

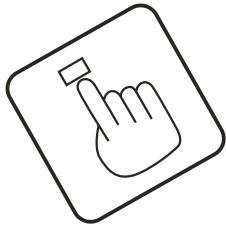
MANUAL

SPLITTING LEATHER MACHINE

TW-420A/B/C TW520A/B/C SERIES



Optic monitor bulb	E2
Knife motor heat relay	FT1
Scraps ejector motor heat relay	FT2
Grinding powder ejector heat relay	FT3
Grinding knife unit motor heat relay	FT4
Main fuse	FU1
Direct current unit	DC1
Safety button signal light	EH1
	KM1
	KM2
	M1
	M2
	M3
	M4
	M5
	PN1
	QF1
	QF2
	QF3
	QS1
	RP1
	RP2
	SA1
	SB1
	SB2
	SB3
Grinding button	SB4
Back button	SB5
Microswitch for cover plate	SQ1
Microswitch for cover plate	SQ2
Microswitch for cover plate	SQ3
Button for scraps on the roller	SQ4
Monophase auxiliary transformer	TC1
Phase protector	X1
Inverter	U1



Starting The Machine

Stop Switch

The emergency button SB1 (Fig.1 & Fig.2) has the function of mechanical lock mechanism.

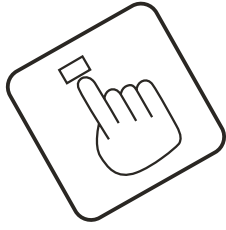
Rotate switch in clockwise to release.

Now, you can start the machine and use all the functions of it.

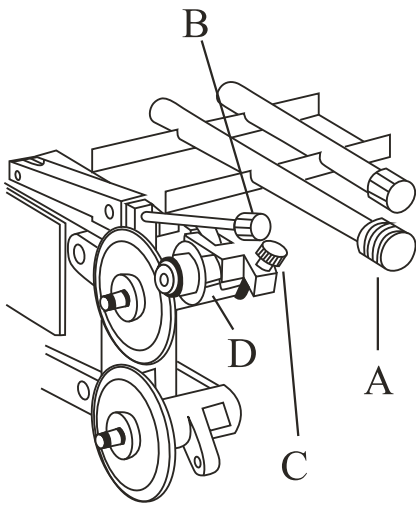
TW420A

Press the button SB3 to start the machine, the machine can provide stepless variable speed feed, and rotate the RP1 to adjust the speed of feeding. Press the SB2 to stop the machine, back hoon before stoping the machine.

When maintenancing and adjusting the machine, you canuse key button SA1 to shield the safty protect button. Band knife, grinding stone and grinding powder cleaner will run when you start the machine. This work should be do by professional worker. At this situation, the red lamp H11 will be light up. (Ref. Chart FG1 and 2)



Sharpening



Stoning unit design can use the hone of emery or diamond. The style of the hone must be formulated detail in the order of the machine, of course, also can be altered through buying the option.

Using emery hone to sharpen knife

According to the following operations
 Clean hone
 Sharpen
 Adjust blade bevel degree of symmetry

Clean the hone

When the appearance of hone becomes grey, smooth and ineffective, you must do this job.

1. Open the black door C6 on the middle bonnet C3 (fig.1).
2. Adjust the red handle C (fig.besides) to make the clearing brush close to.
3. Push the cleaning brush to left through cover D (fig.besides) repeatedly, and operate the upper and lower grinding stone at the same time.
4. Close the door C6.

Sharpen

According to the following order in strict

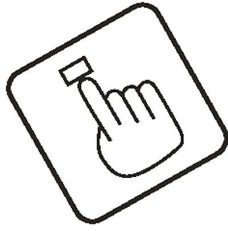
1. Open the black door C6 which on the middle bonnet C3 (fig.1).
2. Roll the bonnet D (fig.besides) 2 or 3 circles in the clockwise to regain the up hone.
3. Roll the handle A (fig.beside) in anticlockwise to make the up hone close to knife until hone touch blade.
4. Roll the handle B (fig.beside) in anticlockwise to make the up hone close to knife until hone touch blade.
5. Roll the handle A (fig.beside) in anticlockwise to increase the press between the hone and the knife.

Note: Repeat the above process after clearing the hone.

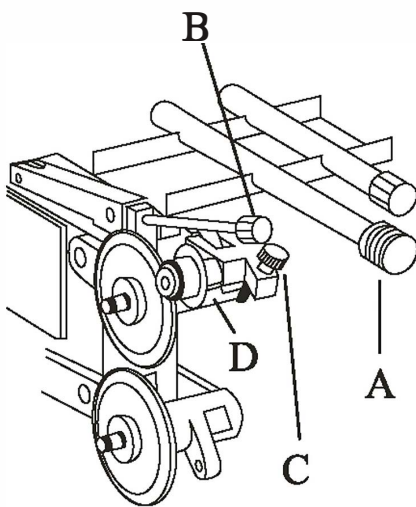
Cant symmetrical

Checking whether the cant is symmetrical by photoelectric observer OT (fig.1), and, if the symmetry is bad, just use the hone on the side of the narrow cant to sharpen the blade.

Note: When working, the process sharpening must adjust the strength and continue according to the type of work.



Sharpening



Using diamond hone to sharpen knife

Increasing or decreasing sharpening effect of the stoning unit by micro adjusting the rotary switch A.

You must be very careful to adjust, because the usage life of the knives and hones depend on alignment accuracy.

Rolling the adjusting handle A in anticlockwise until the knife touch the blade with 5cm to 8cm of spark.

Absolutely avoid that spark around hone.

Or, the hone will be abraded soon.

The position of the two hones have been adjusted well by the TAIWEI, it will sharpen good symmetrical blade.

Pls don't change this distance.

Note: Only the cant of blade doesn't symmetrical or after renew the hone, you can use the handle B to adjust.

Clearing the hone

After the appearance of hones become smooth, you can use a small stick to clear them.

Pls don't clear them by the other way.

(Like emery or rotation tool etc.)

First, remove the middle bonnet C3, and open the key button SA1, then you can begin to clear.

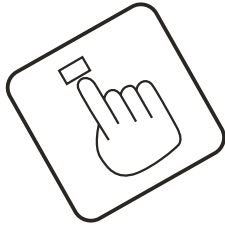
This process must be very careful.

Cant symmetrical

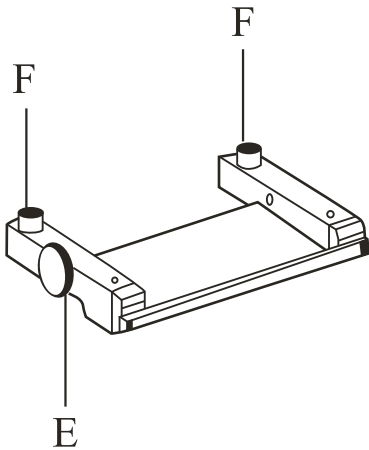
Checking weather the cant is symmetrical by photoelectric observer OT

(fig.1), and, if the symmetry is bad, just use the hone on the side of the narrow cant to sharpen the blade.

Note:When working, the process sharpening must adjust the strength and continue according to the type of work.



Setting



Setting the splitting thickness

The thickness range of the JB420 A splitting machine is from 0.1mm to 8mm. The thickness can be showed by date on the viewing screen PN (part.6-2). You can use the handle E which is on the support arm LH to set and adjust. The shows of thickness is only probably value, because its precision value depends on the hardness and struture of material ,the pressure off eedind roller and size of material,etc.

Setting the down feeding roller

There is a gap more than 0.1mm between the knife and the feeding roller in usually working posicion. Through the bolt on the support arm, the gap has been adjusted well by the JUNBAO. Do't change it. According to the thickness, the feeding roller can be reduced by the hand wheel M on the feeding table. In any case, the gap between feeding roller and knives should less than the thickness of scraps.

Setting the posicion of the down feeding roller

This operation can make it easier when the thickness of scraps is too small compare to the thickness of final products or when the material is too sofe and can not be compressed too much.

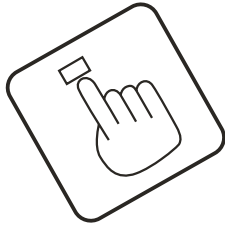
Setting the pressure of the down feeding roller

If you want to adjust the pressure, you can do it by using the up support arm F, rotate in clockwise to increase, or decrease in the anticlockwise.

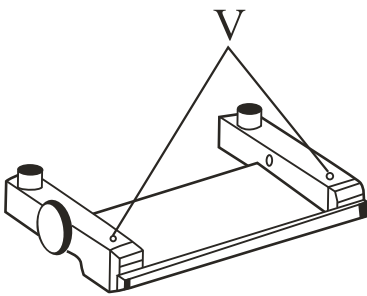
- * 1= light pressure
- * 2= middle light presuure
- * 3= middle heavy presuure
- * 4= heavy presuure

For the thin and soft material, use the light pressure; For the thick and heavy material, use the heavy pressure. In any case, using the minimum pressure in material allowed range.

If feeding worry, pls down the pedal P to increase the gap between knives and feeding roller, so you can take the material easily.



Equipment



The up feeding roller

When the thick and smooth material is less than 0.8mm or need use template, you need the up feeding roller.

Fixed guide bar

When you need high accuracy or near the tolerance of splitting, using the fixed guide bar.

Renew the up feeding roller/ Fixed guide bar

Press the emergency button SB1 (Fig.1 & Fig.2).

Add the splitting thickness to 4mm for easier changing, open top cover C1, take down the feeding system PEM, loose the two screws V.

Take down the feeding roller or fixing guiding beam, install the new one.

When install feeding roller, please promise the left gear matches correctly.

Tight the screws V, reinstall the feeding like PEM and top cover C1.

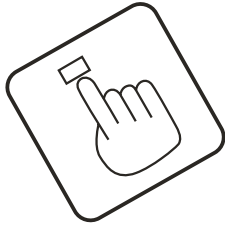
Release the emergency button, readjust the splitting thickness, start to work.

The down feeding roller with protuberances on the surface

The roller is erected as a standard way on the machine.

The down feeding roller with rubber covering

In the following case, you need use this roller, for example, splitting with high accuracy, using template to splite, and cutting the cladding of belt , wallet and portfolio uniform.



Cleaning

Note

Cleaning

If you want to let the splitting machine work without problem for a long time, pls observe with the forrowing:

* Every day

Clean the machine

Empty the scrap disc CS (fig.1)

Clean the inside attle filter.

Clean the attle filter bag SPS (fig.1) (if necessary)

* Every week

Clean the knife wheel smear R00704(fig.1)

Clean the right up felt tablet group R01704(tav.13)

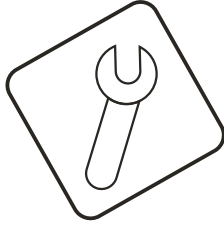
Clean the stoning unit

Clean the stoning dust filter bag SPA(fig.1)

Clean the stoning dust filter room (the former room CPA, and the next room CLP(fig.1)).

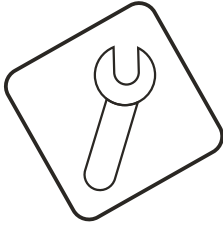
Lubricate the left up felt group FSS(fig.1), using petrolatum ARIAN26F made by FINSPA, (light material oil, the color is ASTM D15002, the density is 0.868G/per)

Don't use compressed air, or the quality assurance will lose efficacy.



Maintenance and Repair

- Maintenance must be undertaken by professionals.
- Be complied with security rules during parts checking and repairing operation.
- Power must be off before repairing.



Basic Principles

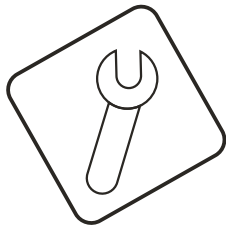
Note:

Security protection device attached to avoid accident.

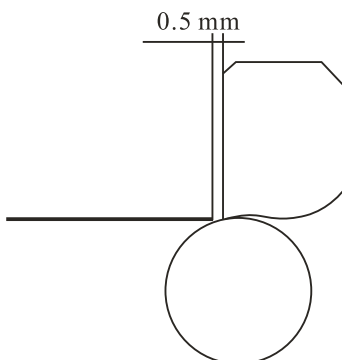
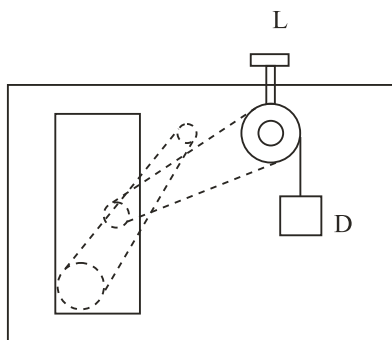
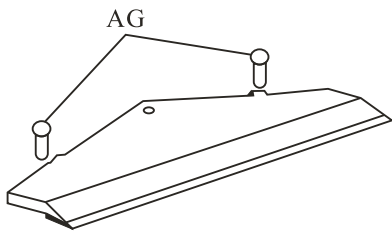
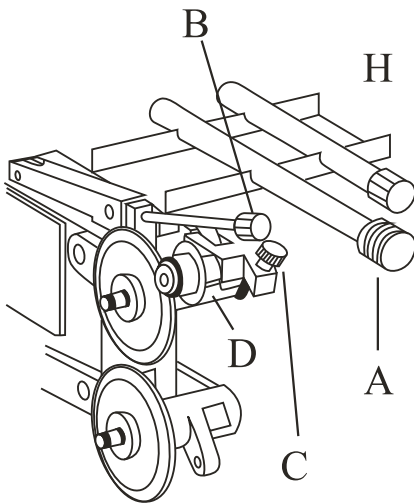
Be careful with moving parts and knife.

Install and use machine under instructions.

- Machine installation and operation must under instruction.
- Do not remove and destroy security protection device.
- Do not clear and lubricate moving parts during machine works;
- Be complied with security rules during checking and repairing parts.
- Reset, maintenance and repair must be undertaken when QSI switch is off.
- When maintain or reset machine, with SAI switch you can shield security protection switch. Starting machine, so the band knife, grindstone, powder cleaner can work, which should be taken by authorized professionals, at this time, the read light HL1 is lit on(See FG1,FG2).
- Choose suitable tools.
- Use personnel protection device which is requested in security rules.



Maintenance



Replacing band knife (Only can done by authorized personnel).

Rules compliance (See Par.7-2)

1. Swing handle A in clockwise to get knife-sharpening unit back.
2. Remove feeding board PEM (fig.1).
3. Open the upper cover C1, front cover C2; remove the middle cover C3 and guiding plate LCP (fig.2).
4. Through SAI key (par.6-2) to make safety micro-switch off, start machine, and be careful with moving parts.
5. Facing blade, push TF device (fig.1) repeatedly to stop machine.
6. Set 6mm splitting thickness.

Through key switch to make safety micro-switch on (turn and get key off), and cut offer main supply. (Main switch QS1(FIG2) stay in OFF status).

7. Moving wedge-shaped cushion CUS (fig.1) on guiding plate of band knife, lock with handle P4.
8. Loosen the upper guiding handle AG (fig. beside).
9. Light up the upper guiding wedge-shaped plate PAS (fig.1).
10. Open the band blade upper guiding sheets PLM3 (fig.1).
11. Open the upper and bottom mat FPL (fig.1).
12. Loosen the spring MM (fig.1) to open the bottom guiding wheel.
13. Remove transferring chains of band blade unit.
14. Swing handle A (fig. beside) in clockwise, apart the knife stone.
15. Using handle H to light up balance weight D (fig. beside), using handle L to lock band blade bottom guiding sheet in unmovable. handle L to lock band blade bottom guiding sheet in unmovable.
16. Remove left bottom guiding plate GIS (fig.1).
17. Loose and remove the blade by using handle G.
18. Carefully clear grinding powder place, guiding plate, mat, wheel, craps filter, grinding powder dust filter.
19. Fit new knife, the back of a knife blade should be touched to the back of knife wheel.
20. Turn hand wheel G (fig.1) in counter-clockwise direction, to tension the knife.

21. Fit all parts which removed before in reverse order.

22. Fit all covers and protective covers.

Remove the key from switch SA1 (part. 6-2).

The keys should not be left on the switch when the machine works.

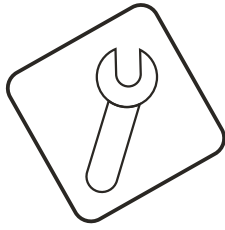
23. Switch on the main power supply switch QS1 (N to start machine, the band knife will face the guide, and automatically position, ready to grind.

The sharpening needs 30 minutes.

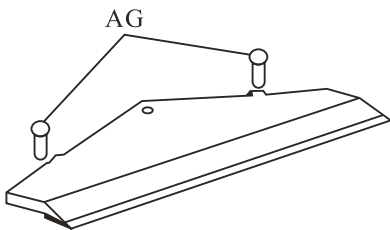
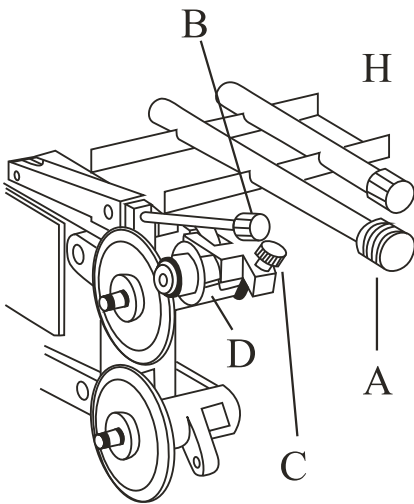
Note: the sharpening must in continuously process when machine works.

After sharpening, please do as the following method to check the knife position and parallel:

Set 0.2mm splitting thickness, fit the upper fixed guiding bar, step on the stepping board P (fig.1), to check the back edge thickness between band knife and fixed guiding bar is 0.5mm (fig. beside) or not.



Maintenance



Replace knife stone

1. Cut off the power (main switch QSI off).
2. Remove the upper cover C1, front cover C2 and middle cover C3 (fig.1).
3. Swing handle A (fig. beside) to apart the knife stone.
4. Remove transmission belt.
5. Handle C (fig. beside) can open the cleaning brush. (Use machine attached emery knife stone).
6. Use spanner to seize the belt wheel, loosen the knife stone, lock nut (remove knife stone in counterclockwise, fix knife stone in clockwise).
7. Clean the base clearly.
8. Fix and lock the new knife stone.
9. Swing handle A (fig. beside) to make two knife stones closer.
10. Swing the grind stone by hands to make sure two knife stones meet the band knife at the same time, if not, please adjust with handle B (fig. beside).
11. Fix the transmission belts again.
12. Fix the cover again.

Replace band blade wedge-shaped guiding plate

Wedge-shaped guiding plate surface contains anti friction layer, it must replace when it's damaged, renovate is forbidden.

Must remove band blade when you replace the wedge-shaped guiding plate. So it is recommended that replace blade and wedge-shaped guiding plate (par.7-3) at the same time.

1. Remove wedge-shaped guiding plate.
2. Clean the new wedge-shaped guiding plate carefully.
3. Clean the base.
4. Fix the wedge-shaped guiding plate, and make sure their back part is fit with the base.
5. Tighten the screws. A
6. Fix the band blade (par. 7-3).

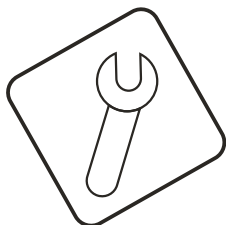
Replace the upper blade's back guide block

1. Remove the upper guiding plate's wedge-shaped cushion CUS, and lock with handle P4 (fig.1).
2. Loosen the upper guiding plate's AG (fig. beside).
3. Remove the upper guiding plate PAS (fig.1).
4. Replace two pieces of back guide block GD (fig.1), fix the upper guiding plate in counterclockwise.

Replace the bottom blade's back guide block

This must remove the blade, so it is recommended that if blade needs replacement, this guiding plate should also be replaced (par. 7-3).

1. Remove S3 (fig.1) parts.
- Clean the base, fix the new guiding plate.



Maintenance

Belt tension

- Blade drive belt-multi wedge belt

It's an off-center idle wheel tension, which is fixed by a screw, cut off the power when in tension.

- Feeding drive belt-multi wedge belt

The tension is adjusted by the kidney hole of the fixed gear box, cut off the power when in tension.

- Blade unit drive belt-flat belt

The tension is controlled by the motor weight and the motor base's spring. Please notice the arrow mark which shows the swing direction.

Setting the thickness of the read-out

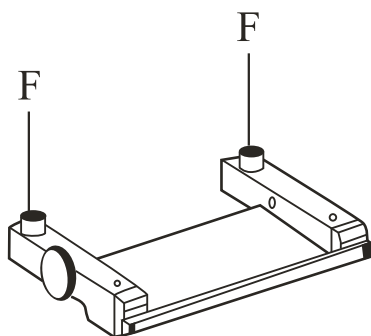
When use the fixed guiding bar, please set the splitting thickness to its minimum (0.2mm), and then do as followings:

1. Remove the protective cover LCP (fig.1) of the bottom guiding plate.
2. Loosen the bolt VP, which is to fasten the potentiometer holder (fig.1).
3. Get the potentiometer RP1 (fig.1) from the chains.
4. Swing the gear of the potentiometer, until the read-out becomes 0.2mm.

Replace the bottom feeding roller with raised roller/feeding roller with rubber covered

Push TF device (fig.1) facing the blade, to stop machine.

1. Hand wheel F (fig. beside), remove the feeding roller, and adjust the pressure to its lowest.
2. Remove the upper cover, front cover and feeding table.
3. Loosen the bolt VR (fig.1).
4. Remove the roller with raised surface.
5. Fix the roller with rubber covered, fix with bolt VR.
6. Refit the feeding table, front cover, and upper cover again.
7. Switch power on, start machine work.



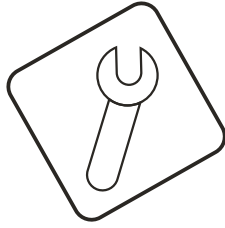
Scrap eliminator

- Scrap plate CS
- Scrap dust filter device FC (fig.1)

It's made up of the filter plate which assembled on the fan flywheel of the eliminator, it must clean regularly. When it does slight splitting work, it will cause a large amount of dust, so it must clean every day.

- Scrap dust filter bag (fig.1)

The bag absorbs the filtered air which comes from the exhaust fan. When replace the blade, clean with brush or aspirator.



Maintenance

Note

Grind Powder Ejector

One part of grind powder drops in CAP (fig.1) room, close to grinding unit, the other part drops CLP (fig.1) room, on the left of machine, at last stays the ejector's exit, and drops in filter bag SPA. Every time replace the blade; please clean the room and the filter bag together (par.7-3).

Daily Maintenance

Please do not use compressed air, or the quality warranty is ineffective.

- Every day

Clean the machine

Clean the scrap plate CS (fig.1)

Clean the inner scrap filter device FC (fig.1)

Clean the scrap filter bag SPS (fig.1) (if necessary)

- Every week

Clean the knife wheel wiper blade R00704 (tav.2)

Clean the right mat groups R00704 (tav.13)

Clean the grinding unit

Clean the grinding dust filter bag SPA (fig.1)

Clean the grinding dust room (front room CAP, room CLP) (fig.1)

Lubricate left mat groups FSS (fig.1), use Vaseline oil ARIAN26F (produced by FIASPA, light mineral oil, color ASTMD 15002, density is 0.868g/1)

- Replace blade reaches 8-12 times (which depends on work is ordinary or heavy), the following spare parts must be replaced:

The upper and bottom feeding roller's bearings R06503/R01203 (tav.5-6-7)

Guiding wheel R04701 (tav.12-13)

Knife clip R01101 (tav.3)

The upper blade's back guide block R01102 (tav.3)

The bottom blade's back guide block R04501 (tav.12)



Problem: Reason and Solution

Problem Solutions

Splitting defect • Thickness change

One piece of leather split

- Knife guiding wheel wears excess.
- The bottom blade' back guide block is ineffective.

Different leather split

- Replace the upper feeding roller with fixed guiding bar.
- Slow down the feeding speed.
- Not sharpen enough (clean the knife stone).

- Leather splitting surface is rough
 - Slow down the feeding speed.
 - The blade is broken.
 - Not sharpen enough (clean the knife stone).

Feeding

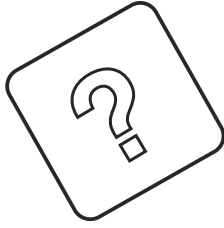
- Feeding abnormal
 - The bottom feeding roller is too low.
 - The blade wears excess.
 - The feeding roller with rubber covered is damaged.
 - The fixed guiding bar is not suitable for material feeding, replace the upper feeding roller.
 - The belt wears excess.
 - The belt tension is incorrect.

Knife

- Swing abnormal
 - The tension is incorrect.
 - The belt wears excess.
 - Position is incorrect.
 - The bottom blade's guide block is ineffective.
 - The bottom blade's guide block is ineffective, check and replace it.
 - The blade is out of use (width is less than 19mm).

Scraps

- Exhaust air is not good
 - The scrap plate is full.
 - The scrap plate not well close.
 - The scrap filter device is seized.
 - The grind dust filter device is seized.



Electrical Problem

TW 420A

Electrical Problem

Electricity Supplying

*When close the main switch QS1, the control panel doesn't open

- *Voltage on connecting terminal
- *Main fuse FU1
- *Auxiliary heat relay QF1-QF2
- *Voltage of rectifying bridge VC1 24VAC

Alert

- *Machine can not run or can not stop
- *Emergency button SB1 (rotate button)
- *Open safety micro switch SQ1-SQ2-SQ3
- *Scraps on feeding roller switch SQ4
- *Heat interrupter for motor FT1-FT2-FT3-FT4-FT5

Thickness digital display

- *No display
- *Display no change
- *Thickness wrong
- *Check the electricity of the part showed
- *Fuse FU2 for 5Vdc direct current
- *Voltage of 2 ends of potentiometer RP1
- *Potentiometer RP1
- *Check screen PN1, the voltage between foot 3 and 7.
- *Adjust min display (par. 7-5)

Motor

- *Overload alert
- *Press blue button, reset the heat interrupter
- *Check if any machinery problem

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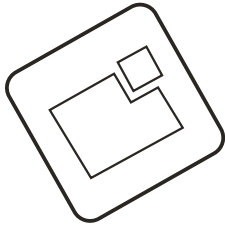
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Proper Noun

Recoil	physical action caused by loosen spare parts
Convey belt	a soft belt used for wheel connecting
Angular surface	angle from knife to two parallel surface
Borazon	same material as artificial diamond
Glass paper	a high density polyvinyl chloride to avoid dust and moistness
Cover	metal cover around spare parts
Contactora	a device connects electrical wires
Screen	a device shows digital and image information
Displacer	a devices displaces dirty air
Fuse	a device for current safety
Gear	spare part used to transmit actions
Idler	spare part used for direction and tensioning the convey belt
Input	input signal
Inverter	device used to change the motor rotation rate of 3-phase motor
Spanner	tool used to tight or loosen the screw
Supersigits	a light indicator
Microswitch	a switch with low voltage
Micrometer	a meter to measure 0.01mm

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Micro processor	center processor on single integrated circuit
Module	combination of circuit or electronic device
Output	output signal
Pallet	wooden platform to move the goods
Formwork	a soft mold used to produce product with complex and different shape
Potentiometer	resistance used to change the current
Belt wheel	metal wheel on the convey roller
Rectifying bridge	a device make alternating current to direct current
Relay	a device that change current
Sensor	a device that senses physical change
Shoe	spare part sliding on the surface
Terminal block	a device connects wire
Thickness testing tool	a small tool used to test thickness of material
Transformer	a device that make voltage of alternating current high or low
Voltage	the rate at which energy is drawn from a source that produces a flow of electricity in a circuit




List Of Spare Parts

When you order spare parts please also supply:

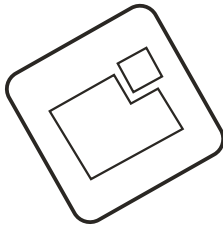
1. Model and serial number
2. Quantity of spare parts you need
3. Chart number

Example

Model number TW-420A Serial number No.  4205169
 4 pcs R01102 back knife guiding Tav. 3
 2 pcs R00701 band knife 0.70x50x3500mm Tav.3

Notice

Oil seal, bearing, back knife guiding, drawknife, guiding wheel, guiding plate, grinder stone, clean brush will be supplied in set.



TAV1

R02006	steel wire in feeding platform
R02151C	emergency button
R02202C	safety micro switch
R02603	fixing button on feeding platform (2pcs)

TAV2

R00501	bearing for knife wheel (2pcs)
R00701	band knife 0.70*50*3500mm
R00703	knife driving belt
R00704	knife wheel drawknife (2pcs)
R02701	knife tensioning handle wheel
R30702	tensioning wheel bearing (2pcs)

TAV3

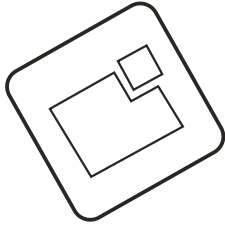
R01101	knife guiding cuniform plate (2pcs)
R00102	knife back guiding plate (2pcs)
R05601	micro switch

TAV5

R00801	control arm adjust chain
R01002	fixing guiding beam
R01204	gasket (2pcs)
R01208	cardan joint
R04801	thickness potentiometer
R06501	feeding roller
R06502	feeding roller doctor-blade
R06503	feeding roller bearing (4pcs)
R06504	feeding roller support bearing (2pcs)
R06509	feeding roller gear

TAV6

R00206	feeding roller adjusting chain
R00207	feeding roller pressure spring
R00208	feeding roller pressure steel wire
R00901	scraps alert micro switch
R01201	steel feeding roller with humps
R01203	feeding roller bearing (2pcs)
R01204	gasket (2pcs)
R06601	feeding roller covers with rubber



TAV9

R04102 oil seal for gear box (3pc)
R04103 cardan joint
R04105 belt
R04205 bearing for gear box (6pcs)

TAV10

R01302 motor belt wheel
R01303 grinding unit belt wheel (3pcs)
R01304 grinding unite bearing (4pcs)
R01305 idler wheel bearing (2pcs)
R01307 flange plate (2pcs)
R01308 arbor (2pcs)
R01310 belt
R01312 bearing
R01401 guiding plate (6pcs)
R07301 diamond grinder stone (2pcs)
R07302 cleaning stick

TAV11

R01307 flange plate (2pcs)
R01308 arbor (2pcs)
R07401 corundum grinding stone (2pcs)
R07402 cleaning brush (2pcs)

TAV12

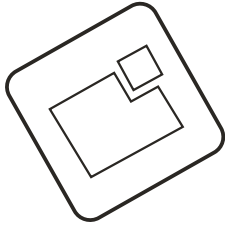
R01311 grinding stone unit adjusting belt
R04501 knife back guiding
R04503 back guiding oil seal
R04504 back guiding adjusting chain
R04701 guiding wheel (2pcs)

TAV 13-14

R01401 guiding plate for left bottom (6pcs)
R01602 optics lens lamp
R01702 mat spring
R01704 mat (8pcs)
R01801 dull knife stick
R04701 guiding wheel (2pcs)

TAV15

R02303 scraps filter bag
R05002 scraps filter sensor
R05402 grinding powder filter bag

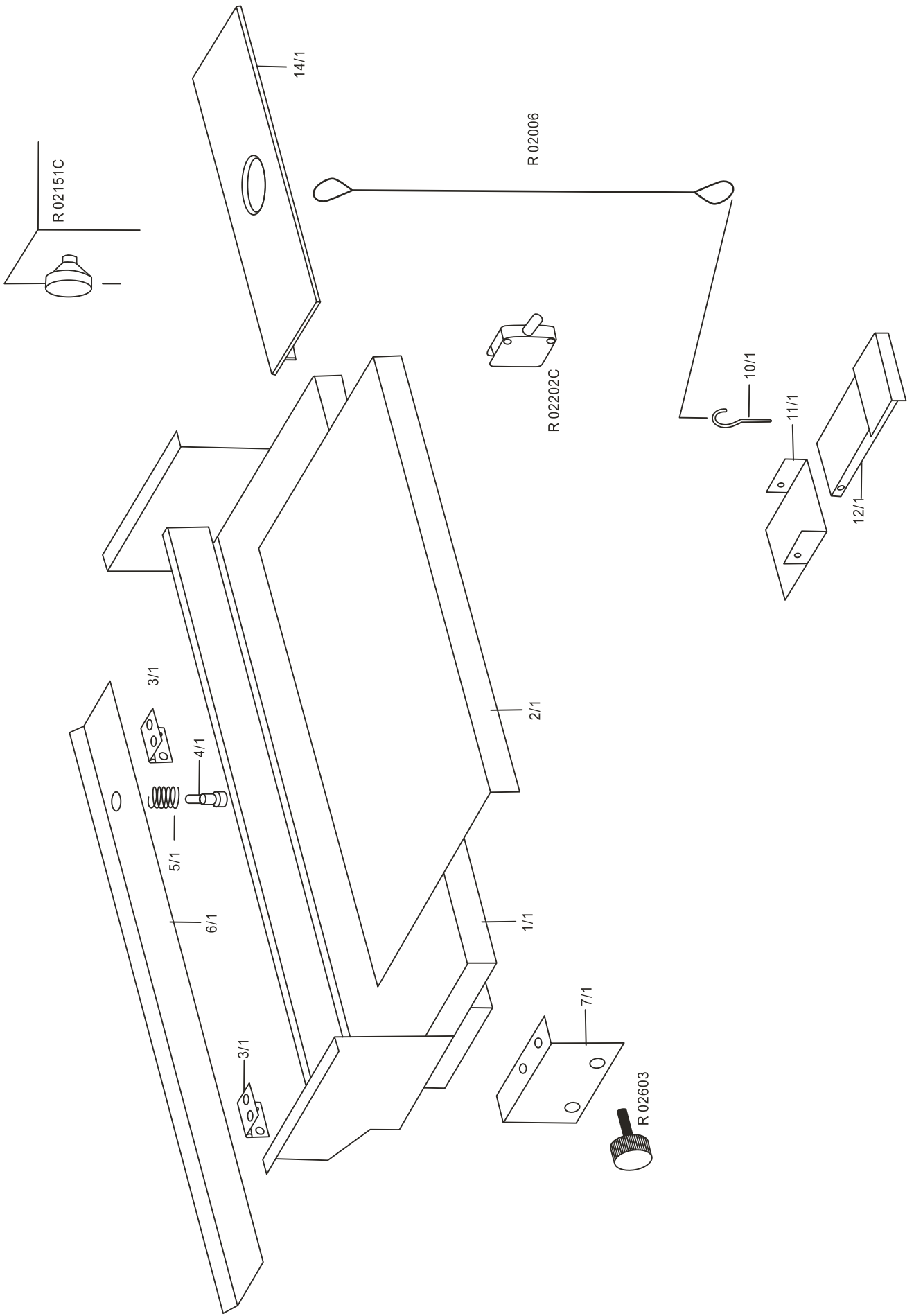


Optional spare parts

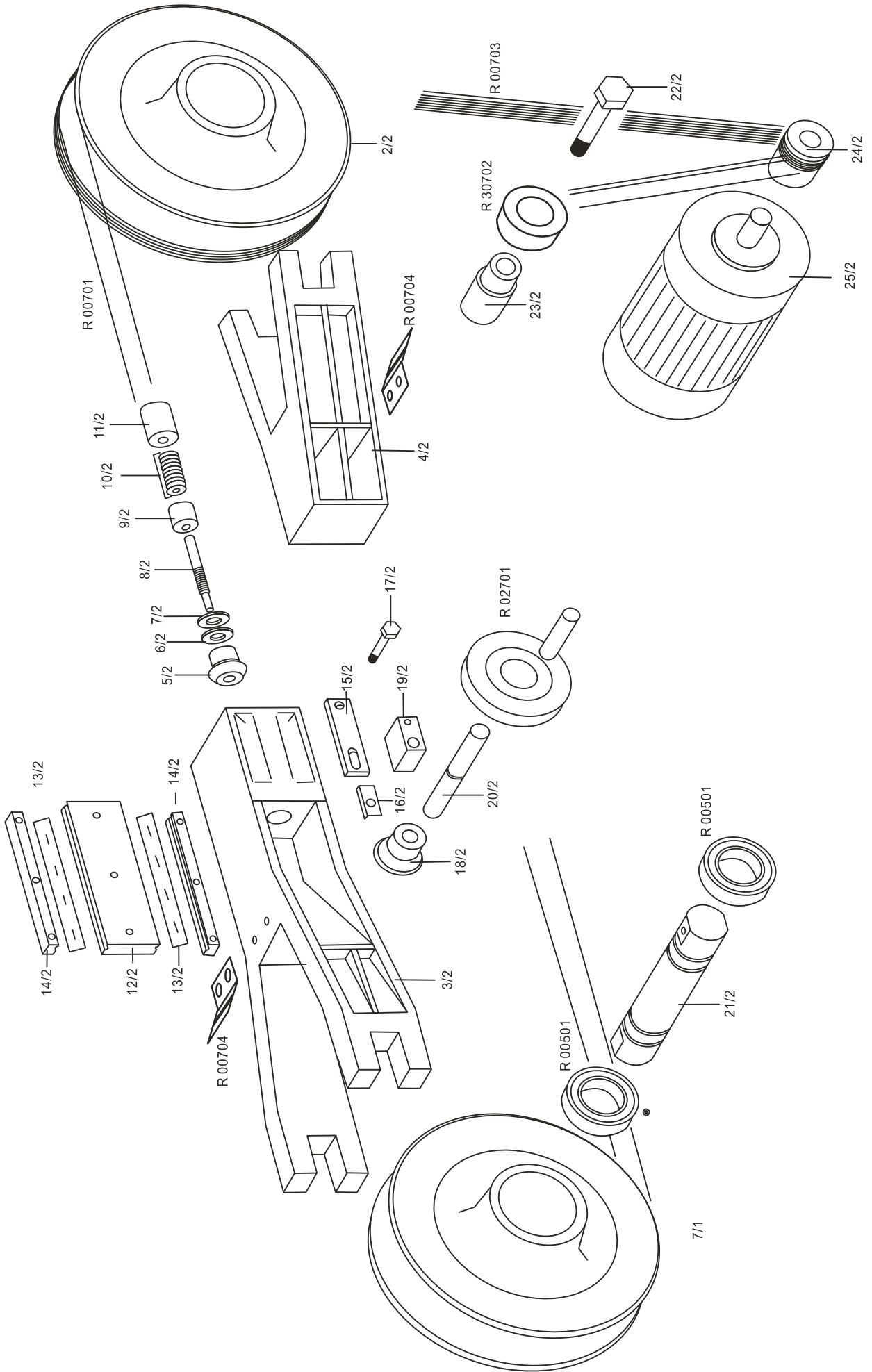
- AC-18-06 thickness testing tool
- AC-18-06 feeding roller covers with rubber
- AC-18-21 feeding roller
- AC-18-25 special feeding roller- upper
- AC-18-26 special feeding roller- lower

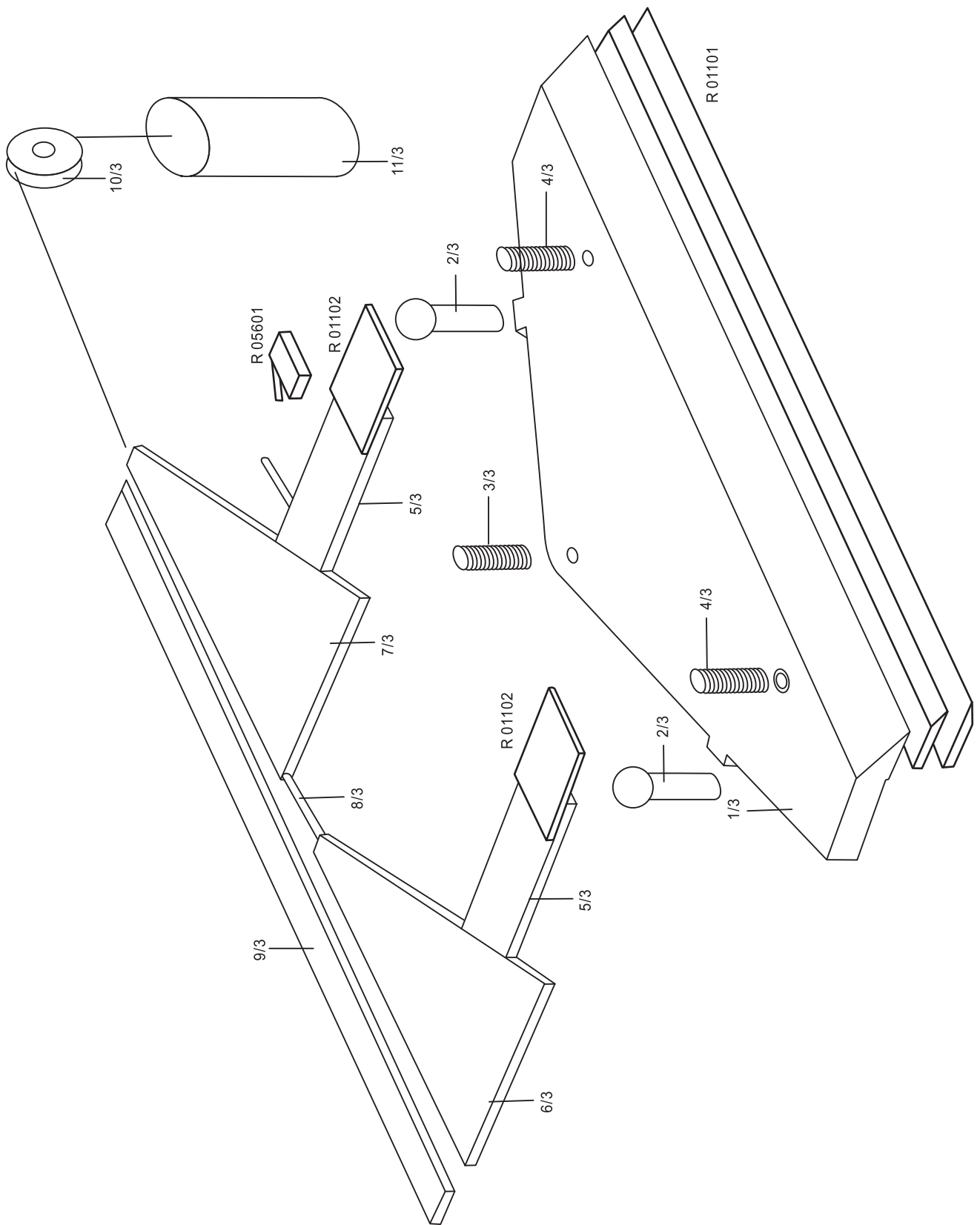
Optional spare parts

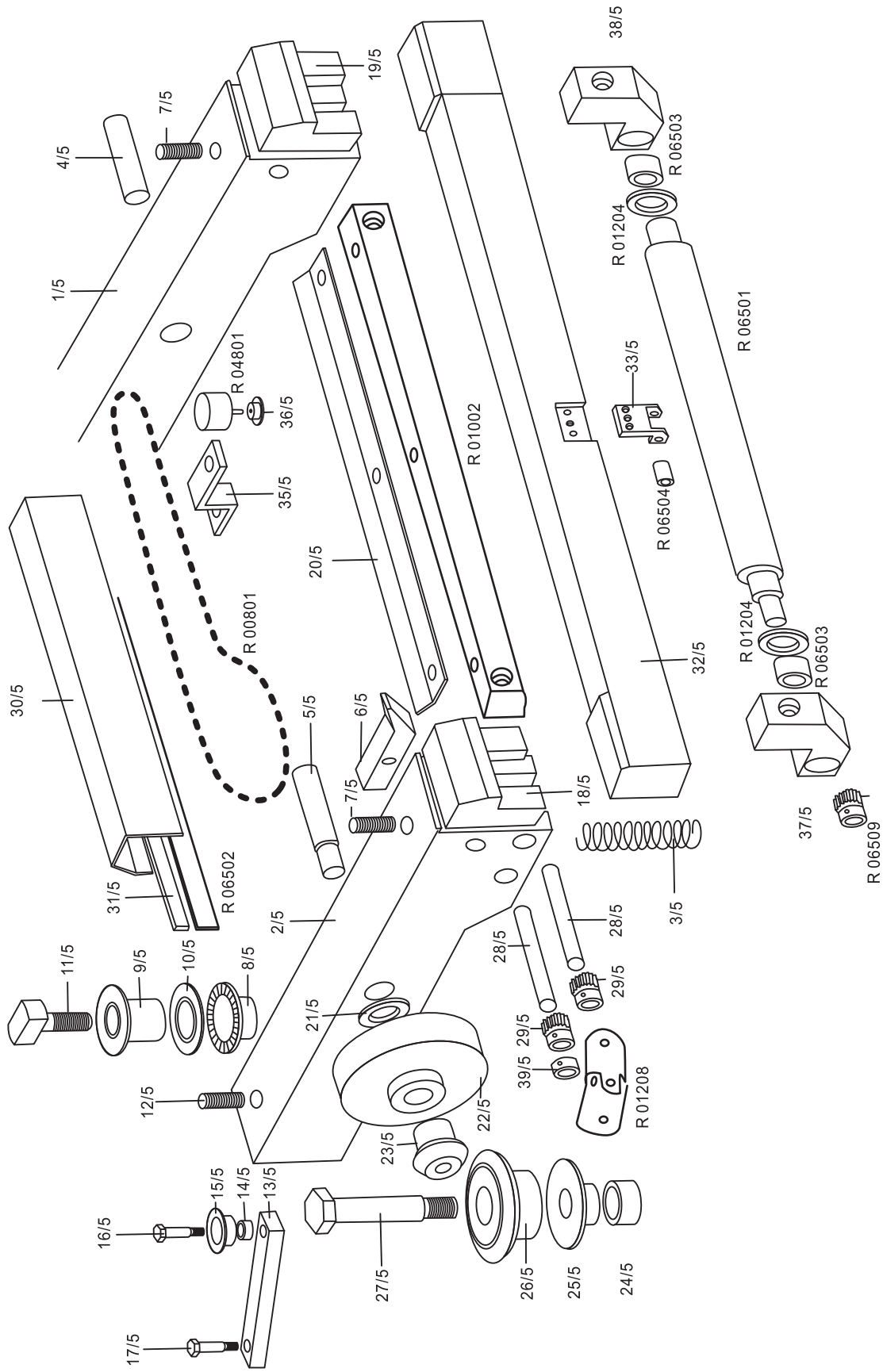
- OP-18-01 diamond grinding wheel
- OP-18-08 corundum grinding wheel

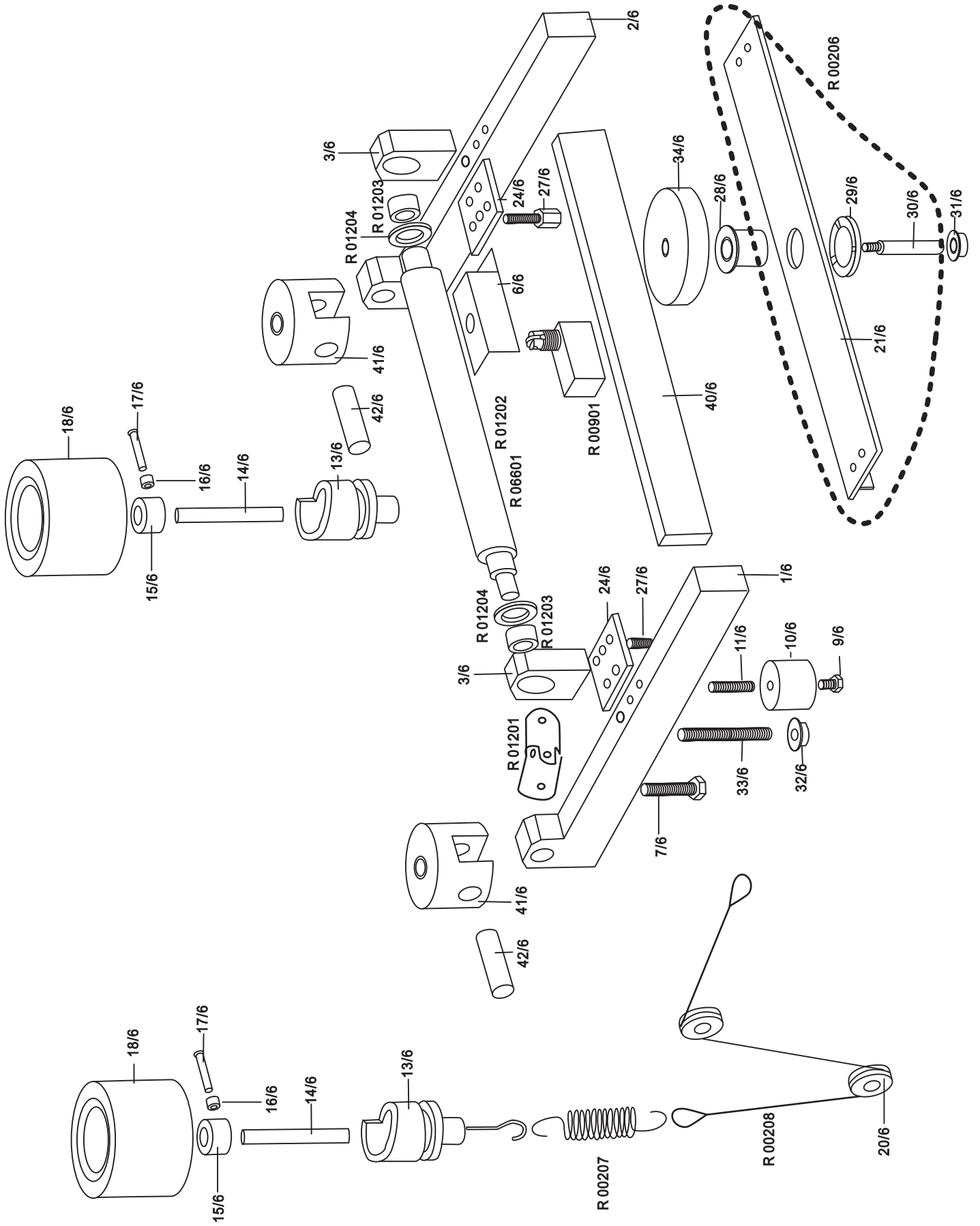


TAV 1

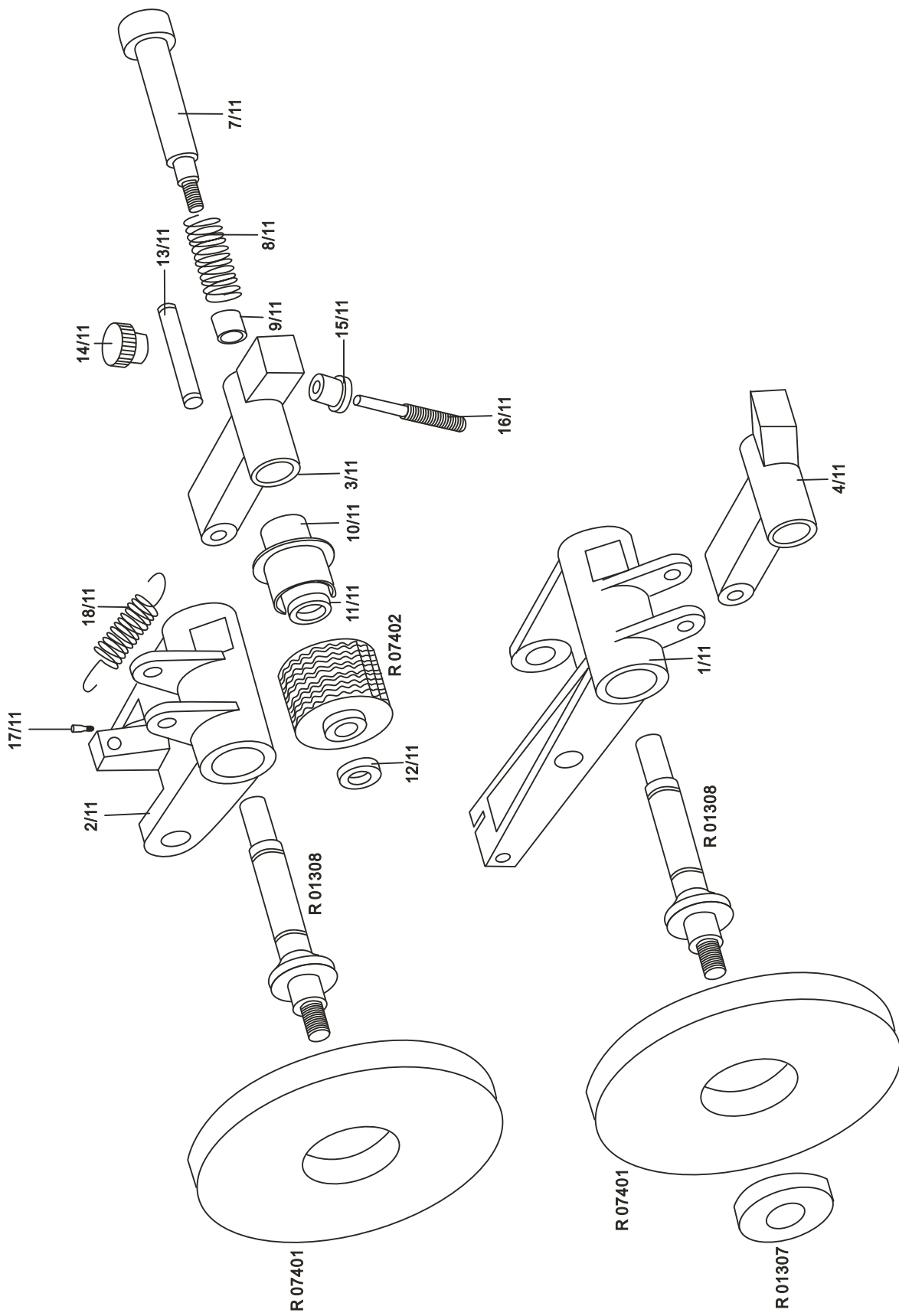


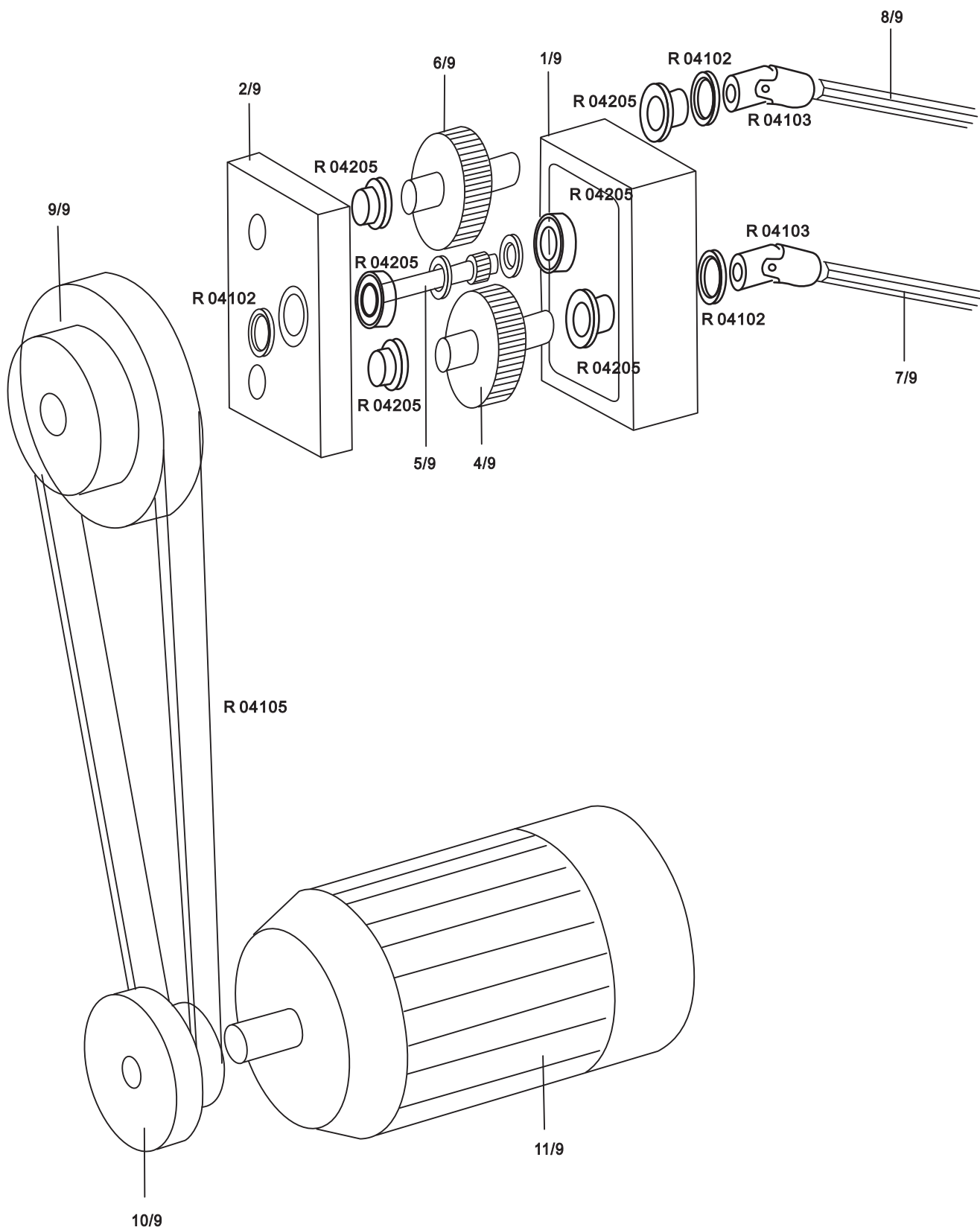


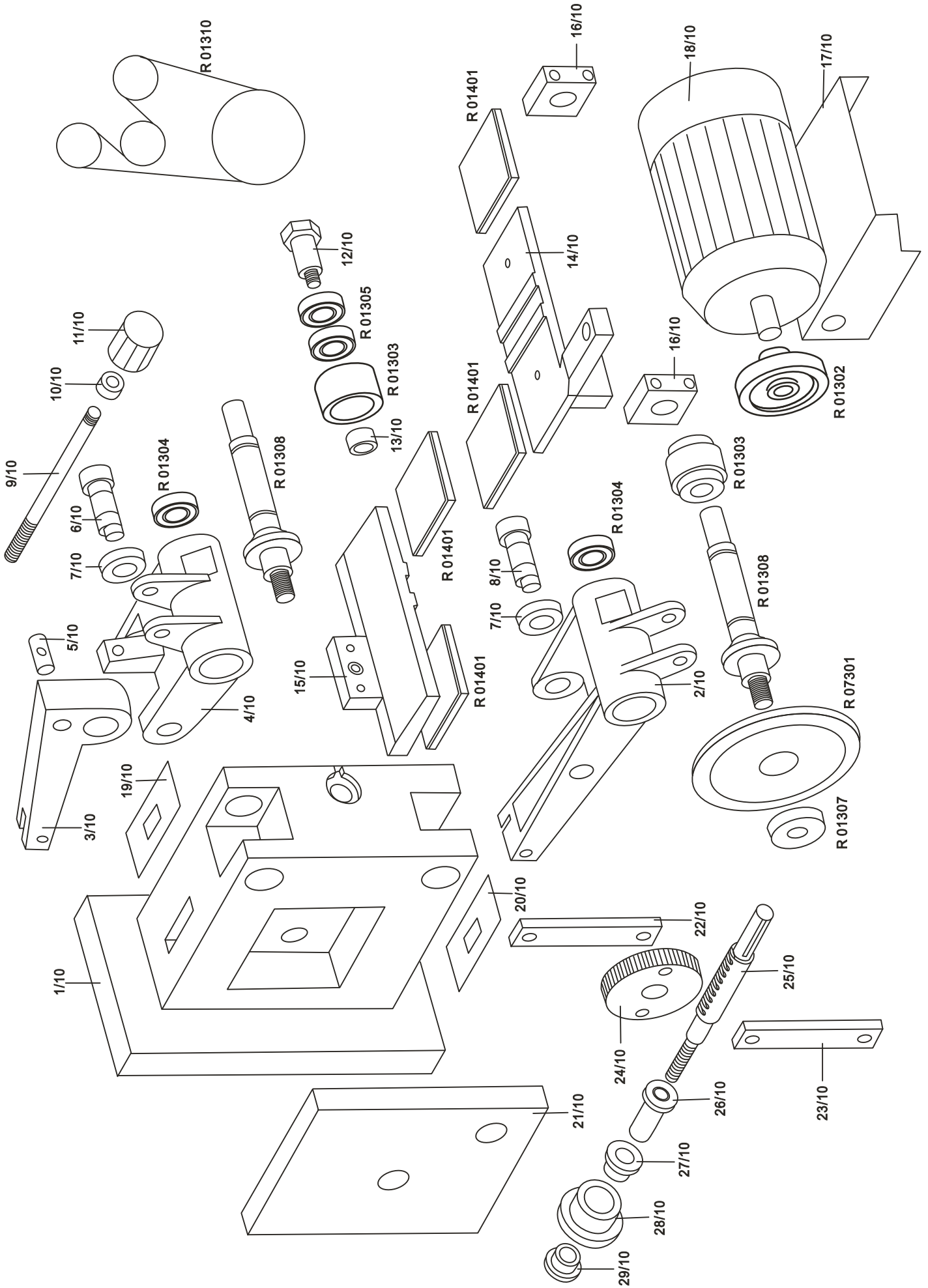


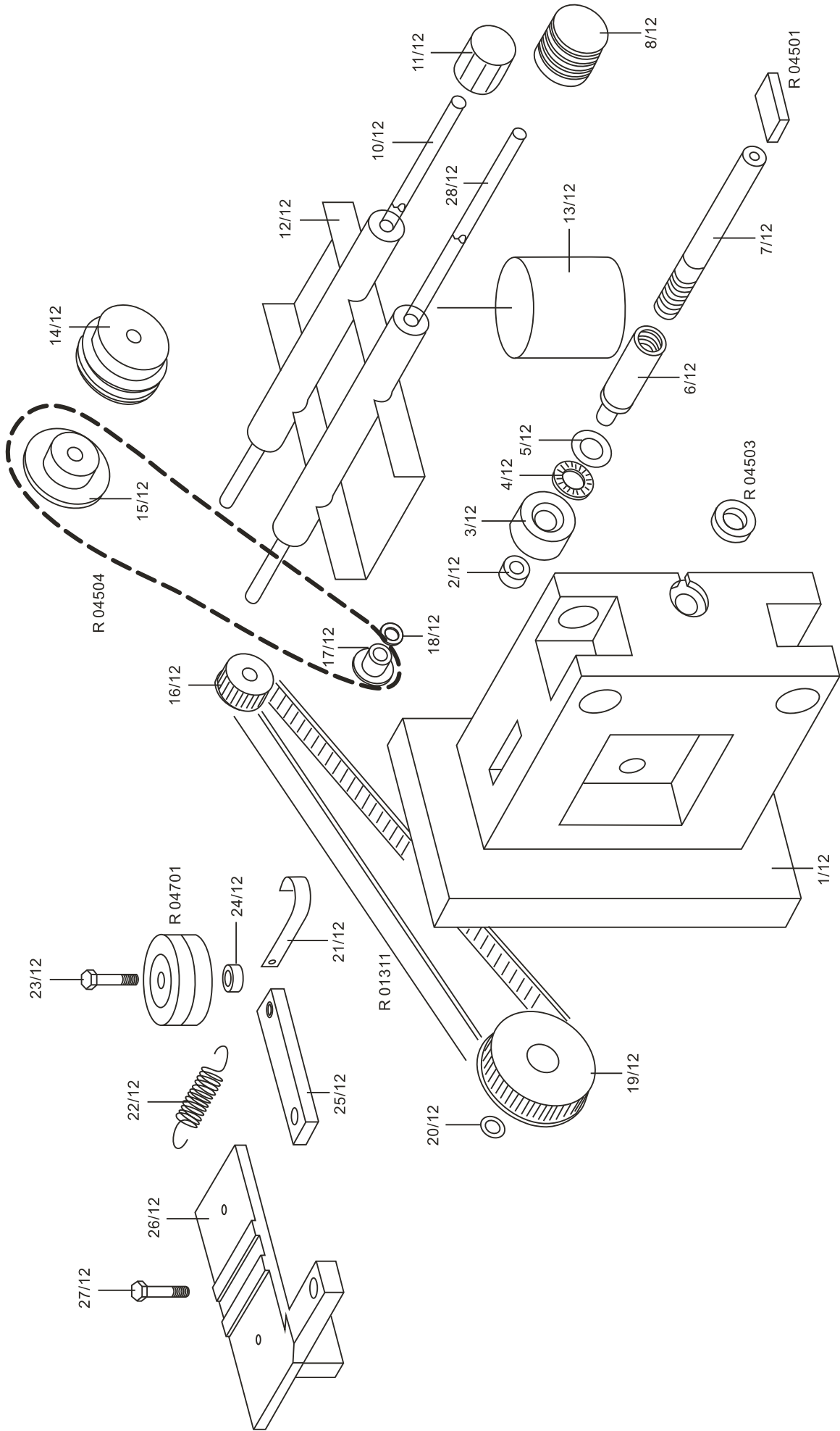


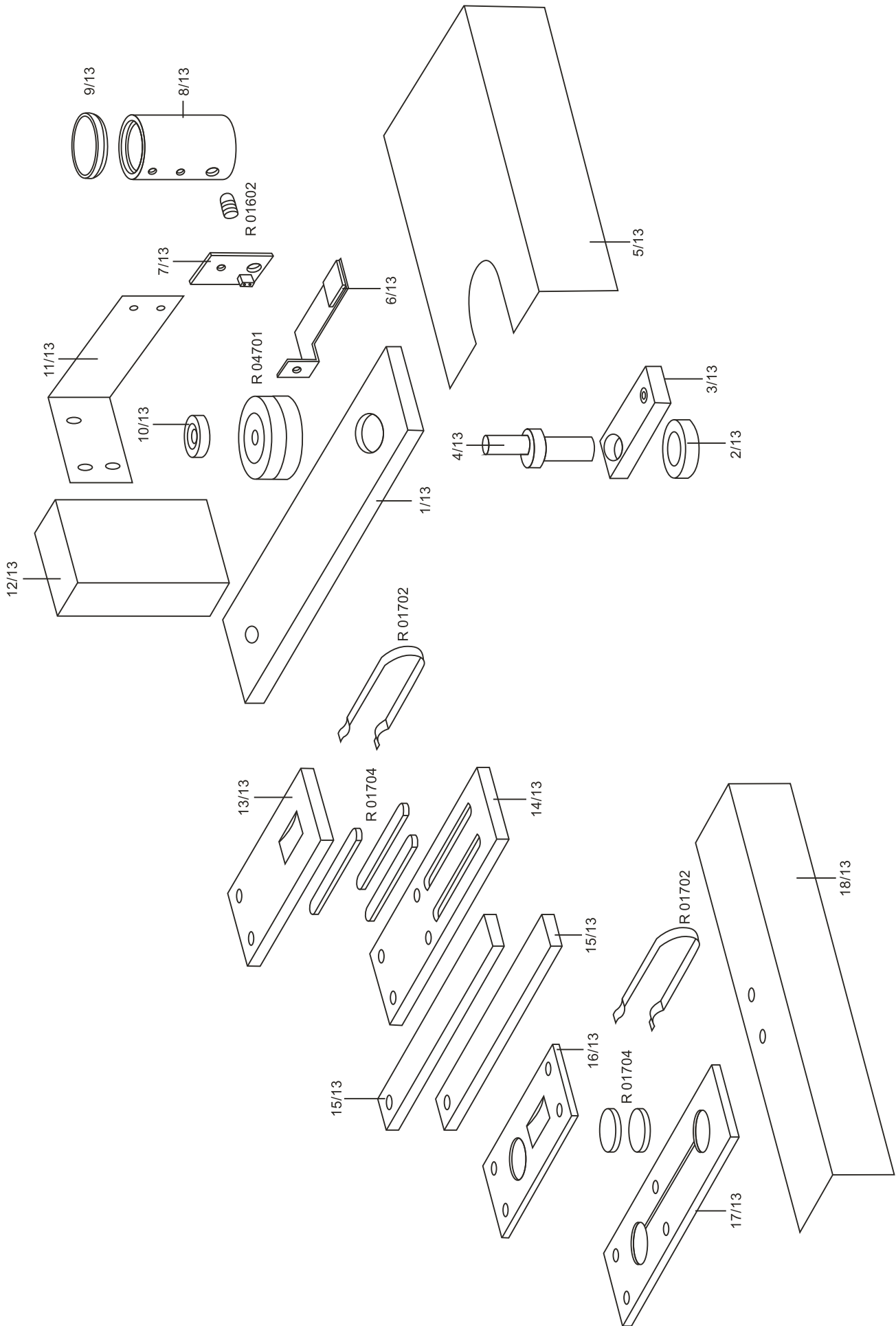
TAV 6

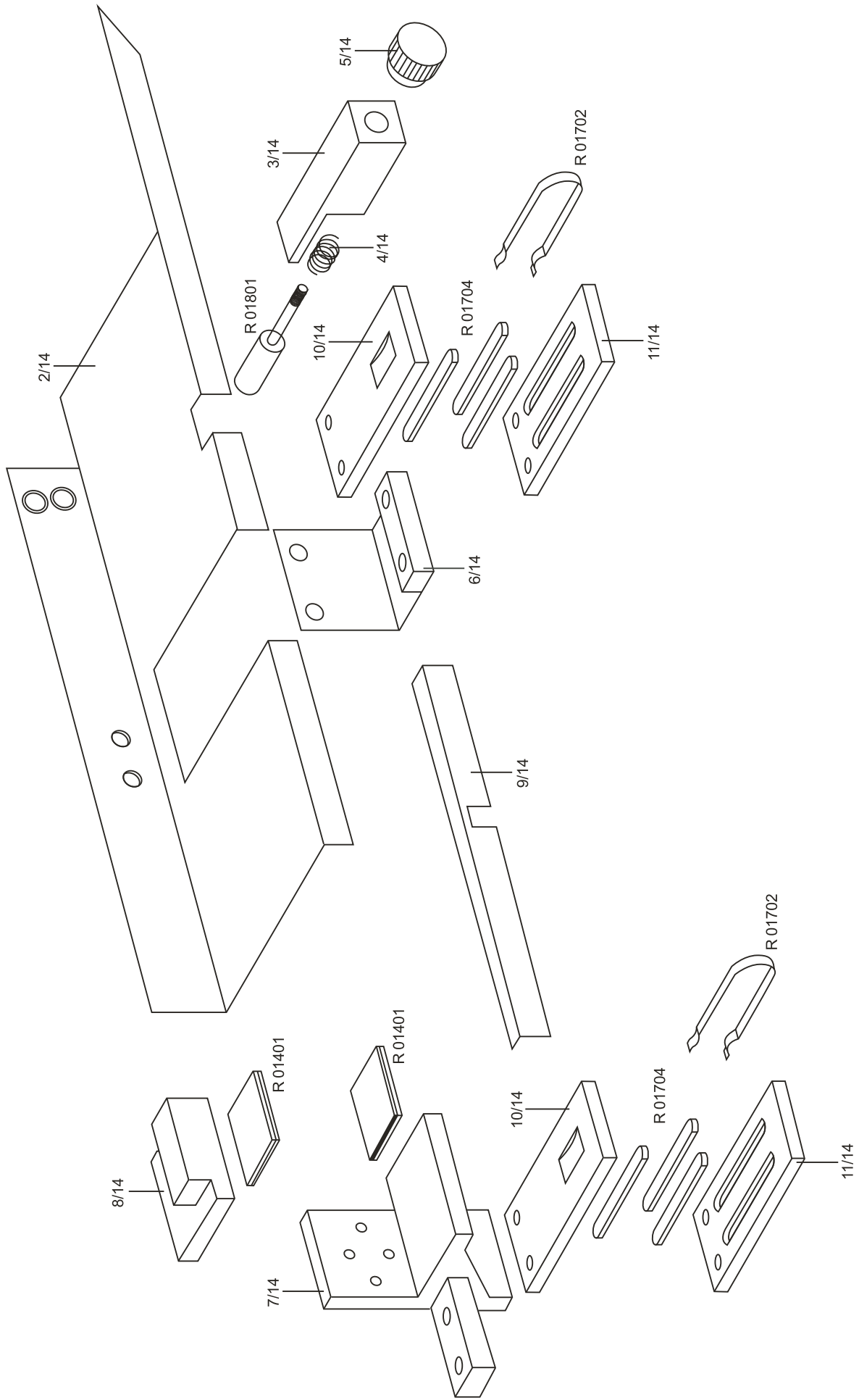












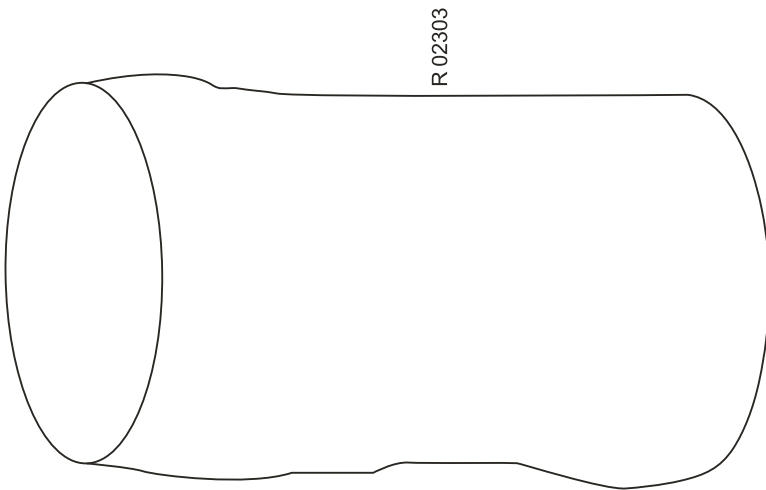
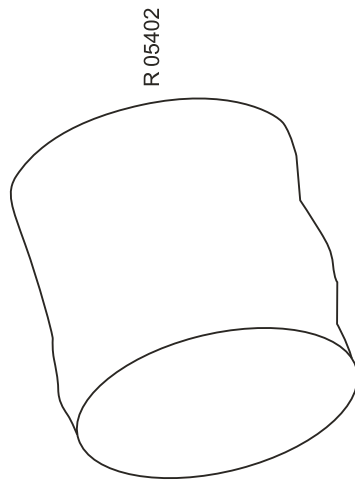
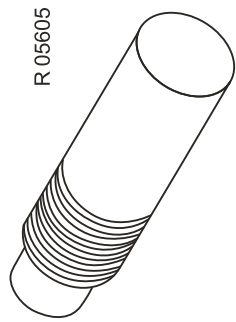
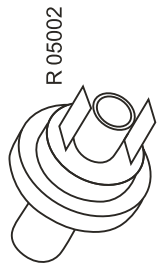


FIGURA 1

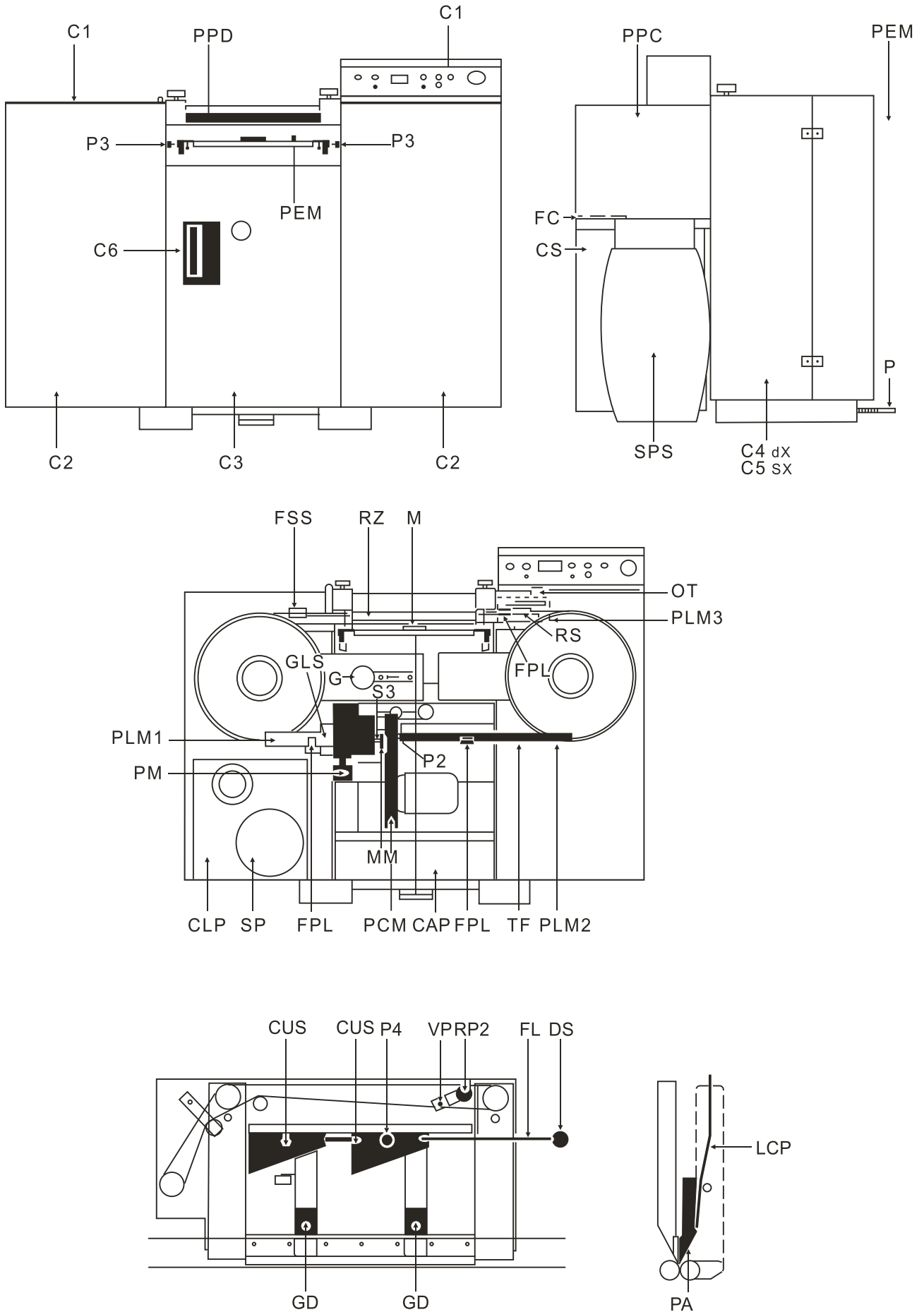
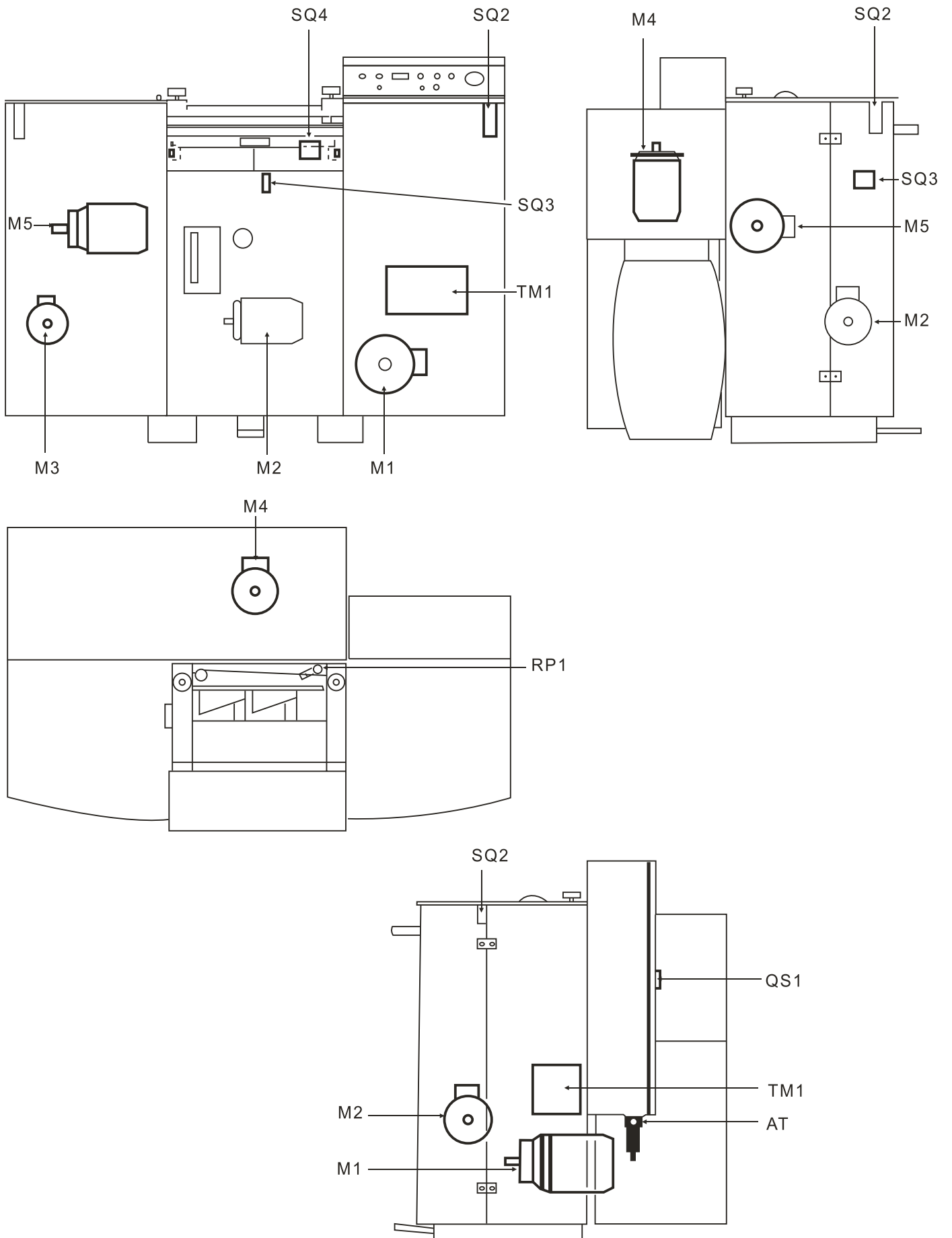
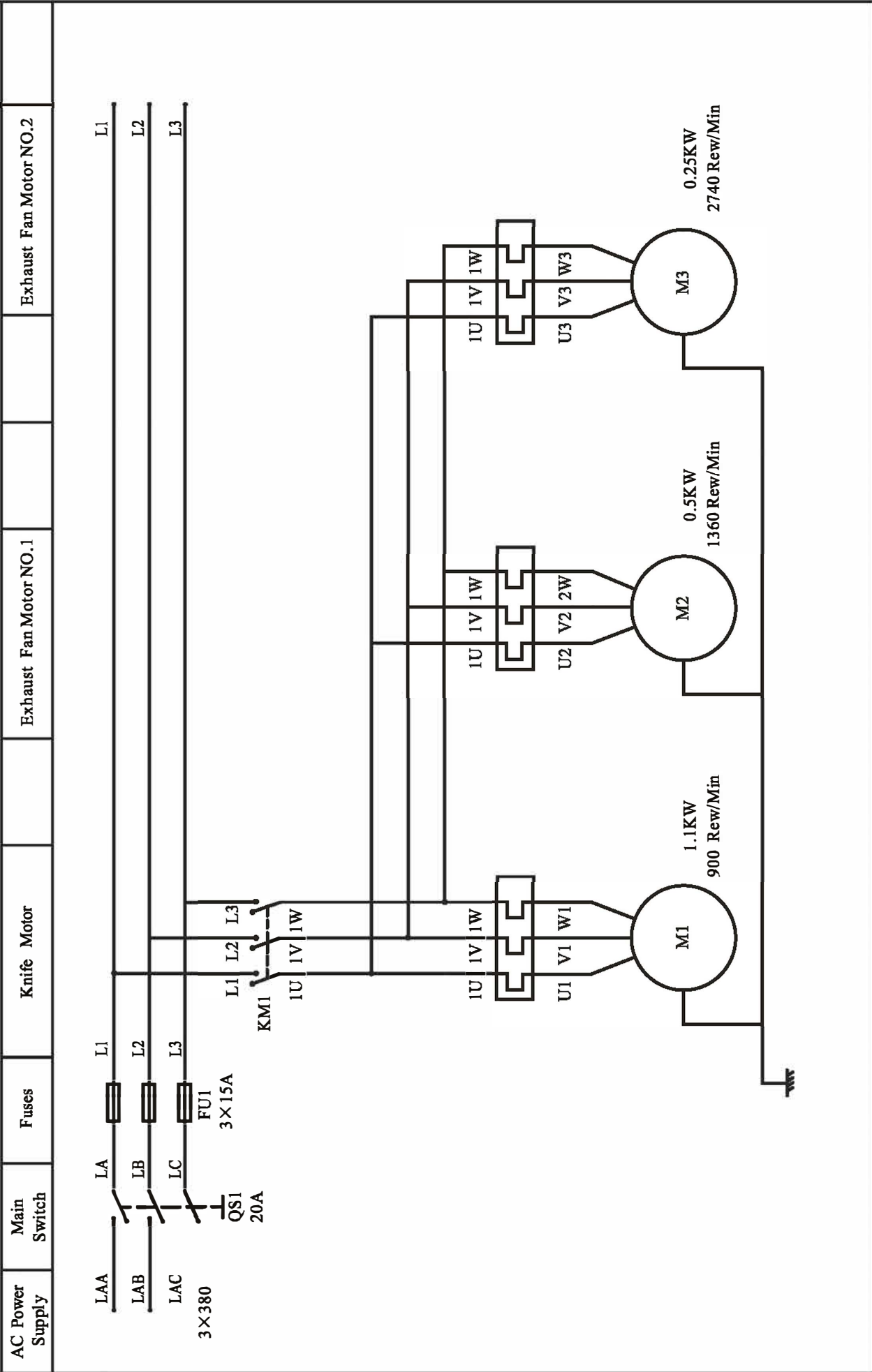


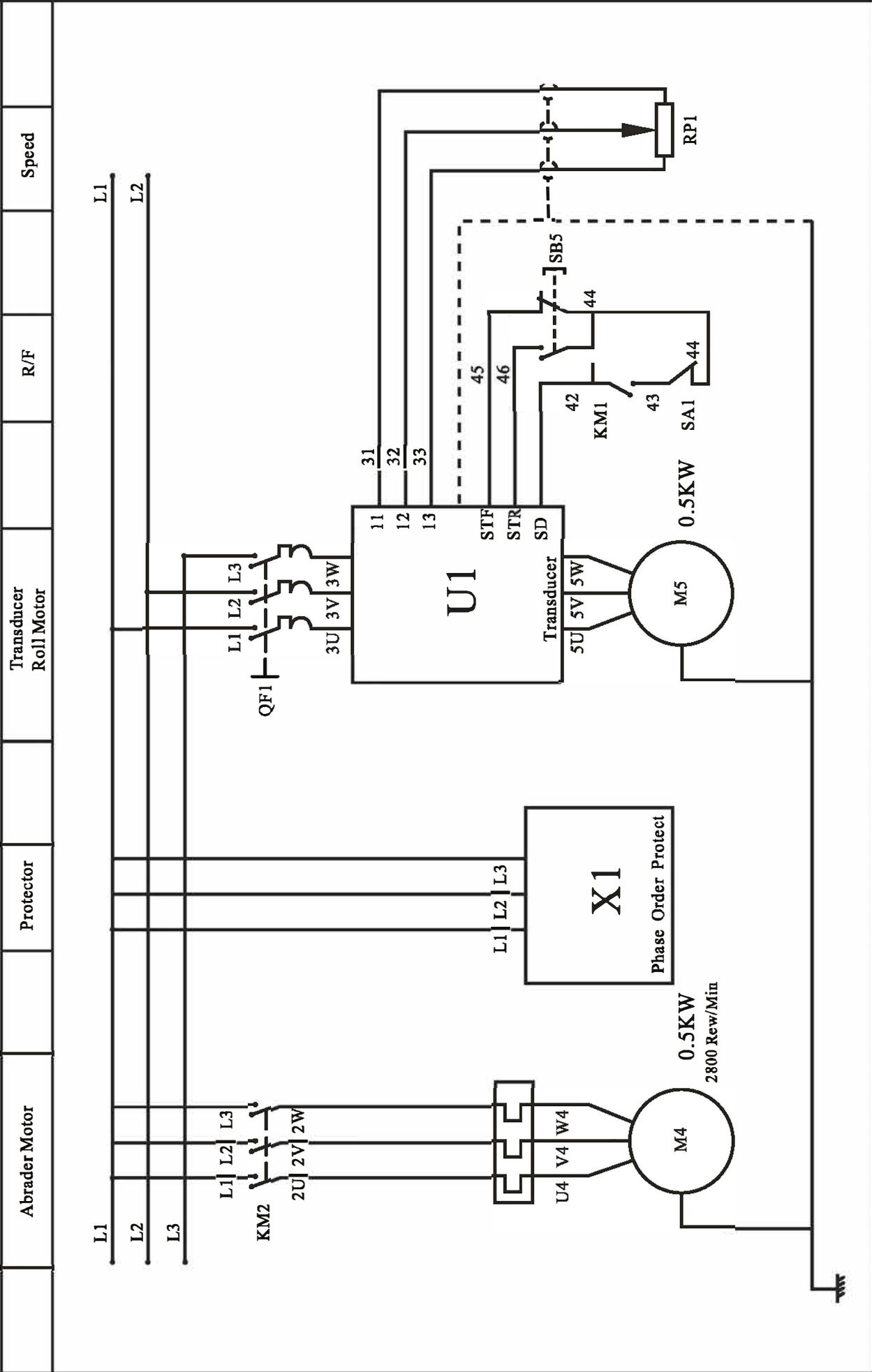
FIGURA 2



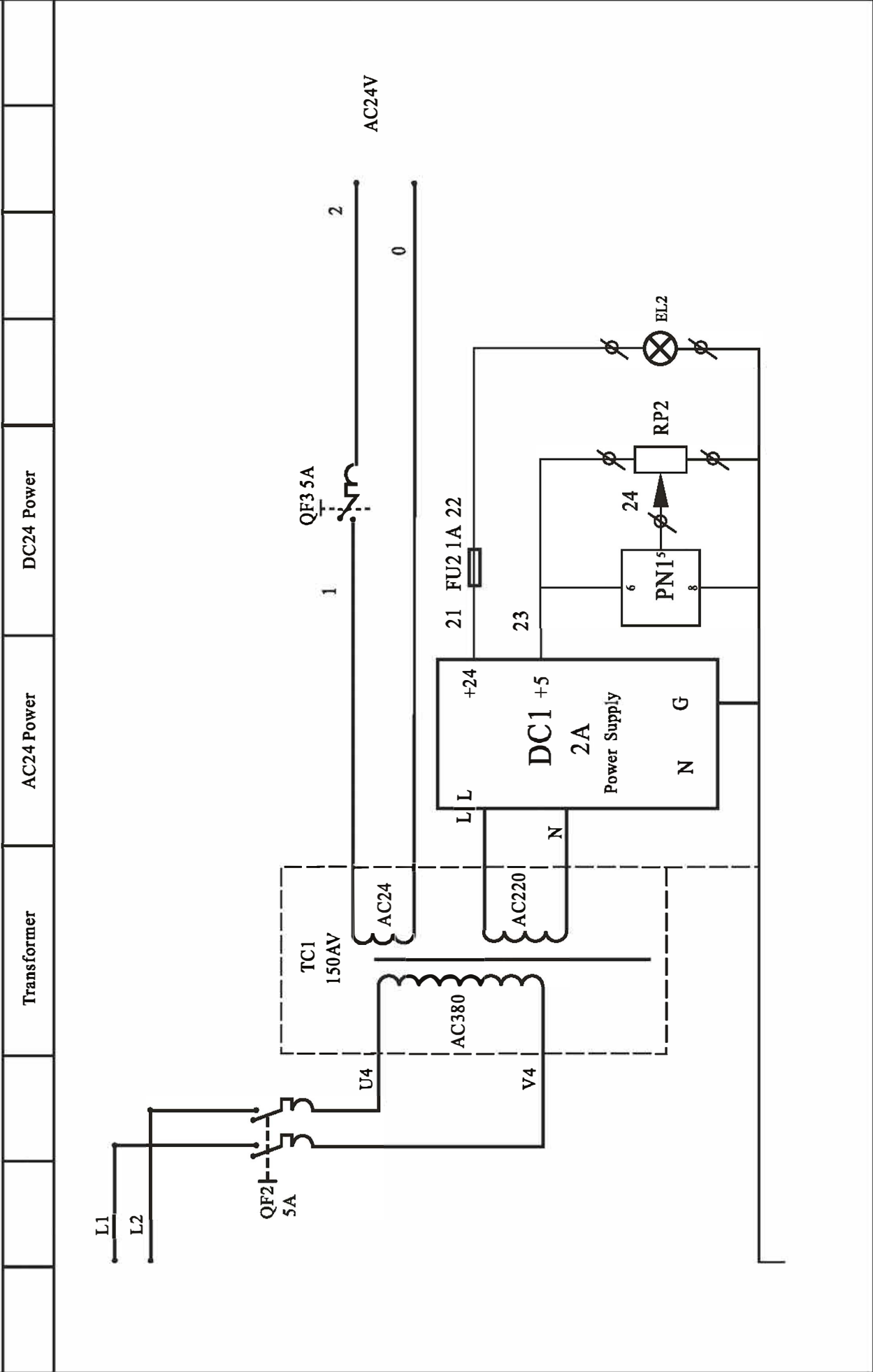
Main Circuit



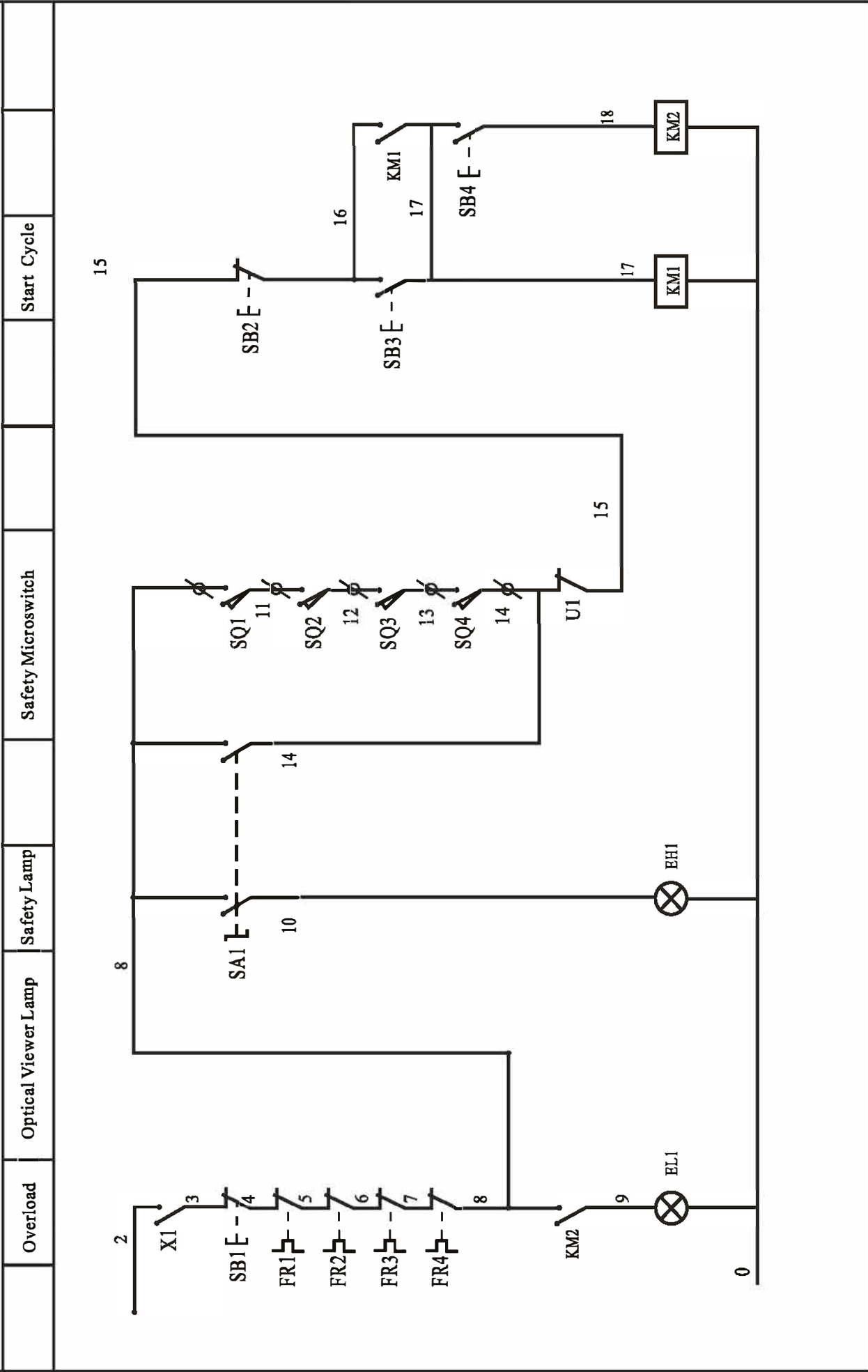
Main Circuit



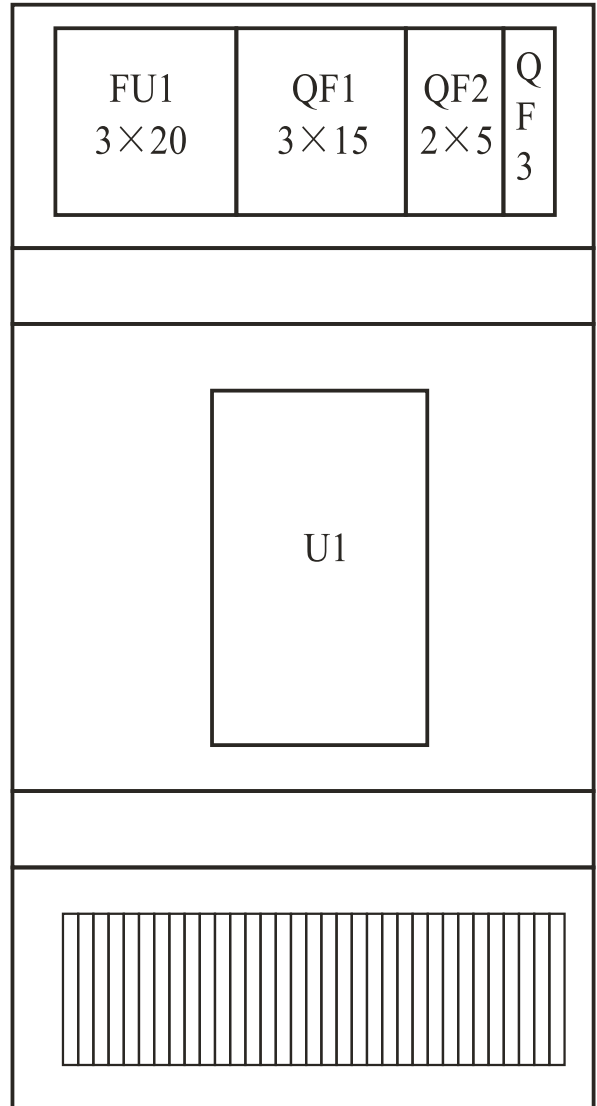
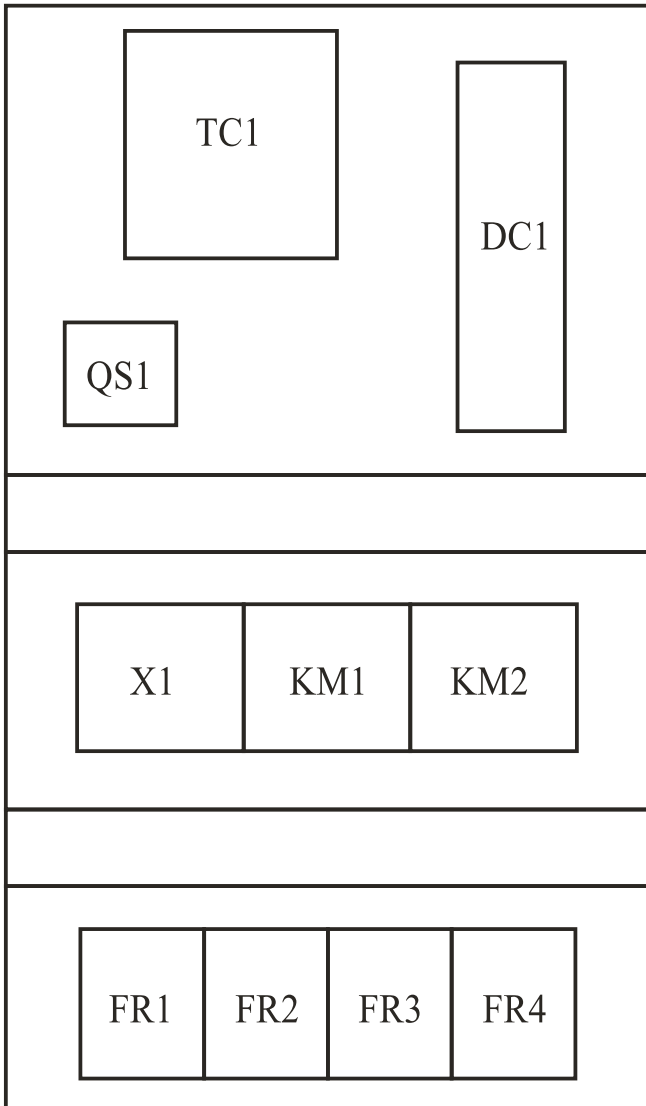
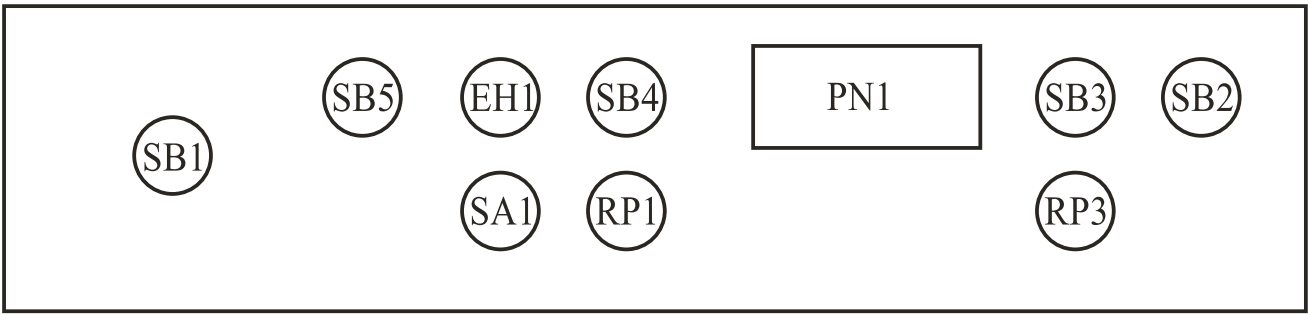
Main Circuit



Auxiliary Circuit



Location



TW420A

Part 5/5