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Translation of the original operating instructions

This manual must be kept for future reference and must always remain with the machine

FS30 CLASSIC - FS41 CLASSIC

INSTRUCTION MANUAL

SURFACE PLANER/THICKNESSER FOR WORKING WITH WOOD AND MATERIAL WITH SIMILAR PHYSICAL CHARACTERISTICS



Rel. 0.0 / 09-2012 **00L0083979H** **EN**

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MANUFACTURER:	**SCM INDUSTRIA S.p.A.**
ADDRESS:	**Via Valdicella, 7 - 47892 - Gualdicciolo - Rep. San Marino**
DESIGNATION:	**SURFACE PLANER/THICKNESSER FOR WORKING WITH WOOD AND MATERIAL WITH SIMILAR PHYSICAL CHARACTERISTICS**
BRAND:	**MINIMAX**
TYPE:	**FS-01 / FS-02**
MODEL:	**FS30 CLASSIC - FS41 CLASSIC**
SERIAL N°::	
TYPE OF DOCUMENT:	**INSTRUCTION MANUAL**
DOCUMENT CODE:	**00L0083979H**
EDITION:	**Rel. 0.0 / 09-2012**

CONFORMITY:

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1.1 AIM OF THE HANDBOOK

(ev-1-1_0.0)

This handbook has been written by the machine manufacturer and is an integrating part of the machine[2].
The information serves for qualified technicians[3].

With this handbook we wish to give you all information regarding to the use and maintenance of the machine: in this way you are sure to protect the production as well as the equipments.

The handbook defines the proper use of the machine and gives all information necessary for:
- right use of the machine
- working economy
- long operation life

If the instructions are always kept, it is possible to guaranty safety conditions for the operator, safe machine operation, service economy and a longer life of the machine.

To make the easier, the handbbok is divided in proper sections.
To quickly find the subject, see the Contents.

NOTE-INFORMATION:
some images present in this handbook may:
- not exactly correspond to the real machine version when this does not influence the validity of the information and instructions described and does not prejudice the safe operation.
- Be indicated without safety guards in order to make the parts described in the text more visible.

DANGER-WARNING:
the safety guards are necessary to ensure the safe machine operation and the working without the safety guards is forbidden.

SCM sales organization is always at your disposal for any technical problem (reparation, spare part delivery etc.) and to improve your business.
Keep this handbook for future information besides it shall always be with the machine.
SCM is not responsible for damages caused by wrong use or maintenance of the machine.

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For any technical problem apply to SCM dealer:

2 The definition "machine" replaces "FS30 CLASSIC - FS41 CLASSIC" machine name.

3 Technicians who, thanks to their technical background and experience, are able to recognize and to avoid possible dangers during:
- the machine transport
- the installation
- the machine use and maintenance.

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1.2 MACHINE IDENTIFICATION

(gg-1-2_0.0)

Machine data are punched on the metallic plate applied to the side of the machine frame.

Designation		Abbreviated, conventional description of the machine designation and its function
Marca		Merchandise mark
Anno		Production year
N° Serie		Serial number
kg		Weight (kg)
Tipo		Machine type
Modello		Machine model
Un	V	Rated voltage (volt)
~		Phases number (alternate current)
In	A	Rated current (ampere)
F	Hz	Frequency (hertz)
Icc.	kA	Short circuit breaking capacity of the protective device (kA)
w.d.		Wiring diagram number
Comp.		Machine configurations
Ref.		Internal references



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1.3 MAIL CONTACT

(gg-1-3_0.0_ce)

Writing or telephoning to the dealer or to SCM for problems concerning your machine, always specify the following information:

1) machine model
2) serial number
3) voltage and frequency
4) purchase date
5) name of the dealer where the machine was bought
6) detailed information about the trouble
7) detailed information about the working to be carried out
8) period of use - number of working hours

Manufacturer's address:

SCM INDUSTRIA S.p.A.
Via Valdicella, 7
47892 - GUALDICCIOLO - (R.S.M.)
E-mail: info@minimax.sm
web-site: www.scmgroup.com

Assistance Department
from Italy: Tel. 0549/876910 - Fax. 0549/999604

from abroad: Tel. 00378 - 0549/876912 - Fax. 00378 - 0549/999604
E-mail: info@minimax.sm

Spare Parts Department
from Italy: Tel. 0541/674714 - Fax. 0541/674720

from abroad: Tel. 0039 - 0541/674714 - Fax. 0039 - 0541/674720
E-mail: mastolfi@scmgroup.com

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1.4 NOTES FOR THE USER

(gg_1-4_0.0_ce)

The handbook describes all operations required for the normal maintenance of the machine.
Do not carry out any operation not described in this handbook.
All operations which require to desmount machine members as well as maintenance operations shall be carried out only by authorized technicians.
For the correct use of the machine carry out the proper instructions given in this handbook.
Only trained and authorized technicians may use the machine and carry out maintenance operations.
Keep the general safety norms as well as the rules of industrial medicine.
Keep this handbook for future necessity.

NOTE-INFORMATION:
- use only SCM ***parts. The manufacturer is not responsible for damages due to the use of not original parts.***

1.4.1 ABBREVIATIONS USED IN THIS HANDBOOK

(gg-1-41_0.0_ce)

pag.	=	page
fig.	=	figure
par.	=	paragraph
chap.	=	chapter
i.e.	=	example
ref.	=	reference
DPI	=	Individual protective equipment (IPE)

1.4.2 ENCLOSED DOCUMENTATION

(mmax_1-4-2_0.0)

The following attachments are an integral part of this instruction manual:

- Electrical diagrams (read the number of the electrical diagram on the identification plate placed on the machine in the "W.D." line).
- Spare parts catalogue

NOTE-INFORMATION:
the electrical diagrams are for the exclusive use of competent technicians, therefore they are only in Italian and English.

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1.5 SYMBOLS USED IN THIS HANDBOOK

(gg-1-5_0.0_ce)

OPT	***OPTIONAL = devices indicated in list price available only upon request.***
	***Operator position.***
	***DANGER-WARNING: imminent dangers could cause serious injuries; careful attention is needed.***
	***NOTE-INFORMATION: technical, very important information.***
	***READ-MANUAL: indicates that before using the machine, you must read the instructions manual and understand all its parts***
	***FORBIDDEN: indicates manouvres, commands or others that cannot be carried out as they can create very dangerous situations for persons and damage the machine.***
	***CAUTION: suitable measures should be taken to prevent accidents or to prevent things from being damaged.***
	**MACHINE OFF STATUS** efore carrying out any type of maintenance and/or making any adjustment to the machine, all of the power supplies (electric and pneumatic) must be switched OFF. Make sure that the machine is stopped power supplies electric and pneumatic (if is present) must be switched OFF. Make sure that the machine is stopped and that it is impossible for it to start up unexpectedly (main switch in the “0” position and locked; compressed air cut-off valve closed and compressed air cut-off valve closed and locked).

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Personnel who will be working on the machine must, apart from being professionally trained for the job, read the manuals paying particular attention to the safety regulations and the paragraphs relative to his area of competence. The machine operators are identified as follows:

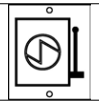
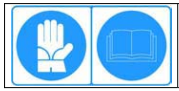
	**ASSIGNED OPERATOR** A professionally trained operator who is at least 18 years old, in compliance with the laws in force in the country where the machine is being used, qualified to exclusively turn on, use, tool-up, set (only with the safety devices enabled and the machine turned off) and to switch off the machine, in full compliance with the instructions given in this with the instructions given in this manual.
	**MAINTENANCE ELECTRICIAN** A qualified technician (electrician with the technical/professional qualifications required by current regulations), authorized to exclusively carry out operations on the electric devices in making adjustments, performing maintenance and/or repairs, even with the power supply ON and the safety devices disabled (subject to the consent of the health and safety officer), in full compliance with the instructions given in this manual or in other specific documents furnished exclusively by the Manufacturer.
	**OPERATOR IN CHARGE OF MOVING THE MACHINE** A professionally trained operator who is at least 18 years old, in compliance with the laws in force in the country where the machine is being used, qualified to drive fork lift trucks, bridge cranes or cranes used to safely move the machine and/or parts of the used to safely move the machine and/or parts of the machine.
	**MAINTENANCE MECHANIC** A skilled technician qualifi ed to exclusively carry out operations on the mechanical, hydraulic and pneumatic parts of the machine, to make adjustments, perform maintenance and/or repairs, even with the safety device disabled (subject to the consent of the health and safety officer), in full compliance with the instructions given in this manual or in other specific documents furnished exclusively by the Manufacturer.
	**COMPANY HEALTH AND SAFETY OFFICER** A qualified technician, designated by the Client with the technical/professional qualifications required by current regulations relative to worker health and safety in the by current regulations relative to worker health and safety in the workplace.
	**MANUFACTURER’S TECHNICIAN** A qualified technician sent by the Manufacturer and/or Dealer who is authorized to provide required technical assistance, to perform routine and extraordinary maintenance operations and/or operations not referred to in this manual which require specific and detailed knowledge of the machine.

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1.6 SYMBOLS ON THE MACHINE

(gc-1-6_0.0_ce)

CAUTION:
the operator must pay attention to the signs and plates fixed on the machine.

	*Danger due to electric power*	- B -
	*Main electrical switch (padlockable): when at zero (OFF), it cuts electrical power supply to the machine*	- D -
	*Use gloves for handling the tools* *Read the manual and follow the manufacturer's instructions*	- E -
	*Indicates the point where the hooks shall be applied for machine raising*	- L -
	*Locking symbol*	- M -

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	*Danger: cutting of upper limbs (rotating tools)*	- N -
	*Indicates the tool rotation direction*	- O -
	*Thickness switch on feed plate*	- P -
	*Thickness switch on feed plate*	- T -
	*Thickness switch on feed plate*	- W -

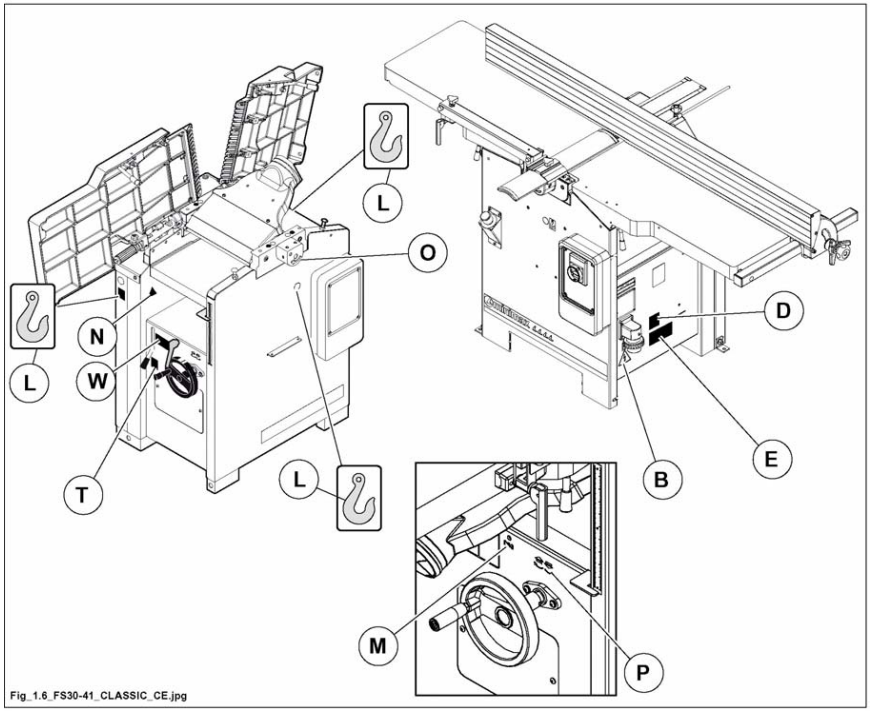


Fig. 1.6A

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1.7 MACHINE DESCRIPTION

The machine is a surfacingthicknessing planer equipped with a tiltable surface fence which ranges from 90° to 45°. (fs_1-7_0.0)
The machine may be equipped with a fixed or self centring slotter (OPT).

The basic machine parts are herein referred to and described to make you quickly familiar with them since they shall be later mentioned in this manual. Please pay attention to the following descriptions:

1 - SURFACING TABLES

2 - THICKNESSING TABLES

3 - SLOTTER

4 - BUZZ PLANER

5 - CONTROL BOARD

6 - FEED ROLLER DRIVE LEVER

7 - SHIM LIFTING LOCK

8 - PRESSER

9 - PUSHER

10 - SHIM LIFTING

11 - SURFACING TABLE LOCKING
12 - GUIDE STOP

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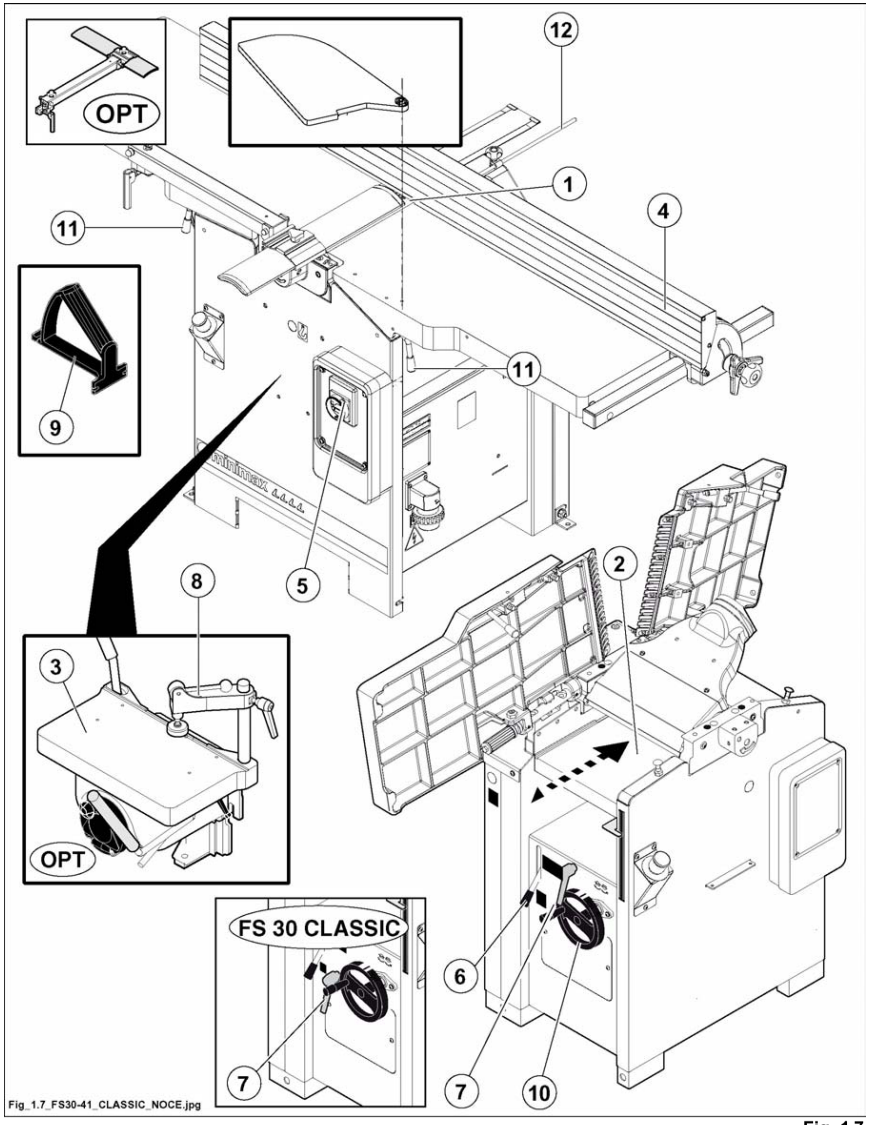


Fig. 1.7

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1.8 CONDITIONS FORESEEN FOR THE USE

(ev_1-8_0.0)

This machine has been designed to drill and to plane heartwood, fiberboard, chipboard panels, plywood and lamin board both coated and not coated.

DANGER-WARNING:
materials different from those quoted above, since dissimilar to wood, are thus prohibited: the user is solely responsible for any damage caused by machining such materials.

1.9 TOOLS WHICH MAY BE USED

(ev_1-9_0.0)

The machine has been designed to use only tools for manual feed, proper for the material used.

By manual feed we mean the piece guidance by means of:
- the hand,
- the sliding table pushed by hand,
- the feeder.

1.10 WORKING ENVIRONMENT

(gg_1-9_0.0)

The machine can work under these conditions:
Max. humidity 90%
Temperature: Min. +1° C Max. +40° C
Max. altitudine sea level: 1000 m (in case of higher altitude apply to the machine manufacturer)

Always connect the machine to the suction system (see par. 4-5).

The machine may not be used in the open air.
The machine was designed for industrial use.

The machine may not operate in explosive rooms.

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1.11 INCORRECT USE THAT CAN BE REASONABLY EXPECTED

(1.1_(01-2010))

- DO NOT use the machine if you are not an authorised and trained operator.
- DO NOT use the machine in ways that differ from those that the machine has been designed for and described in this manual.
- DO NOT use the machine without the required guards for every machining process or removing part of the guards (DO NOT disassemble the fixed and mobile guards, bypass the safety microswitches)
- DO NOT use the machine in ways that differ from those described above (Sect.1.8).
- DO NOT use the machine in environmental conditions that differ from the ones indicated above (Sect.1.10)
- DO NOT handle the tools without individual protective equipment (not supplied by SCM) for the hands and forearms.
- DO NOT use the machine without individual protective equipment from noise (ear plugs)(not supplied by SCM).
- DO NOT use the machine without extraction.
- DO NOT use the machine without having assessed the need to use individual protective equipment (not supplied by SCM) in relation to wood dust (we recommend the use of individual protective equipment: hard wood dust is carcinogenic).
- DO NOT use the machine if the area around the machine is not flat, well maintained and free of loose material (e.g. shavings and rejects).
- DO NOT machine different materials from the ones that the machine has been designed for and that are not set out in this manual.
- DO NOT machine materials of dimensions that the machine has not been designed for and that are not set out in this manual (Sect.1.8).
- DO NOT use tools of a size not compatible with the machine technical specifications.
- DO NOT make modifications to the machine.
- DO NOT allow children, domestic animals or any unauthorised personnel in the work area.

NOTE-INFORMATION:
the user will be solely responsible for any damages resulting from improper use.

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1.12 RESIDUAL RISKS

(ev_1-12_0.0)

Any machine tool may be potentially dangerous, do not forget it.
The final safety depends on you.

The machine is equipped with proper guards to ensure the safe machine operation.
Such guards are efficient if they are properly used and kept.

Even if the safety prescriptions are kept and the machine use occurs in accordance with the rules described in this handbook, the following risks may rise:

- **contact with the standstill or rotating tool.**
- **Contact with rotating members (belts, pulleys, chains ...).**
- **Kickback of the workpiece or of its parts (splits): never stop in the position corresponding to the trajectory of possible split ejection.**
- **Ejection of tool inserts: never stop in the position corresponding to the trajectory of possibile split ejection.**
- **Dust inhalation in case of working without suction.**
- **Fulguration caused by contact with hot parts.**
- **Contrary direction of tool rotation due to wrong electric connection.**
- **Danger due to wrong working position of the operator.**
- **Danger caused by the wrong tool fitting.**

1.13 OPERATOR'S TRAINING

(ev_1-13_0.0)

It is compulsory that the machine operator is trained for the machine set up and operation.
The operators shall carefully read this handbook and consider the safety rules.

In particular the training shall include:
a) the principles of the right use and operation of the machine.
b) The correct handling of the workpieces during the working.
c) The right position of the hands to the tools, before, during and after the cutting.
d) The right selection of the tools.
e) The piece feed to the tool which shall occur in the contrary direction to the spindle rotation direction.
f) The selection of the proper spindle speed required by the tool.

The operators are to be informed about the dangers due to the machine operation and about the precautions to be taken; besides the operator shall be able to carry out periodical tests on guards and safety devices.

NOTE-INFORMATION:
a padlock for locking the main switch of the power supply is required.
The authorized operator shall keep the key.

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SAFETY OVER ALL

1.14 SAFETY RULES

(gg_1-13_0.0)

1- Carefully read this instructions manual completely before starting the machine.
2- Carefully read the warning plates applied on the machine and comply with their indications.
3- Only correctly trained personnel can use the machine.
4- The operator training must include information about the dangers associated with using the machine and the precautions that he must observe.
5- The operator must trained on the correct use of the guards and safety devices.
Moreover he must be trained to perform regular controls on the aforementioned guards and safety devices.
6- The operator must never leave the machine unattended while it is operating.
7- This machine has been designed to be used by one operator.
8- This machine has been manufactured to provide maximum safety along with optimum performance.
9- Unauthorised changes to the machine release the manufacturer of any responsibility from any damages that may result.
10- Do not use the machine under the influence of alcohol, drugs or sleep inducing medication.

The safety depends on you. Any machine tool may be potentially dangerous, do not forget it.

1.14.1 PERSONAL SAFETY

(gg_1-13-1_0.0)

1- Before starting the machine the operator shall already have read the handbook.
Your eyes are the best safety device you have: carefully look before moving.
2- Experience teaches that there are various objects on a person that can cause injuries; take off rings, watches, bracelets; button your sleeves tightly around yuor wrists, take off ties that could be caught in tight places, keep hair gathered underneath proper nets (cap, elastics, hair pins). Use prescribed footwear usually recommended by all countries.

ALWAYS WEAR THE FOLLOWING INDIVIDUAL PROTECTIVE EQUIPMENT (IPE) (NOT SUPPLIED BY THE SCM**) BEFORE STARTING TO WORK:**

A- Proper aprons, e.g: aprons made of double leather with synthetic fiber cloth insertion (not supplied by SCM**) to protect the operator in case of splinters ejection.**
B- Glasses or protective shields for your eyes.
C- Proper means for ear protection.
D- Proper means against dust inhalation (masks).
E- Gloves for handling the blades.
F- Proper shoes with reinforced steel point and rubber soles.

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1.14.2 MACHINE SAFETY

(ev_1-14-2_0.0)

DANGER-WARNING:
always fasten the machine to the floor.

1- Be extremely careful when starting any working and periodically check the shields and safety devices.
2- Never start the machine without having properly closed the covers.
3- Before lifting the thicknessing table make sure that there are no wood residues on the table.
4- Before starting the machine make sure that the worktable is free from parts which do not relate to the working.
5- It is forbidden to move the table when the machine is running.
6- Do not machine workpieces too small or too big for the machine.
See relative paragraph 3.1 "DIMENSIONS OF WORKPIECE TO BE MILLED".
7- Do not machine pieces with defects (deflections, clefts, knots, metallic parts, ...).
8- Work only with all guards properly fitted and efficient.
The use of the machine is not permitted if such conditions are not kept.
9- In case of long pieces use roller tables or table extensions (not supplied by SCM).
10- It is necessary to connect all suction hoods to the suction system.
Before starting the working make sure that the suction system is switched on.
11- Test working to check the cutterblock adjustment may not carried out without the guards required.
12- After inserting the workpiece, move to the machine side.
13- Never try to remove the wastes or other parts of the workpiece from the working area when the machine is in operation.
14- Push the workpiece forwards by using a proper pusher or feeder.
15- After a given working period the transmission belts get slack; this may cause an increase of the time required to stop the tool. In that case immediately stretch the belts (see paragraph 20-28).
16- Periodically remove chips and dust to avoid fire risk: carry out this operation always with the machine off.
17- Every evening when the working is finished carefully clean the anti-kick back fingers and make sure that they can freely rotate. The presence of chips and dust in position corresponding to the anti-kick back fingers may damage the right machine operation. The opening of the anti-kick back fingers may cause the ejection of splints against the operator.
18- Remove the resin residues among the anti-kick back fingers by washing the entire unit with a brush and turpentine.
NEVER OIL OR GREASE THE ANTI-KICK BACK FINGERS.
Check that the non-return hammers are functioning efficiently after at least every hour of operation.
19- Adjustments to the guard and to the planer guide must be made when the machine is off.
20- Always fasten the machine to the floor.

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1.14.3 TOOLS SAFETY

(ev_1-14-3_0.0)

- Before fitting the tools, make sure that each support surface is clean, free from dents and perfectly flat.
- The tools shall be fitted and set when the machine is off, STILL TOOLS and with proper instruments (gauge, comparator).
- Make sure that the tools are perfectly balanced, sharp and well clamped.
Not sharp tools reduce not only the quality of the finished piece but they increase the piece kickback danger.
- Fit the tools in the right working direction.
- Use only tools for manual feed.
- Before starting the machine make sure that the tools do not touch the fixed parts of the machine.
- Start working only when the tools have reached the right cutting speed.

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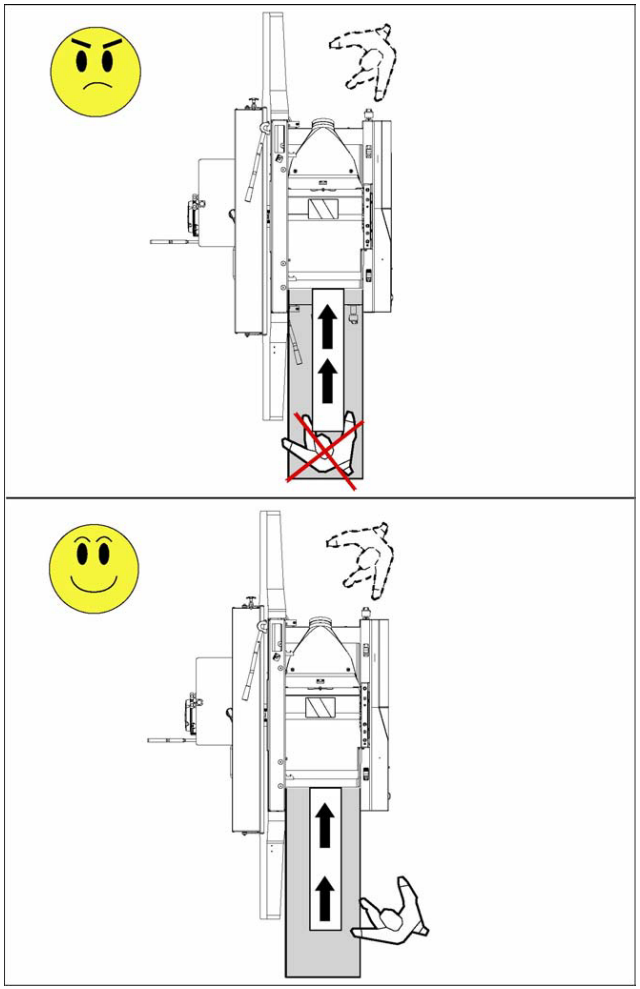
1.14.4 WORKING AREA SAFETY

(gg_1-13-4_0.0)

The working area shall have a good lighting and a sufficient room so that the operator is always out of a dangerous area.
The floor shall be well leveled to avoid slipping danger and also free from loose material (e.g. waste, chips).
Only the authorized operator may stay in the working area.
The operator shall never stay in the trajectory where eventual splits or tool parts are ejected.
If along this trajectory there is another work station (that is another machine) or a passage for persons, immediately install proper protective barriers.

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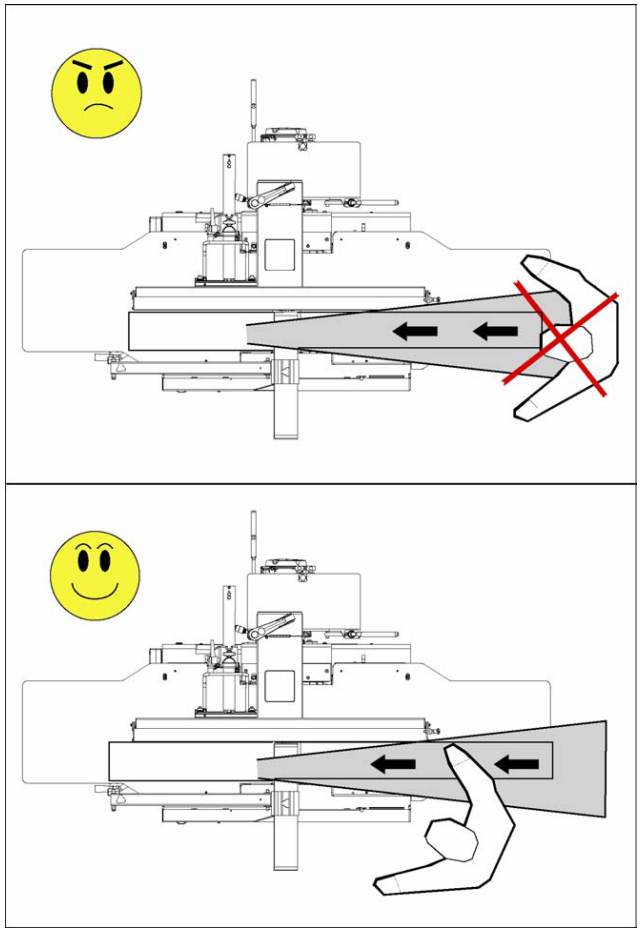
Operator position ***THICKNESSING PLANER***



DANGER-WARNING
the operator must take a working position to the machine so that it is out of the dangerous area due to the reject phenomenon (shaded area in figure).
If along this trajectory there is another work station (that is another machine) or a passage for persons, immediately install proper protective barriers.

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Operator position *SURFACE PLANING MACHINE*



DANGER-WARNING
the operator must take a working position to the machine so that it is out of the dangerous area due to the reject phenomenon (shaded area in figure).
If along this trajectory there is another work station (that is another machine) or a passage for persons, immediately install proper protective barriers.

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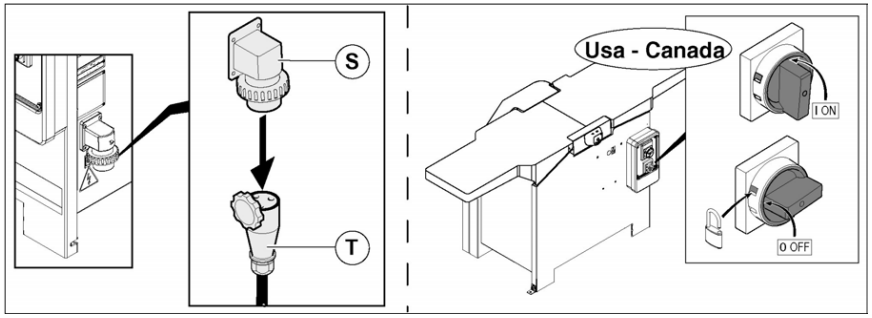
1.14.5 MAINTENANCE SAFETY

(ev_1-14-5_0.0)

DO NOT THINK that the electric current is switched off during the maintenance .... CHECK IT PERSONALLY!
Strictly follow the indications provided for the frequency of the controls and maintenance of devices subject to checks and/or wear.

1- Stop the machine to carry out adjustments or to demount any machine, turn the main switch to zero and lock it, then indicate it by a sign.
The operator who carries out the machine set up, maintenance and cleaning shall keep the only key.

Before carrying out any of the operations make sure to cut the main electric power and disconnect socket T from plug S.



2- Completely stop the machine before cleaning operations and before removing any guard to carry out the maintenance.
3- The general cleaning of the machine (in particular of worktable) and of the surrounding floor is an important safety factor.
4- Regularly carry out cleaning and maintenance operations: remove chips and dust to avoid fire risk.
5- Use proper gloves for handling the tools.
6- The tools require a regular maintenance: when necessary replace them.
7- In case of any trouble concerning the machine, the guards and the tools, it is necessary to immediately take the proper measures.

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1.15 EMERGENCY CONDITIONS

(ev_1-15_0.0)

DANGER-WARNING:
in case of flooding of the room where the machine is housed, immediately disconnect the electrical power supply. Before starting work, have the machine checked by a specialised technician.

DANGER-WARNING:
in case of fire, immediately disconnect the electrical power supply and intervene using suitable fire extinguishers directing the jets at the base of the flames. Even if the machine has suffered no apparent damage, before restarting work have the machine checked by a specialised technician.

A free space without obstructions must be provided around the machine (see par. 3.7), to allow fast escape in case of danger.

This machine must not be operated in explosive environments.

1.16 MACHINE REMOVAL - STORING - DEMOLITION

(ev_1-16_0.0)

To remove the machine, disconnect it from the electric and pneumatic system. Follow the instructions in chap. 4.

In case of extended inactivity of the machine, disconnect it from the electrical and pneumatic system. Thoroughly clean it as already described for ordinary cleaning and cover the work and sliding tables and the tool holder spindles with antirust protection. Do not store the machine in humid environments and protect it from atmospheric agents.

The machine is constructed in non-toxic unharmful materials. In case of demolition, separate the ferrous material from the plastic materials and send them to the respective scrap yards.

1.16.1 OUT OF ORDER MACHINE

(1.16.1)

The machine is manufactured with non-toxic or harmful materials; in case of scrapping separate the ferrous materials from the plastic materials and scrap respectively. We recommend contacting a specialised and authorised company, in compliance with the applicable laws and standards.

The operators moving the machine and the maintenance personnel must wear the IPE required for the risks involved with the type of use and in compliance with the applicable laws and standards.

To move and transport the machine refer to the instructions in chap. 4.

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2.1 Arrangement and description of emergency devices (Fig. 2.1).....2

2.2 Arrangement and description of safety devices (Fig. 2.2).....4

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2.1 ARRANGEMENT AND DESCRIPTION OF EMERGENCY DEVICES (FIG. 2.1)

(ev-2-1.0.0)

Emergency equipment consists of special devices whereby operators can promptly stop the machine if necessary or in case of danger.

DANGER-WARNING:
emergency devices must never be removed or disconnected for no reason whatsoever.

Description

A - Emergency mushroom-head push-button:
it causes an immediate emergency stop.

CAUTION:
periodically, check that the devices, listed above, are efficient.

DANGER-WARNING:
any anomalies found during the control of these devices, must be reported promptly to the manager, who will put the machine out of service and call the SCM ***Support Service.***

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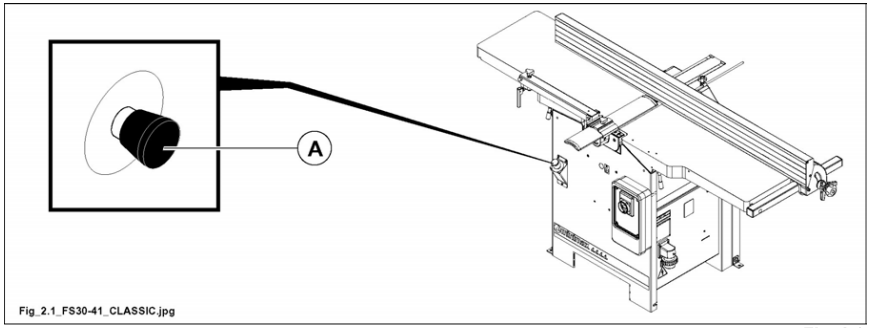


Fig. 2.1

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2.2 ARRANGEMENT AND DESCRIPTION OF SAFETY DEVICES (FIG. 2.2)

(ev-2-2.0.0)

Safety devices are special accident-prevention guards whereby the machine is protected against possibly dangerous situations.

DANGER-WARNING:
safety devices must never be removed or disconnected for no reason whatsoever.

Description

A - Main electrical switch (padlockable) (U.S.A. and CANADA version):
when at zero (OFF), it cuts electrical power supply to the machine.

Y- Thermal switch:
it connects and disconnects the power supply of the operating unit.

B - Anti-kickback fingers:
anti-kickback fingers, working with pieces of different thickness, prevent the workpiece to be thrown back towards the operator, thus providing an effective protection.

C - Guard for planer operations; (C (STD), R (OPT) fig. 2.2).

F - Clamping arm (F fig.2.2) (when (OPT) mortiser is present).

G - Rear guard for cutterblock (G fig.2.2).

P - Plane microswitch (U.S.A. and CANADA):
stops machine when planing tables tip. It commands the operating unit to perform thicknessing machinings whenever the hood S is overturned.

CAUTION:
periodically, check that the devices, listed above, are efficient.

DANGER-WARNING:
any anomalies found during the control of these devices, must be reported promptly to the manager, who will put the machine out of service and call the SCM ***Support Service.***

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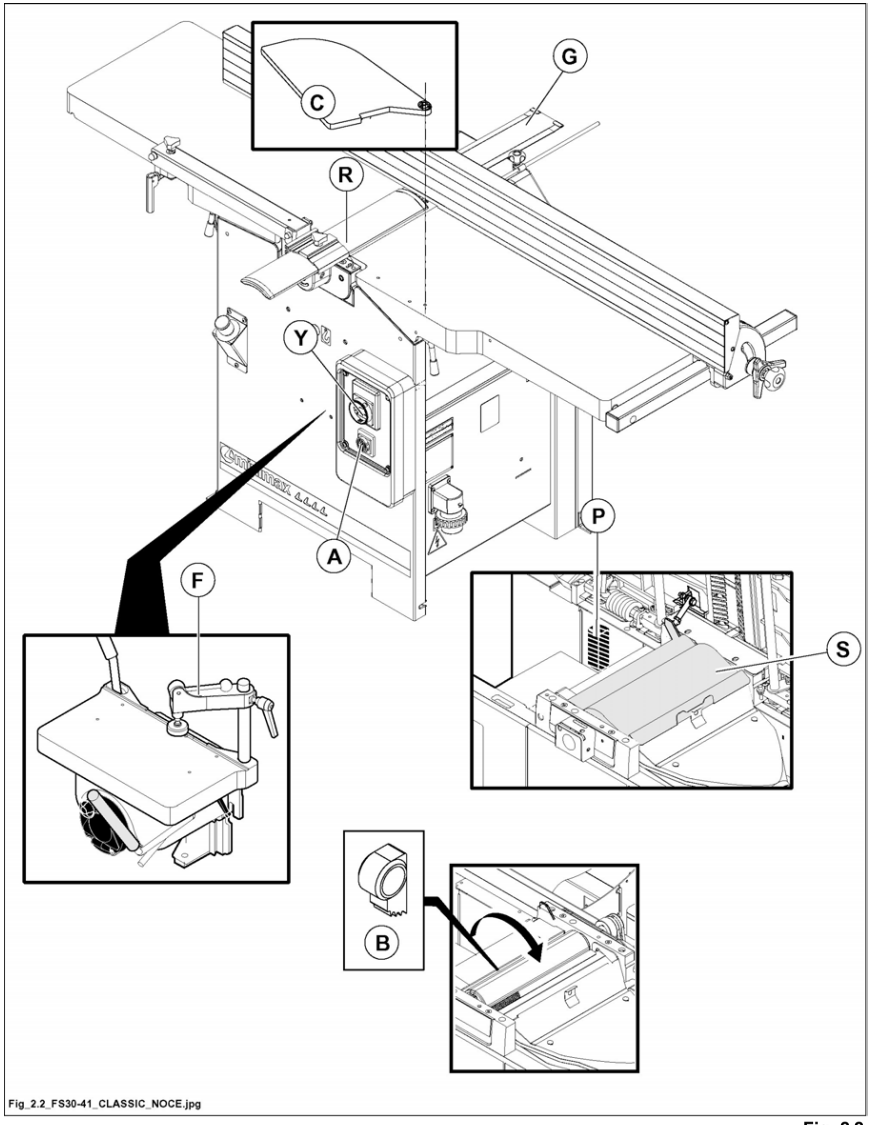


Fig. 2.2

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3.1 Dimensions of workpiece to be thicknessed 2

3.2 Technical data 4

3.3 Standard accessories 5

3.4 Optional accessories 5

3.5 Noisiness level 6

3.5.1 Dust emission 9

3.6 Overall dimensions 10

3.7 Working area 12

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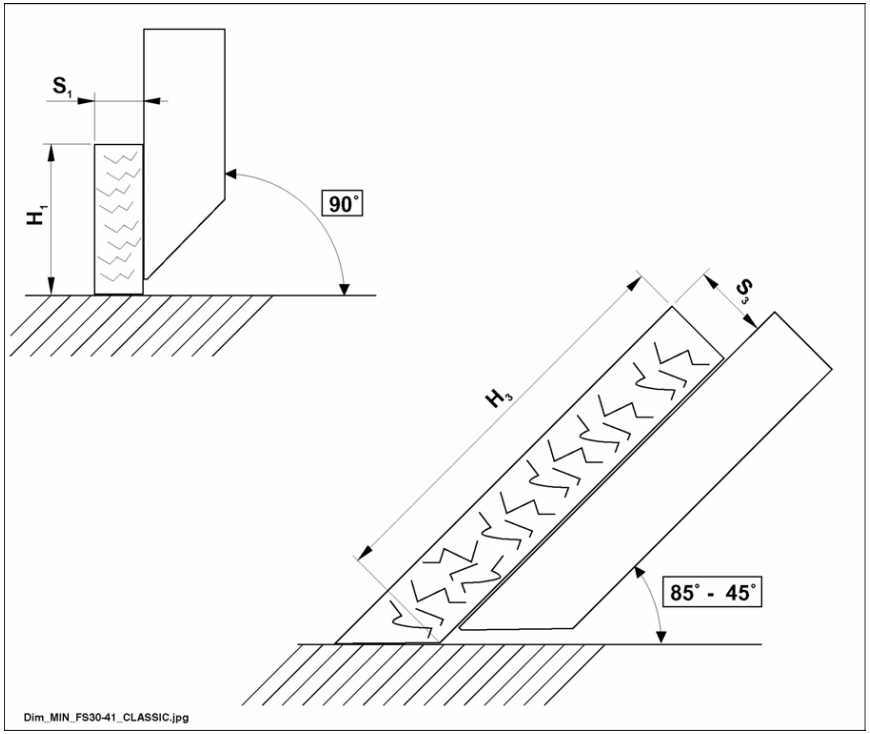
3.1 DIMENSIONS OF WORKPIECE TO BE THICKNESSED

(fs_3-1_0.0)

SURFACE PLANING MACHINE

Max. thickness under the guard	75 mm	
Max. length		**DANGER-WARNING: may be not defined; we recommend to use table extensions (not supplied by SCM) at entry and exit side in case of panels longer than 2000 mm.**
Max. width	300 mm	**FS30 CLASSIC**
	410 mm	**FS41 CLASSIC**
Min. thickness	H_1=30 mm	
	H_3=50 mm	**We recommend to use pushers (not supplied by SCM).**
Min. length	150 mm	
Min. width	S_1=15 mm	**DANGER-WARNING: never machine shorter workpieces.**
	S_3=15 mm	

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THICKNESSING PLANER

Max. thickness	230 mm	
Max. length		**DANGER-WARNING: may be not defined; we recommend to use table extensions (not supplied by SCM) at entry and exit side in case of panels longer than 2000 mm.**
Max. width	300 mm	**FS30 CLASSIC**
	410 mm	**FS41 CLASSIC**
Min. thickness	3,0 mm	
Min. length	140 mm	**DANGER-WARNING: never machine shorter workpieces.**
Min. width	10 mm	**DANGER-WARNING: never machine shorter workpieces.**

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3.2 TECHNICAL DATA

(fs_3-2_0.0)

GENERAL TECHNICAL DATA			
Planer table total length	FS30 CLASSIC	1500	mm
	FS41 CLASSIC	1800	
Useful working length (Planer - Thicknesser)	FS30 CLASSIC	300	mm
	FS41 CLASSIC	410	
Max. depth of cut in one stroke (Thicknesser)		4	mm
Max. depth of cut in one stroke (Planer)		4	mm
Min. width of the piece to be machined (Thicknesser)		10	mm
Cutterblock diameter		72	mm
Knives	FS30 CLASSIC	30x3x300	N° 3
	FS41 CLASSIC	30x3x410	
Cutterblock speed (50 Hz)		5200	rpm
Time required to stop the cutterblock		less than 10 sec.	
Fence dimensions	FS30 CLASSIC	1300x150	mm
	FS41 CLASSIC	1670x150	
Motors:			
Motor power	50 Hz	4,0	kW
	60 Hz	4,8	kW
Technical details: see data plate on the motor Duty cycle: S6 - 40% Conditions of service: see Par. 1.10			
Planer guide tilt		from 90° to 45°	
Feed speed to thicknesser		7	m/min
Weight without mortiser:		see identification plate on the machine	

AIR SUCTION TECHNICAL DATA		
Suction hood diameter	120	mm
Air speed	20	m/sec
Air consumption	814	m^3/h

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3.3 STANDARD ACCESSORIES

(fs_3-3_0.0)

1.st top feed roller (inlet side): steel scored roller
One feed roller (exit side): steel roller

Height adjusting of thicknessing table by handwheel

Knife setting gauge
N° 3 knives
Suction hood of 120 mm diameter
Direct start of main motor

Planer spindle guards
Tilting guide for supporting pieces
Manual movement of table (planer) in infeed
Reading of removal (planer) with index on sliding scale

3.4 OPTIONAL ACCESSORIES

(fs-3-4-0.0)

Cutterblock with throw-away knives

Main motor (three-phase) - S6 / 40%: ..... 5,0 kW - 50 Hz (6,0 kW - 60 Hz)

Motors power (single-phase) - S6 / 40%:
..... 2,2 kW - 50 Hz

Motors power (single-phase) - S1:
..... 3,6 kW - 60 Hz

Bridge-type protection

Displacing wheels

Mortiser with:

- Table size	470X230	mm
- Longitudinal stroke	160	mm
- Trasverse stroke	120	mm
- Vertical stroke	110	mm
- Coupling of left-hand bit Ø max.	16	mm
- Suction hood diameter	120	mm
- Suction air speed	20	m/sec
- Suction air consumption	814	m^3/h
- Weight	~50	kg

- clamping arm
- selfcentering (OPT) chuck for bits of max. diameter ..... Ø max.16 mm

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3.5 NOISINESS LEVEL

(fs_3-5_0.0)

SURFACE PLANING MACHINE

Operating conditions – **Surface planning** (according to norm EN 859:2007+ A1:2009)*					
Measured size description		Reference norm	Uncertainity **K** (probability 68.27%)	**Surface planning**	
				VSA	**LAV**
Lop: sound pressure level at operator station dB (A) and peak level [dB(C)]	Operator station	EN ISO 11201:1995	2.5	76.5	90.6 [101.5]
	INPUT				
Lw: sound power level dB (A) re 1pW [mW (A)]		EN ISO 3744:1995	2.0	83.6 [0.2]	96.6 [4.5]
The maximum istantaneus noise level pressure is under 130 dB (C).					
VSA : Idle working without suction		**LAV** : In operation			
*Refer to the test document N° 02060 (Rdp 02060) to analyse the actual operating conditions used to make the test, different from those operating conditions prescribed by the norm mentioned above.					

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THICKNESSING MACHINE

Operating conditions – **Thicknessing machine** (according to norm EN 860:2007+ A1:2009)*					
Measured size description		Reference norm	Uncertainity **K** (probability 68.27%)	**Thicknessing machine**	
	Operator station			**VSA**	**LAV**
Lop: sound pressure level at operator station dB (A) and peak level [dB(C)]	INPUT	EN ISO 11201:1995	2.5	70.2	85.5 [93.0]
	OUTPUT			73.0	85.3 [93.8]
Lw: sound power level dB (A) re 1pW [mW (A)]		EN ISO 3744:1995	2.0	84.3 [0.3]	96.0 [3.9]
The maximum istantaneus noise level pressure is under 130 dB (C).					
VSA : Idle working without suction			**LAV** : In operation		
*Refer to the test document N° 02060 (Rdp 02060) to analyse the actual operating conditions used to make the test, different from those operating conditions prescribed by the norm mentioned above.					

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MORTISER (OPT)

NOISE LEVEL				
Working - **BORING**				
	Reference norm		**BORING**	
Lop: Sound pressure level at operator place dB (A)	EN ISO 11201:1997		89.8	
Lw: Sound power level dB W (A) [mW (A)] LW	EN ISO 3744:1994		101.4 [12.4]	
The maximum value of instantaneous acoustic pressure is less than 130 dB (C).				
VSA : Idle working without suction		**LAV** : Idle working without suction		
The values refer to the "free field" conditions in accordance with the test modalities foreseen by the reference norm.				

DANGER-WARNING
the noise levels which have been measured are emission levels and not levels of safe working. The relation between emission levels and exposure levels may not be used to determine whether further precautions are required. Factors which influence the real exposure level for the operator include the exposure time, the room features, further sound sources (as for example number of the adjacent working machines). Also the exposure levels permitted are not the same for all countries. Thank to this information the operator to evaluate the risks and the dangers.

Here are some factors which reduce the exposure to the noise:
- right tool selection
- machine and tool maintenance
- proper use of ear protective means

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3.5.1 DUST EMISSION

(mmax_3-5-1_0.0)

DUST EMISSION	
Operating conditions – **Surfacing / Thicknessing / Drilling**	
Reference regulations: **BG-GS-HO- 05**	Dust emitted [mg/m^3]
Operator's site	< 2

FORBIDDEN:
DO NOT USE COMPRESSED AIR.

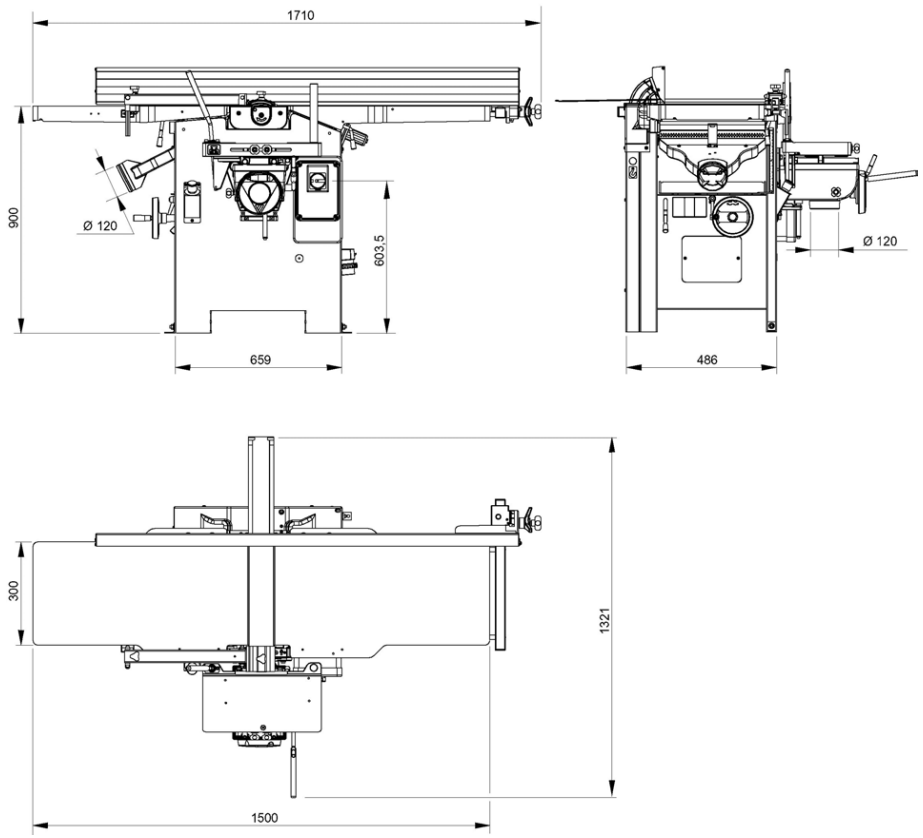
DANGER-WARNING:
it is necessary to connect all suction hoods to the suction system.
Before starting the working make sure that the suction system is switched on.

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3.6 OVERALL DIMENSIONS

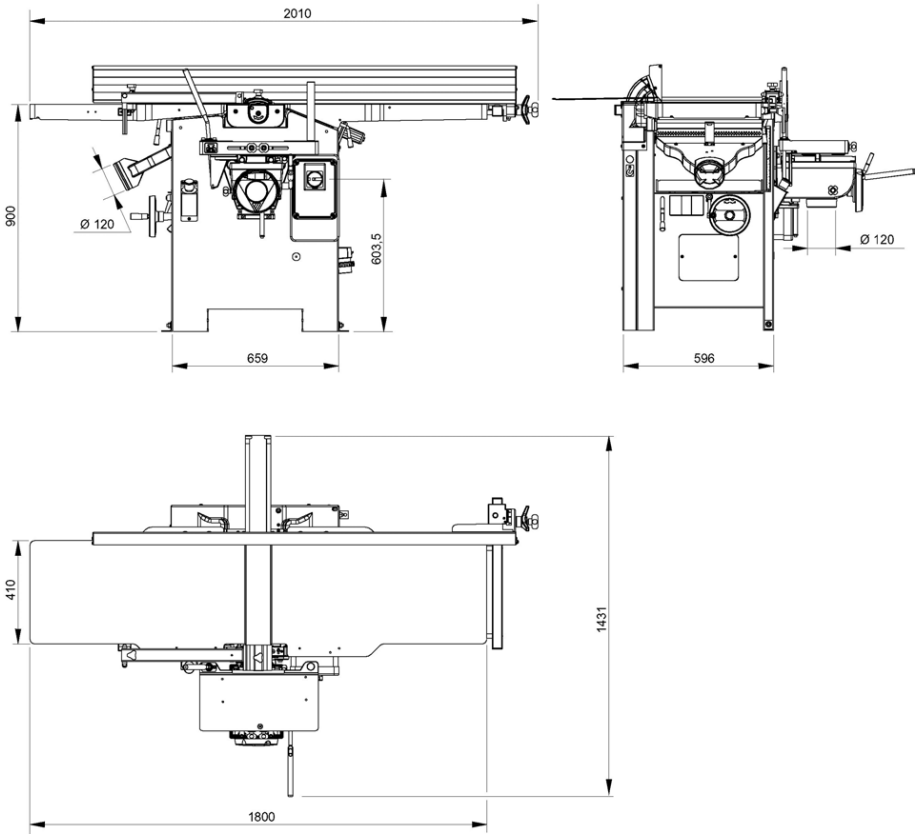
(fs_3-6_0.0)

FS30 CLASSIC



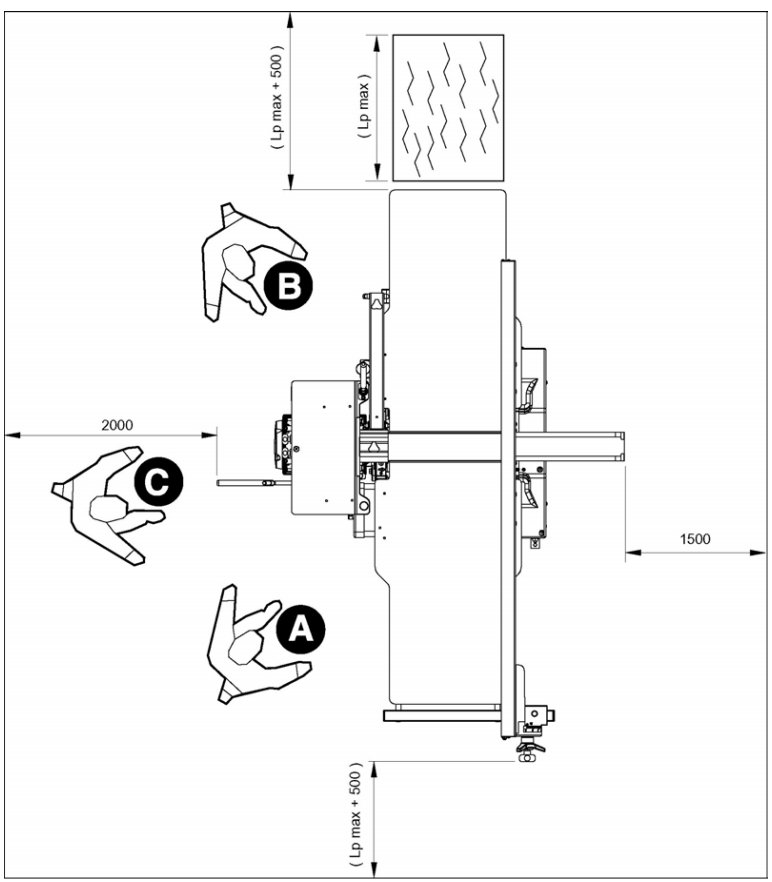
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FS41 CLASSIC



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3.7 WORKING AREA



CAUTION:
the measures indicated above shall be considered as the free room around the machine.

DANGER-WARNING:
this machine has been designed to be used by one operator.

A = Surfacing planer **B = Thicknessing planer** **C = Drilling**

Lp max = Max. workpiece length

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4.1 Unloading the machine 2
4.2 Machine positioning 4
4.3 Fitting the parts demounted for transport reasons 6
4.3.1 Guard fitting 6
4.3.2 Planing fence - Assembly 7
4.3.3 Displacing wheels 8
4.4 Electric connection and grounding 11
4.5 Connection to the suction system 14

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4.1 UNLOADING THE MACHINE

(ev_4-1_0.0)

NOTE-INFORMATION:
the packing of the machine indicates:
- the weight to be raised
- the hooking areas

DANGER-WARNING:
lifting and handling should only be carried out by skilled personnel specially trained to execute this kind of operations. During loading and unloading, avoid knocks to prevent damages to persons or things. Make sure no one is standing under the overhung load and/or within the bridge crane working range during machine lifting and handling.

Before unloading the machine take off all parts rested on it for packing and transport reasons.

DANGER-WARNING:
- the machine shall be lifted by crane or other raising means by hooking the slings as shown in fig. 4.1.

– provide slings (C fig. 4.1) of equal lengths and capacity (belts minimum length 1500 mm);
– lift the slings and position them as is shown in the figure 4.1;
– fasten the slings to the bridge crane (D fig. 4.1) having adequate lifting power;
– move the bridge crane by small steps to allow the slings (C fig. 4.1) to settle, until optimum stability conditions are reached;
– lift carefully and slowly, without causing the load to swing, and place the machine in the selected setting.

NOTE-INFORMATION:
if lifting with a hook, open the holes already prepared and indicated by the plate as shown in the figure.

If hoisting is carried out with a lift truck A, proceed as follows:
– provide a fork lift truck (A fig. 4.1) having suitable carrying capacity;
– insert the forks (B fig. 4.1) as per the figure (keeping them alongside the two feet (E fig. 4.1) and check that these protrude at least 15 cm from the rear part of the base.

DANGER-WARNING:
- make sure that the crane, the slings as well as the fork truck are proper for lifting the machine.

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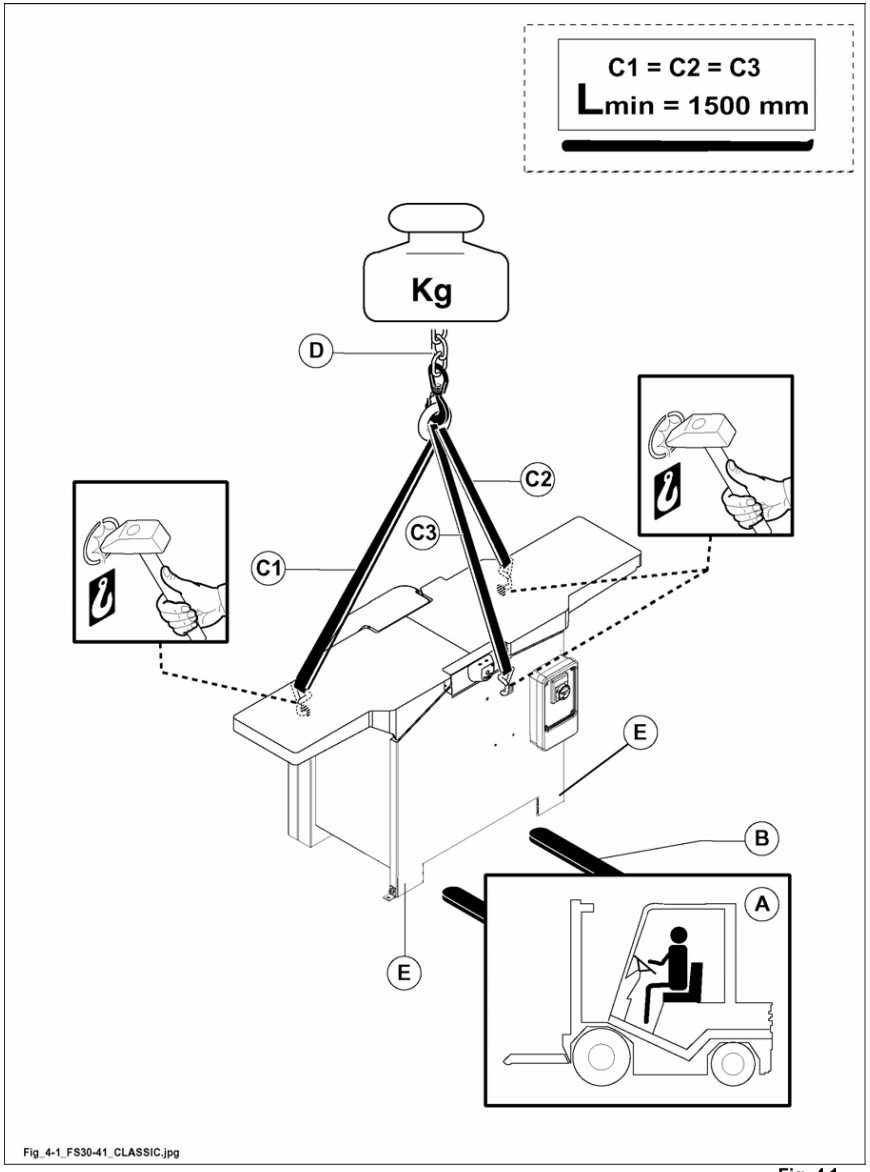


Fig. 4.1

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4.2 MACHINE POSITIONING

(ev_4-2_0.0)

The position where to install the machine shall be well lightened (at least 500 LUX), proper for the connection to the power line, to the suction system and for maintenance operations.

DANGER-WARNING:
during the machine positioning you have to consider that, in case of longer pieces, a sufficient room is required to avoid squashing points towards the fixed parts of the working envinronment as walls, columns etc... (see par. 3.7).

Check that the floor is firm in order to ensure a uniform rest of the machine.
A concrete floor is recommended; an asphalt floor is not proper.
We recommend to insert steel plates between machine feet and floor eventually with vibration-dumping material.

DANGER-WARNING:
remove the bracket (D fig. 4.2) fastening the surface tables during transport operations.
Keep the bracket necessary to change the machine position.

DANGER-WARNING:
always fasten the machine to the floor.

Some machine parts are greased and oiled.
Before starting working carefully degrease the working areas as well as the guards with not dangerous solvent.

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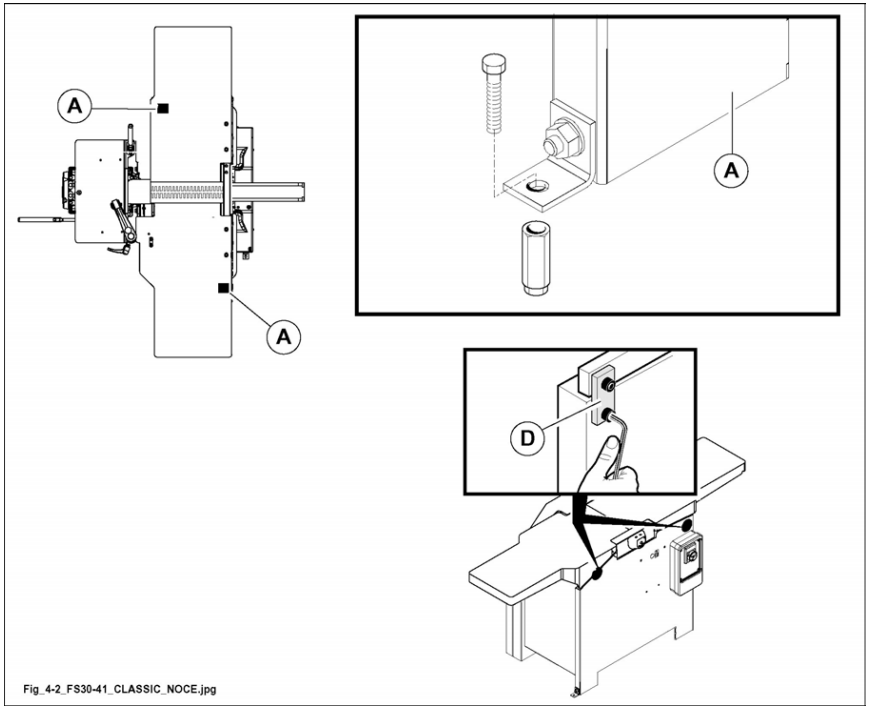


Fig. 4.2

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4.3 FITTING THE PARTS DEMOUNTED FOR TRANSPORT REASONS

(ev_4-3_0.0)

For packing and transport reasons some machine members are removed.

4.3.1 GUARD FITTING

(fs_4-3-1_0.0)

NOTE-INFORMATION:
the protections must always be mounted and be positioned in such as way as to completely cover the tools.

Boomerang-type protection
For fitting the guard again:
1) fit the protection (P fig. 4.3-1) into place as shown in the picture.
2) Screw the retaining screw (Z fig. 4.3-1).

Bridge-type protection OPT
For transport reasons bridge (A fig. 4.3-1) is demounted.

For fitting the bridge again:
1) fit the protection (A fig. 4.3-1) into place as shown in the picture.
2) Screw the 2 retaining screws through the holes (B fig. 4.3-1).

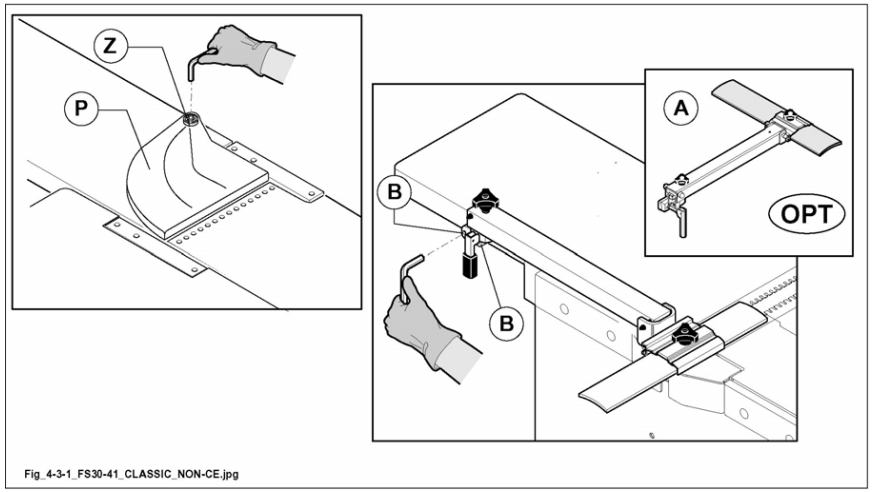


Fig. 4.3-1

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4.3.2 PLANING FENCE - ASSEMBLY

(fs_4-3-2_0.0)

- Position the planing fence (A fig. 4.3-2) in the required position, and tighten the knob (D fig. 4.3-2).
- To angle the fence from 90° to 45° loosen the locking device (C fig. 4.3-48) and adjust the fence, observing the value on the index (E fig. 4.3-2).
- As soon as the adjustment has been carried out, bring the fence lock (P fig. 4.3-2) to the stop on the surface unit fence (A fig. 4.3-2) and tighten knob (B fig. 4.3-2).

DANGER-WARNING:
during the machining, the protections (H fig. 4.3-2) and (L fig. 4.3-2) must always be positioned on the cutterblock.

CAUTION:
lifting and handling the guide should only be carried out by personnel specially trained to execute this kind of operations, to prevent accidents or to prevent guide from being damaged.

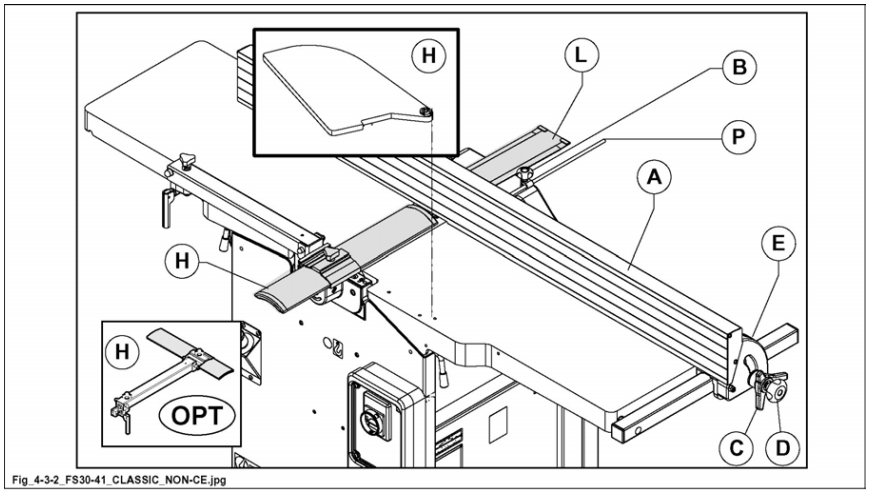


Fig. 4.3-2

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4.3.3 DISPLACING WHEELS

(fs_4-3-3_0.0)

OPT

The unit is composed by:
- 2 fixed wheels (A fig. 4.3-3).
- 1 movement lever (B fig. 4.3-3).

1) Use lever (B fig. 4.3-3) to lift machine base slightly;
2) engage head of screw on fixed wheel (A fig. 4.3-3) in base feet hole as indicated in the figure;
3) move lever (B fig. 4.3-3) from opposite side of machine, insert lever in relative attachment and move the machine.

DANGER-WARNING:
the machine must be fixed to the floor.

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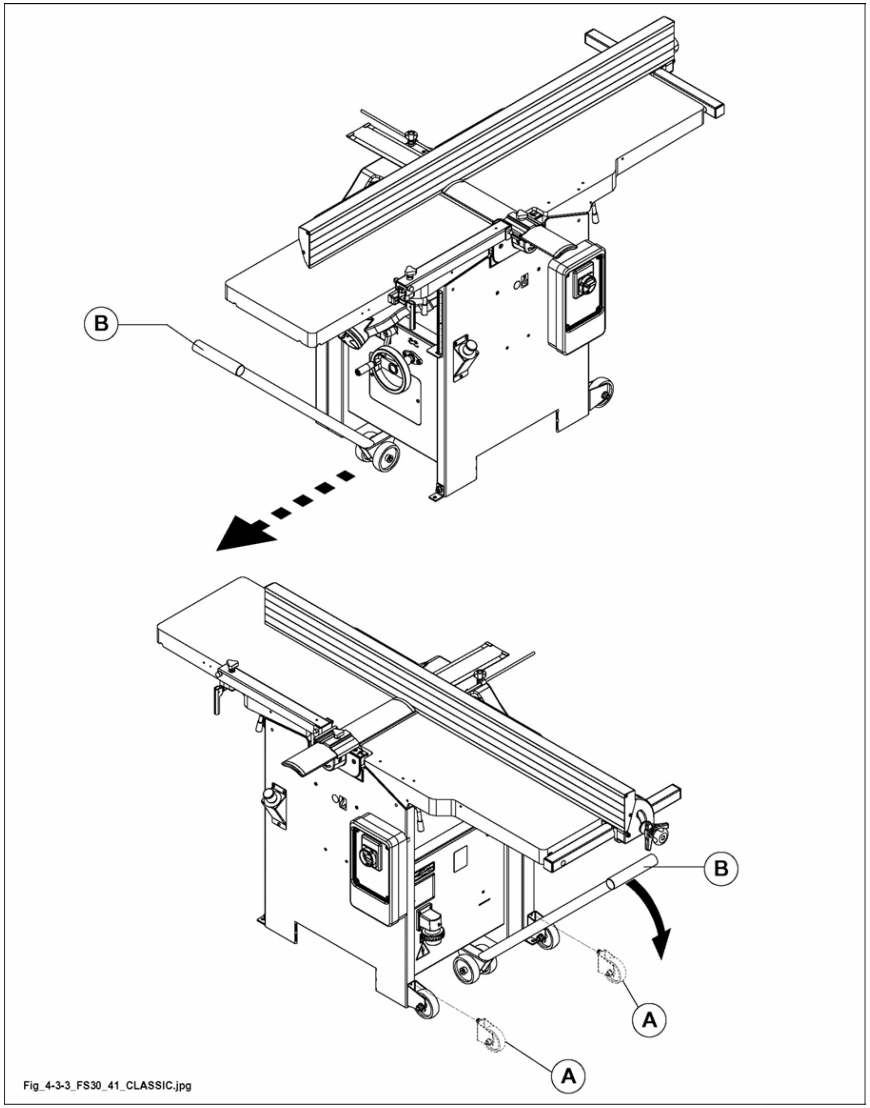


Fig. 4.3-3

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(vuota_pg1)

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4.4 ELECTRIC CONNECTION AND GROUNDING

(ev_4-4_0.0)

DANGER-WARNING:
the electric connection as well as the check operations described later on shall be carried out by a skilled electrician.

Make sure that the main electric system of the factory can absorb the machine power and that earthing system meets the norms in force.

In the connection point the supposed short-circuit current shall be lower than (cl.A) 10 kA (5 kA (CSA)).
Make sure that the mains voltage corresponds to the machine one.

NOTE-INFORMATION:
the right working voltage is indicated on the plate fig.4.4; tolerance range: +/- 5%.

For voltage values out of this range you have to set the mains voltage.
Read out the value of the total absorbed current (Ampere) on the machine identification plate.

DANGER-WARNING:
use the table indicated below and select the cable section and the "RETARDED INTERVENTION" fuses to fit ahead of the machine.

ELECTRICAL INPUT (Amp.)	CABLE SECTION (mm²)	AM FUSE
0 → 10	2,5	12 A aM
10 → 14	4,0	16 A aM
14 → 18	6,0	20 A aM
18 → 22	6,0	25 A aM
22 → 28	10,0	32 A aM
28 → 36	10,0	40 A aM
36 → 46	16,0	50 A aM
46 → 54	16,0	63 A aM
54 → 76	25,0	80 A aM
76 → 92	35,0	100 A aM
92 → 110	50,0	125 A aM

DANGER-WARNING:
the machine is not protected against risks of electrocution due to indirect contact.

Machine protection against indirect contact is the responsibility of the Customer, which must use specialist personnel (electrician qualified to install electrical systems) for that purpose.

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NOTE-INFORMATION:
with regard to this, in the following systems:

1) TT type, Low Voltage, mains-powered
2) TN type, Medium Voltage, mains-powered

the machine power supply line must be protected by type A or B Residual Current Devices, suitably coordinated with the user's earthing system.

For environments at greater risk of fire, the maximum value of the RCD trip current is 1A (even with delayed activation).

For TN type systems, the system must be type TN-S with separate neutral and protective earth conductors.

Connect the machine to the elecric system by proceeding as follows:

DANGER-WARNING:
ensure that the connection cable is not electrically powered.

- prearrange the feeding cable near the terminal board (A fig. 4.4);
- connect the cables to the terminals L1-L2-L3 of the socket and the earthing cable to the terminal marked by the symbol (⏚ / PE);
- connect socket (A fig. 4.4) to plug (B fig. 4.4).

Version U.S.A.-CANADA
- shut off the power (indicate it by a sign);
- take off the cover of the terminal board (C fig. 4.4);
- insert the supply cable into proper terminal screw (P fig. 4.4);
- connect the 3 phases to terminals L1-L2-L3 (fig. 4.4);
- connect the ground cable yellow-green, to terminal (⏚ / PE);
- if necessary connect neutral cable to terminal (N fig. 4.4);
- fit the cover of terminal board C;
- clamp terminal screw (P fig. 4.4).

Make sure that the cutterblock rotation direction is right (the cutterblock shall rotate to the direction opposite to the workpiece feed) after starting the machine: see chap. 5.

DANGER-WARNING:
CAREFUL WITH THE ELECTRICAL CONNECTION.
Incorrect rotation of the tool causes danger to the operator and damage to the product. Should rotation be incorrect, immediately switch off the power and invert two of the three phases on the terminals (L1-L2-L3).

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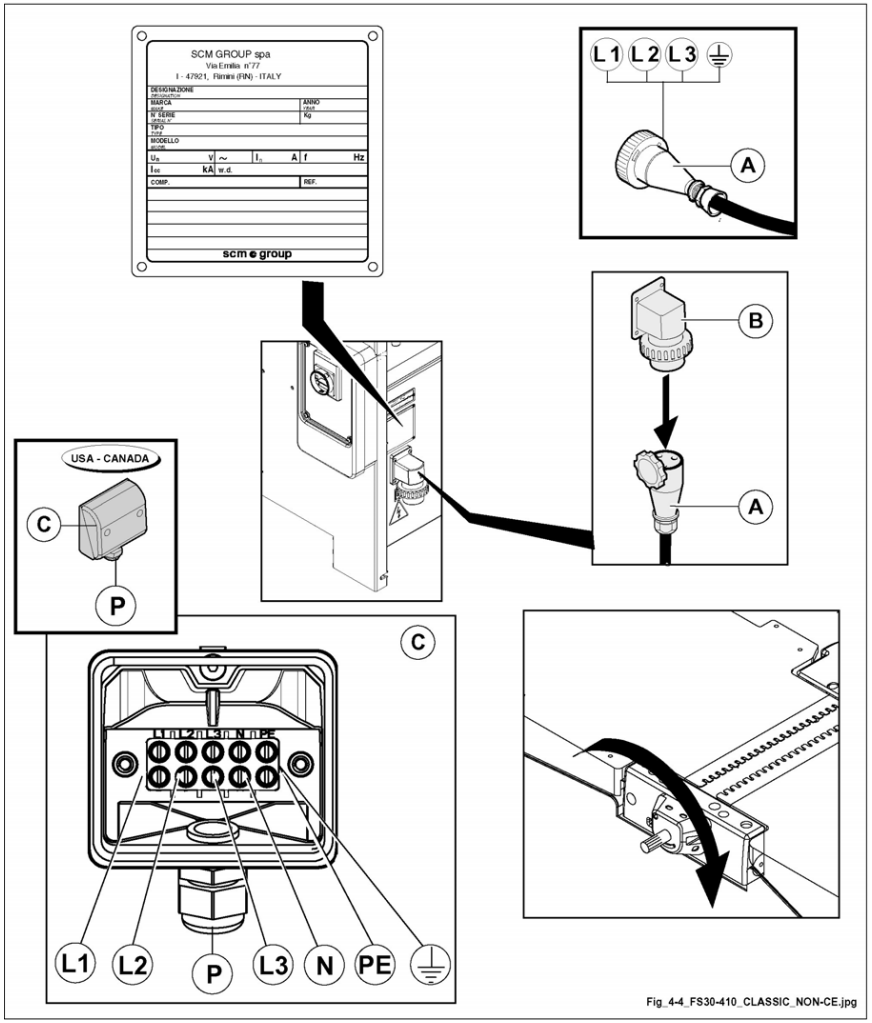


Fig. 4.4

NOTE-INFORMATION:
the documentation with wiring diagram is inside the accessory suitcase.

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4.5 CONNECTION TO THE SUCTION SYSTEM

(ev_4-5_0.0)

DANGER-WARNING:
the connection to the suction system is necessary for the right machine operation and for the operator's safety. Always work with the suction system in operation.

NOTE-INFORMATION:
Always start the suction system and the operator assembly motor at the same time.

Connect the exhaust pipes to the suction system with hoses of proper diameter.

NOTE-INFORMATION:
we recommend that the suction sleeve is arranged out of the suction hood in order to avoid clogging caused by chips.
The suction pipe fitting should not hinder the operator during the woodworking process.

Connect the hose to suction hood: (A fig. 4.5) diameter 120 mm, (C fig. 4.5) diameter 60 mm and (OPT) (B fig. 4.5), diameter 100 mm.
Clamp it with the proper metallic clip to ensure the contact between suction hood and hose.

The suction system shall ensure a flow equal to 1200 m^3/h at a flow speed at least of 20 m/s.

Connect the hose to suction hood (A fig. 4.5), diameter 120 mm and (B (OPT) fig. 4.5), diameter 120 mm.
Clamp it with the proper metallic clip to ensure the contact between suction hood and hose.

(A) the suction system shall ensure a flow equal to 814 m^3/h at a flow speed at least of 20 m/s.
(A + B) (OPT) the suction system shall ensure a flow equal to 1628 m^3/h at a flow speed at least of 20 m/s.

This value shall be checked before starting the working.
If further machines are connected to central suction system carry out a test when all suction systems are in operation.
The right operation of the suction system reduces the risks due to dust inhalation.

Other factors which reduce the dust emission in the working environnement.
- maintenance of tools, of the machine and of the suction system;
- proper use of protective devices against dust.

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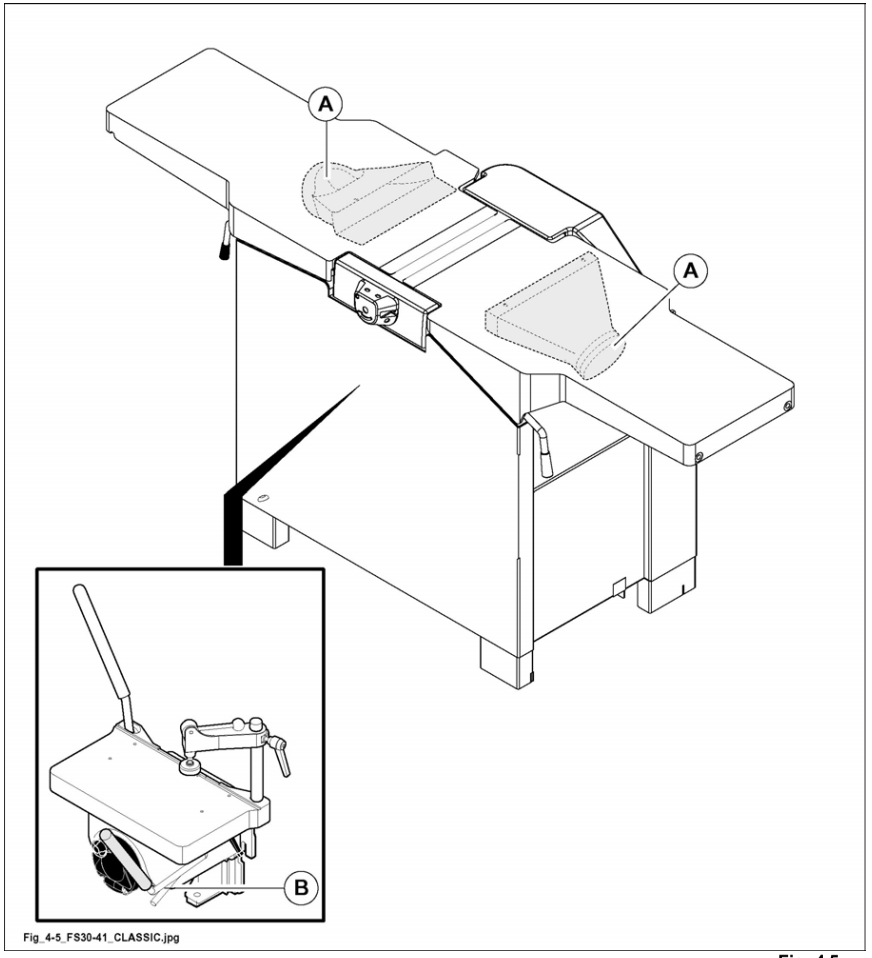


Fig_4-5_FS30-41_CLASSIC.jpg

Fig. 4.5

NOTE-INFORMATION:
to connect the machine to the suction plant, use hoses made of antistatic and self-decomposing material, in order to prevent electric discharges due to an accumulation of static electricity (the discharges could compromise the right operation of the electronic components on the machine) and to avoid possible fire to propagate.

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INDEX

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5.2 Emergency buttons 3

5.3 Access to the electric housing 3

5.4 General controls before machine starting 4

5.5 Machine start - stop 5

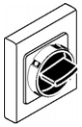
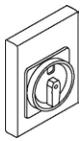
5.5.1 Start - stop Single cylinder planer - Mortiser 5

5.5.2 Start - stop Thicknesser 6

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5.1 CONTROLS BOARD

(ev_5-1_0.0)

Ref.	Image	Function	Use	
1		**(U.S.A. and CANADA version)** **Padlockable main switch on the control cubicle.** It switches on/off the voltage for the machine power supply. It may be locked in position "**0**" by means of padlock.	**I**	= ON
			0	= OFF
2		**Thermal switch** It connects and disconnects the supply voltage to the working units. It may be locked in position "**0**" by means of padlock.	**I**	= the units are powered.
			0	= the units stop.
3		Emergency button. To shut off the motor supply voltage with intervention of the brakes when present.	Pressed: machine in emergency conditions. Turn to the arrow direction to reset.	

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5.2 EMERGENCY BUTTONS

(ev_5-2_0.0)

In case of danger if you press the emergency button, any function of the machine is locked.

Emergency buttons present on the machine are:

- on the machine front (1 fig. 5.3).

Periodically press the emergency buttons to check whether they are efficient.

DANGER-WARNING:

any anomalies found during the control of these devices, must be reported promptly to the manager, who will put the machine out of service and call the electrical, mechanical maintenance personnel or the SCM ***Support Service.***

5.3 ACCESS TO THE ELECTRIC HOUSING

(fs_5-3_0.0)

CAUTION:
only a skilled electrician may reach the electric housing.

DANGER-WARNING:
before carrying out any of the operations make sure to cut the main electric power and disconnect socket (T fig. 5.3) from plug (S fig. 5.3).

U.S.A. and CANADA version: turn main switch (Y fig. 5.3) to 0, lock it then indicate this with a sign.

To reach the electric housing proceed as indicated later on:
- unscrew the screws (V fig. 5.3) to open the control board (P fig. 5.3).

After carrying out the operation:
- close the control board (P fig. 5.3).

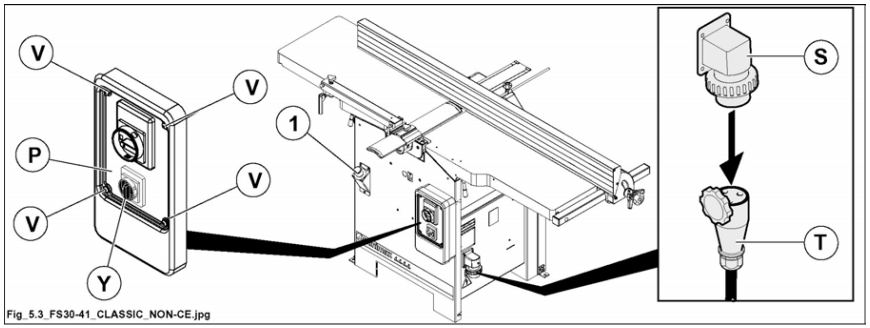


Fig. 5.3

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5.4 GENERAL CONTROLS BEFORE MACHINE STARTING

(ev_5-4_0.0)

Make sure that:
- the machine is connected to the suction system.
- The emergency buttons are in right position (if necessary release them).

- (U.S.A. and CANADA) Main switch (1 fig. 5.4) is turned to I (ON).

DANGER-WARNING:

any anomalies found during the control of these devices, must be reported promptly to the manager, who will put the machine out of service and call the electrical, mechanical maintenance personnel or the SCM ***Support Service.***

NOTE-INFORMATION:
make sure that the speed indicated is proper for the tool fitted to the saw spindle.

FORBIDDEN:
do not modify or exclude any of the circuits or devices installed.

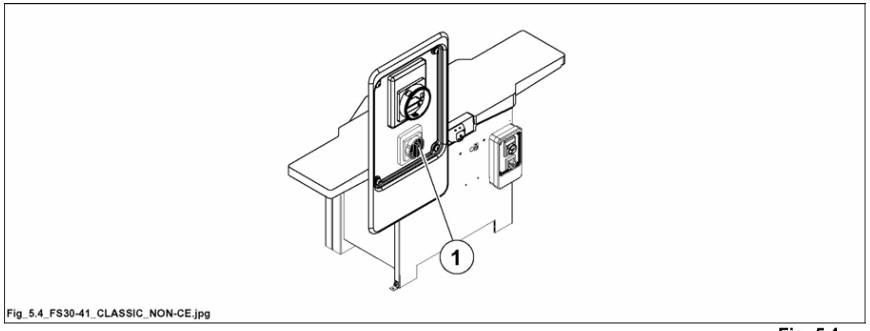


Fig. 5.4

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5.5 MACHINE START - STOP

(ev_5-5_0.0)

NOTE-INFORMATION:
carry out the checks of par. 5.4.

5.5.1 START - STOP SINGLE CYLINDER PLANER - MORTISER

(fs_5-5-1_0.0)

Machine Start procedure

- Check that planer tables are completely closed and lock them with handle (M fig. 5.5-1).
- (U.S.A. and CANADA): turn the padlockable main switch (1 fig. 5.5-1) to I (ON).
- Turn the magnetothermal switch (Z fig. 5.5-1) to position "I".
- Move in the relevant working site.

Machine Stop procedure

- Turn the magnetothermal switch (Z fig. 5.5-1) to position "0".
- (U.S.A. and CANADA): move main switch (1 fig. 5.5-1) to position "0".

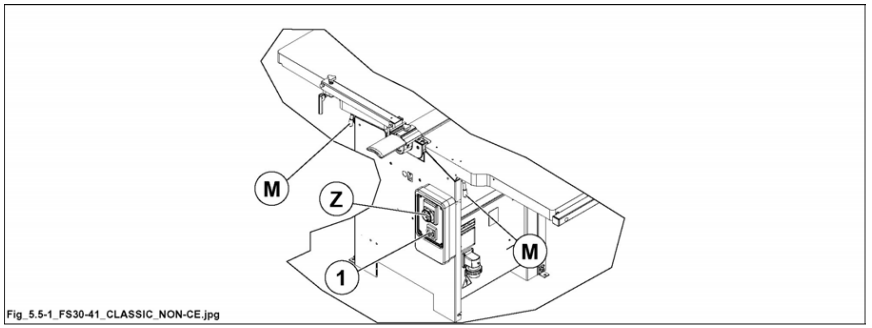


Fig. 5.5.1

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5.5.2 START - STOP THICKNESSER

(fs_5-5-2_0.0)

Machine Start procedure

- Check that the planer tables are completely opened (F fig. 5.5-2).
- Check that tilting safety guard is closed (R fig. 5.5-2).
- (U.S.A. and CANADA): turn the padlockable main switch (1 fig. 5.5-2) to I (ON).
- Turn the magnetothermal switch (Z fig. 5.5-2) to position "I".

Machine Stop procedure

- Turn the magnetothermal switch (Z fig. 5.5-2) to position "0".
- (U.S.A. and CANADA): move main switch (1 fig. 5.5-2) to position "0".

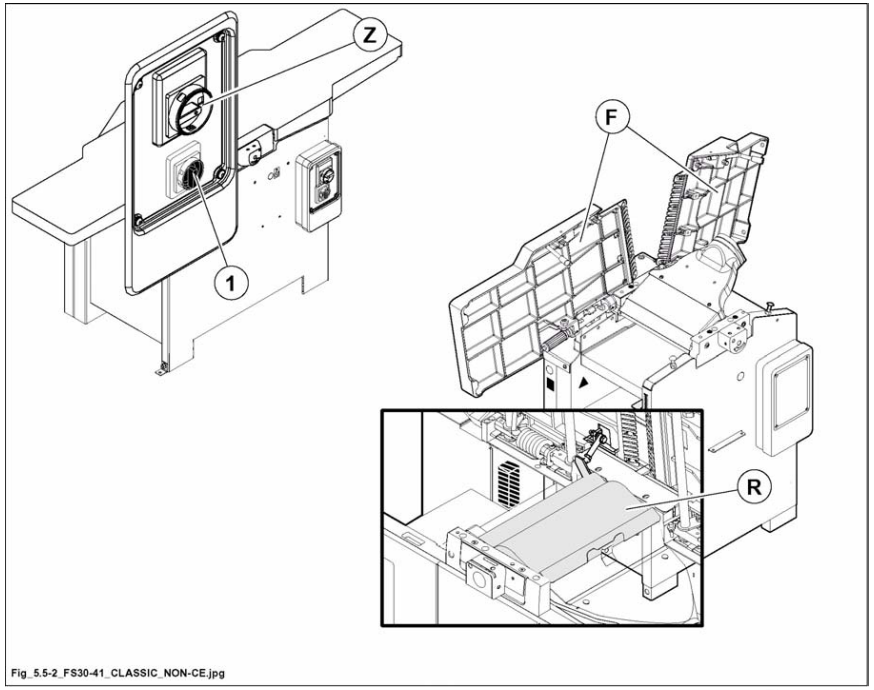


Fig. 5.5-2

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7.1 KNIFE ADJUSTMENT

(fig_7-1_0.0)

DANGER-WARNING:
before carrying out any of the operations make sure to cut the main electric power and disconnect socket T from plug S.
U.S.A. and CANADA version:before carrying out maintenance operations, adjustments or to dismount any machine member turn main switch (Y fig. 7.1) to 0, lock it then indicate this with a sign.

DANGER-WARNING
to handle the knives and the cutterblock you shall wear safety gloves.
Exclusively mount knives of the same series (with the same height) to prevent unbalancing.
Minimum permitted height: 18 mm.

NOTE-INFORMATION:
for safety reasons the blades are completely inserted in the cutter block; before machining adjust them in accordance with the instructions below.

For adjusting the knife projection proceed as follows:

1) Press the emergency button (2 fig.7.1).
2) Remove the planing fence unit (A fig.7.1) from the table.
3) Slacken the lever (B fig.7.1) and raise the wire outfeed table (N fig.7.1) and then the wire infeed table (O fig.7.1) (when table is opened this sets off the micro that prevents the machine from starting).
4) Loosen the blocking screws using the specific key (C fig.7.1); the blade comes out pushed by the contrast springs.
5) If necessary, insert the knife in the special housing (D fig.7.1) respecting the sharpening angle orientation with reference to the rotation direction of the planer spindle (E fig.7.1).
6) Make sure springs are in good working order by exerting a light pressure on cutters: these should go deeper into their seats and then go back to their initial position.
7) Make sure cutters are centered in relation to cutterblock (E fig.7.1).
8) Position the cutter adjuster (F fig.7.1) as shown in figure.

NOTE-INFORMATION:
for a correct adjustment, check that the four supports of the cutter adjuster evenly stick to the cutterblock (fig. 1). In this way proper projection of the knife from the planer spindle is guaranteed (maximum 1 mm).

9) Tighten the locking screws using the special wrench (C fig. 7.1) and exerting pressure on the cutter adjuster.

In the same way mount all the knives.
When the operation has been completed, set up the machine for buzz planing or thicknessing following the instructions in Chapters 7 and 9.

After the adjusting all knives must be at the same height of the outlet table.
To check the knife adjusting rest a wood ledge on the outlet table first on the right side then on the left side, then manually turn the cutterblock: the knives shall lightly touch the wood ledge uniformly.

DANGER-WARNING
max. knife projection from the cutterblock: 1 mm.

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10) Take off the knife setting gauge.
11) Release emergency button (2 fig. 7.1).

If the knives are well adjusted, the finished workpieces are not convex without the step at their rear end.

IMPORTANT

Keep the knives and gibs always clean to ensure the best performance of the machine.
Remove resin residues, sawings and chips with a hard bristle brush and terpentine, kerosene or light oil.
Never use other different product or synthetic solvents.
Remove dirty then dry each part.
Clean the worktable with a dry cloth.

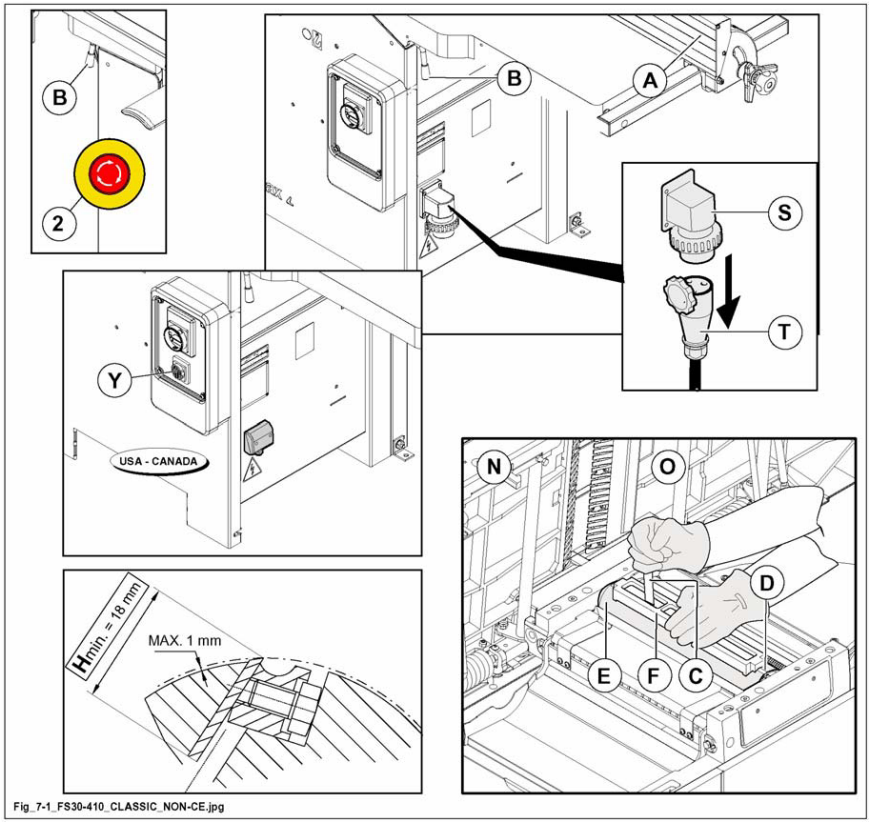


Fig. 7.1

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7.2 KNIFE REPLACING

(fs_7-2_0.0)

DANGER-WARNING
before carrying out any of the operations make sure to cut the main electric power and disconnect socket T from plug S.
U.S.A. and CANADA version:before carrying out maintenance operations, adjustments or to dismount any machine member turn main switch (Y fig. 7.2) to 0, lock it then indicate this with a sign.

DANGER-WARNING
to handle the knives and the cutterblock you shall wear safety gloves.

Exclusively mount knives of the same series (with the same height) to prevent unbalancing. Minimum permitted height: 18 mm.

DANGER-WARNING
do not start the cutterblock motor when the knives are not fitted.

For replacing the knife projection proceed as follows:

1) Press the emergency button (2 fig. 7.2).
2) Remove the planing fence unit (A fig. 7.2) from the table.
3) Slacken the lever (B fig. 7.2) and raise the wire outfeed table (N fig. 7.2) and then the wire infeed table (O fig. 7.2) (when table is opened this sets off the micro that prevents the machine from starting).
4) Turn the cutterblock in order to bring the knife to be replaced to the top part.
5) Loosen screws (F fig. 7.2) of the knives with the 7 mm wrench.
   The knives come out pushed by the internal springs.
6) Withdraw the knife and replace or grind it.
7) Fit the knives and adjust them; see the previous paragraph.
8) When the operation has been completed, set up the machine for buzz planing or thicknessing following the instructions in Chapters 7 and 9.
9) Release emergency button (2 fig. 7.2).

DANGER-WARNING
the knife grinding is permitted up to a min. width of 18 mm (fig.7.2). When this value has been reached, replace the knife.

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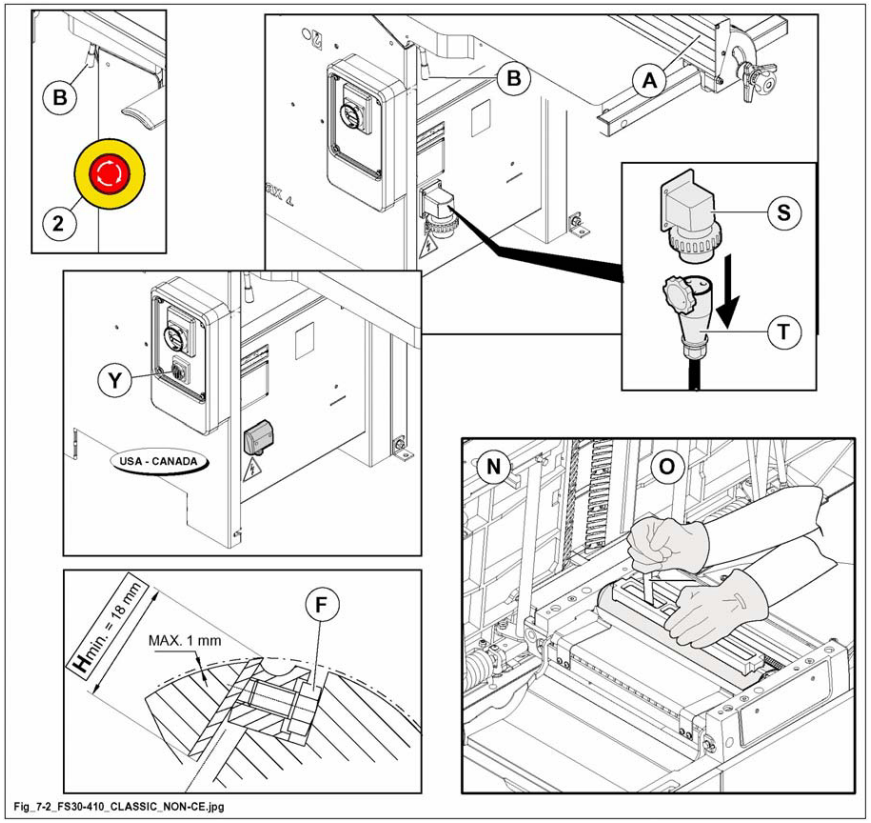


Fig. 7.2

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7.4 REPLACING THE THROW-AWAY KNIVES

(fs_7.4_0.0)

OPT

DANGER-WARNING:
before carrying out any of the operations make sure to cut the main electric power and disconnect socket T from plug S.

U.S.A. and CANADA version:before carrying out maintenance operations, adjustments or to dismount any machine member turn main switch (Y fig. 7.4) to 0, lock it then indicate this with a sign.

DANGER-WARNING
to handle the knives and the cutterblock you shall wear safety gloves.

DANGER-WARNING
do not start the cutterblock motor when the knives are not fitted.

1) Turn planer spindle (F fig. 7.4) until bring the knife to be changed next to the extraction hole (A fig. 7.4).
2) Loosen the gibs by exerting a light pressure with a wood or plastics hammer.
3) By using a screwdriver push the knife outwards.
4) Take hold of the knife with one hand and pull it out.
5) Fit the new knife (E fig. 7.4) or the old one after turning it; center the knife in length direction.
6) Starting machine, the gibs (U fig.7.4) position themselves automatically.

Take a piece of hard wood and plane it on its whole length for a few minutes, in order to get a better locking of the cutter-gib unit.

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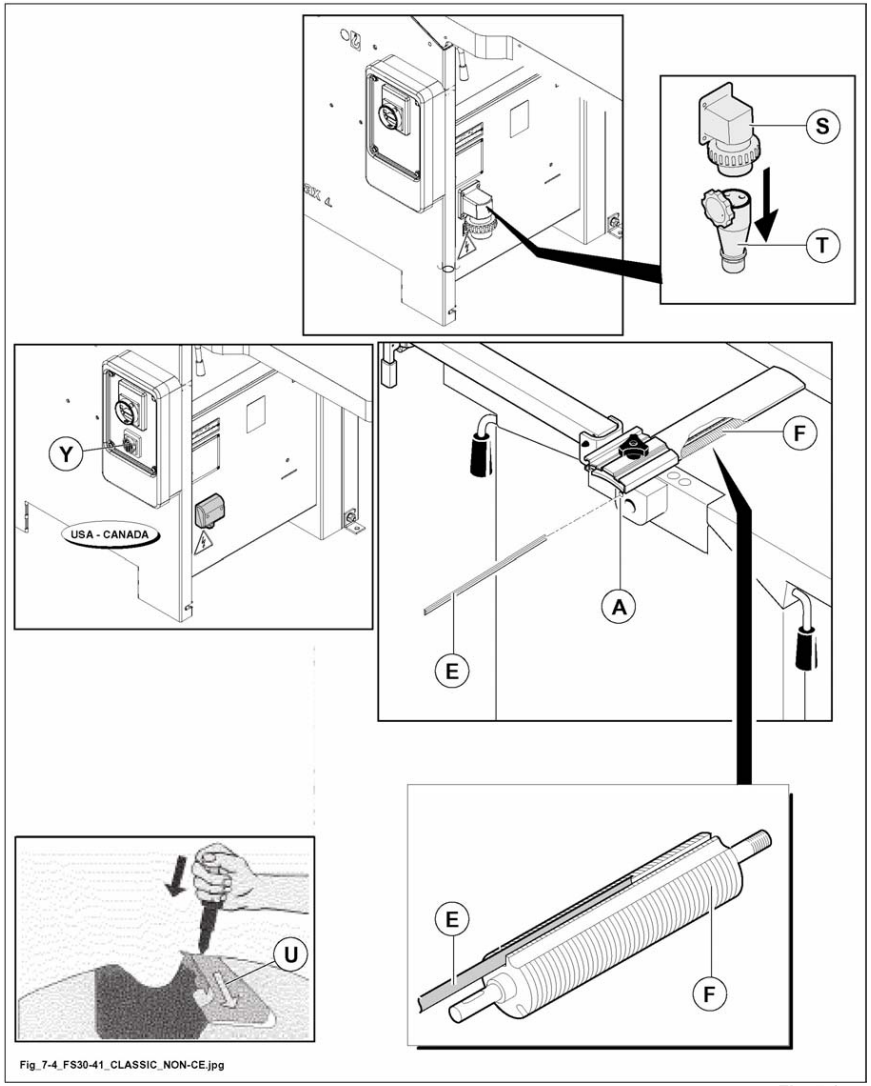


Fig. 7.4

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7.6 SURFACING TABLES ADJUSTING

(fs_7-6_0.0)

DANGER-WARNING
do not move the inlet table when the cutterblock is rotating.

DANGER-WARNING
before moving the inlet table, make sure that no object is between the inlet table and the fence.

7.6.1 INLET TABLE

(fs_7-6-1_0.0)

- Loosen the locking (A fig. 7.6-1).
- Operate on the handle (B fig. 7.6-1) in order to place the table (D fig. 7.6-1) depending on the chosen removal: read the traverse on the data plate (C fig. 7.6-1).
- When the adjustment is over, tighten the locking (A fig. 7.6-1).

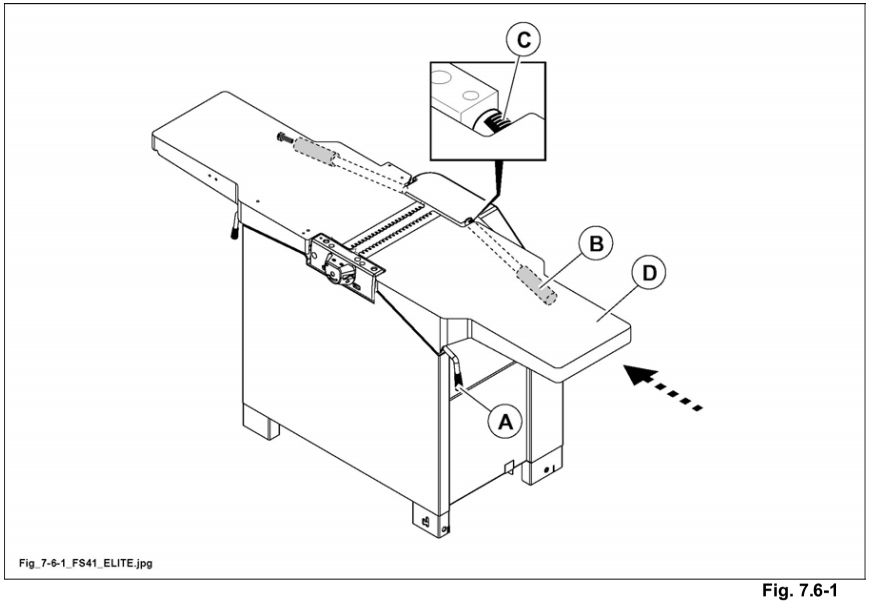


Fig. 7.6-1

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7.6.2 OUTLET TABLE

(fs_7-6-2_0.0)

NOTE-INFORMATION:
the outfeed table (E fig. 7.6-2) is positioned level to the cutter block knife and does not need to be adjusted.

The table has been adjusted at factory during the machine test.

To make sure it is correct, place a well planed workpiece between the surface and the cutterblock; manually turn the cutterblock and make sure the cutters skim the workpiece.

If it is necessary to carry out a new alignment, loosen the lever (F fig. 7.6-2) and the screw (H fig. 7.6-2).
Get the table (E fig. 7.6-2) aligned by operating the handle (G fig. 7.6-2).
Tighten the screw (H fig. 7.6-2) and the lever (F fig. 7.6-2) when the adjustment is over.

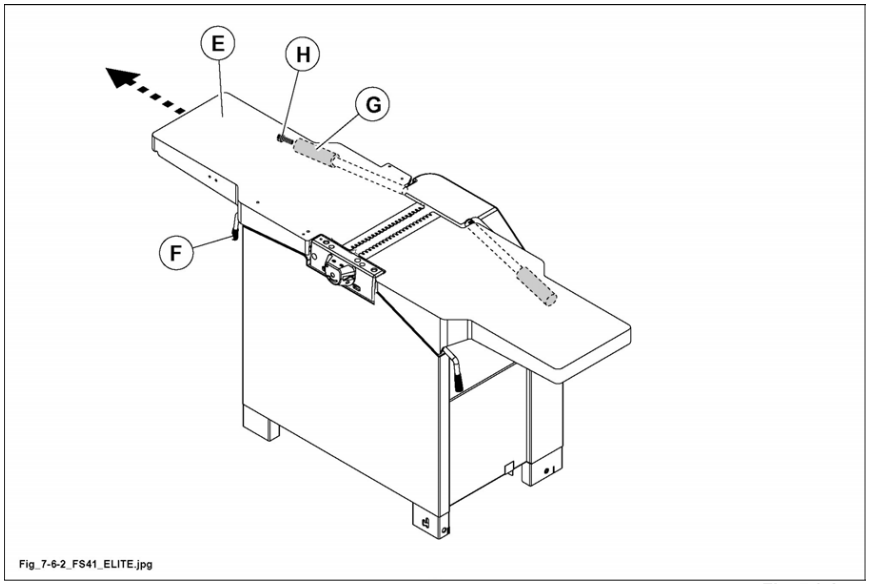


Fig. 7.6-2

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7.8 FENCE

(fs_7-8_0.0)

DANGER-WARNING
during the machining, the protections (F fig. 7.8) and (L fig. 7.8) must always be positioned on the cutterblock.

CAUTION:
lifting and handling the guide should only be carried out by personnel specially trained to execute this kind of operations, to prevent accidents or to prevent guide from being damaged.

7.8.1 LONGITUDINAL SHIFTING

(fs_7-8-1_0.0)

- Position the planing fence (B fig. 7.8) in the required position, and tighten the knob (S fig. 7.8).
- As soon as the adjustment has been carried out, bring the fence lock (P fig. 7.8) to the stop on the surface unit fence (B fig. 7.8) and tighten knob (R fig. 7.8).

NOTE-INFORMATION:
check perfect cleanage of the sliding rod (E fig. 7.8).

7.8.2 TILTING

(fs_7-8-2_0.0)

- To angle the fence from 90° to 45° loosen the locking device (C fig. 7.8) and adjust the fence, observing the value on the index (T fig. 7.8).
- As soon as the adjustment has been carried out, bring the fence lock (P fig. 7.8) to the stop on the surface unit fence (B fig. 7.8) and tighten knob (R fig. 7.8).

NOTE-INFORMATION:
fence (B fig. 7.8)may be tilted from 90° to 45° and in any intermediate position.

For eventual corrections of the stops for extreme positions (90° and 45°) operate on screw and counternut (D fig. 7.8) for 90° position and on screw and counternut (H fig. 7.8) for 45° tilting.

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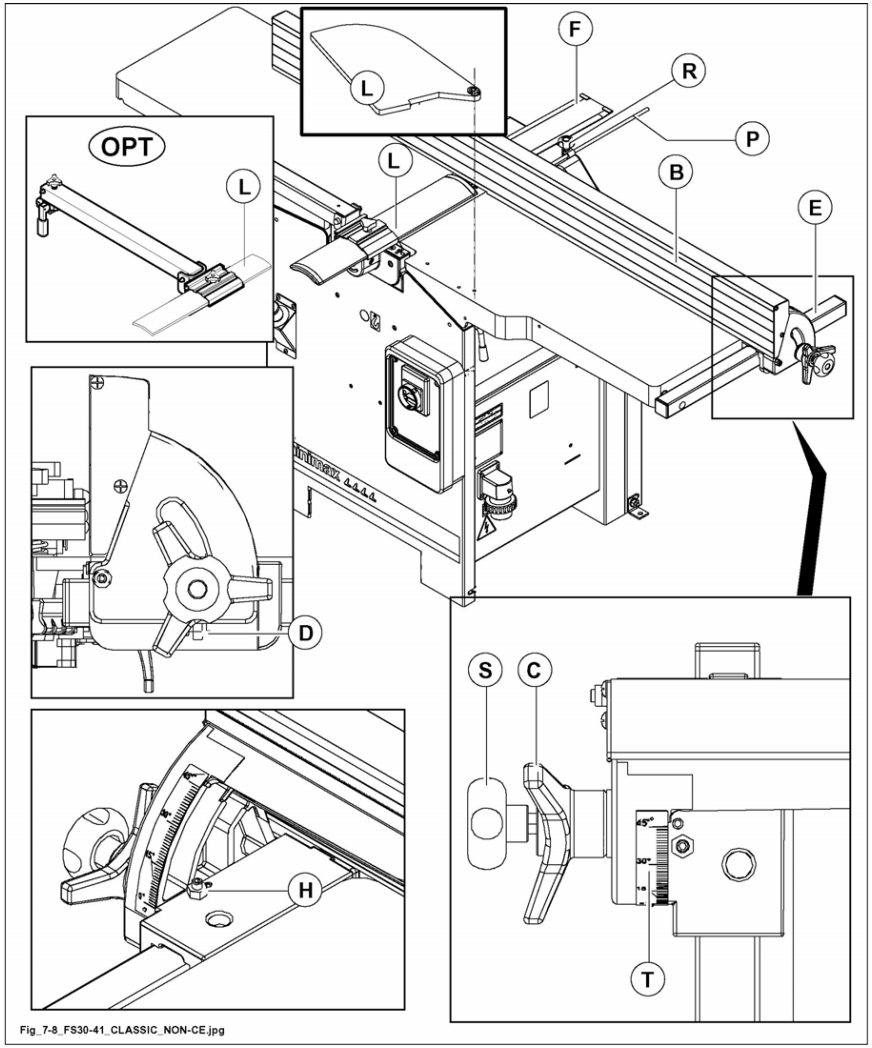


Fig_7-8_FS30-41_CLASSIC_NON-CE.jpg

Fig. 7.8

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8.1 FITTING THE PARTS DEMOUNTED FOR TRANSPORT REASONS

(fs_8-1_0.0)

OPT

For packing and transport reasons some machine members are removed.

8.1.1 MORTISER FITTING

(fs_8-1-1_0.0)

OPT

DANGER-WARNING
all fitting and demounting operations require 2 persons.

For safety reasons, before raising the mortiser, always block the cross and longitudinal table drive as shown below.
Move the table in the direction of the arrow Z and block by tightening lever (L fig. 8.1-1) (turn to stop first); press the two side pins all the way in and tighten the 2 knobs (V fig. 8.1-1).

NOTE-INFORMATION:
where supplied, fit the angle (K fig. 8.1-1) using the special holes (T fig. 8.1-1).

Carry out the fitting as follows:

1) Prepare the screws (A fig. 8.1-1) and the relative grommets on the base of the machine.
2) Raise the mortiser (B fig. 8.1-1) and fit the dovetail slide (C fig. 8.1-1) on the heads of screws (A fig. 8.1-1).
3) Fit levers (H and S fig.8.1-1).
   Lever (S fig. 8.1-1):
   - the lever (S fig. 8.1-1) is partially assembled in the factory by inserting one end in the joint (8 fig. 8.1-1);
   - loosen the screws (11 fig. 8.1-1);
   - insert th epin (9 fig. 8.1-1) in the hole (10 fig. 8.1-1);
   - tighten the screws (11 fig. 8.1-1);
   - tighten the nut (12 fig. 8.1-1) leaving as little play as possible.

   Lever (H fig. 8.1-1):
   - insert th elever (H fig. 8.1-1) in the joint (3 fig. 8.1-1);
   - tighten the screw (4 fig. 8.1-1) in the hole (5 fig. 8.1-1) so that the lever (H fig. 8.1-1) has as little play as possible;
   - tighten the nut (6 fig. 8.1-1) on the part (7 fig. 8.1-1).

4) Screw down the screws (A fig. 8.1-1) until joining the mortising machine to the base and adjust the parallelism of the table with respect to the bit (E fig. 8.1-1) (see "Spindle bits - assembly" par. 8.1.2) acting on the screws (D fig. 8.1-1) and on the four grub screws (F fig. 8.1-1).
5) Check proper adjustment by moving the working table transversally, and tighten the screws (A fig. 8.1-1).
6) Ensure that the four grub screws (F fig. 8.1-1) rest on the base.
7) Reposition the pin (1 fig. 8.1-1), presser belt support, as shwon in the figure.

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NOTE-INFORMATION:
ensure that the work table is a distance of 11mm from the point centre.

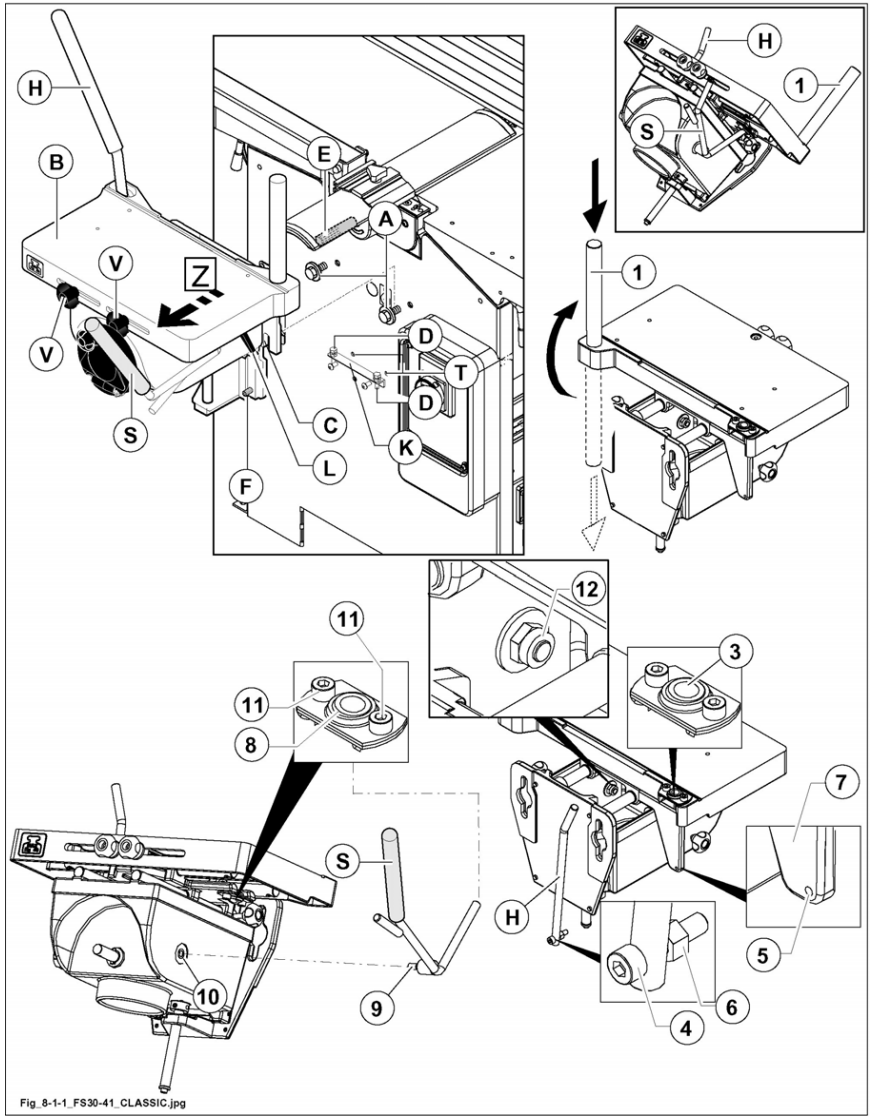


Fig. 8.1-1

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8.1.2 SPINDLE BITS - ASSEMBLY

(fs_8-1-2_0.0)

DANGER-WARNING
use gloves for handling the bit.

DANGER-WARNING
before carrying out any of the operations make sure to cut the main electric power and disconnect socket T from plug S.

U.S.A. and CANADA version:before carrying out maintenance operations, adjustments or to dismount any machine member turn main switch (Y fig. 8.1.2) to 0, lock it then indicate this with a sign.

1) ***Fixed spindle***
Mounts 16 mm left bits which are locked by two screws.

2) ***Self-centering spindle*** (OPT)
Mounts from 3 to 16 mm left bits which are locked by a screw.

Fitting the tool (fixed and selfcentring spindle)
Switch off the guard (U fig. 8.1-2).
Release the lever (B fig. 8.1-2) and lift the guard (C fig. 8.1-2) (OPT).
Tighten the tool (D fig. 8.1-2) though the holes (A fig. 8.1-2) din the spindle cover.

DANGER-WARNING
it is prohibited to use abrasive grinding wheels.
When the slotter is not in use, it is necessary to disassemble the bit, as it rotates jointly with the surfacing table shaft and it cannot be protected.
The bits must be locked over the entire useful length of the spindle.

DANGER-WARNING
before you start machining, rest the guard (U,C (OPT) fig. 8.1-2) on the table so that the cutter block is completely covered.

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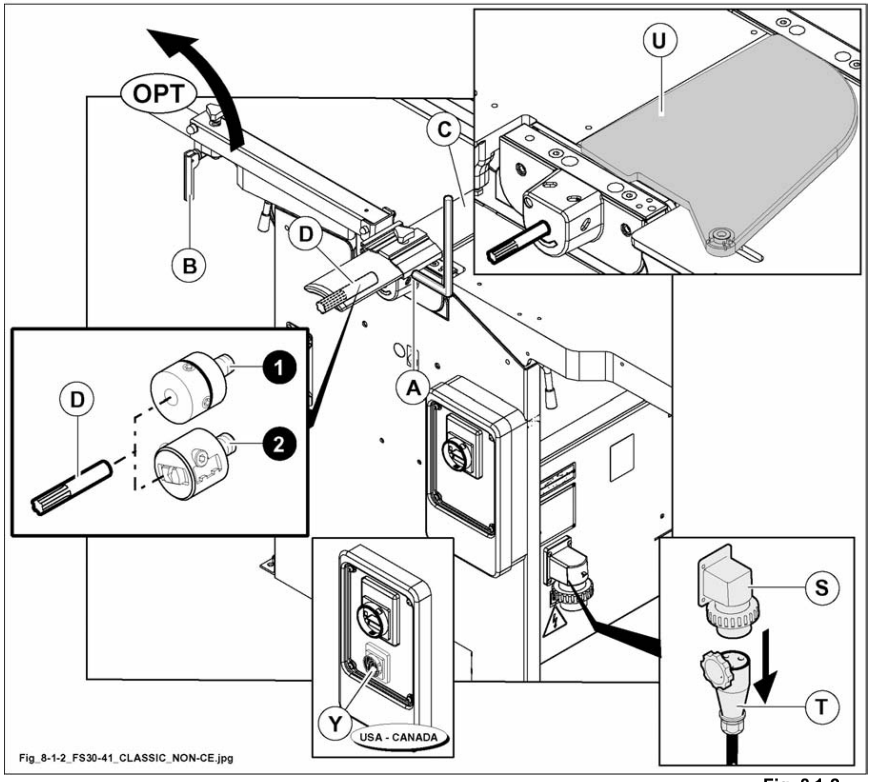


Fig. 8.1-2

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8.2 MORTISER USE

(fs_8-2_0.0)

OPT

SAFETY OVER ALL

DANGER-WARNING
the tool must turn in the direction indicated by the arrow as shown in fig. 8.2.
Switch on the machine for a fraction of a second and check the direction of rotation. Should rotation be incorrect, follow the instructions listed in Chap. 4 "Electrical connection".
Mount the tool following the instructions and warnings listed in par. 8.1.2.
Check that the tool is well tightened.

DANGER-WARNING
always make sure that the workpiece is rightly clamped on the table.

For long workpieces use a support the height of which may be adjusted and eventually add a clamping device to the support (not supplied by SCM***).***

Work with moderate feed speed with small strokes because the bit is brittle.

Before starting working always make sure that the cutterblock is protected.

As the bit and cutterblock rotate together, after the use as a mortiser demount the bit as it is not protected.

DANGER-WARNING
before you start machining, rest the guard (U, E OPT ***fig. 8.2) on the table so that the cutter block is completely covered.***

After adjusting the table stroke, set the workpiece against stop (B fig. 8.2)and clamp it with foot(Z fig. 8.2).

With levers (A and S fig. 8.2)start drilling in longitudinal direction with a drilling depth equal to 10 mm, then carry out the drilling in the traverse direction along the entire length of the slot desired.

The milling may be carried out with many adiacent holes, the slot is obtained with a traverse stroke.

This technique is necessary to avoid the bit rupture (tool always brittle), to permit the chips exhaust and to avoid the overheating of the tool which may be damaged so the working quality is not ensured.

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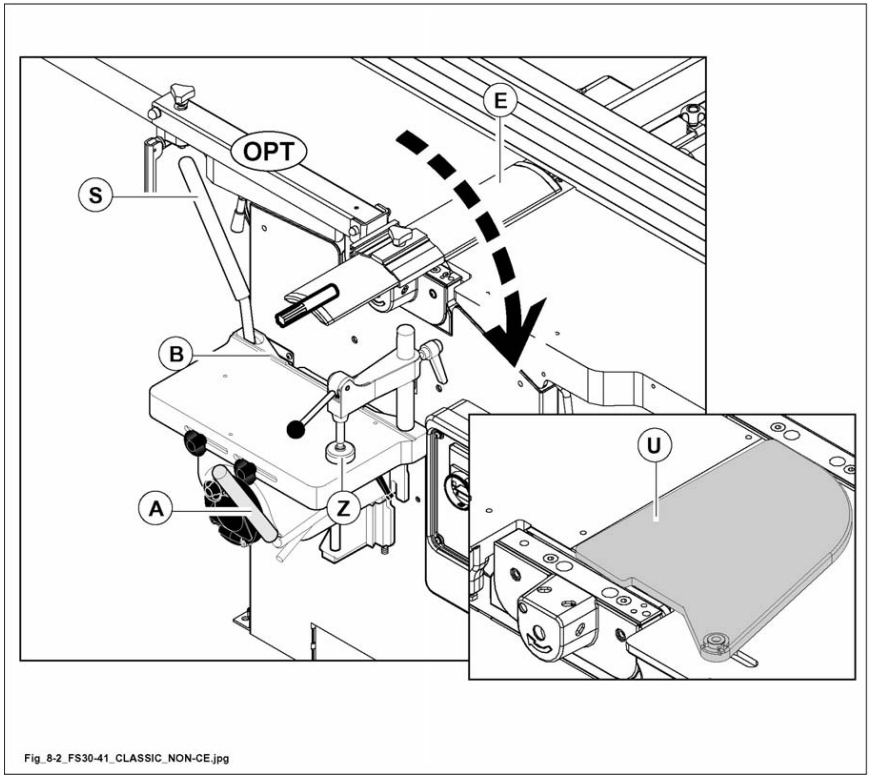


Fig. 8.2

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8.3 ADJUSTMENTS

(fs_8-3_0.0)

OPT

With the use of slotter it is possible to carry out holes and slots both dead or through.

- Place the workpiece on the table, stopping it and securing it by means of the presser (B fig. 8.3).

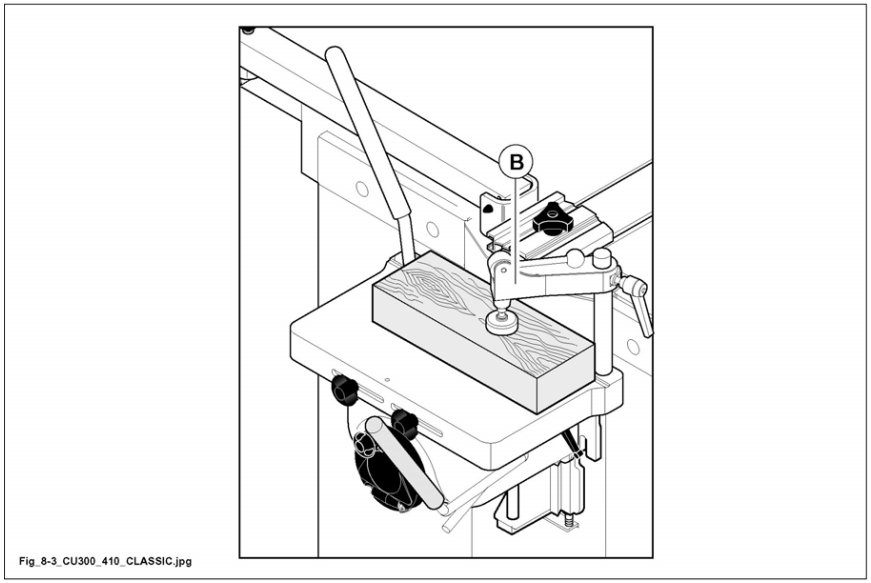


Fig. 8.3

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8.3.1 SLOT DEPTH LIMITATION

(fs_8-3-1_0.0)

In the case of dead holes you have to adjust the stroke of additional table (A fig. 8.3-1) (axis Z):

- try the forward stroke using lever (F fig. 8.3-1) and lock the depth stop by tightening lever (H fig. 8.3-1).

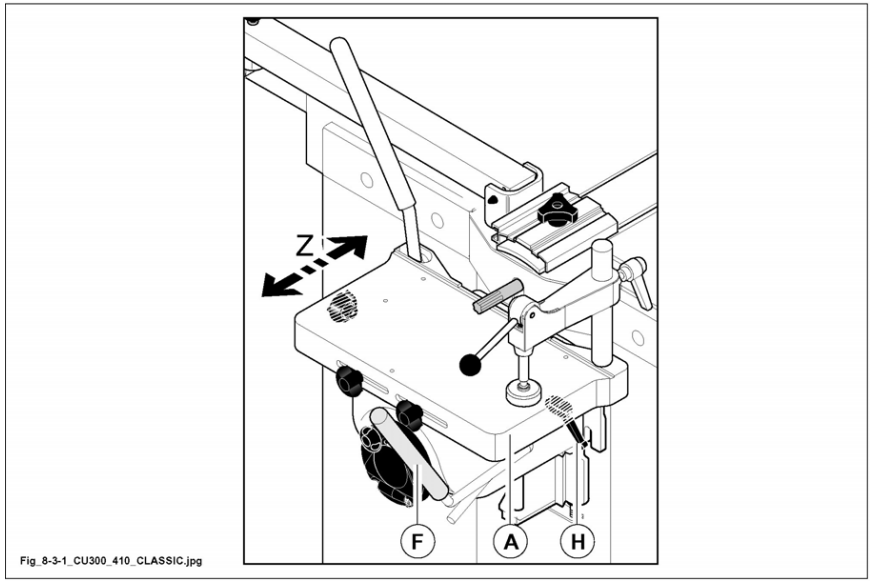


Fig. 8.3-1

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8.3.2 SLOT WIDTH LIMITATION

(fs_8-3-2_0.0)

For mortising which does not go through the workpiece, adjust the depth of the stroke, as already indicated, and the transversal stroke of the table (X-axis):

- using a pencil, mark the position of the mortise to be cut on the workpiece (1 fig. 8.3-2).
- Test the transversal stroke using lever (D fig. 8.3-2) according to the mortise to be cut and adjust the side stops to suit, by tightening the knobs (E fig. 8.3-2).

NOTE-INFORMATION:
to carry out slots, it is necessary to drill a row of holes, then, moving the table by means of the lever (D fig. 8.3-2), the inside of the slot is thoroughly cleaned.

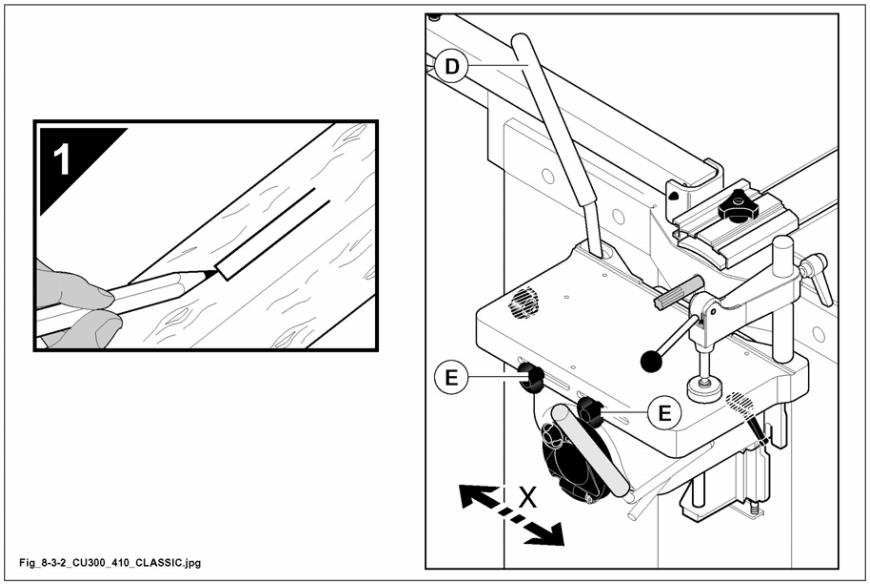


Fig. 8.3-2

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8.3.3 HEIGHT ADJUSTING

(fs_8-3-3_0.0)

- Position the table at the correct height using the accessory handwheel (C fig. 8.3-3); lock it in position by tightening the knob (G fig. 8.3-3).

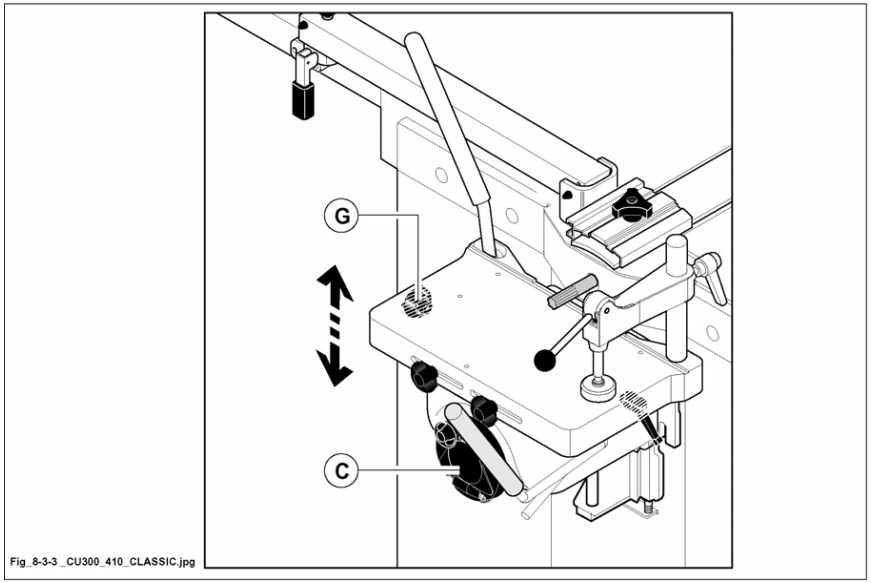


Fig. 8.3-3

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9.1 PRELIMINARY ADJUSTMENT FOR PASSING FROM PLANING TO THICKNESSING

(fs_9-1-0.0)

9.1.1 MACHINE WITH MANUAL TABLE LIFTING

(fs_9-1-1_0.0)

DANGER-WARNING
remove the planing fence unit (A fig. 9.1-1) from the table.

- Stop cutterblock motor.
- Wait for a few seconds until the cutterblock stops completely.
- Slacken the levers (B fig. 9.1-1) as shown in figure.
  Llift the planing tables (C, D fig. 9.1-1);
  (the opening of the tables activates a microswitch that stops the machine from switching on USA and CANADA).

CAUTION:
FS41 CLASSIC
check that the block (N fig. 9.1-1) of the table opening is correctly positioned.

- Turn the chip conveyor hood (F fig. 9.1-1) upside down securing it by the spring (M fig. 9.1-1) in the protection (E fig. 9.1-1); the rotation of the protection guard reacts again on the micro-switch, reactivating the machine (USA and CANADA).

NOTE-INFORMATION:
thicknessing can only be carried out if the safety guard (F fig. 9.1-1) is in position.
(U.S.A. and CANADA version): this position is checked by an electro-mechanical limit switch.

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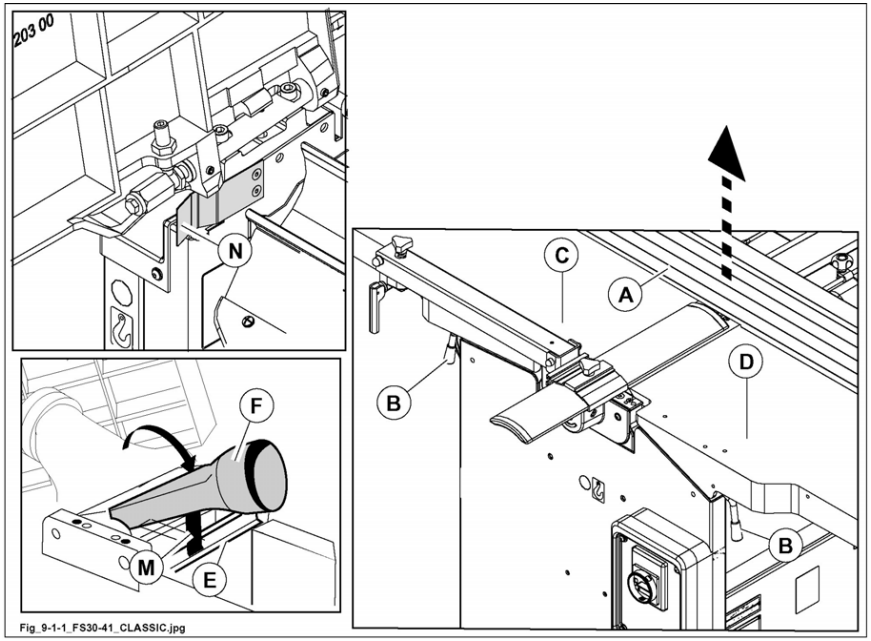


Fig. 9.1-1

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9.2 ADJUSTMENT TO PASS FROM THICKNESSING TO SURFACE PLANING

(fs_9-2_0.0)

9.2.1 MACHINE WITH MANUAL TABLE LIFTING

(fs_9-2-1_0.0)

When the thicknessing is finished, to use the surfacing unit:

1) Stop planer motor.
2) Wait few seconds for the complete cutterblock stop.

CAUTION:
before lowering the planing tables, remember to open the chip conveyor guard (F fig. 9.2-1) and lower the thicknessing table to the red notch (M fig. 9.2-1) so as not to damage any element and return the lever (L fig. 9.2-1) to the "0" position (deactivation of the feeding rollers).

3) (FS 41 CLASS) Disengage the block (N fig. 9.2-1) and close the tables.
4) Lower handles (B fig. 9.2-1) to lock tables.

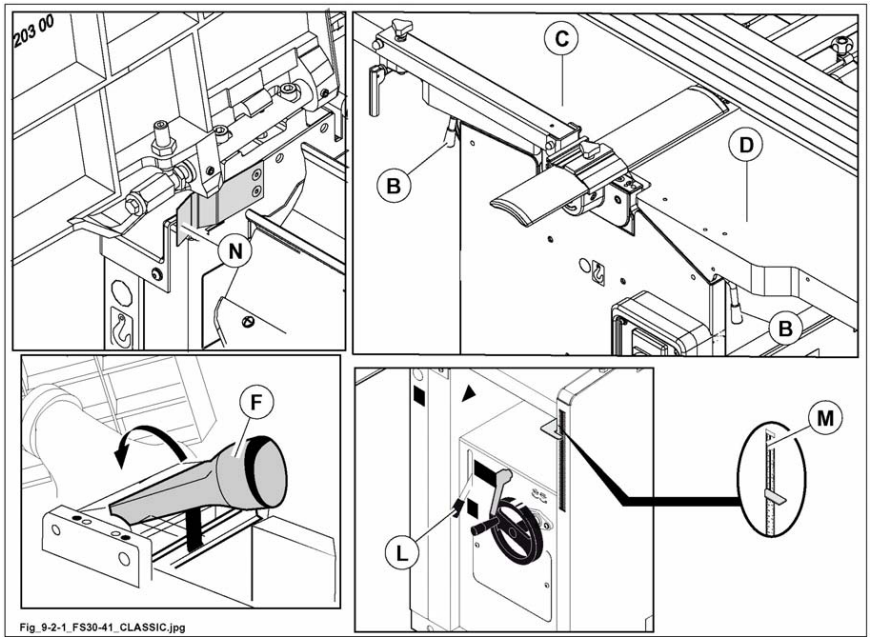


Fig. 9.2-1

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9.4 AUTOMATIC FEED AND SPEED CHANGE

(fs_9-4_0.0)

To control the driving rollers, lift lever (L fig. 9.5). Carry out this operation with the machine running.

NOTE-INFORMATION:
the feed is possible only if the cutterblock is rotating.

DANGER-WARNING
never machine workpiece of length and thickness lower than the values permitted (L = 140 mm; thickness 3,0 mm), as in that case the system, which control the feed and the pressure on the workpiece, can not operate and causes dangerous conditions.

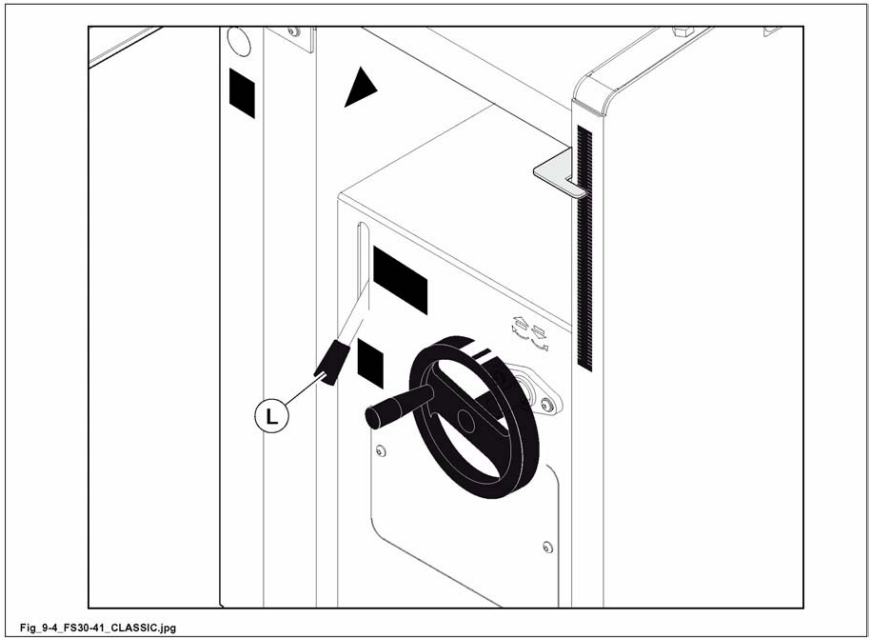


Fig. 9.4

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9.5 MANUAL ADJUSTING OF THICKNESSING TABLE

(fs_9-5-0.0)

DANGER-WARNING
Before lifting the thicknessing table make sure that there are no wood residures on the table, as in that case the system, which control the feed and the pressure on the workpiece, can not operate and causes dangerous conditions.

Always reach the working height with table motion upwards to take up slack bewteen lead screws and lead nuts.

Adjust the thicknessing tables to obtain the required stock removal. Proceed as follows:

- loosen the knob (H fig. 9.5);
- rotate handwheel (V fig. 9.5) referring to index (I fig. 9.5);
- tighten the knob (H fig. 9.5).

DANGER-WARNING
it is forbidden to move the table when the machine is running.

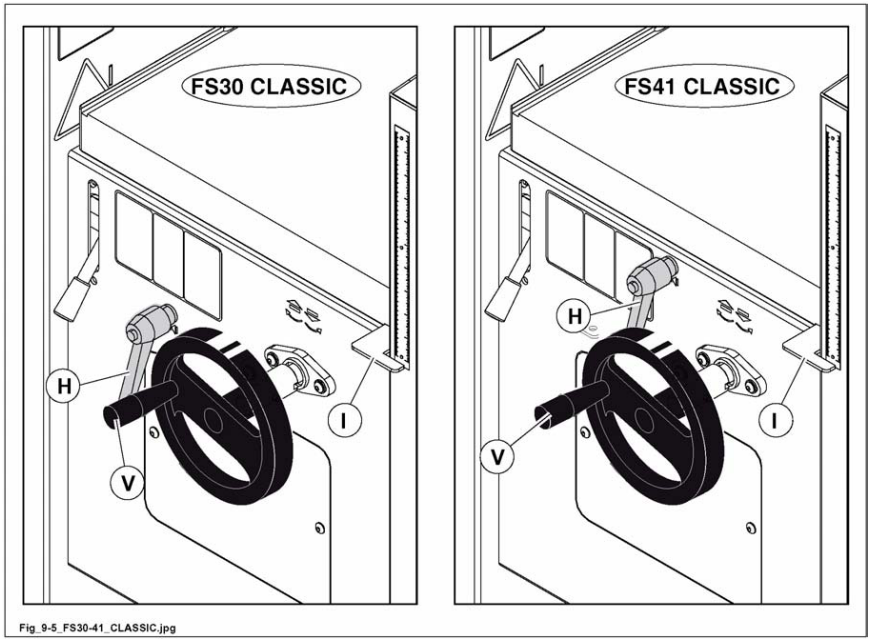


Fig. 9.5

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9.8 PRESSURE ROLLERS ADJUSTING

(fs_9-8_0.0)

The spring pressure of the feed rollers is adjusted at factory during the machine test to ensure the right piece feed.
Only in peculiar cases set bushes (E fig.9.8) by means of Allen wrench.
Uniformly adjust the spring pressure of the same roller on both sides.

NOTE-INFORMATION:
pressure should be increased to machine hard wood and/or large sized workpieces.

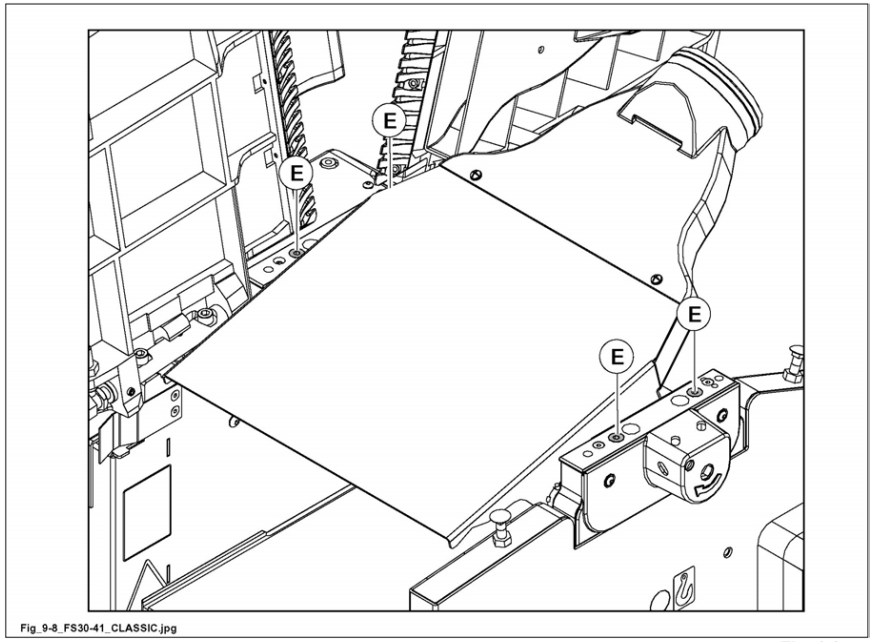


Fig. 9.8

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9.9 SAFETY GUARDS

(fs_9-9_0.0)

- Anti-kickback fingers (T fig. 9.9) working with pieces of different thickness prevent the workpiece to be thrown back towards the operator, thus providing an effective protection.
- Before starting the working check that the fingers (T fig. 9.9) can rotate smoothly around their support shafts.
- The presence of chips and dust in position corresponding to anti-kickback fingers (T fig. 9.9) can compromise the good machine operation.
- The opening of anti-kickback fingers (T fig. 9.9) can cause the ejection of splints compromising the operator safety.
- To prevent binding or jamming of some fingers (T fig. 9.9), always keep clean them clean by removing the shavings fitted in the fingers.
- Remove resin residues by washing the unit with a brush and terpentine.
  NEVER OIL OR GREASE THE ANTI-KICK BACK FINGERS.
  Thicknessing can only be carried out if the safety guard is in position (A fig. 9.9).

FORBIDDEN:
the machine use is forbidden if these conditions are not ensured.

SAFETY WARNINGS

- Periodically press emergency button to verify the efficiency.
- DO NOT process wood pieces with clefts, knots etc.
- **DO NOT feed boards with different thickness at the same time.**
- Make sure that the feed rollers are free to rise in the right way.
- Never stay in front of the machine infeed side during the working and do not try to look inside the machine; there is the danger that the splinters are ejected.
- Never put your hands inside the machine to remove chips or splinters when the machine is running.
- **When a workpiece is locked in the machine, stop the cutterblock, lower the table, take off the piece.**
- DO NOT try to carry out depth of cut larger than the one specified.
- It is forbidden to move the table when the machine is running.
- **DO NOT workpieces of too large thickness or lower than 3.0 mm**
- **DO NOT workpieces of length lower than 140 mm**

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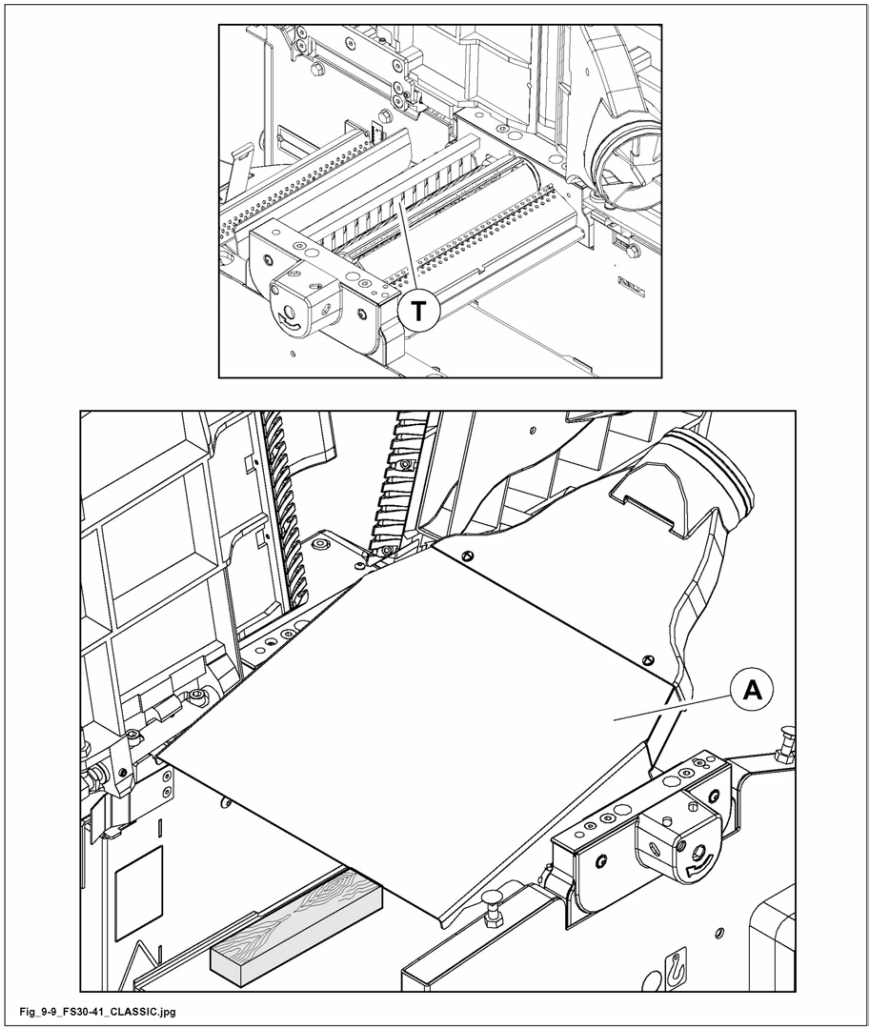


Fig. 9.9

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9.10 KNIFE ADJUSTMENT

(fs_9-10_0.0)

DANGER-WARNING
to handle the knives and the cutterblock you shall wear safety gloves.

For adjusting the knife projection see Chapter 7.

9.11 KNIFE REPLACING

(fs_9-11_0.0)

DANGER-WARNING
to handle the knives and the cutterblock you shall wear safety gloves.

For replacing the knife projection see Chapter 7.

9.12 REPLACING THE THROW-AWAY KNIVES

(fs_9-12_0.0)

OPT

DANGER-WARNING
to handle the knives and the cutterblock you shall wear safety gloves.

DANGER-WARNING
do not start planer spindle motor when knives are not fitted.

For replacing the knife projection see Chapter 7.

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10.1 CUTTERBLOCK GUARD

(fs_10-1_0.0)

It protects the cutterblock during the surfacing.

A - protection behind the planer guide
1 - boomerang-type protection
2 - bridge-type protection (OPT)

10.1.1 DESCRIPTION

(fs_10-1-1_0.0)

NOTE-INFORMATION:
this protection is easily adjustable on the whole length of the cutterblock.

A - Protection behind the planer guide

This is an articulated protection which always covers the planer shaft in both the guide positions, 90° and 45° respectively.

1 - Boomerang-type protection

It protects the cutterblock while surfacing. By means of a spring in the hub, the protection constantly presses against the surface fence. By introducing the piece to be worked against the fence, the protection moves and turns on its pivot, remaining fast against the wood until the operation terminates and keeping the unused part of the cutterblock covered.
Rest the piece to be machined against the fence, pushing it with one hand and pressing it with the other hand.

2 - Bridge-type protection (OPT)

1) Bridge (B fig. 10.1).
2) Bridge locking knob (C fig. 10.1).
3) Height adjusting knob (D fig. 10.1) (max. height which may be reached: 75 mm).
4) Arm (E fig. 10.1).
5) Protection locking lever (F fig. 10.1).

10.1.2 GUARD ADJUSTING

(fs_10-1-2_0.0)

1 - Boomerang-type protection
By means of a spring in the hub, the protection constantly presses against the surface fence.

2 - Bridge-type protection (OPT)
To adjust the height, operate the knob (D fig.10.1); the right position is maintained by the shock absorber.

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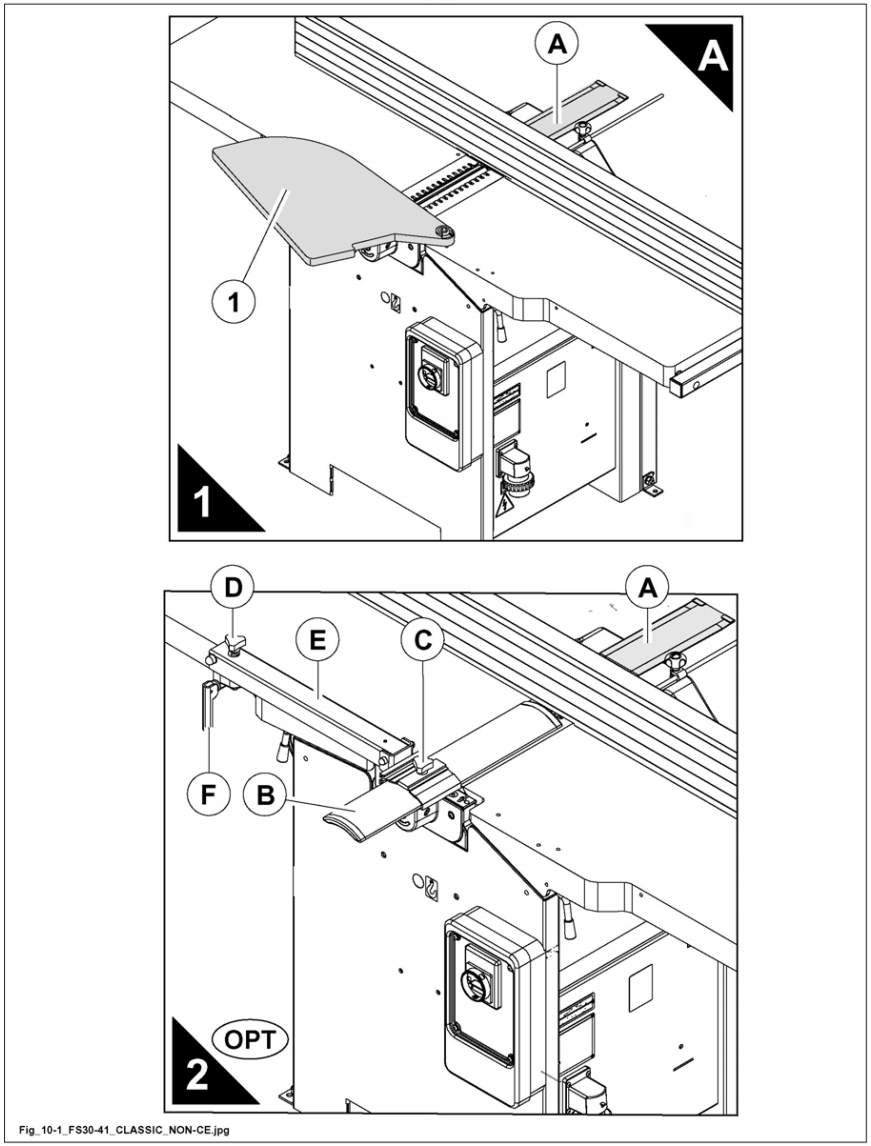


Fig_10-1_FS30-41_CLASSIC_NON-CE.jpg

Fig. 10.1

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10.3 PROCEDURES FOR SAFE WORKING

(fs_10-3_0.0)

DANGER-WARNING
the guard adjusting shall always be carried out with the motor off.

DANGER-WARNING:
do not machine workpieces too small or too big for the machine.
See relative paragraph 3.1 "Dimensions of workpiece to be milled".

DANGER-WARNING:
adjust the guard so that it covers the planer spindle completely.

DANGER-WARNING:
never put your hands near the cutterblock. Never forget to move the protection to its right position, to protect the tool-holder shaft between two working phases.

10.3.1 EXAMPLES

(fs_10-3-1_0.0)

SURFACING TABLES and Boomerang-type protection

1- By introducing the piece to be worked against the fence, the protection moves and turns on its pivot, remaining fast against the wood until the operation terminates and keeping the unused part of the cutterblock covered.

Rest the piece to be machined against the fence, pushing it with one hand and pressing it with the other hand.

NOTE-INFORMATION:
to obtain a good finish of table thickness the surface planing must be perfectly flat.

Planing small pieces

2- Use the knob (B fig. 10.3-1). The knob (B fig. 10.3-1) may be applied to pushers of different size, screwing it on with the screws provided (see Section 15).

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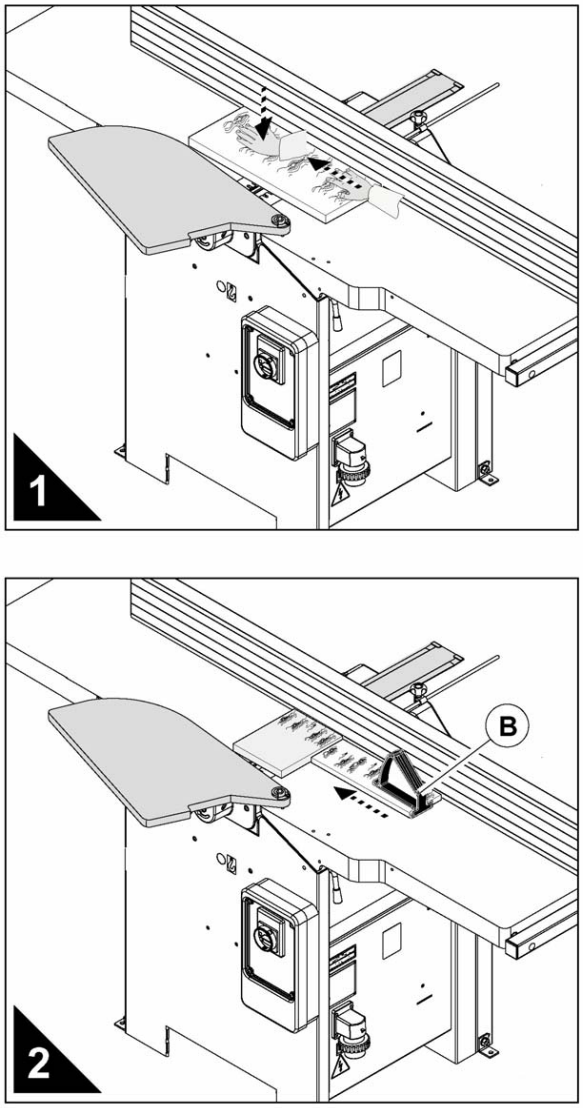


Fig_10-3-1_FS30-41_CLASSIC_NON-CE.jpg

Fig. 10.3-1

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10.3.1.1 SURFACING WORKPIECES OF THICKNESS LESS 75 MM

(fs_10-3-1-1_0.0)

and bridge-type protection OPT

- Loosen knob (C fig.10.3-1-1) and rest bridge (A fig.10.3-1-1) against fence (G fig. 10.3-1-1); lift bridge (A fig.10.3-1-1) by means of knob (B fig.10.3-1-1) at the height equal to the workpiece thickness.
- Rest the workpiece against the fence and move it forwards with the right hand in order to fit it under the bridge (1 fig.10.3-1-1).
- Push the workpiece forwards(from the inlet table side)(2 fig.10.3-1-1) by keeping the hands flat on the workpiece, let one hand and then the other hand climb over the guard bridge.
- As soon as possible press both hands on the workpiece on the outlet table side to continue the workpiece feed (3 fig.10.3-1-1).

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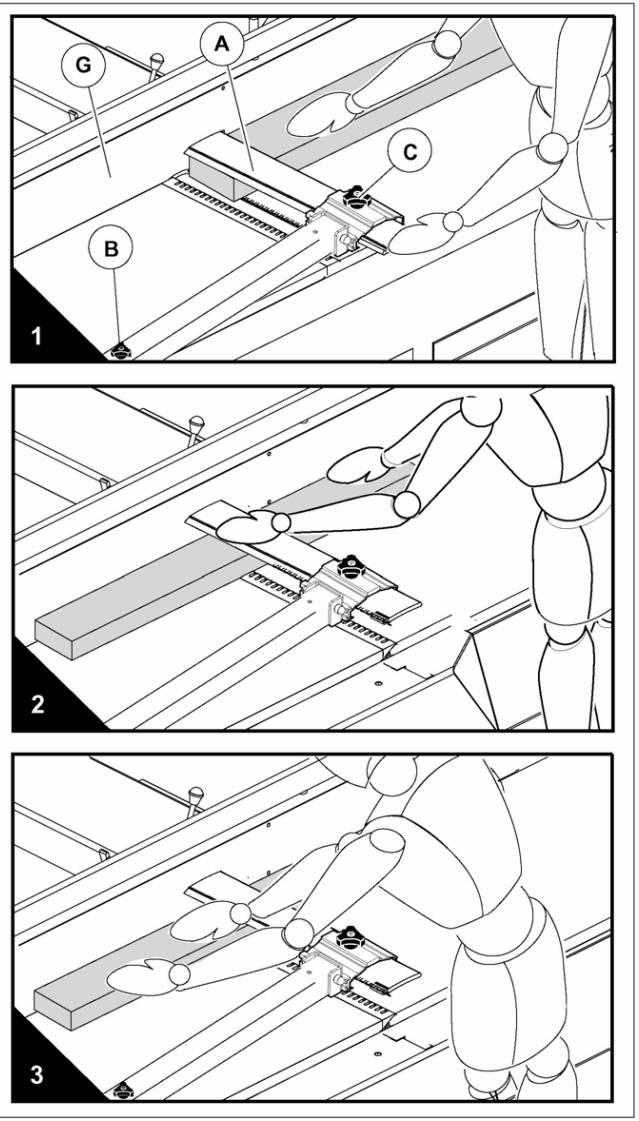


Fig. 10.3-1-1

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10.3.1.2 STRAIGHTENING

(fs_10-3-1-2_0.0)

and bridge-type protection OPT

Adjusting the guard for straightening:

the bridge guard must be lowered on the tables and adjusted horizontally relative to the workpiece.

1 - Rest the bridge onto the table by means of the knob (B fig. 10.3-1-2) and expose the shaft as it is enough to let the piece to be machined pass by pulling the bridge away (A fig. 10.3-1-2), after releasing the knob (C fig. 10.3-1-2) (lock the bridge again, then).

- Press the piece against the fence towards the outlet table by keeping the left hand for example with the clenched fist and the thumb on the piece.
  With the right hand move the piece forwards in order to get a regular motion (for example cleched fist and thumb on the piece) (2 fig. 10.3-1-2).

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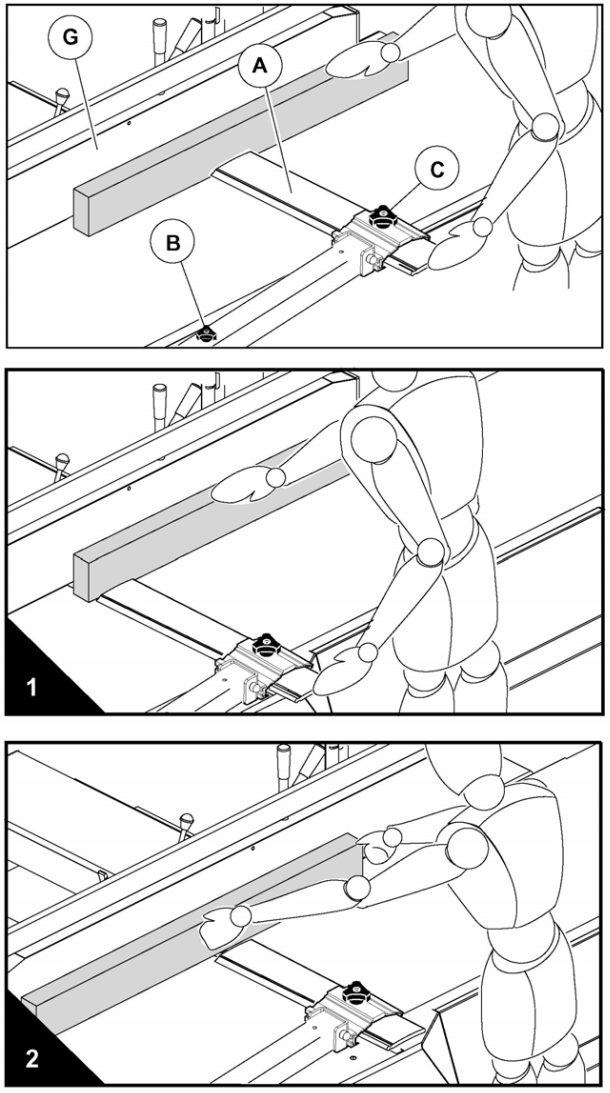


Fig_10-3-1-2_FS520_NOVA_CE.jpg

Fig. 10.3-1-2

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10.3.1.3 SURFACING AND STRAIGHTENING PIECES THICKER THAN 75 MM

(fs_10-3-1-3_0.0)

and bridge-type protection OPT

The bridge of the guard shall be lower on the tables and horizontally adjusted to the piece.

1 - Rest the bridge onto the table by means of the knob (B fig. 10.3-1-3) and expose the shaft as it is enough to let the piece to be machined pass by pulling the bridge away (A fig. 10.3-1-3), after releasing the knob (C fig. 10.3-1-3) (lock the bridge again, then).
2 - Press the guard so that it rests on the outfeed table (1 fig. 10.3-1-3).

- Move the piece along the fence with regular motion by keeping the hands flat on the piece (2 fig. 10.3-1-3).

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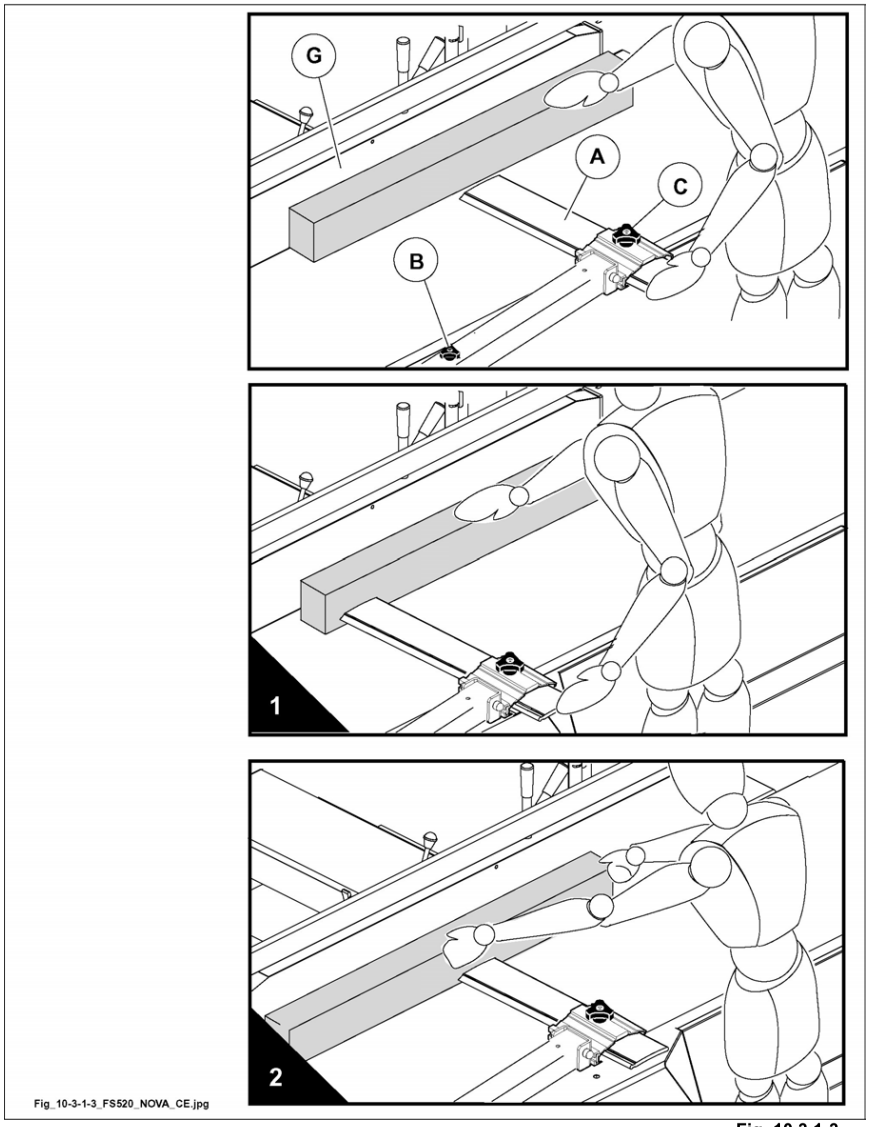


Fig. 10.3-1-3

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10.3.1.4 SURFACING PIECES OF SQUARE SECTION

(fs_10-3-1-4_0.0)

and bridge-type protection OPT

NOTE-INFORMATION:
adjust the bridge guard as described in the previous sections.

- the bridge guard must rest on the workpiece (fig. 10.3-1-4) and against the fence.
- Move the piece forwards by keeping the fingers bended.

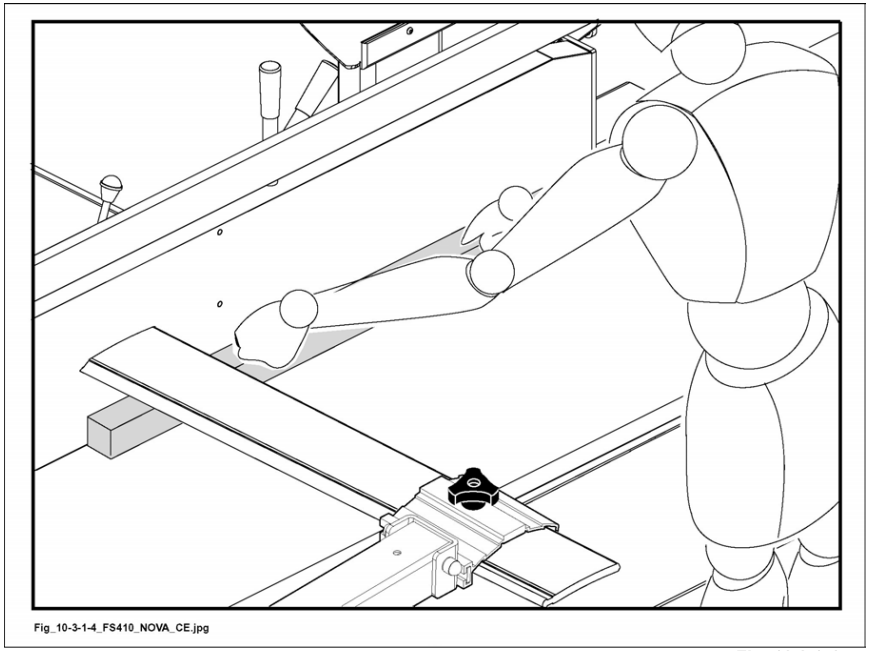


Fig. 10.3-1-4

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10.3.1.5 SURFACING SHORT PIECES

(fs_10-3-1-5_0.0)

and bridge-type protection OPT

NOTE-INFORMATION:
adjust the bridge guard as described in the previous sections.

- Press the guard bridge on the piece by keeping the hand flat and move the piece forwards with the right hand by using a pusher.
- Rest the left hand on the guard bridge and as soon as the piece rests on the outlet table.
- The pusher shall be thinner than the workpiece.

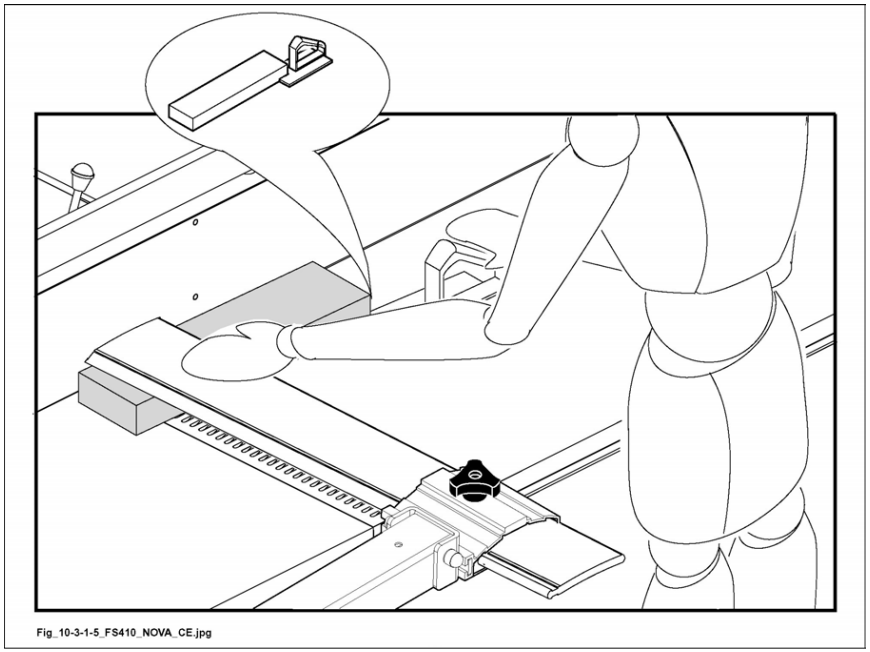


Fig. 10.3-1-5

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10.3.1.6 STRAIGHTENING SHORT PIECES

(fs_10-3-1-6_0.0)

and bridge-type protection OPT

NOTE-INFORMATION:
adjust the bridge guard as described in the previous sections.

- Move the piece along the fence and towards the outlet table by keeping the left hand with clenched fist, then with the right hand push the piece by using a pusher.

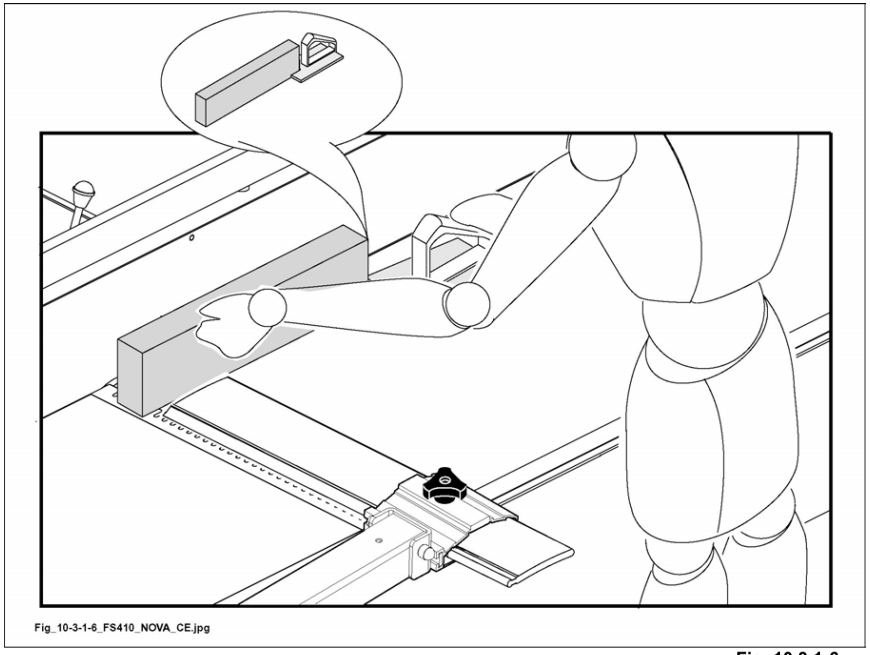


Fig_10-3-1-6_FS410_NOVA_CE.jpg

Fig. 10.3-1-6

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10.3.1.7 CHAMFERING ALONG THE FENCE

(fs_10-3-1-7_0.0)

and bridge-type protection OPT

NOTE-INFORMATION:
adjust the bridge guard as described in the previous sections.

- Rest the piece with the right hand against the slanting fence. Set the piece and the guard: see (1 fig. 10.3-1-7).

- Let the piece feed along the fence towards the outlet table by keeping the hand with clenched fist, push the piece forwards with the clenched right fist (2 fig. 10.3-1-7).

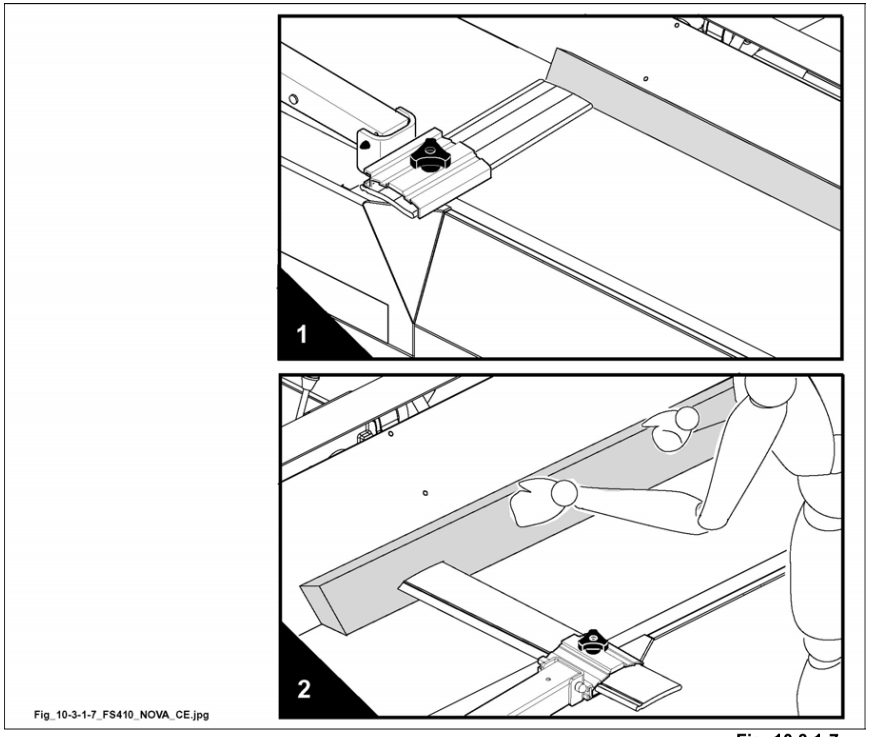


Fig_10-3-1-7_FS410_NOVA_CE.jpg

Fig. 10.3-1-7

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10.3.1.8 SURFACING WORKPIECES WITH SMALL SECTION

(fs_10-3-1-8_0.0)

and bridge-type protection OPT

NOTE-INFORMATION:
adjust the bridge guard as described in the previous sections.

Push the workpiece forwards with spread hands (fig.10.3-1-8), like in the case of workpieces with thickness lower than 75 mm (see par.10.3.1.1).

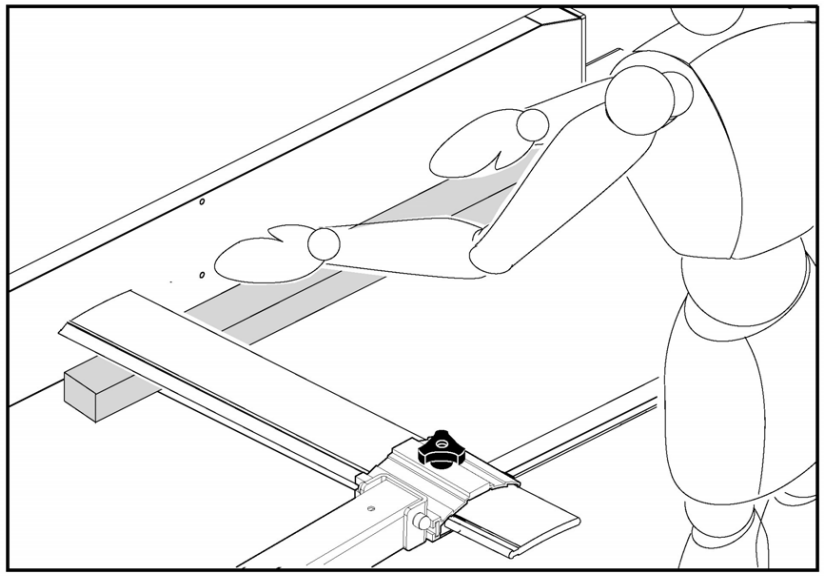


Fig_10-3-1-8_CU410_ELITE_S.jpg

Fig. 10.3-1-8

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10.3.1.9 STRAIGHTENING WORKPIECES OF SMALL SECTION

(fs_10-3-1-9_0.0)

and bridge-type protection OPT

NOTE-INFORMATION:
adjust the bridge guard as described in the previous sections.

Press the workpiece with the hands (clenched fist) against the rule and the table (fig.10.3-1-9)and push it forwards. The guard is adjusted in horizontal direction against the fence and rests on the workpiece.

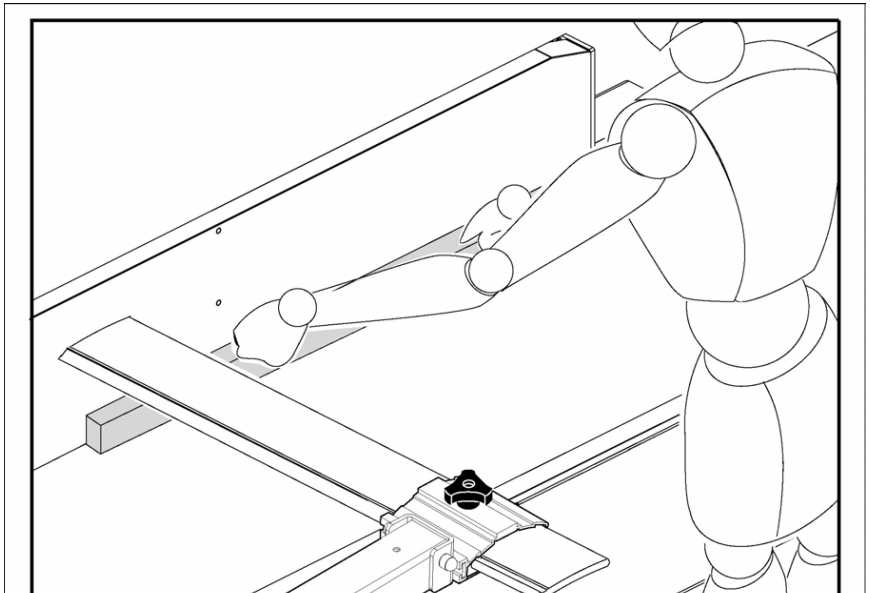


Fig_10-3-1-9_CU410_ELITE_S.jpg

Fig. 10.3-1-9

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10.5 SAFETY NOTES

(fs_10-5_0.0)

SAFETY OVER ALL

DANGER-WARNING
keep the machine edges clean and free. Take a safe position to carry out the working.

Remove the chips from the tables by using a wood piece better than your hands.

Set the guard bridge in contact with the tables.

When working the last part, the hand should always be positioned after the plane arbor, on the exit table.

The feed speed of the wood must always be proportionate to the thickness to be removed.

DANGER-WARNING
in case of seepage of chips inside the machine or in the suction hood before intervening switch off the machine and lock the main switch.

DANGER-WARNING
to improve the sliding of the workpieces treat the tables with paraffin or other proper product.

The guard serves as a safety shield, the workpiece is pressed at the outlet table level and not on the guard bridge.

Rest the concave part of the workpiece on the tables and do not machine workpieces with arched shape arcs and other too evident defects (clefts, knots etc.) or foreign bodies (nails, clips etc.).

Make sure that the workpieces are firm and use a support (not supplied by SCM***) positioned behind the the outlet table for long workpieces.***

During the working of workpieces with big thickness (panels) against the fence, lock the guard bridge as near the panel as possible to hinder the panel turnover.

Use the knob. The knob (see Section15) may be applied to pushers of different size, screwing it on with the screws provided.

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15.1 Pusher 2

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15.1 PUSHER

(ev_15-1_0.0)

DANGER-WARNING:
when for the execution of a peculiar working, the operator is obliged to put his hands near the tools, for safety reasons a proper pusher shall be used to move the workpiece forwards, to push it against the fence or to remove it after the cutting.

Handle (A fig. 15.1) is supplied for this purpose and can be applied to pushers (D fig. 15.1) of different size by means of screws (B and C fig. 15.1).

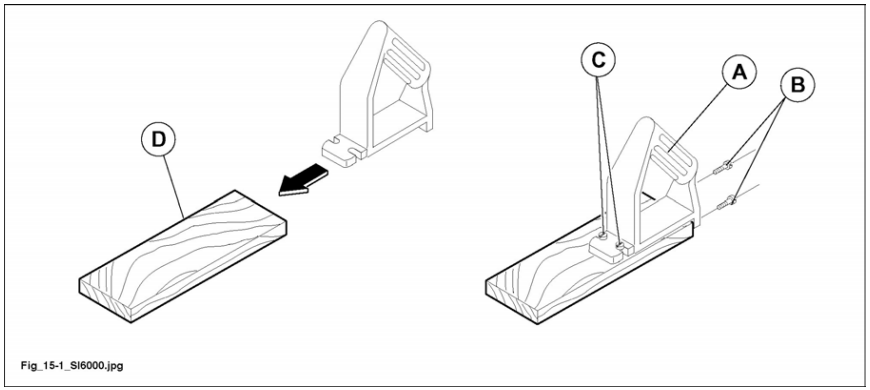


Fig. 15.1

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20.1 MACHINE CLEANING

(fs_20-1-0.0)

DANGER-WARNING
all cleaning operations are to be carried out by the machine operator or by skilled technician.

DANGER-WARNING
before carrying out any of the operations make sure to cut the main electric power and disconnect socket T from plug S.
U.S.A. and CANADA version:before carrying out maintenance operations, adjustments or to dismount any machine member turn main switch (Y fig. 20.1) to 0, lock it then indicate this with a sign.

DANGER-WARNING
to handle the knives and the cutterblock you shall wear safety gloves.

FORBIDDEN:
DO NOT USE COMPRESSED AIR; by blowing with a strong air jet chips,dust and dirt of any type may enter into the moving members, so the machine is no more efficient.

The machine cleaning is not only an important safety factor but it ensures the long life and the best performance of the machine.

NOTE-INFORMATION:
the frequency of cleaning interventions is determined by the room in which the machine is installed and by the machined material.

Rules for a correct machine cleaning

Every evening by using a proper aspirator clean:
- the table, cutterblock, anti kickback fingers and the cavities where you see dust and chips seepage;
- periodically clean the rollers by using not dangerous products; never use acid products;
- suction hoods (C fig.20.1) by checking that there are no occlusions.

Never use acid products.

After sucking chips or dust, with a cloth drunken with a not dangerous solvent clean:
- all moving parts, particularly the ones exposed to the resin and to the dust;
- knives (B fig. 20.1) of the cutterblock;
- sliding rod (D fig. 20.1) of planer guide;
- dovetail elements (E fig. 20.1) for mortiser sliding (OPT);
- sliding rods (P fig. 20.1) of mortising table (OPT);
- Screw (V fig. 20.1) for (OPT) mortiser height adjusting.

FORBIDDEN:
NEVER OIL OR GREASE THE ANTI-KICK BACK FINGERS.

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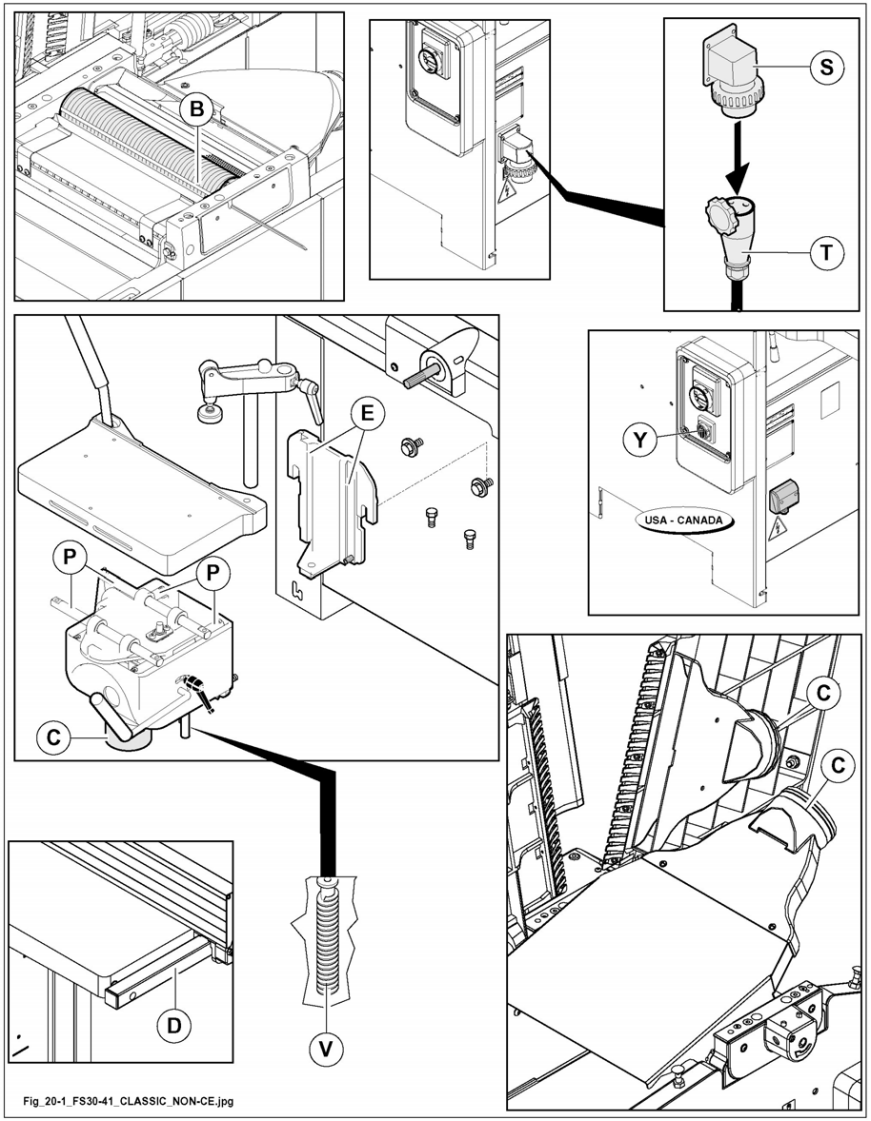


Fig. 20.1

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20.2 SCHEDULED MAINTENANCE

(fs_20-2_0.0)

Scheduled maintenance is of the utmost importance to obtain the best performance as well as a safe operation of the machine.

DESCRIPTION	INSPECTION	INTERVALS	OPERATIONS
General machine cleaning	Visual inspection	Daily	- By using an aspirator remove dust or chips (Par. 20.1).
Tools (B fig. 20.2) of the planer unit	Visual inspection	Daily	- By using an aspirator remove dust or chips (Par. 20.1). - Clean with a cloth or brush soaked in a suitable product which is not dangerous.
Sliding rod (D fig. 20.2) of planer guide	Visual inspection	Weekly	- By using an aspirator remove dust or chips (Par. 20.1). - Clean with a cloth or brush soaked in a suitable product which is not dangerous. - Lubricate with oil (Par. 20.3).
Cleaning of suction hoods (C fig. 20.2)	Visual inspection	Weekly	- Disconnect the flexible tubes from suction hoods, check that there are no occlusions and clean by sucking.
Guides (E fig. 20.2) for sliding mortiser (OPT)	Visual inspection	Weekly	- By using an aspirator remove dust or chips (Par. 20.1). - Clean with a cloth or brush soaked in a suitable product which is not dangerous. - Lubricate with oil (Par. 20.3).
Sliding rods (P fig. 20.2) of mortiser table (OPT)	Visual inspection	Weekly	- By using an aspirator remove dust or chips (Par. 20.1). - Clean with a cloth or brush soaked in a suitable product which is not dangerous. - Lubricate with oil (Par. 20.3).
Screw (V fig. 20.2) for motiser height adjusting (OPT)	Visual inspection	Weekly	- By using an aspirator remove dust or chips (Par. 20.1). - Clean with a cloth or brush soaked in a suitable product which is not dangerous. - Lubricate with grease (Par. 20.3).

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DESCRIPTION	INSPECTION	INTERVALS	OPERATIONS
Thicknessing table (H fig. 20.2)	Visual inspection	Daily	- Clean with a vacuum cleaner.
Cleaning the moving parts, particularly the ones exposed to the resin and to the dust	Visual inspection	Weekly	- Clean with proper detergents.
Thicknessing table - Screw (S fig. 20.2) for height adjusting	Visual inspection	Weekly	- By using an aspirator remove dust or chips (Par. 20.1). - Clean with a cloth or brush soaked in a suitable product which is not dangerous. - Lubricate with grease (Par. 20.3).
Thicknessing table - Sliding cylinder (Z fig. 20.2)	Visual inspection	Daily	- By using an aspirator remove dust or chips (Par. 20.1).
Feed rollers	Visual inspection	Daily	- Clean with proper detergents.
Transmission chain of the motion to the feed rollers	Visual inspection	Weekly	- Clean and lubricate (Par. 20.3).
⚠ Anti kickback fingers (L fig. 20.2)	Visual inspection	Daily	- By using an aspirator remove dust or chips (Par. 20.1). Clean with proper detergents. - **Do not oil, do not grease.**
	Visual inspection	After 1 working hour	- **Check that the anti-kick back fingers are efficient.**
Operator units' belts (O fig. 20.2)	Check tensioning and wear	Daily	- Tension correctly (Par. 20.28) or replace (Par. 20.18) if necessary.
Safety and emergency devices (Chapter 2)	Visual check and check functioning	Every 2 weeks	- Perform stop tests (Par. 20.4).

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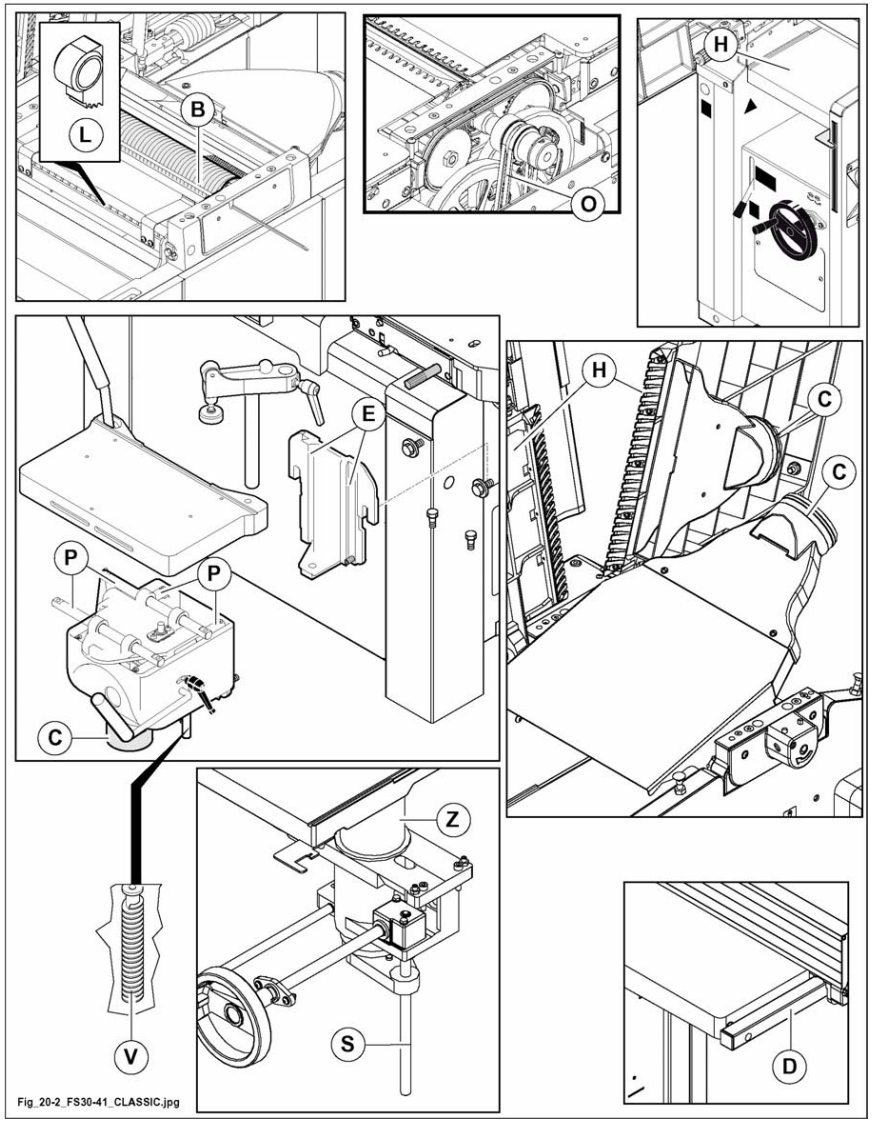


Fig. 20.2

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20.3 LUBRICATION

(fs_20-3_0.0)

An accurate lubrication ensures the long life as well as the best performance of the machine.

Weekly, lubricate with grease type:

Manufacturer	Lubricant name
AGIP	GR MU EP1
ARAL	ARALUB HL1
BP	GREASE LTX1
SHELL	SUPER GREASE EP1
MOBIL	MOBILPLEX 46
KLÜBER	CENTOPLEX 1
ESSO	BEACON EP0

1) worm (V fig. 20.3) for lifting the mortiser (OPT).
2) Thicknessing table - Screw (S fig. 20.3) for height adjusting.
3) Transmission chain (A fig. 20.3) of the motion to the feed rollers.

Lubricate with oil here indicated:

Manufacturer	Lubricant name
AGIP	EXIDIA 220
ARAL	DEGANIT B 220
BP	ENERGOL GHL 220
SHELL	TONNA OIL T220
MOBIL	VACTRA OIL N° 4
KLÜBER	LAMORA SUPER POLADD 220
ESSO	FEBIS K 220

1) sliding rod (D fig. 20.3) on planer guide.
2) Sliding rods (P fig. 20.3) of mortiser table (OPT).
3) Guides (E fig. 20.3) for sliding mortiser (OPT).

NOTE-INFORMATION:
- as all bearings are sealed and lubrificated-for life, they do not require any maintenance;
- when you have to replace these bearings directly apply to SCM ***Ufficio Ricambi;***
- bearings of other makes with corresponding names are NOT suitable.

NOTE-INFORMATION:
protect all belts and pulleys to avoid contamination with oil.

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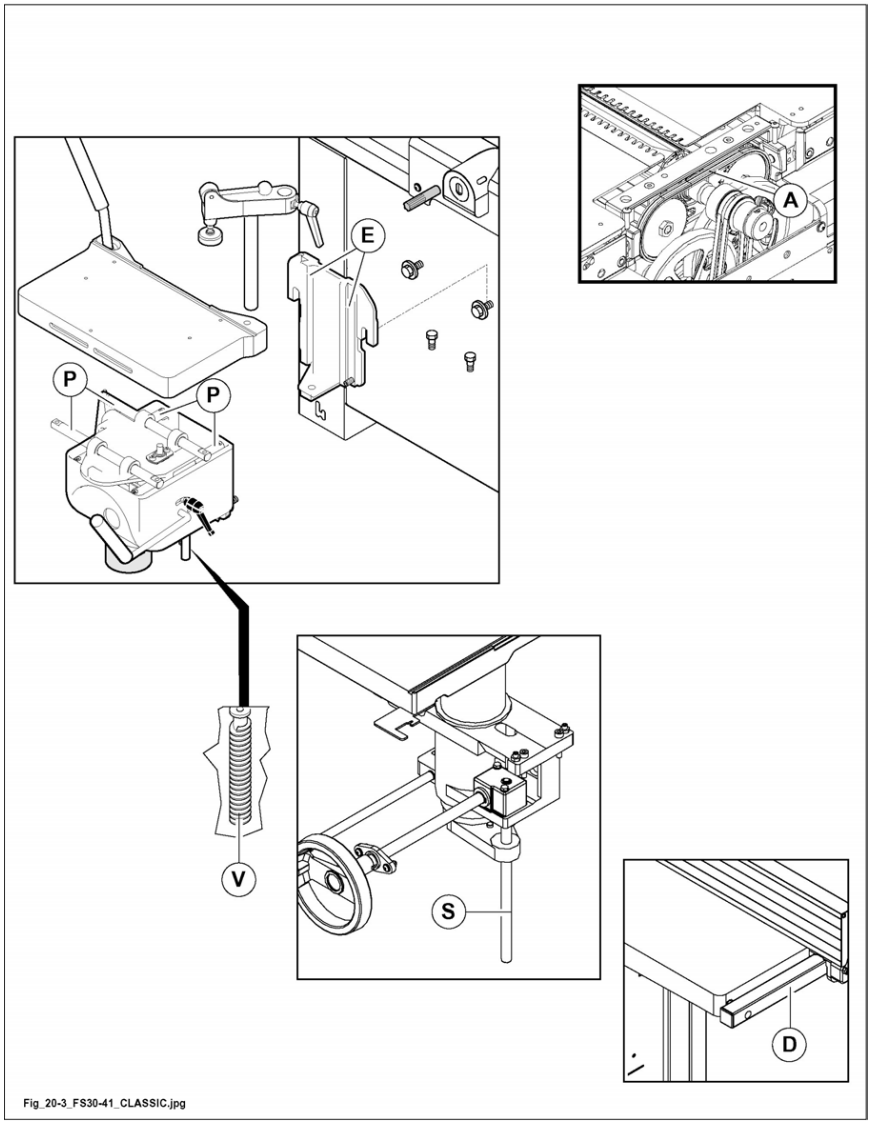


Fig. 20.3

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20.7 CHECK OF SAFETY DEVICES

(fs_20-7_0.0)

The machine is equipped with safety devices described in Chapter 2 which ensure tha safe machine operation.

Every 2 weeks check the controls for emergency stops with a test.
With the machine under normal operating conditions press the emergency buttons arranged on the machine one at a time; the motor shall stop.

Check that the microswitch fitted to the surfacing tables is efficient (USA and CANADA).
With tables open and tipper open the thicknesser table must not move.

NOTE-INFORMATION:
- the belt slackening may cause an increase of the braking time, therefore make sure that the belts are stretched and in good conditions (see par. 20.23).

At the beginning of each work shift check that all guards properly operate and that they ensure an efficient protection.

Periodically check the plates in particular the ones with yellow ground are in good state.

DANGER-WARNING:

the responsible technician is to be informed about eventual troubles during the test; in that case he shall shut off the machine and apply to Technical Service of SCM ***dealer.***

20.7.1 SPARE PARTS THAT AFFECT THE OPERATOR'S HEALTH AND SAFETY

(mmax_20-7-1_0.0)

The previous section "Checking safety devices" indicates the operations which the user must perform and the respective frequency.
Such operations allow early identification of any malfunctions in machine safety systems.

NOTE-INFORMATION:
if a malfunction is detected, the user must contact the Assistance Centre authorised by SCM.

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FORBIDDEN:
never attempt any work on the devices unless otherwise indicated in this manual.

The SCM assistance centre will identify which safety system component needs substituting and will substitute it (or will provide instructions on how to proceed).

NOTE-INFORMATION:
the user (or a specialised user technician) is only authorised to carry out the work described in this Instruction manual.

NOTE-INFORMATION:
when carrying out any maintenance tasks original spare parts supplied by the SCM ***(manufacturer) must always be used). The manufacturer is not responsible for damages due to the use of not original parts.***

NOTE-INFORMATION:
the entire machine electrical/electronic system is essential to machine safety. Therefore, the user is not authorised to carry out any repair/substitution of electrical or electronic components, except what is indicated in this manual.

DANGER-WARNING:
the user must also comply with the substitution times for the various safety devices, always using the SCM ***Assistance service to identify the correct spare part and to install it (unless otherwise indicated in this manual).***

SPARE PARTS THAT CAN BE INSTALLED BY THE USER

NOTE-INFORMATION:
in the spare parts catalogue the letter "C" indicates the codes of spare parts which affect operator health and safety.

These spare parts can be installed by expert personnel instructed by the user.

DANGER-WARNING:
for all other spare parts contact the Manufacturer's Dealer SERVICE or contact the Manufacturer's SERVICE directly.

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20.18 BELTS REPLACING

(fs_20-18_0.0)

DANGER-WARNING:
before carrying out any of the operations make sure to cut the main electric power and disconnect socket (T fig. 20.18) from plug (S fig. 20.18).

U.S.A. and CANADA version:before carrying out maintenance operations, adjustments or to dismount any machine member turn main switch (Y fig. 20.18) to 0, lock it then indicate this with a sign.

- Raise the thicknesser table using the handwheel (M fig. 20.18).
- Remove guards (A, V fig. 20.18).
- Slacken the fixing screws (B fig. 20.18).
- Loosen the tensioning screw (D fig. 20.18) through the hole under the thicknessing table.
  By using a lever lift the motor and keeping it in this position withdraw the worn belts (E fig. 20.18), then fit the new ones.
- Stretch the belts as described (see par. 20.28).
- Fit guards (A, V fig. 20.18) again.

CAUTION:
an excessive belt tightening will cause both functioning failures and belts wear beforehand.

NOTE-INFORMATION:
tighten fastening screws (B fig. 20.18) and ensure that the motor has stopped against the sheet-metal (H fig. 20.18).

FORBIDDEN:
- never pair belts of different makes;
- never use a new belt and an old one, because in that case the new belt tramsmits the entire power by itself and so it is damaged in short time.

DANGER-WARNING
the cover and door are fixed safety guards and must be reassembled before operating.

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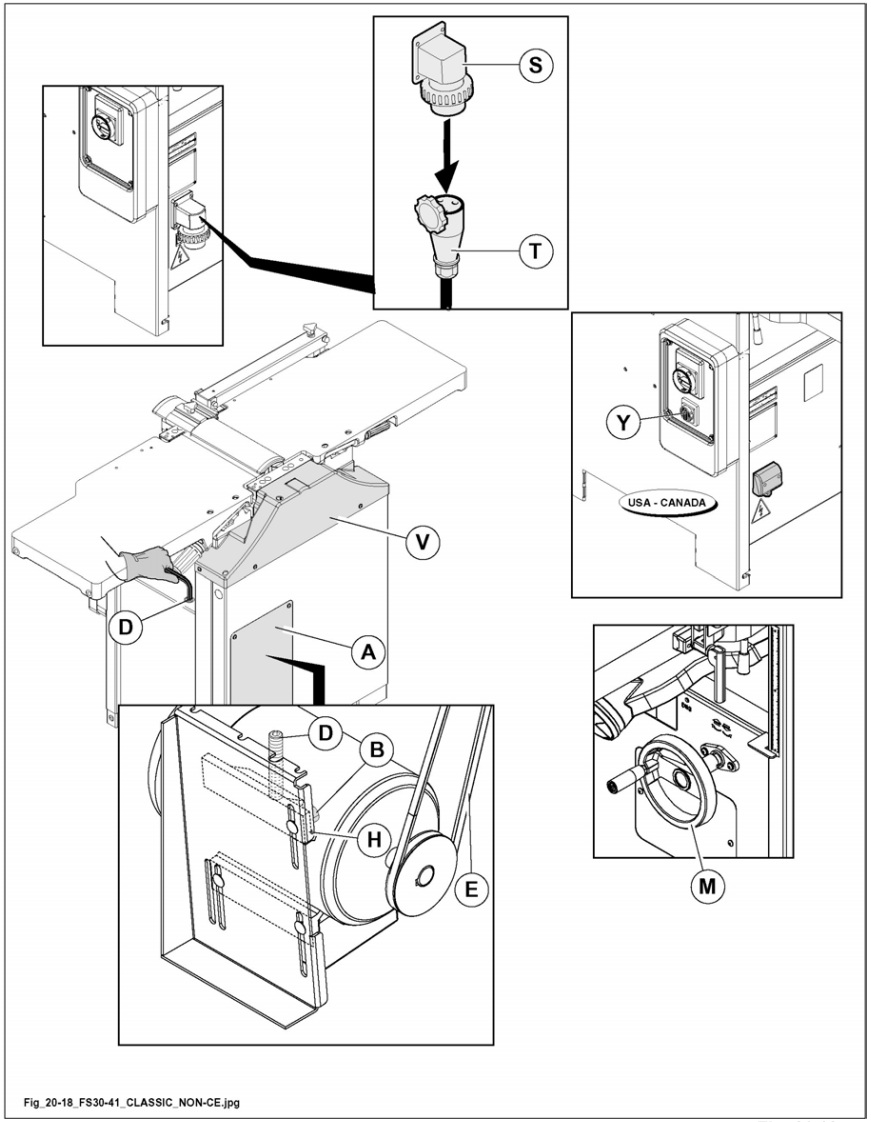


Fig. 20.18

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20.28 BELT TENSION ADJUSTING

(fs_20-28_0.0)

DANGER-WARNING:
before carrying out any of the operations make sure to cut the main electric power and disconnect socket (T fig. 20.28) from plug (S fig. 20.28).

U.S.A. and CANADA version:before carrying out maintenance operations, adjustments or to dismount any machine member turn main switch (Y fig. 20.28) to 0, lock it then indicate this with a sign.

DANGER-WARNING
after the first working days or after many working hours the belts get slack; the time required for saw blade stop gets longer.

NOTE-INFORMATION:
every week check the cutterblock belts.

To stretch the belts proceed as follows.
- Raise the thicknesser table using the handwheel (M fig. 20.28).
- Take off the rear door (A fig. 20.28).
- Slacken the fixing screws (B fig. 20.28).
- Tighten the belt screwing down the screw (D fig. 20.28) through the hole under the thicknessing table.
- At the end of the adjustment, tighten screws (B fig. 20.28).
- Fit the rear door (A fig. 20.28) again.

NOTE-INFORMATION:
tighten fastening screws (B fig. 20.28) and ensure that the motor has stopped against the sheet-metal (H fig. 20.28).

DANGER-WARNING
DO NOT use the machine without the required guards for every machining process or removing part of the guards.

CAUTION:
an excessive belt tightening will cause both functioning failures and belts wear beforehand.
By exerting a force P in the middle of a belt, the latter must have a yielding f as shown in the table.

Force P		Yielding f (mm)
N	Kp	
25	2,5	14 ÷ 15

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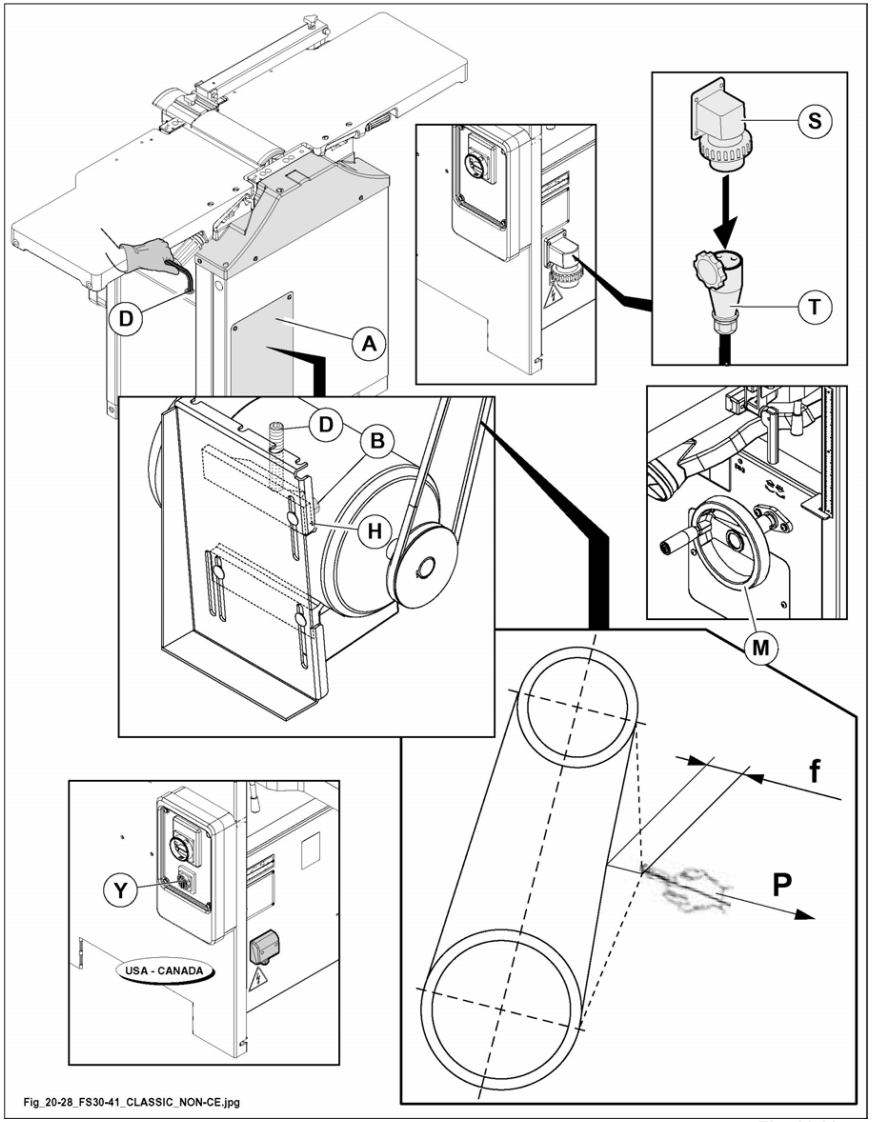


Fig. 20.28

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20.37 TROUBLES - CAUSE - WHAT TO DO

(fs_20-37_0.0)

This section indicates some solutions in case of eventual troubles which may rise during the machine operation.

The operator shall intervene only after reading all that concerns the problem in this handbook.

In case of troubles not described here, apply to SCM Technical Service.

PROBLEM	CAUSE	REMEDY
The spindle motor does not start.		
	No electrical energy on one or more phases of the line.	Check with a tester there is voltage in the three phases.
	Emergency on.	Switch off the button by turning it.
	Guards not in right position (USA and CANADA).	Check that the guards are in right position: - planer: all tables closed and tipper open. - thicknesser: tipper closed.
	Overload triggered	Reset overload located on the control board or inside electric cabinet.
	Main ON/OFF switch can be padlocked in position **0** (OFF) (USA and CANADA).	Rotate main ON/OFF switch to **I** (ON).
The machine stops during machining.		
	No electrical energy on one or more phases of the line.	Check with a tester there is voltage in the three phases.
	Too heavy operation in relation to the power of the motor, or bad cutting conditions.	Wait for the thermal cut-out protection located inside the control panel, then restore it to cool down. Check the condition of planer spindle' knives and sharpen or replace them if necessary.
	Belts worn or slow.	Adjust them or change then as described in Par. 20.28 o 20.18.
The thicknesser table does not lift or lower.		
	The lifting screw is jammed with dust and resin.	Clean carefully (see Chapter 20).
The wood is not fed.		
	Roller pressure too low.	Adjust rollers (see paragraph 9.8).
	The thicknesser table is adjusted to a measurement greater than the thickness of the wood.	Bring the table to the correct height (see paragraph 9.5).
	The chain is broken	To change it call your dealer's Assistance Service SCM.
The tables do not close		
	Tipper closed.	Open cutter block safety tipper completely.

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PROBLEM	CAUSE	REMEDY
The motor operates but the spindle stops when it is in contact with the workpiece.		
	The belts between motor pulley and shaft have slowed down.	Stretch the belts (as described in paragraph 20.28).

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20.60 UNSCHEDULED MAINTENANCE

(mmax_20-60-0.0)

All tasks not expressly listed in this manual, such as:

- tasks to be carried out following component or electric motor faults
- tasks to be carried out following mechanical system component faults

shall be considered unscheduled maintenance tasks.

These tasks require specific skills and must only be carried out by qualified personnel authorised by the machine manufacturer.

DANGER-WARNING:
never attempt to carry out makeshift repairs or replacements; this could result in dangers of a serious nature for exposed personnel and the machine itself.

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