

1. Disconnect the resaw from the power source!
2. Use your test board to determine which direction the conveyor table needs to be moved. For example, if the right side of the board was thicker than the left side
   —you will need to move either the right side of the conveyor up or move the left side of the conveyor down.
3. Loosen all six of the conveyor mounting bolts.



4. To raise the left side, loosen the lock nuts on the conveyor adjustment bolts on the left side and tighten the adjustment bolts. Do the same procedure to the right side bolts to raise the right side.
5. Tighten the lock nuts on the adjustment bolts and tighten the conveyor mounting bolts.
6. Connect the resaw to the power, and repeat steps 1 and 2.
   —If the measurements are close to correct, but need fine tuning, continue to step 6.
   —If large adjustments are necessary, repeat steps 3 and 4.
7. Loosen the cap screw shown below.



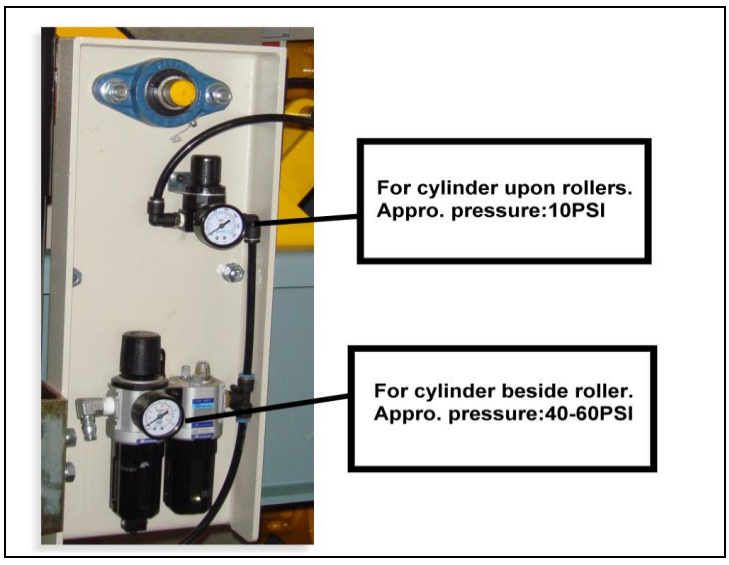
8. The adjusting nut shown in raises, or lowers, the non-drive side of the bandsaw blade (the side opposite the motor). Insert the pry tool into the adjusting nut.
   —Rotate the adjusting nut to the right to raise the bandsaw blade.
   —Rotate the adjusting nut to the left to lower the bandsaw blade.
9. Retighten the cap screws, connect the resaw to the power, and repeat steps 1 and 2.
   —If the measurements are close to correct, but need fine tuning, continue to step 6.
   —If large adjustments are necessary, repeat steps 3 and 4.

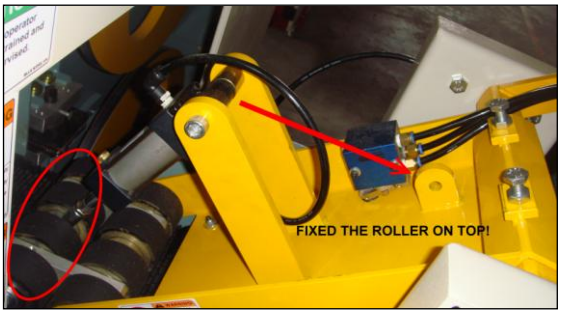
To adjust the conveyor table front to back:

1. Disconnect the resaw from the power source!
2. Place two flat bars of wood or metal under the conveyer belt.
3. Place a square against the surface of the wheel and slide it up against the bars on the conveyor table.
   — If the square touches both bars, no adjustment is necessary.
   — If the square touches the front bar, but not the back bar, the front of the conveyor needs to be raised. Go to step 4.
   — If the square touches the back bar, but not the front bar, the back of the conveyor needs to be raised. Go to step 4.
4. Loosen all six of the conveyor mounting bolts.
5. To adjust the tilt, loosen the lock nuts on the conveyor adjustment bolts on the end that needs to be raised and tighten the adjustment bolts until the square touches both bars.
6. Tighten the lock nuts on the adjustment bolts and tighten the conveyor mounting bolts.

Adjust infeed pressure roller in right /left direction

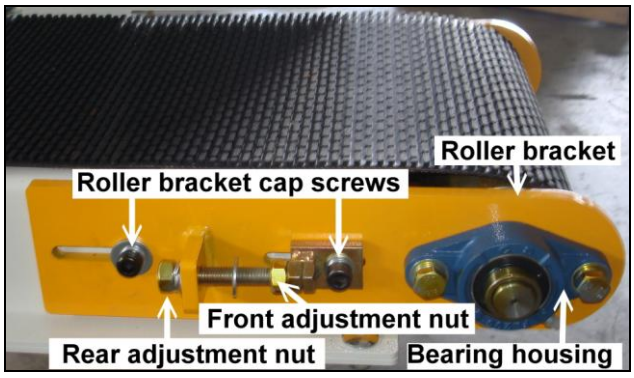
The infeed roller is pressed by air unit. Adjust the pressure when pressing the wood piece over or less.





Make sure to lift up the front roller and fix on top when saw blade is higher than 60mm, nor the roller will be cut by blade!

Adjust conveyor belt



1. Lossen the two roller bracket cap screws on the both side of the conveyor about 3/4 of a turn.
2. Loosen the rear adjustment nuts on both side of the conveyor.
3. Start conveyor belt.
4. Adjust the roller bracket that the belt is hitting by turning the front adjustment nut counter-clockwide half of a turn, and watch the belt tracking. Note
   —*The effect of the adjustment can sometimes take two minutes before the results are fully apparent.*
   — If the tracking was not corrected by this adjustment, proceed to step 5. If the tracking was corrected, skip to step 6.
5. On the side that the belt tracks away from, turn the front adjustment nut clockwise half of a turn, and watch the belt tracking.
   — If the tracking was not corrected by this adjustment, repeat step 4.
6. When the conveyor belt is tracking in the center of the roller brackets, run the conveyor for at least two minutes to ensure that it will remain tracking correctly.
   —If the tracking was not corrected by this adjustment, repeat step 4.
   —If the belt is tracking in the center of the infeed roller, but not centered on the outfeed roller, go to step 7.
   —If the belt is tracking in the center of both rollers, go to step 9.
7. Adjust the outfeed end of the conveyor by loosening the bolts on the outfeed bearing housing (similar to the bearing housing) and sliding it forward or backwards.
8. Retighten the bearing housing bolts and run the conveyor to check the tracking.
   —If the tracking was not corrected by this adjustment, repeat step 7.
9. Tighten the rear adjustment nuts against the bracket plates, then tighten the front adjustment nuts against the bracket plates to make sure that the tracking adjustment will not slowly change during normal operation.

< Conveyor Pressure Gauge: **25~35** >

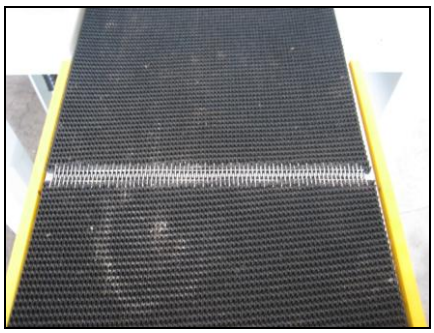
NOTICE：

These instruction are for rough tensioning only. The only way to accurately tension the blade is with a blade tension. Premature blade breakage is often caused by improper blade tensioning.

Replacing conveyor

To replace the conveyor belts：

1. Start the conveyor belt and stop it when the conveyor belt seam is accessible.



2. Disconnect the resaw from the power source!
3. Loosen the roller bracket by turning the roller bracket cap screws 3⁄4 of a turn.
4. Loosen the rear adjustment nuts away from the bracket plate.
5. Mark the front adjustment nut with a felt-tipped pen or a piece of tape, and thread the front adjustment nut all the way up, while keeping track of the number of full turns that you moved the nut.

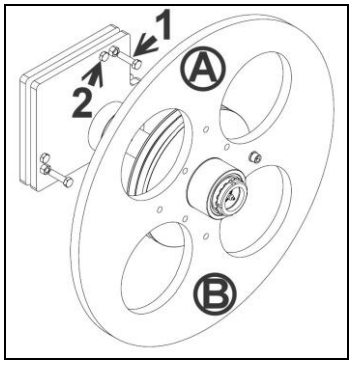
Note：Write the number of turns down, so you do not forget. Remembering this number is an important part of the re-assembly process.

6. Slide the roller brackets toward the body of the re-saw to loosen the belt.
7. Remove the stiff cable from the center of the seam to separate the conveyor belt.
8. Remove the old conveyor belt from the conveyor table, and install the new conveyor belt in its place.
9. Mesh the seam “teeth” together on the new belt, and insert the stiff cable into the center of the seam to lock it together.
10. Slide the roller brackets away from the body of the re-saw to tighten the belt.
11. Thread the front adjustment bolts the same number of turns as in step 5.

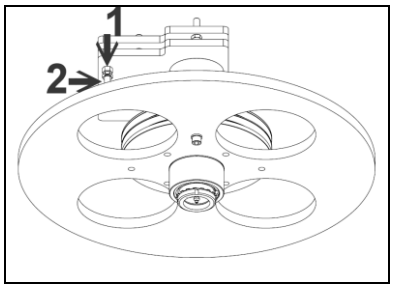
Note：The new belt may be tighter than the old one because it has not been broken-in. If this is the case, deduct one or two turns from your original number of turns.

Adjust saw wheel for leveling

⚠ All the saw wheel have been adjusted properly before shipment, please do not do any adjustment until you change the saw wheel!



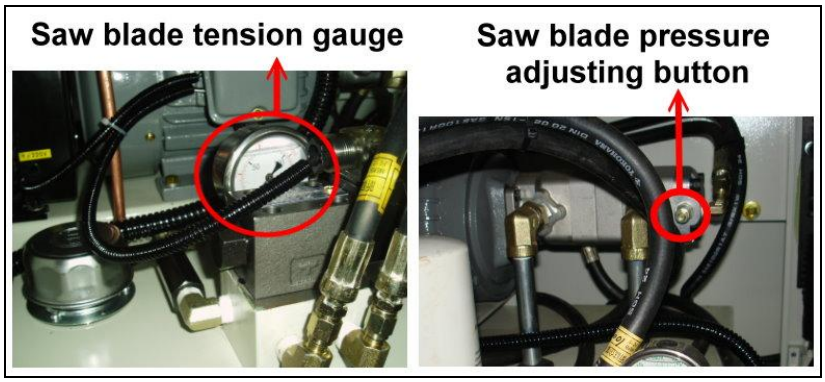
There are two adjusting screws. To adjust the screws will make the saw wheel surface slide.
The purpose is to fix the position of Ⓐ and Ⓑ.
For example, to loosen the screw ① and lock screw ② will make the saw blade inner.
To loosen the screw ② and lock screw ① will make the saw blade outer.



(OPPOSITE)
To loosen the screw ② and lock screw ① will make the saw blade inner.
To loosen the screw ① and lock screw ② will make the saw blade outer.

Adjust saw blade tension

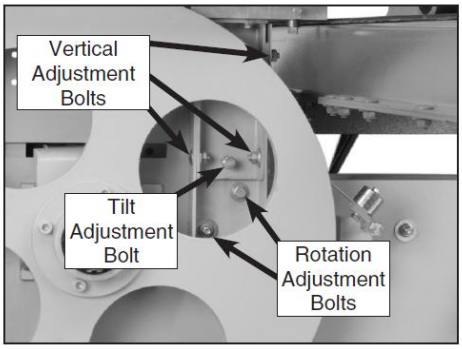
The saw blade is tensioned by hydraulic cylinder. The tension will be adjusted by cylinder automatically. If we need to change the tension, there is a button beside the pump. Adjust this button to change the tension. We can also see the tension value by the gauge on oil tank. Standard pressure range: 25-30kg/cm2



Saw blade guide adjustment

To align the guide blocks:

1. Rotate the wheels by hand and watch how the blade feeds through the blade guides.
   - If the blade feeds through the blade guide without touching the guide block or rotating the support wheel, no adjustment is necessary.
   - If the blade rotates the support wheel but does not touch the guide blocks, go to *Adjusting the Support Wheel*.
   - If the blade rubs against the guide blocks, continue to the next step.
2. Loosen the vertical adjustment bolts if the blade is not centered vertically in the guide slot.

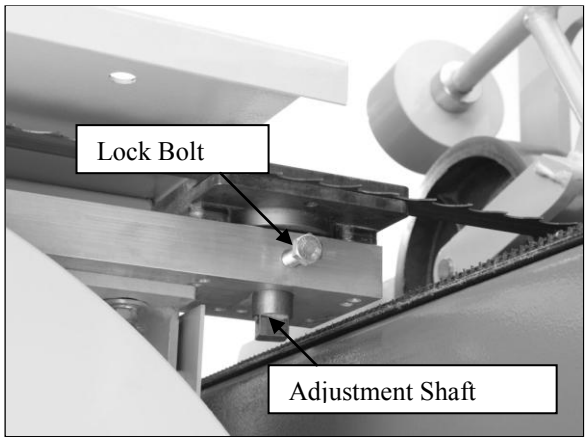


3. Shift the blade guide adjusting bracket until the blade is centered in the guide slot.
4. Tighten the vertical adjustment bolts and repeat **step 1**.
5. Loosen the lower two vertical adjustment bolts if the blade guide is tilted so the blade touches the front or back.
6. Loosen the lock nut on the tilt adjustment bolt, and adjust the tilt adjustment bolt until the guide block is level.
7. Tighten the lock nut and the vertical adjustment bolts, and repeat **step 1**.
8. Loosen the rotation adjustment bolts if the blade touches the guide on the right or left ides.
9. Rotate the guide block until it is level and tighten the rotation adjustment bolts.
10. Test the alignment as described in **step 1**. Continue to make adjustments until the guide block no longer touches the blade.

11. Repeat the previous steps for the other guide block.

To adjust the support wheel：

1. Loosen the lock bolt.



2. Rotate the adjustment shaft until the support wheel is approximately 0.016" behind the back of the blade. Check with a feeler gauge or four thicknesses of a dollar bill.
3. Tighten the lock bolt.
4. Spin the wheels clockwise by hand. If the support wheels turn, increase the spacing between the blade and the bearing (the bearings should only turn when cutting).

Note：To prevent the blade from wearing a groove into the support wheel adjust the height periodically. Move the adjustment shaft up or down until the blade contacts the support wheel in a new place.

SECTION 9：MAINTENANCE

WARNING：

Always disconnect power to the machine before performing maintenance. Failure to do this may result in serious personal injury.

Cleaning

Inside Wheel Cover

To keep the bandsaw working properly, regularly open the wheel cover and vacuum any sawdust from the machine that did not make it into the dust collector.

Conveyor Belts

Use compressed air to clean the built-up sawdust from the conveyor belts. Eye injuries frequently occur when cleaning with compressed air—wear safety glasses to protect you. Also wear a dust mask or respirator to protect your lungs from airborne dust particles.

Hydraulic Elevation Rams

Use a dry rag to remove sawdust from the hydraulic elevation rams, and then wipe the rams down with a light coat of hydraulic fluid.

Painted Surfaces

These areas may be cleaned with a dry or damp rag; however, make sure you Do not clean bare metal surfaces with a damp rag or they may rust.

Miscellaneous

Always be aware of the condition of your machine. Routinely check the condition of the following items and repair or replace as necessary：

- Loose mounting bolts
- Worn switch
- Worn or damaged blade
- Worn or damaged support bearings or guide bearings

Bearings

Sealed and pre-lubricated ball bearings require no lubrication for the life of the bearings. All bearings are standard sizes, and replacements can be purchased from our parts department or bearing supply store.

Greasing

The photos on this page label the grease fittings by number for easy identification. Wipe clean and lubricate the grease fittings with two pumps of high temp bearing grease. The proper greasing intervals are indicated by white boxes on the chart below.

Note—This page was designed to be copied and used as a check-off chart to help maintain a regular lubrication schedule.

□ Check white boxes after lubricating fittings. Date Started：

4680 GREASE SCHEDULE/CHECK-OFF CHART							
MACHINE AREA	FITTINGS	HOURS OF USE					
		160	320	480	640	800	960
Main Wheels	4, 9						
Blade Tension Device	2, 3, 17						
Main Conveyor	6, 11, 14						
Return Conveyor	7, 12, 13						
Lifting Posts	10, 16						
Pressure Rollers	8, 15						
Wheel Cover Bearings	1, 5						

Note — 160 hours is the equivalent of 1 month of regular use.

Hydraulic Fluid Schedule

Check the hydraulic fluid level daily.

The hydraulic system controls the movement of the conveyor belts. In order for this system to function properly and operate at the correct temperature, the hydraulic fluid level in the tank should be 2/3 full between the fill lines on the fluid sight window, which is located on the front of the tank.

Note—The 2/3 level is approximately the same as the 60°C mark on the sight window thermometer.

To add hydraulic fluid, remove the breather cap shown . Use an ISO VG 10— Antiwear 10 Hydraulic Fluid or equivalent.

 **Hydraulic reservoir components.**

Inspect and clean the breather cap and filler screen every 40 hours of regular use.

The breather cap is vented to allow the hydraulic system to breathe during operation. Below the breather cap is a plastic filler screen.

Visually inspect both the breather cap and the plastic filler screen. If there is visual contamination, clean both items with solvent and compressed air. Allow them to completely dry before installing back in place.

Hydraulic System Minor Service

The hydraulic system minor service consists of changing the fluid filter, cleaning the breather cap and filler screen, and inspecting the hydraulic fluid for signs of thermal breakdown, dust contamination and water contamination.

Perform a “Minor Service” every 960 hours or every 6 months of regular use.

⚠ WARNING：

The hydraulic system on this machine creates very high pressure and the hydraulic fluid gets hot. Always stop the resaw, open the conveyor speed valves, make sure the pressure gauge reads 0 psi, and make sure the fluid cools down before removing any lines or servicing the hydraulic system.

To change the filter：

1. Read the hydraulic safety instructions on page 6 before continuing.
2. Disconnect the two hydraulic lines that are over the filter cap and remove the pipe fitting so there is clear access directly over the filter cap.
3. Remove the filter cap by completely removing the three bolts that secure it in place.
4. Set aside the filter cap spring and O-ring, so that they do not fall into the tank when you remove the filter.
5. Lift the filter assembly out of the tank.

6. Separate the filter from the filter housing by pulling them apart.
   Note—If you only removed a bare filter, then the housing is still mounted in the tank. Remove it for cleaning.
7. Remove the O-ring from the shoulder of the filter housing and clean the filter housing in a solvent tank.
   Note—Do not gets solvent on O-rings or they will be damaged.
8. Dry the filter housing to remove any excess solvent and replace the O-ring.
9. Rub clean hydraulic fluid on the O-ring that is mounted on the bottom of the new filter and insert the new filter into the filter housing.
10. Rub clean hydraulic fluid on the O-ring that is on the filter housing shoulder and drop the entire filter housing in the tank in the same position as it was removed (shoulder side up).
11. Replace the filter cap spring and O-ring, and start the filter cap bolts by threading them into their holes two or three turns.
12. Place the filter cap on the spring so the prongs fit in the center of the spring, and push down and twist the cap into place.
13. Tighten the filter cap bolts in an even manner, replace the fitting, and reconnect the hydraulic lines.

To inspect the hydraulic fluid：

1. Look at the color of the hydraulic fluid in the sight window.
   —If the fluid is milky in appearance, then the hydraulic fluid is contaminated with water.
   —If the fluid is dark brown or opaque, then the hydraulic fluid is severing contaminated.
2. Smell the hydraulic fluid (remove breather cap).
   —If the fluid smells rancid or burnt, then thermal breakdown has most likely occurred.

Inspection Results

If you determine that your hydraulic fluid is contaminated or has experienced thermal breakdown, then you should perform a major service.

Hydraulic System Major Service

The hydraulic system major service consists of performing a complete “Minor Service,” draining the old hydraulic fluid, cleaning the tank screen, cleaning the tank, and filling the tank with new fluid.

⚠ WARNING：

The hydraulic system on this machine creates very high pressure and the hydraulic fluid gets hot. Always stop the resaw, open the conveyor speed valves, make sure the pressure gauge reads 0 psi, and make sure the fluid cools down before removing any lines or servicing the hydraulic system.

The hydraulic tank, when filled correctly at the sight window, holds approximately 13.5 gallons of hydraulic fluid. Before draining the hydraulic fluid, make sure you have a drain pan that will hold that much fluid or make sure that you are prepared to drain the tank, plug the tank, empty your drain pan, drain the tank, and so forth.

To drain the hydraulic fluid：

1. Read the hydraulic safety instructions on page 6 before continuing.
2. With your drain pan in place, remove the drain plug.
3. Replace the drain plug after the hydraulic tank is completely drained.

To clean the tank screen：

1. Remove the access plate on top of the hydraulic tank.
2. Remove the tank screen, clean it with solvent and compressed air, and allow it to dry.
3. Re-install the tank screen after you clean the bottom of the tank.

To clean the bottom of the tank：

1. Use a lint free rag to wipe up and remove the sludge from the bottom of the tank.
2. Use clean hydraulic fluid on a clean rag to clean additional contaminants from bottom and sides of the tank.

To fill the tank with new fluid：

1. Make sure that you have re-installed the tank screen, that the drain plug is tight, and that you have replaced the access plate on top of the tank.
2. Using an ISO VG 46 fill the tank until the sight window is 2/3 full or the fluid level is at the 60°C mark on the sight window thermometer.
   Note—This will take approximately 13.5 gallons.

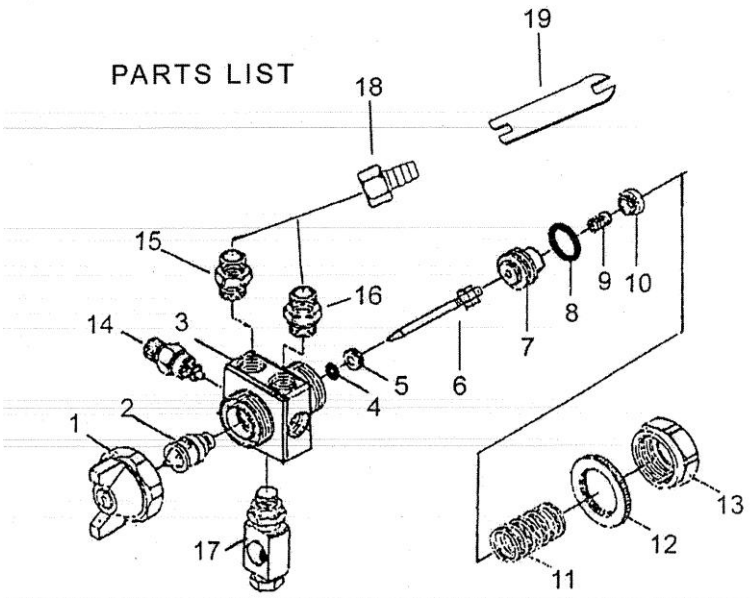
Maintenance Log

Date	Approximate Hours Of Use	Maintenance Performed

SECTION 10：OPTIONAL – MIST COOLANT SYSTEM

AUTOMATIC SPRAY GUN

PARTS LIST



No	Description	Set
1	Air cap set	1
2	Fluid nozzle	1
3	Gun body	1
4	Fluid needle packing	1
5	Fluid needle packing screw	1
6	Fluid needle set	1
7	Needle seat	1
8	O-ring	1
9	Needle spring	1
10	Needle seat screw	1
11	Fluid needle set spring	1
12	Lock nut	1
13	Fluid knob	1
14	Pattern adiusting set	1
15	Air connector	1
16	Fluid connector	1
17	Holder set	1
18	Air fitting	2
19	Spanner	1

ADJUSTMENT

a. Fluid Supply

Fluid is provided by gravity container or by pressure tank. Recommended air pressure in pressure tank is 0.5-1 kgf/㎠ . Fluid nozzle drips when air pressure is too high, even though the gun is not being uscd.

b. Air Supply

Recommended air pressure at gun inlet is 3-4 kgf/㎠ . Needle seat will not move if air pressure is less than 2 kgf/㎠ .

c. Fluid Output

Turn the fluid adjusting knob to the left to increase fluid output and to the right to reduce fluid output.

TROUBLE-SHOOTING

a. When gun drips from fluid nozzle, check if fluid needle packing is damaged or if fluid nozzle and fluid needle are dirty. Clean or replace parts.

b. When fluid leaks from air cap, check if fluid nozzle is loose and if fluid needle packing is worn or damaged. Tighten fluid nozzle, or clean and lubricate fluid needle packing or replace parts.

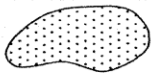
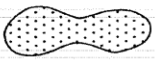
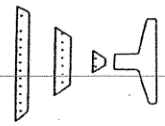
c. When fluid needle is sluggish, check if fluid nozzle and fluid needle are dirty. Clean or lubricate or replace parts.

d. When spray pattern is abnormal, check if fluid builds up on air cap or if fluid nozzle is loose or damaged. Clean air cap or tighten fluid nozzle or replace parts.

c. When only air emits and no fluid comes out, check if fluid adjusting knob is completely closed.

Nozzle size φmm	Fluid output mℓ/min	Pattern Width / Spray Distance		Air Consumption ℓ /min	Applied Compressor kW
		200mm	300mm		
1.0	250	200	250	80	0.4-0.75
1.3	360	250	350	100	0.75-1.5

TROUBLESHOOTING

SPRAY PATTERN/ CONDITION	PROBLEM	SOLUTION
	One side of nozzle wing is clogged.	Soak nozzle in solvent to loosen clog, then blow air through until clean. To clean orifices use a broom straw or toothpick. Never try and detach dried material with sharp tool.
	A.) Loose air nozzle. B.) Material around outside of air nozzle has dried.	A.) Tighten air nozzle. B.) Take off air nozzle and wipe off fluid tip, using rag moistened with thinner.
	A.) Atomization air pressure is set too high. B.) Trying to spray a thin material in too wide a pattern.	A.) Reduce air pressure. B.) Increase material control by turning fluid control screw to left, while reducing spray width by turning spray width adjustment screw to right.
 Spitting	A.) Packing around needle valve is dried out. B.) Fluid nozzle loosely installed, or dirt between nozzle and body. C.) Loose or defective swivel nut on siphon cup.	A.) Back up knurled nut , put a few drops of machine oil on packing, re-tighten nut. B.) Take off fluid nozzle, clean rear of nozzle and seat in gun body. Replace nozzle and bring in tight to body. C.) Tighten or change out swivel nut
Improper spray pattern.	A.) Gun improperly adjusted B.) Dirty air cap C.) Fluid tip obstructed D.) Sluggish Needle	A.) Readjust gun. Follow instructions carefully. B.) Clean air cap C.) Clean D.) Lubricate.
Unable to get round spray.	Fan adjustment screw not seating properly.	Clean or replace.
Will not spray.	A.) No air pressure at gun. B.) Fluid pressure too low with internal mix cap and pressure tank. C.) Fluid control screw not open enough. D.) Fluid too heavy for suction feed.	A.) Check air supply and air lines. B.) Increase fluid pressure at tank. C.) Open fluid control screw. D.) Thin material or change to pressure feed.
Fluid leakage from packing nut.	A.) Packing nut loose. B.) Packing worn or dry.	A.) Tighten, but not so tight as to grip needle. B.) Replace packing or lubricate
Dripping from fluid tip	A.) Dry packing. B.) Sluggish needle C.) Tight packing nut. D.) Worn fluid nozzle or needle.	A.) Lubricate. B.) Lubricate. C.) Adjust D.) For pressure feed, replace with new fluid nozzle and needle.
Thin, sandy coarse finish	A.) Gun held too far from surface B.) Atomization pressure set too high	A.) Move gun closer to surface. B.) Adjust atomization pressure
Thick, dimpled finish resembling orange peel	Gun held too close to surface	Move gun further from surface

OIL TYPE: ESTOL 1545