

A SERIES

DIRECT GEAR MOTORIZED GUILLOTINE SHEARS

OPERATION MANUAL

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1. DESCRIPTION

A SERIES Motor Operated Guillotine Shears can be used for metal sheet cutting in series and reduce the utilization of man power. These machines have a robust construction and can be used very effectively in middle and big size production and repair workshops.

2. HOW THE SYSTEM WORKS

A SERIES Gear Motorized Guillotine Shears are being operated semi-automatically by a mechanic system. Gear motorized electric motor moves the crankshaft and crankshaft moves the rods located in the shaft. Circular motion is converted to straight line motion through the piston rods located in the shaft connected with crankshaft and guillotine shear goes down. Then, sheet cutting process is completed.

3. TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS	A SERIES 1060	A SERIES 1360	A SERIES 1560
Operating System	Mechanical	Mechanical	Mechanical
Max. Cutting Length (mm)	1060±2	1360±2	1560±2
Cutting Capacity (mm)	5	4	4
Cutting Per Minute	41	41	41
Motor Power (kW)	7.5	7.5	7.5
Length (mm)	1750	2050	2250
Width (mm)	2300	2300	2300
Height (mm)	1350	1350	1350
Weight (kg)	2000	2300	2500
Material of blade	Special K-2379	Special K-2379	Special K-2379
Hardness	HRC 58 ± 2	HRC 58 ± 2	HRC 58 ± 2

TECHNICAL SPECIFICATIONS	A SERIES 2060	A SERIES 2560	A SERIES 3060
Operating System	Mechanical	Mechanical	Mechanical
Max. Cutting Length (mm)	2060 ± 2	2560 ± 2	3060 ± 2
Cutting Capacity (mm)	4	4	4
Cutting Per Minute	41	41	41
Motor Power (kW)	7.5	7.5	7.5
Length (mm)	2600	3100	3600
Width (mm)	2250	2250	2250
Height (mm)	1400	1400	1400
Weight (kg)	3000	3500	4000
Material of blade	Special K-2379	Special K-2379	Special K-2379
Hardness	HRC 58 ± 2	HRC 58 ± 2	HRC 58 ± 2

Table 1 – Technical Specifications of A SERIES Series Gear Motorized Guillotine Shears

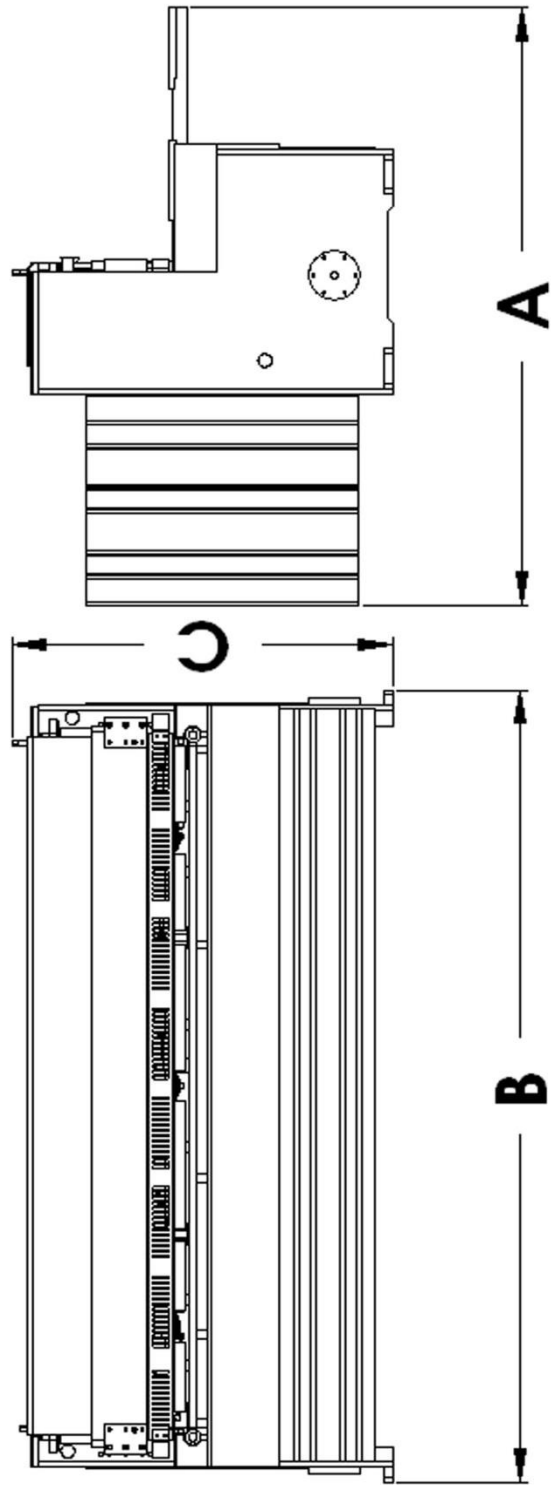


Figure 1 – A SERIES Gear Motorized Guillotine Shears

4. TRANSPORTATION, LIFTING AND CARRYING

Before preparing installation process, machine should be checked whether any damage occurred during transportation and handling process. If one or more parts of the machine have been damaged, then you must call us before installing the machine. **We do NOT accept any excuses about transportation damages, if you installed and ran the machine before reporting us.**

A chain or cable with sufficient strength should be fastened to carrying circle located on upper body of A SERIES Gear Motorized Guillotine Shear and the machine should be carried to desired location carefully (Figure 2). Machine should be carried only through carrying circle.

WARNING: Lifting and carrying operations must be done by skilled people to avoid unexpected accidents

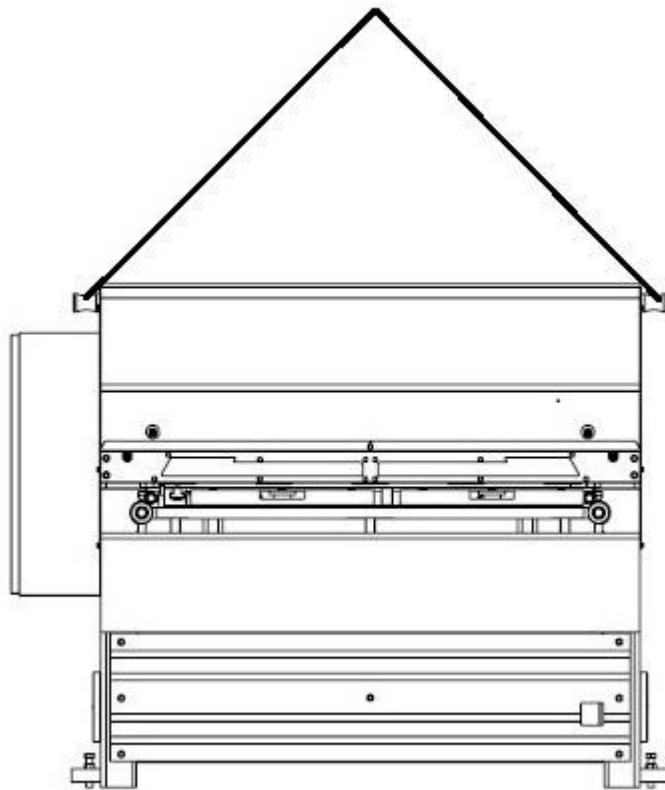


Figure 2 – Carrying Gear Motorized Guillotine Shear

5. SETTLEMENT OF THE MACHINE

a- As can be seen in Figure 3, before settlement of A SERIES Gear Motorized Guillotine Shear to the ground, screws should be placed into concrete ground properly. The ground must be flat horizontally.

b- During the operation of the machine, under each foot rubber should be placed in order to prevent vibration and machine should be settled up to stay permanently.

c- If machine is to be placed near the wall or another machine the distance between them should be at least 3 meters.

d- After the machine is settled, electrical installation can be made. Electrical ground connection should be made properly and electric engine's rotation of direction should be the same as the arrow is direction.

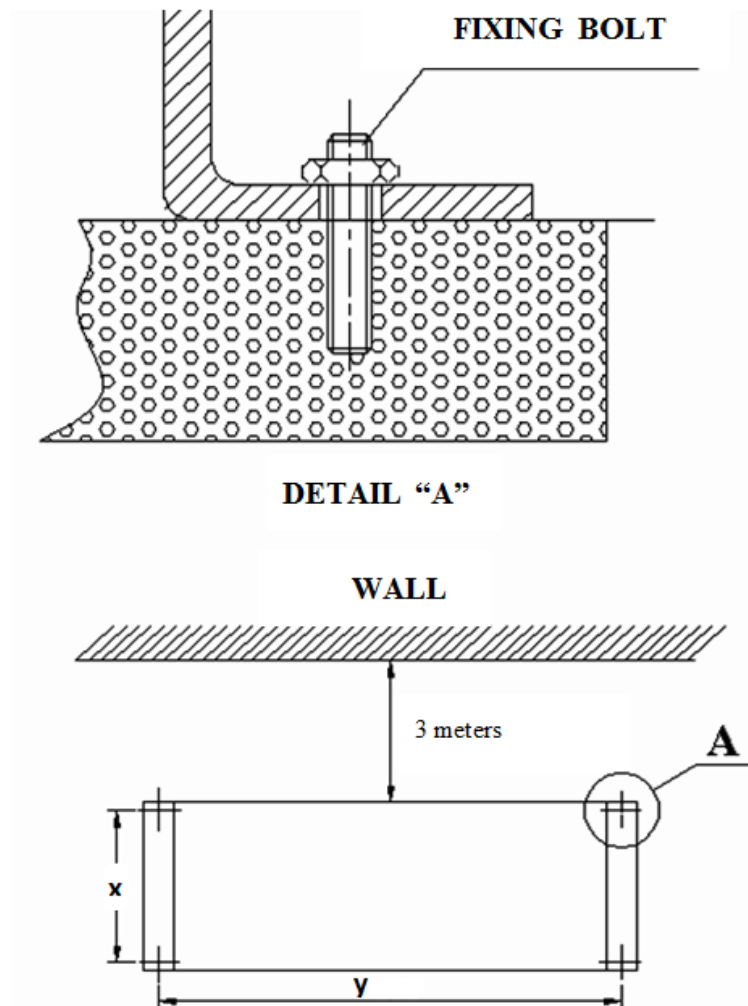


Figure 3 – Settlement Plan of A SERIES Gear Motorized Guillotine Shears

	X (mm)	Y (mm)
A SERIES 1100	1500	655
A SERIES 1400	1650	655
A SERIES 1560	1960	655
A SERIES 2060	2435	655
A SERIES 2560	2950	655
A SERIES 3060	3430	655

6. OPERATING and STOPPING THE MACHINE

Make following controls before operating A SERIES Gear Motorized Guillotine Shears.

- a- Check whether electric engine has enough power, speed and voltage. Before releasing the energy, check voltage and installation fuses.
- b- Check whether or not electric engine's direction of rotation has the same direction as the direction of arrow on flywheel housing. If they has not, change the electrical connections.
- c- Clean the cutting blades.
- d- Lubricate the machine according to the lubrication diagram in Figure 6.
- e- Check the front connection and the angle.
- f- In accordance with the sheet thickness to be cut, adjust the cutting space according to the Table 2.
- g- In order to start electric turn on the main switch.
- h- Press the start button to operate engine.
- i- By pressing the feet pedal control whether or not upper table is moving.
- j- After completing all operations, start the sheet cutting process.
- k- Release the foot pedal.
- l- If there is no sheet on table, carry it over in order to prevent cutting blades.
- m- Press stop button.
- n- Turn off the main switch.

7. ADJUSTING THE CUTTING SPACE

A SERIES Gear Motorized Guillotine Shear can be used in cutting of sheets with different thickness (max. 5 mm). For this, cutting space adjustment should be made according to Table 2.

Screws connecting the machine's table to the foot are loosened (Figure 4). According to the thickness of the material to be cut continuously, cutting space is selected from Table 2. Adjustable knife selected according to this space is placed between two blades and bolts are tightened. This process is repeated for both feet.

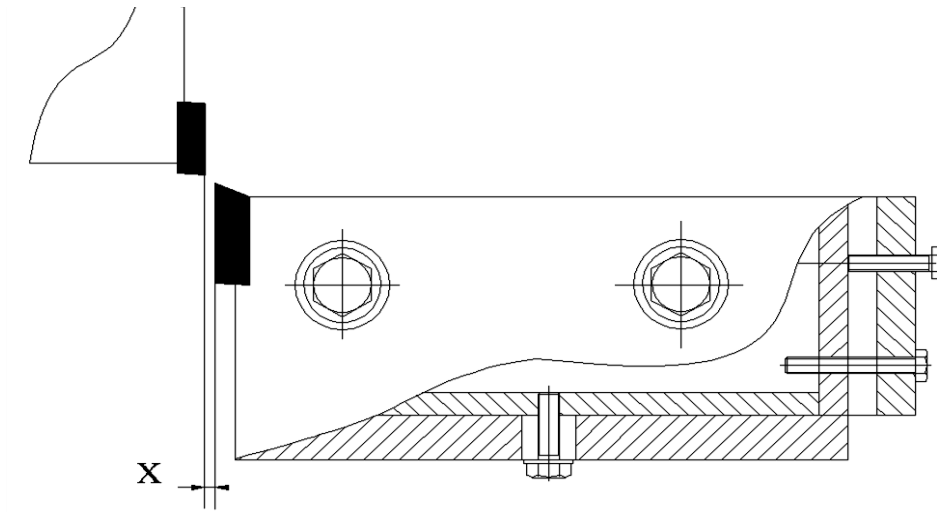
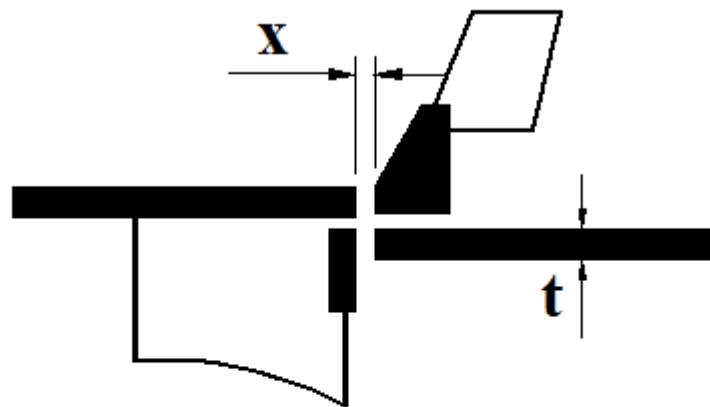


Figure 4 - A SERIES Gear Motorized Guillotine Shear Cutting Space Adjustment



Cutting Space : $x = t * \% s$
Sheet Thickness : t

Figure 5 – Cutting Space Calculation

SHEET THICKNESS (MM)	STEEL (ST 33-37)	STEEL (ST 37-50)	STEEL (ST 50-70)	BRASS (DUCTILE)	BRASS (BRITTLE)
0.25	0.013	0.015	0.018	0.010	0.015
0.5	0.025	0.030	0.035	0.020	0.030
0.8	0.040	0.048	0.056	0.032	0.048
1.0	0.050	0.060	0.070	0.040	0.060
1.5	0.075	0.090	0.105	0.060	0.090
1.8	0.090	0.108	0.126	0.072	0.108
2.0	0.100	0.120	0.140	0.080	0.120
2.5	0.125	0.150	0.175	0.100	0.150
3.0	0.150	0.180	0.210	0.120	0.180
3.5	0.175	0.210	0.245	0.140	0.210
4	0.200	0.240	0.280	0.160	0.240
4.5	0.225	0.270	0.315	0.180	0.270
5	0.250	0.300	0.350	0.200	0.300
5.5	0.275	0.330	0.385	0.220	0.330
6	0.300	0.360	0.420	0.240	0.360
% S	5	6	7	4	6

Table 3 - Cutting Spaces According to Sheet Thickness Material

8. LUBRICATION AND PERIODIC MAINTENANCE

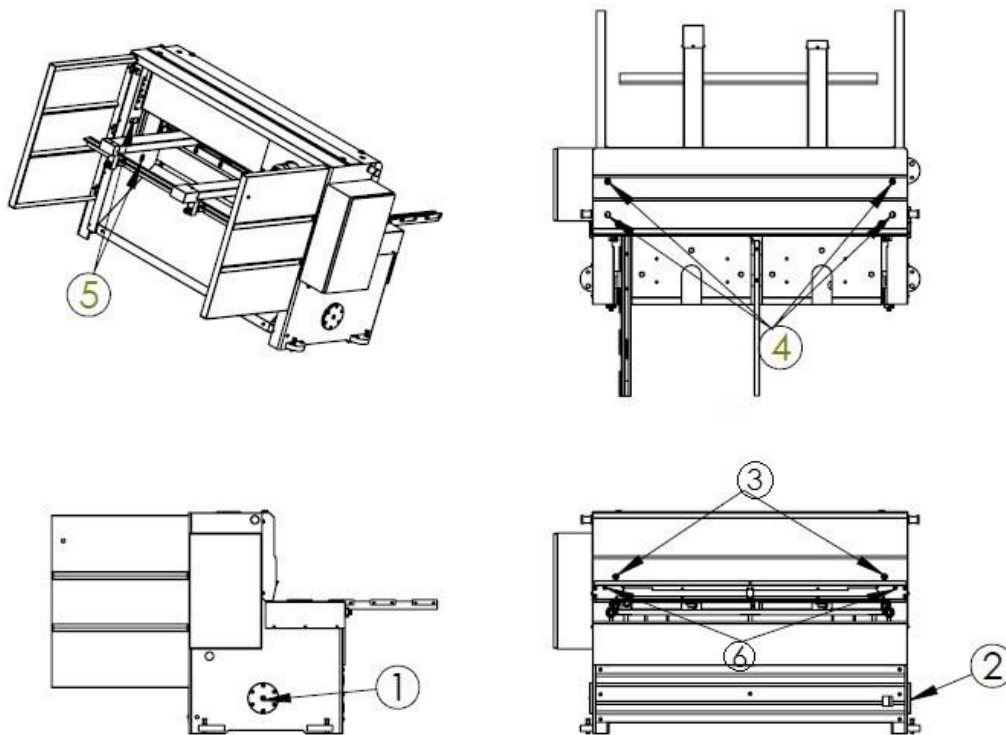


Figure 6- Lubrication Diagram of A SERIES Gear Motorized Guillotine Shear

Right and left main shaft bearings (1-2): Once a week with grease,

Right and left underframe side bearers(4-5): Once a week with grease

Right and left load beds (3-6): Once a week with grease

If machine is manuel, the rock gear of backgauge should be greased once a week

If machine has digital backgauge, ball screw should be greased once a week.

9. IMPORTANT POINTS

ATTENTION: The safety measurements should be taken into consideration in order to avoid the work accidents in machine operation.

Read the warnings and instructions carefully before operating the machine and overrate.

Keep the Safety Instructions well!

1 – **Keep your workplace tidy:** otherwise it may lead to an accident.

2 – **Pay attention to the Environment factors:** Do not expose the machine to rain. Do not operate the machine in the wet environment. Ensure a better lighting. Keep at least 500 mm distance between the fixed parts or stored materials and the moving parts of the machine.

3 – **Keep other persons away:** Especially keep children away. Keep other persons away from the working area so as not to cause any danger reluctantly or be detained. (Keep animals away, too!)

4 – **Do not overload the machine:** You can work more secure and safer at the capacity described.

5 – **Wear suitable work clothes:** Do not wear loosen clothes and jewelry. They might be caught by the moving parts. Wear safe shoes in order to not to damage your feet while machining the sheet metal in hand. Protect your hand against the cutting danger.

6 – **Beware of placing the machine correctly:** Place the machine on a fixed ground. Take the open areas necessary for your working in an unimpeded and safe way into account. Adjust the machine as described in the Operating Instruction.

7 – **Use the Machine according to your own decision:** Operate the machine alone. Use the machine from the table side. If you cannot reach to the support with the long sheet metal parts, go to the sheet metal entry stepping around the machine. Start cutting only when you are on the table side. Never approach your hands between the blade and pressing body. Do not remove the pressing body so as to obtain a bigger height in the sheet metal entry.

8 – **Have your machine maintained:** Keep your blades clean and sharp to work securely and better. Follow the maintenance warnings and blade replacing instructions. Keep the operating components dry and without oil.

9 – **Be careful all the time:** Do your work carefully. Do not use the machine when you are confused. Do not try to handle the part which is cut. When you cut a lot and the cut pieces drop on the ground or on other pieces and produces noise, use an ear protector. Well-train the people who would work with the machine beforehand.

10 – **Always control to see whether any damage is available with the machine:** Check to see whether the moving parts to effect the operation of the machine is regular or not, the parts are broken or not, all other parts assembled faultless and correct or not, and all requirements have been fulfilled or not. All the damaged parts and safety systems must be properly repaired or replaced.

11 – **The issues you need to care about:** Only use the parts which are described in the operating instructions and brochures for your safety. The use of other parts may cause a danger for you.

10. GUARANTEE

All products of Say-Mak Machinery Ltd. are applied to quality control at every stage of production process and before being distributed to the customer they are examined and checked out with due care. As long as the machine is used in accordance with the instructions in the user guide, the guarantee is valid for 12 months. The validity of guarantee ends up by the usage out of purposes even if for a short period. After the sale buyer is responsible for transportation, settle up and installation of the machine.

- All spare part accessories and maintenance are provided by our company.
- For the machine to be long lasting, it should be settled according to the settling plan and not be operated before being laid on the scale.
- Machine must be lubricated according to the lubrication diagram.
- Machine must be operated at the right voltage and it must be connected as the electric motor's direction of rotation is to be at the same direction with the arrow.
- Machine must be operated in accordance with working instructions.
- Cutting space is adjusted according to Ç1020 material of 1 mm thickness. So you have to adjust the cutting space according the material you will cut.

In the case of above mentioned instructions are not adapted, Say-Mak Machine Manufacturing Ltd.is not responsible for the occurrence of possible damages and defects. For replacement and repairing of defective parts, buyer has the right of requesting them free of charge within the guarantee period in accordance with the producer's fault report. Wrong installation, overloading, wrong maintenance, exorbitant use damages are excluded by guarantee. If user makes additions and modifications on the machine validity of guarantee ends up. The same condition is also valid in the case of changing, removing or destroying machine serial number.

11. PART LIST

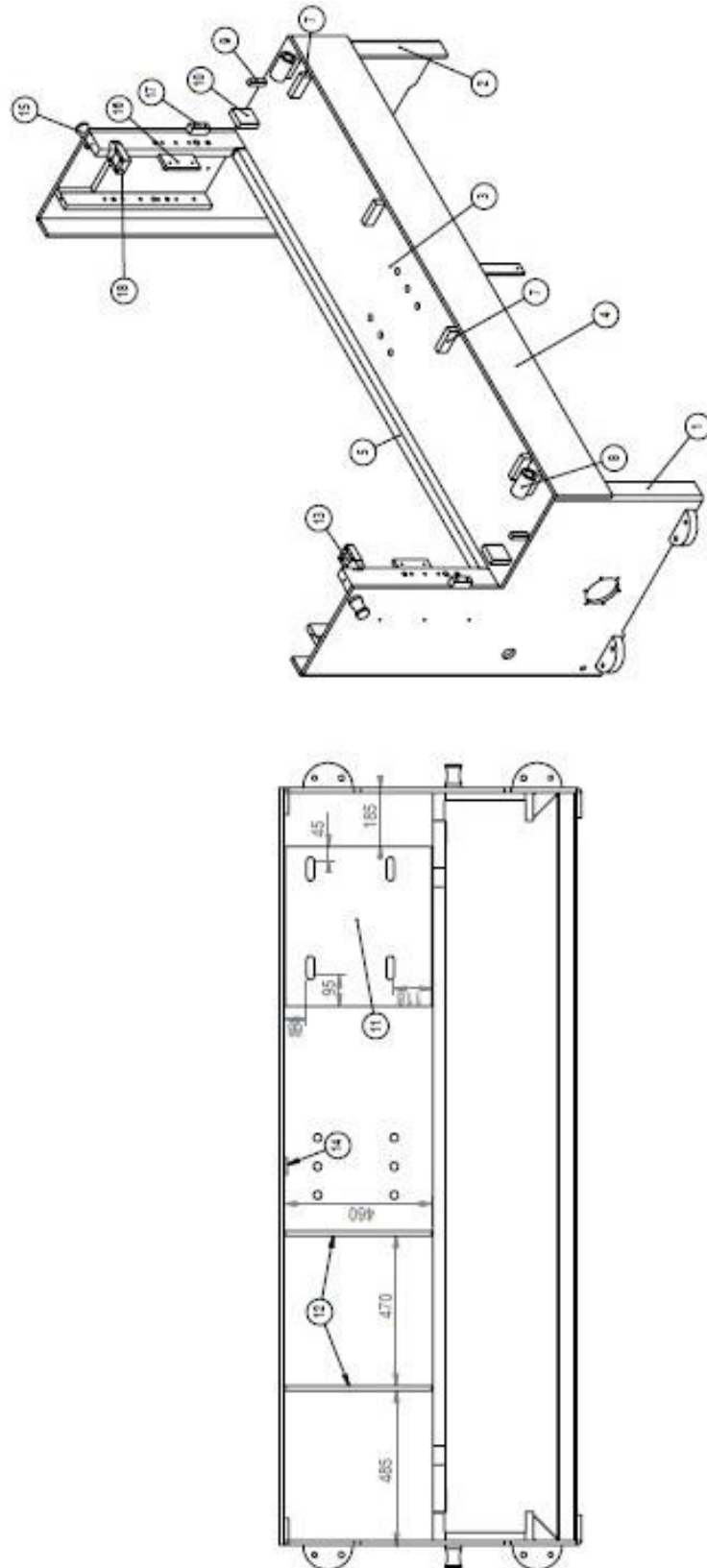
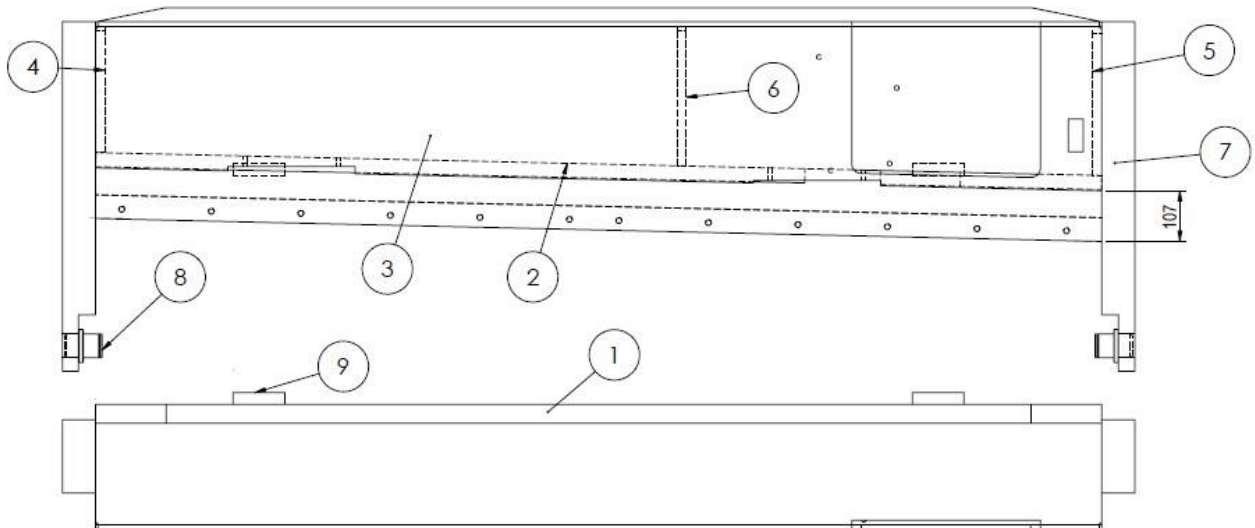


Figure 7 – A SERIES Main Frame

PART NR.	DESCRIPTION
1	A SERIES Right Leg
2	A SERIES Left Leg
3	A SERIES Lower Blade Support Frame
4	A SERIES Main Frame Front Steel Part
5	A SERIES Main Frame Rear Steel Part
6	A SERIES Rear Foot Support Profile
7	A SERIES Lower Blade Table Connection Support
8	A SERIES Cutting Space Adjuster Bolt
9	A SERIES Accessory for Cutting Space Adjusting System
10	A SERIES Cutting Space Adjuster Spring
11	A SERIES Gear Box Table
12	A SERIES Lower Blade Main Frame Support Material
13	A SERIES Load Bed Bolt Fastening Right Pats
14	A SERIES Front Lower Sheet Cover Support Material
15	A SERIES Accessory for Lifting
16	A SERIES Load Bed Accessory
17	A SERIES Finger Protection Sheet Connection Part
18	A SERIES Load Bed Bolt Fastening Left Pats

Table 3- A SERIES Main Frame Part List

Figure 8- A SERIES Upper Blade Frame



PART NR.	DESCRIPTION
1	A SERIES Upper Blade Frame Primary Part
2	A SERIES Upper Blade Frame Secondary Part
3	A SERIES Upper Blade Frame Blanking Plate
4	A SERIES Upper Blade Frame Tie Piece (Left)
5	A SERIES Upper Blade Frame Tie Piece (Middle)
6	A SERIES Upper Blade Frame Tie Piece (Right)
7	A SERIES Upper Blade Frame Cradle (Right-Left)
8	A SERIES Connecting Rod Pin
9	A SERIES Upper Blade Frame Load Bed Mechanism Part

Table 4- A SERIES Upper Blade Frame Part List

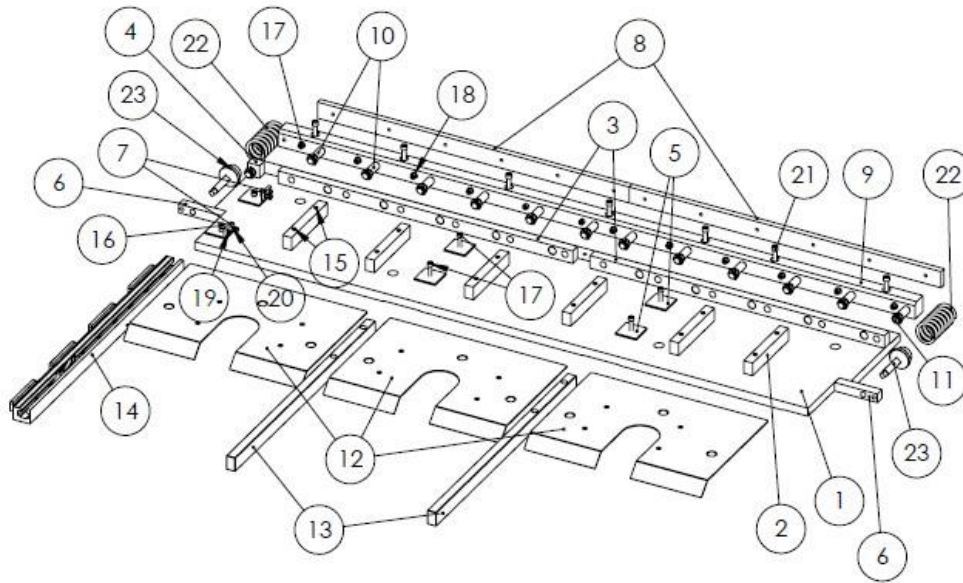
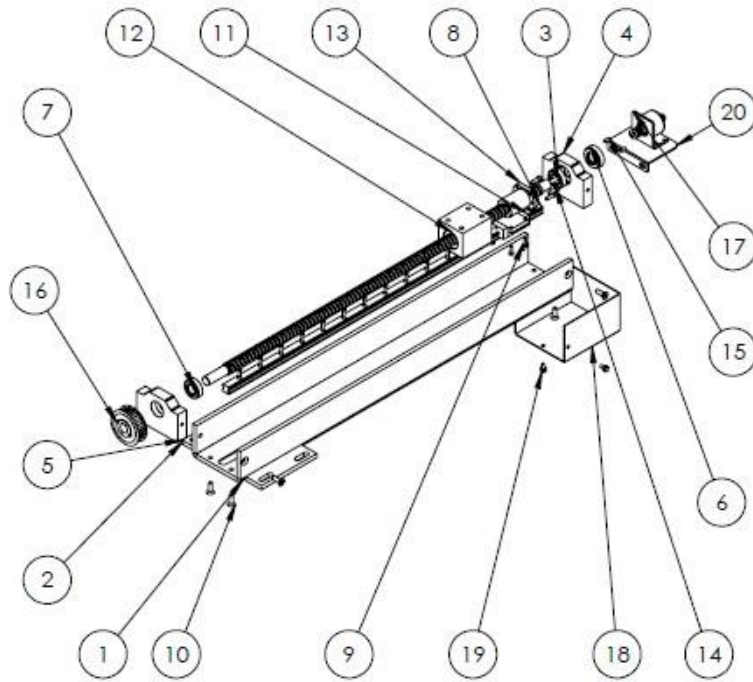


Figure
SERIES

9- A
Lower

Blade Table

PART NR.	DESCRIPTION
1	A SERIES Lower Blade Table Main Part
2	A SERIES Lower Blade Table Sheet Cover Connection Part
3	A SERIES Lower Blade Adjusting Part
4	A SERIES Lower Blade Adjusting Mechanism Part
5	A SERIES Front Arm Connection Accessory
6	A SERIES Lower Blade Adjusting Mechanism Part
7	A SERIES Setsquare Adjusting Mechanism Part
8	A SERIES Lower Blade
9	A SERIES Lower Blade Connection Part
10	A SERIES Lower Blade Adjusting Screws
11	AKB M12x90
12	A SERIES Lower Blade Table Sheet Cover
13	A SERIES Front Arm
14	A SERIES Set Square
15	HBIC M6x15
16	Imbus M10x35
17	Imbus M10x65
18	Washer 10.5x20x2
19	AKB M8x30
20	Somun M8
21	Imbus M12x50



22	A SERIES Load Bed Spring
23	A SERIES Load Bed Spring Flange

Table 5- A SERIES Lover Blade Table Part List

Figure 10- A SERIES Digital Backgauge Part

PART NR.	DESCRIPTION
1	A SERIES Backgauge U Part
2	A SERIES Backgauge U Connection Part
3	A SERIES Ball Screw
4	A SERIES Threaded Ball Screw Bearing Housing
5	A SERIES Ball Screw Bearing Housing
6	A SERIES Ball Screw Adjustment Part
7	Bearing (6004ZC3)
8	Linear Guideway
9	Imbus M5x15
10	HBIC M8x20
11	Linear Actuator
12	A SERIES Ball Screw Carriage
13	Bearing
14	Imbus M6x20
15	Setsk M6x13
16	Pulley (H 18)
17	Encoder
18	A SERIES Encoder Cover
19	AKB M6x12
20	A SERIES Encoder Connection Part

Table 6- A SERIES Digital Backgauge Part List

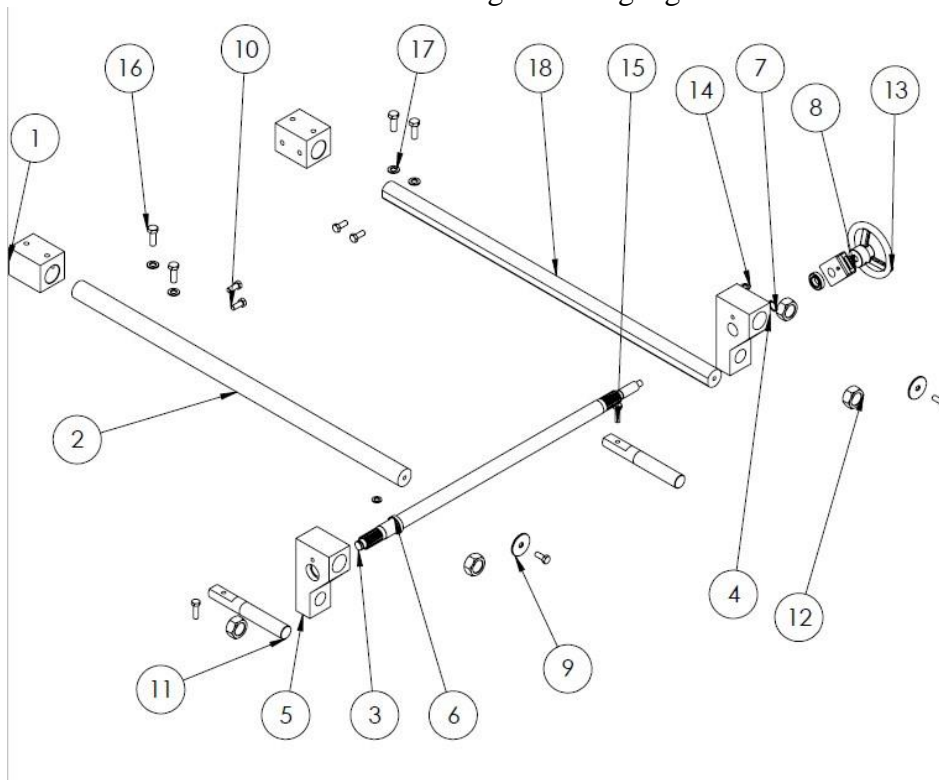
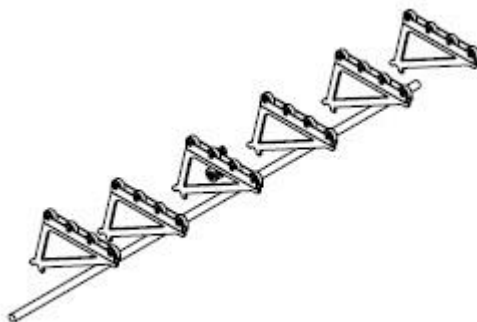


Figure 11- A SERIES Manuel Backgauge Parts

PART NR.	DESCRIPTION
1	A SERIES Rack Gear Housing
2	A SERIES Right Rack Gear
3	A SERIES Pinion Gear Shaft
4	A SERIES Rack Gear Right Device
5	A SERIES Rack Gear Left Device
6	Bearing (6904-2RS)
7	Shaft Ring
8	Analog Measurement Device
9	Washer (11x50x3)
10	AKB M10x25
11	A SERIES Adjusting Shaft
12	M30x2 Bolt
13	EPV125 Hand Wheel
14	PUL 10.5x20x2
15	AKB M10x35
16	AKB M12x35
17	PUL 13x24x2.5
18	A SERIES Left Rack Gear

Table 7- A SERIES Manual Backgauge Part List



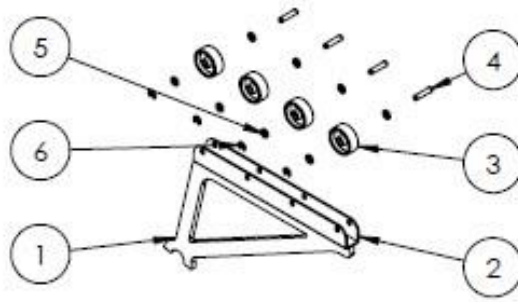


Figure 12- A SERIES Pneumatic Sheet Support Parts

PART NR.	DESCRIPTION
1	A SERIES Support Frame
2	A SERIES U Part for Rollers
3	ZKZ 50x20 Rollers
4	A SERIES Pin for Rollers
5	PUL 8.4x16x1.6
6	Ø8 Ring

Table 9- A SERIES Pneumatic Sheet Support Part List

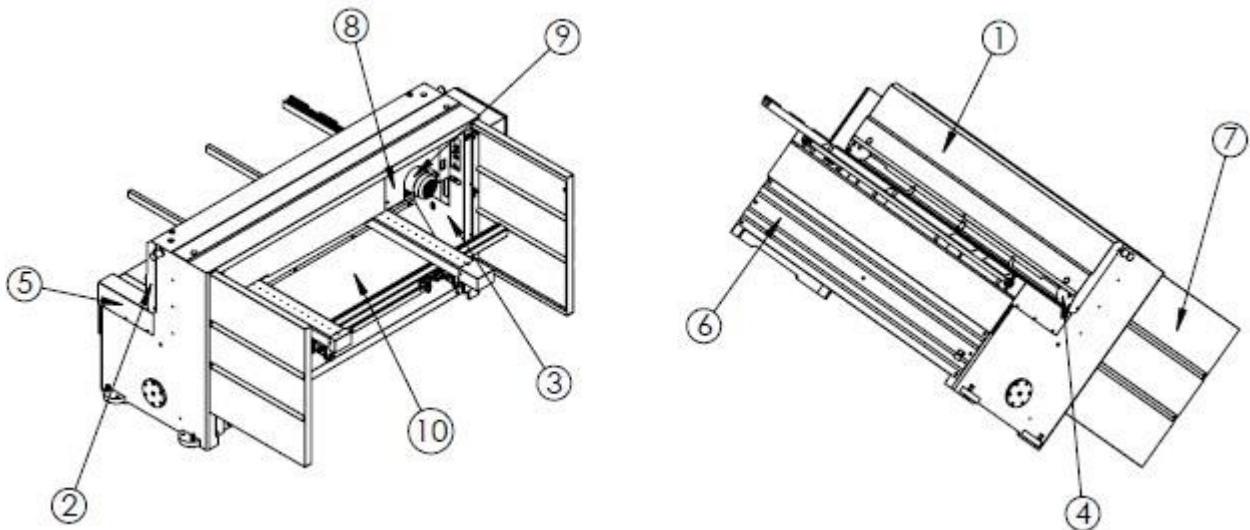


Figure 13- A SERIES Sheet Covers and Backgauge Drive Motor

PART NR.	DESCRIPTION
1	A SERIES Upper Sheet Cover
2	A SERIES Upper Sheet Cover Support Sheets
3	A SERIES Rear Sheet Covers
4	A SERIES Finger Protection Cover
5	A SERIES Table Cover
6	A SERIES Front Lower Cover
7	A SERIES Cover for Safety Barrier
8	A SERIES Backgauge Drive Motor Cover
9	A SERIES Backgauge Drive Motor
10	A SERIES Main Rear Sheet Cover

Table 9- A SERIES Sheet Covers and Backgauge Drive Motor

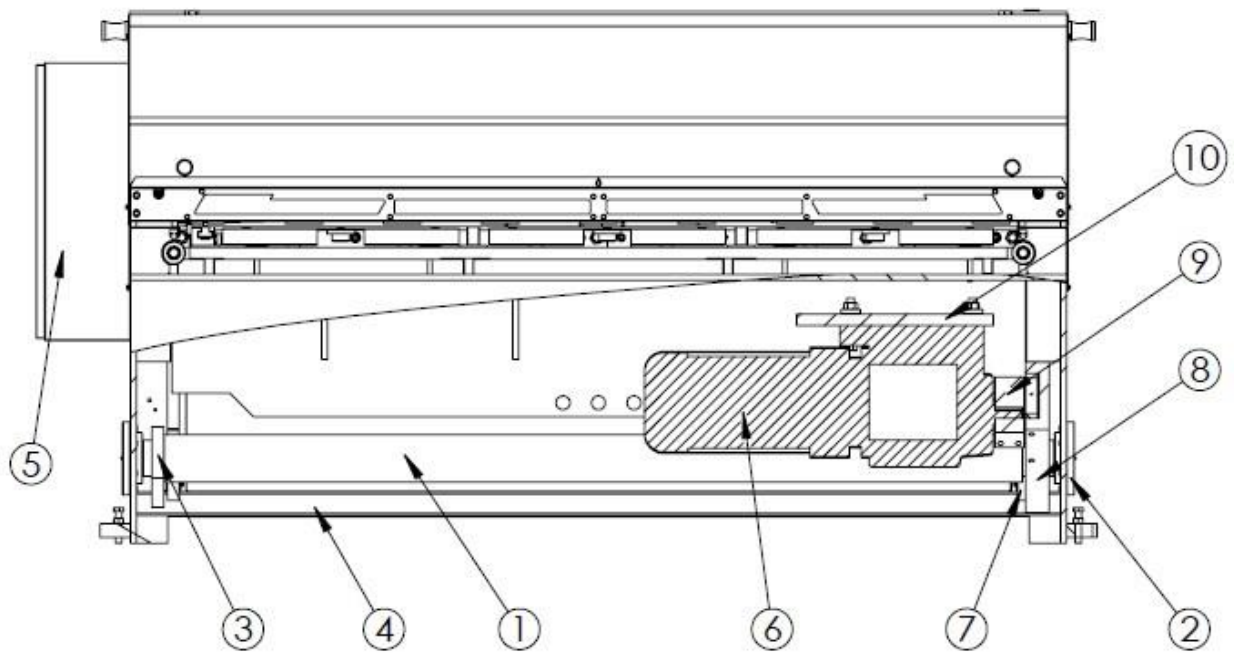


Figure 14- A SERIES Electrical Box, Gear Box and Main Shaft Parts

PART NR.	DESCRIPTION
1	A SERIES Stroke Shaft
2	A SERIES Stroke Shaft Bearings
3	A SERIES Connecting Rod Connection Part (Right-Left)
4	A SERIES Front-Rear Support Profile
5	A SERIES Electrical Box
6	A SERIES Gear Box
7	A SERIES Connecting Rod
8	A SERIES Eccentric Rod Bearing
9	A SERIES Eccentric Rod
10	A SERIES Gear Box Table

Table 10- A SERIES Electrical Box, Gear Box and Main Shaft Part List

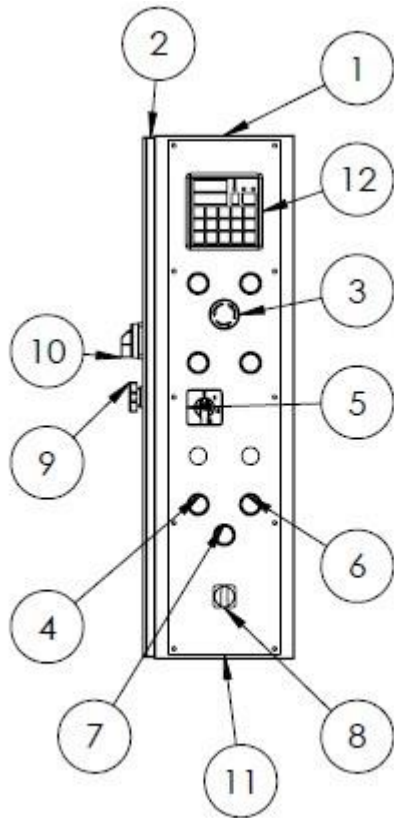


Figure 15- A SERIES Electrical Box for Digital Backgauge

PART NR.	DESCRIPTION
1	A SERIES Electrical Box Main Frame
2	A SERIES Electrical Box Door
3	Emergency Stop
4	Start Button
5	Serial-Manual Cutting Type Choosing Switch
6	Start Button
7	Control On Light
8	220-380V Switch (Optional)
9	Electrical Box Door Key
10	Main Switch
11	A SERIES Manual Backgauge Electrical Box Front Cover
12	NC Panel

Table 11- A SERIES Electrical Box Parts for Digital Backgauge

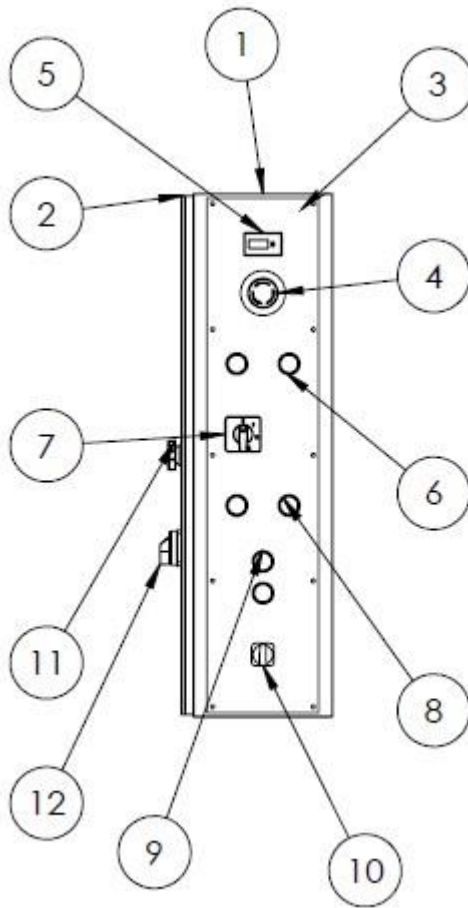


Figure 16- A SERIES Electrical Boc for Manual Backgauge

PART NR.	DESCRIPTION
1	A SERIES Electrical Box Main Frame
2	A SERIES Electrical Box Door
3	A SERIES Manual Backgauge Electrical Box Front Cover
4	Emergency Stop Button
5	Cutting Counter
6	Start Button
7	Serial-Manual Cutting Type Choosing Switch
8	Stop Button
9	Control On Light
10	220-380V Switch (Optional)
11	Electrical Box Door Key
12	Main Switch

Table 12- A SERIES Electrical Box Part for Manual Backgauge