

# GLOBAL

## **SM 7810 GW**

**Double needle welt sewing machine**

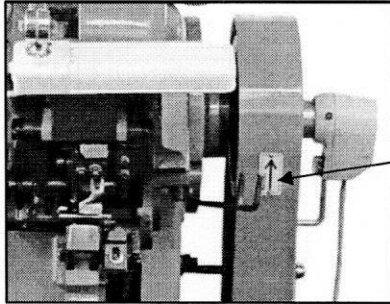
**Instruction manual  
& parts book**

**Always switch off the electricity when working on  
the machine.**

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**Thank you very much for your choice of this double welt sewing machine. Please read the manual carefully before use!**

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

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### **Main Warnings:**

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

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## I . Machine Description

619/2 welt sewing machine is single thread chain-stitch sewing machine. It is a key machinery of making welt-sewn shoes. This machine is equipped with two needles, a curved hook needle and a curved awl. With two needles' cooperation they can carry out actions of penetrate through, feed, hook thread continuously during the sewing period. Compared with the single needle welt sewing machine, the life of curved hook needle is longer, the stitch length becomes more regular, and the operation becomes simple. This machine is equipped with the automatic lubricating system; the parts' life is two longer than before.

This machine is suitable for sewing all kinds of welt-sewn shoes, especially for Goodyear-made shoes and labor insurance shoes.

## II . Technical Features of the Machine

Sewing speed:	stepless speed regulating
Stitch length:	8.5mm or 10.5mm
Seam type:	single thread chainstitch
Sewing thickness:	3-8mm
Needle:	255# good-year needle
Thread:	twine, synthetic thread
Welt:	leather, plastic
Power of motor:	750W / 220V single-phase
Power of electric heating:	650W / 220V single-phase
Weight:	378kg (N.W.)
Machine dimensions:	76 cm×95 cm×180cm (L.×W.×H.)

## III. Operation of the Machine

The welt of different shape and material can be stitched with the insole and upper by this machine; both twine thread and synthetic thread are suitable for this machine. At first the operator should choose the suitable welt spout and presser foot base the welt had been used; then start sewing operation.

Operator should be familiar with the machine, master the gist of mechanical action before operation. Operator should also be familiar with the welt. When operation, the operator should keep the shoe close to the upside and inside, keep the sole horizontal, also be familiar with the sole.



Before operation, the operator should check the machine, turn around the handwheel by hand, and make sure every parts of the machine work on the rails. Check the relative position of the needles, presser foot, winding tube, and poke-thread hook. Check the temperature of rosin, elasticity of the sewing. If the temperature is too high, the sewing thread may be loosen; if the temperature is too low, the sewing thread may be break often.

This machine is driven by the servo motor, the motor will turn back automatically when the operator stop sewing, in order to let the operator take out the shoe.

#### IV. Adjustment Setting of the Machine

##### 1. Description

This machine work with the help of the cam and link mechanism, the main action is cut through, feed and hook thread.

Because of application of the cam, operations become convenient and steady. This machine has been factory-adjusted, but during the use procedure, it is unavoidable to change some parts, so it is helpful to master the adjustment of the machine.

##### 2. Curved hook needle

The main action of this machine is: the winding tube wind the thread around the curved hook needle with the help of the poke-thread hook, then the curved hook needle leads the sewing thread from the insole and welt. Meanwhile, the curved hook needle helps feed with the curved awl.

The curved hook needle should be replaced when the phenomenon that frequent broken thread, slip stitch, broken curved hook needle appears. To replace the curved hook needle, process as follows (**Fig.1**): first turn around the handwheel until the winding tube (619-408) appears at the left hand of the curved hook needle; loosen the nut of the needle clamp, take off the old needle and put the new one up on the hook needle seat (619-320) through the needle protector (619-323) until the tail of the needle reaches the pin in the hook needle bed, then lock the nut.

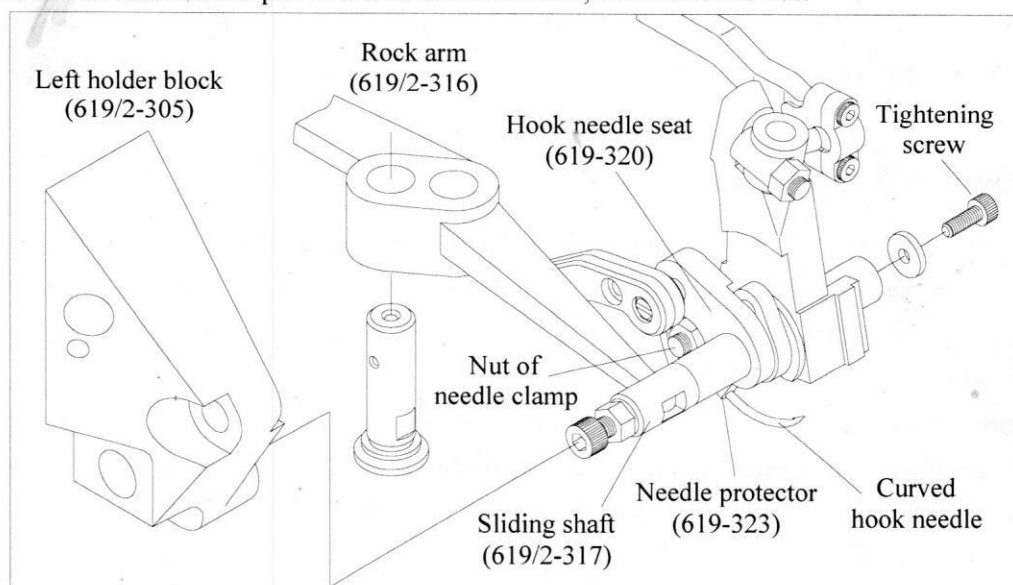


Fig.1

### 3. Needle Protector

The function of the needle protector (619-323) is to protect the curved hook needle when it cuts through the welt and insole. During the use procedure, if the phenomenon that broken needle frequently, slip stitch and stitch length irregularly appears, the needle protector should be replaced. To replace the needle protector, the process as follows(**Fig 1**):first take off the support block(619/2-305triangle) on the left hand, then take off the rocker arm(619/2-316) on the sliding shaft(619/2-317), then loosen the tightening screw on the sliding shaft, take off the sliding shaft, then take off the curved hook needle as described in 4.3; now take off the needle protector(619-323) from the hook needle bed(619-320), put on the new one(**attention: put the ball in the needle protector**). At last, put on the parts by the reverse order (please check the relative position of the curved hook needle and the needle protector).

### 4. Winding tube

The function of the winding tube is: with the help of poke-thread hook (619-333), wind the sewing thread around the curved hook needle and lead the thread to the gap of the hook needle, after the hook needle penetrates through the welt and insole.

The adjustment and replacement of the winding tube is as follows(**Fig.2**): turn the handwheel by hand until the winding tube and the poke-thread hook reach the nearest lapped point, loose the tightening nut on winding tube holder(619/2-407), to let the winding tube sliding up and down in the winding tube holder(619/2-407), then adjust the distance between winding tube and poke-thread hook(619-333) to 1.5mm, then tighten the tightening nut a little, turn the handwheel by hand, to make the winding tube circled around the hook needle , make sure the distance between the winding tube and the curved hook needle is nearly changeless during the action, at last tighten the tightening nut.

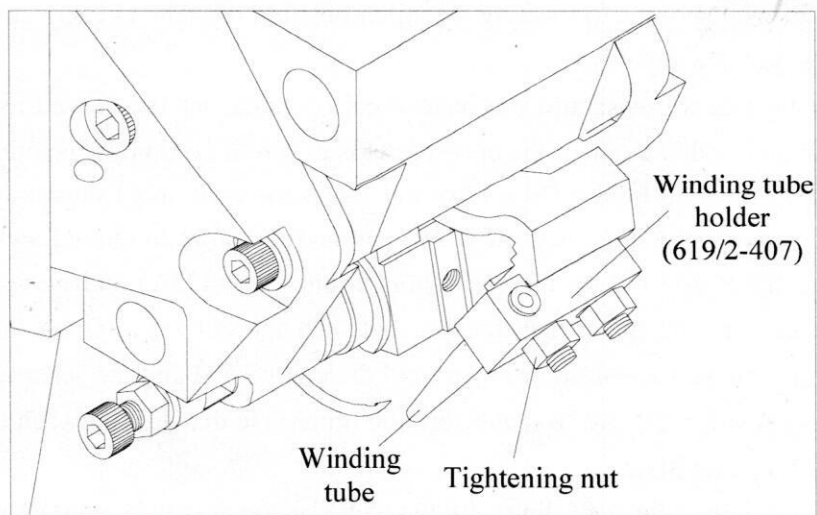


Fig.2



#### 5. The position of the curved hook needle and the curved awl

When the machine stop to work, two needles should be in one vertical plane (the plane verticalize with the main shift) meanwhile are all out of the welt, if not, it must be adjusted. The adjustment process is as follows(**Fig.3**):first, take off the threading frame (619-502), then adjust the position of the eccentric roller pin (619-338) on the rocker arm (619-310) in order to adjust the position of the curved awl until two needles are in the same vertical plane.

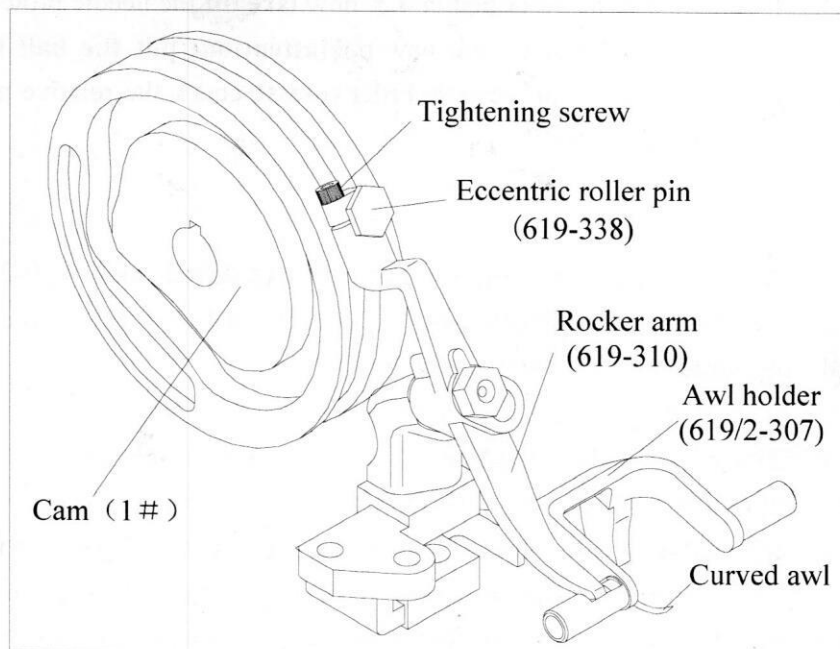


Fig.3

#### 6. Welt spout

The function of welt spout is to locating the stitch position of welt. The adjustment of the welt spout will affect the last sewing effect.

The adjustment is as follows: turn the handwheel by hand, let the curved awl moves to its outermost position, and at this moment the curved awl is also in its rightmost position. First, loosen the tightening nut on the grip holder (619-424) and move the welt spout outwards or inwards to make the distance between the inner wall of welt spout and the point of curved awl is about 1mm. Second, loosen the tightening nut on the welt spout frame (619-423A) and move the welt spout breadthwise to make sure the transverse distance between the curved awl and the welt spout is 0.5-0.8mm, then turn the welt spout up or down until the curved awl and the seam canal of the welt are in the consistent position. At last to make sure the transverse distance between the hook needle and both sides of welt spout is safe.

The welt spout's shape is in according with the welt's shape, it is important to make the correct choice.

## 7. Poke-thread hook

The function of the poke-thread hook(619-333) is: assist the winding tube(619-408) to lead the thread to the gap of the curved hook needle. When adjust, turn the handwheel by hand, let the poke-thread hook moves to its rightmost position. At this moment, the distance between the inner edge of the poke-thread hook and the center of the curved hook needle should be about 6.5mm.

The adjustment is as follows(**Fig.4**): first take off the threading frame(619-502), then loosen the tightening nut on the sliding cowl(619-332), turn around the poke-thread hook(619-333) until it is in the proper position; At last tighten the nut home on the sliding cowl(619-332).

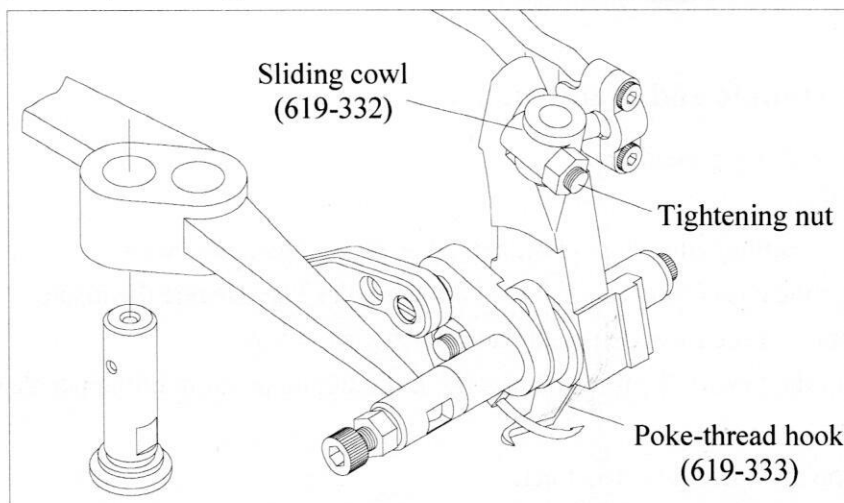


Fig.4

## 8. Presser foot

The main function of the presser foot is press the welt and edge of upper when the curved awl cuts through them. Additionally, the presser foot ensures the stitch seam in the proper position at the bottom of the insole's edge. The distance between the lowest edge of presser foot and the point of hook needle should be 0.5-1.0mm.

## 9. Tension of sewing thread

There are many reasons affect the tension of sewing thread; the tension of thread will be loosen if the temperature of rosin and threading plate is higher, while the temperature is too low the sewing thread will be broken often.

The tension adjustment of the sewing thread is as follows: first, loose the nut (519-707), then, turn around the adjust nut (519-708), loose or tighten the sewing thread according to the need.



## 10. Choice of stitch length

The stitch length of this machine can be set at 10.5mm or 8.5mm. When the pin(619-311) is in the back pinhole (relative to the operator's direction) of the curved awl rocker arm (619-310) meanwhile the pin (619-319) is in the back pinhole (relative to the operator's direction) of the hook needle rocker arm (619/2-316), its stitch length is 10.5mm; When the pin (619-311) is in the front pinhole (relative to the operator's direction) of the awl needle rocker arm (619-310) meanwhile the pin(619-319) is in the front pinhole(relative to the operator's direction) of the draw needle rocker arm (619/2-316), its stitch length is 8.5mm.

## V. Treat with Trouble and Maintenance

### 1. Common bugs processing method

#### ① Thread broken

- The needle has cutting edge (thread broken takes place outside the welt)
- The winding tube has cutting edge (thread broken takes place inside the insole)
- The temperature of the rosin pan or threading plate is too low.
- The staple cut the thread, the thread is too tight, the wrong position of the needle etc.

#### ② Slip stitch

- The gap of the hook needle is too fleet.
- The winding tube, poke-thread hook and hook needle don't cooperate correctly.
- The hook needle is distorted; the winding tube touches the hook needle.
- The extension spring of the welt puller is broken.

#### ③ Stitch length non-uniform

- The angle between the welt puller and the work piece is not correct.
- The distance after the needle's allocation is too short, the setting out is too short.
- The extension spring of the welt puller is broken; the gear shaping is broken, the jump-distance is not correct.
- Operation is unskillful.

#### ④ Stitch seam relax

- Thread tighten-system is broken.
- The temperature of the rosin pan is too high.
- Extension spring of the welt puller is broken, the braking spring is broken, the other spring and gear shaping is broken.

#### ⑤ Welt turnover

- The presser foot turns out, the welt turns out; the presser foot turns in, the welt turns in.
- The presser foot's height is not correct.
- The needle is distorted or incorrect operation.

#### ⑥ The stitch seam not in the seam canal of welt

- The welt puller's angle is incorrect.
- The relative position between the needle and the welt puller is incorrect or the needle is distorted.
- Incorrect operation.

## 2. Daily maintenance works

This machine is applied with the automatic lubricating system, the oil is feed to everywhere of the machine through the oil dispensing section by the electric lubricator located on the right hand of the machine's worktable.

The oil-feeding frequency and duration is controlled by the electric lubricator (**Fig.5**). The oil output of every oiling-pipe is controlled by each oil-adjust-screw (**Fig.6**).

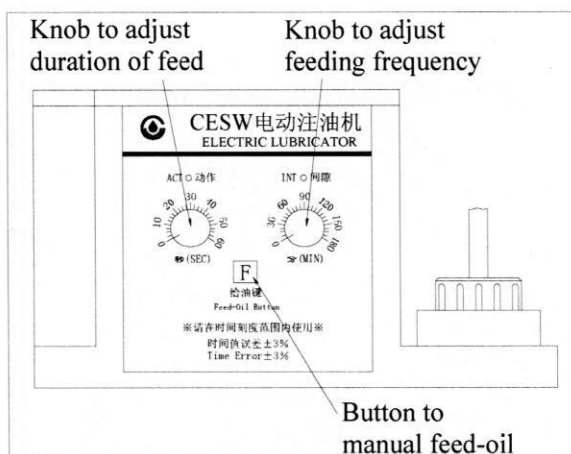


Fig.5

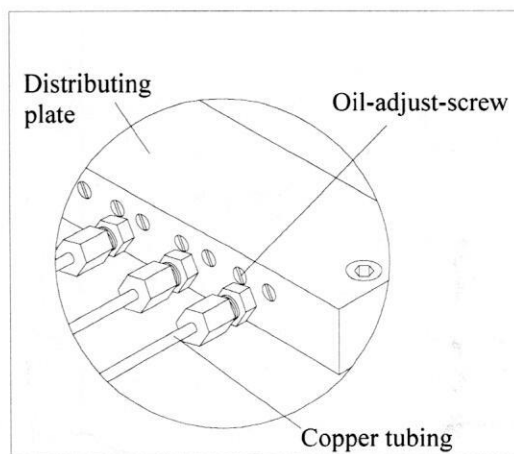
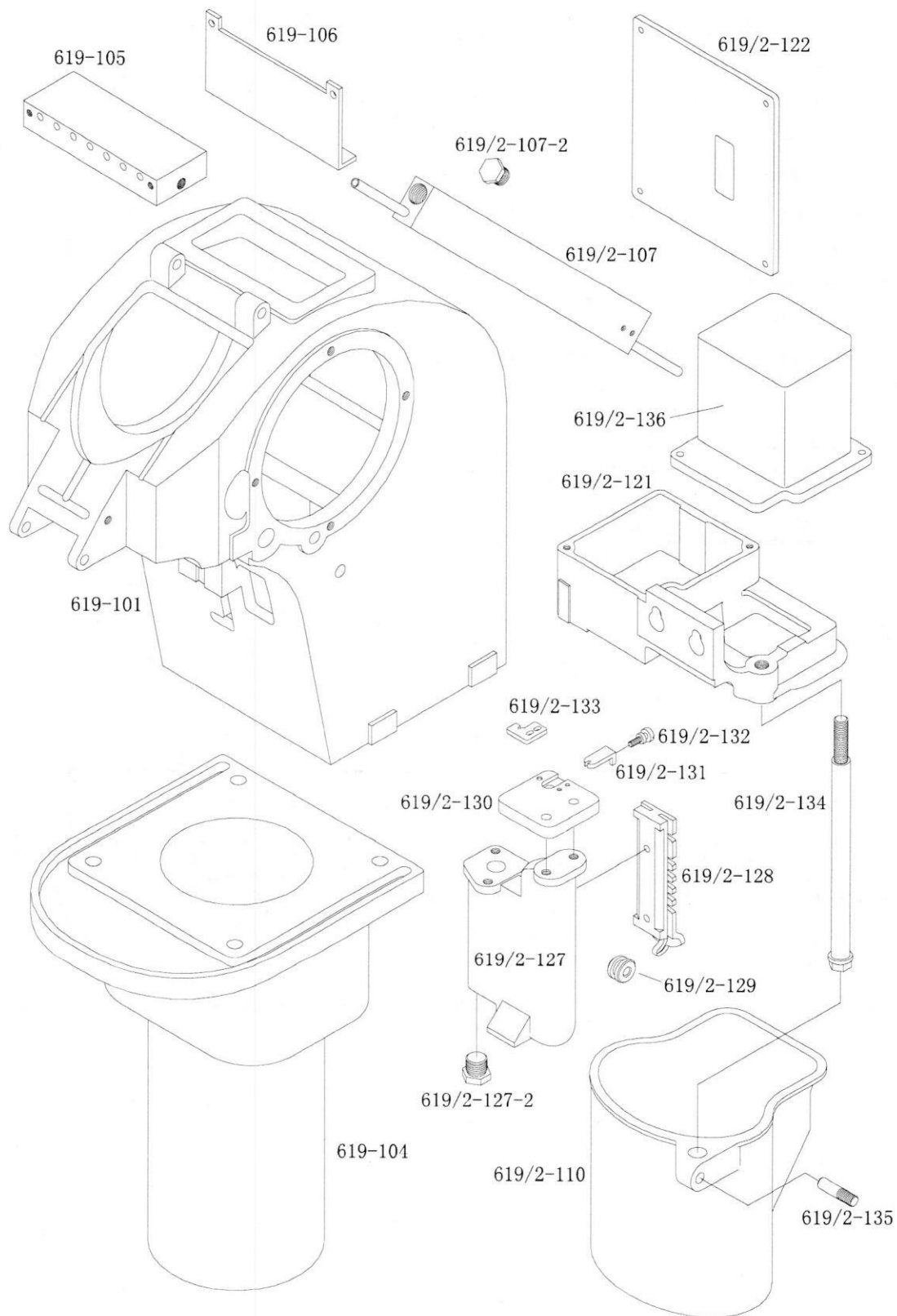


Fig.6

- We suggest checking the machine every day, if there is something wrong with the machine, please stop working and adjust the machine well, please make the machine clean after working.
- The motor section should be kept clean, if it is requested to load or unload, please turn it away from collision.
- Check and oil the machine carefully is requested when it is reused after a long time. Test run with a low speed is requested too.





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Fig. No.	Part's name	Quantity
619-101	Frame	1
619-104	Base frame	1
619-105	Oil distributing plate	1
619-106	Distributing plate holder	2
619/2-107	Threading tube	1
619/2-107-2	Screw	1
619/2-110	Rosin pan	1
619/2-121	Holder of heater	1
619/2-122	Back cover plate	1
619/2-127	Heater	1
619/2-127-2	Screw	1
619/2-128	Threading plate	1
619/2-129	Threading ring	1
619/2-130	Cover plate	1
619/2-131	Adjustable slot	1
619/2-132	Adjusting screw	1
619/2-133	Cover plate	1
619/2-134	Rod	1
619/2-135	Fastening screw	1
619/2-136	Cover	1

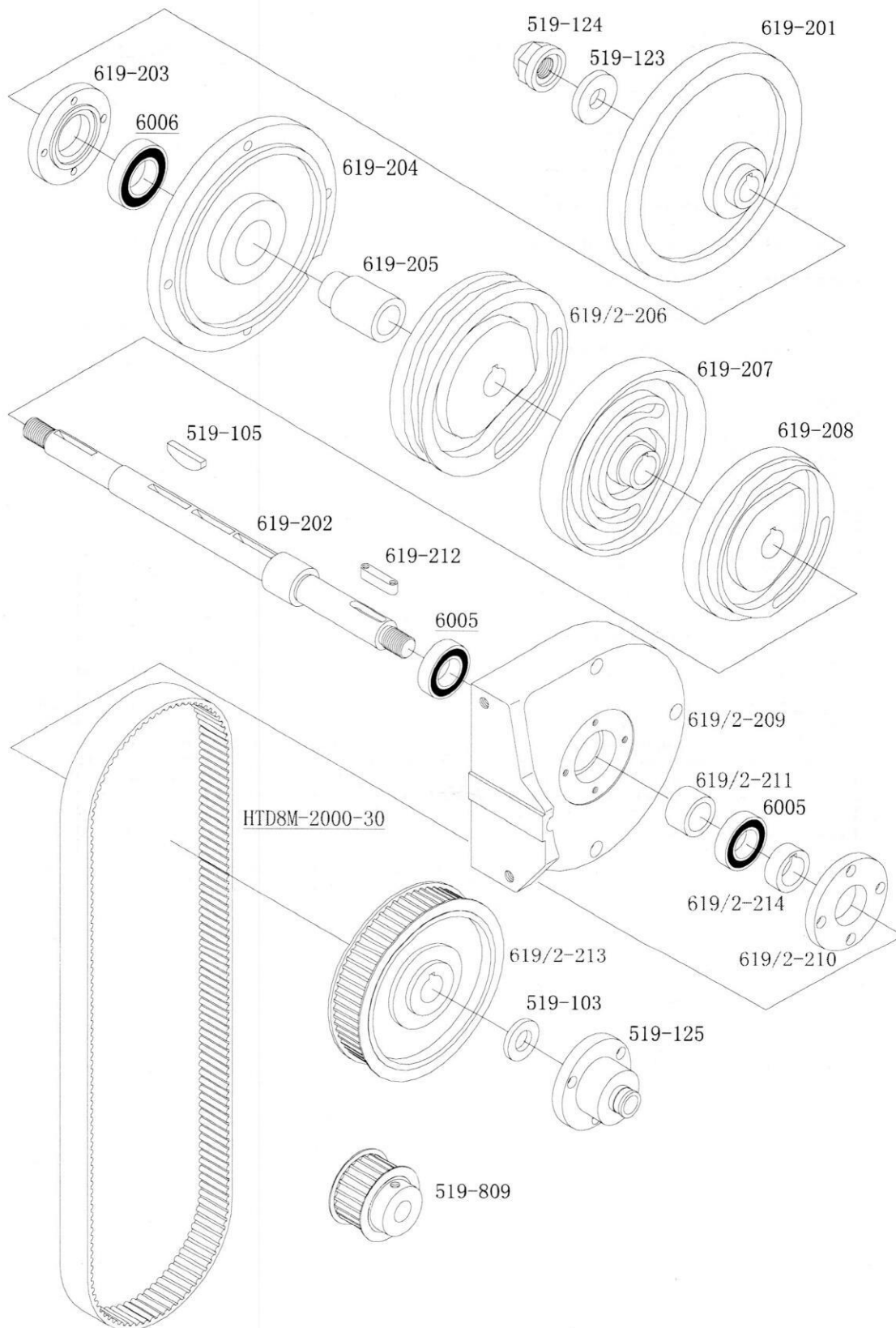


Fig. No.	Part's name	Quantity
619-201	Hand-wheel	1
619-202	Main shaft	1
619-203	Left bearing cover	1
619-204	Left bearing housing	1
619-205	Ring	1
619-207	Cam 2#	1
619-208	Cam 3#	1
619-212	Flat key	1
619/2-206	Cam 1#	1
619/2-209	Right bearing housing	1
619/2-210	Right bearing cover	1
619/2-211	Ring	1
619/2-213	Synchronous belt wheel	1
619/2-214	Ring	1
519-103	Washer	1
519-105	Woodruff key	4
519-123	Washer	1
519-124	Acorn nut	1
519-125	Positioner seat	1
519-809	Synchronous belt wheel (motor)	1
	Synchronous belt (HTD8M-2000-30)	1
	Bearing (6005)	2
	Bearing (6006)	1



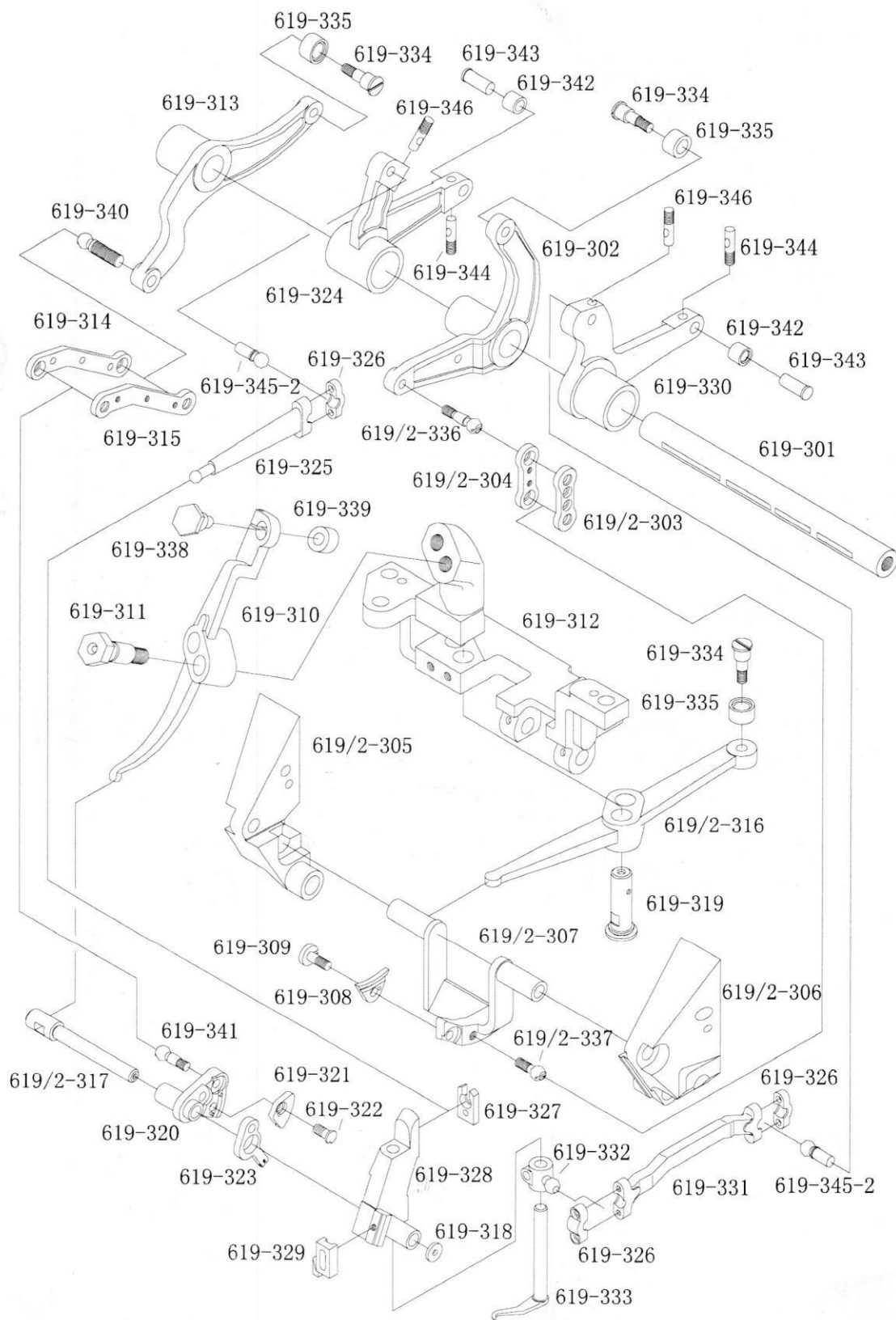


Fig. No.	Part's name	Quantity
619-301	Rocker arm shaft	1
619-302	Rocker arm(curved awl)	1
619-308	Curved awl clamp	1
619-309	Screw	1
619-310	Rocker arm(curved awl feeding)	1
619-311	Pin	1
619-312	Holder	1
619-313	Rocker arm(hook needle)	1
619-314	Spherical pivot connecting plate	1
619-315	Spherical pivot connecting plate	1
619-318	Washer	1
619-319	Pin	1
619-320	Hook needle seat	1
619-321	Hook needle clamp	1
619-322	Screw	1
619-323	Hook needle protector	1
619-324	Rocker arm (presser foot nodding)	1
619-325	Spherical pivot connecting lever	1
619-326	Hinge cover	3
619-327	Hinge cover	1
619-328	Presser foot seat	1
619-329	Presser foot	1
619-330	Rocker arm (poke-thread hook)	1
619-331	Connecting lever	1
619-332	Sliding cowl	1
619-333	Poke-thread hook	1
619-334	Roller pin	3
619-335	Roller	3
619-338	Eccentric roller pin	1
619-339	Roller	1
619-340	Spherical pivot	1
619-341	Spherical pivot	1
619-342	Roller	2
619-343	Roller pin	2
619-344	Pin	2
619-345-2	Spherical pivot	2
619-346	pin	2
619/2-305	Left holder block	1
619/2-303	Spherical pivot connecting plate	1
619/2-304	Spherical pivot connecting plate	1
619/2-306	Right holder block	1
619/2-307	Curved awl holder	1
619/2-316	Rocker arm(hook needle feeding)	1
619/2-317	Sliding shaft	1
619/2-336	Spherical pivot	1
619/2-337	Spherical pivot	1

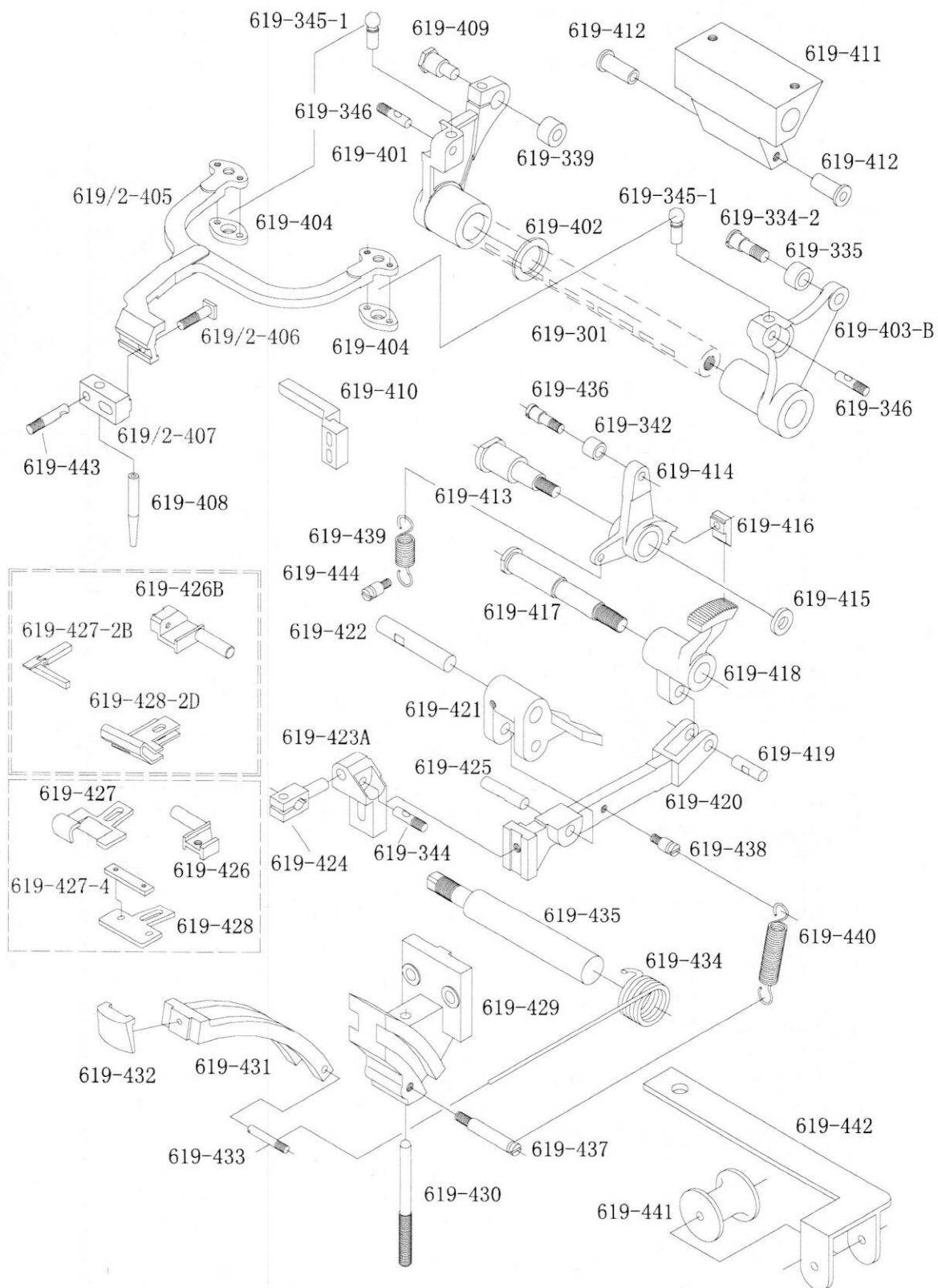




Fig. No.	Part's name	Quantity
619-401	Left winding link	1
619-402	Washer	1
619-403-B	Right winding link	1
619-404	Hinge cover	2
619-408	Winding tube	1
619-409	Eccentric roller pin	1
619-410	Raising block	1
619-411	Electric heater seat	1
619-412-1	Holder block pin	1
619-412-2	Holder block pin	1
619-413	Axle pin	1
619-414	Pawl rocker arm	1
619-415	Washer	1
619-416	Ratchet pawl	1
619-417	Axle pin	1
619-418	Backer nodding arm	1
619-419	Axle pin	1
619-420	Backer connecting lever	1
619-421	Nodding holder	1
619-422	Small shaft	1
619-423A	Welt spout frame	1
619-424	Grip holder	1
619-425	Axle pin	1
619-426	Welt spout fixing plate	1
619-426B	Welt spout fixing plate	1
619-427	Welt holder	1
619-427-2B	Welt holder	1
619-427-4	Baffle-board	1
619-428	Welt splint	1
619-428-2D	Welt splint	1
619-429	Holder	1
619-430	Screw stem	1
619-431	Backer holder	1
619-432	Backer	1
619-433	Axle pin	1
619-434	Twist spring	1
619-435	Twist spring seat	1
619-436	Roller pin	1
619-437	Spring hook screw	1
619-438	Spring hook screw	1
619-439	Extension spring	1
619-440	Extension spring	1
619-441	Wheel of welt holder	1
619-442	Welt holder	1
619-443	Pin	1
619-444	Spring hook screw	1
619-334-2	Roller pin	1
619-335	Roller	1
619-339	Roller	1
619-342	Roller	1
619-344	Pin	1
619-345-1	Spherical pivot	2
619-346	Pin	2
619/2-405	Fork link	1
619/2-406	Screw	1
619/2-407	Winding tube seat	1

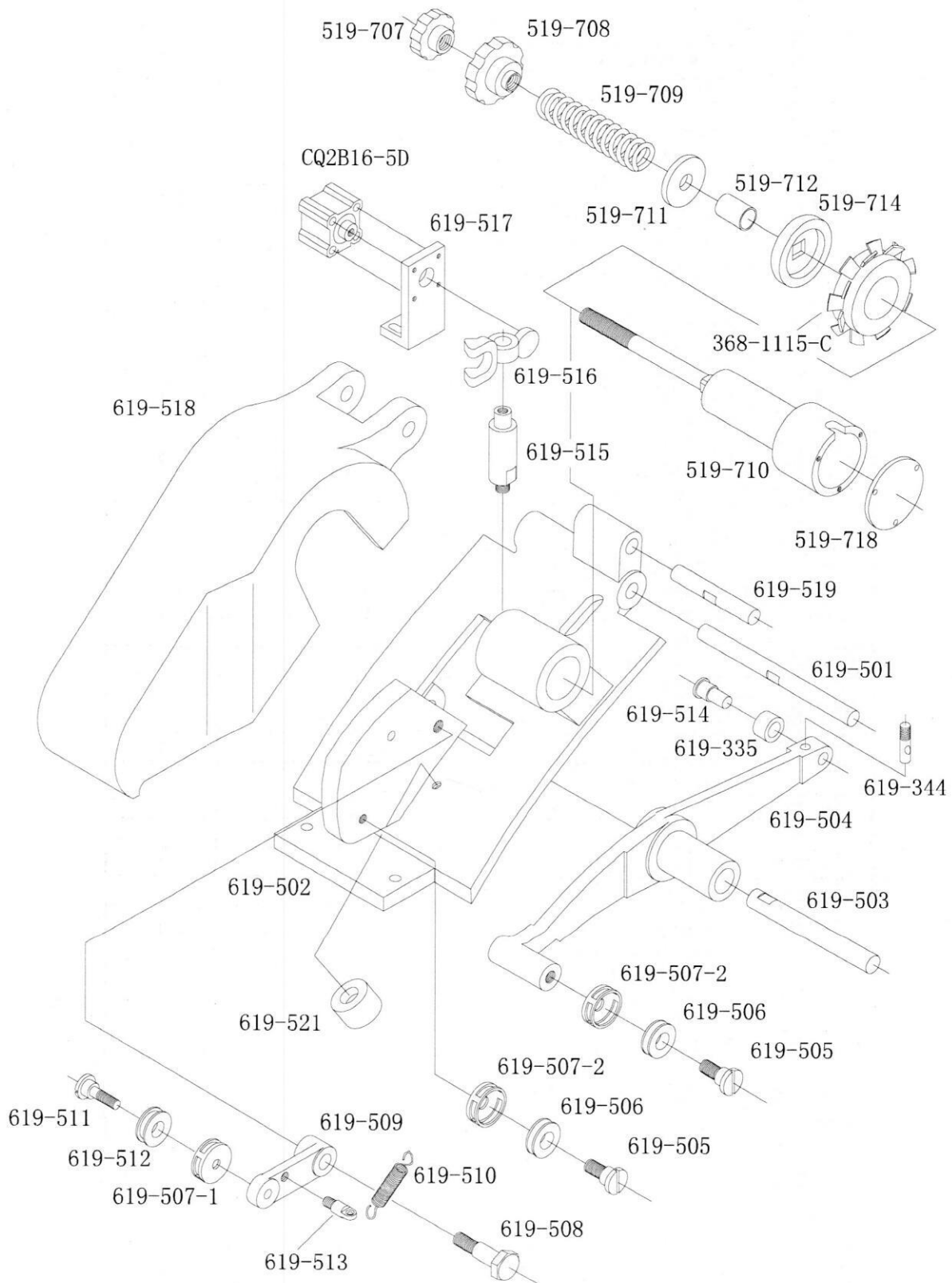
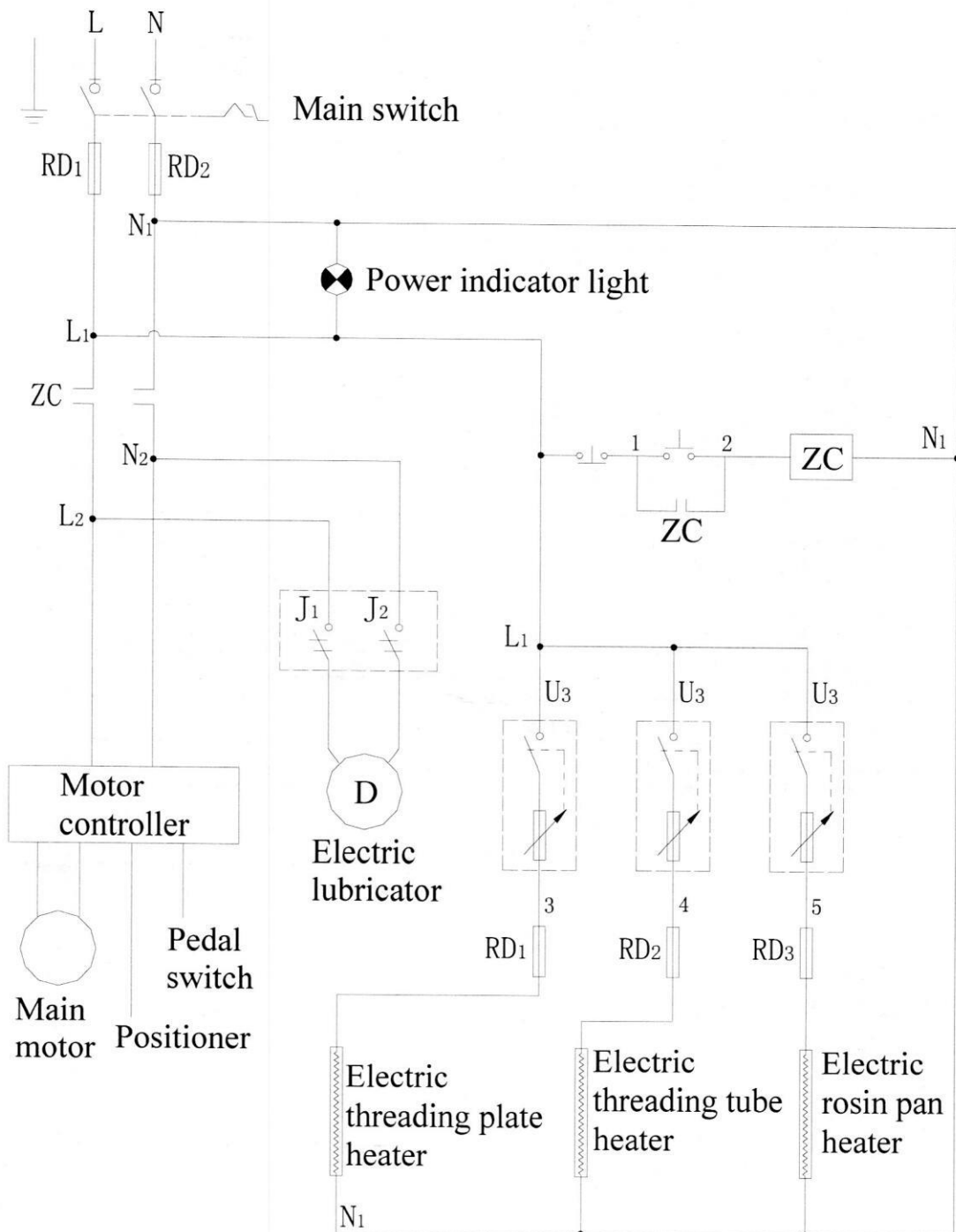


Fig. No.	Part's name	Quantity
619-501	Axle pin	1
619-502	Front threading plate	1
619-503	Shaft	1
619-504	Thread take-up arm	1
619-505	Threading wheel screw	2
619-506	Threading wheel	2
619-507-1	Threading wheel cage	1
619-507-2	Threading wheel cage	2
619-508	Pin	1
619-509	Nodding bar	1
619-510	Spring	1
619-511	Threading wheel screw	1
619-512	Threading wheel	1
619-513	Pin	2
619-514	Roller pin	1
619-515	Axle pin	1
619-516	Thread loosen link	1
619-517	Cylinder supporter	1
619-518	Protecting cover	1
619-519	Axle pin	1
619-521	Rubber ring	1
619-335	Roller	1
619-344	Pin	1
519-707	Nut	1
519-708	Nut	1
519-709	Spring	1
519-710	Threading wheel shaft	1
519-711	Washer	1
519-712	Bushing	1
519-714	Presser ring	1
519-718	Cover of electric heater	1
368-1115-C	Threading wheel	1
	Cylinder ( CQ2B16-5D)	1



## GR-619/2 Electrical Block Diagram



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## Parameter Setting of the Motor (HVP-70 for 619/2)

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

PARAMETER CODE	DEFAULT	DESCRIPTION
[001.H]	600	Maximum sewing speed, Recommended speed less than 1000RPM.
[002.PSL]	25	Setting acceleration curve , don't adjust is recommended.
[046.DIR]	CCW	Direction of motor rotation.

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

PARAMETER CODE	DEFAULT	DESCRIPTION
[047.MAC]	0	Machine code.
[057.TRU]	ON	Motor stops with a reverse angle after trimming.
[058.TR8]	212	Setting the angle of [057.TRU]. (1-360° )
[060.L]	200	Speed adjustment for low speed.
[073]	ON	Motor stops with a reverse angle.
[075.SFM]	ON	Safety switch mode.
[078.TRM]	LK	Type selection for motor braked.

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

PARAMETER CODE	DEFAULT	DESCRIPTION
122.HL	600	The motor's maximum speed setting.
[168.HKP]	130	Setting needle stop torsion, recommended value less than 150.







# EU - DECLARATION OF CONFORMITY

in the sense of the EU Instruction for machines No. 89/392/EEC, Annex II B

## HERSTELLERKLÄRUNG

im Sinne der EG-Maschinenrichtlinie 89/392/EWG, Anhang II B

Hiermit erklären wir, daß die Baurat der Nähmaschine (Nähmaschinen-oberteil) zum Einbau in eine Näheinheit oder Nähanlage bestimmt ist und daß ihre inbetriebnahme so lange untersagt ist, bis festgestellt wurde, daß die Näheinheit oder Nähanlage, in die dieses Nähmaschinen-oberteil eingebaut werden soll, den Bestimmungen der EG-Maschinen-richtlinie entspricht.

Angewendete harmonisierte Normen insbesondere:

EN 292-1	Sicherheit von Maschinen, Grundsätzliche Terminologie Methodik
EN 292-2	Sicherheit von Maschinen, Technische Leitsätze und Spezifikationen
EN 60204-3-1	Elektrische Ausrüstung von Industrienähmaschinen Besondere Anforderung für Nähmaschinen, Näheinheiten und Nähanlagen.

## MANUFACTURER'S DECLARATION

In accordance with the EC Machinery Directive 89/392/EEC, Annex II B

We hereby declare that the type of construction of the sewing machine (sewing machine head) contained in this Declaration has been determined to be fitted a sewing unit or sewing system and that it must not be put into service until the sewing unit or sewing system into which this sewing machine head to be incorporated has been declared in conformity with the provisions of the EC Machinery Directive.

Applied harmonized standards in particular:

EN 292-1	Safety of machines. Basic terminology methods.
EN 292-2	Safety of machines. Technical guidelines and specifications.
EN 60204-3-1	Electrical equipment of industrial machines. Special requirements for sewing machines, sewing units and sewing systems.

## DECLARATION DE FABRICANT

aus sens de la directive CE ser les machines 89/392/CE, annexe II B

Par la présente, nous déclarons que la machine à coudre du type de fabrication (tête de machine à coudre) figurant dans cette déclaration est destinée au montage dans une unité ou une installation de couture et que sa mise in service est interdite jusqu'à ce que de l'unité ou de l'installation de couture, dans laquelle cette machine a été incorporée soit déclarée conforme aux stipulations de la directive CE sur les machines.

Normes appliquées après harmonisation, notamment:

EN 292-1	Sécurité des machines. Méthodes et terminologie de base.
EN 292-2	Sécurité des machines. Ligne de conduite et spécifications techniques.
EN 60204-3-1	Equipement électrique des machines industrielles. Spécifications particulières pour les machines à coudre, les unités et les systèmes de couture.

## DECLARACIÓN DEL FABRICANTE

de conformidad con la Directiva sobre máquinas CE 89/392/EEC Anexo II B

Por la presente declaramos que el tipo de construcción de la máquina de coser (cabeza de costura) indicado en la presente declaración está destinado para ser montado en una unidad de costura o instalación de costura y que su puesta en servicio no está permitida hasta que no se haya comprobado que la unidad de costura o la instalación de costura, en la que dicha máquina de coser deberá ser montada, cumple con las disposiciones de la Directiva sobre máquinas CE.

Normas armonizadas aplicados en particular:

EN 292-1	Seguridad de máquinas. Terminología básica. metodología.
EN 292-2	Seguridad de máquinas. Directrices técnicas y especificaciones.
EN 60204	Equipo eléctrico con máquinas industriales. Exigencias especiales para máquinas de coser, unidades de costura e instalaciones de costura.

## DICHIARAZIONE DELLA COSTRUTTRICE

secondo la direttiva CE 89/392/CEE allegato II B

Questo tramite dichiariamo che la struttura della macchina per cucire (testa della macchina) a cui si riferisce la presente dichiarazione è predestinata per il montaggio in unità di cucitura oppure in un'unità automatica di cucitura, ed il suo collaudo operativo non verrà effettuato fino a quando non sia stato constatato che l'unità di cucitura oppure l'unità automatica di cucitura, sulla quale la testa deve essere montata, corrisponde alla direttive CE per macchinari.

Norme armonizzate utilizzate in particolare:

EN 292-1	Sicurezza di macchinari. Terminologia di base, metodica.
EN 292-2	Sicurezza di macchinari. Direttive tecniche e specifiche.
EN 60204	Norme particolari per macchine per cucire, unità di cucitura e unità automatiche di cucitura.

## DECLARAÇÃO DO FABRICANTE-DATA

no sentido da directiva das CE relativa a máquinas 89/392/CEE, apêndice II B

Declaramos pelo presente instrumento que o tipo do construção da máquina de costura (parte superior da máquina de costura) compreendido nesta declaração é destinado a ser incorporado em uma unidade de costura ou uma instalação de costura. E proibida a sua colocação em serviço antes de a unidade de costura ou a instalação de costura em que essa parte superior da máquina de costura será incorporada ser declarada em conformidade com as determinações da directiva CE relativa a máquinas.

Normas harmonizadas especialmente observadas:

EN 292-1	Segurança de máquinas. Terminologia básica. metodologia.
EN 292-2	Segurança de máquinas. Normas técnicas básicas e especificações.
EN 60204-3-1	Equipamento eléctrico de máquinas industriais. Exigências especiais relativas a máquinas de costura, unidades de costura e instalações de costura.

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