C series hydraulic rebar cutting machine
user's and maintenance manual

Esbjerg
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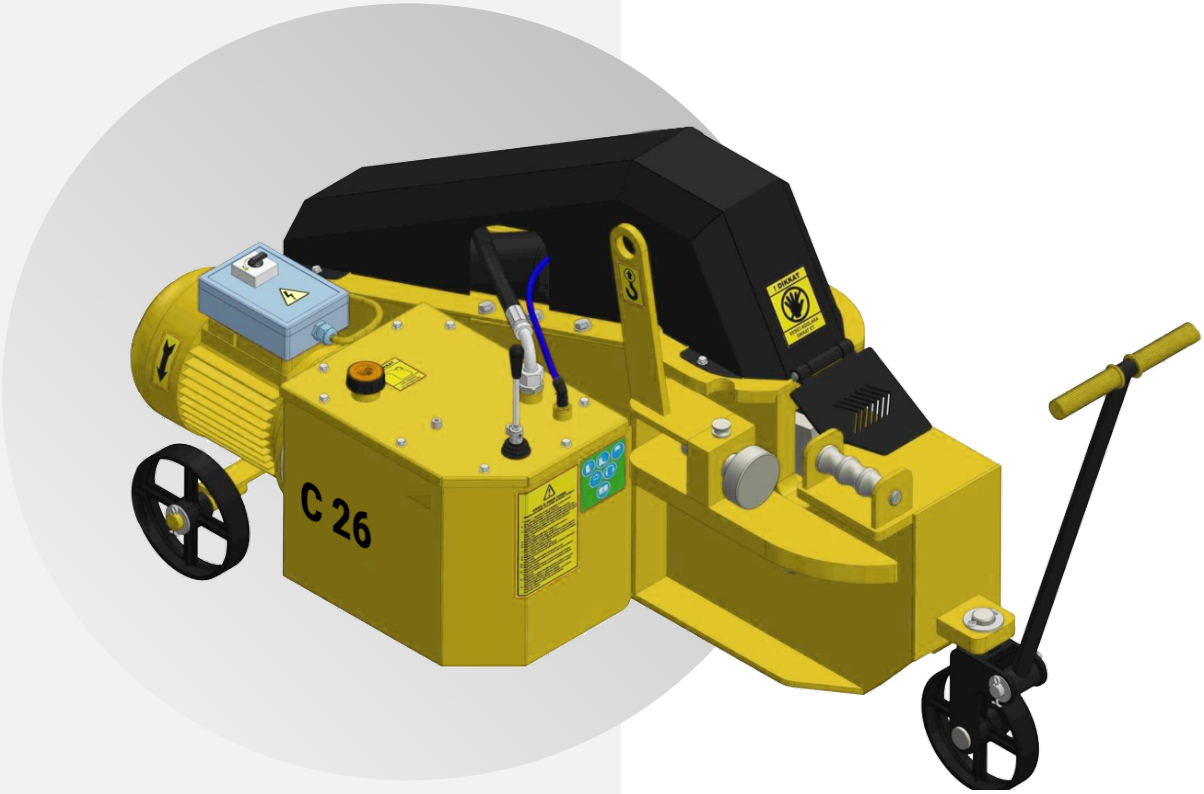
HYDRAULIC CUTTING MACHINE USER MANUAL



ESARM

CONTENTS

IMPORTANT WARNING

- User's and maintenance manuals must be read.
- Machine should be operated by instructed workers.
- When adjustments such as controlling, maintaining, lubing are being made electricity of the machine must be cut off.
- All of the explanations given under user's and maintenance manual must be complied.

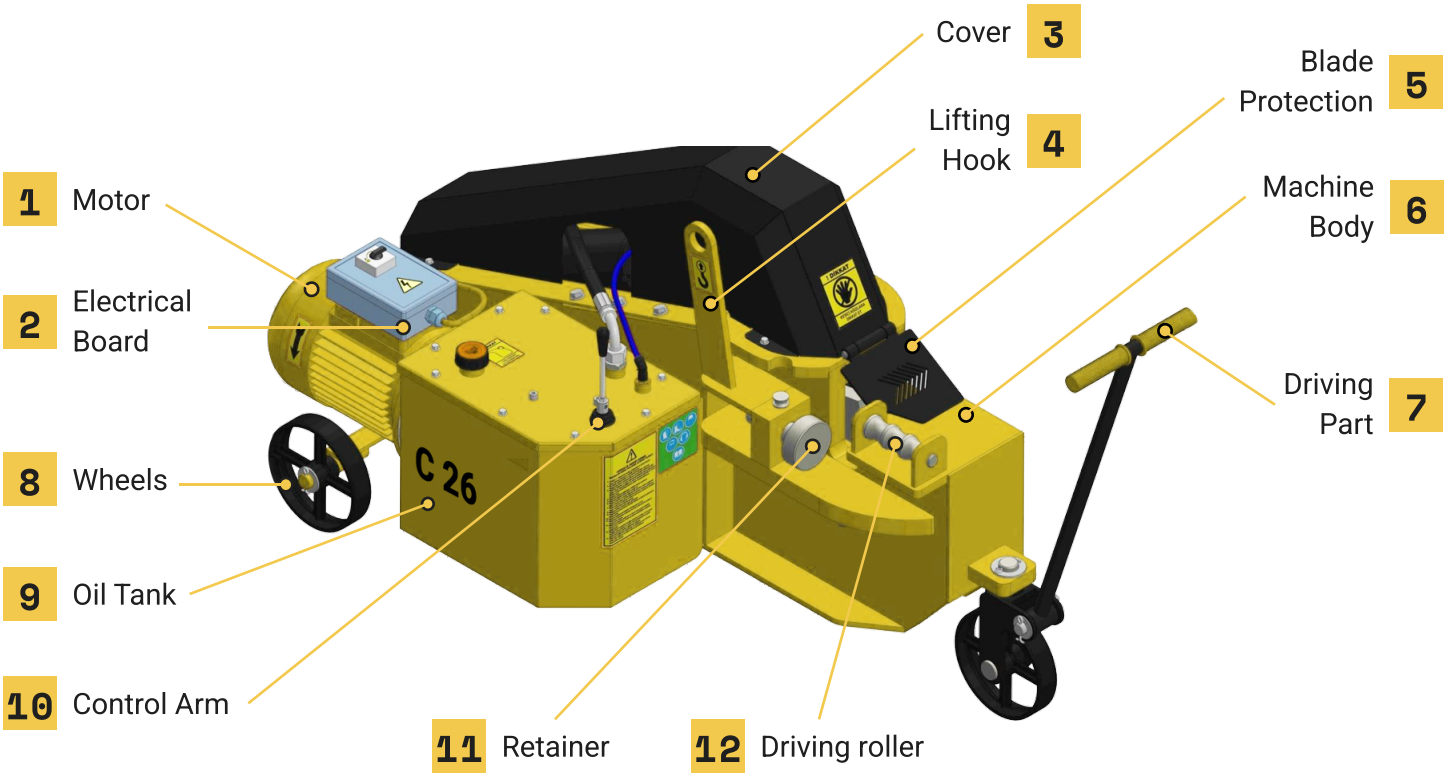
INTRODUCTION

1. INTRODUCTION

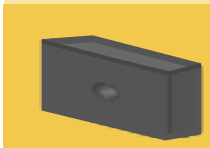
C26 Hydraulic Rebar Cutting Machine is manufactured only for cutting steel materials. Using other than the indicated purposes are prohibited. In order to obtain the best yield from and most importantly to ensure easy running of the machine it should be in a situation so that it can be worked easily and in a position that more productivity might be obtained from the operator. Because of this the location where the machine is operated should be close to the iron stocks. Besides, it shall be more useful to cover top of the location where the machine is operated with a shelter.

We suggest two workbenches to be located on two sides of the machine. Length of these workbenches should be as long as the longest iron that will be cut. Since the operator will be able to work without turning, lifting any kind of iron, it will enable the operator to work more effectively.

1.1. MAIN PARTS OF BENDING MACHINE



MACHINE ASSEMBLY

	B 20 L	POWER	C 26	C 35	C 38	C 45	C 55
	38X38X12	50X50	60X60X15	60X60X15	85X85X25	85X85X25	100X100X25

2. MACHINE ASSEMBLY

Machine should be leveled on a solid ground.
Electricity connection of the machine should be made by competent technicians.

Electricity Connection

For main electricity connection plug should be connected to supply line with a 5x4 mm² isolated cable and then plugged into power outlet. Grounding connection should be made for safety. Machine shouldn't be perated without making grounding connection.

Connection of grounding line

The following procedures should be followed for this system. Connect one end of the grounding to a copper wire (minimum 16 mm²) as it will enable electrical conductivity. The other end should be either connected with a pipe that has a conductivity capacity immerged into the ground (preferably into a humid ground) or the copper plate should be buried into the ground as much as deep.

WARNING

Machine should be moved without any vibration. Machine shouldn't be run in a wet envrebarment. If there are any lost or damaged parts during the handling, they should be reported to the manufacturer.

- When using the lifting and carrying equipment their maximum loading capacities should be taken into consideration.
- During the lifting equipment's center of gravity should be taken into consideration.

Warning signs on the carrier equipment should be taken into consideration.

MACHINE WORKS

Figure 1. Handling Machine

3. MACHINE WORKS

- Be sure machine setup has to be convenient to the rules.
- The cutting part has to be available for cutting, if something appears, it has to be removed.
- Hands has to be removed out of cutting sight
- Blade cover carrier has to be used during cutting.
- Connect electricity to machine electric socket.
- Please make 1 in mode of electrical switch in box.
- Please move forward to controller arm and then make cuttings.
- Please turn it off the machine electrical connection.

Be sure that the machine is assembled in conformance with the Machine Assembly procedures.

If there is any object on the machine (including the bending apparatus) they must be removed.

LEFT-RIGHT switch on the control panel of the machine is turned to LEFT or RIGHT position, MAN AUTO switch is turned to MAN position and machine turning direction is confirmed by pressing on the foot pedal.

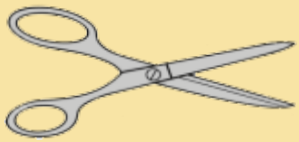
TECHNICAL DATA

Rotation direction is approved by taking the front of the machine as reference (Control pane side) the clockwise as right and counter-clockwise as left. If the machine is rotating reverse of the switch it means phases of the electricity supply are feeding reversely. This situation doesn't affect the running system of the machine. In such case LEFT-RIGHT switch might be turned to the other side or competent electricians might change the directions of the phases. After fixing the direction of rotation bending adjustments should start.

3.1.THERMAL FLOW SETTING RANGE AND MOTOR PROTECTION SWITCH

A motor is set by machine manufacturer. It is not appropriate for user to change settings. Motor protection switch is mounted to the machine in order to prevent damage on the system by cutting the electricity current when excessive current is drawn by the system. If the switch is tripped switch should be turned on by turning the button to position 1. Motor protection switch should never be disassembled.

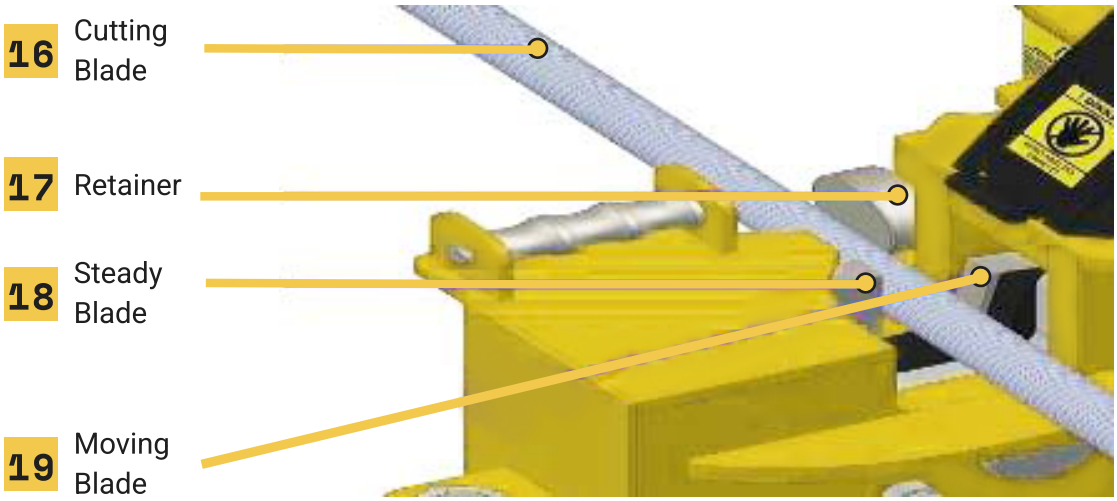
4.TECHNICAL DATA

													
	kw	hp	45kg /mm2			65kg /mm²			85kg /mm²			W*L*H	KG
MODEL			1	2	3	1	2	3	1	2	3		
B 20 L	1,5	2	22	12	10	18	10	8	14	8	6	46*71*46	90
POWER 24	3	4	24	14	12	20	10	6	16	8	6	39*71*62	115
C 26	2,2	3	26	16	10	22	12	8	18	10	6	55*105*60	160
C 35	3	4	32	20	16	28	16	14	26	14	12	57*100*70	180
C 38	3	4	38	26	22	36	22	20	32	20	18	64*133*75	352
C 45	5,5	7,5	45	40	36	40	34	30	34	30	26	70*135*90	345
C 55	7,5	10	55	32	24	45	28	20	40	26	18	75*165*90	640

5. USING THE MACHINE

5.1. CONNECTION AND PLACEMENT

5.1.1. CORRECT CONNECTION OF THE IRONS ON THE MACHINE

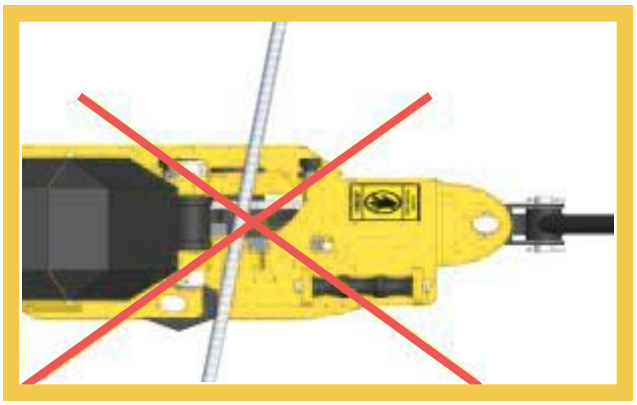


The right position of the cutting machine on retainer

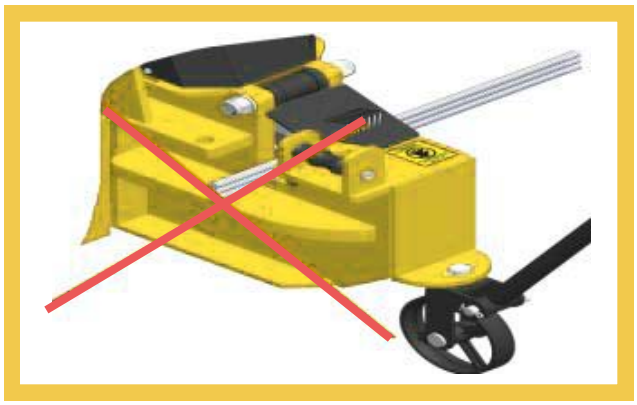
The right position of the cutting machine in more than 1 cuttings

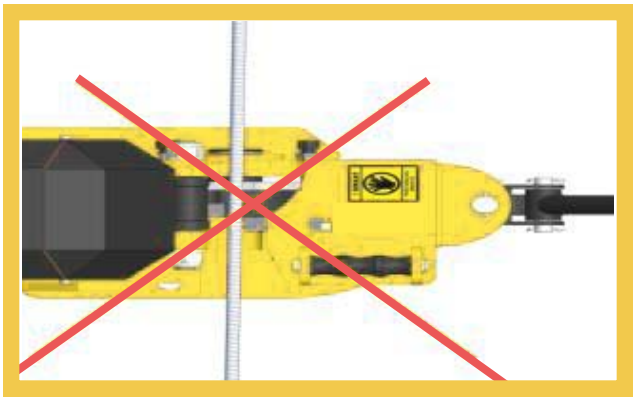
USING THE MACHINE

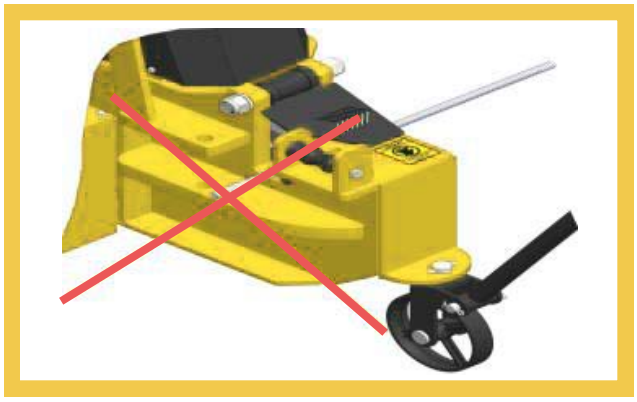
5.1.2. INCORRECT PLACEMENT OF THE IRONS TO BU CUT ON THE MACHINE



(2a) Incorrect connection of a single iron







(2a) Wrong connection types

USING THE MACHINE

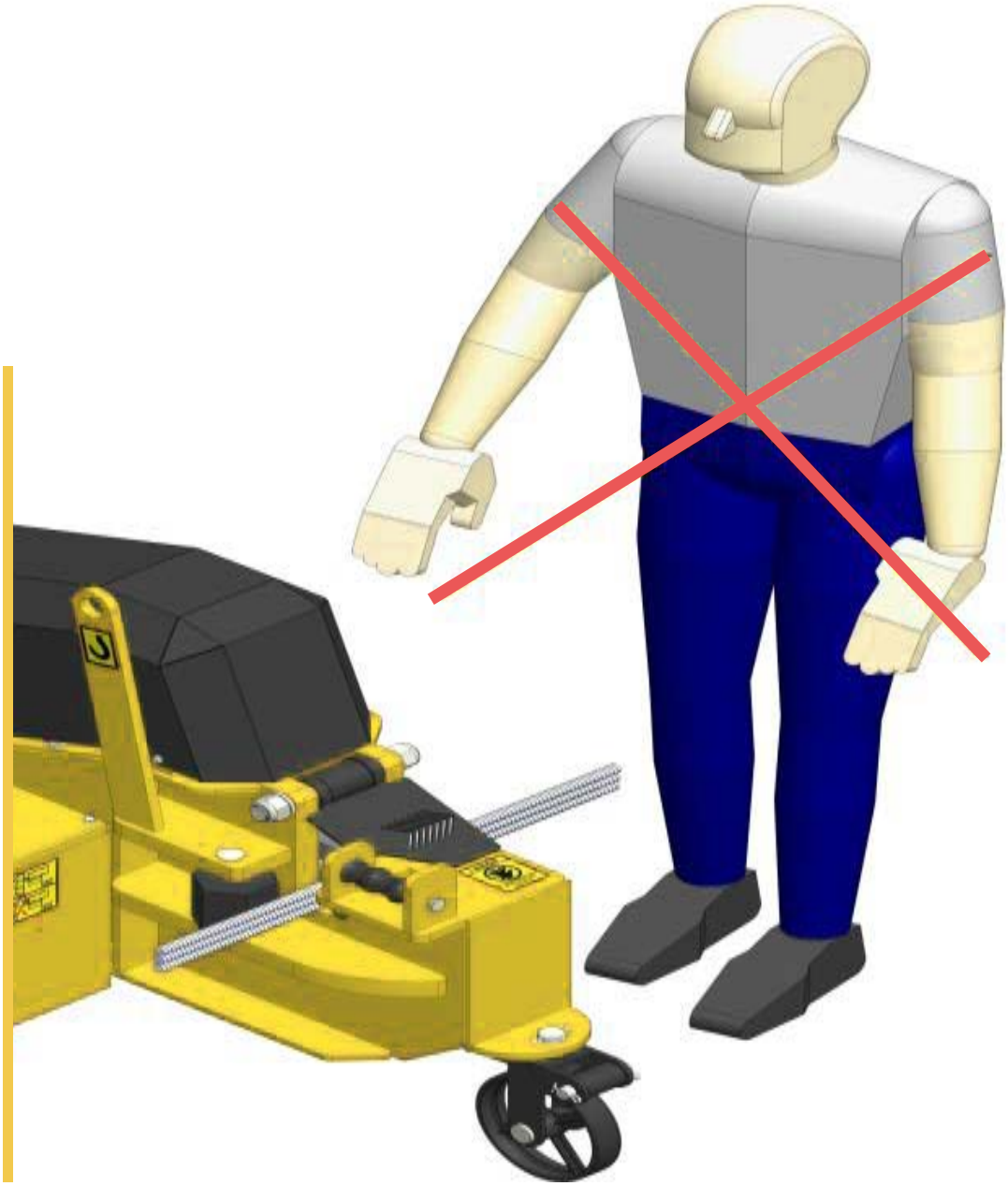


Figure 2 (a,b): Wrong placement of the irons on the machine

PROHIBITED USAGE ON THE MACHINE

6.Prohibited usage on the machine

- No cutting should be made without closing the tool cutter shield.
- Cutter replacement shouldn't be made without stopping the machine and turning the electricity system off during the machine check and maintenance.
- When cutting no one must stand in front of the machine and any one standing must be taken away.
- Organs such as hand, arm, finger mustn't be put between the cutters.
- While the machine is running no any other construction material such as adze, hammer, meter, caliper etc. should be put between the cutters other than the material that will be cut.
- Machine mustn't be run when it is wet.
- No any cutting should be made other than the dimensions and units stated on the capacity plate.
- The iron that will be cut should be leaned to the fixed cutter and retainer. No any cutting should be made other then this cutting type.
- Incorrect iron cutting.
- During the multi cutting number of irons stated on the capacity plate should be aligned one on top of the other and should be leaned to the retainer. No any other cutting should be made other than this.
- Machine shouldn't be run when the switch box cover is open.
- Thermal flow setting range made by the manufacturer shouldn't be changed.
- Machine shouldn't be operated without making grounding connection.
- Machine shouldn't be operated when the housing covers are dismantled.
- Machine should be operated by instructed workers.
- Machine never should be run unlubricated.
- Warning plates attached on the machine mustn't be removed.

- No other parts should be mounted to the machine other than the ones manufactured by ESARM company.
- No cutting should be made with blunt and cracked knives.
- Machine should be cleaned by air.
- Spring tensioning or spring replacement shouldn't be made when the cutter carrier is raised.
- Motor shouldn't be activated opposite direction indicated with the arrow sign (clockwise) on it.
- No wrong cutting should be made with the machine.

7.Protectors

Protector apparel

- Helmet must be worn.
- Glasses must be worn.
- Boots with steel toe must be put on.
- Gloves must be worn.

The aforementioned protectors will be used. In case of not using these apparels there are risks of injury, cutting and trapping hands.

Work clothes

Inappropriate clothes against snatch or grip while working with the machine are listed below and in case of not conforming to this list might cause risk of injury.

Long hair, dress with long arms, bracelet, uniform with long skirt, any ornament leaning out.

MAINTANCE AND LUBRICATION INSTRUCTIONS

8.Maintance and Lubrication instructions

It is important to make maintenance correctly in order to extend service life of the machine and to ensure safe bending. We suggest for each user to set up a secure system for control and maintenance of the machine. The following descriptions are given for reference. Number 140 gear oil is used in machine's reducer unit.

Daily maintenance of the machine

- Clean dust and scales on the machine with a brush.
- If the machine is running outdoors it must be protected from rain water when raining.
- Machine should be checked if there is extraordinary voice or not.

Weekly maintenance of the machine

- Parts driving machine bending plates should be cleaned and lubricated.
- Machine adjusting lever mechanism should be cleaned and lubricated.

Monthly maintenance of the machine

- Bending pins and bending plates should be checked and any cracked or skewed parts mustn't be used.
- Reducer should be checked if there is oil leakage or not.
- Machine's sensor display should be checked if it has dirt on it or not and also the lamp behind it should be checked if it is working or not.

Semi-annual maintenance of the machine

- All the bolt connections of the machine should be checked.

Annual maintenance of the machine

- Oil of the machine should be changed.
- If it is out of order seals and bearings should be changed.
- Any skewed, cracked, worn parts should be checked and replaced.

PROBLEMS AND SOLUTIONS

9.Problems and Solutions

Any faults those might arise when running the machine, and their causes and solutions are given in the table below.

FAULT 1: If machine isn't running.

	Description	Solutions
1	Missing phase might come to the electric supply system where the machine is connected.	Check the phases.
2	Emergency stop button might be pressed.	Check the button. If it is pressed open it by turning to the direction of the arrow on the button.
3	Motor protection switch might be blown.	Check the motor protection switch. If the switch is blown turn it to the position 1.
4	LEFT STOP RIGHT switch might be turned off.	Check the switch. If it is on stop position turn it to right or left positions.
5	Electricity Board Cap might be open or haven't been closed completely.	Check the Electricity Board Cap.

FAULT 2: If bending disk turning continuously.

	Description	Solutions
1	Sensor might be broken.	Check whether the sensor is working or not, if it is out of order replace it.
2	There might not be zero adjustment pin and SWITCH pins over the machine flange.	Check the pins and if any of them is missing, add and complete it.
3	Direction contractors might be broken down.	Check the contactors.

PROBLEMS AND SOLUTIONS

FAULT 3: Motor protection switch is blowing continuously.

	Description	Solutions
1	Diode might me broken.	Check the diode.
2	Motor might be blown .	Check the motor.
3	If the machine is bending rebar over its bending capacity.	Check the bent rebar according to the material type and measurements on the capacity plate.
4	Missing phase might come to the electric supply system.	Check the phases on the electricity network.
5	Transformer might be blown.	Check the transformer.
6	There might be short circuit or wearing on the cables.	Check the cable and connections.

FAULT 4: Machine is not running although the foot pedal is pressed.

	Description	Solutions
1	The plug might be displaced.	Check the plug.
2	Pedal switch might be out of order.	Check the SWITCH. Change them if they are out of order.
3	Contactors in the electricity network might be out of order.	Check the contactors.

PROBLEMS AND SOLUTIONS

FAULT 5: Emergency Stop is not running.

	Description	Solutions
1	Bearings might be broken down.	Check the bearings.
2	Motor's propeller cap might be rubbing.	Check the propeller cap.
3	Gears might be broken down.	Check the gears.
4	There might be no oil in the reducer.	Check the reducer oil.
5	Missing phase might come to the electric supply system which the machine is connected.	Check the phases in the network.
6	Machine might have difficulty over its capacity.	Check the bent iron according to the capacity plate.
7	Brake might not be released or brake lining might scrape after being broken down in the electromagneti braked machines.	Check whether the brakes are running or not and the brake linings.

FAULT 6: Machine is leaking oil.

	Description	Solutions
1	Reducer ventilation cap might not be mounted.	Check whether the plug is mounted or not.
2	Motor seal might be leaking oil.	Check the motor from the propeller side. If there is oil change the motor seal.
3	Reducer connection bolts might be loose.	Check the connection bolts and if loose screw.

10.Safety

➢ This symbol is put before the articles giving warning explanations in order to draw attention of the trained operator to important functions.

€ This symbol is put before the articles giving warning explanations in order to draw attention of the trained operator to electrical issues.

⚠ This symbol is put before the sentences in order to draw attention of the trained operator to the master instructions and directive regarding to handling or safety.

TAGS USED ON THE MACHINE

ESARM	Logo plate of manufacturer company.
C 38, C 45, C 55	Model name tag of the machine.
CE	CE norm conformity tag.
	Plate on capacity and technical information of the machine.
	Machine user's and maintenance manual tag.
	Electricity panel warning tag.
	Correct cutting tag
	Tag indicating do not approach to running parts.
	Blade Warning tag.
	Lubricating tag.
	Handling and carrying hook tag.
	Grounding output tag.