

# GLOBAL

INDUSTRIAL SEWING MACHINES

\*\*\* PARTS BOOK /  
INSTRUCTION MANUAL \*\*\*

BT-1850-28

BT-1850-42

## 2. CAUTION IN RUNNING THE MACHINE BY HAND

Since the safety unit works, the starting pedal will not go down if the work clamp foot is up when you try to run the sewing machine by hand. To start the machine by hand, follow the procedure shown below.

- 1) Take off the belt cover, and remove spring ①.
- 2) Turn pulley ② in the arrowed direction, and the work clamp will go down.
- 3) Turn driving pulley ③ in the arrowed direction while pulling down starting lever ④, and the sewing machine will start.

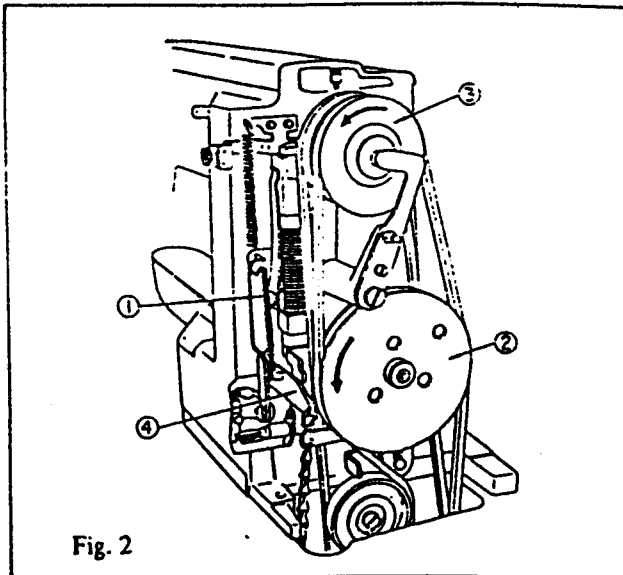
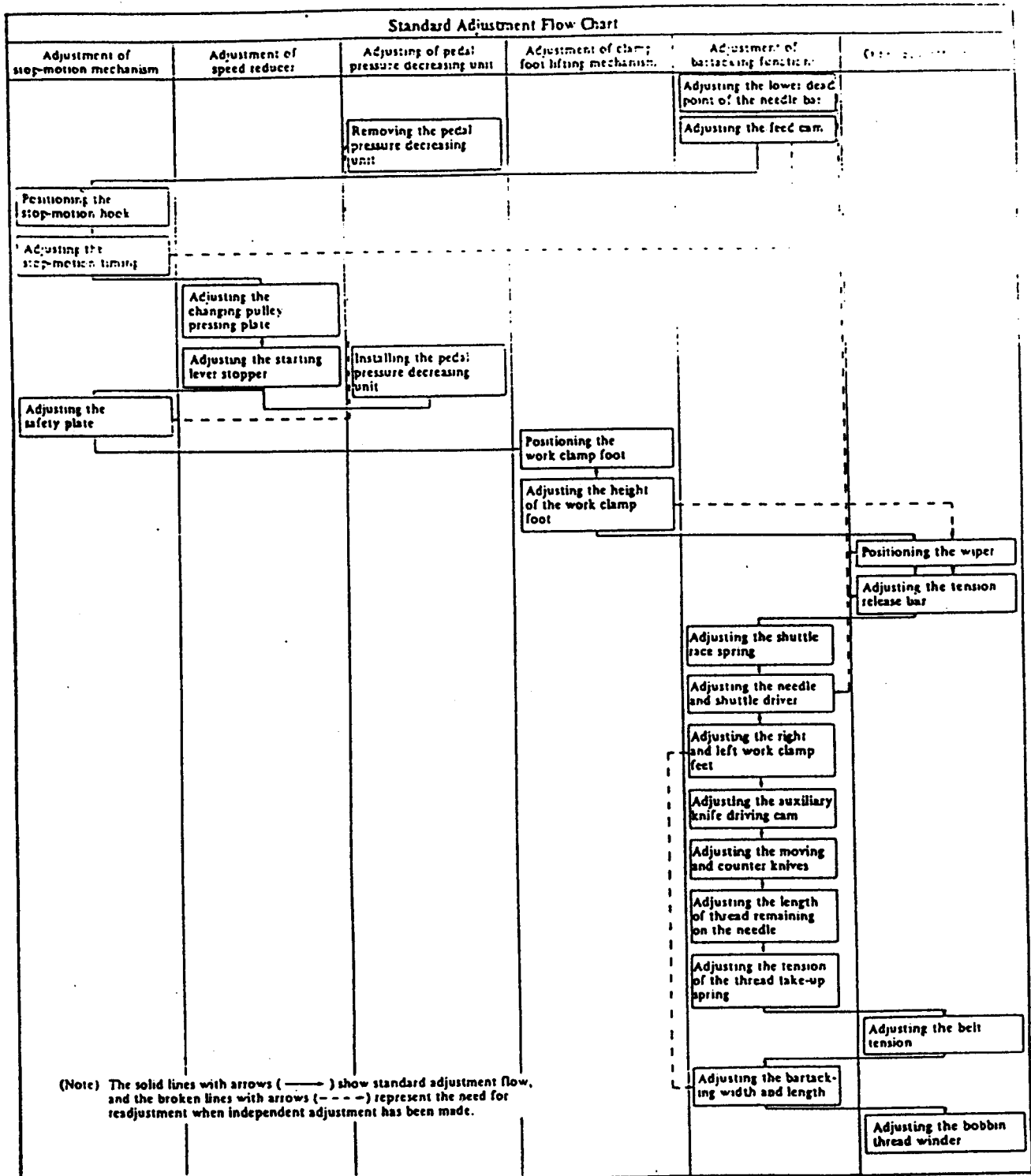


Fig. 2

### 3. STANDARD ADJUSTMENT FLOW CHART



## 4. STANDARD ADJUSTMENT

### Standard Adjustment

#### (1) Height of the needle bar

The upper marker line engraved on the needle bar should be flush with the bottom end of the lower needle bar bushing when the needle bar is at the lowest point of its stroke.

(Note) Perform this adjustment first before making any other adjustment.

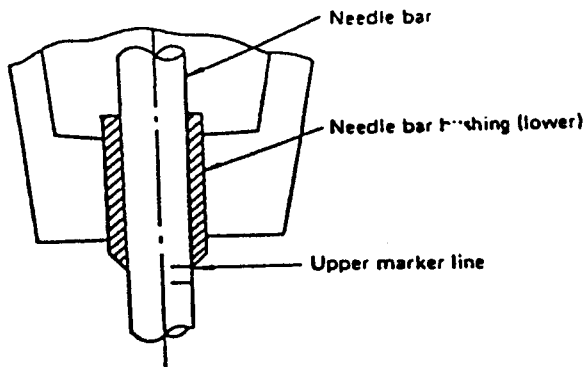


Fig. 3

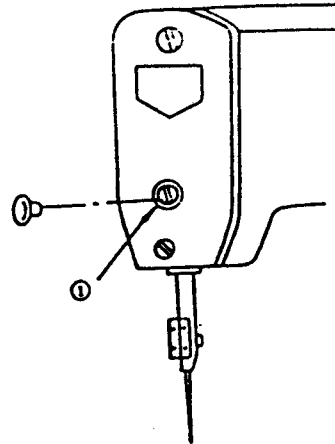


Fig. 4

#### (2) Adjustment of the feed cam

Adjustment should be made so that the feed is completed when the needle point is 8 to 12 mm (0.315" ~ 0.472") above the throat plate surface.

(It is advisable to make this adjustment during lateral feed).

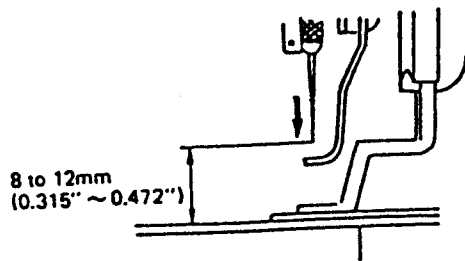


Fig. 5

### How to Adjust

- 1) Turn the changing pulley by hand until the needle bar reaches the lowest point of its stroke.
- 2) Remove the rubber plug from the face plate.
- 3) Loosen setscrew ①, and move the needle bar up or down to make the adjustment.
- 4) After adjustment, securely tighten setscrew ①.

### Effects of Adjustment

- Improper adjustment will cause stitch skipping or thread breaking.

Loosen nut ① and then cam guide pin ②. This will allow feed cam ③ to be moved in the direction of rotation for adjustment.

- When the feed cam is turned in direction A, the feed timing advances.
- When the feed cam is turned in direction B, the feed timing is delayed.

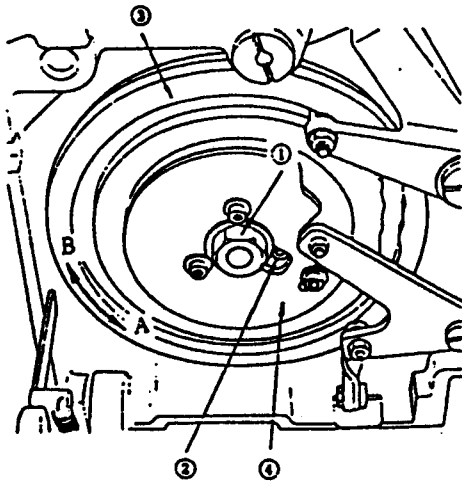


Fig. 6

#### (Caution)

Perform this adjustment first after the adjustment of the height of the needle bar. Make sure to readjust stop-motion regulating cam ④ whenever the feed cam has been adjusted.

- When it is adjusted to 8 mm (0.315") or so, well-tensed stitches will result.
- When it is adjusted to 12 mm (0.472") or so, protrusion of the first stitch needle thread onto the material surface will be prevented when sewing with a synthetic thread.
- \* For sewing extra heavy-weight material, adjust it to 10 to 12 mm (0.394" ~ 0.472")

## Standard Adjustment

**(Note)**

Strictly follow the order of adjustment for (3) through (6) shown below.

### (3) Position of the stop-motion hook

Perform adjustment so that a 3 mm (0.118") clearance is provided between the stop-motion hook and the stop-motion cam when the machine runs at a low speed.

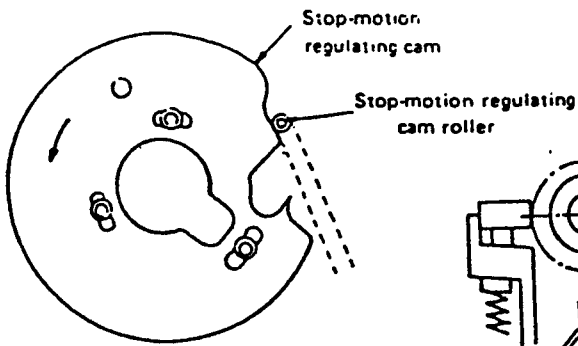


Fig. 7

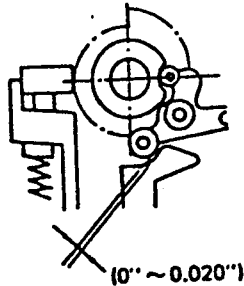


Fig. 9

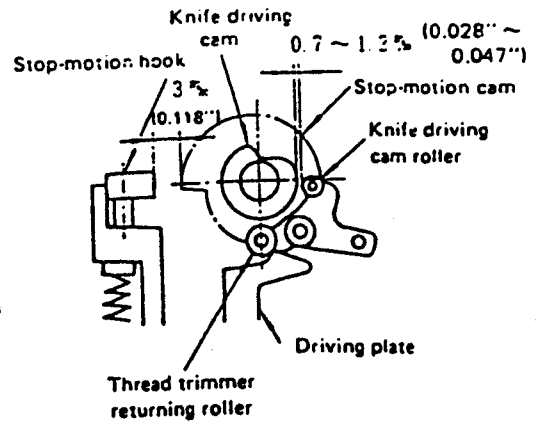


Fig. 8

### (4) Stop-motion timing

Perform adjustment to make the stop-motion regulating cam roller drop from the low-speed point of the stop-motion regulating cam onto the stop motion point at the moment the top surface of the stop-motion hook aligns with the center of the screw No. 1 on the stop-motion cam at the last stitch as shown in Fig. 12.

- Turn the main shaft while pressing the hook by finger.

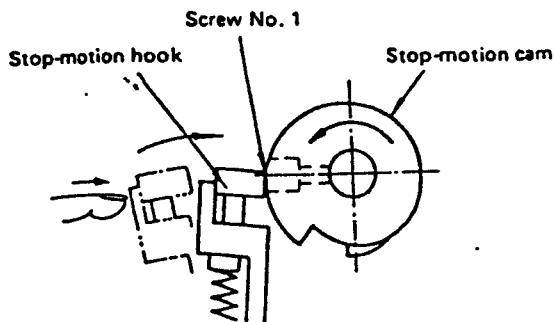


Fig. 12

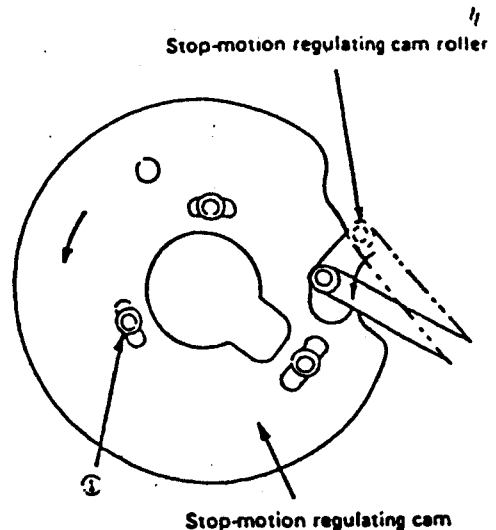


Fig. 13

## How to Adjust

- 1) Turn the main shaft by hand to obtain the state shown in Fig. 7. (low-speed running)
- 2) Remove the spring ② and spring ③.
- 3) Loosen screw ①, and perform adjustment to allow a 3 mm (0.118") clearance between the stop-motion hook and the knife driving cam.

### (Caution)

When tightening screw ①, be careful not to cause excessive axle sticking.

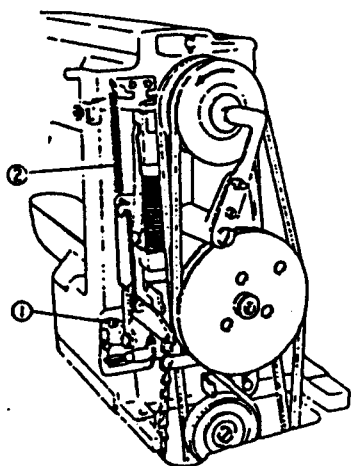


Fig. 10

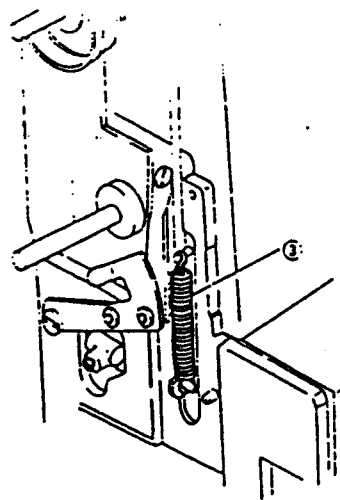
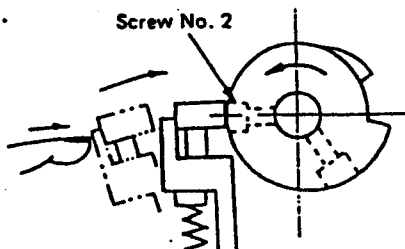


Fig. 11

Loosen three setscrews ①, and make adjustment within the slot.

(Stop-motion timing for Canton crepe and heavy-weight material)

There is a stop-motion control cam exclusively used for Canton crepe or heavy-weight material. Adjust so that, when the last stitch stop-motion hook meets the center of the stop-motion cam screw No. 2, the stop-motion control cam roller moves from the low-speed section into the stop-motion section of the stop-motion regulating cam.



Stop-motion regulating cam for extra heavy-weight material

Part No.	Part name	No. of stitches
13539606	Stop-motion regulating cam	42 stitches
13539705	Stop-motion regulating cam	28 stitches
13539804	Stop-motion regulating cam	36 stitches

## Effects of Adjustment

- If the clearance is adjusted to 3 mm (0.118") or less; A neutral state will result when the machine runs at low speed, causing the machine to idle and stop. Further, the clearance of 0.7 to 1.2 mm (0.028" ~ 0.047") between the knife driving cam and the knife driver cam roller will give at the time of low-speed machine running with resultant striking noises. Also the stop-motion cam will interfere with the stop-motion hook at the time of stop motion. (Fig. 8)
- If the clearance is adjusted to 3 mm (0.118") or more; The pressure of spring ② will become too high when the machine runs at high speed, often causing the machine to idle and stop. It may also lead to inadequate torque at the start of high-speed running with consequent reduction in sewing speed. Also, the thread trimmer returning roller will interfere with the driving plate, resulting in thread trimming failure. (clearance : 0 to 0.5 mm (0.020")) (Fig. 9)

- If later than screw No. 1; The brake will not work, and therefore a great stop-motion shock will result. Also, it may cause the machine to stop at the first starting stitch. If, however, the stop motion fails to take place from time to time when sewing extra heavy-weight material, the timing may be delayed a little.

- If earlier than screw No. 1; The brake will work excessively, causing a stop motion failure. If the timing is extremely too early, the stop motion will be engaged one stitch earlier, producing an abnormal sound.

## Standard Adjustment

### (5) Adjustment of the changing pulley pressing plate.

The clearance A should be equal to clearance B at the time of stop motion. ( $A = B = 0.35 \text{ mm (0.013")}$ )

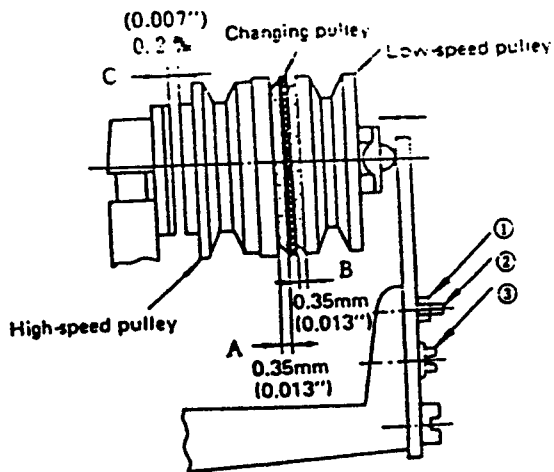


Fig. 14

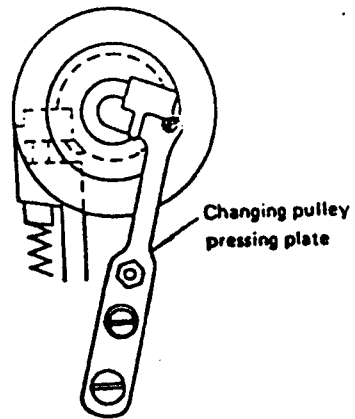


Fig. 15

### (6) Adjustment of the starting lever stopper

Bring the starting lever into contact with the stopper screw and make adjustment so that the starting lever, when pulled, will stop at the moment the clearance between the stop-motion hook and the stop-motion cam reaches 3 mm (0.118") (refer to the previous clause (3)).

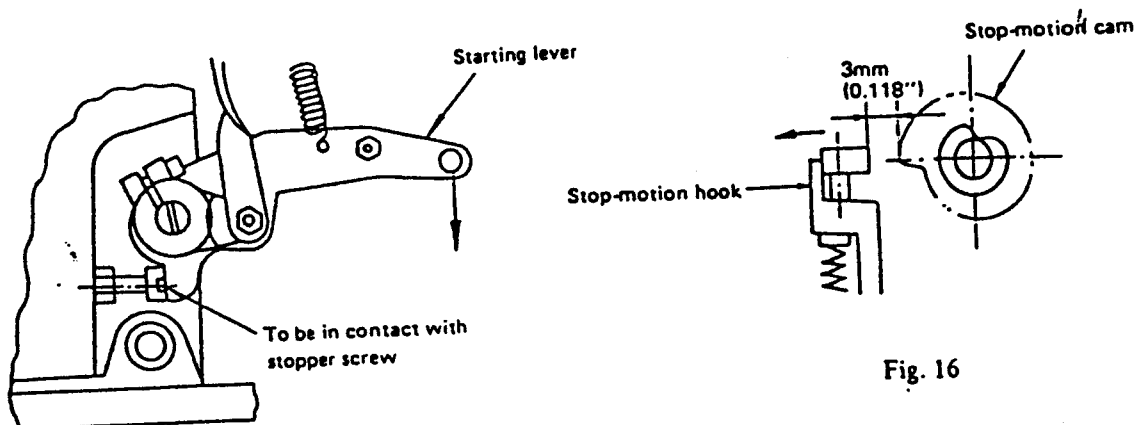


Fig. 16

Fig. 17



How to Adjust	Effects of Adjustment
<p>1) Place the stop-motion hook in the stop-motion position.</p> <p>2) Loosen nut ① and then screw ②.</p> <p>3) Securely tighten screw ③.</p> <p>4) Gradually tighten screw ② until equal clearances are provided at A and B. (A = B = 0.35 mm (0.013"))</p>	<ul style="list-style-type: none"> <li>• If A is larger than 0.35 mm (0.014") while B is smaller than 0.35: Heat may be generated due to the contact between low-speed pulley and the changing pulley, or low-to-high speed changing feed timing may not synchronize with the motion of the needle bar, often causing the machine to idle and stop. Also, the machine may fail to reach the high sewing speed.</li> <li>• If A is smaller than 0.35 mm (0.014") while B is large than 0.35: An inadequate torque may be caused in low-speed operation, or heat may generated due to the contact between the changing pulley and the high-speed pulley.</li> <li>• If A + B + C is larger than the specified value; The machine may stop at the time when the sewing speed is changed from low speed to high speed in sewing extra heavy-weight material or the like.</li> </ul>
<p>Push down the starting lever and make adjustment so that the starting lever comes in contact with the stopper screw when the clearance between the stop-motion hook and the stop-motion cam becomes 3 mm (0.118") (refer to (3) Position of the stop-motion hook), then lock it using the nut.</p>	<ul style="list-style-type: none"> <li>• If the adjusted value is larger than 3 mm (0.118"), the machine will be put into idling state and stop at the time of starting.</li> <li>• If the adjusted value is smaller than 3 mm (0.118"), there will be no allowance in the slot of the starting lever when the machine runs at high speed, causing the lever to bind.</li> </ul>

## Standard Adjustment

### (7) Adjustment of the safety plate

Adjust the safety plate and work clamp foot lever so that a lateral clearance of 0.2 to 0.5 mm (0.007" to 0.019") is provided for A, and a longitudinal clearance of 1.5 to 2.5 mm (0.059"~0.098") for B. (Be sure that the lateral clearance is 0.2 to 0.5 mm (0.008" to 0.020") when the work clamp foot is down.)

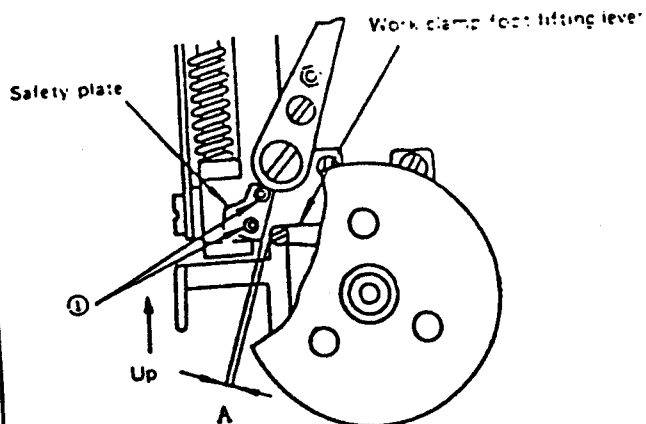


Fig. 18

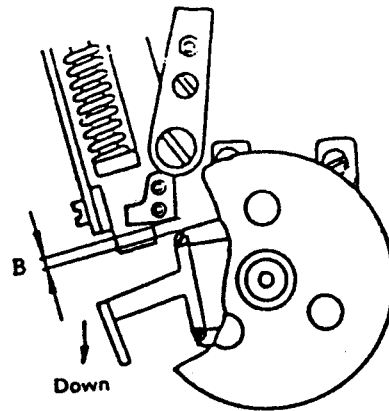


Fig. 19

### (8) Position of the work clamp foot

Turn the main shaft by hand and perform adjustment to equalize the both clearances A between the needle and the work clamp feet in the longitudinal feed. Also make equal the both clearances B between the feed plates and the work clamp feet.

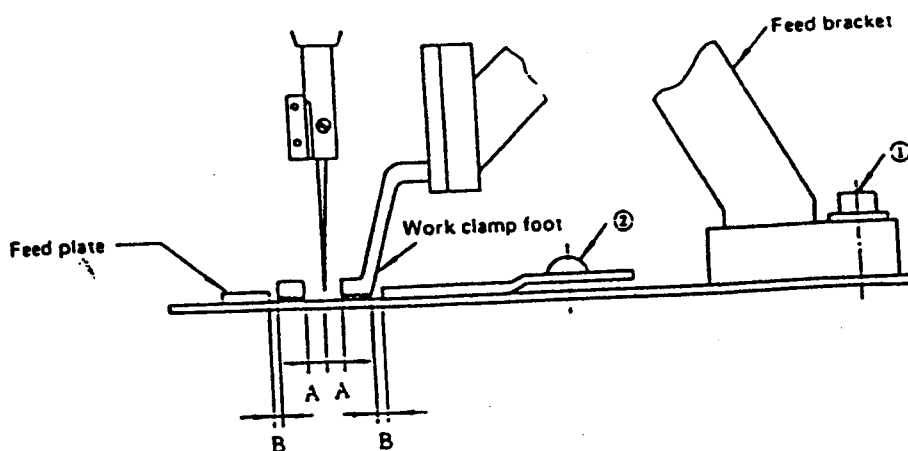


Fig. 20

How to Adjust	Effects of Adjustment
<p>Loosen setscrew ① to make adjustment. After adjustment, securely tighten the setscrew.</p>	<ul style="list-style-type: none"> <li>• If the clearance A is extremely small, the work clamp foot will not go up.</li> <li>• If the clearance B is smaller than the specified value, the safety plate and the work clamp foot lifting lever will interfere with each other, causing a stop motion failure.</li> <li>• If the clearance B is zero, the machine can not be started.</li> <li>• If the clearance A is too large, the wiper and the thread trimmer will be actuated before stop motion, causing the wiper to interfere with the needle, or the thread trimmer to cut the needle thread to remain on the needle too short with consequent slippage of the thread from the needle at stitching start.</li> </ul>
<ol style="list-style-type: none"> <li>1) Loosen screw ① and make adjustment of the work clamp foot within the slot in the feed bracket.</li> <li>2) Loosen screw ② and adjust the position of the feed plate by the slot in the feed plate.</li> </ol>	<ul style="list-style-type: none"> <li>• If the two clearances A are not equal, either work clamp foot may interfere with the needle, leading to needle breakage during longitudinal feed.</li> </ul>

## Standard Adjustment

### (9) Height of the work clamp feet

Remove the top cover, and adjust the height of the work clamp feet by the screw located at the center of the frame.

The maximum lift of the work clamp feet is 17 mm (0.669").

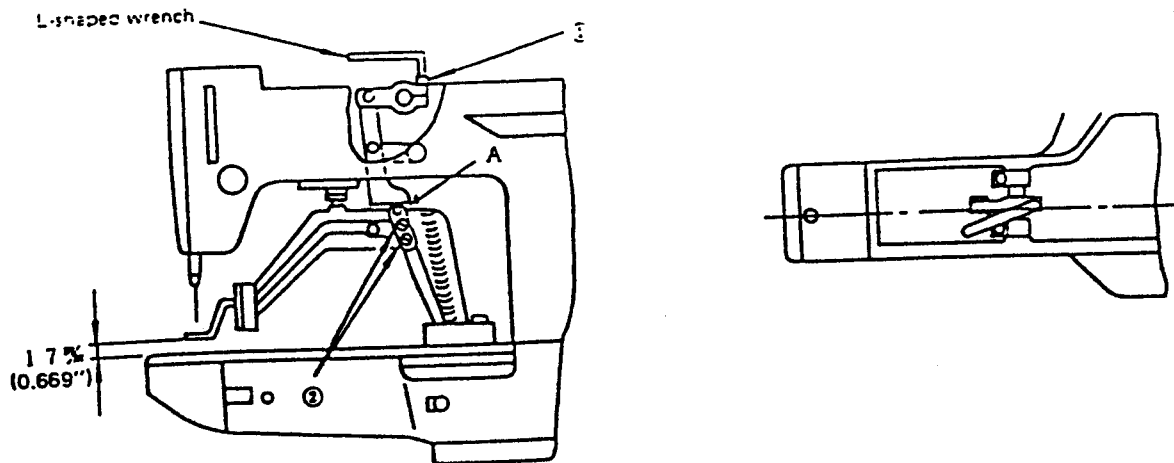


Fig. 21

### (10) Position of the wiper

The clearance between the wiper and the needle should be 2.5 mm (0.098") or more at the time when the wiper passes by the needle point.

When the wiper is in its home position, the end of the wiper should be 15 mm (0.591") from the center of the needle.

(The needle is in stationary state at the time of stop motion.)

(Clearance in the direction of rotation of the stop-motion cam and the stop-motion hook)

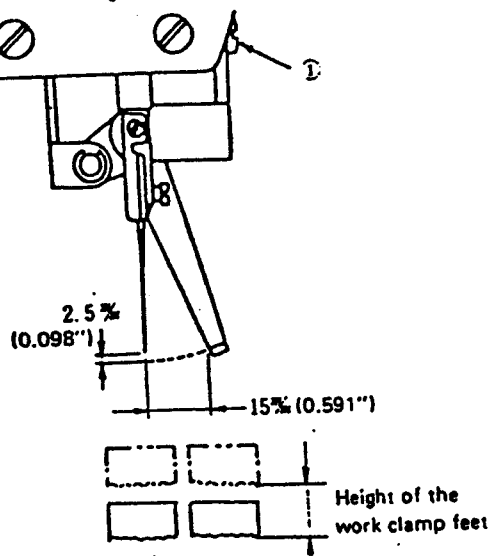


Fig. 22

### How to Adjust

Stop the machine with the work clamp feet up, and loosen screw ① to make adjustment.  
If the right and left work clamp feet are not levelled, perform further adjustment using screw ②.

### Effects of Adjustment

- If the work clamp feet are too high, they will interfere with the wiper when the wiper is actuated.
- If screws ② are too low, the feed bracket will interfere with the lowering shaft. (Point A)

Adjust the position of the wiper by screw ①. To move the wiper, move starting lever ② up and down, and turn pulley ③ by hand. Be sure to bring the stop-motion cam into contact with A of the stop-motion hook as shown in Fig. 24 when making this adjustment.

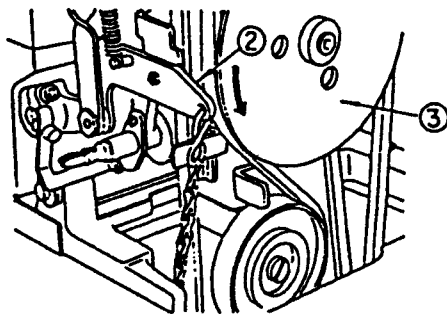


Fig. 23

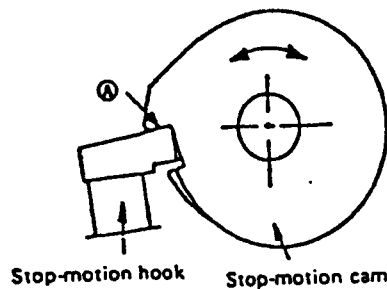


Fig. 24

- If the clearance is smaller than 2.5 mm (0.098");  
The wiper will interfere with the needle point, resulting in needle breakage or scratches on the needle.
- If the clearance is much larger than 2.5 mm (0.098"), the needle clamp screw will hit the wiper when the needle bar goes down.

## Standard Adjustment

### (11) Adjustment of the tension release bar

Tension release bar ③ should project 4 mm (0.157") from the surface of supporter ② with the work clamp feet up when the machine stops.  
(Be sure that the tension discs are closed while the machine is in operation.)

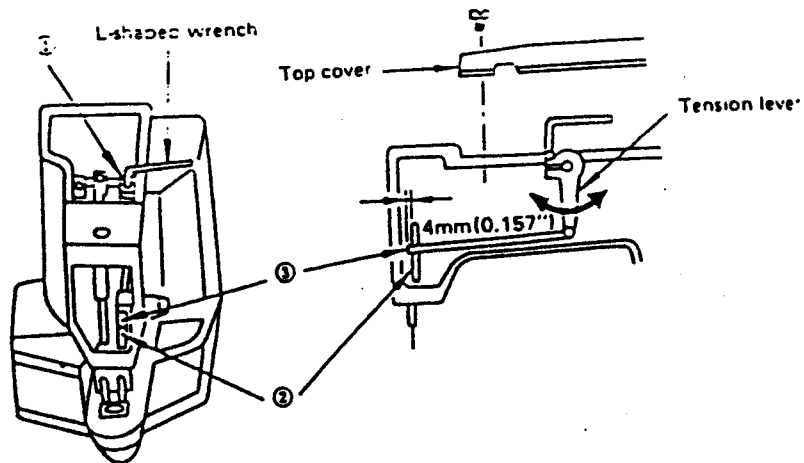


Fig. 25

### (12) Position of the shuttle race spring

The shuttle race spring should be evenly positioned laterally with respect to the needle entry point, and it should be positioned longitudinally so that the rear edge of the needle aligns with corner A as shown below.

(Note)

Presence of any scratches on area B may cause breakage of the bobbin thread. Grind and smooth out scratches if any.

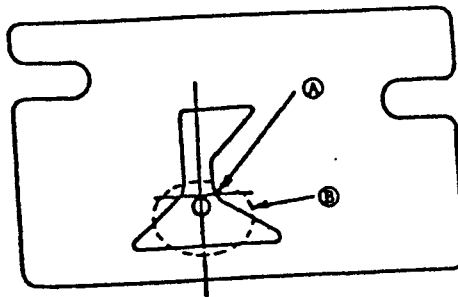


Fig. 26

### How to Adjust

### Effects of Adjustment:

With the machine in stationary state, remove the top cover and the face cover, and loosen screw ① to make adjustment with the work clamp feet up.

- If the projection of the tension release bar is smaller than 4 mm (0.157"); The tension discs will be left released during machine operation. If the projection is much smaller than 4 mm (0.157"), tension release bar ③ will come off supporter ② when the work clamp feet begins to go up and consequently the work clamp feet fail to go up. Also, the tension discs will not be released.
- If the projection of the tension release bar is larger than 4 mm: The end of tension release bar ③ will hit the face cover when the work clamp feet go up, producing a loud noise. Also, the thread will not be released at the time of thread trimming, and as a result, the needle thread will be cut extremely short.

Remove the feed bracket, feed plate and throat plate, then perform adjustment using screw ①.

(Note)

The lateral position of the shuttle race spring is affected also by the locking position of setscrew ②.

- Lateral or longitudinal deviation of the shuttle race spring will cause the needle thread to bite into the shuttle race.
- If the shuttle race spring is positioned excessively in the rear, the moving knife may fail to catch the needle thread.

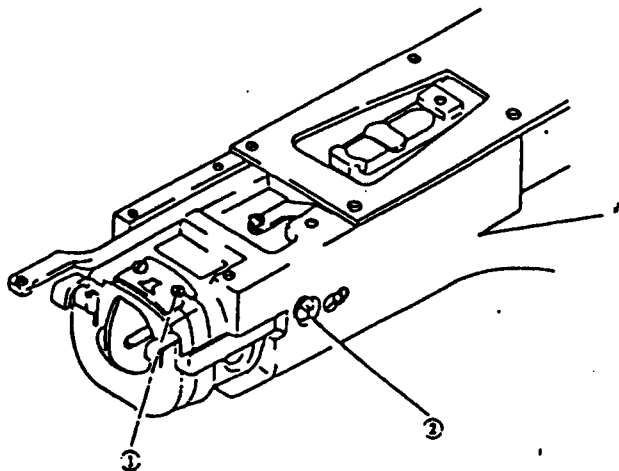


Fig. 27

## Standard Adjustment

### (13) Adjustment of the timing between the needle and the shuttle

**1) Timing of the needle bar**

The needle bar goes up from the lowest point of its stroke until the lower marker line engraved on the needle bar is flush with the bottom end of the needle bar bushing (lower). (Fig. 28)

**2) Timing of the shuttle**

When the state is as described in the above 1), the center of the needle coincides with the point of the shuttle at A. (Fig. 29)

**3) Clearance between the needle and the shuttle driver**

When the state is as described in the above 2), there should be no clearance between the needle and the shuttle driver. (Fig. 30)

**4) Clearance between the needle and the point of the shuttle**

When the state is as described in 2), the clearance B between the needle and the point of the shuttle should be 0.05 to 0.1 mm (0.001" ~ 0.004"). (Fig. 31)

**5) Clearance between the needle and the shuttle race**

The clearance between the side face of the needle and the shuttle race should be 7.5 mm (0.295"). (Fig. 32)

**1) Timing of the needle bar**

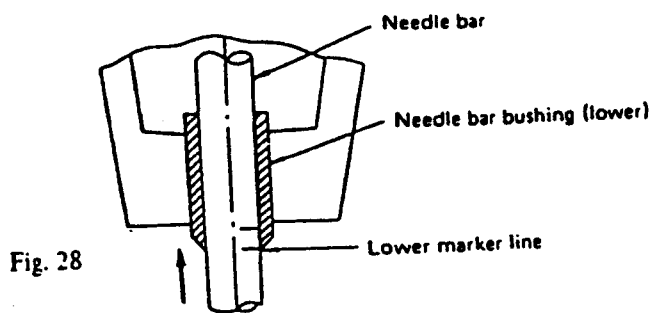


Fig. 28

**2) Timing of the shuttle**

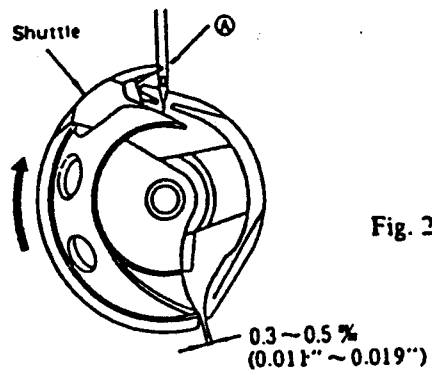


Fig. 29

**3) Clearance between the needle and the shuttle driver**

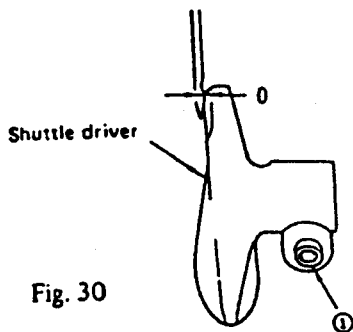


Fig. 30

**4) Clearance between the needle and the point of the shuttle**

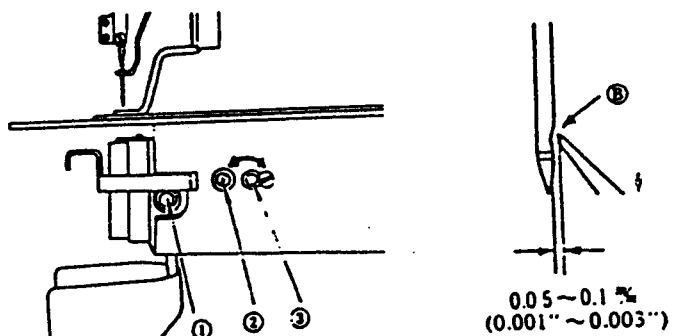


Fig. 31

**5) Clearance between the needle and the shuttle race**

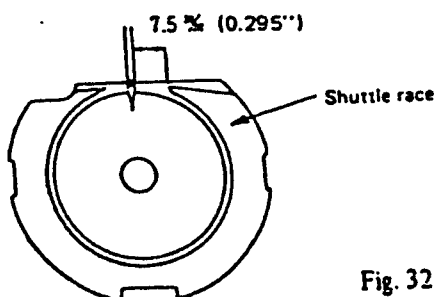


Fig. 32



## How to Adjust

- 1) Referring to Standard Adjustment (1) Height of the needle bar, make the lower marker line engraved on the needle bar flush with the bottom end of the bushing.
- 2) and 3) Loosen setscrew ① of the shuttle driver, and adjust the rotational and longitudinal directions of the shuttle driver.

### (Caution)

Ensure to turn the shuttle in the arrowed direction as shown in Fig. 29 when adjusting the timing of the shuttle.

- 4) Loosen setscrew ② of the shuttle race, and turn eccentric shaft ③ to make adjustment.
- 5) Loosen setscrew ④ to perform adjustment.

Enough care should be exercised when performing the adjustment described in 4), namely the adjustment of the clearance between the needle and the point of the shuttle.

### (Note)

The clearance in the rotational direction between the shuttle and the shuttle driver should be 0.3 mm to 0.5 mm (0.011" ~ 0.019") as shown in Fig. 29.

Strike points D for adjustment.

After adjustment, check that point C is evenly spaced vertically with respect to the shuttle.

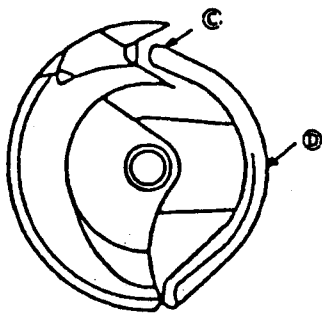


Fig. 33

## Effects of Adjustment

- 1) and 2) Slightly reduce the height of the needle bar (upper marker line) for floppy material, and on the contrary, slightly increase the height for heavy-weight material to adjust the timing of the shuttle.

(For prevention of stitch skipping)

- 3) If the clearance is more than 6 mm, the needle will be bent in the direction of the shuttle point, causing scratches on the shuttle point and the needle. On the contrary, however, excessive contact between the needle and the shuttle driver may cause stitch skipping.

- 4) If the clearance is greater than 0.05 to 0.1 mm (0.001 ~ 0.003"), stitch skipping will occur. If it is smaller than the specified values, the needle strikes the shuttle point and scratches occur, leading to thread breakage or fine splits of thread.

- 5) If the clearance is smaller than 7.5 mm (0.295") the needle thread will not be fully spread, often causing the needle thread to bite into the shuttle.

- If the clearance between the shuttle drive and the shuttle is greater than 0.3 to 0.5 mm (0.011" ~ 0.019"), the shuttle noise will be louder. On the contrary, if the clearance is not enough, poorly tensed stitches will result when sewing with a thick thread.

## Standard Adjustment

### (14) Lateral position of the work clamp foot

The center of the work clamp foot should lie at the 26th stitch for 42-stitch large size bartacking, and at the 18th stitch for 28-stitch large size bartacking.

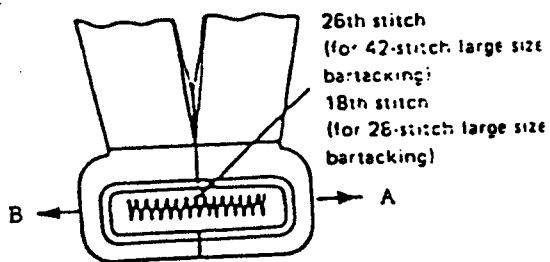


Fig. 34

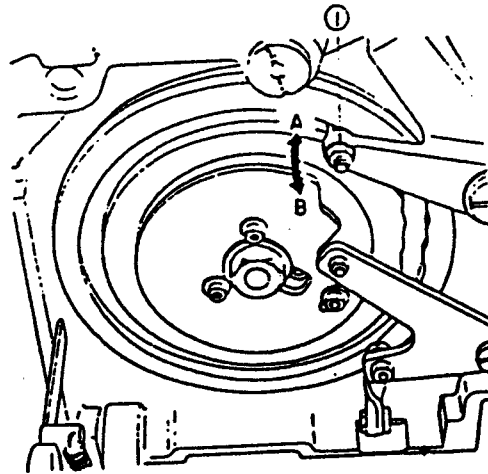


Fig. 35

### (15) Adjustment of the auxiliary knife driving cam

The clearance between the end of the auxiliary knife driving cam and roller ③ should be 0.3 to 0.5 mm (0.011"~0.019") when roller ② fits in the recess of the knife driving cam.

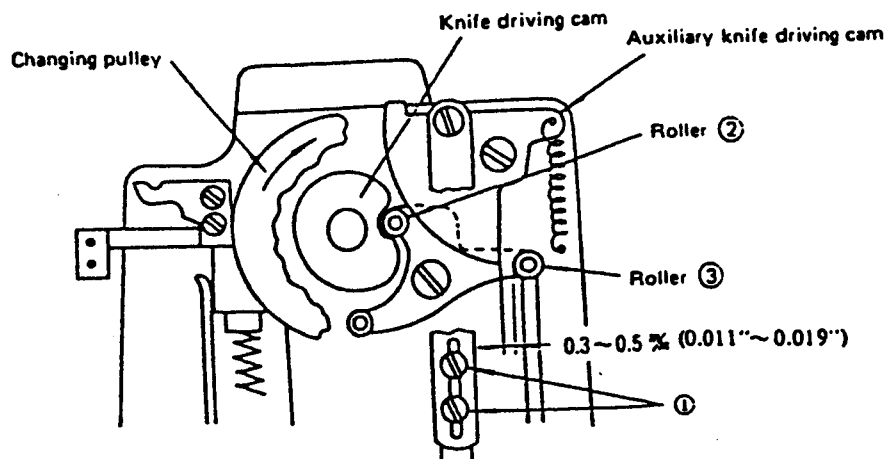


Fig. 36

How to Adjust	Effects of Adjustment
<p>Loosen lock nut ① of the feed cam roller shaft, and move the roller shaft in the arrowed directions for adjustment. To correct slight deviation, loosen the lateral feed adjusting nut and push the work clamp foot to the right or left to perform adjustment.</p>	<ul style="list-style-type: none"> <li>● Improperly positioned center of the work clamp foot would cause the needle to hit the work clamp foot, leading to breakage of the needle.</li> </ul>
<ol style="list-style-type: none"> <li>1) Push down the starting lever, and manually turn the driving pulley to lower the work clamp foot.</li> <li>2) Further push down the starting lever, and turn the changing pulley in the arrowed direction until roller ② fits in the recess of the knife driving cam.</li> <li>3) Loosen the setscrews, and make adjustment so that a clearance of 0.3 to 0.5 mm (0.011"~0.019") is provided between the end of the auxiliary knife driving cam and roller ③ when roller ② fits in the recess of the knife driving cam.</li> </ol>	<ul style="list-style-type: none"> <li>● If the clearance is extremely large, the thread trimming timing will be delayed, resulting in thread trimming failure.</li> <li>● If no clearance is allowed between the end of the auxiliary knife driving cam and roller ③, thread trimming action will be interrupted at the time of thread spreading with resultant thread trimming failure.</li> </ul>

## Standard Adjustment

### (16) Position of the moving knife and the counter knife

**Position of the counter knife :** The clearance between the counter knife and the needle hole guide should be 0.5 mm (0.019").

**Position of the moving knife :** The needle hole in the needle hole guide should meet the hole in the moving knife at the time of stop motion (before the work clamp foot goes up).

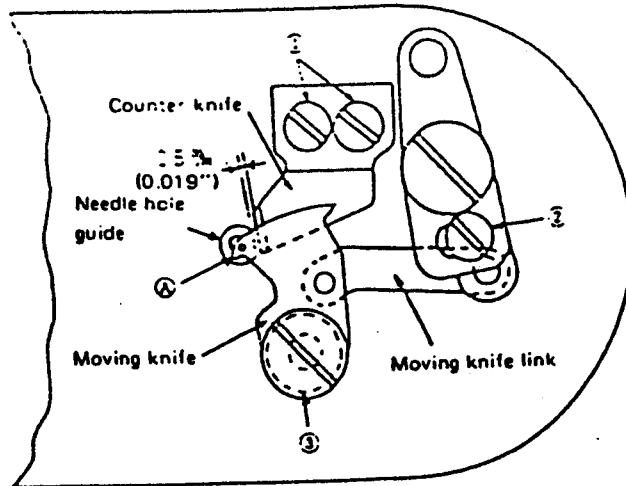


Fig. 37

### (17) Height of the moving knife and the counter knife

**Moving knife :** Engagement of the needle hole guide with the moving knife blade ..... 0.15 mm (0.005")

**Counter knife :** Difference between the needle hole guide and the counter knife blade in height ..... 0.1 to 0.15 mm (0.003"~0.005")

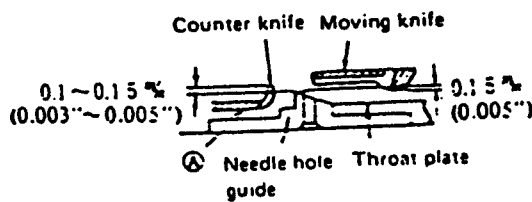


Fig. 38

### (18) Tilt of the counter knife blade

The counter knife blade surface should be tilted by 0.2 mm to evenly cut the two threads (needle thread and bobbin thread).

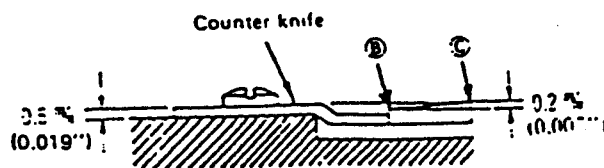


Fig. 39

## How to Adjust

## Effects of Adjustment

- 1) Positioning the counter knife  
Loosen setscrew ①, and adjust the position of the counter knife.
- 2) Positioning the moving knife  
Loosen setscrew ②, and adjust the position of the moving knife.

### (Note)

The normal operation of the knives is such that the moving knife passes by the inside of the needle hole guide as shown by A.

- If the clearance is smaller than 0.5 mm (0.019"), the thread will be trimmed by the blade point of the counter knife when the moving knife pulls the threads and therefore the needle and bobbin threads will be trimmed too short.
- If the clearance is greater than 0.5 mm (0.019"), the thread remaining on the fabric after thread trimming will be longer.
- If the moving knife is deflected to the counter knife, the thread trimmer will be actuated at the time of stop motion, or the thread spreader will fail to work properly, resulting in thread trimming failure.
- If the moving knife is spaced too much from the counter knife, the thread trimming mechanism will stick, causing thread trimming failure, or the needle will strike the moving knife, leading to needle breakage.

- 1) Adjusting the height of the moving knife  
Adjust the height of the moving knife according to the thickness of washer ③ of Fig. 37. If proper adjustment of the moving knife cannot be obtained, select and use one of the following parts.

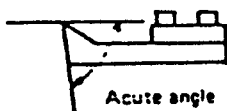
Part No.	Description	Thickness
B242328000A	Moving knife washer	0.4 m/m
B242328000B	Moving knife washer	0.5 m/m
B242328000C	Moving knife washer	0.6 m/m
B242328000D	Moving knife washer	0.7 m/m

- 2) Adjusting the height of the counter knife  
Wrench portion ④ using a screwdriver or the like to make adjustment.

Shave side ③ if the thread on side ② is not trimmed, or shave side ② if the thread on side ③ is not trimmed.

### (Caution)

Make sure to form either side into an angle smaller than 90 degree when shaving sides ② or ③.



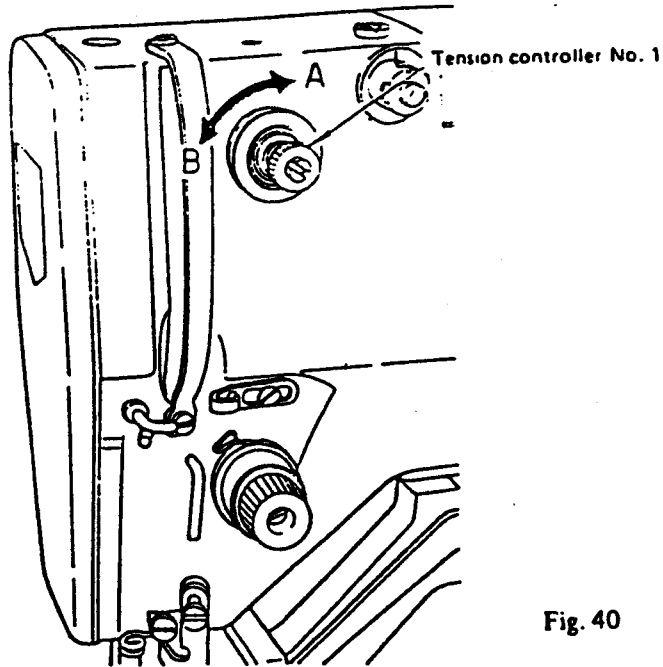
- Insufficient difference in level (specified value: 0.25 to 0.3 mm) (0.009"~ 0.011") between the moving knife and the counter knife will lead to thread trimming failure.
- Excessive difference in level (specified value: 0.1 to 0.15 mm) (0.003"~ 0.005") between the needle hole guide and the counter knife will cause the blade point of the counter knife to trim the threads when the moving knife pulls the threads, and as a result, the needle and bobbin threads will be trimmed too short.
- If the tilt is smaller than 0.2 mm (0.007"), the thread on side ③ will not be trimmed.
- If the tilt is larger than 0.2 mm (0.007") the thread on side ② will not be trimmed.

## Standard Adjustment

### (19) Adjustment of the length of the remaining needle thread

The length of the thread remaining on the needle after thread trimming should be 35 to 40 mm (1.378" ~ 1.575") from the needle eye.

In case of a synthetic thread, the remaining needle thread should be longer than that of cotton thread.



### (20) Adjustment of the thread take-up spring

**Stroke :** Should be adjusted so that the thread take-up spring moves approx. 8 mm (0.315") from the horizontal of the L-shaped thread guide.

**Tension :** Make adjustment while checking the stitch performance.  
(The proper tension is such that the thread take-up spring moves for the full stroke in actual sewing operation.)

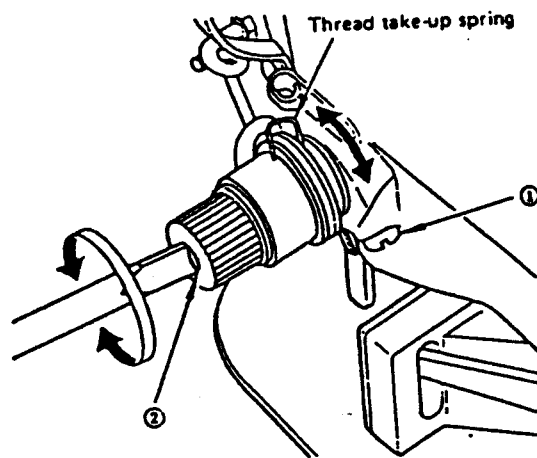


Fig. 41

How to Adjust	Effects of Adjustment
<p>Perform adjustment by the tension controller No. 1.</p> <ul style="list-style-type: none"> <li>• As the tension controller No. 1 is turned in direction A, the length of the remaining needle thread will be reduced.</li> <li>• As the tension controller No. 1 is turned in direction B, the length will be increased.</li> </ul> <p>(Caution) Take care not to make the thread release timing too late for thread trimming, otherwise the needle thread will be trimmed too short. Refer to Standard Adjustment (11).</p>	<ul style="list-style-type: none"> <li>• Insufficient length of the remaining thread will cause the thread to slip off the needle at sewing start.</li> <li>• If the remaining thread is too long, the needle thread will protrude onto the material, or clumsy wrong side of material will result.</li> </ul>
<p>1) Adjusting the stroke. Loosening setscrew ①, insert a screwdriver into tension controller No. 2 ② to turn it for adjustment.</p> <p>2) Adjusting the tension First securely tighten the setscrew, then insert a screwdriver into tension controller No. 2 ② to turn it for adjustment.</p>	<ul style="list-style-type: none"> <li>• If the stroke is greater than 8 mm (0.315"), the thread remaining on the needle will be too short, and the thread will slip off the needle at sewing start.</li> </ul>

## Standard Adjustment

### (21) Adjustment of the belt tension

Both the high-speed belt and low-speed belt should slack about 10 mm. (0.394") when the middle of the belts (the point shown by arrow) is pushed by a finger: under an approx. 1 kg pressure.

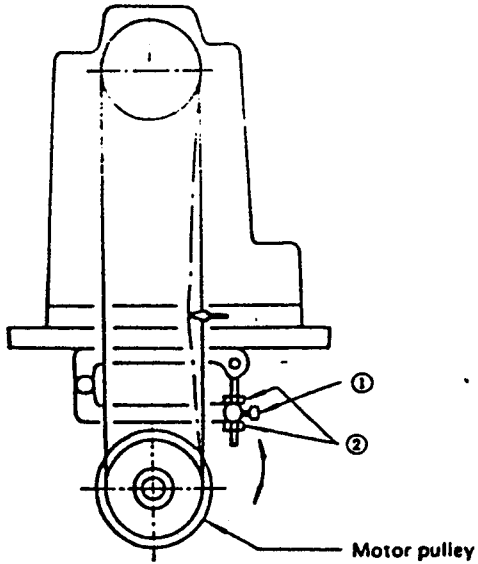


Fig. 42

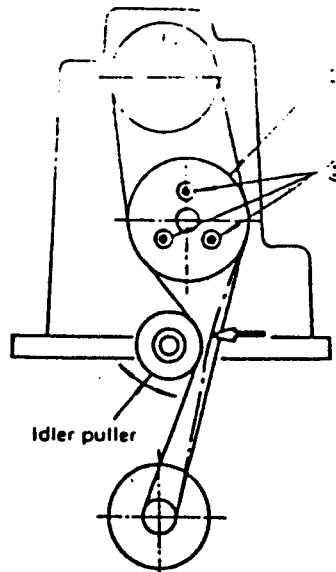


Fig. 43

### (22) Adjustment of the bobbin winder

The clearance between the bobbin winding wheel and the V belt should be about 3 mm (0.118") when the wheel is not winding a bobbin.

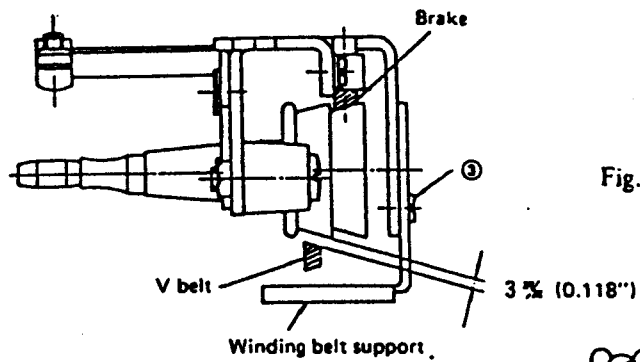


Fig. 44

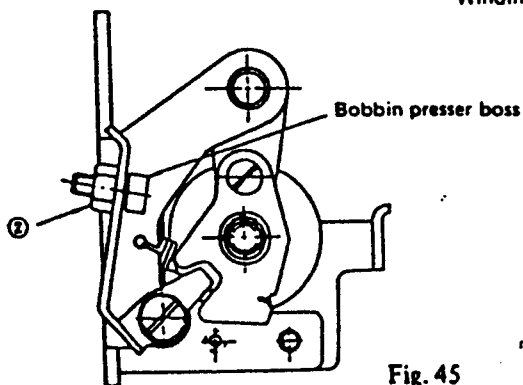


Fig. 45

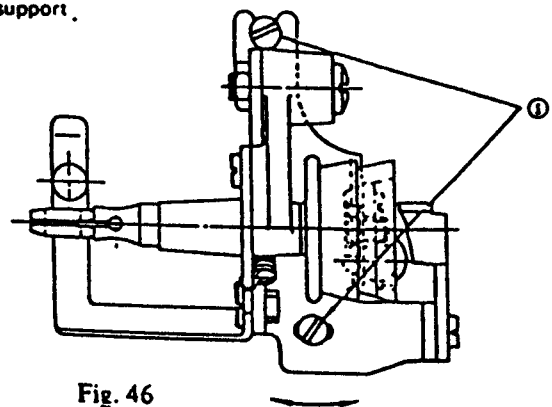


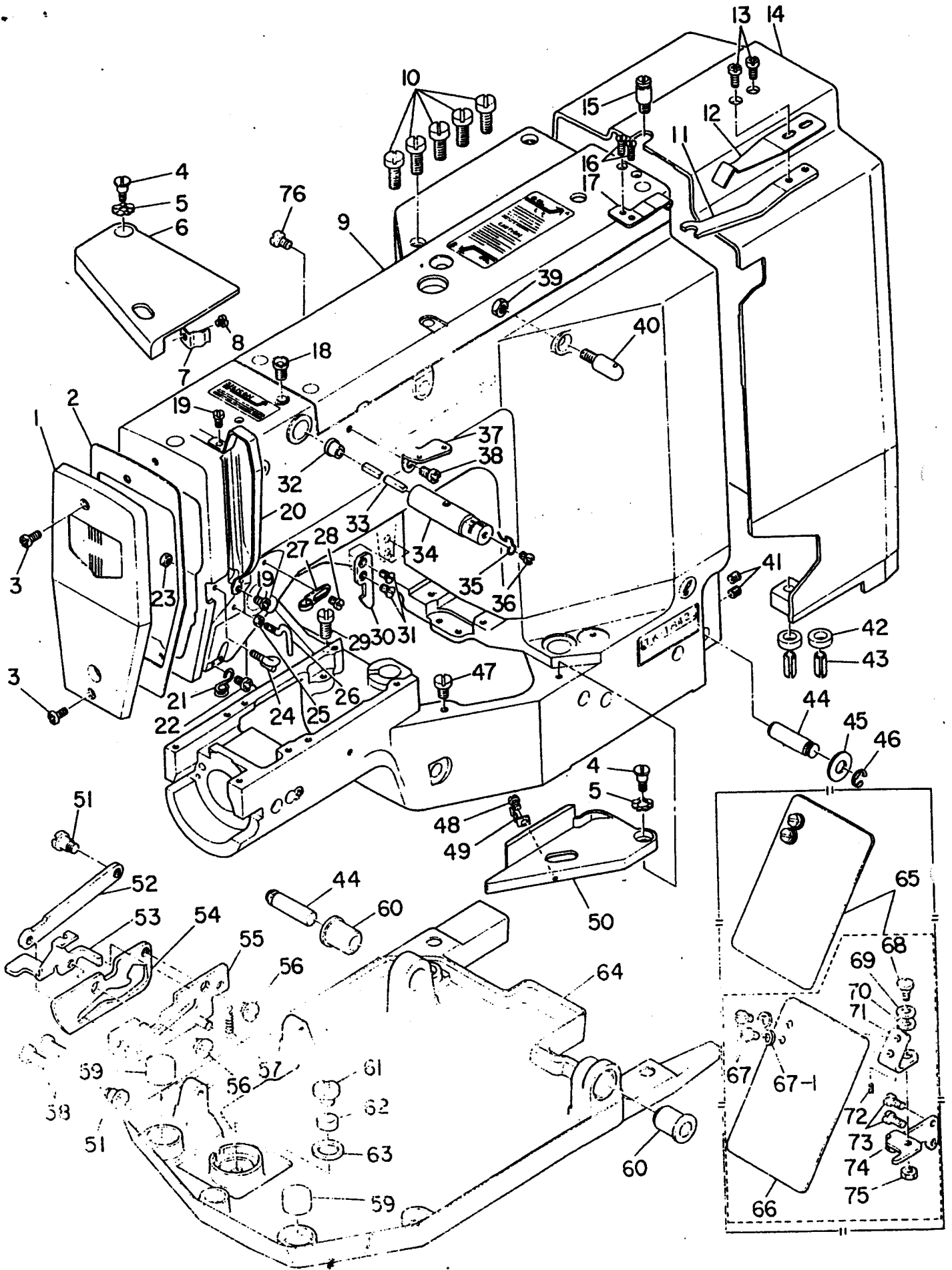
Fig. 46



MODELS BT-1850-42, BT-1850-28

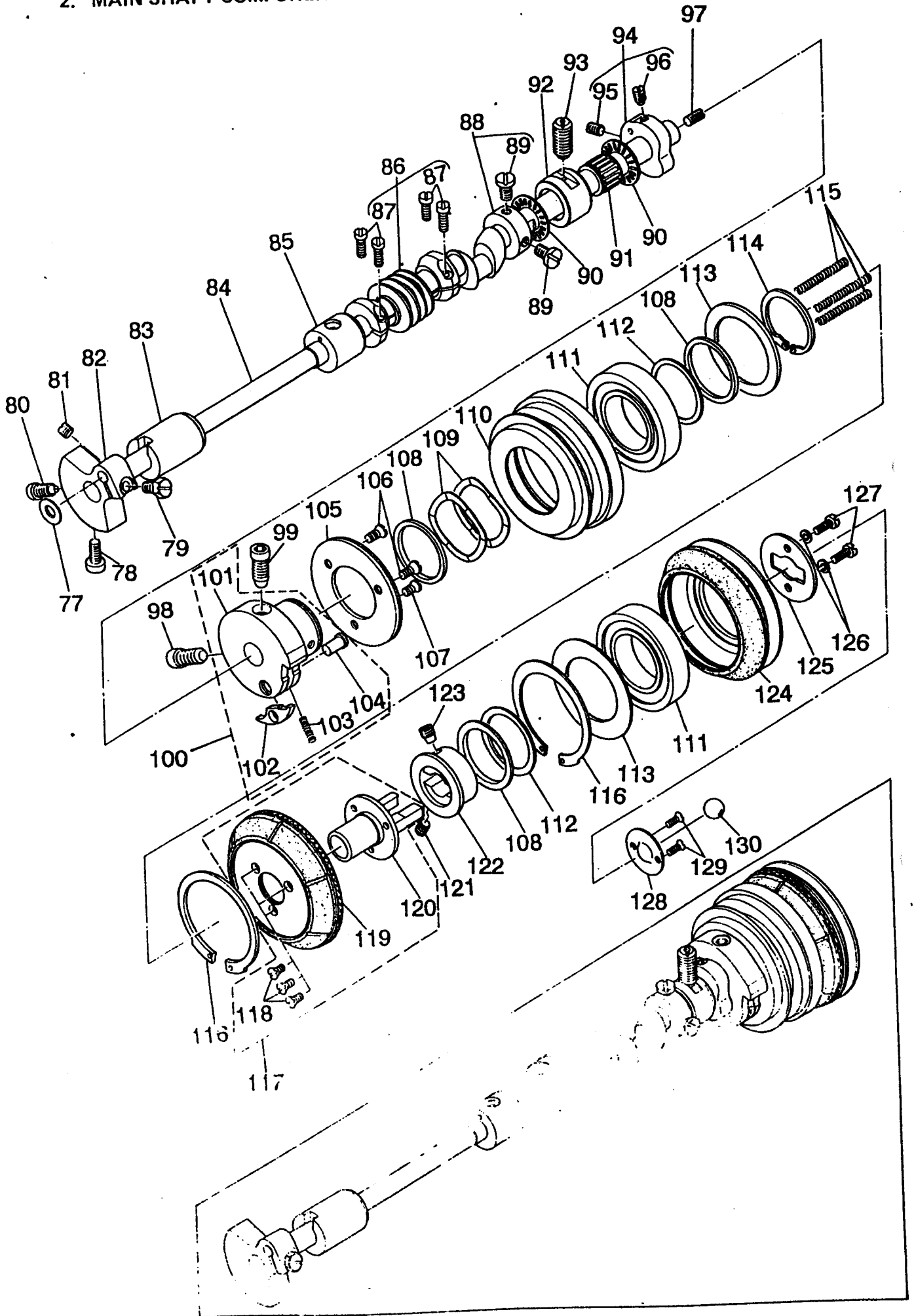
< PARTS LIST >

FRAME & MISCELLANEOUS COVER COMPONENTS



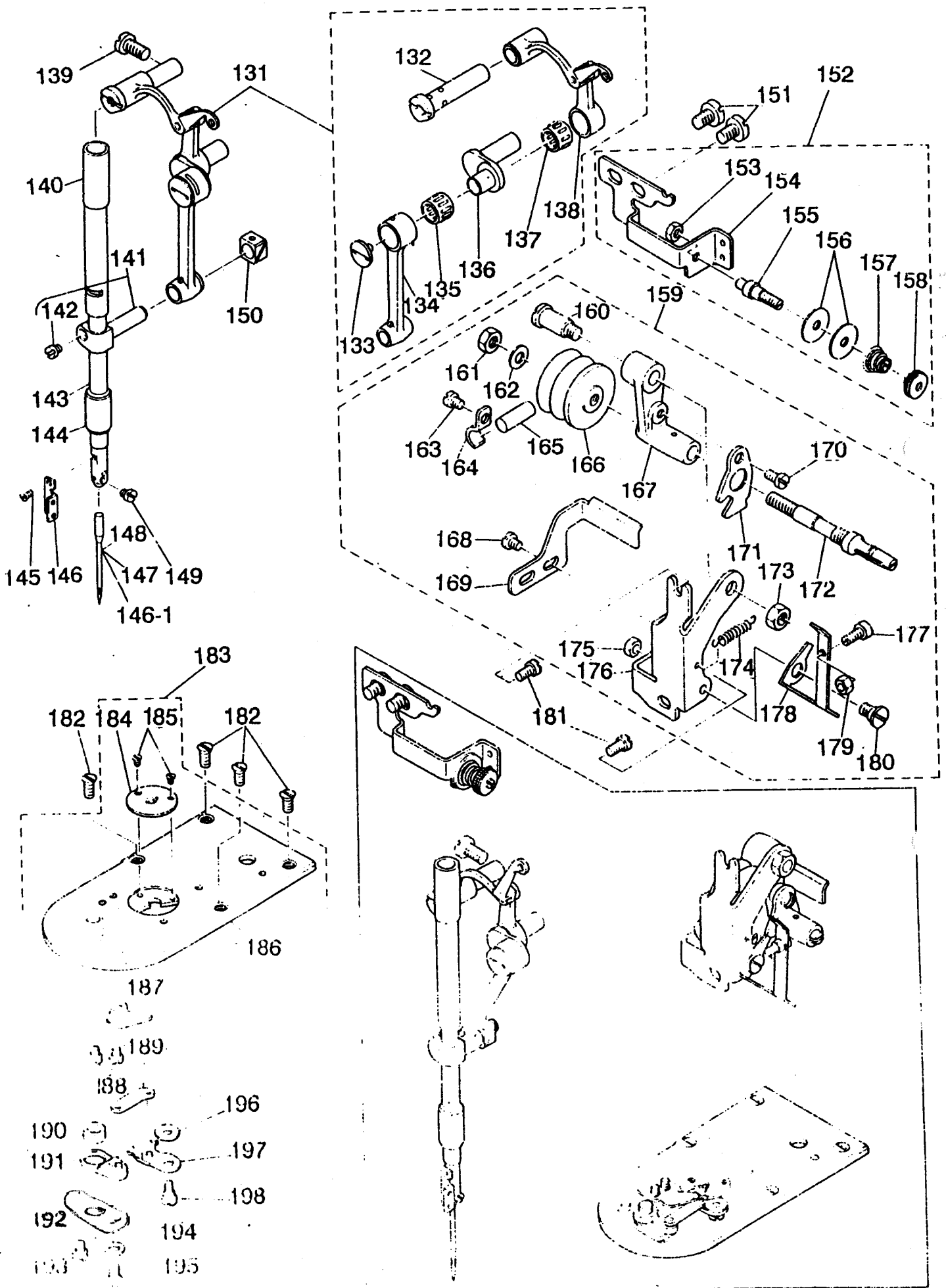
Ref. No.	Part No. 品番	Description	Amt. Req. 数量
1	1-0001	FACE PLATE ASM.	1
2	1-0002	FACE PLATE GASKET	1
3	1-0003	SCREW 11/64-40 L=10	2
4	1-0004	HINGE SCREW D=6.35 H=4.7	2
5	1-0005	WAVED WASHER 6.4X11X0.3	2
6	1-0006	BED COVER B	1
7	1-0007	BED COVER B SPRING	1
8	1-0008	SCREW 11/64-40 L=4	1
9	1-0009	TOP COVER	5
10	1-0010	SCREW 15/64-28 L=17.0	1
11	1-0011	BELT COVER STOPPER PLATE	1
12	1-0012	BELT COVER PRESSER SPRING	2
13	1-0013	SCREW 11/64-40 L=8	1
14	1-0014	BELT COVER	1
15	1-0015	SPRING SUSPENSION SCREW STUD	2
16	1-0016	SCREW 9/64-40 L=8	1
17	1-0017	SPRING RECEIVER	1
18	1-0018	SILICON OIL LUBRICATING HOLE	2
19	1-0019	SCREW 9/64-40 L=7	1
20	1-0020	THREAD TAKE-UP LEVER OIL GAURD	1
21	1-0021	FRAME THREAD GUIDE (B)	1
22	1-0022	SCREW 11/64-40 L=7.8	1
23	1-0023	NUT 9/64-40	1
24	1-0024	TAKE-UP THREAD GUIDE	1
25	1-0025	NUT 9/64-40	1
26	1-0026	TENSION THREAD GUIDE (L-SHAPED)	1
27	1-0027	FRAME THREAD GUIDE A	1
28	1-0028	SCREW 9/64-40 L=6	1
29	1-0029	SCREW 15/64-28 L=11.5	1
30	1-0030	BED HOOK B	2
31	1-0031	SCREW 11/64-40 L=8.3	1
32	1-0032	RUBBER PLUG	1
33	1-0033	SILICON OIL FELT	1
34	1-0034	SILICON OIL PIPE	1
35	1-0035	SILICON OIL THREAD GUIDE	1
36	1-0036	SCREW 11/64-40 L=5	1
37	1-0037	THREAD GUIDE PLATE	1
38	1-0038	SCREW 15/64-28 L=7	1
39	1-0039	NUT 15/64-28	1
40	1-0040	THREAD GUIDE, NO.1	1
41	1-0041	SCREW 15/64-28 L=8	2
42	1-0042	RUBBER WASHER	2
43	1-0043	SPRING PIN 8X16	2
44	1-0044	BASE CONNECTING PIN	1
45	1-0045	WASHER 10.5X18X2	1
46	1-0046	SNAP RING 6	1
47	1-0047	SCREW 15/64-28 L=11	1
48	1-0048	SCREW 9/64-40 L=4.0	1
49	1-0049	BED COVER A SPRING	1
50	1-0050	BED COVER A	2
51	1-0051	HINGE SCREW D=8 H=6.8	1
52	1-0052	STAY	1
53	1-0053	BED LOCKER	1
54	1-0054	STAY LOCKER	1
55	1-0055	STAY GUIDE ASM.	2
56	1-0056	HINGE SCREW D=8 H=3.4	1
57	1-0057	NIPPER BAR SPRING	2
58	1-0058	SCREW 15/64-28 L=12	2
59	1-0059	VIBRATION-PROOF RUBBER PAD	2
60	1-0060	RUBBER BUSHING	1
61	1-0061	SCREW 3/8-28 L=6.5	1
62	1-0062	OIL DRAIN GASKET	1
63	1-0063	GASKET RING	1
64	1-0064	MACHINE BASE	1
65	1-0065	SAFETY PLATE ASM.	(1)
66	1-0066	SAFETY PLATE	(2)
67	1-0067	SCREW 11/64-40 L=7	(2)
67-1	1-0067-1	WASHER 4.5X10.0X0.8	(1)
68	1-0068	HINGE SCREW D=6 H=4	(1)
69	1-0069	DISC SPRING	(1)
70	1-0070	WASHER 6.5X13X0.8	(1)
71	1-0071	SAFETY PLATE INSTALLING PLATE	(1)
72	1-0072	STOPPER PIN	(2)
73	1-0073	SCREW 11/64-40 L=7	(1)
74	1-0074	SAFETY PLATE MOUNTING BASE	(1)
75	1-0075	NUT 3/16-32	(1)
76	1-0076	SCREW 11/64-40 L=7	1

## 2. MAIN SHAFT COMPONENTS

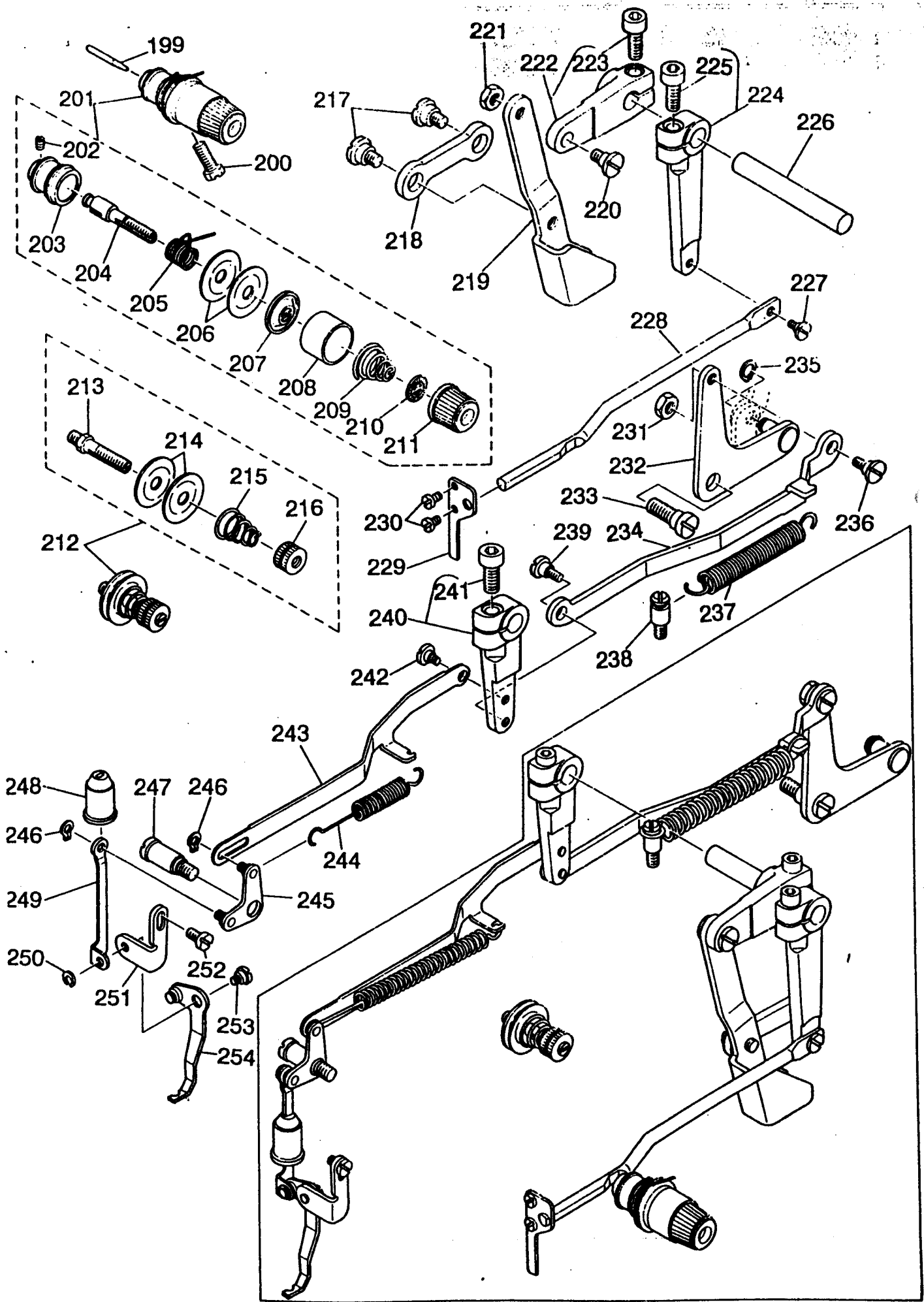


Ref. No.	Part No. 品番	Description	Amt. Req. 数量
77	2-0077	THRUST WASHER.	1
78	2-0078	SCREW 15/64-28 L-14	1
79	2-0079	SCREW 1/4-40 L-12	1
80	2-0080	SCREW 9/32-28 L-16.5	1
81	2-0081	SCREW 1/4-40 L-6	1
82	2-0082	COUNTERWEIGHT	1
83	2-0083	BUSHING, FRONT	1
84	2-0084	MAIN SHAFT	1
85	2-0085	BUSHING, INTERMEDIATE	1
86	2-0086-42	WORM ASM. FOR 42 STITCHES	1
	2-0086-36	WORM ASM. FOR 36 STITCHES	1
	2-0086-28	WORM ASM. FOR 28 STITCHES	1
87	2-0087	SCREW 11/64-40 L-14	(4)
88	2-0088	THRUST COLLAR ASM. D-15 W-10.8	1
89	2-0089	SCREW 1/4-40 L-11	(2)
90	2-0090	MAIN SHAFT THRUST BEARING	2
91	2-0091	MAIN SHAFT NEEDLE BEARING B	1
92	2-0092	MAIN SHAFT BUSHING, REAR	1
93	2-0093	SCREW	1
94	2-0094	THREAD TRIMMING CAM ASM.	1
95	2-0095	SCREW 1/4-40 L-10	(1)
96	2-0096	SCREW 1/4-40 L-11.5	(1)
97	2-0097	SCREW 15/64-28 L-12	1
98	2-0098	SCREW 3/8-28 L-14.5	1
99	2-0099	SCREW 3/8-28 L-19.5	1
100	2-0100	STOP-MOTION CAM ASM.	1
101	2-0101	STOP-MOTION CAM	(1)
102	2-0102	STOP-MOTION CAM LATCH	(1)
103	2-0103	SAFETY PLATE STOPPER SPRING	(1)
104	2-0104	PIN	(1)
105	2-0105	HIGH SPEED CLUTCH PLATE ASM.	1
106	2-0106	SCREW 11/64-40 L-8.5	2
107	2-0107	SCREW 11/64-40 L-5.5	1
108	2-0108	SPACER	3
109	2-0109	SPRING	2
110	2-0110	HIGH SPEED PULLEY	1
111	2-0111	BEARING D-35 X 62	2
112	2-0112	SHIM	6
113	2-0113	WASHER	2
114	2-0114	RETAINING RING 32.2	1
115	2-0115	SLOW SPEED PULLEY SPRING	3
116	2-0116	RETAINING RING 66.2	2
117	2-0117	PULLEY ASM.	1
118	2-0118	SCREW 11/64-40 L-5.5	(3)
119	2-0119	PULLEY	(1)
120	2-0120	PULLEY SHAFT	(1)
121	2-0121	SCREW 1/4-40 L-6.0	1
122	2-0122	SLOW SPEED PULLEY SHAFT	1
123	2-0123	SCREW 1/4-40 L-11	1
124	2-0124	SLOW SPEED PULLEY	1
125	2-0125	SLOW SPEED PULLEY PLATE	1
126	2-0126	SPRING WASHER	2
127	2-0127	SCREW 11/64-40 L-8.5	2
128	2-0128	BALL RETAINER	1
129	2-0129	SCREW 9/64-40 L-7.2	2
130	2-0130	STOP-MOTION BALL	1

3. NEEDLE BAR COMPONENTS



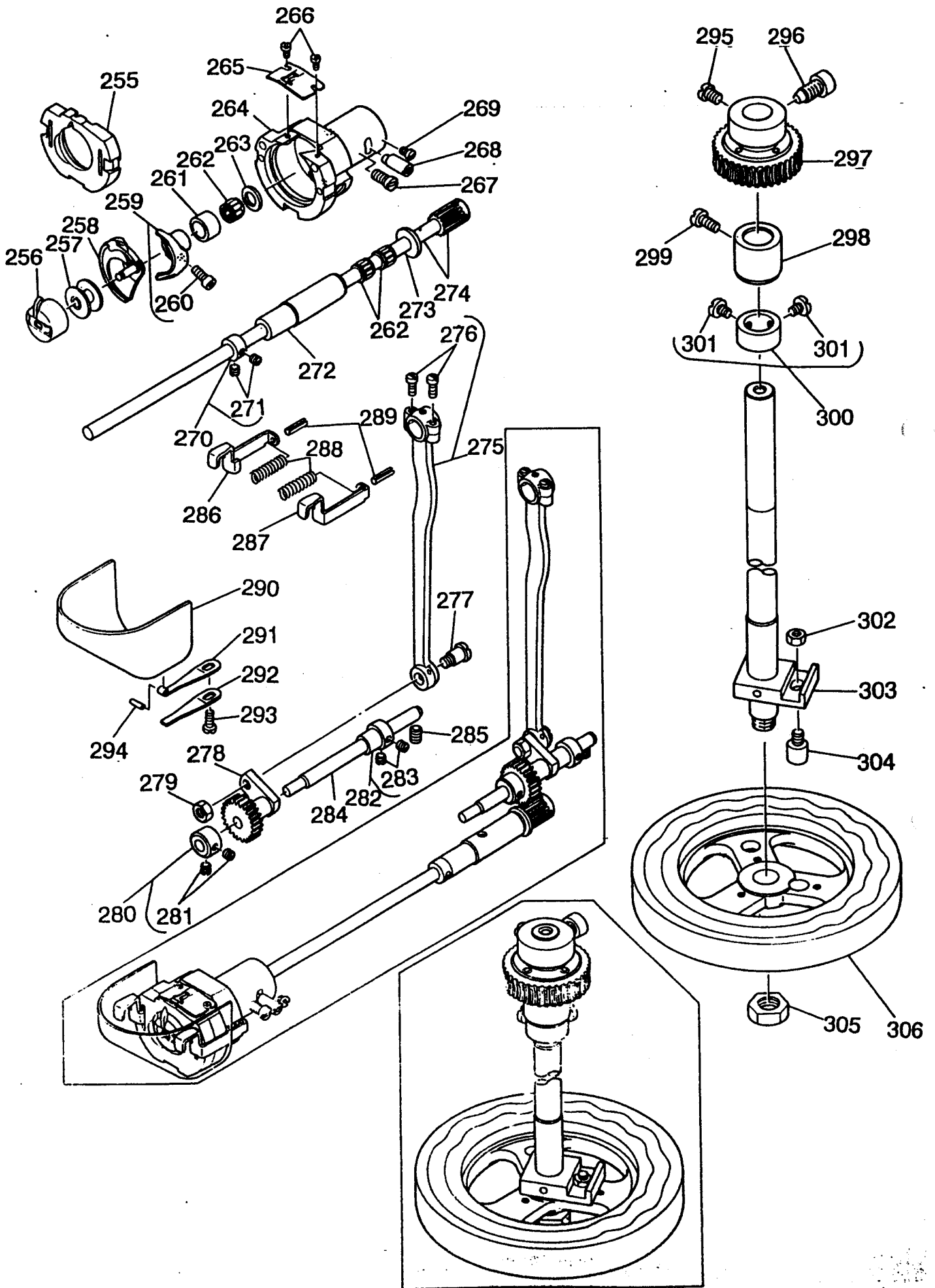
Ref. No.	Part No. 品番	Description	Amt. Req. 数量
131	3-0131	THREAD TAKE-UP LEVER ASM.	1
132	3-0132	TAKE-UP LEVER PIN	(1)
133	3-0133	END SCREW LEFT	(1)
134	3-0134	NEEDLE BAR CRANK ROD	(1)
135	3-0135	NEEDLE DRIVING LEVER BEARING	(1)
136	3-0136	NEEDLE BAR CRANK	(1)
137	3-0137	NEEDLE BUSHING	(1)
138	3-0138	THREAD TAKE-UP LEVER ASM.	(1)
139	3-0139	SCREW 15/64-28 L=11	1
140	3-0140	NEEDLE BAR BUSHING, UPPER	1
141	3-0141	NEEDLE BAR CONNECTION ASM.	1
142	3-0142	SCREW 9/64-40 L=6	(1)
143	3-0143	NEEDLE BAR	1
	3-0143H	NEEDLE BAR FOR HEAVY MATERIAL	1
144	3-0144	NEEDLE BAR BUSHING, LOWER	1
145	3-0145	SCREW 3/32-56 L=4.5	1
146	3-0146	NEEDLE BAR THREAD GUIDE	1
146-1	3-0146-1	NEEDLE DPX5 #14 (DPX17 FOR HEAVY MATERIAL)	1
147	3-0147	NEEDLE DPX5 #16 (DPX17 FOR HEAVY MATERIAL)	1
148	3-0148	NEEDLE #100 (#120, #140 FOR HEAVY MATERIAL)	1
149	3-0149	SCREW 1/8-44 L=3.0	1
150	3-0150	CRANK SLIDE BLOCK	1
151	3-0151	SCREW 15/64-28 L=9	2
152	3-0152	THREAD GUIDE BRACKET ASM.	1
153	3-0153	NUT 11/64-40	(1)
154	3-0154	THREAD GUIDE BRACKET	(1)
155	3-0155	BOBBIN WINDER TENSION POST	(1)
156	3-0156	BOBBIN WINDER TENSION DISC	(2)
157	3-0157	BOBBIN WINDER TENSION SPRING	(1)
158	3-0158	BOBBIN WINDER TENSION NUT	(1)
159	3-0159	BOBBIN WINDER ASM.	1
160	3-0160	HINGE SCREW D=7.94 H=15	(1)
161	3-0161	NUT 15/64-28	(1)
162	3-0162	WASHER 6.5 X 11 X 1	(1)
163	3-0163	SCREW 11/64-40 L=5	(1)
164	3-0164	BOBBIN WINDER BRAKE PRESSURE PLATE	(1)
165	3-0165	BOBBIN WINDER BRAKE	(1)
166	3-0166	BOBBIN WINDER WHEEL	(1)
167	3-0167	BOBBIN WINDER SPINDLE BUSHING	(1)
168	3-0168	SCREW 11/64-40 L=5	(1)
169	3-0169	BOBBIN WINDER BELT SUPPORT	(1)
170	3-0170	SCREW 11/64-40 L=7	(1)
171	3-0171	BOBBIN WINDER TRIP LATCH	(1)
172	3-0172	BOBBIN WINDER SPINDLE	(1)
173	3-0173	NUT 15/64-28	(1)
174	3-0174	SPRING	(1)
175	3-0175	NUT 11/64-40	(1)
176	3-0176	BOBBIN WINDER BASE	(1)
177	3-0177	BOBBIN WINDER ADJUSTING SCREW	(1)
178	3-0178	BOBBIN WINDER TRIP LATCH	(1)
179	3-0179	NUT 11/64-40	(1)
180	3-0180	HINGE SCREW D=7.24 H=1.9	(1)
181	3-0181	SCREW 11/64-40 L=9	2
182	3-0182	SCREW 11/64-40 L=5.5	4
183	3-0183	NEEDLE PLATE ASM.	1
184	3-0184	NEEDLE PLATE NEEDLE HOLE GUIDE	(1)
	3-0184H	" " " FOR HEAVY MATERIAL	(1)
185	3-0185	SCREW 3/32-56 L=2.2	(2)
186	3-0186	NEEDLE PLATE ASM.	(1)
187	3-0187	COUNTER KNIFE	(1)
188	3-0188	SCREW 9/64-40 L=3.5	(2)
189	3-0189	MOVING KNIFE CONNECTING LINK	(1)
190	3-0190	COLLAR	(1)
191	3-0191	MOVING KNIFE DRIVING LEVER ASM.	(1)
192	3-0192	MOVING KNIFE DRIVING LEVER ASM.	(1)
193	3-0193	SCREW 11/64-40 L=4.0	(1)
194	3-0194	WASHER	(2)
195	3-0195	SCREW 11/64-40 L=7	(1)
196	3-0196	WASHER	(1)
197	3-0197	MOVING KNIFE ASM.	(1)
198	3-0198	HINGE SCREW D=5.0 H=0.9	(1)





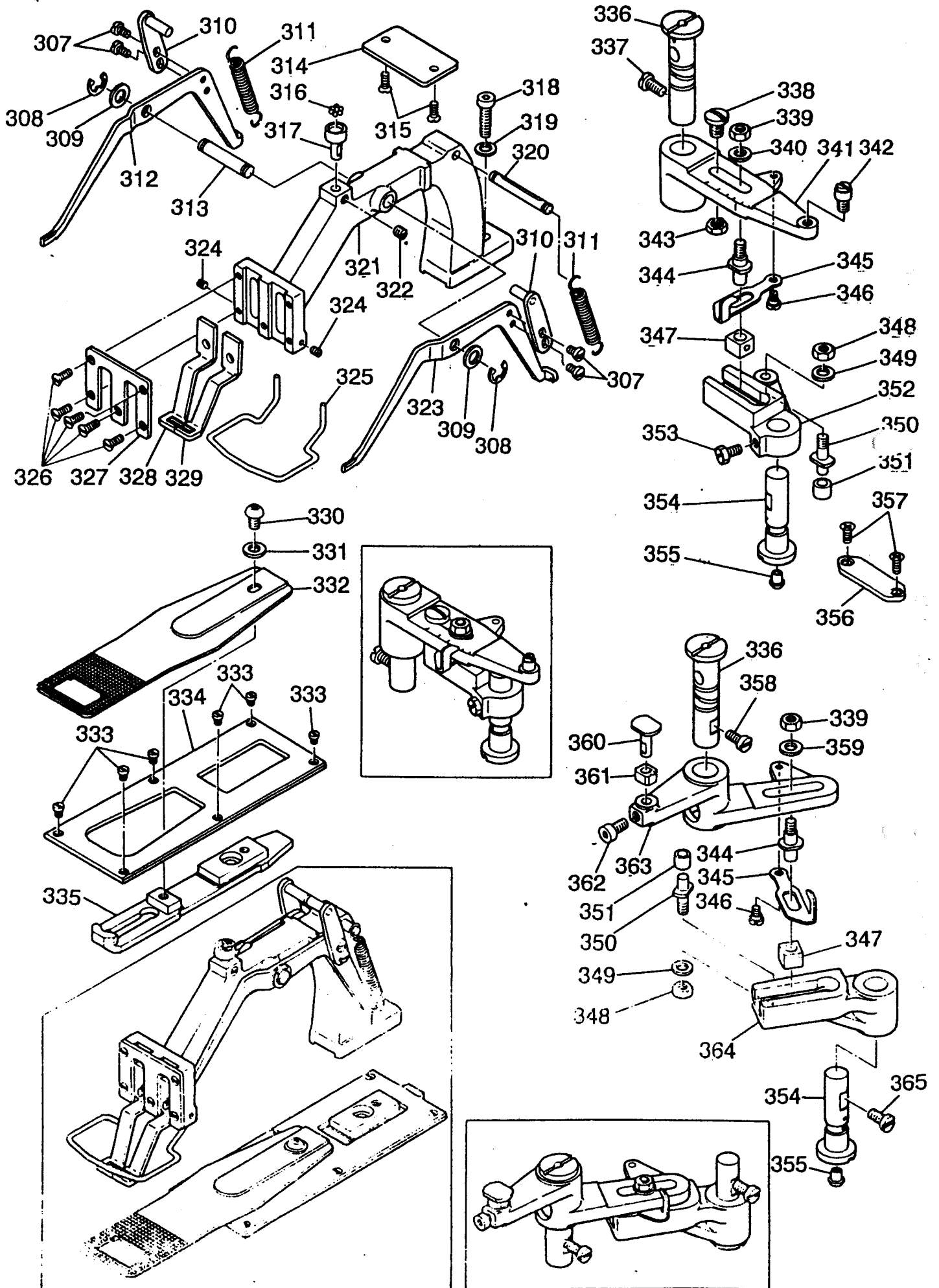
Ref. No.	Part No. 品番	Description	Amt. Req. 数量
199	4-0199	TENSION RELEASE PIN	1
200	4-0200	SCREW 15/64-28 L-17	1
201	4-0201	TENSION CONTROLLER, NO.2 ASM.	(1)
202	4-0202	SCREW 9/64-40 L-5.9	(1)
203	4-0203	TENSION POST SOCKET	(1)
204	4-0204	TENSION POST, NO.2	(1)
205	4-0205	THREAD TAKE-UP SPRING	(2)
206	4-0206	TENSION DISC	(1)
207	4-0207	TENSION DISC HOLDER	(1)
208	4-0208	TENSION DISC PRESSER TUBE	(1)
209	4-0209	TENSION SPRING NO.2	(1)
210	4-0210	TENSION DISC STOPPER	(1)
211	4-0211	TENSION NUT	1
212	4-0212	TENSION CONTROLLER NO.1	(1)
213	4-0213	TENSION POST NO.1	(2)
214	4-0214	TENSION DISC	(1)
215	4-0215	TENSION SPRING NO.1	(1)
216	4-0216	TENSION NUT, NO.1	2
217	4-0217	HINGE SCREW D-10 H-4	1
218	4-0218	CONNECTING LINK	1
219	4-0219	LOWERING FOOT	1
220	4-0220	HINGE SCREW D-7.94 H-6	1
221	4-0221	NUT 15/64-28	1
222	4-0222	LOWERING ARM ASM.	(1)
223	4-0223	SCREW 15/64-28 L-16.5	1
224	4-0224	TENSION RELEASE ARM ASM.	(1)
225	4-0225	SCREW 15/64-28 L-16.5	1
226	4-0226	SHAFT	1
227	4-0227	HINGE SCREW D-5.3 H-2.2	1
228	4-0228	TENSION RELEASE BAR	1
229	4-0229	SUPPORTER	2
230	4-0230	SCREW 9/64-40 L-6.1	1
231	4-0231	NUT 15/64-28	1
232	4-0232	LOWERING CONNECTING LEVER ASM.	1
233	4-0233	HINGE SCREW D-9 H-3.2	1
234	4-0234	LOWERING CONNECTING LINK	1
235	4-0235	RETAINING RING	1
236	4-0236	HINGE SCREW D-7.24 H-3.3	1
237	4-0237	TENSION SPRING	1
238	4-0238	SUSPENSION SCREW(B)	1
239	4-0239	HINGE SCREW D-6.35 H-3.9	1
240	4-0240	CONNECTING ARM ASM.	(1)
241	4-0241	SCREW 15/64-28 L-16.5	1
242	4-0242	HINGE SCREW D-5.3 H-2.2	1
243	4-0243	WIPER CONNECTING LINK	1
244	4-0244	SPRING	1
245	4-0245	WIPER CONNECTING ARM ASM.	2
246	4-0246	RETAINING RING 4.7	1
247	4-0247	WIPER CONNECTING SCREW	1
248	4-0248	OIL SHIELD CAP	1
249	4-0249	WIPER CONNECTING PLATE	1
250	4-0250	SNAP RING	1
251	4-0251	WIPER INSTALLING PLATE	1
252	4-0252	SCREW 11/64-40 L-7.8	1
253	4-0253	HINGE SCREW D-6.35 H-2.1	1
254	4-0254	WIPER ASM.	1

### 5. SHUTTLE DRIVER SHAFT COMPONENTS



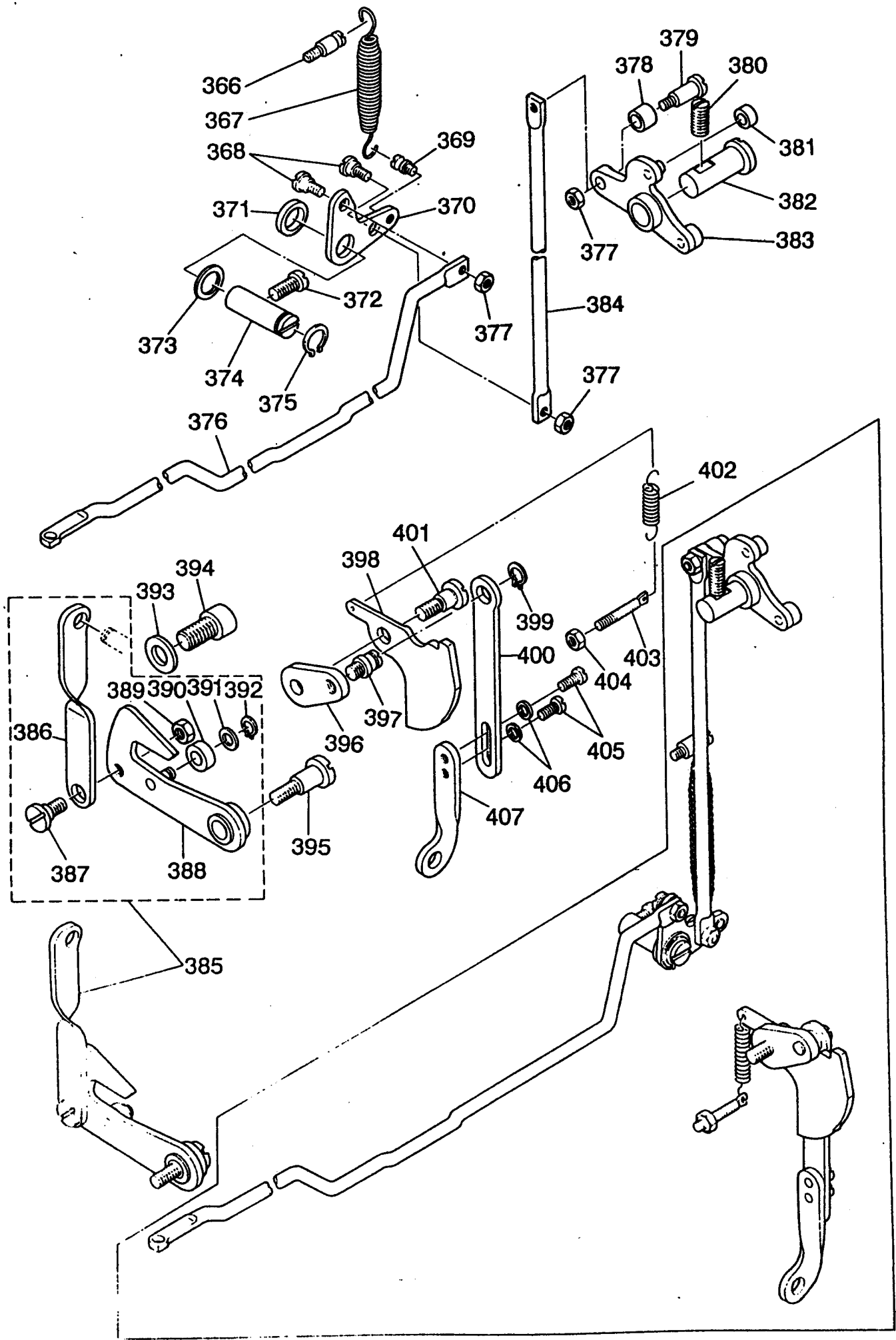
Ref. No.	Part No. 品 番	Description	Amt. Req. 数量
255	5-0255	SHUTTLE RACE RING ASM.	1
256	5-0256	BOBBIN CASE ASM.	1
257	5-0257	BOBBIN	1
258	5-0258	SHUTTLE	1
	5-0258H	SHUTTLE FOR HEAVY MATERIAL	1
259	5-0259	SHUTTLE DRIVER ASM.	1
	5-0259H	SHUTTLE DRIVER ASM. FOR HEAVY MATERIAL	(1)
260	5-0260	SCREW 3/16-28 L=12.0	1
261	5-0261	BUSHING	3
262	5-0262	BEARING B	1
263	5-0263	WASHER 9.5X14.8X2.6	1
264	5-0264	SHUTTLE RACE	1
265	5-0265	SHUTTLE RACE SPRING	1
266	5-0266	SCREW 3/32-56 L=3.5	2
267	5-0267	SCREW 15/64-28 L=11.5	1
268	5-0268	SHUTTLE RACE ADJUSTING SHAFT	1
269	5-0269	SCREW 11/64-40 L=4.3	1
270	5-0270	THRUST COLLAR ASM. D=8.0 W=8	1
271	5-0271	SCREW 11/64-40 L=4.5	(2)
272	5-0272	BUSHING, REAR	1
273	5-0273	THRUST WASHER	1
274	5-0274	SHUTTLE DRIVER SHAFT ASM.A	1
275	5-0275	CRANK ROD ASM.	1
276	5-0276	SCREW 11/64-40 L=10.5	(2)
277	5-0277	HINGE SCREW D=8 H=10.2	1
278	5-0278	OSCILLATING ROCK SHAFT	1
279	5-0279	NUT 1/4-40	1
280	5-0280	THRUST COLLAR ASM. D=7.94 W=10	1
281	5-0281	SCREW 11/64-40 L=4.5	(2)
282	5-0282	THRUST COLLAR ASM.	1
283	5-0283	SCREW 11/64-40 L=4.5	(2)
284	5-0284	OSCILLATING ROCK SHAFT PIN	1
286	5-0285	SCREW 15/64-28 L=8	1
286	5-0286	SHUTTLE RACE LATCH, LEFT	1
287	5-0287	SHUTTLE RACE LATCH (RIGHT)	1
288	5-0288	SPRING, FOR SHUTTLE RACE	2
289	5-0289	SPRING PIN 2.5X18	2
290	5-0290	CYLINDER ARM CAP ASM.	1
291	5-0291	CYLINDER ARM CAP SPRING A	1
292	5-0292	CYLINDER ARM CAP SPRING B	1
293	5-0293	SCREW 11/64-40 L=11	1
294	5-0294	PIN	1
295	5-0295	SCREW 1/4-40 L=11	1
296	5-0296	SCREW 3/8-28 L=19.5	1
297	5-0297-42	WORM WHEEL ASM. FOR 42 STITCHES	1
	5-0297-36	WORM WHEEL ASM. FOR 36 STITCHES	1
	5-0297-28	WORM WHEEL ASM. FOR 28 STITCHES	1
298	5-0298	WORM WHEEL SHAFT BUSHING	1
299	5-0299	SCREW 15/64-28 L=17.0	1
300	5-0300	THRUST COLLAR ASM. D=18 W=12	1
301	5-0301	SCREW 1/4-40 L=7	(2)
302	5-0302	NUT 1/4	1
303	5-0303	WORM WHEEL SHAFT ASM.	1
304	5-0304	CAM GUIDE PIN	1
305	5-0305	NUT 9/16-20	1
306	5-0306-42	FEED CAM FOR 42 STITCHES	1
	5-0306-36	FEED CAM FOR 36 STITCHES	1
	5-0306-28	FEED CAM FOR 28 STITCHES	1

U. FEED MECHANISM COMPONENTS



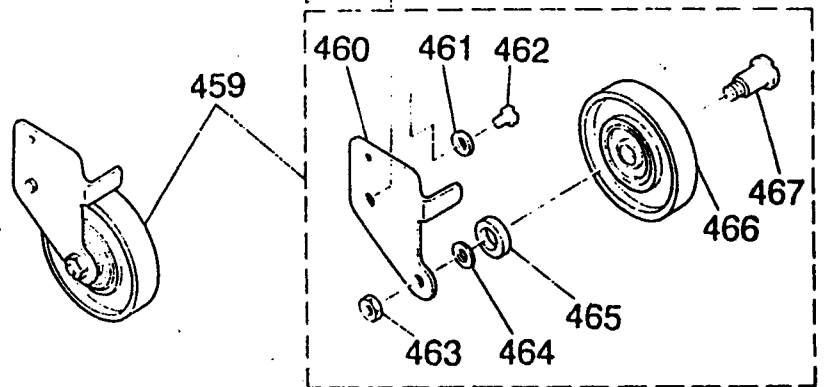
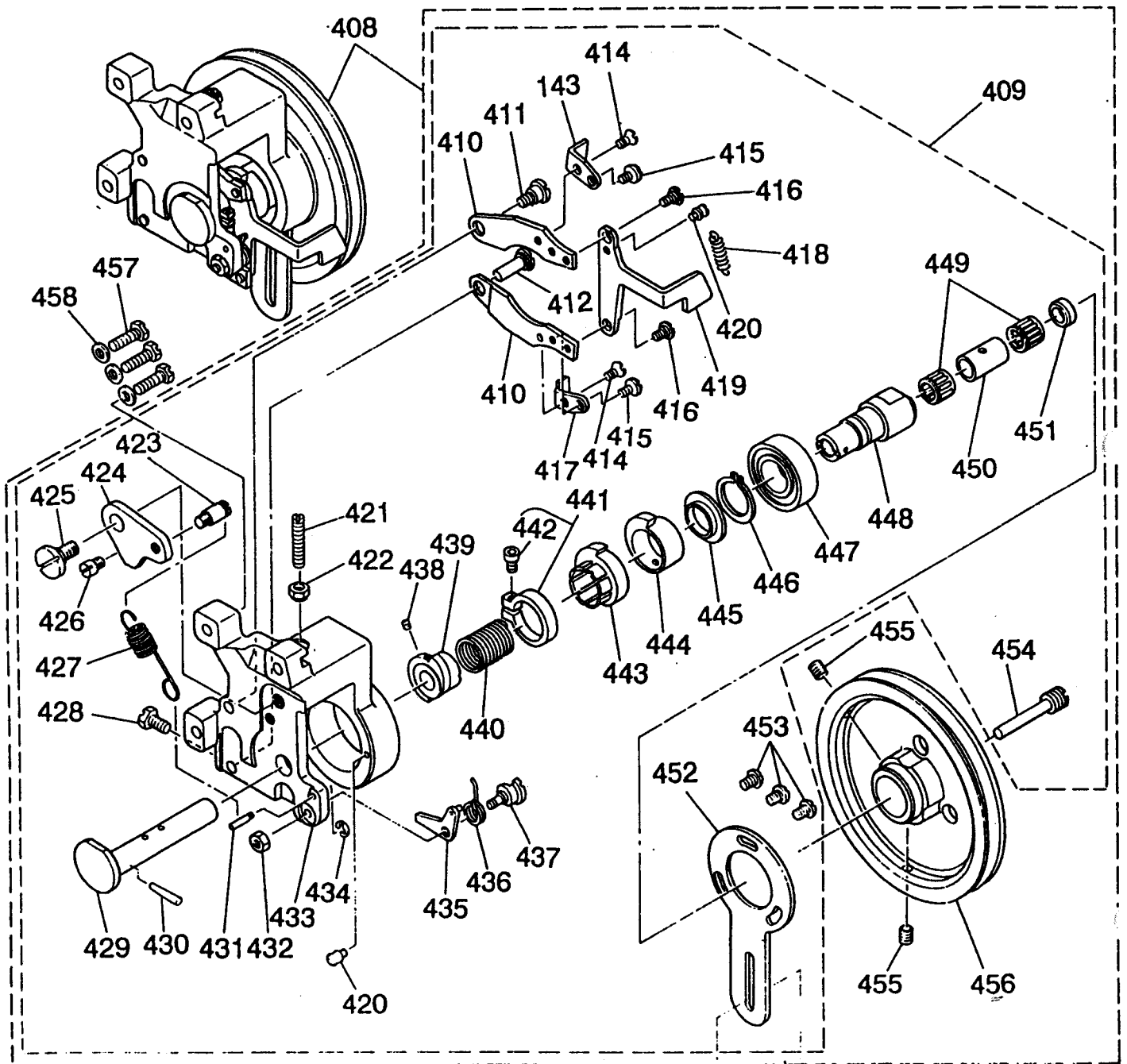
Ref. No.	Part No. 品番	Description	Amt. Req. 数量
307	6-0307	SCREW 11/64-40 L=7	4
308	6-0308	SNAP RING 7	2
309	6-0309	WASHER	2
310	6-0310	LEVER DRIVING PLATE ASM.	2
311	6-0311	TENSION SPRING	2
312	6-0312	LIFTING LEVER, LEFT	1
313	6-0313	LIFTING LEVER SHAFT	1
314	6-0314	SUPPORT PLATE	1
315	6-0315	SCREW 11/64-40 L=8.5	2
316	6-0316	WORK CLAMP FOOT MOUNTING BASE BALL	7
317	6-0317	BALL RETAINER	1
318	6-0318	SCREW 15/64-28 L=22.0	1
319	6-0319	WASHER 6.2X13X1	1
320	6-0320	SPRING SUSPENSION	1
321	6-0321	FEED BRACKET	1
322	6-0322	SCREW 15/64-28 L=4.7	1
323	6-0323	LIFTING LEVER, RIGHT	2
324	6-0324	SCREW 1/8-44 L=2.8	1
325	6-0325	FINGER GUARDE	5
326	6-0326	SCREW 11/64-40 L=8.7	1
327	6-0327	WORK CLAMP FOOT FACE PLATE	1
328	6-0328	WORK CLAMP FOOT, RIGHT	1
329	6-0329	WORK CLAMP FOOT, LEFT	1
330	6-0330	SCREW 15/64-28 L=9.5	1
331	6-0331	WASHER	1
332	6-0332	FEED PLATE	1
333	6-0333	SCREW 11/64-40 L=4.8	6
334	6-0334	FEED PLATE PRESSER PLATE	1
335	6-0335	FEED PLATE CARRIER BAR	1
336	6-0336	FEED DRIVING ARM SHAFT	2
337	6-0337	SCREW 15/64-28 L=11.5	1
338	6-0338	SCREW 5/16-24 L=10	1
339	6-0339	NUT 15/64-28	2
340	6-0340	WASHER 7X15X2	1
341	6-0341	FEED REGULATOR	1
342	6-0342	HINGE STUD	1
343	6-0343	NUT 5/16-24	2
344	6-0344	FEED REGULATOR STUD	2
345	6-0345	INDICATOR LEVER	2
346	6-0346	HINGE SCREW D=5.3 H=2.2	2
347	6-0347	SLIDE BLOCK B	2
348	6-0348	NUT 1/4-40	2
349	6-0349	WASHER 6.5X13X0.8	2
350	6-0350	FEED CAM ROLLER SHAFT	2
351	6-0351	FEED CAM ROLLER	2
352	6-0352	FEED DRIVING ARM	1
353	6-0353	SCREW 15/64-28 L=14	1
354	6-0354	FEED REGULATOR SHAFT	2
355	6-0355	RUBBER PLUG	2
356	6-0356	PLATE	1
357	6-0357	SCREW 11/64-40 L=8.3	2
358	6-0358	SCREW 15/64-28 L=11.5	1
359	6-0359	WASHER 7X20X4.5	1
360	6-0360	SLIDE BLOCK STUD	1
361	6-0361	CRANK SLIDE BLOCK	1
362	6-0362	SCREW 15/64-28 L=10.5	1
363	6-0363	FEED ACROSS DRIVING ARM	1
364	6-0364	FEED ACROSS REGULATOR	1
365	6-0365	SCREW 15/64-28 L=11.5	1

7. THREAD TRIMMING COMPONENTS



Ref. No.	Part No. 品番	Description	Amt. Req. 数量
366	7-0366	SUSPENSION SCREW B	1
367	7-0367	TENSION SPRING	1
368	7-0368	HINGE SCREW D-6.5 H-3	2
369	7-0369	HOOK SPRING SUSPENSION	1
370	7-0370	CONNECTING LINK	1
371	7-0371	CONNECTING RING	1
372	7-0372	SCREW 15/64-28 L-14	1
373	7-0373	WASHER	1
374	7-0374	STUD	1
375	7-0375	RETAINING RING 10.2	1
376	7-0376	KNIFE DRIVING BAR, LARGE	1
377	7-0377	NUT 3/16-28	3
378	7-0378	ROLLER	1
379	7-0379	HINGE SCREW D-6.5 H-13	1
380	7-0380	SCREW 9/32-28 L-19	1
381	7-0381	CAM ROLLER	1
382	7-0382	CAM STUD	1
383	7-0383	KNIFE DRIVING ROD TRIPPING ASM.	1
384	7-0384	KNIFE DRIVING BAR, SMALL	1
385	7-0385	LOWERING LINK ASM.	1
386	7-0386	LOWERING LINK	(1)
387	7-0387	HINGE SCREW D-7.94 H-4	(1)
388	7-0388	LOWERING LEVER ASM.	(1)
389	7-0389	NUT 15/64-28	(1)
390	7-0390	ROLLER	(1)
391	7-0391	WASHER	(1)
392	7-0392	STOP RING	(1)
393	7-0393	WASHER 9.8X24.0X2.6	1
394	7-0394	SCREW 3/8-28 L-14.5	1
395	7-0395	HINGE SCREW D-9 H-11	1
396	7-0396	AUXILIARY LEVER	1
397	7-0397	SHAFT	1
398	7-0398	THREAD TRIMMING AUXILIARY CAM	1
399	7-0399	RETAINING RING	1
400	7-0400	CONNECTING PLATE B	1
401	7-0401	HINGE SCREW D-7.94 H-8	1
402	7-0402	SPRING	1
403	7-0403	TENSION SPRING ADJUSTING SCREW	1
404	7-0404	NUT 11/64-40	1
405	7-0405	SCREW 11/64-40 L-8.5	2
406	7-0406	WASHER 4.8X8.4X0.8	2
407	7-0407	CONNECTING PLATE A	1

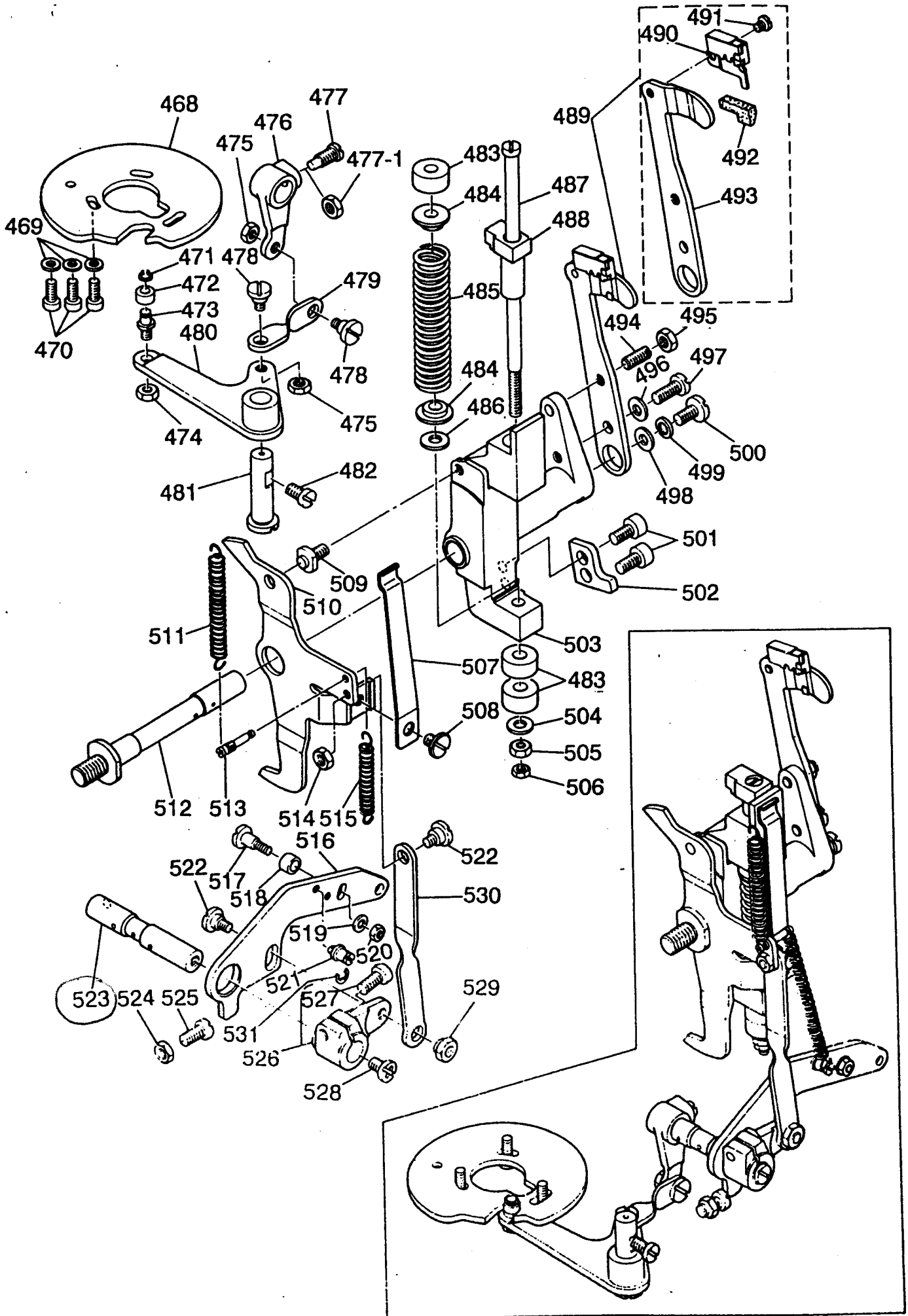
# 8. PEDAL PRESSURE DECREASING UNIT COMPONENTS





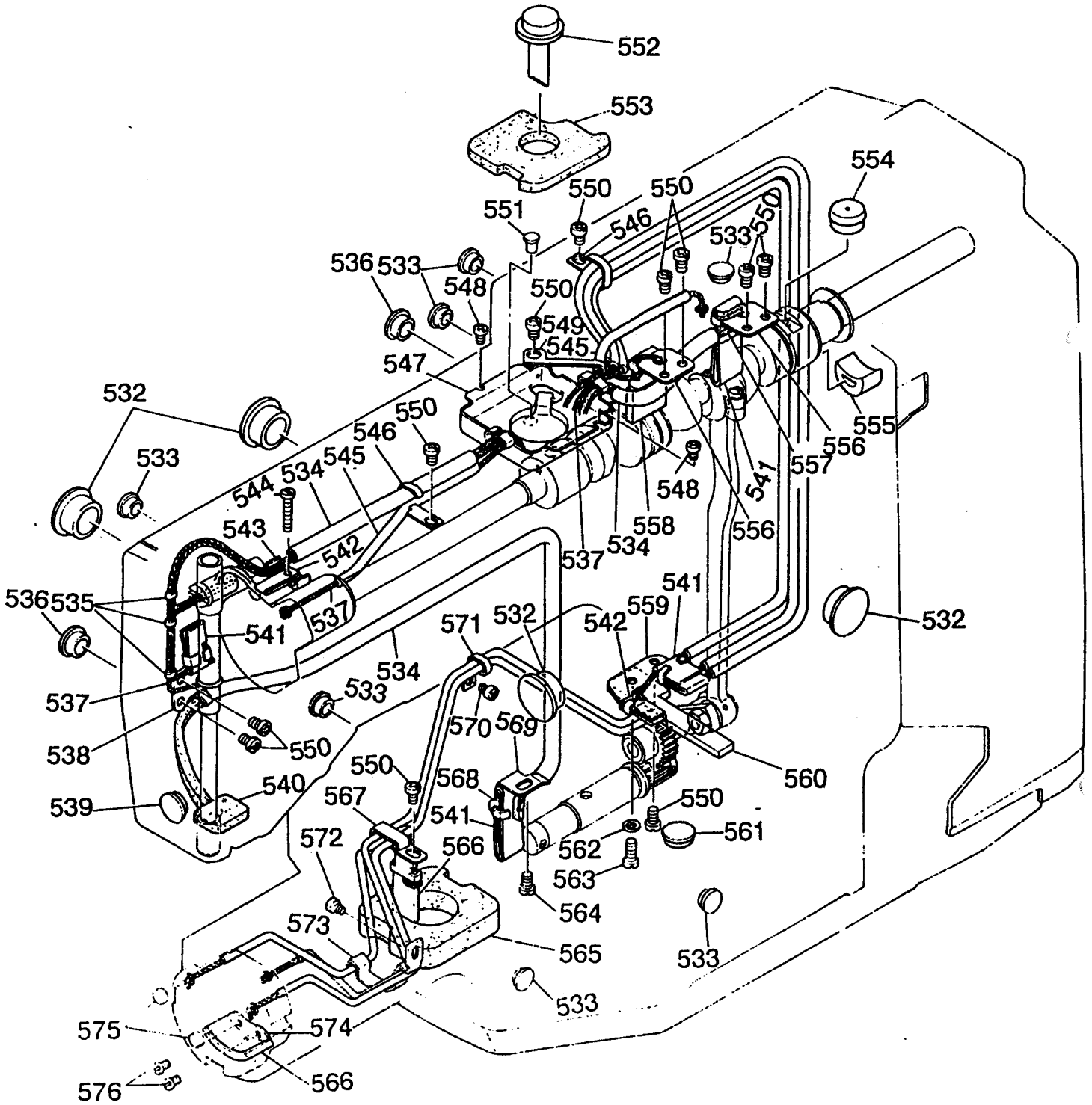
Ref. No.	Part No. 品番	Description	Amt. Req. 数量
408	8-0408	PRESSURE DECREASING DEVICE	1
409	8-0409	PRESSURE DECREASING DEVICE	1
410	8-0410	PRESSURE DECREASING LEVER	(2)
411	8-0411	HINGE SCREW D=9 H=3.2	(1)
412	8-0412	STUD	(1)
413	8-0413	LEVER LATCH A	(1)
414	8-0414	SCREW 11/64-4 L=8.5	(2)
415	8-0415	SCREW 11/64-4 L=8.5	(2)
416	8-0416	HINGE SCREW D=8.35 H=3.2	(2)
417	8-0417	LEVER LATCH 3	(1)
418	8-0418	SPRING	(1)
419	8-0419	PRESSURE DECREASING LEVER LINK	(1)
420	8-0420	HOOK SPRING SUSPENSION	(2)
421	8-0421	SCREW 15/64-28 L=30	(1)
422	8-0422	NUT	(1)
423	8-0423	SUSPENSION PIN	(1)
424	8-0424	AUXILIARY CAM	(1)
425	8-0425	HINGE SCREW D=7.24 H=3.3	(1)
426	8-0426	SCREW 11/64-40 L=8.5	(1)
427	8-0427	SPRING	(1)
428	8-0428	SCREW 15/64-28 L=11	(1)
429	8-0429	PRESSURE DECREASING SHAFT	(1)
430	8-0430	TAPERED PIN 4X22	(1)
431	8-0431	PIN	(1)
432	8-0432	NUT 11/64-40	(1)
433	8-0433	PRESSURE DECREASING UNIT FRAME	(1)
434	8-0434	E-RING	(1)
435	8-0435	ROTATION PREVENTING LATCH ASM.	(1)
436	8-0436	SPRING	(1)
437	8-0437	HINGE SCREW	(1)
438	8-0438	SCREW 11/64-40 L=5	(1)
439	8-0439	DECREASING CLUTCH ASM.	(1)
440	8-0440	CLUTCH SPRING	(1)
441	8-0441	THRUST COLLAR ASM.	(1)
442	8-0442	SCREW 3/16-28 L=12.0	(1)
443	8-0443	INNER SLEEVE	(1)
444	8-0444	OUTER SLEEVE	(1)
445	8-0445	OUTER SLEEVE GUIDE	(1)
446	8-0446	SNAP RING 18.5	(1)
447	8-0447	BEARING D=20X42	(1)
448	8-0448	SHAFT	(1)
449	8-0449	BEARING D=12X15	(2)
450	8-0450	COLLAR A	(1)
451	8-0451	COLLAR B	(1)
452	8-0452	IDLER PULLEY INSTALLING PLATE	(1)
453	8-0453	SCREW 11/64-40 L=8	(3)
454	8-0454	SCREW	(1)
455	8-0455	SCREW 15/64-28 L=8	(2)
456	8-0456	DRIVING PULLEY	(1)
457	8-0457	SCREW 15/64-28 L=20.5	3
458	8-0458	WASHER 6.2X13X1	3
459	8-0459	IDLER PULLEY ASM.	1
460	8-0460	IDLER PULLEY BRACKET	(1)
461	8-0461	WASHER 6.2X13X1	(1)
462	8-0462	SCREW 15/64-28 L=8.5	(1)
463	8-0463	NUT 15/64-28	(1)
464	8-0464	WASHER 6.1X18.5X2	(1)
465	8-0465	TENSION RING	(1)
466	8-0466	IDLER PULLEY ASM.	(1)
467	8-0467	HINGE SCREW D=12 H=15	(1)

3. STOP-MOTION MECHANISM COMPONENTS



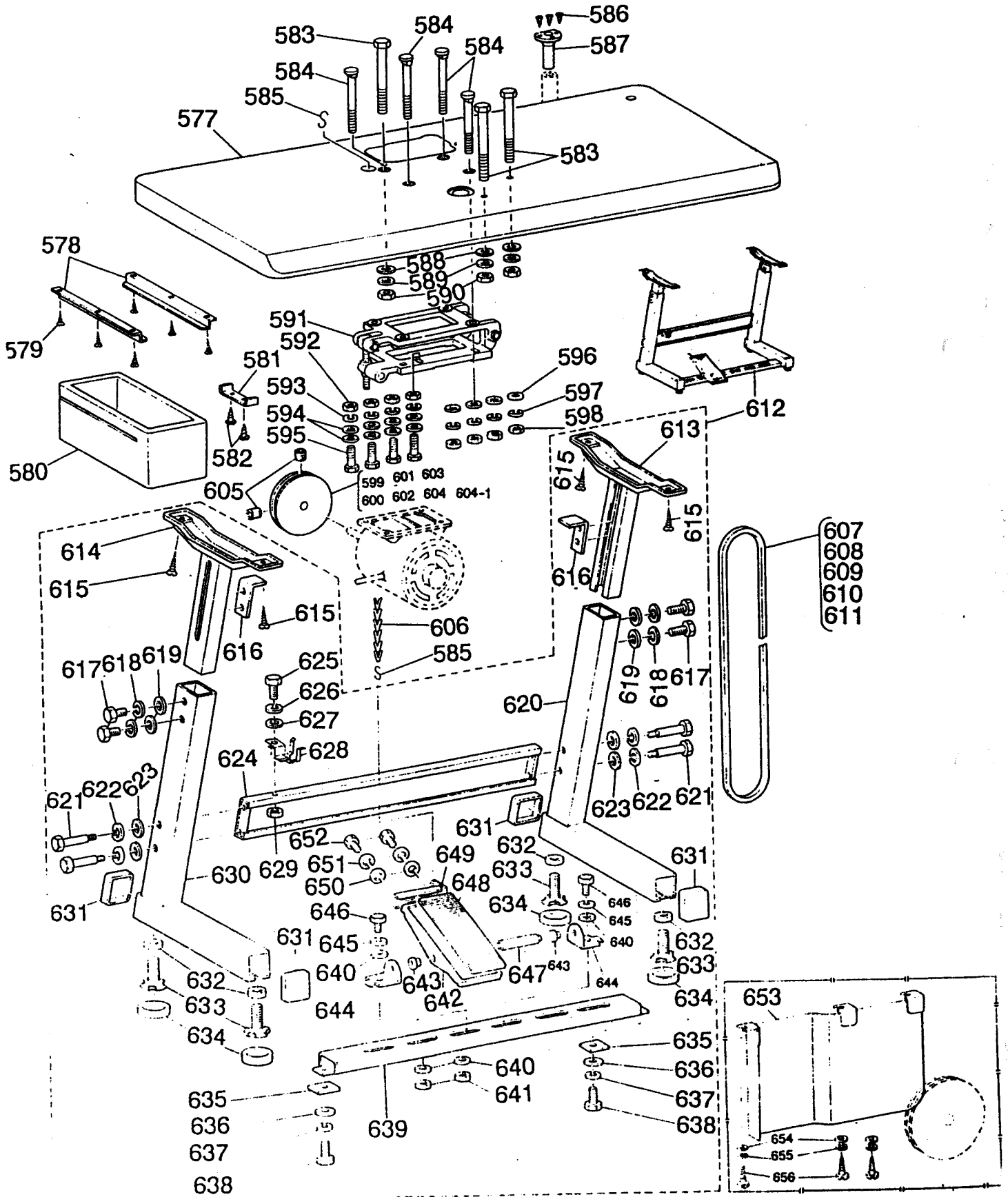
Ref. No.	Part No. 品番	Description	Amt. Req. 数量
468	9-0468	STOP-MOTION REGULATING CAM	1
469	9-0469	WASHER 8.4X0.8	3
470	9-0470	SCREW 9/16-28 L=12.0	3
471	9-0471	RETAINING RING 4.7	1
472	9-0472	ROLLER	1
473	9-0473	ROLLER SHAFT	1
474	9-0474	NUT 15/64-28	1
475	9-0475	NUT 15/64-28	2
476	9-0476	STOP-MOTION ARM B	1
477	9-0477	SCREW 9/32-3 L=16.5	1
477-1	9-0477-1	NUT 9/32-28	1
478	9-0478	HINGE SCREW D=8 H=4	2
479	9-0479	STOP-MOTION LINK	1
480	9-0480	REGULATING LEVER ASM.	1
481	9-0481	REGULATING LEVER STUD	1
482	9-0482	SCREW 15/64-28 L=11	3
483	9-0483	RUBBER CUSHION	2
484	9-0484	WASHER	1
485	9-0485	PRESSURE SPRING	1
486	9-0486	WASHER 7.5X19X1.5	1
487	9-0487	STOP LINK ROD	1
488	9-0488	STOP-MOTION HOOK	1
489	9-0489	GREASE BOX ASM.	(1)
490	9-0490	GREASE BOX	(1)
491	9-0491	SCREW 11/64-40 L=5	(1)
492	9-0492	FELT	(1)
493	9-0493	PULLEY PRESSING PLATE	1
494	9-0494	SCREW 15/64-28 L=17.0	1
495	9-0495	NUT 15/64-28	1
496	9-0496	WASHER 6.1X15.2X2.5	1
497	9-0497	SCREW 15/64-28 L=14	1
498	9-0498	WASHER 6.1X18.5X2	1
499	9-0499	SPRING WASHER 6.4X11.9X1.5	1
500	9-0500	SCREW 15/64-28 L=13.0	1
501	9-0501	SCREW 15/64-28 L=14	2
502	9-0502	SAFETY PLATE	1
503	9-0503	STOP-MOTION LEVER	1
504	9-0504	WASHER 6.1X18.5X2	1
505	9-0505	NUT 15/64-28	1
506	9-0506	NUT 15/64-28	1
507	9-0507	STOP-MOTION LEVER PLATE SPRING	1
508	9-0508	SCREW 9/32-28 L=6.8	1
509	9-0509	GUIDE PIN	1
510	9-0510	DRIVING PLATE	1
511	9-0511	TENSION SPRING	1
512	9-0512	STOP-MOTION LEVER SHAFT	1
513	9-0513	SPRING SUSPENSION	1
514	9-0514	NUT 15/64-28	1
515	9-0515	TENSION SPRING	1
516	9-0516	STARTING LEVER	1
517	9-0517	HINGE SCREW D=6.35 H=8.0	1
518	9-0518	SLIDE ROLLER	1
519	9-0519	WASHER 4.8X8.4X0.8	1
520	9-0520	NUT 11/64-40	1
521	9-0521	SUSPENSION SCREW	1
522	9-0522	HINGE SCREW D=8 H=4	2
523	9-0523	STOP-MOTION ARM SHAFT	1
524	9-0524	NUT 15/64-28	1
525	9-0525	SCREW 15/64-28 L=14	1
526	9-0526	STOP-MOTION ARM A ASM.	1
527	9-0527	SCREW 15/64-28 L=14	(1)
528	9-0528	SCREW 15/64-28 L=9	1
529	9-0529	NUT	1
530	9-0530	STOP-MOTION CONNECTING LEVER	1
531	9-0531	SNAP RING 4	1

10. LUBRICATION MECHANISM COMPONENTS



Ref. No.	Part No. 品番	Description	Amt. Req. 数量
532	10-0532	RUBBER PLUG	4
533	10-0533	RUBBER PLUG	7
534	10-0534	VINYL TUBE, WHITE D=6	0.7
535	10-0535	OIL WICK HOLDER	3
536	10-0536	RUBBER PLUG	2
537	10-0537	OIL WICK	4.7
538	10-0538	OIL WICK HOLDER	1
539	10-0539	RUBBER PLUG	1
540	10-0540	OIL FELT	1
541	10-0541	OIL SPONGE	4
542	10-0542	OIL SPONGE	2
543	10-0543	LUBRICATING PLATE	1
544	10-0544	SCREW 9/64-40 L=21.2	1
545	10-0545	VINYL TUBE, WHITE D=3	2.6
546	10-0546	OIL WICK HOLDER	1
547	10-0547	OIL TANK	1
548	10-0548	SCREW 9/64-40 L=5	2
549	10-0549	OIL WICK HOLDER	1
550	10-0550	SCREW 11/64-40 L=7	11
550-1	10-0550-1	OIL WICK HOLDER	1
551	10-0551	RUBBER PLUG	1
552	10-0552	OIL GAUGE	1
553	10-0553	OIL TANK FELT	1
554	10-0554	GREASE CAP	1
555	10-0555	BUSHING	1
556	10-0556	OIL FELT INSTALLING PLATE	2
557	10-0557	OIL FELT	1
558	10-0558	OIL FELT	1
559	10-0559	OIL FELT SUPPORTING PLATE	1
560	10-0560	OIL WICK SUPPORTING FELT	1
561	10-0561	RUBBER PLUG D=14.5 L=4	1
562	10-0562	WASHER 6.2X13X1	1
563	10-0563	SCREW 11/64-40 L=11	1
564	10-0564	SCREW 11/64-40 L=5	1
565	10-0565	OIL TANK FELT	1
566	10-0566	OIL FELT, FOR SHUTTLE RACE	2
567	10-0567	OIL TUBE HOLDER A	1
568	10-0568	OIL FELT	1
569	10-0569	OIL FELT HOLDER	1
570	10-0570	SCREW 11/64-40 L=5	1
571	10-0571	OIL TUBE HOLDER	1
572	10-0572	SCREW 11/64-40 L=5.3	1
573	10-0573	OIL TUBE HOLDER B	1
574	10-0574	PRESSER PLATE	2
575	10-0575	SHUTTLE RACE CAP	1
576	10-0576	SCREW 9/64-40 L=4.0	2

11. TABLE COMPONENTS



Ref. No.	Part No. 品番	Description	Amt. Req. 数量
577	11-0577	TABLE	1
578	11-0578	DRAWER SUPPORT	2
579	11-0579	WOOD SCREW D=2.1 L=10	6
580	11-0580	DRAWER	1
581	11-0581	DRAWER STOPPER	1
582	11-0582	WOOD SCREW D=4.8 L=25	2
583	11-0583	SCREW 15/64-28 L=68	3
584	11-0584	MOUNTING FLAT	4
585	11-0585	S SHAPED F LOCK	2
586	11-0586	WOOD SCREW D=2.1 L=10	3
587	11-0587	OIL DRAIN	1
588	11-0588	WASHER 6.1×18.5×2	3
589	11-0589	WASHER 6.2×13×1	3
590	11-0590	NUT 15/64-28	3
591	11-0591	MOTOR BASE ASM.	1
592	11-0592	NUT M6	4
593	11-0593	SPRING WASHER 6.2×11.4×1.2	4
594	11-0594	WASHER 6.1×18.5×2	8
595	11-0595	SCREW M6 L=32	4
596	11-0596	WASHER 8.5×18×1.6	4
597	11-0597	SPRING WASHER 9.0×15.0×2.0	4
598	11-0598	NUT 5/16-18	4
599	11-0599	MOTOR PULLEY 60HZ 2300 SPM	1
600	11-0600	MOTOR PULLEY 60HZ 2000 SPM	1
601	11-0601	MOTOR PULLEY 60HZ 1800 SPM	1
602	11-0602	MOTOR PULLEY 60HZ 2300 SPM	1
603	11-0603	MOTOR PULLEY 60HZ 2000 SPM	1
604	11-0604	MOTOR PULLEY 60HZ 1800 SPM	1
604-1	11-0604-1	MOTOR PULLEY 60HZ 1500 SPM	1
605	11-0605	SCREW 15/64-28 L=8	2
606	11-0606	CHAIN	1
607	11-0607	V-BELT, 60 INCH	1
608	11-0608	V-BELT, 49 INCH	1
609	11-0609	V-BELT, 48 INCH	1
610	11-0610	V-BELT, 47 INCH	1
611	11-0611	V-BELT, 46 INCH	1
612	11-0612	TABLE STAND ASM.	1
613	11-0613	HEIGHT ADJUSTING STAND ASM., R.	(1)
614	11-0614	HEIGHT ADJUSTING STAND ASM., L.	(1)
615	11-0615	WOOD SCREW D=5.1 L=40	(4)
616	11-0616	TABLE SUPPORT	(2)
617	11-0617	SCREW M8 L=20	(4)
618	11-0618	SPRING WASHER 8.6×15×1.4	(4)
619	11-0619	WASHER 8.7×18×1.6	(4)
620	11-0620	STAND (RIGHT) ASM.	(1)
621	11-0621	HINGE SCREW D=12 H=43.1	(4)
622	11-0622	SPRING WASHER 12.5×21.5×3	(4)
623	11-0623	WASHER 12.5×25.6×2.2	(4)
624	11-0624	STAND SIDE SUPPORT ASM.	(1)
625	11-0625	SCREW M8 L=20	(1)
626	11-0626	SPRING WASHER 8.6×15×1.4	(1)
627	11-0627	WASHER 8.7×18×1.6	(1)
628	11-0628	OIL HOLDER ASM.	(1)
629	11-0629	NUT M8	(1)
630	11-0630	STAND ASM.	(1)
631	11-0631	RUBBER CAP	(4)
632	11-0632	NUT M12	(4)
633	11-0633	ADJUSTING SCREW ASM.	(4)
634	11-0634	LEG SUPPORT CAP	(4)
635	11-0635	LEG BOTTOM SUPPORT BRACKET	(2)
636	11-0636	WASHER 8.7×18×1.6	(2)
637	11-0637	SPRING WASHER 8.6×15×1.4	(2)
638	11-0638	SCREW M8 L=20	(2)
639	11-0639	LEG BOTTOM SUPPORT	(1)
640	11-0640	WASHER 8.7×18×1.6	(4)
641	11-0641	NUT M8	(2)
642	11-0642	PEDAL	(1)
643	11-0643	PEDAL BUSHING	(2)
644	11-0644	PEDAL SHAFT BRACKET	(2)
645	11-0645	SPRING WASHER 8.6×15×1.4	(2)
646	11-0646	SCREW M8 L=20	(2)
647	11-0647	PEDAL CONNECTING ROD	(1)
648	11-0648	PEDAL MAT	(1)
649	11-0649	PEDAL ADJUSTING PLATE	(1)
650	11-0650	WASHER 8.7×13×1	(2)
651	11-0651	SPRING WASHER 6.2×11.4×1.2	(2)
652	11-0652	SCREW M8 L=12	(2)
653	11-0653	GUARD PLATE	1
654	11-0654	WASHER 6.2×13×1	3
655	11-0655	SPRING WASHER 5.2×8.2×1	3
656	11-0656	WOOD SCREW D=4.8 L=25	3