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Bader Space Saver
Installation and Operating Instructions

Set-up

- A. Uncrate. Crate bottom should be left on machine to increase stability prior to bolting cast iron base directly to floor.
- B. Loosen two 3-16 hex head (#SC-3) bolts in side of main horizontal aluminum arm at rear of machine. Raise motor and tube so that top of motor mount is about 1" from bottom of main aluminum arm. An electric hoist or chain fall hooked to one of the two 1 1/4 square steel blocks at the top of the tubes is helpful in this operation.
If purchased with belt guard, check to see that the hole in the vertical guard brace on the pulley side of machine lines up with 1/4 - 20 tapped hole in main aluminum arm. Adjust motor height as needed to align hole in guard brace with screw. Tighten SC-3 bolts.
- C. Bolt F-3 contact wheel fork (usually bolted to side of floor base for shipping) to top of main aluminum arm with 1/2 - 13 hex head bolts provided. Bolts may be left finger tight to ease movement when tracking screw is turned.
- D. Insert FSW fork in 3/4" blind hole in main aluminum arm next to contact wheel fork. Insert shoulder of FTA tracking screw in FSW fork and fasten back end of tracking screw in slot at the rear left corner of the F-3 fork with 1/4 - 20 socket head cap screw provided.
- E. Place HW-4 hand wheel to top of TS tension screw and tighten SC-1 screw.
- F. If machine is supplied with a reversing switch, attach handle to reversing switch with socket head set screw provided. (not applicable for machines with manual or magnetic starters)
- G. Attach power lead to starter or switch.
- H. Check motor nameplate and wiring to be sure motor is wired for required voltage.
- I. Check motor rotation. Motor must run counter-clockwise when viewed from belt side of machine.

- J. Attach airline to air regulator on machines equipped with air belt tension units.
- K. Insert contact wheel in contact wheel fork.
- L. Loosen FSC-1 hex head bolts holding machine to floor base and tilt machine to desired working height. Tighten bolts. Readjust height for each operator as needed. The maintenance or proper work height will help reduce operator fatigue and increase operator safety.
- M. Attach diagonal guard brace which runs from top of motor mount to side of guard with $\frac{1}{4}$ - 20 socket head cap screws provided. Attach lower pan to braces extending below machine with hardware provided.
- N. Fasten vertical guard brace referred to in "B" above to main aluminum arm with screw provided.
- O. Attach front triangular shaped guard piece to front of guard with hinge pin provided. Adjust to cover contact wheel nip point.

Safety

- A. Belt guard must be adjusted to cover contact wheel nip point each time wheel size is changed. If purchased without a belt guard, one should be fabricated and installed before using the machine.
- B. Safety glasses must be worn at all times by the machine operator and all persons in the vicinity of the machine.
- C. Partially torn and badly worn belts should be replaced immediately.
- D. Do not wear loose fitting clothing, which might become caught in machine.
- E. Keep hands away from moving belt, pulleys and contact wheel.
- F. Be sure that gloves, if worn, fit well.
- G. Do not open guard door unless motor is off and belt is stopped.
- H. Never use a contact wheel, which is wider than the belt.
- I. Always work against the lower quadrant of the contact wheel.
- J. Keep area around machine clear of obstructions.
- K. Be sure guard is fully closed and adjusted before turning machine on.
- L. Replace worn contact wheels and pulleys immediately. Worn pulleys and wheels can cause belt breakage and severe tracking problems.

Use of accessory arms:

I.e. BJ, HDBJ, fork, narrow yoke, BJ Y arm etc.

A. Set-up

- 1) Check to be sure contact wheel fork or heel is visually square with idler and drive pulleys.
- 2) Place $\frac{3}{4}$ " round end of accessory arm in hole in heel or F-3 fork. (Note: HDBJ Arm must be used with heel.)
- 3) Snug $\frac{1}{4}$ - 20-socket head cap screw finger tight.
- 4) Put belt on machine with just enough tension to turn wheel.
- 5) Grip arm firmly and twist slightly to establish initial tracking.
- 6) Wrench tighten $\frac{1}{4}$ - 20 cap screw.
- 7) Make final tracking adjustment with tracking screw.
- 8) Be sure that belt speed does not exceed 2000 SFPM on wheels under 1" O.D.: and 4000 SFPM on wheels from 2 $\frac{1}{2}$ " to 4" in diameter.

Operation and Problem Solving

A. Belt changes and tension.

1. Loosen HW-4 hand wheel (or release air cylinder if air tension unit is used). Place belt on motor and idler pulleys, then on the contact wheel. Partially tighten belt. Move belt by hand to be sure it is tracking. Make tracking adjustments by turning tracking screw handle in direction you want belt to move. Turn motor on, finish tightening belt and make final tracking adjustment if needed.
2. When hard rubber contact wheels are used, belt may be fully tightened before turning machine on. When cloth or soft rubber wheels are used, partially tighten belt, jog switch to get the belt moving. Finish tightening the belt under power.

B. Tracking

- 1) Tracking is controlled by turning the tracking screw in the direction you want the belt to move. The belt may be tracked over edge of the contact wheel to facilitate getting into corners and following irregular shapes. Tracking problems can generally be traced to one or a combination of 3 conditions:
 - a) crown worn off idler pulley;
 - b) groove worn in drive pulley; or
 - c) out of round and/or out of balance contact wheel. Any of the above conditions can be solved by refacing or replacing the worn pulley or wheel. Insufficient belt tension will contribute to premature pulley wear and tracking problems.
- 2) The edge of new rubber contact wheels may throw out under power more than the middle. A belt will always run to the high side of a contact wheel. When this condition exists, the belt will track near the edge of the wheel and then jump $\frac{1}{4}$ to $\frac{1}{2}$ off the side of the wheel when the tracking handle is turned just a little more. This condition can be corrected by tapering the edge of the wheel just a little by holding a piece of sharp 80-120grit sandpaper against the high side while it is under power. Partially worn contact wheels may be retrued in much the same manner.

C. Premature Wheel Wear

- 1) Premature contact wheel, pulley wear, and belt breakage can be caused by using the machine with insufficient belt tension. Be sure when tightening belts to compress tension spring at least halfway.
- 2) Contact wheel rubber delamination and premature contact wheel bearing failure is most commonly caused by excessive belt speed. It is suggested that a 2" diameter drive pulley is used with wheels of 1 inch in diameter and smaller, a 3" diameter pulley for wheels from 1" to 2 ½ " in diameter and a 4" pulley be use for wheels for wheels from 2 ½" to 4" in diameter.

Maintenance

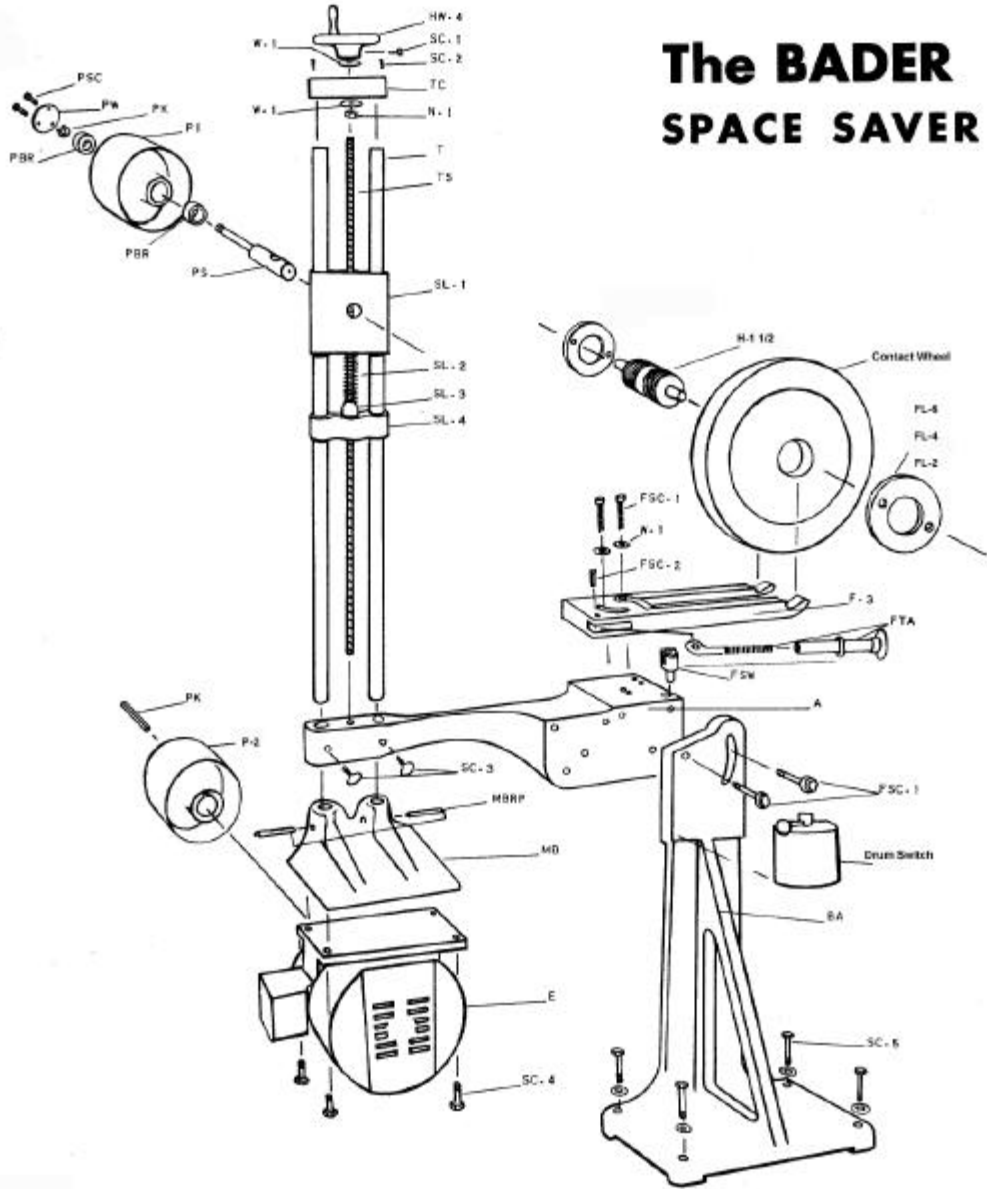
A. Lubrication

- 1) All pulley, contact wheel, and three phase motor bearings are permanently lubricated.
- 2) If the tension screw and/ or tubes require lubrication, use dry lubricants only. **DO NOT USE OIL ON THIS MACHINE** as it will catch and hold grinding dust.
- 3) Single-phase motors should be lubricated with no more than two pumps of lithium-based grease every six months. Do not over grease.

B. General Maintenance

- 1) Blow or wipe dust out of pulleys daily. Dust build up will cause wheels to run out of balance and result in machine vibration and premature bearing and pulley wear.
- 2) If a dust collector is used, clean it on a regular basis. Consult dust collector manufacturer's recommendation as to size, type, location and set-up of collector to be used. Do not mix ferrous and non-ferrous dusts in collector.

The BADER SPACE SAVER



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