

EF-200

DIAMOND EDGE POLISHER

OPERATION MANUAL

BEFORE INSTALLING, ADJUSTING OR OPERATING THIS MACHINE, BE SURE TO READ ALL OF THE INSTRUCTIONS CAREFULLY AND COMPLETELY!

Follow all local, electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA)

Always disconnect power source before working on or near a motor or its connected load. If the power disconnect point is out of sight, lock it in the open position and tag to prevent unexpected application of power.

Be careful when touching the exterior of an operating motor as it may be hot enough to be painful or cause injury. With modern motors, this condition is normal if operated at rated load and voltage. Modern motors are built to operate at higher temperatures.

Make certain that the power source conforms to the requirements of your equipment.

When cleaning electrical or electronic equipment, always use an approved non-flammable cleaning agent such as dry cleaning solvent.

Do not attempt to operate this machine without guards and appropriate personal safety equipment.

As with any high speed machine, safety is a foremost requirement. Never put hands between belts when machine is running. A safety interlock will disconnect cutter motor when drive unit is opened for cutter examination or replacement.

Safety Precautions:

Keep guards in place.

Remove adjusting keys and wrenches.

Keep work area clear.

Never put loose pieces of material over when cutter when running.

SPECIFICATIONS AND ELECTRICAL REQUIREMENTS

Cutter Drive Motor: 220V/1 Phase - Perske motor speed 21,000 RPM
(connect to proper safety switch).

Cutter: 2 tooth inserts - PCD and Natural Diamond

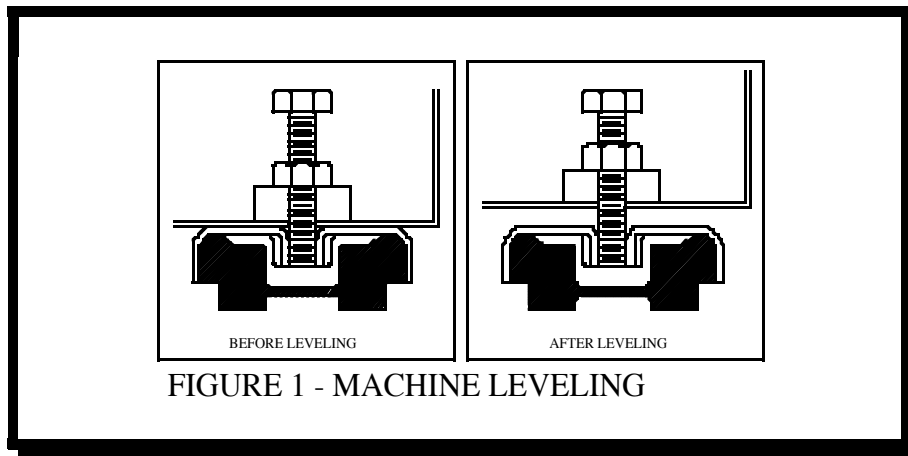
Belt Drive Motor: 1/20 HP gear head. Motor operates on 90 VDC. Belt speed is adjustable from approximately 0 to 12 feet per minute.

All bearings are self-lube type. No lubrication required for gear head motor.

INSTALLATION INSTRUCTIONS

1. Obtain suitable location allowing space for the operator and sufficient clearance to handle larger pieces on both inlet and outlet. Unpack the machine carefully and remove it from it's box. Set the machine on a rigid table.
2. Level the machine by adjusting the mounting pads. Insure that all four pads are in similar contact so that the machine cannot rock. (See Fig. 1.)
 - A. Turn leveling bolts just enough more to level machine.
 - B. Tighten down lock nut.(Please see Fig. 1 below)

IMPORTANT: Maximum adjustment 1/2 ". DO NOT EXCEED THIS AMOUNT.



3. Attach the infeed and outfeed tracks to the top of the aluminum table top. The hole pattern of the infeed track is slightly different from the hole pattern on the outfeed track so that they cannot be confused. Attach the vertical leg supports to the ends of the infeed and outfeed tracks. If you have a straight edge, check that the tracks are flat. Adjust the rubber machine mounts on the bottom of the vertical supports until the tracks are flat.
4. Attach a suitable shop vac or dust collection fitting to the dust collection fitting on the right side of the machine. It is important that you use a dust collector with the EF-200 machine. If chips are not removed, they can wipe back on the plastic causing an improper polishing action.

MACHINE OPERATION

1. Plug the machine into a 220V, 1 Phase, 60 Cycle outlet. Turn the main power switch on. Reset the emergency stop switch on the front right of the unit (pull out to reset). Pull out the on/off switch next to the main power control. Move toggle switches for feed control and spindle motor to the on position. Depress the reset toggle switch down once and release.
2. The speed control is adjustable for optimum finish. Turn the variable dial on the control panel to adjust feed speed.

NOTE: A FEED SPEED SETTING OF 4.0 IS OPTIMAL FOR MANY MATERIALS. SPEED SETTINGS MAY BE HIGHER OR LOWER FOR SOME MATERIALS DEPENDING ON THE FINISH REQUIRED AND THE NATURE OF THE MATERIAL.

3. Allow about 5 seconds for the motor to come up to full speed. (**Damage to the motor and/or diamond tool will occur if the motor is not up to full speed.**)
4. There is no material thickness adjustment on the new EF-200 machine. The feed assembly is designed to accept materials up to _" (20mm) maximum.

The machine can handle material thicknesses up to 3/4" maximum. Any thickness over 3/4" can cause considerable damage to the drive mechanisms.

5. Feed material from left to right while operating the machine from the door side. (**Never feed material if spindle motor is not running as cutter can be severely damaged.**)

NOTE: APPLY DOWNWARD PRESSURE ON THE PARTS BEING FED UNTIL THE FEED BELTS TAKE HOLD, **BUT NEVER APPLY PRESSURE ON THE PARTS BEING MACHINED WHILE THEY ARE OVER THE CUTTER.**

6. Check the part when it comes out of the feed belts before running production.

NOTE: The EF-200 machine was shipped fully assembled, and ready for production, except for the infeed / outfeed tracks. Do check to see that the cutter and machine mounts are secure.

Diamond Tool Height Adjustment

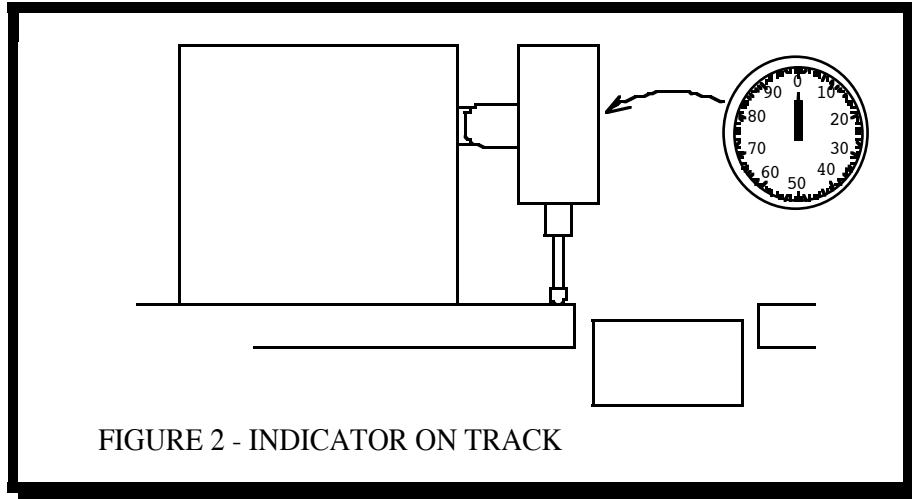
This machine is equipped with a precision Perske motor spindle. Proper care and careful use will assure many years of service.

CAUTION: BE SURE MAIN ELECTRIC SWITCH IS IN THE OFF POSITION BEFORE PROCEEDING.

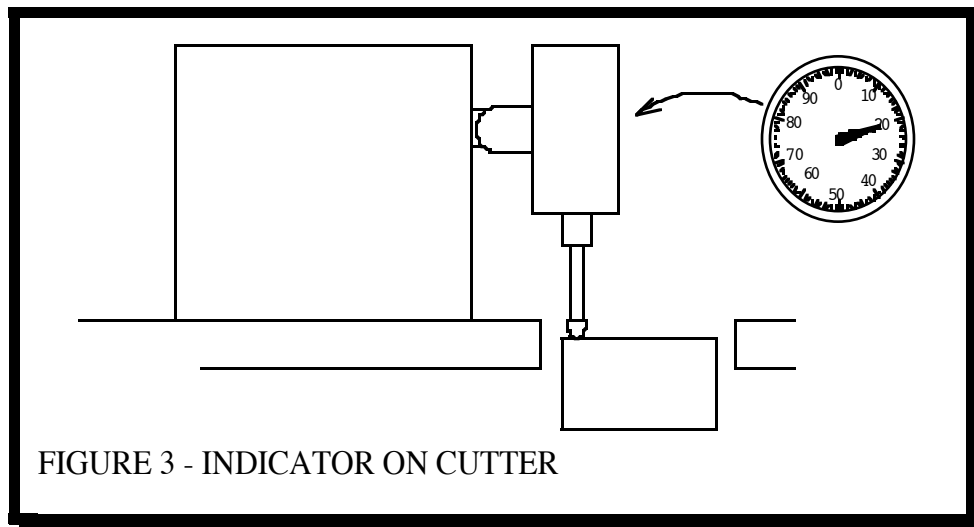
Open the upper feed assembly arms. One will open by loosening the hold down knob. Remove the flat head bolt to open the rear arm.

Fasten the new cutter to the motor spindle with one 10-32 x 3/4" screw.

Place the dial indicator on the infeed track of the machine so that the indicator stem rests on the infeed track. The reading on the indicator will be zero. (If necessary, turn the outer ring of the indicator to set the dial to zero.)
(Please see Fig. 2)



Move the dial indicator to the side of the diamond cutter nearest the infeed track making sure that the stem of the indicator is on the body of the cutter. **NEVER TOUCH THE DIAMOND TIPS OF THE TOOL.** The reading on the indicator should read minus .180 - .183". (Please see Fig. 3) *



*Be sure that when you move the stem of the indicator down to the tool body, the dial goes around counter clock-wise one full turn from zero, and then continues until it rests on 18, 19, or 20.

This reading represents the fact that you are removing a .018", .019", or .020" thickness from your material. To correspond with these instructions, your diamond tool will have a height setting of .200" pre-set and stamped on the face of the cutter body from the factory. *(If the dial indicator reads 10, a .010" thickness is being removed; a reading of 15 represents a .015" thickness is being removed, etc.)*

NOTE: TO GET THE BEST FINISH AND EXTEND THE LIFE OF YOUR CUTTER, SET THE CUTTER HEIGHT AS CLOSE TO .018" AS POSSIBLE. IF YOUR SAW CUT IS ROUGH AND YOU NEED TO REMOVE MORE MATERIAL, THE .025 SETTING WILL REDUCE THE NUMBER OF PASSES REQUIRED TO FINISH THE PART, BUT THIS WILL ALSO REDUCE THE CUTTER LIFE.

To change the height of the cutter in relation to the tracks the motor spindle is adjustable vertically. To do this loosen the two 3/8 socket cap screws located on the back of the motor mount. Then turn the adjustment knob, located at the bottom of the motor mount either clockwise or counter-clockwise until the indicator shows that the cutter is above the track by .018". **Never set the cutter height below .015"**. Then re-tighten screws.

NOTE: USE CAUTION IN HANDLING CUTTERS AS TEETH ARE EXTREMELY SHARP. AVOID COMING INTO CONTACT WITH CUTTER TEETH AS DIAMONDS ARE EXTREMELY BRITTLE AND CAN BE DAMAGED EASILY.

When removing a tool from the spindle, use the wrench provided to hold the spindle steady as you loosen the hold down screw in the center of the tool body. Once the center screw is removed, insert the screw from the rear feed assembly arm into the center of the tool. While continuing to hold the spindle, turn the screw into the tool and it will raise the cutter off the spindle.

Note: When setting up height for carbide cutters, the indicator tip can be placed directly on the tip of the carbide point. Use one tip of the tool for a positive reading of height above the infeed track. A setting of .020-.025 for the carbide tool is adequate.

TROUBLE SHOOTING HINTS

PROBLEM: MACHINE IS PLUGGED IN AND POWER IS ON, BUT MACHINE WON'T START.

SOLUTION:

1. Check that the main power switch is on.
2. Check that the pivoting feed belt assembly is in the closed position with the locking knob tightened.
3. Check that the "Spindle Start" switch is on.
4. Check that the red emergency stop button is pulled out.
5. Check that the front door is properly latched and tightened.

PROBLEM: WHEN RUNNING A PART THROUGH THE MACHINE, ONLY PART OF THE EDGE GETS FINISHED, SOME IS UNTOUCHED.

SOLUTION:

1. Check to make sure that the cutter height is set correctly (*review page 5, 6, and 7 items 1-5*).
2. Using a straight edge and/or carpenter square, make sure that your saw cut is straight and square to the surface of the material.

PROBLEM: WHEN RUNNING A STACK OF THIN PIECES (MAXIMUM THICKNESS 3/4") THROUGH THE MACHINE, SOME OF THE EDGES COME OUT FINISHED, BUT SOME ARE UNTOUCHED.

SOLUTION:

1. Check to make sure that the infeed track is clean and free of chips.
2. Before feeding the stack into the feed belts, make sure **all** the pieces are firmly down on the infeed track.
3. Sometimes the frayed edges of the masking paper get under the plastic and keep it from getting firmly down on the track.

PROBLEM: WHEN RUNNING PIECES THROUGH THE MACHINE THEY UPSET AFTER CONTACTING THE CUTTER.

SOLUTION:

1. Cutter is set too high. Reset cutter height correctly (*review page 5, items 1-5*).
2. Check that feed speed setting is not set too high for material you are running.