



CRATER-02 A AUTOMATIC 16.5" UPCUT MITER SAW

User's Manual



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1. GENERAL INFORMATION

1.1. INTRODUCTION

The user's manual given by the manufacturer contains necessary information about the machine parts. Each machine operator should read these instructions carefully, and the machine should be operated after fully understanding them.

Safe and efficient use of the machine for long term depends on understanding and following the instructions contained in this manual. The technical drawings and details contained in this manual constitute a guide for the operator.

1.2. DISTRIBUTOR

ATech Machine, Inc.

10752-A Tucker Street – Beltsville, MD 20705 - USA

Phone: +1-301-595-1816 Fax: +1-301-560-6627

Website: www.ATechMachinery.com E-mail: info@ATechMachinery.com

In case of any technical problem please contact your nearest ATECH dealer, or ATECH head office through the above mentioned phone, fax or e-mail address.

Technical labels with the model description of the machine are fixed onto the front side of each machine.

The machine's serial number and manufacturing year are stipulated on the technical label.

2. MACHINE'S DESCRIPTION AND PURPOSE OF USE

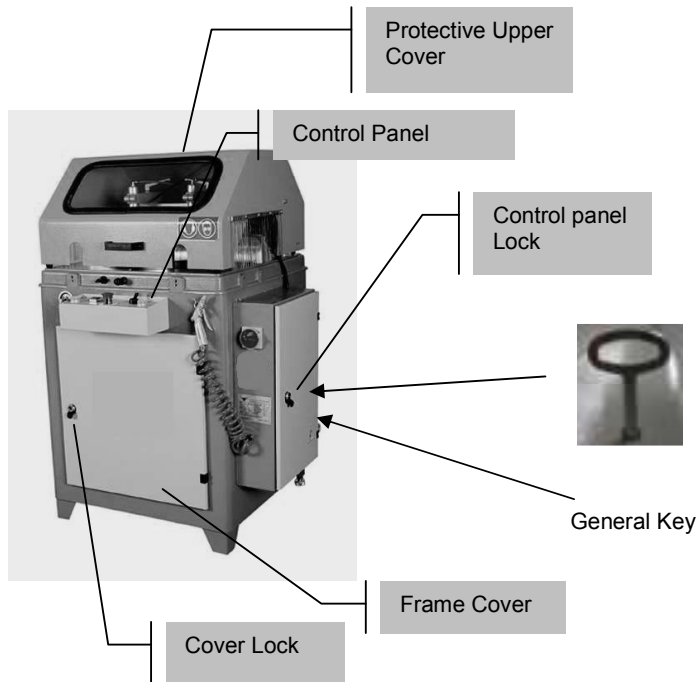
2.1. MACHINE'S DESCRIPTION

Automatic upcut saw with circular saw blade for serial cutting of PVC, aluminum and wooden profiles in desired angles. The operator has the possibility to adjust the cutting speed of the saw blade via knob according to material type and size.

- Cutting at fixed angles of 15⁰-22.5⁰-30⁰-45⁰-90⁰, and at intermediate angles via fixing arm. Machine has been designed according to CE Safety Directives.
- The movable back fence enables straight and angle cutting of broad profiles.
- The cutting speed can be adjusted manually according to material type.
- If the protection cover is opened during the cutting operation, the saw blade moves down to its starting point automatically due to safety reasons.
- After the cutting operation is finished, the saw blade moves down automatically from the top rising point.

Please include the below mentioned data in all your correspondence regarding the machine with the manufacturer and/or your ATECH dealer.

- *Machine model
- *Machine's serial number
- *Voltage and frequency
- *Name of dealer where machine was purchased
- *Date of purchase
- *Description of the machine fault
- *Average daily operation period















CRATER-02 A

Illustration - 1

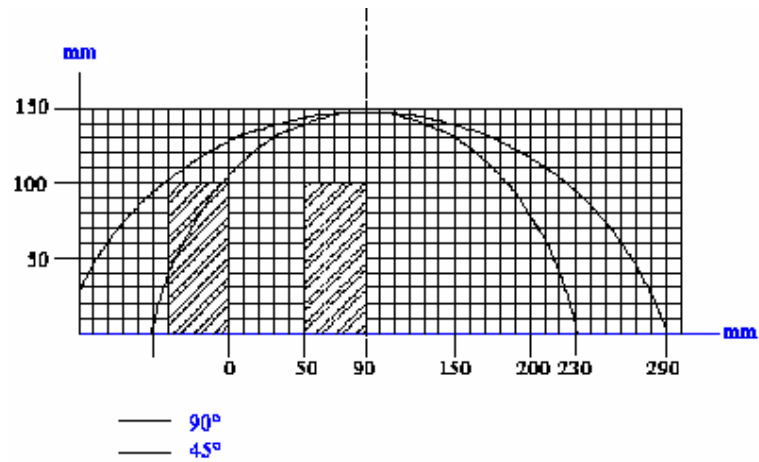
Note: for safety reasons the motor does not start unless the upper protective cover is closed.



2.2. TECHNICAL FEATURES

Technical Features (Metric)						
CRATER-02 A	2,2kW 400V 50Hz	D=420 mm d=30-32 mm	3000 rpm	6-8 Bar 35 l/min	90x85x130 cm	225 kg
Technical Features (American)						
CRATER-02 A	3 HP 3-Phase 220V/440V 60Hz	D=16 1/2" d=30-32 mm	3000 rpm	90-120 psi 1 CFM	35"x34"x51"	495 lb

2.3. CUTTING DIAGRAM



2.4. OVERALL DIMENSIONS

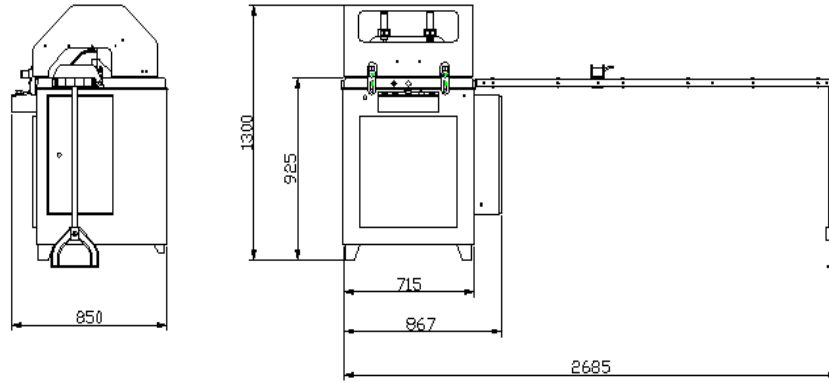
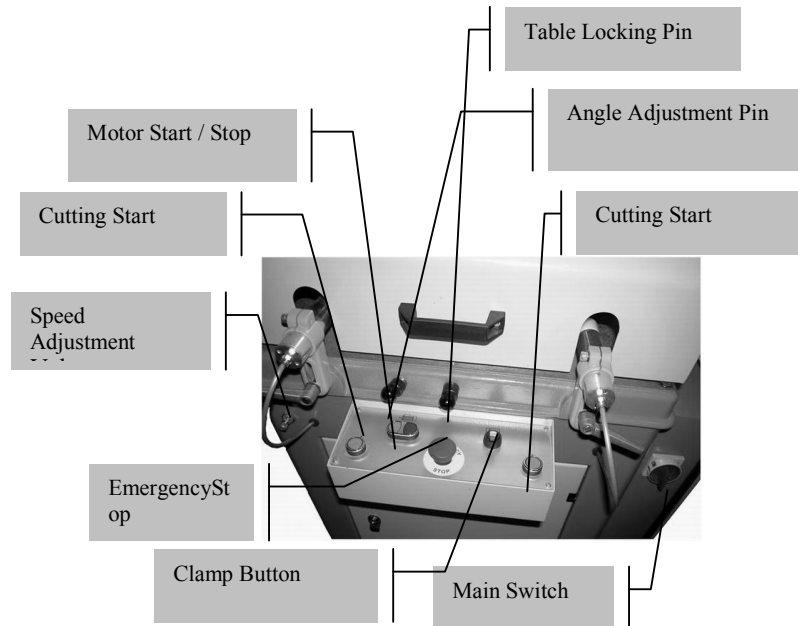
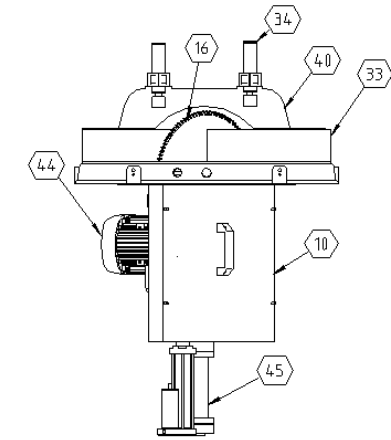


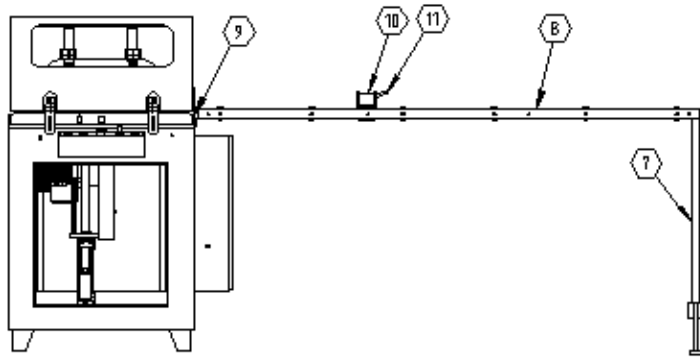
Figure-1

2.5. PARTS LIST AND TECHNICAL DRAWINGS



No	Part Name/Order Number	Qty
10	211-010 Blade Guard	1
16	201-005 420 mm Saw blade	1
33	Angular Back Fence (right and Left)	2
34	Pneumatic Clamp	2
40	Set Square	1
44	2.2 kW Electric Motor	1
45	Hydro-Pneumatic Cylinder	1

Figure - 2



NO	PART NAME	QTY
7	Conveyor Foot	1
8	Conveyor Profile	2
9	M8 x 20 Bolt	2
10	Profile Support	1
11	M10 Handle	1

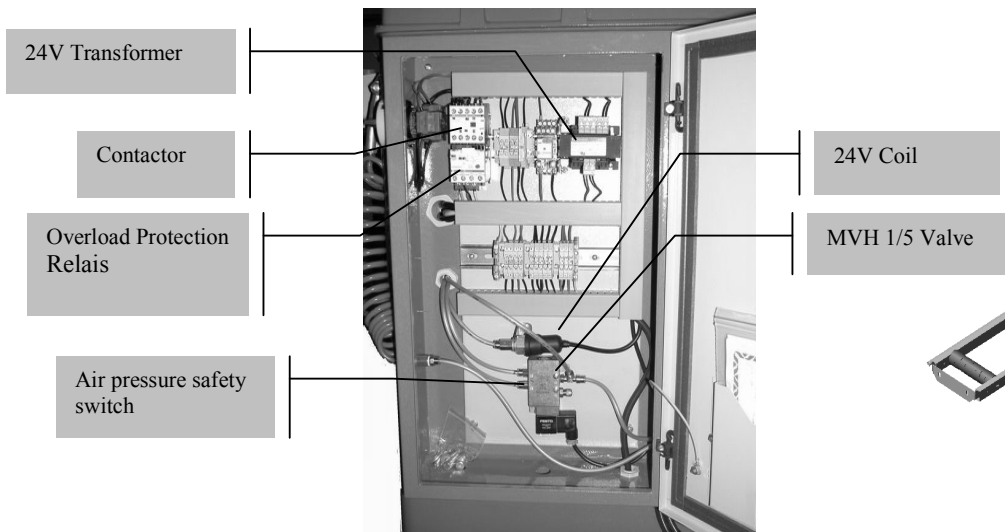


Figure - 3

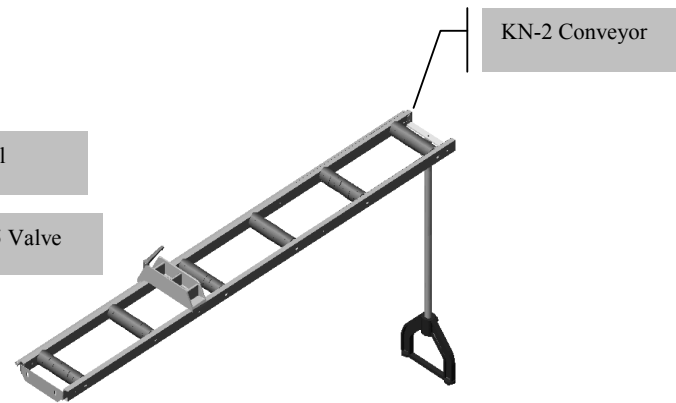


Figure - 4

2.6. ELECTRIC AND PNEUMATIC CONTROL PANEL

The electric and pneumatic control panel enables you to make adjustments regarding the air pressure.

The cover of the panel has to be definitely kept closed during operation. At servicing works for remedy of defects:

SWITCH OFF THE ELECTRIC AND PNEUMATIC SUPPLY CONNECTIONS.

For safety reasons, the air pressure safety switch located on the panel deactivates all pneumatic components in case that the air pressure drops below 4 Bar.

If the air pressure is lower than 4 Bar, the saw blade and pneumatic clamps will not operate.

3. SAFETY

3.1. SAFETY INFORMATION

The symbols shown hereunder are necessary to be read with special attention. Not reading or observing of them may cause damage to the equipment or personal injury.

IMPORTANT

The **IMPORTANT** symbol above is one telling to apply special care and to be careful at carrying out the specified operation.

CAUTION!

The **CAUTION!** Symbol above warns you against specific dangers, and requires to read the text. Not observing may cause damage to the equipment.



DANGER WARNING

The above symbol **DANGER WARNING**, warns you against specific dangers, and you have definitely to read them. Negligence may cause damage to the equipment and bodily injury.

Read the user's manual carefully before using the machine or carrying out maintenance works.



3.2. ACCIDENT PREVENTION

3.2.1. Our machines are manufactured in accordance with EN 60204-1 and EN 292-2 CE safety directives, which cover national and international safety directives.

3.2.2. It is the task of the employer to warn his staff against accident risks, to train them on prevention of accidents, to provide for necessary safety equipment and devices for the operator's safety.

3.2.3. Before starting to work with the machine, the operator should check the features of the machine, learn all details of the machine's operation.

3.2.4. Machine should be operated only by staff members, who have read and understood the contents of this manual.

3.2.5. All directives, recommendations and general safety rules contained in this manual have to be observed fully. The machine cannot be operated in any way for purposes other than those described herein. Otherwise, the manufacturer shall not be deemed responsible for any damages or injuries. And such circumstances would lead to the termination of the warranty.

3.3. GENERAL SAFETY INFORMATION



3.3.1. The power cable should be led in such a way that nobody can step on it or nothing can be placed on it. Special care has to be taken regarding the inlet and outlet sockets.



3.3.2. If the power cable should be damaged during operation, don't touch and unplug it. Never use damaged power cables.

3.3.3. Don't overload machines for drilling and cutting. Your machine will operate more safely with power supply in accordance with the stipulated values.



3.3.4. Don't place your hands between parts in motion.



3.3.5. Use protective eye glasses and ear plugs. Don't wear oversize clothes and jewels. These can be caught by moving parts.



3.3.6. Keep your working place always clean, dry and tidy for accident prevention and safe operation.

3.3.7. Use correct illumination for the safety of the operator. (ISO 8995-89 The Lighting of Indoor Work Systems)

3.3.8. Don't leave anything on the machine.

3.3.9. Don't use any materials other than those recommended by the manufacturer for cutting operations on the machine.

3.3.10. Ensure that the work piece is clamped appropriately by the machine's clamp or vice.



3.3.11. Ensure safe working position, always keep your balance.

3.3.12. Keep your machine always clean for safe operation. Follow the instructions at maintenance and replacement of accessories. Check the plug and cable regularly. If damaged, let it replace by a qualified electrician. Keep handles and grips free of any oil and grease.

3.3.13. Unplug first, before conducting and maintenance works.

3.3.14. Ensure that any keys or adjustment tools have been removed before operating the machine.

3.3.15. If you are required to operate the machine outside, use only appropriate extension cables.

3.3.16. Repairs should be carried out by qualified technicians only. Otherwise, accidents may occur.

3.3.17. Before starting a new operation, check the appropriate function of protective devices and tools, ensure that they work properly. All conditions have to be fulfilled in order to ensure proper operation of your machine. Damaged protective parts and equipment have to be replaced or repaired properly (by the manufacturer or dealer).

3.3.18. Don't use machines with improper functioning buttons and switches.

3.3.19. Don't keep flammable, combustive liquids and materials next to the machine and electric connections.

4. TRANSPORT OF THE MACHINE

IMPORTANT

The transport should be done by qualified personnel only.

The machine should be transported by lifting with proper equipment (not touching the ground during the transport).

Don't lift the machine before ensuring that lifting devices or other equipment is placed properly under the machine.

5. INSTALLATION OF THE MACHINE

The machine should be located at least 50 cm away from the back wall in order to enable full opening of the upper cover to the back, and to carry out maintenance and cleaning works on the machine. For the distance to be left on the left and right side of the machine see Figure-6 and Dimensions.

5.1. PREPARATION

5.1.1. The outer dimensions of the machine are stipulated in the Dimensions page (Page 7). The ground, where the machine will be placed, should be even, solid enough to bear the weight of the machine.

5.1.2. At our upcut saw CRATER-02 A all parts are delivered by the manufacturer ready for use.

5.1.3. Assemble the KN-2 conveyor, which is delivered as standard accessory, to the right side of the machine as shown in Figure-3.

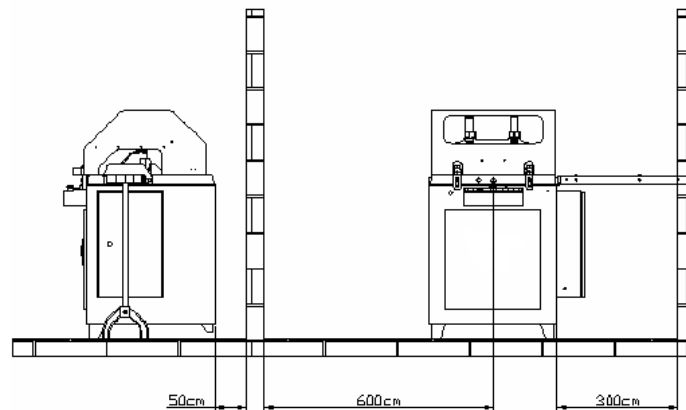


Figure - 6

5.2. ELECTRIC CONNECTION

5.2.1. The three-phase power cable socket has to be in accordance with the socket on the machine.

5.2.2. Use a connection cable socket in accordance with the CE Safety Directives.

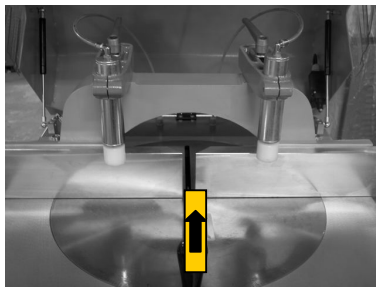
5.2.3. Check the inlet power supply before powering the machine. See Page 18 Item 3.8.3.

5.2.4. Make the electric socket connections after switching the MAIN SWITCH on the machine to 0.

CAUTION !

***The socket connections have to be made by a qualified electrician, the rotation direction of the saw blade has to be observed by starting the machine. If the saw blade rotates in reverse direction, the socket connections have to be checked and re-connected properly.**

****If the saw blade rotates in reverse direction, it will cause danger for the operator and the equipment.**



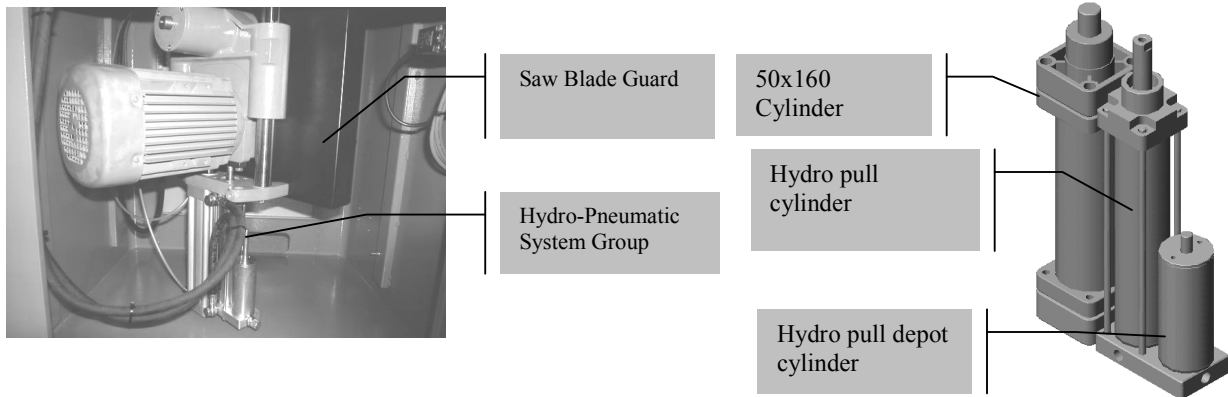
Saw Blade Rotation Direction

To correct the rotation direction of the saw blade, insert the electric power socket of the machine to the 3-phase slot, which has been prepared before, and follow these instructions:

1. Press the Motor Start Button to operate the saw blade.
2. Monitor the rotation direction of the saw blade through the blade slot.
3. The correct direction is shown with an arrow on the machine table. See Figure – 7.

The electric socket connections have to be checked and corrected by a qualified electrician.

The rotation direction of the saw blade should not be defined before testing.



6. MACHINE SAFETY INFORMATION

6.8.1. It is not allowed to operate the machine with the protective cover and other protective equipment removed.

6.8.2. Your machine operates with 400V (440V) ~ 3 Phase 50Hz (60Hz). Let the electric installation of your machine carry out by a qualified electrician only.

6.8.3. Lifting, installation, electric, pneumatic maintenance of the machine should be carried out by qualified personnel only.

6.8.4. Routine maintenance and scheduled maintenance should be carried out by qualified personnel after unplugging the machine and disconnecting the air supply first.

6.8.5. Ensure that the machine has been cleaned, tested and maintain before starting to operate.

6.8.6. Check the safety devices, power cable and moving parts regularly. Don't operate the machine before having replaced defective safety devices or faulty parts.

6.8.7. Never replace the saw blade before unplugging first.

6.8.8. Keep foreign materials away from the working area of the machine, keep away from the machine's moving parts.

IMPORTANT

The safety data have been defined above. In order to prevent physical damage or damage to the equipment, please read the safety information carefully and keep the manual always in an easy accessible place.

7. OPERATION

The automatic upcut saw model CRATER-02 A cuts non-ferrous aluminum, PVC profiles and PVC materials. The operator adjusts (manually via knob) the cutting speed of the saw blade according to the material type to be cut. Inner and outer sharp edges of the carbide tipped circular saw blade ensures high quality clean cutting results.

CAUTION !

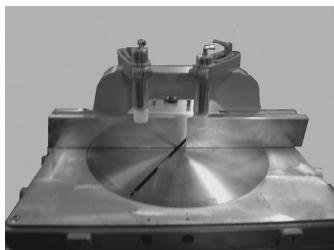
7.1.1. Start the machine only after proper clamping of the work piece to be cut.

7.1.2. The machine is equipped with vertical clamps. These vertical pneumatic clamps can be adjusted very easily according to the material.

7.1.3. The clamp piston of pneumatic clamps moves 55 mm.

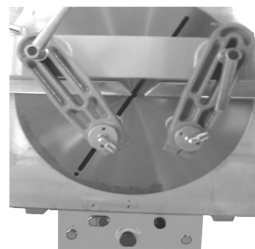


The clamping cylinders have to be outside of the saw blade moving area.



CORRECT

Illustration - 9



WRONG

Illustration - 10

7.1.4. Avoid randomly pressing the buttons on the panel. If you feel danger during the cutting operation, push the emergency stop button immediately, which will terminate the operation.

7.1.5. Close the front cover on the main frame and the control panel, and lock it with its key. See Illustration - 1 (For safety reasons, the motor will not start unless the main frame front cover is closed)

NOTE: The main frame front cover and the rear panel cover can be open only during maintenance and cleaning of the machine. During this work switch the MAIN SWITCH to "0" before opening the cover.

7.1.6. If the profile to be cut is broad and high, you can move the back fence up to the rear stop pins after loosening the M8 screws. The back fence can be moved up to 100 mm (4") to the back. (See Figure – 11) For maximum cutting dimensions and positions see the cutting diagram on page 5. Fix the so called bridge by tightening the M8 hexagonal screws.



NOTE: Ensure that the MAIN SWITCH is on “0” during this operation.

7.1.7. Adjust the cutting angle on the scale located on the machine table (15°-22.5°-30°-45°-90°). To turn the table, release the table locking pin by turning counter clockwise. Fix the desired (intermediate) angle with the angle adjustment lever (Figure -3). Fix the turning table by tightening the table locking pin (Figure - 3).

CAUTION !

NOTE: WHILE CARRYING OUT ANGLE CUTTING OPERATIONS ON THE MACHINE, ENSURE THAT THE CLAMP CYLINDERS AND RIGHT-LEFT MOVING FENCES REMAIN OUTSIDE OF THE CUTTING AREA.

(Figure – 9 /10)

7.1.8. Adjust the cutting length of the material using the metric system with length stop units on the conveyor (See Figure – 4). After adjusting the cutting length, fix the profile support fence by tightening the handle No. 11 in Figure – 4.

7.1.9. Ensure clamping of the work piece by the vertical pneumatic clamps pressing the clamp button on the machine (See Figure - 3).

7.1.10. Start the saw blade by pressing the Motor Start Button (Figure – 3).

7.1.11. Press both Cutting Start Buttons simultaneously (Figure – 3) to move the saw blade.

7.1.12. The circular saw blade will rise and cut the work piece, and will move down automatically after cutting the work piece. It will continue to turn inside the guard until the Cutting Start Buttons pressed again.

7.1.13. The rising speed of the saw blade can be adjusted manually (Figure – 3).

7.1.14. Press the clamp button to release the work piece, and take it out.

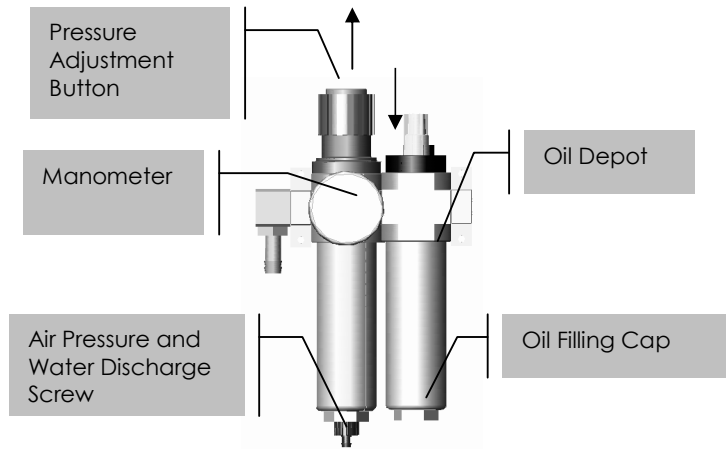


Figure - 12

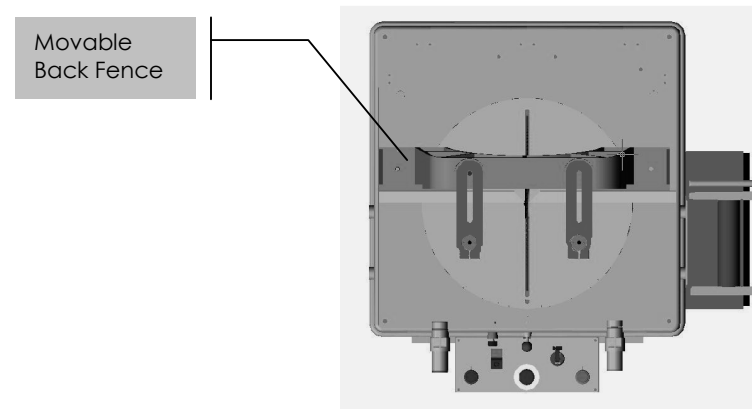


Figure - 11

NOTE: Adjust the air pressure between 7-8 Bar. The air pressure is read in Bar from the manometer. If the value read on the manometer is the lower or higher than the desired pressure, adjust the pressure between 7-8 Bar by turning the air pressure adjustment key to the right or to the left accordingly. (Figure – 12)

If the air pressure drops below 4 Bar, the saw blade and the clamps will not operate due to safety reasons.

7.1.15. The conditioner unit collects the water within the air system in a receptacle in order to prevent damage to the pneumatic system components. Discharge this water periodically (at the end of the working day) by pressing or opening the button under the conditioner.

7.2. ADJUSTING THE AIR PRESSURE

7.2.1. Pull the adjustment button of the conditioner upwards. (See Figure – 12)

a- Turning the adjustment button in clockwise direction increases the pressure

b- Turning the adjustment button in counter clockwise direction decreases the pressure

7.2.2. Once you read 6-8 Bar on the manometer, push the adjustment button of the conditioner down and lock it in that position. See Figure - 12

7.1.3. The manufacturer recommends to use the following oils with the conditioner: TELLUS C 10 / BP ENERGOL HLP 10/ MOBIL DTE LIGHT / PETROL OFISI SPINDURA 10.

8. SAFE INSTALLATION OF THE SAW BLADE

8.1 To remove the circular saw blade from the blade shaft, follow the instructions below.

8.1.1. Switch the MAIN SWITCH on the machine to “0”. Open the front cover of the main frame with its key.

8.1.2. Remove the four bolts on the saw blade guard with an appropriate key by turning clockwise.

8.1.3. Remove the front cover of the saw blade guard by holding its handle.

8.1.4. Remove the M10 screw (In Figure 14) by turning it counter clockwise with a 8 mm hexagonal key. (Hold the saw blade shaft at the opposite end with a 17 mm wrench key and prevent so that the shaft turns. (Figure – 15)

8.1.5. Remove the 30x8x7 mm washer, outer nut washer and the saw blade bracket I in an order. (See Figure – 14)

8.1.6. Remove the saw blade carefully.

8.1.7. Insert the new saw blade on the saw blade shaft, ensuring correct rotation direction. (See Figure – 7)

8.1.8. Insert the other parts (washer, outer nut washer and saw blade bracket I) in reverse order as removal.

8.1.9. Tighten the M10 screw with a 8 mm hexagonal key by turning in clockwise direction. (Prevent the saw blade shaft from turning by holding it with a 17 mm wrench key.)



8.1.10. It is necessary to sharpen / replace the saw blade in certain intervals depending on the cutting material. If the cut material leaves burr after the cutting operation or if the saw blade is strained, it needs to be sharpened / replaced.



CAUTION!

8.1.7 When replacing the saw blade, use the part of the saw blade washer No. 48, which is in accordance with the saw blade shaft diameter. The outer diameter of the blade washer is 30 and 32 mm

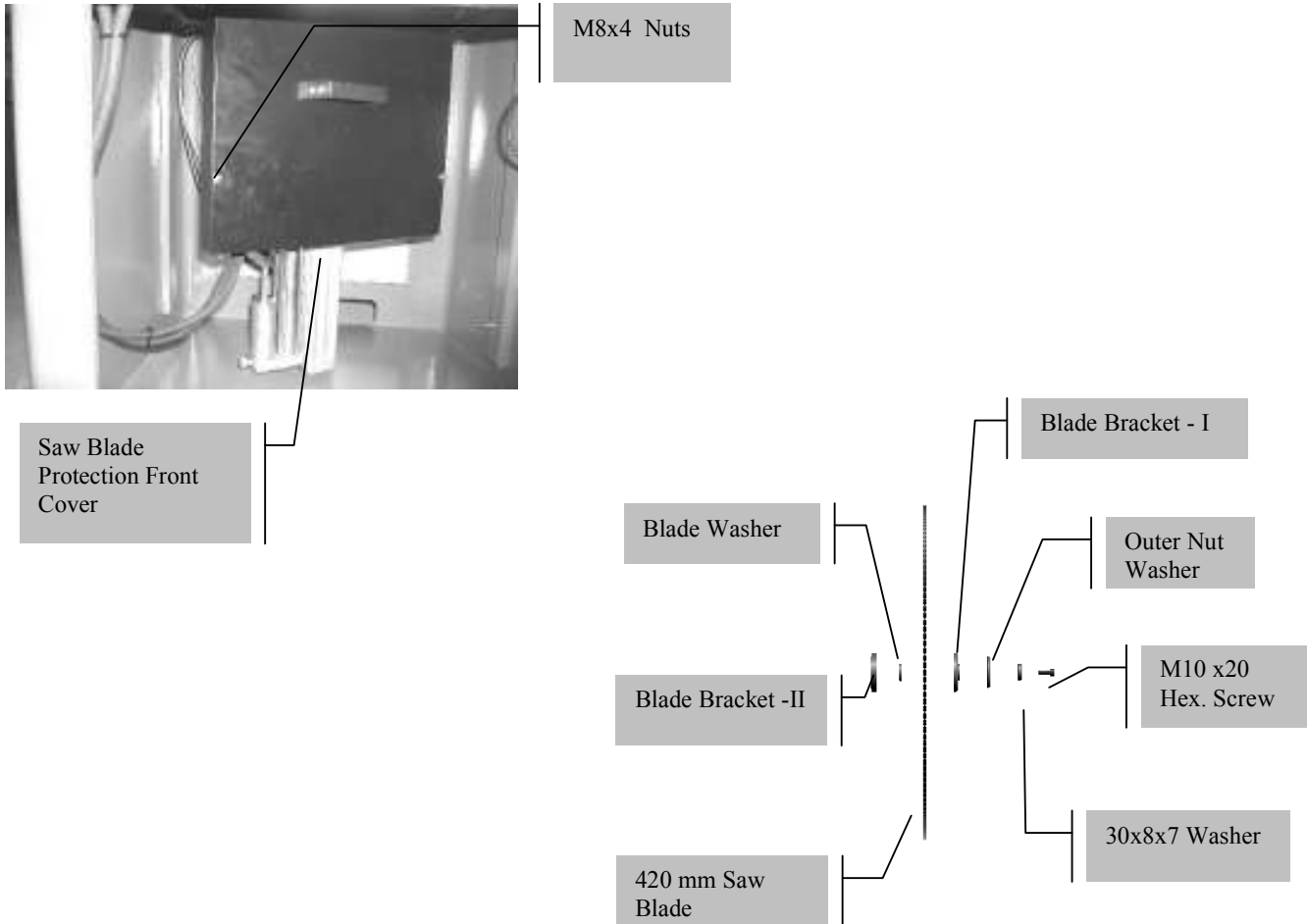


Figure-14

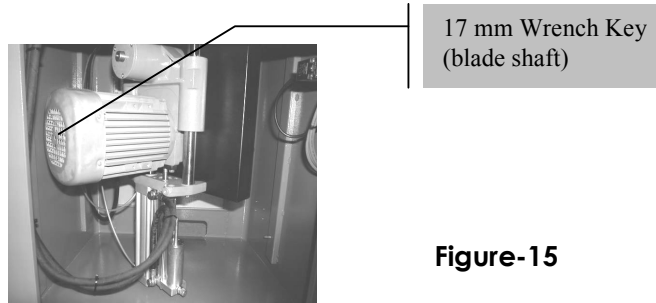


Figure-15

9. MAINTENANCE

9.1. ROUTINE CONTROLS and MAINTENANCE

9.1.1 BEGINNING OF THE WORK

9.1.1. Ensure that the table and all kind of parts are clean and dry. Degrease and dry the table. Especially ensure that the holding grips are clean and dry.

9.1.2. Remove all burr, chip and foreign materials from all surfaces of the machine. Use protective eye glasses.

9.1.3. Check the saw blade before each use. Turn the saw blade carefully (after removing the blade guard) to see the teeth of the saw blade. Replace the saw blade if it is damaged.

9.1.4. Check the pressure of the air pressure system. If necessary, adjust the air pressure between 7-8 Bar. (See Page 22 No. 7.2)



9.1.5. Check the air pressure filters and the oil level of the conditioner. Fill up if the oil level is low. (See Page 22 No. 7.2)

Unplug and disconnect the air pressure connections first, before carrying out these works.

9.2. MAINTENANCE AT THE END OF THE WORKING DAY

9.2.1. Disconnect electric and pneumatic connections. (Main Switch must be on "0" position)



9.2.2. Remove all burr, chip and foreign materials from the machine surfaces. If it is necessary to clean the inside of the blade guard, remove the front cover, use gloves to protect your hands from the sharp edges of the blade.

9.2.3. If water or water based liquids were used during cutting, dry the machine with a dry cloth after the operation is finished.

9.2.4. Apply a thin layer of machine oil to protect the table against corrosion. If the machine will not be used for a long time, lubricate with a protective oil.

9.2.5. Don't use materials for cleaning the machine, which could damage its paint.

9.2.6. Lubricate both surfaces of the saw blade with machine oil in order to protect it against corrosion.

10. TROUBLESHOOTING GUIDE

Here are some recommendations for solving urgent problems. If the trouble cannot be solved, or if you have a problem other than those described hereunder, please contact our technical service or your nearest dealer.

TROUBLE	CAUSES	REMEDY
Low surface quality (at aluminum and similar materials): Rough surface, Large chip, Not homogenous surface, Saw blade traces visible	Not cooling the saw blade surfaces	Lubricating the saw blade cutting surfaces, Using of cooling liquid
	Using of damaged or blunt saw blade	Check the saw blade teeth. Replace if necessary.
	Saw blade moves to quick	The cutting speed is too high for the material. Decrease the cutting speed.
Motor does not work (Start button is pressed, not working)	No power supply to the machine. Main Switch is in "0" position. The upper protective cover or the front cover is open.	Check the electric cable connections. Check the electric power sockets. Switch the Main Switch to "I". Close the upper cover and the front cover.
Motor is working but the pneumatic clamp pistons do not work.	The air supply connections are missing, or the air pressure is below 4 Bar.	Check the air compressor connections. Adjust the air pressure between 6-8 Bar on the conditioner.
The saw blade rotates in reverse direction.	The electric connection, the power cable or the connection at the panel is wrong.	Let the electric connections carry out by a qualified electrician.

11. ELECTRIC / PNEUMATIC COMPONENTS

11.1. ELECTRIC COMPONENTS

STOCK CODE	PART NAME	QTY
161-006	MAIN SWITCH KG10B	1
162-011	THERMAL SWITCH LR2 K 0312	1
162-012	TRANSFORMER ABL-6TS04B	1
162-037	CONTACTOR LC1 K 0610 B7	1
163-002	2.2 kW ELECTR.MOTOR 3-Phase	1
164-009	2*0.75 CABLE (SPECIAL)H05W-F CABLE	4.1
164-013	4*1.5 TTR CABLE H0 7RN-F	2.75
164-016	4*1.5 TTR CABLE	3
164-022	7*0.75mm CONTROL CABLE	1.3
164-023	2.5 mm NYAF CABLE YELLOW GREEN	0.65
165-008	EMERGENCY STOP BUTTON B200E	1
165-011	PERFORATED RAIL (KLEMSAN)	0.2
165-012	WGD1 CONNECTOR STOPPER	3
165-016	CABLE CHANNEL (37.5*37.5)	0.52
165-020	PEK 2.5 mm BEIGE CONNECTOR	12
165-025	PEK 2.5 mm BLUE CONNECTOR	2
165-028	TERMINAL PLATE NPP 2.5 10	5
165-040	WARNING LABEL IP 2S	3
165-041	WARNING BUTTON-B132K20KY	1
165-043	FUSE CONNECTOR UK 5-HS(WSI 6	1
165-044	SOCKET CASE DF1	2
165-046	START BUTTON	2
165-048	GROUNDING CONNECTOR WGT4	2
165-056	CABLE SOCKET DF1	2

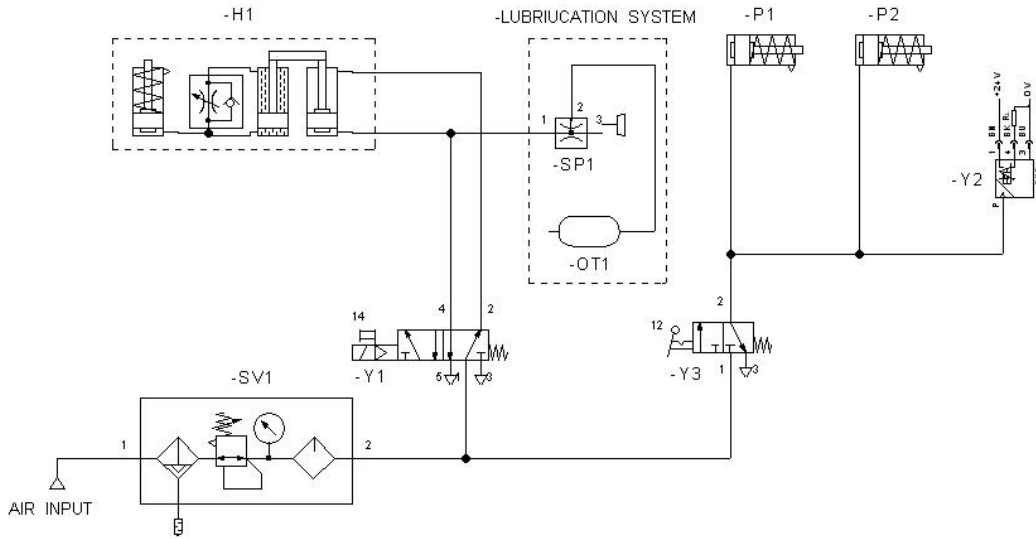


11.2. PNEUMATIC COMPONENTS

STOCK CODE	PART NAME	QTY
241-001	FKV 1/4 HYDRAULIC LIMITER	1
241-004	6mm AIR HOSE	9.45
241-005	AIR GUN HOSE	2.5
241-008	H-22 SW/SELECTION KEY	1
241-011	SV-3-M5/PANEL ASSEMBLY VALVE	1
241-014	1/8 EXHAUST LIMITER (SINTER)	1
241-016	1/8 EXHAUST (SC-SINTER)	1
241-026	U-M5 SILENCER	1
241-027	MFH 5-1/8(24VAC) VALVE	1
242-001	AIR GUN LBP-1/4	1
242-003	FRONT PISTON COVER (PEMAKS)	1
243-011	1/4-6 SLEEVE (S6510-6-1/4)	1
243-012	1/4-6 ANKLE (S6520-6-1/4)	2
243-014	1/4-8 SLEEVE (S6510-8-1/4)	1
243-017	LATERAL THREAD T (S6440-6-1/8)	1
243-021	D. SWITCH (PM-11-NA)	1
243-023	1/8-6 ANKLE (S6520-6-1/8)	2
243-025	1/8-6 SLEEVE (S6510-6-1/8)	3
243-029	SIX CONNECTION T (6540-6)	2
243-030	M5-6 ANKLE (6522-6-M5)	2
243-041	1/8-6 THREADED SLEEVE (6463-6-1/8)	1
243-043	1/4 CLAMPING SLEEVE	1

PNEUMATIC SCHEME

Pos	Designation	Type	Comment
1	-SV1	1PN060000-0001	SERVICE UNTY
2	-Y1	1PN010000-0051	SAW VALVE
3	-Y3	1PN010000-0050	CLAMP VALVE
4	-SP1	1PN010000-0012	OIL SPRAY
5	-OT1	1PL010000-0019	OIL TANK
6	-Y2	1EL020000-0018	PRESSURE SENSOR
7	-H1	-	HYDROCEK
8	-P1	-	CLAMP
9	-P2	-	CLAMP



Aenderung	Datum	Name	Datum	Name	Benennung:	Zeichnungs-Nr.	Anlage	Blatt Nr.
a			gez.	E.KABA				23-01-08
b						1	Ort	von
c			gepr.	A.DEMIR				Blatt
d								SHEET: 1

WIRING SCHEME

