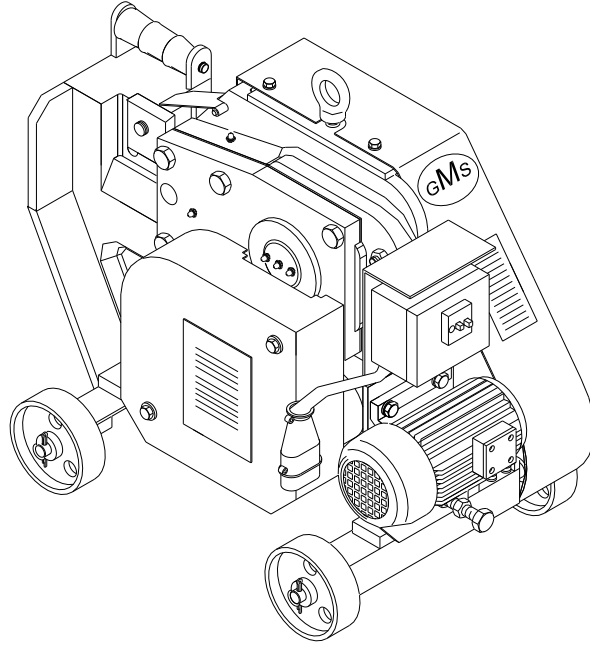


	<b>Name</b>	<b>MECHANICAL CUTTING MACHINE FOR CONSTRUCTION IRON (Operating &amp; Maintenance Manual)</b>	<b>Date</b>	<b>14.01.2004</b>
	<b>Model</b>	<b>M 36</b>	<b>Page</b>	<b>20</b>



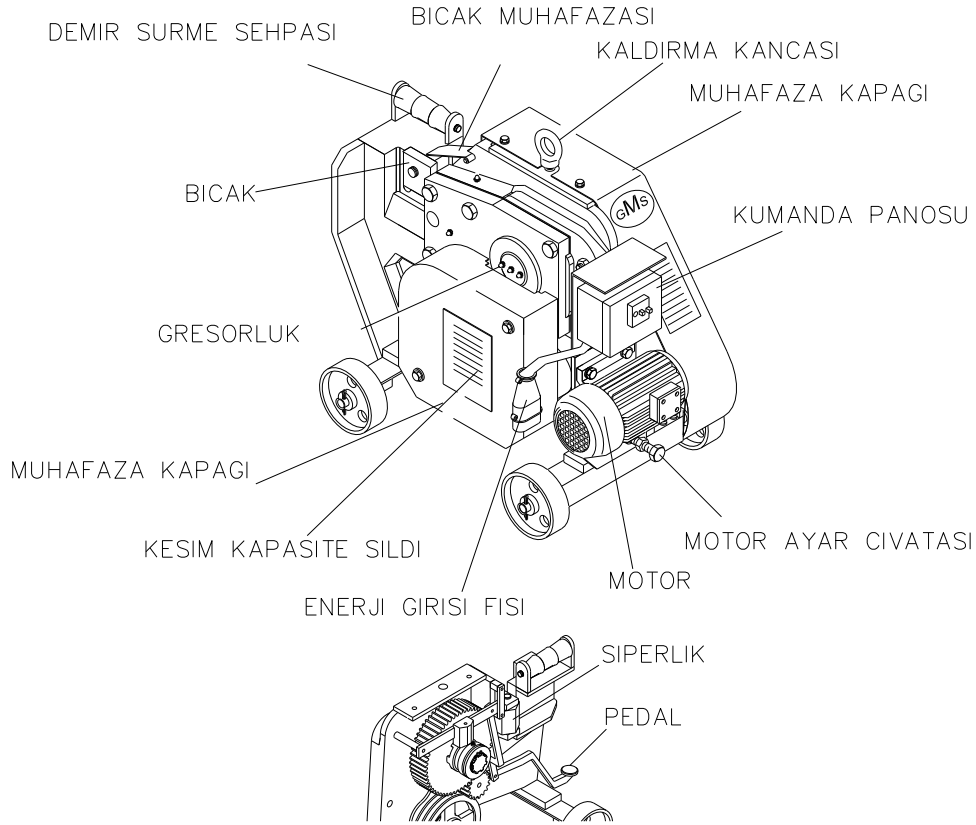
**M 36 MECHANICAL REBAR CUTTING MACHINE**

**OPERATING AND MAINTENANCE MANUAL**



**GÖÇMAKSAN**

**CE**



**M 36** Mechanical steel cutting machine is manufactured only for the purposes of cutting the steel materials. The use of the machine for other purposes is not permitted. The machine can be easily transported within the short distances under the site conditions by the help of the wheels.

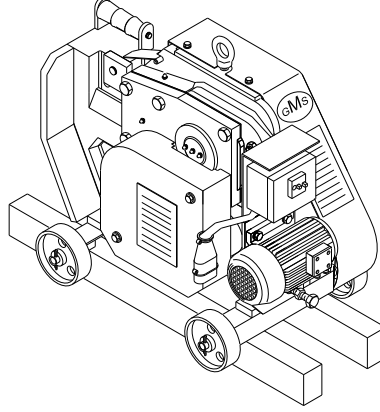
**Important warnings:**

- The operation and maintenance manual must be read thoroughly.
- The machine should be operated by the trained people.
- The machine should be shut off and the electrical connection will be cut off when the procedures of maintenance and lubrication of the machine, blade replacement and belt tension adjustments are conducted.
- The maintenance and lubrication requirements of the machine should be observed.

## 1.1 Machine Assembly:

- The machine is to be balanced by feeding with wedges underneath in a manner to disconnect the wheels from the ground on a smooth surface. (Figure 1)
- The electrical connection of the machine should be installed by the authorized people. Operating voltage should be 380 V. The earthing should be provided for the safety purposes. The machine can not be operated without the earthing connection.

SEKIL 1

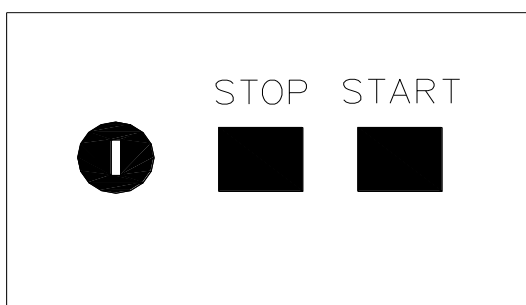


## 1.2 **Sequence of machine operating procedures :**

- Make sure that the machine is installed in accordance with the assembly rules.
- Remove any objects to possibly exist between the machine and blade.
- Keep your hands away from the blades.
- Close the Blade Protection Cover .
- The machine is started up by pressing on the start button **(see Figure 2)**
- The Blade Protection Cover is removed and the steel to be cut is placed between the blades, then the Blade Protection Cover is adjusted according to the steel size and steel is leaned onto the Blade Protection Cover **(See Figure 3 and Figure 4)**
- The Blade Protection Cover is closed.
- The cutting procedure is applied by pressing on the foot pedal.
- The machine is to be stopped after the completion of the cutting work by pressing on the Stop button.
- The machine is to be stopped after the completion of the cutting work by pressing on the Stop button.

## **Start Stop Buttons :**

Figure : 2



## 2. TECHNICAL DATA

### Cutting Capacity of the Machine:

Adet / Piece	Kesilen Çelik Mukavemeti		
	45 kg/mm <sup>2</sup>	65 kg/mm <sup>2</sup>	85 kg/mm <sup>2</sup>
1	● Ø 36	● Ø 32	● Ø 28
1	● Ø 24	● Ø 20	● Ø 18
2	● Ø 18	● Ø 16	● Ø 14
3	● Ø 16	● Ø 14	● Ø 12
3	● Ø 14	● Ø 12	● Ø 10
4	● Ø 12	● Ø 10	● Ø 8
5	● Ø 10	● Ø 8	● Ø 6
1	■ 30	■ 24	■ 20
2	■ 20	■ 18	■ 16
3	■ 16	■ 14	■ 12
4	■ 14	■ 12	■ 10
1	■ 70x12	■ 70x10	■ 70x8
2	■ 60x15	■ 60x10	■ 60x8
3	■ 50x15	■ 50x12	■ 50x10

- **Model :** M 36
- **Name :** Mechanical Cutting Machine For Construction Iron

#### Dimensions of Blades:

Width: 75 mm

Length: 75 mm

Thickness: 17 mm

**Belt Used:** V-belt: 13 x 1050

#### Machine Dimensions:

Width: 56 cm

Length: 102 cm

Height: 75 cm

Weight: 350 kg

#### Motor specifications:

Motor power: 3 kW

Speed : 2850

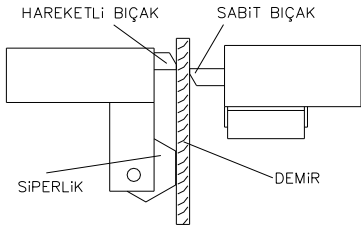
Voltage : 380 V

Frequency: 50 Hz

## 3. APPARATUS AND TOOLS SUPPLIED WITH THE MACHINE

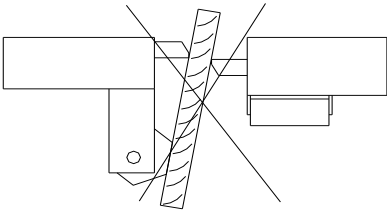
- 14 mm Allen Key 1 ea
- 500 ccm Greasing Pump 1ea
- Spare Blades 75x75x 17 mm

**Correct placement of the steel between the blades: Figure : 3**



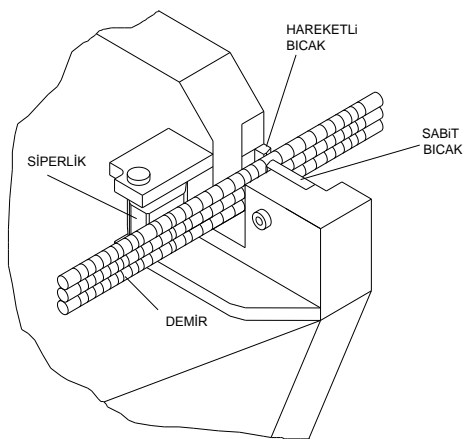
**CORRECT CUTTING**

**Incorrect placement of the steel between the blades:**



**INCORRECT CUTTING**

For multi-cutting operations, place one steel on the top of the other in an amount indicated in the capacity plate. **Figure : 4**



#### 4. DISALLOWED OPERATIONS ON THE MACHINE :

- ▼ No cutting work should be conducted without closing the Blade Protection Cover.
- ▼ The machine will be powered off and the electrical system will be switched off during a blade replacement or maintenance work.
- ▼ No one should be allowed to stand in front of the machine during a cutting work.
- ▼ The limbs should be kept away from the cutting blades.
- ▼ The adze, hammer, meter, compass, lever and similar construction apparatus should not be inserted between the blades other than the material to be cut when the machine is running.
- ▼ The machine should not be started up if it is wet.
- ▼ The sizes and numbers indicated in the capacity plate of the machine should be observed for cutting purposes.
- ▼ The steel to be cut should be leaned against the fixed blade and Blade Protection Cover.. No cutting should be conducted otherwise (**see Figure 3**).
- ▼ The steel is to be cut by putting one on the top of the other by leaning against the shield for multi-cutting of the steel, provided the number of steel indicated in the capacity plate is observed (**see Figure 4**).
- ▼ The machine should not be started up when the cover of the switch box is open.
- ▼ The default settings of the thermal current adjustment field as provided by the machine manufacturer should not be intervened.
- ▼ The machine should not be operated without the earthing connection.
- ▼ The machine should not be started when the protective covers are in disassembled position.
- ▼ The unauthorized and untrained people should not be permitted to work on the machine.
- ▼ The machine should not be operated without lubricants.
- ▼ The warning labels affixed on the machine should not be torn down.
- ▼ No cutting should be applied by using blunt and cracked blades.

#### 5. WARRANTY CONDITIONS :

The manufacturer accepts the warranty and liability only if the following conditions are observed.

- ▼ The protectors placed on the machine are used.
- ▼ The warning signals are observed.
- ▼ The machine should not be operated without lubricants .Use rubber Grease 3.
- ▼ The machine is not started without installing the earthing connection.
- ▼ Only the spare parts manufactured by Göçmaksan are used for the replacement of the malfunctioned parts of the machine.
- ▼ The conditions specified as the safety measures are observed.
- ▼ The disallowed operations are avoided.
- ▼ The machine is installed in accordance with the assembly conditions.
- ▼ The machine is operated by the trained and authorized people.
- ▼ The measurements and dimensions indicated in the capacity plate are observed.
- ▼ The machine is used in a manner suiting to its original purpose of use.
- ▼ The electrical connection is installed by the authorized and competent people.
- ▼ The machine is carried in accordance with the handling conditions (**See Figure 5**).
- ▼ For multi-cutting purposes, one steel is put on the top of the other.
- ▼ Any of the parts on the machine is not used in a dismantled manner.
- ▼ The machine motor is not replaced.
- ▼ No parts should be used on the machine other than those manufactured originally by Göçmaksan.
- ▼ The machine is serviced in accordance with the maintenance conditions.
- ▼ The machine is not operated without the Blade Protection Cover in position. The steel to be cut should be secured against the Blade Protection Cover (**See Figure 3**).

## **6. PROTECTORS TO BE USED DURING OPERATION OF THE MACHINE:**

### **6.1. The protective clothing:**

- Hard hat
- Glasses
- Boots with a steel head
- Gloves

The above mentioned protectors are to be used. Otherwise, there is a risk of injury, getting caught by the machine and cutting of hands.

### **6.2 Work clothing:**

The objects having the risk of getting caught and seized up while working on the machine are listed below, which may cause injury if not observed.

Long hair, dress with long sleeves, jewelry on arm, aprons with long bottoms, jewelery protruding from the body.

## **7. TRANSPORTATION OF THE MACHINE**

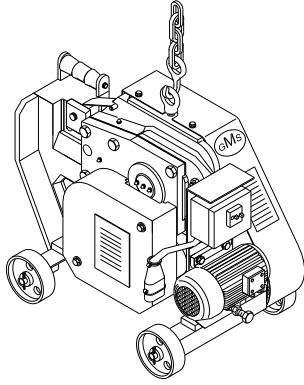
The machine should be carried and transported by means of the forklift, traveling crane or bridge cranes. The forklift may only be used when the machine is enclosed in the box. To carry the machine in the boxed situation, a wedge should be inserted underneath the machine in a manner not allowing the wheels of the machine to contact with the box surface or the wheels will be pulled out. The steel rope chain and polyester sling shot should be used for lifting the machine. The lifting ring on the machine should be used for lifting without a box. The experienced expert people and subcontractors should be employed in the lifting works.

### **WARNING!!!**

The machine should be moved without vibration. The machine should not be carried in the wet places.

Any parts lost or damaged during the transportation process should be notified to the manufacturer in the form of a report

- When using the lifting and handling equipment, the maximum carrying capacity of these equipments will be taken into consideration.
- The weight gravity center of the equipment should be taken into consideration during the lifting.
- The warning signals on all of the handling equipments should be observed.



## 8. CHECKS & ADJUSTMENTS ON THE MACHINE AND BLADE REPLACEMENT

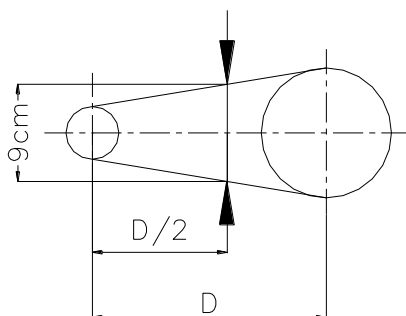
### 8.1 . Changing and Adjustment of V-belt:

V-belts became loose in the course of time. Abnormal sound is heard from the machine if V-belt becomes loose. Looser the tightness shorter the V-belt life is. The machine makes no cutting if V-belt is too loose. The ball bearings on the motor and the housing are heated if the adjustment of V-belt is too tight.

Therefore, make and check the adjustment of tightness now and then, and when you change the V-belt. To do an ideal adjustment of V-belt observe the instructions below:

1. Dismantle the Protection Cover - Side cover from the machine.
2. Loosen the locking nut of the motor adjustment bolt
3. Turn the adjustment bolt to approximate the belt-pulleys to each other.
4. Change the V-belt.
5. Turn the adjustment bolt to take the belt-pulleys away from each other. Using your thumb and indication fingers, check the tightness by pressing two sides of V-belt from the middle point of the distance between the centers of two belt-pulleys ( $D/2$ ). The clearance is to be 9 cm when you press your fingers.
6. Install the cover.

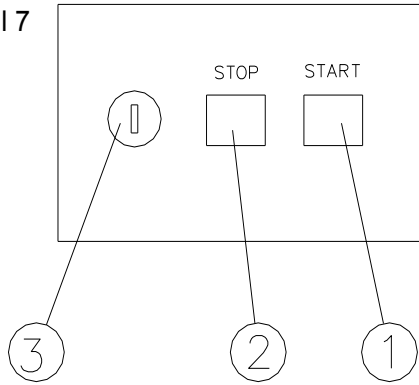
The tightness of the belt should be adjusted from the motor adjustment bolt, so that the distance between the two sides of the belt should be 9 cm when it is pressed at the middle of both of the pulley centers.





**8.2 Adjustment of the thermal current adjustment field:** It has a default value of 10 A for a motor with 3 kW 3000 r/min. It is not recommended that the user meddles with this setting.  
See Figure 7.

Şekil 7

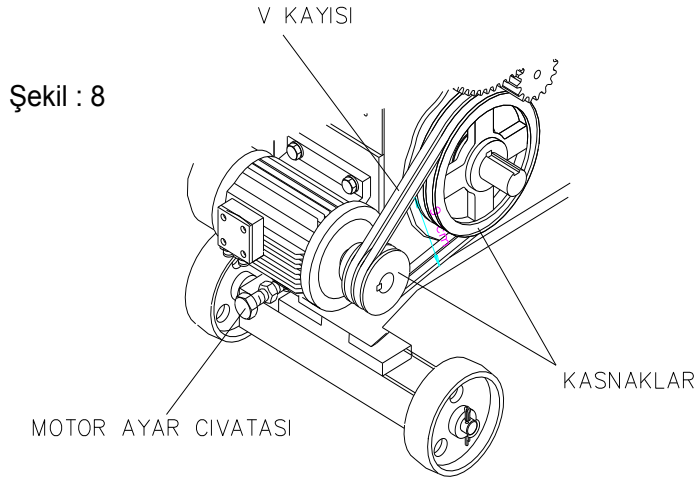


NO	BUTTON	FUNCTION
1	START	Starts the machine up by triggering the current application to the machine
2	STOP	Stops the machine by cutting off the electrical current to the machine.
3	MOTOR CURRENT ADJUSTMENT FIELD	Adjusted to 10A based on the current absorbed by the motor. Not recommended to be adjusted without the manufacturer's knowledge.

### 8.3. Sequence of demounting of the V-belt from the machine:

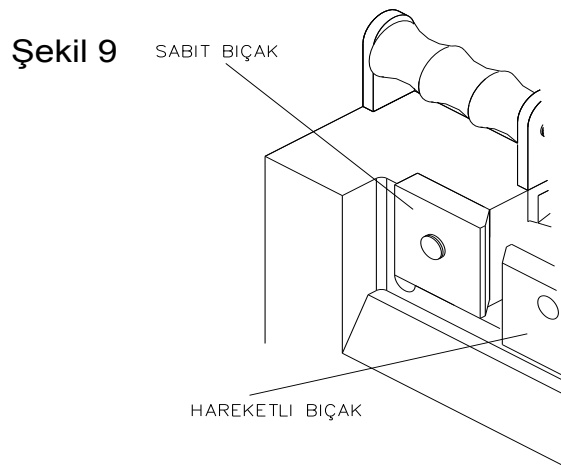
- 1 Demount the protective cover at the pulley side of the machine.
- 2 Loosen the motor connection bolt.
- 3 Unscrew the contra-nut of the motor adjustment bolt.
- 4 Make the pulleys close to each other by turning the motor adjustment bolt.
- 5 Remove the V-belt firstly from the small pulley and then from the bigger one.
- 6 To fit the belt in position, fit it firstly to the big pulley and then to the smaller one.

- 7 Set the tension of the belt by means of the motor tension bolt.
- 8 Tighten the motor connection bolt.
- 9 Complete the belt replacement process by fastening the protective cover.



#### 8.4. Replacement of The Blades:

Remove first the fixed blade and then the movable blade while replacing the blades. Ensure that the cutting edges are matching each other while fitting the blades.



## **9. MAINTENANCE OF THE MACHINE**

It is of great importance that the maintenance is performed properly in order to increase the service life of the machine and ensure a safe cutting work. We recommend that each user installs a reliable system for the control and maintenance of the machine. The following instructions are provided only for reference purposes. The machine should be lubricated with the rubber grease.

### **9.1 Daily Maintenance of the Machine:**

- Check the machine for the noise when running.
- If the machine is operated in open air conditions, protect from rain when it is rainy.
- Clean the blade spaces with a brush.
- Check the blades for crushes and cracks, and replace if necessary.

### **9.2 Weekly Maintenance of the Machine:**

- Replace the broken grease nipples fitted on the machine with the new ones.
- Lubricate the machine with the grease pump using the grease nipples fitted on the machine.
- Check the blade bolts for tightness.
- Check the machine belts for their tensions.

### **9.3. Monthly Maintenance of the Machine:**

- Check the bolt connections on the machine for their tightness.
- Demount the protective covers of the machine and lubricate the movable sections of the gear parts, engagement parts and foot pedal.
- Demount the protective cover and clean the steel tufts accumulated between the movable sections.

### **9.4 6- Month Maintenance of the Machine:**

- Demount the protective covers of the machine and remove the contaminated oil on the movable parts and re-lubricate them.
- Check the movable running gears, engagers and carriers, machine bodies and machine components for crushes, breaks and cracks.
- Check if cavities are formed due to wear on the bronze bearings of the machine, and replace the bronze bearings if so.
- Check the roller bearings of the machine for proper functioning

### 9.5. Annual Maintenance of the Machine :

- Check if cavities are formed due to wear on the bronze bearings of the machine, and replace the bronze bearings if so.
- Check the roller bearings of the machine for proper functioning and replace if necessary.

### 10. FAULTS AND REMEDIES :

The faults to arise during the operation of the machine and their reasons and remedies are given in the following chart.

NO	FAULT	DESCRIPTION	REMEDY
1.	1.The power switch is interrupted frequently	1. There may be a short circuit in the machine or installation.	1. Check the belts for their tightness.
		2. The thermal current adjustment field may be misadjusted.	2. Check if there is a short circuit.
		3. The motor protection switch may be malfunctioned and does not activate the starters.	3. Check the control adjustment field of the thermal adjustment field. If low, adjust it to 10 A.
		4. The motor protection switch may be malfunctioned and does not activate the starters.	4. Check the power switch. Replace it if defective.

2	The machine does not start up .	1. There may be an interruption in the cabling.	1. Check the cabling connections.
		2. There may be a short circuit in the motor.	2. Check if there is a short circuit by cutting off the electrical connection of the machine.
		3. The electrical network to which the machine is connected fails to receive phase	3. Check the fuses on the electrical panel.
3	The machine fails to cut.	1. The belts may be loose or torn	1. Check the belts.
		2. The engagement is not active	2. Replace the engagement driving springs.
		3. The gear is broken off .	3. Check the gears.
		4. The eccentric axle or lever may be broken off.	4. Check the eccentric axle or lever.
		5. The cut steel is not in the required size or strength.	5. Check the cut steel acc. to the cutting capacity plate

NO	FAULT	DESCRIPTION	REMEDY
4	Machine is noisy when running.	<ol style="list-style-type: none"> <li>1. The engagement threads may be worn.</li> <li>2. The belts may be loose.</li> <li>3. The roller bearings may be failed.</li> <li>4. The machine is not lubricated enough.</li> <li>5. The protective cover of the machine is crushed.</li> <li>6. The motor fan cover may be crushed.</li> </ol>	<ol style="list-style-type: none"> <li>1. 1. Replace the engagement.</li> <li>2. Check the belt for its tightness.</li> <li>3. Check the roller bearings.</li> <li>4. Check and lubricate the machine.</li> <li>5. Check the protective covers.</li> <li>6. Check the motor fan cover.</li> </ol>
5	1. The machine frequently causes the blade bolt to be broken off.	1. The bearings to which the blades are connected may be widened.	1. Check the blade connecting points and repair if necessary.

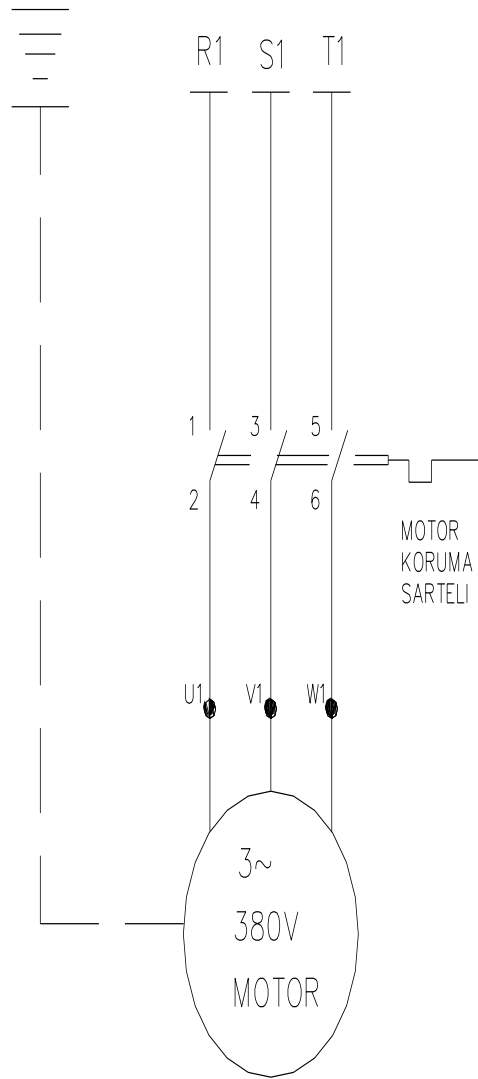
### **POWER CONNECTION:**

Plug on the power supply cord of 5x4 mm<sup>2</sup> to the feeding line of main power. Made the power connection by a qualified electrician

**GROUNDING CONNECTION:** Follow the procedure below:

Connect one end of the ground cable to a copper wire (minimum 16 mm) so as to ensure electrical conductivity. The other end of the cable is to be connected to a tube having ability of conductivity dipped sufficiently into the ground (into the damp soil, preferably), or to a copper plate buried under the soil as deeper as possible

**11. ELECTRICAL DIAGRAM:**



## SPARE PARTS LIST

Item	Part Number	Part Name	Qty
1	M36-01	Housing	1
2	M36-02	Ø90 Split Ring – Hole	2
3	M36-03	Bearing (6308 ZZ)	2
4	M36-04	Helix Pinion Gear	1
5	M36-05	10x10x94 Key	1
6	M36-06	Bearing (6210 ZZ)	1
7	M36-07	Helix Gear Z=85 Mn=3	1
8	M36-08	Bearing (6312 ZZ)	1
9	M36-09	Pinion Gear Dişli Z=	1
10	M36-10	12x12x38 Key	1
11	M39-11	M 16 Shim	1
12	M36-12	M16 Spring Washer	1
13	M36-13	M16x40 Bolt DIN 933	1
14	M36-14	Excentric Axle	1
15	M36-15	Bronze Bearing	1
16	M36-16	Carrying Arm	1
17	M36-17	Blade Carrier	1
18	M36-18	Bronze Bearing	1
19	M36-19	Blade	1
20	M36-20	M16x25 Bolt	2
21	M36-21	Carrier Bearing Cover	1
22	M36-22	3/4x25 Bolt	6



## SPARE PARTS LIST

Item	Part Number	Part Name	Qty
23	M36-23	Protective Cover	1
24	M36-24	M10 Washer	6
25	M36-25	M10x15 Bolt DIN 933	6
26	M36-26	M16x70 Bolt DIN 912	1
27	M36-27	Bronze Bearing	1
28	M36-28	Flat Gear Z=51 Mn=	1
29	M36-29	Bronze Bearing	1
30	M36-30	Ring	1
31	M36-31	Ø65 Split Ring	2
32	M36-32	Clutch	1
33	M36-33	Spring	4
34	M36-34	Spring Press Cover	1
35	M36-35	Ø200 Pulley	1
36	M36-36	Motor Connection Shield	1
37	M36-37	M20x100 Bolt	1
38	M36-38	M20 Nut	1
39	M36-39	M16 Nut	2
40	M36-40	M16x100 Dowel	1
41	M36-41	Motor 3 KW 3000 rpm	1
42	M36-42	8x7x38 Wedge	1
43	M36-43	M10 Nut	1
44	M36-44	Ø90 Pulley	1

## SPARE PARTS LIST

Item	Part Number	Part Name	Qty
45	M36-45	M8x20 Bolt	1
46	M36-46	13x1050 V Belt	2
47	M36-47	Volant	1
48	M36-48	Shim	1
49	M36-49	M12 Spring Washer	1
50	M36-50	M12x40 Bolt DIN 931	1
51	M36-51	Axle	1
52	M36-52	Axle	1
53	M36-53	M20 Washer	2
54	M36-54	Ø19 Axle Split – Ring	2
55	M36-55	3/8" Washer	3
56	M36-56	3/8" Nut	3
57	M36-57	Roller	3
58	M36-58	Pin	1
59	M36-59	Blade Protective Cover	1
60	M36-60	Pin	1
61	M36-61	Retainer	1
62	M36-62	Pin	1
63	M36-63	Lifting Hook	1
64	M36-64	Engagement Pull-off Sheet	1
65	M36-65	Spring	1
66	M36-66	Foot Pedal	1

## SPARE PARTS LIST

Item	Part Number	Part Name	Qty
67	M36-67	M10x50 Bolt DIN 931	1
68	M36-68	Disengagement mechanism	1
69	M36-69	Disengagement pin	1
70	M36-70	Spring	1
71	M36-71	M8 Nut	2
72	M36-72	Sheet	1
73	M36-73	M10x40 Bolt DIN 933	2
74	M36-74	Adjustment Scale	2
75	M36-75	M12x20 Bolt DIN 912	1
76	M36-76	Protective Cover	1
77	M36-77	Warning Plate	1
78	M36-78	Göçmaksan Shield	1
79	M36-79	Capacity Plate	1
80	M36-80	Wheel Plate	4
81	M36-81	Coupling	4
82	M36-82	1" Wide Wedge	4
83	M36-83	Switch Box	1
84	M36-84	Switch	1
85	M36-85	Switch Cover	1
86	M36-86	Grease nipple 3/8"	6
87	M36-87	Göçmaksan Logo	1
88	M36-88	Spool Connection Sheet	1
89	M36-89	M12x40 Bolt DIN 912	2





M36

