



STEP TP-602MV
Semi-auto Strapping machines

OPERATING MANUAL

MANUAL-EN



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PART I



1. Safety Instructions

(1) Before Operating

- a. Read the instruction manual.
- b. Wear ear-protector and safety gloves before operating this machine.



Safety gloves must be worn Ear-protector must be worn

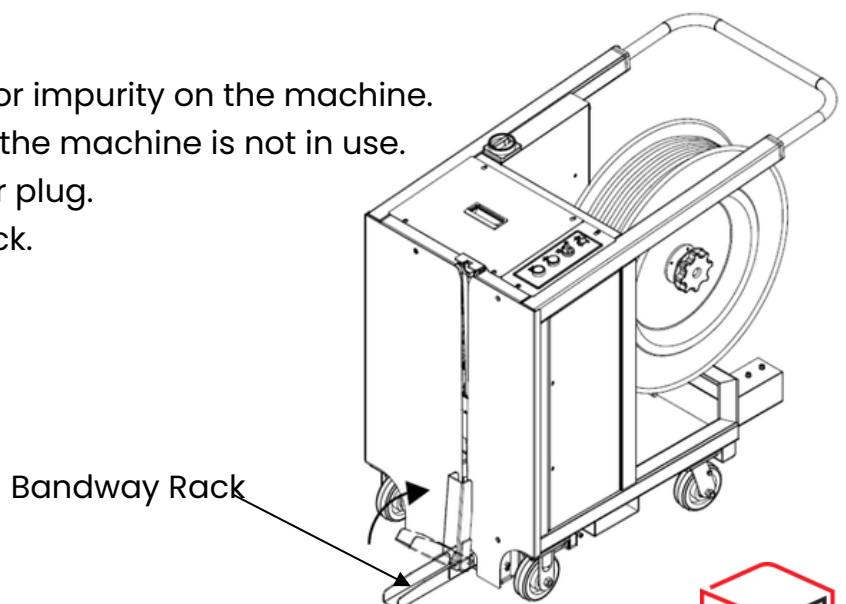
- c. Verify that the power line voltage is correct.
- d. The machine must be properly grounded to avoid a shock hazard. All wiring must accordance with local wiring standards.
- e. The strapping machine can only be operated with polypropylene (P.P.) strapping and polyester (PET) strapping.

(2) During Operating

- a. The Height of package should be higher than 560mm (include the pallet).
- b. Check if the machine emits any smokes or unusual sound when it is running.
- c. Donotputyourhandsorbodyleftintothestrappingareawhenthemachineisrunning.
- d. Please make sure no one stays in front of the machine.

(3) After Operating

- a. Please get rid of the dirt or impurity on the machine.
- b. Turn off the power when the machine is not in use.
- c. Please pull out the power plug.
- d. Fold up the Bandway Rack.



(4) Signs



Warning for dangerous voltage!

Contact with live electrical parts will result in severe injury or death.



CAUTION!

Don't put your foot into working area when machine is running.



(5) Maintenance

Turn off the power before removing either of the covers.

(6) Storage

- The storage room must be dry.
- Do not expose the machine to extreme cold or heat environment.
- Place the machine on an even floor in order to avoid any distortion.

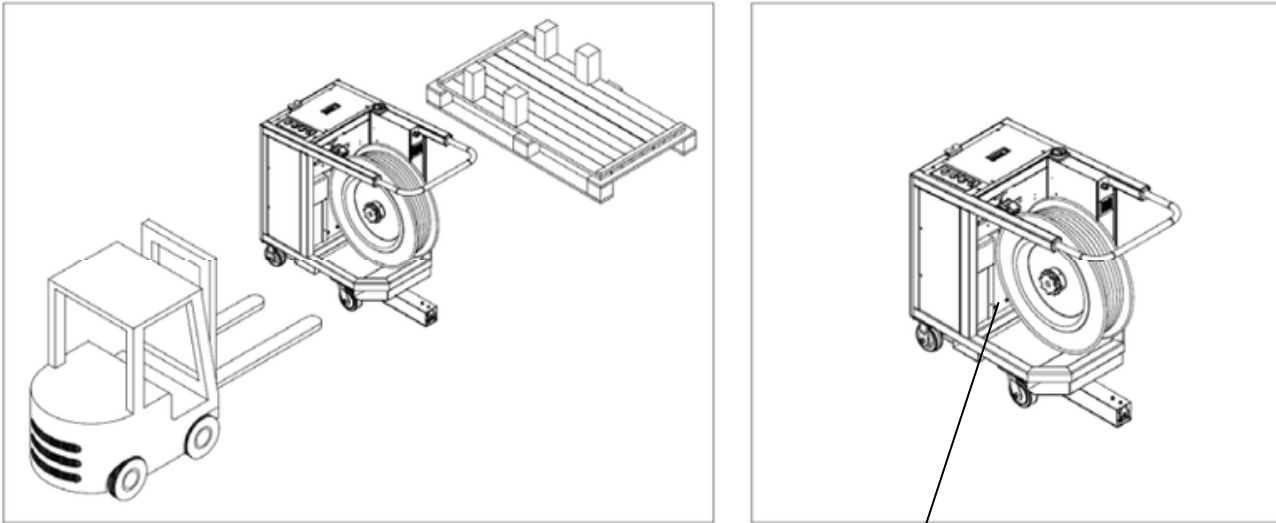
(7) Other Reminders

- The operation manual must remain attached to the machine at all times.
- Do not alter the equipment or circuitry unless authorized to do so by the manufacturer.
- Carry machine from the pallet with a forklift. The fork has to be under the machine frame.

(8)

Attention

When the machine arrives in your warehouse, you need to use a forklift to take it off from the pallet. If you could go down to the bottom side of the machine, you would see an indication sticker as follows:

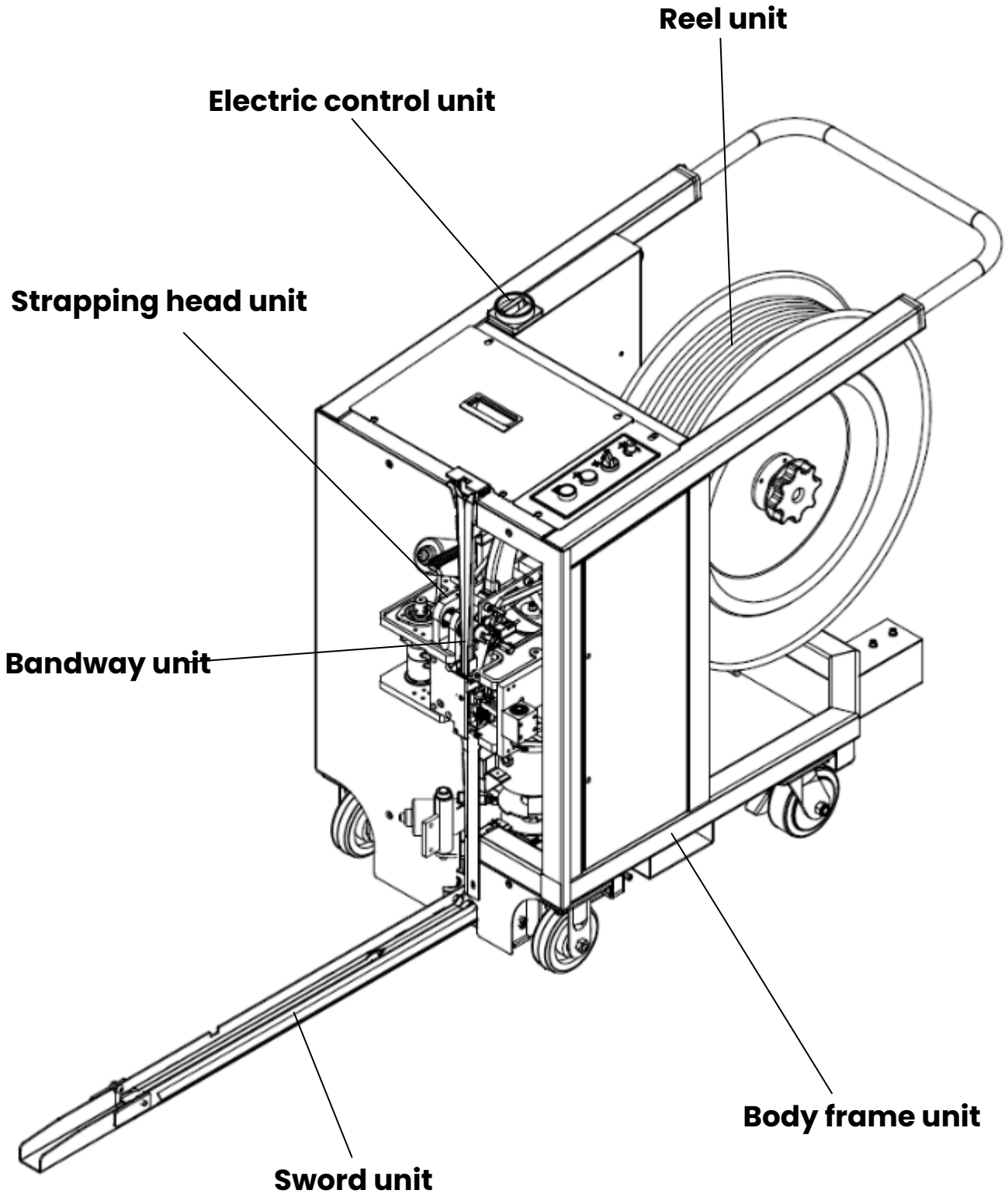


Center-of-gravity

Follow this sticker and lead the forks of a forklift to that indicated position. After making few distance adjusting, you then could drive the forks in and take off the machine.



2. Construction and Function of Units



3. General Safety Remarks

(1) Basic Operation

The machine is only to be operated when in good running condition and in accordance with the instructions provided in the operation manual. Operators must be trained in proper operation and safety of the equipment.

The machine may only be operated in accordance with its designated use.

(2) Basic Safety Precautions

In addition to the instructions for operation, the user is to be instructed in all generally applicable legal or mandatory regulations relevant to safety or the environment.

Long hair, loose-fitting garments, or jewelry can be a safety hazard. These items must be secured prior to equipment operation.

Use protective equipment whenever appropriate or when required by law.

Carefully observe all safety instructions and warnings attached to the machine. Keep safety labels clean and legible.

People that are being trained to operate or service the equipment must be supervised by experienced personnel.

Any electrical work performed on the equipment must be conducted by a skilled electrician or under the supervision of a skilled electrician. All work must observe good electrical engineering practice and follow safety rules and local wiring standards.

(3) Safety Instructions Governing Specific Operational Phases

Avoid unsafe operation of the equipment.

The machine is only to be operated when it is in good running order. Only operate the equipment in a safe manner; all protective and safety devices must be in place and fully functional. This includes removable safety devices, emergency shut-off equipment, noise-protection devices and exhaust fans.

The machine is to be checked for damage and defects at least once each work shift. Any changes, including the working behavior of the machine, are to be reported immediately. If necessary, the machine is to be stopped and locked-out immediately.

In case of a malfunction, the strapping machine is to be immediately stopped and locked-out until the fault has been eliminated.



Before starting the strapping machine, make sure that the area is clear and safe.

Operating personnel need to be briefed before executing special operations and maintenance work; this work needs to be done with the proper supervision.

Always check and tighten connections after maintenance or repair.

After completing maintenance or repair, all safety devices must be replaced and checked for functionality before operating the equipment.

To minimize the environmental impact, all consumables and replaced parts must be disposed of safely.

Before starting the machine, check that the accessories have been stowed away safely.

Avoid operating the machine in a fashion that could upset its stability.

(4) Warning of Electrical Dangers

Electrical Energy

Immediately remove power to the machine in case of trouble in the electrical system. Replace a fuse with one with the same style and ratings; pay particular attention to matching the specified current.

Any electrical work performed on the equipment must be conducted by a skilled electrician or under the supervision of a skilled electrician. All work must observe good electrical engineering practice and follow safety rules and local wiring standards.

Inspect the electrical equipment of the machine at regular intervals. Tighten any loose connections. Check wiring for scorch marks; replace scorched wiring and determine and correct the reason for the overheating.

When working on live equipment, ensure that a second person is available to cut power in case of an emergency. When appropriate, secure the working area with safety tape and a warning sign. Use insulated tools for electrical work.

Before working on high-voltage assemblies, turn off the power supply. Carefully discharge the supply cable and short-circuit any energy-storage components such as capacitors.

If the equipment was moved, carefully refit and refasten all parts removed for transport before reapplying power.

Before moving the machine, remember to disconnect the power cable. The length of power cord is 10 meter long; take care of power cord when moving the machine if necessary.



(5) Grounding Instructions Shall Include the Following

This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock. This product is equipped with a cord that has a grounding wire and an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

If repair or replacement of the cord or plug is necessary, connect the ground wire to the ground terminal of the plug. The wire with green insulation (with or without yellow stripes) is the grounding wire.

Check with a qualified electrician or service person if the grounding instructions are not clear or if in doubt about the proper grounding of the machine. Do not modify the plug provided; if it will not fit the power outlet, have the proper outlet installed by a qualified electrician.

This product is designed for use on a nominal (110、 220、 230、 240) volt AC circuit and has a grounding plug.

DANGER!

Improper installation of the grounding can result in electrocution.

4. Machine Information

(1) Areas of Application and Machine Description

This strapping machine can be used for all types of strapping applications with package sizes of 560 mm(height) and up.

This machine is particularly suitable for vertical pallet strapping.

Machine Description

Semi automatic plastic strapping machine for use with polypropylene and polyester Strapping

Extra tough construction

Simple, safe and user-friendly operation

Extremely low noise control unit

Strap tension adjustable from low to extremely high

Friction weld sealing guarantees reliable joint and high seal efficiency

Motorized retractable sword to reduce floor space

Strap tension adjustable



Environment Information

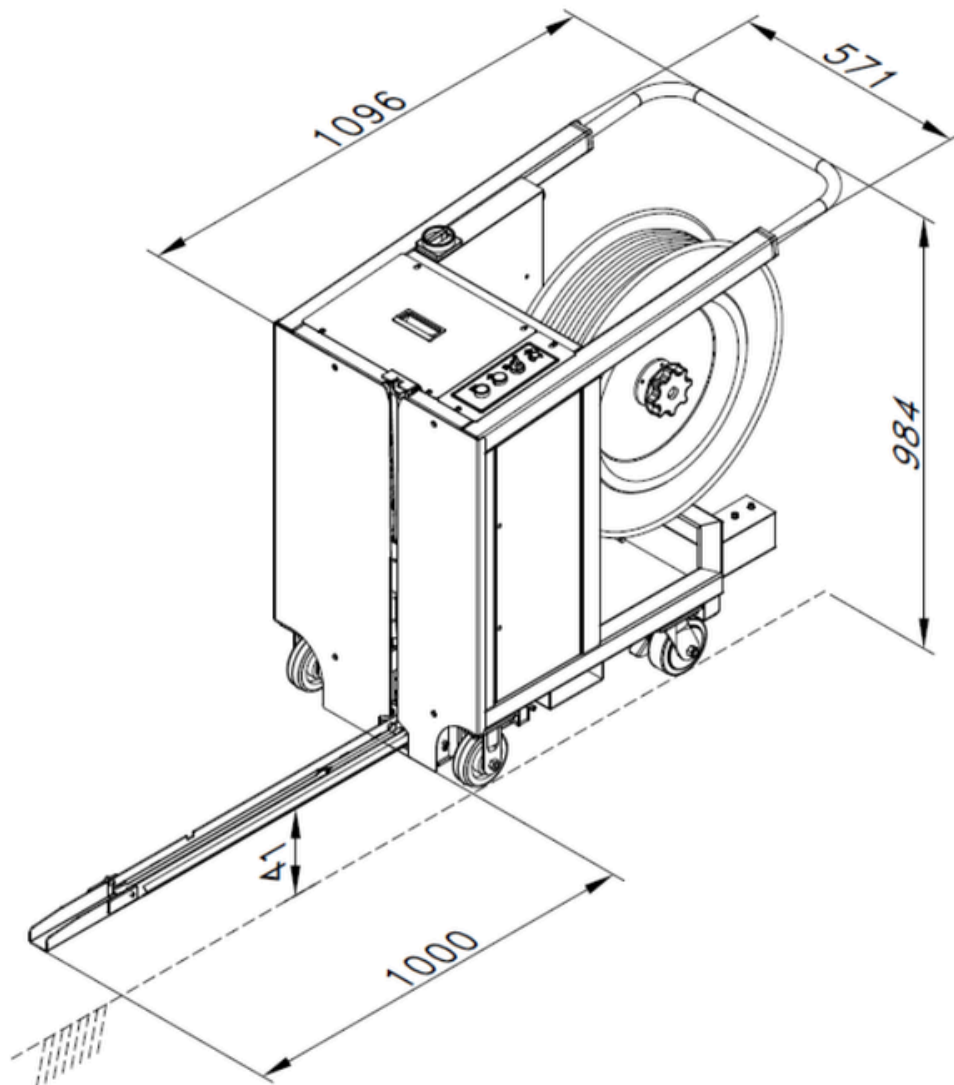
The strapping machines shall be installed in the following conditions:

- Supply voltage: 0.9 – 1.1 nominal supply voltage
- Source frequency: 0.99 – 1.01 nominal frequency
- Ambient temperature: 5°C – 40°C (41°F–104°F).
- Relative humidity: not exceed 50% at 40°C.
- Please provide a suitable illumination around the machine for safety operation.
- Altitude: Shall be used under an elevation of 1000 meters.
- Atmosphere: Free from excessive dust, acid fume, corrosive gases and salt.
- Avoid exposing to abnormal vibration.
- Don't use machine in dangerous environment.
- Don't use the machine to pack combustible matter or may cause the machine running in dangerous situation.
- Don't use the machine in excessive dust environment, and don't use water to clean or wash the machine, prevent the machine malfunction.
- Don't use machines in damp or wet locations, or expose them to rain.
- Don't use the machine to pack harmful substances.
- Work place of user should have a fire extinguisher or other devices that meet their local safety regulations, and always be careful.

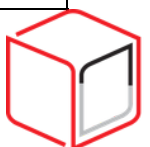
- Internal parts requiring frequent inspection and adjustment, and maintenance areas must be provided with a suitable illumination around the machine.



(2) Technical Data



Sealing method	Friction
Strap width	9、 12、 15.5 mm
Strap thickness	PP: 0.65 - 0.9 mm(0.025"-0.038") PET: 0.55 - 0.75mm(0.022"-0.29")
Strap reel diameter	Standard: 406mm(16") Option: 200 mm (8")、 230mm(9")、 280mm(11")
Width	571 mm (22.48")
Depth	2096 mm (82.52")
Electrical connection	AC 110V/220V/230V/240V (50/60Hz), 1Phase
Weight	162 kg (357 lbs.)
Noise emission	85 dB (A)
Ambient temp	5°C ~ 40°C (41°F ~104°F)



(3) Control Panel

① Prefeedlength(M2 Run 2s-8s)

The strap feeding time of M2 after pressing the Start Switch button for Sword stretching out. Make adjustment according to the package size.

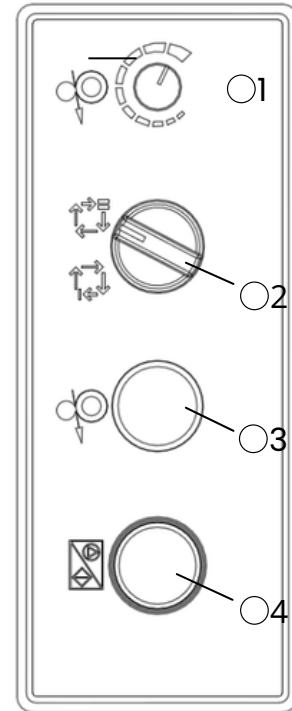
② Operation mode selector



Auto mode : machine would complete a strapping cycle once strap is inserted to the sealing point



Semi-auto mode: when strap is inserted to the sealing point, M1 would rotate to reversing point and initiate M2. After M2 completes strap reversing, machine would stop for users to place edge protectors or re-arrange the package. Then press Start Switch button to complete the strapping cycle.



③ Strap Feed Switch

- A. Before doing strapping, user could press this button for feeding more strap after the sword is stretching out when pressing Start Switch button.
- B. Press this button for 1 second to check the positions of SQ2, SQ3, and SQ5 when machine is ready for strapping.
- C. Reset: When the machine is malfunctioning , the light of Start Switch would flash. In this situation, please press and hold the Strap Feed Switch for 1 second to reset the machine.

④ Start Switch

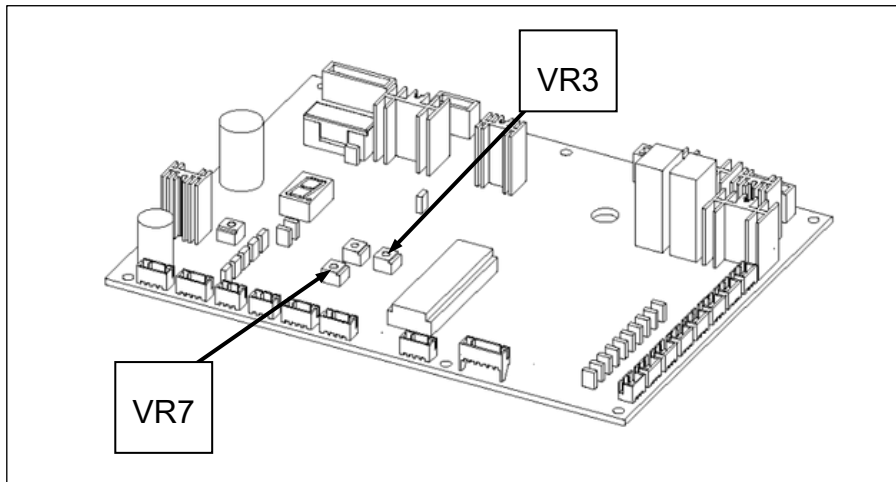
Start Switch has 4 functions: RESTART, STRAPPING, INDICATE ready for strapping and Error Indicate.

- A. Restart: Each time right after you turn on the machine or when the machine power is back on after a power failure, press this button in order to make the machine ready.
- B. Strapping: After the restart procedure, press this switch again to let the sword stretches out with strap. By doing so, the machine is now ready for strapping.
- C. Indicate ready for strapping: When the machine is ready for strapping, the light of this switch would be on.
- D. Error Indicate: When the machine malfunctions, the light of this switch will flash



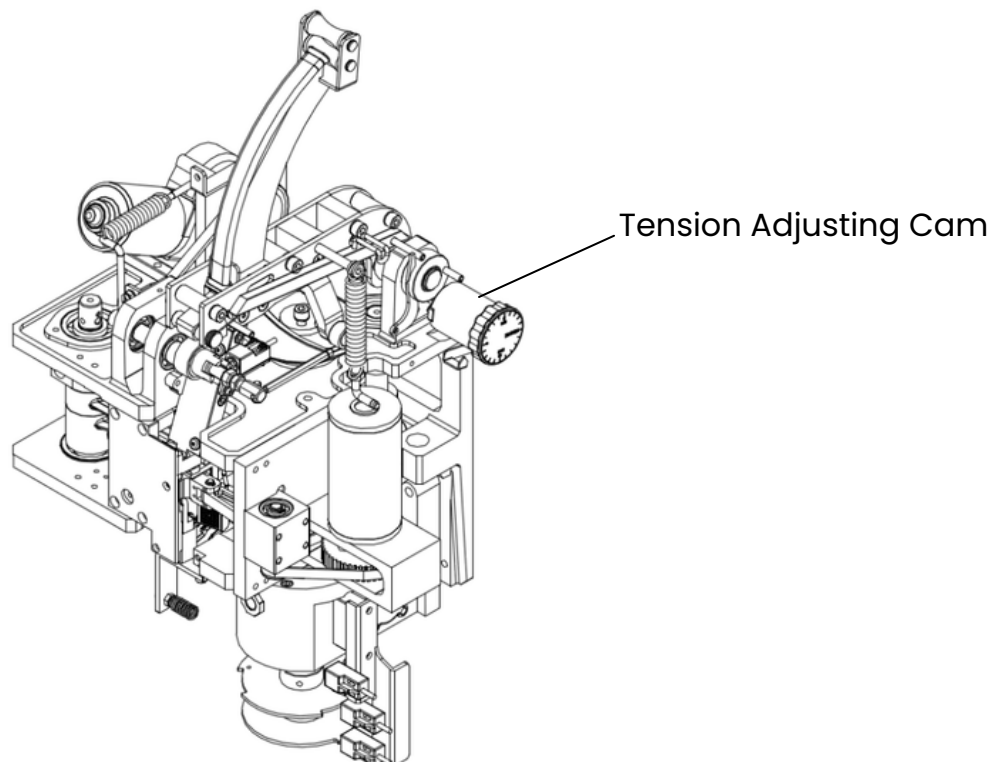
⑤ Functions of Each Adjustment Trimmers on the PCB

- a. VR3 Cooling time(0.5s-3.5s) : Make the weld-cooling time adjustment according to different tension and characteristics of strap. Basically, the higher the tension is, the longer weld-cooling time is required.
- b. VR7 Sealing time(1s-4s): This is for sealing time adjustment. Make the sealing time adjustment longer or less according to the characteristics of strap.



(4) Tension Adjustment

Make sure to turn off the power before doing tension adjustment. Simply rotate the Tension Adjusting Cam to get required tension. If the package is not compressible, the tension setting should be less than 4.

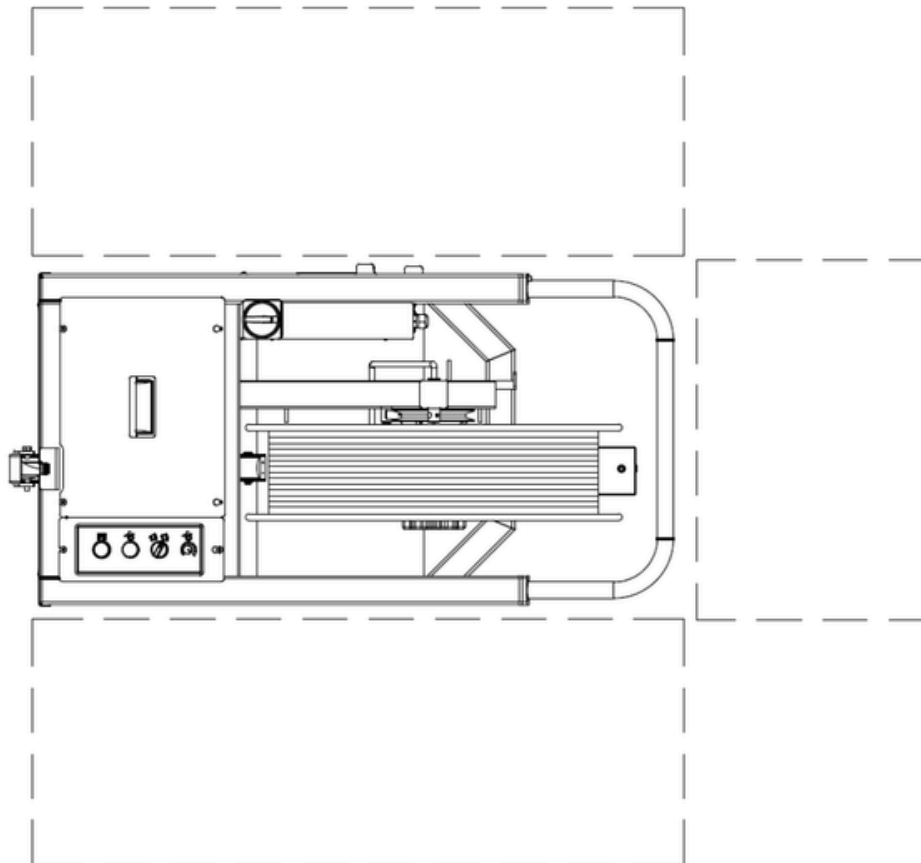


5. Operating the Machine

(1) OperationSpace

Keep the area (A) and (B) free for the operator.

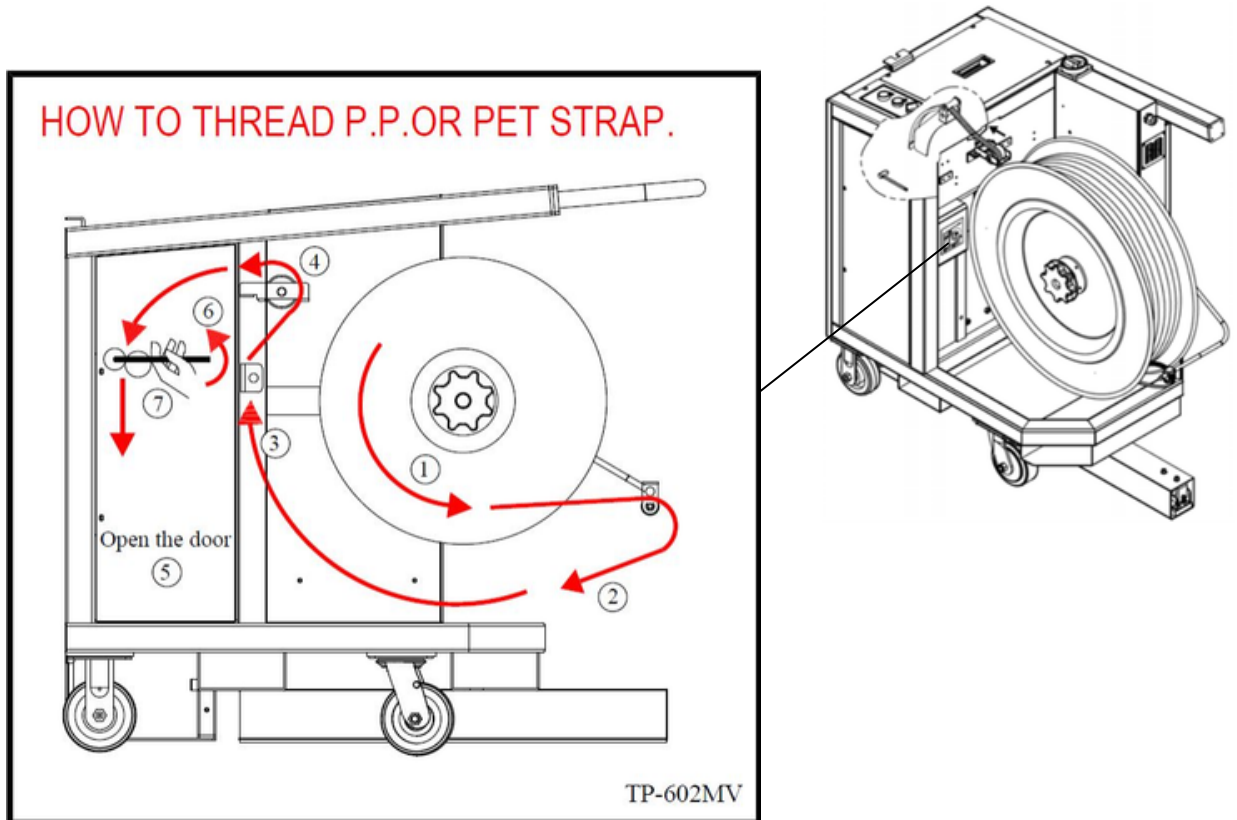
The area (A) is necessary for operation strapping machine and the area (B) is necessary for changing the strap or moving the machine.



(2) How to Load Strap

Ensure that the power switch is turned off before loading strap.

Please firstly load a strap coil on the reel holder according to the arrow direction as indicated on the Reel Outer Flange, and then thread the strap end to inlet according to the "How to thread the P.P. or PET strap" drawing stuck on the back plate, till it touches the Band Guide roller (you can feel that the strap is a bit clipped). Then please open the door 5 at the left side of the machine and insert the strap a little bit more (around 50mm) through the feeding rollers while lifting the Bolt 7.



(3) How to Operate



Auto mode

- a. Turn on the Main power switch.
- b. Switch the Operation Mode to Auto mode.
- c. Move TP-602MV closely to the pallet.
- d. Press the Start Switch button. The sword would go through pallet void and start feeding strap when sword goes all the way to the maximum.
- e. If the feeding strap is not enough, press the Strap Feed Switch button to get more strap. It would keep feeding the strap as long as the button is pressed.
- f. Take the strap around the pallet and have the strap end inserted to the sealing point (trigger SQ1) to complete the strapping cycle.



Semi-automatic mode

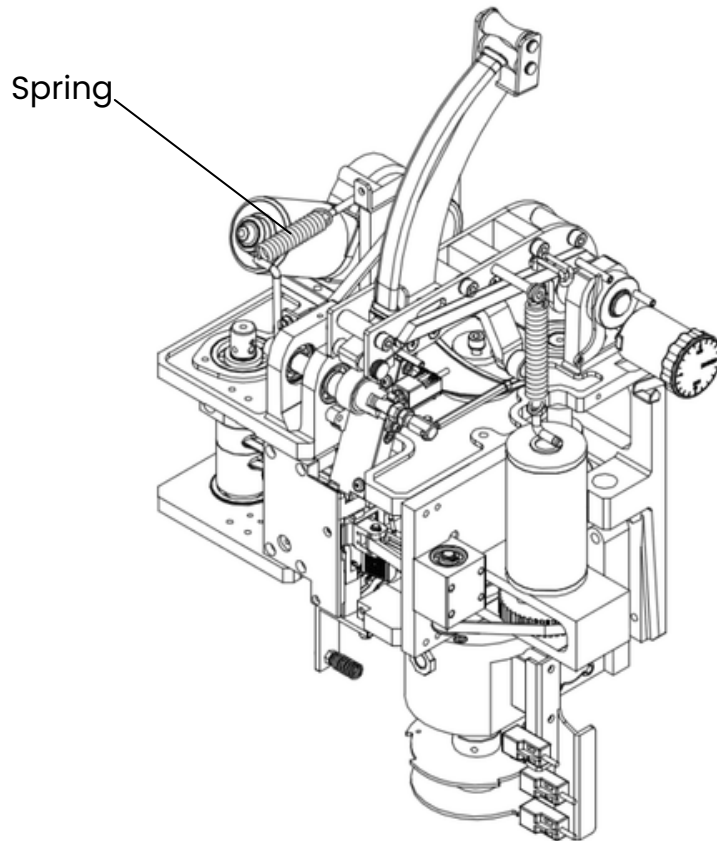
- a. Turn on the Main power switch.
- b. Switch the Operation Mode to Semi-automatic mode
- c. Move TP-602MV closely to the pallet.
- d. Press the Start Switch button. The sword would go through pallet void and start feeding strap when sword goes all the way to the maximum.
- e. If the feeding strap is not enough, press the Strap Feed Switch button to get more strap. It would keep feeding the strap as long as the button is pressed.
- f. Take the strap around the pallet and have the strap end inserted to the sealing point (trigger SQ1). Machine would start to reverse the strap and when the strap is holding on the pallet, it would stop reversing.
- g. Machine stops for user to place edge protectors or re-arrange the package on the pallet. Then press Start Switch button to complete the strapping cycle.



6. Adjustments

(1) Feed and Take-up Mechanism

The feeding and reversing pressure could be adjusted by the Spring indicated as below.



(2) How to Adjust SQ2, SQ3, SQ5

Figure 1: SQ3Home Position

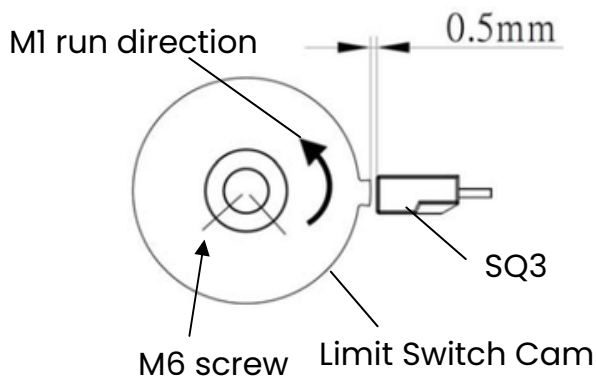


Figure 1-1

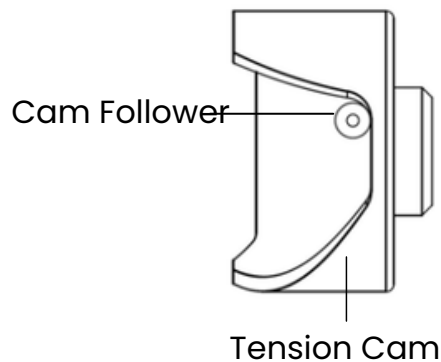


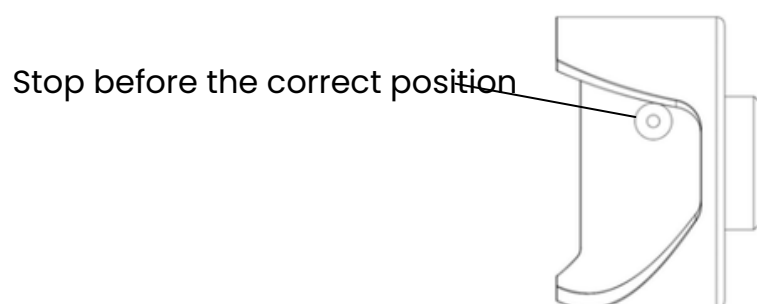
Figure 1 shows the correct position for SQ3 Proximity Sensor and the Limit Switch Cam while the machine is in home position.

The machine will stop as soon as the SQ3 Proximity Sensor detects the Limit Switch Cam. At this time, the Cam Follower must stop at the corner position on the Tension Cam as shown in **figure 1-1**. If not, please make adjustments according to the following instructions.

Adjustment

If Cam Follower stops **before** the correct position:

- Loosen the two M6 screws and turn the Limit Switch Cam slightly counterclockwise, then tighten the M6 screws.
- Reset the machine and allow it to cycle again to ensure that the Cam Follower stops at the correct position.
- If the problem has not been eliminated, please repeat the "Step One" until the Cam Follower stops at the correct position.



If Cam Follower stops **beyond** the correct position:

Please also loosen the M6 screws but turn the Limit Switch Cam slightly clockwise until the Cam Follower stops at the correct position.



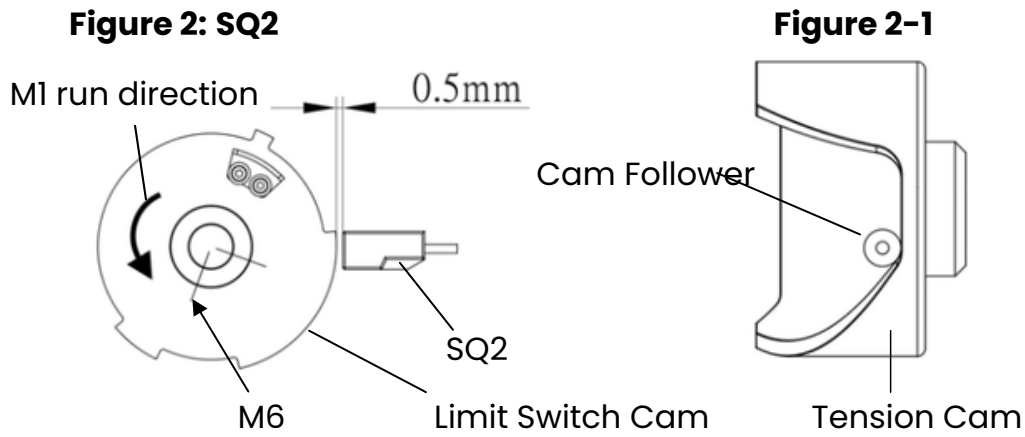


Figure 2 shows the correct position for SQ2 Proximity Sensor against the lobes of the Limit Switch Cam while machine is running.

When SQ2 Proximity Sensor detects Lobe of the activated running Limit Switch Cam, the machine will stop about 0.3 seconds so that the machine can switch to take-up. In the meantime, Cam Follower has to stay on the corner position of the Tension Cam as shown in figure 2-1. If the Cam Follower is not at the correct position, please make adjustment for SQ2.

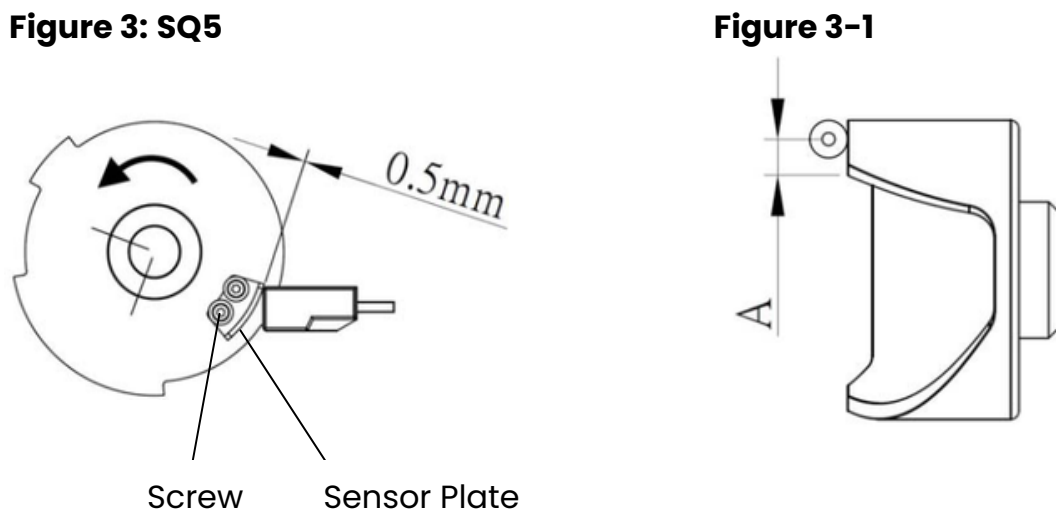


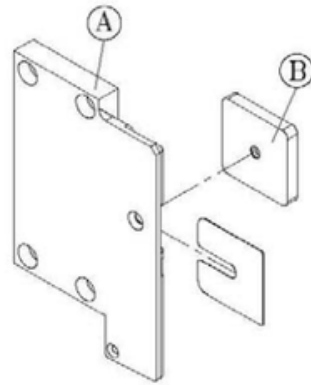
Figure 3 shows the correct position for SQ5 Proximity Sensor against the Sensor Plate of the Limit Switch Cam while machine is running.

When SQ5 Proximity Sensor detects Sensor Plate of the running Limit Switch Cam, M2 starts to feeding strap. Cam Follower has to be activated within the area A ($A = 5-6 \text{ cm}$) when it starts to descending as shown in figure 3-1. If the Cam Follower is not at the correct position, please make adjustment for SQ5. Loosen the screws on Sensor Plate to make the adjustment.



(3) Adjusting the Welding Pressure

Strap thickness selections: For best joint efficiency, please adjust the quantities of shims between ○A and ○B (Slide Table T6-1-20510, Upper Welding Gripper MV-1-20031) according to the strap thickness. Please refer to the following list. Please note the shims are enclosed behind the front door.



Strap thickness	Quantity for shim (s) MV-1-20020
(t) $t \leq 0.6\text{mm}$	1
$t > 0.6\text{mm}$	0



7. Maintenance

Warning:

Before any maintenance or repairs on the machine, set the Main Power Switch to "O" (OFF).

(1) Cleaning and Lubrication

The high reliability and long service life of the strapping machine will depend on regular cleaning and maintenance.

ATTENTION!

All the important strap transport components, such as the feeding rollers and the strap guides, must be kept free from oil and grease. (lubricant)

The lubricant has to be non-resinous.

The lubricant is SAE 30

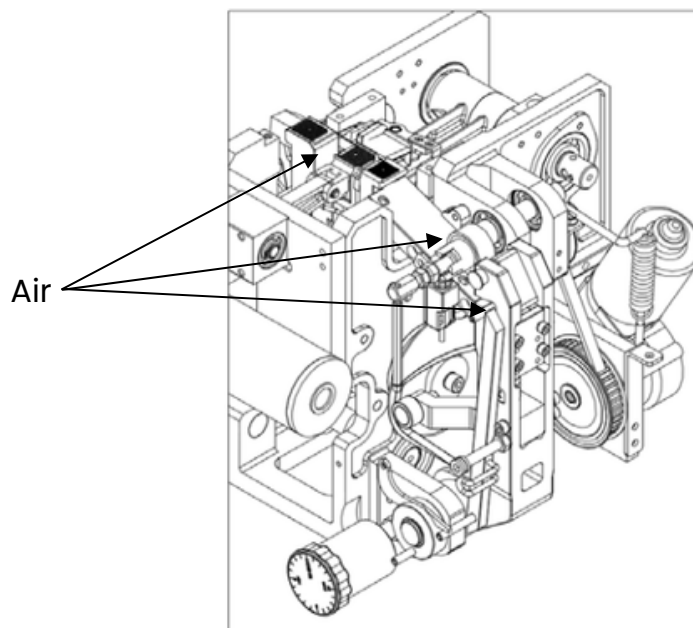
(2) Maintenance

Only use original spare parts supplied by manufacturer.



Daily:

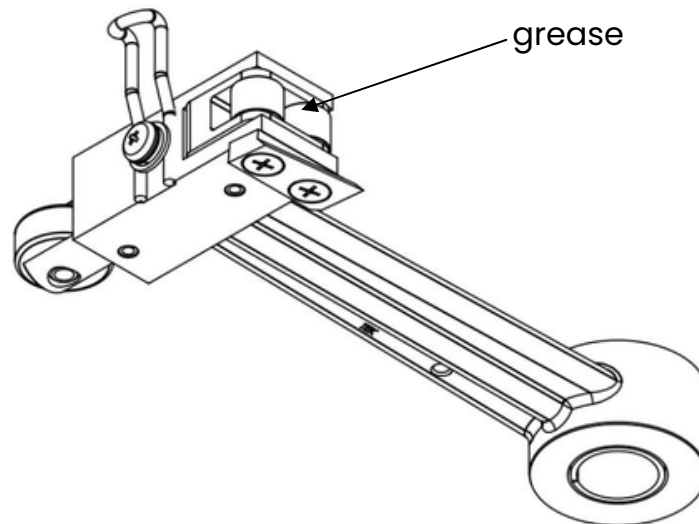
Use air gun to clean the cutters, strap guide, and feeding rollers daily. Remove plastic residue in the machine.



Monthly:(or50,000strappingcycles)

Check supporting and cam rollers of seal head for easy movement. The Slide Table must be moved back to home position automatically by the spring tension.

Put grease to the indicated position on the Center Block Arm Ass'y as showed in below.



6 Months:(or300,000strappingcycles)

Check strap cutter in strapping head, replace it if necessary.
Check that connector at wiring loom to printed circuit board is firmly fixed.

Make machine ready for operation. Strap one bundle manually several times, paying attention to mal-functions, repeat procedure.
Check strap feeding function. Do proper adjustments to feeding pressure or the reel brake belt

1 Year :(or 600,000 strapping)

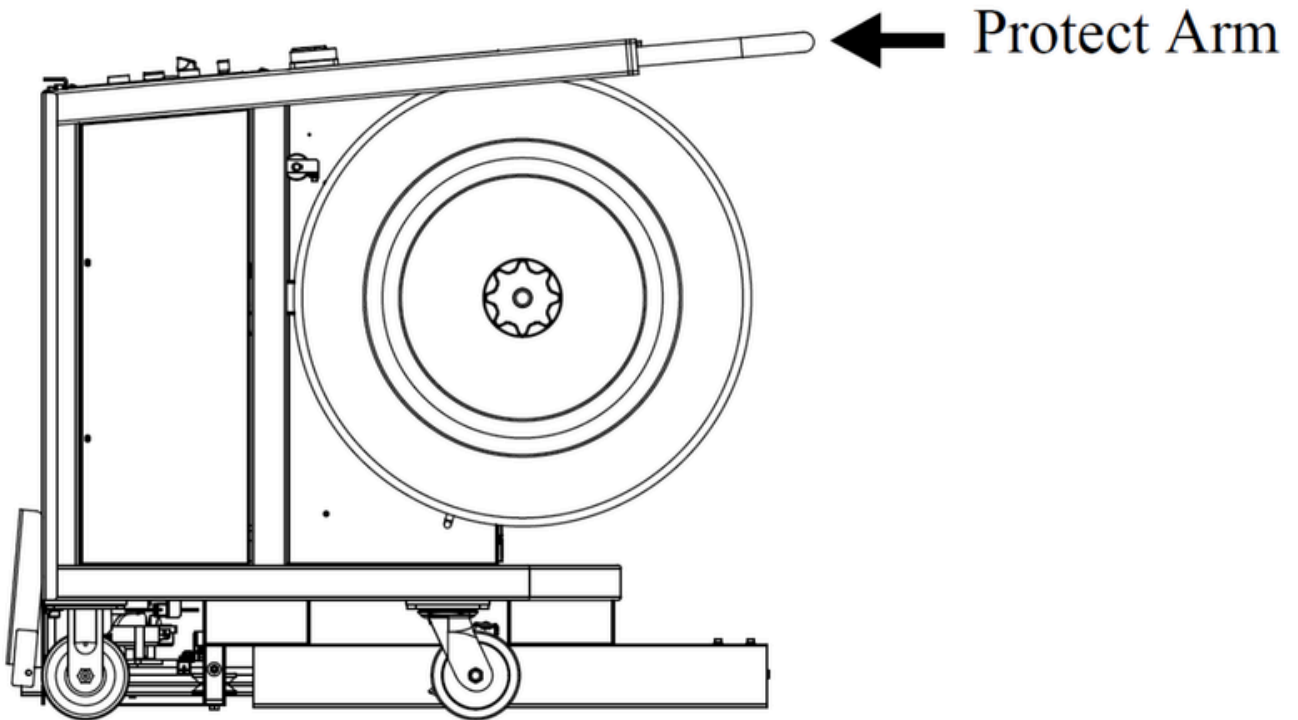
Replace deflection roller if it shows visible changes.
In case of loud noise at bearings: locate them, replace the bearings.
Get machine ready for operation again, strap one bundle manually several times, paying attention to malfunctions.

NOTE: Any other service must be performed by an authorized service representative.



8. How to Safely move the Machine

- a. Moving the machine by holding the Protect Arm to pull or push the machine.
- b. Be sure the Sword should be at HomePosition while moving the machine.



9. Troubleshooting

Code	Reason
1	Sword does not go back to its home position within 3 seconds after turning on the machine or after strapping.
2	After turning on the machine, machine does not go back to its machinery home position within 2.5 seconds of M1 running.
3	There's no signal for next movement within 1.5 seconds after M1 is running.
4	SQ5 is not on/off normally.
6	SQ1 is not off when machine is at machinery home position.
7	SQ7 is not on/off normally.
8	SQ2 is not off when machine is at machinery home position.
9	SQ8 does not send on/off signal while feeding/reversing strap.

Note:

A. When Error1、 Error2、 Error3、 Error7 or Error9 appears, press and hold the Strap Feed Switch for 1 second to reset the machine.

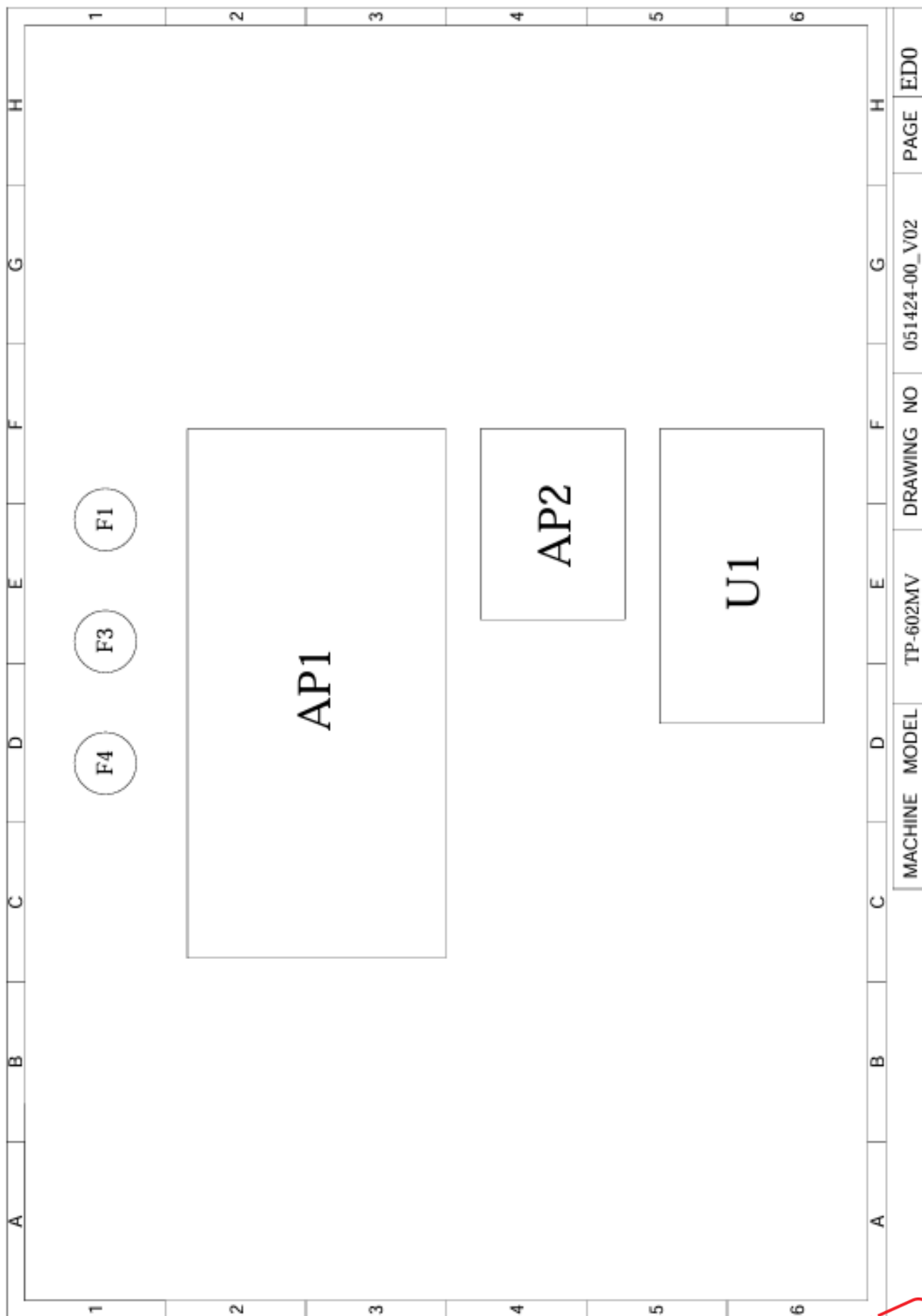
B. When Error4、 Error6 or Error8 appears, shut down the machine to reset the machine.



PART II



1. Wiring Diagram



ED0

PAGE

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DRAWING NO

TP-602MV

MACHINE MODEL

C

D

E

F

G

H

1

2

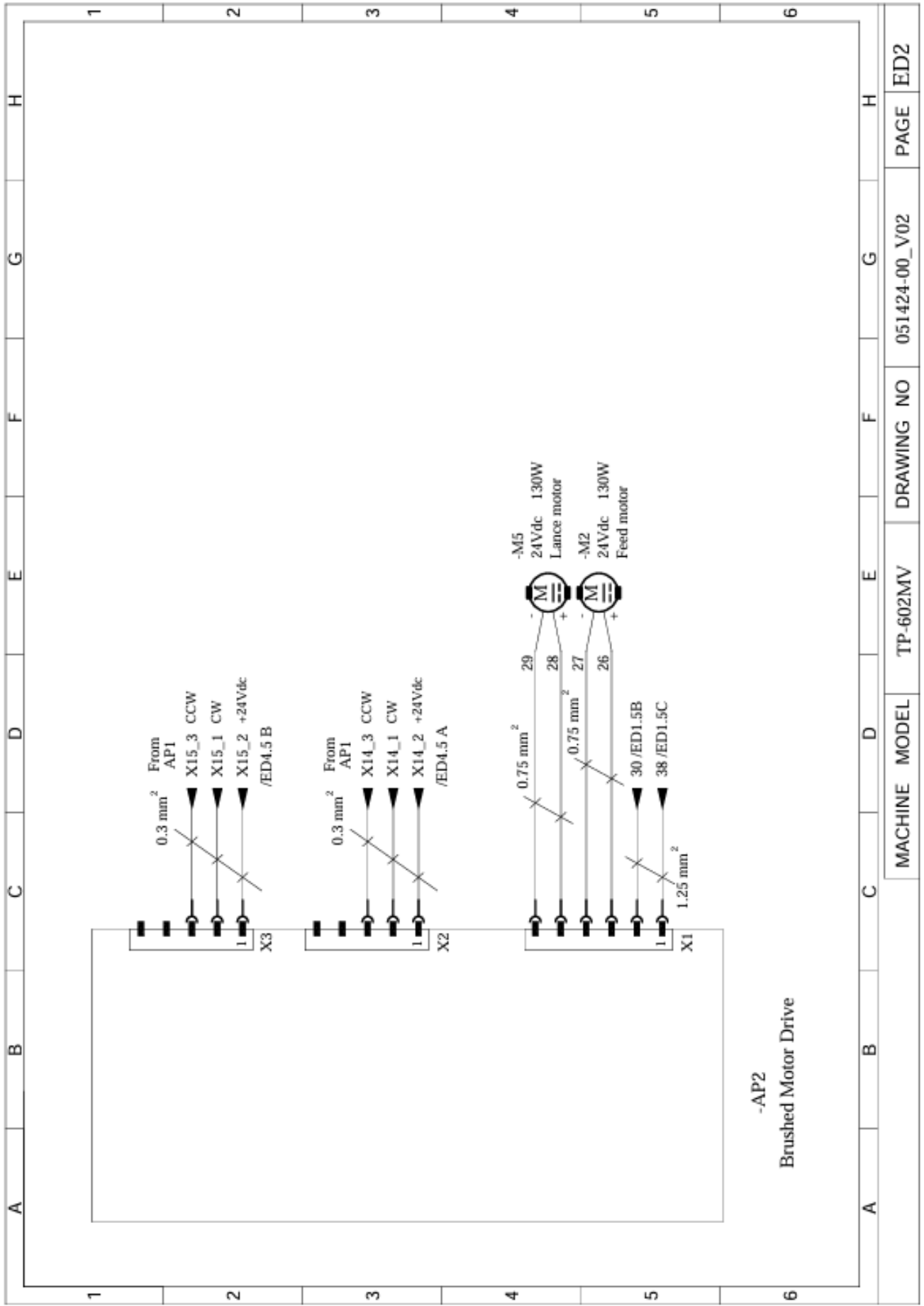
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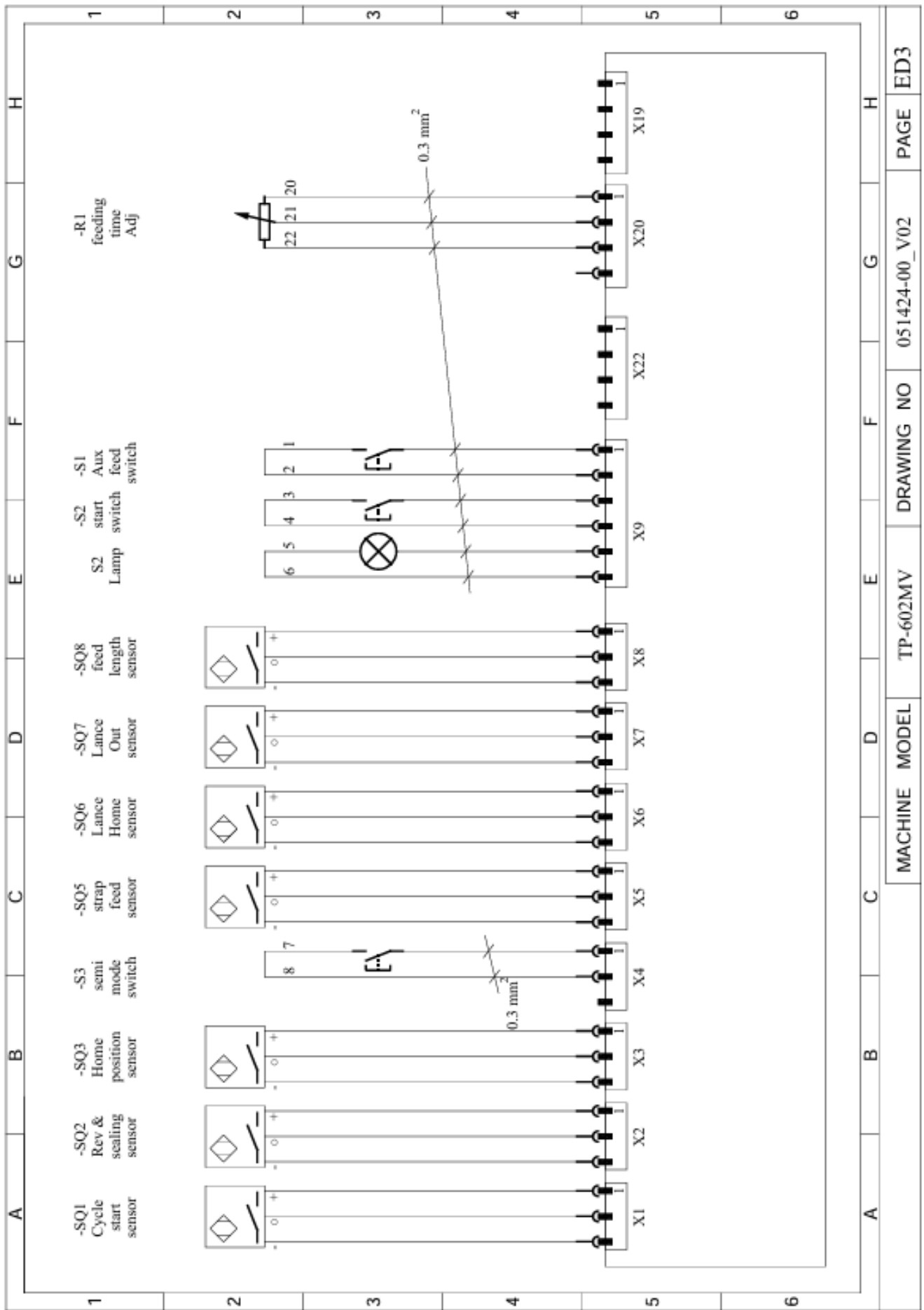
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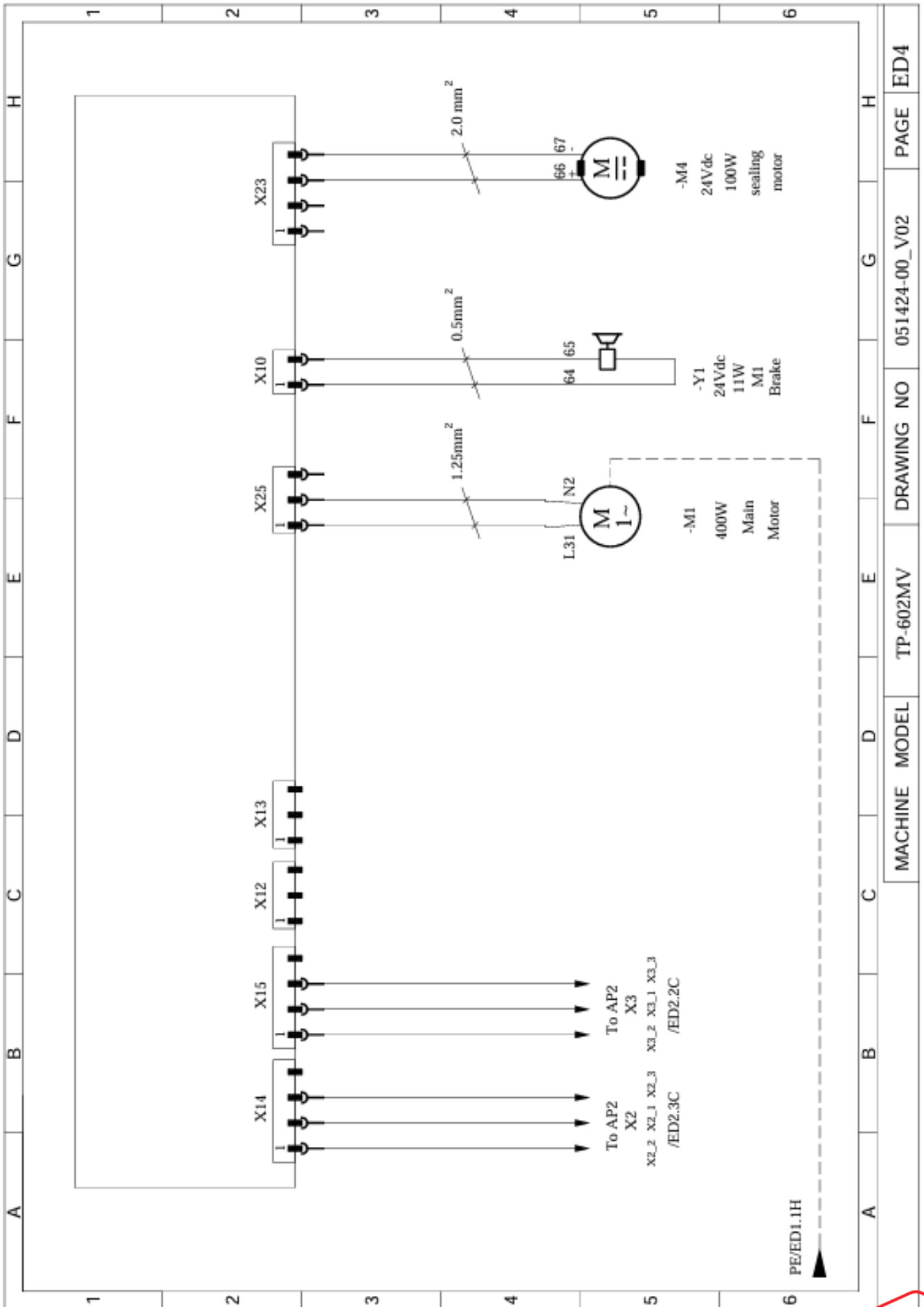
5



































6









shape	classification	shape	classification
	HBS		ER
	TMS		RR
	PMS		SR
	FMS		SP
	HB		BR
	THS		MB
	HSS		KYA
	CAP		KYB
	HN		KYC
	WN		HBW
	FLG		PWA φ 8x φ 12~ φ 16x0.8~1.2t φ 6x φ 13~ φ 14x0.8~1.2t
	NTE		PWB φ 8x φ 14~ φ 16x1.2~1.5t φ 6x φ 15~ φ 16x1.2~1.5t
	PN		PWC φ 8x φ 20~ φ 23x2.0t φ 6x φ 16~ φ 19x2.0t
	PW		PWD
	SW		DS
	TW		TTP
	BWW		FTP



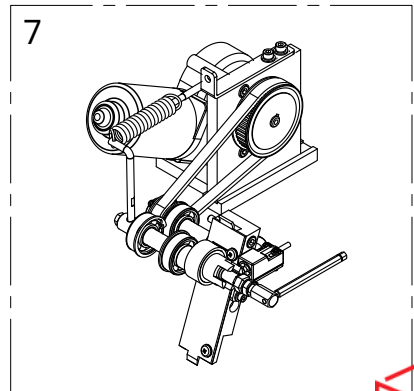
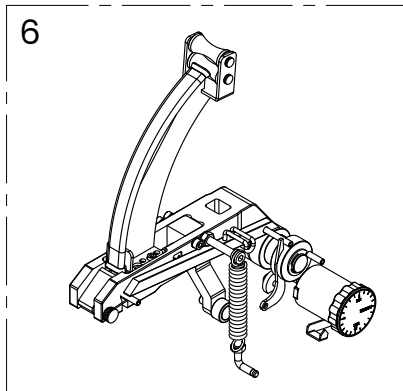
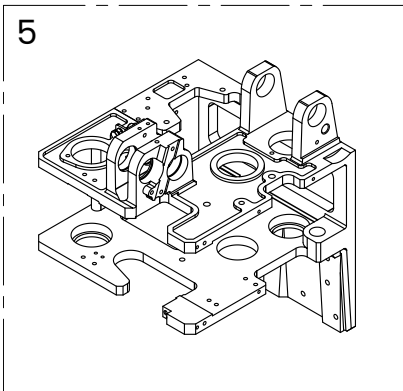
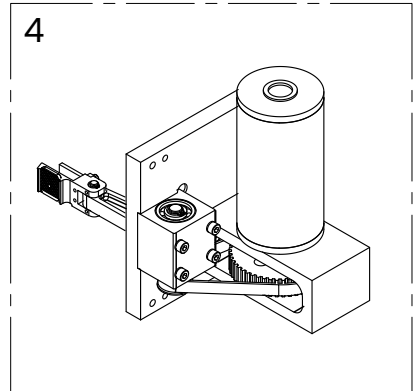
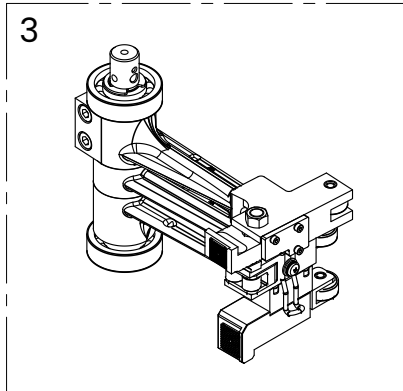
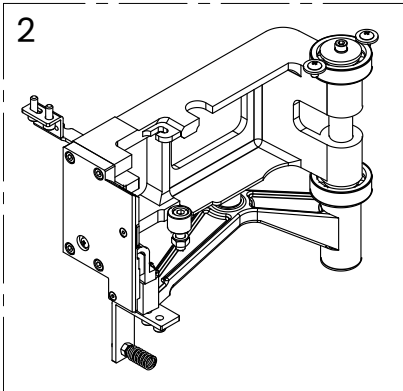
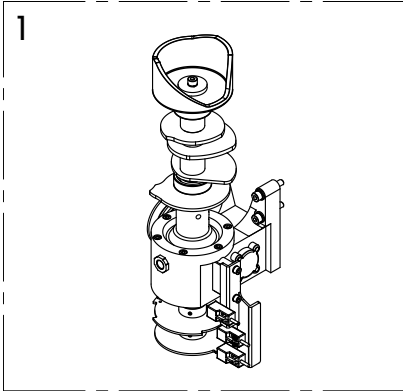
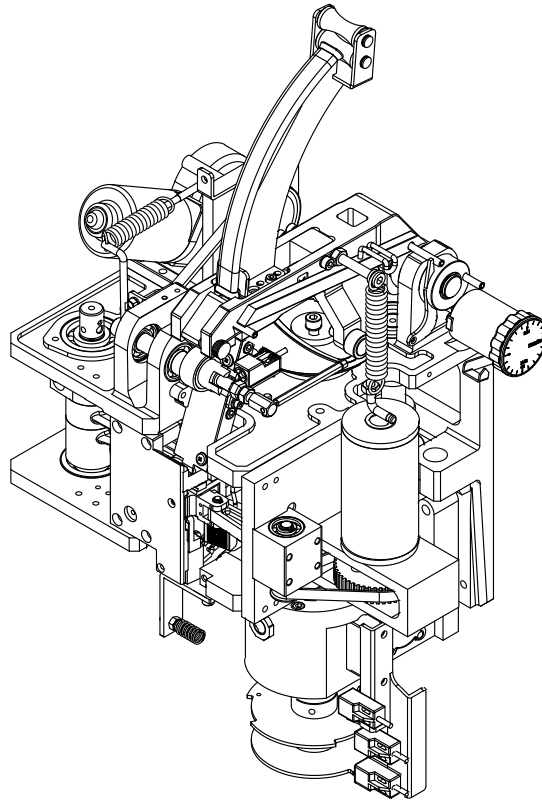
PART III



1

STRAPPING HEAD UNIT

2MV-1-900000
2MV-1-900010



1-1

STRAPPING HEAD UNIT

2MV-1-900000

2MV-1-900010

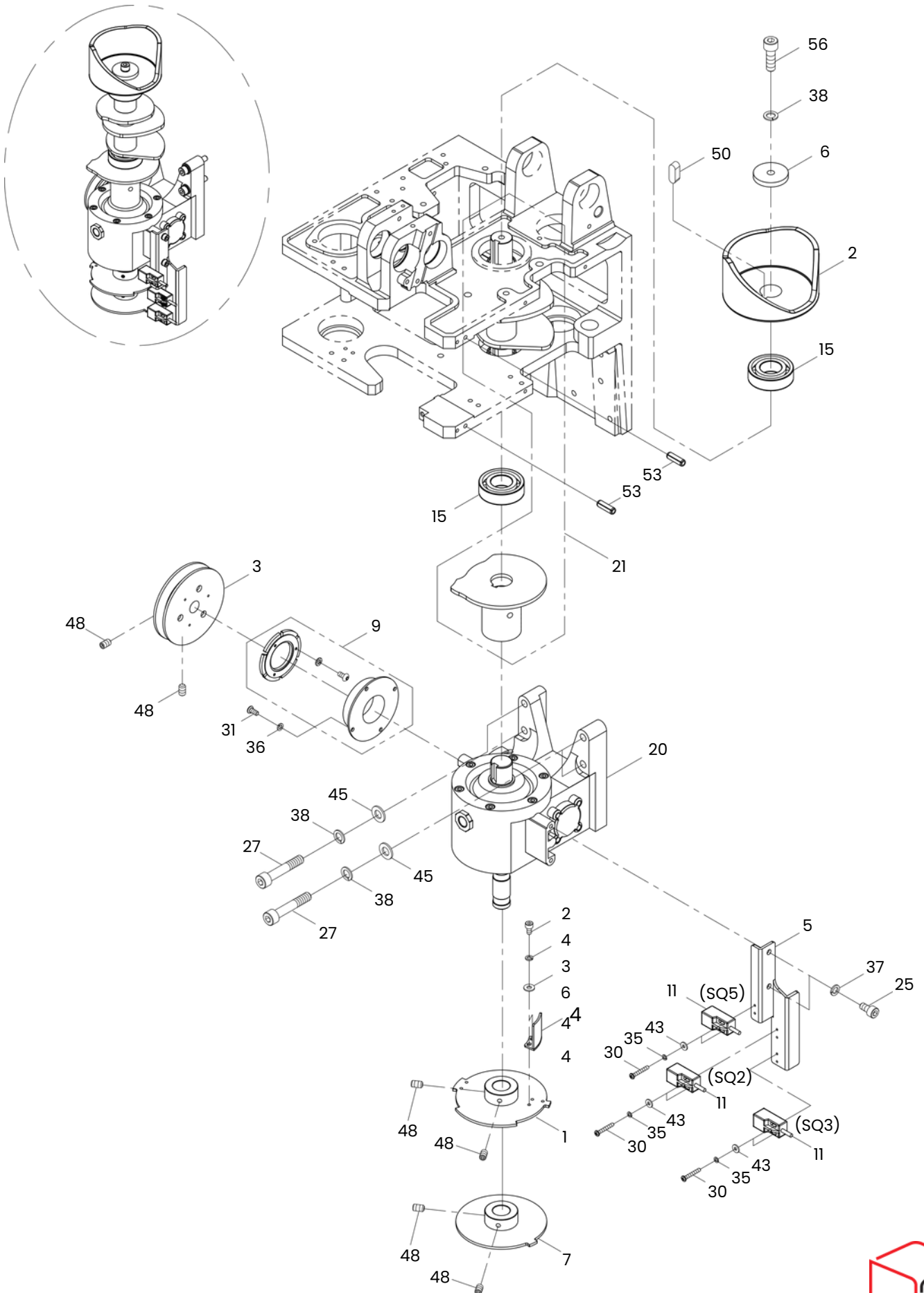
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	2MV-1-900000	Strapping Head Unit (For 15.5mm)	1	
	2MV-1-900010	Strapping Head Unit (For 12mm)	1	
	2MV-1-900020	Strapping Head Unit (For 9mm)	1	
1	2MV-1-100000	Cam Group	1	SEE PAGE C3
2	MV-1-20004	Slide Table Group (For 15.5mm)	1	SEE PAGE C7
	MV-1-20005	Slide Table Group (For 12mm)	1	
	MV-1-20006	Slide Table Group (For 9mm)	1	
3	MV-1-30002	Press Group	1	SEE PAGE C11
4	T6-1-41020	Welding Group	1	SEE PAGE C19
5	2MV-1-500000	Strapping Head Group	1	SEE PAGE C23
6	2MV-1-600000	Tension Group	1	SEE PAGE C25
7	2MV-1-700000	Feed Group (For 15.5mm)	1	SEE PAGE C35
	2MV-1-700010	Feed Group (For 12mm)	1	
	2MV-1-700020	Feed Group (For 9mm)	1	



1-1

CAM GROUP

2MV-1-100000



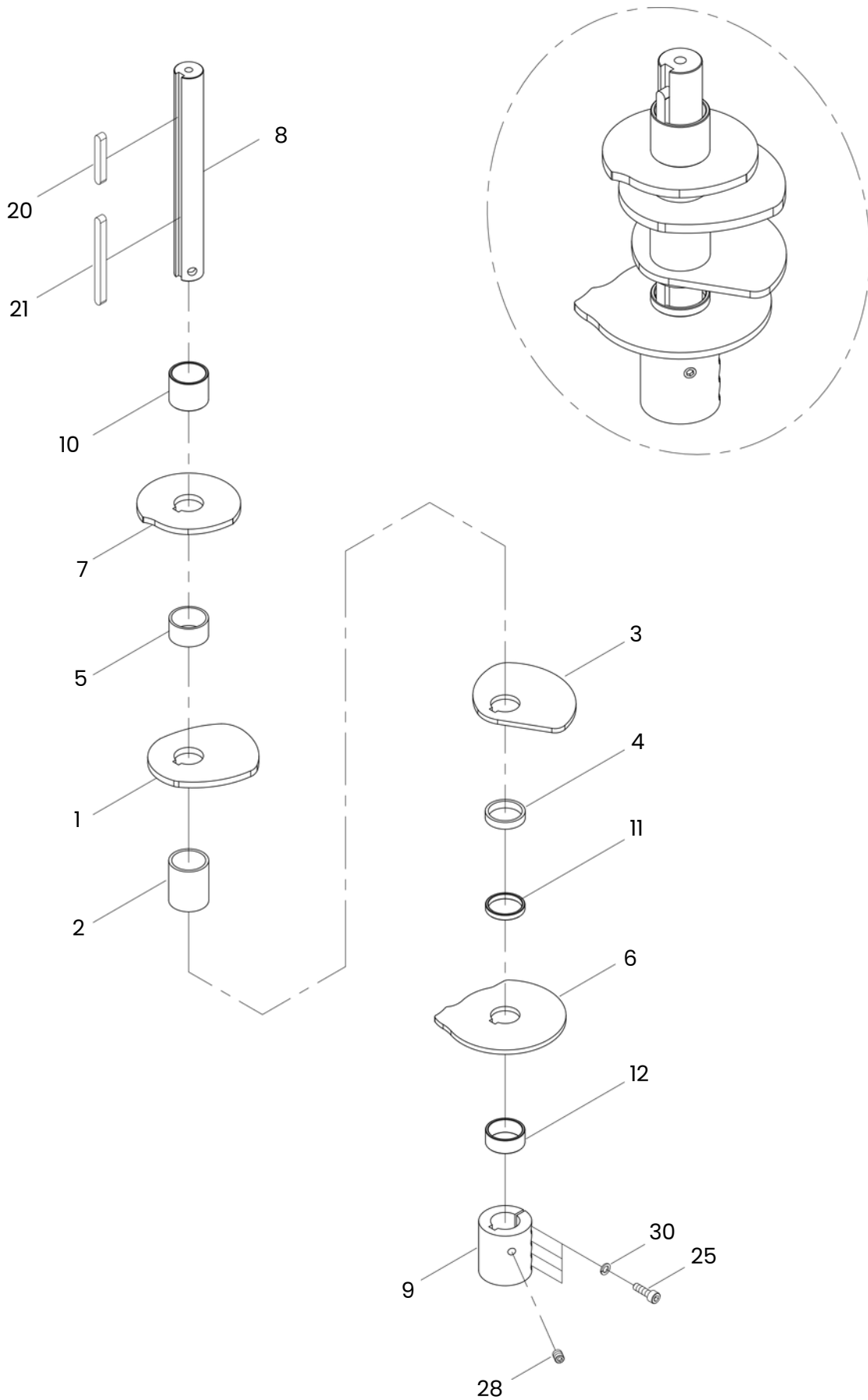
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-1-101100	Limit Switch Cam (LS2)	1	
2	2MV-1-101200	Tension Cam	1	
3	2MV-1-101300	Gear Box Pulley	1	
4	2MV-1-101400	Sensor Plate	1	
5	2MV-1-101500	Limit Switch Bracket	1	
6	T6-1-10120	Cam Shaft End Plate	1	
7	T6-1-10142	Limit Switch Cam (LS3)	1	
9	T6-6-10180	Magnet Brake	1	
11	MV-6-20220	Proximity Sensor (X2, X3, X5)(SQ2, SQ3, SQ5)	3	SEE PAGE C85
15	BR6205ZZ	Bearing, 6205ZZ	2	
20	T6-1-11000	Gear Box	1	
21	MV-1-11001	Cam Ass'y	1	SEE PAGE C5
24	HBS0408N	HBS, M4×8 (N)	2	
25	HBS0612N	HBS, M6×12 (N)	2	
26	HBS0825N	HBS, M8×25 (N)	1	
27	HBS0845H	HBS, M8×45 (H)	4	
30	PMS0320	PMS, M3×20	6	
31	PMS0408	PMS, M4×8	4	
35	SW03	SW, M3	6	
36	SW04	SW, M4	6	
37	SW06	SW, M6	2	
38	SW08	SW, M8	5	
43	PW03	PW, M3	6	
44	PW04	PW, M4	2	
45	PW08B	PW, M8 (B)	4	
48	HSS0610GN	HSS, M6×10 (G)(N)	6	
50	KYA070720	Key, 7×7×20	2	
53	SP0516	Spring Pin, 5×16	2	



1-1-1

CAM ASS'Y

MV-1-11001



1-1-1

CAM ASS'Y

MV-1-11001

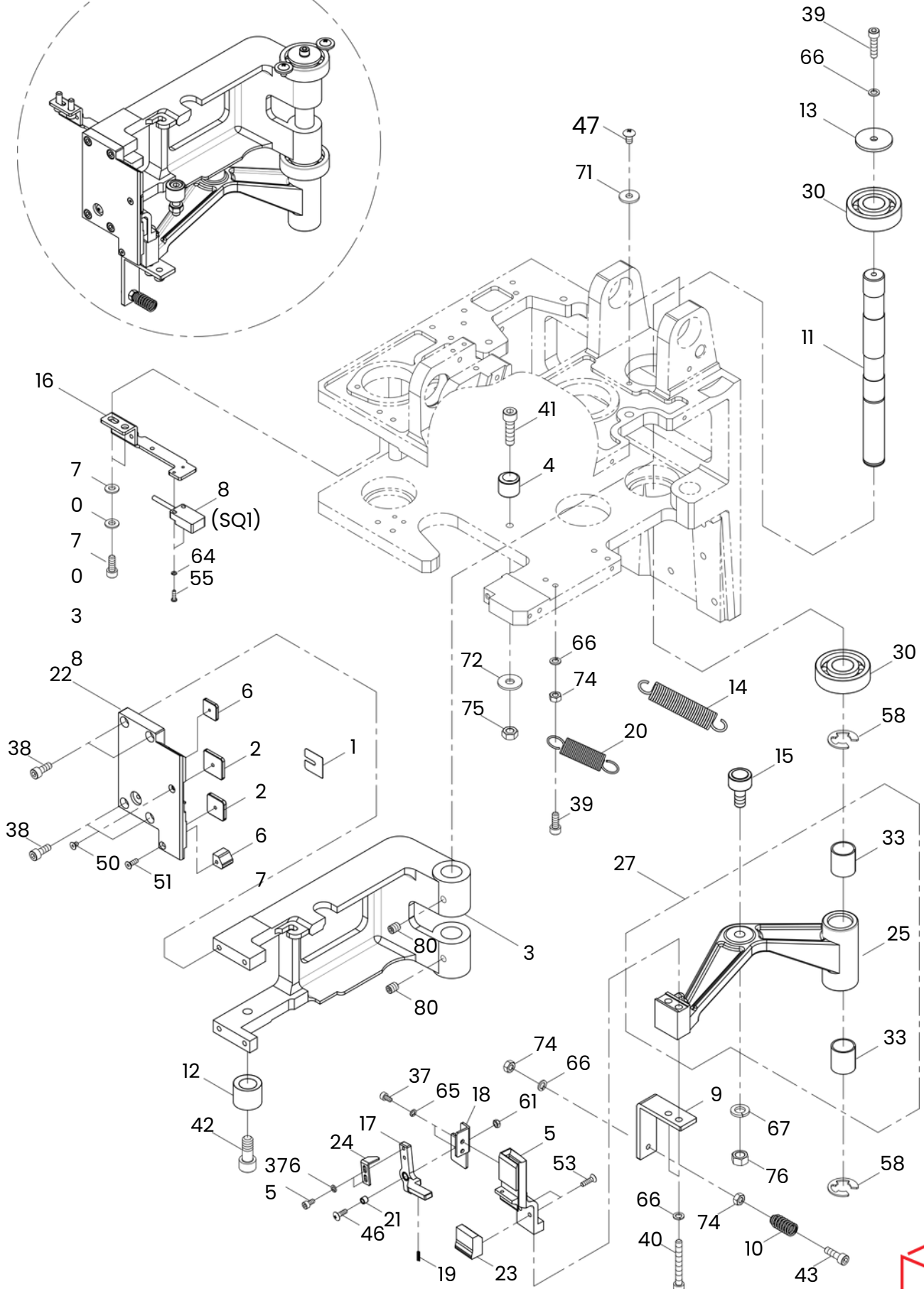
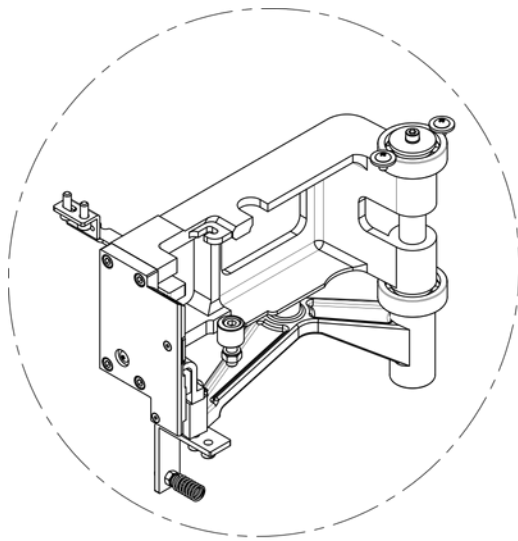
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	MV-1-11011	Cam	1	
2	MV-1-11021	Collar, 29.2×34×41.5	1	
3	MV-1-11030	LH Press Cam	1	
4	MV-1-11040	Collar (7L)	1	
5	MV-1-10290	Collar, 29.2×34×18.5	1	
6	T6-1-12110	Slide Table Cam	1	
7	T6-1-12120	RH Press Cam	1	
8	T6-1-12160	Cam Shaft	1	
9	T6-1-12170	Cam Shaft Coupling	1	
10	T6-1-12180	Collar (27.8L)	1	
11	T6-1-12220	Collar (5.5L)	1	
12	T6-1-12230	Collar (14L)	1	
20	KYA070750	Key, 7×7×50	1	
21	KYA070790	Key, 7×7×90	1	
25	HBS0620N	HBS, M6×20 (N)	4	
28	HSS0810G	HSS, M8×10 (G)	1	
30	SW06	SW, M6	4	



1-2

SLIDE TABLE GROUP

MV-1-20004
MV-1-20005



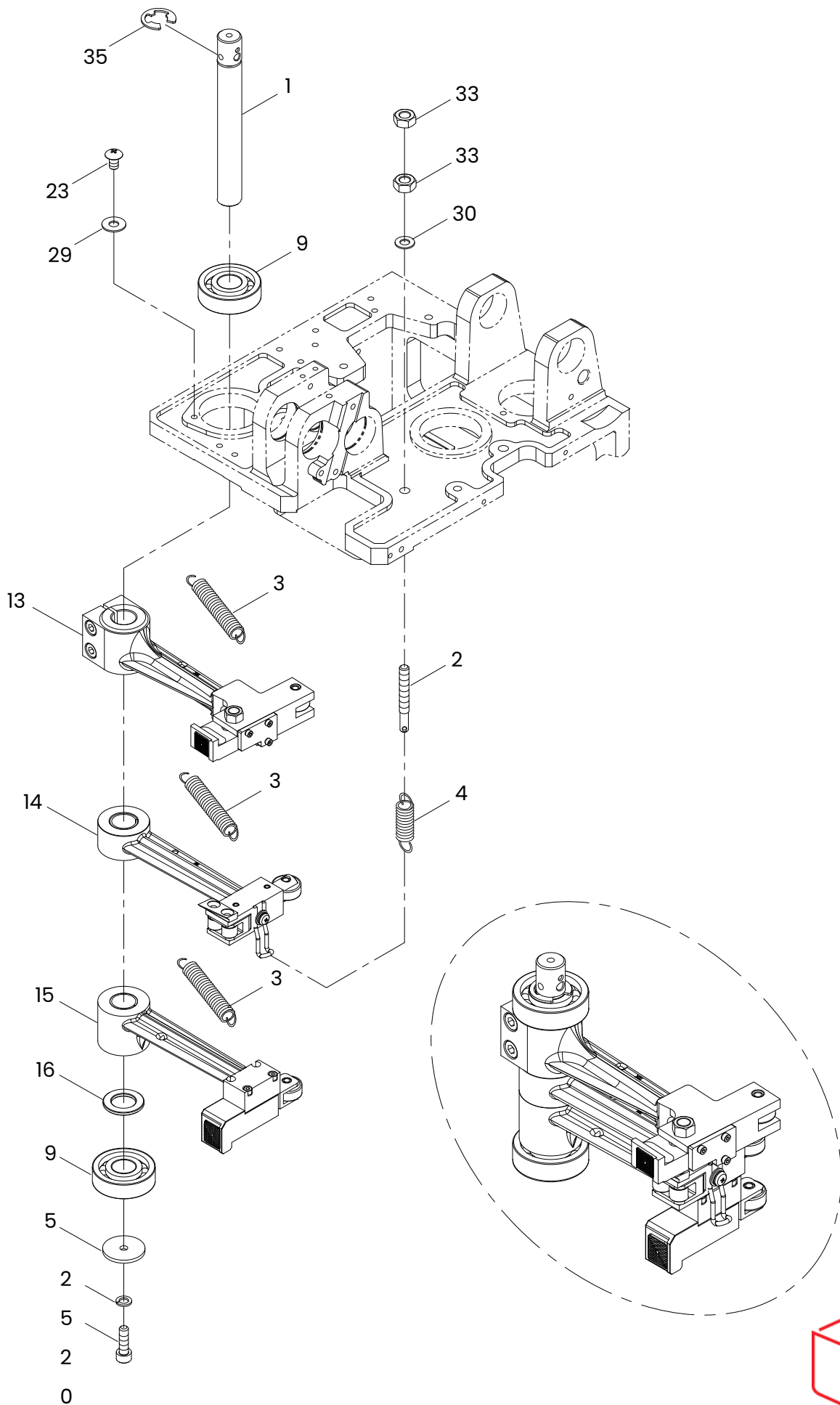
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	MV-1-20004	Slide Table Group (For 15.5mm)	1	SEE PAGE C85
	MV-1-20005	Slide Table Group (For 12mm)	1	
	MV-1-20006	Slide Table Group (For 9mm)	1	
	MV-1-20020	Shim		
		Strap Thickness $\leq 0.6\text{mm}$	2	
		Strap Thickness $> 0.6\text{mm}$	0	
2	MV-1-20031	Upper Welding Gripper	1	
3	MV-1-20040	Slide Table Frame	1	
4	MV-1-20050	Slide Table Stopper	1	
5	MV-1-20060	Band Guide (For 9mm)	1	
	MV-1-20061	Band Guide (For 12mm/15.5mm)	1	
6	MV-1-20071	Right Welding Gripper	1	
7	MV-1-20120	Strap Stop (For 9mm)	1	
	MV-1-20121	Strap Stop (For 12mm)	1	
	MV-1-20122	Strap Stop (For 15.5mm)	1	
8	MV-6-20230	Proximity Sensor (X1)(SQ1)	1	
9	T6-1-20180	Flap Connecting Spring Bracket	1	
10	T6-2-10130	LH Bandway Stop Spring	1	
11	T6-1-20120	Slide Table Frame Shaft	1	
12	T6-1-20141	Slide Table Back Adjuster	1	
13	T6-1-30170	Press Arm End Plate	1	
14	T6-1-20230	Slide Table Tension Spring	1	
15	T6-1-20250	Cam Follower, KR22×LL	1	
16	T6-1-20311	Support	1	
17	T6-1-20323	Lever	1	
18	T6-1-20340	Bracket	1	
19	T6-1-20351	Spring	1	
20	T6-1-20372	Spring	1	
21	T6-1-20450	Bush	1	
22	T6-1-20511	Slide Table	1	
23	T6-1-20520	Band Guide Holder	1	
24	T6-1-20840	Detector Plate	1	
25	T6-1-21110	Strap Guide Arm	1	
26	MV-1-33060	Under Welding Gripper	1	
27	T6-1-21000	Band Guide Arm Ass'y	1	
30	BR6304ZZ	Bearing, 6304ZZ	2	
33	MB2025	Metal Bushing, 2025	2	
37	HBS0408N	HBS, M4×8 (N)	4	
38	HBS0616N	HBS, M6×16 (N)	6	
39	HBS0625N	HBS, M6×25 (N)	2	



REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
40	HBS0650	HBS, M6×50	2	
41	HBS0830	HBS, M8×30	1	
42	HBS1025H	HBS, M10×25 (H)	1	
43	HBS0620N	HBS, M6×20 (N)	1	
46	TMS0412	TMS, M4×12	1	
47	TMS0610	TMS, M6×10	2	
50	FHS0406	FHS, M4×6	1	
51	FHS0412	FHS, M4×12	1	
53	FMS0415	FMS, M4×15	2	
55	PMS0312	PMS, M3×12	2	
58	ER15	Snap Ring, E-15	2	
61	NTE04	NTE, M4	1	
64	SW03	SW, M3	2	
65	SW04	SW, M4	4	
66	SW06	SW, M6	5	
67	SW10	SW, M10	1	
70	PW06A	PW, M6 (A)	4	
71	PW06C	PW, M6 (C)	2	
72	PW08C	PW, M8 (C)	1	
74	HN06	HN, M6	3	
75	HN08	HN, M8	1	
76	HN10	HN, M10	1	
80	HSS0810G	HSS, M8×10 (G)	2	







1-3**PRESS GROUP****MV-1-30002**

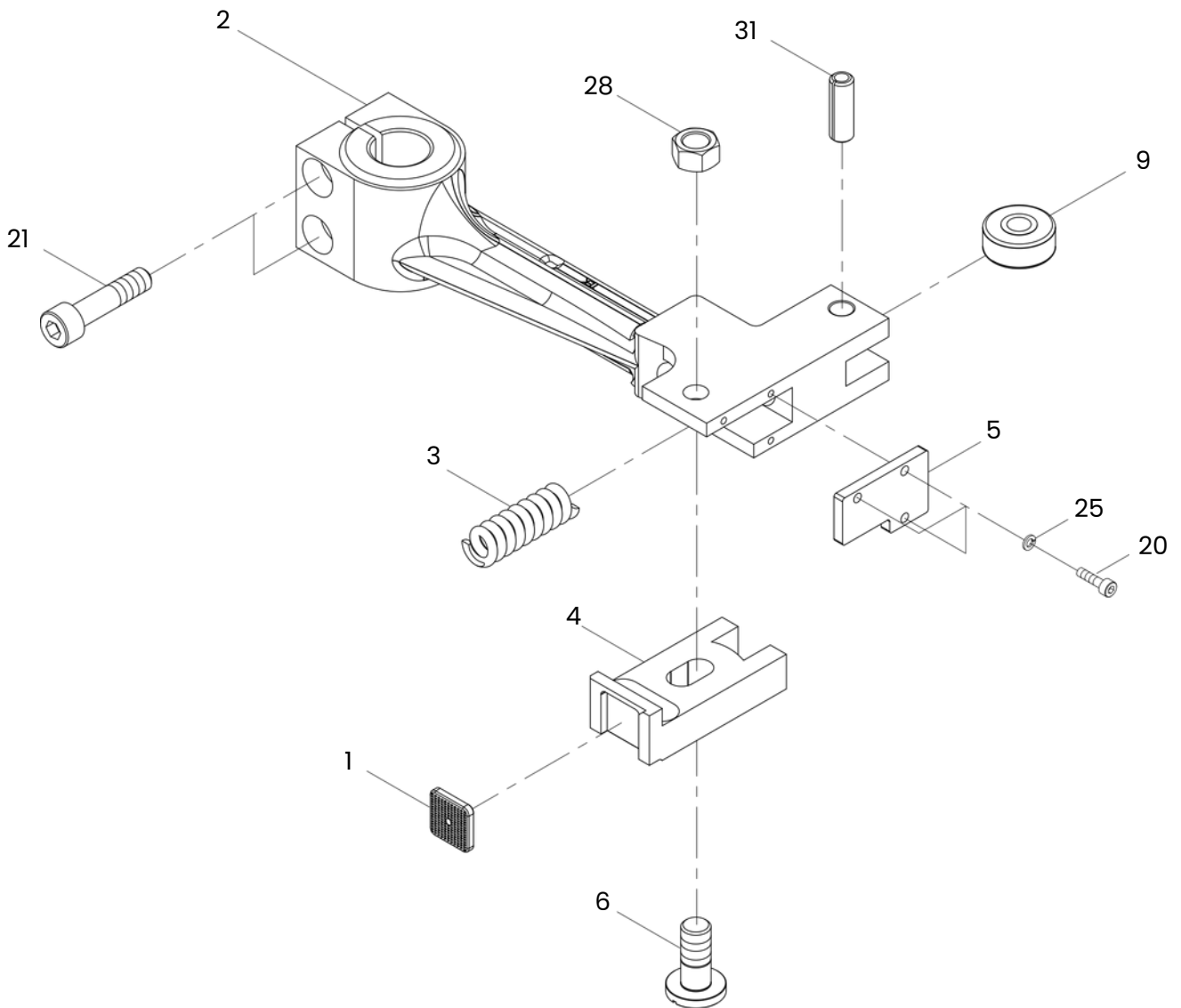
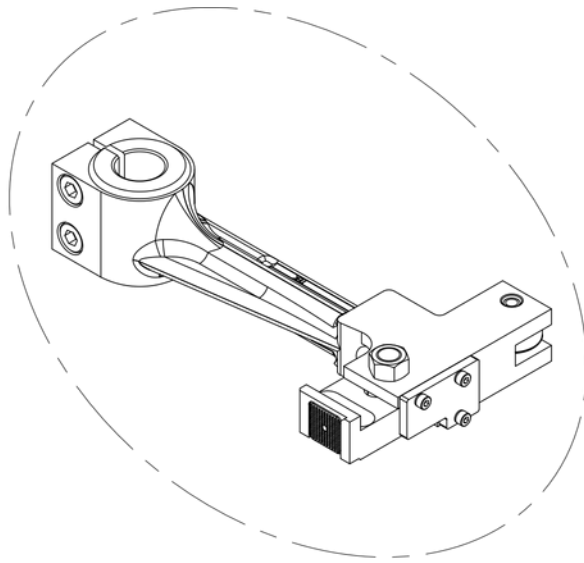
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	T6-1-30110	Press Arm Shaft	1	
2	T6-1-30120	Cutter Tension Spring Hook	1	
3	T6-1-30150	Press Tension Spring	3	
4	T6-1-30160	Cutter Tension Spring	1	
5	T6-1-30170	Press Arm End Plate	1	
9	BR6304ZZ	Bearing, 6304ZZ	2	
13	MV-1-31001	RH, Block Arm Ass'y	1	SEE PAGE C13
14	T6-1-32020	Center Block Arm Ass'y	1	SEE PAGE C15
15	MV-1-33001	LH, Block Arm Ass'y	1	SEE PAGE C17
16	MV-1-33050	Washer	1	
20	HBS0620	HBS, M6×20	2	
23	TMS0610	TMS, M6×10	2	
25	SW06	SW, M6	1	
29	PW06B	PW, M6 (B)	2	
30	PW08A	PW, M8 (A)	1	
33	HN08	HN, M8	2	
35	ER15	Snap Ring, E-15	1	



1-3-1

RH, BLOCK ARM ASS'Y

MV-1-31001



1-3-1

RH, BLOCK ARM ASS'Y

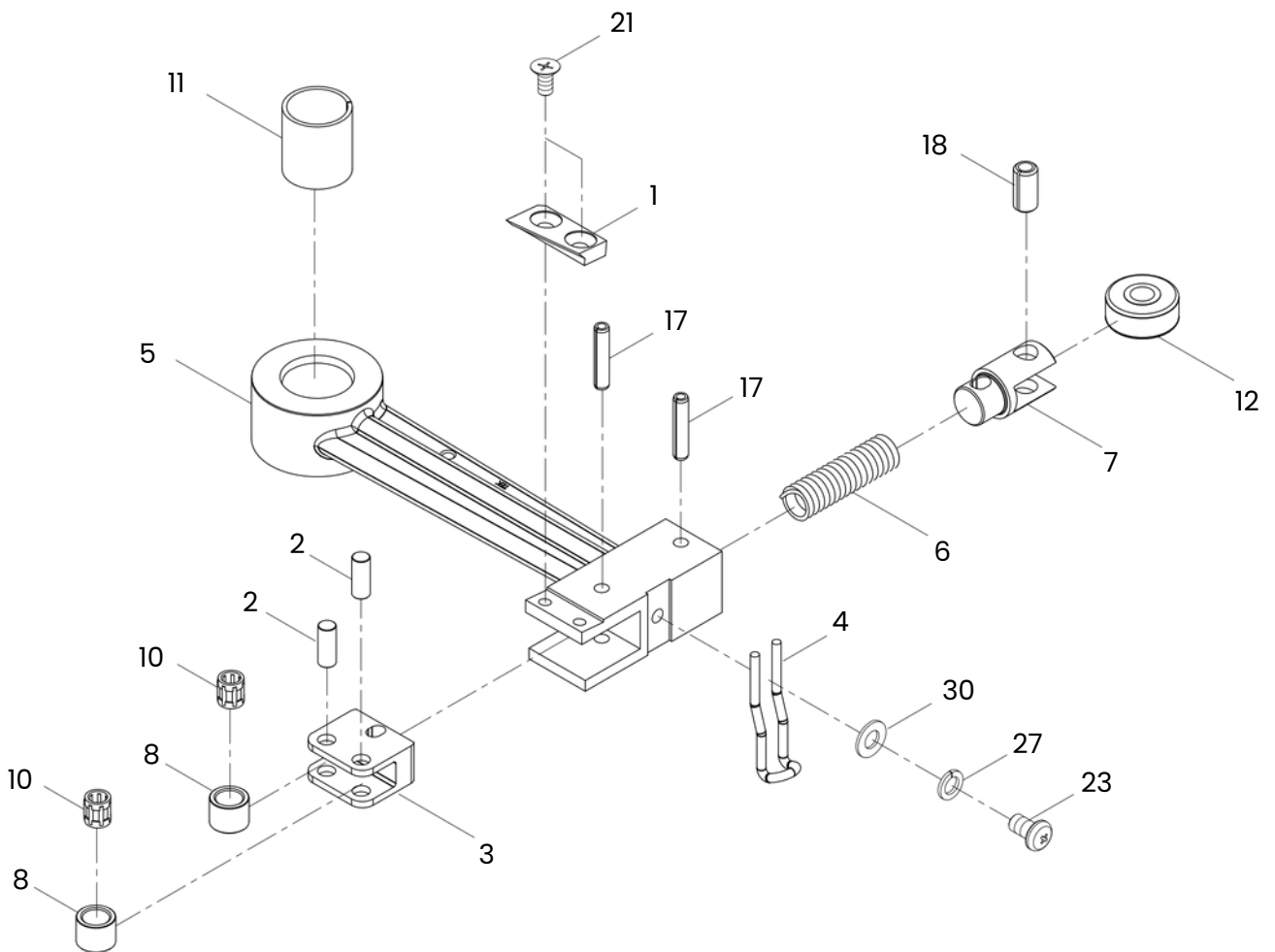
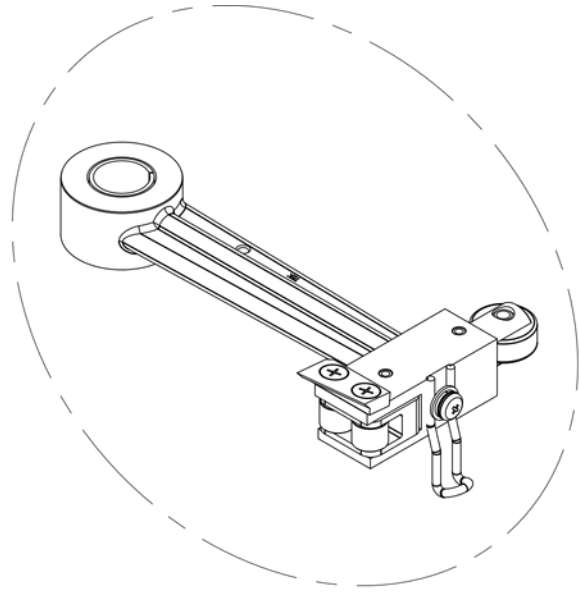
MV-1-31001

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	MV-1-20071	Right Welding Gripper	1	
2	MV-1-31011	RH, Block Arm	1	
3	MV-1-31030	RH, Block Spring	1	
4	MV-1-31040	Upper Cutter	1	
5	MV-1-31050	Upper Cutter Limiter	1	
6	T6-1-31130	Upper Cutter Pin	1	
9	BRNAST8	Bearing, NAST8	1	
20	HBS0312	HBS, M3×12	3	
21	HBS0835H	HBS, M8×35 (H)	2	
25	SW03	SW, M3	3	
28	HN10	HN, M10	1	
31	SP0824	Spring Pin, 8×24	1	



1-3-2

CENTER BLOCK ARM ASS'YT6-1-32020



1-3-2

CENTER BLOCK ARM ASS'Y

T6-1-32020

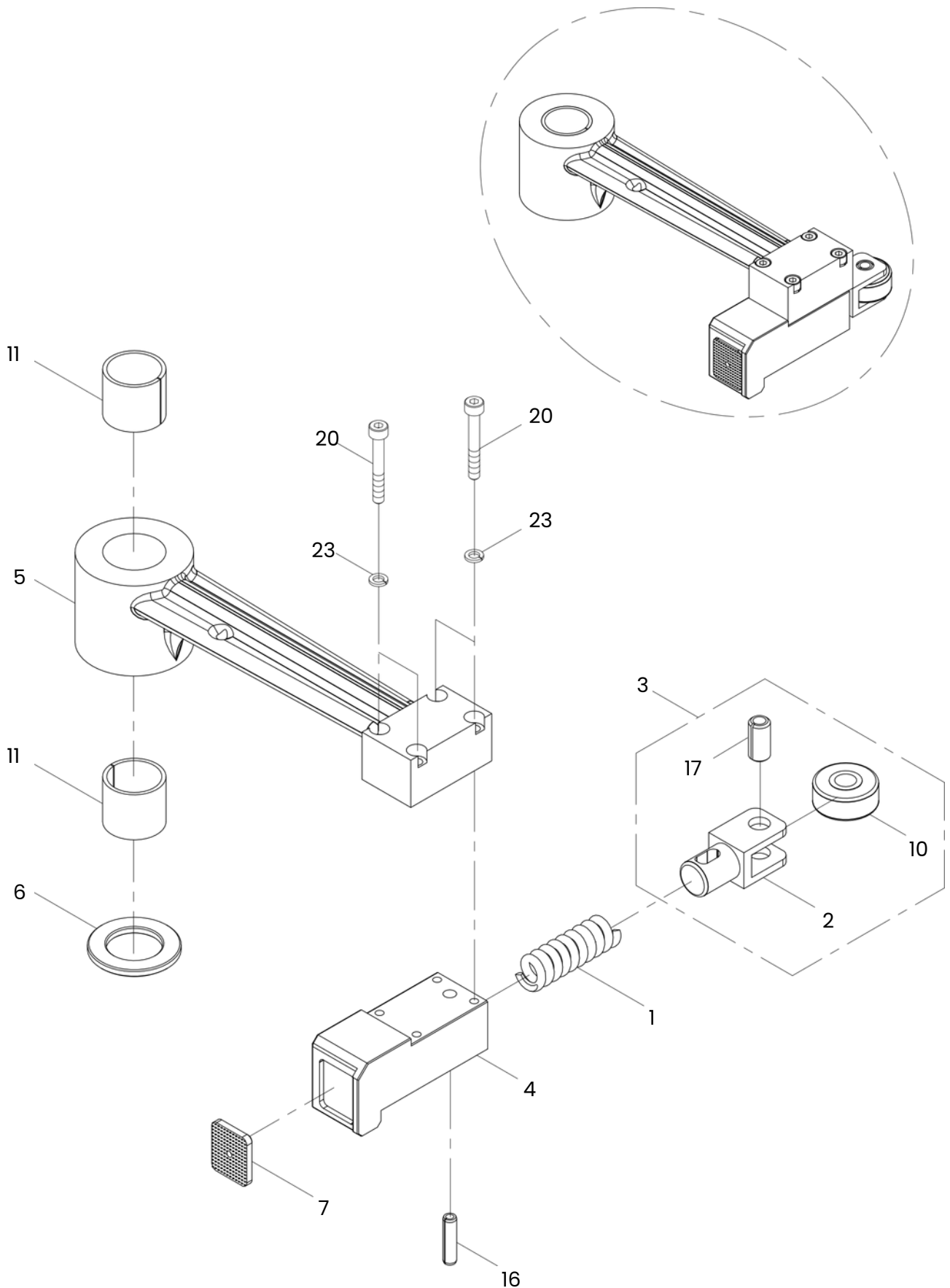
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	MV-1-32022	Lower Cutter	1	
2	MV-1-32050	Gripper Roller Shaft	2	
3	MV-1-32081	Roller Bracket	1	
4	T6-1-32140	Cutter Spring Hook	1	
5	T6-1-32210	Center Block Arm	1	
6	T6-1-32220	LH & Center Block Spring	1	
7	T6-1-32230	Plunger	1	
8	T6-1-32240	Gripper Roller	2	
10	KT-6910	Needle Bearing, 6910	2	
11	MB2025	Metal Bushing, 2025	1	
12	BRNAST8	Bearing, NAST8	1	
17	SP0524	Spring Pin, 5×24	2	
18	SP0816	Spring Pin, 8×16	1	
21	FMS0510S	FMS, M5×10	2	
23	PMS0610	PMS, M6×10	1	
27	SW06	SW, M6	1	
30	PW06A	PW, M6 (A)	1	



1-3-3

LH, BLOCK ARM ASS'Y

MV-1-33001



1-3-3**LH, BLOCK ARM ASS'Y****MV-1-33001**

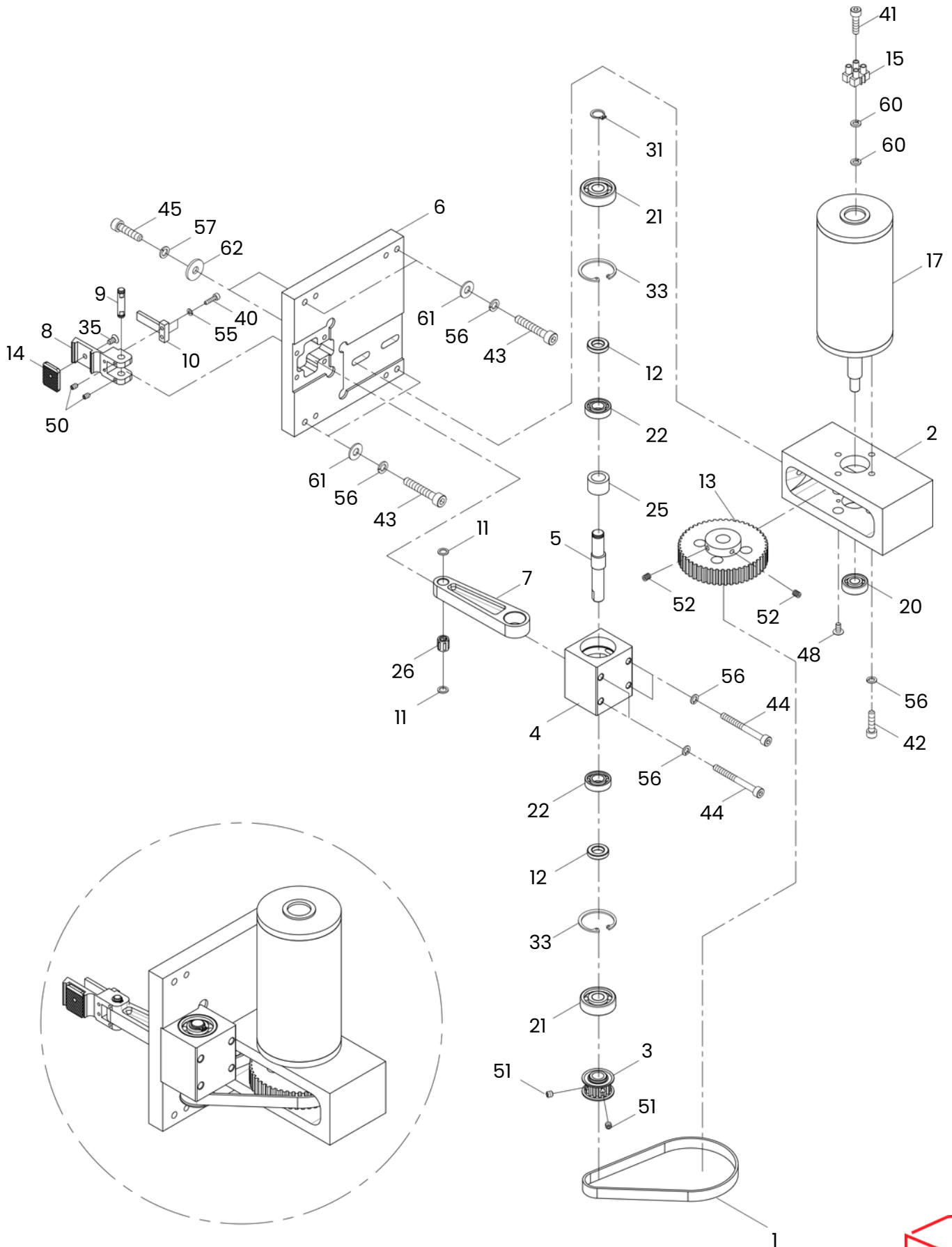
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	MV-1-31030	RH, Block Spring	1	
2	MV-1-32030	Plunger	1	
3	MV-1-32090	Plunger Set	1	
4	MV-1-33012	Jaw Left	1	
5	MV-1-33020	LH, Block Arm	1	
6	MV-1-33050	Washer	1	
7	MV-1-33060	Under Welding Gripper	1	
10	BRNAST8	Bearing, NAST8	1	
11	MB2020	Metal Bushing, 2020	2	
16	SP0520	Spring Pin, 5×20	1	
17	SP0816	Spring Pin, 8×16	1	
20	HBS0430H	HBS, M4×30 (H)	4	
23	SW04	SW, M4	4	



1-4

WELDING GROUP

T6-1-41020



REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	MV-1-41010	Timing Belt (M4)	1	
2	MV-1-41040	Base M4	1	
3	MV-1-41050	Timing Pulley (M4)	1	
4	MV-1-41061	Eccentric Shaft Support	1	
5	MV-1-41080	Eccentric Shaft	1	
6	MV-1-41091	Base Plate	1	
7	MV-1-41111	Rocker	1	
8	MV-1-41131	Rocker	1	
9	MV-1-41141	Rocker Shaft	1	
10	MV-1-41150	Gripper Roller Holder	1	
11	MV-1-41171	Washer	2	
12	MV-1-41180	Spacer	2	
13	MV-1-61070	Driving Pulley (M2)	1	
14	T6-1-41210	Welding Gripper	1	
15	T7-1-50170	Terminal (10A)	1	
17	MV-6-10080	M4 Motor Ass'y	1	
20	BR608-2RS	Bearing, 608 2RS	1	
21	BR6200-2RS	Bearing, 6200 2RS	2	
22	BR6900-2RS	Bearing, 6900 2RS	2	
25	KT-121812N	Needle Bearing, 121812N	1	
26	KT-6910	Needle Bearing, 6910	1	
31	SR10	Snap Ring, S-10	1	
33	RR30	Snap Ring, H-30	2	
35	FHS0408	FHS, M4×8	1	
40	HBS0312N	HBS, M3×12 (N)	2	
41	HBS0416N	HBS, M4×16 (N)	1	
42	HBS0520N	HBS, M5×20 (N)	4	
43	HBS0530N	HBS, M5×30 (N)	4	
44	HBS0550HN	HBS, M5×50 (H)(N)	4	
45	HBS0625N	HBS, M6×25 (N)	2	



1-4**WELDING GROUP****T6-1-41020**

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
48	TMS0408	TMS, M4×8	1	
50	HSS0305	HSS, M3×5	2	
51	HSS0505GN	HSS, M5×5 (G)(N)	2	
52	HSS0508GN	HSS, M5×8 (G)(N)	2	
55	SW03	SW, M3	2	
56	SW05	SW, M5	12	
57	SW06	SW, M6	2	
60	PW04	PW, M4	2	
61	PW05	PW, M5	4	
62	PW06C	PW, M6 (C)	2	

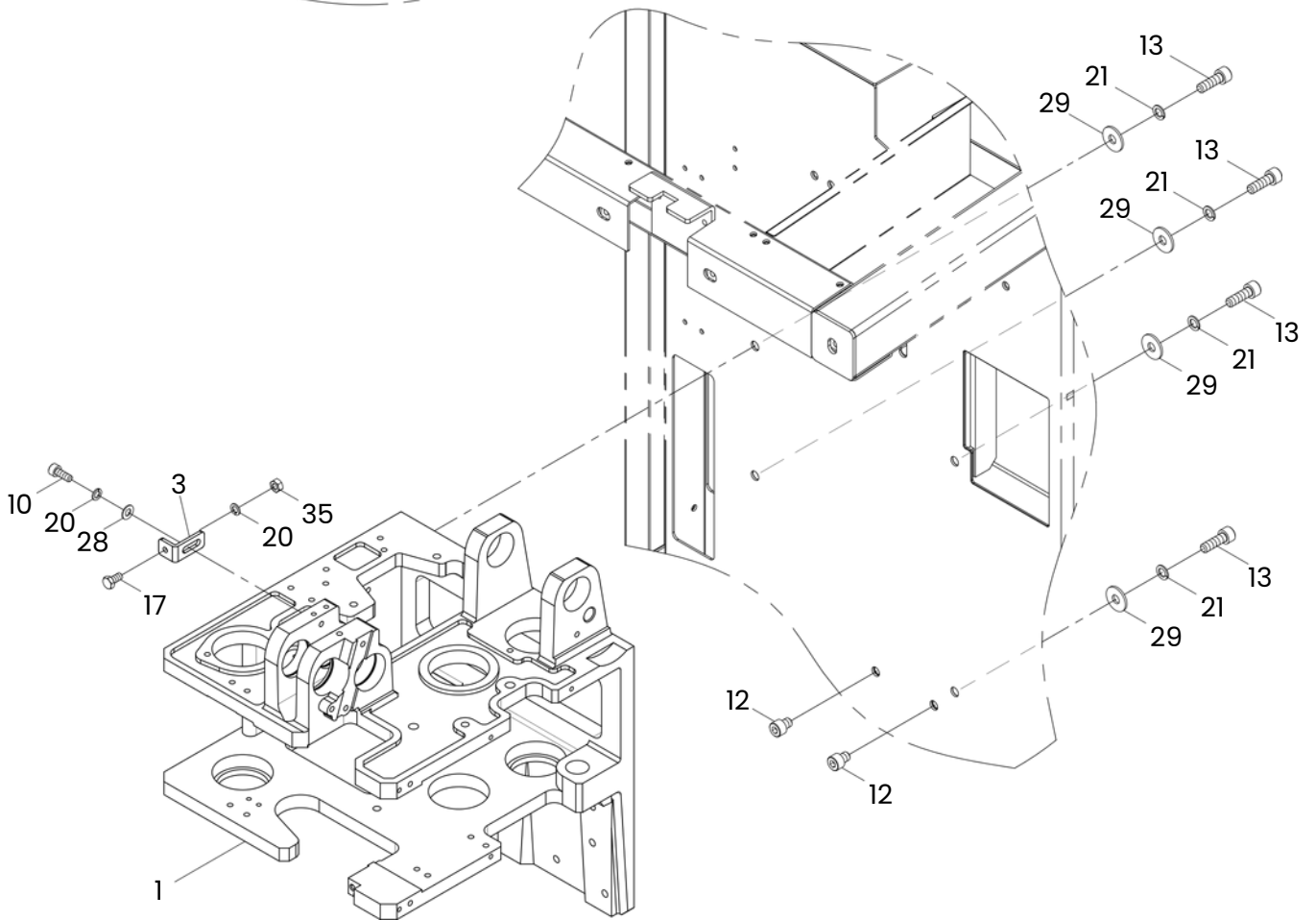
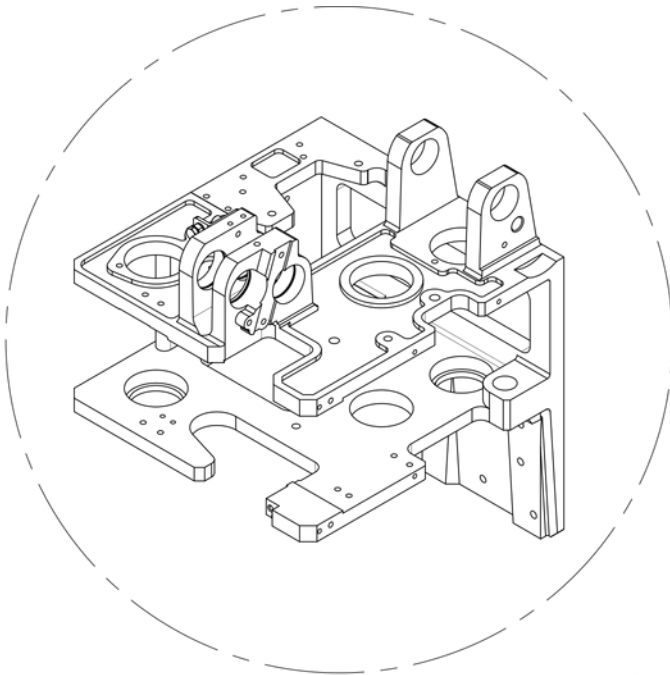




1-5

STRAPPING HEAD GROUP

2MV-1-500000



1-5

STRAPPING HEAD GROUP

2MV-1-500000

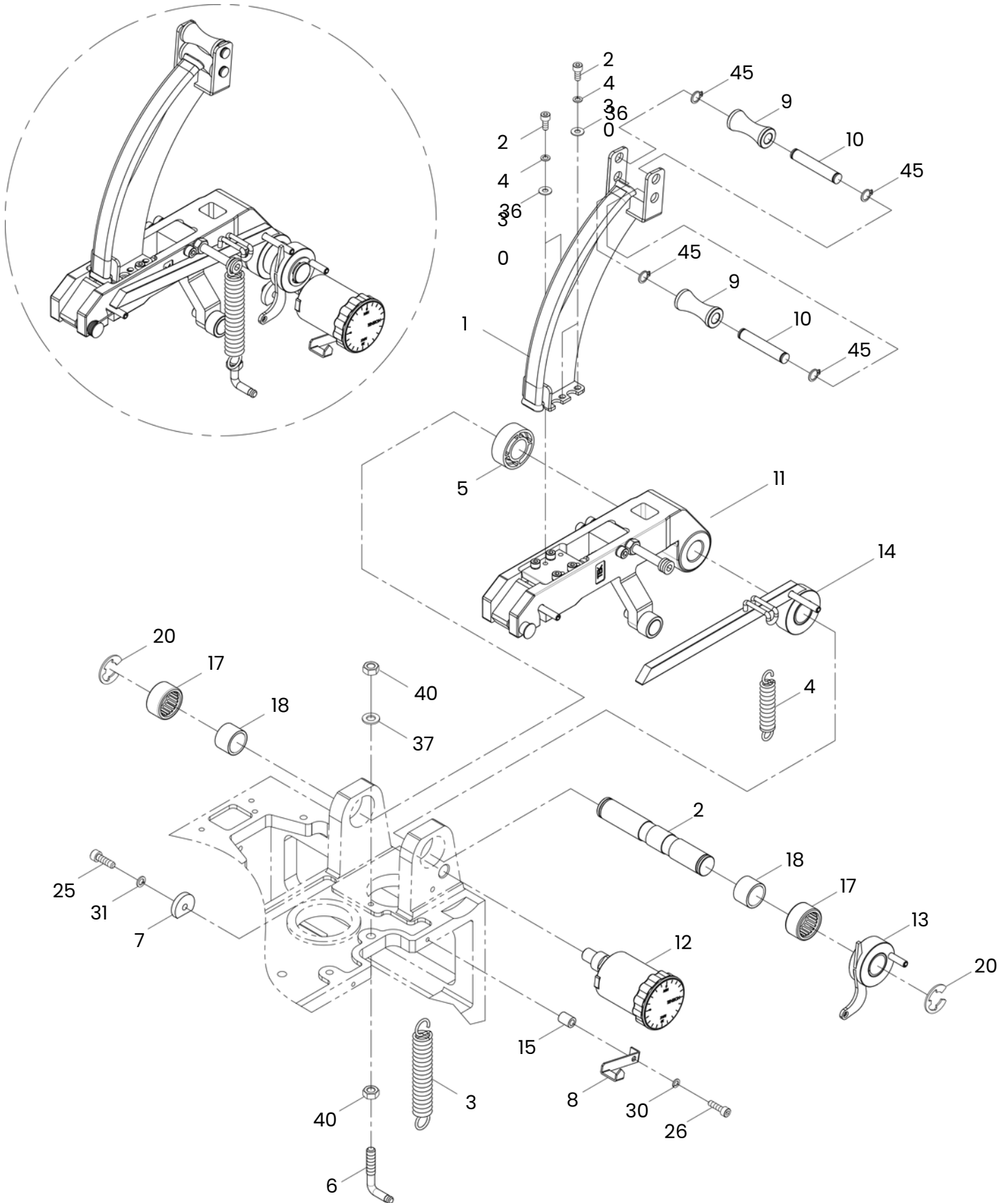
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-1-501100	Strapping Head Frame	1	
3	T7-3-40500	Stopper	1	
10	HBS0616N	HBS, M6×16 (N)	1	
12	HBS0810N	HBS, M8×10 (N)	2	
13	HBS0825N	HBS, M8×25 (N)	4	
17	HB0612	HB, M6×12	1	
20	SW06	SW, M6	1	
21	SW08	SW, M8	4	
28	PW06A	PW, M6 (A)	1	
29	PW08C	PW, M8 (C)	4	
35	HN06	HN, M6	1	



1-6

TENSION GROUP

2MV-1-600000



1-6

TENSION GROUP

2MV-1-600000

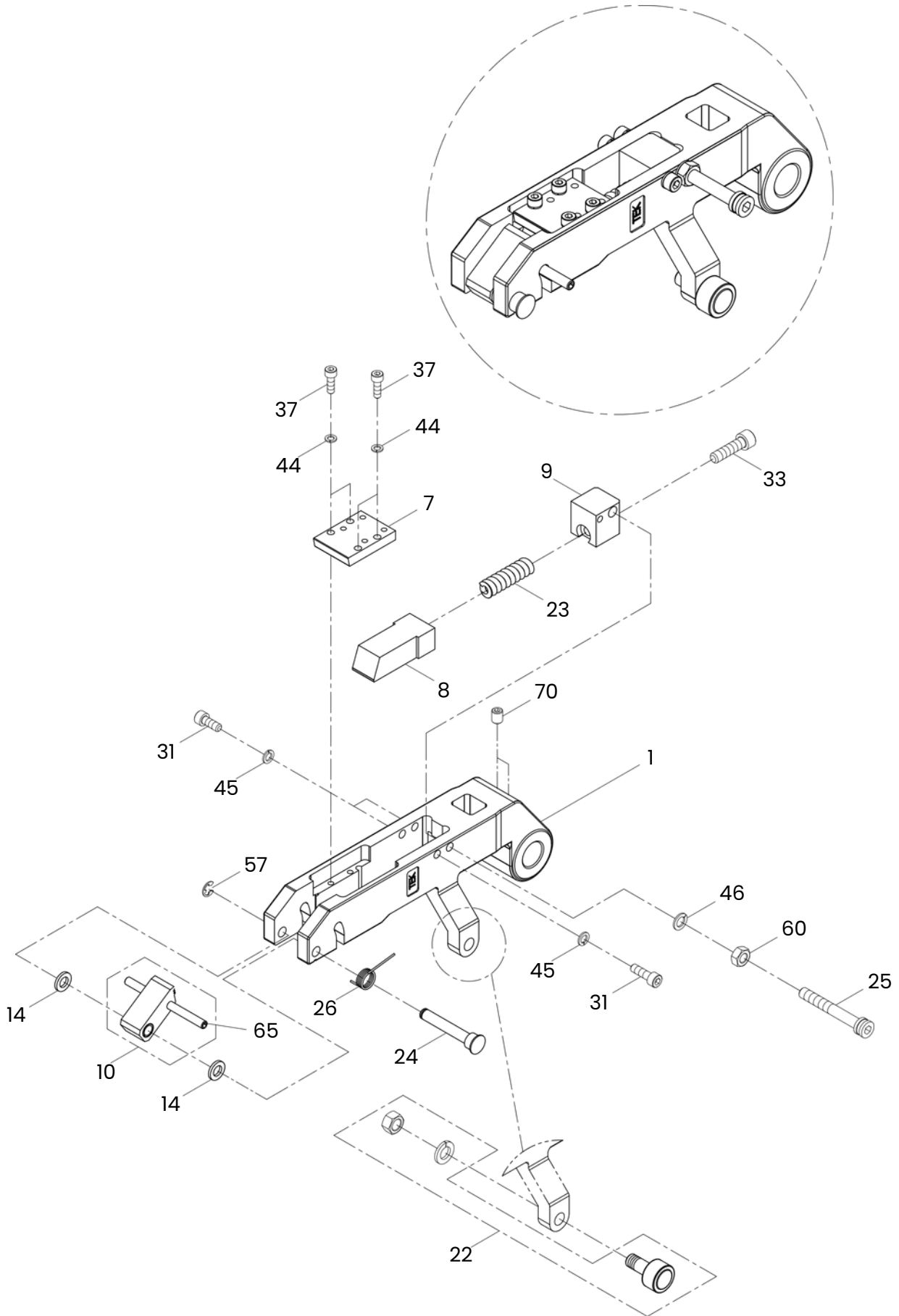
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-1-601100	Feed Shooter	1	
2	T6-1-60110	Tension Arm Shaft	1	
3	T6-1-60120	Tension Arm Spring	1	
4	T6-1-60130	Tension Adjusting Arm Sprin	1	
5	T6-1-60140	Tension Arm Spacer	1	
6	T6-1-60160	Tension Arm Spring Hook L-Type	1	
7	T6-1-63170S	Tension ADJ Bolt Spacer	1	
8	T6-1-63180S	Tension Indicated Arm	1	
9	T2-3-10260	Roller	2	
10	TD-048	Shaft	2	
11	2MV-1-610001	Tension Arm Ass'y	1	SEE PAGE C27
12	2MV-1-630000	Tension Adjusting Cam Ass'y	1	SEE PAGE C29
13	T6-1-64000	Tension Adjusting Ass'y	1	SEE PAGE C31
14	2MV-1-650000	Tension Adjusting Arm Ass'y	1	SEE PAGE C33
15	T6-3-20150	Spacer	1	
17	BRHK2516	Bearing, HK2516	2	
18	BRIR202517	Bearing, IR202517	2	
20	ER15	Snap Ring, E-15	2	
24	HBS0512N	HBS, M5×12 (N)	4	
25	HBS0620N	HBS, M6×20 (N)	1	
26	HBS0525N	HBS, M5×25 (N)	1	
30	SW05	SW, M5	5	
31	SW06	SW, M6	1	
36	PW05	PW, M5	4	
37	PW08B	PW, M8 (B)	1	
40	HN08	HN, M8	2	
45	SR10	Snap Ring, S-10	4	



1-6-1

TENSION ARM ASS'Y

2MV-1-610001



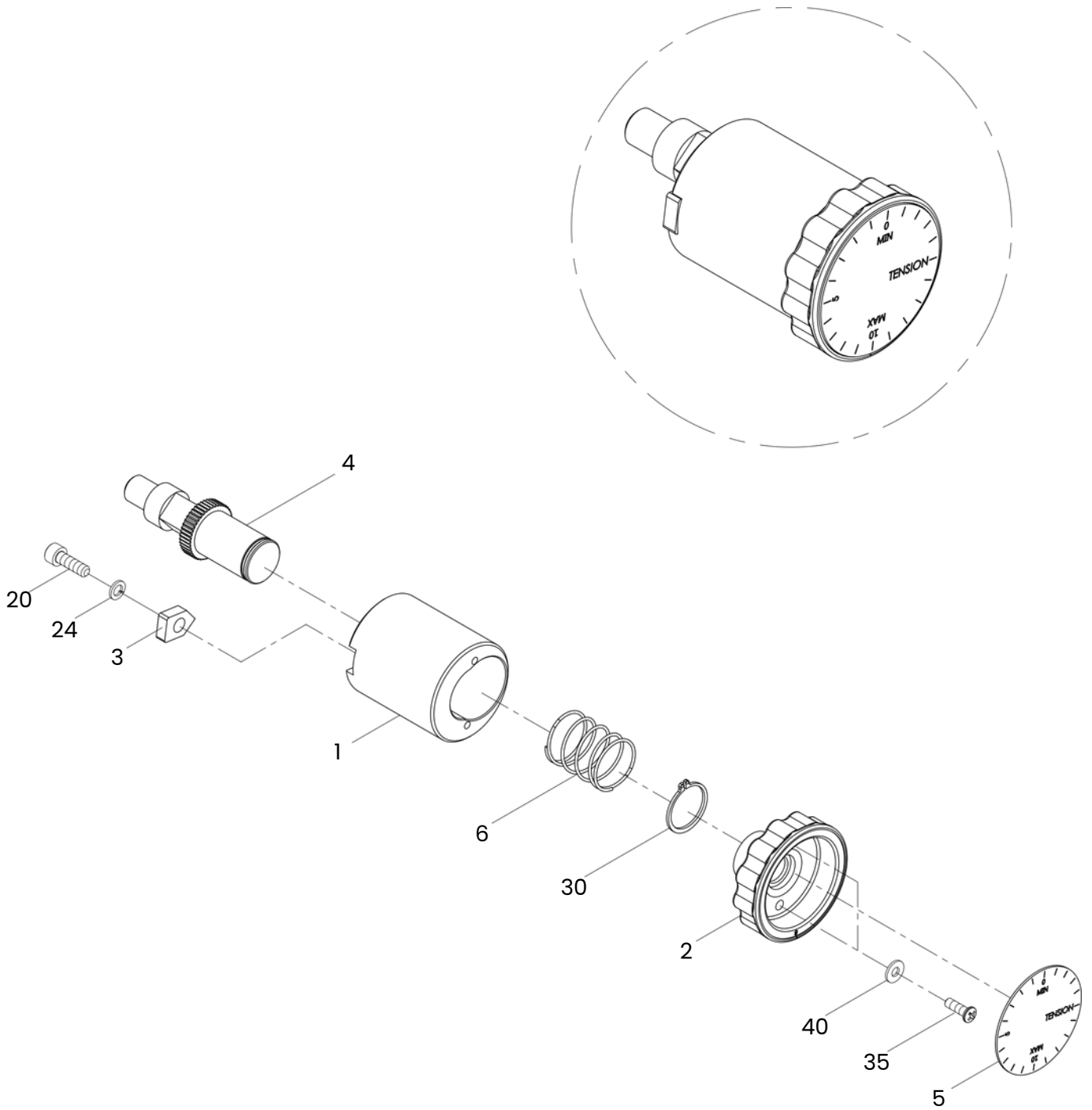
1-6-1**TENSINON ARM ASS'Y****2MV-1-610001**

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-1-611101	Tension Arm	1	
7	2MV-1-611600	Block Cover	1	
8	2MV-1-611700	Tension Jaw Lower	1	
9	2MV-1-611800	Spring Holder	1	
10	2MV-1-620000	Tension Jaw Ass'y	1	
14	T7-3-20200	Spacer	2	
22	T6-1-20250	Cam Follower, KR22xLL	1	
23	T6-1-31140	RH, Block Spring	1	
24	T6-1-61120	Tension Jaw Shaft	1	
25	T6-1-61130	Tension Arm spring Hook I-Type	1	
26	T6-1-61140	Tension Jaw Spring	1	
31	HBS0620N	HBS, M6×20 (N)	3	
33	HBS0830N	HBS, M8×30 (N)	1	
37	HBS0516N	HBS, M5×16 (N)	4	
44	SW05	SW, M5	4	
45	SW06	SW, M6	3	
46	SW08	SW, M8	1	
57	ER06	Snap Ring, E-6	1	
65	SP0680	Spring Pin, 6×80	1	
70	HSS0810G	HSS, M8×10 (G)	1	



1-6-2

TENSION ADJUSTING 2MV-1-630000 CAM ASS'Y



1-6-2**TENSINON ADJUSTING
CAM ASS'Y****2MV-1-630000**

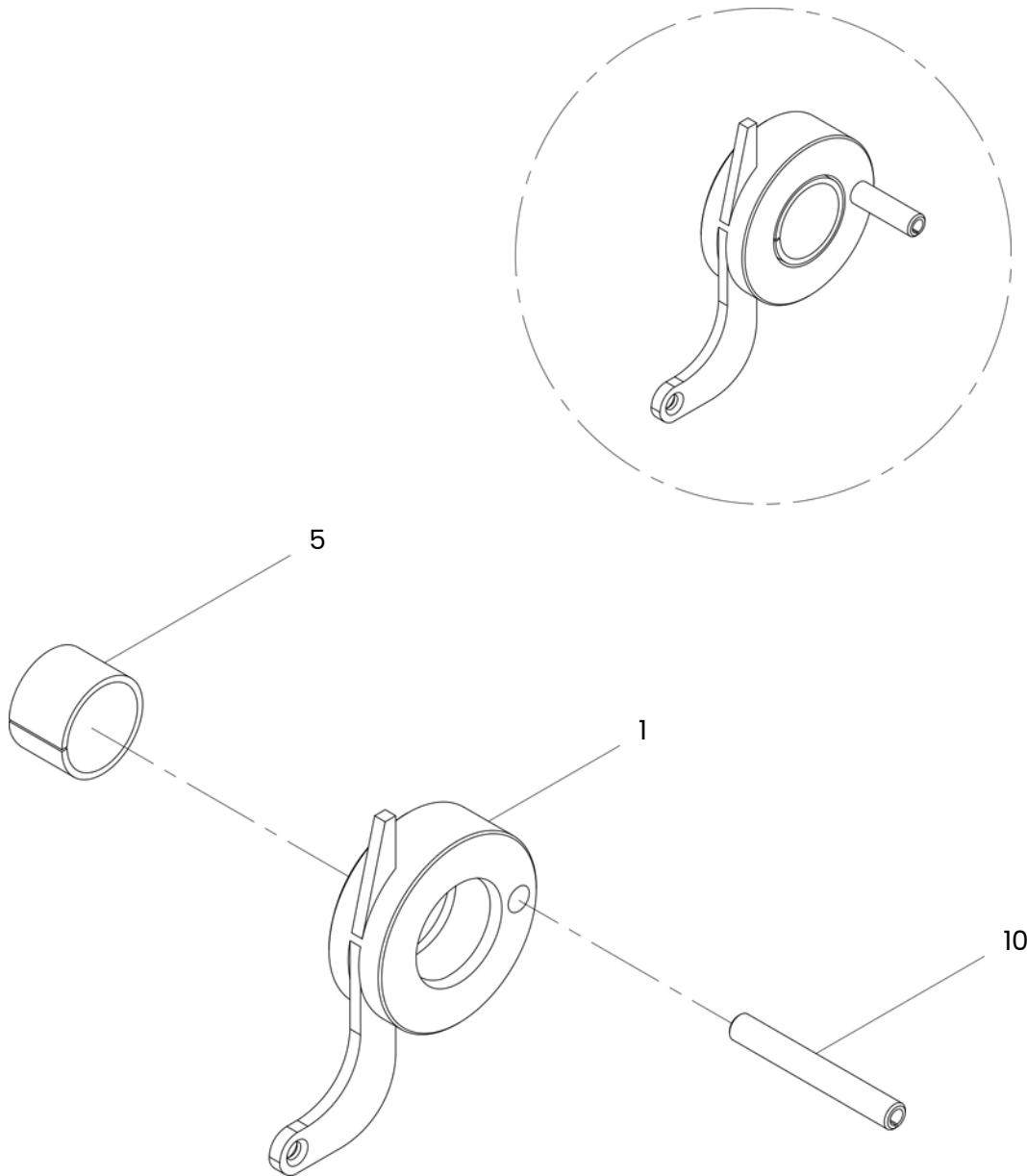
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-1-631100	Tension Adjusting Cam	1	
2	T6-1-63011	Tension Adjusting Handle	1	
3	T6-1-63018	Tension Adjusting Cam Lock	1	
4	T6-1-63120P	Tension Adjusting shaft	1	
5	T6-1-63130	Plate (Tension Selector Knob)	1	
6	T6-1-63140	Tension Adjusting Cam Spring	1	
20	HBS0516N	HBS, M5×16 (N)	1	
24	SW05	SW, M5	1	
30	SR20	Snap Ring, S-20	1	
35	PMS0412	PMS, M4×12	2	
40	PW04	PW, M4	2	



1-6-3

TENSION ADJUSTING ASS'Y

T6-1-64000



1-6-3**TENSINON ADJUSTING ASS'Y****T6-1-64000**

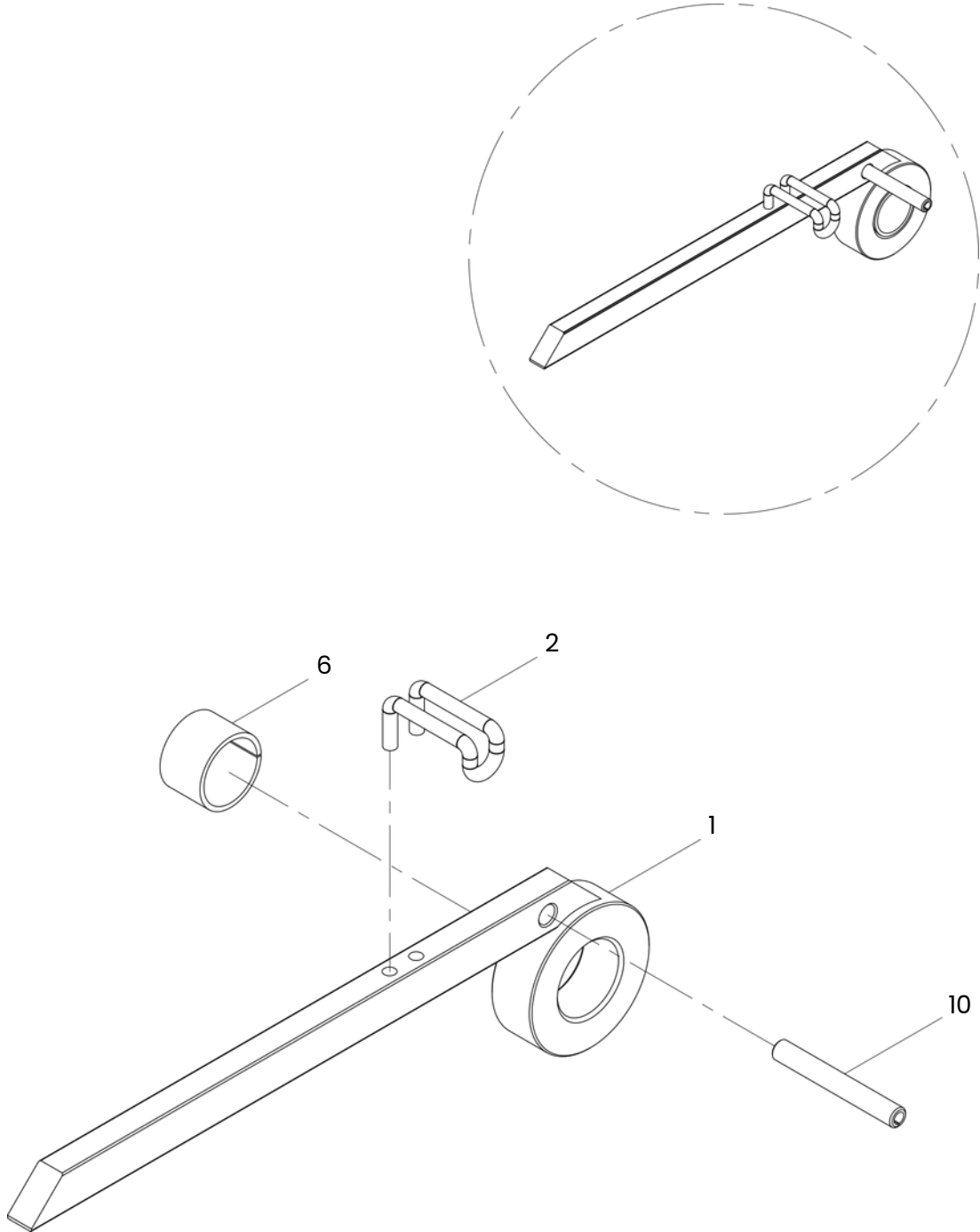
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	T6-1-64110	Tension Adjusting	1	
5	MB2015	Metal Bushing, 2015	1	
10	SP0645	Spring Pin, 6×45	1	



1-6-4

TENSION ADJUSTING ARM ASS'Y

2MV-1-650000



1-6-4

TENSINON ADJUSTING
ARM ASS'Y

2MV-1-650000

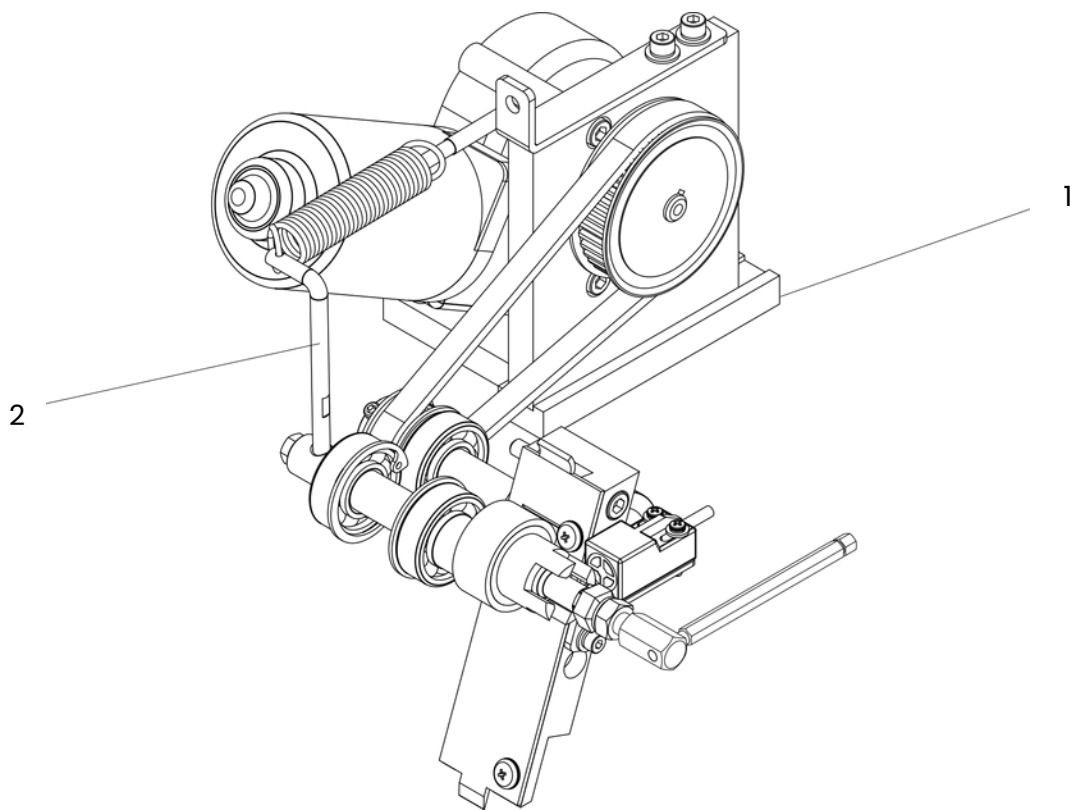
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-1-651100	Tension Adjusting Arm	1	
2	T6-1-65120	Tension Adjusting Arm Spring Hook	1	
6	MB2015	Metal Bushing, 2015	1	
10	SP0645	Spring Pin, 6×45	1	



1-7

FEED GROUP

2MV-1-
700000
2MV-1-
700010



1-7

FEED GROUP

2MV-1-700000
2MV-1-700010

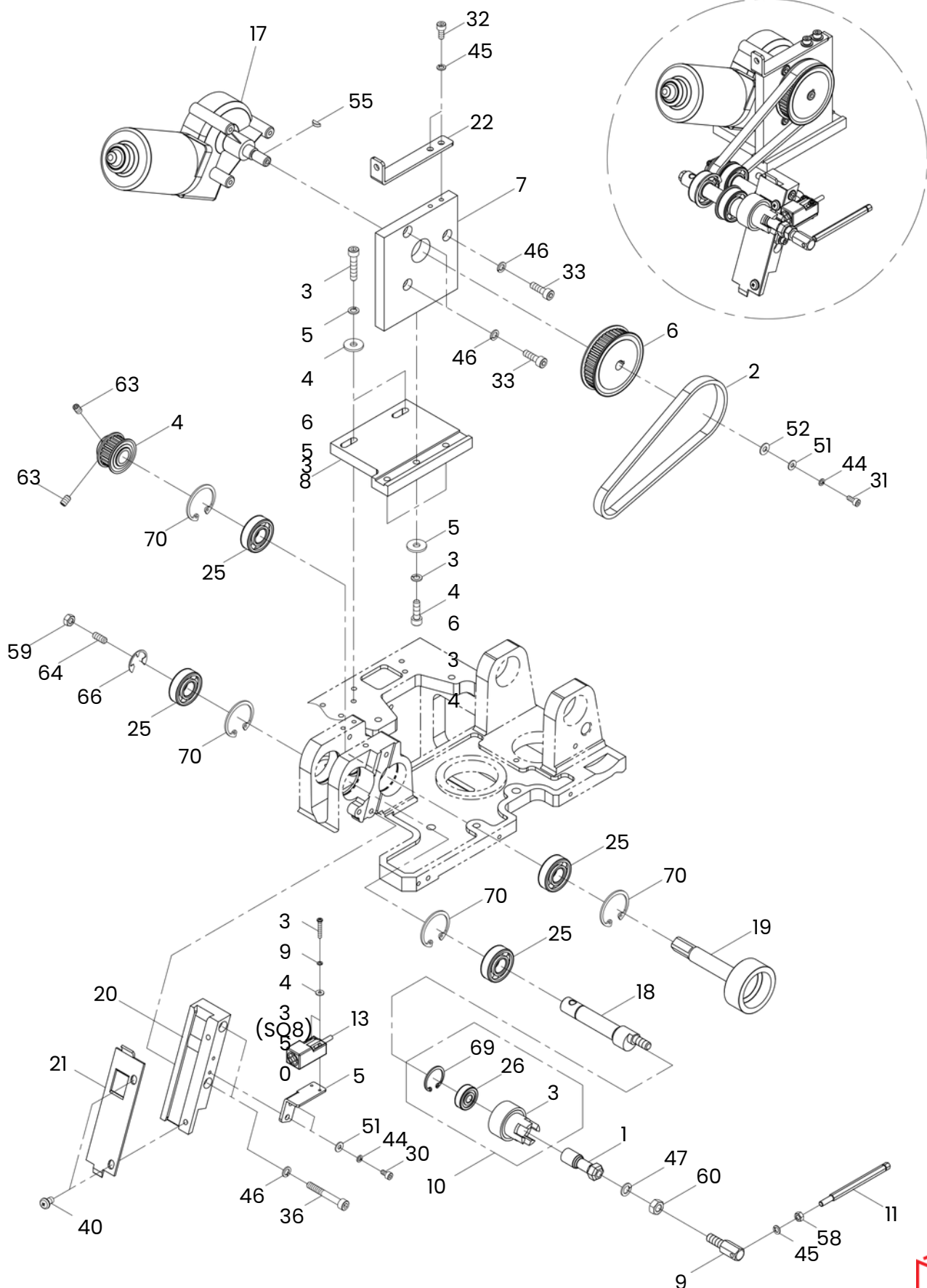
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-1-700000	Feed Group (For 15.5mm)	1	SEE PAGE C37
	2MV-1-700010	Feed Group (For 12mm)	1	
	2MV-1-700020	Feed Group (For 9mm)	1	
	2MV-1-710000	Feed Ass'y (For 15.5mm)	1	
	2MV-1-710010	Feed Ass'y (For 12mm)	1	
	2MV-1-710020	Feed Ass'y (For 9mm)	1	
2	MV-1-72001	Upper Adjusting Weight Ass'y	1	SEE PAGE C41



1-7-1

FEED ASS'Y

2MV-1-
710000 2MV-
1-710010



REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	2MV-1-710000	Feed Ass'y (For 15.5mm)	1	
	2MV-1-710010	Feed Ass'y (For 12mm)	1	
	2MV-1-710020	Feed Ass'y (For 9mm)	1	
1	MV-1-71010	Lever Holder	1	
2	MV-1-71020	Timing Belt (M3)	1	
3	MV-1-71030	Upper Feed Roller (For 15.5mm)	1	
	MV-1-71031	Upper Feed Roller (For 12mm)	1	
	MV-1-71032	Upper Feed Roller (For 9mm)	1	
4	MV-1-71040	Feed Roller Pulley	1	
5	MV-1-71050	Switch Bracket	1	
6	MV-1-71070	Timing Belt Pulley (M2)	1	
7	MV-1-71081	M2 Bracket	1	
8	MV-1-71091	M2 Base	1	
9	MV-1-71100	Puller	1	
10	MV-1-71110	Upper Feed Roller Set (For 12mm)	1	
	MV-1-71111	Upper Feed Roller Set (For 9mm)	1	
	MV-1-71112	Upper Feed Roller Set (For 15.5mm)	1	
11	MV-1-71120	Bolt	1	
13	MV-6-20220	Proximity Sensor (X8)(SQ8)	1	SEE PAGE C85
17	T5-1-20120	Motor	1	
18	T6-1-71130	Upper Feed Roller Shaft	1	
19	T6-1-71140	Feed Roller	1	
20	T6-1-71170	Feed Shooter (For 12mm)	1	
	T6-1-71171	Feed Shooter (For 9mm)	1	
	T6-1-71172	Feed Shooter (For 15.5mm)	1	
21	T6-1-71180	Feed Shooter Cover	1	
22	T6-1-72110	Upper Adjusting Base	1	
25	BR6202ZZ	Bearing, 6202ZZ	4	
26	BR628ZZ	Bearing, 628ZZ	1	
30	HBS0408N	HBS, M4×8 (N)	2	
31	HBS0410N	HBS, M4×10 (N)	1	
32	HBS0512N	HBS, M5×12 (N)	2	
33	HBS0620N	HBS, M6×20 (N)	3	
34	HBS0625N	HBS, M6×25 (N)	3	
35	HBS0630N	HBS, M6×30 (N)	2	
36	HBS0645H	HBS, M6×45 (H)	2	
39	PMS0320	PMS, M3×20	2	
40	PMS0610	PMS, M6×10	2	



1-7-1

FEED ASS'Y

2MV-1-710000

2MV-1-710010

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
43	SW03	SW, M3	2	
44	SW04	SW, M4	3	
45	SW05	SW, M5	3	
46	SW06	SW, M6	10	
47	SW08	SW, M8	1	
50	PW03	PW, M3	2	
51	PW04	PW, M4	3	
52	PW05	PW, M5	1	
53	PW06C	PW, M6 (C)	5	
55	KYC0310	Key, 3×10	1	
58	HN05	HN, M5	1	
59	HN06	HN, M6	1	
60	HN08	HN, M8	1	
63	HSS0610GN	HSS, M6×10 (G)(N)	2	
64	HSS0615G	HSS, M6×15 (G)	1	
66	ER12	Snap Ring, E-12	1	
69	RR24	Snap Ring, H-24	1	
70	RR35	Snap Ring, H-35	4	

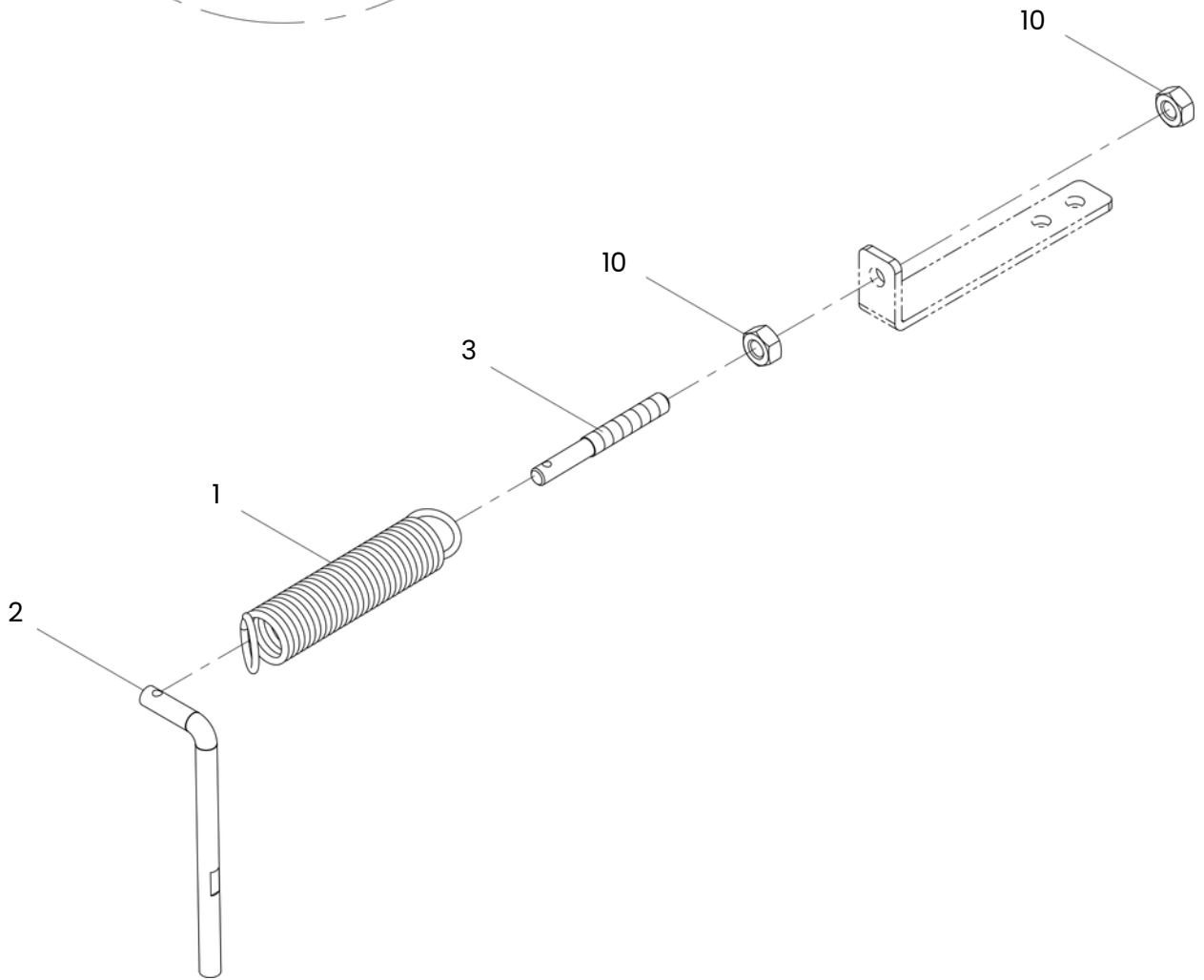
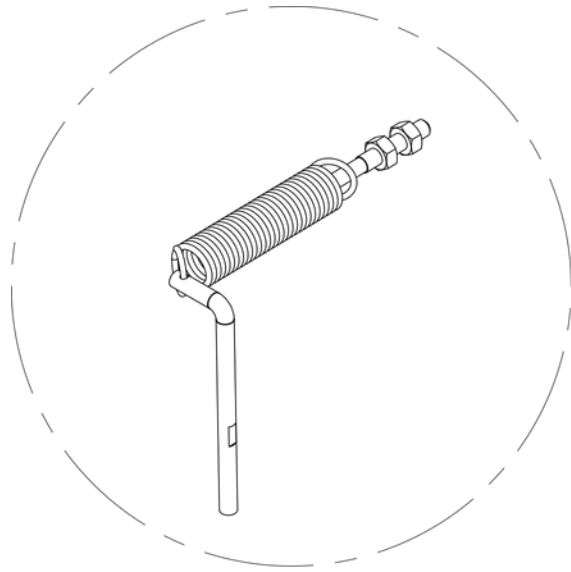




1-7-2

UPPER ADJUSTING WEIGHT ASS'Y

MV-1-72001



1-7-2

UPPER ADJUSTING
WEIGHT ASS'Y

MV-1-72001

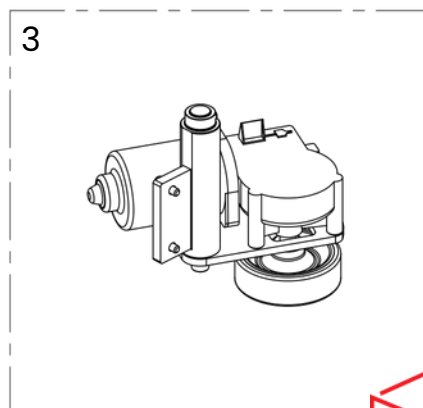
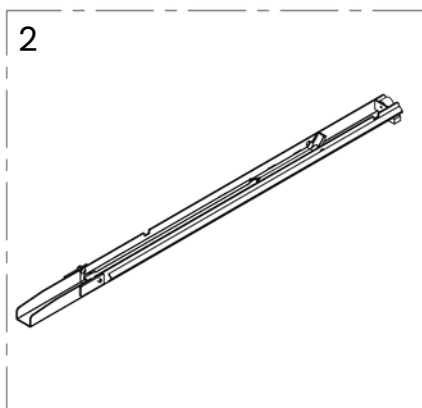
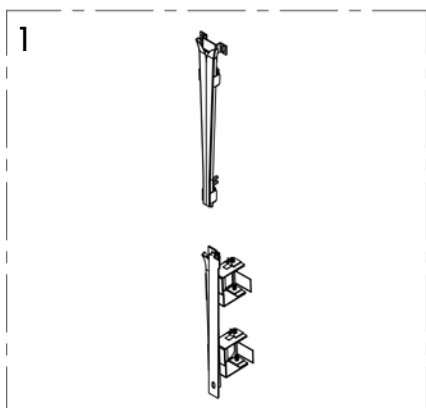
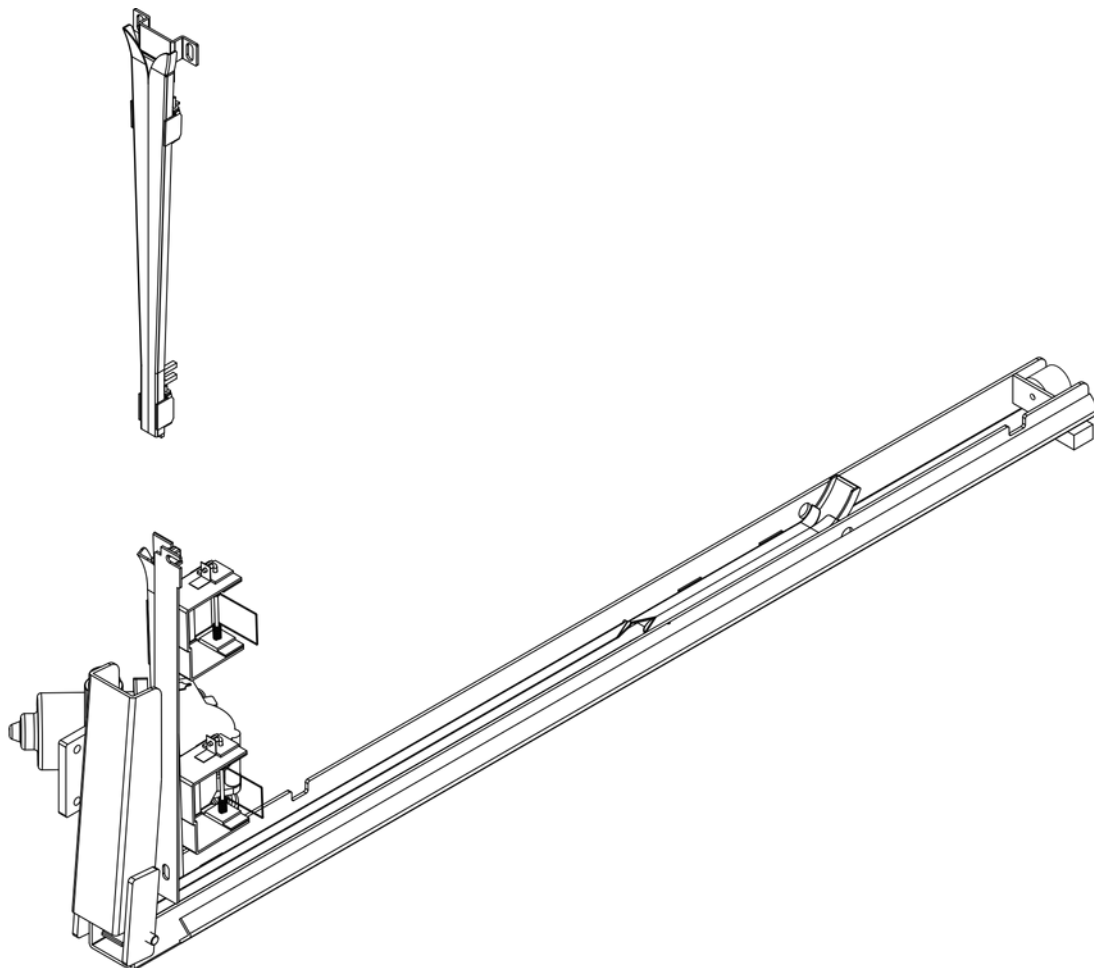
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	T6-1-20372	Spring	1	
2	T6-1-72120	Upper Adjusting Spring Hook	1	
3	T6-1-72130	Upper Adjusting Spring Rod	1	
10	HN06	HN, M6	2	



2

BANDWAY UNIT

2MV-2-
900001 2MV-
2-900011



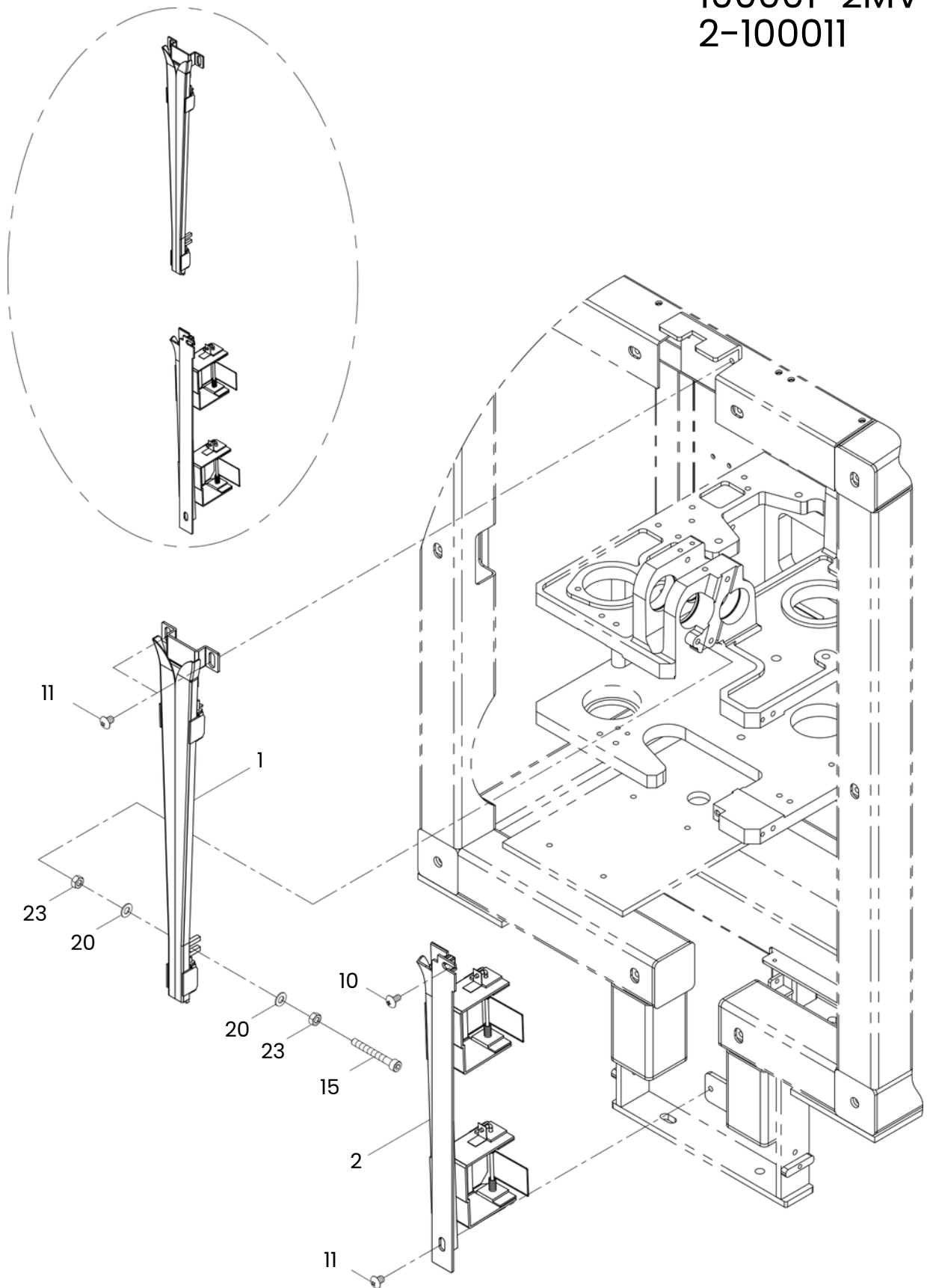
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	2MV-2-900001	Bandway Unit (For 15.5mm)	1	
	2MV-2-900011	Bandway Unit (For 12mm)	1	
	2MV-2-900021	Bandway Unit (For 9mm)	1	
1	2MV-2-100001	Bandway Group (For 15.5mm)	1	SEE PAGE C45
	2MV-2-100011	Bandway Group (For 12mm)	1	
	2MV-2-100021	Bandway Group (For 9mm)	1	
2	2MV-2-200000	Lance Group	1	SEE PAGE C51
3	2MV-2-300000	Lance Power Group	1	SEE PAGE C53



2-1

BANDWAY GROUP

2MV-2-
100001 2MV-
2-100011



2-1

BANDWAY GROUP

2MV-2-100001

2MV-2-100011

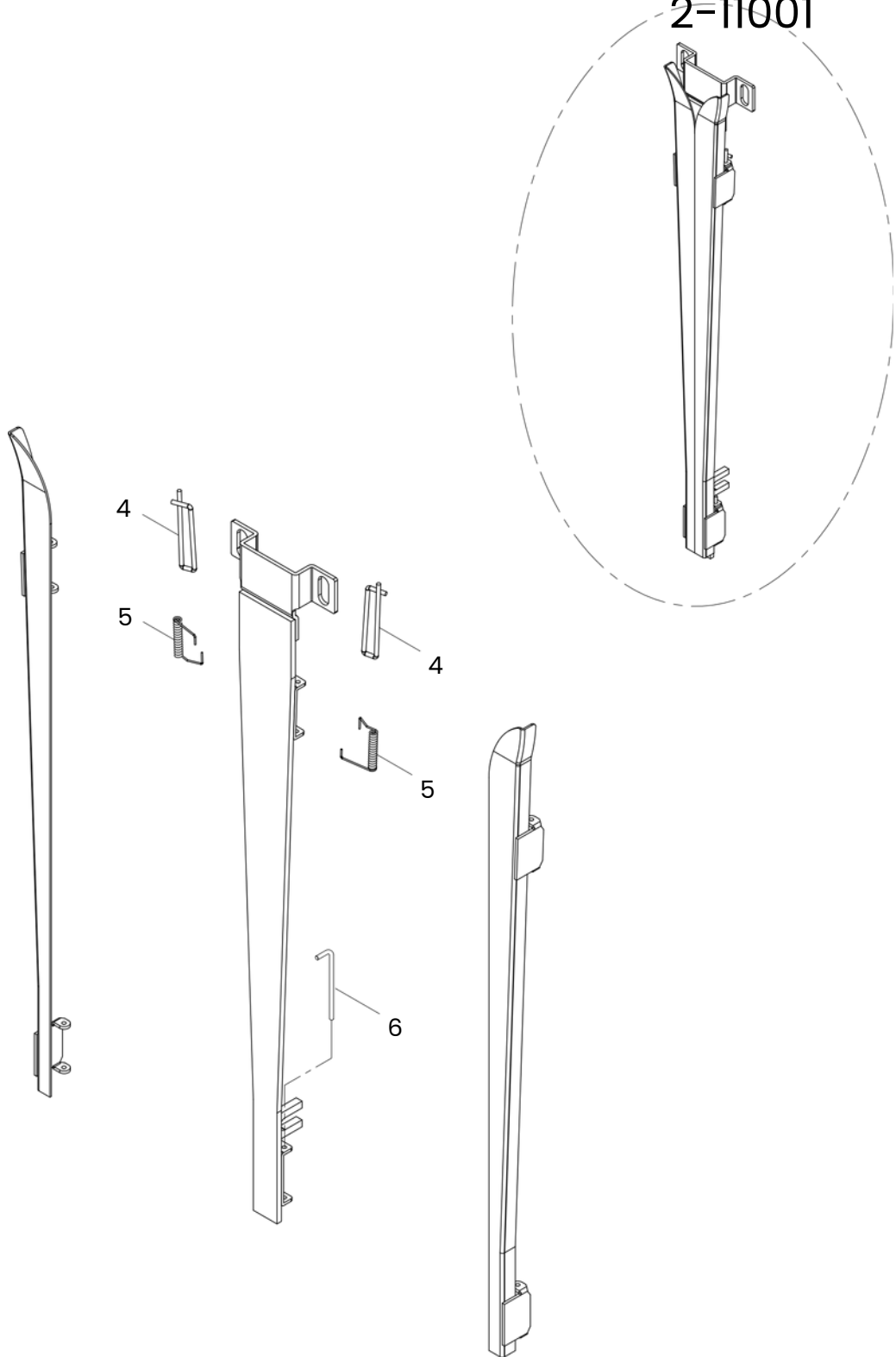
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	2MV-2-100001	Bandway Group (For 15.5mm)	1	
	2MV-2-100011	Bandway Group (For 12mm)	1	
	2MV-2-100021	Bandway Group (For 9mm)	1	
1	MV-2-11000	RH Bandway Ass'y (For 12mm)	1	SEE PAGE C47
	MV-2-11001	RH Bandway Ass'y (For 9mm)	1	
	MV-2-11002	RH Bandway Ass'y (For 15.5mm)	1	
2	2MV-2-110000	LH Bandway Ass'y	1	SEE PAGE C49
10	TMS0508	TMS, M5×8	1	
11	TMS0608	TMS, M6×8	3	
15	HBS0650	HBS, M6×50	1	
20	PW06A	PW, M6 (A)	2	
23	HN06	HN, M6	2	



2-1-1

RH BANDWAY ASS'Y

MV-2-
11000 MV-
2-11001



2-1-1

RH BANDWAY ASS'Y

MV-2-11000
MV-2-11001

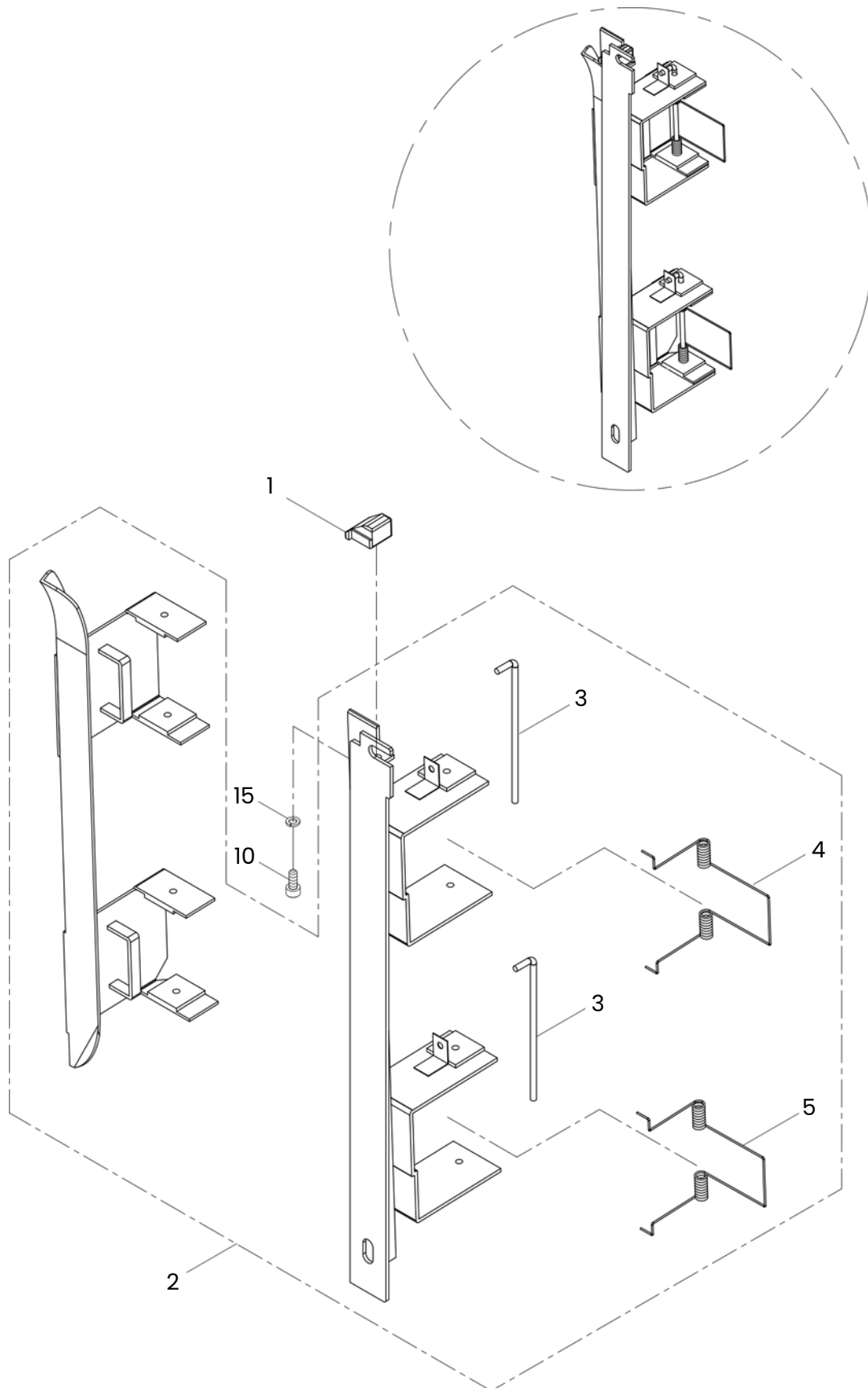
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	MV-2-11000	RH Bandway Ass'y (For 12mm)	1	
	MV-2-11001	RH Bandway Ass'y (For 9mm)	1	
	MV-2-11002	RH Bandway Ass'y (For 15.5mm)	1	
4	T6-2-11140	RH Bandway Flap Pin (Rear)	2	
5	T6-2-11150	RH Bandway Flap Spring	2	
6	T6-2-11160	RH Bandway Flap Pin (Front)	2	



2-1-2

LH BANDWAY ASS'Y

2MV-1-110000



2-1-2

LH BANDWAY ASS'Y

2MV-2-110000

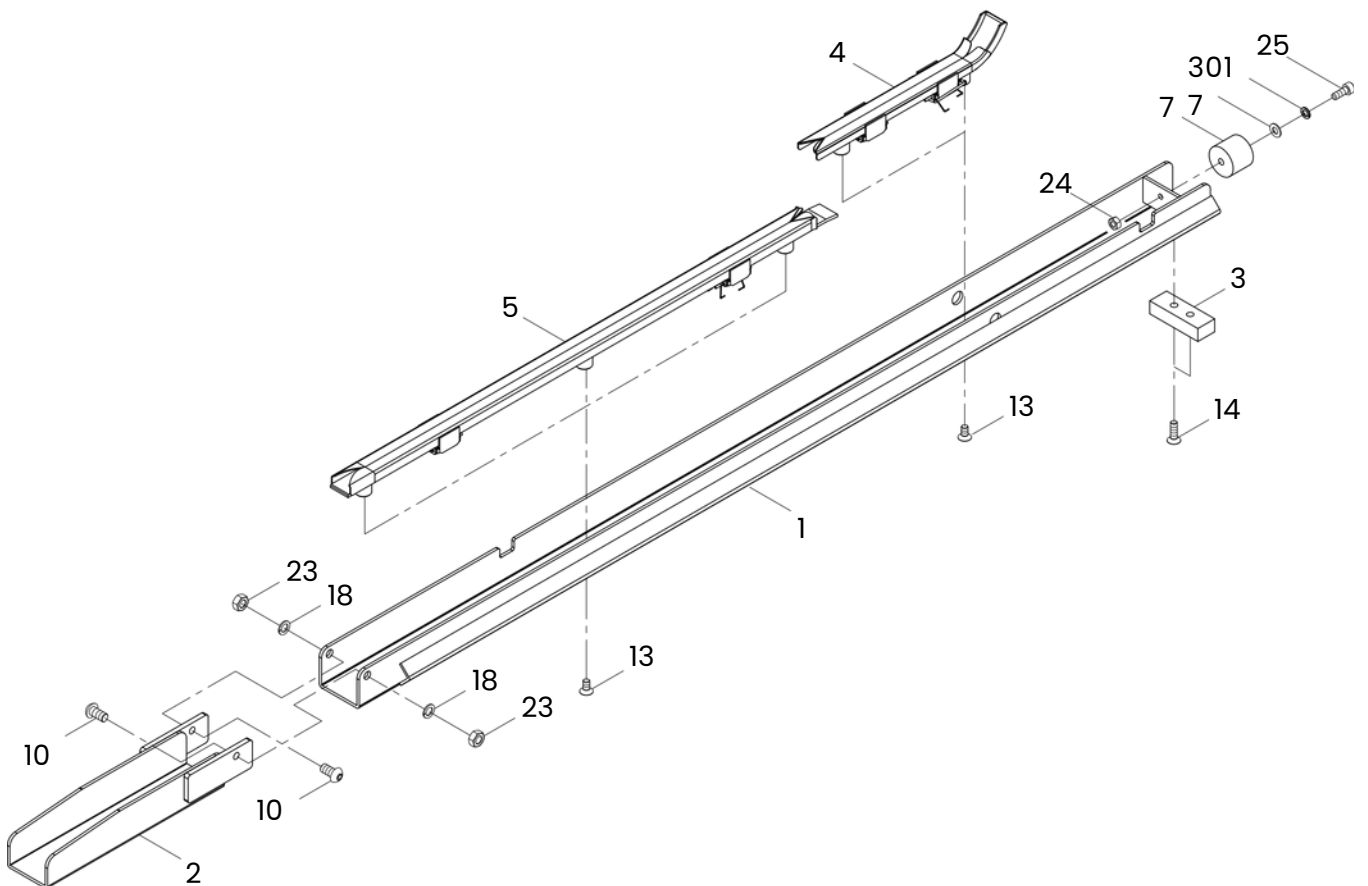
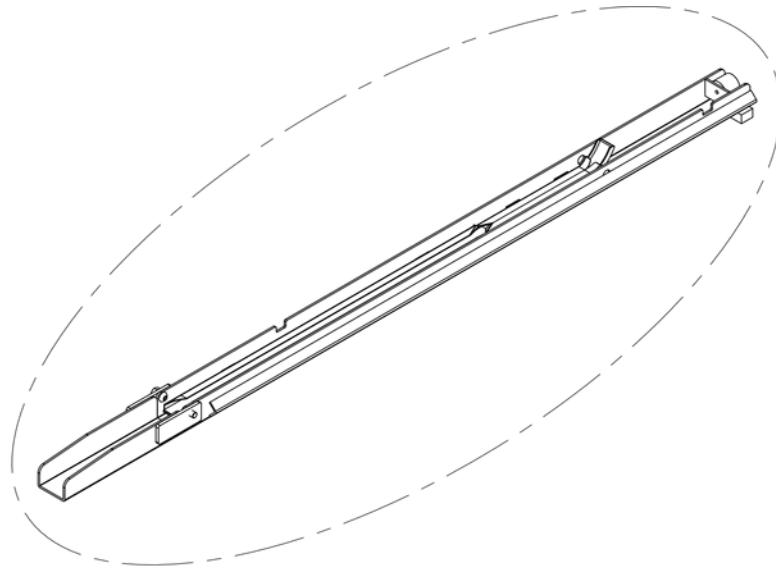
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	MV-2-20040	Guide Block	1	
2	2MV-2-111100	LH Bandway Ass'y		
3	T6-2-12130	LH Bandway Flap Pin	2	
4	T6-2-12140	LH Bandway Flap Spring	1	
5	T6-2-12150	LH Bandway Flap Spring	1	
10	HBS0410N	HBS, M4×10 (N)	1	
15	SW04	SW, M4	1	



2-2

LANCE GROUP

2MV-2-200000



2-2

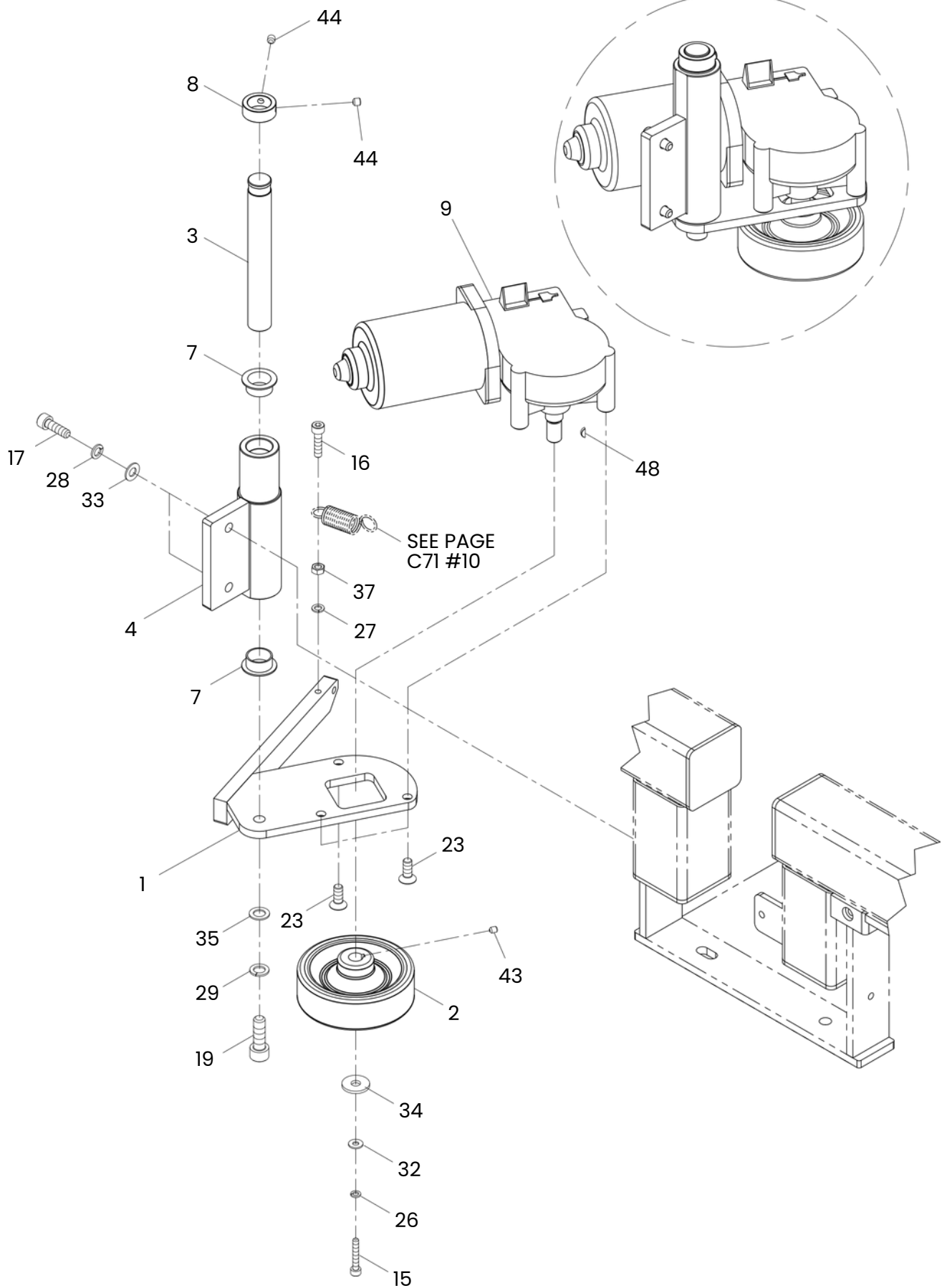
LANCE GROUP

2MV-2-200000

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-2-201100	Bandway Rack	1	
2	2MV-2-201200	Bandway Rack	1	
3	2MV-2-201300	Stopper	1	
4	2MV-2-201400	RH Bandway Ass'y	1	
5	T2-2-10100	LH Bandway Ass'y	1	
7	PV-5-211700	Absorber	1	
10	THS0816N	THS, M8×16 (N)	2	
13	FHS0616N	FHS, M6×16 (N)	5	
14	FHS0620N	FHS, M6×20 (N)	2	
17	SW06	SW, M6	1	
18	SW08	SW, M8	2	
23	HN08	HN, M8	2	
24	HN06	HN, M6	1	
25	HBS0616N	HBS, M6×16 (N)	1	
30	PW06A	PW, M6 (A)	1	



LANCE POWER GROUP2MV-2-300000



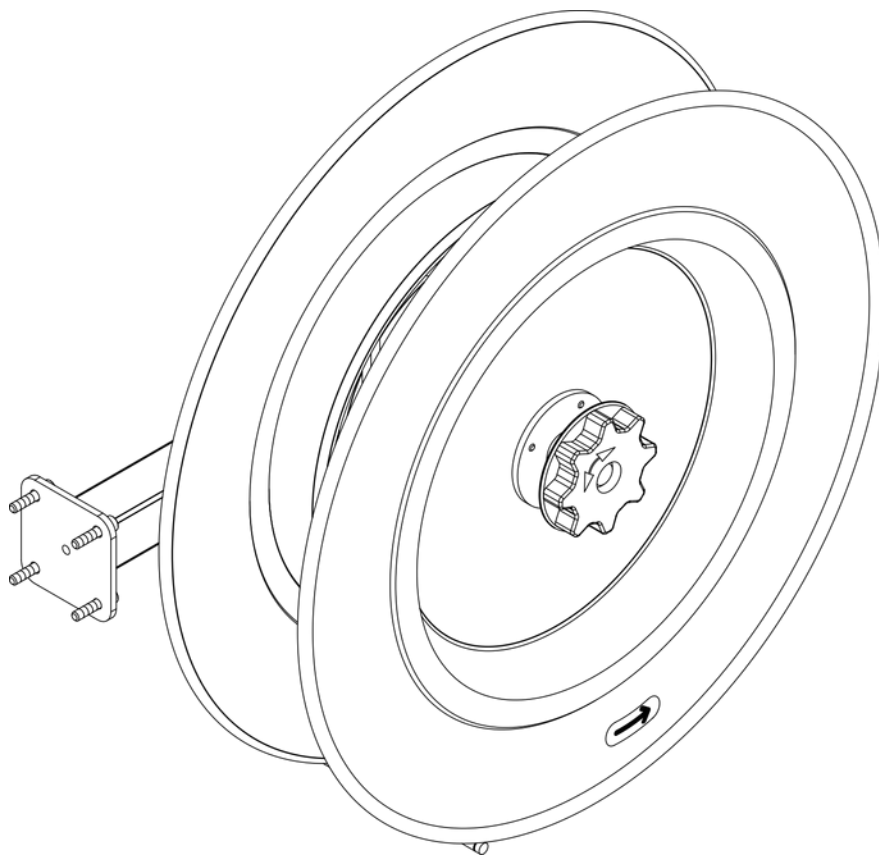
2-3

LANCE POWER GROUP

2MV-2-300000

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-2-301100	Motor Bracket	1	
2	2MV-2-301200	Drive Pulley	1	
3	2MV-2-301300	Shaft	1	
4	2MV-2-301400	Shaft Bracket	1	
7	FPB1609	Plastic Bushing, 1609	2	
8	MCO-A-1610900	Spacer	1	
9	T5-1-20120	Motor	1	
15	HBS0425N	HBS, M4×25 (N)	1	
16	HBS0520N	HBS, M5×20 (N)	1	
17	HBS0620N	HBS, M6×20 (N)	2	
19	HBS0825N	HBS, M8×25 (N)	1	
23	FHS0616N	FHS, M6×16 (N)	3	
26	SW04	SW, M4	1	
27	SW05	SW, M5	1	
28	SW06	SW, M6	2	
29	SW08	SW, M8	1	
32	PW04	PW, M5	1	
33	PW06A	PW, M6 (A)	2	
34	PW06C	PW, M6 (C)	1	
35	PW08A	PW, M8 (A)	1	
37	HN05	HN, M5	1	
43	HSS0406GN	HSS, M4×6 (G)(N)	1	
44	HSS0505GN	HSS, M5×5 (G)(N)	2	
48	KYC0310	Key, 3×10	1	





4**REEL CONTROL GROUP****MV-4-10001**

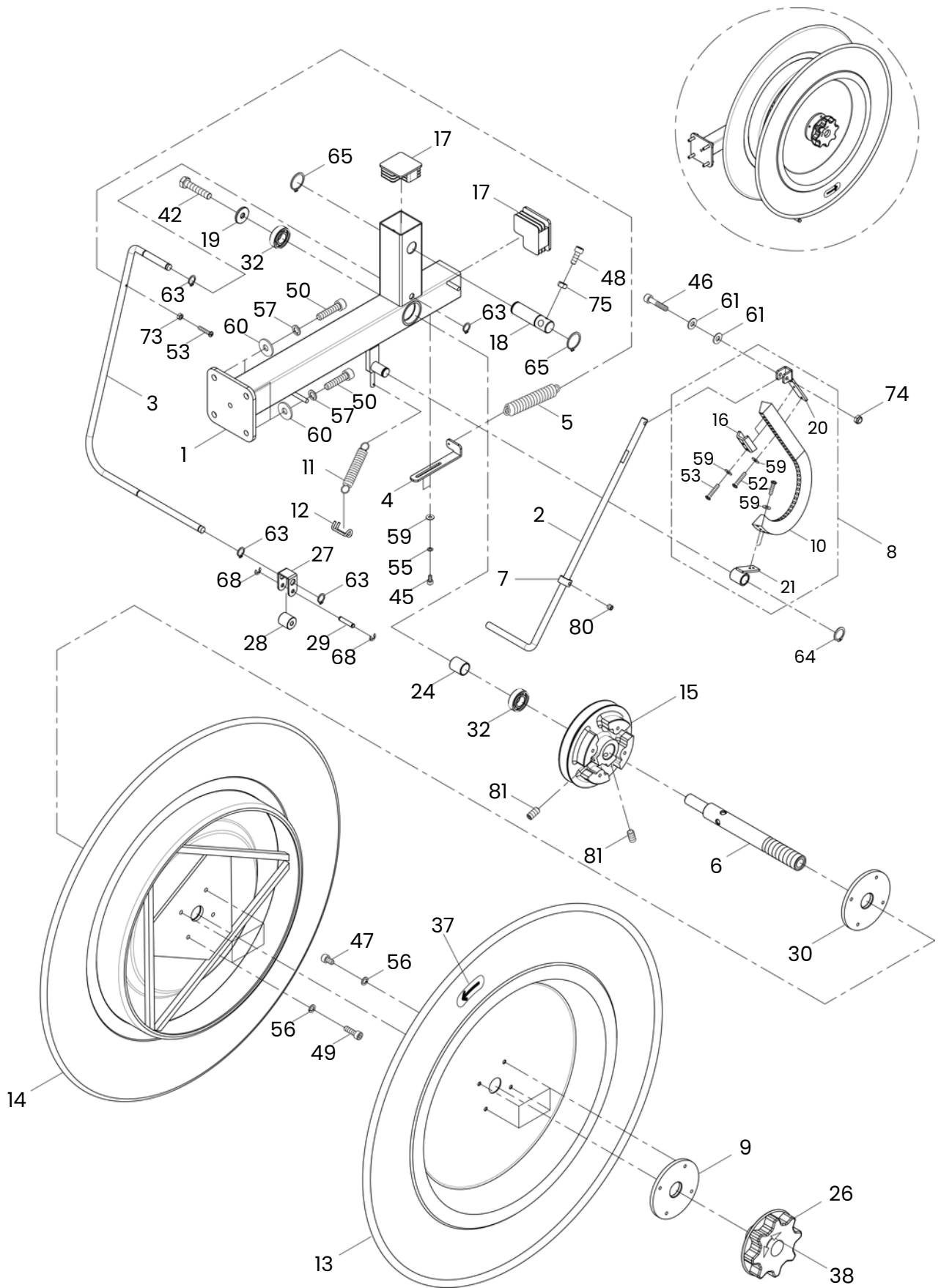
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	MV-4-10001	Reel Control Group (Strap Core 406mm)	1	SEE PAGE C57
2	MV-4-20002	Reel Control Group (Strap Core 200mm) (Option)	1	SEE PAGE C61
	MV-4-20005	Reel Control Group (Strap Core 230mm) (Option)	1	
	MV-4-20004	Reel Control Group (Strap Core 280mm) (Option)	1	



4-1

REEL CONTROL GROUP

MV-4-10001



REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	MV-4-10010	Reel Support	1	
2	MV-4-10020	Brake Arm	1	
3	MV-4-10030	Brake Wheel	1	
4	MV-4-10040	Spring Holder	1	
5	MV-4-10050	Spring	1	
6	MV-4-10070	Reel Shaft		
7	MV-4-10080	Set Block	1	
8	MV-4-10100	Brake Belt Ass'y	1	
9	T7-4-10150	Plate	1	
10	T6-4-20029	Brake Belt	1	
11	T6-4-20180	Brake Tension Arm Spring	1	
12	T6-4-20260	Spring Hook	1	
13	H84-20001	Reel Out Circula	1	
14	H84-20006	Reel In Circular	1	
15	H84-30001	Brake Wheel	1	
16	T6-4-20031	Lining Fixed Bracket	1	
17	TC-005	Lid	2	
18	TC-009	Brake Shaft	1	
19	TC-011	Washer	1	
20	TC-045-1	Fising Brake Lining Bracket	1	
21	TC-050	Lining Holder	1	
24	TC-094	Spacer	1	
26	TD-016	Reel Nut Handle (LH)	1	
27	TE-027	Roller Holder	1	
28	TE-028	Roller	1	
29	TE-029	Pin	1	
30	MV-4-10060	Plate	1	
32	BR6003ZZ	Bearing, 6003ZZ	2	
37	LA-30200	Label	1	
38	LA-30210	Label	1	
42	HB0816	HB, M8×16	1	
45	HBS0408N	HBS, M4×8 (N)	2	
46	HBS0525HN	HBS, M5×25 (H)(N)	1	
47	HBS0610N	HBS, M6×10 (N)	4	
48	HBS0616N	HBS, M6×16 (N)	1	
49	HBS0620N	HBS, M6×20 (N)	4	



REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
50	HBS0825N	HBS, M8×25 (N)	4	
52	PMS0416	PMS, M4×16	3	
53	PMS0420	PMS, M4×20	3	
55	SW04	SW, M4	2	
56	SW06	SW, M6	8	
57	SW08	SW, M8	4	
59	PW04	PW, M4	6	
60	PW08C	PW, M8 (C)	4	
61	PW05	PW, M5	2	
63	SR10	Snap Ring, S-10	4	
64	SR15	Snap Ring, S-15	1	
65	SR20	Snap Ring, S-20	2	
68	ER04	Snap Ring, E-4	2	
73	HN04	HN, M4	1	
74	NTE05	NTE, M5	1	
75	HN06	HN, M6	1	
80	HSS0606GN	HSS, M6×6 (G)(N)	1	
81	HSS0816GN	HSS, M8×16 (G)(N)	2	

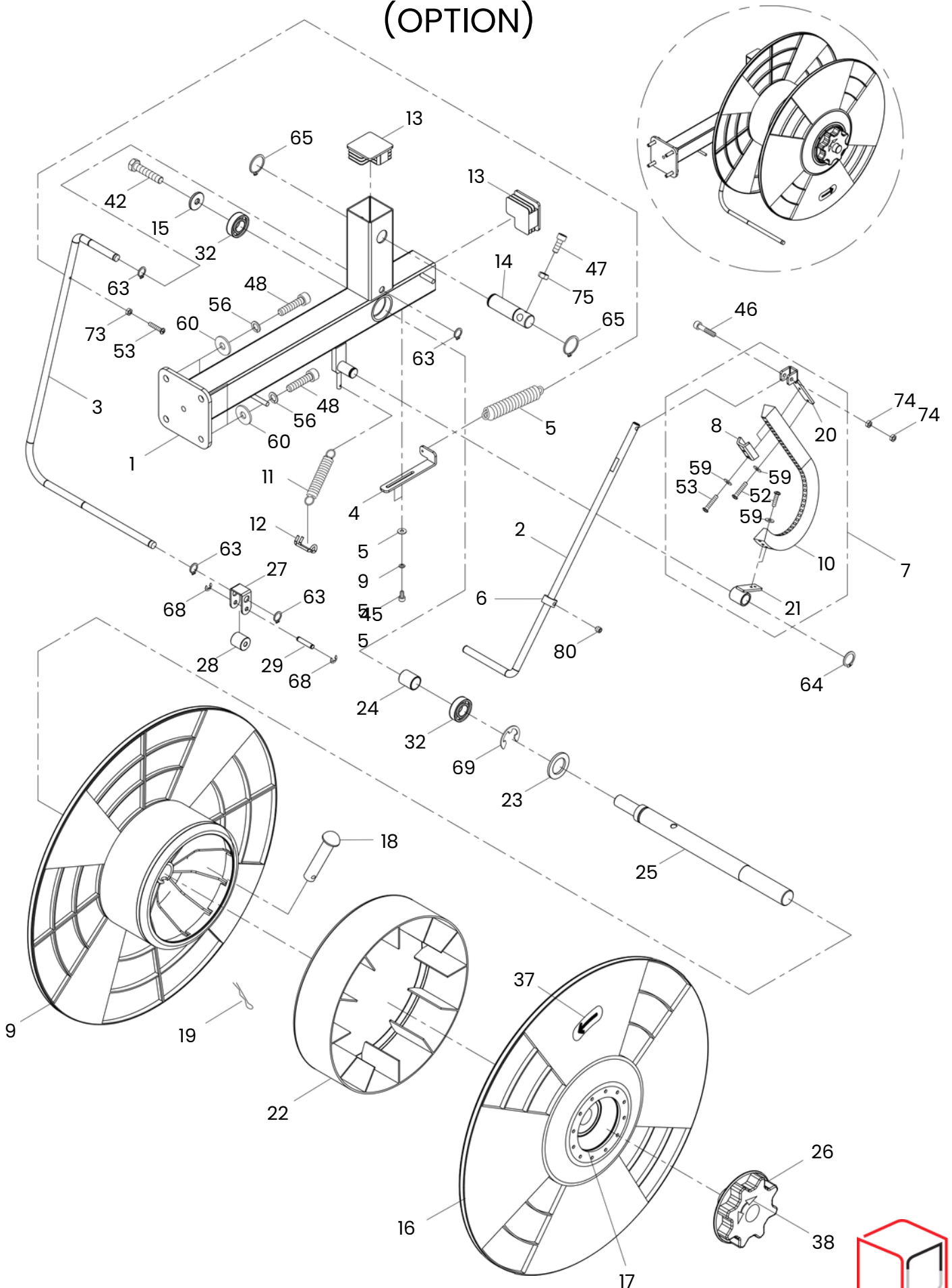




4-2

REEL CONTROL GROUP (OPTION)

MV-4-20002



4-2

REEL CONTROL GROUP (OPTION)

MV-4-20002

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	MV-4-20002	Reel Control Group (Strap Core 200 mm) (Option)	1	
	MV-4-20005	Reel Control Group (Strap Core 230 mm) (Option)	1	
	MV-4-20004	Reel Control Group (Strap Core 280 mm) (Option)	1	
1	MV-4-10010	Reel Support	1	
2	MV-4-10020	Brake Arm	1	
3	MV-4-10030	Brake Wheel	1	
4	MV-4-10040	Spring Holder	1	
5	MV-4-10050	Spring	1	
6	MV-4-10080	Set Block	1	
7	MV-4-10100	Brake Belt Ass'y	1	
8	T6-4-20031	Lining Fixed Bracket	1	
9	T6-4-10570	Inner Flange	1	
10	T6-4-20029	Brake Belt	1	
11	T6-4-20180	Brake Tension Arm Spring	1	
12	T6-4-20260	Spring Hook	1	
13	TC-005	Lid	2	
14	TC-009	Brake Shaft	1	
15	TC-011	Washer	1	
16	TC-014	Outer Flange	1	
17	TC-015	Protector	1	
18	TC-020	Pin	1	
19	TC-021	Split Pin	1	
20	TC-045-1	Fising Brake Lining Bracket	1	
21	TC-050	Lining Holder	1	
22	TC-074	Center Drum (For 230mm)	1	
	TC-075	Center Drum (For 280mm)	1	
23	TC-076	Washer	1	
24	TC-094	Spacer	1	
25	TD-003	Reel Shaft (LH)	1	
26	TD-016	Reel Nut Handle (LH)	1	
27	TE-027	Roller Holder	1	
28	TE-028	Roller	1	
29	TE-029	Pin	1	
32	BR6003ZZ	Bearing, 6003ZZ	2	
37	LA-30200	Label	1	
38	LA-30210	Label	1	



4-2

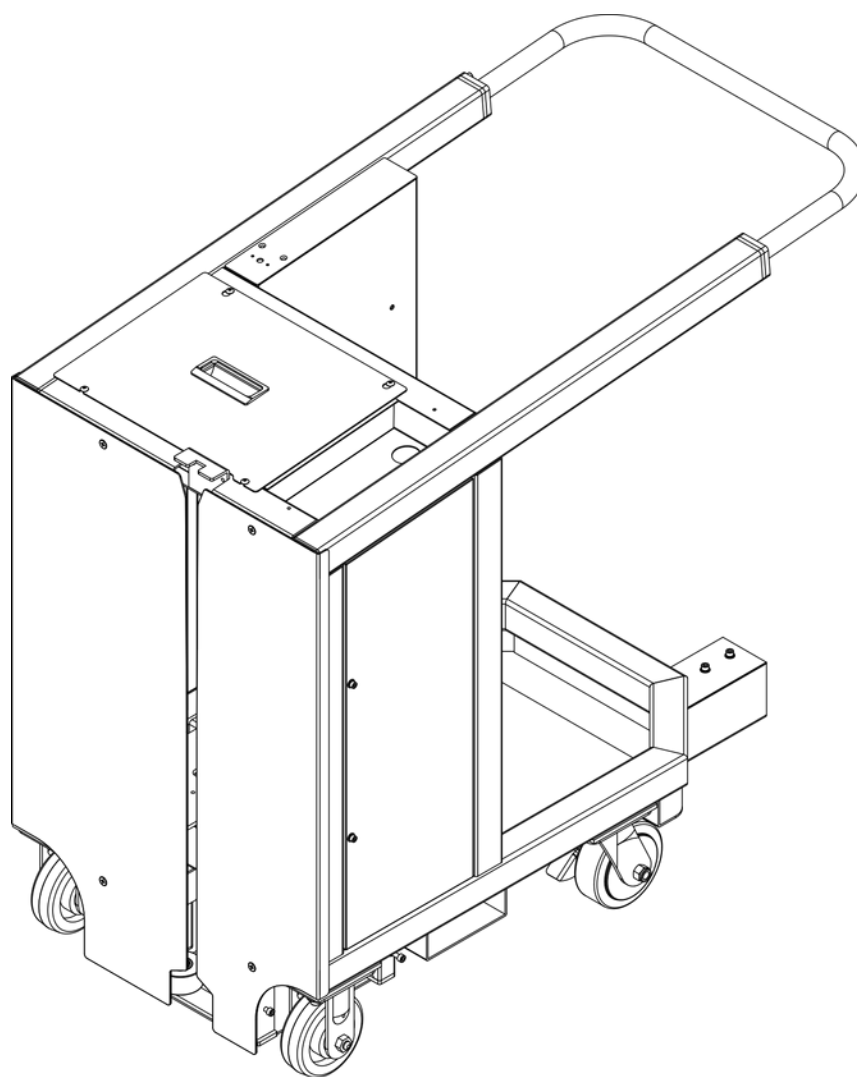
REEL CONTROL GROUP

MV-4-20002

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
42	HB0816	HB, M8×16	1	
45	HBS0408N	HBS, M4×8 (N)	2	
46	HBS0525HN	HBS, M5×25 (H)(N)	1	
47	HBS0616N	HBS, M6×16 (N)	1	
48	HBS0825N	HBS, M8×25 (N)	4	
52	PMS0416	PMS, M4×16	3	
53	PMS0420	PMS, M4×20	3	
55	SW04	SW, M4	2	
56	SW08	SW, M8	4	
59	PW04	PW, M4	6	
60	PW08C	PW, M8 (C)	4	
63	SR10	Snap Ring, S-10	4	
64	SR15	Snap Ring, S-15	1	
65	SR20	Snap Ring, S-20	2	
68	ER04	Snap Ring, E-4	2	
69	ER19	Snap Ring, E-19	1	
73	HN04	HN, M4	1	
74	HN05	HN, M5	2	
75	HN06	HN, M6	1	
80	HSS0606GN	HSS, M6×6 (G)(N)	1	







5

BODY FRAME GROUP

2MV-5-100000

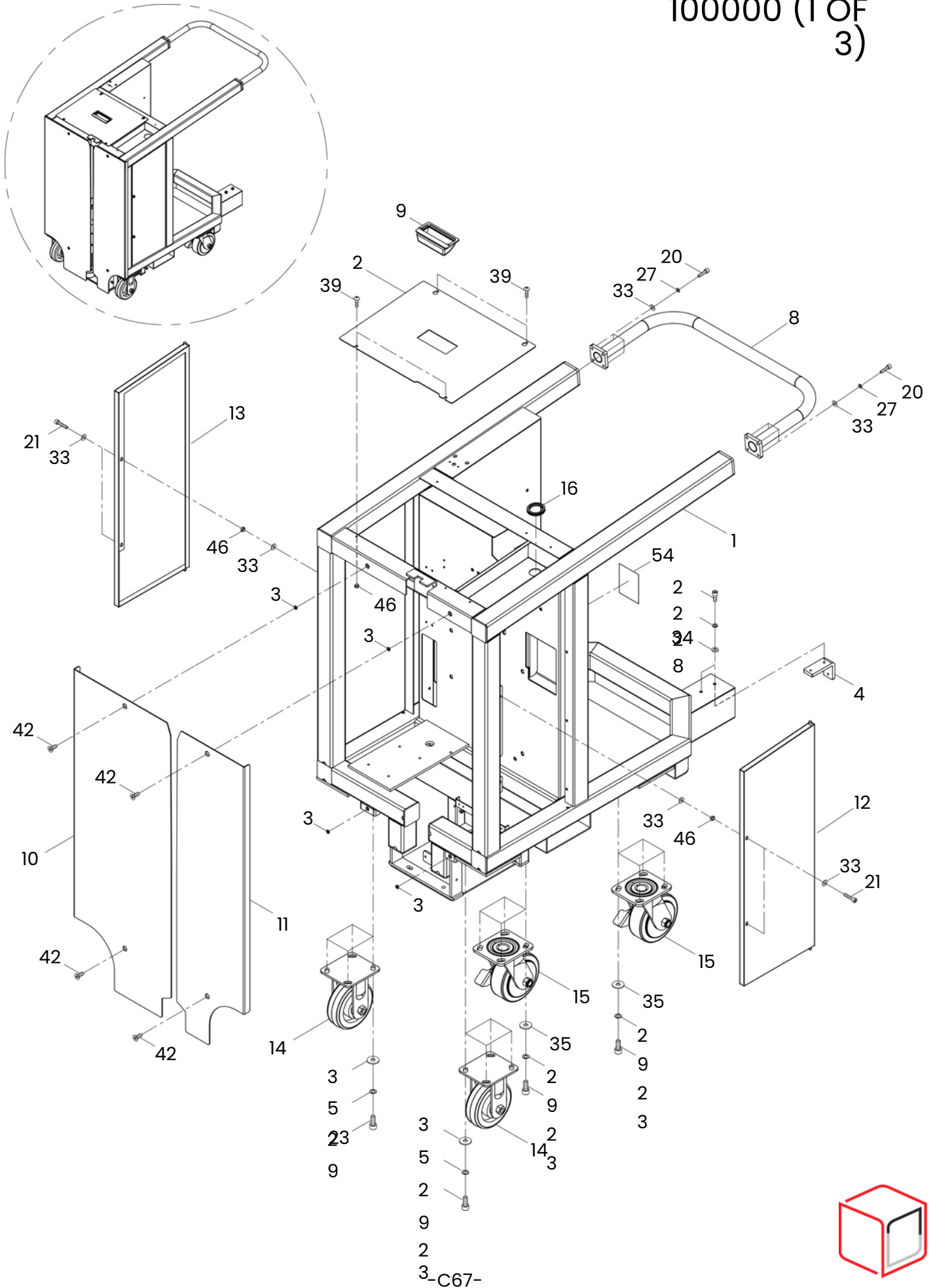
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-5-100000	Body Frame Group	1	



5-1

BODY FRAME GROUP

2MV-5-
100000 (1 OF
3)



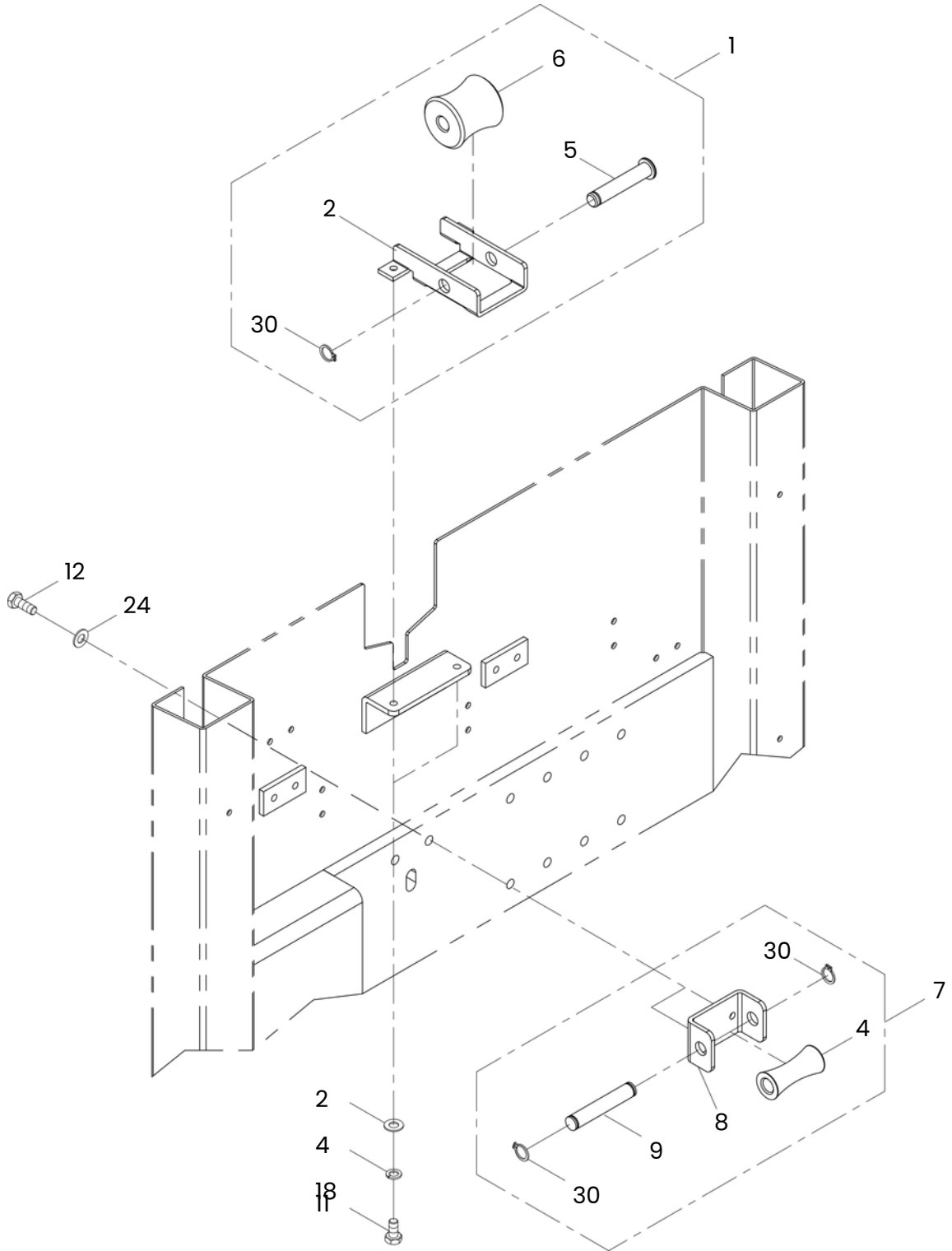
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-5-101100	Body Frame	1	
2	2MV-5-101200	Cover	1	
3	2MV-5-101300	Plate	4	
4	2MV-5-101400	Stopper	1	
8	M7-5-102201	Protect Arm	1	
9	M7-5-205500	Handle	1	
10	MV-5-10020	Front plate (LH)	1	
11	MV-5-10030	Front plate (RH)	1	
12	MV-5-10041	Front Door	1	
13	MV-5-10051	Rear Door	1	
14	MV-5-10160	Caster	2	
15	5MH-2-100700	Caster (Brake)	2	
16	T6-5-10200	Grommet	1	
20	HBS0520N	HBS, M5×20 (N)	8	
21	HBS0525N	HBS, M5×25 (N)	4	
22	HBS0616N	HBS, M6×16 (N)	2	
23	HBS0820N	HBS, M8×20 (N)	16	
27	SW05	SW, M5	8	
28	SW06	SW, M6	2	
29	SW08	SW, M8	16	
33	PW05	PW, M5	16	
34	PW06A	PW, M6 (A)	2	
35	PW08C	PW, M8 (C)	16	
39	THS0516N	THS, M5×16 (N)	4	
42	FMS0616N	FMS, M6×16 (N)	4	
46	NTE05	NTE, M5	8	
54	LA-30030	Label	1	



5-1

BODY FRAME GROUP

2MV-5-100000
(2 OF 3)



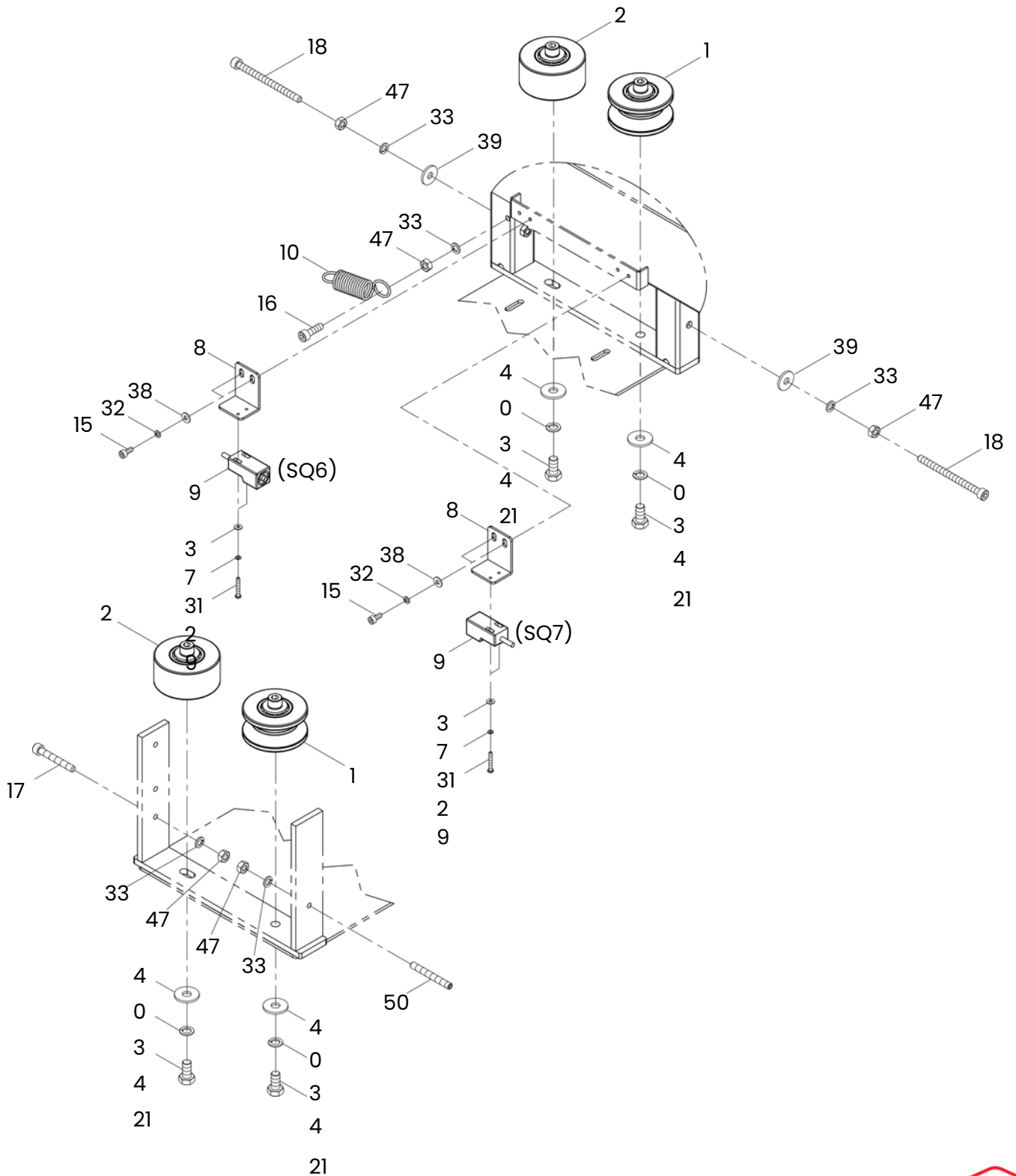
5-1

BODY FRAME GROUP

2MV-5-100000
(2 OF 3)

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	TC-047A	Roller Bracket Ass'y	1	
2	TC-047	Roller Bracket	1	
4	TC-019	Roller	1	
5	TC-048	Shaft	1	
6	TC-049	Roller	1	
7	TD-047A	Roller Bracket Ass'y	1	
8	TD-047	Roller Bracket	1	
9	TD-048	Shaft	1	
11	HB0612	HB, M6×12	2	
12	HB0616	HB, M6×16	2	
18	SW06	SW, M6	2	
24	PW06A	PW, M6 (A)	4	
30	SR30	Snap Ring, S-30	3	





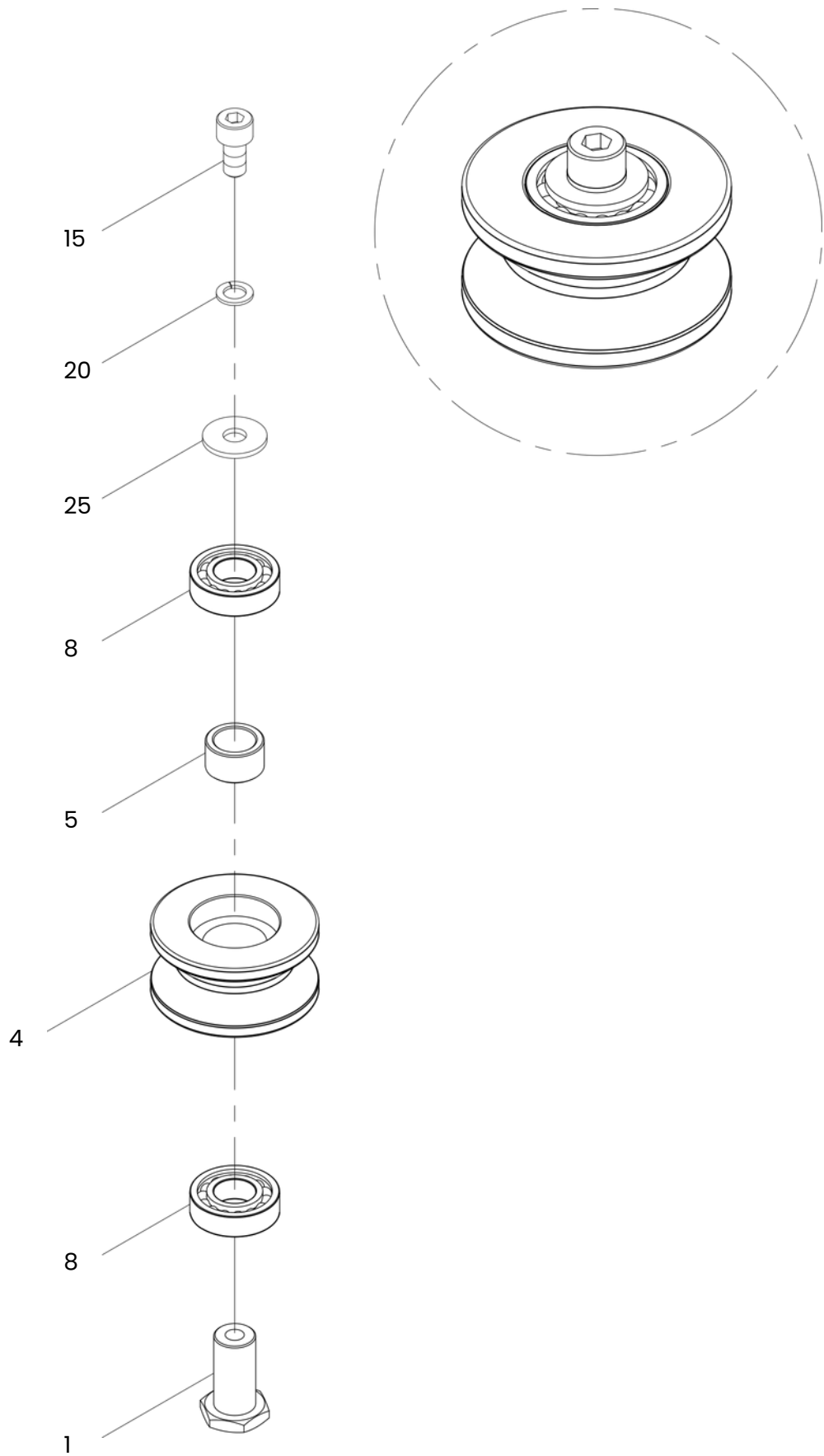
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-5-110000	Roller Ass'y(R)	2	
2	2MV-5-120000	Roller Ass'y(L)	2	
8	CQ3-9-301000	Sensor Bracket	2	
9	MV-6-20220	Proximity Sensor (X6, X7)(SQ6, SQ7)	2	SEE PAGE C85
10	TA-071	Return Spring	1	
15	HBS0410N	HBS, M4×10 (N)	4	
16	HBS0620N	HBS, M6×20 (N)	1	
17	HBS0645N	HBS, M6×45 (N)	1	
18	HBS0680N	HBS, M6×80 (N)	2	
21	HB0820	HB, M8×20	4	
29	PMS0320	PMS, M3×20	4	
31	SW03	SW, M3	4	
32	SW04	SW, M4	4	
33	SW06	SW, M6	5	
34	SW08	SW, M8	4	
37	PW03	PW, M3	4	
38	PW04	PW, M4	4	
39	PW06C	PW, M6 (C)	2	
40	PW08C	PW, M8 (C)	4	
47	HN06	HN, M6	5	
50	HSS0650N	HSS, M6×50 (N)	1	



5-1-1

Roller Ass'y (R)

2MV-5-110000



5-1-1

ROLLER ASS'Y (R)

2MV-5-110000

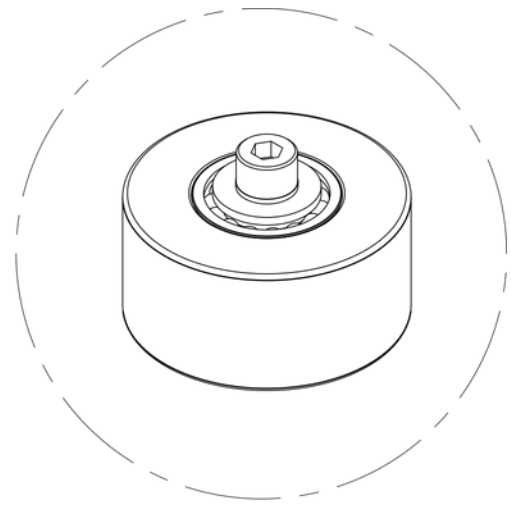
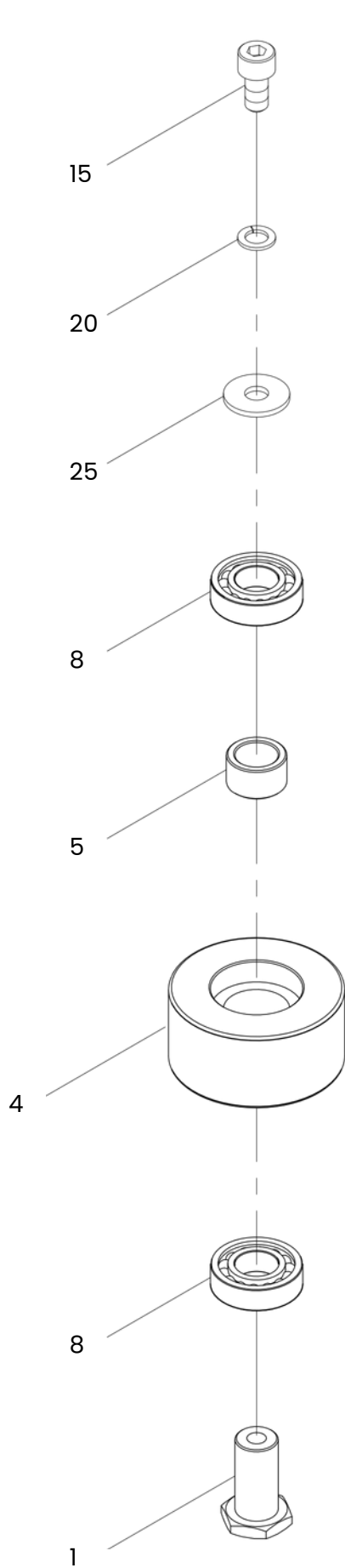
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-5-311100	Shaft	1	
4	T2-4-10171	Troy Weight Roller	1	
5	T2-4-10191	Spacer	1	
8	BR6002ZZ	Bearing, 6002ZZ	2	
15	HBS0816N	HBS, M8×16 (N)	1	
20	SW08	SW, M8	1	
25	PW08C	PW, M8 (C)	1	



5-1-2

Roller Ass'y (L)

2MV-5-120000



5-1-2

ROLLER ASS'Y (L)

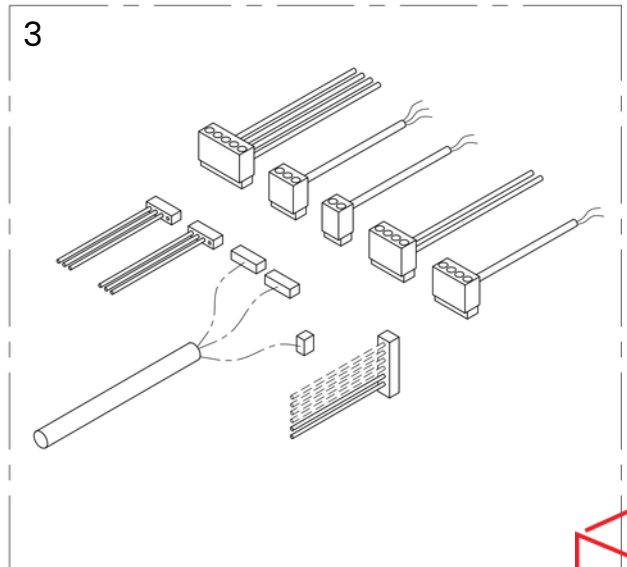
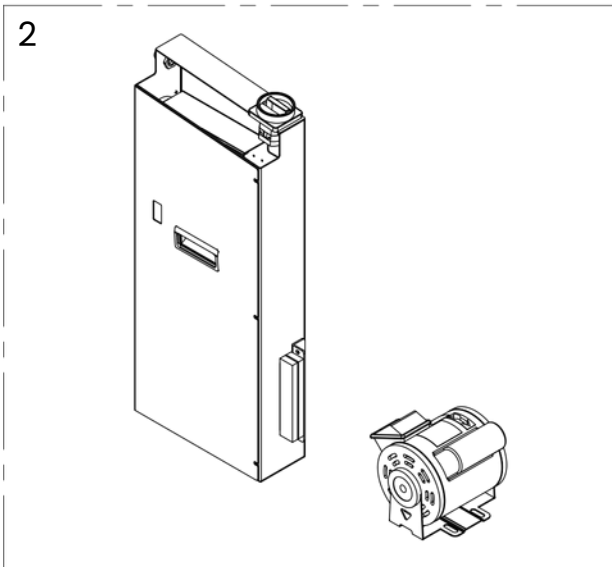
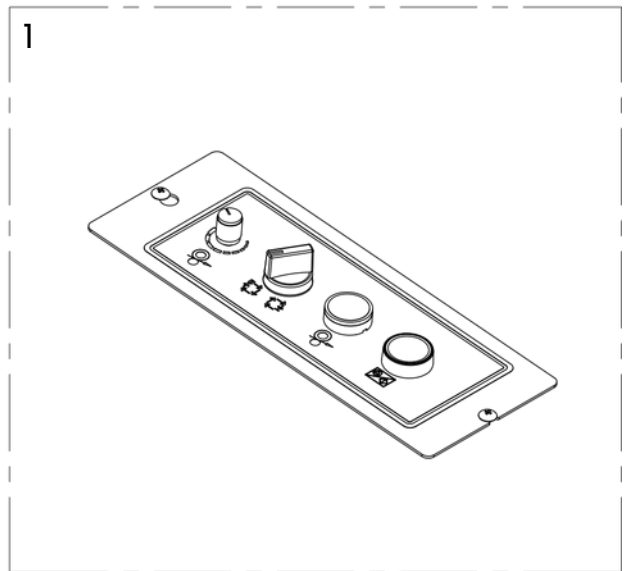
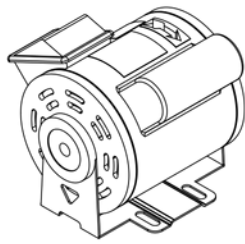
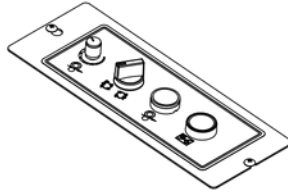
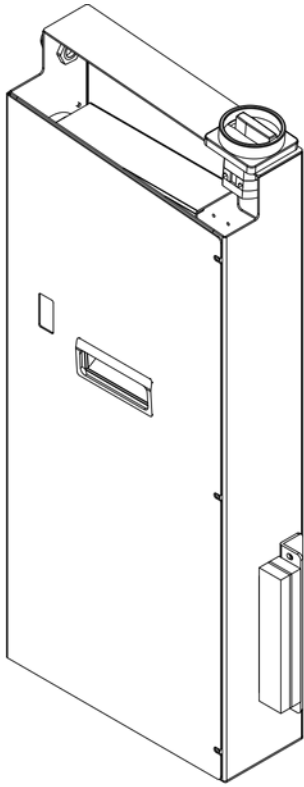
2MV-5-120000

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-5-311100	Shaft	1	
4	PH3-5-341100	Roller	1	
5	T2-4-10191	Spacer	1	
8	BR6002ZZ	Bearing, 6002ZZ	2	
15	HBS0816N	HBS, M8×16 (N)	1	
20	SW08	SW, M8	1	
25	PW08C	PW, M8 (C)	1	



6

ELECTRIC CONTROL UNIT 2MV-6-900000 2MV-6-900010



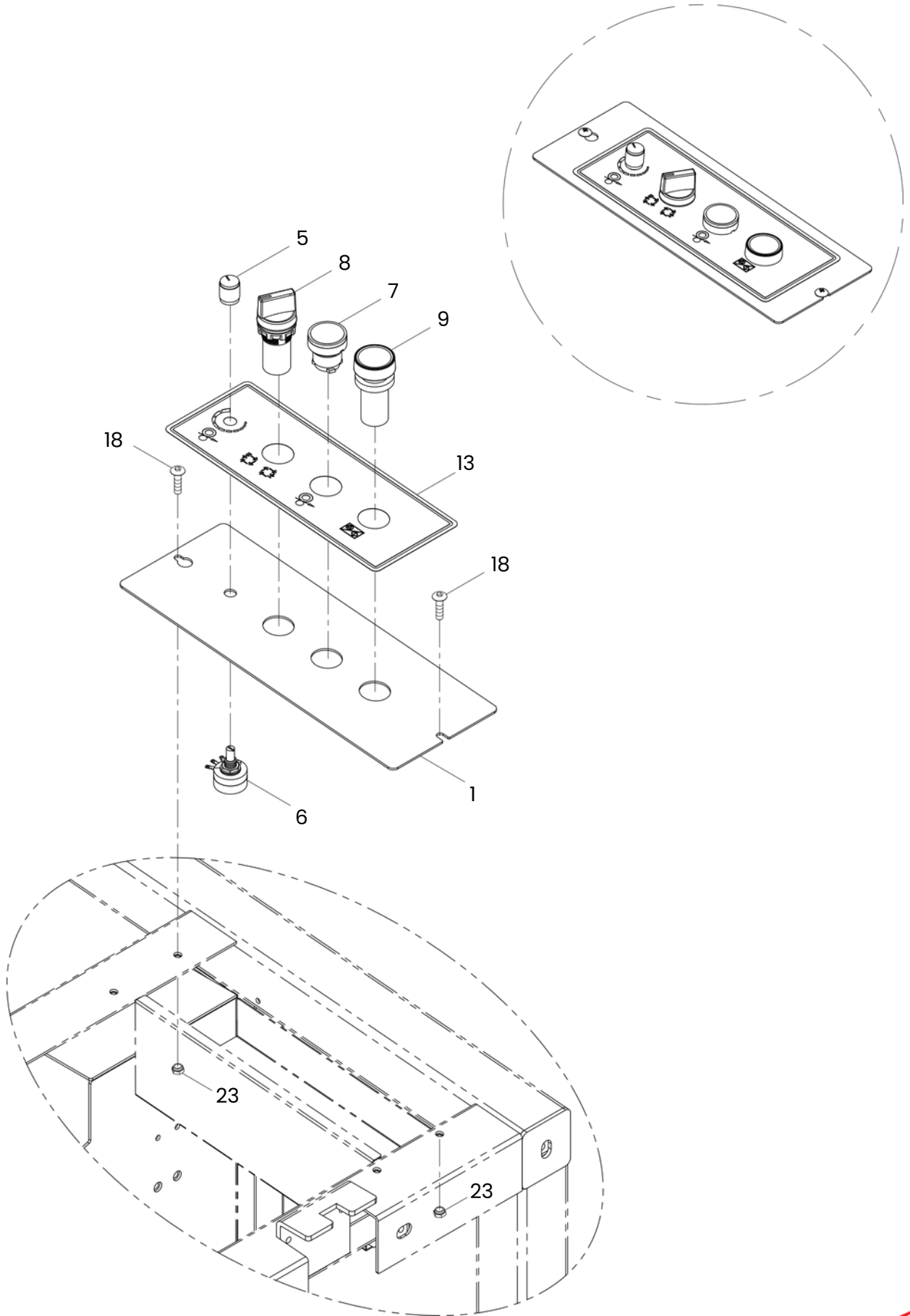
REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	2MV-6-900000	Electric Control Unit (For 110V)	1	
	2MV-6-900010	Electric Control Unit (For 220V)	1	
	2MV-6-900020	Electric Control Unit (For 240V)	1	
1	2MV-6-100000	Control Group	1	SEE PAGE C79
2	2MV-6-200000	Electric Control Group (For 110V)	1	SEE PAGE C81
	2MV-6-200010	Electric Control Group (For 220V)	1	
	2MV-6-200020	Electric Control Group (For 240V)	1	
3	2MV-6-300000	Wires Group	1	SEE PAGE C85



6-1

CONTROL UNIT

2MV-6-100000



6-1**CONTROL GROUP****2MV-6-10000**

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	2MV-6-101100	Control Plate	1	
5	T5-4-10222	Knob (Hole ϕ 6.0)	1	
6	T5-4-10232	Variable Resistor (5K) (ϕ 6.0)	1	
7	T6-6-10301	Start Switch With Lamp	1	
8	T6-6-40016	2P. Selector Switch	1	
9	T6-6-40070	Push Button Switch	1	
13	LA-20064	Label	1	
18	THS0516N	THS, M5×16 (N)	2	
23	NTE05	NTE, M5	2	



6-2

ELECTRIC CONTROL GROUP

2MV-6-200000

2MV-6-200010

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
	2MV-6-200000	Electric Control Group (For 110V)	1	
	2MV-6-200010	Electric Control Group (For 220V)	1	
	2MV-6-200020	Electric Control Group (For 240V)	1	
1	2MV-6-201100	Cover	1	
2	2MV-6-201200	Panel	1	
5	MV-1-10021	V-Belt	1	
6	MV-6-10045	M1 Motor (400W, For 220V/50HZ)	1	
	MV-6-10047	M1 Motor (400W, For 110V/60HZ)	1	
	MV-6-10048	M1 Motor (400W, For 240V/50HZ)	1	
7	MV-6-10060	Power Cord (Europe Plug)	1	
	MV-6-10061	Power Cord (America Plug)	1	
8	MV-6-20242	PC Board (AP1:Main PCB)	1	
9	MV-6-20260	PC Board (AP2:Brushed Motor Driver PCB)	1	
11	5MH-6-100400	Windows (Small)	1	
12	M7-5-205500	Handle	1	
13	M7-6-201600	Power Supply	1	
14	M7-6-202100	Clamp	1	
15	M7-6-202300	Foam Rubber	2	
18	T5-4-10160	Fuse Holder	3	
19	T6-6-10110	Motor (M1) Pulley	1	
20	T6-6-10340	Cable Gland (PG13.5)	1	
21	T7-6-10931	Fan Cover	2	
24	TK-001	Main Power Switch	1	
25	TT-5-10150	Fuse (1A) 20L	1	
26	FU32050	Fuse (5A) 32L (For 220V~240V)	1	
	FU32100	Fuse (10A) 32L (For 110V)	1	
27	FU32050	Fuse (5A) 32L (For 220V~240V)	1	
	FU32100	Fuse (10A) 32L (For 110V)	1	
28	FU32150	Fuse (15A) 32L	1	
30	HBS0516N	HBS, M5×16 (N)	2	
32	HBS0612N	HBS, M6×12 (N)	3	
33	HBS0616N	HBS, M6×16 (N)	4	
34	HBS0635N	HBS, M6×35 (N)	1	
42	TMS0308	TMS, M3×8	14	
43	TMS0406	TMS, M4×6	8	
44	TMS0520	TMS, M5×20	6	

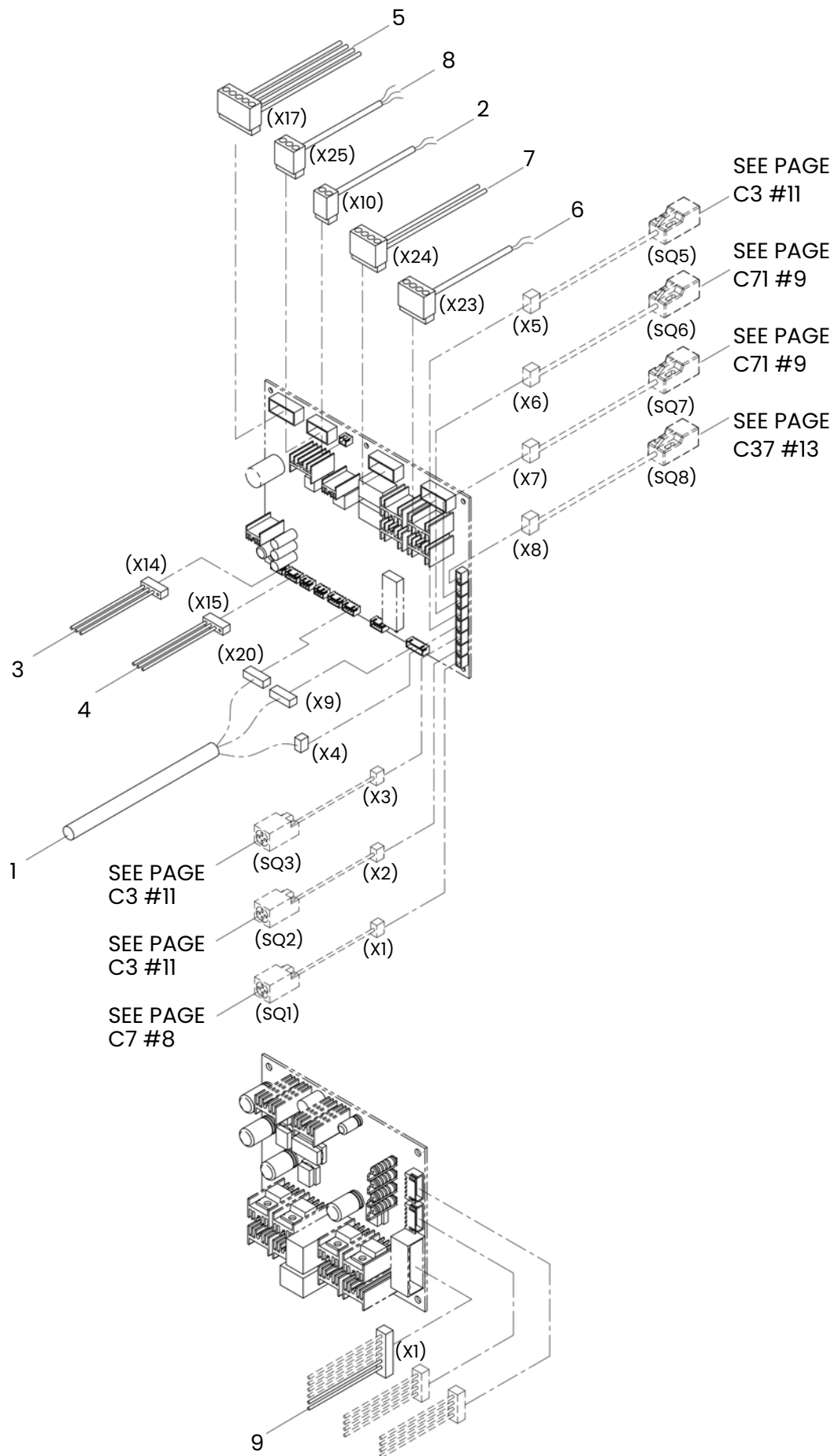


6-2**ELECTRIC CONTROL GROUP****2MV-6-200000****2MV-6-200010**

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
49	SW05	SW, M5	2	
50	SW06	SW, M6	8	
54	PW05	PW, M5	2	
55	PW06A	PW, M6 (A)	3	
56	PW06C	PW, M6 (C)	5	
60	NTE05	NTE, M5	8	
63	HSS0610G	HSS, M6×10 (G)	2	







6-3**WIRES GROUP****2MV-6-30000**

REF. NO.	PART NO.	DESCRIPTION	Q'TY	REMARKS
1	EW6MV0000X09	Panel Wires Ass'y	1	
2	EW6MV0000X10	Brake Wires	1	
3	EW6MV0000X14	M2 Control Wires	1	
4	EW6MV0000X15	M3 Control Wires	1	
5	EW6MV0000X17	AC Power Wires	1	
6	EW6MV0000X23	M4 Power Cable	1	
7	EW6MV0000X24	DC Power Wires	1	
8	EW6MV0000X25	M1 Power Wable	1	
9	EW6MV0000201	DC Power Wires	1	



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