



**TRU
HONE**®

***HOLLOW GRINDER
Instruction Manual***

The Lord is my shepherd, I shall lack nothing.
He makes me lie down in green pastures,
he leads me beside quiet waters, he restores my soul.
He guides me in paths of righteousness for his name's sake.
Even though I walk through the valley of the Shadow of death,
I will fear no evil, for you are with me;
your rod and your staff, they comfort me.
You prepare a table before me in the presence of my enemies.
You anoint my head with oil, my cup overflows.
Surely goodness and love will follow me all the days of my life,
and I will dwell in the house of the Lord forever.

Psalm 23

TRU HONE HOLLOW GRINDER INSTRUCTION MANUAL

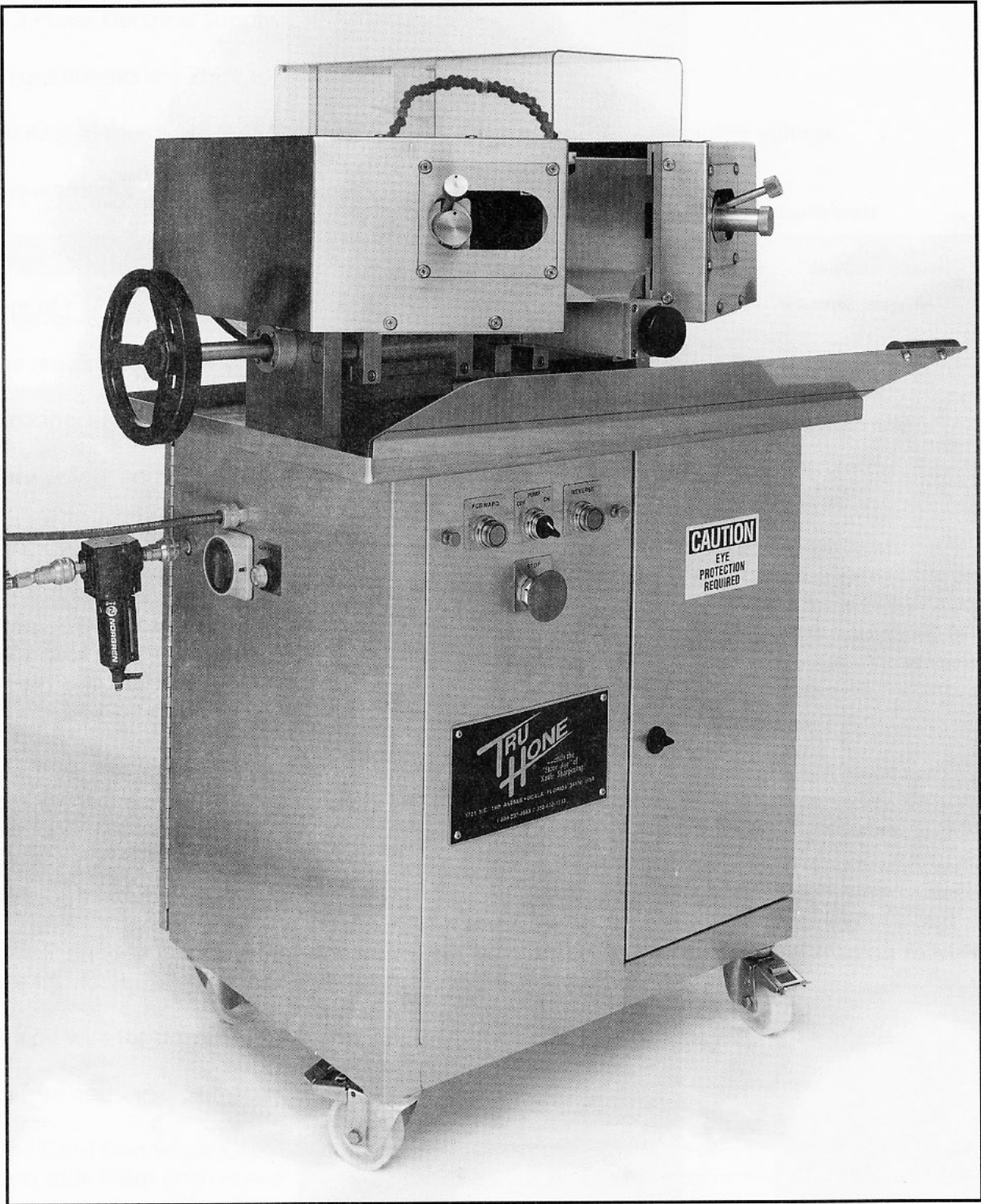
INTRODUCTION

This manual has been prepared to familiarize you with the operation and maintenance of your Tru Hone Hollow Grinder and to provide important safety information. Following these instructions will help assure safe and trouble free operation of your Tru Hone Hollow Grinder System.



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Tru Hone Hollow Grinder

General Description of Parts & Switches

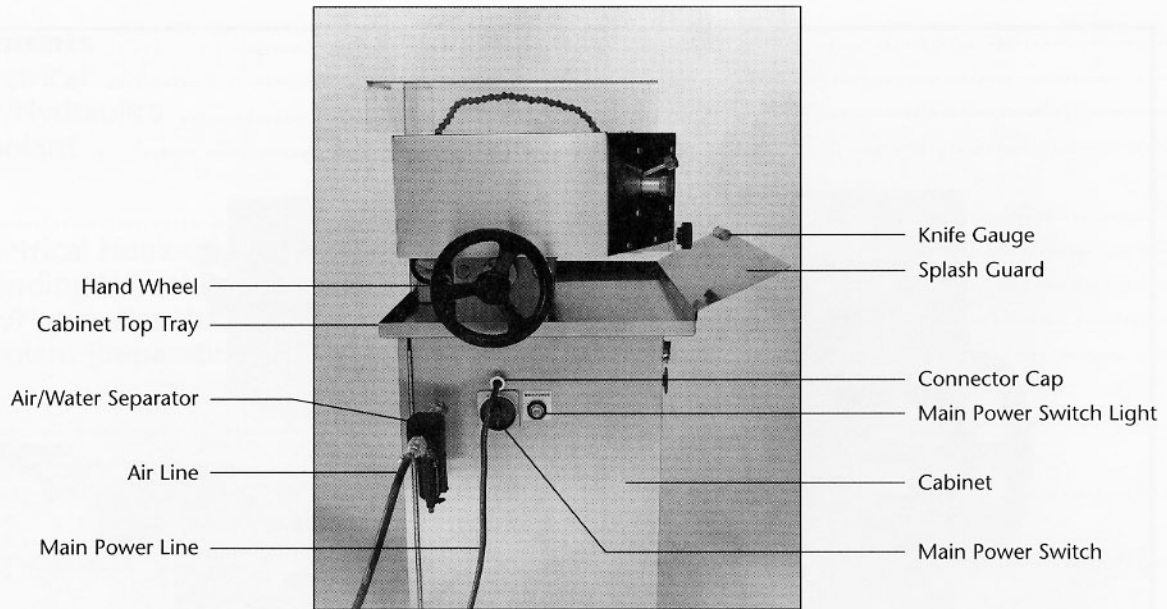


Fig. 1 Left View

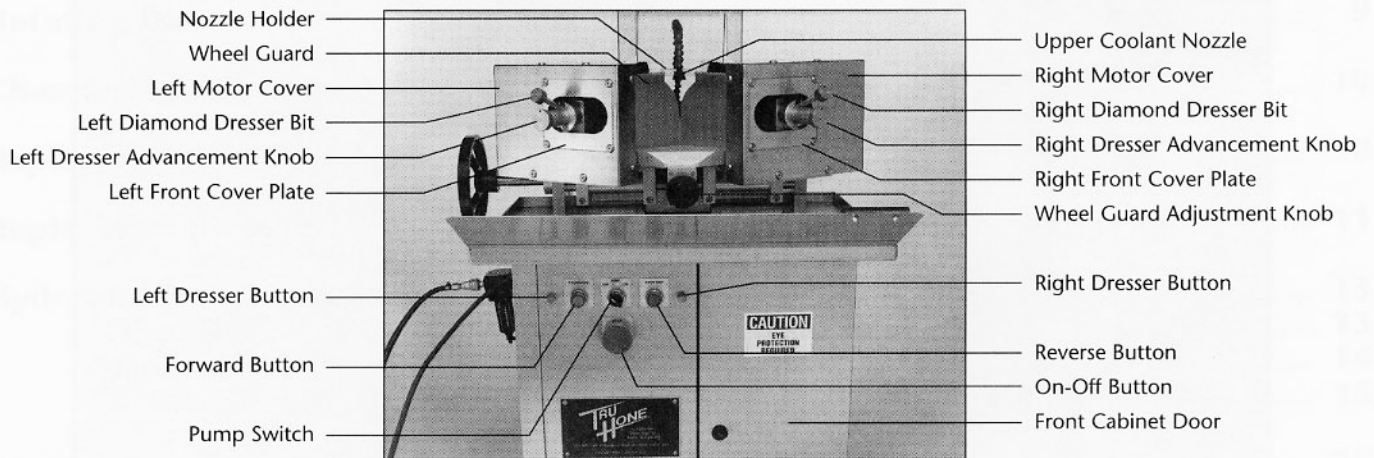


Fig. 2 Front View

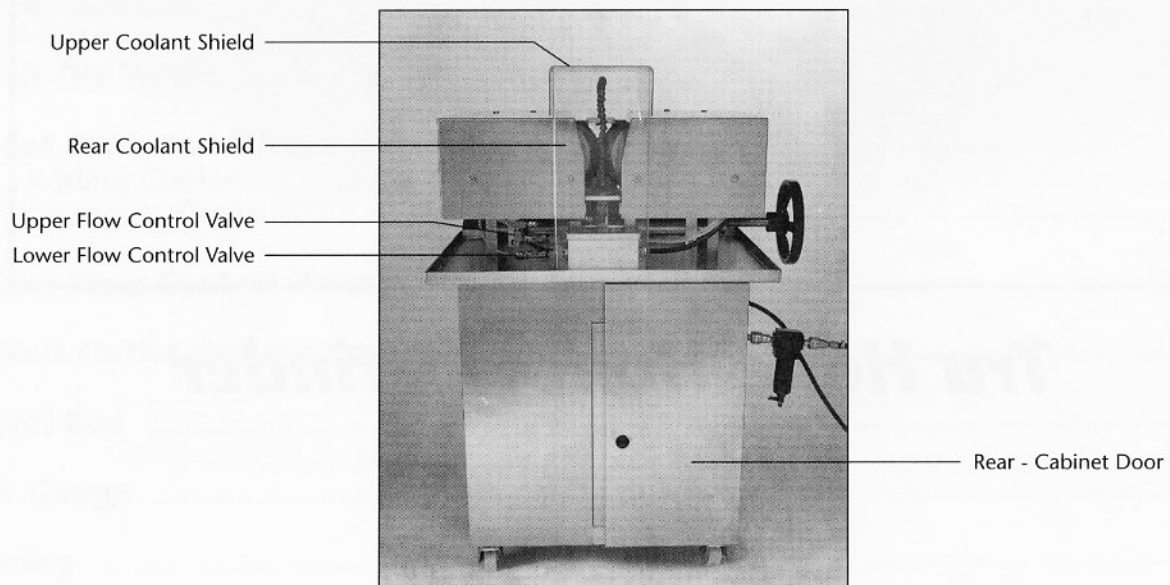


Fig. 3 Rear View

TRU HONE HOLLOW GRINDER REQUIREMENTS

ELECTRICAL

Access to 3 Phase Electrical Supply.

Voltage Requirements are 208V to 240V, or 440V to 480V.

Amperage Requirements are 9 AMP with lower voltage or 4.5 AMP with higher voltage.

Wiring Requirements - 4 lead wire SOS-Type supply cable, #14 or #16 gauge.

AIR/HYDRAULICS

Air Pressure of not less than 85 PSI.

Air Volume requirement is minimal.

Quick Disconnect accessibility.

Air Lines are yellow on '93 and later model Hollow Grinders.

Hydraulic Lines are clear.

COOLANT

Coolant System on machine is self-contained recirculated water with USDA approved additive.

Coolant Lines are blue on '93 and later model Hollow Grinders.

SET-UP

ELECTRICAL HOOK-UP

Test the Power Supply Voltage and Phase to be sure it meets the specifications for the Hollow Grinder. The specifications are listed inside the rear door.

Remove small junction Box Cover located inside the rear Cabinet to find 4 lead wires leading to Main Power Switch (see fig. 4).

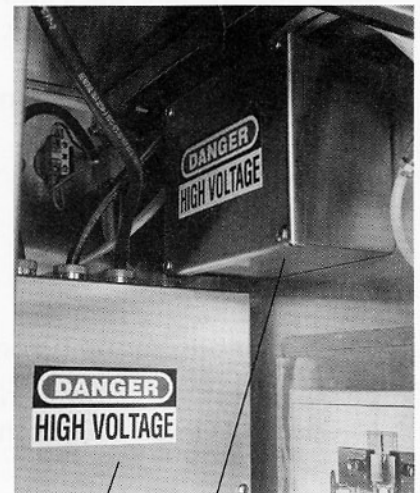
Using a 4 lead wire for power supply cord, strip back cord insulation about 10".

Strip back wire ends approximately 1".

Remove the Cord Connector Cap, Locking Ring & Rubber Seal at left side of Cabinet and slide them onto Power Supply Cord. Insert Cord Wires through Cord Connector into junction Box and tighten Cord Connector Cap (see fig.1).

Connect Power Supply Cord wires to junction Box wires with Wire Nuts and replace junction Box Cover. Connect other end of Cord to Breaker Box.

This completes wiring hook up subject to checking for PROPER ROTATION OF GRINDING WHEELS.



Control Box

Junction Box

Fig. 4

GRINDING WHEEL ROTATION

Inspect Grinding Wheels to be sure they are clear of any obstructions and are not touching each other.

Turn Main Power Switch ON (see fig. 1). Yellow light should come on.

Press the Forward Button (see fig. 2). Green light should come on and Grinding Wheels should be turning COUNTERCLOCKWISE. If Grinding Wheels are not turning Counterclockwise, push the On-Off Button OFF, turn Main Power Switch OFF and disconnect Power at the Breaker Box. Switch TWO POWER LEADS in the Hollow Grinder junction Box and repeat previous steps in this section.

AIR/HYDRAULICS HOOK-UP

NOTE: Air is only required to operate the two semi-automatic Diamond Dressing Units that true up the grinding wheels.

Attach Air/Water Separator provided with machine to Quick Disconnect Nozzle at left side of Hollow Grinder (see fig. 1).

Attach Air Line to Air/Water Separator.

The Air Regulator inside the rear door should be SET at approximately 85 lbs. and on '93 and later models equipped with an Air Cut-Off Valve make sure the Valve is OPEN (see fig. 37).

COOLANT PREPARATION

Remove Coolant Tank located inside the front door (see fig. 39). Set aside the Filter Tray and Pump (see fig. 40). Pour 1-1/2 Cups of Grinding Solution into Coolant Tank and add Water until Coolant Tank is approximately THREE QUARTERS FULL.

Hang Sock Filter from Hook located on the side of the Coolant Down Spout (see fig. 41). Place Pump back into the rear of the Coolant Tank and SET Filter Tray on top of Coolant Tank (see fig. 42).

Slide Coolant Tank back into front Cabinet (see fig. 39). Make sure the Sock Filter is hanging straight with the bottom inside the Filter Tray. Close front Door.

Machine should be placed in a RELATIVELY LEVEL AREA to insure proper recirculation of coolant into Coolant Tank.

SAFETY

Before using the Hollow Grinder be sure you are NOT WEARING Rings, Watches, Bracelets and Loose Hanging Necklaces. LONG SLEEVES should be rolled up and HAIR NETS worn for longer hair.

Safety Glasses should be worn at all times while operating Hollow Grinder.

PREPARING FOR OPERATION

See fig. 1, 2 and 3 for the location of these Parts and Switches.

Slide Stainless Steel Splash Guard onto the front of the Hollow Grinder Cabinet Top Tray.

Set Wheel Guard into Position. It may be necessary to move Wheel Guard Carriage away from grinding wheels in order to set Wheel Guard on dowel pin. (Turn Wheel Guard Adjustment Knob COUNTERCLOCKWISE.) The Grinding Wheels may also need to be moved apart. (Turn Hand Wheel COUNTERCLOCKWISE.)

Position Upper Coolant Nozzle in Nozzle Holder slot so that the coolant flows onto the FRONT 1/4" of the grinding surface. Set clear Plastic Coolant Shields in place. Set Coolant Flow Control Valves to OPEN position (see fig. 43).

Turn Main Power Switch ON and press either the Forward or Reverse Button to activate Grinding Wheels. Knives may be ground with wheel rotation in either direction. Turn Pump Switch ON.

Turn Hand Wheel CLOCKWISE until you hear Grinding Wheels just slightly touch each other.

CAUTION-Should Hand Wheel become difficult to turn when attempting to bring grinding wheels together, turning should NOT BE FORCED as damage may result.

The grinding wheels may be grinding against the Wheel Guard. If so, turn Wheel Guard Adjustment Knob COUNTERCLOCKWISE enough to allow clearance for Grinding Wheel Adjustment.

OR

The inside of the Dresser Frames may be pressing against the base of the Wheel Guard. If so, turn Wheel Guard Adjustment Knob CLOCKWISE enough to allow proper clearance for Grinding Wheel adjustment.

When grinding wheels are just slightly touching each other turn Wheel Guard Adjustment Knob CLOCKWISE until Wheel Guard touches grinding wheels and then back it up 1/2 turn COUNTERCLOCKWISE so grinding wheels do not rub Wheel Guard.

GRINDING A KNIFE

See fig. 1, 2 and 3 for the location of these Parts and Switches.

Turn Main Power Switch ON, press Forward or Reverse Button to activate Grinding Wheels and turn Pump Switch ON.

Turn Hand Wheel CLOCKWISE until you hear Grinding Wheels just slightly touch each other.

Turn Wheel Guard Adjustment Knob CLOCKWISE until Wheel Guard touches grinding wheels and then turn Wheel Guard Adjustment Knob 1/2 turn COUNTERCLOCKWISE so grinding wheels do not rub Wheel Guard.

Direct the Upper Coolant Nozzle so that the coolant flows onto the FRONT 1/4" of the grinding surface.

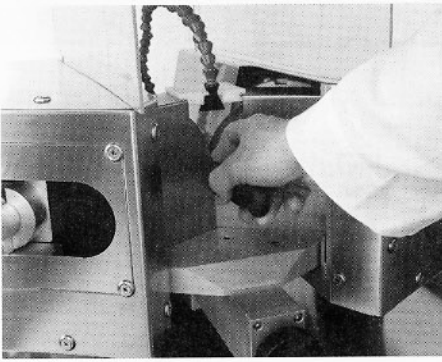


Fig. 5

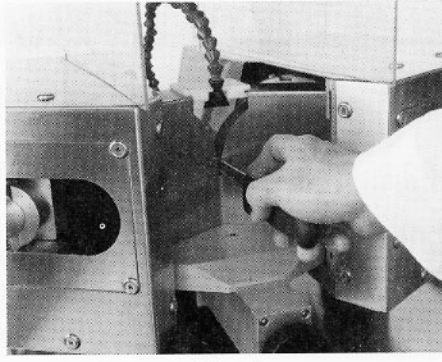


Fig. 6

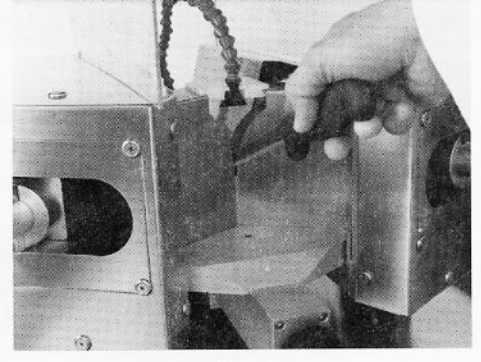


Fig. 7

Place Knife on grinding wheels with slight pressure as close to the heel of the knife as the Wheel Guard will allow (see figure 5). Holding the Knife level, pull it across the grinding wheels and increase pressure gradually (see figure 6). For knives with curved tips or curved blades, raise the Handle to follow the curve as you draw the Blade across the grinding wheels (see fig. 7).

When the Tip of the Knife Blade is half way across the grinding surface, start back in with the Knife and at the same time lower the Handle. At the straight part of the blade continue in level with the Knife Blade and decrease pressure that you are holding against the wheels. The width of the grind should be even on both sides of the blade. If it is not, lean the Blade or put more pressure toward the side of the Knife with the narrowest grind while grinding the Knife. Continue grinding until the Knife Blade is ground to the desired taper or fits into the correct Knife Gauge Slot when drawn through the Slot (see fig. 46). A properly tapered Blade should fit into the Slot but NOT TOUCH the bottom of the Slot. If the Blade edge touches the bottom of the Slot, the Blade has been tapered too thin. If the Blade DOES NOT FIT into the Slot, it needs more tapering on the Hollow Grinder.

DRESSING GRINDING WHEELS

1. Before dressing the Grinding Wheels, visually inspect the end of each Diamond Dresser Bit to be sure it is clear of the grinding wheel and in good condition (see figure 8). If the Dresser Ram Assembly is turned in too far clockwise and the end of the Diamond Dresser Bit does not clear the grinding wheel (see fig. 9), turn the Dresser Advancement Knob COUNTERCLOCKWISE (see fig. 10) until the end of the Diamond Dresser Bit is clear of grinding wheel (see fig. 8).

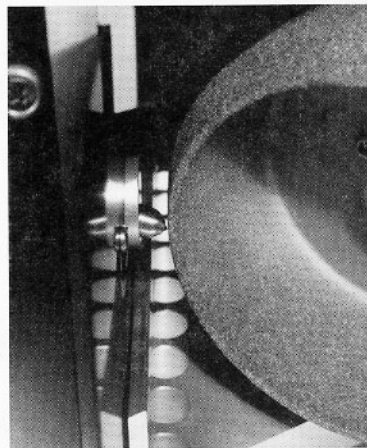


Fig. 8

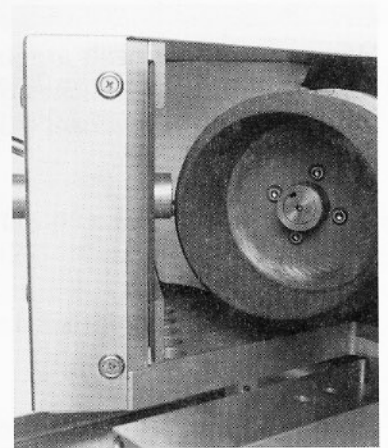


Fig. 9

2. If the machine is not on, turn Main Power Switch ON, and press either the Forward or Reverse Direction Button which activates the Motors and then turn Pump Switch ON.

3. Press and hold in the Dresser Button next to the Direction Button that is on (see fig. 11). This cycles the Dresser Assembly to the CENTER. CAUTION: DO NOT Dress grinding wheels in this direction.

4. Continue holding in the Dresser Button until you turn the Dresser Advancement Knob I click CLOCKWISE (see fig. 12). This moves the Diamond Dresser Bit into position for dressing the grinding wheel one time.

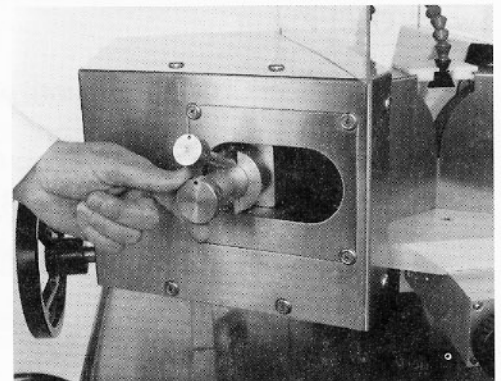


Fig. 10

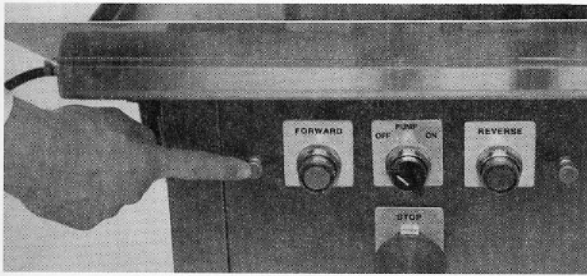


Fig. 11

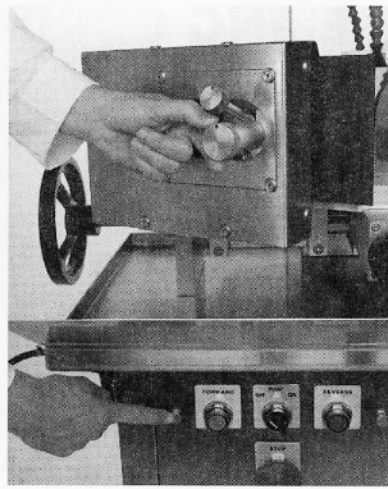


Fig. 12

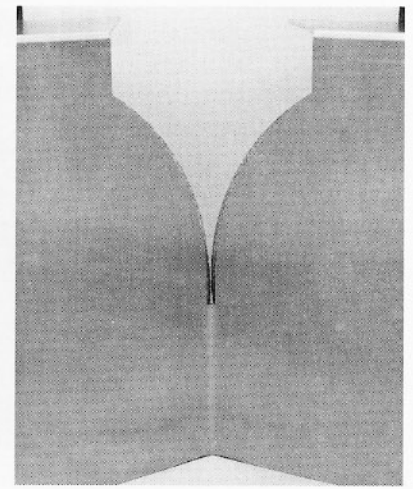


Fig. 13

5. Release the Dresser Button. Diamond Dresser Bit dresses the grinding wheel as it returns to the IDLE position. If the Diamond Dresser Bit does not dress (does not touch) the grinding wheel or does not sound smooth (chatters), return to step 3.

To keep the grinding wheels even with each other, it is important to dress each grinding wheel the same number of clicks on the Dresser Advancement Knob.

6. On the last dressing pass, the Diamond Dresser Bit should sound like it is making a smooth cut across the entire grinding surface. To dress the other grinding wheel, push the On-Off Button OFF. Press the other Direction Button and repeat Dressing Steps 3 through 5.

7. After both grinding wheels are dressed, the Dots on the Dresser Advancement Knobs should be at the same position. If the Dots are not lined up, continue dressing one side until they are at the same position. Turn Hand Wheel CLOCKWISE until you hear Grinding Wheels just slightly touch each other.

8. Turn Wheel Guard Adjustment Knob CLOCKWISE until you hear Wheel Guard touch grinding wheels and then back it up 1/2 turn COUNTERCLOCKWISE so grinding wheels do not rub Wheel Guard.

9. Dress Grinding Wheels often enough so that it takes only One Click per Dresser Advancement Knob to dress each grinding wheel.

10. Periodically inspect the Wheel Guard Slot to see that the Grinding Wheels meet in the CENTER of the Wheel Guard Slot (see fig, 13). If the Grinding Wheels meet to the left of center of the Wheel Guard Slot, dress the Right Grinding Wheel 12 Clicks (ONE COMPLETE TURN CLOCKWISE) of the Right Dresser Advancement Knob. If the Grinding Wheels meet to the right of center of the Wheel Guard Slot, dress the Left Grinding Wheel 12 Clicks (ONE COMPLETE TURN CLOCKWISE) of the Left Dresser Advancement Knob.

ROTATING DIAMOND DRESSER BITS

Periodically the Diamond Dresser Bits need to be TURNED to keep a sharp edge of the diamond next to the grinding wheel.

Turn Main Power Switch ON, and press the Forward Button (see fig. 1 &2).

Press and HOLD IN the Left Dresser Button next to the Forward Button (see fig. 11). This cycles the Dresser Assembly to the CENTER.

Continue HOLDING IN the Left Dresser Button until you TURN the Diamond Dresser Bit approximately 1/4 turn in either direction (see fig. 14).

Release the Dresser Button and repeat the previous steps for the Reverse-Right Diamond Dresser Bit.

After both Diamond Dresser Bits have been rotated, the dots should be at the SAME POSITION.

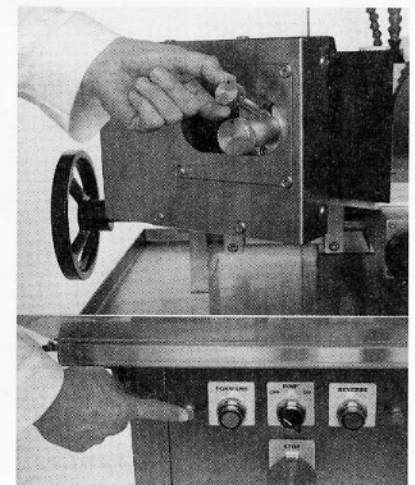


Fig. 14

CHAMFERING GRINDING WHEELS

Chamfering may be necessary if the front edges of the Grinding Wheels become uneven or chipped.

Turn Main Power Switch ON, and press the Forward Button. The LEFT GRINDING WHEEL is now ready to be chamfered CAUTION: DO NOT chamfer the right grinding wheel while Hollow Grinder is running in the Forward direction.

Holding the Dressing Stick down at approximately 45 degrees (see fig. 15), press the end of the Dressing Stick against the front edge of the Left Grinding Wheel until chamfering is completed.

To chamfer the Right Grinding Wheel, push the On-Off Button OFF, and press the Reverse Button. The RIGHT GRINDING WHEEL is now ready to be chamfered. CAUTION: DO NOT chamfer the left grinding wheel while Hollow Grinder is running in the Reverse direction.

Holding the Dressing Stick down at approximately 45 degrees (see fig. 16), press the end of the Dressing Stick against the front edge of the Right Grinding Wheel until chamfering is completed.

Check front edge of Grinding Wheels to see that they are even with each other.

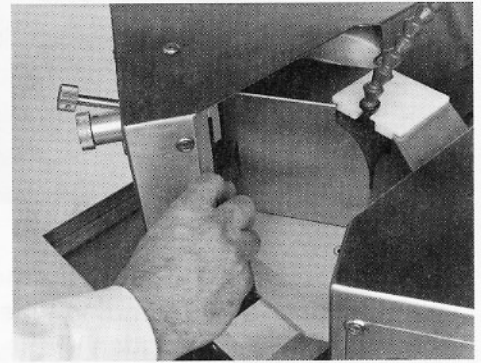


Fig. 15

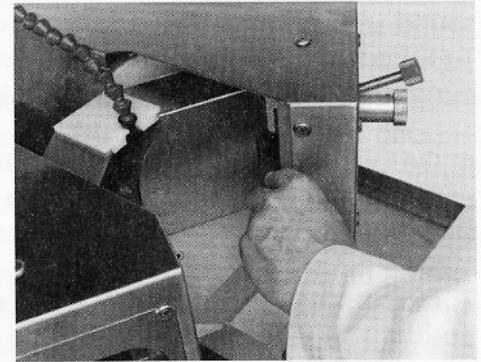


Fig. 16

REPLACING GRINDING WHEELS

Turn OFF all Switches (see fig.1 &2). Pump Switch upper left front of cabinet, On-Off Button front center and Main Power Switch left side. Remove the clear, Top Splash Shield.

Turn Hand Wheel COUNTERCLOCKWISE until grinding wheels are at maximum separation. Lift and REMOVE Wheel Guard (see fig. 17).

CAUTION: Both Dresser Ram Assemblies ARE EXTENDED IN and need to be TURNED BACK (see fig. 18). Turn back both Dresser Advancement Knobs COUNTERCLOCKWISE until the end of each Dresser Ram Assembly is approximately 1/8" from being flush with the Slide Shield (see fig. 19).

Hold one Grinding Wheel and using a 3/16" Hex Key Wrench remove the four Socket Head Cap Screws that fasten the Grinding Wheel to the Adaptor Hub (see fig.20). Remove old Grinding Wheel. Repeat procedure for removing other Grinding Wheel.

Clean the Grinding Wheel Adaptor Hubs of any grinding dust.

Place new Grinding Wheels on Grinding Wheel Adaptor Hubs and fasten each with four Socket Head Cap Screws (see fig. 21).

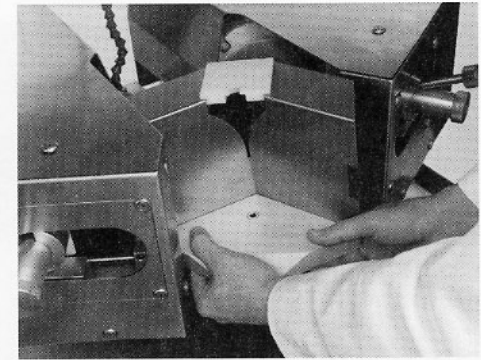


Fig. 17

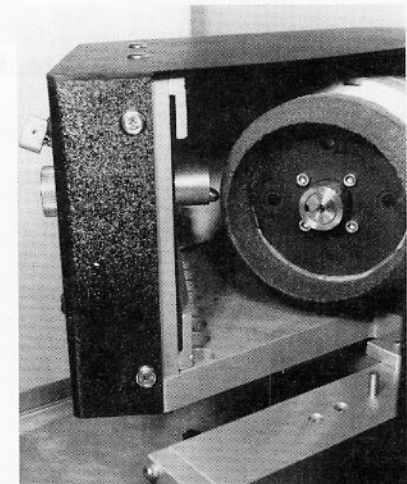


Fig. 18

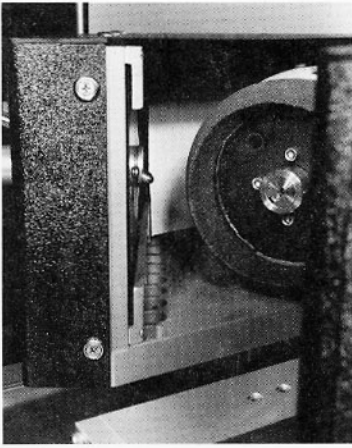


Fig. 19

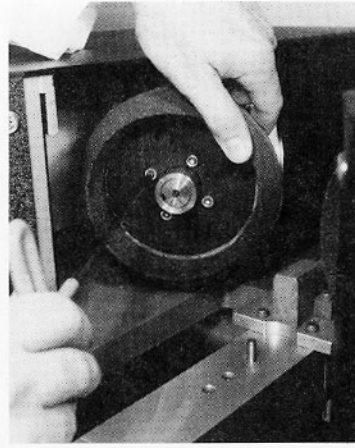


Fig. 20

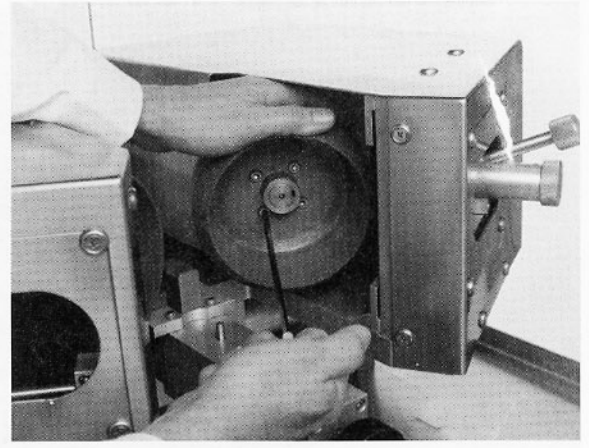


Fig. 21

IMPORTANT: Use only the special machined Chamfered Socket Head Cap Screws.

Clean bottom slot of Wheel Guard and the area where it is positioned on the Wheel Guard Carriage.

Turn Wheel Guard Adjustment Knob **COUNTERCLOCKWISE** enough to reposition Wheel Guard on Dowel Pin in front of new grinding wheels. Be sure Wheel Guard is not touching grinding wheels. If it is touching grinding wheels, continue turning Wheel Guard Adjustment Knob **COUNTERCLOCKWISE** until Wheel Guard is clear of grinding wheels.

Turn Hand Wheel **CLOCKWISE** until Grinding Wheels are almost touching each other. **NOTE:** To allow for this it may be necessary to further turn Wheel Guard Adjustment Knob **COUNTERCLOCKWISE**.

See steps for Dressing Grinding Wheels on page 8 to finish dressing and setting Hollow Grinder Wheels.

REPLACING A DIAMOND DRESSER BIT

Turn OFF all Power Switches.

Disconnect Air Line or on '93 or later models SHUT OFF the Air Cut-Off Valve located inside the rear right door (rearview) (see fig. 38).

On the Dresser Assembly for which the Diamond Dresser Bit is being changed, turn **BACK** Dresser Advancement Knob **FOUR (4) OR MORE FULL TURNS** counterclockwise.

NOTE: The new Diamond Dresser Bit will extend **FARTHER IN** because of new condition of the Diamond. Therefore it is important to turn **BACK** Dresser Ram Assembly **BEFORE** changing Diamond Dresser Bit.

At front of machine, remove 4 Phillips Flat Head Screws (see fig. 22) and the small Front Cover Plate to access the desired Dresser Assembly (see fig. 23).

With 3/16" Hex Key Wrench remove the Socket Head Cap Screw located just below the Dresser Ram Assembly (see fig. 24). Pull out the Dresser Ram Assembly (see fig. 25).

Wipe clean the Dresser Ram Assembly and the inside of the Dresser Saddle which holds the Dresser Ram Assembly.

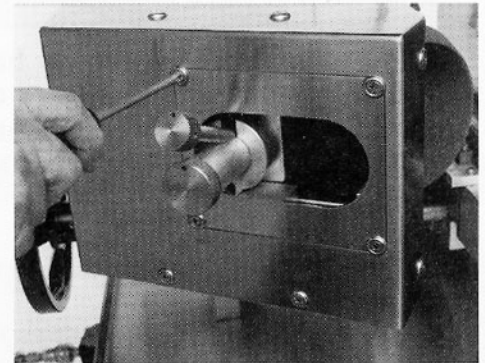


Fig. 22

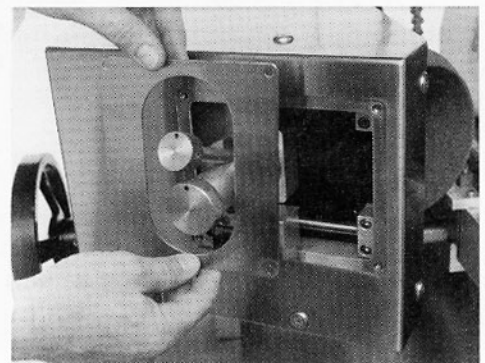


Fig. 23

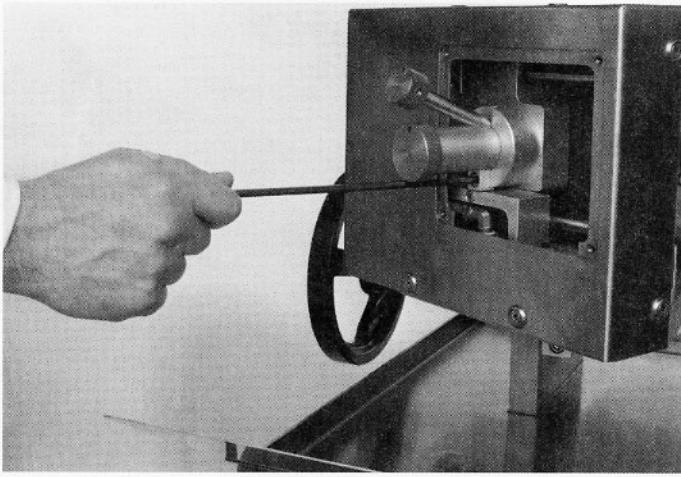


Fig. 24

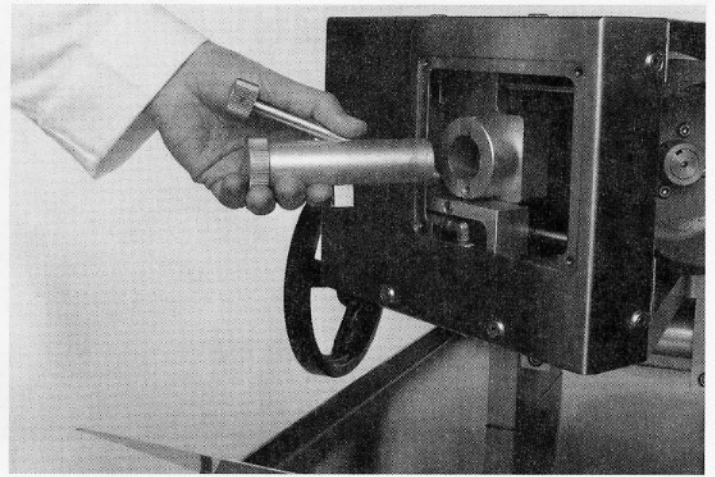


Fig. 25

Using a 1/16" Hex Key Wrench loosen the Spring Plunger Screw that holds the Diamond Dresser Bit (see fig. 26) enough to slide out the used Diamond Dresser Bit (see fig. 27).

Remove the Knob from the used Diamond Dresser Bit Shaft and tighten it onto the end of the new Diamond Dresser Bit Shaft (see fig. 28). Clean the Diamond Dresser Bit hole in the Dresser Ram Assembly. Fill the groove that is cut into the Diamond Dresser Bit Shaft with grease and grease the Shaft.

Slide the Diamond Dresser Bit into the Dresser Ram Assembly until the groove is past the Spring Plunger (see fig. 29). Tighten the Spring Plunger Screw until it resists movement of the Diamond Dresser Bit Shaft. Pull the Diamond Dresser Bit Shaft back until the Spring Plunger drops into the groove. Continue tightening the Spring Plunger Screw until it is tight and then loosen it 1/4 of a turn.

Slide the Dresser Ram Assembly back into the Dresser Saddle Fig.28 and tighten with the Socket Head Cap Screw. NOTE: Be sure that the Dresser Ram Knob is setting straight on the end of the Ram. If it is not, PUSH UP on the Dresser Ram Key Nut before tightening Socket Head Cap Screw.

Reposition Front Cover Plate and fasten with 4 Phillips Flat Head Screws.

Reconnect Air Line or OPEN Air Cut-Off Valve and RESTART Hollow Grinder.

Turn Dresser Advancement Knob CLOCKWISE one click at a time while cycling Diamond Dresser Bit across running grinding wheel. As soon as new Diamond Dresser Bit dresses Grinding Wheel, line up Dresser Advancement Knob Dots by dressing either left or right Grinding Wheel.

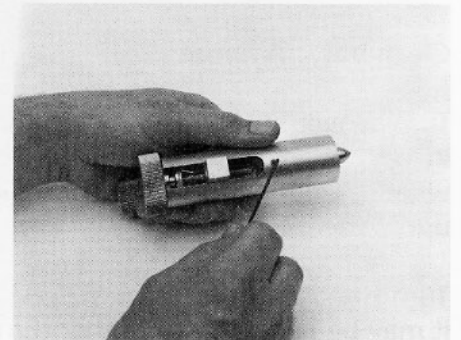


Fig. 26

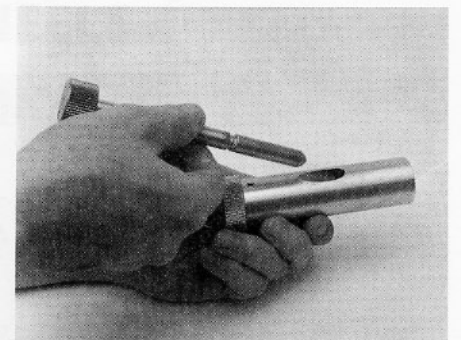


Fig. 27

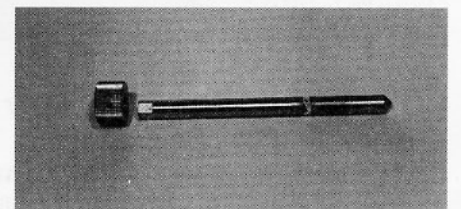


Fig. 28

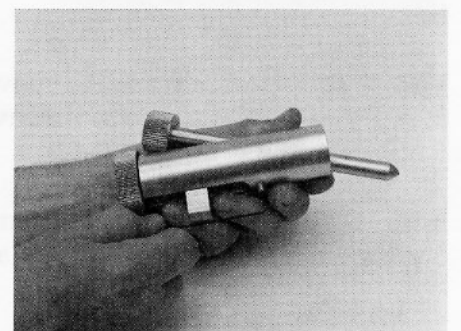


Fig. 29

HYDRAULIC DRESSING SYSTEM MAINTENANCE

The Mineral Oil Reservoirs for the Dressing System Hydraulics are located inside the rear door (see fig. 30). The Mineral Oil Levels should be checked weekly. The Hydraulic Lines are clear in color.

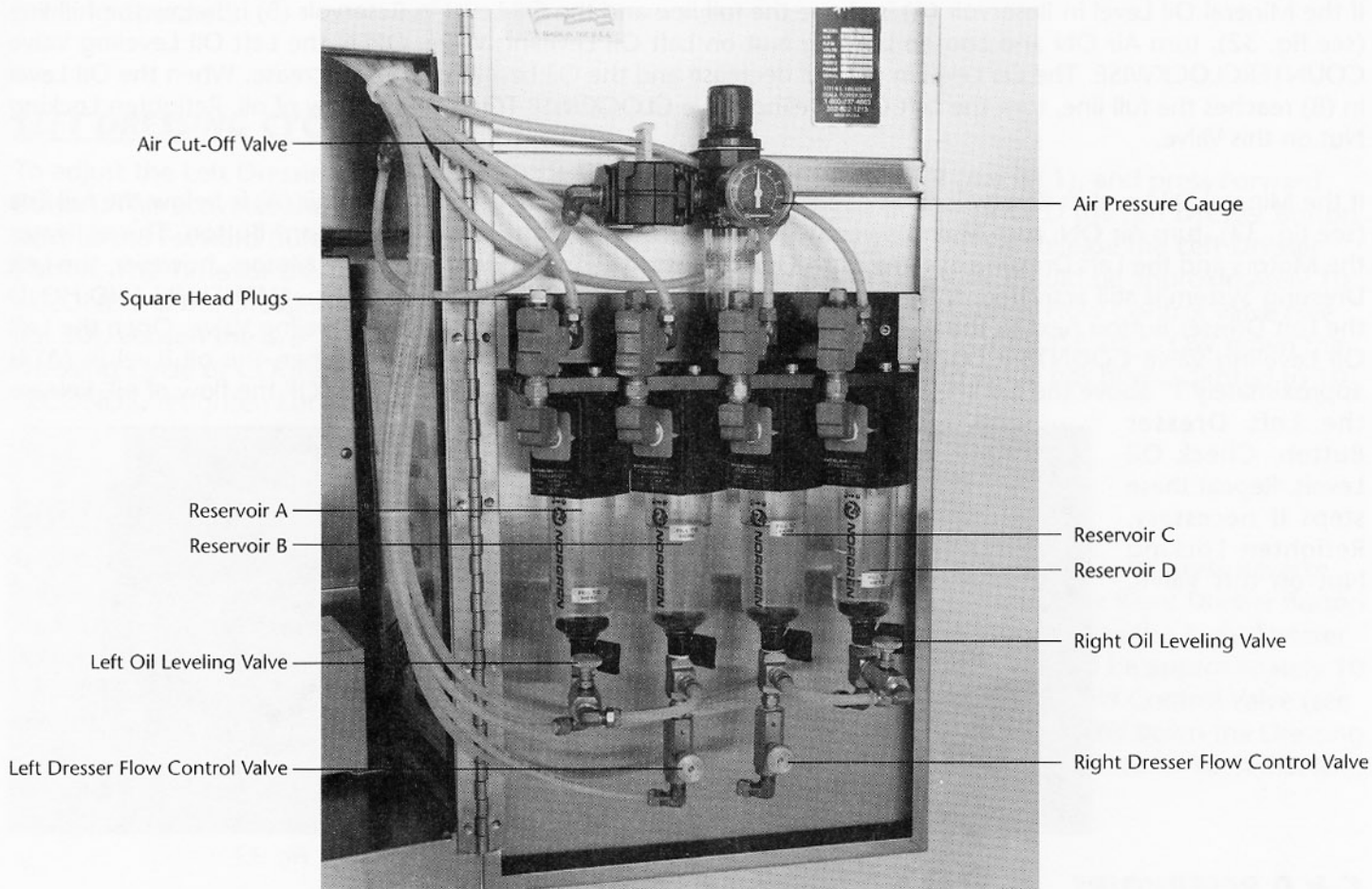


Fig. 30

ADDING OIL

If any of the Oil Levels are below the full line, *****DISCONNECT the Air Line***** from the Hollow Grinder or on '93 or later models **SHUT OFF** the Air Cut-Off Valve (see fig. 30). Remove the Square Head Plug on top of the appropriate Reservoir (see fig. 31) and fill to the full mark with clear Mineral Oil. **DO NOT OVER FILL OIL LEVELS.** Replace Square Head Plugs that were removed for filling.

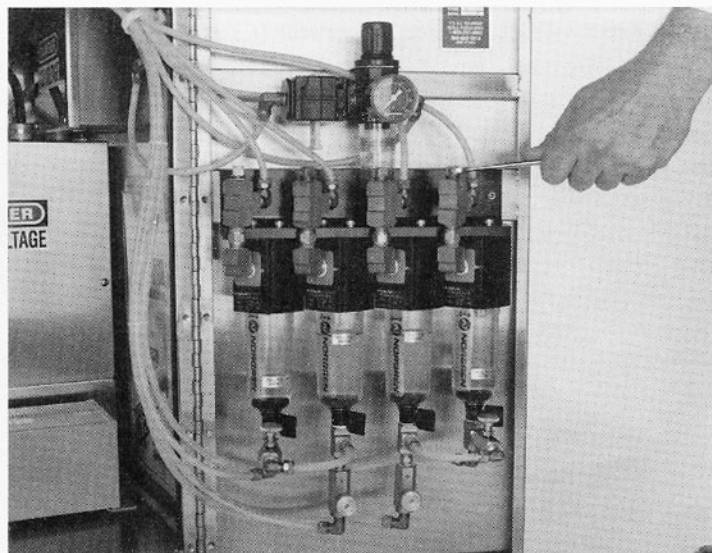


Fig. 31

ADJUSTING OIL LEVELS

Use the following steps when no oil is needed, but the levels are incorrect.

A & B RESERVOIRS

If the Mineral Oil Level in Reservoir (A) is above the full line and the Oil Level in Reservoir (B) is below the full line (see fig. 32), turn Air ON and Loosen Locking Nut on Left Oil Leveling Valve. OPEN the Left Oil Leveling Valve COUNTERCLOCKWISE. The Oil Level in (A) will decrease and the Oil Level in (B) will increase. When the Oil Level in (B) reaches the full line, turn the Left Oil Leveling Valve CLOCKWISE TO STOP the flow of oil. Retighten Locking Nut on this Valve.

If the Mineral Oil Level in Reservoir (B) is above the full line and the Oil Level in Reservoir (A) is below the full line (see fig. 33), turn Air ON, turn Main Power Switch ON (see fig. 1), and press the Forward Button. This activates the Motors and the Left Dressing System. Push On-Off button OFF. This deactivates the Motors, however, the Left Dressing System is still activated. ***This next step may require TWO PEOPLE to perform. ***PUSH IN AND HOLD the Left Dresser Button next to the Forward Button. Loosen Locking Nut on Left Oil Leveling Valve. Open the Left Oil Leveling Valve COUNTERCLOCKWISE. Oil will flow from (B) to (A) Reservoir. When the oil level in (A) is approximately 1" above the full line, turn the Left Oil Leveling Valve CLOCKWISE TO STOP the flow of oil. Release the Left Dresser Button. Check Oil Levels. Repeat these steps if necessary. Retighten Locking Nut on this Valve.

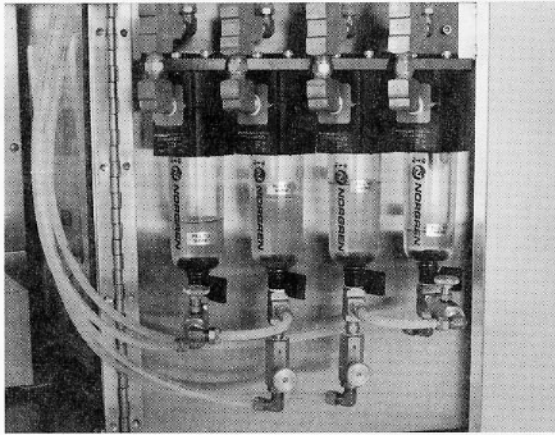


Fig. 32

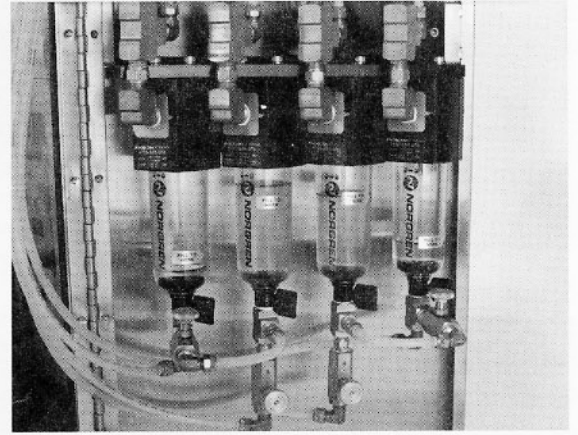


Fig. 33

C & D RESERVOIRS

If the Mineral Oil Level in Reservoir (D) is above the full line and the Oil Level in Reservoir (C) is below the full line (see fig. 34), turn Air ON and Loosen Locking Nut on Right Oil Leveling Valve. OPEN the Right Oil Leveling Valve COUNTERCLOCKWISE. The Oil Level in (D) will decrease and the Oil Level in (C) will increase. When the Oil Level in (C) reaches the full line, turn the Right Oil Leveling Valve CLOCKWISE TO STOP the flow of oil. Retighten Locking Nut on this Valve.

If the Mineral Oil Level in Reservoir (C) is above the full line and the Oil Level in Reservoir (D) is below the full line (see fig. 35), turn Air ON, turn Main Power Switch ON (see fig. 1), and press the Reverse Button. This activates the Motors and the Right Dressing system. Push On-Off Button OFF. This deactivates the Motors, however, the Right Dressing System is still activated. ***This next step may require TWO PEOPLE to perform.*** PUSH IN AND HOLD the Right Dresser Button next to the Reverse Button. Loosen Locking Nut on Right Oil Leveling Valve. Open the Right Oil Leveling Valve COUNTERCLOCKWISE. Oil will flow from (C) to (D). When the oil level in (D) is approximately 1" above the full line, turn the Right Oil Leveling Valve CLOCKWISE TO STOP the flow of oil. Release the Right Dresser Button. Check oil levels. Repeat these steps if necessary. Retighten Locking Nut on this Valve.

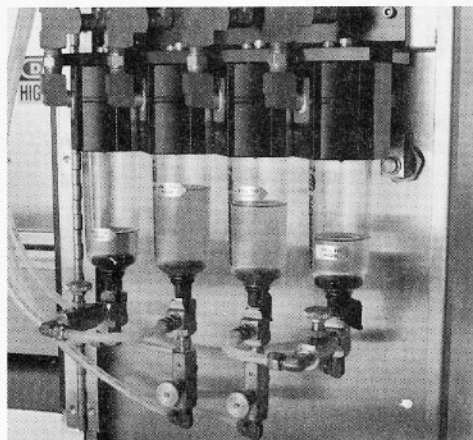


Fig. 34

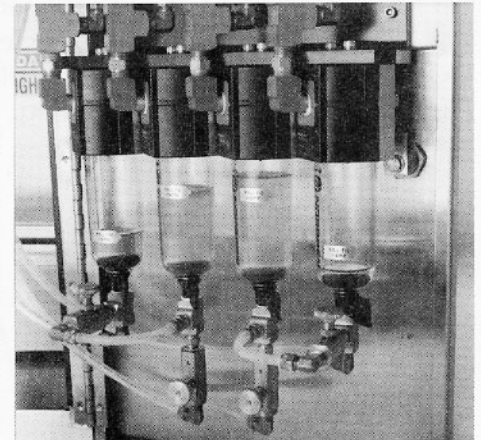


Fig. 35

ADJUSTING DRESSING CYCLE

The Dressing Cycle is the time it takes for a Dresser Assembly to return from the CENTER position to the IDLE position. The Dressing Cycle is preset at 10 SECONDS but may be slower in cooler environments and faster in warmer environments. Adjust the Dressing Cycle according to the environment in which the Hollow Grinder is being operated.

LEFT DRESSING CYCLE

To adjust the Left Dressing Cycle, turn Air ON, turn Main Power Switch ON (see fig.1), and press Forward Button. This activates the Motors and the Left Dressing System. PUSH IN AND HOLD the Left Dresser Button next to the Forward Button. This cycles the Left Dresser Assembly to the CENTER. Release the Left Dresser Button. The Time for the Left Dresser Assembly to return to the IDLE POSITION should be approximately 10 SECONDS. If the Dressing Cycle is too slow or too fast, adjust with the Left Dresser Flow Control Valve (see fig. 30). Loosen the 3/8" Locking Nut behind the Valve and turn the Valve CLOCKWISE TO SLOW down the Dressing Cycle or COUNTERCLOCKWISE TO SPEED it up. When the Dressing Cycle has been adjusted to 10 SECONDS, retighten Locking Nut.

RIGHT DRESSING CYCLE

To adjust the Right Dressing Cycle, turn Air ON, turn Main Power Switch ON (see fig.1), and press Reverse Button. This activates the Motors and the Right Dressing System. PUSH IN AND HOLD the Right Dresser Button next to the Reverse Button. This cycles the Right Dresser Assembly to the CENTER. Release the Right Dresser Button. The Time for the Right Dresser Assembly to return to the IDLE POSITION should be approximately 10 SECONDS. If the Dressing Cycle is too slow or too fast, adjust with the Right Dresser Flow Control Valve (see fig. 30). Loosen the Locking Nut behind the Valve and turn the Valve CLOCKWISE TO SLOW down the Dressing Cycle or COUNTERCLOCKWISE TO SPEED it up. When the Dressing Cycle has been adjusted to 10 SECONDS, retighten Locking Nut.

AIR/WATER SEPARATOR

The Air/Water Separator located on the left side of the Hollow Grinder next to the Main Power Switch (see fig. 1) removes water in the Air Line that will contaminate the Hydraulic System. An Air/Water Separator should always be used on the Air Line. The Air/Water Separator that is supplied with some Hollow Grinders will automatically release the water it has accumulated when there is a change in the air pressure. If no change has occurred in the air pressure running to the Hollow Grinder and water has accumulated in the Air/Water Separator, it can be released manually by taking a

small Hex Key Wrench or similar Tool and pushing up on the Needle Valve on the bottom of the Air/Water Separator and holding it in until the water is released completely (see fig. 36A).

Other Hollow Grinders are supplied with a manual Air/Water Separator. Turn valve to release any water that has accumulated (see fig. 36B).

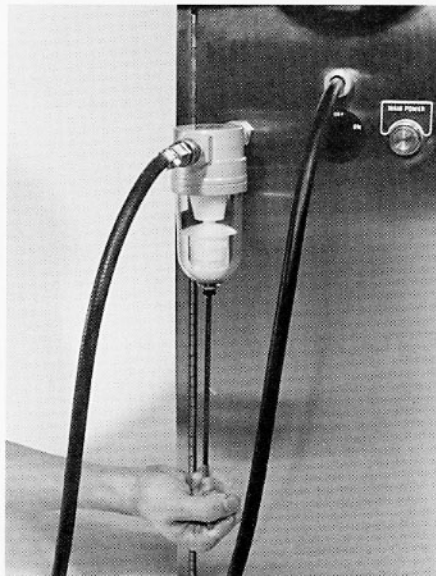


Fig. 36A

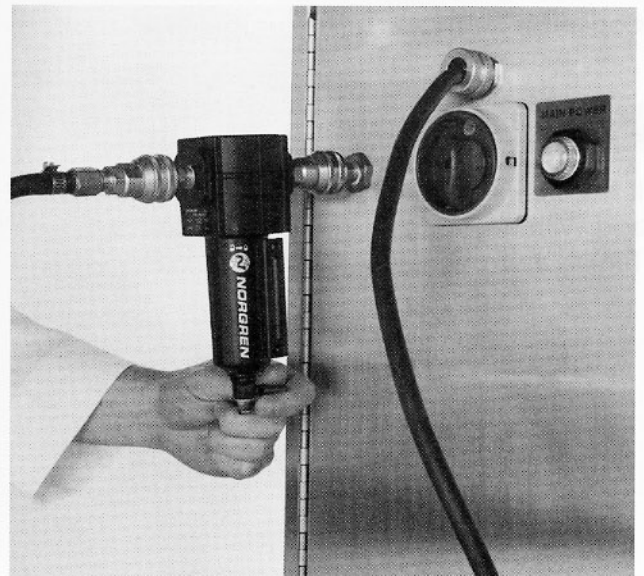


Fig. 36B

AIR PRESSURE GAUGE

The Air Pressure Gauge located inside the rear door is preset at approximately 85 lbs (see fig. 37). If adjustment is required read directions on the very top of the Pressure Gauge on how to release the Locked Position and adjust Air Pressure. After adjustment has been made return to Locked Position.

AIR CUT-OFF VALVE ('93 or later models)

The Air Cut-Off Valve located inside the rear door must be OPEN (Lever Up & Air Gauge reading approximately 85 lbs.) in order to operate the Hydraulic Dressing System (see fig. 37).

The Air Cut-Off Valve must be CLOSED (Lever Down & Air Gauge reading ZERO) whenever adding Mineral Oil to Hydraulic Dressing System or disconnecting any Hydraulic Lines (see fig. 38).

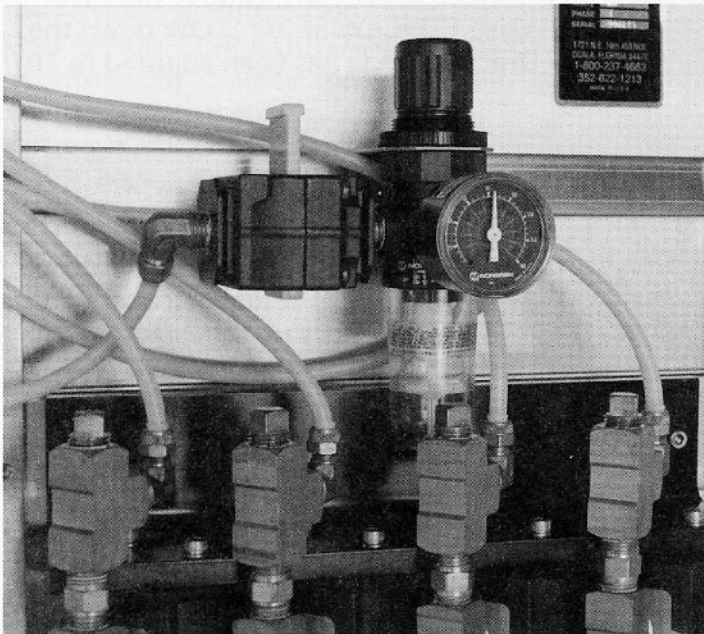


Fig. 37

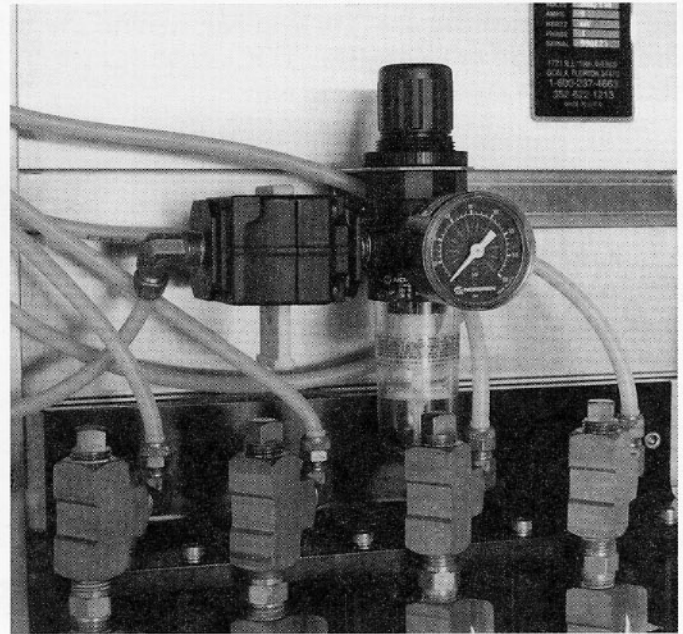


Fig. 38

COOLANT TANK & FILTERS

The Coolant Tank and Filters located inside the front cabinet (see fig. 39) should be checked weekly to be sure Coolant is clean and at the proper level and Filters are clear).

ADDING COOLANT

If the Coolant is clean but the Level is down, add Grinding Solution and Water (1/4 Cup Grinding Solution: 1 Gallon Water) until the Tank is approximately THREE QUARTERS FULL.



Fig. 39

CHANGING COOLANT

Remove Coolant Tank located inside the front cabinet. Set aside the Filter Tray and Pump (see fig. 40). Pour out old Coolant and rinse Coolant Tank. Pour 1-1/2 Cups of Grinding Solution into Coolant Tank and add Water until Coolant Tank is approximately THREE QUARTERS FULL. Rinse or change Tray and Sock Filters. Return Tray Filter to Filter Tray. Hang Sock Filter from Hook located on the side of the Coolant Return Spout (see fig. 41) Place Pump back into the rear of the Coolant Tank and SET Filter Tray on top of the Coolant Tank (see fig. 42). Slide Coolant Tank into front cabinet (see fig. 39). Make sure the Sock Filter is hanging straight with the bottom inside the Filter Tray. Close Front Door.

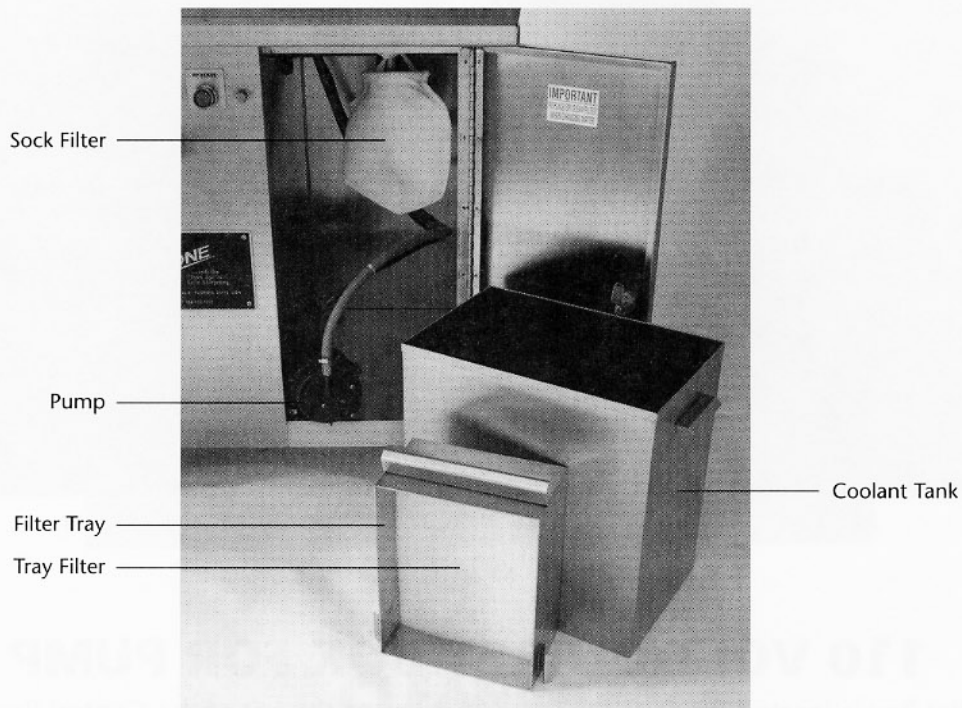


Fig. 40

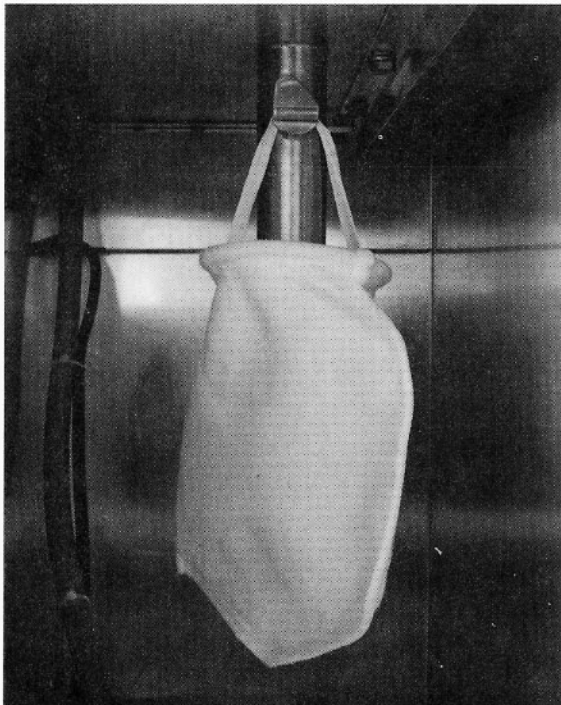


Fig. 41



Fig. 42

COOLANT FLOW CONTROL VALVES

The Coolant Flow Control Valves (see fig. 43) control the flow of Coolant to the Grinding Wheels. The Valves are CLOSED in the SIX or TWELVE o'clock positions (see fig. 44). Use the between Positions to Increase or Decrease the Coolant Flow. The Lower Flow Control Valve regulates the Coolant Flow to the Lower Coolant Fountain and should be set in the OPEN position (THREE or NINE o'clock). The Upper Flow Control Valve regulates the Coolant flow to the Upper Coolant Nozzle and should be OPEN ENOUGH to allow the desired Coolant Flow onto the Top of the Grinding Wheels.

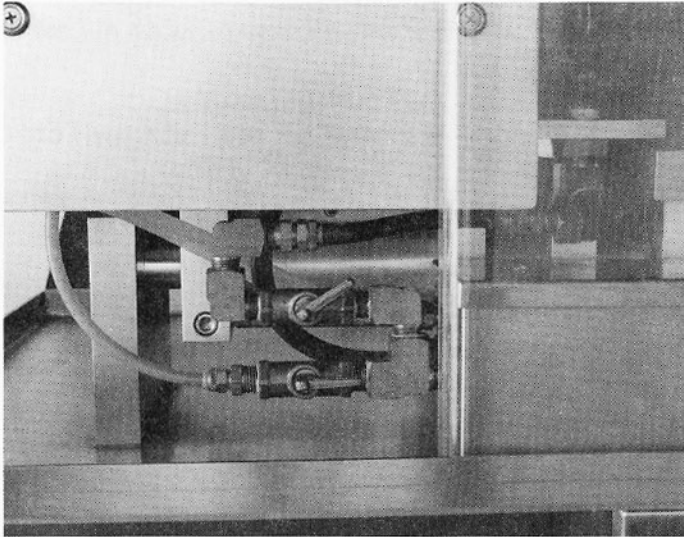


Fig. 43

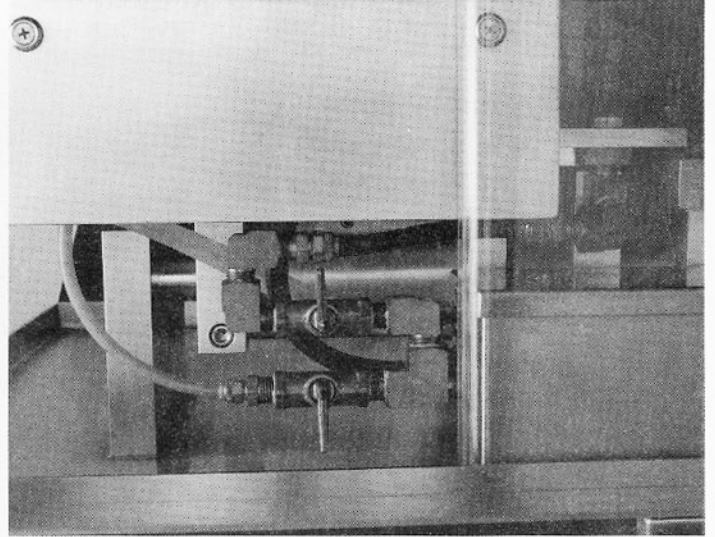


Fig. 44

110 VOLT OUTLET BOX FOR PUMP

The 110 volt Outlet Box is located inside the rear Cabinet just to the left of the Control Box (see fig. 45). The Top Outlet is for the Pump and is activated by the Pump Switch. The Lower Outlet is a Standard 110V Outlet and is activated by the Main Power Switch.

CONTROL BOX

Reset Buttons are located inside the Control Box (see fig. 45). They are labeled "RESET". In the event there is a Loss of Power to the Motors, push Reset Buttons to regain motor power. Two bus type fuses are located inside the control box for protection of the transformer. If an overload is placed on the transformer these fuses will blow, The transformer also supplies 110V power for switches in the Control Box. Replace fuses when necessary.

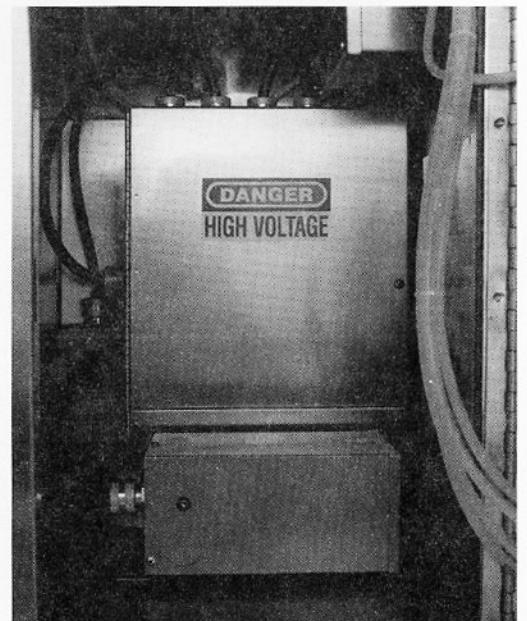


Fig. 45

KNIFE GAUGE

The Knife Gauge measures the thickness of the taper of a Knife Blade (see fig. 46). After tapering a Knife on the Hollow Grinder, draw the edge of the Blade through the desired slot on the Knife Gauge (either .023" or .020"). (The .016" slot is a "NO GO". If knife edge drops freely in this slot the taper of the edge is too thin.) A properly tapered Blade should fit into the .023" or .020" Slot but NOT TOUCH THE BOTTOM of the Slot. If the Blade Edge touches the bottom of the Slot, the Blade has been tapered too thin. If the Blade DOES NOT FIT into the Slot, it needs more tapering on the Hollow Grinder.

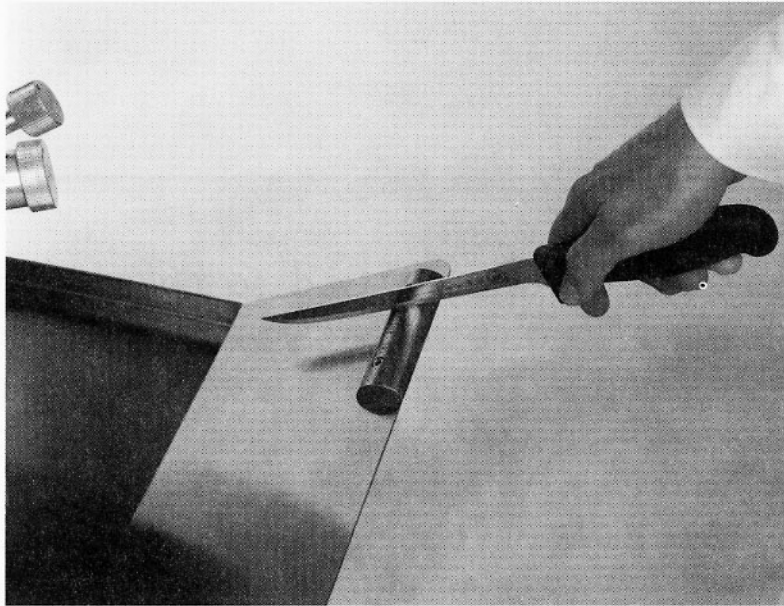


Fig. 46

CLEANING

When grinding is completed for the day, it is recommended that the Hollow Grinder be rinsed down.

Push On-Off button OFF so that only the Pump is running. NOTE: Grinding wheels should NOT be turning. Set clear Coolant Shields aside and using the Upper Coolant Nozzle on jointed line, Rinse and Wipe the grinding area of the Hollow Grinder (see fig. 47). After rinsing, reposition Upper Coolant Nozzle so that the Coolant flows onto the FRONT 1/4" of the grinding surface. Clean the clear Coolant Shields and set them back in place.

After most of the Grinding Coolant has drained back into the Coolant Tank, use Paper Towels to wipe up the grindings from the Cabinet Top Tray.

Monthly or Quarterly a more thorough cleaning is necessary.

Turn Hollow Grinder OFF and disconnect Air Line, or on '93 or later models SHUT OFF the Air Cut-Off Valve. Remove the small Front Cover Plates that protect the Dresser Assemblies.

Take off the Main left and right Motor Covers.

Clean as necessary.

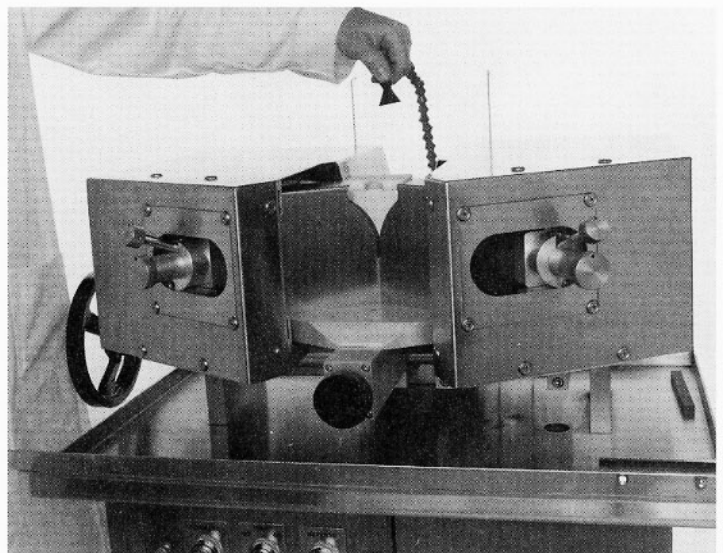


Fig. 47

Therefore put on the full armor of God, so that when the day of evil comes, you may be able to stand your ground, and after you have done everything, to stand. Stand firm then, with the belt of truth buckled around your waist, with the breastplate of righteousness in place, and with your feet fitted with the readiness that comes from the gospel of peace. In addition to all this, take up the shield of faith, with which you can extinguish all the flaming arrows of the evil one. Take the helmet of salvation and the sword of the Spirit which is the word of God.

Ephesians 6:13-17



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