



DCM 32 REBAR CUTTING MACHINE

OPERATING AND MAINTENANCE MANUAL 2019-2020

REVISION NO -02

**SALES & SERVICE BY
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TOOLS & CHECKLIST				
Machine Type	DCM32	Machine Sr. No		
Colour		Date		
Motor Make : Motor Sr.No :		DOL Starter Make: DOL Starter Sr.No:		
TOOLS SUPPLIED WITH THE MACHINE				
SR.NO	DESCRIPTION	QTY	REMARKS	
1	Grease Gun	1		
2	Allen Key 14 mm	1		
3	Split Pin	4		
4	Plain Washer	4		
5	Wheel	4		
SR.NO	Mechanical Check points	✓	☒	REMARKS
1	Meshing of Spur Gear & Pinion			
2	Meshing of Helical Gear & Pinion			
3	Engagement & Disengagement of clutch			
4	Clutch Gap & Spring Tension			
5	Check machine Noise level			
6	Cutting Trial Bar Dia 32 mm			
7	Protection Guard Fitment			
SR.NO	Electrical Check Points	✓	☒	REMARKS
1	Check Power & control circuits of starter for proper functioning of motor			
2	Check Power Plug wiring			
3	Check Current setting of Overload relay			
4	Earthing Bolt			
SR.NO	Other Check points	✓	☒	N/A
1	SerialNumber Punching			
2	Machine Finishing			
3	Safety& Warning Stickers			
4	Machine Wrapping			
SIGNATURE:				
QUALITY		PRODUCTION		

1. General Safety Instructions

1.1 Symbols



This symbol is used to indicate live machine components. Enclosures may only be removed by authorized and suitably qualified staff.

1.2 Personal Protective Equipment



Fracture–proof protective goggles necessary!



Safety gloves necessary, danger of injuries caused by cuts! Wear your safety gloves!.



Safety shoes necessary! Wear appropriate safety shoes with steel toe caps as a protection against bruising.



Safety helmet necessary! Protect your head with a safety helmet during maintenance and transport works.

1.3 Machine-Related Instructions

Observe all safety and danger remarks at the machine!

In case of danger, immediately switch Off the starter. The machine comes to a standstill.

Use personal protective equipment when carrying out any work at the machine! When changing components and tools, always ensure that the motor of the machine are switched off!

2. MACHINE FEATURES AND DATA

2.1 Application

The DCM32 Cutting Machine for Rebar is designed and Manufactured for Cutting Rebars only. All other purposes of use are not allowed.

2.2 Specifications-Cutting Capacity

Diameter Of Bar (650 N/mm ²)	No Of Pieces
32(#10)	1
25(#8)	1
12(#4)	4
10(#3)	4
6(#2)	6

Blade Size:
Width: 75 mm
Length: 75 mm
Thickness: 17 mm
Belt Used:
V-belt: A-39
Machine Dimensions:
Width: 22.1" 560 mm
Length: 41.375" 1050 mm
Height: 39.37" 1000 mm

2.3 Power Supply-Electricity

Operating voltage: 3Phase, 240/415Volt, 60Hz

2.4 Installed Output

Cutting Motor Specifications

Power : 3.7 KW, 5HP

Rotation : 1740 rpm

Voltage : 240/415 +/-10%V

Frequency : 60 Hz

2.5 Weight

Machine with switch cabinet appr. 370 kg.

2.5A. Process Tolerance/Machine Tolerance:

The Machine tolerance OR Process tolerance is **+/-5% of Final dimension.**

2.6 Recommended Lubricants

Grease Lubrication: Kluber Centoplex GLP200-000BH

Multipurpose grease for long-term lubrication

High pressure absorption capacity

Grease all parts in order to prevent rusting.

3. TRANSPORT AND SET-UP

3.1 Machine Delivery

The machine is delivered in transportation on a pallet.

–Pay attention to the center of gravity!

– Attach load chains, cables, belts etc. only at the marked points and secure against slipping.

NOTE– When storing the machine prior to installation, ensure that the entire consignment is kept dry and frost-free. Pay particular attention to protect it from the effects of moisture (humidity, rain).

3.2 Unpacking and Checking the Delivery

- Carefully remove the packaging.
- Check the delivery for completeness, compare with packing list.
- Report missing or incorrectly delivered parts immediately.
- Report transportation damage immediately

3.3 Transporting the Machine

– To avoid transport damage, do only use means of transportation with sufficient load-bearing capacity.

–The forklift may only be used when the machine is enclosed in the box.

– Use ropes or cables with sufficient load-bearing capability and with the specified length.

– Secure ropes or cables against slippage.

– When transporting using a lift truck, only engage at even surface of machine base.

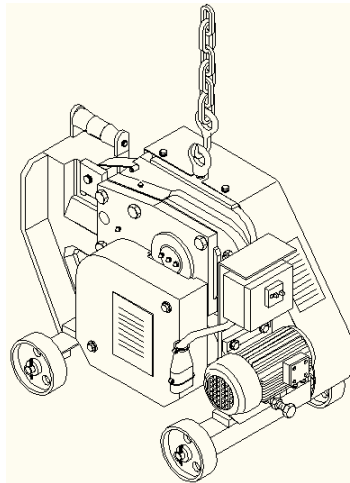
– Lift machine only vertically.

– Do not move the means of transportation too fast to prevent the machine from falling down.

– 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. Non-observance can endanger your life due to loads falling down!



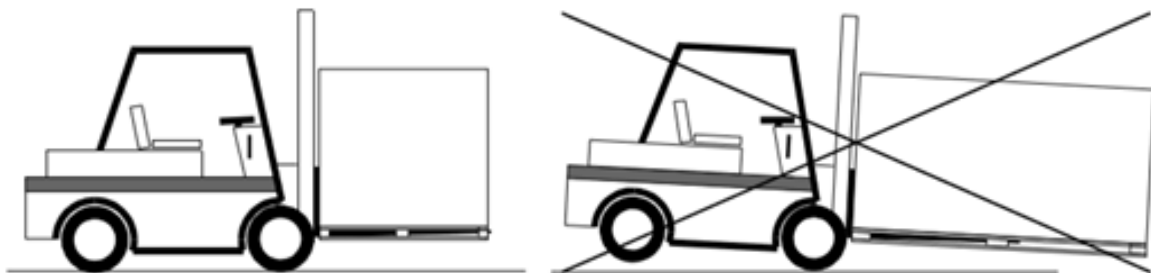
Transporting the Machine: Figure 1



3.4 Transportation with Fork Lift Truck

Machine on a pallet

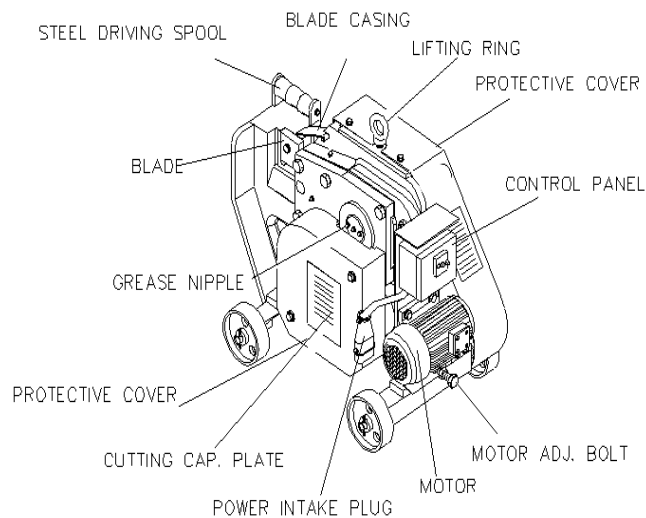
Machine with switch cabinet appr. 370 kg



4. Guidelines for Safe and Efficient Use

1. Lifting the machine properly as specified (See Figure 1).
2. Do not operate the machine without earthing connection.
3. Do not operate the machine without closing the blade casing.
4. Switch off the machine during the maintenance work.
5. Do not operate the machine when protective covers are opened.
6. Do not clean the machine by applying the air, use cotton cloth to clean the machine.
7. Do not operate the machine without greasing.
8. Do not remove the warning label stickers on the machine.
9. Do not perform the cutting with the blunt edge blade.
10. Do not allow untrained person to operate the machine.
11. If you are in doubt about a proper or safe procedure, stop work and ask for guidance.
12. Do not try to cut the bar in larger size than the specified one.
13. Refer the capacity plate on the machine for cutting process.
14. Do not wear loose or torn clothing, neckties or necklaces. Long hair can easily be caught in cutting area. Tie back hair or wear a cap.
15. Do not allow to use any spare parts and apparatus other than the genuine ones from manufacture of machine only.
16. Switch off the machine if not in use
17. Do not operate the machine when it is wet.
18. Always follow the instructions for proper cutting.

5. Overview



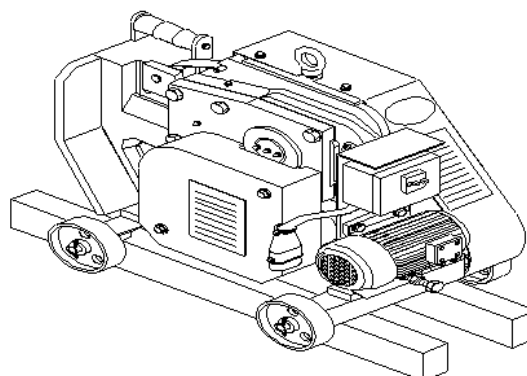
Overview

The DCM32 Cutting Machine for Rebar is designed and Manufactured for Cutting rebars only. All other purposes of use are not allowed. In order to get the best output from your machine, locate it in such a position so as to be operated easily and to more output from the Operator. Therefore, the site where the machine will be operated is to be near the storage area of Rebar, preferably under a covered shed. The machine can be easily transported within the short distances under the site conditions by the help of the wheels.

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. (see Figure 2)
- The electrical connection of the machine should be installed by the authorized people. Operating voltage should be 415 V.
- The earthing should be provided for the safety purposes. The machine cannot be operated without the earthing connection.

Figure:2



Important Warning

Prior to operate the machine read through this Operating & Maintenance Manual, carefully. Only the qualified personnel are allowed to operate the machine. Disconnect the power prior to make checks, maintenance, lubrication, and/or adjustments. Observe all guidelines provided in this Operating & Maintenance Manual.

5.1 Installation Procedures

- Level the machine on a flat and sound ground(Figure 2).
- Make the power connection by a qualified electrician.

Note: Power Connection

- Plug on the power supply cord of 4x4 Sq.mm to the feeding line of main power.
- Grounding is to be made for safety. Do not operate the machine without grounded power.

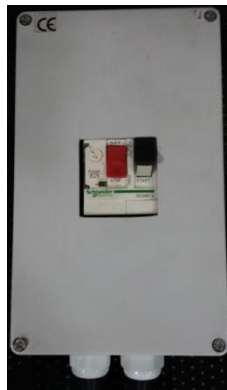
5.2 Grounding Connection:

Connect one end of the ground cable to a copper wire (minimum16Sq.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.

6 ELECTRICAL SYSTEM

6.1 Starter

Figure: 3



NO	BUTTON	FUNCTION
1	START	Press start button to run the machine and proceed the cutting operation
2	STOP	Press stop button to stop the machine

7. Start up Procedure

7.1 Switching On

Switch on machine with **Start Button**.

7.2 Switching Off

Switch Off the machine with **Stop Button**.

7.3 Initial Commissioning

A. Check and ensure that the machine is installed in accordance with instructions.

B. Press the Start Button and determine the direction of rotation of the machine.

Note: The clockwise rotation is accepted as the right rotation. If the machine rotates in opposite direction it mean that phases of power source are reverse and change the connections with the qualified electrician.

8. Producing Operation

8.1 SEQUENCE OF OPERATION

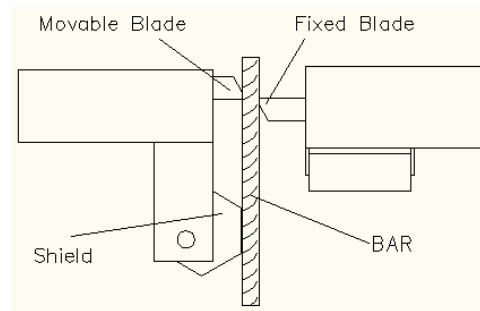
- Make sure that the machine is installed in accordance with the assembly rules.
- Remove any objects to possibly exist between the machine and blade.
- Keep your hands away from the blades.
- Close the blade casing.
- The machine is started up by pressing on the start button (see Figure 3)
- The blade casing is removed and the steel to be cut is placed between the blades, then the shield is adjusted according to the bar size and bar is leaned onto the shield (See Figure 4 and Figure 5)
- The blade casing is closed.
- Cut the bar by operating the Hand lever.

The machine is to be stopped after the completion of the cutting work by pressing on the Stop button.

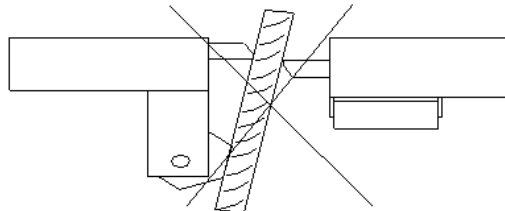
8.2 Correct placement of the Bar between the blades:

Correct Cutting

Figure: 4



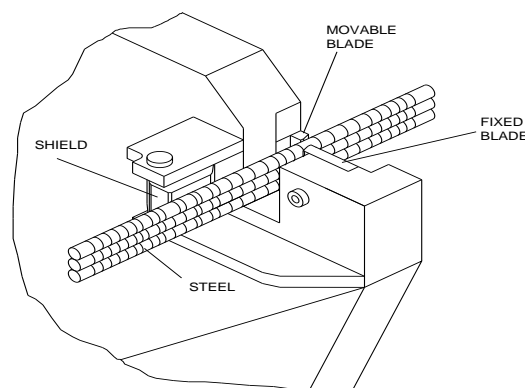
Wrong Cutting



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

Correct Cutting

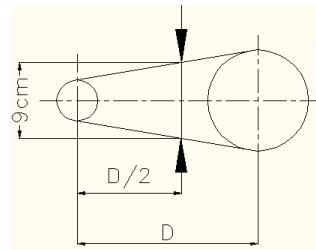
Figure: 5



8.3 Checks & Adjustments of Belt on the machine:

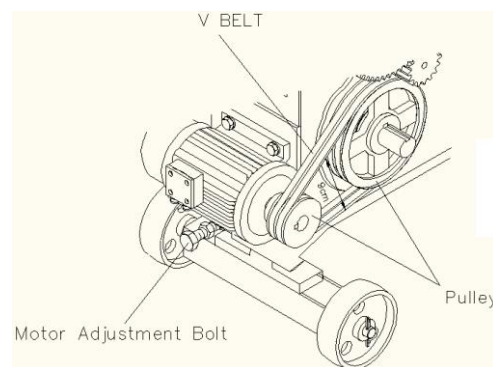
Belt adjustment:

The V-belts placed on the machine are loosened over time. Also the belt adjustment is necessary as it will be misadjusted after the belt replacements. If the belt is loose, it causes noise during the running of the machine and shortens the life time of the belt. The machine fails to cut if the belt is too loose. However, it may cause the roller bearings on the motor and body to warm up if the belt is set very tightly. 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.



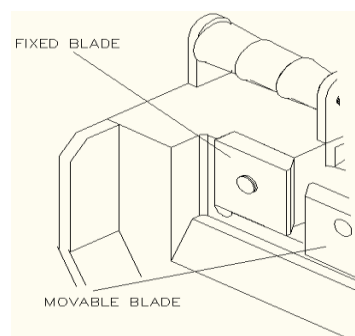
Sequence of demounting of the V-belt from the machine:

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. Blade replacement on the machine

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



9. Troubleshooting

Refer to the Troubleshooting Chart below for the failures, errors and/or troubles, which may be take place during utilization of the machine.

Warning! Disconnect first the power by turning the main switch to the (0) position in case of a need to open the lid of power panel for troubleshooting. Do not allow the people other than a qualified electrician to make a check and/or a repair in the power panel.

NO	SYMPTOM	POSSIBLE CAUSE	SOLUTION
1	The power switch is interrupted frequently	1. The power switch may be interrupted due to overheating of the motor.	1. Check the belts for their tightness.
		2. There may be a short circuit in the machine or installation.	2. Check if there is a short circuit.
		3. The thermal current adjustment field may be misadjusted.	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 supply of the machine.
		3. The electrical network to which the machine is connected fails to receive phase	3. Check the breaker 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
4	Machine is noisy when running.	1. The engagement threads may be worn.	1. Replace the engagement.
		2. The belts may be loose.	2. Check the belt for its tightness.
		3. The roller bearings may be failed.	3. Check the roller bearings.
		4. The machine is not lubricated enough.	4. Check and lubricate the machine.
		5. The protective cover of the machine is crushed.	5. Check the protective covers.
		6. The motor fan cover may be crushed.	6. Check the motor fan cover.
5	The machine frequently causes the blade bolt to be broken off.	The bearings to which the blades are connected may be widened.	Check the blade connecting points and repair if necessary.

10. MAINTENANCE AND LUBRICATION

Note that the proper maintenance is very important in order to prolong the service life of the machine, and to ensure the safe Cutting. We recommend the users are to establish a reliable system to control and maintain the machine. Please refer to the following instructions .

Daily Maintenance

- * 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.

Weekly Maintenance

- * 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.

Monthly Maintenance

- * 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 and engagement parts.
- *Demount the protective cover and clean the steel tufts accumulated between the movable sections.

6 months Maintenance

- * 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

Annual Maintenance

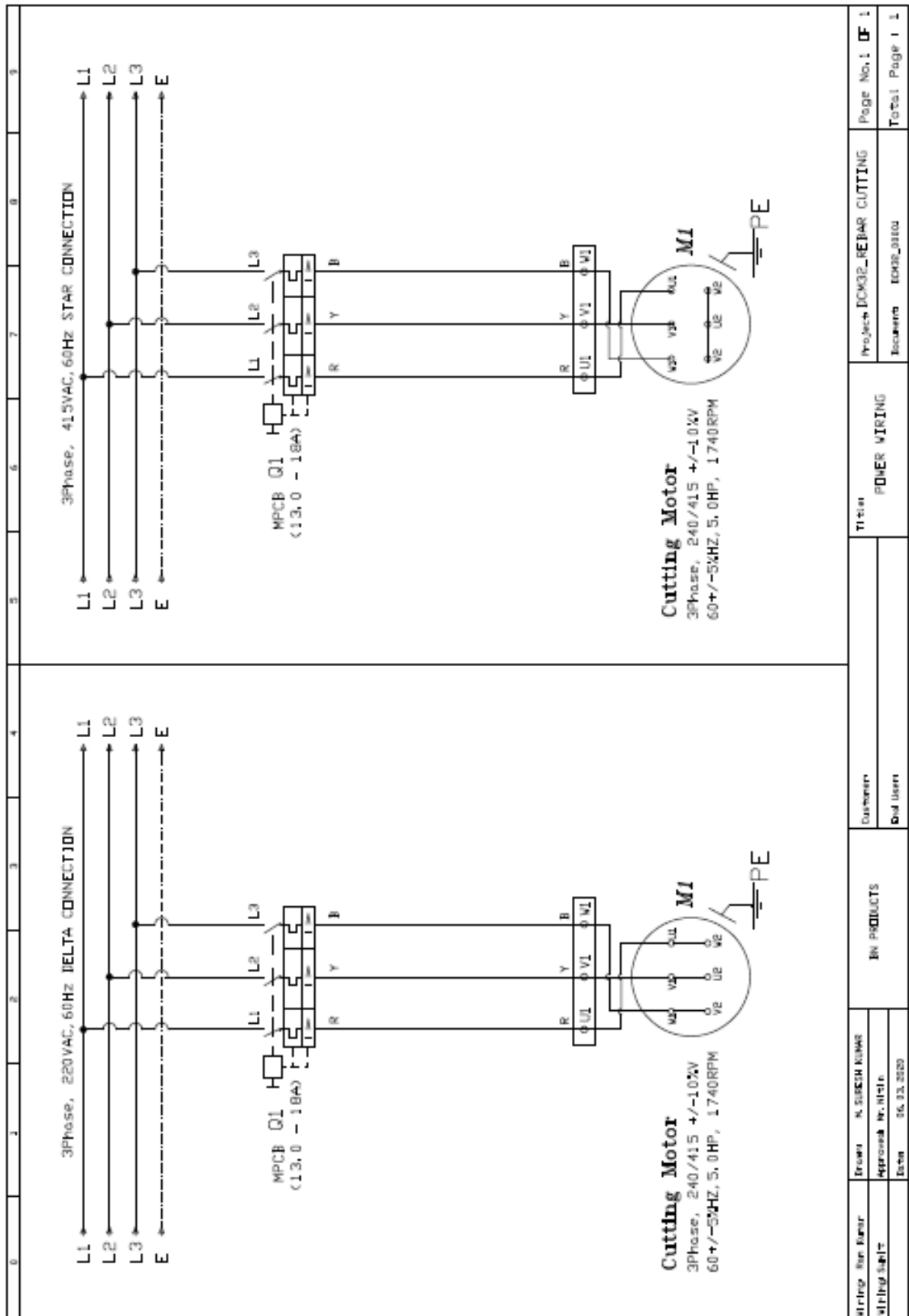
- * Check if cavities are formed due to wear on the bronze bearings of the machine, and replace the bronze bearings if so.
- *Check the roller bearings of the machine for proper functioning and replace if necessary.

11. WARRANTY

Manufacturer will only accept the warranty and responsibility subject to the following terms and conditions are met :

- Observe all protective precautions.
- Observe the warning signs.
- Do not operate the machine without grounded power.
- Do not replaced failed parts and apparatus other than the genuine one manufactured By Manufacturer.
- Observe the instructions specified in the safety guidelines.
- Observe the guidelines for safe and efficient use.
- Observe the instructions for installation.
- Observe the conditions for loading, transportation and unloading of the machine.
- Operate the machine by qualified operators.
- Observe the measurements, dimensions and the quality of material specified in the capacity plate.
- The power connection is to be made by a qualified electrician.
- Do not allow the machine to be operated when any of its part is disassembled.
- Observe the instructions for proper service and maintenance.
- Do not try to cut the material in larger size than the one specified.

12. Electrical Circuit Diagram



Drawing No.:	Drawn By:	Checked By:	Project:	Page No.:
01/13/2020	N. SURESH KUMAR	M. NITHIN	DOM32_REBAR CUTTING	01
Issue Date:	Issue No.:	Issue Date:	Documents:	Total Page:
06.03.2020	01	06.03.2020	DOM32_0100	01
Title:			Project:	
POWER WIRING			DOM32_REBAR CUTTING	
Customer:			Page No.:	
Def. User:			01	
BN PRODUCTS			Total Page:	
			01	

13. Spare Parts List

SR NO	PART NAME	PART CODE	GA DWG REFERENCE NO	QTY	PART DETAILS
1	MAIN BODY	020100403401	1	1	
2	SPUR GEAR	020100401201	2	1	
3	SPUR GEAR INSERT	020100403001	3	1	
4	SPUR GEAR BUSH	020100402901	4	1	
5	CIRCLIP DIA 65	200307000301	5	1	
6	RING	020100402501	6	1	
7	CLUTCH	020100400801	7	1	
8	CLUTCH SPRING	200322000201	8	1	
9	CLUTCH RETAINING COVER	020100402801	9	1	
10	ALLEN CSK M10X35	200322000101	10	2	
11	HOUSING BUSH	020100401601	11	1	
12	ECCENTRIC SHAFT	020100401101	12	1	

SR NO	PART NAME	PART CODE	GA DWG REFERENCE NO	QTY	PART DETAILS
13	CARRYING ARM	020100400501	13	1	
14	CARRYING ARM BUSH	020100400601	14	1	
15	COVER BUSH	020100400901	15	1	
16	END COVER PLATE	020100403301	16	1	
17	HEX BOLT M20X65	200320000701	17	6	
18	BUSH RETAINING COVER	020100403501	18	1	
19	ALLEN CSK M6X12	200319000301	19	4	
20	RH COVER	002000200701	20	1	
21	ALLEN BOLT M16X22	200319001101	21	1	
22	BLADE CARRIER	020100400401	22	1	
23	BLADE-MOVABLE	020100400301	23	1	
24	RETAINER	020100402401	24	1	

SR NO	PART NAME	PART CODE	GA DWG REFERENCE NO	QTY	PART DETAILS
25	AXLE	020100400101	25	1	
26	WASHER DIA 50	020100402301	26	1	
27	HELLICAL GEAR	020100401401	27	1	
28	BEARING 6210	200302000401	28	1	
29	BLADE PROTECTING COVER	020100200101	29	1	
30	WEDGE	020100403201	30	1	
31	BLADE - FIXED	020100400301	31	1	
32	SPOOL BRACKET	020100200801	32	1	
33	SPOOL	200000401401	33	1	
34	SPOOL PIN	200000401501	34	1	
35	MOUNTING BRACKET I	020100200501	35	1	
36	WHEEL	020100402301	36	4	

SR NO	PART NAME	PART CODE	GA DWG REFERENCE NO	QTY	PART DETAILS
37	SPRING SUPPORT PATTI	020100403201	37	1	
38	DISENGAGEMENT MECHANISM	020100401001	38	1	
39	SRPING HOOK	200505000101	39	1	
40	DISENGAGEMENT PIN	200000401101	40	1	
41	DISENGAGEMENT PIN SPRING	200322000101	41	1	
42	DISENGAGEMENT BLOCK	200000401001	42	1	
43	HANDLE SPRING	200322000201	43	1	
44	ALLEN BOLT M10X35	200319001201	44	2	
45	STUD M10X100	200333000101	45	1	
46	BEARING 6312	200302000601	46	1	
47	SPUR PINION	020100403101	47	1	
48	CONCENTRIC LINK	020100401801	48	1	

SR NO	PART NAME	PART CODE	GA DWG REFERENCE NO	QTY	PART DETAILS
49	SPACER DIA 20	020100402601	49	2	
50	HANDLE SUPORT PATTI	010200401101	50	1	
51	HANDLE LEVER	020100401701	51	1	
52	BEARING 6308	200302000501	52	1	
53	HELLICAL PINION	020100401501	53	1	
54	HEX BOLT M20X110	200320000701	54	1	
55	HEX NUT M20	200315000401	55	1	
56	MOTOR MOUNTING BRACKET	020100200401	56	1	
57	STARTER	200146000101	57	1	
58	MOTOR-3.7KW, 1440RPM	200701000101	58	1	
59	PULLEY DIA 125	200318000501	59	1	
60	ALLEN BOLT M10X25	200319000201	60	1	

SR NO	PART NAME	PART CODE	GA DWG REFERENCE NO	QTY	PART DETAILS
61	AXLE SEGMENT	020100400201	61	1	
62	CIRCLIP DIA 20	200307000301	62	1	
63	MOUNTING BRACKET II	020100200501	63	1	
64	BEARING 6308	200302000501	64	1	
65	V-BELT A39	200325000301	65	2	
66	PULLEY DIA 150	200318000401	66	1	
67	FLYWHEEL	020100401301	67	1	
68	WASHER DIA 75	020100402701	68	1	
69	ALLEN BOLT M12X45	200319000901	69	1	
70	LH COVER	020100200301	70	1	
71	ALLEN BOLT M10X25	200319000201	71	2	
72	CIRCLIP DIA 20	200307000301	72	1	

14. Assembly Layout

