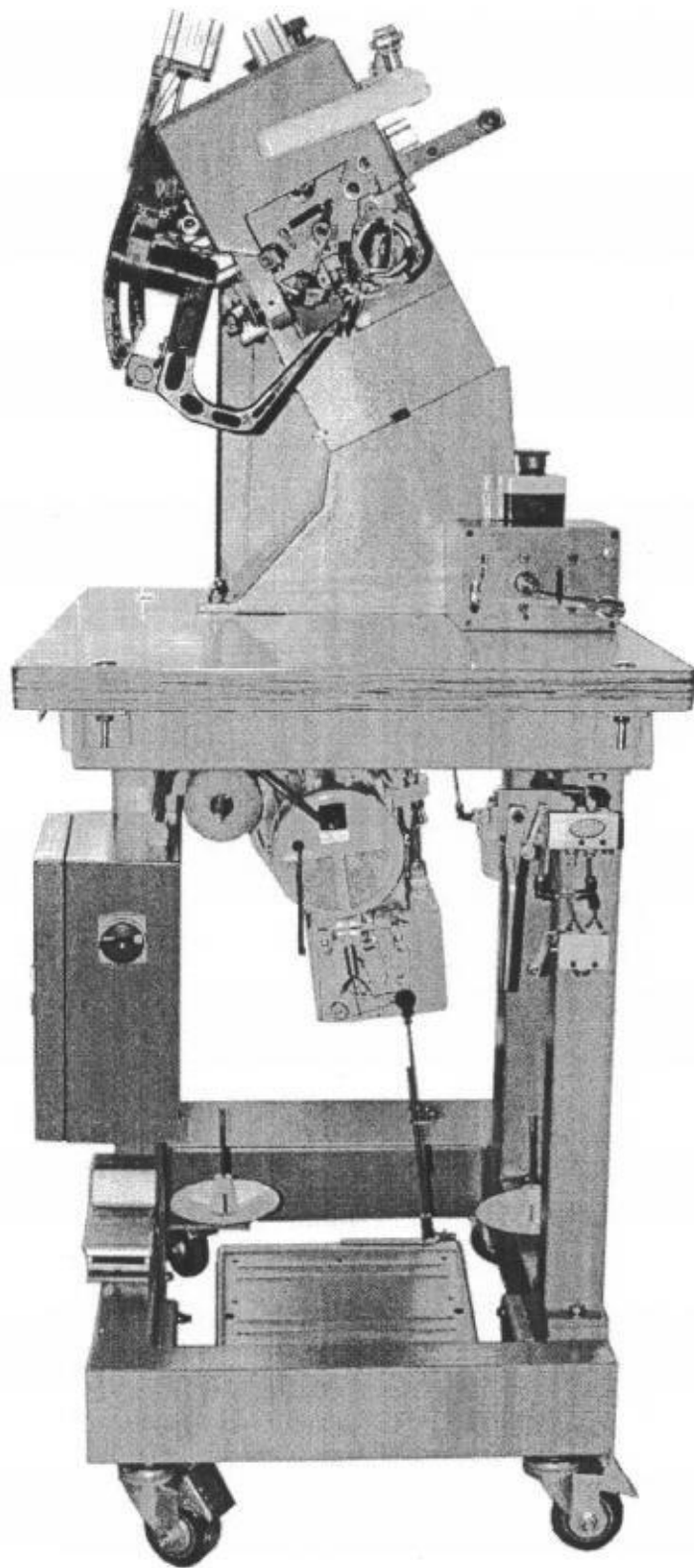




**SM 7748**

**Spare parts  
& instruction manual**







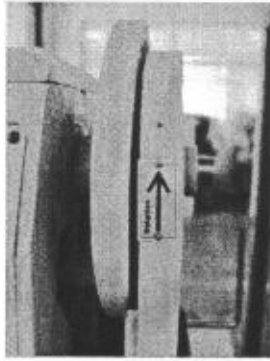
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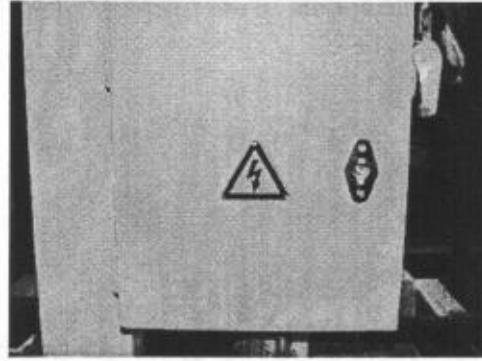


*Thank you very much for your choice of OS 7748 cal. vamp and sole stitch machine . Please read the manual carefully before use!*

### Position of the emergency signage on the machine



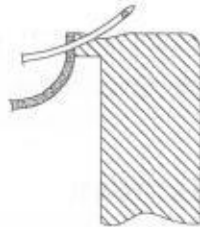
Correct direction of rotating



Fastened with adhesive, in various machine areas

## 1. MACHINE DESCRIPTION

OS 7748 cal. is a soles sewing machine that resolves definitely the stitching of the upper directly onto the bottom. OS 7748 cal. eliminates the necessity of upper and bottom pre-punching phases. This machine is able to carry out 2 kinds of stitches(as shown in below drawing): “bordo”(Kit <B>) and “stitch out” (Kit <S>). It can realized one of these stitches according to fit the sewing guide unit <B> or <S>.



Kit <S>



Kit <B>

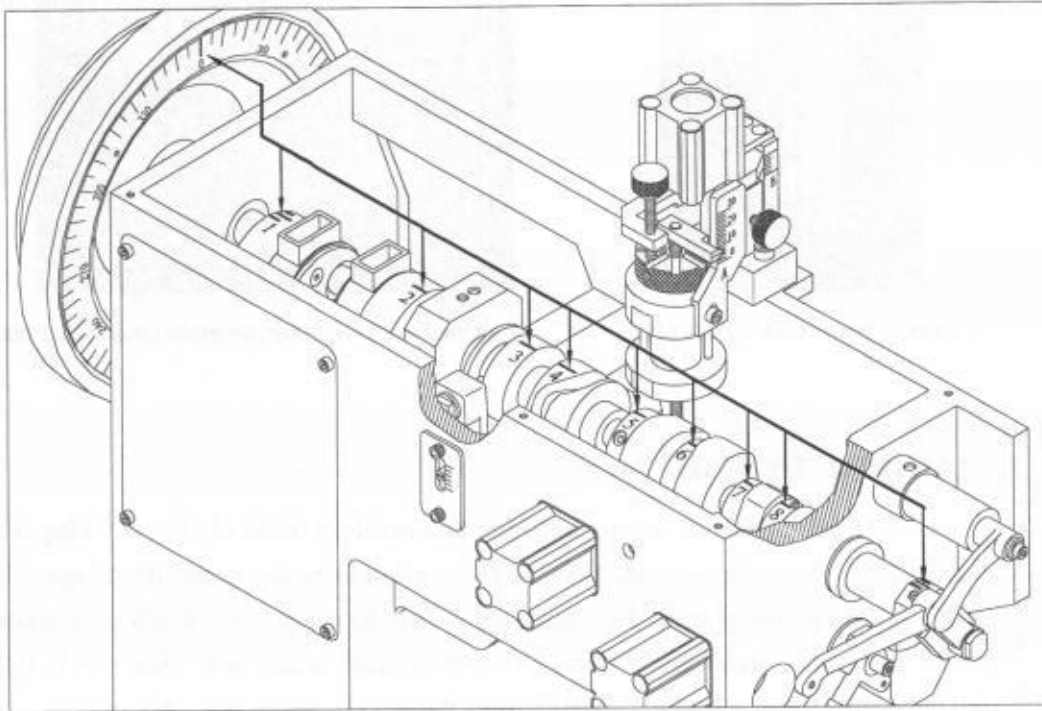
The stitching is carried out by a curved-needle and shuttle movement, mechanically controlled by a central shaft mounted with a series of cams for the various movements.

The machine is driven by an asynchronous electric motor. The sewing speed can be controlled stepless and the needle stopping position can be controlled by asynchronous motor. The rear presser feet , the counter presser foot and the gathering lever can opened by the movement of the various cylinders.

There are assemble marks and serial number(1#-8#) on the crank (747-222) and all cams.

The machine can be reset easily base on the dial of handwheel and assemble marks of cams. If adjusting them, please pay attention:

1. The assemble marks on the crank(747-222) and cams(1#-8#) must in alignment with scale '0' on the dial of handwheel. (as shown in below drawing)



2. There are three marks on cam (1#) and crank (747-222), the cam (1#) and crank (747-222) can be adjusted between the three marks according to the sewing material and/or sewing thread.

## 2. TECHNICAL FEATURES OF THE MACHINE

Sewing speed:	Stepless speed regulating
Stitch length:	6-10mm
Needle type:	DY-100(Special curved needle)
Needle size:	200-230
Thread diameter:	1-1.2mm
Sewing motor:	750W/220V single-phase
Lighting:	7W/220V
Weight:	N.W.: 210 Kg / G.W.: 240 Kg
Machine dimensions:	92×60×159 cm(L.×W.×H.)



### 3. PREPARATION READY FOR USE

#### 3.1 Compress air supply connection

The compress air system of this machine is consist of a filter-reducer unit, eight cylinders, two solenoid valves, two mechanical valves and a foot valve. The filter-reducer unit must be connected to the compress air supply by inserting the special flexible tube into the appropriates rapid snap-on connection mounted on the FRL unit.

The value of the air pressure supply to the machine can be set by the knob on the pressure regulator located on the filter-reducer unit. The value of the set pressure is visible on the pressure gauge dial.

**Attention: Pressure to be set for this machine – 4bar.**

#### 3.2 The function of start pedal, knee lever, foot valve and support arm descending button. (as shown in Fig.1)

##### 3.2.1 Start pedal (Fig.1)

First of all, switch on the main switch of the machine to check if the rotation of the motor conformable to the red allow on the belt cover. If the direction is opposite, switch in the other way round. Then operate the start pedal in the three different movements.

- Pressing forward (direction A) means advance. Pressing lightly is slow and pressing strongly is fast. Avoid pressing very strongly at beginning.
- Stop in the neutral position.
- Pressing backward (direction B) means opening the rear presser foot and counter presser foot.

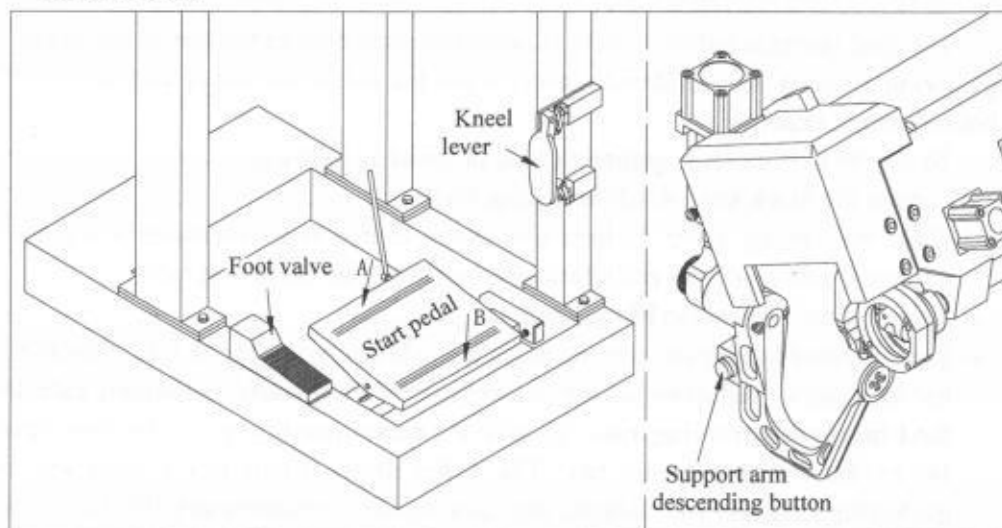


Fig.1

### 3.6.1 Basic gathering rate setting (Fig.4)

To set the basic gathering rate, proceed as follows:

- Set the basic gathering rate by turning the adjustment setting nut 3. . Turn the setting nut 3. in a clockwise direction to increase the basic gathering rate, and in an anti-clockwise direction to reduce the basic gathering rate. The set value can be seen on the graduated scale 2. shown by the index arrow 1. which connected to the setting nut 3.(0% — no gathering straight stitching)

**Attention: The basic gathering rate is expressed in percentage because the ratio between the same lengths measured on the developed upper and the bottom pattern multiplied by 100 provides the gathering rate.**

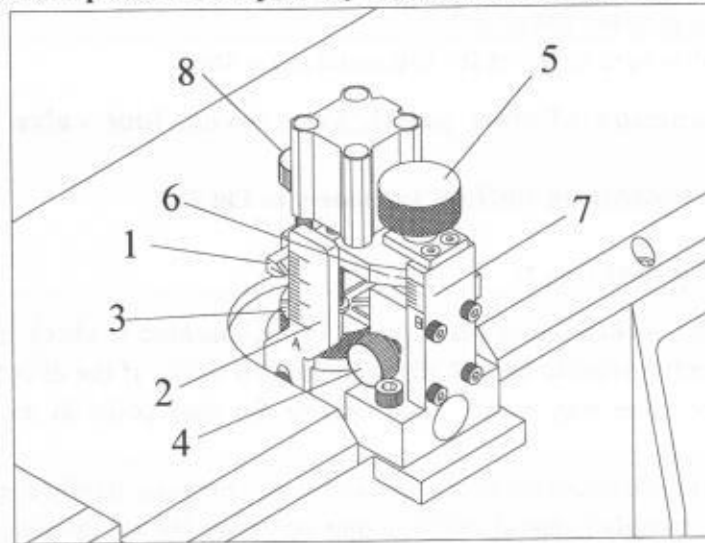


Fig.4

### 3.6.2 First increase gathering rate setting (Fig.4)

The first increase gathering rate is generally used around the toe of the upper. The gathering rate can be considered correct when the toe of the upper and the toe of the bottom match exactly.

To set the first increase gathering rate, proceed as follows:

- Loosen the block knob 4. of the setting knob 5.
- Turn the setting knob 5. in a clockwise direction to increase or tighten the gathering rate and in an anti-clockwise to reduce the gathering rate.
- After setting, tighten the block knob 4.
- The set value can be seen on the scale B 7. shown by scale mark 6. indicates only the increase or reduction of the gathering rate from **basic gathering rate** to the **first increase gathering rate**. To give the exact quantity, press the knee lever as far as the first end of the run: The index arrow 1.will move from the **basic gathering rate** and will indicate the value of the **first increase gathering rate**.

### 3.6.3 Correction gathering rate setting (Fig.4)

Correction of the gathering rate can be adjusted even during the stitching operation. If the operator finds that the first increase rate is not sufficient, the operator can press the knee lever to its end of run, continuing the stitching with the **correction gathering rate**, in order to recover the deficient of increase which was programmed.

To set the correction gathering rate, proceed as follows:

- Loosen the blocking nut of the setting knob 8.
- Turn the setting knob 8. in a clockwise direction to increase the correction gathering rate, and vice versa, to reduce.
- Tighten the blocking nut after set.

**Attention: If the operator find that the first increase gathering rate is to tight in the gathering around the toe, he can release the knee lever for a brief moment, continuing the stitching with the basic gathering rate, in order to recover the excess of the first increase gathering rate which was programmed.**

### 3.7 Sewing cycle description of OS 7748 cal.

The work function is as follows:

- Connect with the electricity supply and the compress air supply, switch on the main switch of the machine and set the pressure of the compress air to 4 bar.
- Open the presser feet by pressing the rear part of the start pedal with the heel.
- Open the gathering lever by pressing the foot valve.
- Let the support arm descent by pressing the support arm descending button.
- Place the bottom and the upper onto their position.
- Release the support arm descending button, let the support arm return to its original position.
- Release the start pedal and the foot valve, let the presser feet block the shoe.
- Pull the needle thread and the shuttle thread towards the machine holding the end of the threads firmly with left hand. This is necessary only for the first stitch.
- Hold the upper and bottom together with right hand.
- Press fairly strongly forwards on the start pedal to carry out the first stitch slowly.
- Check that the shuttle has sent back the needle thread.
- Stitch again in your choice.
- After stitch, open the presser feet and the gathering lever by pressing the rear part of start pedal and the foot valve.
- Descend the support arm by pressing the support arm descending button.
- Remove the upper and button which now sewn together from the working area, then cut the two sewing threads.

## 4. REPLACEMENT AND ADJUSTMENT OPERATION

**Warning:** All replacement and adjustment described in this manual are to be carried out only after the machine has switched off.

### 4.1 Needle replacement (Fig.5)

To replace the needle, proceed as follows:

- Turn the pulley in the correct direction, so that the needle bar 4. comes to its highest position.
- Unscrew the two fixing screws 2. from the needle clamp 3.
- Remove the needle 1. from the groove on the needle bar 4., and replace it with another. It is very important to ensure that the needle 1. is positioned correctly in the groove of the needle bar 4.
- Tighten the two fixing screws 2.

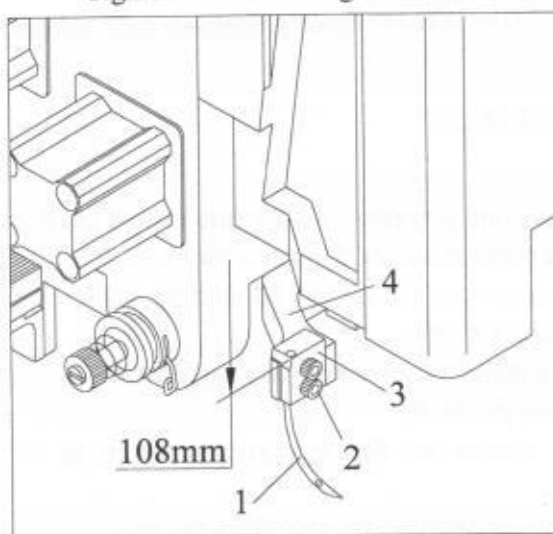


Fig.5

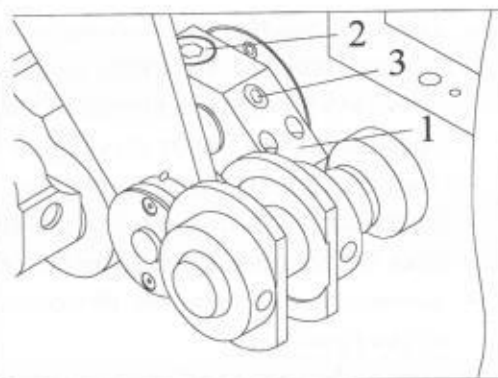


Fig.6

### 4.2 Set the highest position of the needle (Fig.5, Fig.6)

To ensure the highest position, remove the upper cover and the head cover, turn the pulley in the correct direction, letting the needle bar 4. come to its highest position, if the distance from the threading hole of the needle clamp 3. to the upper plate of the machine (upper cover is removed) is 108mm (as shown in Fig.5) then its position is right else is wrong (Fig.5).

To adjust this position, proceed as follows: (Fig.6)

- Remove the upper cover, the side cover and the head cover.
- Turn the pulley in the correct direction, so that the needle comes to its highest position.
- Unscrew the fixing screw 3. and the blocking screw 2. of the crank 1.
- Turn the needle bar 4. (Fig.5) to the correct position as described above.
- Tighten the fixing screw 3. and the blocking screw 2. after adjusting.

### 4.3 Setting the shuttle position (Fig.7 ,Fig.8)

The correct position of the shuttle is that the tip of the shuttle 3. near to the slot of the needle 1. about 0.1mm. (as shown in Fig.7)

To adjust it, proceed as follows: (Fig.8)

- Unscrew the two blocking screws 2. of the clamp 1.
- Move the shuttle seat 3. to its correct position as described above.
- Tighten the two blocking screws 2. of the clamp 1. after adjusting.

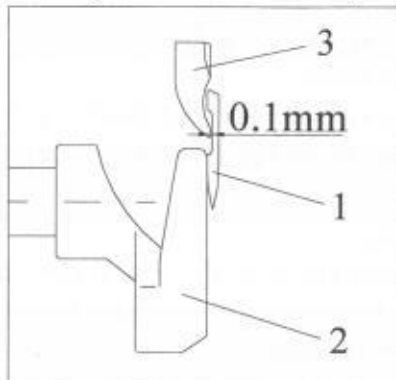


Fig.7

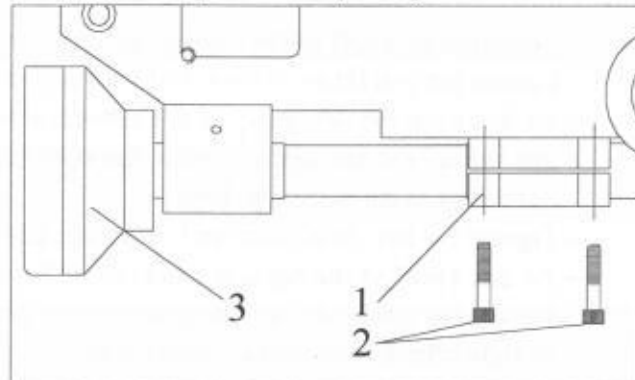


Fig.8

### 4.4 Support arm position adjustment (Fig.9)

The height and the angle of the support arm can be adjusted according to the bottom's shape. That can help the operator to receive a good sewing effect.

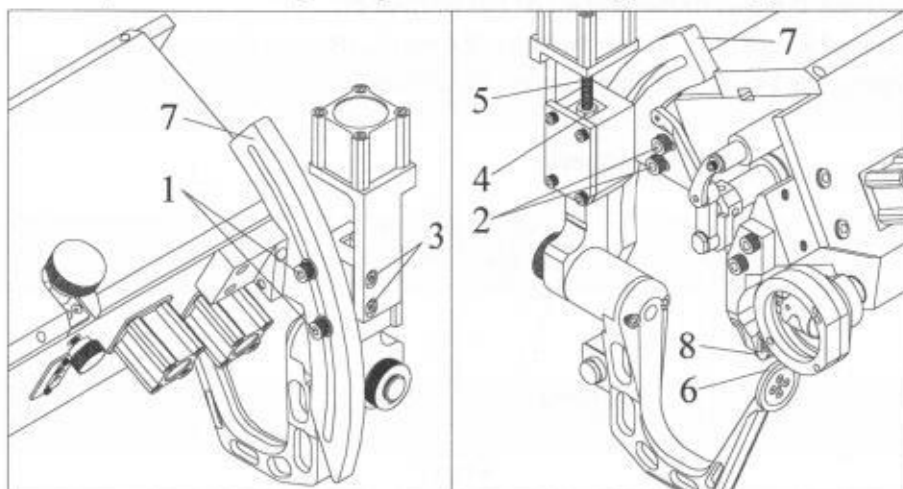


Fig.9

#### 4.4.1 Adjust the height of the support arm

To adjust the height of the support arm, proceed as follows: (Fig.9)

- Loosen the two blocking screws 3.
- Lift or descend the cylinder support that connected with support arm by cylinder and a connecting screw.
- Tighten the two blocking screws 3. after adjusting.

**Attention:** If the operation described above can not adjust the height of the support arm correctly. The operator can adjust it further more as described below.

- Loosen the blocking nut 4. of the connecting screw 5.
- Rotate the connecting screw 5. by wrench to adjust the height of support arm.
- Tighten the blocking nut 4. after adjusting.

#### **4.4.2 Adjust the angle of the support arm**

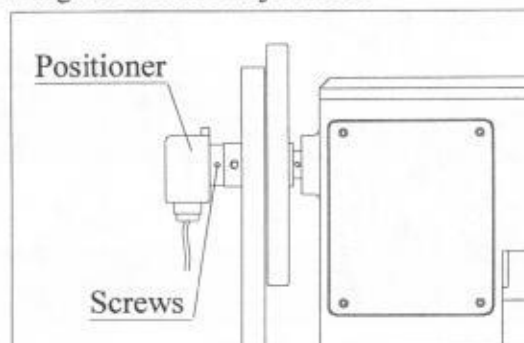
To adjust the angle of the support arm, proceed as follows: (Fig.9)

- Loosen the two fixing screws 1 of the support arm device.
- At this time, the whole set of the support arm device can be moved following the arc slot of the arc plate 7. Now the operator can move the support arm device according to the bottom's shape.
- Tighten the two fixing screws 1. after this adjusting.
- At last, check if the support wheel 6. of the support arm is in the central point of the sewing guide unit 8. If not, you can adjust it by moving the arc plate 7 to left or right after loosen the two fixing screws 2. of the arc plate 7.

#### **4.5 Adjustment of stopping position (Fig.10)**

The positioner is used to control the stopping position of the machine. Normally, when the machine stop each time the take-up lever can stop nearby its highest position. To adjust the stopping position, proceed as follows:

- Unscrew the two fixing screws of the positioner.
- Adjust the relative position between the positioner and the main shaft.
- Tighten the two fixing screws after adjustment.



**Fig.10**

### **5. REPLACE THE SEWING GUIDE UNIT**

GR-836 is able to carry out 2 kinds of stitches: "bordo"(allestimento<B>) and "stitch out"(allestimento<S>). It can realized one of these stitches according to fixing the sewing guide unit <B> or <S>.

The operator can replace a kind of sewing guide unit with another as indicated in **Part's drawing at Page.20** of this manual.

## 6. MACHINE MAINTENANCE

A careful maintenance represents an important factor for a longer life of the machine under the best functioning and performing conditions.

The machine must be lubricated at the end of each work shift. Special care and attention must be paid when lubricating all moving parts. Other machine parts must be lubricated each week.

Always keep the machine clean and clean the important parts as sewing guide unit, shuttle and shuttle seat etc. at the end of the each shift.

Check and oil the machine carefully is requested when it is reused after a long time. Test run with a low speed are requested too.

### 6.1 Spare parts and tools supplied with the machine

Below is the spare parts list

Fig. No.	Machine part	Quantity
836-414B	Support wheel	1
836-512	Gathering barb seat	1
747-119	Take-up spring	2
747-120	Spring	2
747-315	Roller(include HK1012)	2
747-522	Roller(include HK0808)	1
747-708	Shuttle	1
747-723	Screw	1
81-123	Cone spring	2 each spec.
81-515	Bobbin	2
	Needles (230/26#)	10
<b>Spare parts of Kit &lt;S&gt;</b>		
836-418	Left limiter	1
836-419	Right limiter	1
<b>Spare parts of Kit &lt;B&gt;</b>		
836-421	Right limiter	1
836-421B	Right limiter	1

Below is the tool list

Name of the tool	Quantity
Screwdriver (5×200)	1
Complete set of Allen wrenches (1.5mm-10mm)	1 set
Fork wrench (8-10)	1
Socket wrench (13-16)	1
T-Allen wrench (3mm/4mm/5mm)	1 each spec.
Oiler	1
Instruction manual	1

## 7. COMPRESSED AIR SYSTEM

The location of the compressed air components at the machine is indicated as below drawings. (Fig.11, Fig.12)

(1) Solenoid valve(DC) (2) Solenoid valve(AC) (3) Upper mechanically valve (4) Lower mechanically valve (5) Foot valve (6) Cylinder to open tightener 1 (7) Cylinder to close gathering tightener (8) Cylinder to open tightener 2 (9) Cylinder to open counter presser foot (10) Cylinder to open rear presser foot (11) Cylinder to open gathering lever (12) Cylinder to increase gathering rate (13) Cylinder for correction gathering rate (14) Cylinder to lift the support arm

The compressed air layout of the machine is on page.13

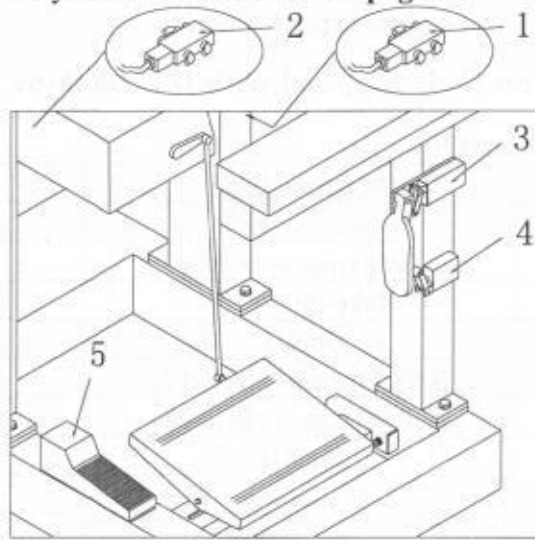


Fig.11

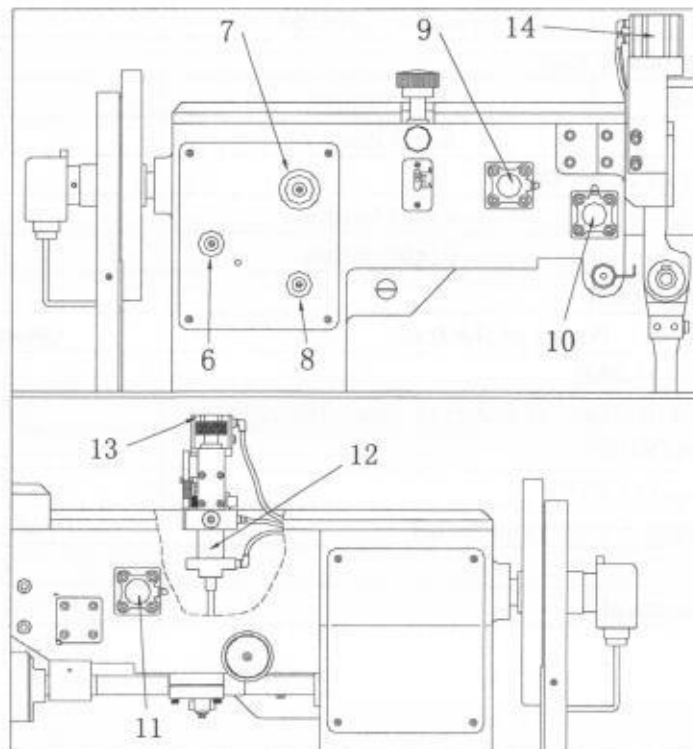
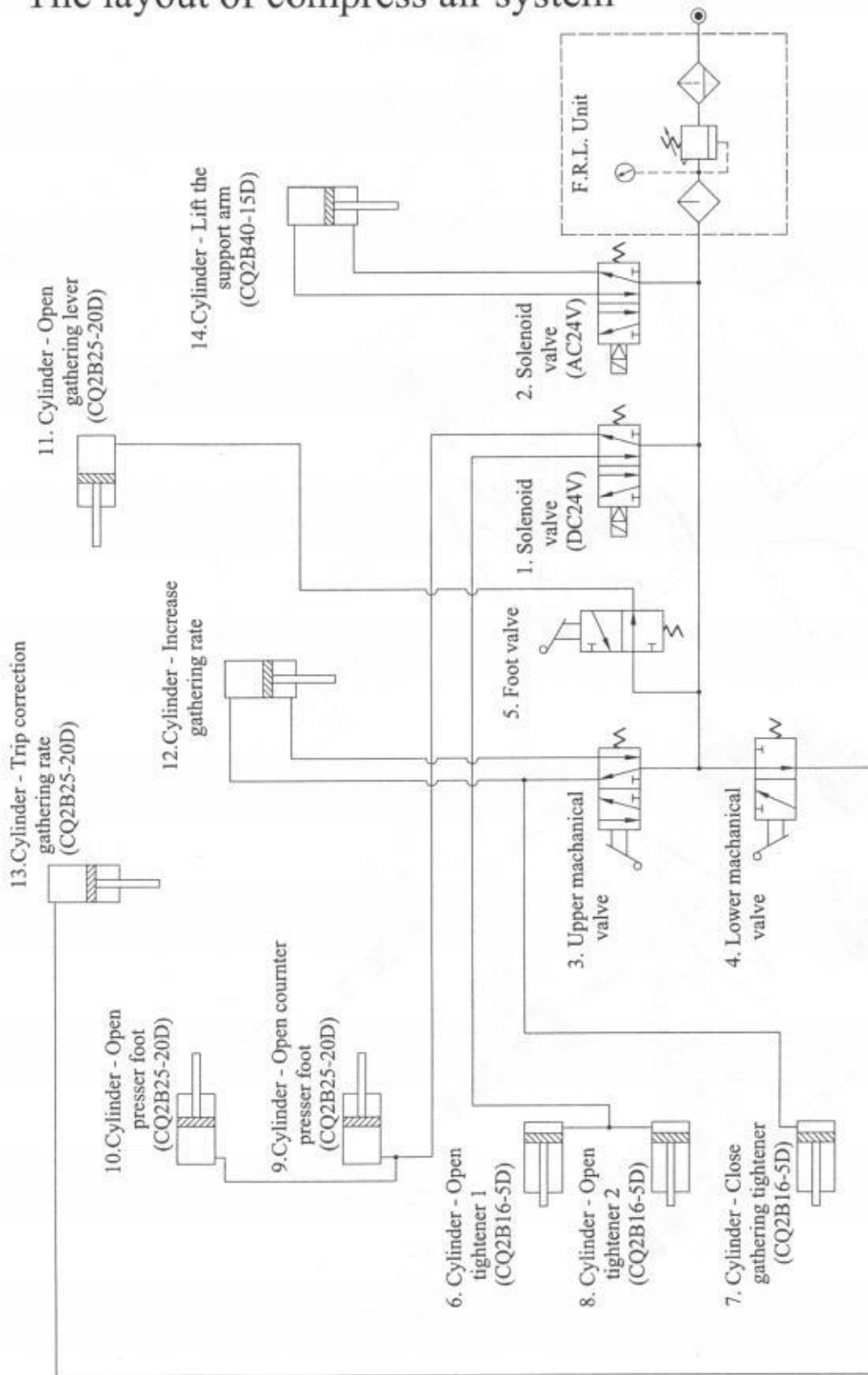


Fig.12



# The layout of compress air system



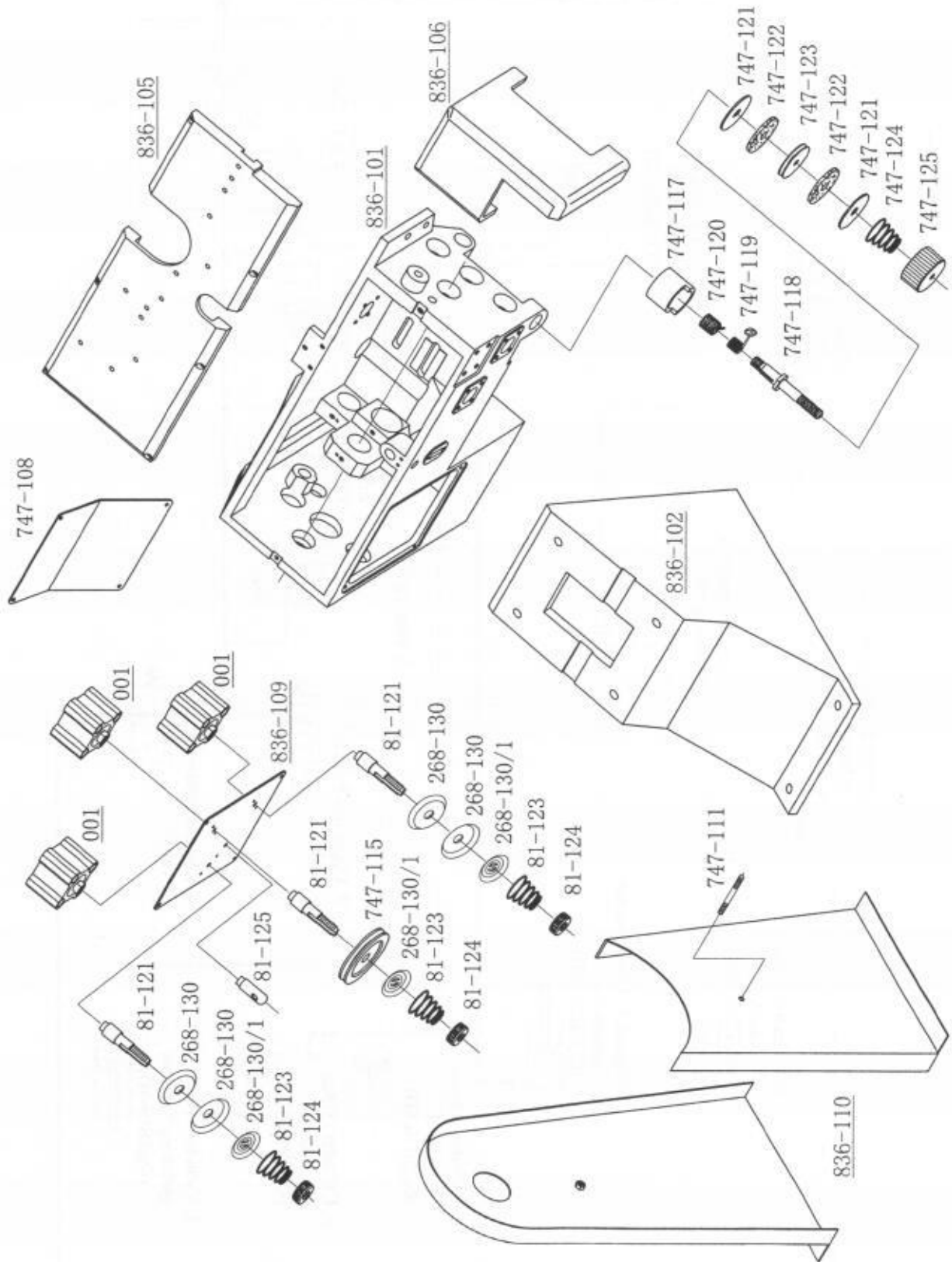


Fig. No.	Machine part	Quantity	Remarks
836-101	Frame	1	
836-102	Frame seat	1	
836-105	Upper cover	1	
836-106	Head cover	1	
836-109	Left side cover	1	
836-110	Belt cover	1set	
747-108	Right side cover	1	
747-111	Screw rod	1	
747-115	Threading wheel	1	
747-117	Housing	1	
747-118	Tightener rod	1	
747-119	Take-up spring	1	
747-120	Spring	1	
747-121	Tightener washer	2	
747-122	Felt washer	2	
747-123	Threading wheel	1	
747-125	Nut	1	
81-121	Rod of threading tightener	3	
81-123	Cone spring	4	
81-124	Nut	3	
81-125	Threading rod	1	
268-130	Tightening disk	4	
268-130/1	Loosening disk	3	
001	Cylinder (CQ2B16-5D)	3	

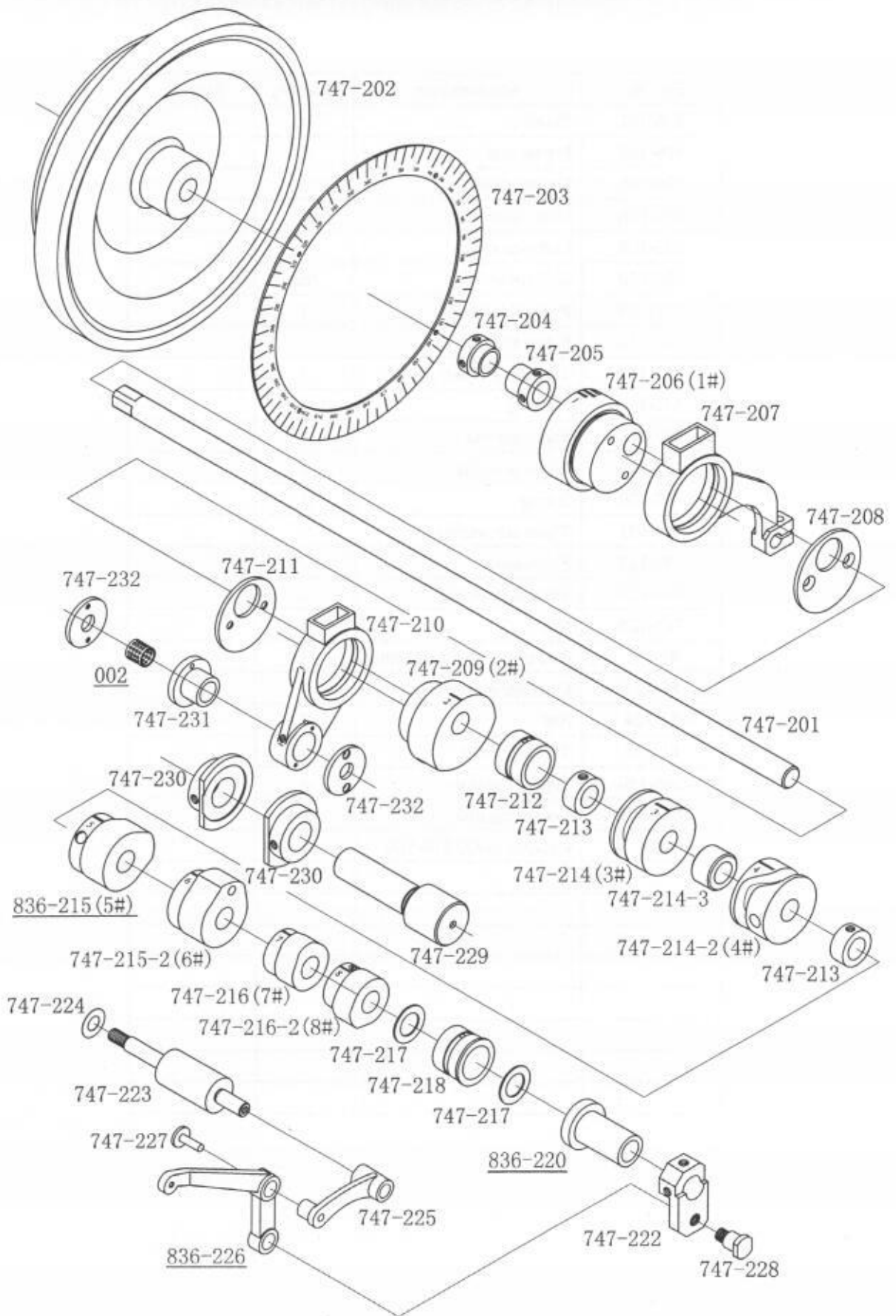


Fig. No.	Machine part	Quantity	Remarks
836-215	Driving cam (5#)	1	
836-220	Thrust ring	1	
836-226	Thread take-up lever	1	
747-201	Central shaft	1	
747-202	Pulley	1	
747-203	Scale disk	1	
747-204	Thrust ring	1	
747-205	Thrust ring	1	
747-206	Shuttle driving cam(1#)	1	
747-207	Connecting lever	1	
747-208	Covering plate	1	
747-209	Needle driving cam(2#)	1	
747-210	Connecting lever	1	
747-211	Covering plate	1	
747-212	Mid bearing housing	1	
747-213	Thrust ring	2	
747-214	transporting cam(3#)	1	
747-214-2	Gather transporting cam(4#)	1	
747-214-3	Close ring	1	
747-215-2	Driving cam(6#)	1	
747-216	Driving cam(7#)	1	
747-216-2	Driving cam(8#)	1	
747-217	Washer	2	
747-218	Front bearing housing	1	
747-222	Thread take-up crank	1	
747-223	Supporting shaft	1	
747-224	Washer	1	※
747-225	Connecting lever	1	
747-227	Connecting rod	1	
747-228	Screw	1	
747-229	Short shaft	1	
747-230	Limiting ring	2	
747-231	Bearing housing	1	
747-232	Covering plate	2	
002	Linear bearing (141013)	1	

**Attention: The part marked ※ is exist or not according to the machine's good function when it is assembled in manufactory.**

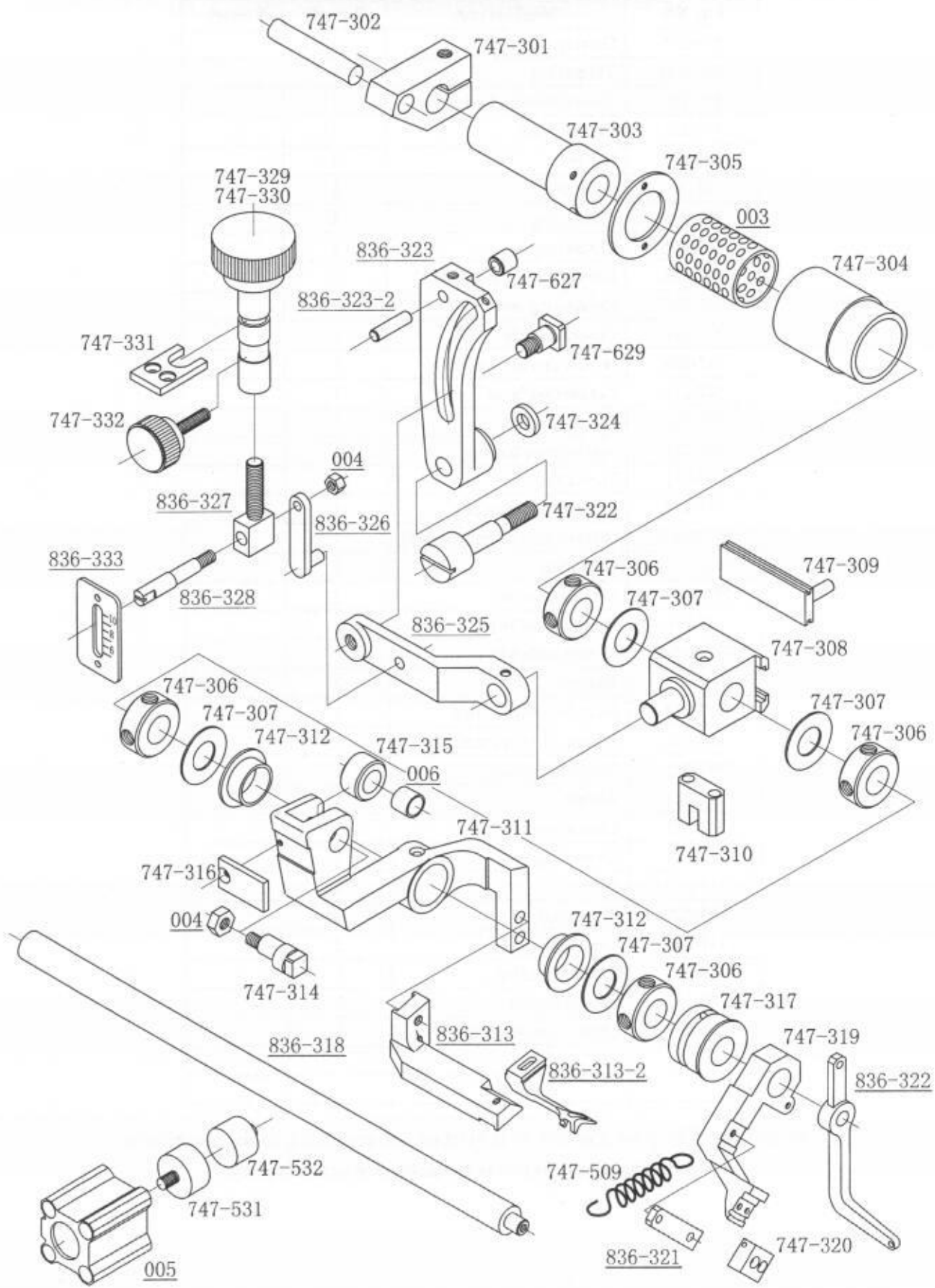


Fig. No.	Machine part	Quantity	Remarks
836-313	Counter presser lever	1	
836-313-2	Counter presser foot	1	
836-318	Needle driving shaft	1	
836-321	Spring hook-up lever	1	
836-322	Upper needle protector	1	
836-323	Transport driving lever	1	
836-323-2	Roller rod	1	
836-325	Connecting lever	1	
836-326	Connecting lever	1	
836-327	Adjusting action block	1	
836-328	Scale rod	1	
836-333	Graduated tile	1	
747-301	Needle driving crank	1	
747-302	Connecting shaft	1	
747-303	Thrust sleeve	1	
747-304	Bearing housing	1	
747-305	Covering plate	1	
747-306	Thrust ring	4	
747-307	Nylon washer	6	
747-308	Transport driving block	1	
747-309	Guide block	1	
747-310	Connecting block	1	
747-311	Counter presser action lever	1	
747-312	Sleeve	2	
747-314	Eccentric rod	2	
747-315	Roller	2	
747-316	Contact pad	2	
747-317	Front bushing	1	
747-319	Needle bar	1	
747-320	Needle clamp	1	
747-322	Supporting shaft	1	
747-324	Washer	1	
747-329、330	Adjusting knob	1	
747-331	Fixing stirrup	1	
747-332	Blocking knob	1	
747-509	Spring	1	
003	Linear bearing (312542)	1	
004	Jam nut (M6)	2	
005	Cylinder (CQ2B25-20D)	1	
006	Needle roller bearing (HK1012)	1	

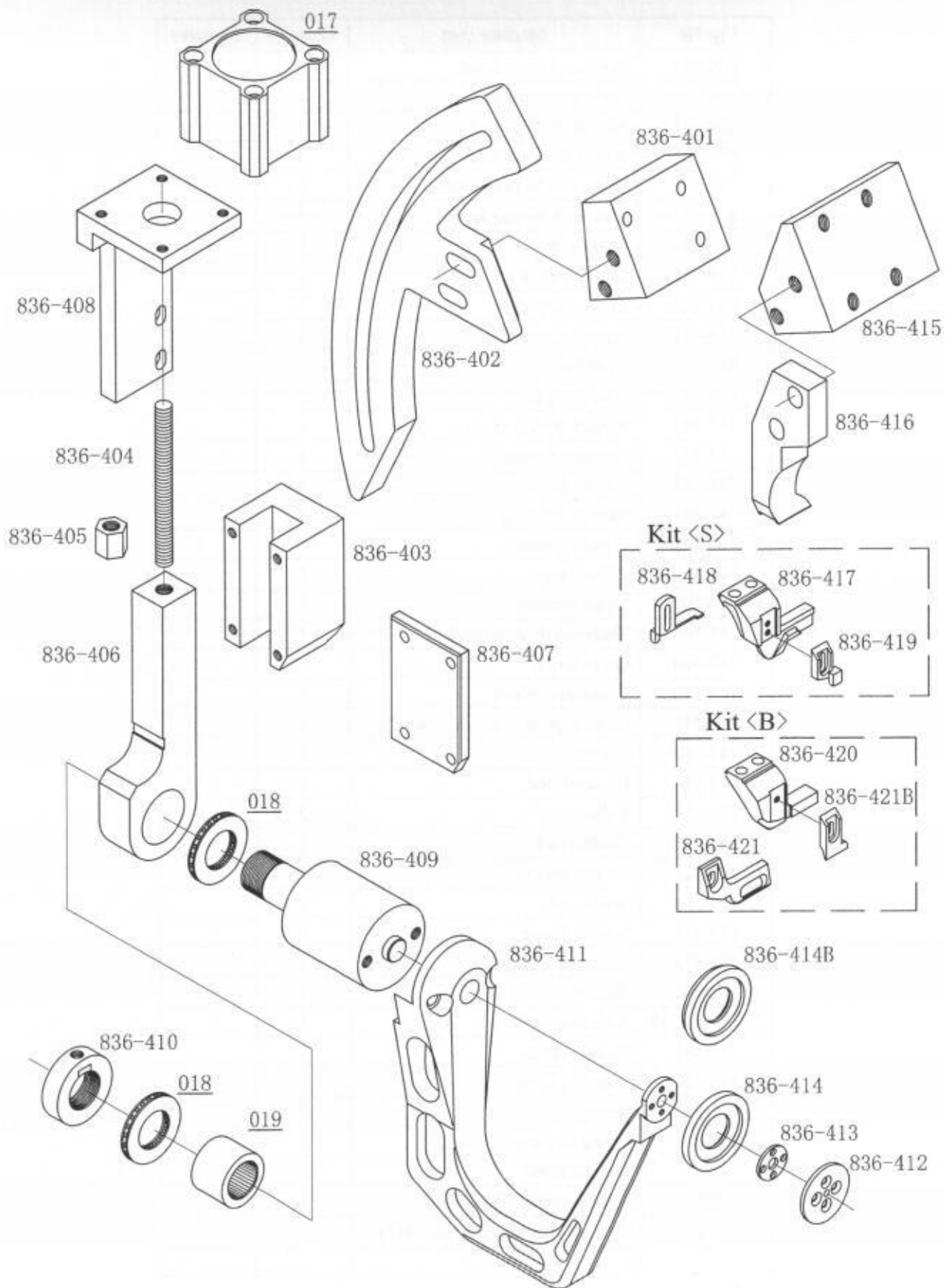




Fig. No.	Machine part	Quantity	Remarks
836-401	Arc plate stand	1	
836-402	Arc plate	1	
836-403	Stirrup housing	1	
836-404	Connecting screw	1	
836-405	Nut	1	
836-406	Arm support lever	1	
836-407	Covering plate	1	
836-408	Cylinder seat	1	
836-409	Connecting shaft	1	
836-410	Nut	1	
836-411	Arm	1	
836-412	Wheel shaft	1	
836-413	Washer	1	
836-414	Support wheel	1	
836-414B	Support wheel	1	
836-415	Fixing stand	1	
836-416	Sewing guide seat	1	
836-417	Sewing guide <S>	1	
836-418	Left limiter	1	
836-419	Right limiter	1	
836-420	Sewing guide <B>	1	
836-421	Right limiter	1	
836-421B	Right limiter	1	
<u>017</u>	Cylinder (CQ2B40-15D)	1	
<u>018</u>	Thrust roller bearing (AXK2035)	2	
<u>019</u>	Roller bearing (NK20/20)	1	

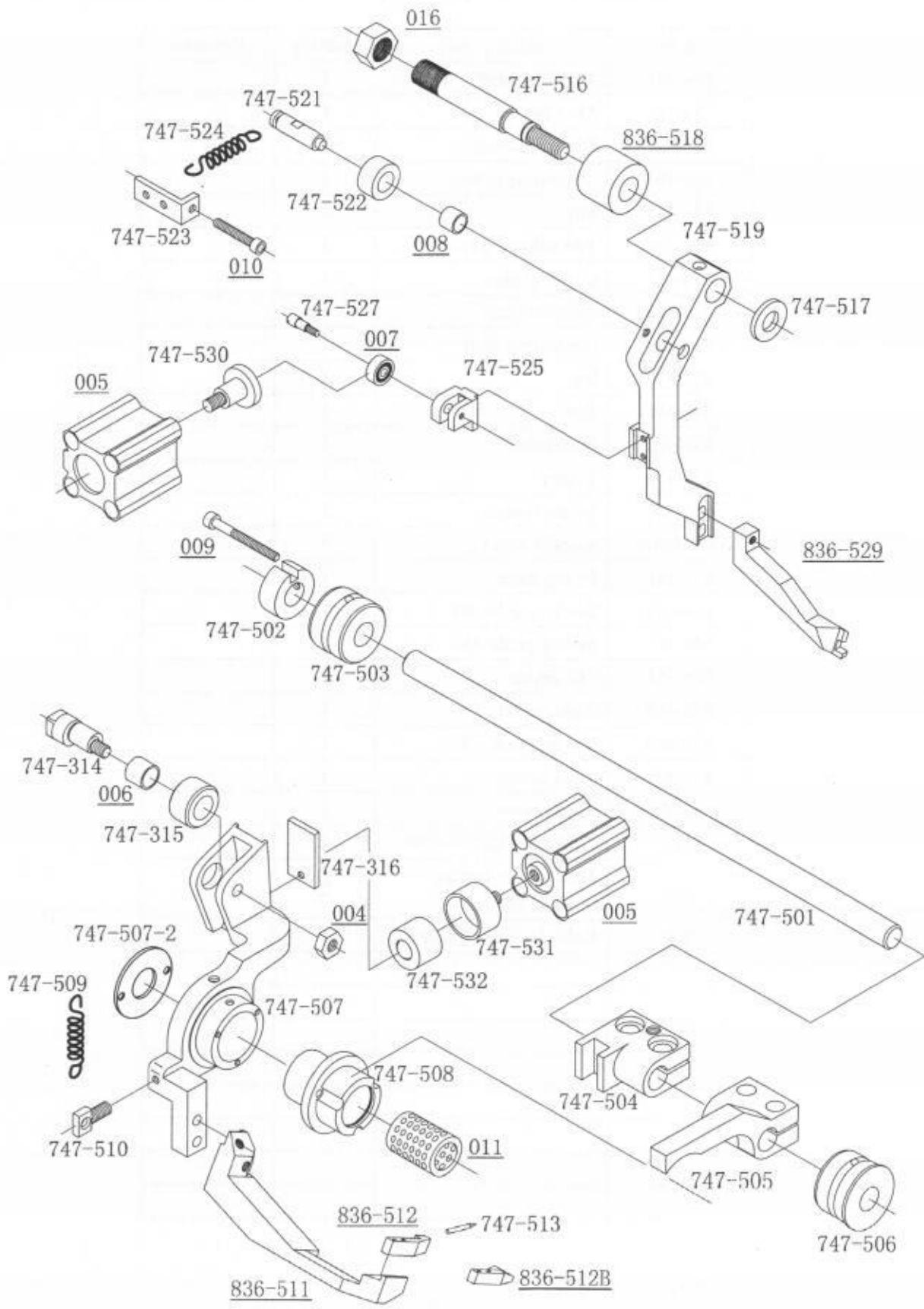


Fig. No.	Machine part	Quantity	Remarks
836-511	Gathering lever	1	
836-512	Gathering barb seat	1	
836-512B	Presser	1	
836-513	Gathering barb	1	
836-518	Washer	1	
836-529	Left presser foot	1	
747-501	Gathering driving shaft	1	
747-502	Locating ring	1	
747-503	Back bushing	1	
747-504	Driving block	1	
747-505	Connecting lever	1	
747-506	Front bushing	1	
747-507	Gathering action lever	1	
747-507-2	Covering plate	1	
747-508	Bearing housing	1	
747-509	Return spring	1	
747-510	Spring hooking	1	
747-516	Supporting shaft	1	
747-517	Washer	1	
747-519	Left presser lever	1	
747-521	Roller rod (left)	1	
747-522	Roller	1	
747-523	Spring hooking	1	
747-524	Spring	1	
747-525	Roller seat (left)	1	
747-527	Roller rod	2	
747-530	Knock-out block	2	
747-531	Bearing housing	2	
747-532	Knock-out bearing	2	
004	Jam nut (M6)	1	
005	Cylinder (CQ2B25-20D)	2	
006	Needle roller bearing (HK1012)	1	
007	Bearing (624ZZ)	1	
008	Needle roller bearing (HK0808)	1	
009	Screw (M5×40)	1	
010	Screw (M4×25)	1	
011	Linear bearing (211528)	1	
016	Jam nut (M12)	1	

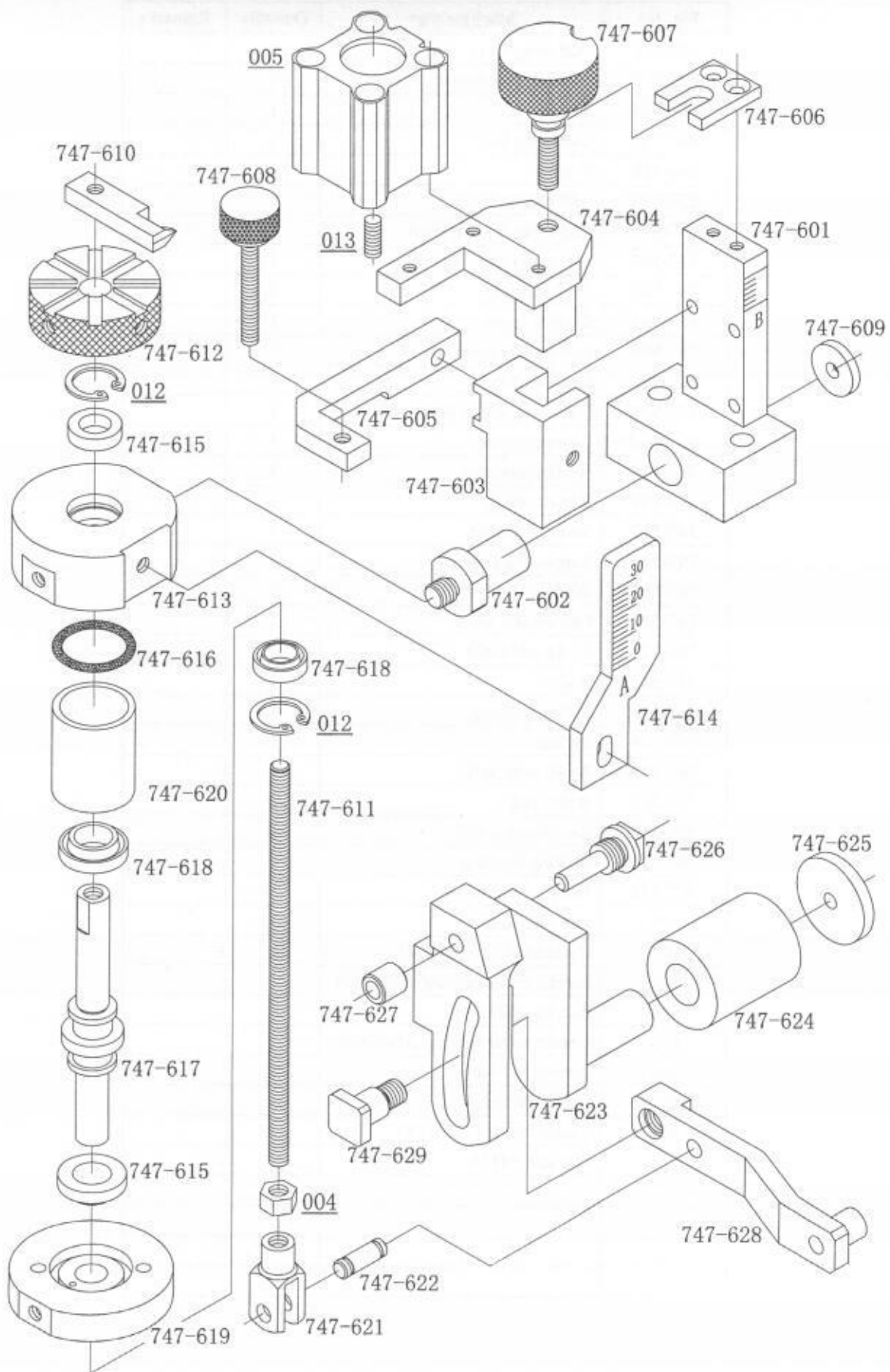


Fig. No.	Machine part	Quantity	Remarks
747-601	Adjusting device seat	1	
747-602	Connecting rod	1	
747-603	Stirrup	1	
747-604	Piston seat	1	
747-605	Fixing lever	1	
747-606	Fixing stirrup	1	
747-607	Adjusting knob	1	
747-608	Setting knob	2	
747-609	Washer	1	
747-610	Index arrow	1	
747-611	Screw rod	1	
747-612	Setting nut	1	
747-613	Upper cylinder cover	1	
747-614	Graduated scale	1	
747-615	Y lock ring	1	
747-616	Lock ring	2	
747-617	Piston rod	1	
747-618	Y lock ring	1	
747-619	Lower cylinder cover	1	
747-620	Cylinder body	1	
747-621	Connecting stirrup	1	
747-622	Rod	1	
747-623	Gathering driving lever	1	
747-624	Copper busing	1	
747-625	Washer	1	
747-626	Roller rod	1	
747-627	Roller	2	
747-628	Connecting lever	1	
747-629	Rod	2	
004	Jam nut (M6)	1	
005	Cylinder (CQ2B25-20D)	1	
012	Snap ring (Ø17)	2	
013	Screw (M5)	1	

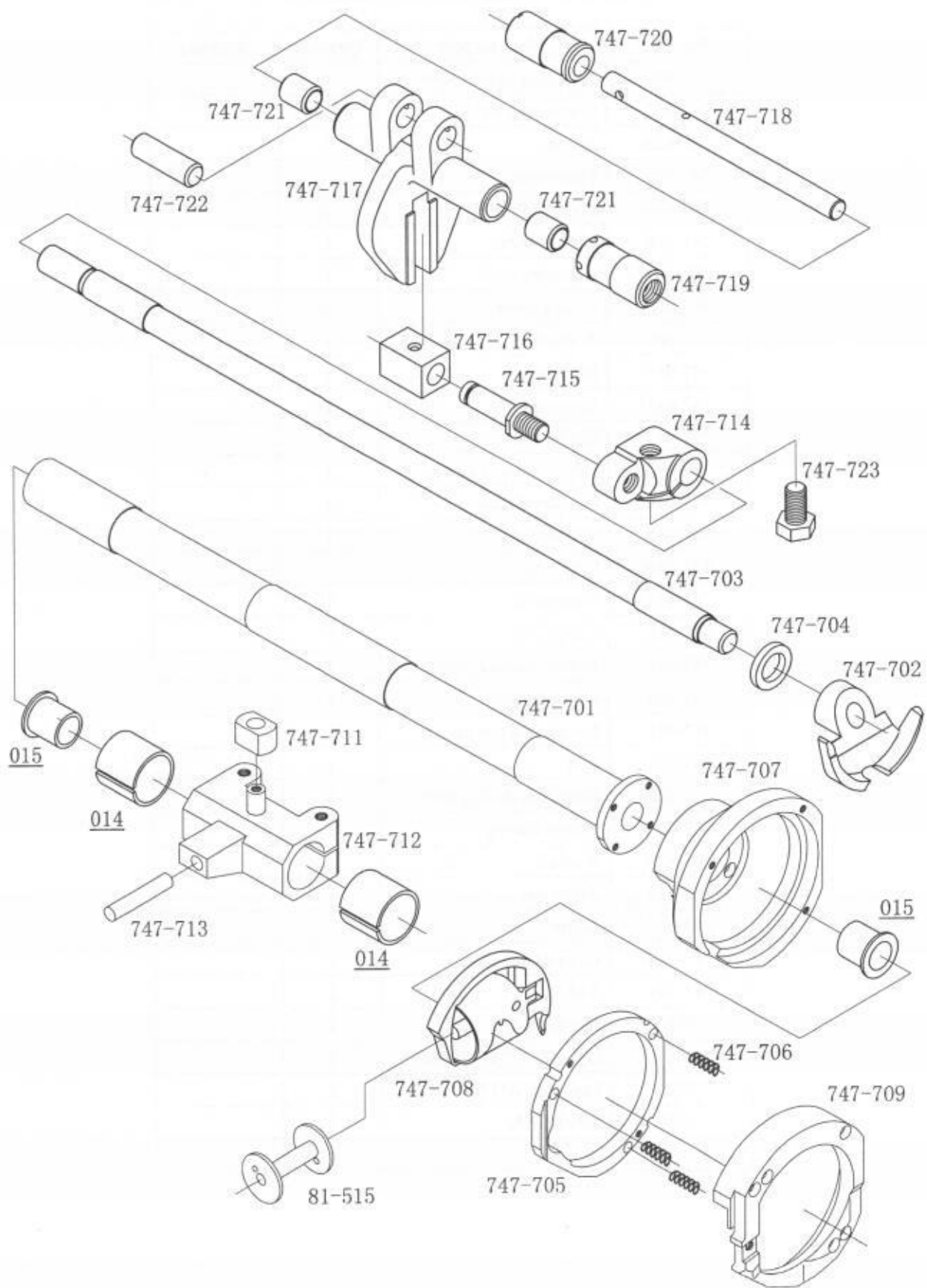


Fig. No.	Machine part	Quantity	Remarks
747-701	Shuttle seat shaft	1	
747-702	Shuttle driver	1	
747-703	Shuttle driving shaft	1	
747-704	Washer	1	
747-705	Fixing ring	1	
747-706	Spring	3	
747-707	Shuttle seat	1	
747-708	Shuttle	1	
747-709	Cover	1	
747-711	Block	1	
747-712	Clamp	1	
747-713	Connecting rod	1	
747-714	Shuttle driving crank	1	
747-715	Connecting rod	1	
747-716	Block	1	
747-717	Shuttle driving fork	1	
747-718	Support shaft	1	
747-719	Eccentric bushing	1	
747-720	Eccentric bushing	1	
747-721	Bushing	2	
747-722	Rod	1	
747-723	Screw	1	
81-515	Bobbin	1	
014	Side bushing (SF2020)	2	
015	Side bushing (SF1F12120)	2	





# Mod. 7748 cal. Electrical Block Diagram

