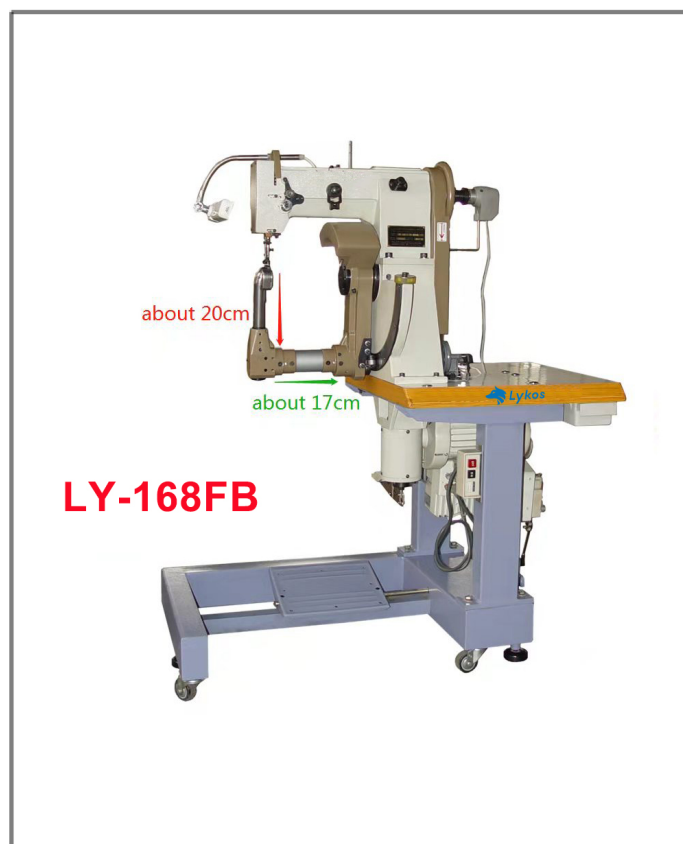




## LY-168FB SEWING MACHINE FOR BAGS

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## OPERATING INSTRUCTION MANUAL

Rev 201401

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**Thank you very much for your choice of this sewing machine.**

**Please read the manual carefully before use!**

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**Ensure that the rotation of the pulley conformable to the red allow on the belt cover !**

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### **Main Warnings:**

- ♥It is extremely important that the electrical device must be soundly earthed!
- ♥It is absolutely forbidden to remove any protection system provided by manufacturer while machine is on!
- ♥All setting and replacement operation must be carried out only by the qualified expert personnel!
- ♥For repairs, all tools and replacement parts must be qualified by manufacturer!
- ♥Whenever, and whatever reason, the machine is to be demolished, certain basic rules must be observed to safeguard public health and the environment in which we live!

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## I. Technical Parameter

Use:	Special design for sewing case and bag
Sewing Speed:	Stepless speed regulating
Stitch Length:	3 – 13 mm
Stitch:	Double thread locking stitch
Sewing Thickness:	1.5 – 6 mm
Lifting Capacity:	Manual 8 mm; Treadle 13 mm
Travel of needle	35mm
Sewing Needle:	CP×5
Sewing Thread:	Compound thread
Motor:	750W/380V(Three-phase) OR 750W/220V single-phase
Lighting:	7W/220V (single-phase)
Weight:	150 kg
Overall Size:	107×56×125 cm (L×W×H)

## II. Introduction and Preparation

The on-off driver is applied to this sewing machine. When the machine is overcharged, the hand wheel will run idle, releasing the main shaft automatically. The motor stops running in two seconds to ensure each part of the machine.

First of all, switch on the machine to see if the rotation direction of motor is conformable to the red arrow on the pulley cover. If the direction is opposite, switch in the other way round. Then operate the treadle in three different movements (Fig. 1):

- (1) Stepping on forward (Position A) means advance. Stepping on lightly is slow while stepping on heavily is fast. Avoid stepping on heavily at the very beginning.
- (2) Stop in the neutral position.
- (3) Stepping on backward (Position B) means lifting the clamp so that it is easy to place the material onto the bent holder of the shuttle (Lifter rod is its popular name).

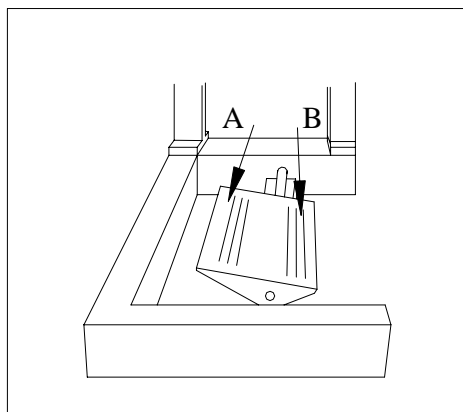


Fig.1

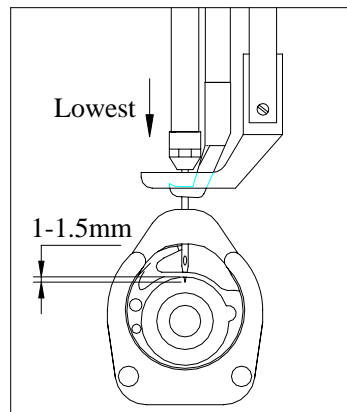


Fig.2

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### III. Operation of the Sewing Machine

#### 1. Fix the Sewing Needle

(1) Turn the hand wheel according to the arrow indicated on the pulley cover until the needle bar reaches the highest position.

(2) Loosen the pinching screw to unclamp the needle socket.

(3) Insert the needle into the bottom of the needle socket with the long slot inward and the threading slot 100 towards the left.

(4) Fix the needle with the pinching screw.

(5) When the needle is in the lowest position, the tip is required to stick out 1-1.5 mm off the long slot of the shuttle. Such circumstances as winding or end breaking will occur if the tip sticks out too much. (Fig. 2)

#### 2. Threading (Fig. 3)

The needle bar should be in the highest position when the threading is done. The thread end is drawn from the thread wheel. The threading is done according to the following order:

- (1) Threading bar
- (2) Thread gripper
- (3) Thread gripper plate
- (4) Assembly of thread carrier
- (5) Spring of narrowing rod
- (6) Assembly of thread carrier
- (7) Upper thread carrier
- (8) Narrowing rod
- (9) Thread carrier
- (10) Lower thread carrier
- (11) Head end of needle bar (168-2339)
- (12) Sewing needle

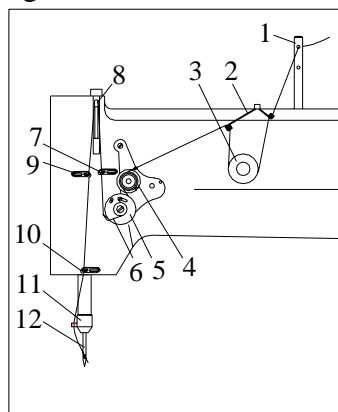


Fig.3

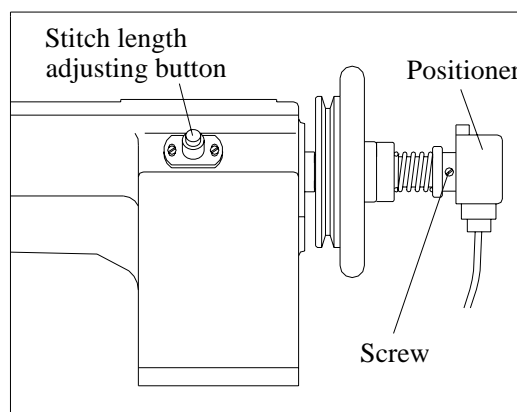


Fig.4

#### 3. Essential to Sewing

The clamp of needle hole must align the thread slot of sole when the shoe is sewn. Go on stitching at the connection point. There should be three or four more stitches surpassing the starting point. Only when the shoe front is sewn can the bent holder be pushed forward or pulled backward. The sewing thread can't be used until it has been soaked in silicon oil for five minutes and dried.

#### 4. Adjustment of the Stitch Length (Fig. 4)

To adjust the stitch length, press the button with one hand and turn the hand wheel with the other. When a click is heard, turn slightly the hand wheel to reduce or increase the stitch length according to the arrow on the frame.

#### 5. Tension Adjustment of Sewing Thread (Fig. 5)

(1) Turn the nut 1 clockwise to increase tension while turn it counterclockwise to reduce tension.

(2) Loosen the screw 2 and adjust the curved stopper 3 to make the spring of narrowing rod drop to the lowest position.

(3) Loosen the nut 4 and the screw 5. Turn the screw 6 towards the left to increase the pressure of the spring of narrowing rod while turn it towards the right to reduce the pressure. After that, tighten the nut and the screw.

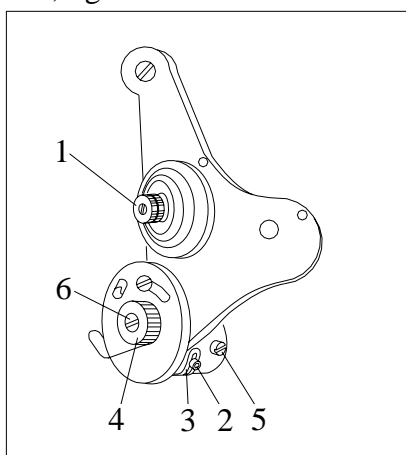


Fig.5

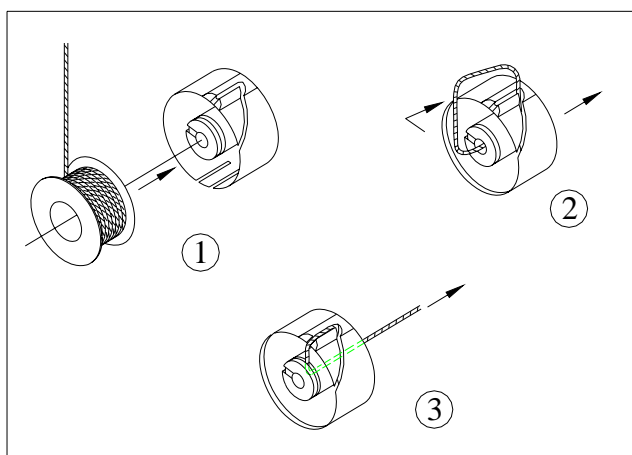


Fig.6

#### 6. Threading and Adjustment of Lower Thread

(1) The lower thread in the inner shuttle peg is threaded according to the order ①-③ illustrated in Fig.6.

(2) The lower thread is adjusted through the inner shuttle spring leaf. Prize up the spring leaf with screwdriver (Fig.7) and the lower thread will be tightened.

(3) If the lower thread is too tight, flatten the hem of the spring leaf with screwdriver (Fig.8).

(4) Make sure that the spring leaf is not so flat that it can't get in touch with the shuttle. As a result, the lower thread can't be adjusted.

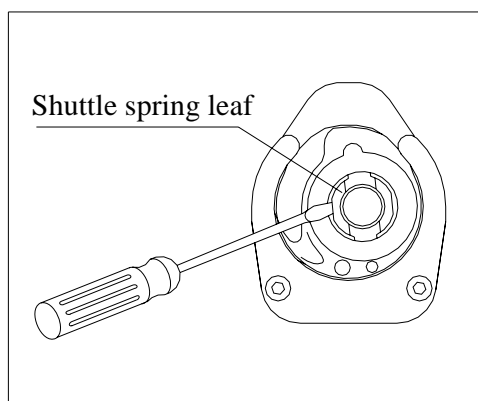


Fig.7

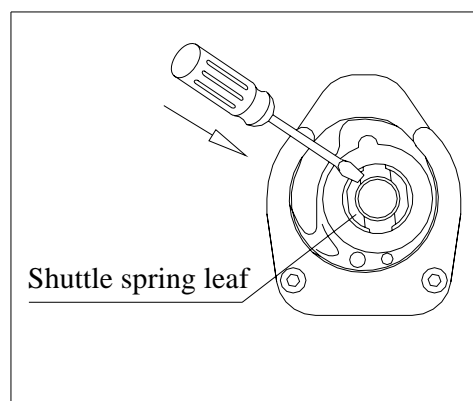


Fig.8

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## IV. Adjustment of the Sewing Machine

### 1. Adjustment of the Sewing Needle and the Inner/Outer Clamp

(1) When the sewing needle descends from the highest point down to 16-18 mm, the needle rack together with the needle bar and the inner clamp begins to move backward (Fig.9). The method of adjustment: Loosen the two set screws on the eccentric driving block (Fig.12). Turn the hand wheel towards the red arrow to meet the requirements mentioned above. Then tighten the screws.

(2) The inner clamp and the sewing needle should remain synchronous. As the sewing needle descends, so does the inner clamp. However, the inner clamp can be made slower if the sewn material is thick. When adjusting, loosen the set screw 4 on the lifting eccentric wheel of clamp 5 (Fig.10). Turn the hand wheel towards the red arrow. Tighten the screw when the inner clamp and the sewing needle become synchronous.

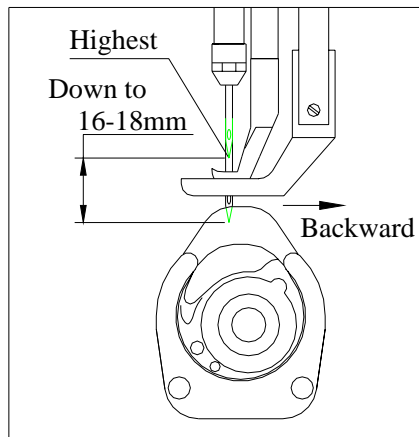


Fig.9

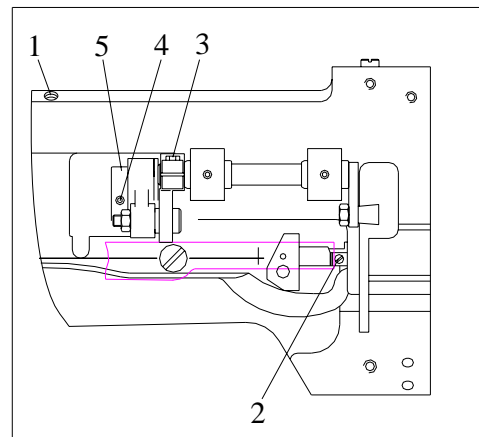


Fig.10

### 2. Speed Adjustment of the Shuttle

(1) Dismount the belt cover and turn the hand wheel to make the needle bar at the highest position.

(2) Attention should be paid to the stand of convex pinion in the frame. The scales on both the convex pinion and the stand of convex pinion must be in alignment. (At the same time, the flat end of the synchronous belt wheel should be in the vertical position.)(See Fig.11)

(3) If the two scales are not in alignment, the two adjusting screws in the driving sleeve on the end of the main shaft need adjusting. (See Fig.12)

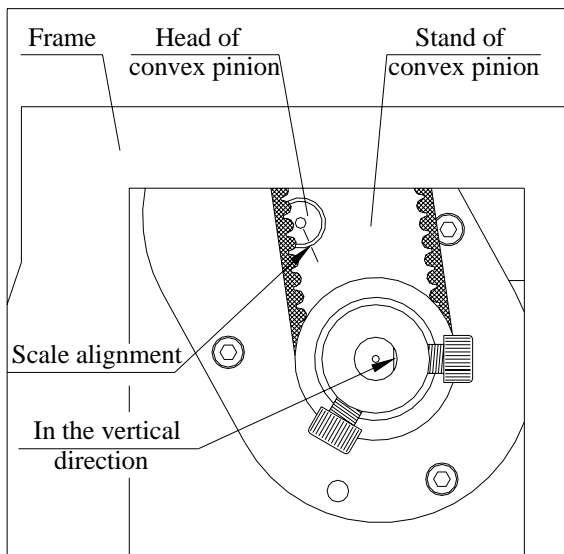


Fig.11

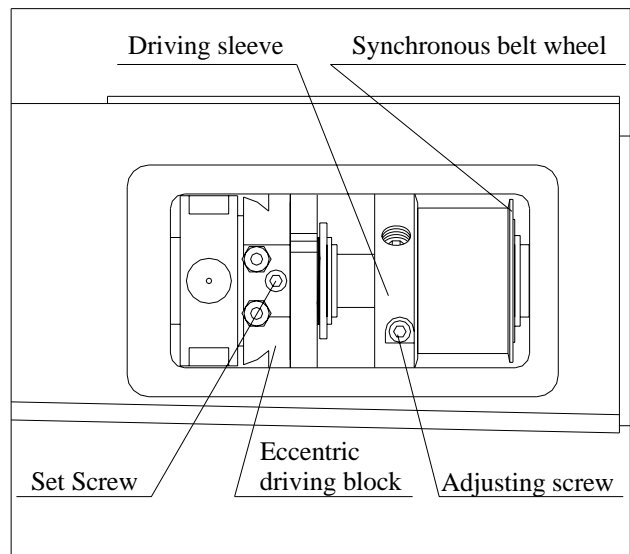


Fig.12

### 3. Adjustment of the Sewing Needle and the Shuttle

(1) Loosen the two set screws of the synchronous belt wheel in the right hole of the frame (Fig.13).

(2) Turn the hand wheel to make the needle at the lowest position. And then lift the needle by 2-2.5 mm. Here the shuttle point is just at 1/3 of the upper recess of sewing needle. The distance between the shuttle point and the needle slot surface is 0.05 mm. (See Fig.14)

(3) The wider the needle pitch is, the lower the shuttle point will be at the needle slot. Make sure that the shuttle point can't be too high or too low. Otherwise it might run into the top or bottom of the needle recess.

(4) Tighten the screws after adjustment.

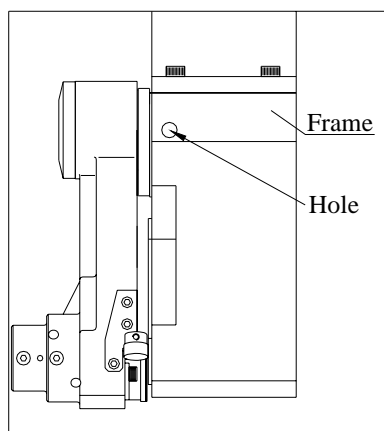


Fig.13

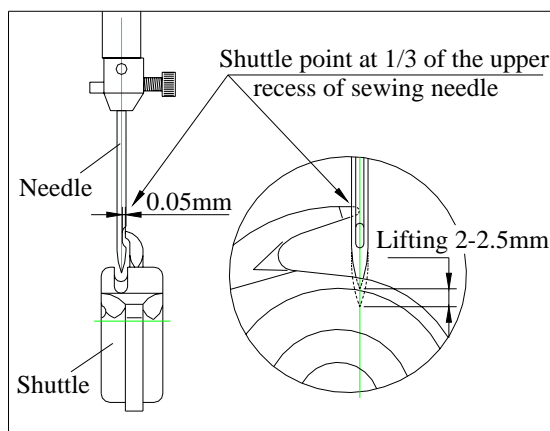


Fig.14

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#### 4. Lifting Capacity of the Clamp

The lifting capacity of the inner clamp depends on the thickness of sewn materials. The inner clamp must be off the sewn material when the outer clamp holds it down.

(1) Loosen the wing nut to adjust the lifting capacity of the clamp. Move it upwards to increase the lifting capacity while downwards to reduce the lifting capacity (Fig. 15). After adjustment tighten the nut.

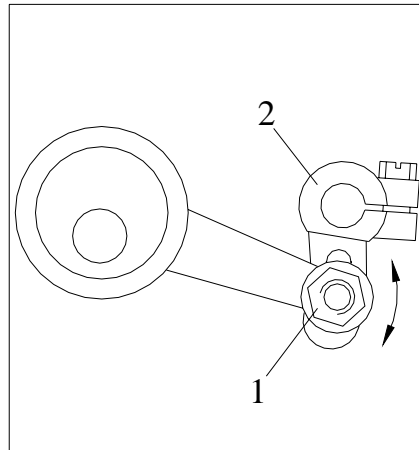


Fig.15

(2) The lifting capacity of the outer clamp can also be adjusted. The height of the outer clamp needs adjusting owing to different kinds of material. Loosen the adjusting screw 1 (Fig.10) and the guide screw 2 (Fig.10). Move the outer clamp up and down to a proper height.

(3) Movement changes if the inner and the outer clamps are not equal in position. In this case, the inner clamp needs adjusting. Put down the clamp and grasp the inner clamp. Loosen the screw 3 (Fig.10) and move it up and down to a proper height.

#### 5. Pressure Adjustment of the Clamp

The clamp pressure is adjusted with the adjusting screw 1 (Fig.10). Rotate the screw clockwise to increase pressure while counterclockwise to reduce pressure.

#### 6. Adjustment of Stopping Position

The stopping positioner is used to control the pause position of the needle bar. Loosen the screw (Fig.4) on the positioner and adjust the relative position between the positioner and the main shaft. After adjustment tighten the screw.

#### 7. Adjustment of the Winding Reel

Generally, the upper thread should keep loose when the sewing needle pierces the sewn material. When the thread is hooked by the rotary hook and the narrowing rod begins to move upwards, the upper thread should be wound. Otherwise, the relative position between the winding cam 168-2215 and the main shaft needs adjusting. Loosen the two set screws on 168-2215. Turn the hand wheel with one hand and the adjustment can be done.

---

## **V. Troubleshooting, Lubrication and Maintenance**

### **1. Troubleshooting of Twisted Shuttle**

Switch off the machine. Turn the hand wheel counterclockwise to make the thread hook reverse so as to remove the twisted thread. If not, raise the clamp, loosen the screw on the cover of bent holder (168-4042) and remove some relevant components. The twisted thread can be taken out. When the components are put back, the needle plate should remain in the middle.

### **2. Lubrication and Maintenance**

Always keep the machine clean. According to its use, clean the clamp, the shuttle and the shuttle peg regularly.

Oil each of the holes with red marks once every shift. So it is with the shuttle. In normal cases, oil the sleeve of needle bar and the connecting rods every day. The choice of the oil is very important, since it must be neither too fluid nor too dense. viscosity recommended:209 cSt at 40°

Check and oil the machine carefully when it is reused after a long time. Test run and slow running are required.

## **VI. Main Warning**

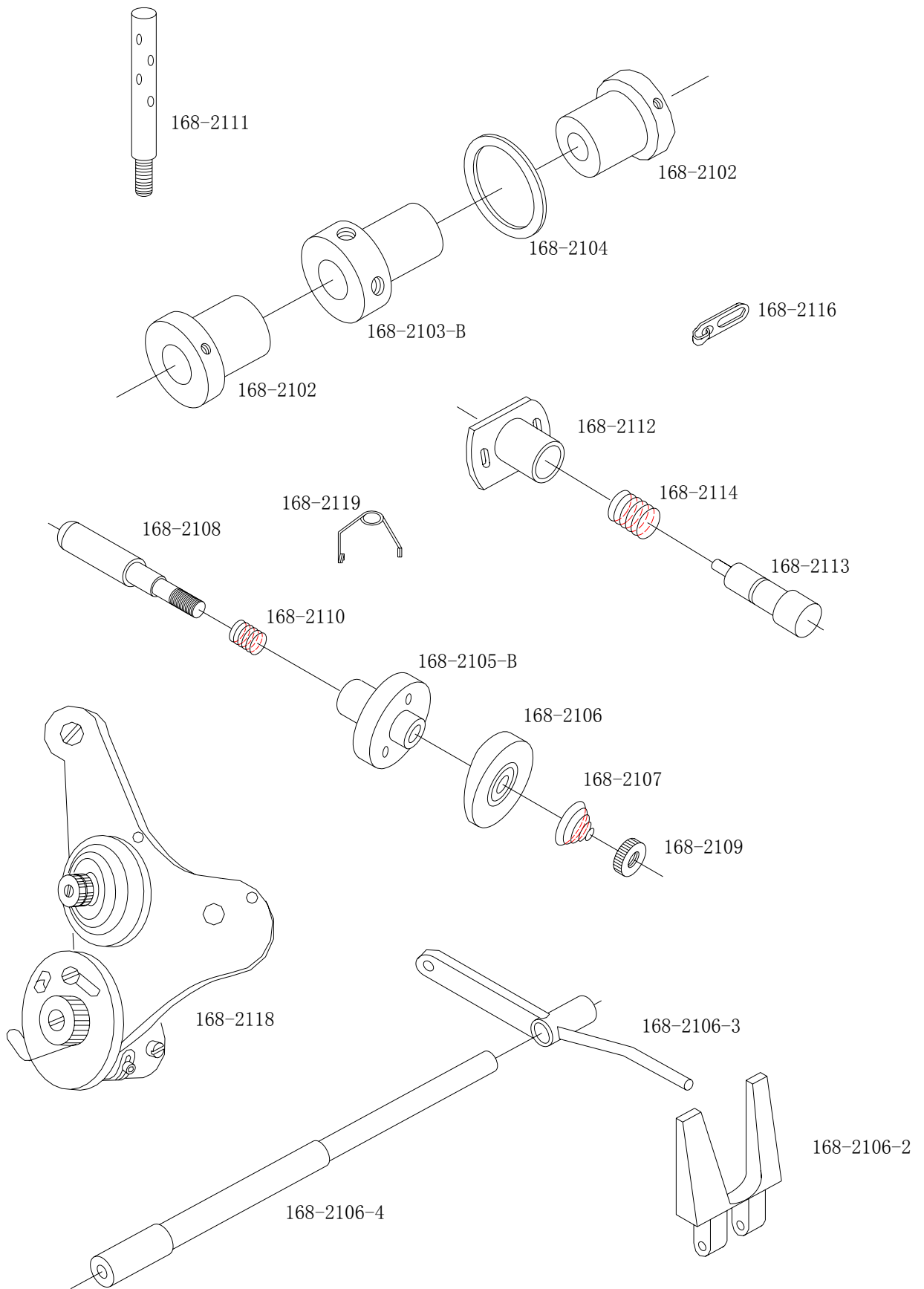
1. All the operations described in this handbook must be carried out when the machine is under the following conditions:

- Motor off
- Electric system off

2. All the described adjusting and maintenance operations must be carried out by skilled and qualified personnel in order to avoid any serious accident or damage to the machine.

3. Protections have been assembled by the builder in order to safeguard the operator's life while performing his tasks. During the machine functioning, protections must not be removed for any reason at all.

4. It is extremely important that the operator pays attention while using the machine during all the sewing phases. Since it is impossible to assemble a protection device in the sewing area, the operators authorized to use the machine are kindly requested to use it properly, thus avoiding any sort of inattention



---

Fig. No.	Part's name	Quantity
168-2101	Frame	1
168-2102	Fore/Back sleeve of the main shaft	2
168-2103-B	Mid sleeve of the main shaft	1
168-2104	Spacer	1
168-2105-B	Fixed sleeve	1
168-2106	Clamping sleeve	1
168-2106-2	Loose ends block	1
168-2106-3	Connecting rod of loose ends	1
168-2106-4	Axle	1
168-2107	Cone spring	1
168-2108	Crown bar	1
168-2109	Nut	2
168-2110	Spring	1
168-2111	Narrowing rod	1
168-2112	Spring seat	1
168-2113	Pin	1
168-2114	Spring	1
168-2116	Thread carrier	3
168-2118	Thread gripper	1set
168-2119	Guide ring	1

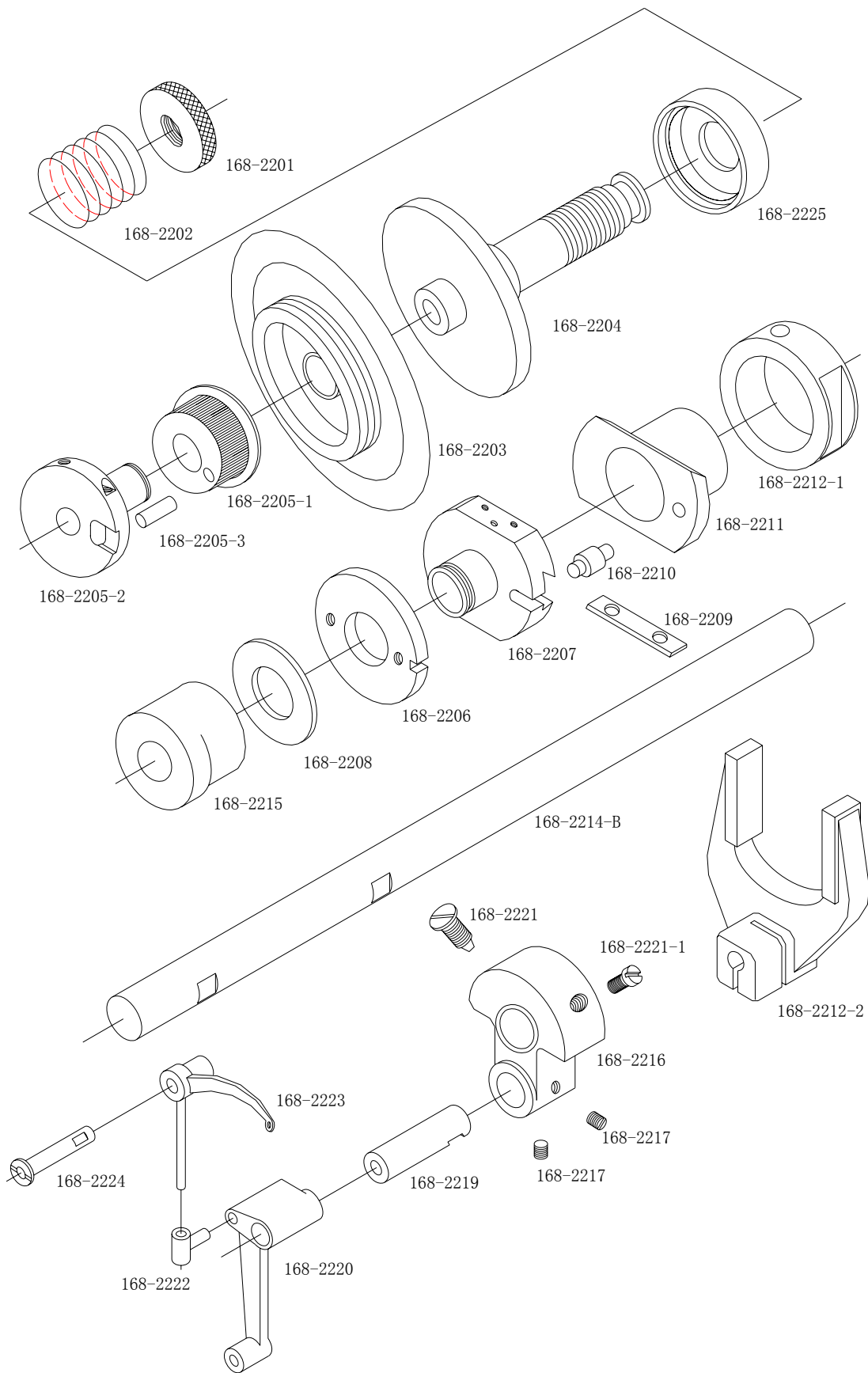


Fig. No.	Part's name	Quantity
168-2201	Round nut	1
168-2202	Spring	1
168-2203	Belt wheel	1
168-2204	Release collar	1
168-2205-1	Synchronous belt wheel	1
168-2205-2	Driving sleeve	1
168-2205-3	Pin	1
168-2206	Eccentric adjusting block	1
168-2207	Eccentric driving block	1
168-2208	Spacer	1
168-2209	Gag	1
168-2210	Location pin	1
168-2211	Swing eccentric of needle bar	1
168-2212-1	Copper sleeve	1
168-2212-2	Fork	1
168-2214-B	Main shaft	1
168-2215	Winding cam	1
168-2216	Crank of needle bar	1
168-2217	Screw	2
168-2219	Articulation of connecting rod of needle bar	1
168-2220	Connecting rod of needle bar	1
168-2221	Location screw of needle bar	1
168-2221-1	Screw	1
168-2222	Slide bar	1
168-2223	Narrowing rod	1
168-2224	Articulation of narrowing rod	1
168-2225	Bearing protect circle	1

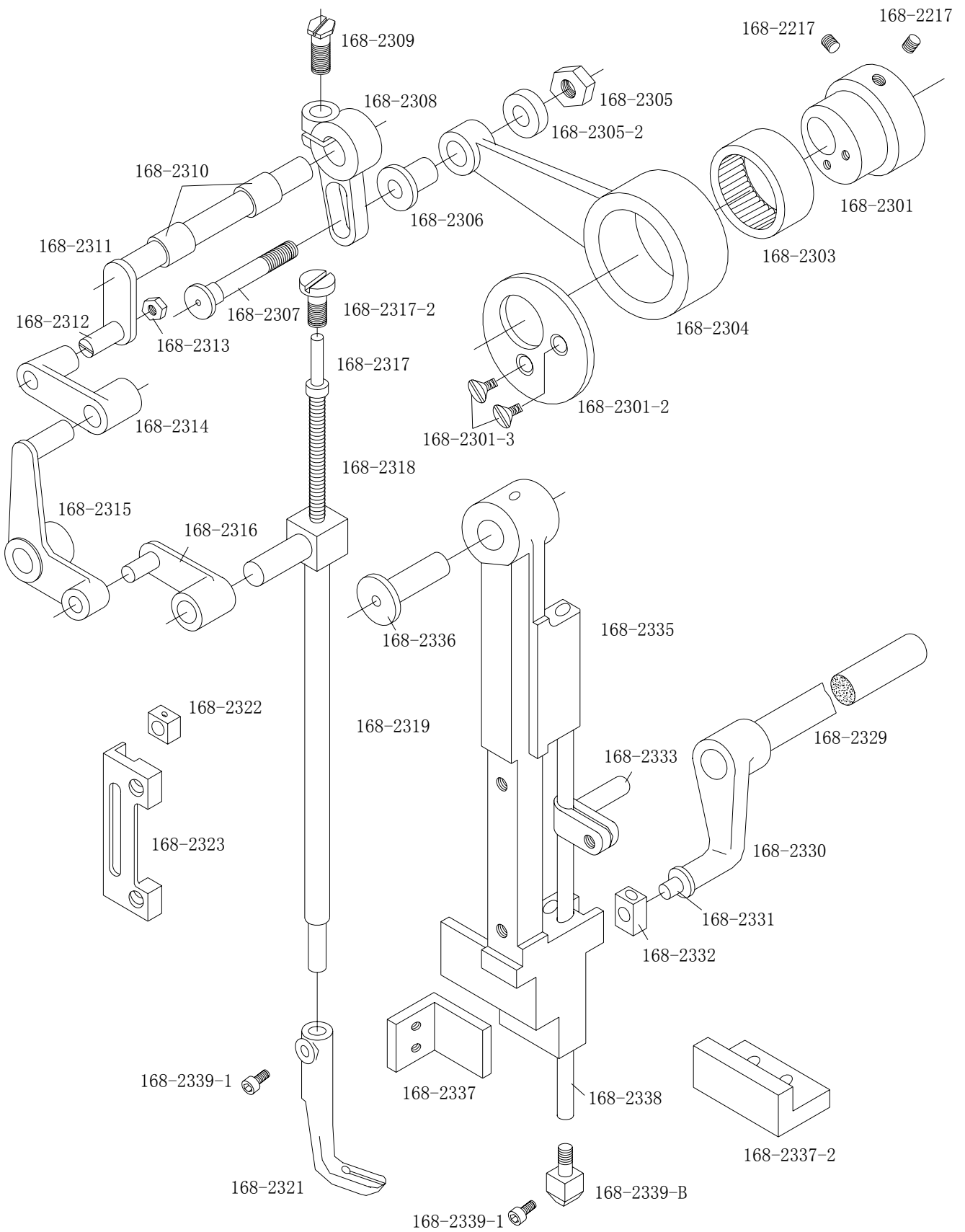


Fig No.	Part's name	Quantity
168-2301	Lifting eccentric of clamp	1
168-2301-2	Cover plate of lifting eccentric of clamp	1
168-2301-3	Screw	2
168-2303	Needle bearing of eccentric connecting rod	1
168-2304	Eccentric connecting rod	1
168-2305	Nut of articulation of connecting rod	2
168-2305-2	Spacer	1
168-2306	Articulation sleeve of connecting rod	1
168-2307	Articulation of connecting rod	1
168-2308	Adjusting crank	1
168-2309	Screw of adjusting crank	1
168-2310	Swing sleeve of clamp	2
168-2311	Lifting jackshaft of clamp	1
168-2312	Screw of jackshaft	1
168-2313	Nut of jackshaft	1
168-2314	Connecting rod of crank	1
168-2315	Lifting lever of clamp	1
168-2316	Connecting rod of lever	1
168-2317	Assembly of crown bar	1
168-2317-2	Screw of clamping bar	1
168-2318	Spreader spring of inner clamp	1
168-2319	Inner clamping bar	1
168-2321	Inner clamp (21、23、25、27#)	1
168-2322	Slide block	1
168-2323	Slideway	1
168-2329	Jackshaft of swing span	1
168-2330	Left crank of swing span	1
168-2331	Sliding axle of swing span	1
168-2332	Slide block of swing span	1
168-2333	Joint of needle bar	1
168-2335	Swing span of needle bar	1
168-2336	Pin of swing span of needle bar	1
168-2337	Stopper of needle rack	1
168-2337-2	Back stopper of needle rack	1
168-2338	Needle bar	1
168-2339	Head end of needle bar	1
168-2339-1	Screw	2
168-2217	Screw	2

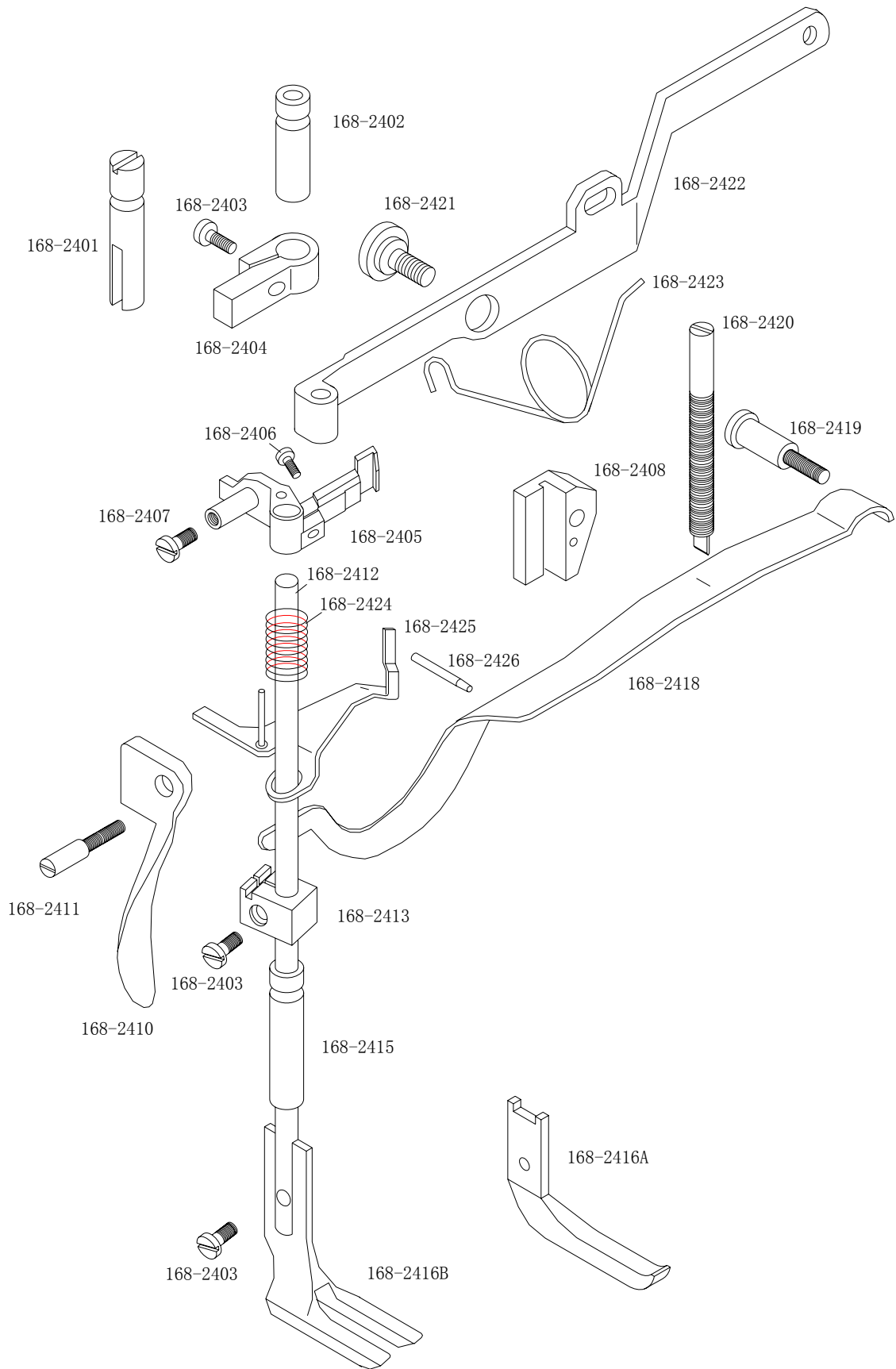
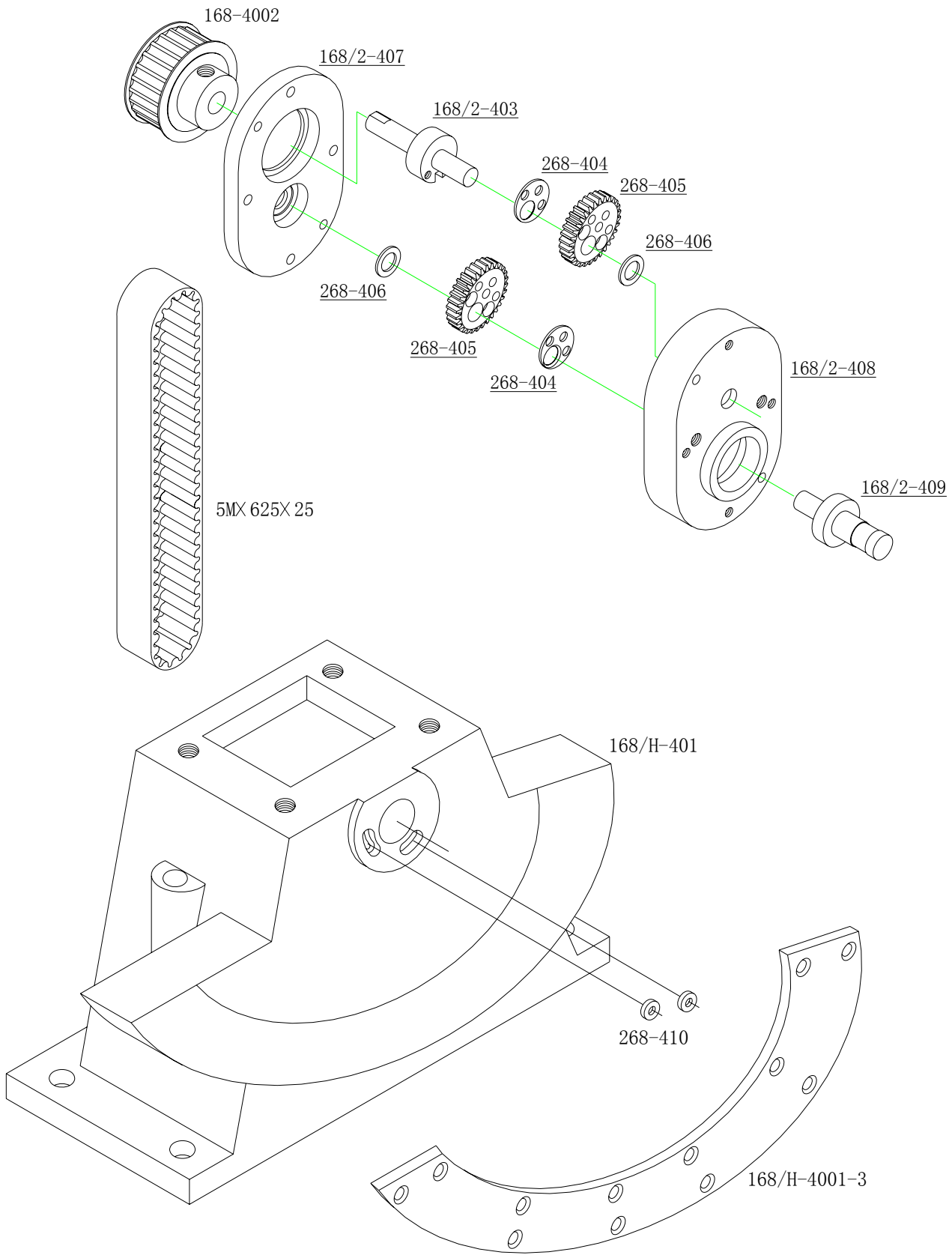


Fig. No.	Part's name	Quantity
168-2401	Guide pillar of clamping bar	1
168-2402	Upper sleeve of outer clamping bar	1
168-2403	Screw	3
168-2404	Guide of clamping bar	1
168-2405	Lifting rack of clamping bar	1
168-2406	Set screw of lifting rack	1
168-2407	Adjusting screw	1
168-2408	Guide holding-down plate	1
168-2410	Trigger piece of clamp	1
168-2411	Screw of trigger piece of clamp	1
168-2412	Clamping bar	1
168-2413	Spring rack of clamping bar	1
168-2415	Lower sleeve of outer clamping bar	1
168-2416A	Outer clamp (single side)	1
168-2416B	Outer clamp (double side)	1
168-2418	Spring of clamping bar	1
168-2419	Stopper pin of clamping spring	1
168-2420	Adjusting screw of clamping spring	1
168-2421	Clamp screw	1
168-2422	Clamp rocker arm	1
168-2423	Torsion spring of clamp rocker arm	1
168-2424	Cam spring of loose ends	1
168-2425	Driving plate of loose ends	1
168-2426	Loose ends nail	1



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Fig. No.	Part's name	Quantity
168/H-401	Frame	1
268-410	Spacer	2
168/H-4001-3	Arc plate	1
168-4002	Synchronous belt wheel	1
168/2-403	Elliptic gear shaft	2
268-404	Spacer	1
268-405	Elliptic gear	2
268-406	Washer	1
168/2-407	Cover of elliptic gear casing	1
168/2-408	Elliptic gear casing	1
168/2-409	Elliptic gear shaft	1
5M×625×25	Synchronous belt	1

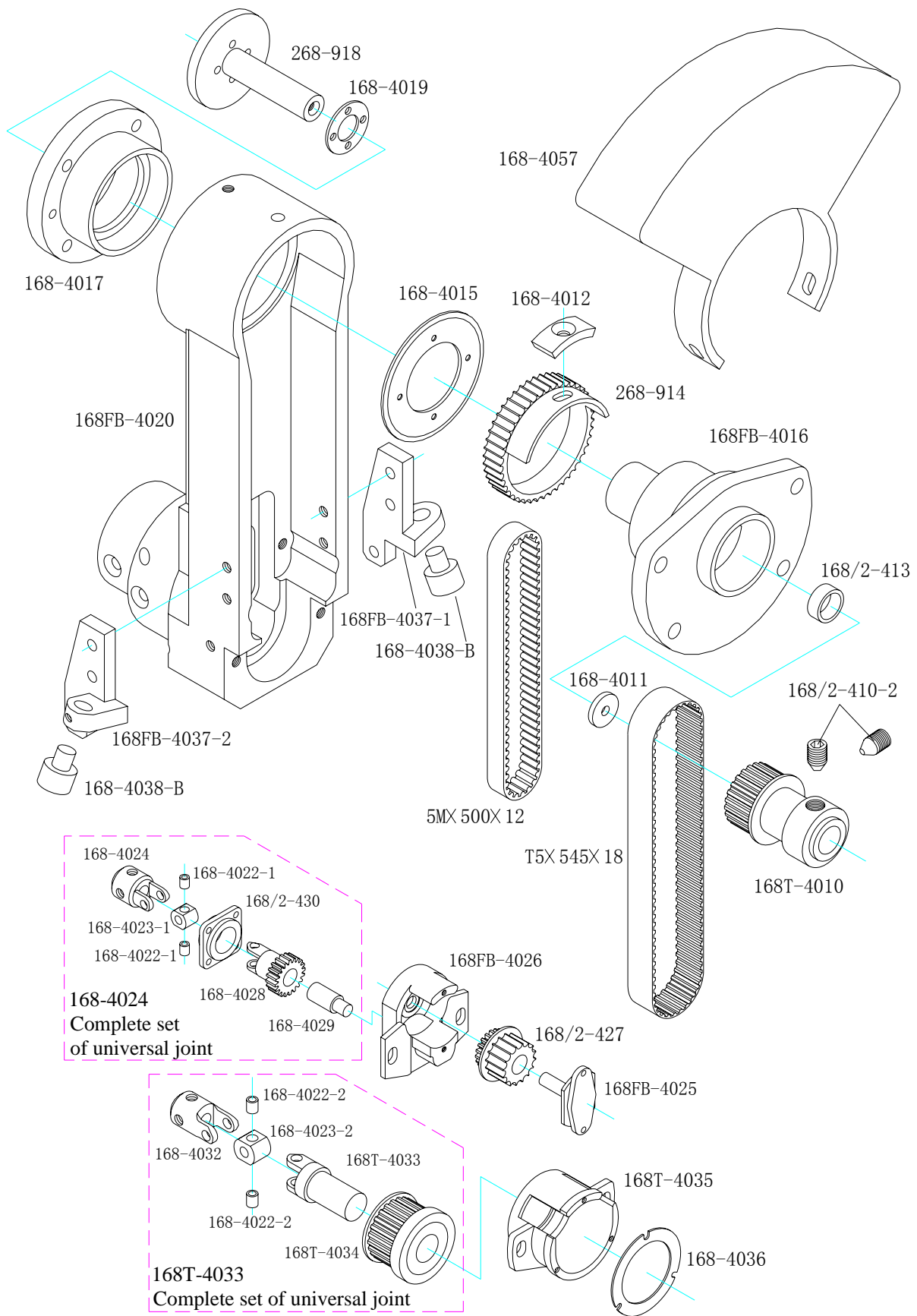


Fig. No.	Part's name	Quantity
<b>168T-4010</b>	Synchronous belt wheel	1
168/2-410-2	Screw	2
168-4011	Washer	1
168-4012	Locking block	1
168/2-413	Washer	1
268-914	Synchronous belt wheel	1
168-4015	Baffle of synchronous belt wheel	1
<b>168FB-4016</b>	Hub of bent holder	1
168-4017	Cover of bent holder	1
268-918	End cover axle	1
168-4019	Spacer	1
<b>168FB-4020</b>	Bent holder	1
168-4024	Complete set of universal joint	1
<b>168FB-4025</b>	Fixed pin of gear	1
<b>168FB-4026</b>	Gear support	1
168/2-427	Composite gear	1
<b>168T-4033</b>	Complete set of universal joint	1
<b>168T-4035</b>	Support of synchronous belt wheel	1
168-4036	Bearing baffle	1
<b>168FB-4037-1</b>	Left support	1
<b>168FB-4037-2</b>	Right support	1
168-4038-B	Support Bearing	2
T5×545×18	Synchronous belt	1
5M×500×12	Synchronous belt	1

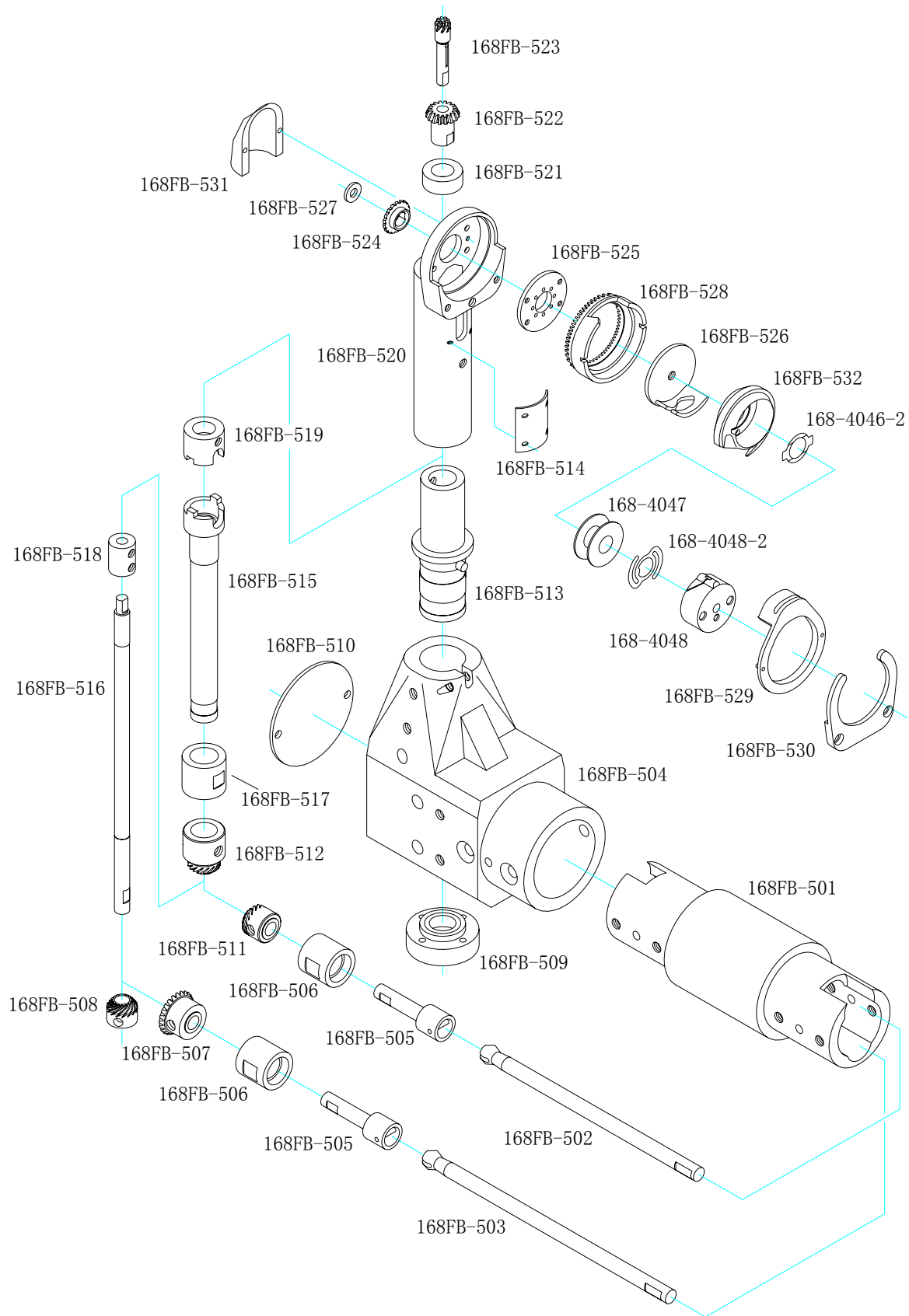


Fig. No.	Part's name	Quantity
<b>168FB-501</b>	Connecting sleeve	1
<b>168FB-502</b>	Ball connecting rod (short)	1
<b>168FB-503</b>	Ball connecting rod (long)	1
<b>168FB-504</b>	Bracket	1
<b>168FB-505</b>	Ball and socket coupling	2
<b>168FB-506</b>	Bearing support	2
<b>168FB-507</b>	Spiral bevel gear	1
<b>168FB-508</b>	Spiral bevel gear	1
<b>168FB-509</b>	Bearing support	1
<b>168FB-510</b>	Cover plate	1
<b>168FB-511</b>	Spiral bevel gear	1
<b>168FB-512</b>	Spiral bevel gear	1
<b>168FB-513</b>	Connecting sleeve	1
<b>168FB-514</b>	Cover plate	1
<b>168FB-515</b>	Driving pole	1
<b>168FB-516</b>	Driving axle	1
<b>168FB-517</b>	Bushing	1
<b>168FB-518</b>	Coupling band	1
<b>168FB-519</b>	Driving sleeve	1
<b>168FB-520</b>	Head end of bent holder	1
<b>168FB-521</b>	Bushing	1
<b>168FB-522</b>	bevel gear	1
<b>168FB-523</b>	bevel gear	1
<b>168FB-524</b>	Shuttle driving gear	1
<b>168FB-525</b>	Washer	1
<b>168FB-526</b>	Shuttle driver	1
<b>168FB-527</b>	Washer	1
<b>168FB-528</b>	Shuttle stand	1
<b>168FB-529</b>	Needle plate	1
<b>168FB-530</b>	Fixing plate	1
<b>168FB-531</b>	Protect casing	1
<b>168FB-532</b>	Shuttle	1
168-4046-2	Shuttle spring leaf	1
168-4047	Bobbin	1
168-4048	Bobbin cover	1
168-4048-2	Bobbin cover spring leaf	1

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## Parameter Setting of the Motor (HVP-90 for 168/2、167/2、166、169/2)

**Parameter Mode A:** Press 'P' key to enter Parameter Mode A

PARAMETER CODE	DEFAULT	DESCRIPTION
001	800	Maximum sewing speed, Recommended speed less than 1200RPM.
007	400	Soft start speed adjustment, don't adjust is recommended.
046	CW	Direction of motor rotation.

**Parameter Mode B:** Turn off the motor, press and hold the 'P' key, then turn on the power to enter Parameter Mode B.

PARAMETER CODE	DEFAULT	DESCRIPTION
049	156	Setting machine pulley dimension, don't adjust is recommended.
050	65	Setting machine pulley dimension, don't adjust is recommended.
060	250	Setting acceleration curve, recommended value less than 300.
065	55	For solenoid's switching power adjustment, recommended value less than 55. Wrongly adjustment will cause the solenoid unable to lift or over-heating!
067	OFF	Keep lifting when presser foot active is stop.
069	0	Time setting between sewing stop active to presser foot active.
072	ON	

**Parameter Mode C:** Turn off the motor, press and hold the 'S' key, then turn on the power to enter Parameter Mode C.

PARAMETER CODE	DEFAULT	DESCRIPTION
168	20	Setting needle stop torsion, recommended value less than 30.
246	OFF	Keep lifting when presser foot active is stop.

**Reset to the motor's factory defaults:**

Turn off the motor, press and hold the key 'A' and 'B' together, and then turn on the main switch to reset the motor.