Wood-Mizer®

from forest to final form

user manual

Instrukcja obsługi | Руководство полъзователя
Manuel de l'Utilisateur | Betriebsanweisung
Bruksanvisning | Manual del Usuario
Betjeningsvejledning | Gebruikershandleiding
Käyttöohjeet | Manual de utilizare | Bruksanvisning
Manuale d'uso | Příručka uživatele | Navodila
za uporabo

Retain for future use
Zachować do przyszłego użytku
Сохраните для последующего
использования
A conserver pour une utilisation future
Für zukünftige Benutzung aufbewahren
Behold for senere bruk
Säilytä nämä käyttöohjeet tulevaa tarvetta marten
Opbevar manualen til fremtidig brug
Bewaren voor gebruik in de toekomst
Conservare il presente manuale a l'uso futuro
Păstraţi acest manual pentru utilizare viitoare
Conservar para futuras consultas
Behall för framtida användning
Uchovejte pro další použití
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www.wood-mizer.eu

Wood-Mizer®

Safety, Setup, Operation and Maintenance

MP180 E6S	**rev. A1.07**
MP180 E7S-V	**rev. A1.07**

Safety is our #1 concern! Read and understand all safety information and instructions before operating, setting up or maintaining this machine.

Form #2406

Original Instructions

Please keep for future reference

Table of Contest Section-Page

SECTION 1 INTRODUCTION

Congratulations on your purchase of a Wood-Mizer Multi-Planer!

Wood-Mizer is committed to providing you with the latest technology, best quality, and strongest customer service available on the market today. We continually evaluate our customers' needs to ensure we are meeting current wood-processing demands. Your comments and suggestions are welcome.

This documentation includes information on preparing the Multi-Planer for operation, servicing and repairing the machine.

GENERAL

Check your Multi-Planer as soon as you receive it. Report any transport damage to the transport company immediately.

Lift the Multi-Planer using a forklift or a pallet jack with lifting capacity of at least 500kg.

When replacing the spare parts, use only original parts and note that all electrical components must be assembled by a qualified electrician.

APPLICATIONS

The Multi-Planer can be used for planing/moulding/thicknessing wood, chipboards, boards, etc..

Hard materials such as chipboards, teak, MDF, etc. require hard carbide tools.

It is not allowed to plan plastics, aluminium or other hard materials.

The Multi-Planer is designed for indoor use, with temporary outdoor use during good weather.

REQUIREMENTS

The Multi-Planer can be used in rooms with a temperature ranging from -15^{o}C to +40 C. The ventilation must be mechanical and in accordance with standards.

The Multi-Planer must be connected to a dust extractor. The dust extractor must be turned on when the machine is working.

SAFETY DISTANCE

WARNING! No one, except the operator, should be within 3 meters of The Multi-Planer's sides or 8 meters from the infeed and outfeed sides during operation. Mark a limit to prevent anyone from accidentally entering the risk area.

TIPS: An extended infeed table is practical to use, and prevents anyone from coming into the risk area.

STORAGE

The machine must be placed in a dry area, as it is not fully protected against corrosion. If the machine is placed in a cold area for an extended period of time, its unprotected components, such as tables or cutters, must be lubricated with a large amount of e.g. paraffin. It is also a good idea to cover the device for additional protection against corrosion. If the machine is supposed to be placed outdoors, its unprotected components must be covered and lubricated with anti-corrosive agents.

1.1 Machine Description

The Wood-Mizer Multi-Planer is designed for straight and profiled planing of wooden elements used for production of wooden houses and other construction elements used in the building industry and garden programs. Other applications of the planer are forbidden.

The MP180 is a planer/moulder/thicknesser that can process two sides of a workpiece in a single pass. The machine is contained in a stable and strong chassis. The Multi-Planer table is made of planed cast iron.

The workpiece is fed, lying on the planer table, through the planer by feed rollers as well as an outfeed roller. The rollers are driven by a chain transmission with separate motor. The workpiece is controlled laterally with adjustable fences and pressure rollers.

The work is done using a top cutter and side cutter which are fixed to the planer table. All the cutters are driven by separate motors, via a belt transmission.

The cutters and feed rollers are covered with a protective cover plate. The cover plate is supplied with a safety switch. A 100 mm (4”) dia. hose is connected to the cutter.

TABLE SURFACE

The table is made of the highest quality cast. The table surface is specially processed for the highest precision and the best anti-friction qualities.

When the Multi-Planer is new, it requires a breaking-in period until the table gets a slightly shinier surface to optimize the anti-friction qualities. It is recommended that lubricant or wax be applied to the table during this period.

Using the machine correctly, you will obtain a perfectly smooth surface and a high degree of accuracy.

The Multi-Planer should be operated only by an adult who has read and understood the entire operator’s manual.

The Multi-Planer is built to be durable and easy to operate and maintain.

MACHINE AND SITE PREPARATION

The machine is delivered on a pallet. Due to the weight, it has to be transported with auxiliary carrier equipment and in accordance with the general safety rules.

Check your Multi-Planer as soon as you receive it. Any transport damage must be reported to the transport company immediately.

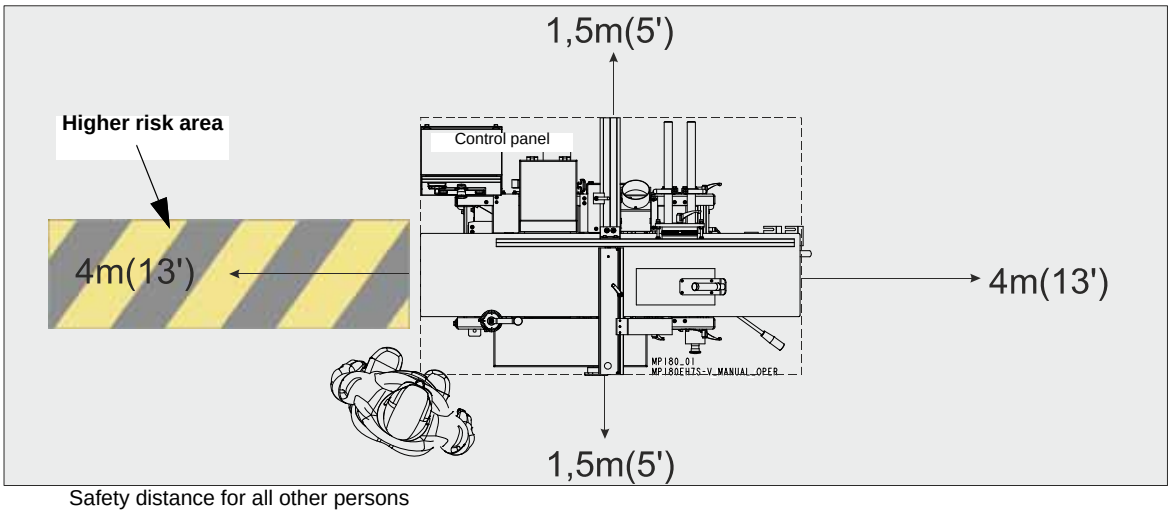
Most of the machine is protected against rust, but it will require extra maintenance in the form of lubrication for all the parts that are not protected against rust. See the Maintenance section.

- Place the planer on a stable and flat base.
- It is recommended that the Multi-Planer be bolted to the ground, if it does not have to be moved.
- Ensure that there is enough space for the longest boards you want to plane on the infeed and outfeed sides, and that there is enough space for maintenance and timber stocks.
- Connect the dust hoses and fix them using the hose clips on the planer and fan.
- Hang the electrical cable of the machine to the ceiling or protect it in another way. Never step on the cable. The Multi-Planer should be connected via an earth-fault protection switch.
- CAUTION! The illuminance at the operator's position should be at least 300lx. The light source cannot cause the stroboscopic effect. Ensure that there is no risk of glare.

SPACE REQUIREMENTS

The Multi-Planer needs a space of at least 4 m (13') wide.

The required length depends on the length of workpieces you want to plane. The minimum length is 4 m (13') from the front and from the end of the machine.



Safety distance for all other persons

ANCHORING

For the highest safety, the Multi-Planer must be anchored to the floor with 8-10 mm diameter anchor bolts.

TOOLS REQUIRED TO USE THE MULTI-PLANER:

- Allen wrench 4 mm (supplied)
- Allen wrench 5 mm
- Allen wrench 6 mm
- Flat wrench 10 mm (supplied)
- Wrench 10 mm
- Box wrench 13 mm
- Flat wrench 30 mm (supplied, for cutter)
- Adjustable wrench 8" or 10" (cutter)
- Slide caliper
- Measuring tape or ruler

- Paraffin oil for grindstone
- Saw head mounting nut 100mm M20x1,5 (supplied)

SPACER RINGS THAT ARE SUPPLIED:

- 3 x 40 mm height (per cutter)
- 2 x 20 mm height (per cutter)
- 2 x 10 mm height (per cutter)
- 1 x 5 mm height (per cutter)
- 1 x 2 mm height (per cutter)
- 1 x 1 mm height (per cutter)
- 1 x 0.5 mm height (per cutter)
- 1 x 0.3 mm height (per cutter)
- 1 x 0.2 mm height (per cutter)
- 1 x 0.1 mm height (per cutter)

These spacer rings are necessary to set the required height.

CHIP EXTRACTOR

The MP180 Multi-Planer must be connected to a chip extractor with a total capacity of at least 2 000m^3/h. Remember that the chip container has to be equipped with an air vent (e.g. a fine net or filter if dust is collected indoors). Poor suction is often caused by poor airflow from the chip container. During work in heated rooms, it is necessary to remember that the fan will quickly cool the space if the filtered air is not supplied back into the building. The fire risk and dust emissions (discharge) must be considered because of chip collection.

WARNING! There is a risk of fire and dust emission because of chip collection.

Contact the local authorities for advice about designing the chip collection system to conform to the national rules.

It is necessary to set the fan so that it is easy to reach the switch.

IMPORTANT! Remove the chips from the Multi-Planer when the work is finished.

TECHNICAL REQUIREMENTS FOR THE CHIP EXTRACTOR[1]

- The chip extractor must be approved according to the CE standard.
- The chip extractor hose diameters for the Multi-Planer = 100 mm (4”) x 2.
- The pressure drop in the Multi-Planer is 20 mm column of water at 25 m/s.
- The dust extractor airflow (“without external connection”) should be 2000 m^3/h.

IMPORTANT! The dust extractor hoses must be grounded or made of materials that do not accumulate an electrostatic charge.

CAUTION! Always turn on the chip extractor before starting the machine.

1.2 Planer/moulder major components

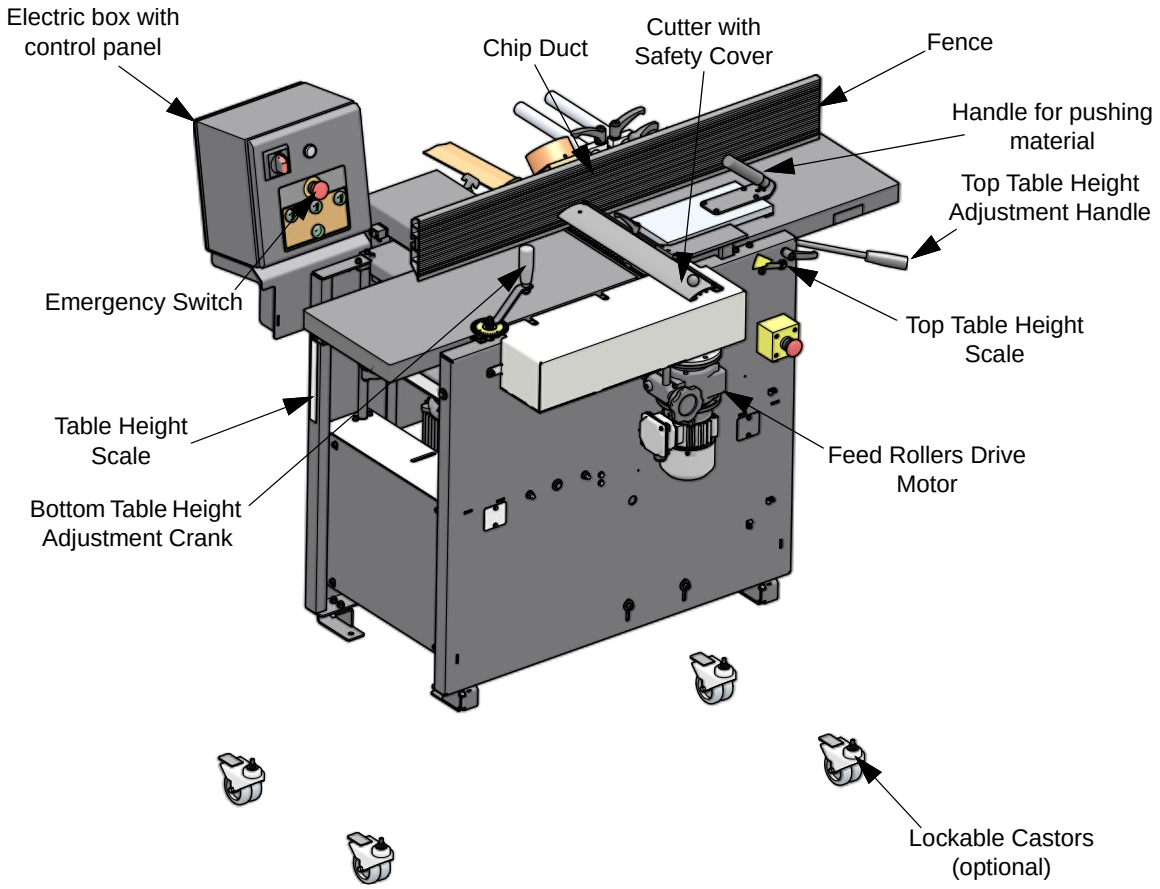


FIG. 1-1 MP180

1. EN 12779:2016-04 standard contains requirements for chip and dust extraction systems equipment with fixed installations.

SECTION 2 SAFETY

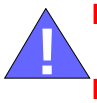
2.1 Safety Symbols

The following symbols and signal words call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

DANGER! indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING suggests a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION! refers to potentially hazardous situations which, if not avoided, may result in minor or moderate injury or damage to equipment.



IMPORTANT! indicates vital information.

NOTE: gives helpful information.

Warning stripes are placed on areas where a single decal would be insufficient. To avoid serious injury, keep out of the path of any equipment marked with warning stripes.

2.2 Safety Instructions

NOTE: ONLY safety instructions regarding personal injury are listed in this section. Caution statements regarding machine damage appear where applicable throughout the manual.

- Observe safety instructions.

IMPORTANT! Read the entire Operator's Manual before operating the Multi-Planer. Take notice of all safety warnings throughout this manual and those posted on the equipment. Keep this manual with this equipment at all times, regardless of ownership.

Read all additional manufacturer’s manuals and observe any applicable safety instructions including dangers, warnings, and cautions!

IMPORTANT! Only adult persons who have read and understood the entire operator's manual should operate the Multi-Planer. The machine is not intended for use by or around children. Never operate the Multi-Planer under the influence of alcohol or drugs.

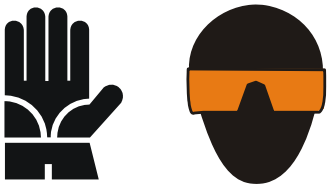
IMPORTANT! The operator of the Multi-Planer should get adequate training in the operation and adjustment of the machine.

IMPORTANT! It is always the owner's responsibility to comply with all applicable federal, state and local laws, rules and regulations regarding the ownership and operation of your Wood-Mizer Multi-Planer. All Wood-Mizer Multi-Planer owners are encouraged to become thoroughly familiar with these applicable laws and comply with them fully while using the machine.

- Wear safety clothing.

WARNING! Secure all loose clothing and jewelry before operating this machine. Failure to do so may result in serious injury or death.

WARNING! Always wear safety goggles and gloves when operating the machine. Failure to do so may result in serious injury.



WARNING! Always wear ear, respiration and foot protection when operating the Multi-Planer.

- Keep the machine and area around clean.

DANGER! Maintain a clean and clear path for all necessary movement around the Multi-Planer and lumber stacking areas. Failure to do so will result in serious injury.

- Dispose of sawing by-products properly.

IMPORTANT! Always properly dispose of all sawing by-products, including sawdust and other debris.

- Check the Multi-Planer before operation.

DANGER! Make sure all guards and covers are in place and secured before operating the Multi-Planer. Check that all knobs, screws, nuts, fences, sleeves, planing cutters, planing knives, etc. are properly tightened. Also check that the cutter can rotate freely and that there are no tools in or on the machine before it is started. Failure to do so may result in serious injury.

WARNING! Always shut off the motor to stop the cutter whenever the Multi-Planer is not in use. Failure to do so may result in serious injury.

WARNING! Do not for any reason adjust the motor drive belts with the motor running. Failure to do so will result in serious injury.

- Keep all people away.

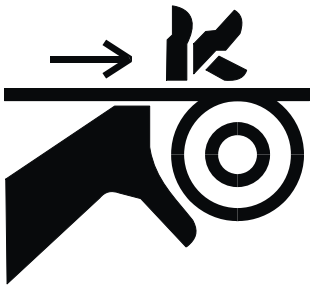
DANGER! No one, except the operator, should be within 3 meters of the Multi-Planer sides during operation. Failure to do so will result in serious injury.

- Keep hands away.

DANGER! Moving parts can cut or crush fingers or hand. Keep hands clear. Make sure all guards and covers are in place and secured before operating the Multi-Planer. Failure to do so may result in serious injury.

DANGER! Always be aware of and take proper protective measures against rotating shafts, pulleys, fans, etc. Always stay a safe distance from rotating members and make sure that loose clothing or long hair

do not engage rotating members resulting in possible injury.



WARNING! Beware of rotating parts. Shut down the machine and allow all moving parts to come to a complete stop before removing any guards and covers. Do NOT operate the Multi-Planer with any guards or covers removed.

DANGER! Before changing the knives or performing any service to the machine, disconnect the power cord from the electric box.

IMPORTANT! The knife and feed assembly covers are equipped with limit switches. After opening the cover, the motor will turn off and all moving parts will stop. The limit switches should always be in proper working condition.

Multi-Planer Operation

CAUTION! The workplace should always be well illuminated. The illuminance at the operator's position should be at least 300lx. Never use the Multi-Planer under the influence of strong medication, alcohol or drugs.

WARNING! Make sure the knives are properly fastened before starting the motor.

WARNING! Never place tools or hands in the infeed or outfeed areas when the Multi-Planer is running.

IMPORTANT! When starting the machine for the first time, check that the main motor rotation direction is as indicated by the arrow located on the motor body (fan guard). If the rotation direction is incorrect, invert the phases in the phase inverter in the power socket (electrical box). Setting the phases in the phase inverter correctly will ensure correct rotation directions of all motors.

DANGER! Always measure the workpiece and set suitable thickness and width before planing. There is a risk of accident if you feed in a workpiece that is not high enough for the feed rollers to get hold of it.

When planing smaller material, it should be stiffened/extended, e.g. with a longer piece of wood.

Never stand in front of the material being fed or received, because it may kickback suddenly towards the operator. This applies to both the infeed and outfeed sides, although the risk is higher on the infeed side.

DANGER! Planing/moulding is possible only in the direction shown below. The

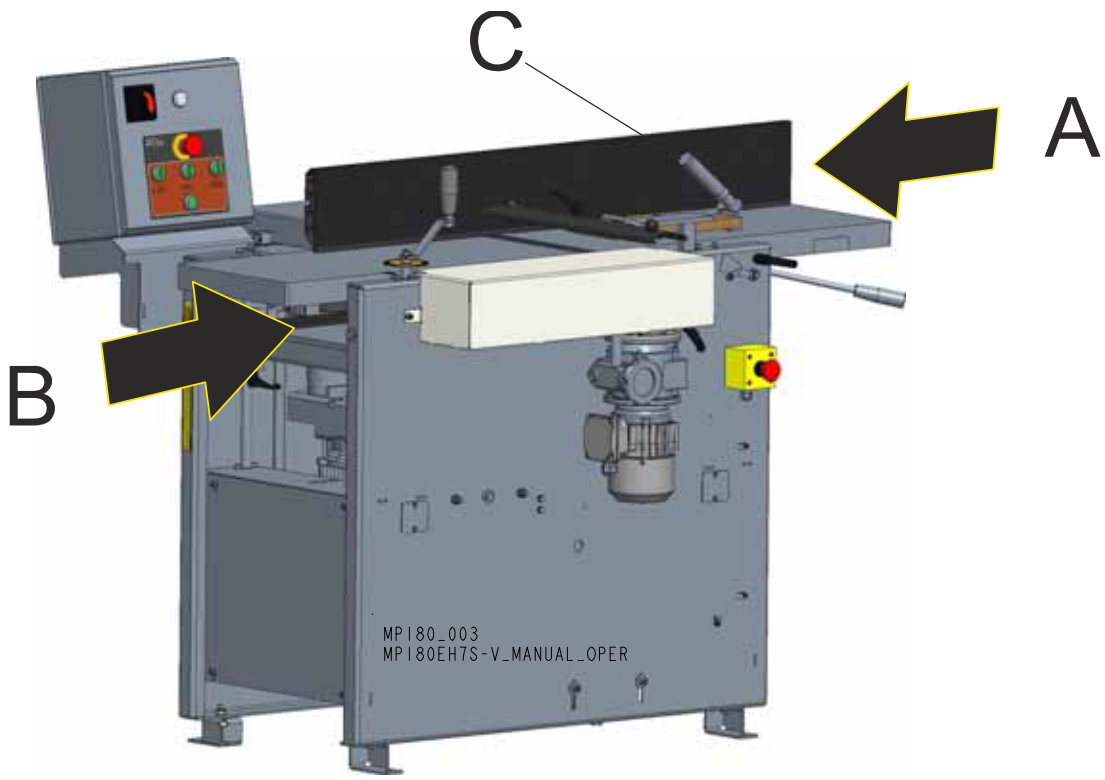


FIG. 2-1

- Use proper maintenance procedures.

DANGER! Make sure all electrical installation, service and/or maintenance work is performed by a qualified electrician and in accordance with applicable electrical codes.

DANGER! Hazardous voltage inside the electric boxes and at the motor can cause shock, burns, or death. Disconnect and lock out power supply before servicing! Keep all electrical component covers closed and securely fastened during machine operation.

WARNING! Consider all electrical circuits energized and dangerous.

WARNING! Never assume or take the word of another person that the power is off; check it out and lock it out.

WARNING! Do not wear rings, watches, or other jewelry while working around an open electrical circuit.

IMPORTANT! The Multi-Planer is equipped with an emergency stop button. It is used to immediately stop the motor in case of emergency. The emergency stop button should always be in good condition.

IMPORTANT! The Multi-Planer should not be modified by the owner. Use only original spare parts.

- Keep safety labels in good condition.

IMPORTANT! Always be sure that all safety decals are clean and readable. Replace all damaged safety decals to prevent personal injury or damage to the equipment. Contact your local distributor or Wood-Mizer Customer Service to order more decals.

IMPORTANT! If replacing a component which has a safety decal affixed to it, make sure the new component also has the safety decal affixed in the same place.

- Fire protection

CAUTION! The work-stand of the Multi-Planer should be equipped with a 4 kg or bigger dry powder extinguisher.

Safety Labels Description

See the table below for safety labels description.

TABLE 2-0

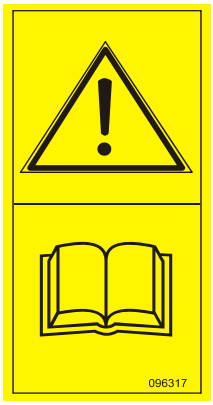
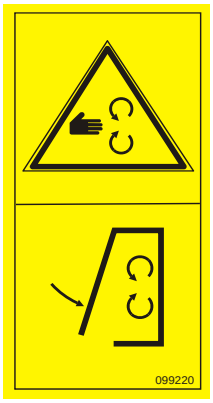
Label View	Label Number	Description
	096317	CAUTION! Carefully read the operator's manual before operating the machine. Observe all instructions and safety rules when operating.
	099220	Close all guards and covers prior to operating the machine.
	099221H	CAUTION! Keep safe distance when the machine is working.

TABLE 2-0

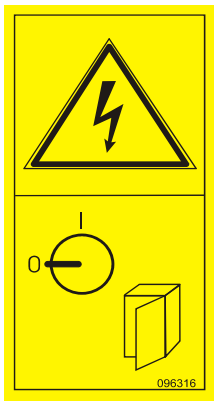
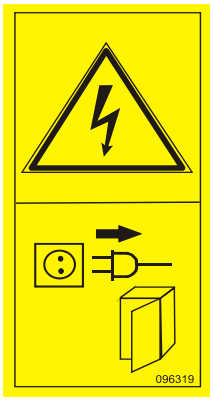
	096316	Do not open or close the electric box when the switch is not in the ”0” position.
	096319	Always disconnect the power cord before opening the electric box.
	S12004G	Always wear safety goggles when operating the Multi-Planer!
	S12005G	Always wear protective ear muffs when operating the Multi-Planer!

TABLE 2-0

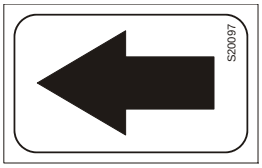
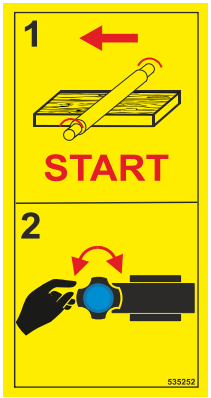
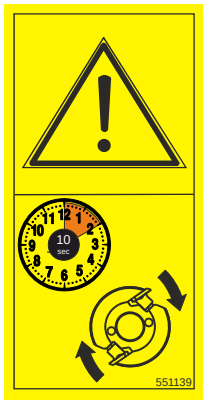
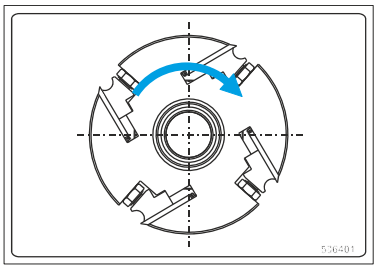
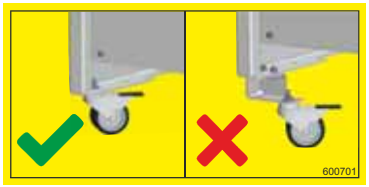
	501465	Always wear safety boots when operating the Multi-Planer!
	510080	Always wear safety gloves when operating the Multi-Planer!
	S20097	Motor rotation direction
	P85070	CE safety certification510080
	535252	Use the continuously variable transmission only when the feed is turned on.

TABLE 2-0

	551139	Warning! The side cutter rotates for 10 seconds after the machine is shut-off.
	536401	Cutter rotation direction
	600701	Proper installation of lockable castors

SECTION 3 SETUP & OPERATION

3.1 Multi-Planer Setup

IMPORTANT! Before starting to use the Multi-Planer you have to meet the following conditions:

- Set up the Multi-Planer on firm, level ground and level the machine. Secure the planer to the ground to prevent moving during operation. A cement pad with 8-10 mm diameter anchor bolts is recommended.
- If you want to use optional maneuvering wheels, unscrew the feet. Screw the optional maneuvering wheels to the outer holes in the machine body. The maneuvering wheels must be locked before starting work.
- The Multi-Planer can be operated indoors with the sawdust collection system only.
- The Multi-Planer cannot be operated when it is raining/snowing and in case of rain or snow the machine must be stored under roof or indoors.
- The Multi-Planer can be operated in temperatures ranging from -15^{o} C to 40^{o} C only.
- The illuminance at the operator's position should be at least 300 lx[1].
- The operator’s position and E-Stop button locations are shown below.

1. The light source cannot cause the stroboscopic effect.

See figure 3-1. The figure shows the MP180 Multi-Planer controls.

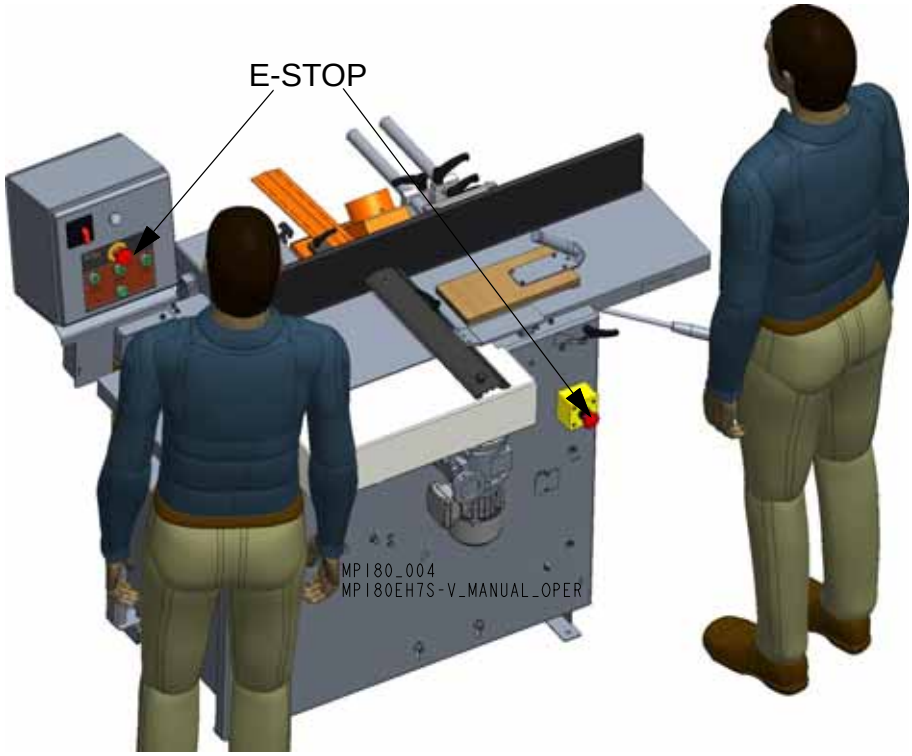


FIG. 3-1

See table 3-1. Have a qualified electrician install the power supply (according to EN 60204 Standard). The power supply must meet the specifications given below.

3-Phase Volts	Fused Disconnect Switch	Suggested Wire Size
400 VAC	16 A	1.5 mm^2 Max. length: 15 m

TABLE 3-1

IMPORTANT! It is recommended that a 30mA GFI (Ground Fault Interrupter) be used.

IMPORTANT! When starting the machine for the first time, check that the main motor rotation direction is as indicated by the arrow located on the motor body (fan guard). If the rotation direction is incorrect, invert the phases in the phase inverter in the power socket (electrical box). Setting the phases in the phase inverter correctly will ensure correct rotation directions of all motors.

WARNING! If the drive belt breaks, wait until all rotating parts are completely stopped. Failure to do so may result in serious injury or death.

DANGER! To check the cutter rotation direction, look at the cutter or motor fan when the Multi-Planer is turning on or off. Do not check the

cutter rotation direction by touching the cutter by hand or with any tool. Failure to do so will result in serious injury of death.

BEFORE STARTING:

■ Mount the control box using M8x20 socket head screws (A), washers and nuts (B).

See figure 3-2.

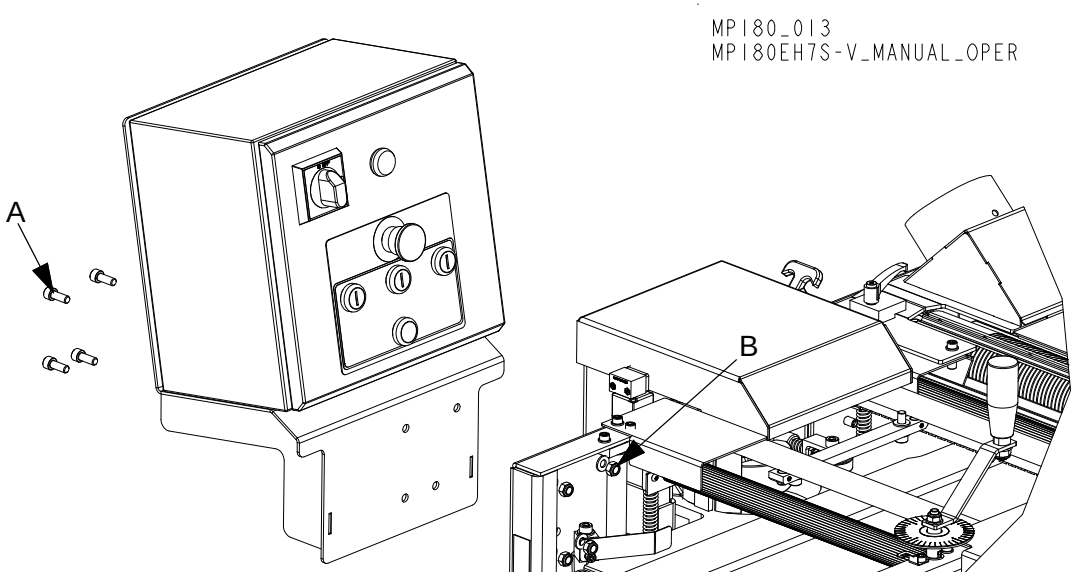


FIG. 3-2

■Install the fence as shown in the figure below.

IMPORTANT The left edge of the guide handle upper block is an indicator for reading planing widths.

See figure 3-3.

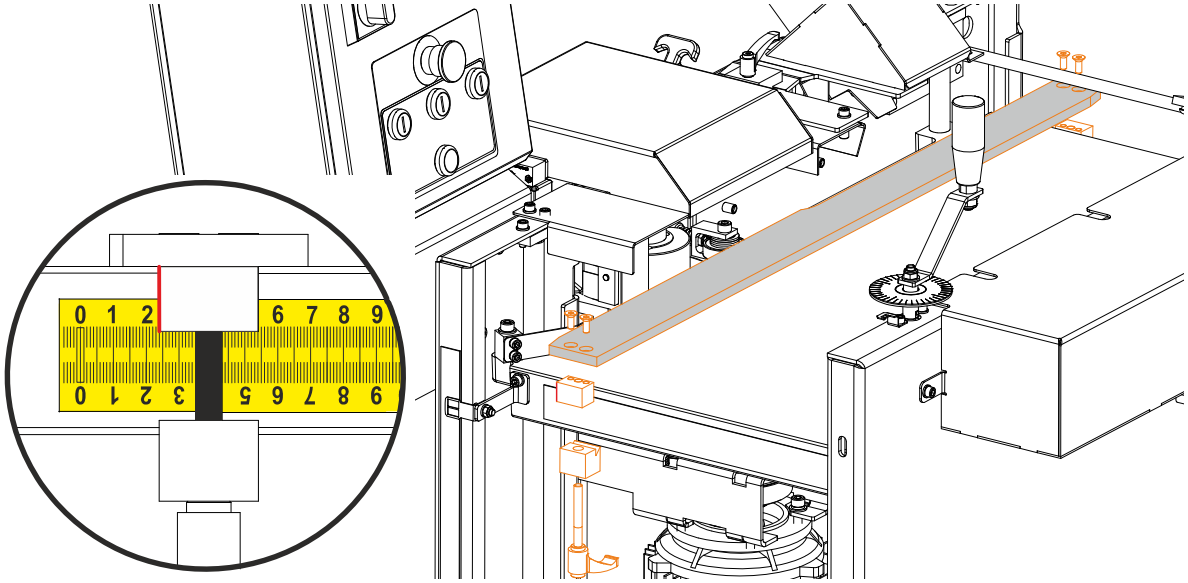


FIG. 3-3

- Check that no tools have been left in the planer.
- Check that the cutters can rotate freely before the safety doors are closed.
- Review the safety instructions!
- Ensure that all cutters can rotate freely.
- Be sure the emergency stop button is released.
- Be sure the upper cover is closed and the limit switch is activated. Be sure all machine's parts are tightened, especially working element covers.
- Be sure that no one other than the operator is in the high risk area.
- Turn on the chip extractor.

DANGER! Connect the Multi-Planer electrical installation. Check the rotational direction. The cutter must spin in the direction indicated by the arrow.

3.2 MP180 Multi-Planer Operation

3.2.1 Control Panel

See figure 3-4. The MP180 Multi-Planer controls are shown below.

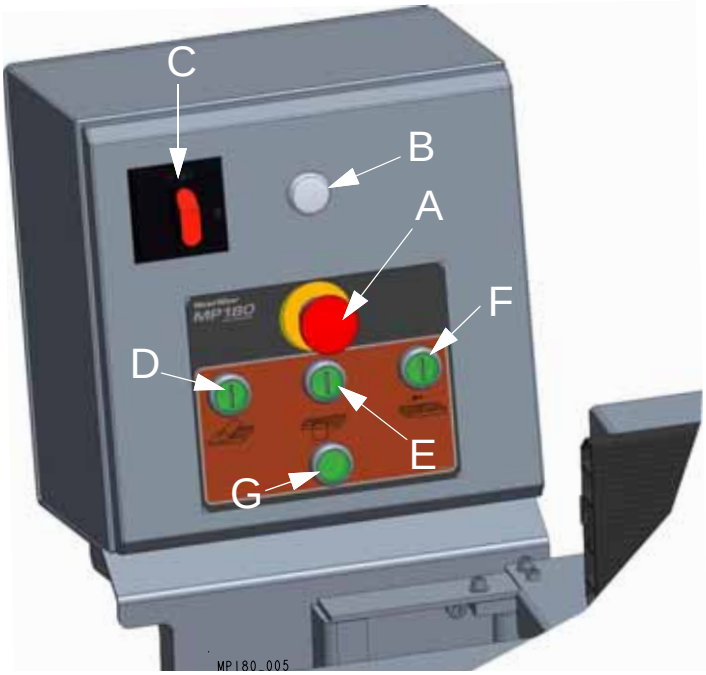


FIG. 3-4

Top red button (A) - the emergency stop button which disconnects power to all functions. When it is pressed, it must be released before restarting the Multi-Planer (turn right).

There is an indicator light (B) above the E-Stop which indicates that the power is on. When replacing the knives and servicing, the power On/Off switch (C) must be in the OFF position and the power supply cable must be disconnected. Check if the indicator light (B) is off.

The buttons (D, E, F) start the planer cutter and feed motors:

- The button D starts the horizontal cutter motor.
- The button E button starts the vertical (side) cutter motor.
- The button F button starts the feed motor.

The button G stops all planer motors.

3.2.2 Planning / Thicknessing

DANGER! Before you remove any cover of the planer, ensure that the power is switched off and the cutters are not rotating.

WARNING! Use protective gloves, particularly when you need to loosen screws that are tightly fastened, or when you are tightening screws (see the safety instructions).

WARNING! Beware of the planer knives. It is extremely easy to cut yourself touching these knives, even with the slightest touch.

DANGER! Planing/moulding is possible only in the direction shown below. The arrow “A” indicates the planing direction on the upper table. The arrow “B” indicates the planing direction on the lower table. Never try to perform planing/moulding in the opposite direction.

DANGER! When planing on the upper table, use the pusher “C” provided with the machine. It is not allowed to push the material by hand!

See figure 3-5.

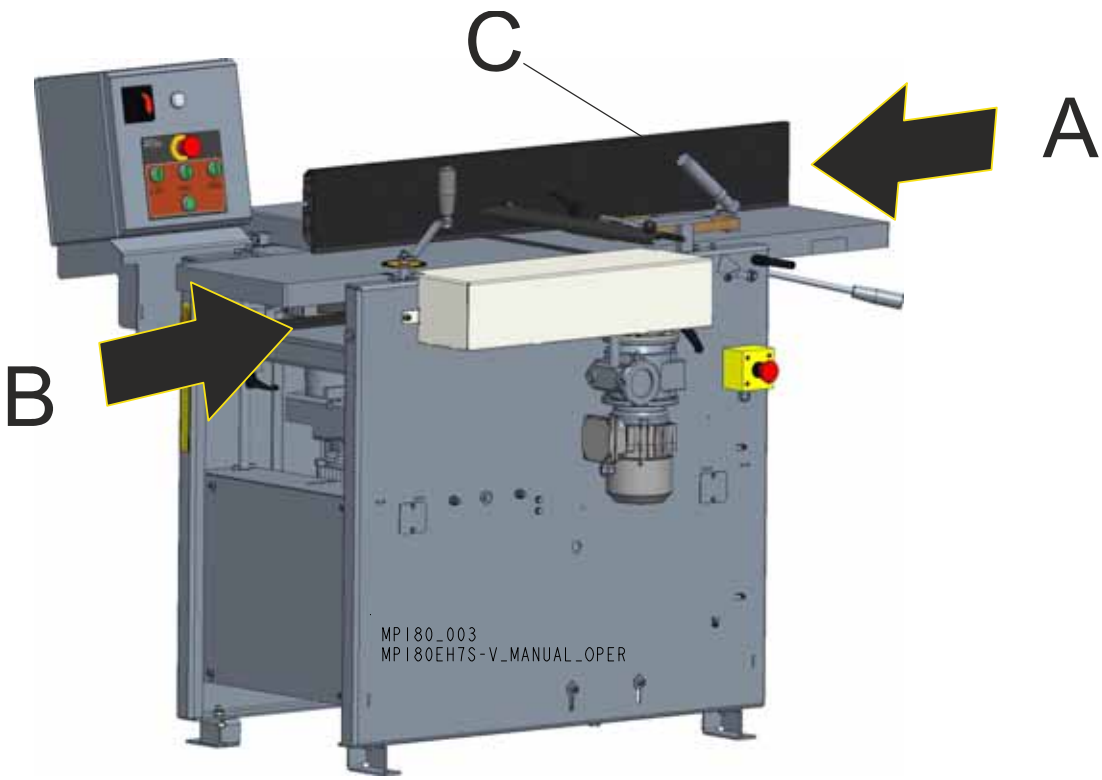


FIG. 3-5

SETTING THE MACHINE FOR PLANING/THICKNESSING

The top cutter is fixed to the housing and hung at both ends. Two planing knives are mounted in two cutter sockets (planer knife 410 mm HSS).

- The **planing** thickness is adjusted with the planing (top) table handle (A). After performing the adjustment, lock the table position with the locking handle (B). The set thickness can be read on the scale (C). Set the protective guard (E) so it covers the workpiece from the upper side (for the workpiece height up to 75mm). When angle-planing (or the workpiece is higher than 75mm), the protective guard should be completely lowered and set that the workpiece fit between the guard (E) and the fence (G). The planing angle (0-45 degrees) can be adjusted after loosening the angle locking handle (H). The fence position can be changed after loosening the fence locking handles (I).

See figure 3-6.

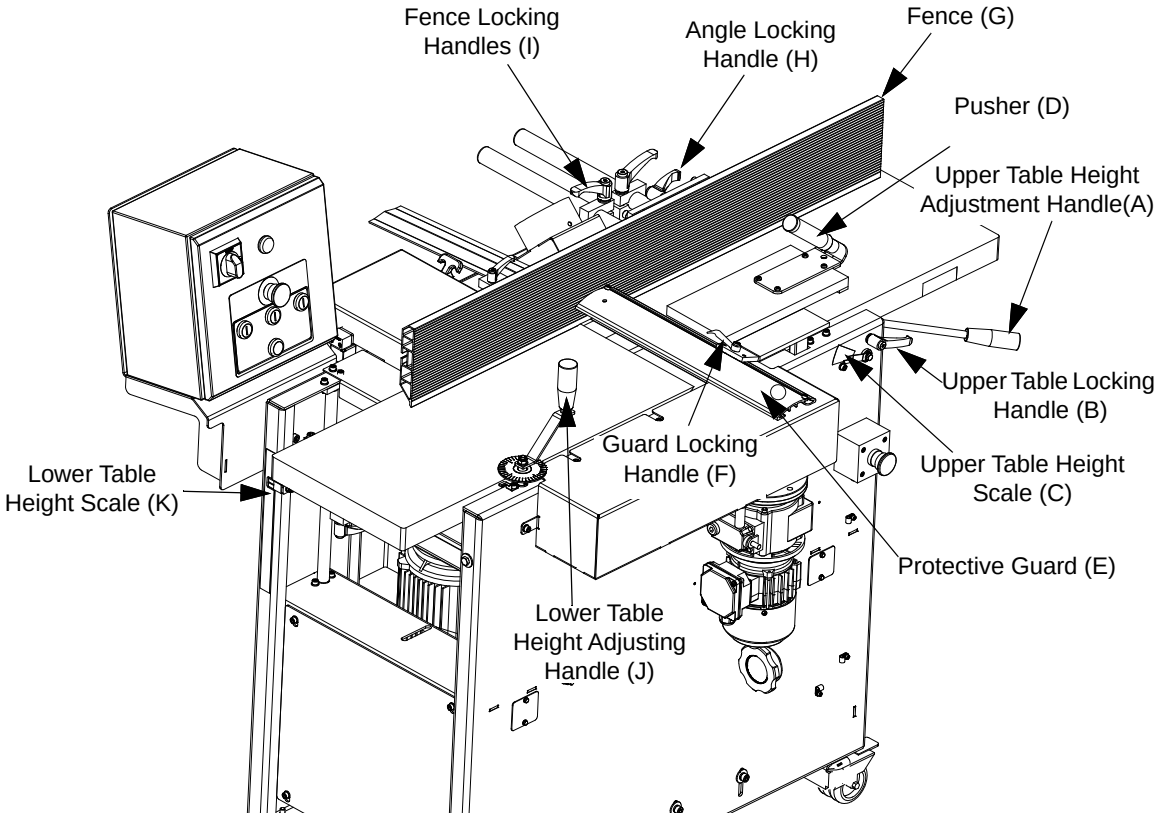


FIG. 3-6 MP180

- The **thicknessing** depth is adjusted with the crank (J). The set thickness can be read on the scale (K). The thicknessing depth can be adjusted from **0.3 mm to 4 mm**. The maximum depth can be set for the material width **not bigger than 160 mm**. Always measure the material and adjust the height before thicknessing.

See figure 3-7.

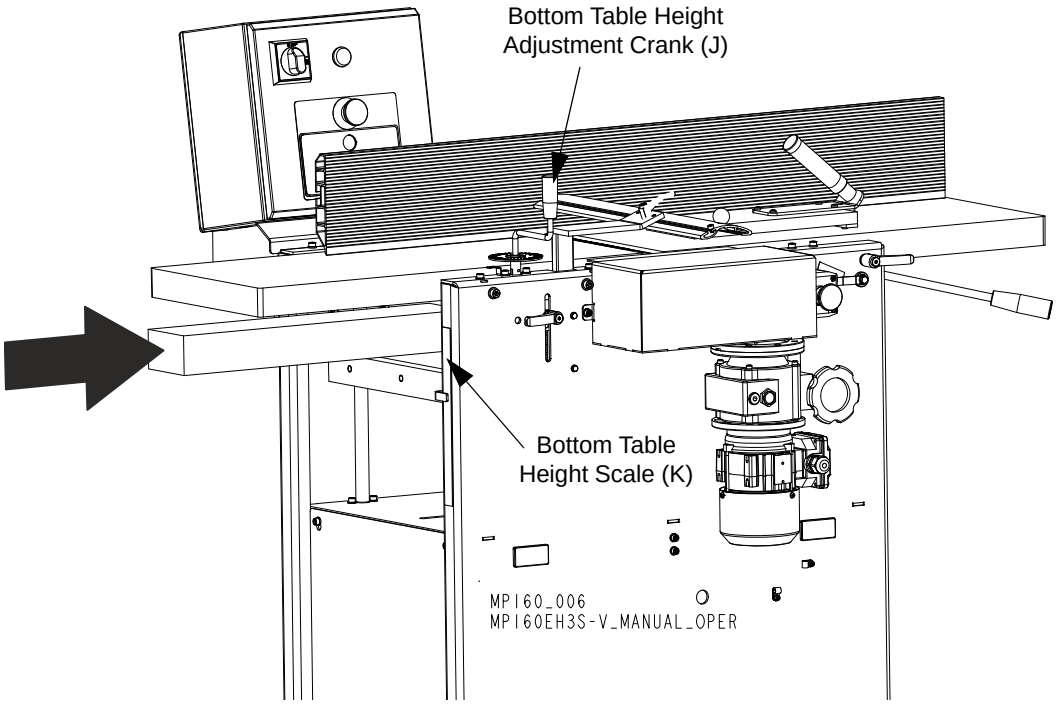


FIG. 3-7 MP180

ADJUSTING THE OUTFEED TABLE

The outfeed table is factory adjusted. However, if it is necessary to adjust the outfeed table, it can be done with micro-adjustment screws. The output table should be aligned with the input table. Adjustments should be checked with a straight-edge. Necessary tools for adjusting the table:

- 10mm wrench

- 3mm and 4mm hex key

- straight-edge

- Before adjusting the outfeed table, dismantle the planing knives cover (A), guide fence (B), chain cover (C) and open the cover (D).

See figure 3-8.

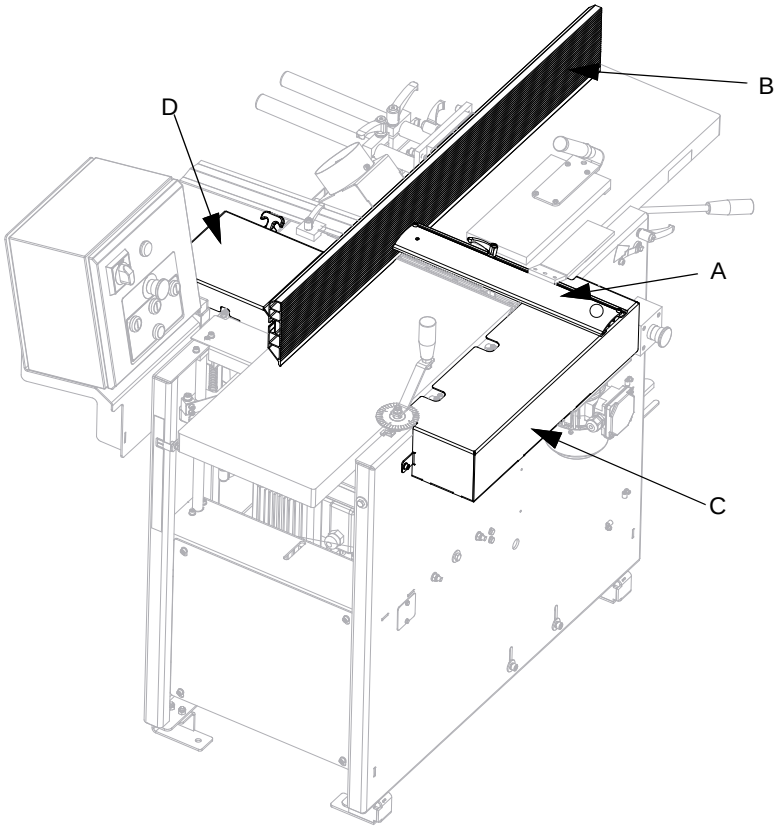


FIG. 3-8

- Loosen the screws (E)

See figure 3-9.

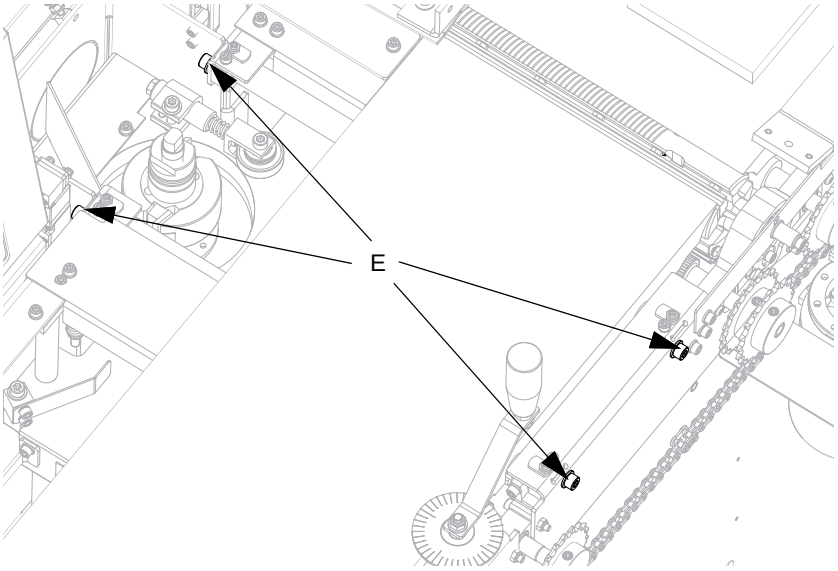


FIG. 3-9

- Adjustments to the outfeed table are made by micro-adjustment screws (figure below)

See figure 3-10.

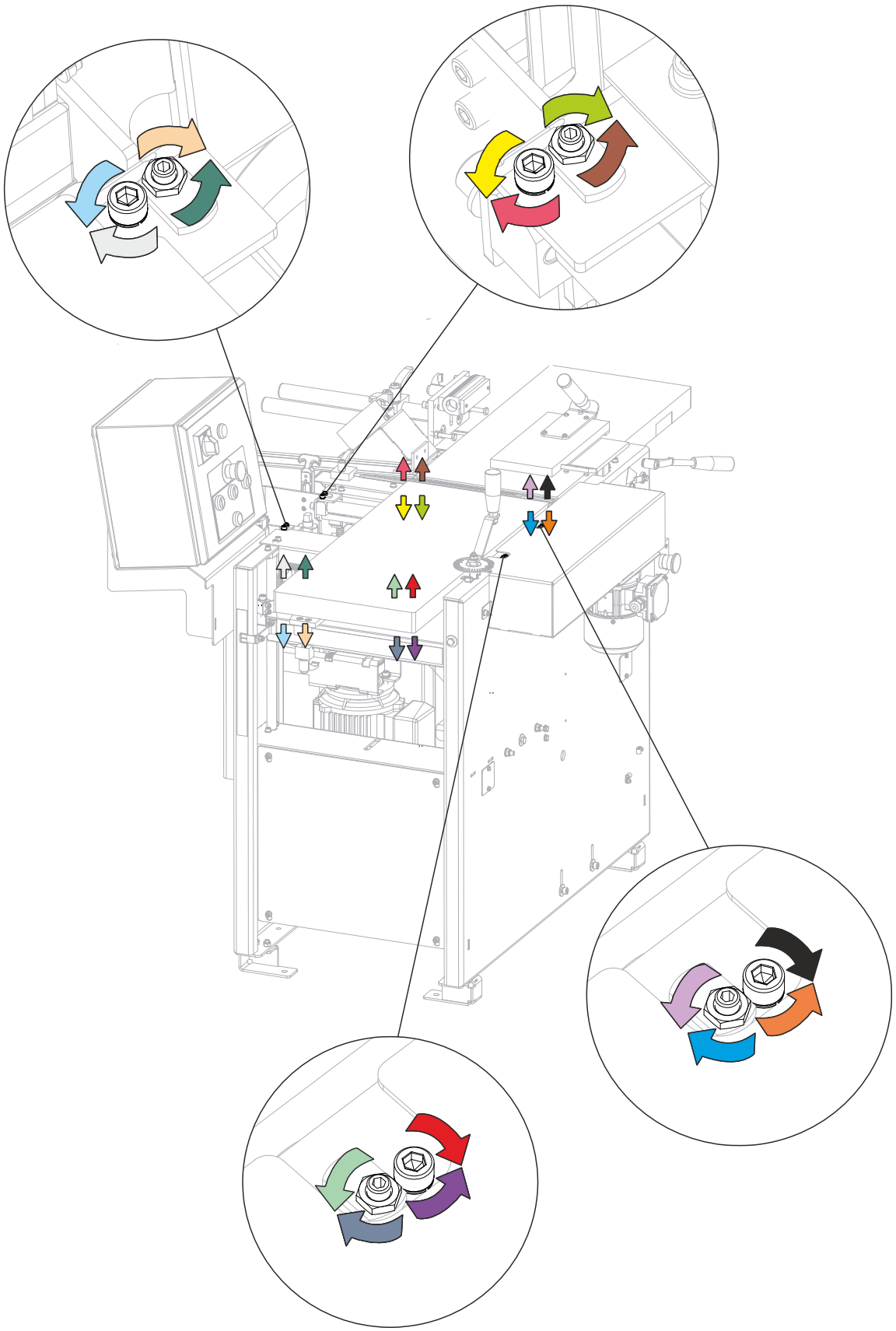


FIG. 3-10

- After the adjustment is done, tighten the screws (E), lock nuts (F) and mount all covers and parts.

See figure 3-11.

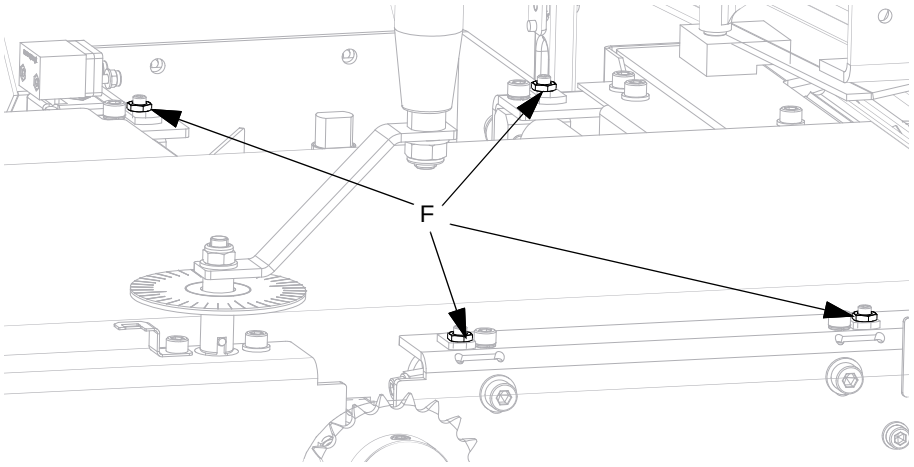


FIG. 3-11

DISASSEMBLING, ASSEMBLING AND GRINDING PLANING KNIVES

DANGER! Before changing the knives or performing any service to the Multi-Planer, disconnect the power cord from the electrical box.

See figure 3-12.

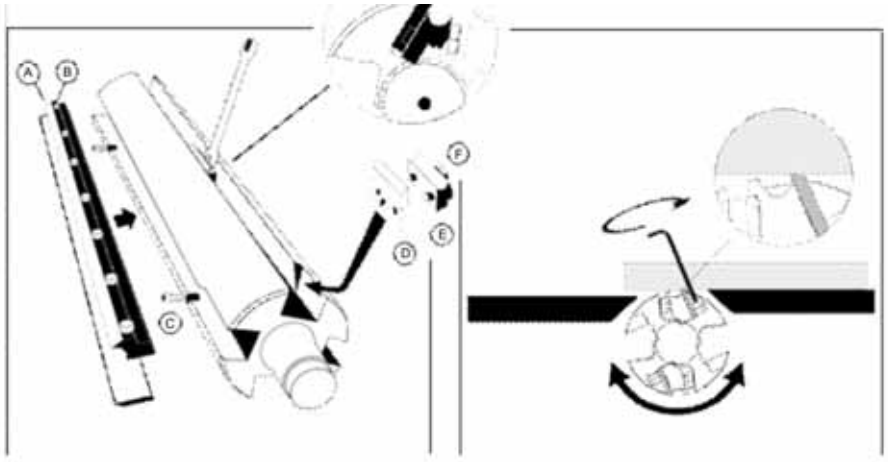


FIG. 3-12

The planing knife is disassembled by loosening the chip breaker's (A) lock screws (B) and then unscrewing the planing knife with adjuster screws (C).

GRINDING THE PLANING KNIVES

Always grind the knives in pairs, so they are the same height, at least 15 mm, otherwise vibrations can occur in the cutter. The grinding angle must be 38 degrees.

ADJUSTING THE PLANING KNIVES

Adjust the planing knives (A) so they are at the same level with the outfeed table. To adjust the knives, use the flat bar (B).

See figure 3-13.

MP180_016
MP180EH7S-V_MANUAL_OPER

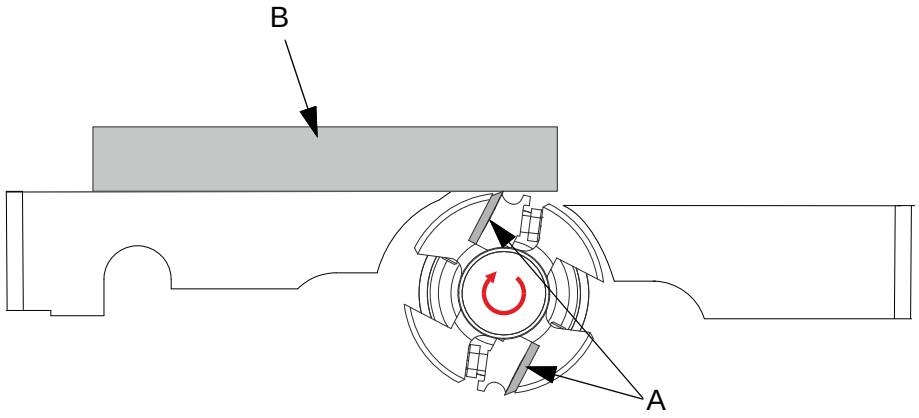


FIG. 3-13

Loosen the chip breaker's lock screws. Adjust the knife up or down until the knife touches the flat bar on the left and on the right side of the cutter.

Tighten the knife locking bolts counterclockwise. First tighten slightly the bolts starting from outside of the cutter, to the middle. Next tighten them.

IMPORTANT! After adjusting the top cutter bushing cover or changing the planer thickness, the scale indicator should be calibrated.

If the knives are lower than the table, the material will hit the table. If the knives are higher than the table, there will be an undercut in the material.

After adjusting or replacing the planing knives:

- Check that no tools have been left in the planer.
- Check that all screws have been sufficiently tightened.
- Check that the cutters can rotate freely before the safety cover is closed.
- Review the safety instructions!

3.2.3 Side Cutter

WARNING! Before you open the safety doors on the planer, ensure that the power is switched off and that the cutters are not rotating. The side cutter rotates for 10 seconds after the machine is shut off.

WARNING! Use protective gloves, particularly when you need to loosen screws that are tightly fastened, or when you are tightening screws (see safety instructions).

See figure 3-14.

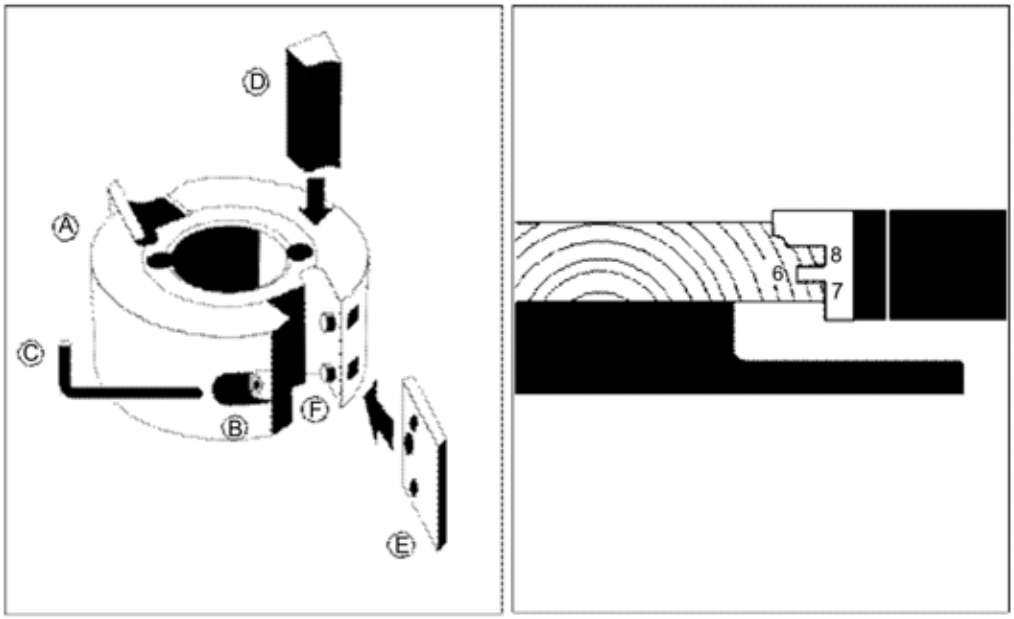


FIG. 3-14

The side cutter is fixed to the planer table with 30 mm diameter spindle which is a standard dimension. The Multi-Planer is equipped with one universal side cutter with planing knives which can be easily replaced with molding knives. For the user's safety, the workpiece is fed in the opposite direction to the knives rotation direction. The lock nut and side cutter spindle have to be left-hand threaded.

IMPORTANT! The side cutter lock nut has to be left-hand threaded.

After mounting the moulding knives, perform the following steps:

- Check that no tools have been left in the planer.
- Check that all screws have been sufficiently tightened.
- Check that the cutters can rotate freely before the safety doors are closed.
- Review the safety instructions!

DISASSEMBLING

Fixed cutter: Loosen the nut on the spindle with a 30 mm wrench (supplied) and a 13 mm wrench or adjustable wrench. Unscrew the nut and remove the cutter (A) and any spacing rings under the cutter.

IMPORTANT! Loosen the side cutter nuts by turning them in the same direction as the cutter rotation direction.

REPLACING KNIVES

Loosen the lock screw (B) with a 4 mm allen wrench (C) (supplied) and remove the chip breaker (D). Then remove the knife (E) from the dowel pin (F). Insert a new wrench and tighten the locking screw tightly.

IMPORTANT! Be sure the knives in the cutter are in proper direction. The cutting edge must be pointed to the chip breaker. Check if the cutter is properly set on the spindle.

IMPORTANT! All machine cutters should turn in the same direction as in conventional milling.

Check that the corrosion-proof spring plate located in front of the cutter will not be bent towards the cutter by the workpiece's unplaned edge. Pay particular attention when cutting workpieces of different widths.

Be sure that the cutter can rotate freely and chip barrier plate located behind the cutter is 5 mm from the knife.

HEIGHT SETTING

The side cutter's height is set by adding or removing the spacers that are delivered in the component package.

Spacers height:

- Spacer 40 mm
- Spacer 20 mm
- Spacer 10 mm
- Spacer 5 mm
- Washer set (0.1 – 2.0 mm)

To remove the planing knife from the side cutter, use the 4 mm allen wrench (supplied) to loosen the lock screws that are recessed into the cutters.

The height settings for tongue and grooves:

When tongues and grooves need to be moulded, it is important that they are made opposite one another, i.e. at the same height above the planing table. Remove the cutter from the spindle (see above under the Disassembling heading).

- Decide what the board should look like, e.g. 8 mm above the groove, 6 mm groove and 7 mm below groove.
- Assemble the moulding knife and tighten the socket head screw that hold the knife properly.
- Place the cutter on the spindle without any spacers.
- Measure the distance between the top edge of the bottom knife and the Multi-Planer table.

If the cutter is 40 mm and the groove (6 mm in this example) is in the middle of the knife, the height of the knife above the groove is 17 mm.

When the cutter is preset, the height of the knife above the table must be 30 mm (7 + 6 + 17 = 30 mm). If, for example, the height of the knife above the table is measured to 15.2 mm, the cutter must be raised 14.8 mm (0.58") (15.2 + 14.8 = 30 mm).

Follow the procedure below:

- Remove the cutter.
- Use spacers to the desired thickness (14.8 mm in this example) and thread them onto the spindle.
- Place the cutter on the spindle and tighten the lock screw. Be sure the cutter can rotate freely.
- Repeat these steps with the cutter and tongue knife to set it at the same height above the table.
- Plane a small, test board to check if the groove and tongue are at the same height.

or set the knife at any height and run the test planing. Measure and set the knife at the desired height.

IMPORTANT! The spacers must also be placed above the cutter to fix it on the spindle. Add a few spacers which are not used for height setting. The thickest spacer should be on the top, several millimeters above the lowest threads of the threaded bar. Next tighten properly the nuts on the threaded bar.

WARNING! To sharpen a dull knife, the flat side of the knife can be ground. The pair of knives must have the same profile. Always grind the knives in pairs so that they have the same weight, otherwise vibrations can occur in the cutter. If the knife profile is damaged, it should be ground again using a professional sharpener. This service is usually available in the nearby. If not, contact Wood-Mizer.

3.2.4 Chain transmission with trapezoidal thread adjustment

The chain used to raise and lower the table must not be slack, but needs to be tensioned enough so that its teeth mesh correctly.

The chain tension is adjusted with the nut located on the machine base, under the outfeed table.

Do not adjust the chain tension when the table is raising or lowering. In this case incorrect chain tension can mean that the chain has been disconnected.

3.2.5 Variable speed motor manual (optional equipment)

WARNING! Do not turn the feed speed adjustment knob when the feed is off or the material is planing/moulding.

ASSEMBLY (IF VARIABLE SPEED MOTOR IS MOUNTED IN PLACE)

Mount the feed motor on the last feed roller. Be sure the torque is constant. Use the lock screw to secure the motor on the roller.

SETTING THE FEED SPEED

To set the feed speed, use the knob located on the feed gear. To increase the speed, turn the knob right, to decrease - turn it left.

MAINTENANCE

Fluid should be visible in the fluid inspection window. The fluid level should be checked when the feed gear is not working.

The fluid should be refilled when it is not visible in the inspection window. Use oil for automatic gearboxes or compatible oil according to the table below.

The variator is filled with AGIP BLASIA 32 at the factory and normally does not require oil change during its life.

The worm gear oil does not normally need changing or topping up during gear life.

See table 3-2. Recommended oil types

AGIP	BLASIA 32
SHELL	A.T.F DEXRON
ESSO	A.T.F DEXRON
MOBIL	A.T.F 220
CASTROL	DEXTRON II
BP	AUTRAN DX

TABLE 3-2

SECTION 4 MAINTENANCE

This section lists the maintenance procedures that need to be performed.

CAUTION! Always disconnect and lock out power supply before performing any maintenance work, cleaning or servicing the Multi-Planer. Failure to do so may result in serious injury.

0 **This symbol** identifies the interval (hours of operation duty) at which each maintenance procedure should be performed.

4.1 Wear life

See Table 4-1. Estimated life expectancy of common replacement parts is given in the table below. This information is provided so that you may plan ahead in ordering replacement parts. This chart lists estimated life expectancy of common replacement parts if proper maintenance and operation procedures are followed. Due to many variables which exist during machine operation, actual part life may vary significantly.

Part description	Estimated life
Drive belt	1250 hours

TABLE 4-1

4.2 Sawdust Removal

8 Remove the excess sawdust and chips from the inside and outside of the Multi-Planer using compressed air and a brush every eight hours of operation.

4.3 Miscellaneous Maintenance

1. 50 Oil all chains with Dexron III ATF every fifty hours of operation.

CAUTION! Do not use chain lube. It causes sawdust buildup in chain links.

2. Clean resin from the table. Use solvent if necessary. Lubricate the table, e.g. with paraffin oil.

3. 50 Lubricate these parts every 50 hours of operation:

- Feed roller bushing,
- Sprockets,
- Table height adjustment chain,

- Feed roller drive chain,
- Two slide rods and trapezoidal thread,
- Cast iron table.

50 **4.** Every 50 hours check that all screws and bolt connections are tightened. Check that the cables and electrical connectors are in good condition.

4.4 Drive Belt Tension Adjustment

4.4.1 Top cutter drive belt tension adjustment

50 Check the top cutter drive belt tension after the first 20 hours of operation and every 50 hours of operation thereafter.

1. Loosen four mounting bolts (A), move down and remove the cutter drive belt cover (B).

2. Check the top cutter drive belt for wear and tension. Replace the belt as needed.

3. To tension the drive belt, loosen four motor plate mounting bolts (C).

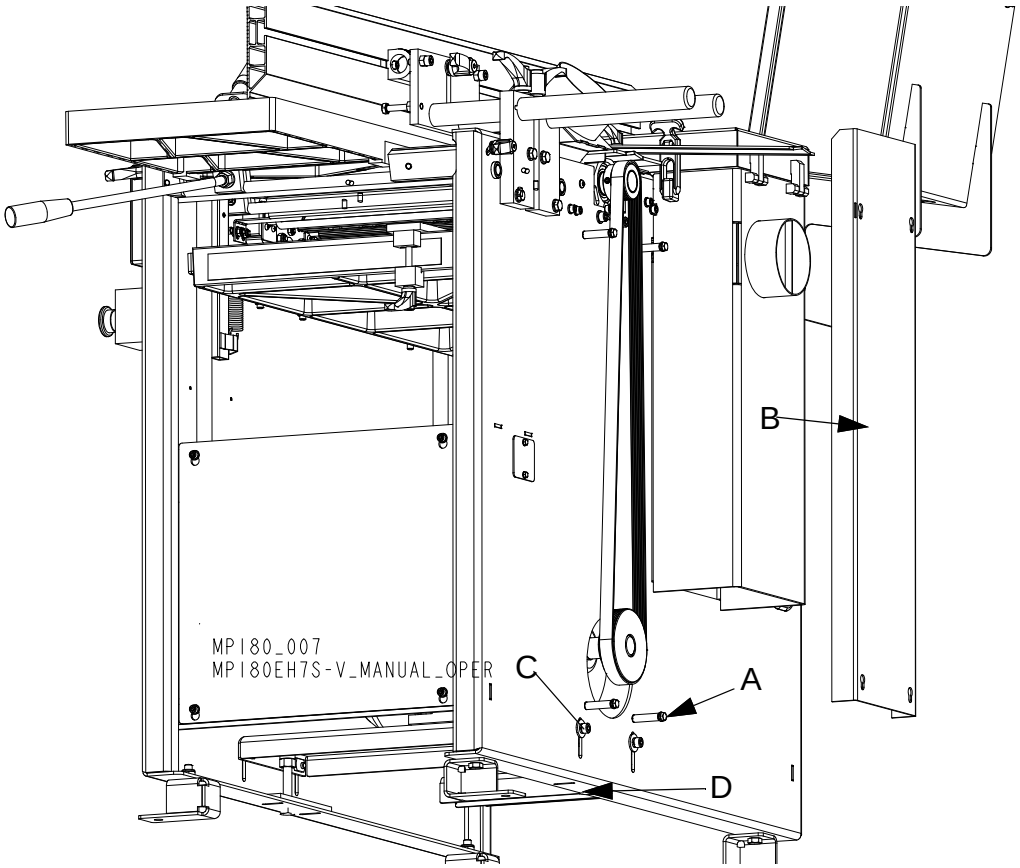


FIG. 4-1

4. Using the belt tension adjustment bolts (D), adjust properly the drive belt. Next, tighten the motor plate mounting bolts.

5. Check if the motor and cutter pulleys are aligned. Both pulleys should be in line to avoid premature drive belt wear. Loosen the set screw on the shaft to move the pulleys. After aligning the pulleys, recheck the belt tension. Remount the cutter drive belt cover.

4.4.2 Side cutter drive belt tension adjustment

Loosen four motor mounting bolts (A). Use the adjustment bolt B to adjust the belt tension.

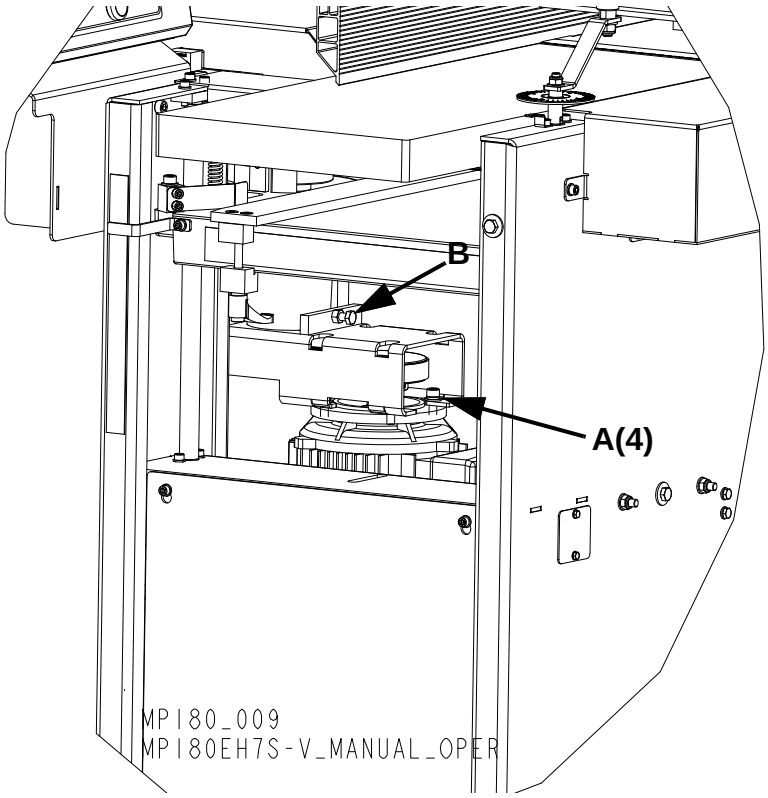


FIG. 4-2

4.4.3 Roller drive chain tension adjustment

1. Unbolt and remove the roller drive chain cover (A).

2. Loosen the tensioner bolt (B). Move the tensioner up/down to tension the chain properly.

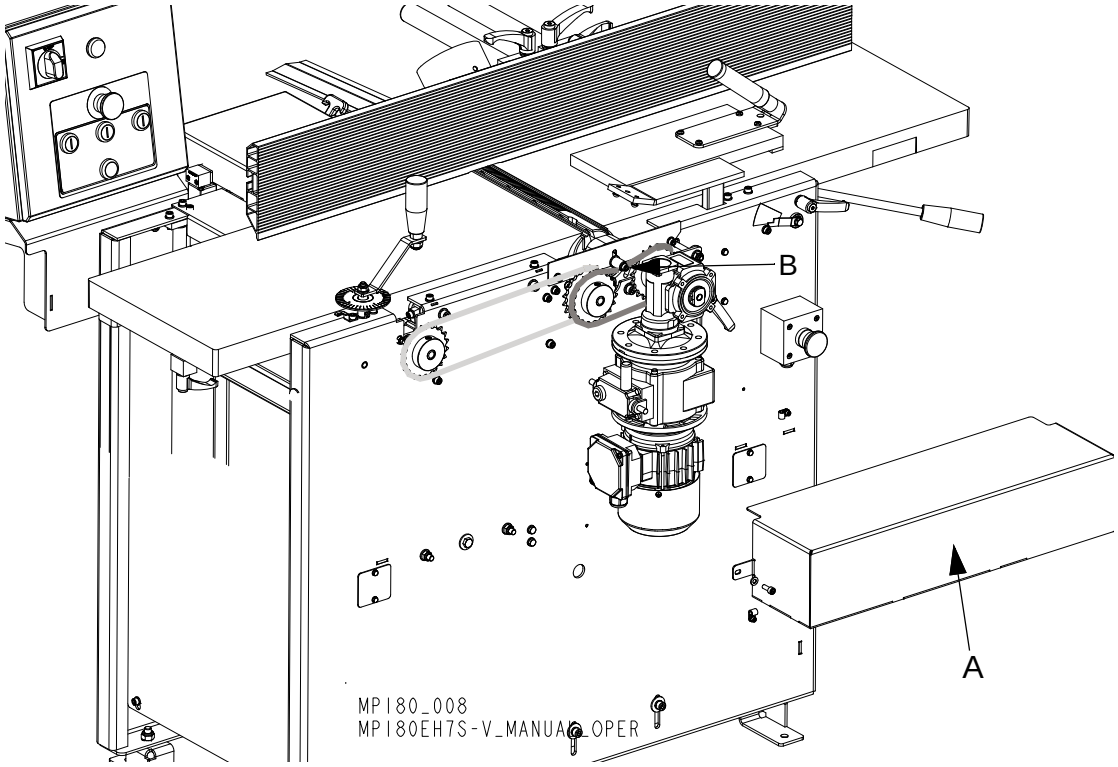


FIG. 4-3

4.4.4 Table chain tension adjustment

Loosen two tension roller mounting bolts (A). Use the adjustment bolt B to adjust the table chain tension.

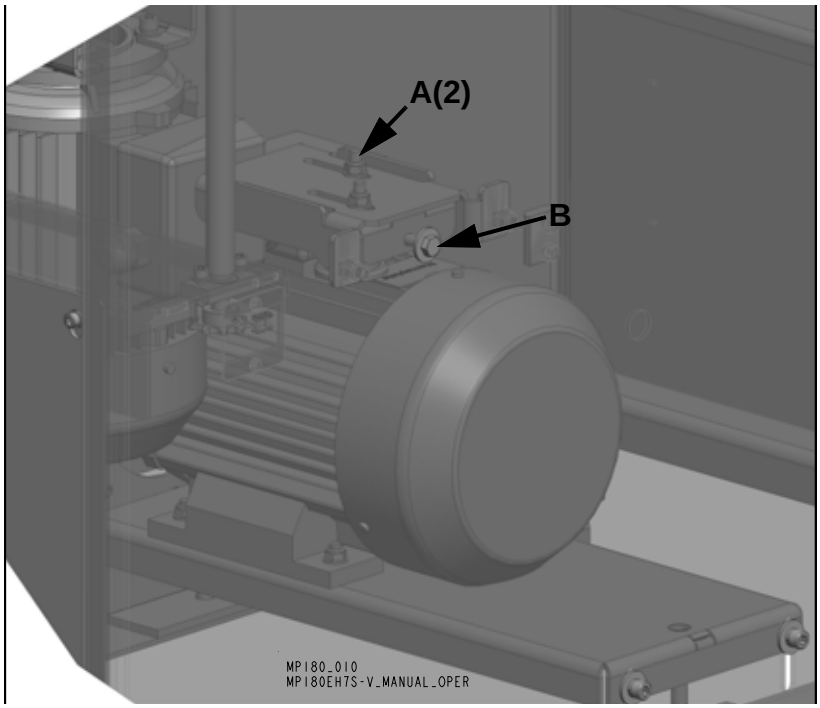


FIG. 4-4

4.5 Long-Term Storage

If the machine is not used for a long period of time, do as follows:

- Disconnect the power cord.
- Perform all routine actions described above.
- Remove the knives with mounting strips or clamping wedges and store them well lubricated in above zero temperature.
- Loosen the motor belt tension.
- Spray a thin layer of anti-rust coating (such as P.D.R.P) onto the places not protected against rusting.
- Store the machine in a well ventilated room.
- Cover the Multi-Planer.

4.6 Replacement of Inserts in Helical Cutterhead

CAUTION! Inserts have sharp edges. Always use protective gear and remain cautions when replacing inserts. Failure to do so may result in serious injury.

Inserts have four cutting edges. If one of the cutting edges becomes dull the insert can be rotated 90 degrees. If the insert is damaged or worn out it should be replaced. Replacement procedure is shown below.

1. Remove the screw (A) with torx screwdriver.
2. Remove or rotate the insert (B).
3. Tighten the screw removed in step one

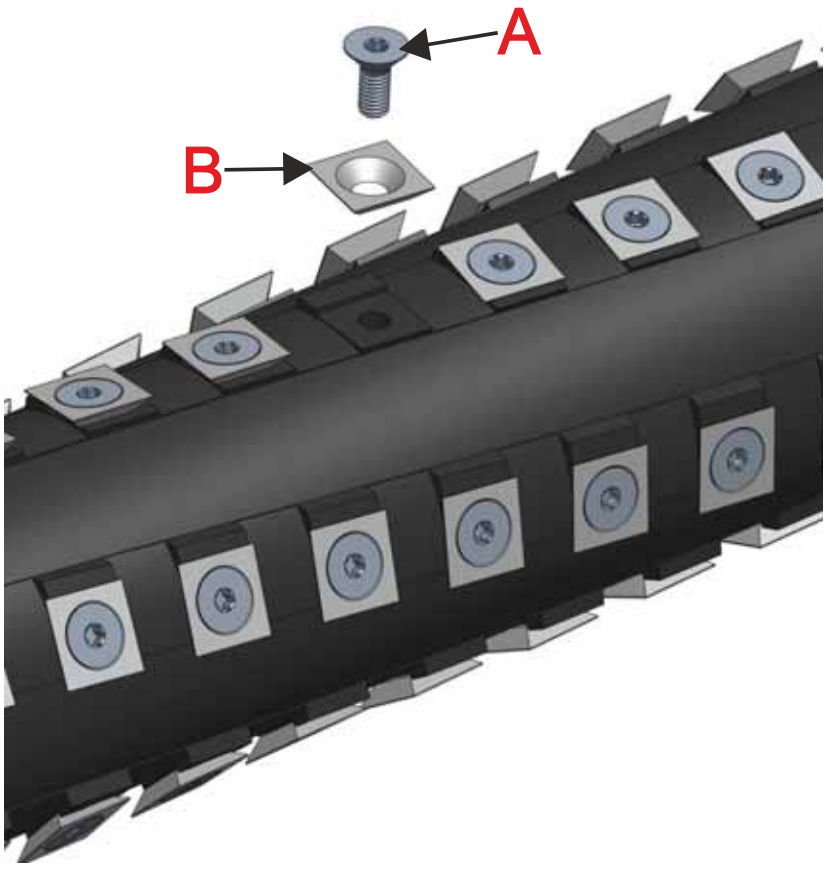


FIG. 4-5

4.7 Safety Devices Inspection

MP180E7S Multi-Planer – Safety Devices Inspection

Safety devices on the machine which must be checked before every shift:

- E-STOP button and its circuit inspection.

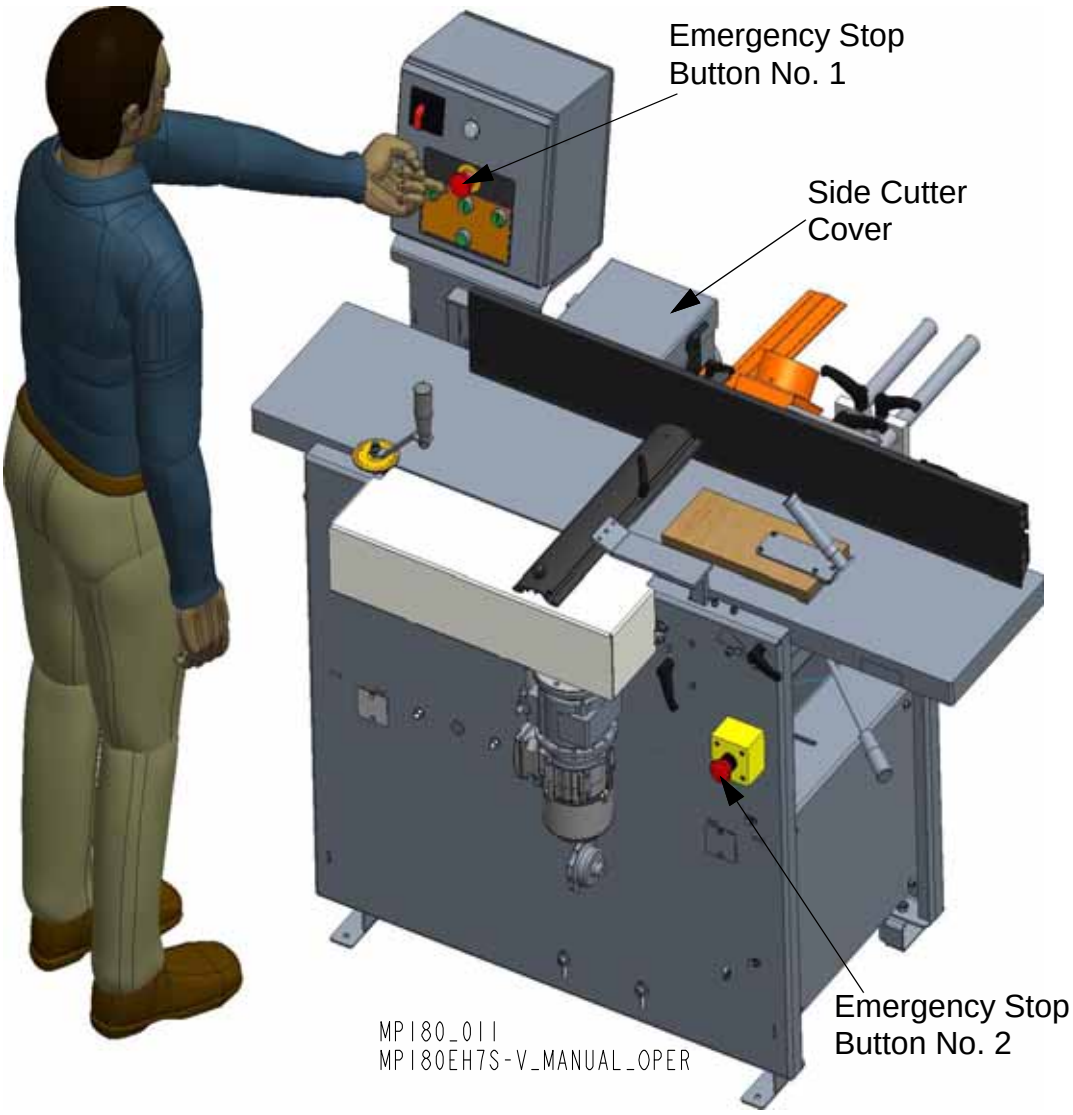
1. E-STOP buttons and their circuits inspection

- Use “I” buttons to start the cutter and feed rollers. The motors should start.
- Press the E-STOP button No. 1 located on the control box. All motors should be stopped. Pressing the “I” buttons should not start the motor until the E-STOP button is released.
- Release E-STOP button No. 1. Use “I” buttons to start the cutter and feed rollers. The motors should start.
- **(Only machines for the EU market)** Press the E-STOP button No. 2 located on the machine housing. All motors should be stopped. Pressing the “I” buttons should not start the motor until the E-STOP button is released.

2. Side cutter cover safety switch and its circuit inspection

CAUTION! Use extreme caution when opening the cutter housing cover if the top and side cutters are working (to inspect the safety devices).

- Use “I” buttons to start the top and side cutter and next the feed rollers. The motors should start.
- Be sure the emergency stop button is released.
- Open the side cutter housing cover.
- All motors should be stopped.
- Pressing any of “I” buttons should not start the motors.
- Close the cutter housing cover.
- The motors should remain stopped until they are restarted with any of “I” buttons.


Emergency Stop
Button No. 1
Side Cutter
Cover
Emergency Stop
Button No. 2
MP180_011
MP180EH7S-V_MANUAL_OPER

4.8 Maintaining the anti-kickback fingers

This machine has the potential for kickbacks. Kickbacks can cause the board to be suddenly and uncontrollably hurled towards the operator. Such action can result in severe injury or death. If you are working with frozen boards or with boards that have protruding knots, the chance of kickbacks is increased.

The MP180 planer is equipped with anti-kickback fingers to help prevent kickback from occurring. To maintain the safety of your planer, periodically inspect the machine to ensure all anti-kickback fingers are intact and undamaged and have a sharp point. Missing or damaged parts can affect the safety of the machine operator or bystanders and should be replaced immediately. Do not sharp the anti-kickback fingers! If they are dulled, replace them with new ones.

DANGER! Be sure the anti-kickback fingers are free from obstruction and are in their downward position. Failure to do so may result in serious injury.

DANGER! Always ensure that there is a sharp point on the anti-kickback fingers before each use of the edger.

- Check the anti-kickback fingers for wear every 200 hours of operation.

SECTION 5 MULTI-PLANER SPECIFICATIONS

5.1 Overall Dimensions

See figure 5-1. The overall dimensions of the MP180 Multi-Planer are shown below (all dimensions are in millimeters).

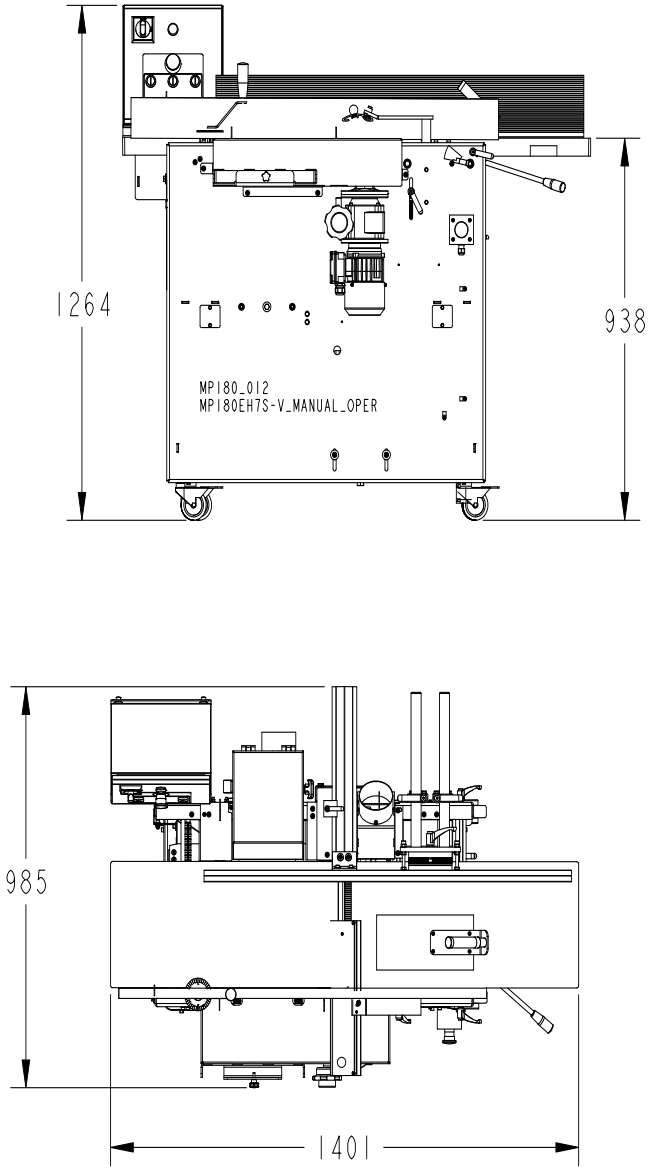


FIG. 5-1 MP180

MP180_017
MP180EH7S-V_MANUAL_OPER

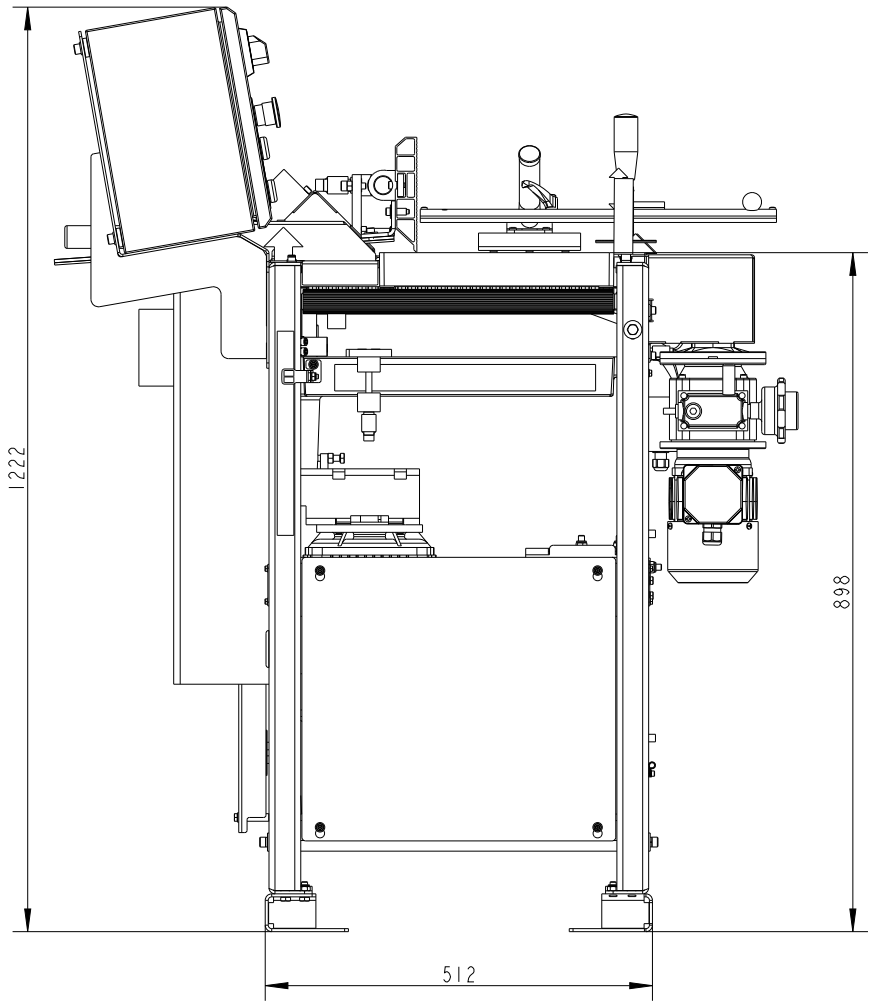


FIG. 5-1 MP180

See table 5-1. The overall dimensions and weight of the MP180 machine are given in the table below.

Machine type	MP180
Weight	362 kg
Weight with transport box	440 kg
Height	1222 mm
Height (with optional wheels)	1264 mm
Width	985 mm
Length	1401 mm

TABLE 5-1

5.2 Multi-Planer Specifications

See table 5-2. The Wood-Mizer Multi-Planer nomenclature is given in the table below.

	Volts
MP180EA6S	**1 ph 230V CE**
MP180EA6U	**1 ph 230V UL**
MP180EH6S	**3 ph 400V CE**
MP180EH7S	**3 ph 400V CE**
MP180EA6U-V	**1 ph 230V [1]**
MP180EB7U-V	**3 ph 230V [2]**

TABLE 5-2

[1] American version only
[2] American version only

See table 5-3. Europe motor specifications are given in the table below.

	MP180EA6S		
	Top Cutter Motor Specifications	**Side Cutter Motor Specifications**	**Feed Motor Specifications**
Motor Type	Electric Motor	Electric Motor	Electric Motor
Rated Voltage	1x230V	1x230V	1x230V
Rated Revolutions	2860 r.p.m.	2860 r.p.m.	1580 r.p.m.
Rated Power	2.7 kW	2.7 kW	0,18 kW
Wood-Mizer Part No.	533651	533651	533654

TABLE 5-3

	MP180EB6S		
	Top Cutter Motor Specifications	**Side Cutter Motor Specifications**	**Feed Motor Specifications**
Motor Type	Electric Motor	Electric Motor	Electric Motor
Rated Voltage	3x230V	3x230V	3x230V
Rated Revolutions	2860 r.p.m.	2860 r.p.m.	2820 r.p.m.
Rated Power	3kW	3 kW	0,37 kW
Wood-Mizer Part No.	537386	537385	533639

TABLE 5-3

	MP180EB7S-V		
	Top Cutter Motor Specifications		**Feed Motor Specifications**
Motor Type	Electric Motor	Electric Motor	Electric Motor
Rated Voltage	3x230V	3x230V	3x230V
Rated Revolutions	2860 r.p.m.	2860 r.p.m.	2820 r.p.m.
Rated Power	4kW	2kW	0,37 kW
Wood-Mizer Part No.	537387	537385	533640

TABLE 5-3

	MP180EH6S		
	Top Cutter Motor Specifications		**Feed Motor Specifications**
Motor Type	Electric Motor	Electric Motor	Electric Motor
Rated Voltage	3x400V	3x400V	3x400V
Rated Revolutions	2860 r.p.m.	2860 r.p.m.	2820 r.p.m.
Rated Power	3 kW	3 kW	0.37 kW
Wood-Mizer Part No.	537386	537385	533639

TABLE 5-3

	MP180EH7S-V		
	Top Cutter Motor Specifications		**Feed Motor Specifications**
Motor Type	Electric Motor	Electric Motor	Electric Motor
Rated Voltage	3x400V	3x400V	3x400V
Rated Revolutions	2860 r.p.m.	2860 r.p.m.	2820 r.p.m.
Rated Power	4kW	2kW	0,37 kW
Wood-Mizer Part No.	537387	537385	533640

TABLE 5-3

See table 5-4. USA motor specifications are given in the tables below.

	MP180EA6U-V		
	Top Cutter Motor Specifications	**Side Cutter Motor Specifications**	**Feed Motor Specifications**
Motor Type	Electric Motor	Electric Motor	Electric Motor
Rated Voltage	1x230V	1x230V	1x230V
Rated Revolutions	2860 r.p.m.	2860 r.p.m.	1700 r.p.m.
Rated Power	2.7 kW	2.7 kW	0,55 kW
Wood-Mizer Part No.	533651-UL	533651-UL	592832

TABLE 5-4

See table 5-5.

	MP180EB7U-V		
	Top Cutter Motor Specifications	**Side Cutter Motor Specifications**	**Feed Motor Specifications**
Motor Type	Electric Motor	Electric Motor	Electric Motor
Rated Voltage	3x230V	3x230V	3x230V
Rated Revolutions	2860 r.p.m.	2860 r.p.m.	2820 r.p.m.
Rated Power	4 kW	3 kW	0,37 kW
Wood-Mizer Part No.	537387-UL	537385-UL	533640-UL

TABLE 5-5

See table 5-6. Feed rate

Multi-Planer Type	Feed Rate
MP180EH6S (Constant Feed Speed)	5 m/min
MP180EH7S-V (Adjustable Feed Speed)	2-11 m/min

TABLE 5-6

See table 5-7. The noise level generated by Wood-Mizer Multi-Planer is given in the table below[1] [2] [3]

	Noise Level
MP180 Multi-Planer equipped with electric motor	L_{pA} = 86dB (A) L_{WA} = 104dB (A)

TABLE 5-7

1. The noise level measurement was taken in accordance with PN-EN ISO 3746 Standard . Value for associated uncertainty K=4dB.
2. The measured values refer to emission levels, not necessarily to noise levels in the workplace. Although there is a relation between emission levels and exposure levels, it is not possible to determine with certainty if preventives are needed or are not needed. Factors that influence the actual level of exposure of the workforce include the characteristics of the work room and the other sources of noise etc. i.e. the number of machines and other adjacent processes. Also, the permissible exposure level value may vary depending on country. This information enables the machine's user to better identify hazards and a risk.
3. The total value of hand-arm vibration the operator may be exposed to does not exceed 2.5 m/s^2. The highest root mean square value of weighted acceleration to which the whole operator's body is subjected does not exceed 0.5 m/s^2.

IMPORTANT! The total value of hand-arm vibration the operator may be exposed to does not exceed 2.5 m/s^2. The highest root mean square value of weighted acceleration to which the whole operator's body is subjected does not exceed 0.5 m/s$^{2.}$

See table 5-8. See the table below for planing/moulding material specifications

	Thicknessing	Planing
Minimum Cant Height	10 mm	
Maximum Cant Height	200 mm	80 mm
Cant Width	10-410 mm	10-300 mm
Maximum Thicknessing/Planing Depth	4 mm	6 mm

TABLE 5-8

See table 5-9. Other specifications of the Multi-Planer are listed below.

Cutter Specifications	
Number of knife sockets	2 or 4
Horizontal cutter diameter	72 mm
Horizontal cutter width	410 mm
Vertical cutter diameter	92 mm
Vertical cutter width	40 mm
Cutter rotations	5840 r.p.m.
Specifications of Knives	
Straight knife height "A"	20 mm
Straight knife thickness "B"	3 mm
Straight knife protrusion "C"	1 mm
Pattern knife protrusion "C"	depends on knife thickness (see table 5-10)

TABLE 5-9

See figure 5-2.

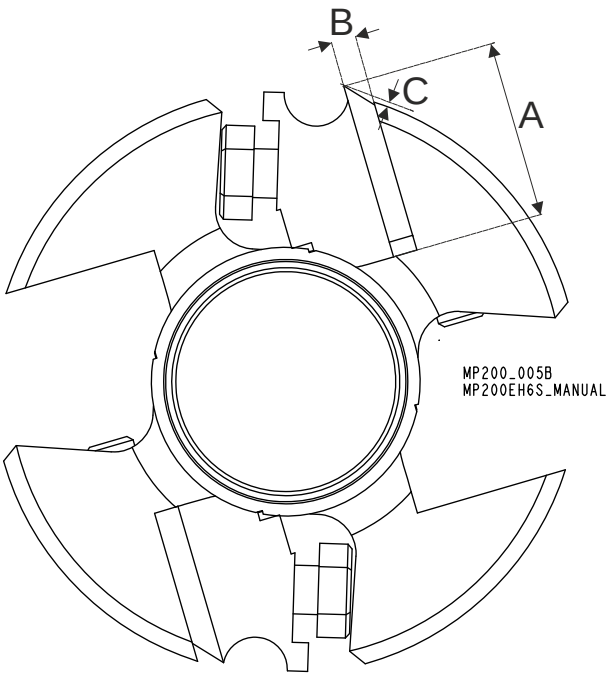


FIG. 5-2

See table 5-10. A relation between the pattern knife protrusion and the thickness is shown below.

Pattern knife thickness	Pattern knife max. protrusion [1]
3 mm	13 mm
4 mm	21 mm
5mm	29 mm

TABLE 5-10

[1] According to EN 847-1:2005 European Standard

Wood-Mizer
from forest to final form

EC declaration of conformity

according to EC Machinery Directive 2006/42/EC, Annex II, 1.A

Manufacturer: Wood-Mizer Industries sp. z o.o.
Nagórna 114, 62-600 Koło; Poland
Tel. +48 63 26 26 000

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Following machine in our delivered version complies with the appropriate essential safety and health requirements of the EC Machinery Directive 2006/42/EC based on its design and type, as brought into circulation by us. In case of alteration of the machine, not agreed by us, this declaration is no longer valid.

We, the undersigned herewith declare, that:

Designation of the machine:	**Planer/Thicknesser Wood-Mizer MP180**
Type:	MP180
Models:	MP180EH6S, MP180EB6S, MP180EA4S
Serial Number:	……..
Is in conformity with the following EC directives:	EC Machinery Directive 2006/42/EC EC Electromagnetic Compatibility Directive 2014/30/EC
And is in conformity with the following Harmonized Standards:	PN-EN 12100:2012; PN-EN ISO 13849-1:2016-02 PN-EN 60204-1:2018-12
Responsible for Technical Documentation:	Piotr Adamiec / Engineering Manager Wood-Mizer Industries Sp. z o.o. 62-600 Koło, ul. Nagórna 114, Poland Tel. +48 63 26 26 000
Place/Date/Authorized Signature:	Koło, 01.10.2020
Title :	Engineering Manager