

Knife Polishing Systems

HPB-110, 110 Volt, 1Ø, 60 Hz

HPB-220, 220 Volt, 1Ø, 50 Hz

Operator's Manual



Please read all instructions carefully
before operating machine.

Introduction Statement

The **PRIME**Edge Knife Polishing System produces a brilliant finish and refined sharp edges in a matter of seconds by utilizing two 9.75-inch straight polishing wheels. The polisher, in effect, is a buffing process that prepares the blade to its final condition before use. Polishing is done with a proprietary compound to ensure clean, smooth, burr-free edges without scorching or burning.

Uniquely engineered safety guides prevent pull, kickback, and other safety concerns traditionally present in polishing processes. This allows the operator to safely and confidently focus on the blades.

Safety and Warranty Statements

The **PRIME**Edge Polisher is a sturdy, well-constructed machine that will provide you with many years of satisfactory service.

This document explains:

- Installation and set-up instructions
- Correct usage of the machines
- Detailed maintenance and repair procedures

Warranty: The seller warrants the PRIMEEdge Polisher Knife Polishing System parts of its own manufacture against defects in workmanship or materials for 90 days from the customer's invoice date.

The seller's obligation is limited solely to the replacement of defective parts, which are to be returned to the seller's plant FOB.

The seller shall not be liable for any damage to the machine caused by misuse or abuse.

Machine parts that are not manufactured by the seller shall carry the warranty of the manufacturer thereof. Deterioration of parts caused by misuse or abuse, or improper operation of the machine, does not constitute defects.

This warranty of machine merchantability and fitness constitutes the only warranty made by the seller.

Use of any parts on this machine that are not approved by the seller as authorized replacement parts shall void all warranties and guarantees.

Refer to page 21 for your nearest **PRIME**Edge support location.

Notice:

- This is a non-contractual document.
- This document voids and replaces any previous documents.
- All images are for illustrative purposes only.

PRIMEEdge, in the constant improvement and updating of products, reserves the right to modify, at any time, designs, materials, dimensions and characteristics without prior notice.

Safety and Warranty Statements

The use of the machine is allowed only to trained and authorized personnel.

Any and all tampering with or modifications to the equipment not previously authorized by the manufacturer shall relieve the latter from damages arising from or relating to the above acts.

Removal or tampering with safety devices is a violation of safety standards.

The machine may only be used in places where there is no danger of explosion or fire.

Installation must be carried out by qualified personnel in full compliance with the instructions below.

Check that no dangerous conditions are present during operating maneuvers, stop the machine immediately if functional irregularities are found, and contact the assistance service.

Nameplate Data

Type:

DUAL KNIFE POLISHER

Model:

HPB-110 U.S. / HPB-220 Europe

Norms

EN ISO 12100:2010

EN 60204-1

EN 394

Reference Laws

2006/42/CEE

D.Lgs. n°17/2010

Technical Data

Total dimensions (l x p x h) (mm):

900 x 450 x 600

Total weight (kg):

85

Electrical power (kVA):

2

Electrical connection:

110 Vac P+N - 60 Hz / 220 VAC P+N - 50 HZ

Nominal current (A):

18

Polishing wheel dimension (mm):

250x22

Polishing wheel material:

Cotton

Polishing wheel speed (rpm):

1680

Polishing wheel speed (m/s):

17÷22

Noise level (dB(A))

< 80

Terms

Polishing Unit: Assembly consisting of rotary brush, position adjustment system, workpiece support and guide system and abrasive polishing compound.

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Features

General and Functional Description

The machine is built on a steel plate supported by a structure of aluminum profiles and consists of two cleaning units facing each other to allow the polishing of both sides of the blade edge, a system of support and guidance of the workpiece and the electrical system governing the machine.

The two cleaning units consist of a slide fixed to the steel plate, a motor that drives the tool (brush), a protective casing and a system for supporting and guiding the knife to be polished. The slide carrying the unit, consisting of tool and motor, is manually operated by a hand wheel which allows the distance of the tool from the workpiece support to be adjusted in order to compensate for wear. The assembly formed by the two adjustable supports and the protection guards is rigidly fixed to the plate that constitutes the base of the machine.

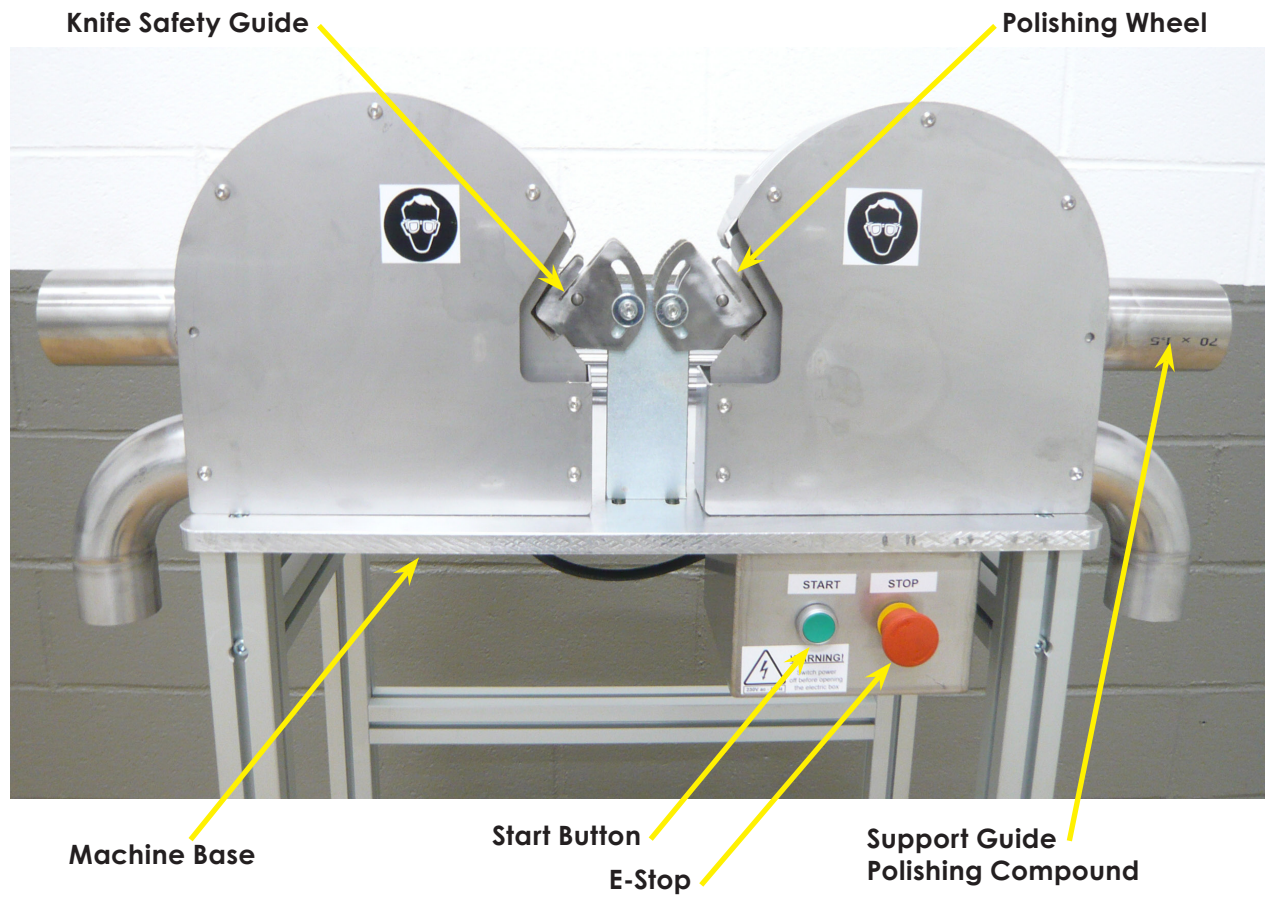


Fig. 1

Features

Polisher

The polisher consists of three main elements:

- Rotating Polishing Wheels
- Abrasive polishing compound holder (visible in Figure 1)
- Easily adjustable safety guides allow polishing of a wide variety of cutting angles

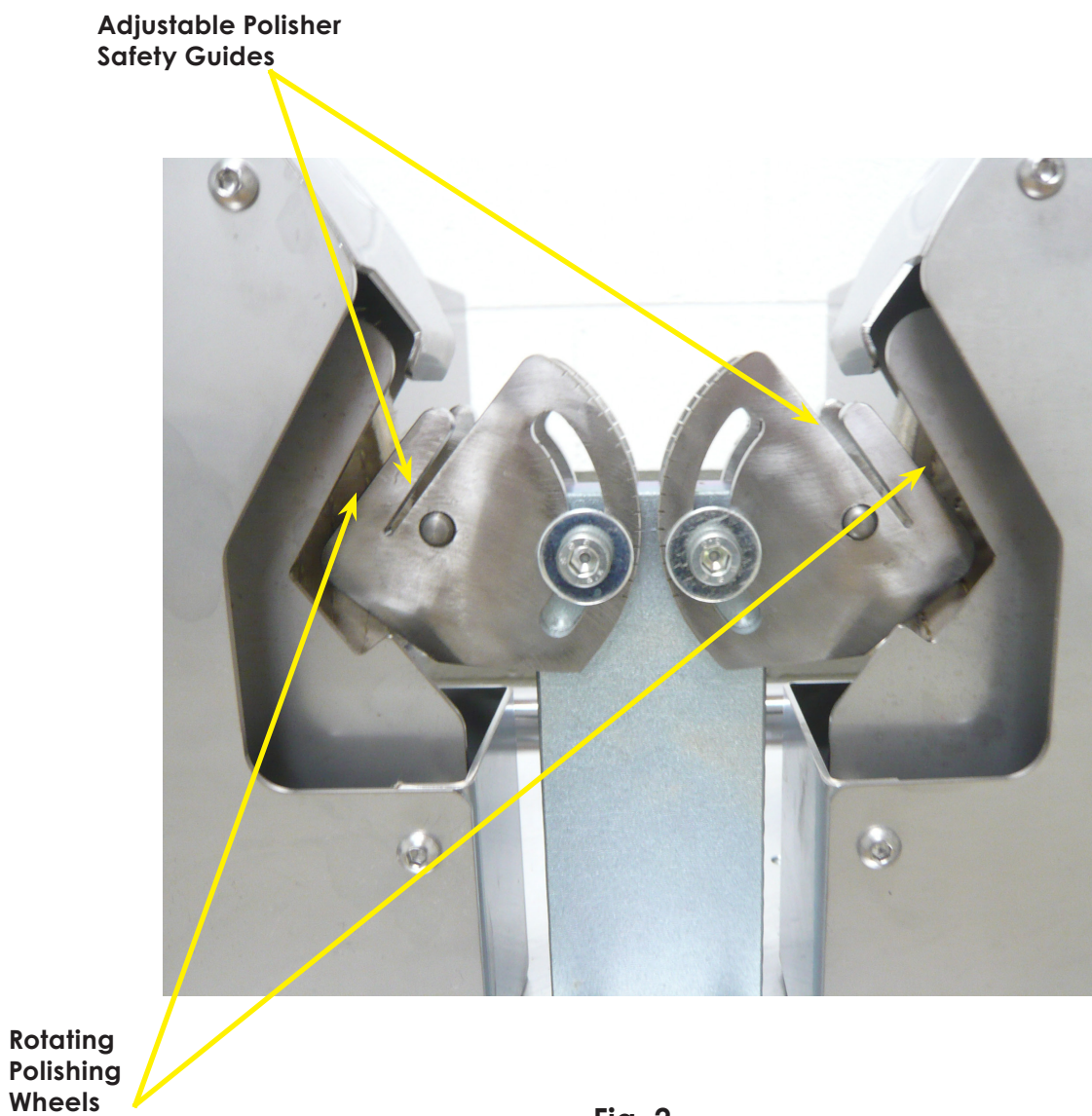


Fig. 2

Polisher Installation

Working Area

The work area is the space required for installation of the machine and its accessories, safe handling of workpieces and operators and access to machine parts and components for maintenance, cleaning, or other operations.

Figure 3 shows the minimum clearances required to ensure safe handling.

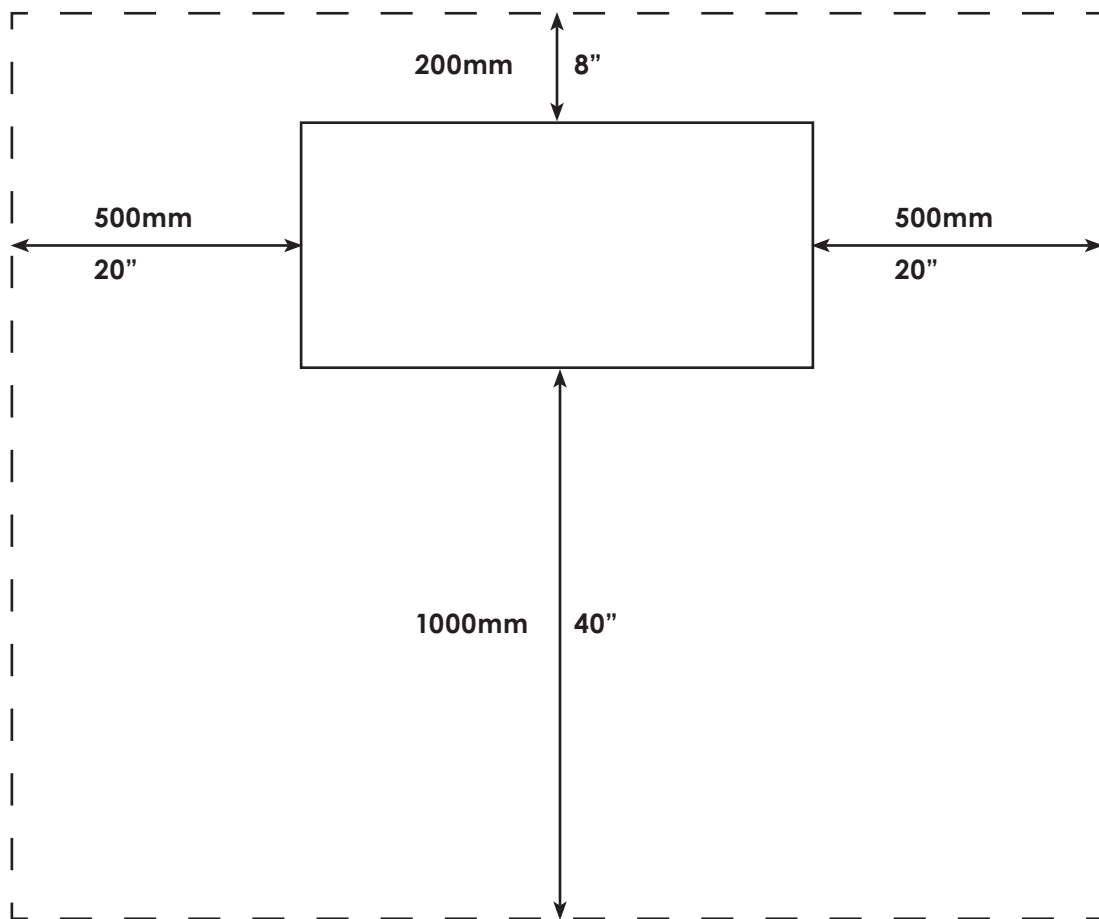


Fig. 3

Polisher Installation

Electrical Utilities

The machine is supplied with unplugged cable already connected inside the electrical cabinet. It is up to the installer to connect a plug complying with the standards in force in the country where the equipment is used and having a capacity of not less than 20A.

U.S. models are configured for a single-phase 110 Vac 60 Hz electrical supply.

European models are configured for single-phase 220 Vac 50 Hz electrical supply.

The sizing of the power supply line and relative protections must be done by the installer as it depends on the constructional characteristics of the facilities' distribution system.

The maximum short-circuit current must be limited to 1 kA for 1 second, and the line must support a maximum current of 20A.

Polisher Setup

Control of Components

Once the positioning of the machine has been completed, and before switching on the power supply, it is necessary to carry out a general check on the state of the machine. This check concerns the electrical connections and the correct fastening of the components.

Electrical Supplies

It is necessary to check the integrity of the cables and the correct assembly of the power plug. These operations must be done by a professionally qualified person.

Machine Setup

Before Polishing Knives:

- ⚠ Ensure wheels have a small amount of compound on them
- ⚠ Ensure clearance between wheels and guides
- ⚠ Wear safety glasses when polishing

The machine requires two adjustments during normal use:

- Adjustment of the blade holder to be sharpened
- Adjusting the distance of the brush from the holder

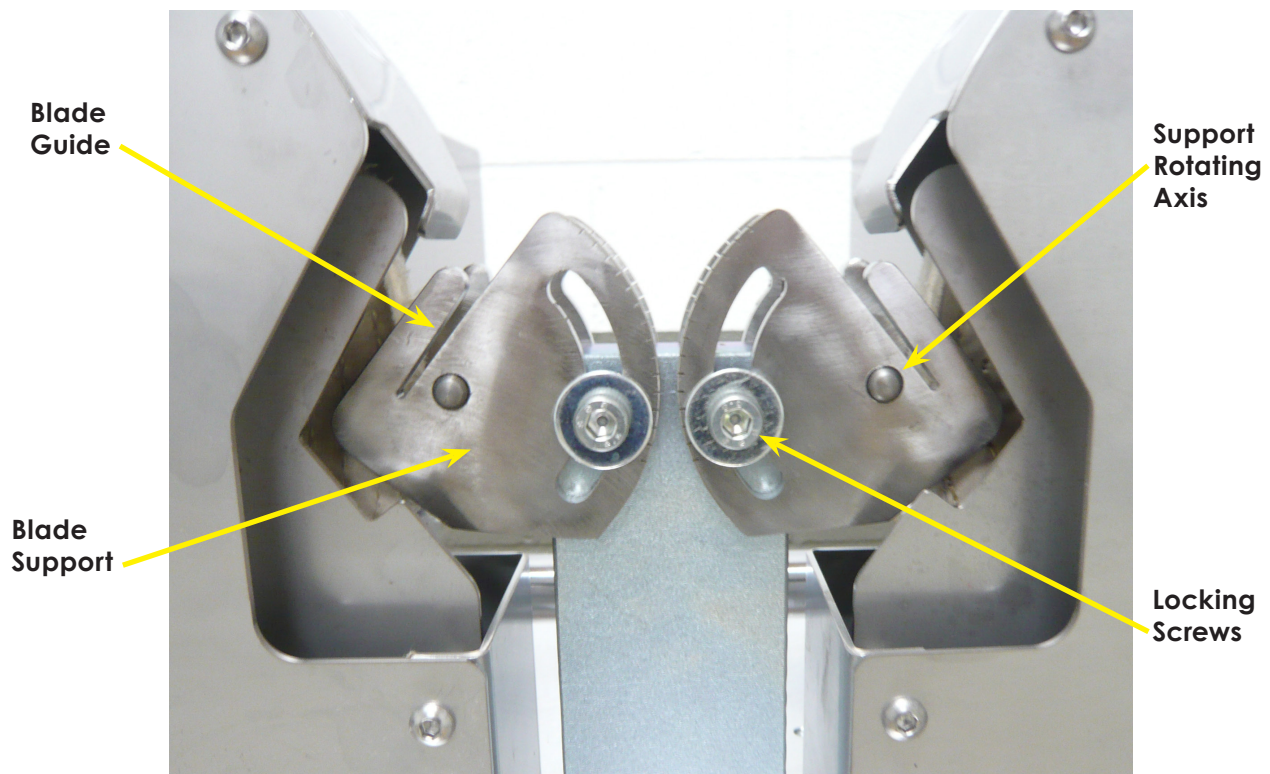


Fig. 4

Figure 4 shows the blade supports complete with guide. The support consists of a steel block fitted with a semi-circular slot, pivoted as shown and with a notch that acts as a guide for the blade. This support is pivoted on a support rigidly fixed to the base and held in place by a screw. Adjustment is used to obtain the correct angle of cut of the blade edge and is done by loosening the locking screw and positioning the support in the desired position. The graduated scale (visible in figure 5) provides an indication of the relative position of the support with respect to the brush.

Machine Setup

Graduated
Scales

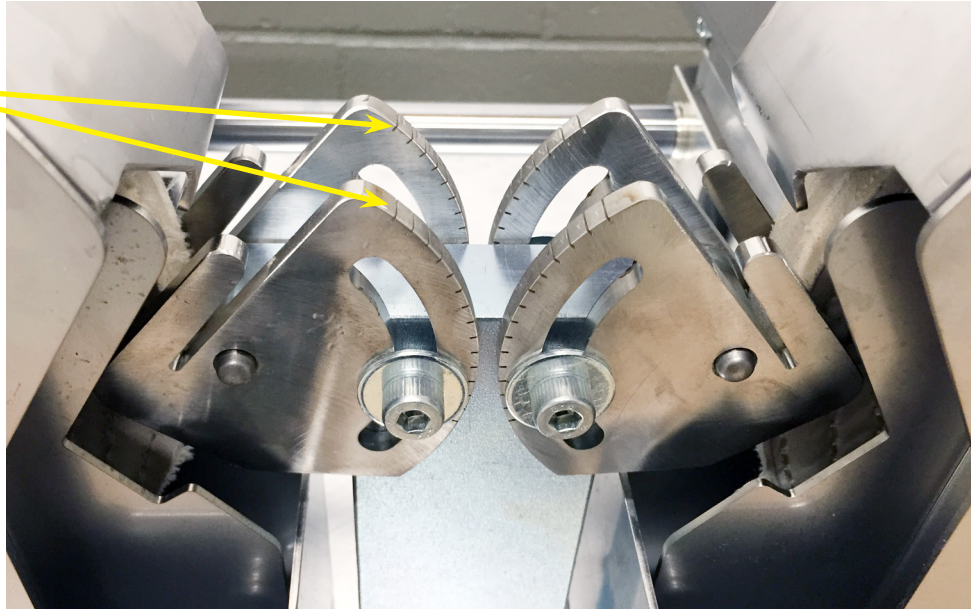


Fig. 5

Distance adjustment of the polishing wheel (Brush)

Fig. 6 below shows the detail of the slide on which the polishing unit and hand wheel are mounted. The action on this hand wheel allows you to move the brush closer or further away from the blade support.



It is **critical to pay attention to maintain a distance of 0.5-1.0mm between the support and the brush in order to avoid damage to the wheels/support.**

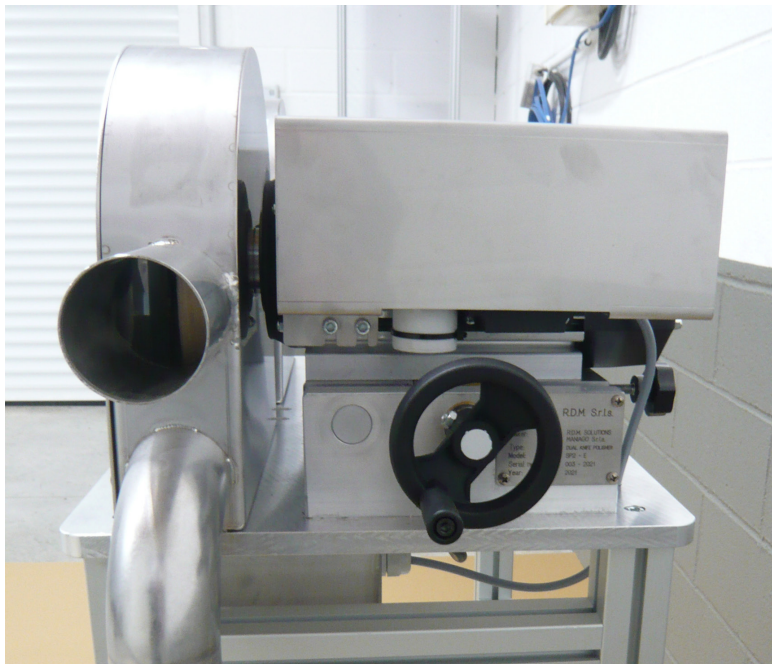


Fig. 6

Machine Setup

WARNING: Always use good safety practices when you work with the polishing machine.

- ! Protect your eyes by wearing safety glasses.**
- ! Never use polishing wheels that are unstrung or damaged.**
- ! Always unplug the machines when you are changing wheels or making repairs.**

Applying polishing compound to the polishing wheel

After you have polished a number of knives, the wheels may begin to feel rough, burn the knife, or decrease in performance; this is an indication that the wheels require additional compound to be applied.

On the back of each polishing unit, as shown in Figure 7, there is an opening for the safe distribution of the polishing compound on to the polishing wheel.

This circular section opening allows the compound block to be inserted, and locked in position.

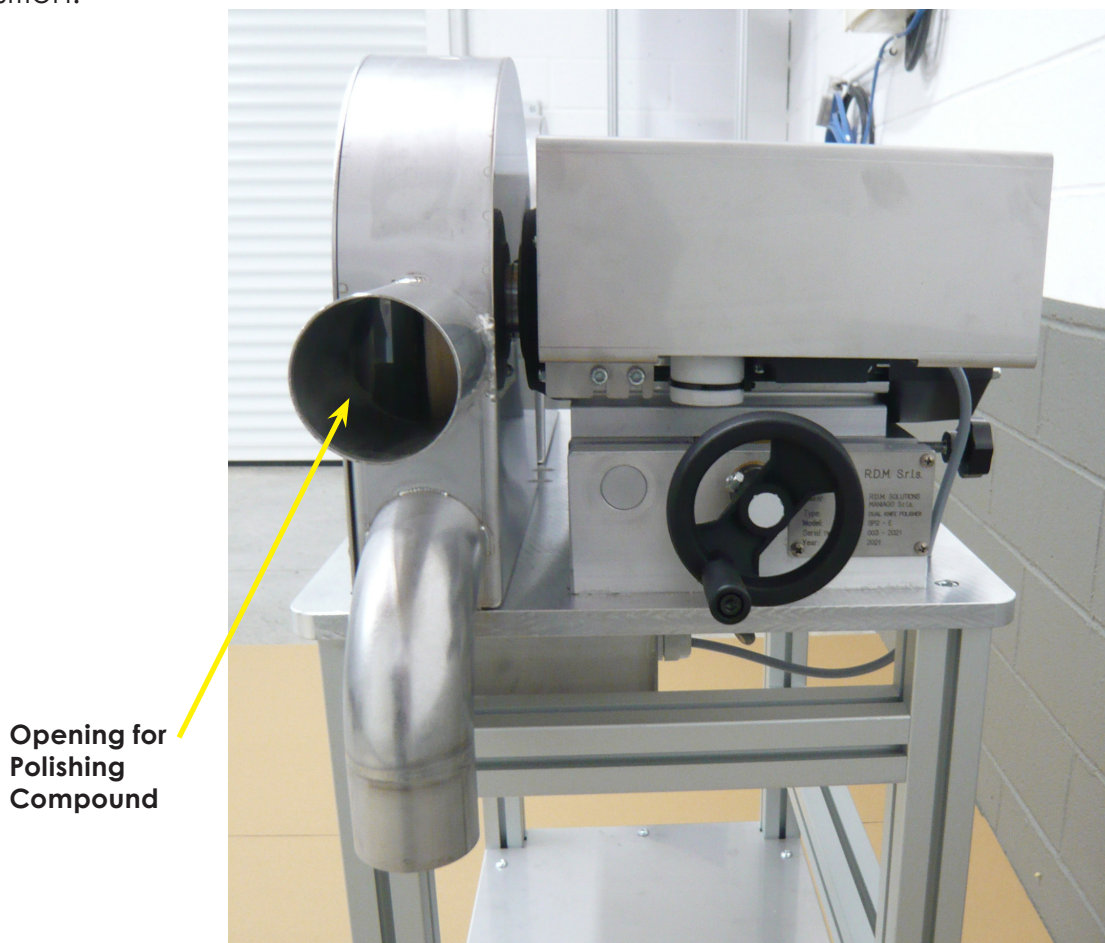


Fig. 7

Machine Setup

As can be seen in figure 9 the polishing compound cylinder must be introduced into the support tube highlighted in figure 8. Every three or four sharpening cycles (or at the operator's discretion depending on the results to be obtained) it is necessary to push the block of abrasive paste against the brush for a few seconds and then pull it back so that it no longer touches the brush.



Fig. 8



Fig. 9

Polishing Instructions

- ⚠ Use minimum downward pressure; let knife glide over the wheel.
- ⚠ Failure to lift blade at tip can cause damage to knife tip.

How to Polish Knives

Hold the knife firmly and keep the blade in an upright position centered relative to the knife guide / slot. Start at the base of the blade and move the knife backwards through the wheels up to the tip, being careful not to tilt the tip against the wheels. Use light pressure at the tip of the blade and lift directly upwards rather than following through. Keep the knife moving to avoid scorching or burning the blade. If you burn the blade, lighten up the pressure and increase the compound.

Moving the Knife While Polishing

The blade polishing operations are manual. The operator must insert the blade in the guide of the support (described in the previous paragraphs) and, keeping the support on the guide, without forcing the position, pull the blade out as shown in Figure 10 but, arrived at the end of the blade (tip,) stop and extract the blade by lifting it up as in Figure 11.



Fig. 10



Fig. 11

Polishing Instructions

Polishing Wheel Wear

During polishing, the polishing wheels will continually wear down and periodically require adjusting in order to keep them close together. After polishing a number of knives, you must turn the hand crank CLOCKWISE until you see the gauges approaching the wheel. Refer to page 11. The wheels should be .050 - 1.00 mm away from the gauge to provide the best polish results.

WARNING: Improper adjustment could cause the polishing wheel to wear quicker. Ensure the gauges are not in contact with wheels during operation.

Maintenance

Replacing the Polishing Wheels

The brushes can be used up to a reduction in radius of 30 mm due to wear and tear..

The brush is fixed directly to the motor shaft by means of two flanges (one of which is fixed) and a locking nut. For disassembly (and subsequent reassembly), it is necessary to use an 8 mm hexagonal socket head wrench and a 41 mm hexagonal nut wrench. The procedure is as follows:

The brush is fixed directly to the motor shaft by means of two flanges (one of which is fixed) and a locking nut. For disassembly (and subsequent reassembly) it is necessary to have an 8 mm hexagon socket wrench (Allen) and a 41 mm hexagonal nut wrench. The procedure is as follows:

- Opening the protective casing by removing the seven fixing screws;
- Insert the 8 mm wrench in the special compartment in the center of the pin;
- Holding the pin still with the 8 mm wrench, loosen the fixing nut with the 41 mm wrench;
- Holding the pin still, manually unscrew the nut;
- Remove the brush from the pin.

To assemble the brush, carry out the operations described above in reverse order.

Maintenance Frequency Schedule

The recommended maintenance procedures are important in helping to keep your **PRIME**Edge **Polisher** in good operating condition. Your **Polisher** represents a sizable investment and following the recommended maintenance schedule will give you many years of satisfactory use.

Item	Daily	Weekly	Monthly	Quarterly	Semi-Annual	As Needed
Apply Compound to wheels						X
Clean inside machine & under wheels		X				
Clean outside of Machine	X					
Lubricate Casters & Caster Locks on Stand						X

Recommended Polisher Parts & Consumables

Part No	Description
HPB-07-0001	9.75" Polishing Wheels (1 pair)
HPB-8NE-400	PRIMEEdge White Buffing Compound
HPB-02-0001	Motor - U.S. 110 volt
HPB-02-0002	Motor - Europe 220 volt

Trouble Shooting Guidelines

Burned or scorched edges	Apply polishing compound, use less downwards pressure during operation
Motors are stalling during use	Use less downwards pressure during operation. It should feel like you are using gravity/weight of knife to pressure
Vibration noises in the machine	Check distance between wheel and supports (should be 0.5mm-1.0mm) Check front face covers are tightened down Check that wheels are tightened down
Damage to tip of blade	Once the tip of the knife is in contact with the wheel, pull directly upwards rather than "following through" the rest of the motion

Residual Risks

Abrasion

In normal use of the machine, the operator should never have hands or fingers enter the operating area as the handling operations of the workpieces take place outside the dangerous area (brush). Any contact with the rotating brush can only be intentional and can cause slight abrasions so, in this regard, the personnel in charge must be adequately trained.

Cut

The risk of cutting is not a risk of the machine itself but could arise during the handling of the blade (picking, loading and unloading and deposit phases). The risk can be eliminated by prescribing the use of cut-resistant gloves when handling the blade.

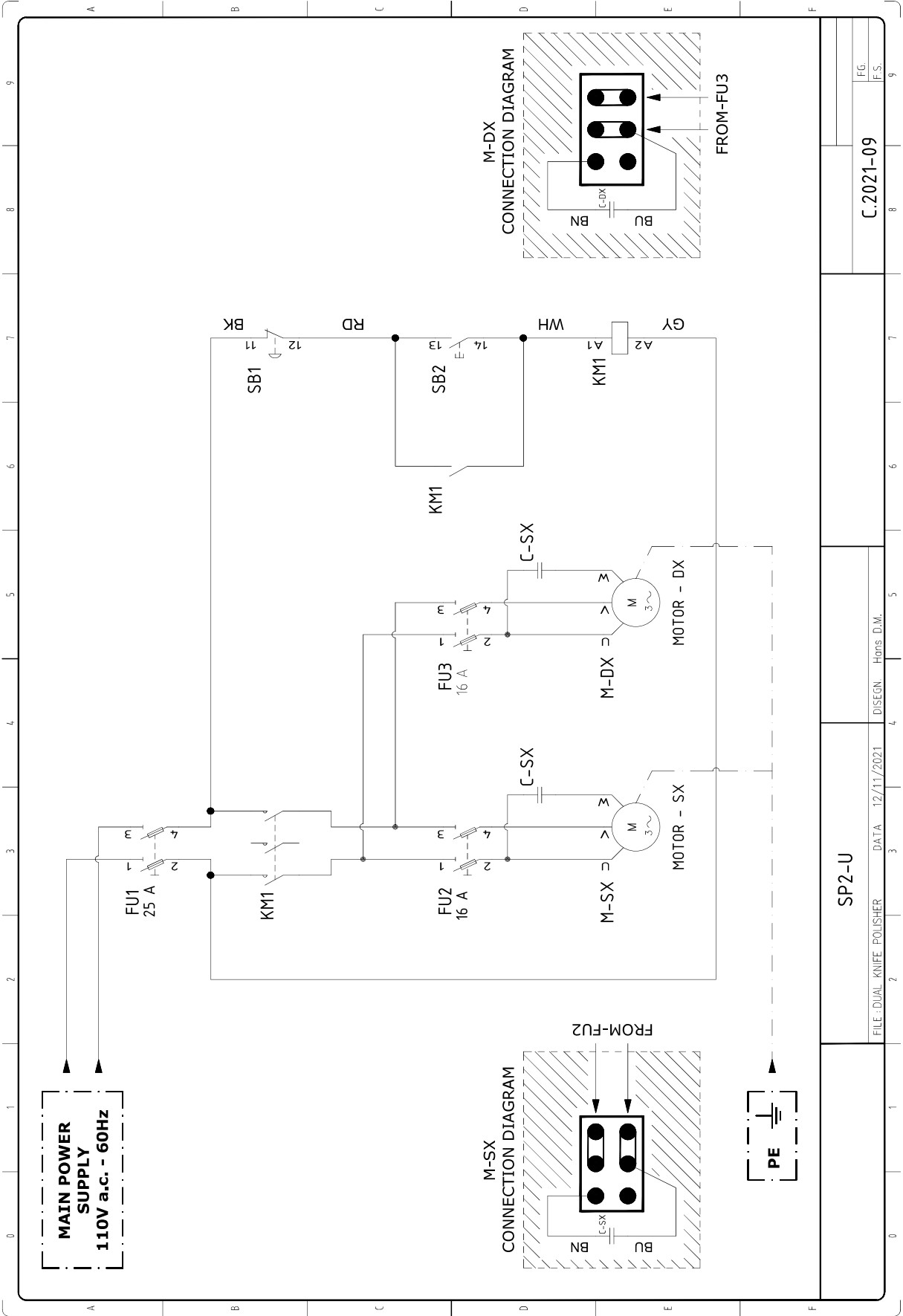
Tooling and Maintenance

During tooling (brush replacement, adjustments, etc.) there may be risks of crushing, cutting and entanglement, so these operations must be carried out by qualified and adequately trained personnel.

Noise

The machine, under normal conditions of use, emits a sound level of less than 80 dB. However, it is essential to carry out an exposure analysis in normal working environmental conditions to assess the need or not to use hearing protection devices.

Electrical Schematics - U.S.



PRIMEedge



PRIMEEdge Locations

World Headquarters

PRIMEEdge, Inc.

1281 Arthur Avenue
Elk Grove Village, IL 60007
U.S.A.
T: +1-224-265-6600
E: contact@primedge.com
www.primedge.com

PRIMEEdge Europe

Z.A. Les Pelletiers
89100 Soucy
France
T: +33-(0)-3-8686-6161
E: contact-fr@primedge.com
www.primedge.fr

PRIMEEdge Scandinavia

Industrivej 44 A, ST
4000 Roskilde, Copenhagen
Denmark
T: + 45-98-111-700
E: contact-dk@primedge.com
www.primedge.com

PRIMEEdge Sweden

Transportvagen 8
24138 ESLOV
Sweden
T: + 46-413-403-400
E: sales-sweden@primedge.com
www.primedge.com

PRIMEEdge do Brasil

Alameda Caiapós, 433
Galpão 4, Tamboré
Barueri, São Paulo
Brazil
CEP: 06460-110
T: +55-11-4134-2230
E: primedge-brasil@primedge.com
www.primedge.com

PRIMEEdge Ibérica

Calle San Roque, nº 24 bajo, oficina nº2
E-37188 Carbajosa de la Sagrada / Salamanca
Spain
T: +34-923321889
E: rnavarro@primedge.com
www.primedge.com

Washing & Hygiene Systems **Mimasa**

Zona Ind. Pont Xetmar, c. I, 31
17844 Cornellà del Terri (Girona)
Spain
T: +34 972 594 564
E: info@mimasa.com
www.mimasa.com

Blade Engineering and Manufacturing Facilities **GW Steffens GmbH & BE Maschinenmesser GmbH**

Gewerbegebiet
Am Winkel 4
D-15528 Spreenhagen (Berlin)
Germany
T: +49 3 36 33 / 888 0
E: sales@be-maschinenmesser.com
www.be-maschinenmesser.com