# ELECTRICAL POWER SHEARS

**EPS-1014E** **EPS-1016E**
**EPS-1014M** **EPS-0610M**
**EPS-0412M** **EPS-0410M**

# OPERATION & PARTS MANUALS

## 1.Structure and Use

The machine tool adopts the type of lower transmission structure, and the small sprocket wheel mounted on the gear reducer drives the big chain wheel directly, thus driving the eccentric wheel on the spindle to do the periodical rotation movement, and the upper and lower reciprocating motion of the upper tool holder can realize the cutting function of the machine tool.

The main structure of the machine tool frame, the upper tool frame and the worktable all adopt the steel plate welding structure, and the protection is the full protection structure, and has the power of power break protection. So the structure of the machine tool is of high strength, beautiful appearance, compact, safe and reliable

| Model | EPS-1016E | EPS-1014E | EPS-1014M | EPS-0610M | EPS-0410M | EPS-0412M |
|---|---|---|---|---|---|---|
| Max. cutting capacity<br>Mild steel<br>Stainless steel | 16Ga.<br>20Ga. | 14Ga.<br>18Ga. | 14Ga<br>18Ga | 10Ga<br>14Ga | 10Ga<br>14Ga | 12Ga<br>16Ga |
| Max. cutting width | 10’1” | 10’1” | 10’1” | 6’6” | 4’4” | 4’4” |
| Rake angle degree | 1.5° | 2° | 2° | 2.5° | 2.2° | 2° |
| Upper blade ram max. travel | 4” | | | | | |
| cutting stroke | 19/min | 19/min | 19/min | 25/min | 29/min | 29/min |
| Working Table Height | 32-1/2” | | | | | |
| Back Gauge | 36” | 36” | 26” | 26” | 26” | 26” |
| Main motor, HP | 7-1/2HP, 220/440V | | | 7-1/2HP<br>220/440V | 5-1/2HP<br>220/440V | 4HP<br>220/440V |
| Motor for powered back gauge | 1-1/2HP, 220V/440V | | | | | |
| Machine weight,Lbs<br>Dimensions, LWH | 7,150<br>145x69x63” | 7,850<br>145x69x63” | 6,850<br>145x59x63” | 5,650<br>100x55x60” | 4,350<br>73x55x60” | 3,350<br>72x55x60” |

## Safety Warnings

1. Read and understand the entire owner's manual before attempting assembly or operation.

2. This machine is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a shear, do not use until proper training and knowledge have been obtained.

3. Do not use this machine for other than its intended use.

4. Always wear safety glasses/face shields while using this shear.

5. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair. Non-slip footwear or anti-skid floor strips are recommended.

6. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.

7. Do not exceed the rated capacity of this shear; use hand tools for small or narrow parts. Do not attempt to shear hardened materials.

8. Sheet metal stock has sharp edges. To prevent cuts, use leather work gloves

9. Keep hands and fingers clear of the area in front and rear of the shear.

10. Do not place your hands between material being sheared and the shear table.

11. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately after maintenance is complete.

12. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

13. Provide for adequate space surrounding work area and non-glare, overhead lighting.

14. Keep the floor around the machine clean and free of scrap material, oil and grease.

15. Keep visitors a safe distance from the work area. **KEEP CHILDREN AWAY.**

16. Make your workshop child proof with padlocks, master switches or by removing starter keys.

17. Give your work undivided attention. Looking around, carrying on a conversation and “horse-play” are careless acts that can result in serious injury.

18. Maintain a balanced stance at all times so that you do not fall or lean against moving parts. Do not overreach or use excessive force to perform any machine operation.

19. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do job better and more safety.

20. Use recommended accessories; improper accessories may be hazardous.

21. Maintain tools with care. Keep tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.

22. Do not stand on the machine. Serious injury could occur if the machine tips over.

23. Unplug or lock out power to the machine when not in use.

24.Check if the transportation procedure has influenced the accuracy and functions of the machine.

25.Check if the foundation of the machine is appropriate.

26.Check if the machine's main power switch should have earth wiring connected.

27.Use the multitester to check the stability of the three-phase voltage

28.Check if the control panel function and push button are functioning

29.Check emergency stop function.

30.Check if safety protection accessories are functioning well

31.Check if other accessories, whether connected well

32.Make sure no obstacle is around machine and control system.

33.Tools and any unnecessary items are not allowed on the machine, moving parts, or similar locations.

34.Before pressing/switching any button/switch always confirm that the button/switch is the correct one and never touch a switch accidentally. Malfunction and potential danger might result.

35.Do not touch switches with wet hands, an electric shock could occur.

If a work requires two or more operators, the cooperation among each operator must be well organized, every step of each operator should be clarified to avoid potential danger.

Tools should be consisting with the machine's specifications, such as dimensions, weight and types. Grip workpieces carefully to minimize movement and vibration between workpieces. Too much movement/vibration might result in injuries of personnel, or damage the machine or workpiece.

Stop the machine before replacing workpiece, and reserve sufficient distance between workpiece and machine. Safety for the electrical connection/disconnection

# ⚠ WARNING!

**This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.**

**Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.**

**The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.**

**The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.**

# ⚠ WARNING!

**Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:**

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

**Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.**

# ⚠WARNING

**WEARING PROPER APPAREL.** Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips, which could cause loss of workpiece control.

**HAZARDOUS DUST.** Dust created while using machinery may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, and always wear a NIOSH-approved respirator to reduce your risk.

**HEARING PROTECTION.** Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

**REMOVE ADJUSTING TOOLS.** Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!

**USE CORRECT TOOL FOR THE JOB.** Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

**AWKWARD POSITIONS.** Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.

**CHILDREN & BYSTANDERS.** Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

**GUARDS & COVERS.** Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly.

**FORCING MACHINERY.** Do not force machine. It will do the job safer and better at the rate for which it was designed.

**NEVER STAND ON MACHINE.** Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.

**STABLE MACHINE.** Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.

**USE RECOMMENDED ACCESSORIES.** Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase the risk of serious injury.

**UNATTENDED OPERATION.** To reduce the risk of accidental injury, turn machine ***OFF*** and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.

**MAINTAIN WITH CARE.** Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

**CHECK DAMAGED PARTS.** Regularly inspect machine for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating machine.

**MAINTAIN POWER CORDS.** When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

**EXPERIENCING DIFFICULTIES.** If at any time you experience difficulties performing the intended operation, stop using the machine! Contact our Technical Support at 909-947-7787

# SECTION 1: SAFETY

## For Your Own Safety, Read Instruction Manual Before Operating This Machine

**The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures. Always use common sense and good judgment.**

**⚠DANGER** **Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.**

**⚠WARNING** **Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.**

**⚠CAUTION** **Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.**

***NOTICE*** **This symbol is used to alert the user to useful information about proper operation of the machine.**

## Safety Instructions for Machinery

### ⚠WARNING

**OWNER'S MANUAL.** Read and understand this owner's manual BEFORE using machine.

**TRAINED OPERATORS ONLY.** Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make workshop kid proof!

**DANGEROUS ENVIRONMENTS.** Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.

**MENTAL ALERTNESS REQUIRED.** Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

**ELECTRICAL EQUIPMENT INJURY RISKS.** You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

**DISCONNECT POWER FIRST.** Always disconnect machine from power supply BEFORE making adjustments, changing tooling, or servicing machine. This prevents an injury risk from unintended startup or contact with live electrical components.

**EYE PROTECTION.** Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are NOT approved safety glasses.

## 4.Electrical connection:

A cable with four wires is supplied to connect your machine into the 3 phase power supply. The exact power source voltage, frequency, and number of phase shall be checked according to the installation diagram and circuit diagram. The correct direction of spindle should be checked after connecting

**Electrical disconnection:**

Be sure to disconnect this machine from power source, when you want to stop the job for maintenance or adjustment.

**Grounding**

The grounding of this model is carried out by connecting the yellow/green terminal of supply cable to the grounding terminal of power source. Be sure to ground your machine before connecting machine to power source in any situation.

**Warning!**

Do not disconnect grounding terminal before disconnecting power

**source!**

Description for the safety function of this machine

The following safety functions are equipped with this machine. Be sure to check and

ensure the correct function before you start to operate your machine:

**The emergency stop device:**

The machine is designed to be immediately stopped under emergency situation. As soon

as this device is actuated, any movement will be stopped in a short time after the actuation of emergency button.

Be sure to check that machine action will stop immediately after this button is pressed and will not cause any action when this button is disengaged.

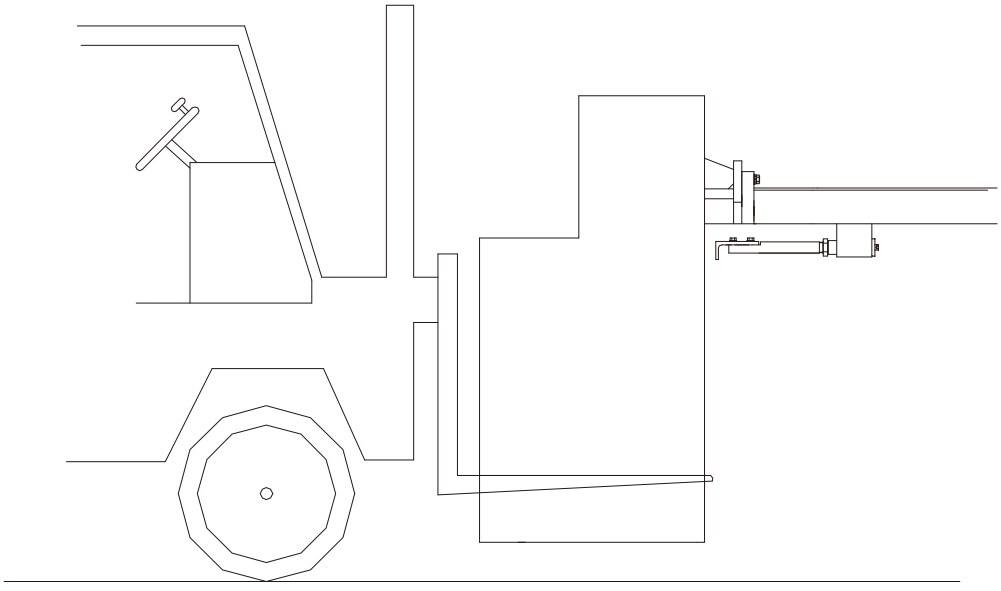
**5.Transportation and Installation**

Crane or forklift is recommended

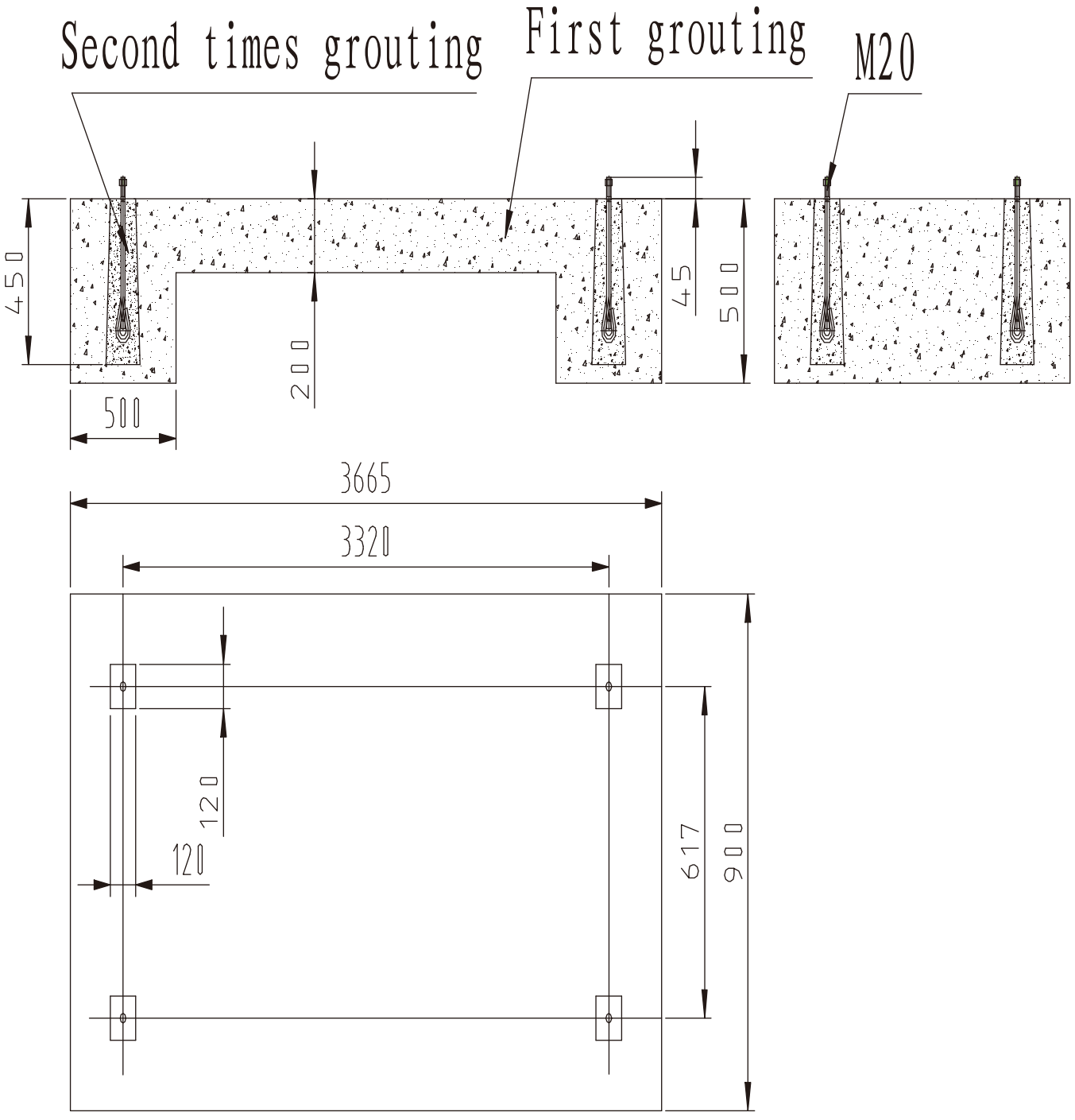
To move the machine, it must slow down, especially pay attention.

The machine is lifted by crane or removed by forklift after the removal of pallet packing.

The length of fork for forklift should be at east 4” over the center of machine.



2、Installation：When installing machine should be installed in a horizontal on the bottom of foundation, adjust the machine table to the horizontal lateral are within 0.3 mm / 1000 mm. According to the fuselage on one side of the machine to four, a total of eight anchor hole, completes the corresponding foundation, through the anchor bolt fix the machine tool based on the level.


Second times grouting
First grouting
M20
450
200
45
500
500
3665
3320
120
120
617
900

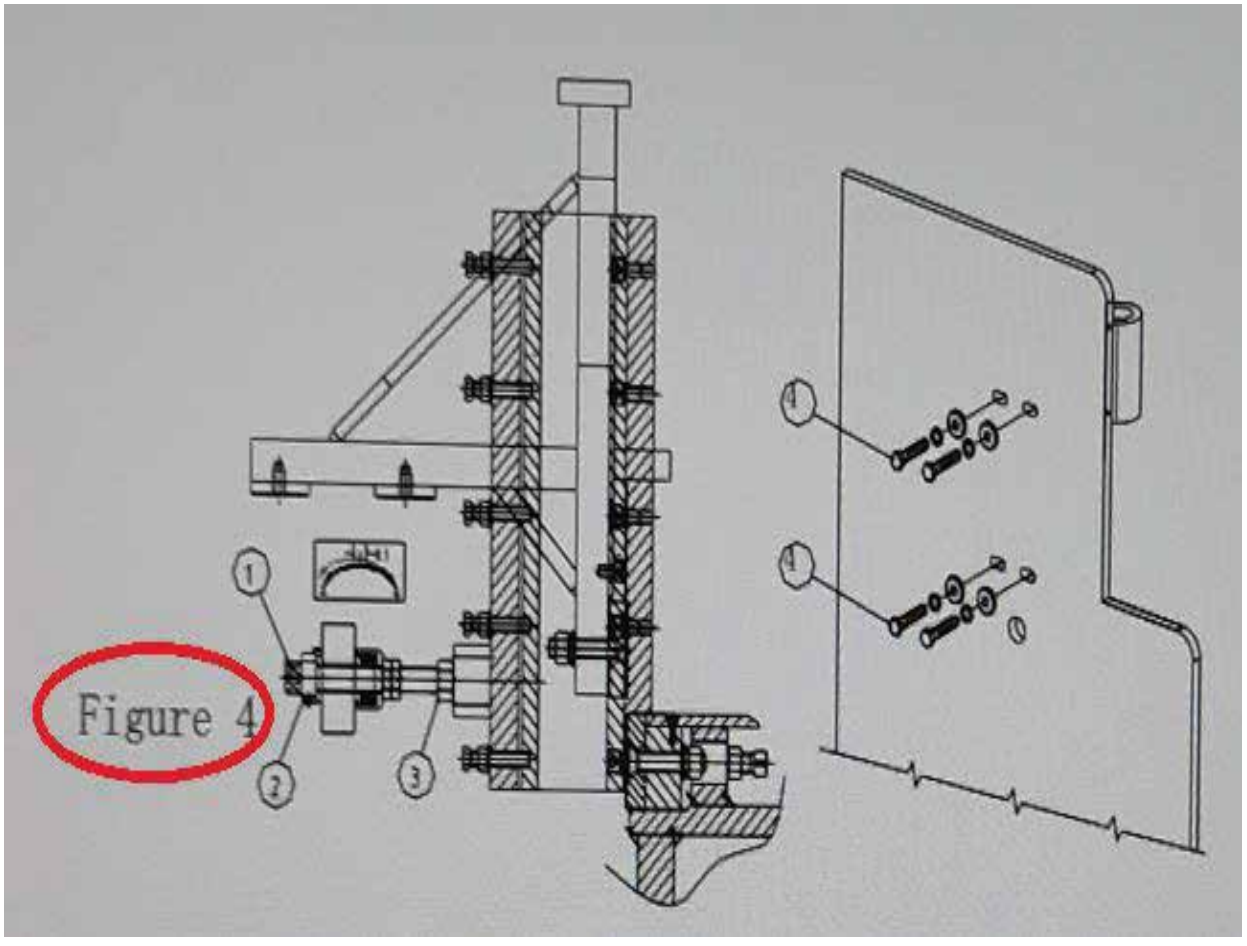
## 6. Start up

1. Turn on main power switch

2.Toggle selector switch to (S)tart.


3.Place selector switch to JOG and press foot pedal to move blade incrementally so blade gap can be checked.

**Once blade gap is verified place selector switch in AUTO and press foot pedal, machine should make one complete cycle and blade should stop in the up position (If blade does not stop in the up position or will continually cycle while foot pedal is pressed the phase is incorrect and any two incoming power leads need to be swapped)**



### 6-1. Machine adjustment

## Blade clearance adjustment

**Warning extreme care must be taken to avoid bodily injury while checking or adjusting blade gap machine must be in JOG**

(The blade clearance is preset for cutting 14Ga. Mild steel

How to adjust blade gap：See figure 4 drawing.

Please loosen locking nuts #3, then loosen all the bolts #4,(both sides of machine) turn screw #1 clockwise to increase the blade clearance, turn screw #1 counterclockwise to reduce the clearance, when the clearance is ok according to feeler gauges, then tighten lock nuts # 3 and Bolts # 4 after recheck blade gap with feeler gauges. 16ga. requires .003”-.005” blade gap 14ga.requires .004”-.006” blade gap.

# Blade Clearance Chart

| SUGGESTED KNIFE CLEARANCE | |
|---|---|
| METAL THICKNESS | KNIFE CLEARANCE |
| 16 Gage | .002" - .005" |
| 14 Gage | .003 - .006 |
| 12 Gage | .004 - .008 |
| 10 Gage | .006 - .009 |
| 3/16 inch | .009 - .013 |
| 1/4 inch | .010 - .018 |
| 3/8 inch | .020 - .028 |
| 1/2 inch | .030 - .040 |
| 5/8 inch | .040 - .050 |
| 3/4 inch | .050 - .065 |
| 1 inch | .070 - .090 |
| 1-1/4 inch | .090 - .120 |
| 1-1/2 inch | .110 - .150 |

| STANDARD SHEET GAGES | | | |
|---|---|---|---|
| GAGE NO. | THICKNESS INCHES | GAGE NO. | THICKNESS INCHES |
| 30 | .0120 | 16 | .0598 |
| 29 | .0135 | 15 | .0673 |
| 28 | .0149 | 14 | .0747 |
| 27 | .0164 | 13 | .0897 |
| 26 | .0179 | 12 | .1046 |
| 25 | .0209 | 11 | .1196 |
| 24 | .0239 | 10 | .1345 |
| 23 | .0269 | 9 | .1495 |
| 22 | .0299 | 8 | .1644 |
| 21 | .0329 | 7 | .1793 |
| 20 | .0359 | 6 | .1943 |
| 19 | .0418 | 5 | .2092 |
| 18 | .0478 | 4 | .2242 |
| 17 | .0538 | 3 | .2391 |

| SHEARING STRENGTH OF MATERIALS | | |
|---|---|---|
| MATERIAL | TONS/ SQ.IN. | FACTOR |
| Mild Steel (.25 Carbon) | 25 | 1:00 |
| Mild Steel (.50 Carbon) | 30 | .83 |
| Stainless Steel | 28 | .65 |
| Broiler Plate | 30 | .83 |
| Spring Steel (1.99 Carbon) | 42 | .60 |
| Tool Steel. Not tempered (1.20 carbon) | 45 | .56 |
| Tool Steel. tempered (1.20 carbon) | 95 | .26 |
| Nickel Steel (0.5% Nickel) | 41 | .61 |
| Aluminum Sheet | 10 | 2.5 |
| Brass | 13 | 1.92 |
| Copper | 12.5 | 2.00 |
| Lead | 1.5 | 16.67 |
| Tin-Coated Sheet Steel | 25 | 1.00 |
| Zinc | 8.5 | 2.94 |

**How to use this table:** If the shear is rated 10 Gauge in mild steel, What thickness of stainless steel sheet will it cut?
.1345 x .65 = .075(14Ga)

6-2. Back gauge movement.

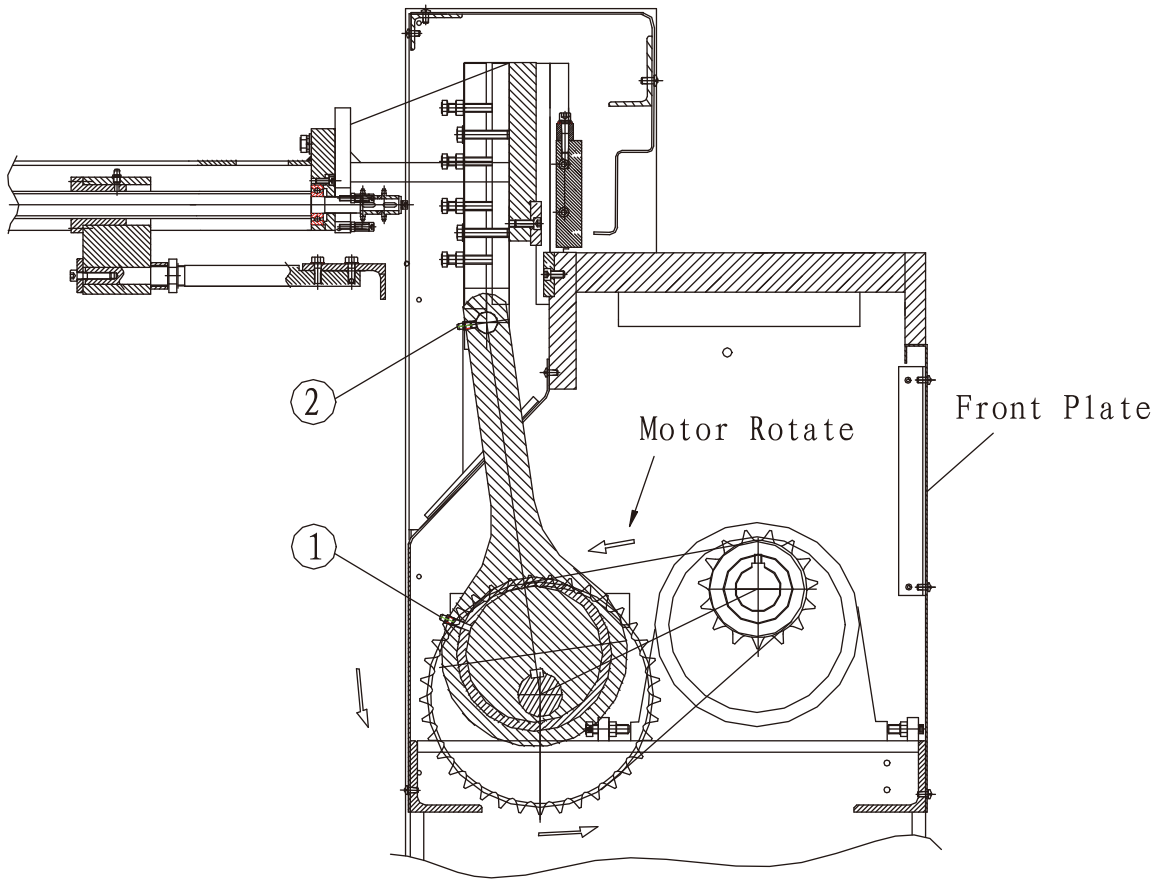
1.Use the FORWARD or REVERSE buttons to rapid travel close to your desired cutting length.


2. then use the hand wheel to fine adjust until the DRO shows your target measurement,

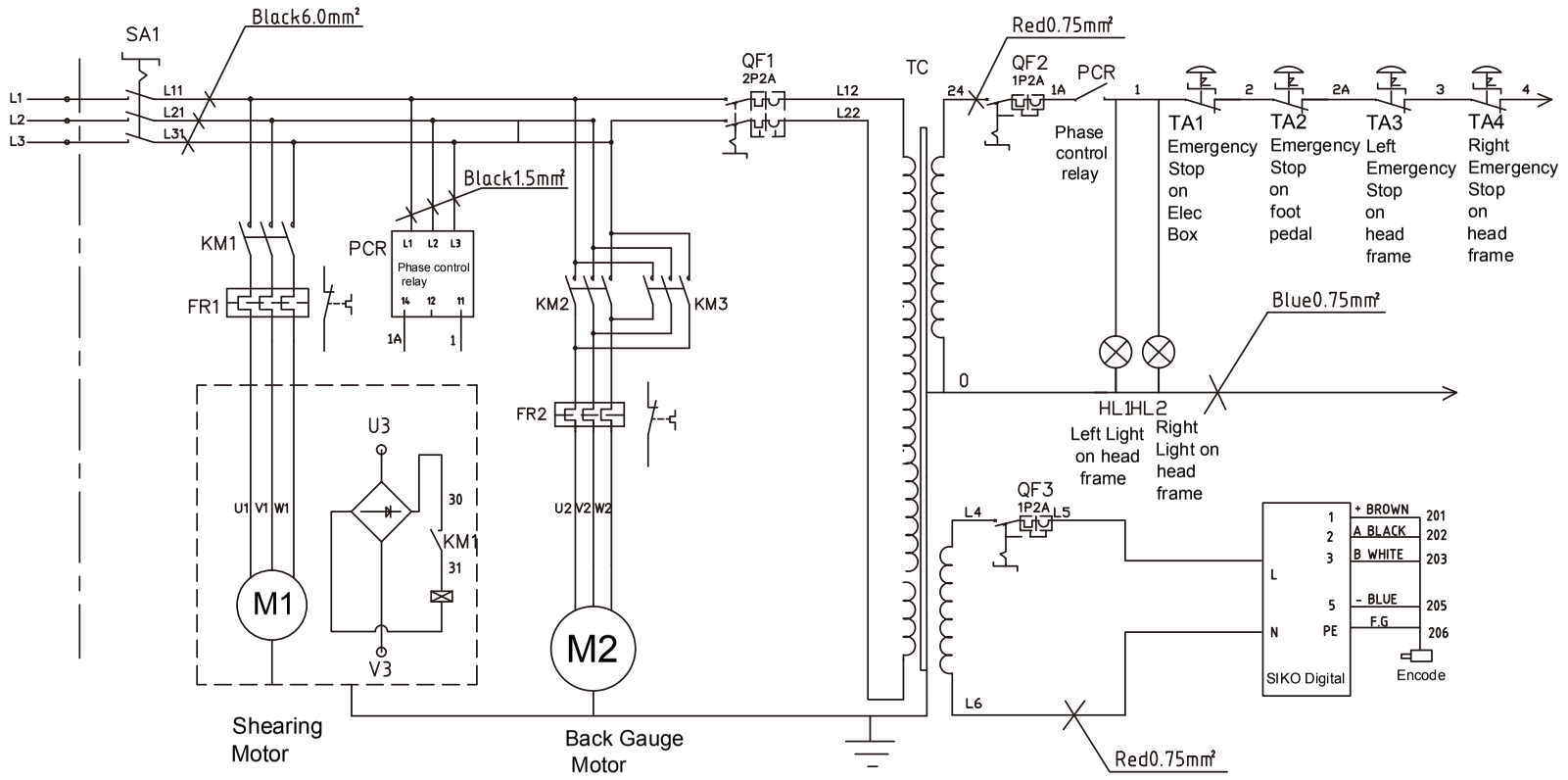
# 7. Lubrication

## When you lubricate the following 1 or 2,please remove the front Plate

| . | Lubricate position | quantity | period | Oil type |
|---|---|---|---|---|
| 1 | Copper Bush on eccentric wheel | 2 | Once per shift | Grease, Mobil# Dorcia-150 |
| 2 | Pin shaft on upper cutting | 2 | Once per shift | Grease, Mobil# Dorcia-150 |
| 3 | One shot luber | 1 | Once per shift | Lubrication oil,Shell Tonna-33 |



# 8. Electrical Diagrams

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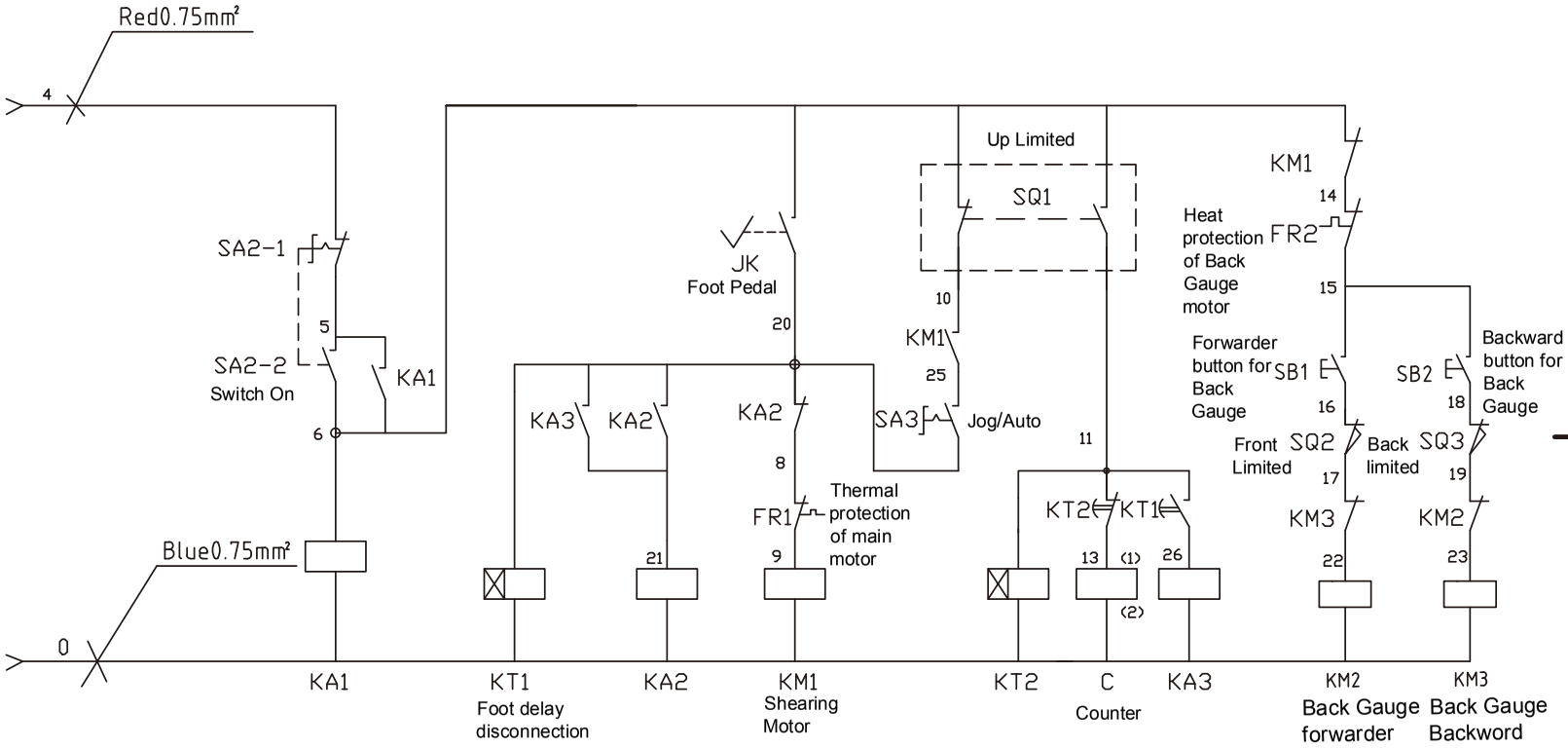
Red0.75mm²
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KA1
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Blue0.75mm²
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KA3
KA2
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KT1
Foot delay
disconnection
KA2
JK
Foot Pedal
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FR1
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Thermal
protection
of main
motor
KM1
Shearing
Motor
Up Limited
SQ1
10
KM1
25
SA3
Jog/Auto
11
KT2
KT1
13
(1)
(2)
26
KT2
C
Counter
KA3
KM1
14
Heat
protection
of Back
Gauge
motor
FR2
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Forwarder
button for
Back
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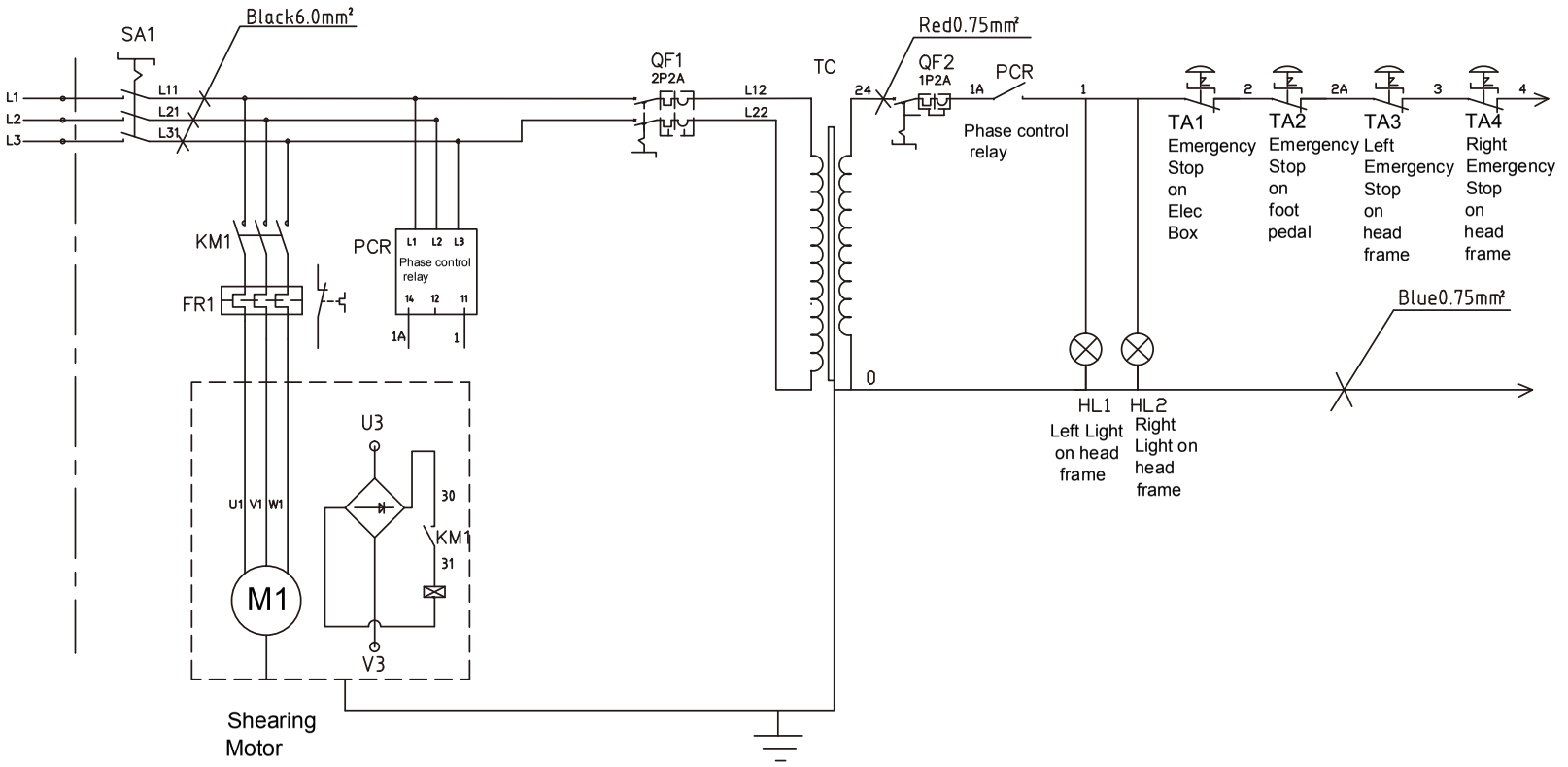


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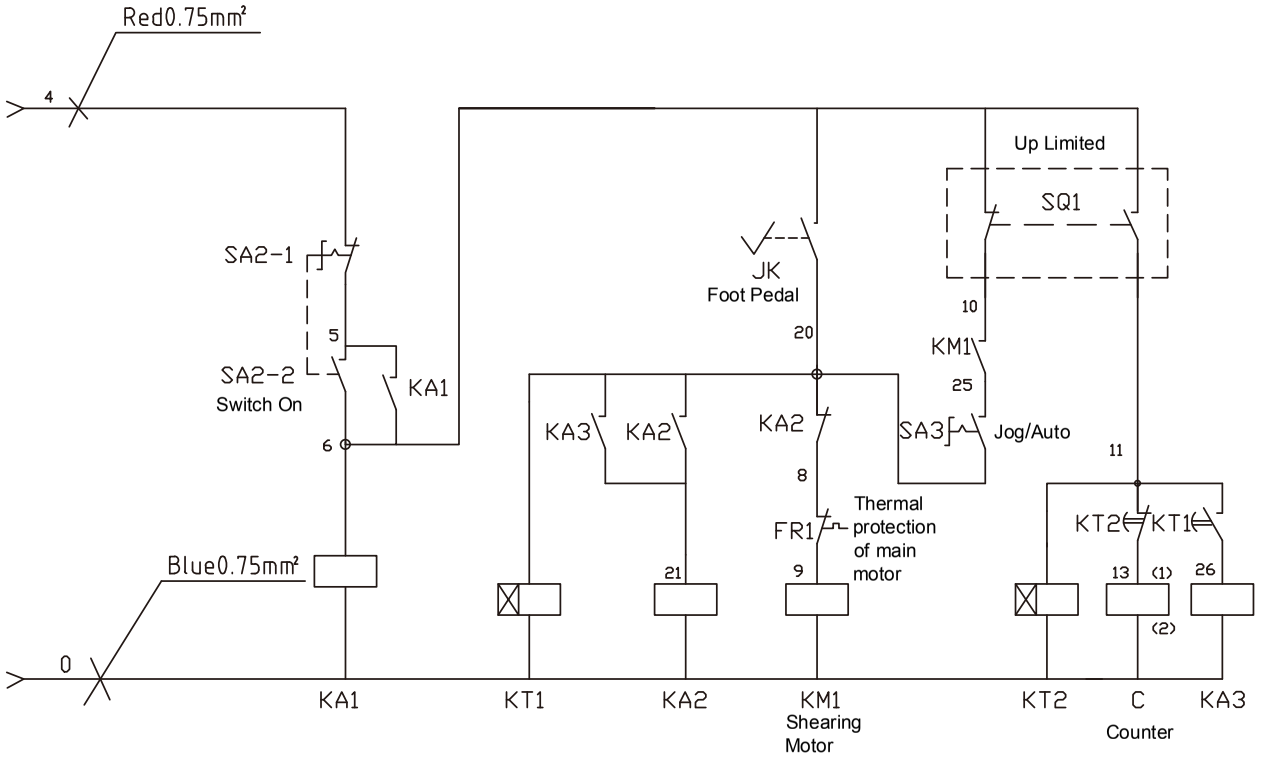


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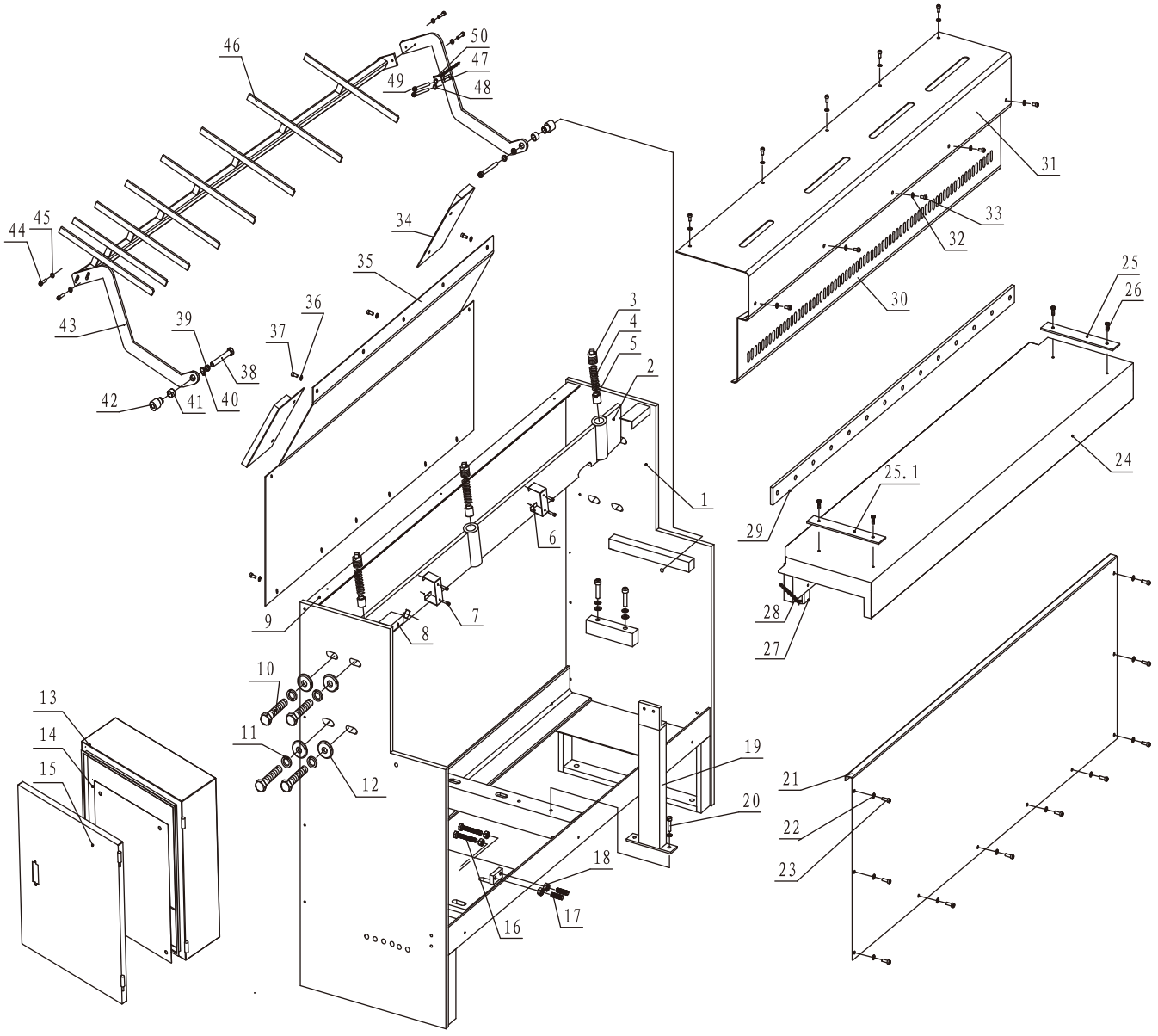
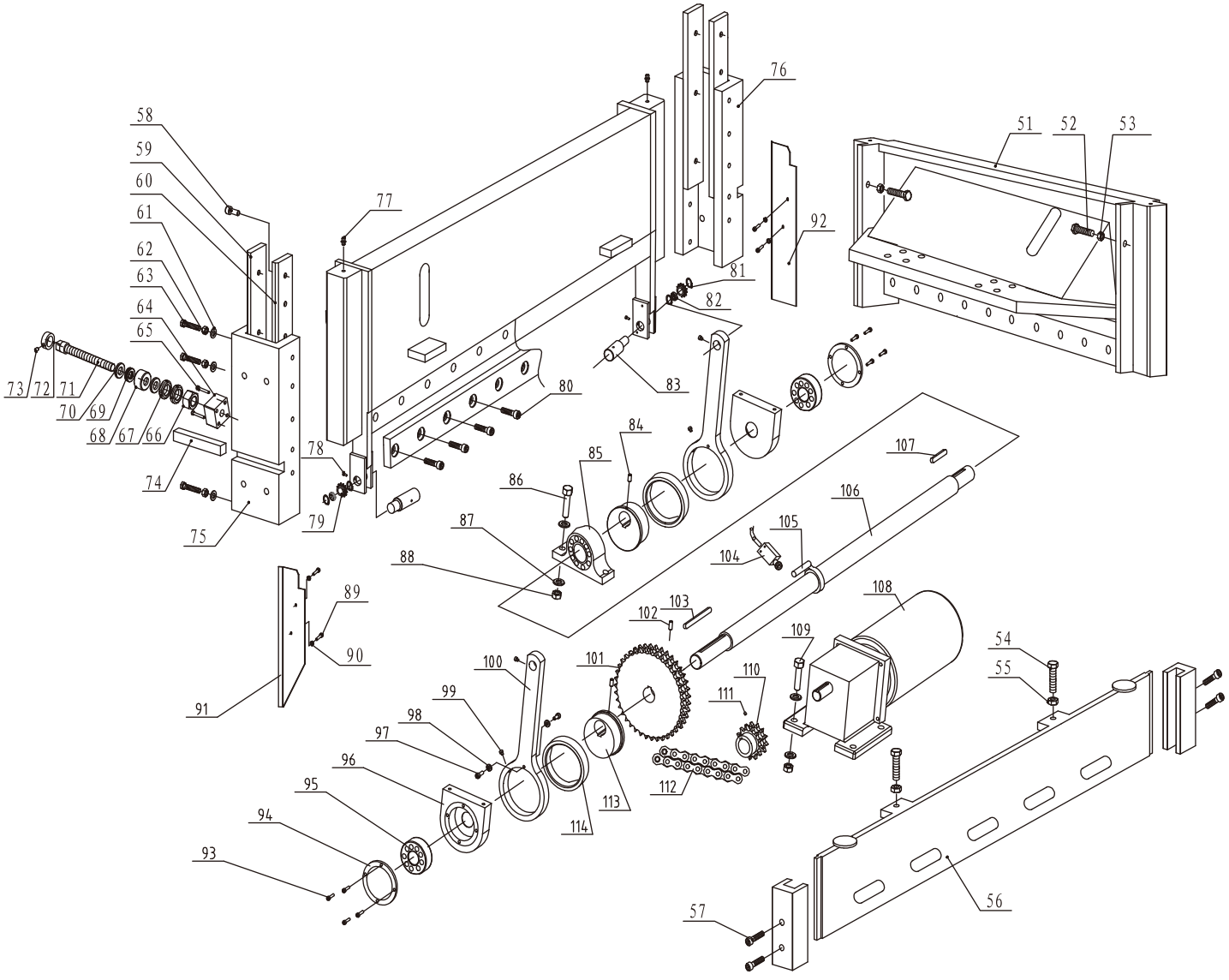
# 9. Parts breakdown

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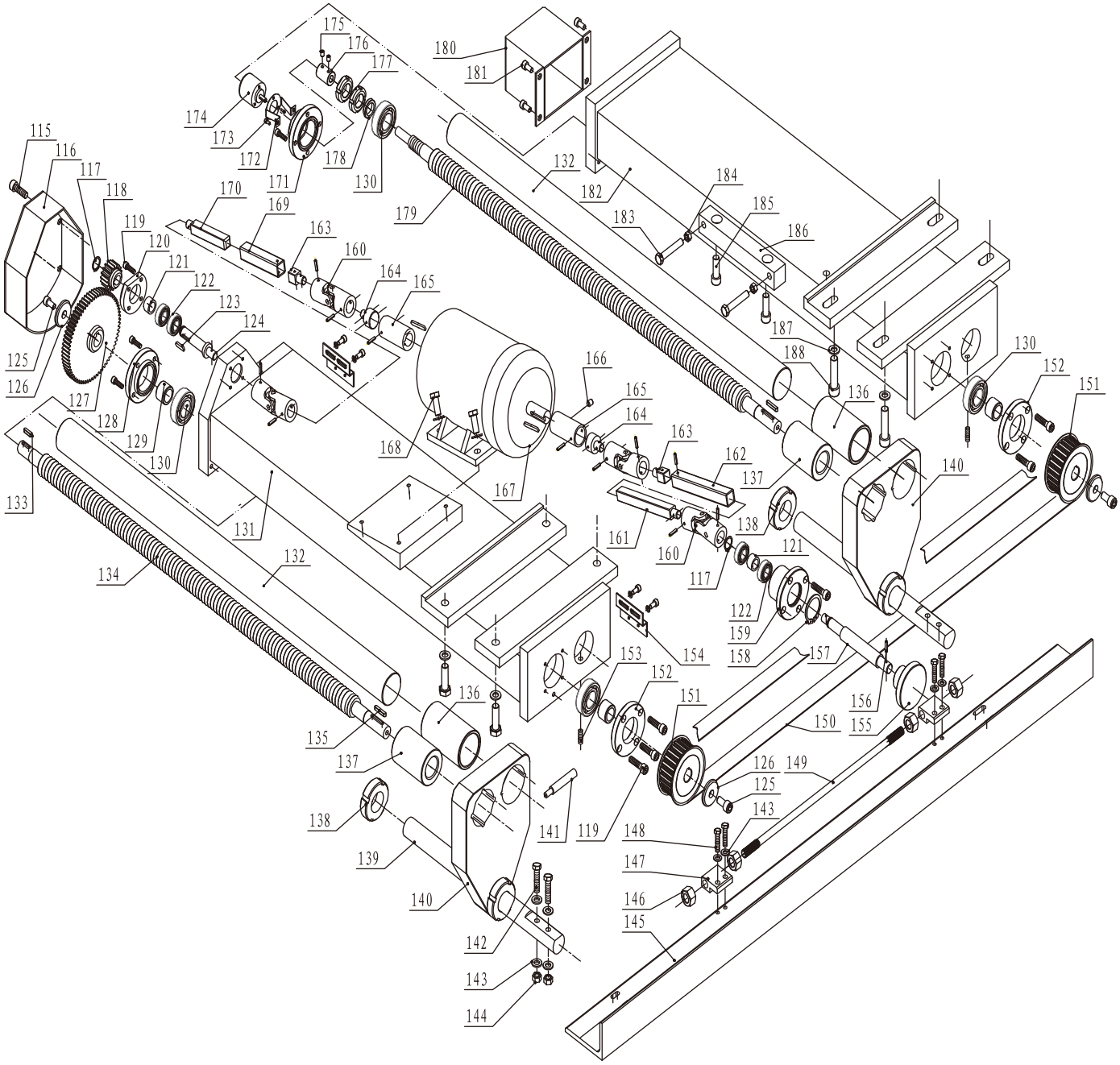
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| Part # | Desc. | Q'ty | Note |
|---|---|---|---|
| 1 | Body | 1 | |
| 2 | Connecting Beam | 1 | |
| 3 | Stud | 3 | |
| 4 | Pressure spring | 3 | |
| 5 | Shaft | 3 | |
| 6 | Bracket | 4 | |
| 7 | Bolt M6X12 | 16 | |
| 8 | Forward support angle steel | 2 | |
| 9 | Upper and rear connection beam | 1 | |
| 10 | Bolt M16X70 | 8 | |
| 11 | Spring Washer 16 | 8 | |
| 12 | Washer | 8 | |
| 13 | Elec Box | 1 | |
| 14 | Cushion plate | 1 | |
| 15 | Electric box door | 1 | |
| 16 | Bolt M10X50 | 2 | |
| 17 | Flat end tightening screwM10X30 | 2 | |
| 18 | Nut M10 | 4 | |
| 19 | Support frame | 1 | |
| 20 | Bolt M12X25 | 2 | |
| 21 | Front Plate | 1 | |
| 22 | Washer 6 | 10 | |
| 23 | Bolt M6X12 | 10 | |
| 24 | Working Table | 1 | |
| 25 | Right Scale | 1 | |
| 25.1 | Left Scale | 1 | |
| 26 | Bolt M18X16 | 4 | |
| 27 | Fixed Seat | 2 | |
| 28 | Chain 06B（35 Section） | 2 | |
| 29 | Shearing blade | 2 | |
| 30 | Front Cover | 1 | |
| 31 | Up Cover | 1 | |
| 32 | Plat Washer 6 | 10 | |
| 33 | Bolt M6X12 | 10 | |
| 34 | Brush | 2 | |
| 35 | Back Cover | 1 | |
| 36 | Flat Cover 6 | 12 | |
| 37 | Bolt M6X12 | 12 | |
| 38 | Bolt M12X55 | 2 | |
| 39 | Flat Washer 12 | 2 | |
| 40 | Shaft Ring 17 | 2 | |
| 41 | Sleeve | 2 | |
| 42 | Fixed Shaft | 2 | |
| 43 | Supporting Rod | 2 | |
| 44 | Bolt M6X25 | 4 | |
| 45 | Flat Washer 6 | 4 | |
| 46 | Back Support Frame | 1 | |
| 47 | Chain Fixed Seat | 2 | |

| | | | |
|---|---|---|---|
| 48 | Flat Washer 8 | 4 | |
| 49 | Bolt M8X65 | 4 | |
| 50 | Shaft PinΦ3X26 | 4 | |
| 51 | Upper Beam | 1 | |
| 52 | Copper Bolt M12X70 | 2 | |
| 53 | Copper Nut M12 | 2 | |
| 54 | Bolt M16X70 | 2 | |
| 55 | Nut M16 | 2 | |
| 56 | Pressure Beam | 1 | |
| 57 | Bolt M12X30 | 4 | |
| 58 | Bolt M12X35 | 8 | |
| 59 | Back Plate | 2 | |
| 60 | Front Plate | 2 | |
| 61 | Flat Washer 12 | 8 | |
| 62 | Nut M12 | 8 | |
| 63 | Bolt M12X60 | 8 | |
| 64 | Nut Seat | 2 | |
| 65 | Bolt M8X45 | 8 | |
| 66 | Nut M20X1.5 | 2 | |
| 67 | Nut M20X1.5 | 4 | |
| 68 | Bearing Seat | 2 | |
| 69 | Thrust ball bearing 53204U | 2 | |
| 70 | Rubbing pad | 2 | |
| 71 | Lead screw | 2 | |
| 72 | Scale Ring | 2 | |
| 73 | Bolt M6X8 | 2 | |
| 74 | Guide Key | 2 | |
| 75 | Left Guide Groove | 1 | |
| 76 | Right Guide Groove | 1 | |
| 77 | Oil Cup M10X1 | 2 | |
| 78 | Bolt M6X20 | 2 | |
| 79 | Small Chain Wheel | 2 | |
| 80 | Bolt M10X20 | 32 | |
| 81 | Ring 35 | 4 | |
| 82 | Bearing 6003 | 2 | |
| 83 | Pin | 2 | |
| 84 | Bolt M8X10 | 2 | |
| 85 | Bearing UCP215 | 1 | |
| 86 | Bolt M20X70 | 2 | |
| 87 | Flat Washer 20 | 4 | |
| 88 | Nut M20 | 2 | |
| 89 | Bolt M6X12 | 2 | |
| 90 | Flat Washer 6 | 2 | |
| 91 | Left Cover Plate | 1 | |
| 92 | Right Cover Plate | 1 | |
| 93 | Bolt M6X16 | 8 | |
| 94 | Cover | 2 | |
| 95 | Bearing 22313C/W33 | 2 | |
| 96 | Bearing Seat | 2 | |

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|---|---|---|---|
| 97 | Bolt M10X16 | 4 | |
| 98 | Flat Washer 10 | 4 | |
| 99 | Oil Cup M8X1 | 4 | |
| 100 | Rocker Arm | 2 | |
| 101 | Big Chain Wheel | 1 | |
| 102 | Bolt M12X20 | 1 | |
| 103 | Flat Key 18X160 | 1 | |
| 104 | Travel Switch | 1 | |
| 105 | Pipe Clamp | 1 | |
| 106 | Main Shaft | 1 | |
| 107 | Flat Key 18X70 | 1 | |
| 108 | Motor | 1 | |
| 109 | Bolt M16X100 | 4 | |
| 110 | Small Chain Wheel | 1 | |
| 111 | Bolt M12X20 | 1 | |
| 112 | Double row chain 16A | 1 | |
| 113 | Eccentric Gear | 2 | |
| 114 | Swing arm Sleeve | 2 | |
| 115 | Bolt M8X70 | 4 | |
| 116 | Gear Cover | 1 | |
| 117 | Ring 15 | 2 | |
| 118 | Small Gear | 1 | |
| 119 | Bolt M6X12 | 24 | |
| 120 | Cover | 1 | |
| 121 | Spacer | 2 | |
| 122 | Bearing 6202-2Z | 4 | |
| 123 | Flat Key 5X20 | 1 | |
| 124 | Shaft | 1 | |
| 125 | Bolt M8X16 | 3 | |
| 126 | Pressure Pad | 3 | |
| 127 | Big Gear | 1 | |
| 128 | Bearing Cover | 1 | |
| 129 | Spacer | 3 | |
| 130 | Bearing 6304-2Z | 2 | |
| 131 | Support Frame | 1 | |
| 132 | Guide Shaft | 2 | |
| 133 | Flat Key 6X20 | 1 | |
| 134 | Lead Screw | 1 | |
| 135 | Flat Key 6X32 | 2 | |
| 136 | Sleeve | 2 | |
| 137 | Nut | 2 | |
| 138 | Round Nut M30X1.5 | 4 | |
| 139 | Adjust Rod | 2 | |
| 140 | Connecting Plate | 2 | |
| 141 | Stroke switch shaft | 1 | |
| 142 | Bolt M8X55 | 4 | |
| 143 | Washer 8 | 12 | |
| 144 | Nut M8 | 4 | |
| 145 | Baffle plate | 1 | |

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|---|---|---|---|
| 146 | Nut M12 | 4 | |
| 147 | Fixed Block | | |
| 148 | Bolt M8X20 | 4 | |
| 149 | Adjust Rod | | |
| 150 | Synchronous Belt 3360-5M-30 | 1 | |
| 151 | Synchronous Pulley | 2 | |
| 152 | Bearing Cover | 3 | |
| 153 | Bolt M10X20 | 4 | |
| 154 | Travel Switch Bracket | 2 | |
| 155 | Handle | 1 | |
| 156 | Spring Pin 4X35 | 1 | |
| 157 | Shaft | 1 | |
| 158 | Ring35 | 2 | |
| 159 | Fixing Sleeve | 1 | |
| 160 | coupling | 4 | |
| 161 | Square axis | 1 | |
| 162 | Square Tube | 1 | |
| 163 | Joint | 2 | |
| 164 | Connecting Shaft | 2 | |
| 165 | Connecting Sleeve | 2 | |
| 166 | Bolt M5X8 | 2 | |
| 167 | Motor for Back Gauge | 1 | |
| 168 | Bolt M8X35 | 4 | |
| 169 | Square Tube | 1 | |
| 170 | Square axis | 1 | |
| 171 | bearing cover | 1 | |
| 172 | Bracket for Encoder | 1 | |
| 173 | Bolt M4X6 | 2 | |
| 174 | Encoder | 1 | |
| 175 | Bolt M4X6 | 2 | |
| 176 | Elastic tube coupling | 1 | |
| 177 | Round Nut M20X1.5 | 2 | |
| 178 | Spacer | 1 | |
| 179 | Lead screw | 1 | |
| 180 | Cover of Encoder | 1 | |
| 181 | Bolt M8X16 | 4 | |
| 182 | Support Frame | 1 | |
| 183 | Bolt M12X80 | 2 | |
| 184 | Nut M12 | 2 | |
| 185 | Bolt M12X35 | 2 | |
| 186 | Fixed Plate | 1 | |
| 187 | Washer 12 | 4 | |
| 188 | Bolt M12X40 | 4 | |

## 10. Maintenance

1. Keep machine clean, please coat antirust oil if for long time no use.

2. Wipe the knives lightly with oil.

3. Lubricate all pivot points on the machine daily.

4. Keep shearing blade edge sharp. If you find any damage or wear or bull, please re-grind the blade or change a new blade. And it is avoid to shear and cut the broken material which is too thick or the material with rigid scar、residue、welding line、damaged edge and so on.

5. Clean the protectant from all exposed metal surface with a mild solvent or kerosene, and a soft rag. Do not use lacquer thinner, paint thinner, or gasoline, as these may damage painted surface.

6. Coat all machined surface with a light coat of oil to inhibit rust.

7. At working, should any abnormal circumstance happened, the operator must stop the working at once. Then turn the power off, inspect the reason by a qualified technician.

8. Please cut off the power when finish working, and carefully clean the machine.

9. Inspect the electric system periodically. When inspect and repair on the motor, please carefully check the rotating direction.

**Note:** This manual is only for your reference. Owing to the continuous improvement of the machine, changes may be made at any time without obligation on notice. And please note the local voltage while operating this electric machine.