

WESTERN MACHINERY
A DIVISION OF WESTERN PNEUMATICS, INC.

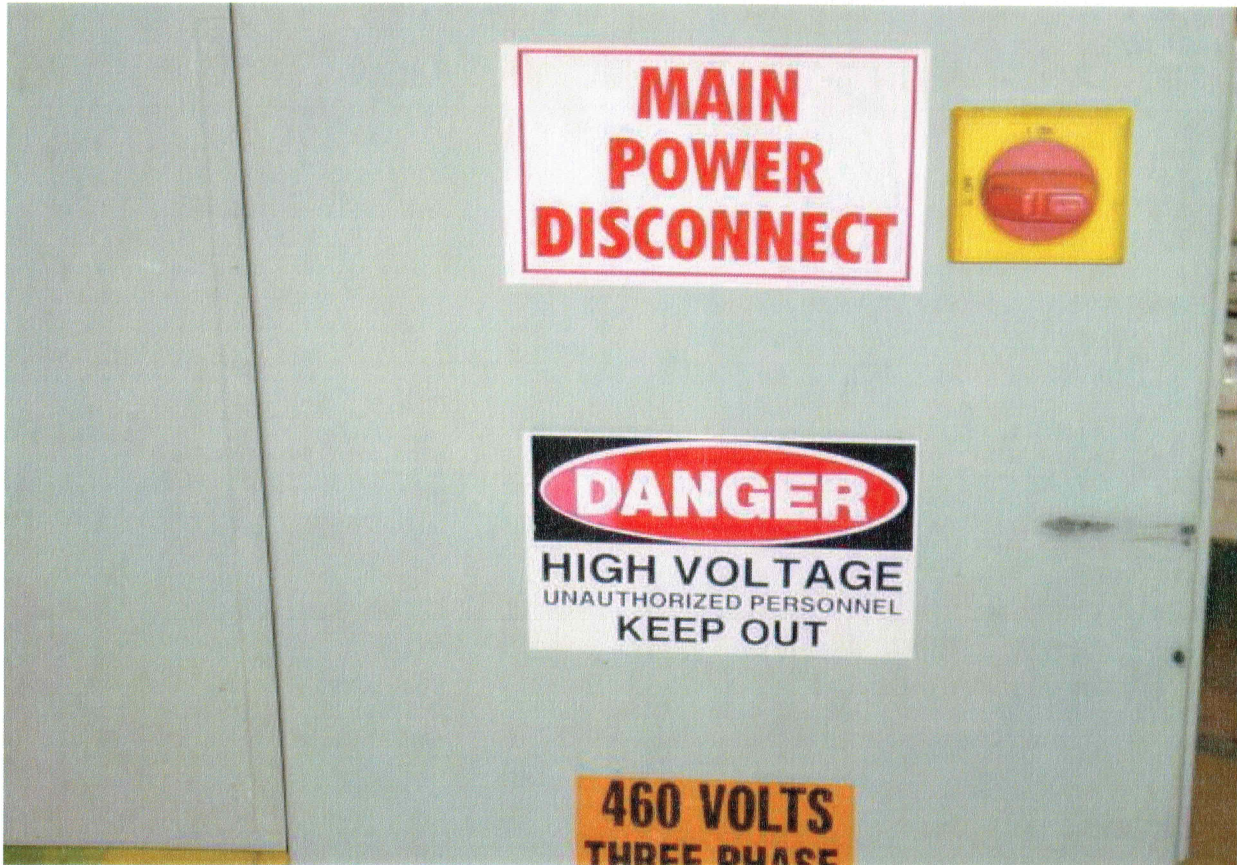
MODEL 1000
PROFILE KNIFE GRINDER

INSTRUCTION MANUAL

POWER UP

With the machine correctly wired, the main power disconnect can be activated. This rotary switch is located on the Motor Control Center and is clearly labeled. This is also the switch that accepts standard lock out procedure locks and tags.

Photo 1 Main Power Disconnect Switch



1000 GRINDER SET UP

- Level the base as described on page 5, making sure the arbor table returns to a home position away from the grinding wheel.
- With the machine correctly locked out, install the grinding wheel using the wheel spanner wrench that is provided. Western Pneumatics, Inc. can supply you with a variety of grinding wheels to suit your needs.
- Install the arbor on the arbor towers and secure the bearings in the hinged bearing caps. Western Pneumatics, Inc. can also supply you with a variety of arbors to suit your needs

Photo 2 Bearing Caps



FLOOD COOLANT

The use of a flood coolant will greatly increase the efficiency of the grinding wheel and will increase the life of the knife. Locate the coolant tank on the floor inside the machine base.

The coolant pump mounts to the coolant tray bracket on the inside of the coolant tank. This prevents the pump from being submersed in grinding sludge as the settlement accumulates on the bottom of the coolant tank. The main hose line is attached to the pump as well as the pump electrical leads.

Photo 3 Coolant Pump

When filling or topping off the coolant tank, pour the coolant into the tank, not the grinder table. Special care needs to be taken not to flood the table bearings with coolant and grinding debris.

One gallon of coolant concentrate is provided and should be mixed according to the directions on the container to a ratio of 50:1. If rust appears, change the ratio to 40:1.

- **When reordering** use part number D400 for one gallon of concentrate or part number D401 for a five gallon container of concentrate of coolant.

OPERATING SECTION

OPERATION SECTION: INTRODUCTION

Familiarize your self with the grinder features and controls before attempting to grind. After you grinder is installed, make sure the coolant tank has been emptied of machine parts and filled with coolant and the pump and coolant hose is correctly installed. Check and be sure all shipping brackets are removed and Cosmoline is removed. Mount the cutterhead to the arbor and place the arbor in the bearing caps on the arbor towers. Turn the main power disconnect switch to the ON position. (See control panel and controls on the following page.)

ELECTRICAL CONTROL PANEL AND CONTROLS - (See figure 4)

PHOTO 4 CONTROL PANEL

COOLANT



LINE STOP



VARIABLE WHEEL SPEED CONTROL

Controls the grinding wheel speed from 1750 RPM to 3450 RPM.

- **GRINDING WHEEL**
3-position push/pull button used for starting and stopping the grinding wheel. The third position is found by pulling hard on the switch to start the motor
- **VARIABLE WHEEL SPEED CONTROL**
Controls the grinding wheel speed from 1750 RPM to 3450 RPM.
- **COOLANT PUMP**
Selects ON / OFF position for the coolant pump.

MECHANICAL FEATURES AND ADJUSTMENTS

BACK KNIFE CLEARANCE ANGLE

This feature is used to change the angle that the knife is being ground. By adjusting the angle higher, the knife-edge becomes more sharp and fragile. A higher angle is recommended for softwoods and jointing (25-30 degrees). Use less angle for a more durable edge, hardwoods, or for non-jointed heads (20-25 degrees). 15 degrees is recommended for carbide.

PHOTO 5 BACK KNIFE CLEARANCE ADJUSTING WHEEL

SIDE RELIEF CLEARANCE ANGLE

Side relief clearance is needed when the profile is at a 60-degree angle or more. Profiles such as bullnose or plow knives require side relief clearance to eliminate a rubbing effect on the edge of the knife. 10-15 degrees is sufficient for high-speed steel, 5 degrees is recommended for carbide.

PHOTO 6 SIDE RELIEF CLEARANCE

MACHANICAL FEATURES AND ADJUSTMENTS (CONT.)

GRINDING WHEEL INFEEED

This adjustment is necessary to keep the grinding wheel at the required distance from the tool rest. Adjustment is required for wheel wear during grinding or if different wheels are being used. The distance between the wheel and the tool rest should always be set at 1/32". A feeler gauge should be used to check this critical dimension.

PHOTO 7 GRINDING WHEEL INFEEED ADJUSTMENT

TOOLREST / WHEEL DRESSER LEVER LOCK

The toolrest and wheel dresser share the same position by pulling the lever lock and rotating the mount 180 degrees. Releasing the lever locks the position of the mount.

PHOTO 8 TOOLREST / WHEEL DRESSER LEVER LOCK

MACHANICAL FEATURES AND ADJUSTMENTS (CONT.)

Stylus Pin and Subassembly

Stylus pins need to be the exact width and shape of the grinding wheel being used. This is the correlation point between the template and the knives being ground.

The stylus pin is adjustable forward and backward, this adjustment is needed for the depth of the profile. Left and right adjustment is needed for profile alignment and to alter dimensions on precision fit profiles such as tounge and groove cutters.

Stylus pins wear under normal use and should be replaced to maintain accuracy. Western Pneumatics, Inc. offers replacement pins and several different shapes to meet all your grinding needs.

PHOTO 9 STYLUS PIN & SUBASSEMBLY

Template Holder Assembly

The template holder is allowed 3 positions, left, center, and right. This allows the template to be positioned in reference to the head position on the moulder. Top and left side heads require mounting the template against the pin on the left side. Bottom and right side heads mount against the pin on the right side. Make sure the template holder is clean to allow a positive reference point for the template.

PHOTO 10 TEMPLATE HOLDER

MACHANICAL FEATURES AND ADJUSTMENTS (CONT.)

WHEEL DRESSER ASSEMBLY

The wheel dresser assembly is a precision tool used to dress the grinding wheel to the correct size and shape that best suits the profile being ground. If the profile requires a 3/16" radius, the wheel dresser is adjusted to 3/16" with the provided gauge block. Dressing is performed on the sides and the face of the grinding wheel to match the stylus pin being used.

NOTE: Wheel dressing should be performed with light passes across the wheel. Material removal should not exceed .002" per pass.

PHOTO 11 WHEEL DRESSER ASSEMBLY

WHEELHUB ASSEMBLY

It is recommended to use separate wheel hubs on each different size wheel. Each size grinding wheel also requires spacers between the hub and the grinding wheel.

The wheel hub is attached and removed from the tapered shaft on the quill assembly with the provided spanner wrench and a 5/16 Allen Wrench. Be sure to keep the tapered assembly's clean and dry.