KALAMAZOO

HBS-1018

Horizontal Band-Saw

Operators Manual

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SAFETY SUGGESTIONS

1. READ THE INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE.
2. IF YOU ARE NOT THOROUGHLY FAMILIAR WITH THE OPERATION OF HORIZONTAL BAND SAWS, OBTAIN ADVICE FROM YOUR SUPERVISOR, INSTRUCTOR OR OTHER QUALIFIED PERSON.
3. REMOVE TIE, RINGS WATCH AND OTHER JEWELRY, AND ROLL UP SLEEVES.
4. ALWAYS WEAR SAFETY GLASSES OR A FACE SHILD.
5. MAKE SURE WIRING CODES AND RECOMMENDED ELECTRICAL CONNECTION INSTRUCTIONS ARE FOLLOWED AND THAT MACHINE IS PROPERLY GROUNDED.
6. MAKE ALL ADJUSTMENTS WITH THE POWER OFF.
7. ADJUST AND POSITION THE BLADE GUIDE BEFORE STARTING CUT.
8. MAKE SURE THAT BLADE TENSION IS PROPERLY ADJUSTIED BEFORE STARTING CUT.
9. STOP THE BAND SAW BEFORE PUTTING A WORK PIECE IN THE VISE.
10. ALWAYS KEEP HANDS AND FINGERS AWAY FROM THE BLADE WHEN THE MACHINE IS RUNNING.
11. STOP THE MACHINE BEFORE REMOVING CHIPS.
12. ALWAYS HAVE STOCK FIRMLY CLAMPED IN VISE, BEFORE STARTING CUT.
13. DISCONNECT MACHINE FROM POWER SOURCE WHEN MAKING REPAIRS.
14. BEFORE LEAVING THE MACHINE, MAKE SURE THE WORK AREA IS CLEAN.

DAILY CHECKLIST

1. CHECK COOLANT: Low coolant level can cause foaming and high blade temperatures. Dirty or weak coolant can clog pump, cause crooked cuts, low cutting rate and permanent blade failure. Dirty coolant can cause the growth of bacteria with ensuing skin irritation.
2. KEEP VISE SLIDES CLEAN AND OILED.
3. CLEAN CHIPS FROM BLADE WHEELS AND AREAS AROUND WHEELS.
4. SAW GUIDE: Keep saw guide tight. Loose quide will affect sawing accuracy.
5. SAW BLADE: Is saw blade sharp?
6. BLADE SPEED: Is blade speed set correctly for workpiece material and shape?
7. CHECK BLADE TENSION: Particularly after initial cuts with a new blade.

SAW BLADE SELECTION

A. Never use a blade so coarse that less than 3 consecutive teeth are engaged in the work piece at any one time. (Too few teeth will cause teeth to strip out.)

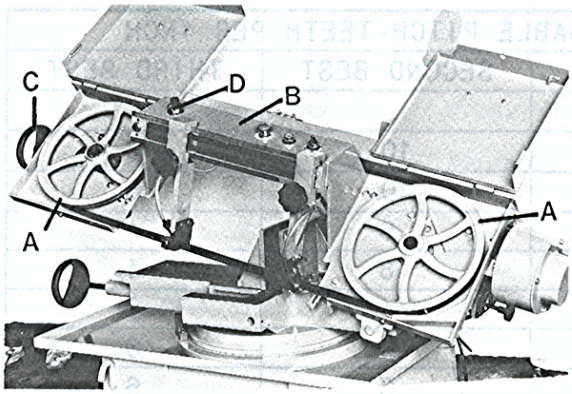
B. Never use a blade finer than required to obtain a satisfactory surface finish or satisfactory flatness. (Too many teeth engaged in the workpiece will prevent attainment of a satisfactory sawing rate; frequently cause premature blade wear; frequently produce "dished" cuts or cuts which are neither square nor parallel.)

C. The Chart which follows is not expected to be exactly correct for all cases. It is intended as a general guide to good sawing practice. Your blade supplier or factory application engineer should be your most reliable source of correct information for operational details of saw blades and their use.

WORK SIZE (Solid Bars)	PROBABLE PITCH-TEETH PER INCH		
	BEST	SECOND BEST	THIRD BEST
Less Than 1" Dia. or Sq.	10		
1" Dia. or 1" Sq.	8	10	6
1½" or 1" Sq.	8	10	6
2" Dia. or 2" Sq.	8	6	4
2½" or 2½" Sq.	6	8	4
3" Dia. or 3" Sq.	6	4	3
3½" or 3½" Sq.	6	4	3
4" Dia. or 4" Sq.	4	3	6
4½" or 4½" Sq.	4	3	6
5" Dia. or 5" Sq.	4	3	6
6" Dia. or 6" Sq.	3	4	6
7" Dia. or 7" Sq.	3	4	6
8" Dia. or 8" Sq.	3	2	4
9" Dia. or 9" Sq.	3	2	4
10" Dia. or 10" Sq.	3	2	4

NOTE:

1. When standard wall pipe or tubing or thin wall tubing, channel iron, angles I Beams are cut, a 10 pitch saw blade of "wave" set type is frequently used to good advantage. Fewer than 10 teeth per inch of saw will almost never be satisfactory.
2. Tubing or structurals with wall thickness or web thickness of 1/2" or more can usually use an 8 or 6 pitch blade satisfactorily.
3. When rectangular, solid bar is to be sawed, the work should, whenever possible, be loaded with the thinnest cross section exposed to the blade teeth. The pitch(or number of teeth per inch of blade) selected must provide engagement of at least 3 consecutive teeth in the work piece. Should application of this rule not be posible because the thinnest cross section is too thin, the piece must be loaded with the wider dimension exposed to the saw teeth and a coarser blade selected from the listing of recommendations for round and square solid bars.



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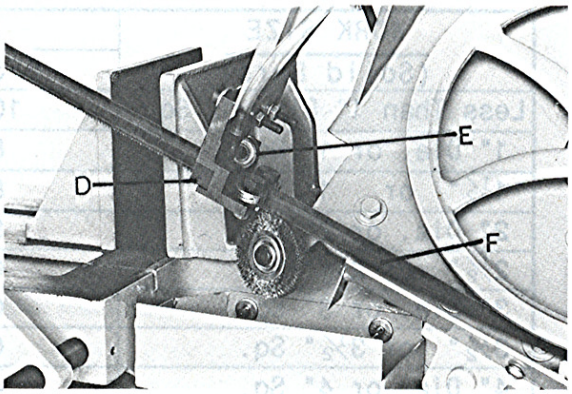

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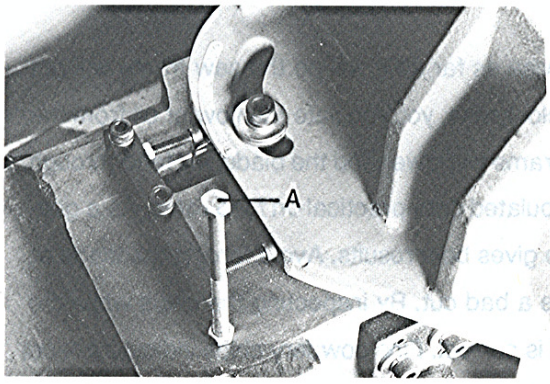
REMOVING AND INSTALLING THE BLADE

When your machine was shipped, a blade was supplied and assembled to the saw.

When selecting a new blade refer to page: 3 for information on SAW BALDE SELECTION.

1. Disconnect the machine from the power source.
2. Raise the saw frame about 6" and close the feed rate knob (D) Fig.1 by turning it clockwise as far as it will go.
3. Open both wheel covers and clean the debris out of the machine.
4. Release blade tension by turning the blade tension handwheel (C) Fig.1 counterclockwise.
5. Remove the blade from both wheels and out of each blade guide.
6. Make sure the teeth of the new blade are pointing in the direction of travel. If necessary, turn the blade inside out.
7. Place the blade in place on the wheels (A) and through the upper blade guard(B) Fig.1
8. Work the blade (F) all the way up into the tungsten blade guides (D) with the back of the blade against the back-up bearing (E), as shown in Fig.2
9. Put light tension on the blade and work it on both wheels. MAKE SURE THAT THE BACK OF THE BLADE IS AGAINST THE WHEEL FLANGES OF BOTH WHEELS. THIS IS VERY IMPORTANT.
10. When you are sure the back of the blade is against the wheel flanges of both wheels and properly inserted into the guides, finish putting tension on the blade.
11. Jog the power "on" and "off" to be sure the blade is in place and tracking properly.



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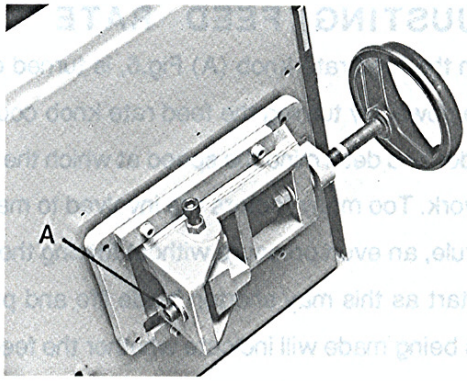

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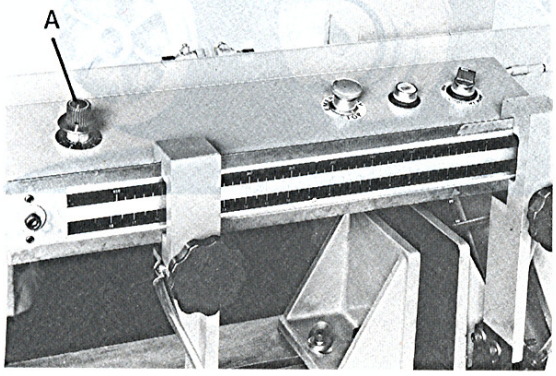
AUTOMATIC SHUT-OFF

The machine and any accessories which are wired into electrical system are controlled by the start -stop buttons. The machine will automatically shut off when the cut is completed. The lever for the automatic shut-off contacts the top of the bolt (B) Fig.3 and shuts off the machine. The bolt (B) is adjustable for desired height.

BLADE TRACKING ADJUSTMENT

The blade is tracking properly when the back of the blade is against wheel flanges of both wheels. If the back of the blade is not against the wheel flanges, tighten or loosen screw (A) Fig.4, until the blade is tracking properly.



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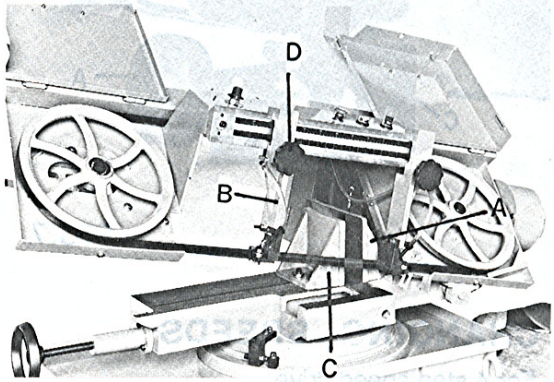

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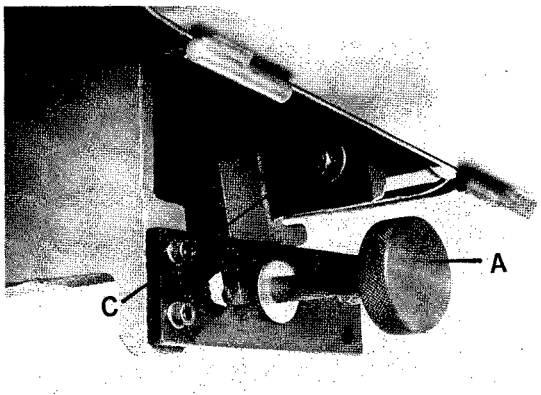
ADJUSTING FEED RATE

When the feed rate knob (A) Fig.5, is turned clockwise as far as it will go the saw frame will not move down. By turning the feed rate knob counter clockwise, you regulate the flow of oil from the cylinder and determine the speed at which the saw frame will lower and the blade will feed through the work. Too many factors are involved to make tabulated data practical on feed rates. As a general rule, an even pressure without forcing the blade gives best results. Avoid forcing the blade at the start as this may shorten blade life and produce a bad cut. By inspecting the chips while the cut is being made will indicate whether the feed rate is correct. Fine powdery chips indicate a feedl rate which is too light. The teeth are rubbing over the surface instead of cutting. Burned chips indicate excessive feed which causes the teeth to break off as the blade overheats. The ideal feed rate is indicated by chips that have a free curl and this will give the fastest cutting time and longest blade life.

ADJUSTING BLADE GUIDE BRACKETS

The blade guides should be set as close to the vise jaws as possible. The right blade guide bracket (A)Fig.6 is set at the factory to clear the right hand vise jaw. The left blade gulde bracket (B) can be moved to the left or right depending on the position of the left hand vise jaw (C). To move the left blade guide bracket (B), loosen hand knob (D) postion blade guide bracket (B) and tighten hand knob(D).



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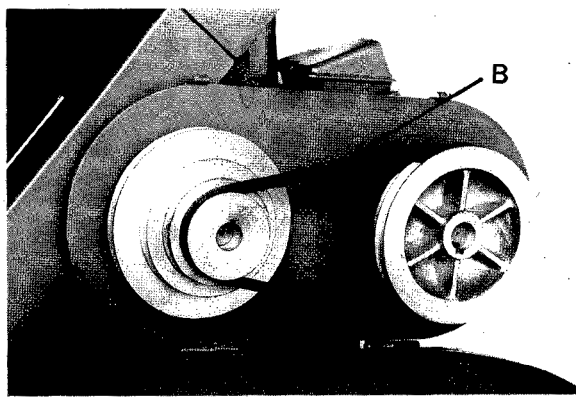

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CHANGING SPEEDS

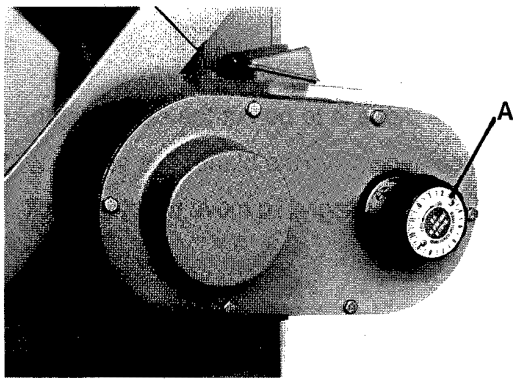
For 4 step speed drive:

1. Release tension on the belt by turning the tension lock knob (A) Fig.7, counterclockwise and letting the motor swing forward.

2. Shift the belt (B) Fig.8, to the desired grooves on the pulleys and adjust belt tnesion by pulling the motor plate (C) Fig.7 back until correct belt tension is obtained and tighten tension lock knob (A) Fig.7
3. Colse belt and pulley guard.

For variable speed drive:

4. The variation of speed is controlled by the control knob (A) Fig.9, speed goes faster when turn it counterclockwise.
5. Always select correct speed to prevent premature blade wear.



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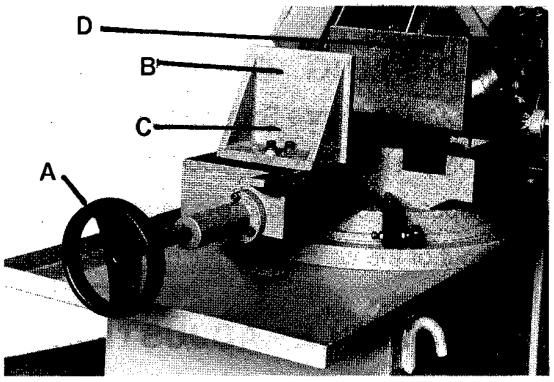

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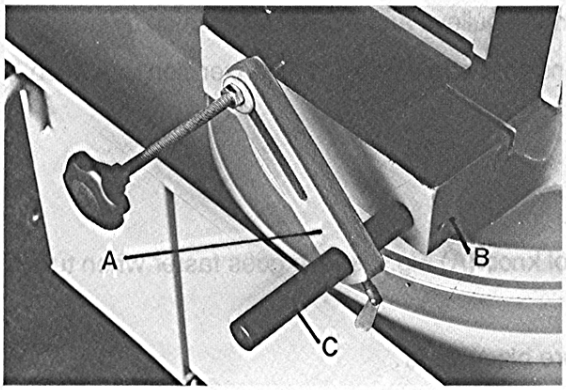
OPERATING VISE

The workpiece is placed between the vise jaws with the required amount to be cut- off extending out past the blade. To position the moveable vise jaw (B) instant. Simply turn vise handknob (A) Fig.10, counterclockwise ½ turn and move the vise jaw (B) to the desired positiion. Then tighten vise by turning the knob (A) clockwise.

The vise can be adjusted to cut any angle from 0 degrees to 45 degrees by loosening the two bolts (C) Fig.10 on left vise jaw. Position the vise jaws to the desired angle and tighten the bolts.



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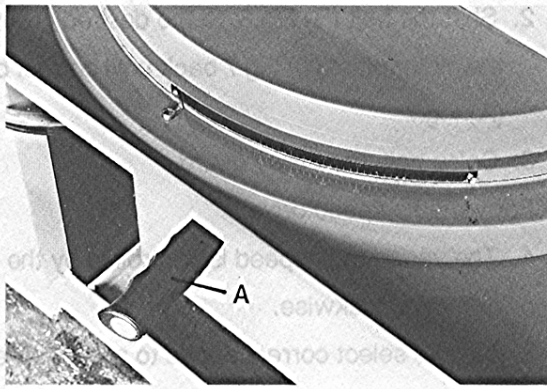

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ADJUSTING STOCK ADVANCE STOP

The Stock Advance Stop is used mainly when more than one piece is to be cut the same length. Simply position the stop block (A) Fig.11, the desired distance away from the blade. The stop may be repositioned by loosening screw (B) and moving the rod (C) accordingly. To move the stop block (A) out of the way simply push it to the down position.

TURNTABLE ADJUSTMENT (MITER SAW ONLY)

It is easily to accomplish locking and unlocking of turntable, move hand bar (A) Fig.12 to the left for unlocking, turn the turntable to desired angle and move it back to the right to lock the turntable. Remember to oil the turntable periodically, especially wet cut is frequently used.

OPERATION

SETTING UP THE MACHINE FOR OPERATION

1. Select the proper speed and blade for the type of material you are cutting.
2. Make sure blade tension is adjusted properly.
3. Lift the saw frame up and close the feed rate lever.
4. Place the stock between the vise jaws, set the stock for the desired width of cut and tighten the vise.
5. Make sure the left blade guide bracket is adjusted as close as possible to the left vise jaw.
6. Turn the machine on and if your machine is equipped with a coolant system, adjust coolant flow by turning valve.
7. Turn the feed rate lever counterclockwise until the saw blade begins to lower the desired rate of speed.
8. Proceed to cut through the workpiece, the machine will shut off upon completion of cut.