

# User manual and Spare Parts List

# GARUDAN®

## GARUDAN GBH-1010 G



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# MANUAL BOOK

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4. MOTOR PULLEY AND V BELT
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**BEFORE OPERATING YOUR LOCKSTITCH MACHINE, PLEASE READ THIS INSTRUCTION MANUAL CAREFULLY IN ORDER TO OPERATE IT IN THE CORRECT AND EFFICIENT MANNERS.**

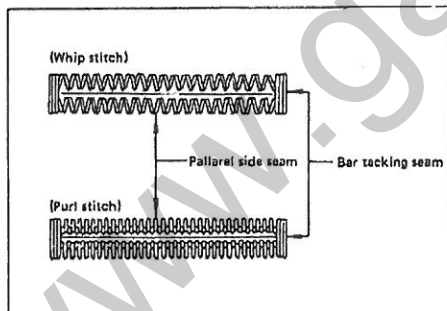
**● CAUTIONS IN OPERATION**

1. The machine should rotate counterclockwise as observed from the pulley. Take care not to rotate the machine in the opposite direction.
2. Never start the machine before filling the machine base with lubricating oil.
3. Remove the bobbin case and the needle thread from the machine before performing the trial operation.
4. Clean up the sewing hook and the bobbin thread trimmer every day after sewing work. Also check the level of the lubricating oil.
5. Never bring your fingers or hair close to, or place anything on the handwheel, V-belt, bobbin winder wheel or motor during operation. It may lead to serious personal injuries.
6. If your machine is provided with a belt cover, finger guard and eye guard, never operate your machine with any of them removed.

**● 1. SPECIFICATION**

Application	Buttonholing for ordinary cloth, knit, etc.		
Sewing speed	Max. 3,600 s.p.m.		
Buttonhole length	6.4 ~ 19.0 mm (1/4" ~ 3/4")	6.4 ~ 31.7 mm (1/4" ~ 1-1/4")	12.7 ~ 38.0 mm (1/2" ~ 1-1/2")
Bar-tack width	2.5 ~ 4.0 mm (3/32" ~ 5/32")	2.5 ~ 5.0 mm (3/32" ~ 3/16")	
Needle	DP x SJ #11 ~ #14		
Presser lift	12 mm (15/32")		
Lubricating oil	New Defrix Oil No. 1		

**● 2. TYPES OF STITCHES**



This machine is capable of forming two different types of stitches, namely whip stitch and purl stitch.

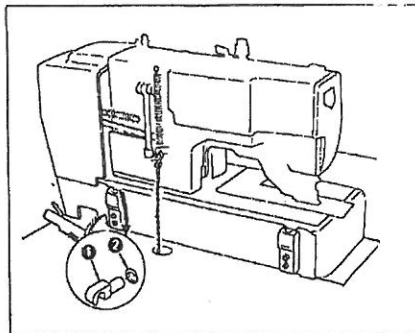
(Whip stitch)

The whip stitch is formed in zigzag showing the needle thread only on top of fabric, and the bobbin thread on the bottom.

(Purl stitch)

When applying higher tension to the needle thread to permit it to pass straight through fabric, the purl stitch is formed by the bobbin thread which is pulled over from both sides to the center line.

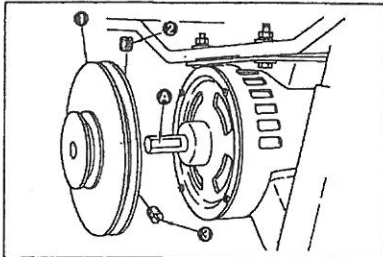
**● 3. SETTING UP THE MACHINE HEAD**



Insert hinge ① into the machine head.

Then, place the machine head on the machine base.

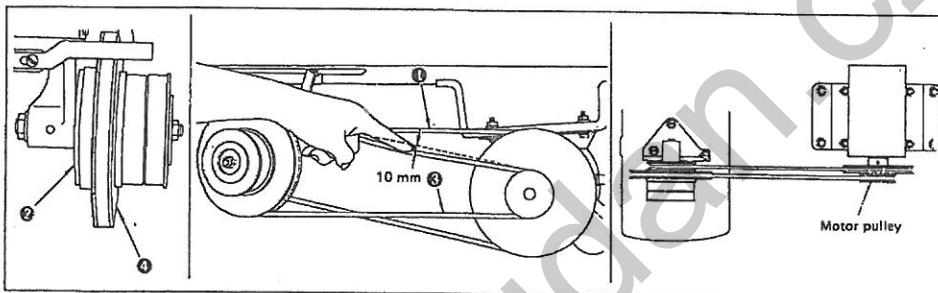
#### 4. MOTOR PULLEY AND V BELT



1. Motors of 300W, 4-pole are used for single-phase or three-phase operation. (If a 250W motor has to be used, operate the machine at 3,100 s.p.m. or less.)
2. M-type V belts are used.
3. Refer to the following table for the motor pulleys, V belt length, and sewing speed.

##### \* How to install motor pulley

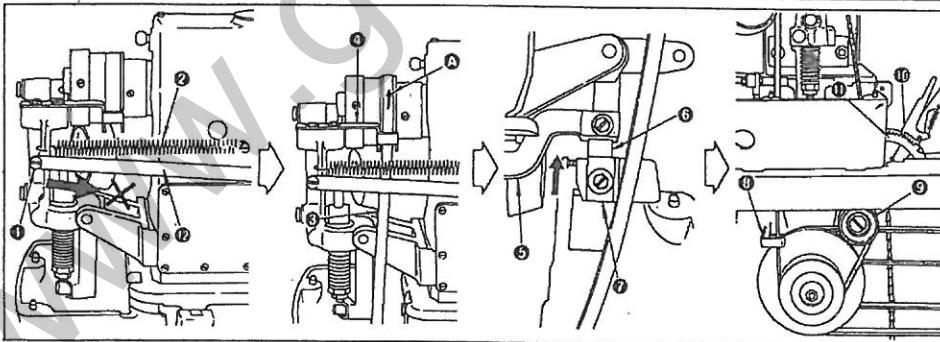
Place motor pulley ① into the motor shaft so that flat part ③ of the motor shaft aligns with first setscrew ②. Then securely tighten setscrews ② and ④.



##### \* How to install V belt

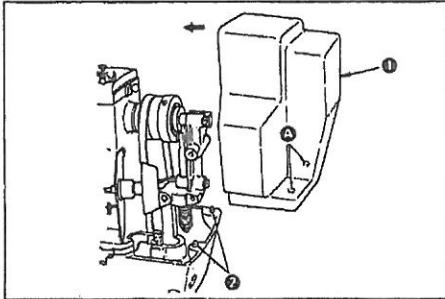
1. Mount high-speed V belt ① on accelerating pulley ② and the large diameters of the motor pulley.
2. Mount low-speed V belt ③ on low-speed pulley ④ and the small diameters of the motor pulley.
3. By moving the motor from side to side, adjust the tension of V belts ① and ③ so that they give an approx. 10 mm slack when their middle portions are pushed lightly by hand.
4. Move the motor pulley back and forth to align V belts ① and ③.

#### 5. ATTACHING THE FLAT BELT



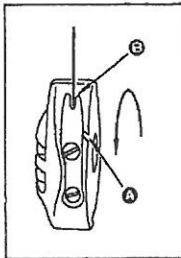
1. Removing screw ①, remove spring ② from the suspension screw.  
At this time, be careful not to push the starting link driving rod in the arrowed direction.
  2. Pass belt ③ through belt shifter ④ so that the belt rotates in arrow A direction.
  3. Reinstall screw ① and spring ②.
  4. Lift tripping lever ⑤ in the direction, pass the belt between latch B ⑥ and latch A ⑦.
  5. Passing belt shifter ④ of the speed transmitter, attach the belt onto tension pulley ⑧.
  6. Put fixing pawl ⑩ in the second groove from the bottom of ratchet ⑨ to provide the belt with tension.
- (NOTE) Some expansion or contraction in the belt caused by temperature or humidity may make it rather difficult to install the belt. However, the belt will restore its original length while in use.

**8. INSTALLATION/REMOVAL OF BELT COVER**



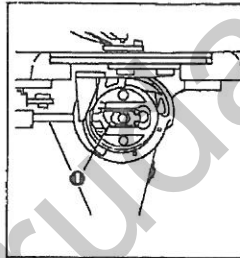
Aligning guide pin ② with hole ④ in belt cover ①, push the belt cover in the arrow direction until it snaps. For removal of the belt cover, bring down the belt cover in the direction opposite to the arrow, and slide it up.

**7. ATTACHING THE BOBBIN**



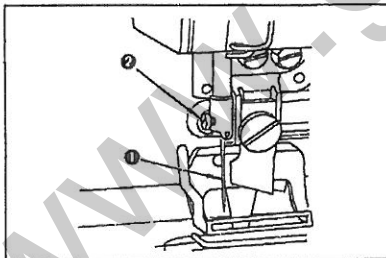
1. Hold and place a bobbin into the bobbin case so that the bobbin is wound counterclockwise.
  2. Passing the thread through thread outlet ④ of the bobbin case, pull the thread, and the thread can be drawn out from thread outlet ⑤, passing under the bobbin winder tension spring.
- ★ Set the bobbin so that it rotates in the arrow direction when the bobbin thread is pulled.

**8. INSTALLATION/REMOVAL OF BOBBIN CASE**



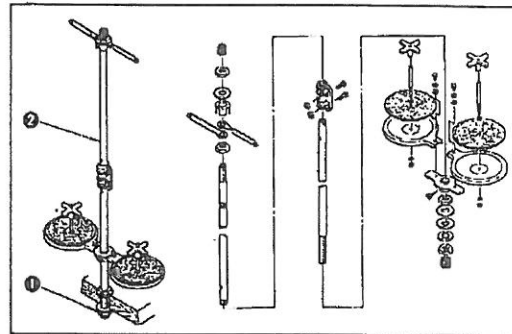
1. Lift up and hold bobbin case latch lever ① between two fingers to remove it from the hook. A bobbin does not fall off the bobbin case while the latch lever is lifted up.
2. For installation of the bobbin case, push the bobbin case into the hook so that it is supported by the hook shaft, and then snap in the latch lever.

**9. HOW TO INSTALL THE NEEDLE**



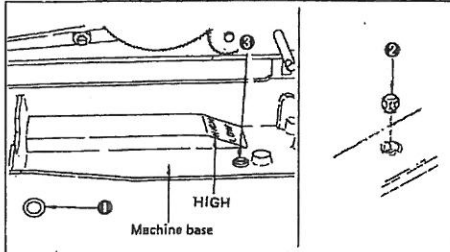
- ★ Turn off the motor power. Use a DPx5J needle.
1. Loosening needle setscrew ②, hold needle ① with its recessed part facing toward the operator,
  2. insert the needle fully into the needle clamping hole, and
  3. securely tighten the needle setscrew.

**10. SETTING UP THE THREAD STAND**

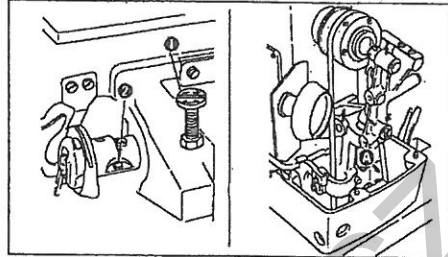


Assemble the thread stand, and fix it in the table hole. Then tighten lock nut ① to fix the thread stand. If ceiling wiring can be made, pass the power cable through spool rest rod ②.

## 11. LUBRICATION



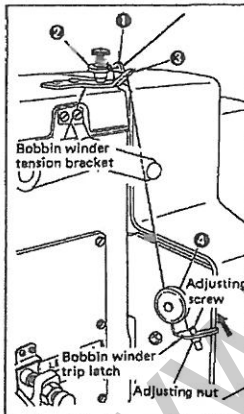
- \* Before starting the machine;
  1. Fill the oil reservoir of the machine base with New Defrix Oil No. 1 up to the level indicated by "HIGH".
  2. Supplement the oil when the oil level has lowered below the bottom line of oil gauge ①.
  3. When the machine has been properly lubricated, the oil is seen to run through the pipe from oil sight window ②. (Low speed operation permits easier observation of the lubricating oil.)
- \* Drain dirty oil by loosening oil drain screw ③, and fill the oil reservoir with fresh oil.



- \* Adjusting the lubrication for the sewing hook
 

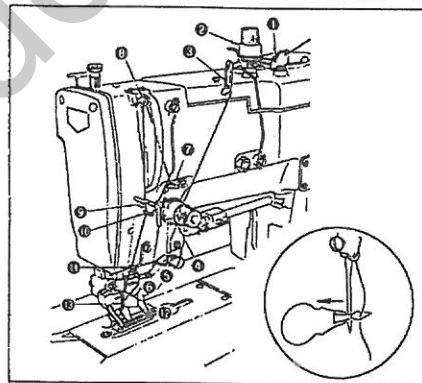
Adjust the volume of lubricating oil supplied to the sewing hook by turning oil adjusting screws ① for rough adjustment, and ② for fine adjustment; oil volume is reduced when turning the screws clockwise.
- \* Other lubricating points
  1. Apply one or two drops of lubricating oil to the arrowed points once a week or every other week.
  2. Apply two or three drops of lubricating oil only to A point when the machine is newly set up or has been out of use for a long time.

## 12. WINDING THE BOBBIN



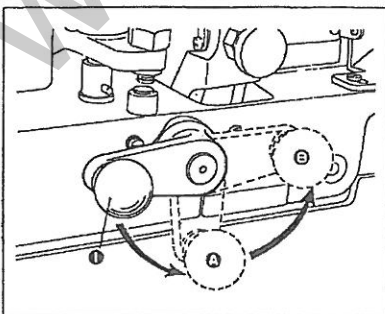
1. Fit a bobbin onto the bobbin winder shaft.
2. Take the thread from the spool and pass it through the guides in the numerical order shown in the figure, and wind the end of the thread several turns around the bobbin.
3. Push the bobbin winder trip latch in the arrow direction, and the bobbin will be wound.
4. Loosening the adjusting nut, perform adjustment by screwing in or out the adjusting screw so that the bobbin is wound about four-fifths full.
5. If the bobbin is wound unevenly, adjust the position of the bobbin winder tension bracket for proper and even winding.

## 13. THREADING THE NEEDLE-THREAD



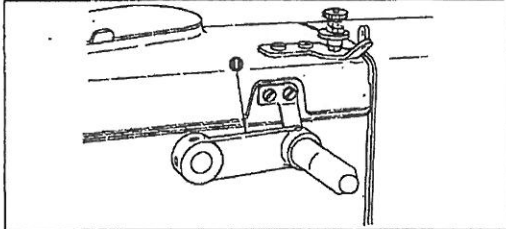
1. Pass the needle-thread in the order as shown in the figures.
2. The threading can be done easily by using the needle threader supplied with the machine.

## 14. REDUCTION OF SEWING SPEED AND EMERGENCY STOP



- \* Reduction of sewing speed
    1. Turn hand stop crank ① downwards to position A, and
    2. the machine will be immediately slowed down.
  - \* Emergency stop
    1. Turn the hand stop crank downwards to position A, and further upwards to position C and
    2. the machine will stop immediately.
- (NOTE) When the hand stop crank do not return, push it down.

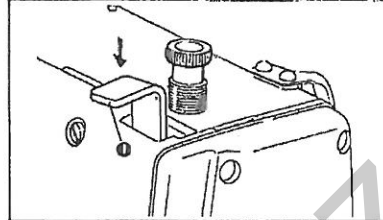
### 16. MANUAL FEED HANDLE



When you want to feed fabric manually after giving an emergency stop or to resume sewing from the point at which thread was broken, rotate manual feed handle ① to operate the cloth feeding mechanism.

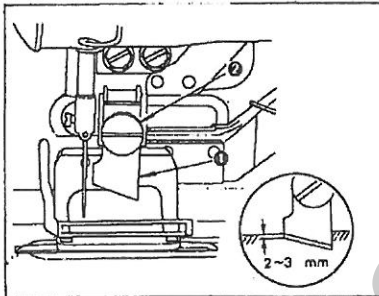
(NOTE) Confirm that the needle does not stick in fabric before turning the manual feed handle.

### 16. HOW TO HOLD THE DESCENDING KNIFE



When you do not want to cut fabric after sewing because of thread breakage or some other reasons, keep on pressing down knife stop lever ① lightly until the machine stops. Then the knife will not descend.

### 17. REPLACING THE KNIFE



When sharpening or replacing the knife, remove it as follows:

1. Loosen setscrew ②, and remove knife ① together with the washer.
2. Attach the knife to the knife holder so that the higher end of the slanted knife blade comes down 2 to 3mm above the surface of the throat plate when the knife is brought down to the lowest position.

(NOTE) Do not forget to install the washer when retightening the setscrew.

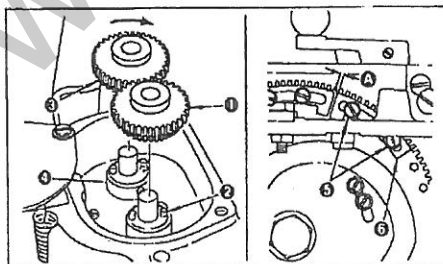
### 18. CHANGING THE NUMBER OF STITCHES

Symbol	No. of stitches of small gears	No. of stitches of large gears	Symbol	No. of stitches of small gears	No. of stitches of large gears
A	54	345	I	93	200
B	62	300	Ⓚ	100	190
C	66	285	K	105	180
D	70	268	Ⓛ	110	170
Ⓢ	74	252	M	115	160
F	79	238	Ⓝ	123	152
Ⓣ	83	225	O	130	145
H	88	212			

#### \* Spur gears

1. By selecting the spur gears, you can control the number of stitches as shown in the table.
2. Alphabetical marks like A, B, C, etc., and numerals like 123, 152, etc. are both engraved on each spur gear for identification.
3. Use a combination of gears which have the same alphabetical marks.
4. The numeral engraved on the gear installed in the rear position will represent the number of stitches provided by the then combination of spur gears.

(The circled alphabetical symbols in the above table show that the gears are included in the standard accessories. All other gears are optional attachments.)



#### \* Attaching the spur gears to their shafts

1. Push gear ① into the shaft so that it is securely fixed by the pin on gear bushing ② located nearer to an operator.
2. For installing gear ③ on the pin of rear gear bushing ④, push gear ③ into the shaft while turning it in the arrow direction.

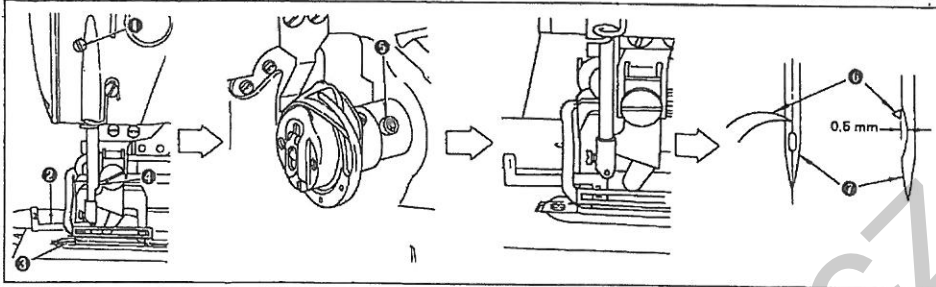
#### \* Adjusting the low-speed cam position

Loosen setscrews ④, and adjust the position of low-speed cam ⑤ to set clearance ⑥ as shown below:

Number of stitches	Clearance ⑥
93 stitches or less	10 ~ 12 mm
115 stitches or less	5 mm
123 stitches	0



## 19. NEEDLE-TO-HOOK RELATION

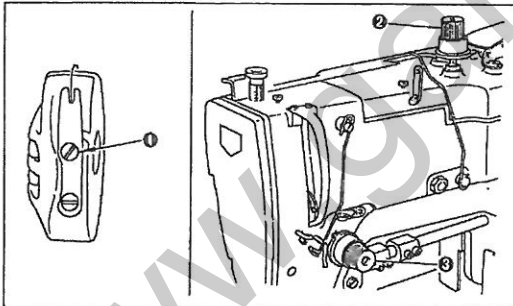


\* Set the needle to hook relation in the following way:

1. Bring down the needle bar to the lowest point when the needle is coming down through the center of the needle hole on the throat plate.
2. Loosen needle bar connection screw ①, and adjust the height of the needle bar.  
(Setting the needle bar)
3. Insert the part "1" of timing gauge ② into the gap between the bottom end of needle bar ④ and throat plate ③.
4. Retighten the needle bar connection screw to adjust the position of the sewing hook.  
(Setting the hook)
5. Loosen setscrew ⑤ of the hook sleeve by the bar spanner supplied with the machine.
6. Rotate the driving pulley in the correct direction until the needle starts to go up from its lowest point.
7. Insert the part "2" of the timing gauge into the gap between the bottom end of the needle bar and the throat plate, where the bottom end of the needle bar touches the top of the part "2" of the timing gauge.
8. Align blade point ① of the sewing hook with the center of needle ②, and make adjustment so that a clearance of approx. 0.5mm (1/64") is provided between the needle and the blade point of the hook. Then, securely retighten the setscrew of the hook sleeve.

(NOTE): If stitches are skipped, lower the needle bar by approx. 0.5mm (1/64") from the timing gauge "1".

## 20. THREAD TENSION

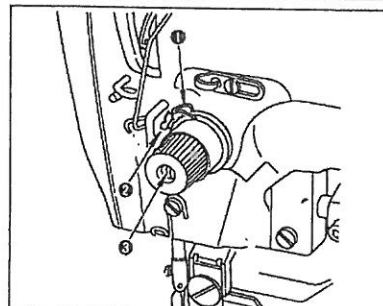


\* Adjusting the thread tension for purl stitch:

1. Adjust the bobbin thread tension to approx. 15 to 20g by adjusting screw ① of the bobbin case.
2. Adjust tension controller No. 1 ② for proper needle thread tension so that the bar-tack part is formed by well-shaped whip stitches. If the tension is too low, bar tacking seam may form thread knots on the rear face of fabric.
3. Adjust tension controller No. 2 ③ for proper tension of the parallel side seams by judging from the stitch formation.

\* Adjusting the thread tension for whip stitch:

1. Adjust the bobbin thread tension to approx. 40 to 50g by adjusting screw ① of the bobbin case.
2. Exchange the adjusting springs of tension controllers No. 1 ② and No. 2 ③ each other (the tension controller No. 2 will have a weak spring).
3. Adjust tension controller No. 2 ③ to prevent raveling off at the end of a seam.
4. The stitches of the parallel sides or bar-tack can be adjusted by tension controller No. 1 ②.



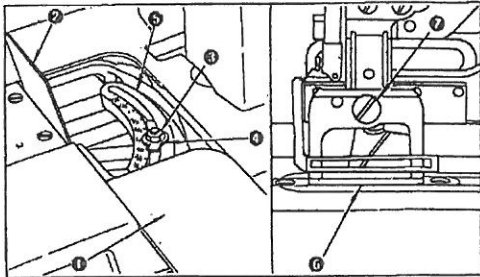
\* Adjusting the thread take-up spring (for purl stitch)

The suitable range of the stroke of thread take-up spring ① is from 6 to 8mm with a starting tension of 20 to 50g.

For adjusting the stroke of the thread take-up spring, loose screw ②, and insert a thin screwdriver into the slit of tension post ③ to turn the tension post.

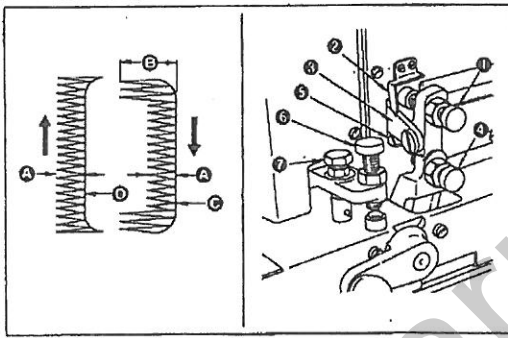
To adjust the tension of the thread take-up spring, insert a thin screwdriver into the slit of tension post ③ to turn it, with screw ② tightened. The tension of the thread take-up spring increases when the tension post is turned clockwise, and decreases when turned counterclockwise.

**21. ADJUSTING THE OVEREDGING LENGTH (BUTTONHOLE LENGTH)**



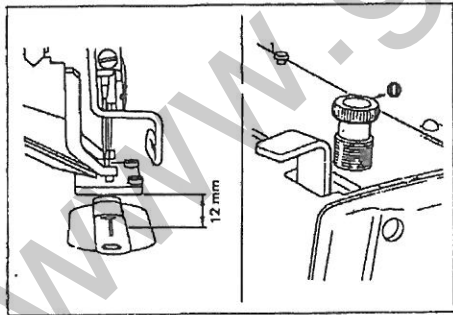
1. Pull out cover ①, and raise cover ②.
  2. Loosen nut ③ by the spanner supplied with the machine. Set point ④ to a desired length on scale ③ (this length is the same with the knife width), and then retighten nut ③.
  3. Through your trial sewing, adjust the overedging length accurately to the extent that the bar tacking seams are not cut by the knife.
- \* Changing the work-clamp check  
Use work clamp check ⑤ having the size nearly the same as that of a buttonhole length.  
By removing setscrew ⑦, a work clamp checks can be changed together with a work clamp check holder as a set.

**22. ADJUSTING THE OVEREDGING WIDTH AND OVEREDGING REFERENCE POSITION**



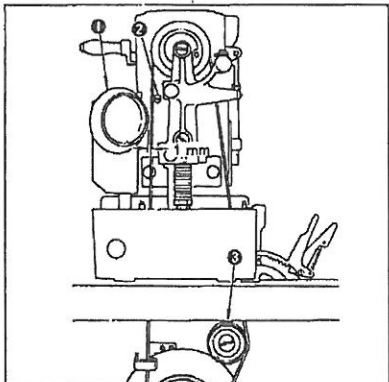
- The needle swings from right to left with the right base line established as the reference position.  
Perform the adjustment as follows:
1. To adjust stitch width ①, screw in or out screw ②, and set pointer ③ to a desired value on scale plate ④. The actually sewn stitch width will be the half of the set scale value (mm).
  2. For adjustment of bar tacking width ⑤, screw in or out screw ⑥, and set pointer ⑦ to the value indicated by scale plate pointer ③, making the bar tacking width twice as large as the stitch width.
  3. Adjust the position of right base line ⑧ by screwing in or out screw ⑨ so that it is kept away from the cutting line of the knife. As screw ⑨ is screwed in, the right base line moves to the left.
  4. Through your trial sewing, further perform fine adjustment.
  5. It is not necessary to adjust the position of left base line ⑩ since it remains unchanged when the stitch width is changed. However, the left base line should be moved to the left by screwing in screw ⑪ if it is cut by the knife.

**23. ADJUSTING THE PRESSER BAR PRESSURE**



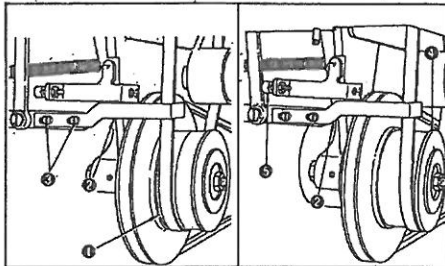
The presser bar goes up 12mm when the pedal is fully stepped down.  
To adjust the pressure applied by the presser bar to fabric, turn presser spring regulator ①. When the pressure is not enough to prevent fabric from puckering, turn regulator ① clockwise.

**24. ADJUSTION THE BOBBIN THREAD WINDER**



Loosen screw ② to make adjustment so that the clearance between bobbin thread winder pulley ① and belt ② becomes approx. 1mm (3/64") when pulley ① is apart from the belt.  
If, however, the belt touches the pulley, adjust the tension by tension pully ③ to decrease the deflection of the belt. And if the belt still touches the pulley, increase the clearance to more than 1mm (3/64").

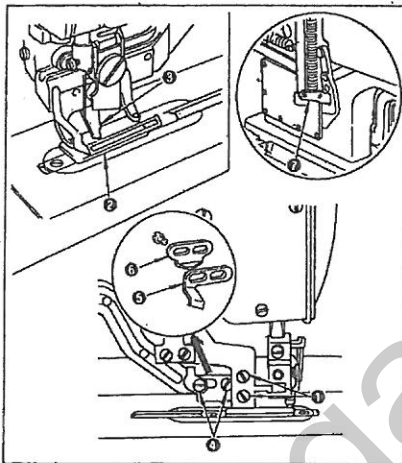
### 25. ADJUSTING THE SPEED TRANSMITTER



\* **Adjustment of the position of the belt shifter**  
When the hand stop crank is turned down to the low speed position, loosen screw (4) and allow the belt to move onto low-speed pulley (1), moving the position of belt shifter (2).

\* **Adjusting the stopper screw**  
Perform adjustment by stopper screw (3) so that belt shifter (2) does not cause the belt to come off high-speed pulley (4) during high speed operation.

### 26. ADJUSTMENT OF THE NEEDLE THREAD TRIMMER



\* **Attaching the trimmer**  
Loosen setscrew (2), and adjust the height of trimmer (1). Set the height of trimmer (1) as low as possible, provided that it does not touch work clamp check (4), in order to minimize the length of remaining thread on the needle after trimming.

\* **Closing timing of the needle thread trimmer**  
Adjust the closing timing of the needle thread trimmer so that the trimmer completely closes when it advances farthest. To perform the adjustment, loosen screw (5), and move needle thread trimmer driving plate A (5) back and forth. When the needle thread trimmer driving plate is moved towards you, the closing timing is delayed with reduced amount of closing.

(NOTE) Confirm that an allowance of 0.3 to 0.5 mm is left between the blades of the trimmer when the trimmer has completely closed.

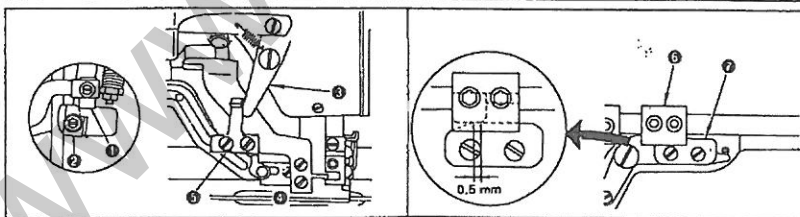
If there is no such allowance, the trimmer would interfere with the operation of the needle thread trimmer driving plate, preventing smooth movement of lifting lever (7).

\* **Opening timing of the needle thread trimmer**  
Adjust the timing of the thread trimmer so that the trimmer begins to open gradually at a distance of approx. 2.5 to 3mm (3/32" to 1/8") from the start.

To perform the adjustment, loosen screw (6), and move needle thread trimmer driving plate B (6) back and forth. As it moves towards you, the trimmer begins to open earlier.

(NOTE): Take care not to cause the already fixed needle thread trimmer driving plate A to get out of position.

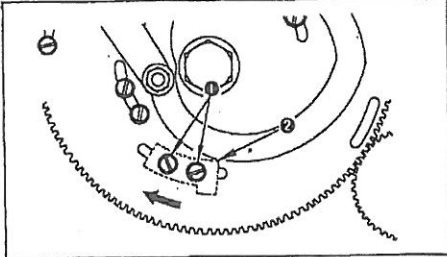
### 27. ADJUSTMENT OF NEEDLE THREAD TRIMMER HOLDER AND LIMITING PLATE



Loosen setscrew (1), and install and adjust limiting plate (3) so that it comes in contact with the blocking arm (4) at the time of slow start of the machine (when latch B (1) is engaged with latch A (2)).

Needle thread trimmer holder (5) should be installed in such manner that it engages with cam (7) by 0.5mm (1/64") when the needle thread trimmer opens.

28. TIMING FOR DROPPING THE KNIFE



Loosen screws ①, and move knife tripping segment ② in the direction shown by the arrow, and the knife will drop earlier. Adjust it so that the knife drops two to three stitches before the machine stops.

29. STITCHING TROUBLES CAUSED BY OTHER REASONS

Trouble	Cause	Remedy
1. Starting pedal does not work. (The work clamp arm is not lifted up fully.)	(1) Needle plate, needle plate base or bobbin thread trimmer is clogged with fibrous dust. (2) The needle thread trimmer is interfered by the work clamp check or the trimmer driving plate.	<ul style="list-style-type: none"> <li>○ Tilt the machine head and clean them up.</li> <li>○ Readjust the installation of the trimmer, or the position of the trimmer driving plate.</li> </ul>
2. Machine does not reach the high speed even when the pedal is stepped down fully.	(1) The hand stop crank is not in the correct position. (2) The belt shifter of the speed transmitter has not changed to the high speed pulley.	<ul style="list-style-type: none"> <li>○ Correct the position of the hand stop crank.</li> <li>○ Lubricate the shifter driving pin.</li> </ul>
3. A loud noise is produced with a stop-motion, or sewing speed does not lower at the end of sewing.	(1) Improper setting of the low speed cam for small numbers of stitches. (2) The flat belt is too loose. (3) The low speed V belt is too loose.	<ul style="list-style-type: none"> <li>○ Readjust the setting of the low speed cam.</li> <li>○ Increase the belt tension by the tension pulley.</li> <li>○ Increase the tension of the V belt by the motor.</li> </ul>
4. Stop-motion is not smooth.	(1) Stop-motion lever needs lubrication. (2) The belt shifter of the speed transmitter has not changed to the low speed pulley.	<ul style="list-style-type: none"> <li>○ Lubricate the stop-motion lever.</li> <li>○ Readjust the position of the belt shifter.</li> </ul>
5. The machine does not lubricate.	(1) Oil level in the oil reservoir is too low. (2) Oil is not circulated.	<ul style="list-style-type: none"> <li>○ Fill the lubricating oil up to "HIGH" mark.</li> <li>○ Apply oil to the oil return felts.</li> </ul>
6. Knife is dropped during high speed rotation.	(1) Position of the knife tripping segment is not correct. (2) The setting of the low speed cam for numbers of stitches is not correct.	<ul style="list-style-type: none"> <li>○ Adjust the position of the driving cam so that the knife is dropped down at a delayed timing.</li> <li>○ Correct the setting of the low speed cam.</li> </ul>
7. Knife is dropped even if the needle thread is broken.	(1) The machine is threaded incorrectly.	<ul style="list-style-type: none"> <li>○ Correct the threading.</li> </ul>
8. Needle is broken.	(1) The needle is bent. (2) The needle and the hook blade touch with each other. (3) Needle thread trimmer hits the needle when opening its blades.	<ul style="list-style-type: none"> <li>○ Replace the needle.</li> <li>○ Readjust the positions of the needle and the sewing hook.</li> <li>○ Readjust the position of the trimmer.</li> <li>○ Adjust so that the limiting plate and the blocking arm touch each other at the time of starting.</li> </ul>

● 30. TROUBLE, CAUSE, AND REMEDY

Trouble	Cause	Remedy
1. Needle thread is broken.	<ol style="list-style-type: none"> <li>(1) The tension of the tension controller No. 2 is too tight.</li> <li>(2) The tension or the stroke of the take-up spring is too great.</li> <li>(3) Blade point of sewing hook has burr or scratches.</li> <li>(4) Poor timing of the sewing hook.</li> <li>(5) The thread path has scratches.</li> <li>(6) The needle is too thin.</li> </ol>	<ul style="list-style-type: none"> <li>○ Decrease the tension of the tension controller No. 2</li> <li>○ Decrease the tension or the stroke of the take-up spring.</li> <li>○ Buff the blade point of the sewing hook, or replace the sewing hook.</li> <li>○ Readjust the sewing hook's timing by the timing gauge.</li> <li>○ Buff the thread path by cloth files, etc.</li> <li>○ Replace by a thick needle.</li> </ul>
2. Thread slips out of the needle.	<ol style="list-style-type: none"> <li>(1) The needle thread trimmer opens too early.</li> <li>(2) The needle thread trimmer opens when the work clamp check is coming down.</li> <li>(3) The whip stitch is not formed at the start of sewing.</li> <li>(4) Wrong threading.</li> </ol>	<ul style="list-style-type: none"> <li>○ Move back the needle thread trimmer driving plate B.</li> <li>○ Move back the needle thread trimmer driving plate B.</li> <li>○ Decrease the tension of the tension controller No. 1.</li> <li>○ Perform correct threading.</li> </ul>
3. Wobbling stitches are formed in the overedging seams.	<ol style="list-style-type: none"> <li>(1) The tension disc No. 2 is too loose.</li> <li>(2) The tension and stroke of the take-up spring is not enough.</li> <li>(3) Bobbin thread tension is too high.</li> </ol>	<ul style="list-style-type: none"> <li>○ Increase the tension of the tension disc No. 2.</li> <li>○ Readjust the take-up spring.</li> <li>○ Decrease the bobbin thread tension (15 to 20g for purl stitches).</li> </ul>
4. Wobbling stitches are formed at the start of sewing.	<ol style="list-style-type: none"> <li>(1) The tension disc No. 1 is too loose.</li> <li>(2) The position of the needle thread trimmer is too high.</li> <li>(3) The stroke of the take-up spring is too great.</li> </ol>	<ul style="list-style-type: none"> <li>○ Increase the tension of the tension disc No. 1 (15 to 30g).</li> <li>○ Lower the trimmer as low as possible, provided it does not come in contact with the work clamp check.</li> <li>○ Decrease the stroke of the take-up spring, and increase the spring pressure.</li> </ul>
5. The needle thread at the first bar tacking comes out and lumps on the bottom of cloth.	<ol style="list-style-type: none"> <li>(1) The tension disc No. 1 is too loose.</li> <li>(2) The bobbin thread tension is too high.</li> </ol>	<ul style="list-style-type: none"> <li>○ Increase the tension of the tension disc No. 1.</li> <li>○ Decrease the bobbin thread tension (15 to 20g).</li> </ul>
6. Stitches float over cloth.	<ol style="list-style-type: none"> <li>(1) Bobbin thread tension is not enough.</li> <li>(2) Bobbin thread slips out of the thread path on the bobbin case.</li> </ol>	<ul style="list-style-type: none"> <li>○ Increase the bobbin thread tension.</li> <li>○ Properly thread the bobbin case.</li> </ul>
7. Stitches are skipped.	<ol style="list-style-type: none"> <li>(1) The work clamp check is too large for the buttonhole.</li> <li>(2) The cloth is made of light-weight materials.</li> </ol>	<ul style="list-style-type: none"> <li>○ Change the work clamp check with a smaller one.</li> <li>○ Delay the timing of the needle and the sewing hook. (Lower the needle bar by approx. 0.5mm (1/2"))</li> </ul>

# **GARUDAN<sup>®</sup>**

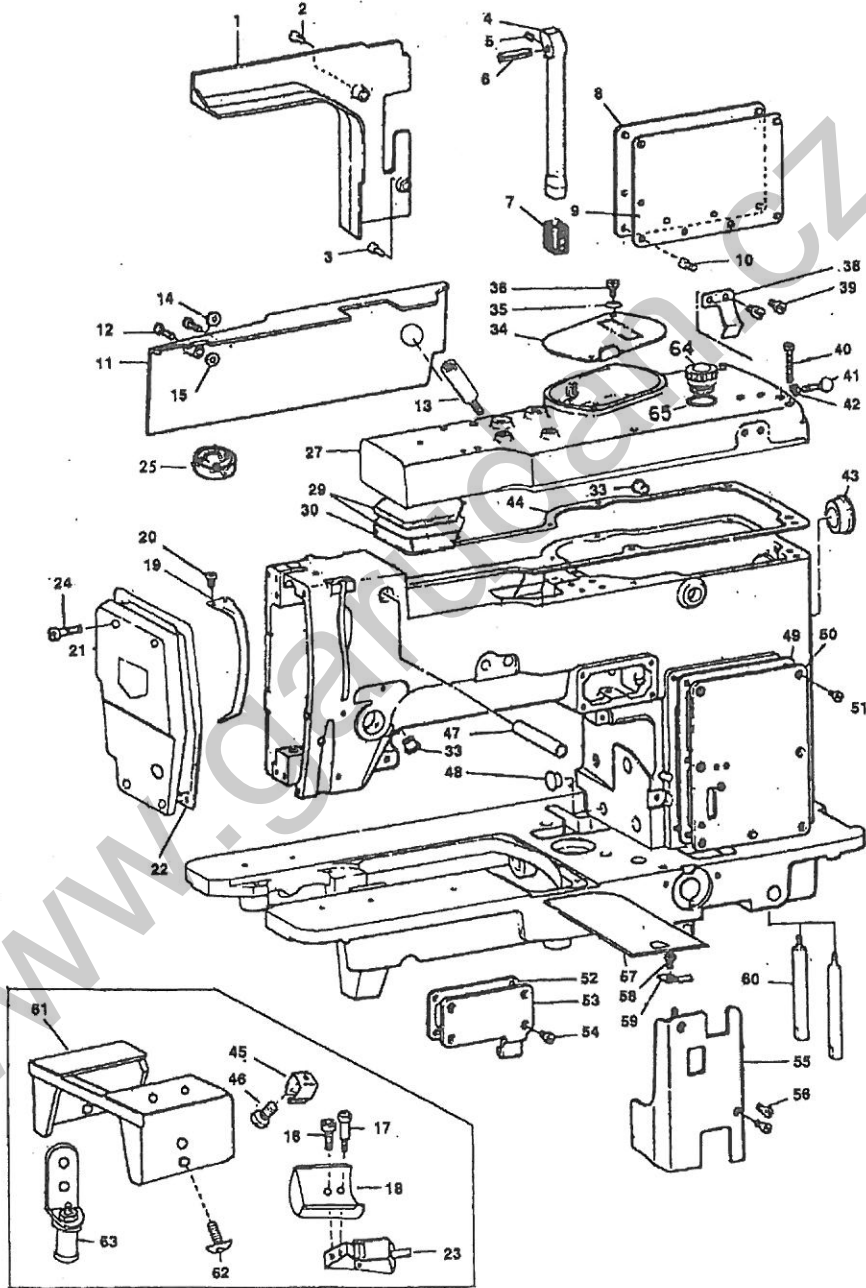
GBH-1010 G Series

## **PARTS BOOK**

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1. FRAME & MISCELLANEOUS COVER COMPONENTS



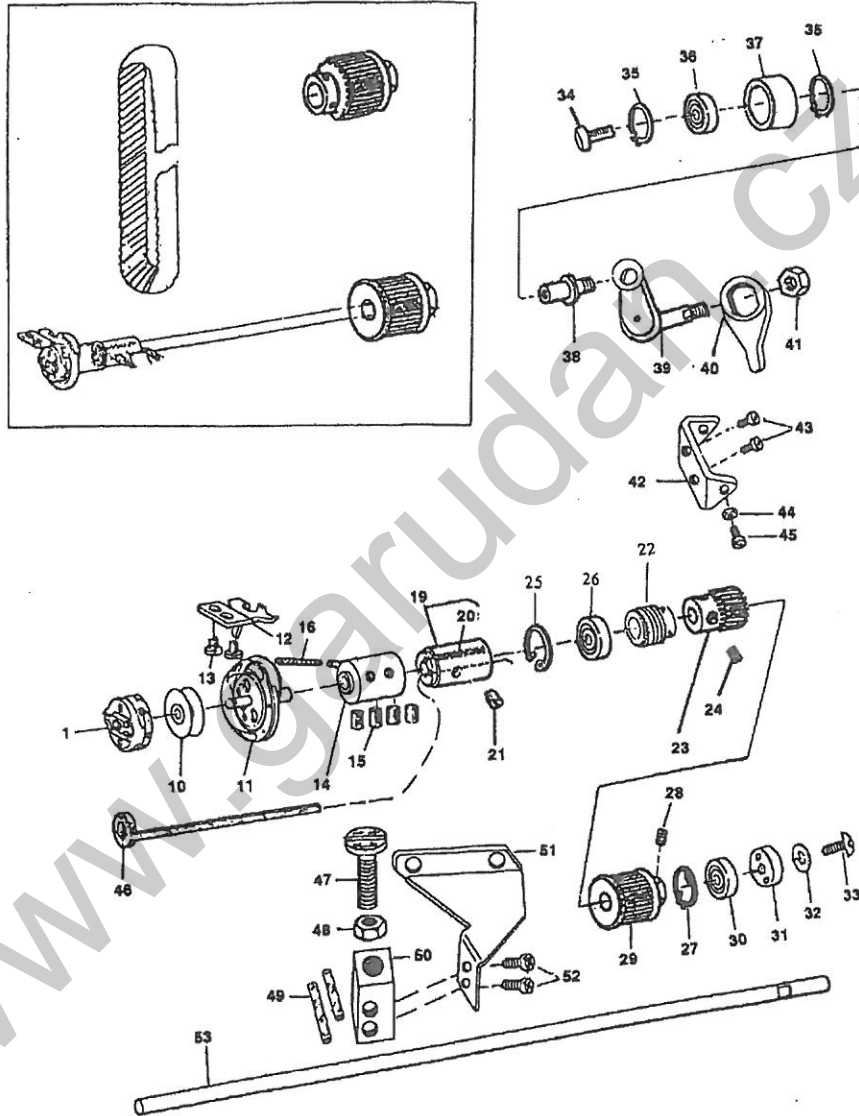
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1	801010	FRAME SIDE COVER	1
2	801021	SCREW	1
3	-----		0
4	801040	MACHINE ARM SUPPORT ROD	1
5	801051	SCREW	1
6	801060	PIN	1
7	801070	RUBBER CUSHION	1
8	801080	SIDE COVER	1
9	801090	SIDE COVER GASKET	1
10	801101	SCREW	21
11	801110	FRAME SIDE COVER	1
12	801121	SCREW	2
13	801131	SCREW	1
14	801140	CUSHION	1
15	801150	FRAME SIDE COVER GASKET	2
16	801161	SCREW	1
17	801171	SCREW	1
18	801180	THIN COVER	1
19	801190	THREAD TAKE-UP LEVER OIL GUARD	1
20	801201	SCREW	2
21	801210	FACE COVER COMPLETE	1
22	801220	GASKET	1
23	801230	THIN COVER HINGE	1
24	801241	SCREW	4
25	801250	OIL SEAL	2
27	801270	TOP COVER	1
29	801290	OIL FELT	2
30	801300	OIL FELT RETAINER	1
33	-----		0
34	801340	GEAR CASE COVER	1
35	801350	DISC SPRING	1
36	801361	HINGE SCREW	1
38	801380	HAND STOP LATCH	1
39	801391	SCREW	2
40	801401	SCREW	6
41	801411	BALL SCREW	1
42	801420	NUT	1
43	801430	RUBBER PLUG	1
44	801440	TOP COVER GASKET,REAR	1
45	801450	COVER LATCH SPRING	1
46	801461	SCREW	1
47	801470	KNIFE STOP LEVER SHAFT GUIDE	1
48	801480	RUBBER PLUG	1
49	801490	SIDE COVER GASKET	1
50	801500	SIDE COVER	1
51	-----		0
52	801520	GASKET	1
53	801530	SIDE COVER	1
54	-----		0
55	801550	SIDE COVER	1
56	-----		0
57	801570	BED SLIDE	1
58	801581	SCREW	1
59	801590	BED SLIDE SPRING	1
60	801600	BED SCREW STUD	2
61	801610	FRONT COVER	1
62	801621	SCREW	4
63	801630	FRONT COVER LATCH ASM.	2
64	801640	OIL SIGHT WINDOW	1
65	801650	OIL SIGHT WINDOW GASKET	1





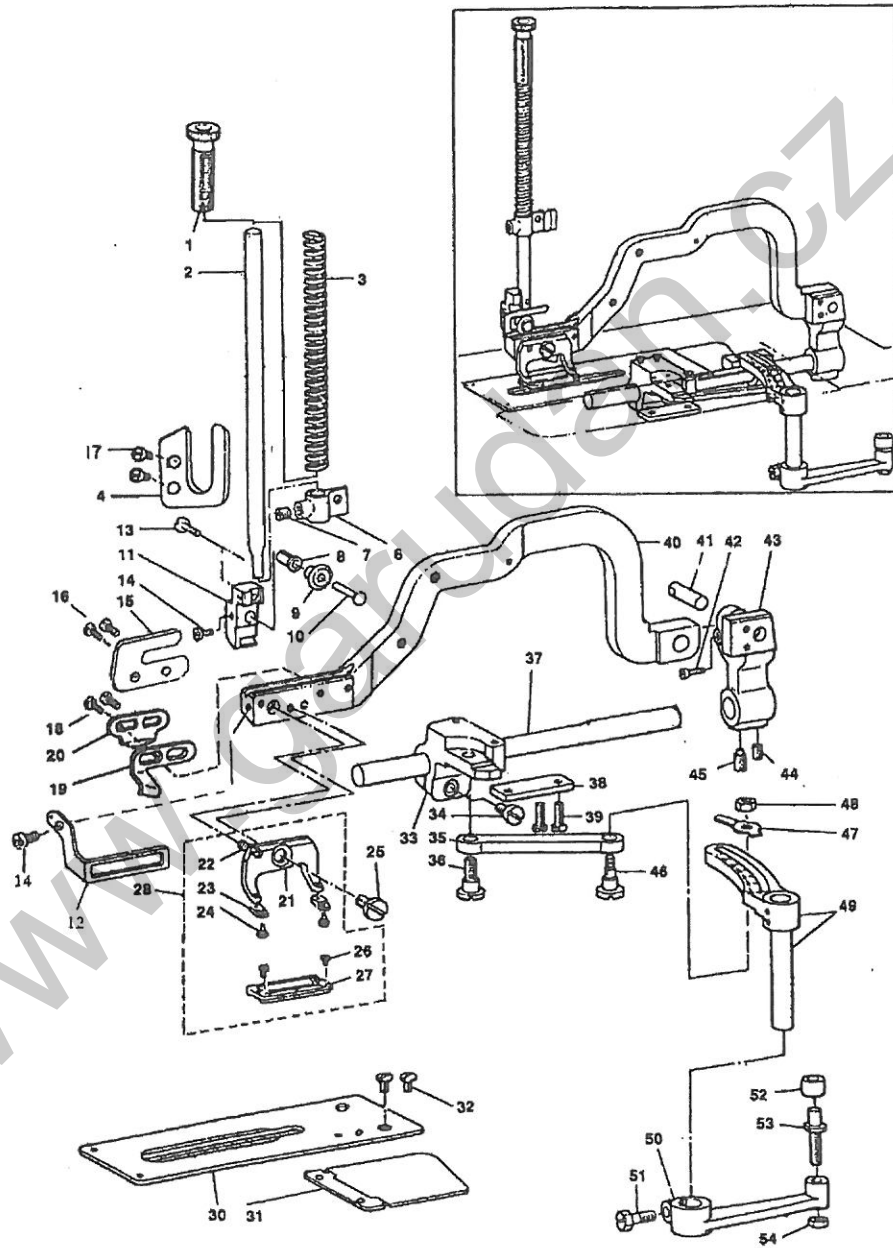
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1	802010	HINGE STUD	1
2	802021	SCREW	1
3	802030	OIL WICK	1
4	-----		0
5	-----		0
6	802060	OIL WICK SNAP RING	1
7	802070	VINYL TUBE	1
8	802080	MAIN SHAFT	1
9	802090	RUBBER PLUG	1
10	-----		0
11	802110	THREAD TAKE-UP LEVER ASM.	1
12	802120	NEEDLE BAR CRANK	1
13	802130	NEEDLE BAR CRANK CONNECTING ROD	1
14	802140	NEEDLE BEARING	2
15	802151	END SCREW LEFT	1
16	802160	OIL FELT	1
17	802170	THRUST WASHER	1
18	802181	SCREW	1
19	802190	COUNTER WEIGHT	1
20	802201	SCREW	1
21	802211	SCREW	1
22	802211	SCREW	1
23	802230	BALL BEARING	2
24	802240	BALL BEARING	2
25	802250	RETAINING RING	1
26	802260	ROLLER BEARING	1
27	802270	KNIFE BAR DRIVING CONNECTING ROD	1
28	802280	KNIFE BAR DRIVING ECCENTRIC CAM	1
29	802290	BALL BEARING	1
30	802301	SCREW	10
31	-----		0
32	802321	SCREW	4
33	802330	WORM	1
34	-----		0
35	802350	SHAFT SPROCKET	1
36	802360	TIMING BELT	1
37	802370	ADAPTER	1
38	-----		0
39	-----		0
40	802400	MAIN SHAFT BUSHING	2
41	802411	SCREW	2
42	802420	BEARING RETAINER	1
43	802430	ADAPTER	3
44	802440	BALL BEARING	1
45	802450	RETAINING RING	1
47	802470	LOOSE PULLEY	1
48	-----		0
49	802491	SCREW	3
50	802500	MAIN SHAFT THRUST SEEL	1
51	802510	GASKET	1
52	802520	THRUST WASHER	2
53	802530	BEARING	1
54	802541	SCREW	1
55	802551	SCREW	1
56	802560	DRIVING PULLEY	1
57	802571	SCREW	1
58	802580	STOP CAM PRESSURE SPRING	1
59	802590	STOP-MOTION CAM PIN SLIDE BLOCK	2
60	802600	BAKELITE SEGMENT	1
61	802610	STOP-MOTION CAM POSITION PIN	1
62	802620	STOP-MOTION CAM	1
63	802630	STOP-MOTION CAM PRESSER PLATE	1
64	802641	SCREW	3

### 3. HOOK DRIVING SHAFT COMPONENTS



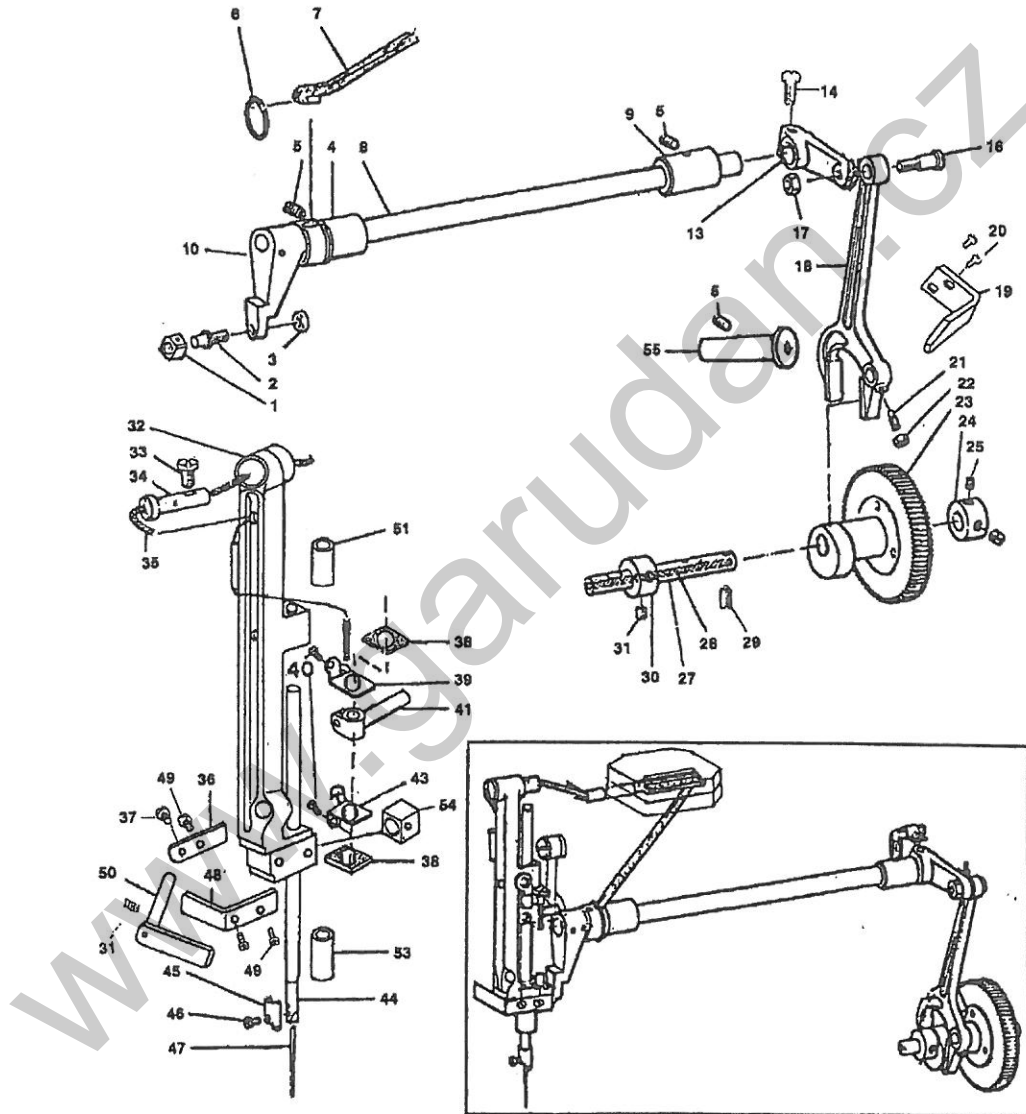
	<u>Part No.</u>	<u>Description</u>	<u>Amt. 3 Req.</u>
1	803010	BOBBIN CASE ASM.	1
10	803100	BOBBIN	1
11	803110	HOOK C ASM.	1
12	803120	BOBBIN CASE POSITIONING-PLATE	1
13	803131	SCREW	2
14	803140	HOOK SLEEVE ASM.	1
15	803151	SCREW	4
16	803160	OIL WICK	1
17	803170	ROLLER BEARING	1
18	803180	WORM LEVER	1
19	803190	BUSHING ASM.	1
20	803200	OIL WICK	1
21	803211	SCREW	1
22	803220	WORM LEVER	1
23	803230	PINION	1
24	803241	SCREW	2
25	803251	RETAINING RING	1
26	803260	BALL BEARING	1
27	803270	RETAINING RING	1
28	803281	SCREW	2
29	803290	BELT SPROCKET	1
30	803300	BALL BEARING	1
31	803310	COLLAR	1
32	803320	WASHER	1
33	803331	SCREW	1
34	803341	SCREW	1
35	803350	RETAINING RING	1
36	803360	BALL BEARING	1
37	803370	TENSION PULLEY	1
38	803380	ADJUSTING LEVER PIN	1
39	803390	TENSION PULLEY LINK	1
40	803400	ADJUSTING GUIDE	1
41	803410	NUT	1
42	803420	ADJUSTING BASE	1
43	803431	SCREW	2
44	803440	NUT	2
45	803451	SCREW	2
46	803460	OIL FELT	1
47	803470	HOOK OIL ADJUSTING SCREW	1
48	803480	NUT	1
49	803490	OIL TUBE	2
50	803500	OIL ADJUSTING SCREW BASE	1
51	803510	OIL ADJUSTING SCREW BRACKET	1
52	803521	SCREW	2
53	803530	HOOK DRIVING SHAFT	1

#### 4. PRESSER BAR. WORK CLAMP CARRIER COMPONENTS



	Part No.	Description	Amt. Req.
1	804010	PRESSER SPRING REGULATOR	1
2	804020	PRESSER BAR	1
3	804030	PRESSER SPRING	1
4	804040	GUIDE BRACKET	1
5	-----		0
6	804060	PRESSER BAR POSITION BRACKET	1
7	804071	SCREW	1
8	804080	COLLAR	1
9	804090	SLIDE ROLLER	1
10	804100	CONNECTING PIN	1
11	804110	BRACKET	1
12	804120	SAFE DEFEND GUIDE	1
13	804131	SCREW	1
14	804141	SCREW	2
15	804150	GUIDE BRACKET	1
16	804161	SCREW	2
17	804171	SCREW	2
18	804181	SCREW	2
19	804190	NEEDLETHREAD TRIMMER GUIDE	1
20	804200	NEEDLETHREAD TRIMMER GUIDE	1
21	804210	WORK CLAMP CHECK HOLDER	1
22	804220	WORK CLAMP CHECK HOLDER SPRING	1
23	804230	WORK CLAMP CHECK SPRING	2
24	804240	WORK CLAMP CHECK SPRING SET PIN	2
25	804251	HINGE SCREW	1
26	804261	SCREW	2
27	804270	WORK CLAMP CHECK	1
28	804280	WORK CLAMP CHECK HOLDER ASM.	1
29	-----		0
30	804300	STITCH PLATE	1
31	804310	BRACKET COVER	1
32	804321	SCREW	2
33	804330	WORK CLAMP ARM BRACKET ASM	1
34	804341	SCREW	1
35	804350	WORK CLAMP CARRIER BRACKET PITMAN	1
36	804361	HINGE SCREW	1
37	804370	WORK CLAMP ARM SLIDE ROD	1
38	804380	WORK CLAMP CARRIER BRACKET GUIDE	1
39	804391	SCREW	2
40	804400	WORK CLAMP BRACKET	1
41	804410	CONNECTING PIN	1
42	804421	SCREW	1
43	804430	BEARING ARM	1
44	804441	SCREW	1
45	804451	SCREW	1
46	804461	LENGTH REGULATING HINGE STUD	1
47	804470	LENGTH REGULATING SHAFT GUIDE	1
48	804480	NUT	1
49	804490	LENGTH REGULATING SCALE ASM.	1
50	804500	BELL CRANK	1
51	804511	SCREW	1
52	804520	ROLLER	1
53	804530	BELL CRANK ROLLER STUD	1
54	804540	NUT	1

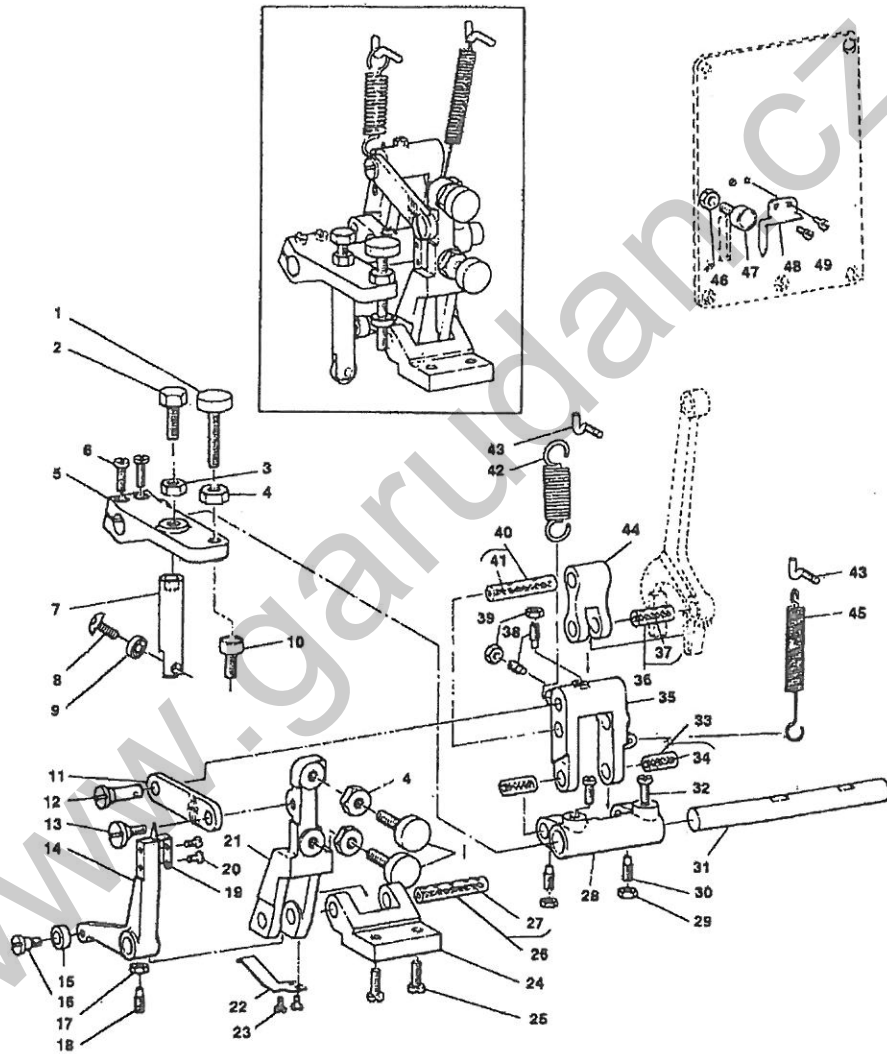
## 5. NEEDLE BAR FRAME COMPONENTS



	<u>Part No.</u>	<u>Description</u>	<u>Amt. 5 Req.</u>
1	805010	NEEDLE BAR CONNECTION SLIDE BLOCK	1
2	805021	STUD	1
3	805030	NUT	1
4	805040	FRAME ROCK SHAFT BUSHING,FRONT	1
5	805051	SCREW	3
6	805060	RUBBER	1
7	805070	OIL WICK	1
8	805080		1
9	805090	FRAME ROCK SHAFT BUSHING,REAR	1
10	805100	FRAME ROCK SHAFT CRANK,	1
13	805130	FRAME ROCK SHAFT CRANK,FRONT	1
14	805141	SCREW	1
15	-----		0
16	805161	HINGE SCREW	1
17	805170	NUT	1
18	805180	NEEDLE BAR PITMAN	1
19	805190	ROCK SHAFT CONNECTION GUIDE	1
20	805201	SCREW	2
21	805211	SCREW	1
22	805220	NUT	1
23	805230	NEEDLE DRIVING GEAR	1
24	805240	THRUST COLLAR	1
25	805251	SCREW	2
26	-----		0
27	805270	CAM SHAFT	1
28	805280	OIL WICK	1
29	805291	SCREW	1
30	805300	THRUST COLLAR	1
31	805311	SCREW	5
32	805320	NEEDLE BAR FRAME	1
33	805331	SCREW	1
34	805340	HINGE STUD	1
35	805350	OIL WICK	1
36	805360	RETAINER,LEFT	1
37		OIL FELT RETAINER, HIGH	1
38	805380	FELT	2
39	805390	OIL FELT RETAINER, HIGH	1
40	805401	SCREW	2
41	805410	NEEDLE BAR CONNECTION	1
42	-----		0
43	805430	OIL FELT RETAINER,LOWER	1
44	805440	NEEDLE BAR	1
45	805450	NEEDLE BAR BOBBIN THREAD GUIDE	1
46	805461	SCREW	1
47	805470	NEEDLE DPx5	1
48	805480	RETAINER,RIGHT	1
49	805491	SCREW	2
50	805500	POSITION BRACKET	1
51	805510	NEEDLE BAR BUSHING	1
52	-----		0
53	805530	NEEDLE BAR BUSHING	1
54	805540	SLIDE BLOCK	1
55	805550	SHAFT	1

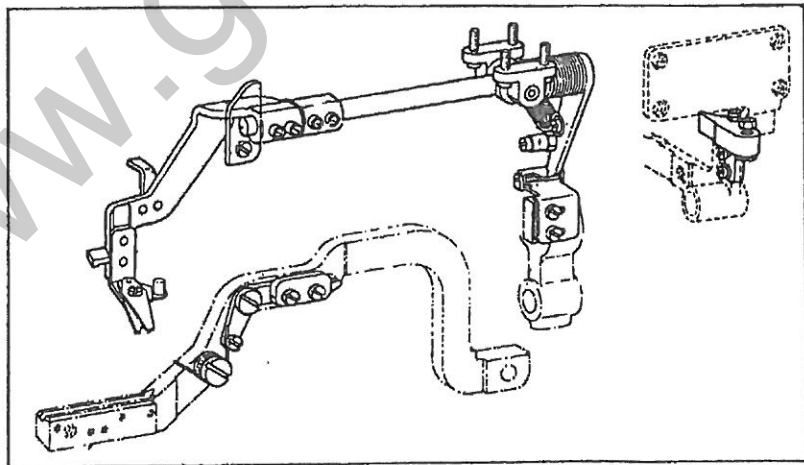
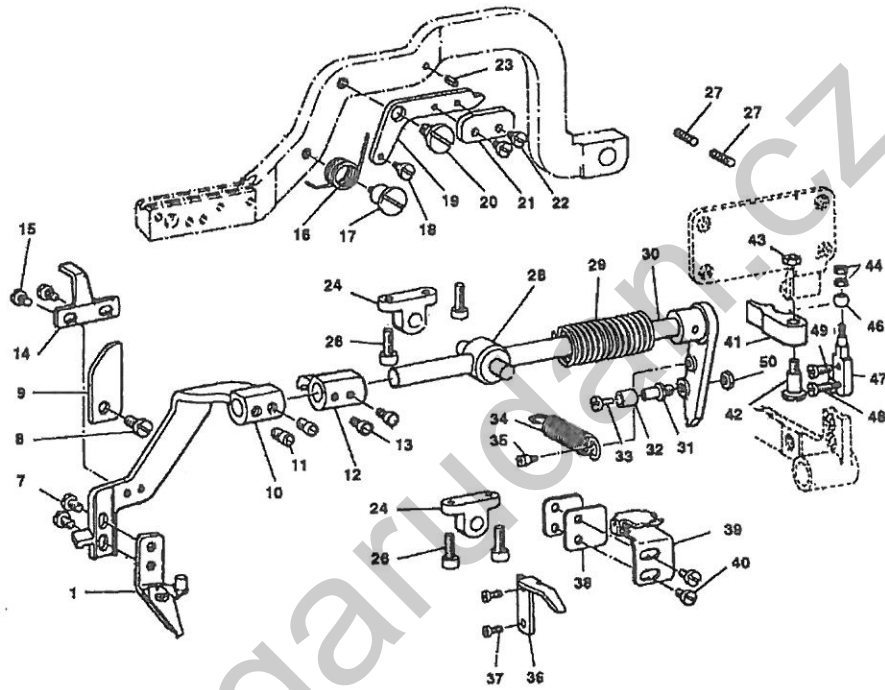


## 6: OVEREDGING WIDTH ADJUSTING COMPONENTS



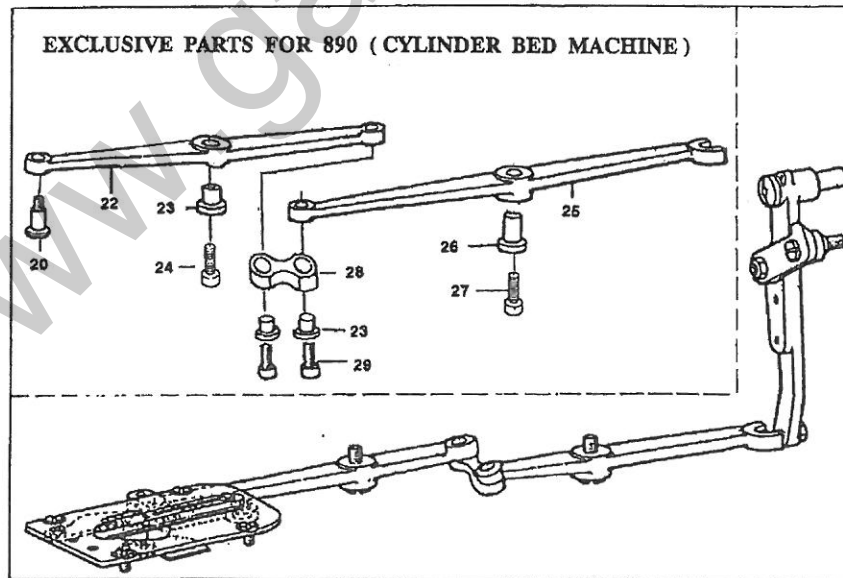
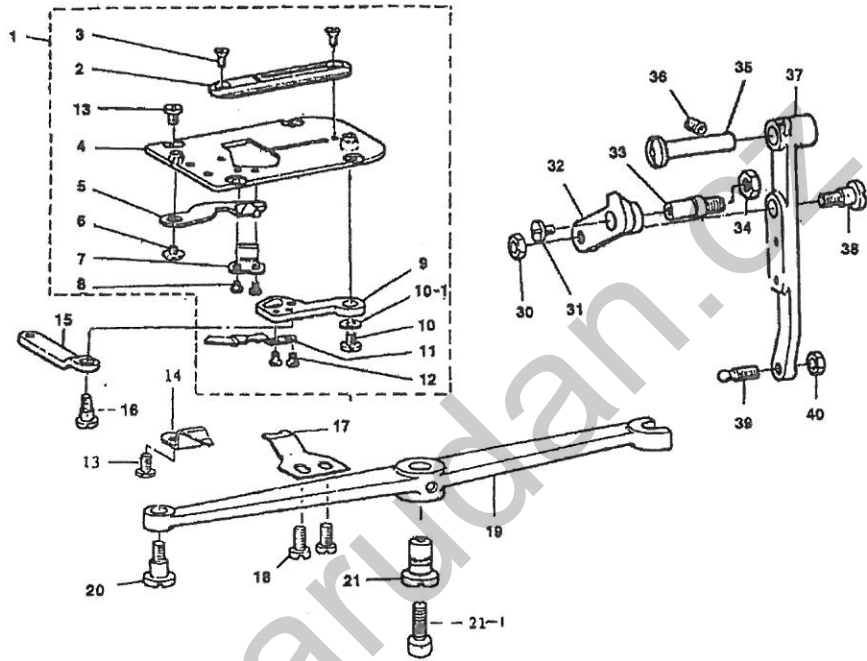
	Part No.	Description	Amt. 6 Req.
1	806011	STITCH WIDTH REGULATING SCREW	3
2	806021	SCREW	1
3	-----		0
4	806040	NUT	1
5	806050	REPOSITIONING LEVER	1
6	806061	SCREW	2
7	806070	TRIPPING ROD	1
8	806081	SCREW	1
9	806090	BALL BEARING	1
10	806101	REGULATING LEVER STOPPER	1
11	806110	REGULATING LEVER CONNECTION	1
12	806120	REGULATING HINGE PIN	1
13	806131	HINGE SCREW	1
14	806140	BELL CRANK	1
15	806150	ROLLER	1
16	806161	HINGE SCREW	1
17	-----		0
18	806181	SCREW	1
19	806190	BARRED WIDTH INDICATOR	1
20	806201	SCREW	2
21	80621C	REGULATING LEVER	1
22	80622C	SPRING	1
23	806231	SCREW	2
24	80624C	REGULATING LEVER BRACKET	1
25	806251	SCREW	2
26	806260	REGULATING LEVER SHAFT	1
27	806270	OIL WICK	1
28	806280	BEARING BRACKET	1
29	806290	NUT	2
30	806301	SCREW	2
31	806310	NEEDLE THROW REPOSITIONING SHAFT	1
32	806321	SCREW	2
33	806330	BEARING BRACKET	2
34	806340	OIL WICK	2
35	806350	REPOSITIONING LEVER LINK	1
36	806360	CONNECTING FORKED LINK PIN	1
37	806370	OIL WICK	1
38	-----		0
39	-----		0
40	806400	CONNECTING STUD	1
41	806410	OIL WICK	1
42	806420	SPRING	1
43	806431	SUSPENSION SCREW	2
44	80644C	CONNECTING FORKED LINK	1
45	80645C	SPRING	1
46	80646C	NUT	1
47	806471	REGULATING LEVER STOPPER	1
48	806480	SEAM WIDTH INDICATOR	1
49	806491	SCREW	2

7. NEEDLE THREAD TRIMMER COMPONENTS



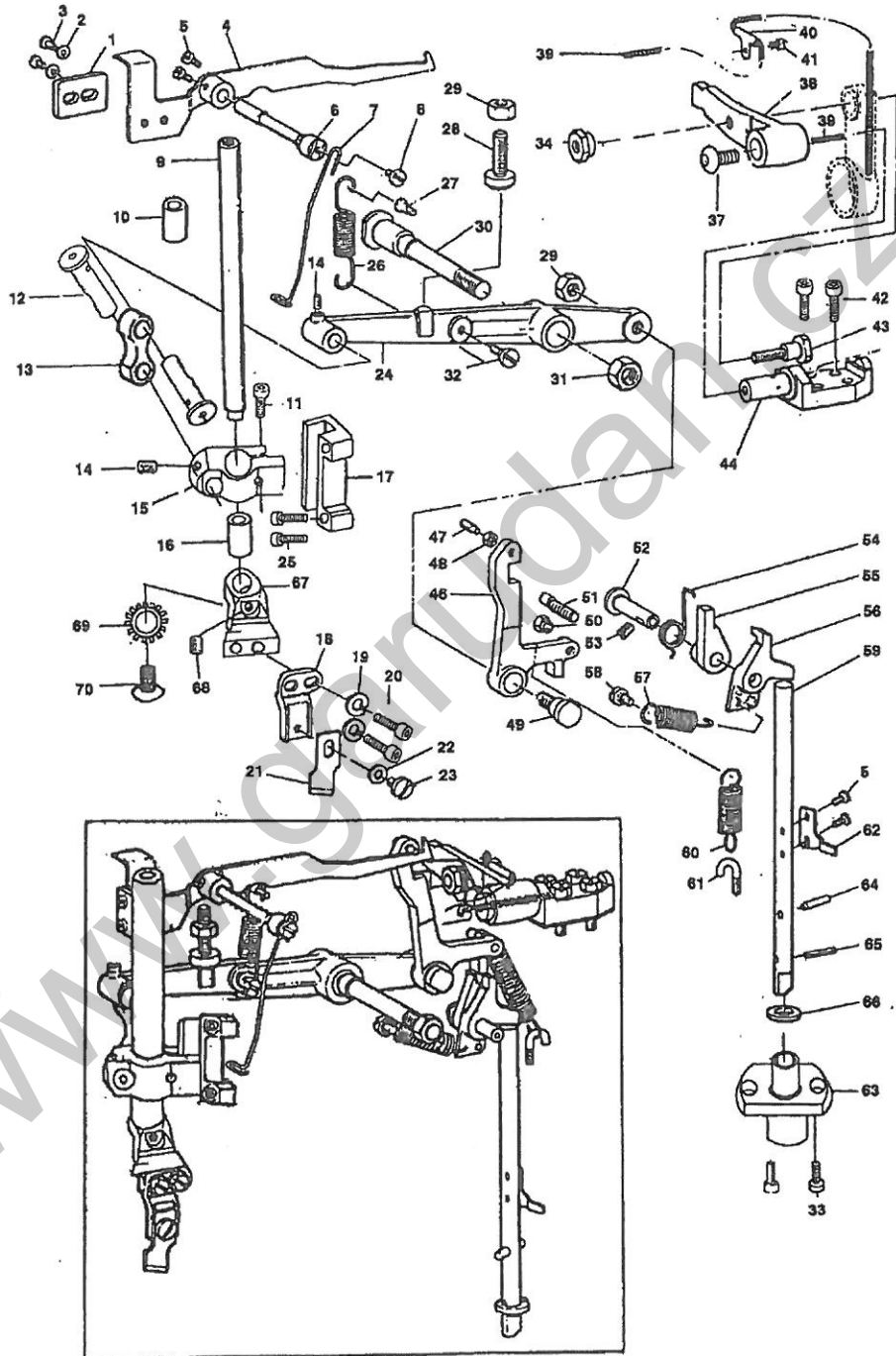
	<u>Part No.</u>	<u>Description</u>	<u>Amt. 7 Req.</u>
1	807010	NEEDLE THREAD TRIMMER ASM.	1
7	807071	SCREW	2
8	807081	SCREW	1
9	807090	NEEDLE THREAD TRIMMER SHAFT GUIDE	1
10	807100	THREAD TRIMMER HOLDER	1
11	807111	SCREW	2
12	807120	THREAD TRIMMER HOLDER	1
13	-----		0
14	807140	LIMITING PLATE	1
15	807151	SCREW	2
16	807160	DRIVING CAM SPRING	1
17	807170	DRIVING CAM SPRING AXLE	1
18	807181	HINGE SCREW	1
19	807190	DRIVING CAM INSTALLING PLATE	1
20	807201	HINGE SCREW	1
21	807210	DRIVING CAM	1
22	807221	SCREW	2
23	807230	SPRING PIN	1
24	807240	BRACKET	2
25	-----		0
26	807261	SCREW	4
28	807280	UNIVERSAL JOINT	1
29	807270	SPRING	1
30	807300	NEEDLE THREAD TRIMMER SHAFT	1
31	807310	STUD	1
32	807320	CAM ROLL	1
33	807331	SCREW	1
34	807340	SPRING	1
35	807351	SUSPENSION SCREW	1
36	807360	LATCH PRESSER ARM	1
37	807371	SCREW	2
38	807380	SPACER	2
39	807390	LOCKING BRACKET LATCH	1
40	807401	SCREW	2
41	807410	THREAD TRIMMING SHAFT SEGMENT	1
42	807421	HINGE SCREW	1
43	807430	NUT	1
44	807440	NUT	2
45	-----		-
46	807460	ROLLER	1
47	807470	STUD	1
48	807481	SCREW	2
49	807490	WASHER	1
50	807500	NUT	1

## 8. BOBBIN THREAD TRIMMER COMPONENTS



	<u>Part No.</u>	<u>Description</u>	<u>Amt. 8 Req.</u>
1	808010	BOBBIN THREAD TRIMMER ASM.	1
2	808020	NEEDLE PLATE	1
3	808031	SCREW	2
4	808040	THROAT PLATE BASE	1
5	808050	BOBBIN THREAD TRIMMER	1
6	808061	SCREW	1
7	808070	COUNTER KNIFE	1
8	808081	SCREW	2
9	808090	BOBBIN THREAD TRIMMER LEVER	1
10	808101	SCREW	1
10-1	808100	WASHER	1
11	808110	BOBBIN THREAD PULLER	1
12	808121	SCREW	2
13	808131	SCREW	4
14	808140	PRESSER PLATE	1
15	808150	BOBBIN THREAD TRIMMER LINK	1
16	808161	SCREW	1
17	808170	BOBBIN THREAD GUIDE	1
18	808181	SCREW	2
19	808190	BOBBIN THREAD TRIMMER DRIVING LEVER	1
20	808201	HINGE SCREW	1
21	808211	SLEEVE	1
22	808220	BOBBIN THREAD TRIMMER DRIVING LEVER	1
23	808230	SLEEVE	3
24	808241	HINGE SCREW	1
25	808250	BOBBIN THREAD TRIMMER DRIVING LEVER	1
26	808260	SLEEVE	1
27	808271	SCREW	1
28	808280	DRIVING LEVER CONNECTION	1
29	808291	SCREW	2
30	808300	NUT	1
31	808311	SCREW	1
32	808320	CONNECTING LINK	1
33	808331	STOP SCREW	1
34	808340	NUT	1
35	808350	HING STUD	1
36	808361	SCREW	1
37	808370	BOBBIN THREAD TRIMMER DRIVING ARM	1
38	808381	HINGE SCREW	1
39	808391	BALLSCREW	1

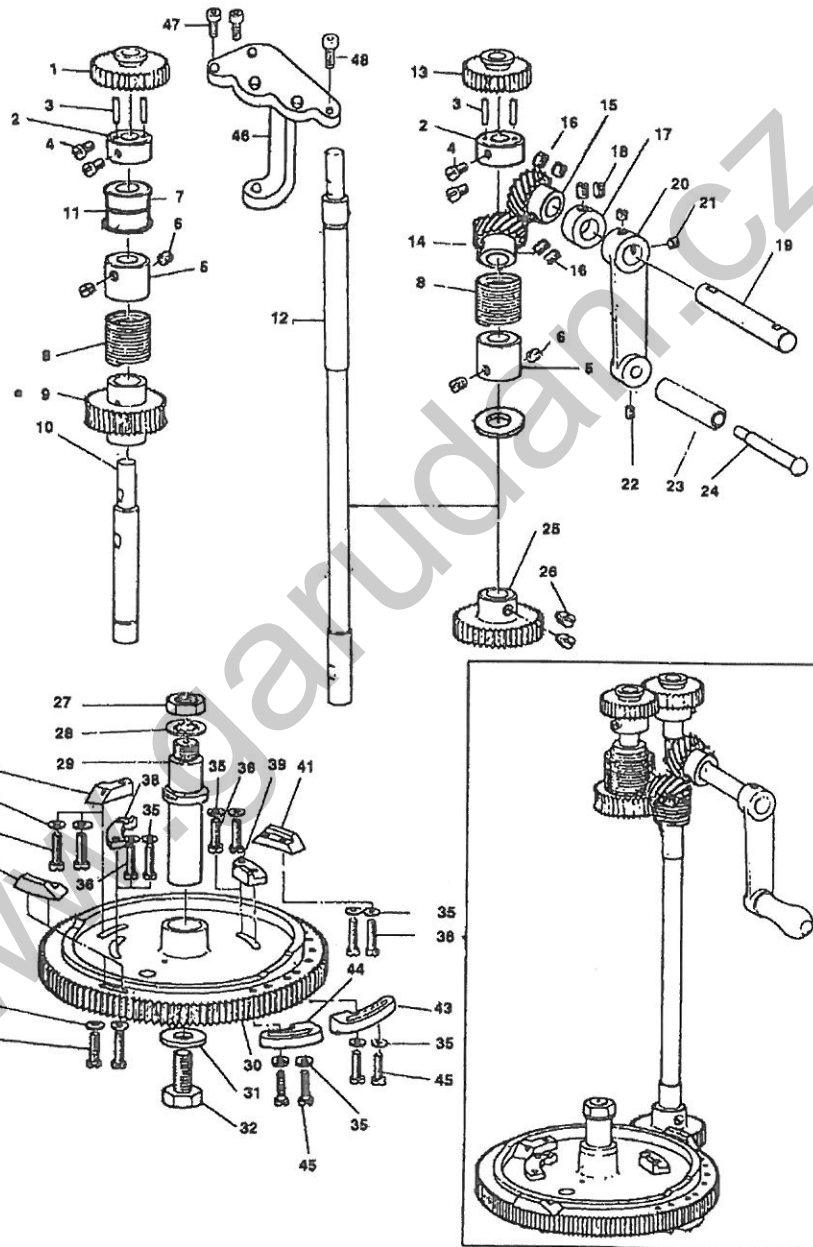
### 9. KNIFE BAR COMPONENTS



	Part No.	Description	Amt. 9 Req.
1	809010	KNIFE STOP LEVER BRACKET	1
2	809020	WASHER	2
3	809031	SCREW	2
4	809040	KNIFE STOP LEVER	1
5	809051	SCREW	4
6	809060	KNIFE STOP LEVER HINGE STUD	1
7	809070	THREAD CHECK WIRE	1
8	809081	SCREW	1
9	809090	KNIFE BAR	1
10	809100	KNIFE BAR BUSHUNG	1
11	809111	SCREW	1
12	809120	CONNECTING LINK PIN	2
13	809130	KNIFE BAR CONNECTING LINK	1
14	809141	SCREW	2
15	809150	KNIFE BAR POSITION BRACKET	1
16	809160	KNIFE BAR BUSHING	1
17	809170	KNIFE BAR GUIDE	1
18	809180	KNIFE HOLDER	1
19	809190	SPRING WASHER	1
20	809201	SCREW	2
21	809210	KNIFE 1/2"	1
22	809220	WASHER	1
23	809231	SCREW	1
24	809240	KNIFE BAR DRIVING LEVER	1
25	809251	SCREW	2
26	809260	SPRING	1
27	809271	HINGE SCREW	1
28	809281	ADJUSTING SCREW	1
29	809290	NUT	2
30	809300	KNIFE BAR DRIVING LEVER SHAFT	1
31	809310	NUT	1
32	809321	HINGE SCREW	1
33	809330	SCREW	2
34	809340	KNIFE BAR DRIVING CRANK NUT	1
37	809371	SCREW	1
38	809380	KNIFE BAR DRIVING CRANK	1
39	809390	OIL WICK	1
40	809400	OIL WICK HOLDER	1
41	809411	SCREW	1
42	809421	SCREW	2
43	809431	HINGE SCREW	1
44	809440	KNIFE BAR DRIVING CRANK SHAFT	1
46	809460	KNIFE BAR DRIVING LEVER BELL CRANK	1
47	809471	SCREW	1
48	809480	NUT	1
49	809491	HINGE SCREW	1
50	809500	NUT	1
51	809510	PIN	1
52	809520	HING STUD	1
53	809531	SCREW	1
54	809540	TENSION SPRING	1
55	809550	RATCHET PAWL(B)	1
56	809560	RATCHET PAWL(A)	1
57	809570	TENSION SPRING	1
58	809581	HINGE SCREW	1
59	809590	DRIVING ROD	1
60	809600	TENSION SPRING	1
61	809611	SUSPENSION SCREW	1
62	809620	FINGER	1
63	809631	DRIVING ROD POSITION BRACKET	1
64	809640	POSITIONING PIN	1
65	809650	SPRING PIN	1
66	809660	THRUST WASHER	1
67	809670	KNIFE HOLDER POSITION BRACKET	1
68	809681	SCREW	1
69	809690	WASHER	1
70	809701	SCREW	1

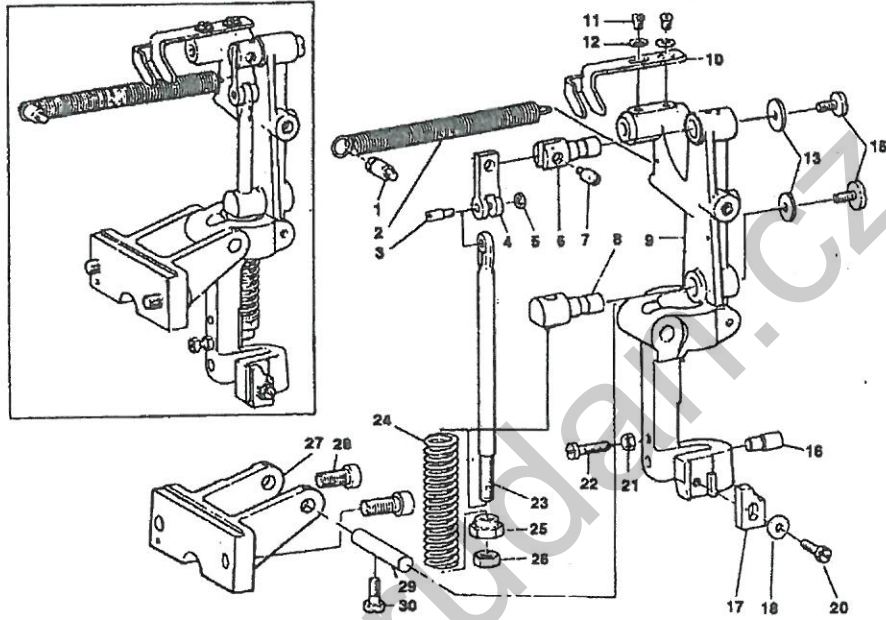


### 10. FEED CAM & TRIPPING SEGMENT COMPONENTS



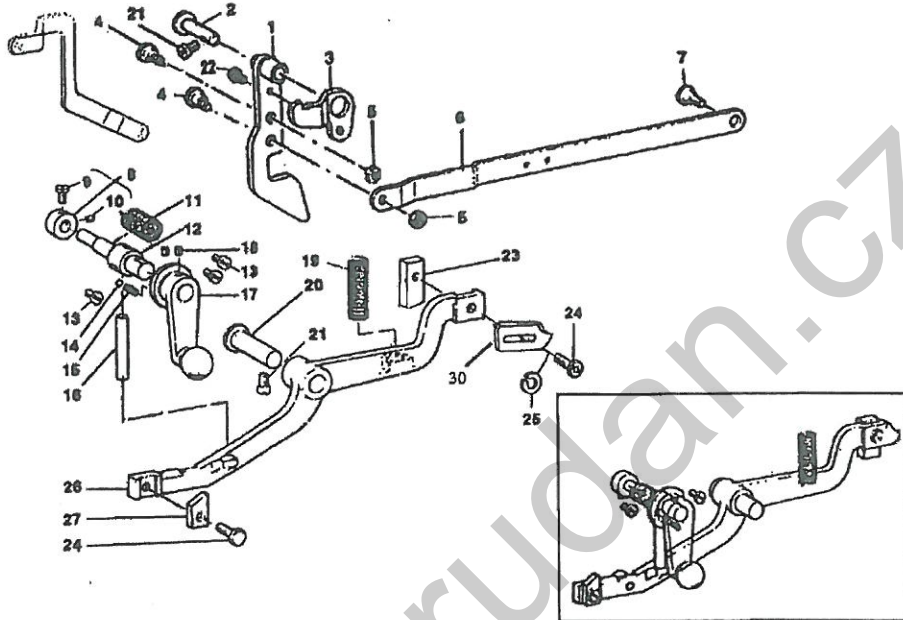
	Part No.	Description	Amt. 10 Req.
1	810010	SPUR GEAR	1
2	810020	SPUR GEAR BUSHING	2
3	810030	SPUR GEAR BUSHING PIN	4
4	810041	SCREW	4
5	810050	CLUTCH COLLAR	2
6	810061	SCREW	4
7	810070	POSITION BUSHING	1
8	810080	CLUTCH SPRING	2
9	810090	FEED CAM DRIVING WORM WHEEL	1
10	810100	FEED CAM DRIVING WORM WHEEL SHAFT	1
11	810110	COLLAR	1
12	810120	FEED CAM DRIVING SHAFT	1
13	810130	SPUR GEAR	1
14	810140	HANDLE CRANK BEVEL GEAR, LEFT	1
15	810150	HANDLE CRANK BEVEL GEAR, RIGHT	1
16	810161	SCREW	2
17	810170	THRUST COLLAR	1
18	810181	SCREW	2
19	810190	HANDLE CRANK SHAFT	1
20	810200	HANDLE CRANK	1
21	810211	SCREW	2
22	810221	SCREW	1
23	810230	HANDLE SHAFT	1
24	810240	HANDLE SHAFT	1
25	810250	FEED CAM DRIVING GEAR	1
26	810261	SCREW	2
27	810270	NUT	1
28	810280	THRUST WASHER	1
29	810290	FEED CAM SHAFT	1
30	810300	FEED CAM	1
31	810310	WASHER	1
32	810321	SCREW	1
33	810330	BAR TRIPPING SEGMENT	1
34	-----		0
35	810350	WASHER	14
36	810361	SCREW	10
37	810370	KNIFE TRIPPING SEGMENT	1
38	810380	TENSION RELEASE TRIPPING SEGMENT	1
39	810390	TENSION RELEASE TRIPPING SEGMENT	1
40	-----		0
41	810410	BAR TRIPPING SEGMENT	1
42	-----		0
43	810430	LOW SPEED CAM	1
44	810440	STOPPER CAM	1
45	810451	SCREW	4
46	810460	GEAR POSITION BRACKET	1
47	810470	SCREW	2
48	810481	SCREW	1

## 11. STOP-MOTION COMPONENTS



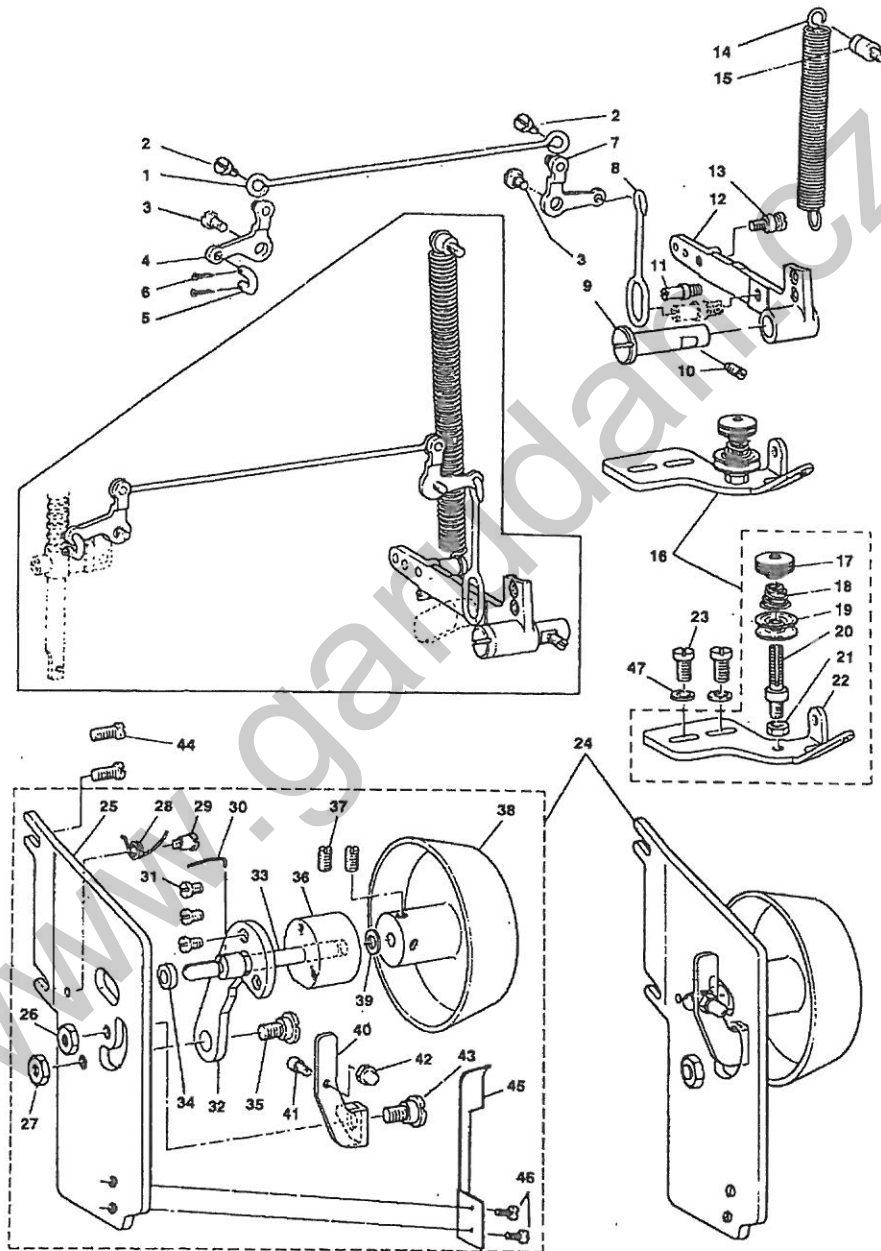
Part No.	Description	Amt. Req.
1	811010 SUSPENSION SCREW	1
2	811020 TENSION SPRING	1
3	811031 STOP LINK ROD HINGE SCREW	1
4	811040 STOP LINK	1
5	811050 NUT	1
6	811060 STOP LINK HINGE STUD	1
7	811071 STOP LINK CONNECTING SCREW	1
8	811080 STOP LINK ROD HINGE STUD	1
9	811090 STOP MOTION LEVER	1
10	811100 BELT SHIFTER	1
11	811111 SCREW	2
12	811120 WASHER	2
13	811130 WASHER	2
14	.....	0
15	811151 SCREW	2
16	811160 STOP PIN	1
17	811170 LATCH	1
18	811180 WASHER	1
19	.....	0
20	811201 SCREW	1
21	811210 NUT	1
22	811221 SCREW	1
23	811230 STOP LINK ROD	1
24	811240 STOP LINK ROD PRESSURE SPRING	1
25	811250 NUT FOR STOPMLINK ROD	1
26	811260 NUT	1
27	811270 STOP MOTION LEVER BRACKET	1
28	811281 SCREW	2
29	811290 PIN	1
30	811301 SCREW	1

## 12. TRIPPING LEVER COMPONENTS



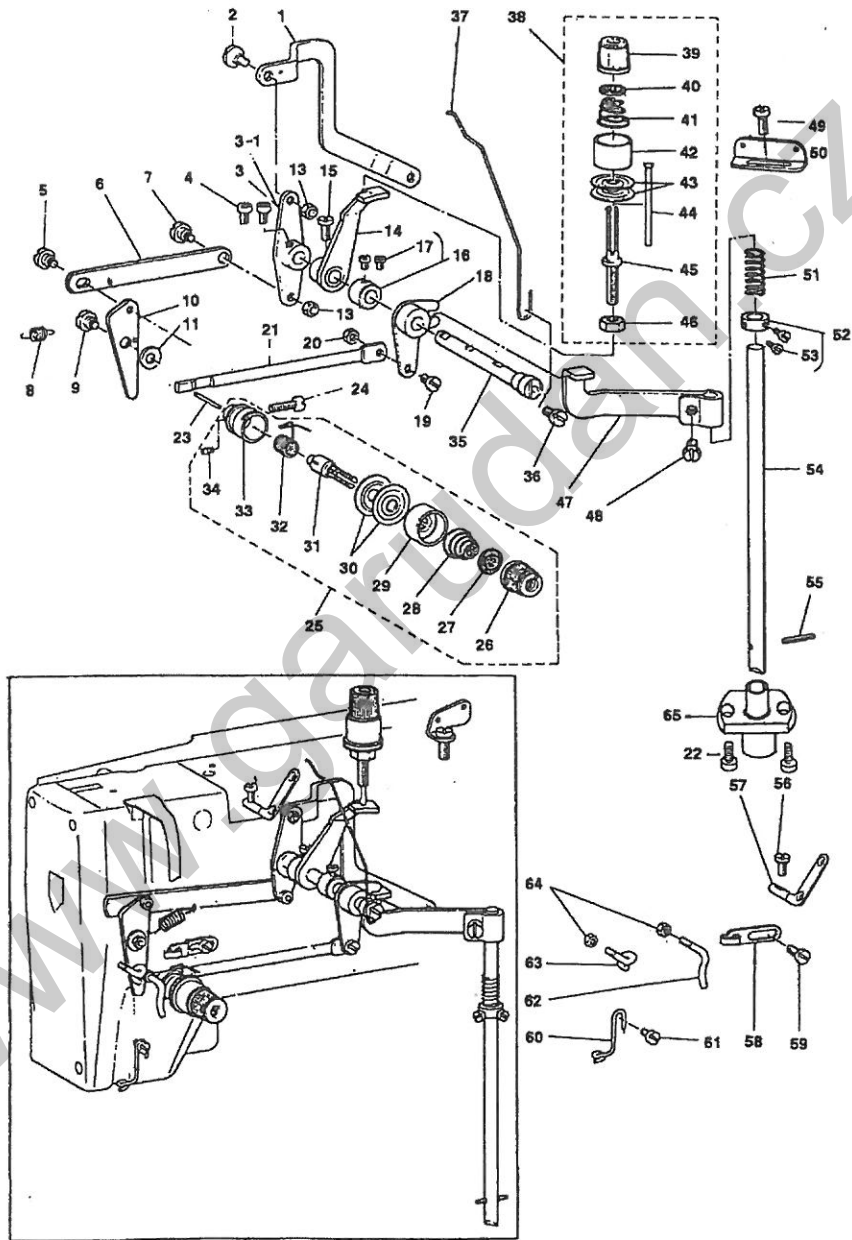
Part No.	Description	Amt. Req.	
1	812010	STARTING LINK	1
2	812020	HING STUD	1
3	812030	SAFETY BASE	1
4	812041	HINGE SCREW	2
5	812050	NUT	2
6	812060	STARTING LINK DRIVING ROD	1
7	812071	HINGE SCREW	1
8	812080	THRUST COLLAR	1
9	812091	SCREW	1
10	812101	SCREW	1
11	812110	CRANK SHAFT TENSION SPRING	1
12	812120	HAND STOP CRANK SHAFT	1
13	812131	SCREW	2
14	812140	BALL	1
15	812150	CRANK SHAFT PRESSURE SPRING	1
16	812160	HAND STOP ROD	1
17	812170	HAND STOP CRANK	1
18	812181	SCREW	2
19	812190	TRIPPING LEVER TENSION SPRING	1
20	812200	TRIPPING LEVER HINGE PIN	1
21	812211	SCREW	1
22	812221	SCREW	1
23	812230	LATCH	1
24	812241	SCREW	2
25	812250	SPRING WASHER	1
26	812260	TRIPPING LEVER	1
27	812270	TRIPPING DOG	1
28	812280	ROLLER	1
29	812291	HINGE SCREW	1
30	812300	SHIFTER PLATE	1

### 13. LIFTING LEVER & BOBBIN WINDER COMPONENTS



	Part No.	Description	Amt. 13 Req.
1	813010	PRESSER BAR LIFTING ROD, LONG	1
2	813020	SCREW	2
3	813031	HINGE SCREW	2
4	813040	LEVER, FRONT	1
5	813050	LINK	1
6	813060	SPLIT PIN	2
7	813070	LEVER, REAR	1
8	813080	PRESSER BAR LIFTING ROD	1
9	813090	TRIPPING LEVER HINGE PIN	1
10	813101	SCREW	1
11	813110	LIFTING LEVER STOPPER	1
12	813120	PRESSER BAR LIFTING LEVER	1
13	813131	SUSPENSION SCREW	1
14	813140	PRESSER FOOT LIFTING SPRING	1
15	813151	SUSPENSION SCREW	1
16	813160	BOBBIN WINDER TENSION ASM.	1
17	813170	BOBBIN WINDER TENSION NUT	1
18	813180	BOBBIN WINDER TENSION SPRING	1
19	813190	BOBBIN WINDER TENSION DISC	2
20	813200	BOBBIN WINDER TENSION POST	1
21	813210	NUT	1
22	813220	BOBBIN WINDER TENSION BRACKET	1
23	813231	SCREW	2
24	813240	BOBBIN WINDER ASM.	1
25	813250	BOBBIN WINDER BRACKET	1
26	813260	NUT	1
27	813270	NUT	1
28	813280	BOBBIN WINDER SPRING	1
29	813291	HINGE SCREW	1
30	813300	BOBBIN SET SPRING	1
31	813311	SCREW	3
32	813320	PULLEY SHAFT BASE	1
33	813330	BOBBIN WINDER SHAFT	1
34	813340	COLLAR	1
35	813351	HINGE SCREW	1
36	813360	BOBBIN WINDER SHAFT BUSHING	1
37	813371	SCREW	2
38	813380	BOBBIN WINDER DRIVING PULLEY	1
39	813390	WASHER	1
40	813400	BOBBIN WINDER TRIP LATCH	1
41	813411	ADJUSTING SCREW	1
42	813420	ADJUSTING NUT	1
43	813431	HINGE SCREW	1
44	813441	SCREW	2
45	813450	SPRING BRACKET	1
46	813461	SCREW	2
47	813470	WASHER	2

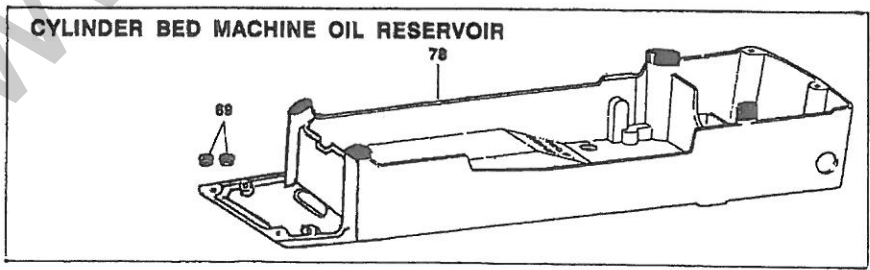
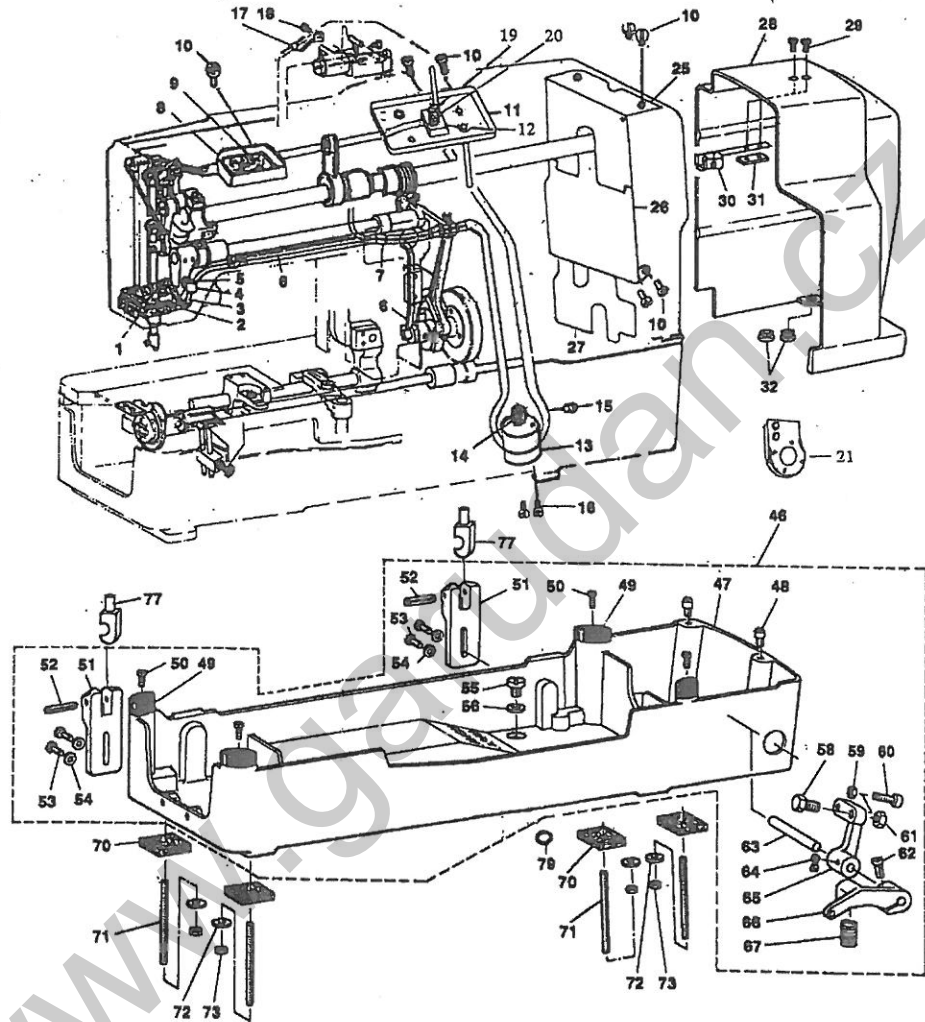
# 14. THREAD TENSION COMPONENTS



	Part No.	Description	Amt. 14 Req.
1	814010	TENSION RELEASE LINK	1
2	814021	HINGE SCREW	1
3	814030	TENSION RELEASE LEVER	1
4	814041	SCREW	2
5	814051	HINGE SCREW	1
6	814060	BLOCKING LINK	1
7	814071	HINGE SCREW	1
8	814080	BLOCKING ARM SPRING	1
9	814091	HINGE SCREW	1
10	814100	BLOCKING ARM	1
11	814110	WASHER	1
12	-----		0
13	814130	NUT	1
14	814140	TENSION RELEASE LEVER	1
15	814151	SCREW	1
16	814160	THRUST COLLAR	1
17	814171	SCREW	2
18	814180	TENSION RELEASE LEVER CRANK	1
19	814191	HINGE SCREW	1
20	814200	NUT	1
21	814210	TENSION RELEASE ROD	1
22	814221	SCREW	2
23	814230	TENSION RELEASE PIN	1
24	814241	SCREW	1
25	814250	TENSION CONTROLLER NO.2 ASM.	1
26	814260	TENSION NUT	1
27	814270	THREAD PULLING WIRE	1
28	814280	TENSION SPRING	1
29	814290	TENSION DISC PRESSER TUBE	1
30	814300	TENSION DISC	2
31	814310	TENSION POST	2
32	814320	THREAD TAKE-UP SPRING	1
33	814330	TENSION POST SOCKET	1
34	814341	SCREW	1
35	814350	TENSION RELEASE LEVER SHAFT	1
36	814361	SCREW	1
37	814370	THREAD PULLING WIRE	1
38	814380	TENSION CONTROLLER NO.1 ASM.	1
39	814390	TENSION NUT	1
40	814400	TENSION DISC STOPPER	1
41	814410	TENSION SPRING	1
42	814420	TENSION DISC PRESSER TUBE	1
43	814430	TENSION DISC	2
44	814440	TENSION RELEASE PIN	1
45	814450	TENSION POST	1
46	814460	NUT	1
47	814470	TENSION RELEASE ARM	1
48	814481	SCREW	1
49	814491	SCREW	1
50	814500	THREAD GUIDE PLATE	1
51	814510	SPRING	1
52	814520	THRUST COLLAR	1
53	814531	SCREW	2
54	814540	TENSION RELEASE ROD	1
55	814550	SPRING PIN	1
56	814561	SCREW	1
57	814570	THREAD EYELET	1
58	814580	FRAME THREAD GUIDE	1
59	814591	SCREW	1
60	814600	NEEDLE BAR THREAD GUIDE	1
61	814611	SCREW	1
62	814620	TENSION THREAD GUIDE	1
63	814630	TAKE-UP THREAD GUIDE	1
64	814630	NUT	2
65	814650	POSITION BRACKET	1

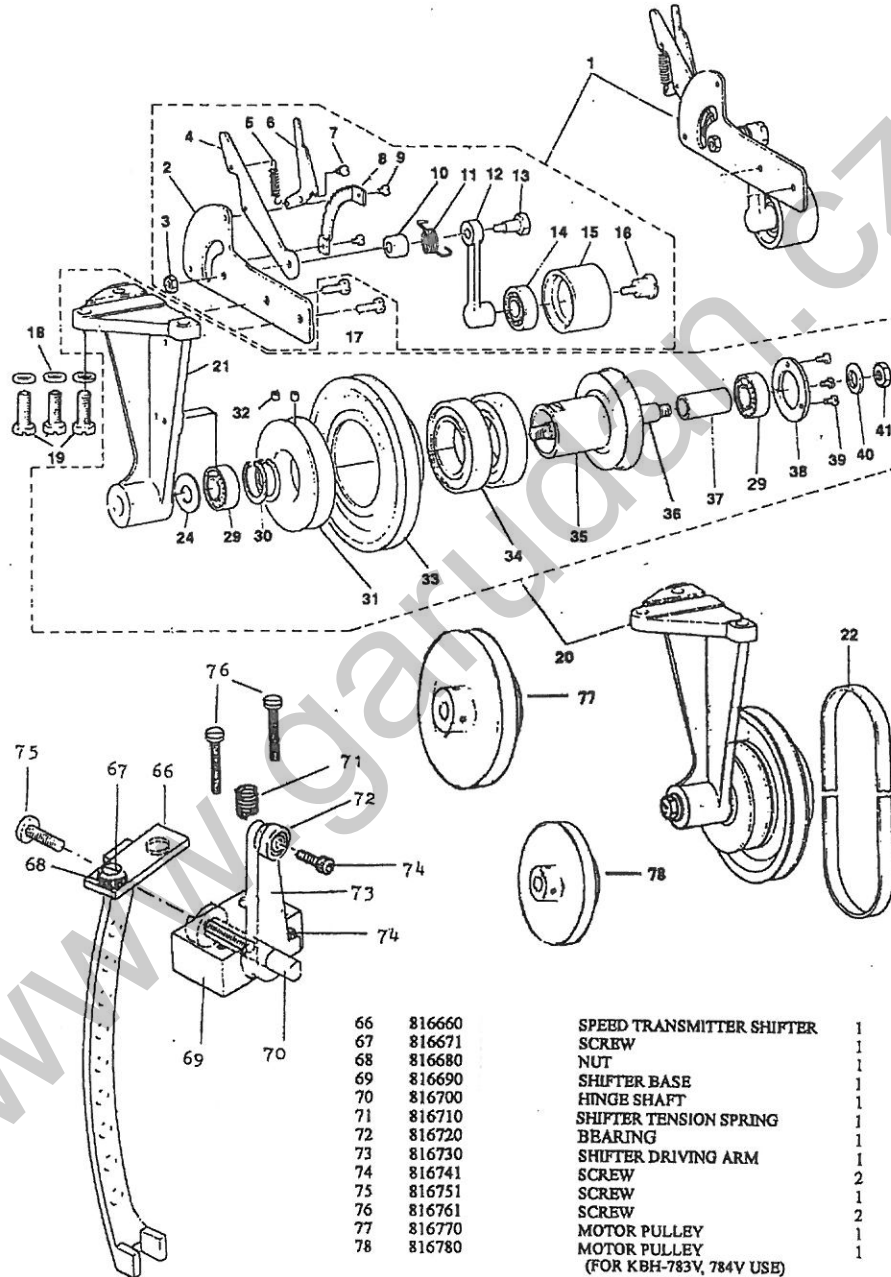


15. LUBRICATION MECHANISM COMPONENTS



	Part No.	Description	Amt. 15 Req.
1	815010	OIL FELT HOLDER	1
2	815020	OIL RETURN FELT	1
3	815030	OIL RETURN TUBE	1
4	815040	CABLE HOLDER	1
5	815051	SCREW	1
6	815060	OIL WICK	1
7	815070	PIPE GUIDE	1
8	815080	OIL RECEIVER	1
9	815090	OIL FELT	1
10	815101	SCREW	10
11	815110	OIL RECEIVER	1
12	815120	OIL ADJUSTING SCREW BASE	1
13	815130	OIL PUMP	1
14	815140	OIL PUMP DRIVING WORM GEAR	1
15	815151	SCREW	2
16	815161	SCREW	2
17	815170	OIL FELT GUIDE	1
18	815181	SCREW	1
19	815191	HOOK OIL ADJUSTING SCREW	1
20	815200	SPRING	1
21	815210	OIL PUMP PLATE	1
22		PLATE	1
25	815251	OIL SHIELD	1
26	815260	OIL SHIELD	1
27	815271	OIL SHIELD	1
28	815280	BELT GUARD	1
29	815291	SCREW	2
30	815300	BELT GUARD LATCH	1
31	815310	BOTTOM GUIDE	1
32	815320	RUBBER BUSHING	1
46	815460	MACHINE BASE ASM.	1
47	815470	OIL RESERVOIR	1
48	815480	GUIDE PIN	2
49	815490	RUBBER CUSHION	4
50	815501	SCREW	4
51	815510	HINGE HOLDER	2
52	815520	PIN	2
53	815531	SCREW	4
54	815540	WASHER	4
55	815551	SCREW	1
56	815560	OIL DRAIN CAP GASKET	1
58	815581	SCREW	1
59	815590	NUT	1
60	815601	STOP SCREW	1
61	815610	NUT	1
62	815621	SCREW	1
63	815630	STARTING LINK SHAFT	1
64	815641	SCREW	2
65	815650	STARTING LINK	1
66	815660	STARTING LEVER	1
67	815670	STARTING LEVER PRESSURE SPRING	1
68	815680	SHIFTER DRIVING PIN	1
69	815690	RUBBER BUSHING	2
70	815700	MACHINE BASE FELT PAD	4
71	815710	MACHINE BASE SCREW STUD	4
72	815720	WASHER	4
73	815730	NUT	4
74	815740	DRIVING PIN BASE	1
75	815751	SCREW	3
76	815760	SNAP RING	1
77	815770	CONNECTION STUD	2
78	815780	OIL RESERVOIR	1
79	815790	O-RING	1

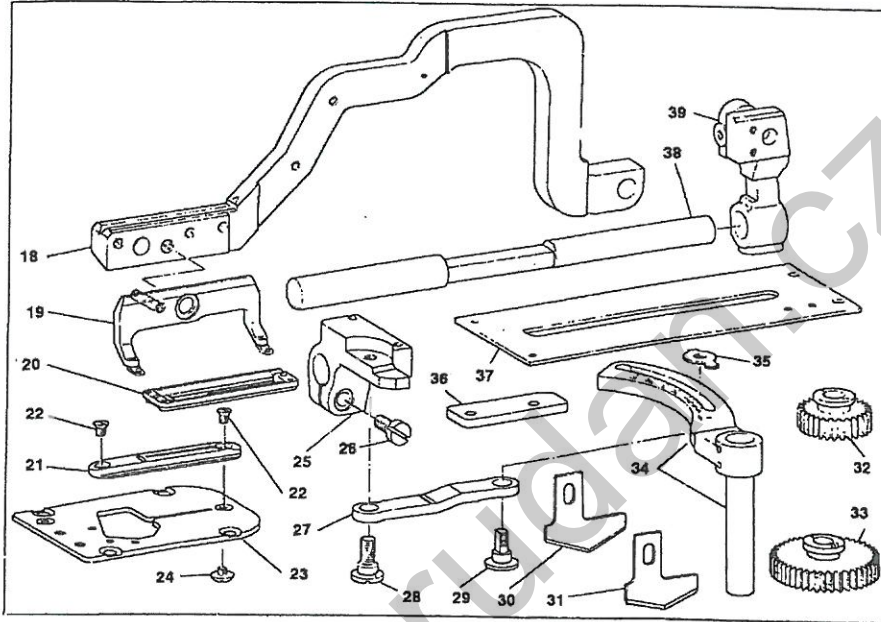
16. SPEED TRANSMITTER COMPONENTS



66	816660	SPEED TRANSMITTER SHIFTER	1
67	816671	SCREW	1
68	816680	NUT	1
69	816690	SHIFTER BASE	1
70	816700	HINGE SHAFT	1
71	816710	SHIFTER TENSION SPRING	1
72	816720	BEARING	1
73	816730	SHIFTER DRIVING ARM	1
74	816741	SCREW	2
75	816751	SCREW	1
76	816761	SCREW	2
77	816770	MOTOR PULLEY	1
78	816780	MOTOR PULLEY (FOR KBH-783V, 784V USE)	1

	Part No.	Description	Amt. 16 Req.
1	816010	TENSION PULLEY ASM.	1
2	816020	TENSION PULLEY BRACKET	1
3	816030	NUT	1
4	816040	TENSION LEVER	1
5	816050	NIPPER BAR ACTUATING LEVER SPRING	1
6	816060	FIXING PAWL	1
7	816071	HINGE SCREW	1
8	816080	RATCHET	1
9	816091	SCREW	2
10	816100	LEVER COLLAR	1
11	816110	TENSION SPRING	1
12	816120	TENSION PULLEY LINK	1
13	816131	HINGE SCREW	1
14	816140	BEARING	1
15	816150	TENSION PULLEY	1
16	816161	HINGE SCREW	1
17	816171	SCREW	2
18	816180	WASHER	3
19	816191	SCREW	3
20	816200	SHIFTER DRIVING ASM.	1
21	816210	SPEED TRANSMITTER BRACKET	1
22	816220	BELT	1
23	-----		-
24	816240	HIGH SPEED WASHER FOR BEARING	1
25	816250	STOP SCREW ASM.	1
26	816260	NUT	1
27	816270	SHIFTER STOPPER BRACKET	1
28	816281	SCREW	2
29	816290	BEARING	2
30	816300	RETAINING RING	2
31	816310	ACCELERATING PULLEY	1
32	816321	SCREW	2
33	816330	HIGH-SPEED PULLEY	1
34	816340	BEARING	2
35	816350	LOW-SPEED PULLEY	1
36	816360	SPEED TRANSMITTER SHAFT	1
37	816370	SLEEVE	1
38	816380	BEARING PRESSER	1
39	816391	SCREW	3
40	816400	WASHER	1
41	816410	NUT	1
42	816420	SHIFTER TENSION SPRING	1
43	816430	SHIFTER BASE ASM.	1
44	816440	SHIFTER BASE	1
45	816450	NUT	3
46	816460	SHIFTER CAM SPRING	1
47	816470	NUT	2
48	816480	SPRING SUSPENSION SCREW STUD	1
49	816490	SHIFTER DRIVING ARM	1
50	816501	HINGE SCREW	3
51	816510	ROLLER STUD	1
52	816520	CAM ROLL	1
53	816531	SCREW	1
54	816540	SHIFTER INSTALLING PLATE	1
55	816551	HINGE SCREW	2
56	816560	SHIFTER HOLDING ARM	1
57	816570	SPEED TRANSMITTER SHIFTER	1
58	816581	SCREW	2
59	816590	SHIFTER PIN	1
60	816600	NUT	1
61	816610	SHIFTER CAM MOUNTING	1
62	816621	SCREW	2
63	816630	SHIFTER CAM	1
64	816640	SUSPENSION PIN	1
65	816651	SCREW	2

17. EXCLUSIVE PARTS FOR 784



Part No.	Description	Amt. Req.
1		0
17		0
18	817180 WORK CLAMP ARM	1
19	817190 WORK CLAMP CHECK HOLDER	1
20	817200 WORK CLAMP CHECK	1
21	817210 THROAT PLATE	1
22	817221 SCREW	2
23	817230 THROAT PLATE BASE	1
24	817241 SCREW	1
25	817250 WORK CLAMP ARM BRACKET	1
26	817261 SCREW	1
27	817270 WORK CLAMP CARRIER PITMAN	1
28	817281 SCREW	1
29	817291 FEED ADJUSTING SCREW	1
30	817300 KNIFE 1-1/2"	1
31	817310 KNIFE 1-3/8"	1
32	817320 SPUR GEAR (74)	1
33	817330 SPUR GEAR (252)	1
34	817340 LENGTH REGULATING ARM ASM.	1
35	817350 LENGTH REGULATING SHAFT GUIDE	1
36	817360 WORK CLAMP ARM BRACKET GUIDE	1
37	817370 WORK CLAMP CARRIER	1
38	817380 WORK CLAMP ARM SLIDE ROD	1
39	817390 WORK CLAMP ARM BEARING BRACKET	1

**18. EXCHANGING PARTS**

SET	① SMALL GEAR		LARGE GEAR	
	STITCH NO.	PART NO.	STITCH NO.	PART NO.
E	74	81801E	252	81802E
G	83	81801G	225	81802G
J	100	81801J	190	81802J
K	105	81801K	180	81802K
L	110	81801L	170	81802L
N	123	81801N	152	81802N

③ KNIFE			④ WORD CLAMP CHECK	⑤ THROAT PLATE	⑥ GUIDE	
NO.	SIZE (mm)	PART NO.	PART NO.	PART NO.	PART NO.	
1	1/4" (6.3)	818301	81841A 81841B (25.4mm)	818501 (31.7mm)	818601 (25.4mm)	
2	3/8" (9.5)	818302				
3	1/2" (12.7)	818303				
4	9/16" (14.3)	818304				
5	5/8" (15.8)	818305				
6	3/4" (19.0)	818306				
7	7/8" (22.2)	818307				
8	1" (25.4)	818308				
9	1-1/4" (31.7)	818309	81842A (31.7mm) 81842B	818502 (38.1mm)	818602 (31.7mm)	
10	1-3/8" (34.9)	818310	81843A (38.1mm) 81843B		818502 (38.1mm)	818602 (38.1mm)
11	1-1/2" (38.1)	818311				