

WOOD SHAVING MACHINE TECHNICAL MANUAL FOR USAGE AND MAINTENANCE



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PART 1 EXPLANATIONS AND MAIN SPECIFICATIONS

1.1. INTRODUCTION

The manual includes all required information regarding safe usage and ordinary maintenance of Wood Shaving Machine (hereinafter called as “YT 145”) WOOD SHAVING MACHINE, has been manufactured by Enerpat Machinery.

The instructions hereon are to be complied with, for proper operation, usage period, user’s and environmental safety and economy of Wood Shaving Machine. Manufacturer Company can cancel guarantee for machine and/or its equipments, due to improper usage of Wood Shaving Machine and deviation from instructions. Integrity and stability of Wood Shaving Machine are to be checked out at the time of purchasement. Probable complaints are to be made in writing within eight (8) days as from delivery of Wood Shaving Machine.

Authorized Services with qualified personnel or Manufacturer Company is to be informed immediately about probable reparation and restoration requiring complicated operations. Contact information of authorized services and manufacturer have been stated in the Article 3.12.

Manufacturer Company is to be at your disposal to provide all required support for prompt, proper technical assistance and better performance of Wood Shaving Machine.

1.2. GUARANTEE

Manufacturer Company gives guarantee for a period of twelve (12) months as from purchase date of Wood Shaving Machine. The guarantee is to be effective only for maintenance or free replacement of parts carried out upon inspection of Manufacturer Company Technical Department.

Guarantee is to be given only for deficiency in materials, excluding responsibilities for direct or indirect damages and is not to be effective for cases in which the deficiency in materials resulting from the user’s dismantle, damage or maintenance, excluding

the cases resulting from authorized services or factory.

The guarantee does not cover on-site installation. Charges regarding transportation, customs taxes and Value Added Tax are to be at buyer's expense. Terms of guarantee have been stated in Certificate of Guarantee given to the customer. Replacement or maintenance of guaranteed parts is not to extend guarantee time.

1.3. GUARANTEE EXCEPTIONS

Careless, negligent, improper usage of Wood Shaving Machine and damages due to corrupt practices of the operator are not to be under guarantee. Inconvenient cases resulting from the dismantlement of safety equipments, change in factory settings of Wood Shaving Machine are to cancel automatically the responsibilities of Manufacturer Company and the guarantee. Moreover, usage of non-original spare parts is to be a reason for cancellation of responsibilities and guarantee. The user can only exercise his/her rights of guarantee in case of conformity of guarantee terms included in this document.

1.4. DESCRIPTION AND TECHNICAL FEATURES

Wood Shaving Machine, is put into customer's service in accordance with the regulations and implementations regarding usage, safety, production required by manufacturer's special terms, standards regarding 2006 / 42 EC MACHINE SAFETY INSTRUCTION.

TECHNICAL FEATURES:

Max. Log Input Length	140 cm
Max. Log Input Width	45 cm
Cutter Heads	4 pcs
Knives per Cutter Head	6 pcs
Speed of Cutter Head	4500 rpm
Diameter of Cutter Head	140 mm
Drive Capacity	25x2 = 50 HP (37KW)
Shaving Depth	1 mm – 5 mm
Travelling Distance of Wood Container	2200 mm
Feeding Speed (Hydraulic)	0.1 – 0.25 m/sec (6-15 m/min)
Dimensions of Machine (W x L x H)	115 x 515 x 180 cm
Weight of Machine	“ 2850 kg

YT-145		<i>Cutting Depth</i>				
		1 mm	2 mm	3 mm	4 mm	5 mm
Speed	0.10 m/sc	227 kg	454 kg	680 kg	907 kg	1.134 kg
	0.15 m/sc	340 kg	680 kg	1.021 kg	1.361 kg	1.701 kg
	0.20 m/sc	454 kg	907 kg	1.361 kg	1.814 kg	2.268 kg
	0.25 m/sc	567 kg	1.134 kg	1.701 kg	2.268 kg	2.835 kg

* Data given on the table has been calculated 1 hour operation and 1m³ = 700kg basis.

* Wood loading time and space between wood pieces have not been taken into account.

1.4.1. Structure

Relevant Groups forming Wood Shaving Machine have been described here below. Dispersal of all parts has been determined in 5.1 Installation – Dismantlement Pictures Spare Part Lists.

1. Electrical Panel
2. Hydraulic System
3. Wood Container and Anti Jamming System
4. Conveyor Belt

1.4.2. Electrical Panel

Electrical Panel and Electric Control Panel have been determined in Article 3.2. and 3.3. Electrical Panel and Electric Control Panel, by enclosed cycle diagrams.

“Main Switch” near the electric control panel is to be turned on in order to use the control buttons on Electric Control Panel of the machine. Main switch of the machine is to be kept turn off when it is not used.



There are separate start and stop buttons for each twin cutter heads and wood container on the electric control panel.

Furthermore, there is an emergency stop button on electric control panel to stop all the electric motors. Its lock should be unlocked in order to work again.

Electric buttons of cutter heads (there are 2 on the electric control panel) **should not be started at the same time.**

Second one must not be started unless the first one reaches the maximum speed.

The wood container will not start until both electric motors of cutter heads reach the maximum speed. This is prevented electrically.

On the other hand, should one of the electric motors of cutter heads stop for any reason, all the electric motors on the machine would be stopped automatically. This precaution is implemented on the electrical panel.

There are not separate start and stop buttons for conveyor belt on the electric control panel. Because, this system works with wood container at the same time. For some reasons such as cleaning etc, it can be worked by wood container's manually working button. This button should be **pressed and held** for this.

In the case of overload relay break or any other breakdown situation, the overload relays in the electrical panel should be checked visually. You should push on the overload relay button that is broken in order to make it work again.

After this operation, if the same overload relay breaks for 3 times consecutively, this can be a sign of an electric fault or a mechanical jamming.

In order to make the machine work properly, there should not be any deficiencies even on one of the phases and the voltage range should be between 360-400 V. Make sure that the electricity comes within these limits.

Installation or removal to/from of any electrical equipment on the electrical panel should not be done. Do not forget that any kind of misuse like above will be out of the guarantee of electrical panel and its installation.

1.4.3. Hydraulic System

Hydraulic tank has been formed by combination of metal sheet equipment. It stores hydraulic oil. There is a cover connected to screws on hydraulic tank and a rubber seal filter for prevention of leak between cover and tank.

A cooling radiator exists for cooling the heated oil on the system connected on the cover hereon. Temperature thermostat for providing the performance at 40 – 45 C° on the radiator, reversal filter for filtration of oil from radiator and an air cleaner for filtration of air intake and outlet in and from the tank exist.

There is a valve draining the oil from tank and an indicator showing the stored oil level.

Hydraulic system that is used for the movement of wood container is located in the inner part of the machine.



It is necessary to put in appropriate quality of hydraulic oil (DTA-46) to make the hydraulic system work properly.

Oil level should be in the limits that are shown on the oil level indicator.



The pressure and speed adjustment buttons of the hydraulic system are located on the hydraulic tank.



Pressure level should be between **70-100 bars**. Pressure level can only be checked while the machine is working (at the maximum strain).

While it is possible to adjust pressure and speed level please do not ignore to check temperature of the oil.

On the other hand, there is a cooling system on the hydraulic tank. This cooling system balances the oil temperature. You should avoid appliances that prevent the cooling system's air flow. Therefore the cooling system's surroundings should be kept clean.



1.4.4. Wood Container and Anti Jamming System

Wood container should be taken to left or right hand side (where cutter heads do not exist) to fill in before beginning to work.

There **should not be nail, stone (especially in cracked wood), any metal or plastic object etc.** on/in the wood that would be fed into wood container. Anti jamming system that is mounted on the wood container moves its flaps (front and rear) automatically up and down according to the movement of the wood container.



There are electric switches located at the rear sides of the machine. These switches

control the movement of the wood container. When the wood container reaches either switch this mechanism reverses the movement. So, the wood container moves through the other end.



Anti jamming system is used for preventing the jamming of the wood pieces between the plates and the wood container. But in the case of jamming a wood piece that turns into a very specific shape;

- a) machine (all the electric motors) should be stopped completely,
- b) main switch of the machine should be turned off and without operator's knowledge it should not be turned on.

Wood container should be emptied after that. And the jammed wood piece should be removed.

Do not try to remove jammed wood piece by moving the wood container to left or right pole of the machine electrically.

Movement and speed of the wood container are controlled hydraulically. Speed adjustment button of the hydraulic system is located on the hydraulic tank.



Thickness of wood shavings can be adjusted by the speed of the wood container. You can get more thickness wood shavings by increasing the wood container's speed.

1.4.5. Conveyor Belt

Conveyor belt system is for throwing the wood shavings out of the machine easily. Conveyor belt runs automatically when wood container moves. For some reasons such as cleaning etc, conveyor belt can be run by wood container's manually working button. This button should be pressed and held for this.

There are adjustment (stretching-softening) screws in order to prevent sliding of the belt to left or right from the spindles that it move on. These screws are at exit part of the belt where wood shavings come out. If you tighten one of the screws more than the other then belt will tend to lean on the other (opposite) side.



1.5. LIGHTING

The lighting system here below should be provided by user during usage and maintenance of Wood Shaving Machine. It is required to ensure maximum health and safety conditions to be resulted from probable improper usage and/or maintenance of the related people of the lighting equipment in such technical features.

Lighting should be in proper level, particularly on Electric Control Panel.

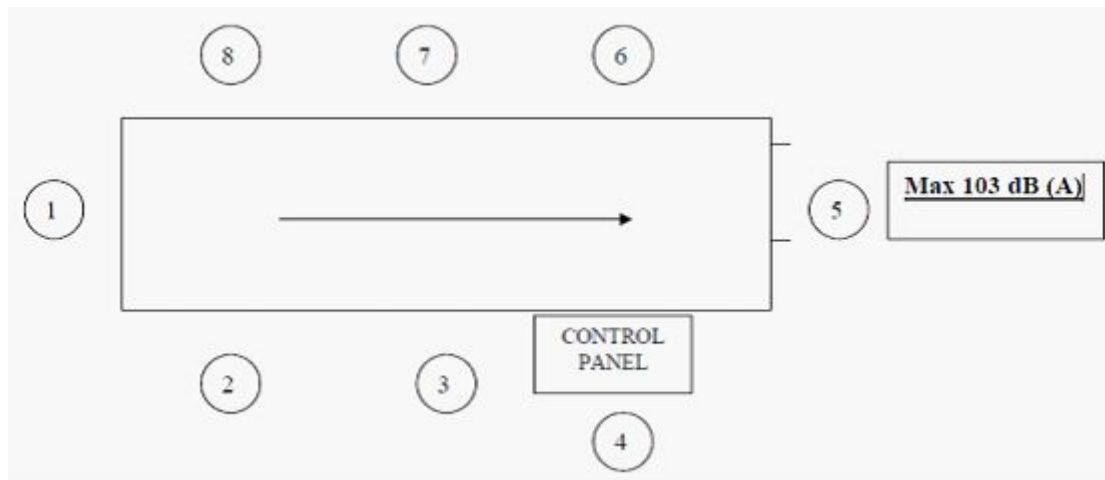
The lighting provided shouldn't be superfluous for users.

Lighting to be used at the time of maintenance should be min. 100 lux on the part of machine to be repaired.

No matter what the situation is, the lighting used at the time of maintenance by the related operator/user, shouldn't be resulted in shining or reflection.

1.6. VOLUME LEVEL

Volume level of Wood Shaving Machine has been measured as Max 103 dB (A) on the 5th part (exit part of the conveyor belt) of the machine. Operator using the machine and the surrounding people should use ear protection as a personal protection equipment.



WARNING!!!



THE OPERATOR USING WOOD SHAVING MACHINE AND THE SURROUNDING PEOPLE SHOULD USE EAR PROTECTION EQUIPMENT. THE COMPANY IS NOT TO BE LIABLE FOR THE SHORT – MIDDLE AND LONG TERM HEALTH EXPOSURES RESULTED FROM THE VIOLATION OF THE REGULATION HEREON !!!

1.7. TERMINOLOGY

The description of the expressions has been defined in “Part 2 – General Safety Standards”: Danger Area, Selected Person, Operator, Expert Workers, Authorized Service

1.8. PAINT

Technical paint definitions of Wood Shaving Machine has been stated here below; and the paint used is industrial wet paint. The paint has no danger for people and environment in case of contact. The paint requires keeping the machine clean in accordance with the instructions for its durability. The machine should be protected from the atmosphere with oxide, (leading to the formation of iron oxide) factors; and the machine shouldn't be cleaned with elements damaging the painted surfaces, removes paint, thinner etc.

The paints used are here below :

Industrial Wet Paint White: RAL 7035 Protection Covers – Wood Container - Electric Panel etc.

Industrial Wet Paint Green: RAL 6018 Main Colour of Machine Body

1.9. INSTRUCTION

Wood Shaving Machine has been manufactured particularly for the production of wood shavings in Wood Sector. The machine should be used by the people got special training for the safe operation of the machine.

Our experts are to train theoretically and with practice the users about usage, maintenance and implementations of Wood Shaving Machine.

It is improper to use the Wood Shaving Machine other than the stipulated purposes and not convenient to the data given in this manual. The Manufacturer Company is not to be liable directly or indirectly for the results hereon.

WARNING!!!



FOR ONLY EXPERIENCED AND AUTHORIZED PEOPLE TRAINED FOR THE USAGE OF WOOD SHAVING MACHINE. !!!

Person or people to use Wood Shaving Machine should be trained , excluding the authorized operator.

The Manual for Usage and Maintenance given with Wood Shaving Machine, should be saved in an attainable and harmless situation for the requirement after the full study by operator and other authorized people and following processes.

PART 2 GENERAL SAFETY STANDARDS

2.1. SAFETY

The user should give information to the workers about risks bringing about accident, instructions, equipments regarding operator's safety and general accident prevention standards stipulated by the country regulations in which Wood Shaving Machine to be used. Operator's safety is one of the main concerns of the machine manufacturer. People should try to stipulate all probable dangerous situations and consequently take the necessary precaution measures when manufacturing a new machine. Rate of accident resulted from improper and amateurish usage of different machines is considerably high. Therefore, it is recommended to read the manual and particularly precaution measures accurately and take care of the dangerous operations. The manufacturer company is not to be liable for the damages resulted from improper usage of Wood Shaving Machine and unauthorized alterations.

WARNING!!!



THE MANUFACTURER COMPANY IS NOT TO BE LIABLE FOR THE CASES RESULTED FROM VIOLATION OF SAFETY STANDARDS INCLUDED IN THE MANUAL HEREON.

Beware of the WARNING!!! symbol, and the places stated in the manual. The sign, indicates a probable dangerous situation or an important information to be carried out by the user, operator, and warnings about the risks resulted in death or health damages or serious injury by improper fulfillment of the instructions determined.

2.2. RECOGNIZED TERMINOLOGY

After the definition of different dangerous levels, the explanations concerning people or directly machine and special terms have been made as follows:

Danger Area: Every area entertaining risk in terms of human safety and health of

people around the machine. (2006 / 42 EC Instruction)

Human Exposed to Risk: People within danger area completely or partially. (2006 / 42/EC Instruction)

Operator: People responsible for installation, performance, usage, arrangement, maintenance, clearing, repair and transportation operations of the machine. (2006 / 42/EC Instruction)

User: An individual, enterprise or company requiring to use the machine within stipulated purposes, purchaser, renter or director of the machine.

Expert Workers: People beware of the risks resulting from improper usage of the machine and having required experience and special training about repair and/or maintenance regarding the performance, safety equipments and intervention measures of the machine.

Authorized Service Center: Authorized Service having experienced and qualified personnel of support, maintenance and repairs required to keep the machine in good order and for complicated situations; legally authorized by the Manufacturer Company.

2.3. GENERAL SAFETY REGULATIONS AND SYMBOLS

2.3.1. General Safety Regulations – Information Regarding Machine Safety

☞ Read the manual carefully before operating Wood Shaving Machine.

WARNING!!!



IT IS STRICTLY FORBIDDEN TO OPERATE THE MACHINE BEFORE READING AND ASSIMILATING THE INFORMATION GIVEN IN THE MANUAL OR PERMIT PEOPLE TO OPERATE THE MACHINE WITHOUT READING OR ASSIMILATING THE INFORMATION GIVEN IN THE MANUAL AND PERMIT UNQUALIFIED PEOPLE TO OPERATE THE MACHINE.

☞ The definition of symbols and functions on the machine and in the manual are to be understood accurately before operating the machine.

WARNING!!!



THE DEFINITIONS OF THE SYMBOLS ON THE MACHINE AND ELECTRIC PANEL HAVE BEEN INCLUDED IN THE MANUAL. (PART 3.2 AND 6.2)

WARNING!!!



READ THE MAINTENANCE AND USAGE MANUAL CAREFULLY WHEN THE SYMBOL HEREON IS SEEN.



☞ Wood Shaving Machine is to be used only by an adult operator in accurate psychophysical situation.

☞ The operator using Wood Shaving Machine either constantly or discontinuously is to follow main and simple rules of conduct and to have required information and qualifications to protect himself/herself and other people's safety and Wood Shaving Machine against risks.

☞ The person using Wood Shaving Machine is to operate the machine in accordance with the purposes determined for the machine. The user is to take the local

possibilities and the situation into account, and take care of children and third parties when operating the machine.

⚠ The workspace of the machine is to be controlled if any person or object is Existing.

⚠ It is strictly forbidden to intervene in or contact to any active part or to enter between the parts hereon.

⚠ Warning labels mounted on Wood Shaving Machine include valuable information regarding operation of the machine safely.

⚠ Legal Accident Prevention Regulations, besides the information included in the Manual are to be taken into account.

⚠ The operator when using Wood Shaving Machine, is to wear the costume in accordance with job security and health; there are parts to be dangerous and active on the equipment. It is forbidden to wear large and flying clothes, large armed clothes, large pants, large business clothes etc. The operator should wear appropriate clothes to prevent industrial accident.

⚠ There is an “EMERGENCY STOP” button to stop all the electric motors in case of dangerous situations when operating Wood Shaving Machine, on the electric control panel and near the hydraulic system. The button is to be turned on after providing safety. The button should be controlled whether it is held down , if the equipment is not working for any reason whatsoever.

⚠ The materials easy burning and flaming are to be kept away from the machine. Wood Shaving Machine shouldn't be used without taking the special precaution measures in the Potential Explosive Atmosphere. Fire extinguisher equipments are to be provided around the machine in this atmosphere.

⚠ The loading and discharging area of the Wood Shaving Machine and knife located area are to be respected as “DANGER AREA” for all people not trained about the usage of the machine.

⚠ The operator should intervene in immediately and keep the unauthorized person and/or organ of the person in “DANGER AREA” away from the area when realized.

⚠ Wood Shaving Machine should be placed according to the requirements submitted by the manufacturer company establishment plan, before operation of the machine. Warnings regarding type of items to be loaded on the machine are to be taken into account. When feeding wood materials into Wood Shaving Machine; anyone shouldn't be in danger area during collection, lifting and placement of the compound. Maximum attention should be paid for not dropping the materials on anyone and the machine. Any overloading shouldn't be carried out into the wood Container.

WARNING!!!



IT IS STRICTLY FORBIDDEN TO LOAD AND DISCHARGE AND COME CLOSER TO THE MACHINE UNSAFELY !!!

PAY ATTENTION TO SAFETY AND HEALTH OF OTHER PEOPLE AROUND WHEN LOADING TO THE MACHINE !!!

- ⌘ Wood Shaving Machine should be placed in the area for protection from outer factors (rain, lightning, snow, wind, sun etc.)
- ⌘ The lighting around Wood Shaving Machine is to be arranged properly for the People.
- ⌘ Wood Shaving Machine has been manufactured for shaving the wood fed into the wood container. Any material shouldn't be fed into the wood container, other than wood.
- ⌘ Be clear about any chemicals, pressed pots including liquid – gas, medical waste, drugs, flammable and explosive elements – materials, toxic pots – packages, metal waste and scraps etc. not put in the wood container.

WARNING!!!



IT IS STRICTLY FORBIDDEN TO PUT CHEMICALS, PRESSED POTS INCLUDING LIQUID - GAS, MEDICAL WASTE, DRUGS, FLAMMABLE AND EXPLOSIVE ELEMENTS - MATERIALS, TOXIC POTS – PACKAGES, METAL WASTE AND SCRAPS ETC. MATERIALS AND/OR ELEMENTS HARMFUL FOR HUMAN AND ENVIRONMENTAL HEALTH TO WOOD SHAVING MACHINE!!!

WARNING!!!



DO NOT PUT MATERIALS OTHER THAN WOOD INTO WOOD SHAVING MACHINE. TAKE CARE OF WOOD MATERIALS PUT INTO THE MACHINE, NOT INCLUDING METAL, WIRE, NAIL ETC. ON THE CONTRARY, THE MACHINE AND THE KNIVES CAN SUFFER HARM. MANUFACTURER COMPANY IS NOT TO BE HELD RESPONSIBLE FOR THE CASES HEREON!!!

- ⌘ The operator should wear sufficient personal protective clothes, steel head shoes and gloves when carrying out loading operations into Wood Shaving Machine with hand.

WARNING!!!



IT IS STRICTLY FORBIDDEN TO ENTER IN THE DANGER AREA, WOOD SHAVING LOADING CONTAINER AREA, WHEN OPERATING THE MACHINE AND TO DISMANTLE THE PROTECTIVE COVERS !!! NECESSARY MEASURES SHOULD BE TAKEN WHEN MAINTENANCE AND/OR DISMANTLING THEM FOR ANY REASON!

- ⌘ The operator should wear gloves, steel head shoes, protective glasses, hard hat and business clothes during transportation of shavings thrown by loading, lift, transportation operations of the wood materials and/or chumps to be fed into to the machine.

⚠ It is forbidden to dismantle the components and protective plates on Wood Shaving Machine.

WARNING!!!



BEWARE OF PEOPLE AROUND AND ON THE MACHINE BEFORE PUSHING START BUTTON.!!!

⚠ Flammable materials should be kept away from the machine. The machine shouldn't be used in Potential Explosive Places without taking precaution measures (fire extinguisher etc.).

⚠ The system could not be operated without pushing start button, if there is an unfinished circle after power cut.

⚠ Oil tank drainage valve shouldn't be operated when using Wood Shaving Machine.

⚠ Personal protective equipments such as mask etc. should be provided if Wood Shaving Machine is to be operated in dusty and open spaces, for protection of the operator from harmful air.

⚠ Wood Shaving Machine should be cleaned every day and risks such as falling down, sliding etc. around should be taken into account.

2.3.2. General Safety Symbols –Precautions Against Risks For Users

The machine has been manufactured as meeting all probable worker safety and protection standard requirements. Other remained risks, other than indicated on the machine according to the sticker symbols may exist. These symbols (as determined in Article 6.2.) indicate on the Wood Shaving Machine and mean different main unsafety and dangerous situations.

WARNING!!!



THE USER SHOULD KEEP ALL SIGNS AND SYMBOLS CLEAN, SHOULD REPLACE IN CASE OF ANY DISMANTLEMENT OR DAMAGE.

Provided referring to the tables included in Article 6.2. , the information given should be read and the definitions should be understood accurately.

2.3.3. Protective Equipment

WARNING!!!



The operator carrying out the maintenance of the Wood Shaving Machine should wear sufficient clothes, in consideration of active and dangerous parts on the machine. It is forbidden to wear large and flying clothes, large armed clothes, large pants, large business clothes etc. In particular, belts, scarfs, silk scarf, ribbons, half belts, necklace, long hair etc. require utmost attention. The matters hereon, may be dangerous for people in terms of maintenance of Wood Shaving Machine. It is forbidden to wear all type of clothes preventing people's movement or stability. Operator should wear sufficient clothes for prevention of industrial accident.

2.4. ECOLOGY AND POLLUTION

WARNING!!!



For clearing and maintenance of Wood Shaving Machine; instructions of manufacturer company and the country regulations in which the machine to be used, should be observed. In case of breakdown of Wood Shaving Machine, anti-pollution regulations of the country in which the machine to be used, should be observed. If required, various legal and internal operations should be carried out regarding the disposal of machine and/or any part of machine. The part / parts arised after breakdown and periodic maintenance of the machine, should be disposed of according to the environmental and health regulations of the country concerned. Skid, fall down, hurt dangers should be taken into account in case of existence of the usage / leakage of materials such as oil etc., waste materials around the machine, indicated in the instructions during maintenance and/or usage of the machine. Such wastes should be cleaned immediately, and not to be left posing danger to environment and people.

2.5. SAFETY EQUIPMENTS

Wood Shaving Machine includes safety equipments as here below.

- 1) **Emergency Stop:** There are two "EMERGENCY STOP" buttons for emergency and dangerous situations, in the form of red mushroom. One of the buttons is on the control panel, the other is placed near the hydraulic system. The button cuts the electric connection immediately when pushed, everything working with electric on the equipment be closed automatically. The button releases by turning clockwise.
- 2) **High Pressure Switch:** There is only one pressure switch. It provides the performance of pressure required of the system.
- 3) **Protective Covers:** There are protective covers preventing attainability to the knives on the left and right side of the active wood container, protective covers preventing attainability to wood container wheels and main protective covers on the left and right side of the machine. Active wood container has been signed as lines.
- 4) **Overload Relay:** It cuts electric in case of more electric current of the machine.

5)

5) **Phase Protection:** It prevents the dangers resulted from improper contact of phase and operation of the machine in the opposite direction.

6) Electric Panel Energy Cut Switch: Electric Panel Door is connected to a safety switch, that cuts the energy of machine automatically when opening the door.

2.6. SAFE MAINTENANCE

The detailed information regarding maintenance, replacement of parts, cleaning etc. has been included in the manual. Important items to be taken into account have been indicated hereon:

⚠ The main switch should be turned off before carrying out other function or replacement of part or cleaning and maintenance of the machine.

WARNING!!!



A WARNING SHOULD BE HUNG ON INDICATING THE MAINTENANCE BEFORE BEGINNING TO MAINTENANCE!!!

⚠ Maintenance should not be carried out before cutting electric energy feeding the machine from main switch.

⚠ Any maintenance shouldn't be carried out when operating the machine.

⚠ Required replacements should be carried out for prevention of probable dangers and loss of efficiency, and accident by controlling periodically the pipes of transfer equipments concerned, tightness of screws of the machine and the equipment screws on frame.

⚠ Beware of the conformity of oils recommended by the Manufacturer Company. Arrange the knives and replace the oils as stipulated by Manufacturer Company.

WARNING!!!



ONLY USE ORIGINAL SPARE PARTS.!!!

⚠ It is forbidden to dismantle safety equipments or change the factory settlements.

⚠ Do not change the machine settlements for the safe operation of system.

⚠ Do not pour liquid such as water etc. into the oil tank.

⚠ Check the hydraulic oil pipes daily against leakage.

⚠ The maintenance of the machine should be carried out by only expert workers or authorized service personnel provided following the instructions in the manual.

- ⌘ Replacement of the parts damaged or worn should be carried out by expert workers / authorized service personnel.
- ⌘ The activities regarding breakdown and/or periodic maintenance stipulated, should be registered and followed by authorized operator for durable and safe operation of the machine.
- ⌘ Machine and surrounding of the machine should be kept clean after maintenance.
- ⌘ Do not change oil when the machine is working.

2.7. TRANSPORTATION AND DIMENSIONS

Manufacturer Company instructions should be observed for safe transportation of Wood Shaving Machine.

The weight of the machine as determined in the table should be taken into account and the lift equipments for safe lift operation of the weight hereon, should be used by competent people. The places to lift the machine (lift apparatus) have been indicated by yellow coloured paint. The machine is to be transported according to the pictures and warnings here below, by taking the signed points into account. Machine and/or surrounding safety should be provided during transportation.

The machine is to be lashed safely by convenient points in the vehicle. The precautions hereon also include loading and discharging of the machine from vehicle.

WARNING!!!



MANUFACTURER INSTRUCTIONS SHOULD BE OBSERVED
DURING TRANSPORTATION OF THE MACHINE..!!!

Dimensions Without Packaging

Weight of Machine	: 2850 kg
Height of Machine	: 180 cm
Width of Machine	: 115 cm
Length of Machine	: 515 cm

2.7.1. Removal of Packaging



Width with packaging W : 135 cm
 Height with packaging H : 210 cm
 Length with packaging L : 490 cm
 Weight with packaging : 3200 kg

The machine is to be delivered as indicated in the picture above with packaging with the yellow coloured lift apparatus. For dismantlement of the packaging;

- ⌘ The woods on the ceiling and four side should be dismantle without any harm to the machine and surrounding.
- ⌘ The plastic cover on the machine should be taken.
- ⌘ Then, fixing screws as shown in the picture here below of the accessory box should be dismantled. The accessory box should be taken carefully.



The machine should be as shown in the picture above.

8 connection nuts on the base should be dismantled as indicated in the picture below for safety of the machine packaged.



2.7.2. Installation of Machine Legs

The eye ring on yellow coloured lifting apparatus on the machine should be lift by observing the weight of the machine as determined above, by way of an optimum capacity crane after removal of packaging and accessory box. Job security regulations should be observed when carrying out the lift operations. Do not start transport operations without providing the safety of the environment and machine. The machine should be placed on the area convenient to the working space in terms of wiring and the ground planned before.

1. The machine should be lift up before starting installation operations of the machine legs; and at least 4 battens should be placed between the base and the machine.



1



2



3

2. The machine should be lift up for proper installation of the machine legs and the legs in the accessory box as shown in the picture 1 should be installed to the sockets as shown in picture 2.
3. Nut of the legs should be screwed on as shown in picture 3.
4. Then the top nut of legs should be installed as shown in picture 4 and 5. The process is to be implemented for 8 leg sockets.



4



5

WARNING!!!



THE LAST TIGHTENING PROCESS OF THE LEGS SHOULD BE CARRIED OUT AFTER THE CONTROL OF WATER GAUGE AND PARALLELISM OF THE MACHINE TO THE GROUND BEFORE TIGHTENING THE LAST CONTRA NUT OF THE LEGS. !!!

2.7.3. Lift of the Machine by Crane and Dismantlement of Lifting Apparatus

Dismantlement of lift apparatus should be carried out as shown in the picture Here below, after placement and leg installation operations.



1. The space of lift apparatus should be taken as shown in picture 1.
2. 4 screws – nuts connection as shown in picture 2 should be dismantled as shown in picture 3.



4



5



6

3. 4 connection screws as indicated in picture 4 hereon should be dismantled.

4. Lifters should be dismantled from their sockets as shown in picture 5 by taking into account the stability.

5. The machine should be as shown in picture 6.



7



8



9

6. Lift pipes should be dismantled from the sockets as shown in picture 7 and 8.

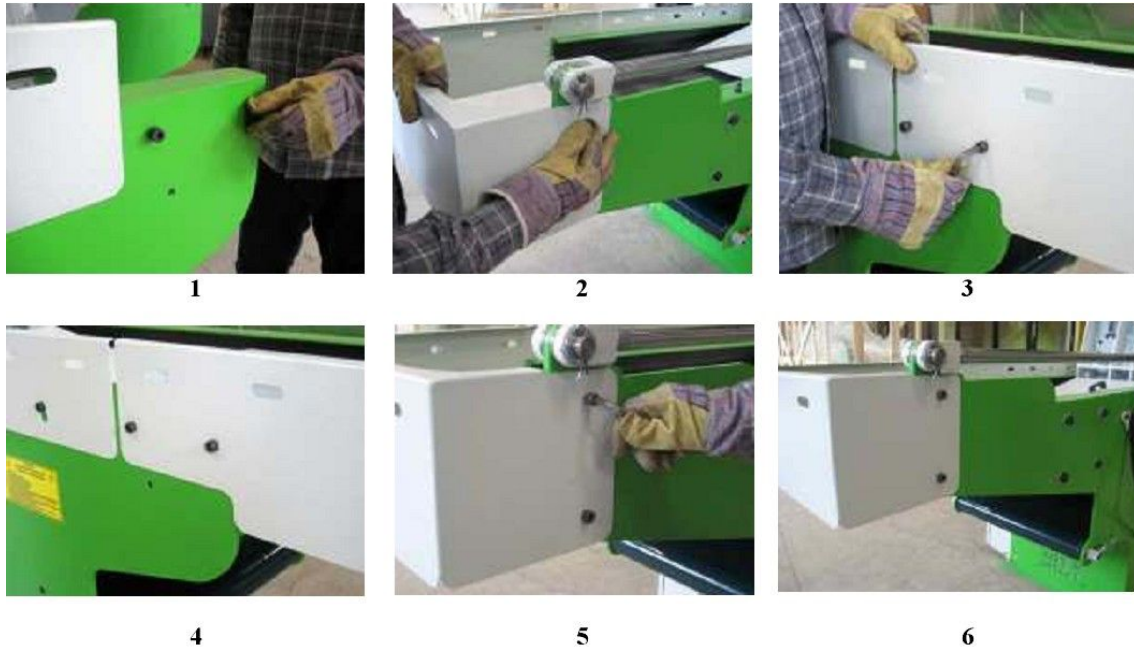
7. 4 polyamide plugs in the accessory box should be installed to their places.

2.7.4. Installation of Machine Protection Covers

The installation operation of protection covers as shown here below should be carried out after placement of the machine accordingly.

1. Cover screws in picture 1 of protection covers installed at front and back side of the machine should be dismantled.

2. The protection covers should be placed accordingly; and the screws should be tightened as shown in picture 2 - 3 - 4 - 5 - 6 . Do not work the machine without protection covers.



PART 3 USAGE OF WOOD SHAVING MACHINE

3.1. PLACEMENT OF WOOD SHAVING MACHINE

- ⌘ Do not operate the machine on the soft ground.
- ⌘ Provide parallelism with water gauge before operating the machine.
- ⌘ The electric cable to be connected to the machine should include protection covers etc. in accordance with job security. Electric cables should be installed if possible under ground, if not possible, the risks such as stumbling, falling down etc. are to be prevented.
- ⌘ The surrounding area of the machine should be decontaminated from materials preventing the machine operation and disorders resulting in danger for the operator and dispersity hindering movement area.
- ⌘ It is forbidden to permit people to enter into the danger area, surrounding area particularly conveyor area from where the shavings thrown out and wood container area in which loading operations carried out, when the machine is working, other than authorized people.

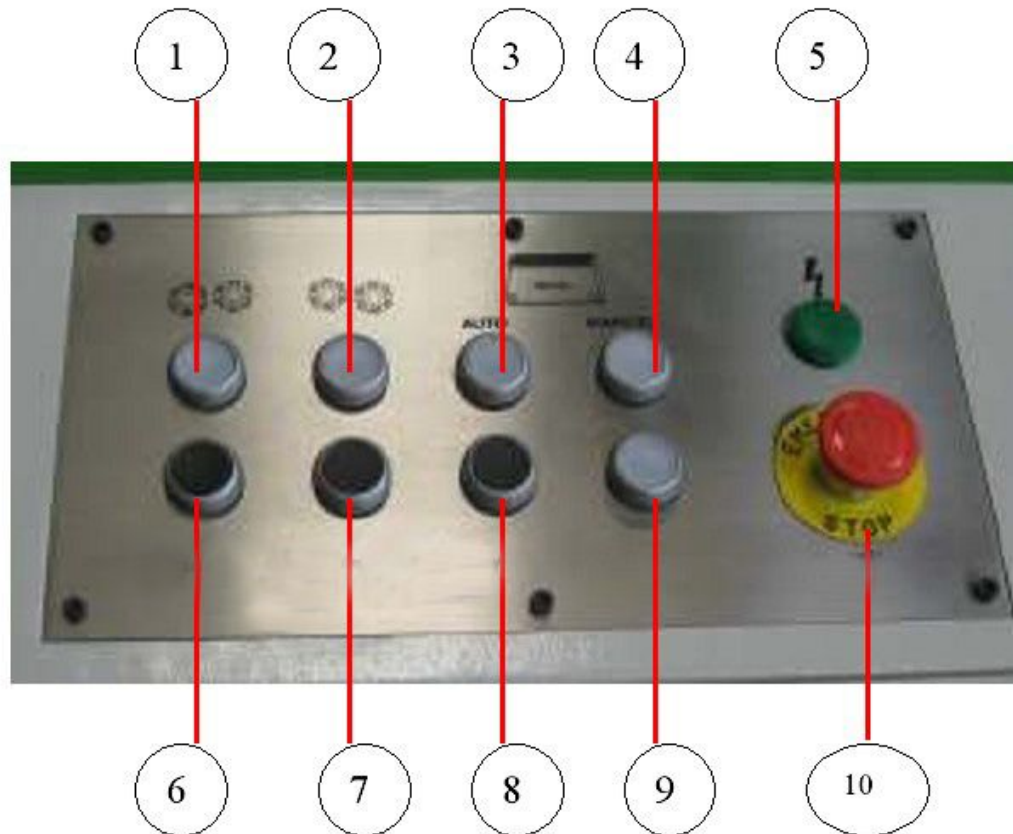
WARNING!!!



IF THE GROUND ON WHICH THE MACHINE IS PLACED, IS HARD AND GLOSSY; THE MACHINE SHOULD BE STABLED TO CONCRETE GROUND BY WAY OF WALL PLUG OR CONCRETED!!!

See Article 2.7. for placement installation and dismantlement operations of the machine.

3.2. ELECTRIC CONTROL PANEL ELEMENTS



- 1) Cutter head motor starting button (I)
- 2) Cutter head motor starting button (II)
- 3) Automatic starting mode of wood container
- 4) Manuel starting direction mode of wood container
- 5) Energy warning light
- 6) Cutter head motor stop button (I)
- 7) Cutter head motor stop button (II)
- 8) Automatic stop mode of wood container
- 9) Manuel starting direction mode of wood container
- 10) Emergency Stop Button

3.3. ELECTRICAL SYSTEM

Electric System of the machine has been designed by using most safe and high quality elements, and enabling easy interference. Electrical Circuit Diagram has been included in the manual annex.

3.3.1. Electricity Connection

The main motor and reduction gear motor of the machine are 380 voltage, 50 Hz frequency triphasic motors.

The feeder cable to provide energy to the system (**3 phase + neutral**) should be in section not resulting in voltage drop. The feeder cable should be provided in accordance with the machine power for safety. See Table in the 3.3.2. Article Here below for proper cable selections and fuse options.

3.3.2. Cable and Fuse Options

The cable used for feeding electric to the machine should be provided in section Here below and the process should be provided as long as machine electrical panel. Cable and fuse options should be as follows:

	YT 145
Total Machine Power	KW 42,87
Cable to be used if the distance of feeder cable to electrical panel is less than 100mt.	3 x 35 + 16
Cable to be used if the distance of feeder cable to electrical panel is more than 100mt.	3 x 50 + 25
Feeder fuse to be used	125 A

WARNING!!!



MANUFACTURER COMPANY IS NOT TO BE KEPT LIABLE FOR PHYSICAL AND MATERIAL DAMAGES RESULTING FROM IMPROPER SELECTION OF CABLE AND FUSE.!!!

WARNING!!!



DO NOT OPERATE THE MACHINE WITHOUT CONNECTION OF GROUNDING CABLE. OTHERWISE, MANUFACTURER COMPANY IS NOT TO BE KEPT LIABLE FOR PHYSICAL AND MATERIAL DAMAGES.!!!

Separate fuse should be provided in the wiring / electrical panel of your place for machine. It should be at least 125 ampere triphase automate fuse.

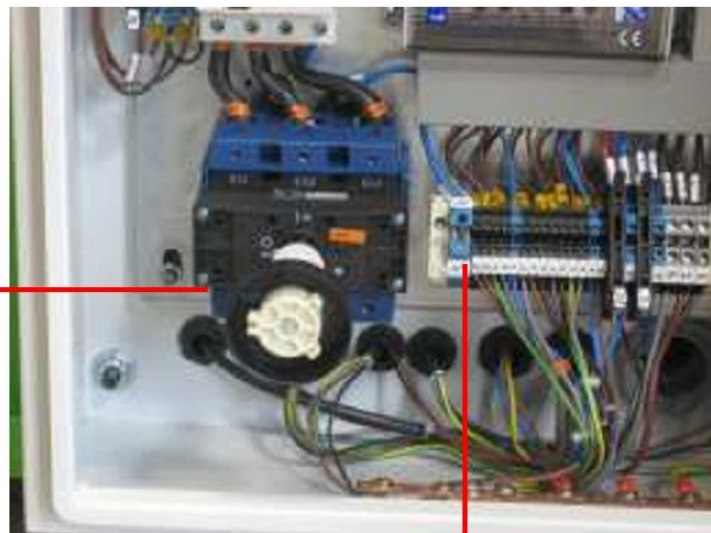
Cable in proper thickness should be selected according to the distance of the electrical panel for the machine.

Cable to be used for electric connection of machine, should be placed on electrical panel by installing through the hole existing on the machine body.



5 Connection of grounding (25 level grounding cable is to be used), neutral and 3 phases of the cable should be carried out properly and accordingly to the places existing on the machine.

ENERGY
INPUT



NEUTRAL
INPUT

Authorized people should be contacted in case of a minimum hesitation during connection operations.
Grounding connection is the most important point regarding electric connection. The machine is not to be operated without grounding connection.

Grounding
Bar



Subsequent to electric connection, the cutter heads should be operated and stopped momentarily by pushing the button controlling cutter-heads. During operation, cutter heads' direction of rotation should be controlled with the direction signs placed Rear side the machine of motor belts. If cutter heads' direction of rotation is operating properly, all other directions will work properly too.

There are 4 cutter heads on the machine. Two of them works in clockwise direction, and the other two in anticlockwise direction.

Electricity shouldn't be provided for aspirator or any other equipment from the machine electrical panel.

Do not forget that such intervene in the machine electrical panel, is a reason for cancelling guarantee for the machine and equipment.

3.4. OPERATIONAL PRINCIPLES

Wood Shaving Machine, carry out lift of shaving operations by feeding the wood materials into the wood container, by movement of the wood container as right and left horizontally, passing the wood materials over the knives placed on the cutter heads under the wood container .

Wood container moves right and left by way of a piston connected to hydraulic system. Knives move by way of belt wheels through cutter heads. Shavings be transferred by way of conveyor belt. System operation mode have automatic and manual options. Machine can be controlled by control system on electric control Panel.

3.5. FIRST CHECKS TO BE EXERCISED BEFORE OPERATION

- Introduction of Wood Shaving Machine
- Safety, health, warning signs and symbols on Wood Shaving Machine

- Electrical Circuit Diagram
- Hydraulic Circuit Diagram
- Standard Accessories

Check the delivery of materials. General view checks should be carried out of the Machine.

✂ Do not operate machine without reading and assimilating the usage and maintenance manual and taking the necessary health and safety precaution measures before installation and first operation of Wood Shaving Machine.

✂ Beware of electric connections in accordance with safety and technical instructions in the manual.

✂ Proper oil level should be checked in the lubrication system.

✂ Oil tank and oil level should be checked. Sufficient electrical conditions should be checked out for the machine as determined in maintenance and usage manual.

✂ Beware of that the Wood Shaving Machine legs are on a flat ground when operating as instructed and parallel with precise balance.

✂ Tightness of screws and nuts should be checked out generally.

✂ Tension of V belts should be checked

✂ Check the installation of protection covers.

✂ Check the motor directions as indicated on the motor.

✂ Beware of people not to be present in the danger area.

✂ Check the knife and cutter head adjustments.

✂ Check the conformity of the conveyor system to work.

✂ Do not permit anyone to enter into wood container.

✂ Check the personal protective equipments of workers.

✂ Check the existence of dielectric material such as rubber etc. in front of the Electrical Panel.

✂ Check grounding connection of Wood Shaving Machine.

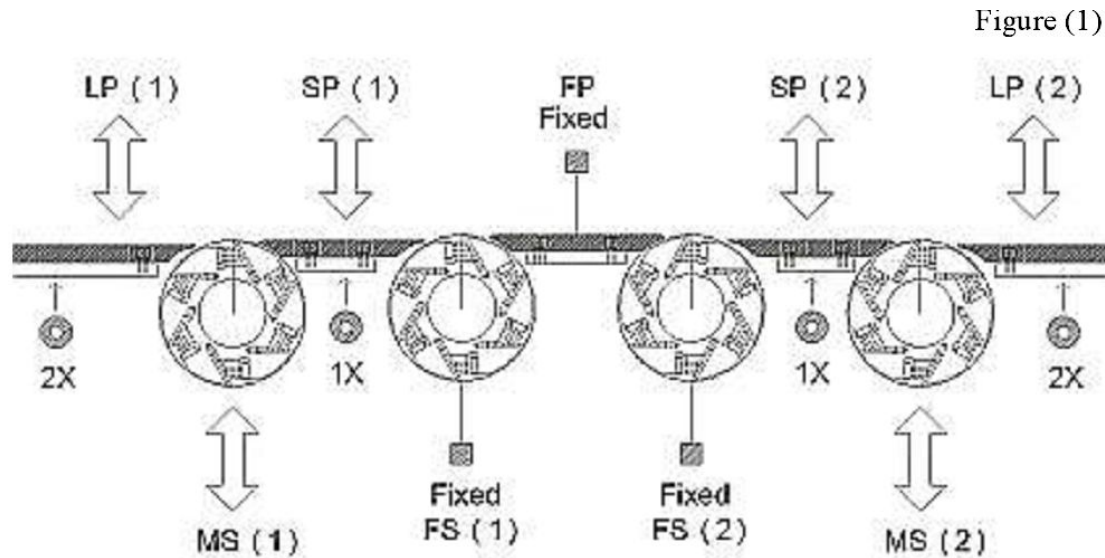
✂ The machine should be generally checked once and professional assistance should be taken for electric connections, authorized people should be contacted in case of a minimum hesitance.

3.6. ADJUSTMENT OF WOOD SHAVING MACHINE

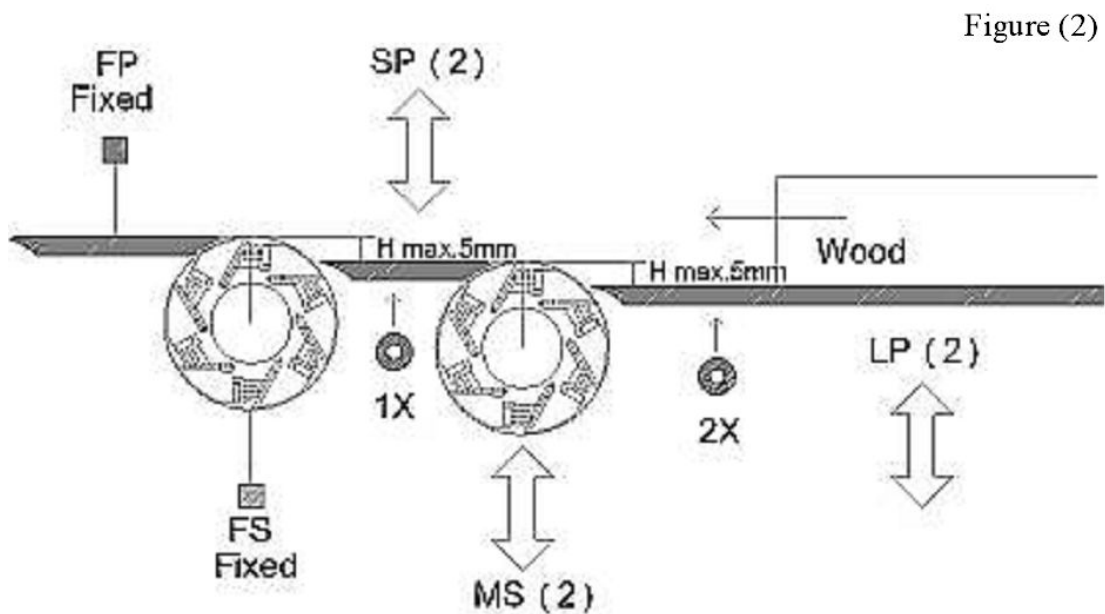
3.6.1. Cutting Depth Adjustment

There are 2 large (LP1 and LP2), 2 small (SP1 and SP2), and 1 fixed (FP) totally 5 pieces of plates on the machine.

On the other hand, there are 2 up-down adjustable (MS1 and MS2), and 2 fixed (FS1 and FS2) cutter heads on the machine. As shown on the Figure (1) detailed below.



As shown on the Figure (2) below the height adjustment limit is up to 5mm.



The items 2x and 1x that are shown on both Figure (1) and Figure (2) symbolize the and sum of the washers, respectively, that are under large plates (LP1 and LP2) and small plates (SP1 and SP2).

The washers that are in the tool-box should be used for changing the cutting depth of wood shavings.

The way to be followed for changing the cutting depth of wood shavings are listed below.

The settings explained below in parts 3.6.1.1, 3.6.1.2., and 3.6.2. should be made in 2 steps by taking the wood container to the left and then to the right pole of the machine. Wood container's manually working button should be pressed and held for this.

Wood container should be empty during these settings.

Length of wood shavings can be adjusted by the height of the plates. You can get longer wood shavings by increasing the cutting depth of wood shavings.



1



2



3



4

1. Remove the protection covers indicated in picture 1 – 2
2. Dismantle the plate numbered SP 2 by removing the screws indicated in picture 3-4.



5



6



7



8

3. Washers should be placed upon holes for required level as indicated in picture 5.
4. Headless screws in the accessory box should be placed to the holes with hand as seen from picture 6.
5. It is to be replaced after cleaning the bottom of the plate removed. picture 7 – 8



9



10



11



12

6. Headless screws should be removed as seen by picture 9.

7. The plate should be installed parallel to the cutter heads after placement of its screws. Picture 10 – 11.

8. V belt protection cover's connection screws should be removed. Picture 12.



13



14



15



16

9. Remove the protection cover of the V belts completely. Picture 13.

10. Loosen the 4 pieces of screws of the front and back bearings slightly which is between the small plate and large plate of the machine. Picture 14 -15.

11. Loosen the contrary nut of the screw of the front and back bearings that is for height set up. Picture 16.



17



18



19



20

12. Height of heads can be adjusted by height set up screw. Picture 17

13. Height of heads can be adjusted in equal level with SP2 plate by way of a flat wooden by observing either side of edge. Picture 18 – 19

14. Tighten the screws of both front and back bearings properly (4x2=8 pieces). Picture 20.



21



22



23



24

15. Tighten the contrary nuts of height set up screws of both front and back bearings properly. Picture 21.

16. LP2 plate screws should be removed. Picture 22.

17. Screw on the lifting eye ring that is in the accessory box to the middle of the large plate as shown above. Picture 23.

18. Lift and remove the large plate with a crane or with an other equipment like shown above. Picture 24.



25



26



27



28

19. Washers should be placed according to the required level as seen from picture 25 to the holes with twice as much of SP 2 .(For example, If you put 2 pieces of washers under the small plate, then you should put 4 pieces of washers under the large plate.)

20. The headless screws should be centralized as seen from picture 26 with hand to the holes. These screws are in the accessory box.

21. Put on the large plate to its place after cleaning the bottom of the plate removed. Picture 27.

22. Remove the lifting eye ring. Picture 28.



29



30



31



32

23. Remove the headless screws as you can see in picture 29.

24. Plates should be installed parallel to the cutter heads. Picture 30 – 31.

25. V belt protection cover's connection screws should be put on and tightened. Picture 32.

3.6.1.1. Reducing Cutting Depth

STEP-1

Small plates (SP1 and SP2) should be removed. For each millimeters of depth to be reduced 1 washer (1mm) should be added. These washers should be placed under the plates (SP1 and SP2) on the screw holes. Please be reminded that equal amount of washers should be placed for each screw hole.

Small plates (SP1 and SP2) should be attached to their places by tightening their screws after those (above mentioned) washers were placed.

For example; in order to reduce cutting depth of wood shavings for 1mm, you should add 1 washer under small plates for each screw hole (SP1 and SP2). So 4 washers should be added in total.

STEP-2

Large plates (LP1 and LP2) should be removed. Washers in twice the amount in STEP-1 should be added. These washers should be placed under the plates (LP1 and LP2) on the screw holes. Please be reminded that equal amount of washers should be placed for each screw hole.

Large plates (LP1 and LP2) should be attached to their places by tightening their screws after those (above mentioned) washers were placed.

For example; in order to reduce cutting depth of wood shavings for 1mm, you should add 2 washers under large plates for each screw hole (LP1 and LP2). So, 8 washers should be added in total.

There are holes in the middle of large plates to be able to lift them. You may make use of eye ring that is in the accessory box by attaching it mentioned holes.



It should not be forgotten to remove that eye ring after the adjustment and before running the machine.

After mounting all the plates (SP1, SP2, LP1, and LP2) by tightening their screws, it is a must to rotate all the cutter heads (FS1, FS2, MS1, and MS2) manually at least one full tour from their pulley side (that are at the back of the machine) to check whether the knives touch to plates or not.

If any of the knives touches the plate the screws of that certain plate should be loosened. And that plate should be pulled away. Do not forget to tighten the screws

properly.

3.6.1.2. Increasing Cutting Depth

STEP-1

Small plates (SP1 and SP2) should be removed. For each millimeters of depth to be increased 1 washer (1mm) should be removed. These washers should be removed from under the plates (SP1 and SP2) from the screw holes. Please be reminded that equal amount of washers should be removed for each screw hole.

Small plates (SP1 and SP2) should be attached to their places by tightening their screws after those (above mentioned) washers were removed.

For example; in order to increase cutting depth of wood shavings for 1mm, you should remove 1 washer from under small plates for each screw hole (SP1 and SP2). So 4 washers should be removed in total.

STEP-2

Large plates (LP1 and LP2) should be removed. Washers in twice the amount in STEP-1 should be removed. These washers should be removed from under the plates (LP1 and LP2) from the screw holes. Please be reminded that equal amount of washers should be removed for each screw hole.

Large plates (LP1 and LP2) should be attached to their places by tightening their screws after those (above mentioned) washers were removed.

For example; in order to increase cutting depth of wood shavings for 1mm, you should remove 2 washers under large plates for each screw hole (LP1 and LP2). So 8 washers should be removed in total.

There are holes in the middle of large plates to be able to lift them. You may make use of eye ring that is in the accessory box by attaching it mentioned holes.



It should not be forgotten to remove that eye ring after the adjustment and before running the machine.

After mounting all the plates (SP1, SP2, LP1, and LP2) by tightening their screws, it is a must to rotate all the spindles (FS1, FS2, MS1, and MS2) manually at least one full tour from their pulley side (that are at the back of the machine) to check whether the knives touch to plates or not.

If any of the knives touches the plate the screws of that certain plate should be loosened. And that plate should be pulled away. Do not forget to tighten the screws Properly.

3.6.2. Height Adjustment of Cutter Heads

STEP-1

By adding or removing the washers as explained above height adjustment should be finished. As it is also shown at Figure (3) and Figure (4) the cutter head MS1 has 8 screws (4 at front and 4 at rear). And the cutter head MS2 has 8 screws (4 at front and 4 at rear) as well. These totally 16 screws should be loosened slightly.

Figure (3)

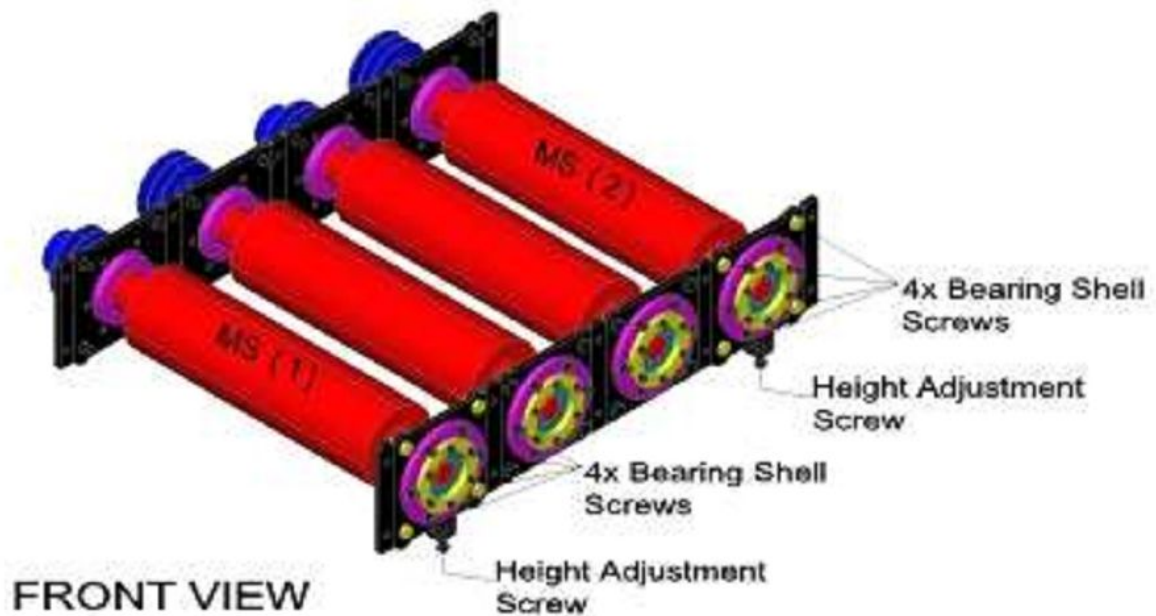
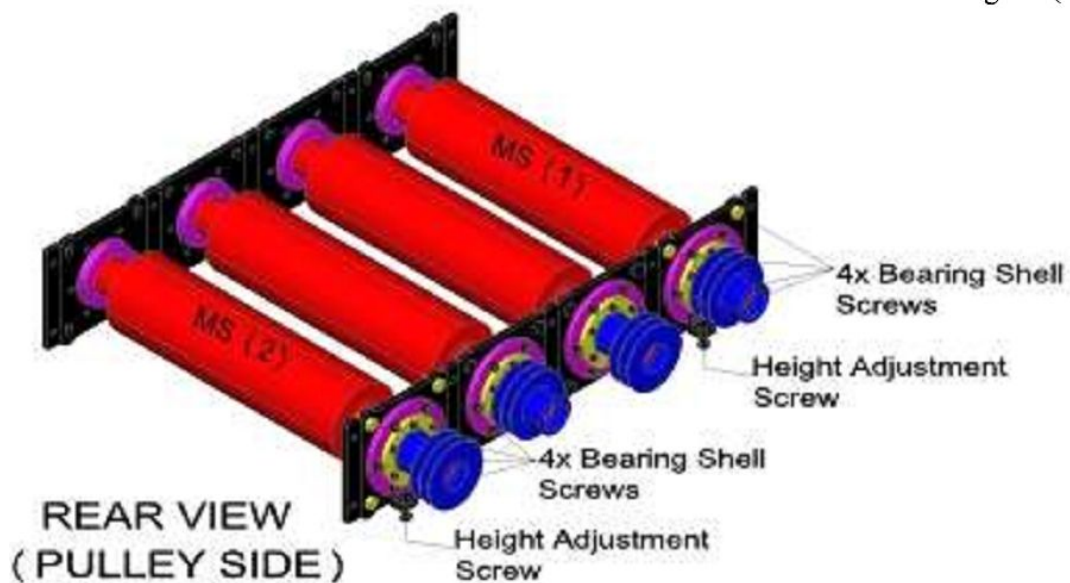


Figure (4)



The screws of the fixed cutter heads (FS1 and FS2) that are at the middle must not be loosened.

STEP-2

After that edge of the knives (that are on the cutter heads) and top of the small plates (SP1 and SP2) should be adjusted to the same height by the help of the screws that are under the MS1 and MS2 cutter heads bearings.

Please do not forget to tighten the contrary nuts after the height adjustment.

STEP-3

Finally, do not forget to tighten the screws of bearings that belong to MS1 and MS2

cutter heads (16 screws in total).

3.6.3. Replacement of Knives

Main switch of the machine should be turned off and without operator's knowledge it should not be turned on during the replacement of the knives.

After knife replacement, all cutter heads with replaced knives (FS1, FS2, MS1, MS2) should be rotated manually at least one full tour from their pulley side (that are at the back of the machine) to check whether the knives touch to plates or not.

Knife adjustment apparatus in the accessory box should be used for an easy and sensitive installation and replacement of knives on cutting heads.

3.6.3.1. Choosing the Right Knife

- ✂ All the knives should have the same thickness and length.
- ✂ To prevent the differences in thickness try to get the knives in the same brand.
- ✂ The thickness of the knives should be checked sensitively with a vernier calliper gauge. Because the dimensions may vary even for the same company for different year productions.
- ✂ The length of the knives should be as equal as possible.
- ✂ It is recommended that you weigh the knives on a precise scale to compare their Weights.

If you do not pay attention to these points there will be a vibration at cutter heads. This will result in short lifetime of the bearings.

3.6.3.2. Precautions About Replacing the Knives

STEP-1

Wood-container should be empty

STEP-2

The process explained below should be made in 2 steps by taking the wood container to the left and then to the right pole of the machine. Wood container's manually working button should be pressed and held for this. Thus the other 2 cutter heads knives could be replaced.

STEP-3

Wedge screws of the knife that would be replaced should be loosened.



STEP-4

Knife moves upwards automatically by the help of the springs (2 pieces) that are under it when its wedge screws are loosened.

If the knife does not move upwards it means you should loosen the screws a little More.



STEP-5

The knife that moves upwards automatically should be dislodged. Please remember to use gloves for safety.



STEP-6

The new one (or the sharpened one) should be placed in the same position.



STEP-7

Knife should be suppressed until it contacts to the point of its base with a hard object preferably with a wooden chock. Be sure that the knife contacts to its base (bottom level) and be sure that it compresses its springs completely.



STEP-8

2 of its wedge screws should be tightened slightly.





STEP-9

There is a knife adjustment apparatus in the accessory box.

The notch that exists at the knife adjustment apparatus should be placed to the flat area properly that is on the cutter head.



STEP-10

Make sure that the edge of the knife does not touch to knife adjustment apparatus. If this is not the case please redo step 7.

STEP-11

Make sure that knife adjustment apparatus is placed (as explained above) properly and does not move (even a little).

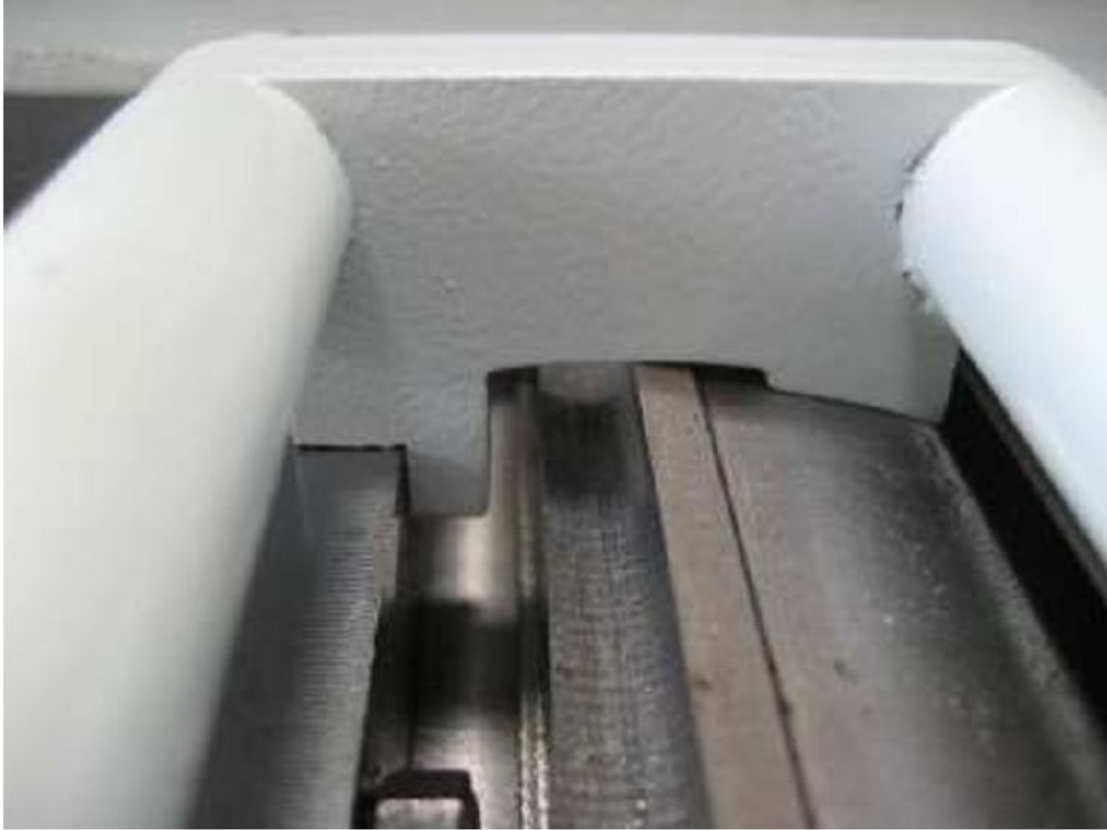
STEP-12

Apply pressure on the knife adjustment apparatus to keep the knives in place before loosening the wedge screws.



STEP-13

2 wedge screws that were tightened slightly before (step 8) should be loosened. Knife would move upwards automatically by the help of the springs (2 pieces) that are under it. The knife should contact to the knife adjustment apparatus.



STEP-14

Make sure the knife adjustment apparatus touches the knife on both ends and there is no gap between them.

STEP-15

Pressure should be applied upon this knife adjustment apparatus during this process. This pressure can be applied manually, or it can also be done through putting weight on the knife adjustment apparatus.

STEP-16

After that 2 wedge screws of the knife should be tightened again. Knife adjustment apparatus should be removed and all the screws that are on the wedge should be tightened properly.



If the wedge screws are not tightened properly the knives might be thrown and it might be dangerous while the machine is working.



STEP-17

This process should be repeated for all the knives that would be replaced by rotating the cutter heads manually from their pulley side.

STEP-18

After changing all the knives, it is a must to rotate all the spindles (FS1, FS2, MS1, and MS2) manually at least one full tour from their pulley side (that are at the back of the machine).



If any of the knives touches the plate redo step 3.

3.6.4. Replacing the Bearings of Cutter Heads

STEP-1

Remove the knives on the cutter head before replacing the bearing.

STEP-2

Remove the V belts that drive the cutter head (For this please read the Replacing V Belts of Electric Motors).

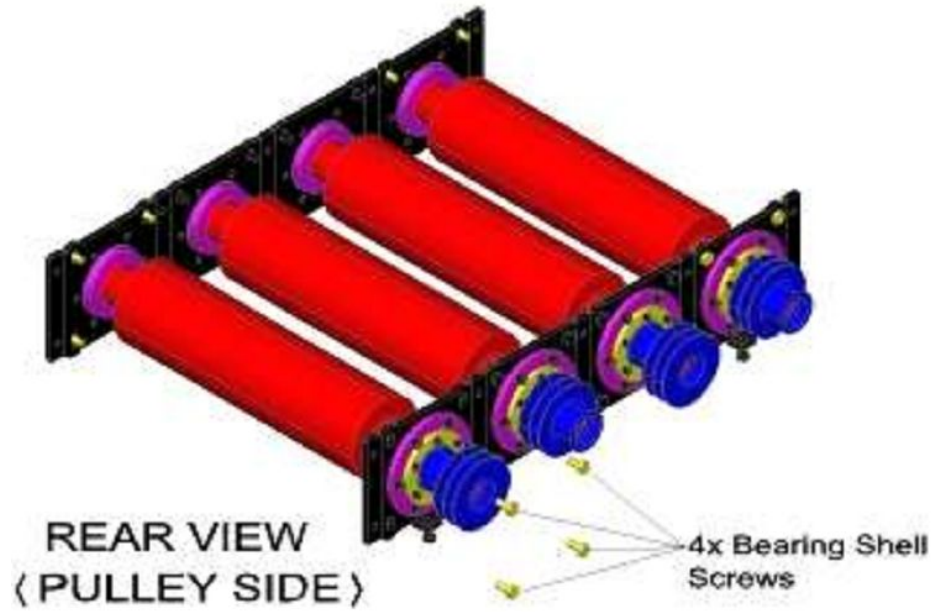
STEP-3

There are 2 bearing shells on each cutter head. (1 bearing shell at front and 1 bearing shell at rear).

STEP-4

4 screws of the bearing shell that is at the pulley side (As shown in figure A) should be removed completely.

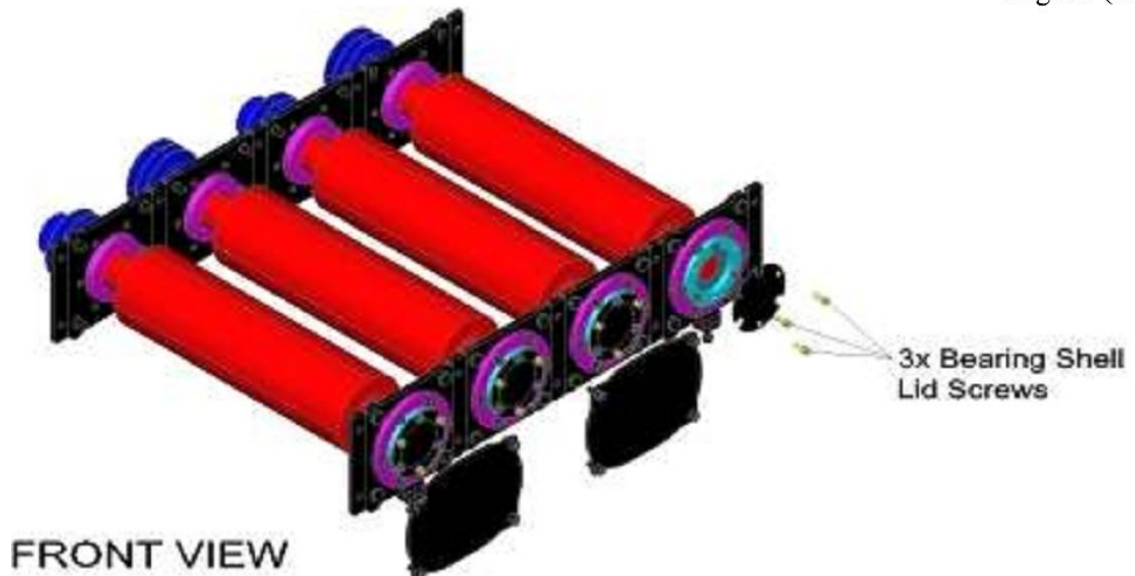
Figure (A)



STEP-5

The lid (As shown in figure B) of the front bearing shell should be removed completely. It has 3 screws.

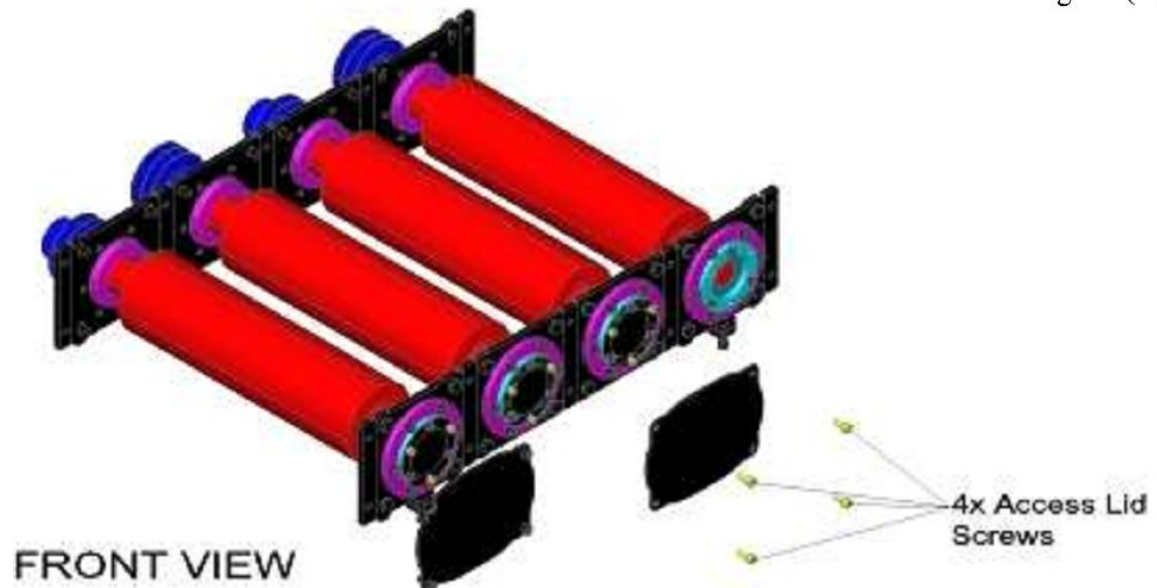
Figure (B)



STEP-6

The access lid (As shown in figure C) should be removed completely. It has 4 screws.

Figure (C)



STEP-7

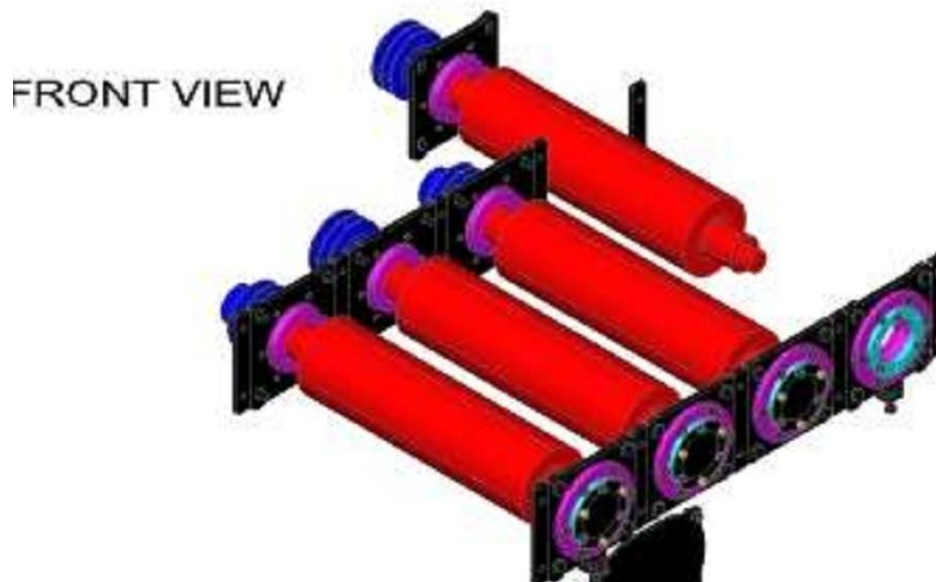
Hammer blows should be applied to front end of the cutter-head. (During this process a support should be placed from the access hole that is opened at step-6.)

For this, a piece of material in such a hardness that would not damage the front edge of the cutter head should be used. For this, there is a tool in the accessory box.

STEP-8

Take the cutter head out (As shown in figure D). Remove the pulley. Take out the rear bearing shell.

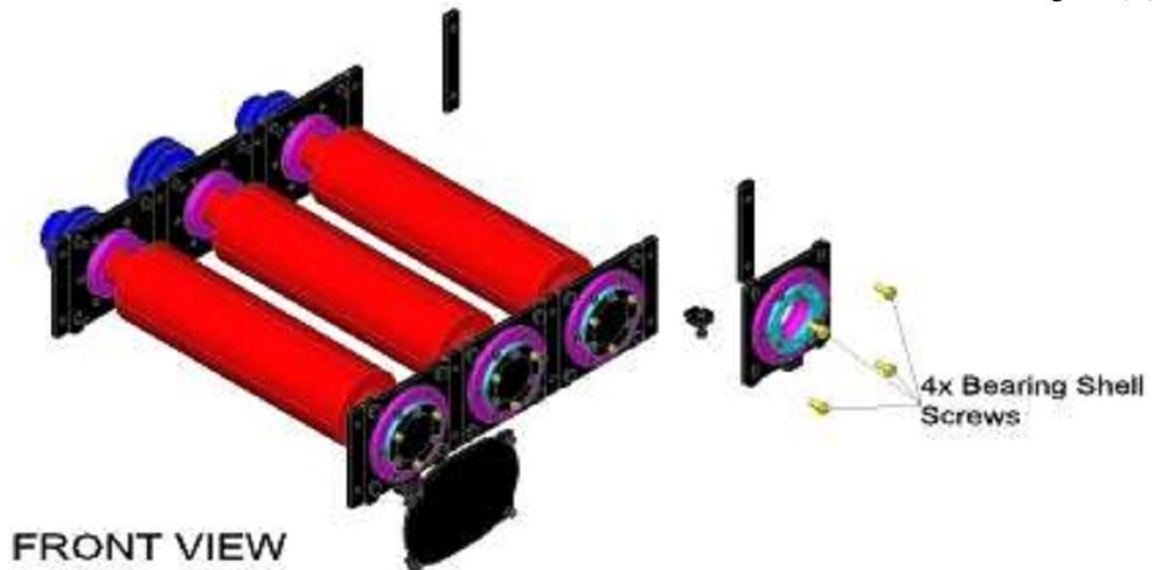
Figure (D)



STEP-9

The front bearing shell (As shown in figure E) should be removed completely. It has 4 Screws.

Figure (E)



STEP-10

The covers of bearing shells should be also removed to be able to replace the Bearings.

STEP-11

The rear bearing shell should be placed upon the cutter head after replacing its bearing.

The part of the cutter head that the bearing shell would be mounted to should be cleaned and lubricated. Pressure should be applied to the inner ring of the bearing during its mounting. After that, V-pulley should be mounted to the rear end of the cutter head.

STEP-12

The cutter head should be mounted to its place from the rear part of the machine. Rear bearing shell should be mounted to the machine by its 4 screws.

STEP-13

After that, front bearing shell should be mounted to front end of the cutter head. The part of the cutter head that the bearing shell would be mounted to should be cleaned and lubricated. Pressure should be applied to the inner ring of the bearing during its Mounting.

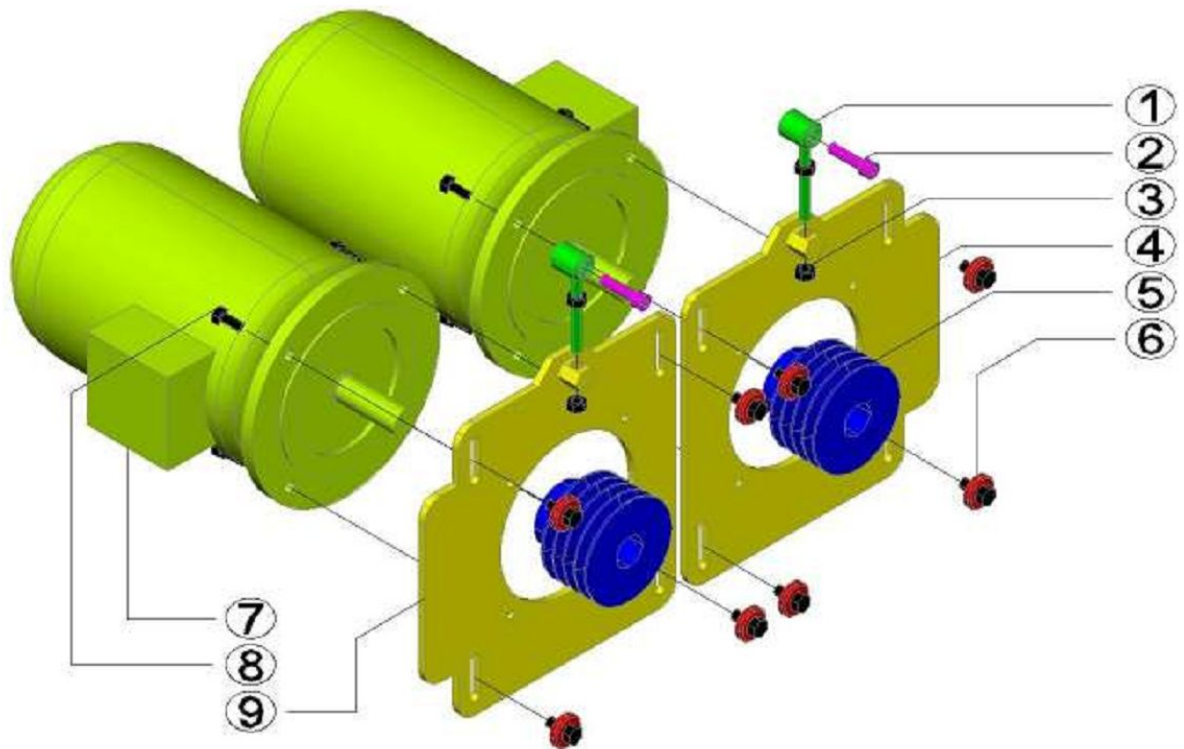
STEP-14

V belts that drive the cutter head should be attached. (For this please read the Replacing V Belts of Electric Motors.)

3.6.5. Stretching Adjustment of V Belts of Electric Motors

The screws numbered 6 as seen in the below picture, 4 pieces for each motor should be loosened. Then, motor group can be moved up and down by way of nuts numbered 3. Thus, stretching adjustment of belts and dismantlement and installment operations can be carried out. After adjustment, screws numbered 6 should be tightened.

Improper belt adjustment effects the performance of system negatively.



3.6.6. Replacement of V Belts of Electric Motors

STEP-1

There are 2 V belts to drive each cutter heads. Therefore there are totally 8 V belts for cutter heads on the machine.

STEP-2

In order to replace V belts as a result of deformation loosen the 4 screws on the plate.



STEP-3

Electric motor should be moved upwards by the help of stretching screw that is above electric motor's pulley.



Thus, enough looseness can be achieved for detaching the V belts.

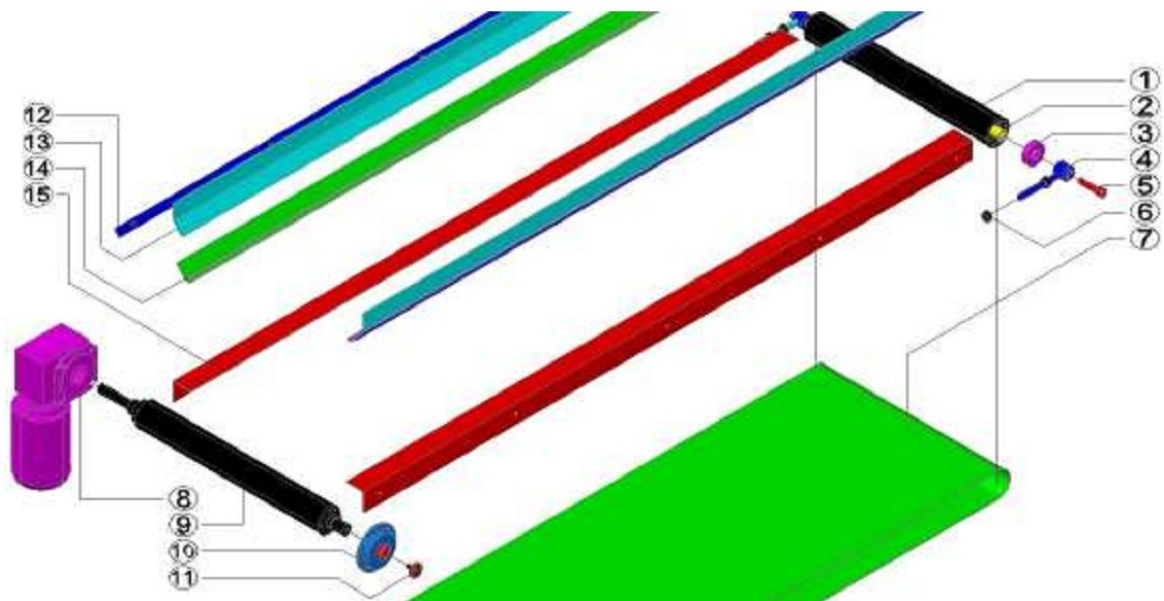
STEP-4

New V belts should be stretched by the help of the stretching screw after attaching new V belts that are to be in the same size as the old ones. Make sure that V belts are not stretched more than enough.

STEP-5

4 screws of the plate mentioned in step 2 should be tightened after stretching.

3.6.7. Stretching Adjustment of Conveyor Belt



The numbered 5 screws should be loosened priorly for stretching adjustment of conveyor belt. Then, numbered 6 nuts should be moved back - forward for providing stretching adjustment. Moreover, it provides operation of conveyor belt in center. The numbered 5 screws should be tightened after adjustment of proper stretching and operation in center.

3.6.8. Replacement of Conveyor Belt

Connection screws of the side skirtings that are numbered as 13 at the picture of 3.6.7. Stretching Adjustment of Conveyor Belt should be removed. Then, the numbered 1 roller carrying the belt should be removed after the removal of numbered 5 screws completely. Numbered 11 screw is to be removed. Connection screws of numbered 10 bearing shell should be removed. During this process the roller should be supported with hand for dropping risk.

The roller is to be removed by taking from the bearing through front direction. Then, the conveyor belt released is to be removed from its place. Installment operations should be carried out adversely.

During the installation of the new belt, the numbered 15 part should be between up

and down inner surfaces of the belt.

3.6.9. Replacement of Hydraulic Piston

System is to be stopped and the energy should be cut when replacing the piston. Pressure in the system should be eliminated. Hose connections are to be dismantled. Connection pins at both end of the piston should be removed. The screws connected the piston to the body of machine should be removed. Piston is to be placed to a clear area without dust by way of a proper lift equipment. A harmless and soft material should be put between piston and ground on a safe ground as straight direction of rear side of the piston. Precaution measures for prevention of falling over of piston should be taken.

If any replacement of component in hydraulic piston is stipulated, the process should be carried out by an expert and qualified person regarding hydraulic operations.

Installation should be carried out adversely provided taking necessary safety measures. Hydraulic hose connections should be carried out after installation of piston in its place. During first operation, the hydraulic hose is to be checked and adjusted for any contact. The replaced piston should be observed for conformity and safety by idling 3 – 4 times when machine was started again.

3.7. OPERATION OF WOOD SHAVING MACHINE

- 1) Main switch on the electrical panel is to be turned on.
- 2) One of the motors of cutter heads is to be operated.
- 3) The first motor operated is to be at maximum speed.
- 4) The other motor of cutter heads is to be operated.
- 5) The second motor operated is to be at maximum speed.
- 6) “Auto” button of wood container is to be operated.
- 7) “Auto” and “manual” buttons of wood container won’t start before operation of both motors of cutter heads.
- 8) Wood container is to be brought in loading area by “Manuel” button without stopping the machine for loading operations.
- 9) After loading operations, “Auto” button is to be pressed for the movement of wood container.

3.8. STOPPAGE OF WOOD SHAVING MACHINE

- 1) Wood container is to be brought in loading area by pressing “manual” button, before stopping the machine.

- 2) All motors of the machine can be stopped by pressing main stop button.
- 3) Do not forget to activate the main stop button after the operation finished.
- 4) In emergency, one of the emergency stop buttons on electric control panel and hydraulic unit area is to be used , and buttons should be activated after providing safety.

3.9. NONUSAGE OF WOOD SHAVING MACHINE

- ⌘ Wood materials in proper dimensions and not more than wood container capacity should be processed.
- ⌘ It is strictly forbidden to put chemicals, pressed pots including liquid – gas, medical waste, drugs, flammable and explosive elements – materials, toxic pots – packages, metal waste and scraps etc. and/or elements harmful for human and environmental health into Wood Shaving Machine!!!
- ⌘ Do not use the machine in open area when raining, snowing etc. and protect from elements such as water etc.
- ⌘ Do not dismantle the protection covers of the machine.
- ⌘ Precaution measures for electrical risks should be taken by a dielectric material placed to the area where the operator presents in front of electric control panel.
- ⌘ Do not carry out loading operations when the machine is operating.
- ⌘ Do not work with machine without personal protection equipments.

3.10. STRUCTURE

The user should give information about the usage of Wood Shaving Machine to the workers. Wood Shaving Machine has been designed for operators instructed about professional usage and maintenance of Wood Shaving Machine.

The instruction is given for proper usage of the operators. During implementation, it is important to create the typical operation stages of the machine in emergency and to practice. The user, is to give information both to the operator working the machine and to the technicians carrying out the maintenance.

The manual for usage and maintenance should be read carefully and is to be followed as a part of machine and the machine is to be protected from outer effects and kept in closed area during lifetime. It should be attainable.

3.11. AUTHORIZED SERVICE AND COMMUNICATION

Manufacturer Company, provides guarantee for twelve (12) months as from the purchasement date of Wood Shaving Machine. The guarantee, is only be effective for

free part replacement after inspection by Manufacturer Company Technical Department. Guarantee is to be given only for deficiency in materials, excluding responsibilities regarding direct or indirect damages and is not to be effective for cases if deficiency in materials resulting from the user's dismantle, damage or maintenance, excluding the cases resulting from authorized services or manufacturer company. Replacement of critical components required according to the useful life after periodic

checks included in the manual, within guarantee period, is to be paid. Reasons and solutions of breakdown of Wood Shaving Machine has been included in the maintenance manual.

Manufacturer Company is to be contacted in case of a breakdown not included in the maintenance manual.

Service Contact Information is as here below for explanation of the breakdown accurately:

SEQUENCE NO	TRADENAME	ADDRESS	NAME AND SURNAME OF AUTHORIZED PERSON	TEL/TELEFAX
1	DURA AGAC MAKINALARI SAN. VE TIC. LTD. STI.	5612 Sokak No: 4 Camdibi IZMIR - TURKEY	Mr. MURAT DURA Web: www.dura.com.tr email : info@dura.com.tr	Tel +90 232 433 65 99 Fax +90 232 469 87 78

PART 4 MAINTENANCE

4.1. GENERAL MAINTENANCE AND CLEANING REGULATIONS

Maintenance operations are not to be carried out without taking general safety precautions determined in 2.6. into account.

4.2. PERIODICAL MAINTENANCE AND CLEANING

Daily Maintenance and Cleaning:

1. Indicators, warning signs on the machine should be checked out. Be sure of hereon to work.
2. Legibility and outwear of the warning labels and instructions on the machine should be checked. If required, should be replaced.
3. Tightness of connection points such as bearings, screws etc. existing in the area, preventing jam of woods at both side of the wood container should be checked (See installation – dismantlement list YT-145 Wood Container Group). Convenience of bearings' turnover is to be observed. Proper operation of springs should be observed. Air is recommended to be applied to the system every day.
4. Motor and hydraulic unit when operating are to be observed in terms of any unusual voice.
5. Check the voice of bearings if there is a change or increase. If yes, replace the bearings. Replace the cutter head bearings and roller bearings of wood container every year.

6. Hydraulic oil level should be checked. Hydraulic oil should be replaced once a Year.
7. Wood container and working area should be completely cleaned daily from dust, shavings etc. foreign substances by way of air after the operation completed.
8. Hydraulic connection hoses and equipments should be checked whether any leak exists. Tightness of connection nuts should also be observed. Beware of breaks, tears etc. problems on the hoses.
9. Control panel is to be cleaned with a clean dry fabric.
10. Dust, shavings etc. foreign substances on the hydraulic equipment and hoses should be cleaned.
11. Manometers and indicators are to be wiped out and cleaned with a dry fabric.
12. Ordinary cleaning should be carried out after the operation is completed.
13. Oil etc. elements resulting from not cleaning the materials to be loaded and wasted may arise risks around the machine such as sliding or falling down. For this reason surrounding of the machine should be kept clean daily and/or after maintenance.

Weekly Maintenance and Cleaning:

1. Conveyor belt and belt system should be cleaned weekly.
2. Knives and cutter heads should be cleaned by way of air.
3. Visual check of V belts should be carried out and outwear and tightness of the V belts should be observed.
4. Adjustment of conveyor belt should be checked and checks over stretching adjustment and whether it works in axis are to be carried out.
5. Convenience of components' connection tightness in the area between hydraulic piston and wood container should be observed.
6. Cooler radiator on hydraulic unit should be cleaned by way of air.
7. Visual check of electric connections and cables (breakdown, separation, tear etc) should be carried out in terms of safety.
8. Connection of the machine to the ground should be checked. You may check water gauge.

4.3. OILS TO BE USED

The oils to be used are a factor effecting guarantee requirements. It is definitely recommended to use original oils. Oil options are as here below :

Hydraulic Oil Type : ISO No.37

Tavros	PETROL OFİSİ	MOBİL	SHELL	BP	CASTROL
THS HYDRO PRESS 37	HYDRO OIL HD 37	MOBIL HYDRAULIC OIL H 37	SHELL TELLUS 37	BP ENERGOL HLP-HM 37	CASTROL HYSPIN AWS 37

Hydraulic oil should be replaced once a year with a similar oil indicated hereon and hydraulic tank should be cleaned.

Temperature of working area should be - 18 C° / + 65 C° for hydraulic oil ISO 37. Do not operate the machine other than any area hereon, for the hydraulic oil may lose its Properties.

WARNING!!!



MANUFACTURER COMPANY IS NOT TO BE LIABLE FOR DAMAGES RESULTED FROM THE OILS USED OTHER THAN RECOMMENDED HEREON.

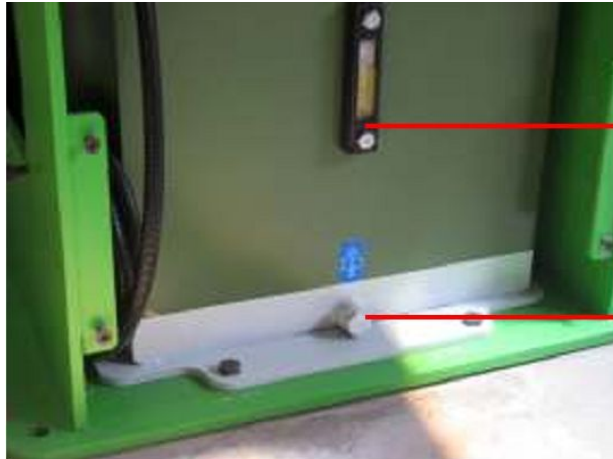
4.4. HYDRAULIC UNIT – OIL FILLING – OIL DRAINING

Hydraulic oil filling: Oil filling should be made by removing the oil filter on the hydraulic tank of the hydraulic oil and from the existing hole. The machine should be stopped and the energy should be cut before filling hydraulic oil to the machine.

Hydraulic oil draining: Hydraulic oil should be drained by drainage valves under hydraulic tank. The machine should be stopped and the energy should be cut before draining hydraulic oil from the machine.



Oil filling

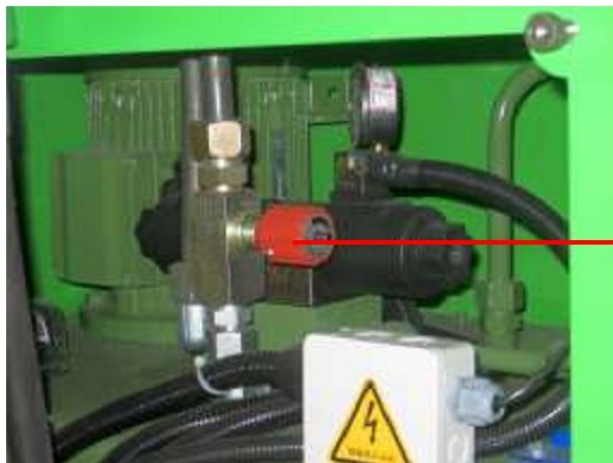


Oil level and temperature indicator

Oil Draining



Hydraulic pressure manometer
Operation pressure 80 – 100
bar



Speed Adjustment valve.
Speed adjustment valve may be adjusted for
changing of shape of shavings got.



Hydraulic pressure adjustment valve used for adjustment of movement pressure of wood container.

4.5. BREAKDOWN, REASONS AND SOLUTIONS

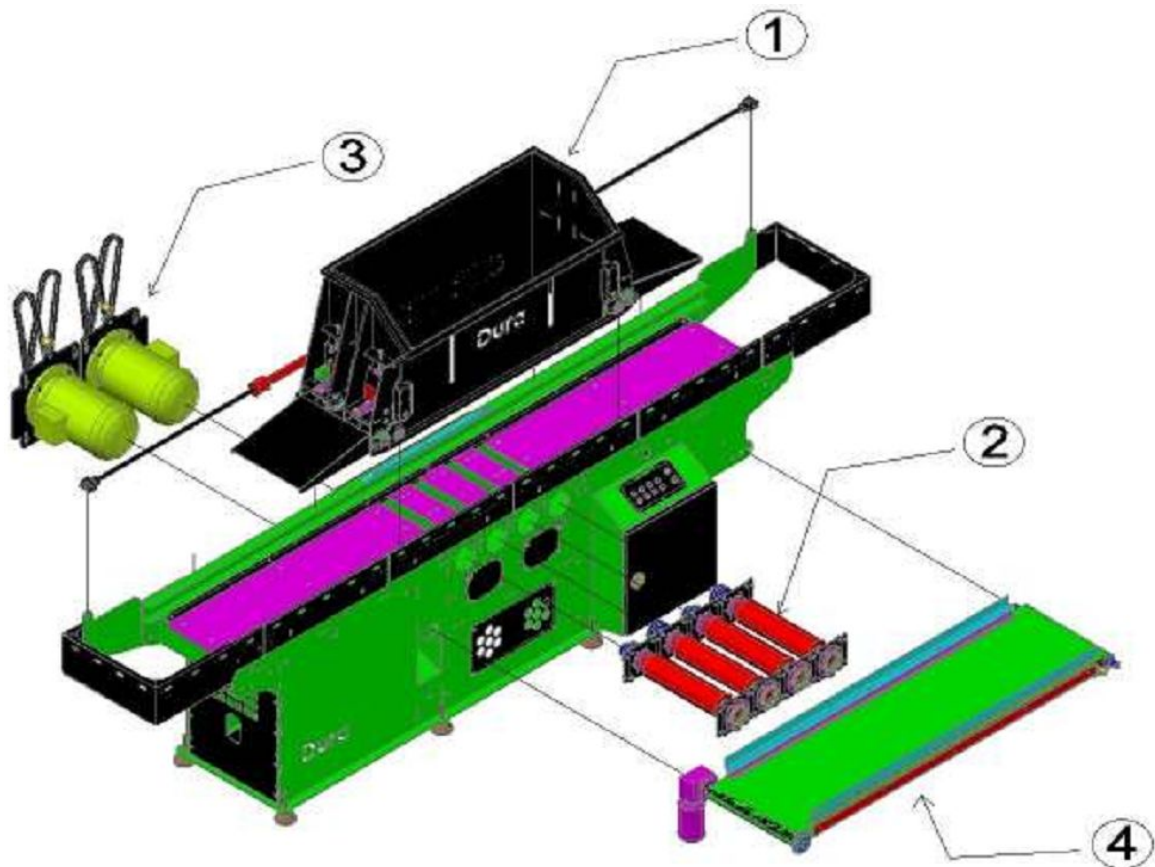
BREAKDOWN AND SOLUTIONS		
BREAKDOWN	REASONS	SOLUTIONS
1- Electric motor is not working.	A- One of the emergency stop buttons may be pressed. B -Motor overload relay breakdown. C- Direction of phase may be wrong, no phase. D- Electrical panel door that should be kept close may be open.	A- Check all emergency stop buttons. B- Check the overload relays. C- Check the phases, if wrong replace cable edges. D- Check the electrical panel door.
2- Strange voice from electric motor.	A- Bearings may be broke.	A- Replacement of motor bearings.
3- Cooler is not working.	A- Overload relay breakdown.	A- Check its overload relay.
4- Insufficient pressure of hydraulic piston.	A- A problem on high pressure valve may be. Check the pressure control valves. B- A problem on high pressure pump may be. C- Piston seal rings may be worn out. D- Check the pumps.	A- Call the technic service. B- Call the technic service. C- Replace the seal rings. D- Call the technic service.
5- Overheating of hydraulic oil.	A- Cooler radiator may not be clean for the air flow. B- There may be a problem with cooling fan.	A- Cleaning of cooler radiator. B- Check over phases. Check the electric.
6- Deceleration of hydraulic system.	A- Problem in pumps. B- Piston seal rings may ve worn out. C- Cooler is not working.	A- Check the pumps. B- Replacement of seal rings worn. C- Temperature indicators on the wood container should be controlled.
7- Oil leak at the edge of hose.	Hose edge may be loosen.	- Tighten the hose edge.

8- No electric in valve bobin.	A- Glass fuses may blow out. B- Relays may be breakdown. C- Valve sockets may be loosen.	A- Replace glass fuses. B- Replace the relays. C- Check of valve sockets.
9- Non-operation of machine even though there is electric.	A- Emergency stop pressed B- Valves may be close	A- Control over Emergency stop buttons. B- Control over valves.
10- Vibration after replacement of planing knives on the machine.	Weights of the knives replaced may be different.	After dismantlement of the knives replaced, they should be weighted. Determination of the knives in different weights and shouldn't be used in the same knife set.
11- If the wood container stops itself.	Wood materials may be jam between wood container and plates	The machine should be stopped completely. The material should be removed after discharging the wood container completely.
12 - If the wood container stops itself.	Any pipe or hose of hydraulic system providing movement of wood container may be loosen.	If possible, connection material should be tightened. If not possible, the connection material should be replaced.
13- If the wood container stops itself.	Any pipe or hose of hydraulic system providing movement of wood container may be exploded.	Pipe or hose exploded should be replaced.
14 - If the wood container stops itself.	Oil pressure in the hydraulic system providing movement of wood container may be decreased for reduce in oil level.	Oil level under minimum level may result in reducing of oil pressure in the hydraulic system. Hydraulic oil should be added in proper qualities to oil tank.
15- If the wood container stops itself.	Oil pressure in the hydraulic system providing movement of wood container may be decreased for breakdown of cooling fan.	The cooling fan should be cleaned, and applications preventing air flow not to be carried out..
16- If the wood container stops itself.	Motor of the hydraulic system providing movement of wood container may not be working.	Electric cut reasons should be inspected if no energy in motor.
17- Vibration during movement of wood container on rails.	Wheel connections providing movement of wood container on rails may be loosen.	Check over connection screws providing movement of wood container, and tightened.
18- Machine is not working.	Energy may not be coming to electrical panel.	If green light on electric control panel is not working, there won't be any energy in machine. Energy cable connection to electrical panel of machine should be checked and the connection is to be made properly.

PART 5

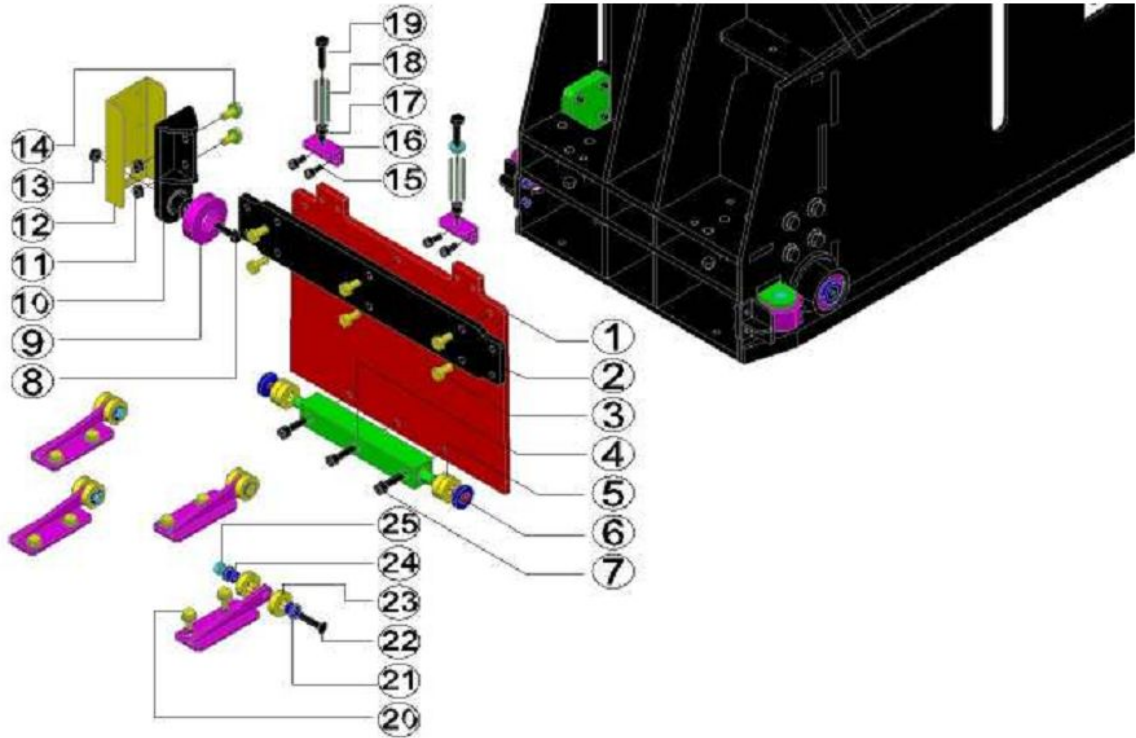
DISMANTLEMENT PICTURES OF WOOD SHAVING MACHINE

5.1. WOOD SHAVING MACHINE - DISMANTLEMENT PICTURES



- 1 Wood Container Group
- 2 Knife – Cutter Head Group
- 3 Motor Group
- 4 Conveyor Belt Group

5.2. WOOD CONTAINER GROUP - DISMANTLEMENT PICTURES(YT145 01.01)

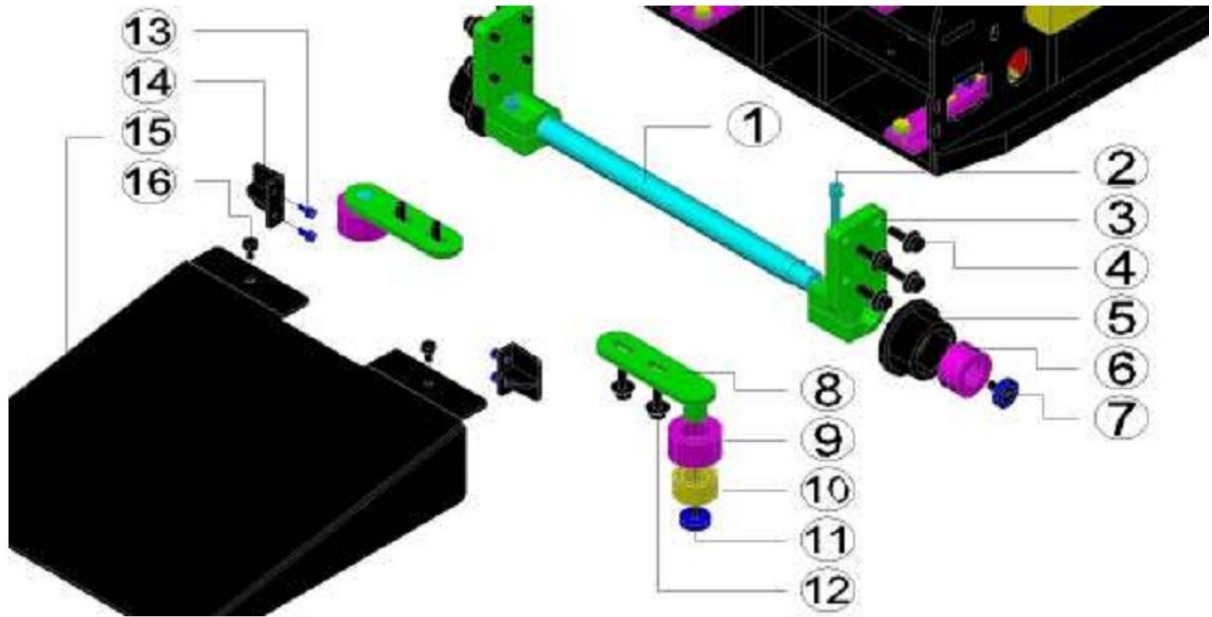


Wood Container Group (YT145 01.01)(YT145 01.01)

NO	N.P.	PART NO
1	2	YT145 01.01.01
2	2	YT145 01.01.02
3	12	M12x25
4	2	YT145 01.01.03
5	8	6004 2RS
6	4	M10x25
7	6	M12x40
8	4	M12x45
9	4	6307 2RS
10	4	YT145 01.01.04
11	8	M12 Nut
12	4	YT145 01.01.05
13	4	M12 Nut

NO	N.P.	PART NO
14	8	M12x35
15	8	M10x20
16	4	YT145 01.01.06
17	4	M12x15
18	4	Yay
19	4	M12x50
20	16	M12x25
21	8	YT145 01.01.07
22	8	M10x50
23	16	6004 2RS
24	8	YT145 01.01.08
25	8	M10 Nut

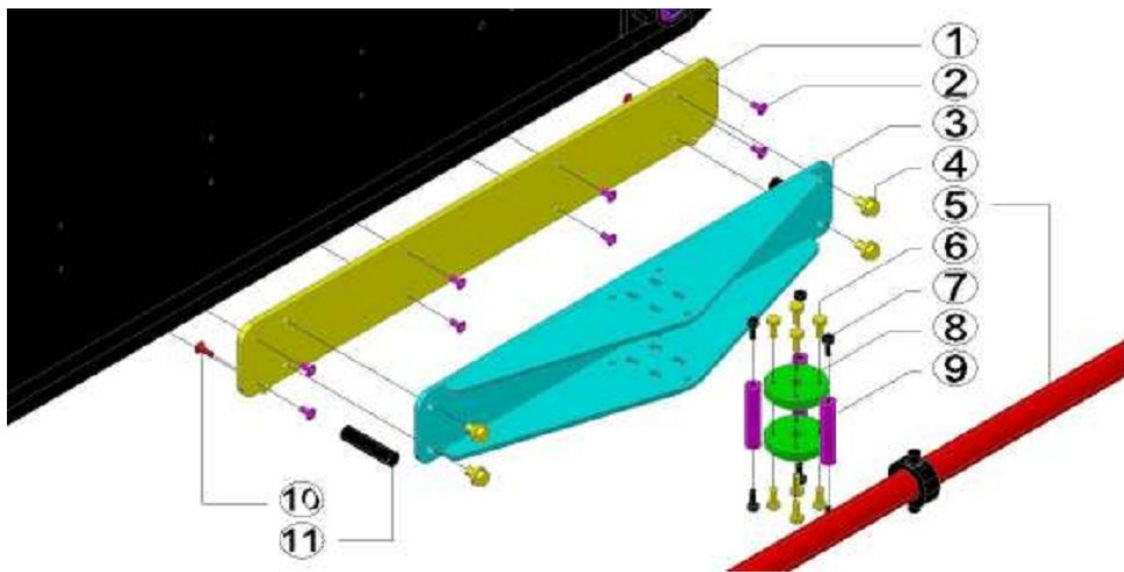
Wood Container Group - Dismantlement Pictures (YT145 01.02)



Wood Container Group (YT145 01.02)

NO	N.P.	PART NO
1	2	YT145 01.02.01
2	4	M12x50
3	4	YT145 01.02.02
4	16	M12x35
5	4	YT145 01.02.03
6	8	6206 2RS
7	4	M12x30
8	4	YT145 01.02.04
9	4	YT145 01.02.05
10	8	6006 2RS
11	4	M10x30
12	8	M12x25
13	8	M8x15
14	4	YT145 01.02.06
15	2	YT145 01.02.07
16	4	M12x25

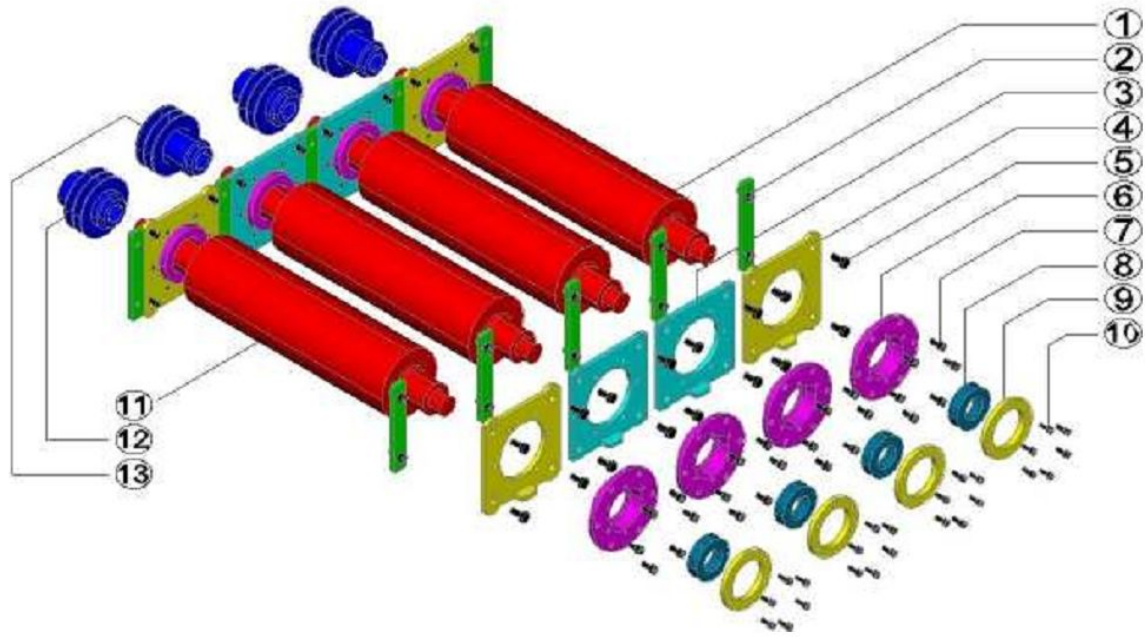
Wood Container Group - Dismantlement Pictures (YT145 01.03)



Wood Container Group (YT145 01.03)

NO	N.P.	PART NO
1	1	YT145 01.03.01
2	8	M10x20
3	1	YT145 01.03.02
4	4	M14x30
5	1	YT145 01.03.03
6	8	M12x30
7	6	M10x25
8	2	YT145 01.03.04
9	3	YT145 01.03.05
10	2	M10x25
11	2	YT145 01.03.06

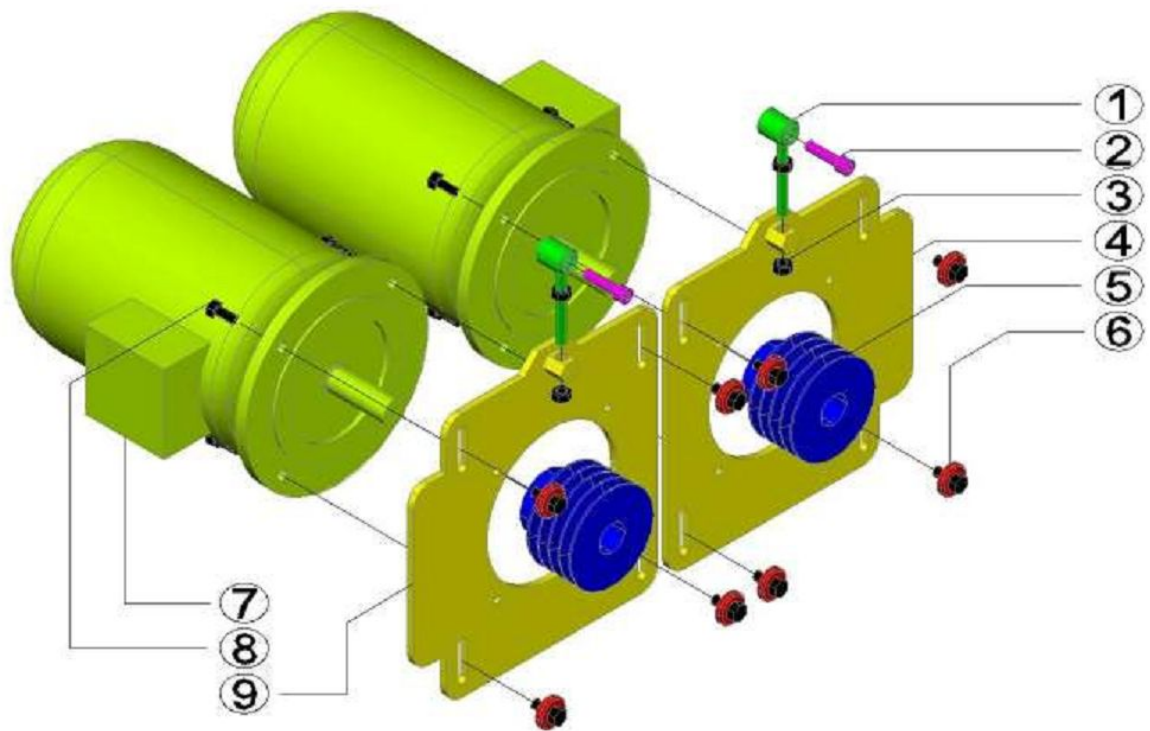
5.3. KNIFE, CUTTER HEAD GROUP - DISMANTLEMENT PICTURES (YT145 02.01)



Knife, Cutter Head Group (YT145 02.01)

NO	N.P.	PART NO
1	2	YT145 02.01.01
2	10	YT145 02.01.02
3	4	YT145 02.01.03
4	4	YT145 02.01.04
5	32	M12x25
6	8	YT145 02.01.05
7	48	M10x25
8	8	2209 2RS
9	8	YT145 02.01.06
10	48	M8x25
11	2	YT145 02.01.07
12	2	YT145 02.01.08
13	2	YT145 02.01.09

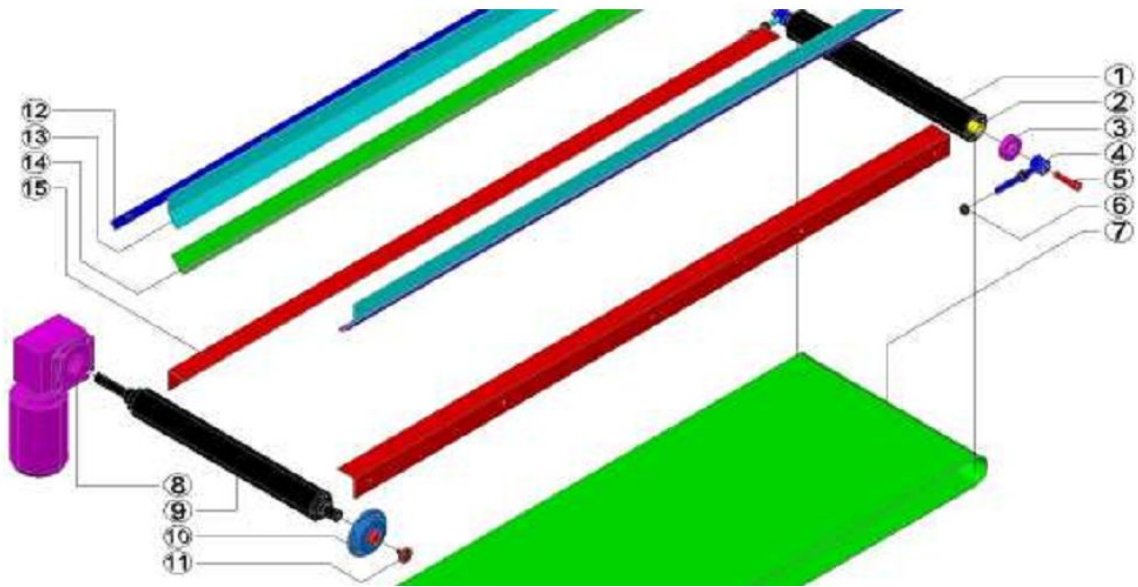
5.4. ELECTRIC MOTOR GROUP - DISMANTLEMENT PICTURES (YT145 03.01)



Electric Motor Group (YT145 03.01)

NO	N.P.	PART NO
1	2	YT145 03.01.01
2	2	M16x45
3	4	M16 Nut
4	1	YT145 03.01.02
5	2	YT145 03.01.03
6	8	M16x30
7	2	18,5Kw 3000d/d
8	8	M16x35
9	1	YT145 03.01.04

5.5. CONVEYOR BELT GROUP - DISMANTLEMENT PICTURES (YT145 04.01)












Conveyor Belt Group (YT145 04.01)




NO	N.P.	PART NO
1	1	YT145 04.01.01
2	1	YT145 04.01.02
3	2	6206 2RS
4	2	YT145 04.01.03
5	2	M16x45
6	4	M16 Nut
7	1	Conveyor Belt 2621
8	1	EV050.03.71-n2.74
9	1	YT145 04.01.04
10	2	UCFC206
11	1	M12x30
12	2	YT145 04.01.05
13	2	YT145 04.01.06
14	2	Conveyor Belt 1610
15	2	YT145 04.01.07

PART 6
MATERIALS DELIVERED WITH WOOD SHAVING MACHINE

6.1. INTRODUCTION OF WOOD SHAVING MACHINE

6.2. SAFETY, HEALTH, WARNING SIGNS AND SYMBOLS

SYMBOL	DESCRIPTION	PLACE
	Protective clothes should be worn.	On the machine
	Protective shoes should be worn such as boot etc.	On the machine
	Warning! Danger	Upper part of the machine
	See the usage manual	On the machine
	Warning! Hard hat should be worn when working.	On the machine
	See usage manual for oil.	On the oil filling tap
	Warning! Electric Energy	Over motors and electric control panel cover.
	Shows the right direction for prevention of reverse rotating.	Over motor and body of machine
	Warning! Protective glasses should be worn when working.	On the machine

	Oil drainage	Over oil drainage tap
	Oil filling	Over oil filling tap
	Gloves should be worn!	On the machine
	Grounding	In and side part of electrical panel
	Warning! Do not come close, movable/active part danger area.	As a line on the wood container
	Ear protective equipment should be worn !	Both side of machine and electric control panel.
	Warning! Do not put your hands into wood container wheels.	Both side of wood container
	Warning!	Wood container loading zone

CAUTION !!!

**REQUIRED SAFETY PRECAUTIONS
TO BE COMPLIED WITH PRECISELY**




- DO NOT STAND AT THE EXIT PART OF THE CONVEYOR BELT!
- LOAD WOOD FROM THE SIGNIFIED POINT ONLY!
- DO NOT LOAD WOOD WHILE THE WOOD CONTAINER IS IN MOTION!
- DO NOT LET UNTRAINED PEOPLE TO RUN THE MACHINE!
- DO NOT CLIMB UP TO (ON) THE WOOD CONTAINER!
- DO NOT PICK HEAVY PIECES UP WHILE LOADING THE WOOD CONTAINER!
- DO NOT OVER LOAD THE WOOD CONTAINER!
- USE THE BELOW MENTIONED PERSONAL PROTECTIVE EQUIPMENT!









CAUTION !!!

**INSTRUCTIONS TO RUN AND STOP
YT-145 WOOD SHAVING MACHINE**




1. TURN MAIN SWITCH ON .
2. PUT ONE OF THE MOTORS OF CUTTERHEADS ON.
3. WAIT UNTIL THE FIRST MOTOR REACHES THE MAXIMUM SPEED.
4. PUT THE OTHER ONE OF THE ELECTRIC MOTORS OF CUTTERHEADS ON.
5. WAIT UNTIL THE SECOND MOTOR REACHES THE MAXIMUM SPEED.
6. PUT THE "AUTO" BUTTON OF THE WOOD CONTAINER ON.
7. "AUTO" AND "MANUEL" BUTTONS OF THE WOOD CONTAINER DO NOT WORK UNLESS BOTH ELECTRIC MOTORS OF CUTTERHEADS RUN.
8. WOOD CONTAINER CAN BE TAKEN TO THE LOADING ZONE BY USING "MANUEL" BUTTON WITHOUT STOPPING THE MACHINE COMPLETELY.
9. PUT THE "AUTO" BUTTON ON TO MAKE THE WOOD CONTAINER WORK.
10. WOOD CONTAINER SHOULD BE TAKEN TO THE LOADING ZONE BY USING "MANUEL" BUTTON BEFORE STOPPING THE MACHINE COMPLETELY.
11. PRESS MAIN (EMERGENCY) STOP BUTTON IN ORDER TO STOP ALL THE MOTORS ON THE MACHINE.
12. DO NOT FORGET TO TURN MAIN SWITCH OFF AFTER COMPLETION OF WORK.
13. IN THE CASE OF EMERGENCY, PRESS ONE OF THE EMERGENCY STOP BUTTONS THAT ARE ON THE ELECTRIC CONTROL PANEL AND AT THE BACK SIDE OF THE MACHINE. DO NOT FORGET TO RELEASE IT AFTER USE.

6.3. ELECTRIC CONTROL PANEL AND WIRING DIAGRAM

AS ATTACHED

6.4. HYDRAULIC DIAGRAM

AS ATTACHED

6.5. ACCESSORY LIST



1. Cutting Depth Adjustment Washers
2. Bearing Replacement Apparatus
3. Electrical Panel Door Key
4. Centralization screws for Cutting Depth Adjustment
5. Knife Adjustment Apparatus
6. Large Plate Lifting Eye ring
7. Ground Leg Screws
8. Lift Apparatus Hole Tap