Instruction and Parts Manual

DoALL SAWING PRODUCTS

2613-V3

Serial No: 589-09101 to

Band Sawing Machine

DAMAGE CLAIM PROCEDURES

VISIBLE DAMAGE AT THE TIME OF DELIVERY:

1. Note damage on carrier's delivery receipt. Accept the shipment. It can be returned later if repairs are not possible in the field.

2. Request a "damage inspection" from the delivery carrier:

    a. The carrier will send his own people or contract an independent agency to make the inspection.

    b. The inspector will request a signature on the report and leave a copy.

    c. The carrier "damage inspection" report is not final. If additional damage is found when repairs are started, contact the carrier for another inspection; or at least give them the details of the damage.

3. Do not move the equipment from the receiving area and keep all shipping materials until carrier "damage inspection" report is complete.

4. If possible, take photographs of the damage and keep them for your files. Photos could possibly prove a claim at a later time.

5. Keep a record of all expenses and be sure they are documented.

6. Repair damage in the field whenever possible. Carriers encourage this to keep expenses down.

7. You have nine (9) months to file a claim.

CONCEALED DAMAGE:

1. You have fourteen (14) days to report damage not noted at time of delivery.

    a. Report damage as soon as possible. This makes it easier to prove that it did not happen at cosignee's plant.

    b. Inspect machine(s) carefully before moving from the receiving area. Again, if machine is not moved, it is easier to prove your case.

2. Request a "damage inspection" from the delivery carrier:

    a. The carrier will send his own people or contract an independent agency to make the inspection.

    b. The inspector will request a signature on the report and leave a copy.

    c. The carrier "damage inspection" report is not final. If additional damage is found when repairs are started, contact the carrier for another inspection; or at least give them the details of the damage.

3. Do not move the equipment from the receiving area and keep all shipping materials until carrier "damage inspection" report is complete.

4. If possible, take photographs of the damage and keep them for your files. Photos could possibly prove a claim at a later time.

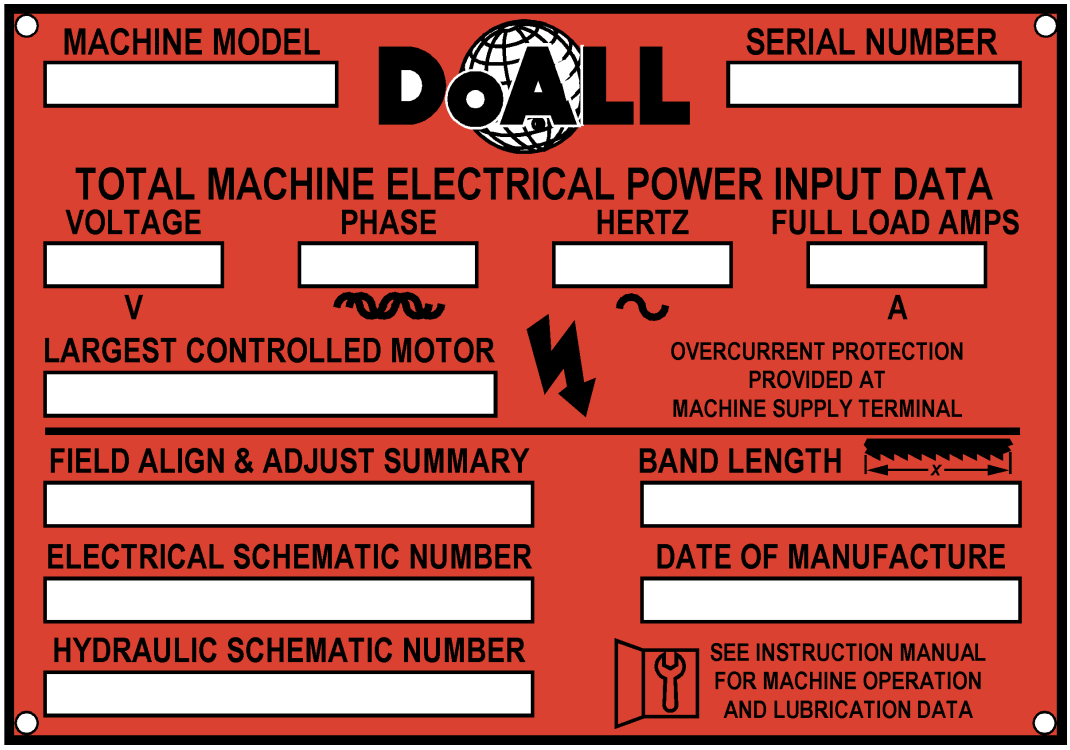
5. Keep a record of all expenses and be sure they are documented.

6. Repair damage in the field whenever possible. Carriers encourage this to keep expenses down.

7. You have nine (9) months to file a claim.

OPERATOR'S INSTRUCTION MANUAL
METAL CUTTING BAND SAW

MODEL	FIRST SERIAL NO.	LAST SERIAL NO.
2613-V3	589-09101	



For your information and future reference, pertinent data concerning your machine should be written in the spaces provided above. This information is stamped on a plate attached to your machine. Be sure to provide machine model and serial numbers with any correspondence or parts orders.

Specifications contained herein were in effect at the time this manual was approved for printing. The DoALL Company, whose policy is one of continuous improvement, reserves the right, however, to change specifications or design at any time without notice and without incurring obligations.

PLEASE READ THIS MANUAL CAREFULLY BEFORE OPERATING THE MACHINE!
For Sales, Parts and Service, call 1-888-362-5572

DoALL SAWING PRODUCTS

DoALL SAWING PRODUCTS
2375B TOUHY AVENUE
ELK GROVE, ILLINOIS 60007 U.S.A.

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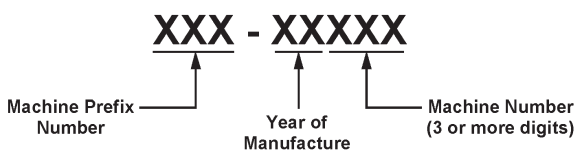
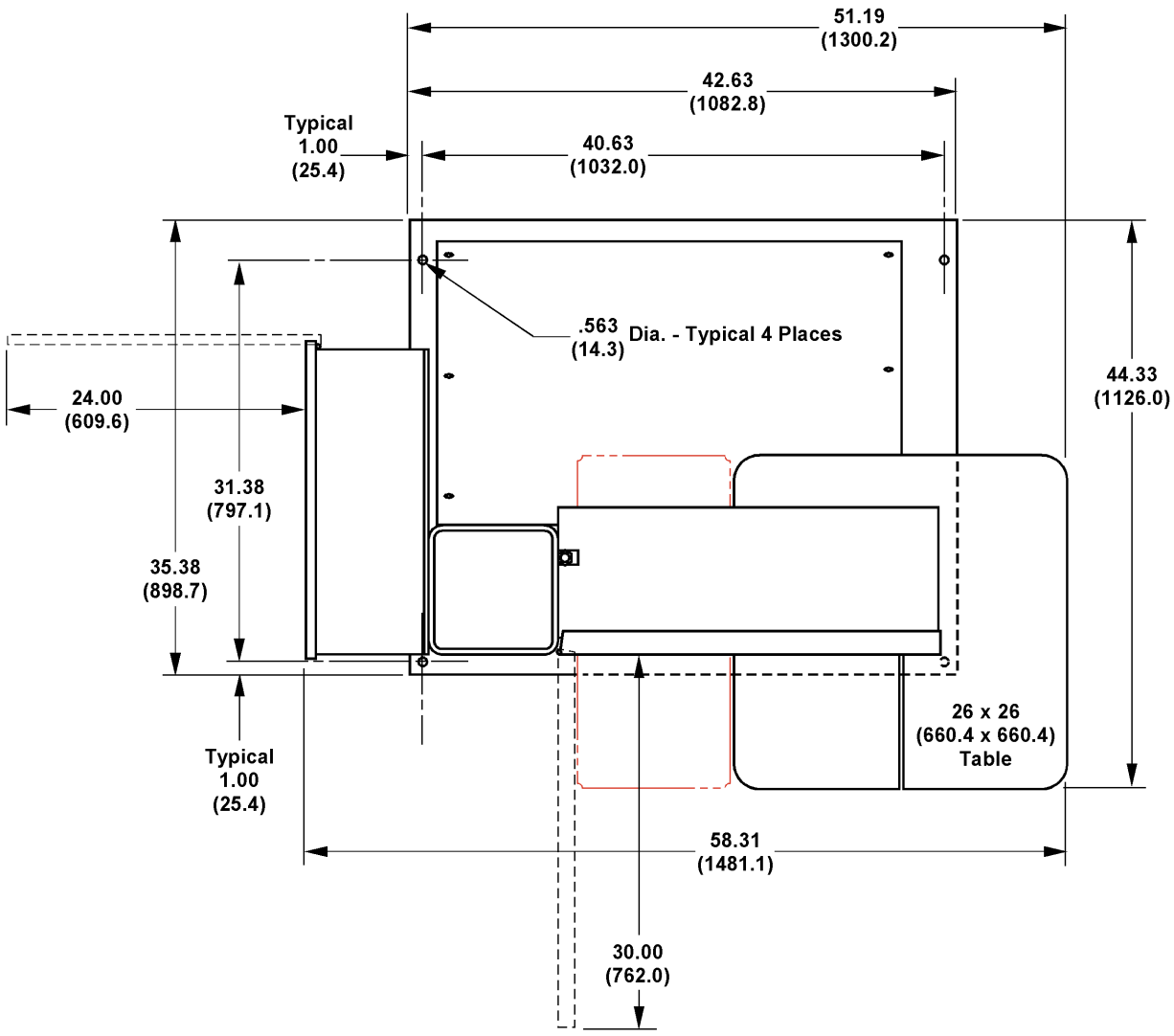
How to read your serial number:

Example: 500-001234



MACHINE DIMENSIONS

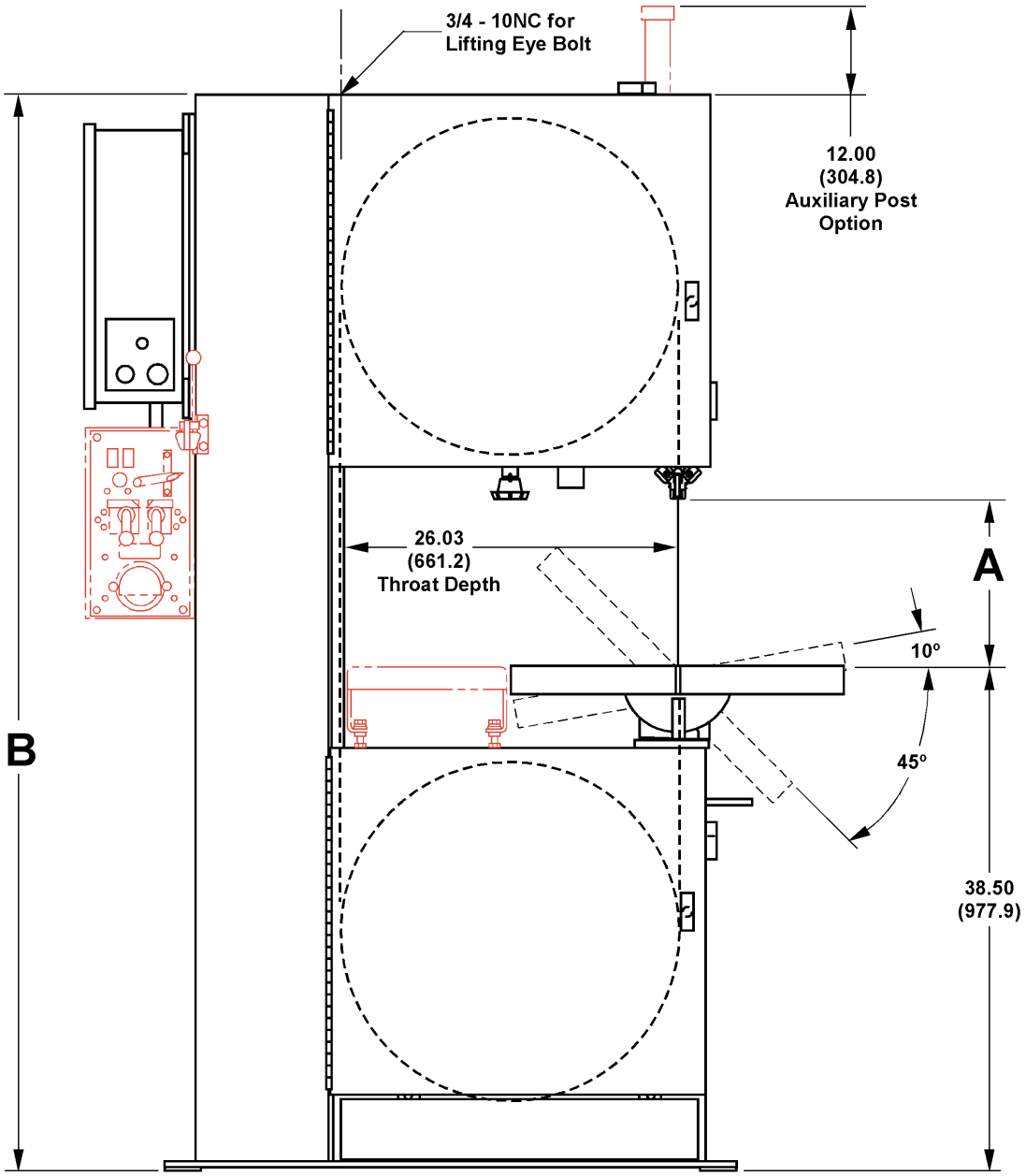
INCHES (± .03)
MILLIMETERS (± 1 mm)



FLOOR PLAN

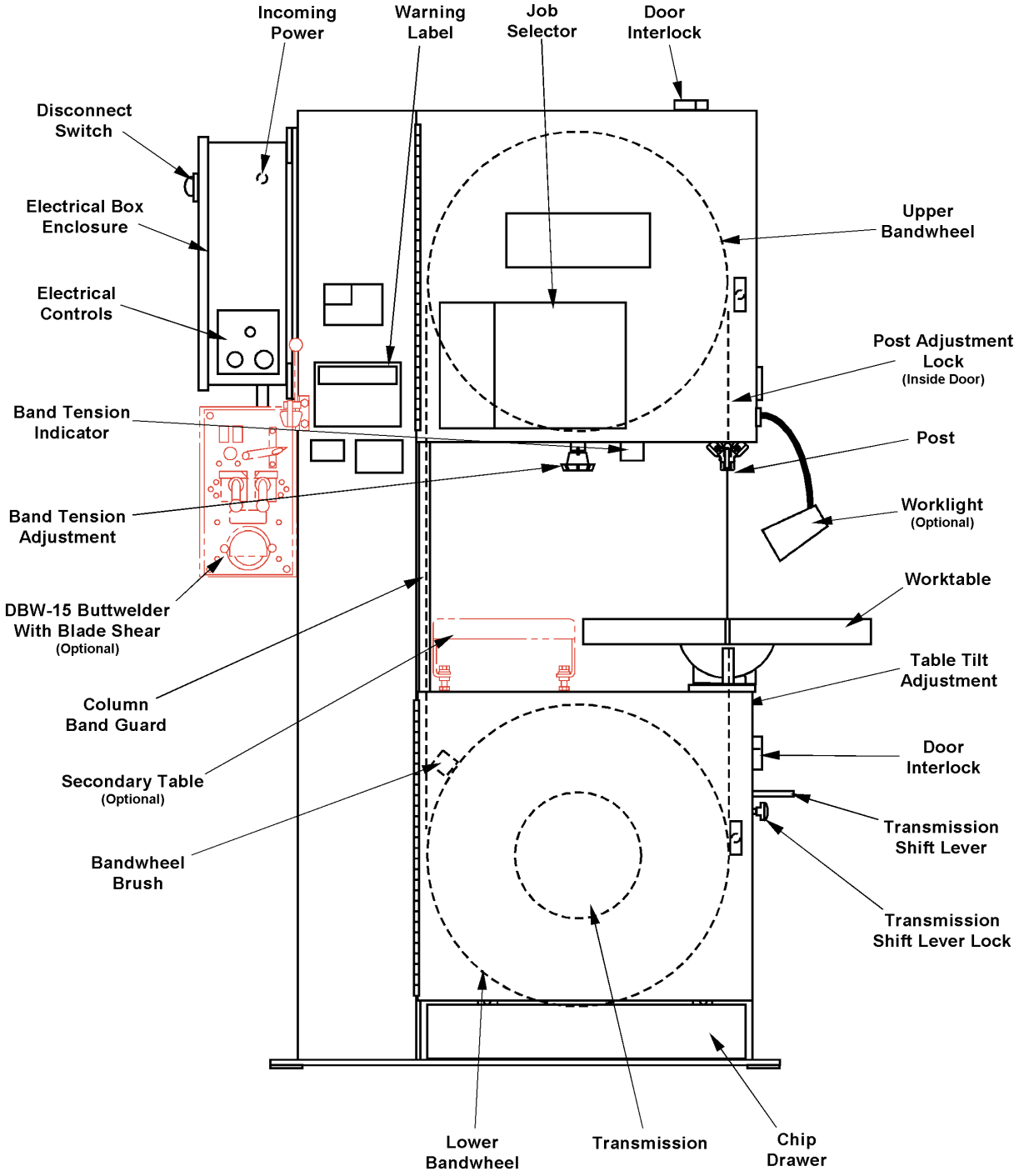
INCHES (± .03)
MILLIMETERS (± 1 mm)

	Dimensions A	Dimensions B
Work Height	13" (330.2 mm)	84.64" (2149.9 mm)
	18" (457.2 mm)	90.64" (2302.3 mm)
	24" (609.6 mm)	96.64" (2454.7 mm)
	30" (762.0 mm)	102.64" (2607.1 mm)



FRONT VIEW

MACHINE FEATURES



FRONT VIEW

INSTALLATION

All the "left", "right", "front" and "rear" designations in this manual are as viewed by the operator facing the machine controls on the electrical control box.

LOCATION

1. The floor area required by the standard machine is approximately 59.50 inches (1511.3 mm) in width by 44.50 inches (1130.3 mm) in length. Machine height for the machine approximately is 84.50 inches (2146.3 mm). Refer to pages 1 and 2 for further machine dimensions.

2. Locate the machine to provide adequate space for your sawing needs. Be sure to provide sufficient clearance for: **(a)** Material loading and unloading; **(b)** All door openings; **(c)** Maintenance and lubrication procedures; **(d)** Operation of the any supplied machine accessories.

OSHA NOTICE!!

OSHA Regulation 1910.212 (5B).
Machines designed for a fixed location shall be securely anchored to prevent walking or moving.

UNPACKING

1. The machine is fastened to and shipped on a wooden skid. Overseas shipments are also crated.

2. Carefully remove all protective covers, strapping, hold-down brackets, crating, etc. Then: **(a)** Remove all bolts which fasten the machine to the shipping skid; **(b)** Check inside the rear drive compartment for other removable brackets, extra machine parts or supplies which might have been placed there for shipment. **(c)** Inspect the machine and all parts for shipping damage. Claim procedures are listed on this manual's inside front cover.

CLEANING

1. If necessary, use solvent to remove rust-preventive coating applied to exposed bare metal surfaces before shipment.

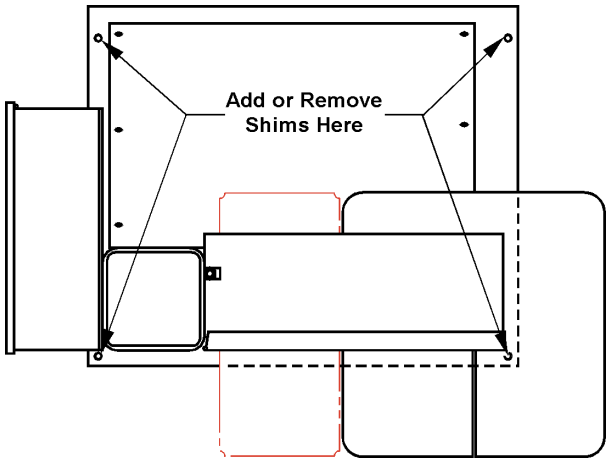
LIFTING

1. A tapped hole is located on top of the machine's saw head. Screw a forged 3/4-10NC eye-bolt into this hole for lifting purposes. Net weight of the machine is approximately 1800 pounds (816.5 kg).

DO NOT lift the machine by its sawing head.

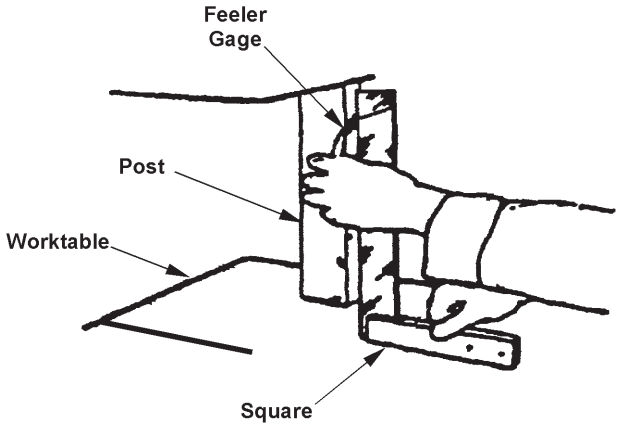
MACHINE INSTALLATION and ALIGNMENT

1. To properly align the machine, place shims between the floor and the base mounting pads until the machine is level with weight resting evenly on all the base pads.



Shim Locations.

2. Square the worktable to the side of the post by loosening the tilt lock bolt located in the machine's frame under the worktable and make the necessary adjustments. If necessary: **(a)** Position the worktable's tilt angle pointer at zero (0) on the tilt scale; **(b)** Tighten the tilt lock bolt.



Squaring Worktable to Post.

MACHINE INSTALLATION and ALIGNMENT (Continued....)

3. Place a good quality, 10 inch (254.0 mm) master square on the worktable against the post's back side. Measure clearance between the post and square near the bottom of the post. Clearance should be within 0.007-inch ±0.005-inch (0.18 mm ±0.13 mm) at the bottom of the post for standard machines.

4. Add or remove shims under the base pads until the correct post to square clearance is obtained.

The machine must be bolted to the floor for worktable loads over 100 pounds (45.4 kg).

ELECTRICAL INSTALLATION

Electrical installation must be made by authorized electrical maintenance personnel only!

1. Refer to the machine specifications plate on the machine frame to verify that the electrical supply circuit will meet the voltage/phase/frequency/ amperage requirements listed. A basic data plate is reproduced on this manual's introductory page.

2. Bring the incoming power leads into the machine's electrical box. Refer to the electrical schematic and the parts manual, if necessary, when making the connections.

3. Turn the disconnect switch on the electrical box to "ON". Then: **(a)** Alternately jog the **Band Start** and **All Stop** pushbuttons; **(b)** Check to make sure the saw band is running in a **clockwise** motion: **(c)** Reverse the leads if saw band movement is incorrect.

PREPARATION FOR USE

1. Check the transmission oil level. Capacity is 1 quart (0.95 liters). If the reservoir level is low (or empty): **(a)** Check to see that the transmission plug is installed tightly; **(b)** See the *"Maintenance"* section for proper procedure of checking and/or filling the transmission. **(c)** Refer to the Lubrication Chart later in this manual for recommended lubricants.

2. Shop air is required to operate the optional chip blower, mist coolant, sliding air table and/or band lubricator. Incoming air supply should be between 80 and 90 psi (5.5 and 6.2 bar or 5.6 and 6.3 kg/ cm²).

DO NOT exceed 90 psi (6.2 bar or 6.3 kg/ cm²).

3. Check the band mist lubricator unit (if supplied) for the proper reservoir level. Refer to the manufacturer supplied literature for reservoir capacity and recommended procedures.

4. Make sure all other points listed by the Lubrication Chart have been properly serviced.

OPERATION

SAFETY PRECAUTIONS

SUPERVISOR, MAKE SURE THAT THE OPERATOR UNDERSTANDS THE FOLLOWING:

WARNING

THESE PRECAUTIONS MUST BE FOLLOWED WHEN OPERATING OR SERVICING THIS MACHINE:

NEVER WEAR GLOVES WHILE OPERATING THIS MACHINE.
NEVER OPERATE MACHINE WITHOUT SAFETY GLASSES.
NEVER OPERATE MACHINE WITHOUT SAW BLADE GUARDS IN PLACE.
NEVER OPERATE MACHINE BEFORE CLOSING BAND WHEEL DOOR COVERS.
NEVER OPERATE MACHINE FROM REAR.
NEVER REMOVE CUT-OFF PIECES WHILE MACHINE IS RUNNING.

- READ INSTRUCTION MANUALS BEFORE OPERATING THIS MACHINE.
- AVOID CONTACT WITH COOLANT, ESPECIALLY GUARD YOUR EYES.
- BRING ADJUSTABLE SAW GUIDE AND GUARD AS CLOSE TO WORK AS POSSIBLE.
- DISCONNECT ALL ELECTRICAL POWER BEFORE SERVICING.
- DO NOT SERVICE, REPAIR OR ADJUST MACHINE WITHOUT PROPER INSTRUCTION FROM YOUR SUPERVISOR AND WITHOUT READING AND FULLY UNDERSTANDING THE INSTRUCTION MANUAL.
- USE A FIXTURE TO FEED MATERIAL.
- CLOSE AND SECURE BAND WHEEL COVERS BEFORE TENSIONING BAND OR STARTING MACHINE.
- STEP TO ONE SIDE AND AWAY FROM WELDING UNIT BEFORE WELDING A SAW BAND.
- KEEP HANDS AWAY FROM MOVING SAW BLADES AND VISE AREA.
- INSTALL FRICTION BAND AND SPARK SHIELD BEFORE FRICTION SAWING.
- USE EXTREME CARE IN HANDLING BLADES.
- USE A DUST COLLECTOR WHEN SAWING GENERATES DUST.

MAKE SAFETY THE RULE AND FOLLOW SAFE SHOP PRACTICES.
DO NOT REMOVE OR DEFACE THIS SIGN

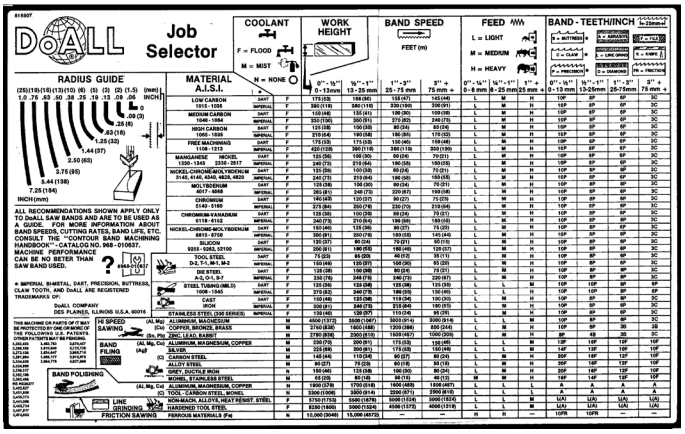
404476

Warning Label - READ and UNDERSTAND

USING THE JOB SELECTOR

1. Refer to the Job Selector chart located on the upper bandwheel door. It has information about the recommended band type and pitch, band speeds and cutting rates according to the type of material to be cut and its thickness. It also has a radius guide that shows the minimum radii cuts possible with various saw band widths.

2. To use, find the material to be cut in the first column. Then move to the right to find information on coolant application if any, band speed recommendations, feed rates and band type and pitch.



Job Selector.

The Job Selector is a guide only and the recommendations shown can be adjusted to meet special material requirements.

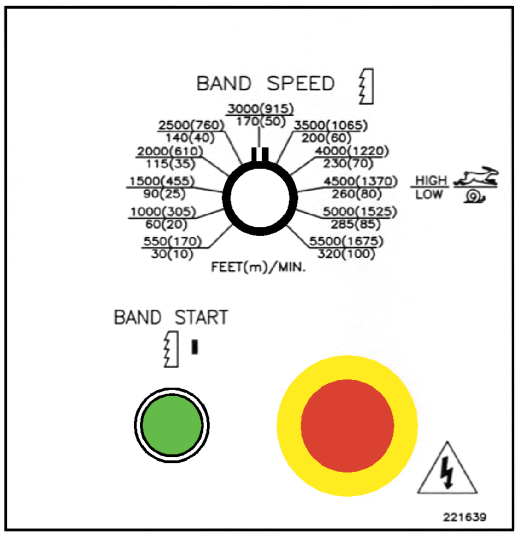
ELECTRICAL CONTROLS

1. The machine controls are located on the side of the electrical control box for operator convenience.

2. **Band Speed.** Turn this knob to set the desired band speed. Two sets of numbers on the escutcheon indicate high and low band speed ranges.

3 **Band Start.** Push this green button to start the band drive motor.

4 **Emergency Stop.** Push this red mushroom head button to stop the band drive motor. This button latches down when pushed and must be released or reset before the machine can be operated. To release or reset, rotate the button head **clockwise** until the head pops up.



Electrical Control Panel.

Other Controls

1 **Disconnect Switch.** This switch supplies incoming power to the machine and is located on the front of the control box.

2. **Worklight (Optional).** A switch on the worklight turns the light "OFF and "ON".

3. Controls for the optional DBW-15 Buttwelder are described in a seperate instruction manual.

BAND SPEED CONTROLS

1. The transmission gear shift lever is located on the machine's right side below the worktable. The band speed control is located on the electrical control box.

2. The operator can select between "HIGH" and "LOW" band speed ranges by hold down the shift lever lock and move the transmission gear shift lever: (a) To the left to obtain "HIGH" range speeds -- 550 to 5500 fpm (170 to 1675 m/min); (b) To the right to obtain "LOW" range speeds -- 30 to 320 fpm (10 to 100 m/min).

- The "NEUTRAL" position is in the middle of the slot. The band speed MUST be at its lowest speed before the shift lever can be moved to "NEUTRAL".

3. Variable speed within both ranges is changed by turning the **Band Speed** knob. Turn the control **clockwise** to "INCREASE" the band speed, **counterclockwise** to "DECREASE" it.

4. During machine operation, keep the following band speed and gear shifting precautions in mind:

Adjust the band speed only while the machine is running.

Always turn the speed speed to its lowest speed before stopping the machine or shifting into "NEUTRAL".

Always allow the saw band to stop completely before opening any bandwheel door.

Stop the machine to shift gears. Then turn the drive bandwheel by hand to engage the clutch while shifting.

5. If the transmission gears are not in position to mesh: **(a)** Turn the machine off; **(b)** Open the lower bandwheel door, and; **(c)** Manually turn the lower bandwheel until meshing occurs. **DO NOT attempt to force the gear shift lever into place.**

SAW BAND PREPARATION

Saw Band Selection

1. The machine is equipped with an Imperial Bi-Metal Super Silencer saw band that is 183 inches (4648.2 mm) long. The machine will accept saw band widths from 1/16 to one (1) inch (1.5 to 25.4 mm).

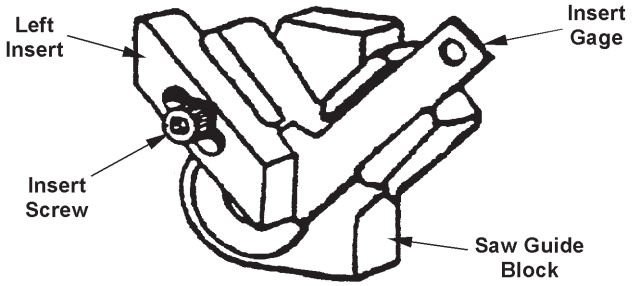
2. Standard equipment includes: **(a)** One (1) set of high-speed, insert-type saw guide blocks for saw bands from 1/16 to 1/2 inch (1.5 to 12.7 mm) wide; **(b)** One (1) set of steel saw guide inserts for saw bands 1/4 to 1/2 inch (6.4 to 12.7 mm) wide.

Information about all DoALL saw bands can be obtained from a DoALL sales representative.

Insert-Type Saw Guide Adjustment

These instructions apply to both the upper and lower insert-type saw guide blocks.

Select the saw guide blocks and inserts marked for the width of the saw band to be used. Then: **(a)** Place the left insert in the left milled slot; **(b)** Tighten the insert screw slightly so that the insert will slide in the slot, yet still hold its correct position when released.

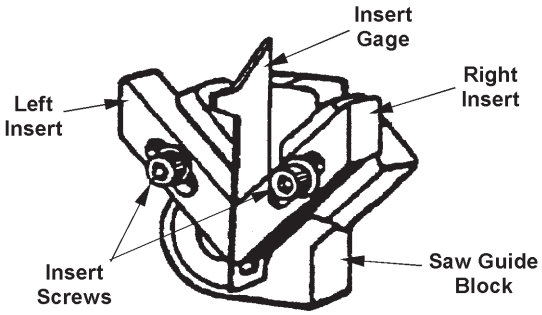


Upper Saw Guide Block Shown

Positioning the Left Insert.

2. Select the insert gage which matches the size of the saw band being used. Then: **(a)** Place the insert gage in the right slot; **(b)** Adjust the left insert to fit exactly into the notched end of the gage; **(c)** Tighten the left insert screw.

3. Place the right insert in its slot and tighten the insert lightly. Then: **(a)** Place the gage edgewise between both inserts; **(b)** Lower the right insert until it rests against the gage; **(c)** Tighten the right insert screw.



Upper Saw Guide Block Shown

Positioning the Right Insert.

Insert-type saw guides are recommended for maximum band speeds of 1300 fpm (390 m/min) for production sawing, or up to 5000 fpm (1500 m/min) for occasional sawing. Use optional roller saw guides for continuous sawing over 1300 fpm (390 m/min).

Saw Band Removal

Always use extreme care when handling saw bands. Wear gloves.

1. Release saw band tension. Then: **(a)** Open both bandwheel doors; **(b)** Remove the post saw band guard; **(c)** Loosen the screw holding the worktable's sawing slot clamp bar and move it aside.

2. Carefully slip the worn or broken saw band from the slot in the column guard, the saw guide inserts and then remove it from around both bandwheels.

Saw Band Installation

Always use extreme care when handling saw bands. Wear gloves.

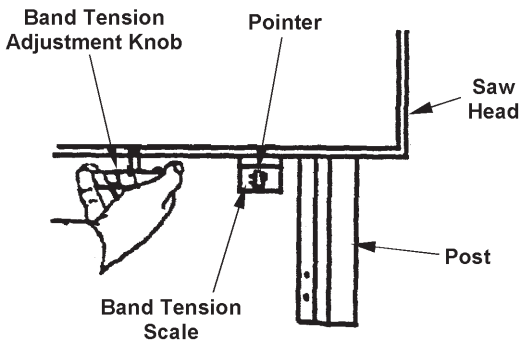
1. Remove the old saw band according to the directions above. Then: **(a)** Place the new saw band, with the blade teeth facing you, carefully through the slot in the column guard, around the bandwheels and between the upper and lower saw guide inserts; **(b)** The center of the saw band should track along the center of the bandwheel tires.

2. Remove the new saw band's protective Saw Cap. Then: **(a)** Apply the band tension recommended by the scale adjacent to the tension adjustment knob; **(b)** Reinstall the post saw band guard; **(c)** Reposition and secure the worktable sawing slot clamp bar.

Saw Band Tension Adjustment

1. Saw band tension is adjusted by turning the knob located below the machine's sawing head (this knob also is used to lock the post in place).

2. A scale showing the recommended tension for various saw band widths is located to the right of the tension adjustment knob. Scale numbers represent the recommended tensions for common saw band gages and pitches.



Adjusting Saw Band Tension.

SAW BAND PREPARATION (Continued....)

3. The following are operator tensioning recommendations:

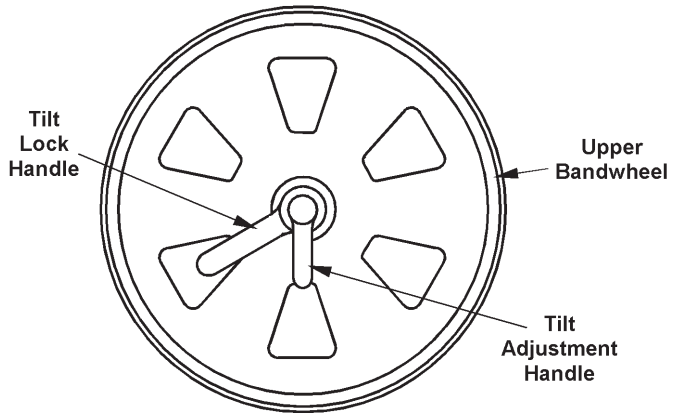
- **Reduce** the recommended band tension when using saw bands with a coarser pitch or lighter gage.

- **Increase** the recommended band tension when using heavier gage saw bands.

Saw Band Tracking

1. The upper bandwheel can be tilted a maximum of three (3) inches (76.2 mm) forward and backward to help obtain correct saw band tracking. A saw band is tracking properly when the saw band center follows the center of both crowned rubber bandwheel tires.

2. The following tracking procedures are to be performed with the band drive motor off and the transmission in "neutral": **(a)** Open both bandwheel doors; **(b)** Manually turn the bandwheels to observe how the saw band is tracking.



Tilt Adjustment Handles.

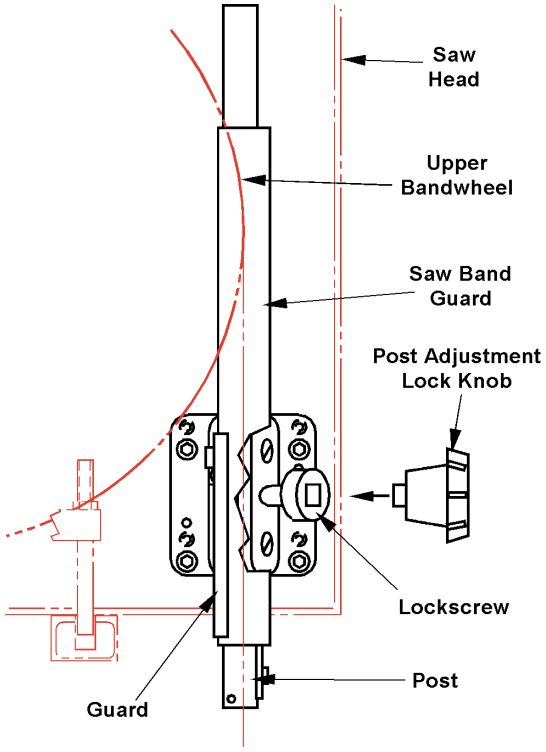
3. To adjust bandwheel tilt if tracking is not correct: **(a)** Loosen the tilt lock handle; **(b)** Turn the tilt adjustment handle until the saw band tracks correctly on the bandwheel tires; **(c)** Retighten the tilt lock handle.

4. Close both bandwheel doors.

POST ADJUSTMENT

1. Post and upper saw guide elevation can be adjusted to accept workpieces with heights varying up to 13 inches (330.2 mm). Posr adjustments will vary with extra work height options.

2. To adjust: **(a)** Loosen the lockscrew located inside the upper bandwheel door by using the adjustment knob and turn **counterclockwise** (this knob also used for band tension adjustment); **(b)** Raise or lower the post manually to the desired position; **(c)** Turn the adjustment knob **clockwise** to lock the post in position.



Post Adjustment.

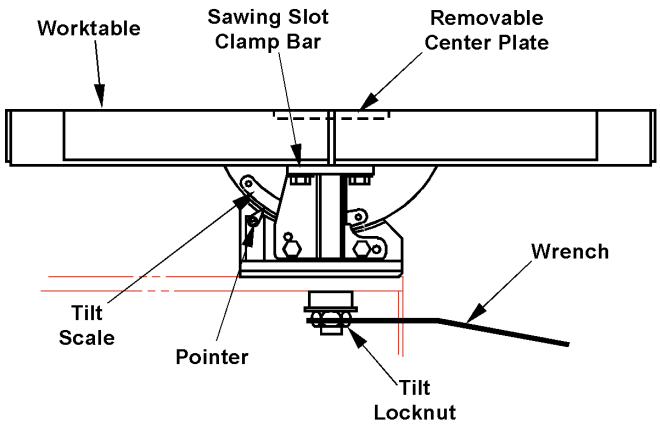
3. Some machines have a optional post elevating handwheel which uses a set of gears to raise and lower the post. Refer to the *"Accessories"* section for use of this option.

WORKTABLE AND TILT ADJUSTMENT

1. The standard worktable measures 26 by 26 inches (660.4 by 660.4 mm). Its load capacity is 500 pounds (226.8 kg) evenly distribued with NO impact.

The machine must be bolted to the floor for table loads over 100 pounds (45.4 kg).

WORKTABLE AND TILT ADJUSTMENT (Continued....)



Worktable.

2. The worktable can be tilted manually up to 10° left and 45° right primarily for sawing compound angles. The amount of worktable tilt is indicated by a pointer and a trunnion-mounted calibrated scale.

3. To tilt the worktable: **(a)** Use the wrench provided to reach through the machine frame and under the worktable to loosen the tilt locknut; **(b)** Tilt the worktable manually until the pointer reaches desired angle shown on the scale; **(c)** Tighten the tilt locknut.

4. The worktable is drilled and tapped on three (3) sides to attach accessory equipment. Its removable center plate can be replaced with optional plates for band filing and band polishing and other various options.

WHEEL BRUSH AND CHIP REMOVAL

1. A brush, located on the lower bandwheel approximately in the ten (10) o'clock position, cleans metal chips from the bandwheel during machine operation. Removed chips drop into a removable pan in the machine base. This pan should be emptied periodically.

DO NOT open the bandwheel doors until saw band has completely stopped.

2. During operation, chips and other depris may accumulate around such machine areas as saw guides, worktable surfaces, bandwheels, slides, etc. Remove this debris as soon as possible. **The DoALL Company recommends removing chip collections at least twice per each eight (8) hour shift, and more often with heavier use.**

TYPICAL SAWING PROCEDURES

Set-Up

1. These procedures assume that the following machine conditions exist: **(a)** The machine has been properly installed and aligned; **(b)** The band drive motor is off; **(c)** The proper saw band has been installed, is correctly tracked and tensioned; **(d)** All lubrication procedures have been carried out.

Procedure

1. Raise the post high enough so that the upper saw guide can not be damaged while stock is being loaded onto the worktable.

2. Tilt the worktable to the desired angle and lock it in place.

3. Load stock to be cut onto the worktable. Clamp the stock if necessary.

4. Lower the post until the upper saw guide is just above the stock, but **NOT** touching.

5. Determine the band speed range and desired band speed for the procedure to be undertaken. Then: **(a)** Use the transmission gear shift lever to choose between "high" and "low" band speed ranges; **(b)** Push the **Band Start** button; **(c)** Turn the **Band Speed** knob to the band speed desired.

6. Carefully move the stock toward the saw band and begin the cut. Adjust the band speed as necessary during the cutting procedure.

7. After the cut has been finished: **(a)** Turn the **Band Speed** knob to its lowest speed; **(b)** Push the **Stop** button; **(c)** Remove the piece just cut from the worktable; **(d)** Reposition the stock to begin another cut; **(e)** Push the **Band Start** button and then set the band speed.

Contour Sawing

1. Procedures for stock set-up and band speed adjustment are the same as noted for production sawing except that contour sawing of large, heavy stock will require the use of optional air-operated power feed or air-powered worktable and a heavy gage saw band.

2. The following are important contour sawing precautions which should be observed:

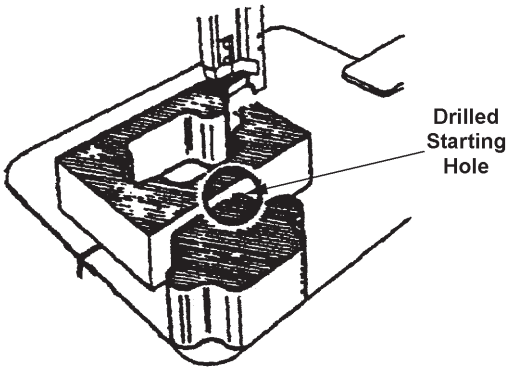
Reduce the feed force when cutting into an opening to prevent saw band damage.

TYPICAL SAWING PROCEDURES Continued....)

DO NOT feed work so rapidly that saw band twisting or bowing occurs.

For future reference, keep a record of band speed, feed pressure and coolant application settings for successful jobs.

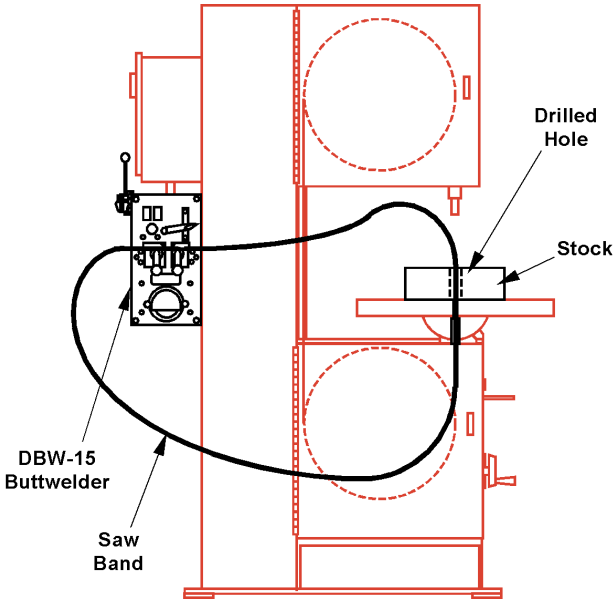
3. A hole is usually drilled in the stockpiece when a sharp corner is to be cut, as shown in the illustration. However, a corner may also be by-passed by cutting a curve, and leaving the remainder to be notched out later.



Starting Hole for Sharp Contour Cutting.

Internal Contours

1. To prepare for internal contour sawing: **(a)** Drill a starting hole in the stock; **(b)** Run the saw band through the hole; **(c)** Weld the saw band. **Insulate the saw band from contact with the stock or the worktable will insure a better weld.**



Internal Contour Sawing.

2. The diameter of the drilled starting hole is determined by the size of the saw band being used. Use the widest possible saw band for cutting the curve.

3. Attempting to cut too small a radius with too wide a saw band will cause binding, and the lower bandwheel may become grooved. The chart on the Job Selector shows minimum radii cuts possible with various saw band widths.

4. Radii chart recommendations are based on sawing relatively thin stock. Consider these variations: **(a)** Use a heavy gage saw band for heavy stock sawing; **(b)** Use a narrower than recommended saw band when sawing stock more than one (1) inch (25.4 mm) thick.

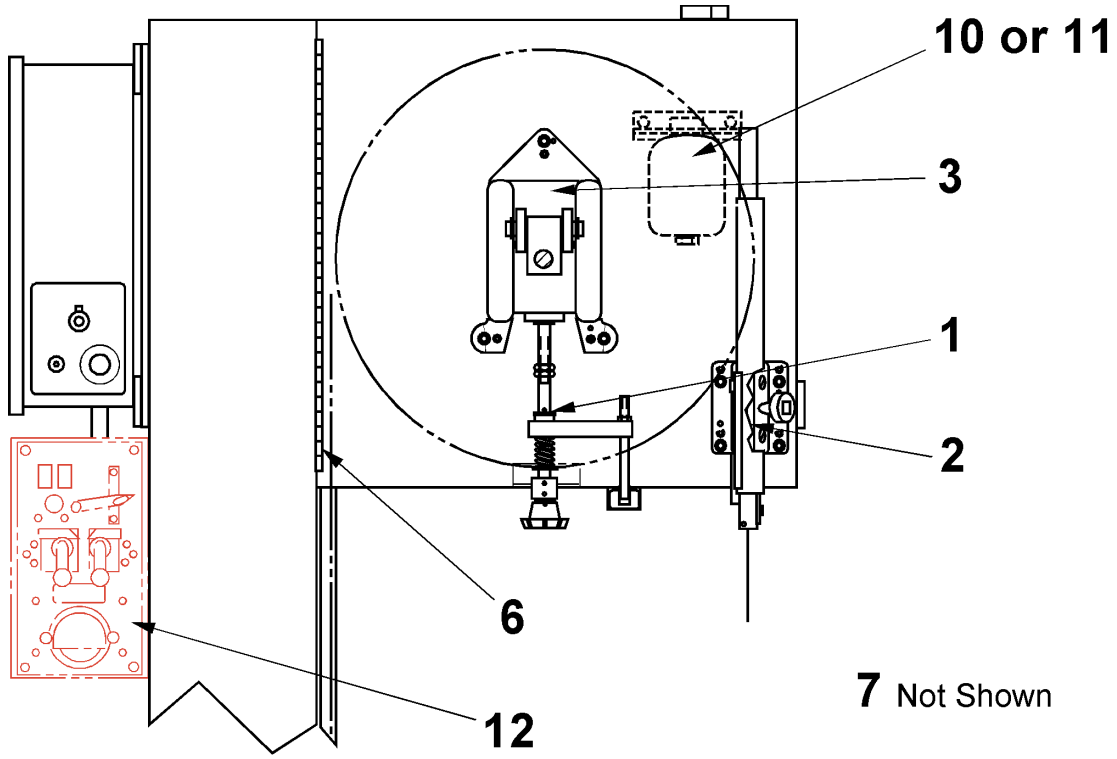
LUBRICATION

LUBRICATION CHART

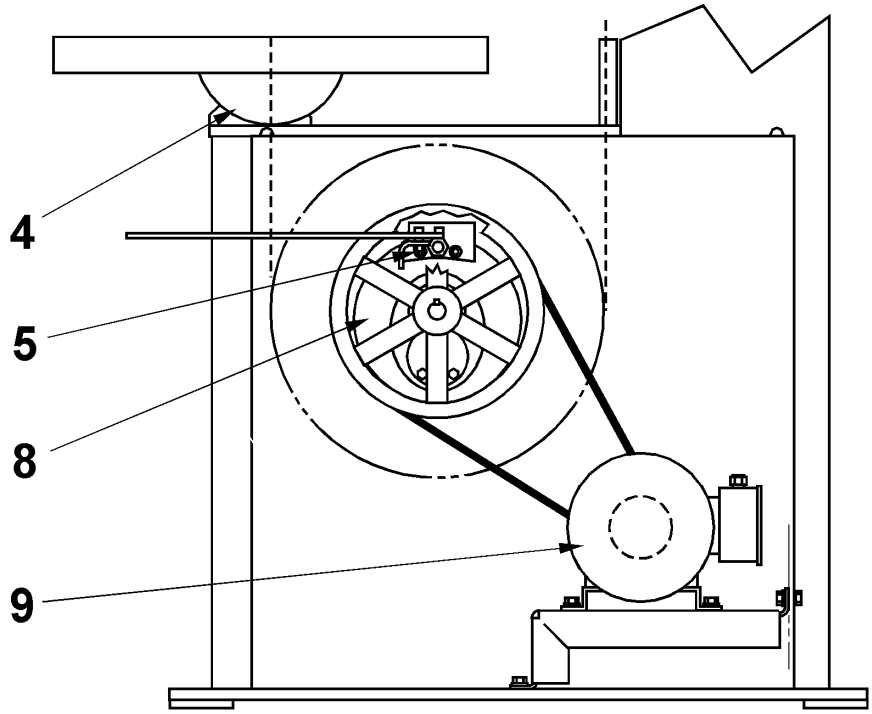
LUBRICATION POINT NO.	LOCATION DESCRIPTION AND SERVICE RECOMMENDATIONS	LUBRICATION INTERVAL*	RECOMMENDED LUBRICANT
1	**Band Tension Screw and Bearing.** Clean and apply oil.	MONTHLY	High quality, rust and oxidation-inhibited, medium hydraulic and general purpose industrial oil. ISO-VG Grade 68 (Formerly ASTM Grade No. 315). Union 76, UNAX RX 68, or equivalent.
2	**Post.** Clean and apply oil.	MONTHLY	
3	**Upper Bandwheel Slide, Hinge and Tilt Screw.** Clean and apply oil.	MONTHLY	
4	**Table Trunnion.** Oil tilt surfaces.	MONTHLY	
5	**Transmission Shift Linkage and Interlock.** Clean and apply oil as required.	MONTHLY	
6	**Micellaneous: Slides, Hinges, Pivot Points, Component Parts, unpainted Surfaces, etc.** Clean and apply oil as required.	CHECK MONTHLY	
7	**Accessory Equipment When Supplied.** Keep clean and apply oil as required to maintain proper function, reduce wear and corrosion, etc.	CHECK MONTHLY	
8	**Transmission.** One (1) quart (0.95 liter) capacity. Proper oil level must be maintained. Drain and refill yearly or when required.	CHECK MONTHLY	High quality, EP (extreme pressure),miulti-purpose gear oil. S.A.E. Grade No. 90 Union 76, MP Gear Lube 90, or equivalent. DoALL, ESL 220 gear oil, or equivalent.
9	**Electric Motor.** Drive.	Lubricate (if any) per manufacturer's recommendations.	
10	**Mist Coolant Reservoir (Optional).** One (1) quart (0.47 liter) capacity. Keep filled and hoses clear.	CHECK DAILY/ AS REQUIRED	Premium quality, saw band coolant and lubricant. DoALL cutting fluids and/or oils (AL-2000).
11	**Band Mist Lubricator (Optional).** Sixteen (16) ounces (0.95 liter) capacity. Keep filled and hoses clear.	CHECK DAILY/ AS REQUIRED	Contact your DoALL sales representative for the best oils and/or fluids for your application. DoALL cutting fluids and/or oils.
12	**DBW-15 Buttwelder (Optional).**	Lubricate as required per DBW-15 Instruction Manual.	

*** Lubrication intervals are based on a 8-hour day, 40-hour week. Lubricate more often with heavier use.**

LUBRICATION DIAGRAM



FRONT VIEW



REAR VIEW

MAINTENANCE

REPLACING BANDWHEEL TIRES

1. Cut the tire and loosen the worn tire/rim with a hammer and chisel or other flat tool careful not to damage the bandwheel.

2. Carefully sand off any residue from the bandwheel, or use **Zip Strip** paint remover.

DO NOT remove the center crown of the bandwwheel or create "flat spots" with too much sanding in one area.

3. Clean the bandwheel with isopropyl alcohol.

4. Lay the bandwheel flat onto a table. Spray the Loctite Primer #7471 onto the bandwheel rim and inside the tire/rim. Then spread the Loctite #680 Adhesive over where the primer was sprayed. **Work Quickly. The adhesive starts to set up in just a few minutes.**

5. Place the tire/rim over the bandwheel and using a block of wood and hammer, tap the edge of the tire/rim moving around the bandwheel rim until the until the tire/rim is seated against the bandwheel flange.

5. Before the adhesive sets, clean any excess from the both edges of the bandwheel with solvent.

6. Cure time is 24 hours.

INSERT-TYPE SAW GUIDES

Roller Back-Up Bearing

1. These bearings are sealed and packed for life with a special lubricant. They can be replaced by: **(a)** Removing the snap ring; **(b)** Pulling out the bearing and shaft; **(c)** New bearings are easily installed with a light press fit.

ELECTRIC MOTORS

1. Follow the manufacturer's maintenance instructions for each electric motor. These instructions are located in a pocket inside the electrical box enclosure.

HEAD COMPONENTS

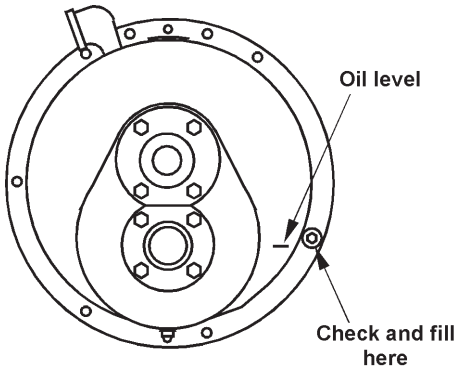
1. Wipe oil onto the post occasionally. Then move the post up and down through the slide block several times.

2. Oil the upper bandwheel slide and band tension screw each month.

3. Wheel bearings are sealed and lubricated for life.

TRANSMISSION

1. Drain, flush, and refill the transmission yearly. Fill to the bottom of the check plug opening with oil recommended by the Lubrication Chart.



Checking Oil Level.

2. Check often for seal leaks around the shaft.

3. Immediately investigate any loud or unusual noises, or rough operating vibration.

4. Return a faulty transmission to the factory for repair.

Correct new transmission installation is extremely important because careful alignment is necessary. Installation by a DoALL service representative is highly recommended.

WHEEL BRUSH

1. Check the lower bandwheel brush occasionally for correct position. Adjust the brush so it just touches the bandwheel tire.

Too much pressure of the brush will score the bandwheel tire.

2. Replace the brush when necessary.

MACHINE CLEANING

Stop the machine when cleaning the machine or opening bandwheel doors or covers.

1. Keep the machine and its parts as clean as possible to prevent excessive wear and damage.

2. Remove the chip pan and dispose of the chips when necessary.

3. Metal chips and other waste materials may collect around areas such as: saw guides, table surface, T-slots, bandwheels, slides, etc. Remove these materials as soon as possible. **The DoALL Company recommends removing chip collections at least twice per each eight (8) hour shift, and more often with heavier use.**

BAND DRIVE BELT

1. The belt driving the input sheave will stretch during use. This stretch should be taken up by moving the drive motor on its mounting plate.

2. To replace the belt: **(a)** Loosen the screws that mount the drive motor and slide the motor to the left; **(b)** Slip the old belt from the pulleys and install the new one; **(c)** Slide the drive motor to the right to tighten the belt so there is very little deflection of the belt; **(d)** When correct belt tension is acheived, tighten the screws.

MIST COOLANT

1. Intermittent coolant stream indicates an air leak. Check all joints.

2. Clogging may occur if waxed-based or other coolants are used. Your DoALL sales representative can provide complete information about various coolants.

3. Keep the mist applicator nozzle and filter clean. If the center nylon coolant tube needs replacing, remove the entire applicator tube. Insert new nylon tube and trim off excess flush with nozzle. Make sure all joints are sealed and tight after applicator tube is reinstalled.

BAND MIST LUBRICATOR

1. Follow the manufacturer's maintenance instructions for the lubricator. These instructions are located in a pocket inside the electrical box enclosure.

TROUBLE SHOOTING

Repair and adjustment procedures should be made by experienced maintenance personnel, or by a DoALL service representative. Reference to the machine's electrical schematic will be helpful.

MACHINE WON'T START

1. Make sure the disconnect switch is in the "ON" position.
2. Make sure the bandwheel doors are closed.
3. Circuit breakers may have tripped.
4. Make sure the **Emergency Stop** pushbutton is reset (turn the button head **clockwise**).
5. Check the overload reset on the drive motor starter. Starting and stopping the machine a number of times in quick succession, or an overload, will trip the starter overload switch. Locate and correct the trouble, then push the overload reset switch.
6. Check the transformer for faulty operation.

MACHINE VIBRATION

1. Check for unbalanced bandwheels.
2. Check for worn or unbalanced band drive belts.
3. Check for an incorrectly shimmed machine base.

SAW BAND VIBRATION

1. Incorrect band speed or feed force is being used.
2. Choice of blade pitch is incorrect.
3. Stock is not being clamped firmly to the worktable and/or optional vise jaws.
4. Check for worn or improperly adjusted saw guide inserts.
5. Check for a worn saw guide back-up bearing.
6. Check for a loose post. Adjust the two (2) spring plungers if necessary.
7. Check for a poor weld in the saw band.
8. Check for an incorrect saw band tension setting.

SAW BAND IS CUTTING INACCURATELY

1. Check for worn blade teeth. Inserts that are too wide for the blade will damage the teeth set.
2. Check for scale on the stock.
3. The saw band may be too wide if a radius is being cut.
4. Check for incorrect saw band, post or insert alignment.
5. Incorrect band speed or feed force is being used.
6. Coolant (if supplied) is not being applied evenly to both sides of the saw band.
7. Check for an incorrect saw band tension setting.
8. The upper saw guide is not located close enough to the stock.
9. Check for worn or loosely-adjusted saw guide inserts.

EXCESSIVE INSERT AND BLADE WEAR

1. Inserts or roller saw guide are adjusted too tightly on the saw band.
2. High band speed is causing friction (using roller saw guides may be adviseable). Increase coolant (if supplied) volume to better lubricate the saw band.
3. The back-up bearing may need replacement.
4. Check for incorrect saw band tension setting.

PREMATURE BLADE TEETH DULLING

1. The saw band is not being "broken" in on the first few cuts. Reduce the feeding pressure when making these cuts.
2. Band speed is too high (this causes abrasion).
3. Saw band pitch is too coarse.
4. Coolant (if supplied) is not properly covering the saw band.
5. The cutting rate is too high.

6. Check for faulty material such as heavy scale, inclusions, hard spots, etc.

7. Check for saw band vibration.

8. Check for chip welding, or for a chipped tooth lodged in the cut.

9. Check for incorrect saw band tension setting.

10. Inserts are incorrect for the width of blade being used. This allows the inserts to hit the set teeth (listen for clicking sounds during saw band operation).

SAW BAND SLIPS OFF BANDWHEEL

1. The upper bandwheel is not aligned properly. The saw band needs to be tracked.

2. Check for slippery coolant, or excessive coolant volume (if supplied).

3. Check for incorrect machine alignment.

4. Check for a worn or improperly-adjusted wheel brush (this allows chips to remain on the bandwheel tire).

5. Incorrect saw guides are being used.

6. Check for incorrect saw band tension setting.

SURFACE FINISH ON WORK IS TOO ROUGH

1. Check for a worn saw guide insert (adjust or replace if necessary.

2. Band speed is too low or feed force is too heavy.

3. Blade pitch is too coarse.

4. Check for saw band vibration.

5. Check for a poor weld in the saw band.

NO COOLANT FLOW (If Supplied)

1. Make sure reservoir is full.

2. Check for a clogged coolant applicator nozzle.

3. Check for a clogged or kinked coolant hose.

4. Check for a clogged or damaged coolant control valve.

TRANSMISSION WILL NOT STAY IN GEAR

1. Check for worn gears.

Transmission replacement, repairs, adjustments or alignment should be performed only by a DoALL service representative.

TRANSMISSION WILL NOT SHIFT INTO GEAR

1. Check the shift linkage for loose set screws or broken spring pins.

2. Check for a jammed shift mechanism.

3. Check for jammed or damaged sliding clutch jaws.

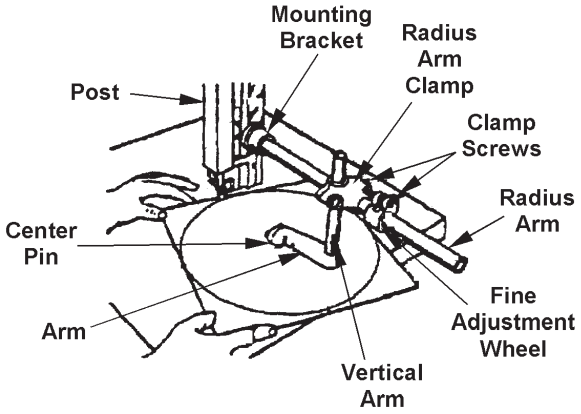
ACCESSORIES

The following are accessories sometimes used during sawing operations. A DoALL sales representative can advise you about the current availability of any accessory.

DISC CUTTER

1. This attachment can be used to cut internal or external circles from 2-1/2 to 30 inches (63.5 to 762.0 mm) in diameter. To set up the disc cutter:

- Place flat washers under the mounting screws. Then: **(a)** Bolt the mounting bracket to the post; **(b)** Lower the post until the upper saw guide is approximately 3/8 inch (10 mm) above the worktable; **(c)** Loosen the fine adjustment and arm clamp bolts; **(d)** Move the center pin to the approximate distance of the radius to be cut; **(e)** Tighten the fine adjustment clamp bolt.



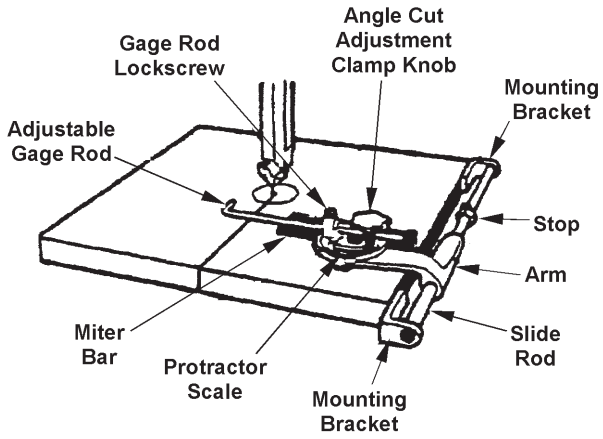
Disc Cutter.

- Position the center pin so that it is perpendicular to the saw band's cutting edge. To do so: **(a)** Place a square against the tip of a sawband tooth; **(b)** Loosen the vertical adjustment clamp bolt; **(c)** Line up the center pin with the square's blade edge; **(d)** Clamp the vertical adjustment clamp bolt.

- Make final radius adjustments with the fine adjustment wheel. Then: **(a)** tighten the arm and radius arm clamp bolts while making sure the center pin is square to the table; **(b)** Adjust the disc cutter for stock thickness by raising or lowering the post.

MITER NO. 2 CUT-OFF (Side Mount)

1. To set up: **(a)** Place a combination square in the worktable sawing slot to check the alignment; **(b)** Set the bar for sawing at the desired angle. It is important that the mitering bar contact the worktable's surface evenly during use.



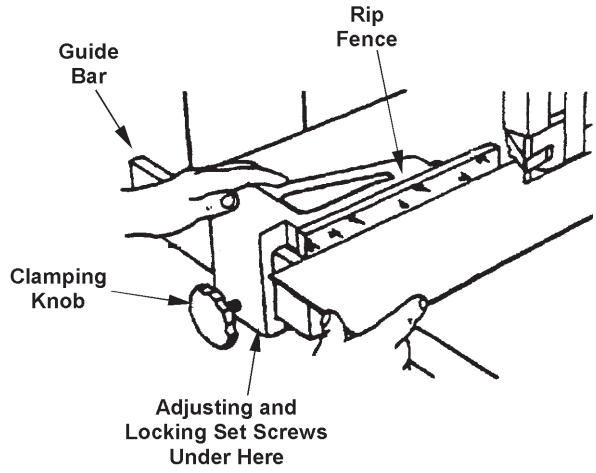
Miter No. 2 Cut-Off Option.

2. When not in use, this unit can be swung upward and around on the slide rod so that it hangs down below the worktable surface.

RIP FENCE

1. Square this fixture during installation so that it is in line with the worktable sawing slot. When alignment is correct, secure the adjusting screws in place with the set screws under the the guide bar on the rip fence casting.

2. Before attempting a long cut, check to see that the saw band is not worn on one side. This will cause stock to wander relative to the rip fence guide bar.



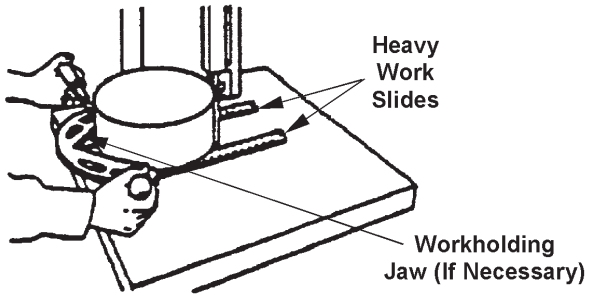
Rip Fence.

HEAVY WORK SLIDES

1. This unit features metal ball bearing slide bars positioned to reduce friction between the worktable and heavy stockpieces.

HEAVY WORK SLIDES (Continued....)

2. When using the work slides, replace the worktable's center plate with a center plate with an attached block to support stock at the sawing point.

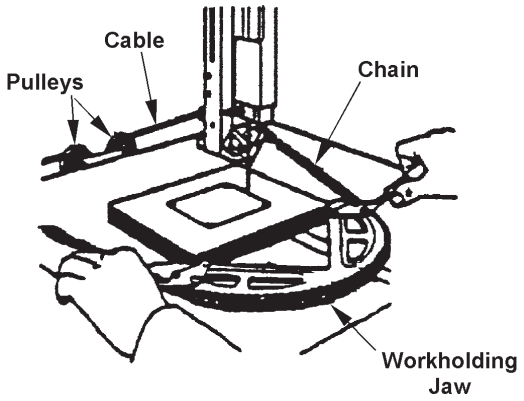


Heavy Work Slides.

WORKHOLDING JAWS

1. This option is used for off-hand and contour sawing. By looping a power feed chain around the workholding jaws, the operator can use the cable pulley system to guide stock along the contour layout lines.

Be sure to use the correct saw band width when cutting a radius.



Workholding Jaws.

AIR-OPERATED POWER FEED

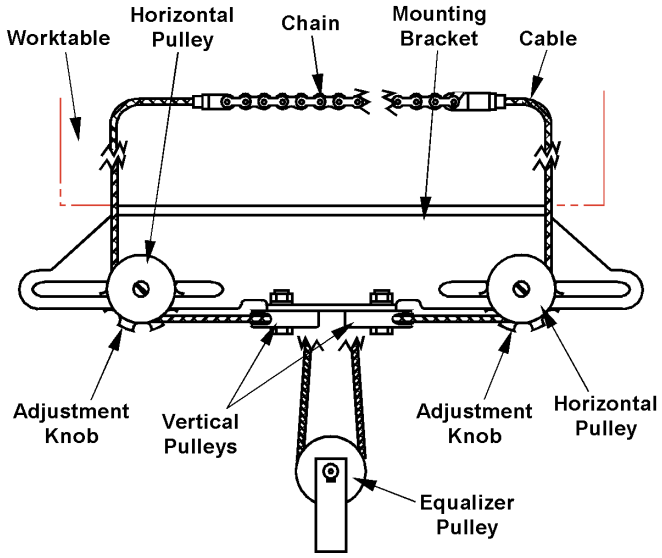
This option requires shop air: 20 psi (1.4 kg/cm²) minimum; 100 psi (7.0 kg/cm²) maximum. It has been tested at 70 psi (4.9 kg/cm²) pressure during factory inspection.

1. Air power feed provides steady feeding pressure and allows the operator to use both hands to guide the stockpiece.

2. This system has: **(a)** A pressure-regulating valve and gauge located slightly below the left worktable surface; **(b)** A pulley and cable system attached by an adjustable bracket to the rear worktable edge and to an air cylinder mounted to the machine base.

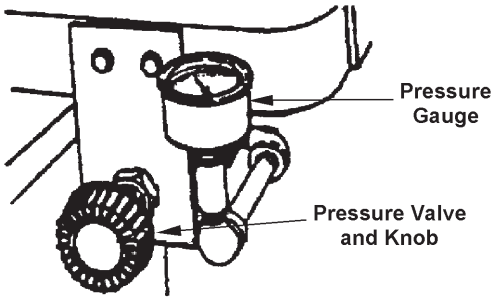
3. Operation procedures are as follows:

- Adjust the pulley and cable system for stock width. This is done by: **(a)** Loosening the two (2) knobs located under the rear mounting bracket; **(b)** Removing any slack in the workholding chain.



Chain and Pulley System.

- Set the desired feed force with the regulating valve knob. Turn the knob **clockwise** to increase feed force, **counterclockwise** to decrease it. Refer to the gauge for pressure readings.



Pressure Valve and Gauge.

- Place stock between the workholding jaws and remove any slack in the cable. Next: **(a)** Start the machine; **(b)** Begin the cut by pushing down slightly on the foot pedal.

- Feed force can be increased while sawing by applying additional pressure on the foot pedal. When the sawing is finished, remove your foot from the pedal to relax feed force.

A special oil-mist lubricator is included with this option.

CHIP BLOWER

1. The operator can remove chips from the sawing area by using the chip blower. Shop air is used to deliver air to the cutting area.

2. Adjust the flexible hose and nozzle to direct chips away from the sawing area.

3. The air supply connection is located on the left side of the machine on the drive compartment wall. Incoming air supply should be between 80 and 90 psi (5.6 and 6.3 kg/cm²).

DO NOT exceed 90 psi (6.3 kg/cm²).

MIST COOLANT

1. Using shop air, this option has a valve with sight glass and a one (1) quart (0.95 liter) supply bottle mounted on the rear side of the head.

2. Air and coolant are mixed in a manifold to form a fine mist. Adjust the flexible tube to direct mist stream onto saw band and workpiece to lubricate and cool the cutting area. Regulate mist with adjustable valve at a rate of one drop per second as seen through the sight glass.

3. The air supply connection is located on the left side of the machine on the drive compartment wall. Incoming air supply should be between 80 and 90 psi (5.6 and 6.3 kg/cm²).

DO NOT exceed 90 psi (6.3 kg/cm²).

4. Your DoALL sales representative can provide complete information on various coolants and their applications.

BAND MIST LUBRICATOR

1. See the instructions sent with the unit for information on operation and adjustments.

2. Contact your DoALL sales representative for information on the type of fluid and/or oil needed for your application.

WORKLIGHT

1. The worklight illuminates the cutting area and areas nearby and is controlled by an "on/off" switch on the lamp, or by selector switch on the electrical control box.

MAGNIFIER

1. Magnifing the cutting area may prove helpful during delicate sawing procedures. This is done by placing a magnifing lens around the shade of the worklight.

2. A protective lens cover should be placed around the magnifier to prevent scratches when not being used.

POST ELEVATING HANDWHEEL

1. This option allows the operator to adjust the post and upper saw guide by means of a handwheel located on the right side of the sawing head. Turn the handwheel **clockwise** to "RAISE" the post, **counterclockwise** to "LOWER" it.

WORKTABLE OPTIONS

Auxiliary Table

1. This worktable, mounted between the standard worktable and the throat of the machine, helps support large, heavy work pieces. This table measures 11 inches by 26 inches (279.4 mm by 660.4 mm).

18" Stroke Worktable

1. This factory-installed air-powered worktable has a 18 inch (457.2 mm) stroke instead of standard 12 inch (304.8 mm) stroke. The table's working surface is 24 by 36.5 inches (609.6 by 927.1 mm).

Glide Table

1. This worktable option has a 26 by 26 inch (660.4 by 660.4 mm) worktable and table travel of 10-3/4 inches (273.0 mm). It can **not** be tilted. Load capacity is 200 pounds (90.7 kg).

2. The workpiece is securely clamped to the table. The operator then holds the handle in front of the table and manually pushes the table with the workpiece through the saw band. The handle also acts as a workstop if desired.

DO NOT force workpiece through the saw band.

3. A thumbscrew located in the lower right under the worktable locks the worktable in place to allow loading and unloading of stock. Loosen the thumbscrew completely for the worktable to move freely.

WORKTABLE OPTIONS (Continued....)

4. Air power feed option can be added to assist in moving the workpiece through the saw band.

5. The handle must be removed for saw band changing.

HMD Hydraulic Table

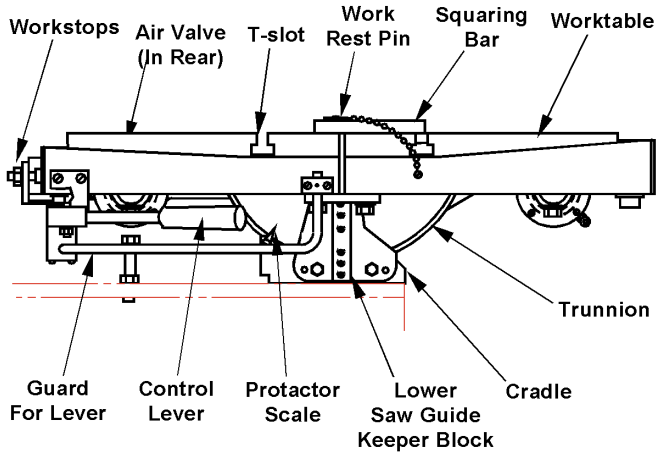
1. This factory-installed hydraulic-powered worktable has a 36 inch (914.4 mm) or a 60 inch (1524.0 mm) stroke instead of the standard table. The HMD-36 table's working surface is 34 by 42 inches (863.6 by 1066.8 mm). The HMD-60 table's working surface is 34 by 68 inches (863.6 by 1727.2 mm).

2. Information covering installation, operation and maintenance of the optional HMD-36 or 60 table are provided in a seperate instruction manual included with the machine.

AIR-POWERED WORKTABLE

This attachment reduces the machine's work height capacity by one (1) inch (25.4 mm).

1. This optional worktable provides a 24 by 30-1/2 inch (609.6 by 774.7 mm) working surface with coolant return troughs. The worktable can be tilted up to 6° left and 45° right when using this attachment. It has two (2) T-slots for work fixture clamping.



Air-Powered Worktable.

2. The worktable's air-amplified feed system is lever controlled and allows 12 inches (304.8 mm) of worktable travel. Light hand pressure against the lever will move the worktable in forward motion. Release the lever and pull back the worktable manually.

3. The worktable has a work rest pin that acts as a workstop when inserted into the sawing slot. Other worktable features are: **(a)** A squaring bar that fits into a worktable T-slot to hold stockpieces during production sawing; **(b)** Locks that permit the loading and positioning of heavy stock; **(c)** Special center plates for filing and polishing operations.

Set-Up

1. Position the workstops located on the left side of the worktable to limit travel. The front stop controls cut depth; the rear stop minimizes unnecessary travel. Stops are positioned by: **(a)** Loosening the locknuts; **(b)** Sliding the stops to the desired position; and **(c)** Tightening the locknuts.

2. To tilt the worktable: **(a)** Use the wrench provided to reach through the machine frame and under the worktable to loosen the tilt locknut; **(b)** Tilt the worktable manually until the pointer reaches desired angle shown on the scale; **(c)** Tighten the tilt locknut.

Production Sawing

1. Place the rest pin into the worktable's sawing slot to serve as a workstop. Then: **(a)** Place the squaring bar in the worktable's T-slot to act as the stock holder. **Remove the rest pin and squaring bar for contour sawing.**

2. Place stock on the worktable and secure it at the desired position. Then: **(a)** Use the control lever to carefully move the table forward until the saw band has just started cutting into the workpiece; **(b)** Push the control lever to obtain the desired feed force (feed force will return to zero (0) when the lever is released).

DBW-15 BUTTWELDER

1. Information covering blade welding, plus operation and maintenance of the optional DBW-15 Buttwelder (with flash grinder and blade shear) are provided in a seperate instruction manual.

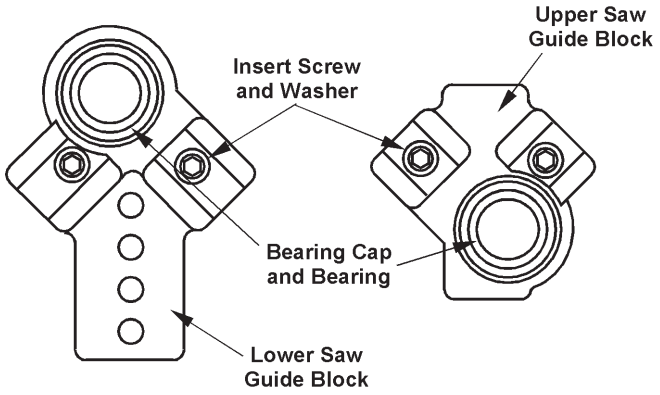
OPTIONAL SAW GUIDE BLOCKS

1. It is possible to equip the machine with precision, heavy-duty, high speed, insert-type saw guides or roller saw guides.

OPTIONAL SAW GUIDE BLOCKS (Continued....)

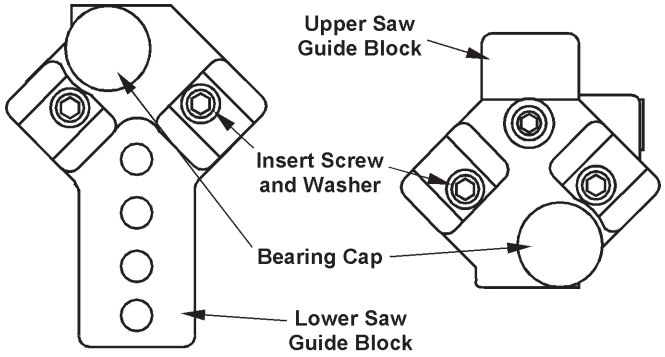
Insert-Type Saw Guides

- High speed, heavy-duty saw guide blocks are for band speeds up to 6000 fpm (1830 m/min).



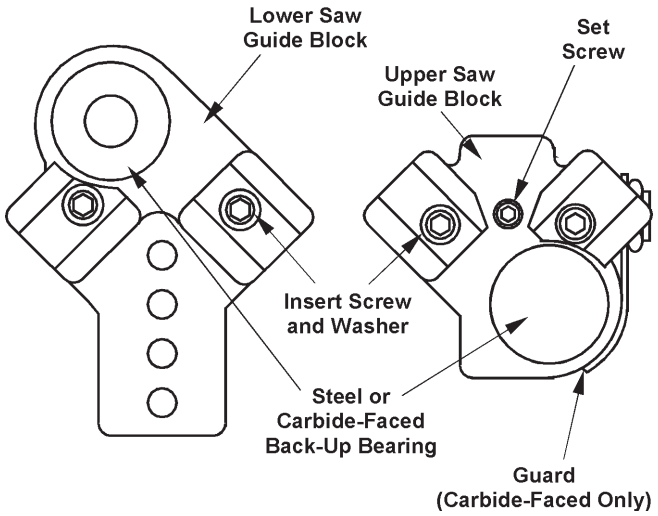
High Speed Saw Guides (Standard)

- Precision saw guide blocks are used for band speeds up to 2000 fpm (608 m/min) with saw band widths of 1/16 to 1/4 inch (1.5 to 6.4 mm).



Precision Saw Guides.

- Saw guides with steel or carbide-faced back-up bearings with saw band widths of 1/16 to one (1) inch (1.5 to 25.4 mm) can be used with this machine.

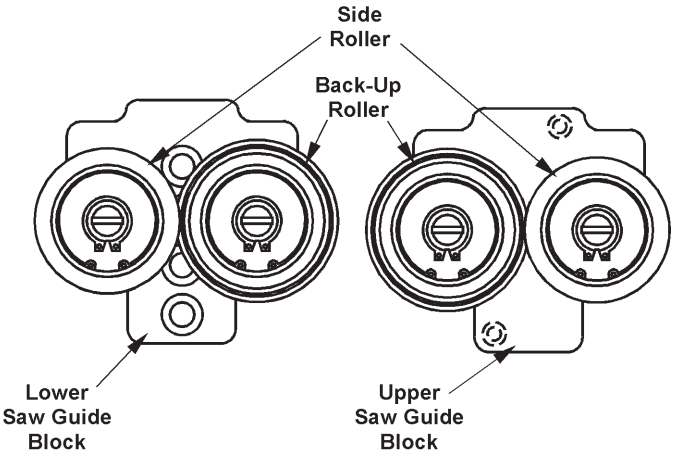


Heavy-Duty Saw Guides With Steel or Carbide-Faced Back-Up Bearing.

Roller Saw Guides

1. Use roller saw guides for continuous high-speed sawing. They are recommended for continuous sawing at band speeds over 1300 fpm (390 m/min).

- Type I roller saw guide blocks use 1/4 to 1/2 inch (6.4 to 12.7 mm) saw bands and are for band speeds up to 6000 fpm (1830 m/min).

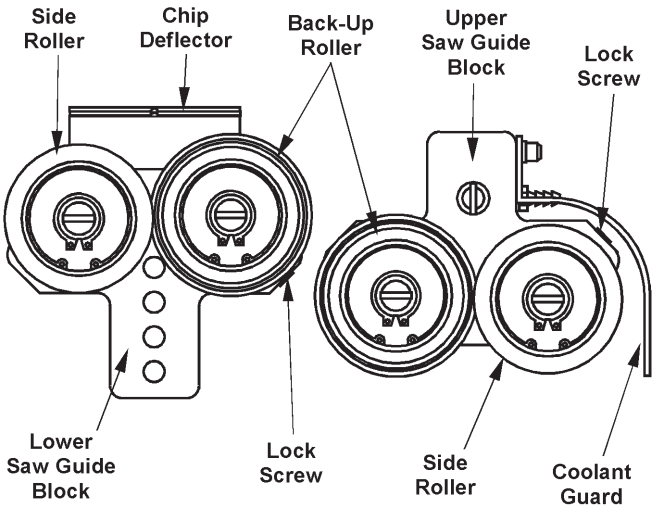


Type I Roller Saw Guides.

- Type II roller saw guide blocks use 1/4 to one (1) inch (6.4 to 25.4 mm) saw bands and are for band speeds up to 6000 fpm (1830 m/min).

OPTIONAL SAW GUIDE BLOCKS
(Continued....)

Type II roller saw guide blocks reduce the work height capacity by one (1) inch (25.4 mm) and restricts right table tilt to 27°.



Type II Roller Saw Guides.

2. Roller saw guides are adjusted as follows:

- Select the rollers which match the width of saw band to be used. Next: **(a)** Place one (1) back-up roller (has a rear flange) and one (1) side roller in upper guide block; **(b)** Place one (1) back-up roller and one (1) side roller in the lower saw guide block in opposite position of the upper guide; **(c)** Attach the upper roller guide to the post and the lower roller guide to the keeper block.

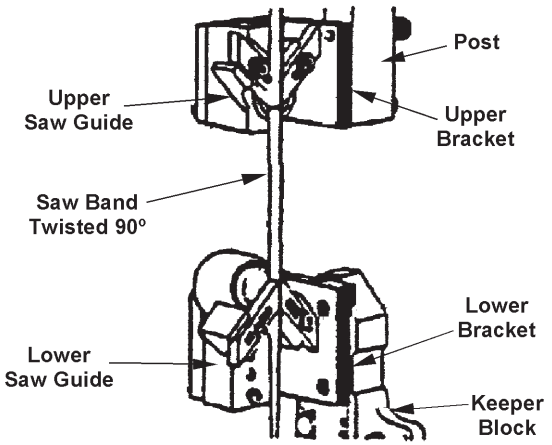
- Place the saw band over the upper and lower bandwheels. Next: **(a)** Adjust the saw band tension; **(b)** Loosen the roller lock screw; **(c)** Bring the rollers toward the saw band by turning the eccentric bearing shaft with a screwdriver. The rollers should be just free enough to turn without moving the saw band.

The bearings will overheat if the rollers are too tight against the saw band. Conversely, rollers that are too loose may cause the saw band to wobble and affect cutting accuracy.

- Tighten the roller lock screws to prevent the eccentric shaft from turning and changing the roller adjustment.

90° SAW GUIDE BRACKETS

1. These brackets permit cutting materials longer than the machine's regular throat capacity. Install the upper and lower brackets as shown. Then the saw guide blocks are mounted to the brackets.

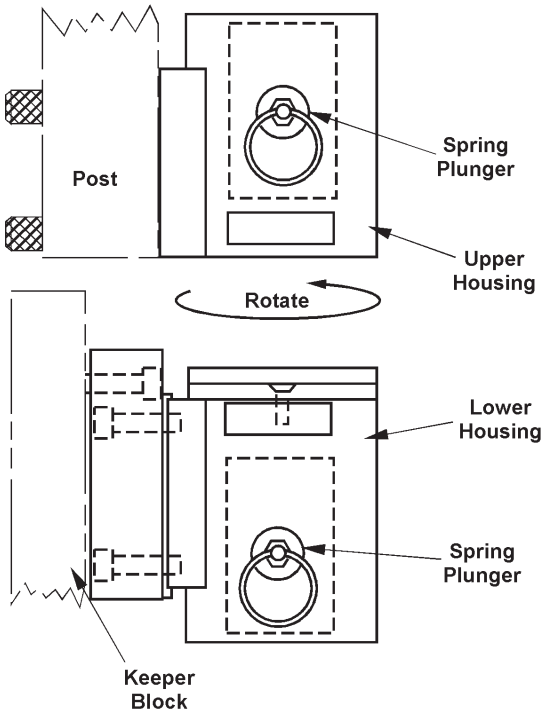


90° Saw Guide Brackets.

2. When these brackets are used, be sure to: **(a)** Install the correct size saw guides; **(b)** Install the saw band so that it is twisted 90°; when it passes through the saw guide inserts; **(c)** Operate the machine at band speeds under 1500 fpm (450 m/min).

ADJUSTABLE ANGLE SAW GUIDES

1. These saw guides allows the operator to rotate the saw band a set angle of 45° and 90° from the regular operating position.



Adjustable Angle Saw Guides.

2. To adjust: **(a)** Pull the spring plunger out until it disengages; **(b)** Turn the housing to the right until it reaches the 45° preset stop until the spring plunger snaps back into place: **(c)** Turn further to the right, it will snap to the 90° preset stop. **(d)** Operate the machine at band speeds under 1500 fpm (450m/min).

DUST SPOUT

1. This option is located just below the worktable on the right side of the machine frame near the lower saw guide and attached to a collection system for disposal of chips and other waste materials.

MATERIAL HANDLING EQUIPMENT

1. Special material handling equipment such as conveyors or hydraulic tables can enhanced the performance of your machine. Contact your DoALL sales representative for information on any material handling needs that could increase your productivity.