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ORIGINAL INSTRUCTION MANUAL,
MAINTENANCE BOOKLET AND ILLUSTRATED PARTS LIST



STYLES 4500A, 4500B PORTABLE BAG CLOSING MACHINE

CATALOG NO.
FOR STYLES

: PT1704-GR-EN
: 4500A, 4500B

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CATALOG NO. PT1704-GR-EN
INSTRUCTION MANUAL FOR
4500A, 4500B

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PREFACE

This manual assists you in the operation and maintenance of your machine and simplifies spares orders.

It explains the proper settings for operation of the machine. Illustrations show the adjustments and reference letters point out specific items discussed.

Important information on how to operate the machine safely, properly and efficiently are given. Observing these instructions prevent accidents, reduce repair and downtimes and increase reliability and life cycle of the machine.

This manual has been comprised on available information. Changes and improvements in design may slightly modify the configuration of illustrations or caution notes.

Hereinafter you shall find illustrations and descriptions of the instructions and of the components of your machine.

The instruction manual must always be available wherever the machine is in use.

The manual has to be read and applied by any operator charged with the task of

- operation, including setting, troubleshooting and care
- maintenance (service, inspection and repair)
and/or
- transportation.

In addition to all mandatory rules and regulations in the country of use and on site for the prevention of accidents and the protection of the environment the recognized technical safety rules are applicable.

Subject to change without notice

SAFETY RULES

General Caution notice:



Before putting the machine described in this manual into service, carefully read the instructions. Omission of taking note of the safety rules and instructions may lead to electric shock, fire or severe injuries. The sewing machine may only be operated by qualified operators. Observe the national safety regulations valid for your country.

Keep the safety rules and instructions handy for future use.

The term “portable bag closer” relates to cable-operated portable bag sewing and bag closing machines (with power cord) or accumulator-operated portable bag sewing and closing machines (without power cord).

1. Safety on site

- a) **Keep your workplace clean and well-lit.** Chaos and poorly-lit workplaces may lead to accidents.
- b) **Do not operate the machine in an explosive surrounding, near inflammable liquids, gas or dust.** Sewing machines generate sparks which may ignite dust and fumes.
- c) **Keep children and other persons apart while operating the sewing machine.** If distracted, you may lose control over the machine.

2. Electric safety rules

- a) **The electric plug has to fit in the socket. The plug may not be altered. Do not operate any adapters with protecting grounding electric tools.** Original plugs and fitting sockets reduce the risk of electric shock.
- b) **Avoid any contact with grounded surfaces such as pipes, radiators, etc.** You are at an increased risk for electric shock if your body is grounded.
- c) **Keep the sewing machine away from rain and humidity.** The presence water inside the electric tool increases the risk for an electric shock.
- d) **Do not use the cable in an unforeseen manner to carry, suspend or pull the plug from the socket. Keep away from heat, oil, sharp edges or moving parts of the machine.** Damaged or curled up cables increase the risk for electric shock.
- e) **When operating the machine outside only use suitable cable extensions.** Using a suitable cable extension reduces the risk of electric shock.
- f) **In case you have to operate the machine outside, use an earth-leakage circuit breaker.** Application of an earth-leakage circuit breaker reduces the risk of an electric shock.
- g) **Working on live components and installations are prohibited.** For exceptions refer to the relevant chapters of DIN EN 50 110 / VDE 0105.

3. Safety rules for personnel

- a) **Be cautious, take care of what you are doing and use your good sense in operating the machine. Do not operate the machine when tired or under the influence of drugs, alcohol or medication.** One moment of inattention while operating the machine can lead to serious injuries.
- b) **Wear your personal safety gear and always protective glasses.** Wearing personal safety gear such as dust mask, non-slippery safety shoes, protective helmet and ear protectors reduces the risk for injuries depending on the kind of operation performed with the machine.

- c) **Avoid accidental operation of the machine. Make sure the machine is switched off before connecting the mains and/or the accumulator, picking up or carrying the machine.** If your finger is on the switch while connecting the mains this may lead to accidents.
- d) **Avoid unusual positions. Make sure you are standing secure and always keep your balance.** It makes it easier to control the sewing machine in unexpected situations.
- e) **Wear suitable clothes. Do not wear wide clothing or jewellery.** Keep hair, clothes and gloves away from moving parts. Loose clothes, jewellery and long hair may be caught in moving parts.

4. Application and handling the sewing machine

a) **Do not operate the sewing machine above capacity:**

S3 40%.

Duty: S3: 40% according to ISO 34-1/DIN VDE 0530.

The relative operation duration may not exceed a duration of 40%, related to a cycle of 10 minutes.

- b) **Do not operated a sewing machine with a defective switch.** A sewing machine which cannot be switched on or off is dangerous and has to be repaired.
- c) **Disconnect the mains resp. disconnect the pressure supply and/or remove the accumulator before performing maintenance, i.e. threading needle and looper, exchangeing sewing tools, such as needle, presser foot, throat plate, looper, feed dog, needle guard, folder, guide etc. or at the end of operation.** These preventive measures protect you against involontarily starting the sewing machine.
- d) **Store inattended sewing machines out of reach of children. Do not allow unskilled persons to operate the sewing machine, who have not read the instructions.** Sewing machines are dangerous, when operated by inexperienced persons.
- e) **Take good care of the sewing machine. Check the function of moving parts by turning the handwheel, check for jammed, broken or damaged parts interfering with the working condition of the machine. Have the damaged parts repaired before operating the machine.** Many accidents are caused by poorly maintained machines.
- f) **Keep the thread chain cutter sharp and clean.** Diligently maintained knives with sharp cutting edges jam less and cut longer.
- g) **Apply the sewing machine according to these instructions. Consider the working conditions and the work to be performed.** The use of the sewing machine for other operations than the intended use may lead to dangerous situations.
- h) On operational and on machines in operation all **safety gadgets have to be in place.** Operating the machine without the relevant safety measures is prohibited.
- i) **Modifications and changes on the machine may only be performed observing the valid safety instructions.** Modifications and alterations are performed at your own risk.
- k) **Before effecting maintenance and repair on the pneumatic components the machine has to be disconnected from the pressure supply.** If the machine is still under pressure after disconnecting the pressure tank, the machine has to be bled. Exceptions are only permissible for skilled personnel when performing adjustments and function tests.

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MACHINE DESCRIPTION

Portable bag closing machine

Portable bag closing machine with electric motor and thread chain cutter. For closing filled bags and sacks made of jute, burlap, cotton, linen, paper, plastic etc. with single thread chain stitch (stitch type 101).

Technical Data:

Stitch type and seam spec.:	101 SSa-1
Sewing speed	max. 1600-1800RPM, depending on material and thickness
Feed	Plain feed
Stitch length:	8.5 mm
Sewing capacity:	up to 6.5 mm thickness or 12 plies of paper
Needle:	DNX1- 25-200/080
Motor:	220V (65W), 230-240V ((70W)
Electric supply:	220V AC (Power: 65 W) 230V - 240V AC (Power: 70 W) 50-60Hz Single phase
Dimension:	361 x 246 x 321 mm
Weight:	6 kg net / 7 kg gross, including one cone of thread
Packed dimension:	370 x 280 x 400 mm

Available Styles:

4500A	with motor for 220-240 Volt / 50-60 Hz, with earthing conductor (protection class 1)
4500B	with motor for 110-125 Volts / 50-60 Hz, with earthing conductor (protection class I).

Sound emission:

Sound pressure level at a maximum operating speed of 1800 RPM (LpAd): 79-81dB (A), measurement according to DIN EN 11201.

Every UNION SPECIAL sewing machine has a type number and a serial number on the reverse.

Both numbers are stamped into the machine plate.

Needles

Each needle has both a type and size number. The type number denotes the kind of shank, point, length, groove, finish and other details. The size number, stamped on the needle shank, denotes largest diameter of blade, measured midway between shank and eye. Collectively, type and size number represent the complete symbol, which is marked on the label of all needles packages and sold by UNION SPECIAL.

Recommended needle type is DNX1-25-200/080. It has a round shank, square point, double groove, spotted, is chromium plated and is available in size - 200/080.

Selection of proper needle size is determined by size of the thread used. Thread should pass freely through the needle eye in order to produce a good stitch formation.

To have needle orders promptly and accurately filled, an empty package, a sample needle or the type and size number should be forwarded. Use the description on the label. A complete order would read: "100 Needles, Type DNX1-25-200/080".

INSTRUCTIONS

STARTING UP THE MACHINE

Before leaving our premises each machine is carefully checked, adjusted and function tested. However, it is recommended to check the machine upon arrival and all damages or complaints directly filed with Union Special or our representatives. Unpack the machine. Make sure not packaging material is caught in the mechanism. Check the voltage of the three-phase motor against the voltage of your electric supply and socket. Sockets for machines with protective circuit breaker require correct earth grounding. Connect the plug into the socket.

PREPARATION FOR OPERATION

1. OILING (FIG. 1)

Oiling is imperative to keeping the machine in good operating condition. Pour oil in the reservoir (capacity 45 cc). To begin the oil flow to the machine push button of the lubricator ten times continuously before starting the machine. This should dispense enough oil for an average running of four hours under normal operating conditions. Do not run the machine without oil as this causes machine failure or breakdown.

2. NEEDLE SETTING (FIG. 2, 3, 4)

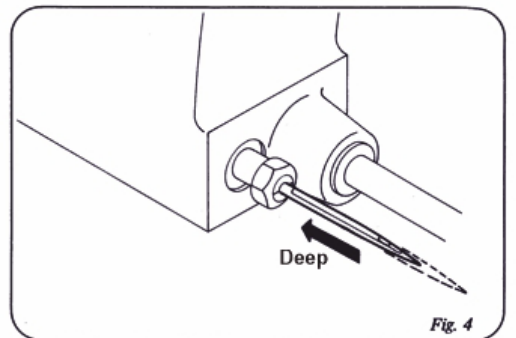
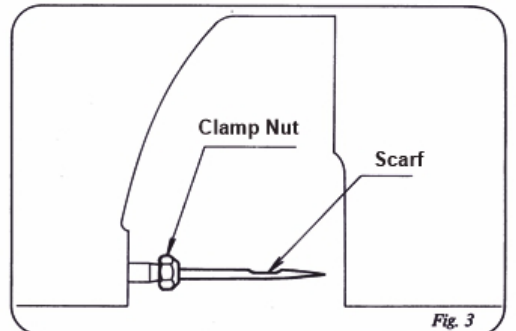
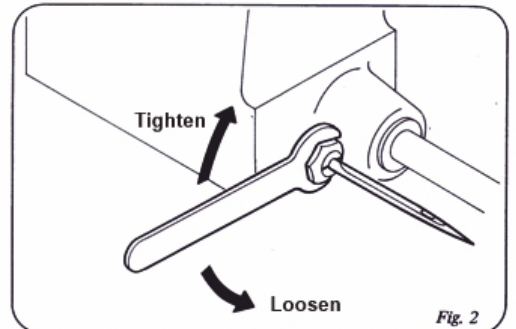
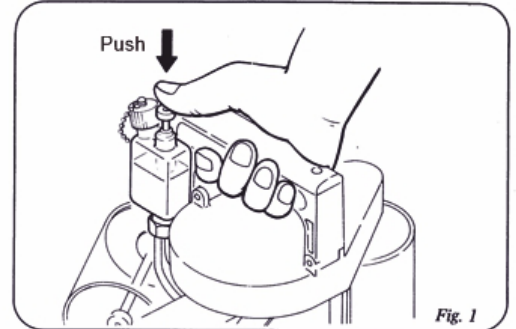
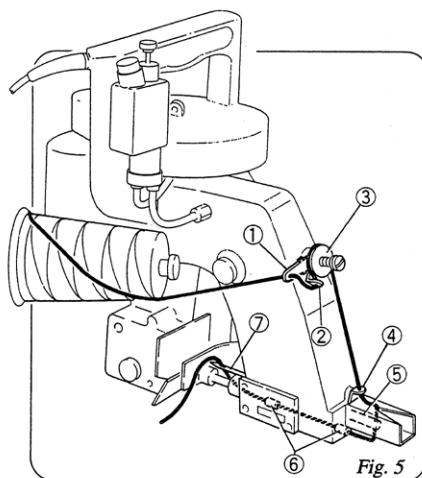
Turn the pulley until Needle Bar reaches its highest position. Loosen Needle Bar Clamping Nut and set Needle in the Bar as deep as it will go.

Be sure to set a Needle with its concave part facing correctly toward the Loper. Fix Clamping Nut tightly, otherwise Needle may come loose during operation and break.

3. THREADING (FIG. 5)

The machine is delivered being threaded to show you the proper threading of the machine, which is shown in Fig. 5, for identification. Follow the guide numbers 1 to 7 of Fig. 5.

- 1. / 2. Thread Eyelet
- 3. Tension disc
- 4. Thread Eyelet
- 5. Needle Bar
- 6. Thread Eyelet
- 7. Needle



SEWING OPERATION

Before starting, make sure that the supply voltage accords with the specification of the motor.

Hold the machine in your right hand and place your index finger on the switch button on the handle (Fig. 6).

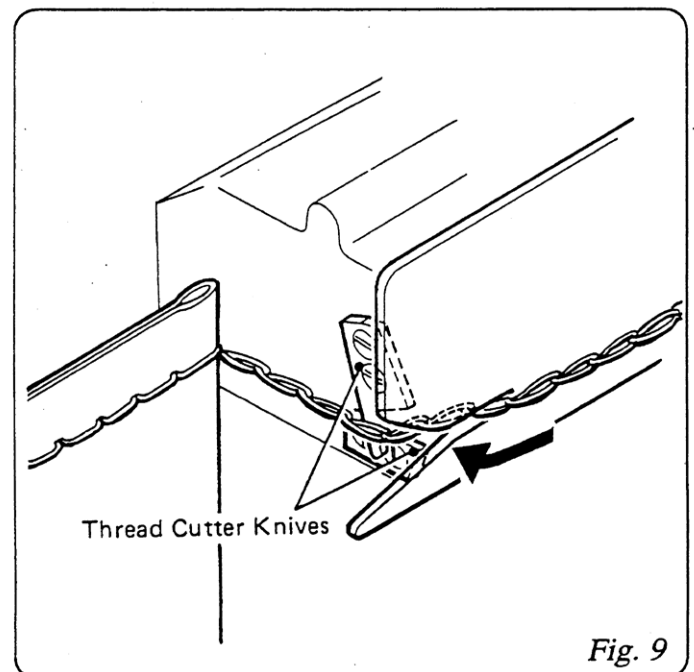
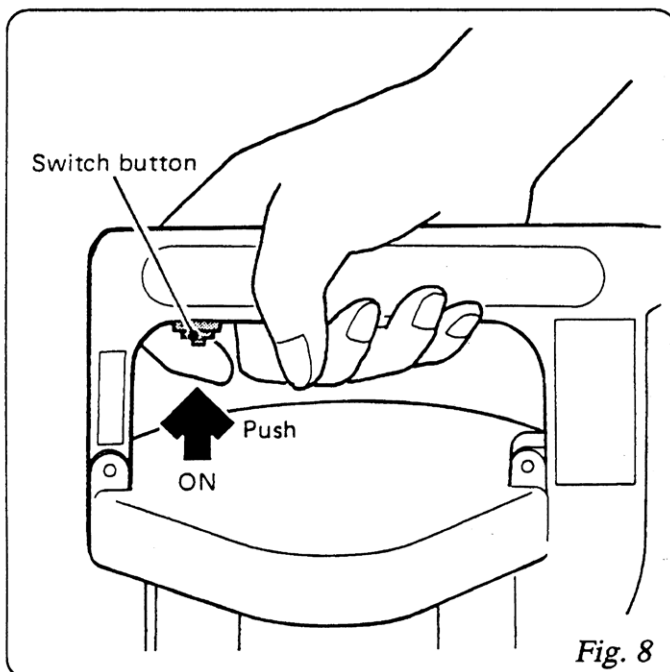
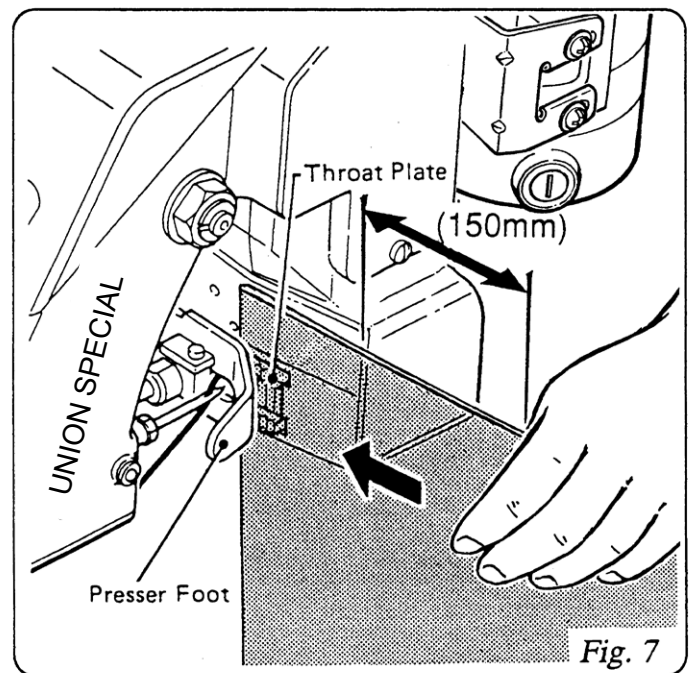
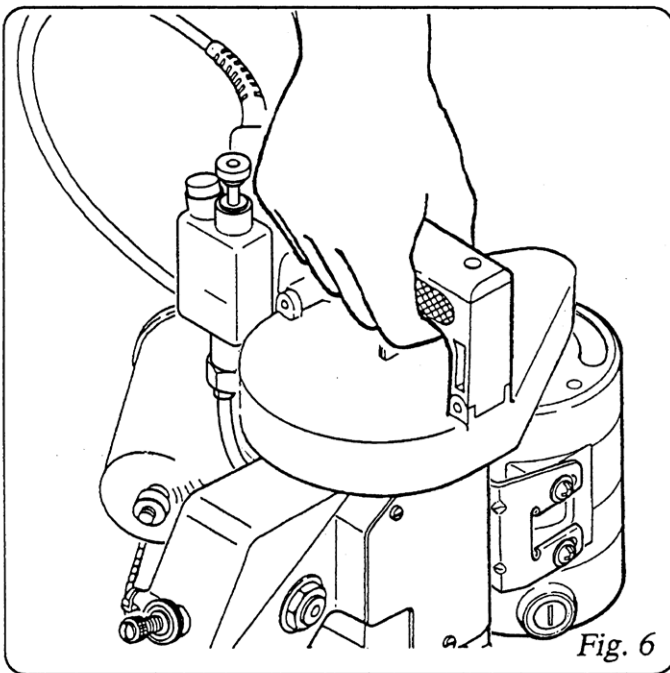
Hold the bag in your left lightly and insert the bag mouth between Feed Dog and Presser Foot (Fig. 7).

Run the machine while keeping the bag straight. **Never pull or pull back the bag.**

After closing, the thread is cut by the built-in nibbler type cutter.

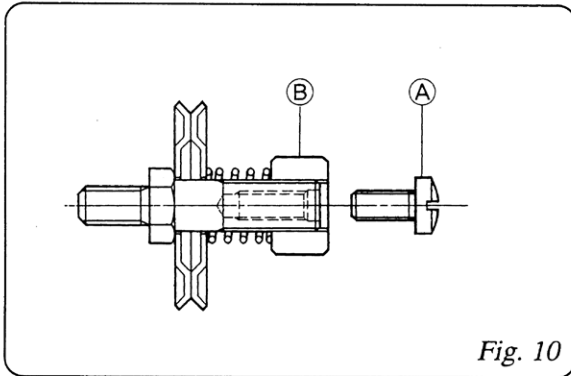
When cutting the thread, leave at least 3 cm extended tail to prevent the unwilling loosening of the seam (Fig. 9).

Run the machine with empty bags and make sure you are well versed in it operation before entering into actual production.



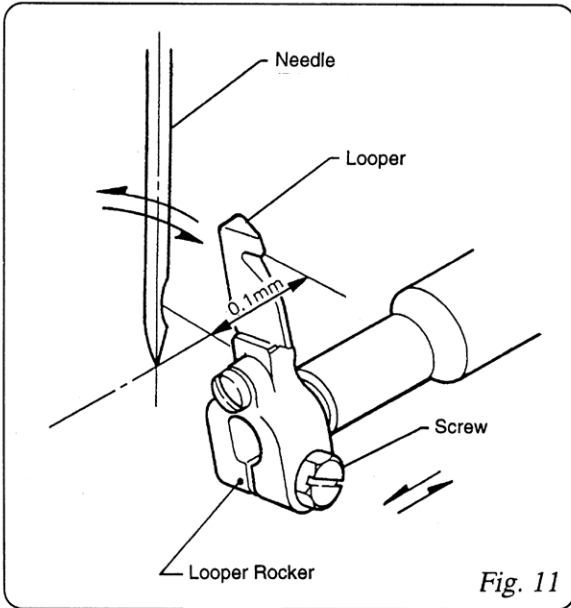
ADJUSTMENTS

CAUTION: When adjusting the machine or replacing parts, always disconnect the Electric Cord from the power source. This is crucial for the safety of the operator and the adjuster.



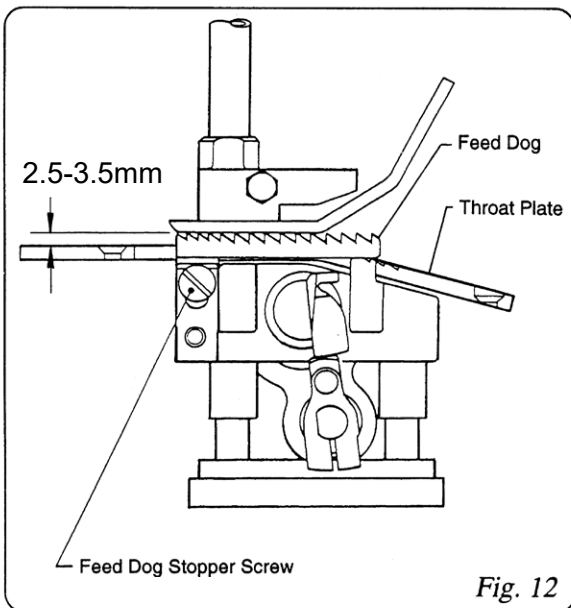
1. Thread Tension (Fig. 10)

The thread tension spring is preset at the factory to sew PP woven cloth bags. If adjustment is required, first loosen screw (A) No. 450106 and adjust the thread tension nut (B) No. 450105 as per Fig. 10. When the adjustment is finished, retighten screw to lock the thread tension nut. If this is not done, the stitch will not remain uniform.



2. Position of Needle and Looper (Fig. 11)

Looper must pass the concave part of Needle with clearance of 0.1 mm as shown in Fig. 11. Adjustment of the clearance can be done after loosening the screw of Looper Rocker.



3. Position of Feed Dog (Fig. 12)

When installing a new feed dog ensure that it is positioned correctly onto the feed dog carrier block and lightly tighten the fixing screw. Check that the feed dog teeth are 2.5-3.5 mm above the throat plate when the feed dog is in the top dead center before finally tightening the fixing screw.

4. Pressure of Presser Foot

When adjusting the presser foot pressure, take out the Needle Bar Guard and loosen Screw of Presser Bar Connection. Raise the Presser Bar to increase the pressure and lower to decrease the pressure. After the adjustment, tighten the Screw firmly.

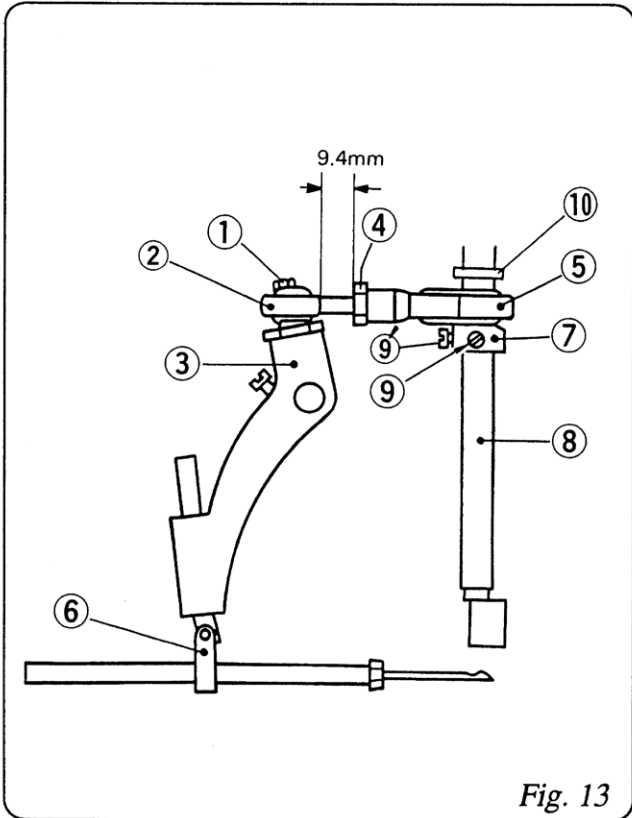
5. Presser Foot Lifter

The Presser Foot Lifter is used to lift the Presser Foot and pull out the bag from under the Presser Foot in case of a problem such as bag or thread jamming.

6. How to use the Hook

The Hook on the Pulley Cover is used to install a Shoulder Belt or a Hanger.

EXCHANGE OR ADJUSTMENT OF BALL ROD



Exchange or Readjustment of Ball Rod (Fig. 13)

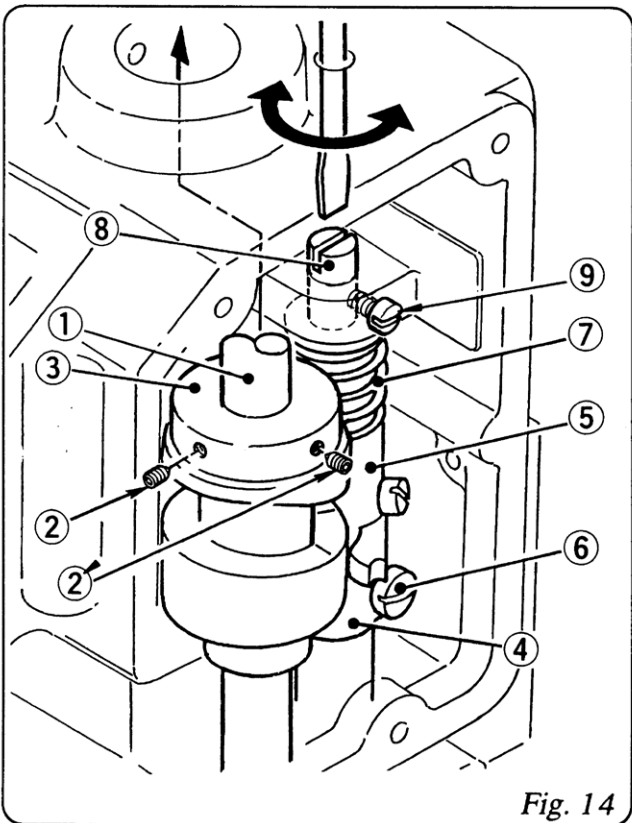
Remove Screw (1) and disconnect Rod End (2) from Needle Bar Lever (3).

After loosening the Nut (4), adjust the clearance between Connecting Rod (5) and Rod End (2) so the Needle Bar moves to the center of the clearance between the upper and lower Presser Bar Bushings. The movement is 37 mm.

To fix Eccentric Cam (7) on Main Shaft (8), tighten the Screws (9) and (9') on the Main Shaft (8) (Eccentric Cam (7) should contact Spacer (10) slightly).

After loosening the screw on the Needle Bar Connecting Assembly (6) (Fig. 13) the position of the Needle is adjusted to 13 mm from the point of the Needle (in its upper dead center) and the Throat Plate. Retighten screw (6).

Fig. 13



Adjust Looper Drive Cam (Fig. 14)

- Apply the Screws (2) and (2') on the taper of the Main Shaft (1).
- Adjust Arm (B) (4) to allow a smooth movement of Looper Drive Cam (3) and Arm (A) (5). Retighten Screw (6) tightly after adjustment.
- The clearance between Looper Drive Cam (3) and Arm (5) is effected by Spring (7). Loosen Screw (9) and turn Spring Supporter (8) to adjust the pressure of Spring (7).

After adjustment tighten the Screw (9) to fasten Spring Supporter (8).

Fig. 14

LUBRICATOR

OPERATION

The lubricator comprises a pump and a reservoir. The reservoir holds max 45 cc of oil (effective oil volume is 28 cc).

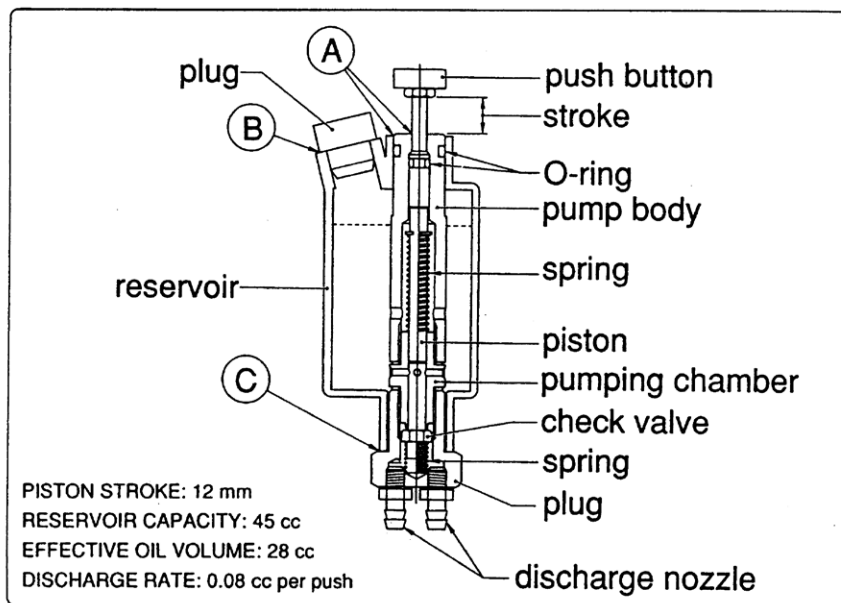
Use mineral oil 22-32 cSt at 40°C (Eg. Tellus oil No.32). To operate the lubricator:

1. First unscrew the reservoir cap by half a turn. Do not remove the cap completely.*
2. Push the button to its lowest position (stroke: 12 mm).
3. When released, the button will automatically return to its original position.
4. Lastly, tighten the cap to prevent oil leakage during operation.

MAINTENANCE

1. Keep off dust or foreign matter when filling reservoir (may cause jamming of piston and check the valve).
2. Rate of discharge is fixed and not adjustable (0.08cc per push).
3. At high temperatures, grease may run along points (A). This is normal grease used during assembly of lubricator in our plant.
4. Keep oil reservoir (high density polyethylene) away from fire and do not use organic, benzene or xylene chemicals for cleaning. Regularly check the correct function of the oil pump (Repeat oil feed and check oil through the discharge pipe).

PUSH-BUTTON LUBRICATOR



TROUBLE SHOOTING

PROBLEM	CAUSE	REMEDY
Oil not fed	Low oil level	Fill oil
Full stroke movement not obtainable	Dust attached on the interior of the pump chamber	Replace lubricator
Button will not return	Dust accumulated or break of spring	Replace lubricator
Oil leak from (A)	Wornout or displaced seal of O-Ring	Replace lubricator
Oil leak from (B)	Wornout or displaced seal of Plug	Replace lubricator
Oil leak from (C)	Loose plug	Tighten Plug or replace lubricator

MAINTENANCE

It is mandatory to check the function and safety devices on the machine once a day.

CLEANING

It is recommended to clean the machine after every shift or end of days work. Clean the teeth of the feed dog, the looper and the stitch hole in the throat plate of dust and foreign matter. Also lubricate all movable parts which are not lubricated by the oil mechanism.



CAUTION: The Motor should not be opened for maintenance or cleaning!

When adjusting the machine or replacing parts, always disconnect the electric cord from the power source!

TRANSPORTATION AND STORAGE

1. The machine should always be transported in a carton.
2. When the operation is completed, disconnect the machine from the electric power supply. If the machine is stored for some time, it should be carefully cleaned and stored in its carton.
3. Never store or keep in a humid or very warm surrounding.

SAFETY RULES FOR USE

When used in another way than foreseen the machine can represent a hazard. The following rules are mandatory:

1. The machine is foreseen for your right hand use. Always keep a distance of 15 cm to your left hand directing the bag and the machine.
2. Never touch the moving parts of the machine such as needle bar or needle while the machine is in operation. When threading the machine or replacing the needle always disconnect the electric power supply.
3. Foreign matter such as your hair or clothes have to be kept well away from the machine, particularly when the motor is running.

TROUBLE SHOOTING

PROBLEM

REMEDY

1. Stitch too loose

A) Check the thread tension.

B) Check the sharpness of the feed dog and throat plate teeth.

2. Stitch too short

A) Check the sharpness of the feed dog and throat plate teeth.

3. Bag tears on the seam

A) Make sure you support the feeding of the machine by hand when the bag is sewn. The sewing machine has to move at the same speed over the bag top as the feed dog is feeding the bag.

B) In case the bag is placed on a conveyor, adjust the speed of the conveyor to the sewing machine.

C) Check the pressure on the presser foot.

D) Has the bag material been changed and the sewing machine readjusted to this material?

4. The machine is no longer running

A) Is the machine securely connected to the power supply?

B) Check the electric cable for breaks.

C) If the switch button does not click, replace the switch.

D) Check the motor brushes and replace them if too short.

NOTE: Repair on electric components has to be effected by authorized and skilled personnel!

5. Thread breaks

A) Does the thread feed easily from the cone?

B) Check the thread tension.

C) Check the thread guides for lint.

D) The needle is hot.

6. Skip stitches or missing chaining at the end of the bag

A) Check thread tension.

B) Make sure the thread guides are free and the thread is running smoothly.

C) Is the thread running smoothly from the cone?

D) Check the feed dog teeth and throat plate teeth and replace if dull.

E) Check if the needle is loose or misaligned.

F) Check if the looper is loose, worn or needs to be reset.

G) Make sure the machine is correctly threaded.

7. Needle breakage

A) Check the looper and needle alignment.

B) Check the needle alignment in relation to the throat plate and needle setting.

ORDERING WEAR AND SPARE PARTS

The following section of this manual simplifies ordering spare parts. Exploded views of various sections of the mechanism show the actual position of the spares in the machine. On the left page the exploded views of the parts are located, on the right page are the lists of parts with part numbers, descriptions and the quantity required.

Numbers in the first column are reference numbers only, and merely indicate the position of the respective part in the illustration. Reference numbers should never be used in parts orders. Always indicate the part number listed in the second column.

Individual parts from complete sets of parts which can be delivered as spares are enumerated below the complete set number and indented for your guidance.

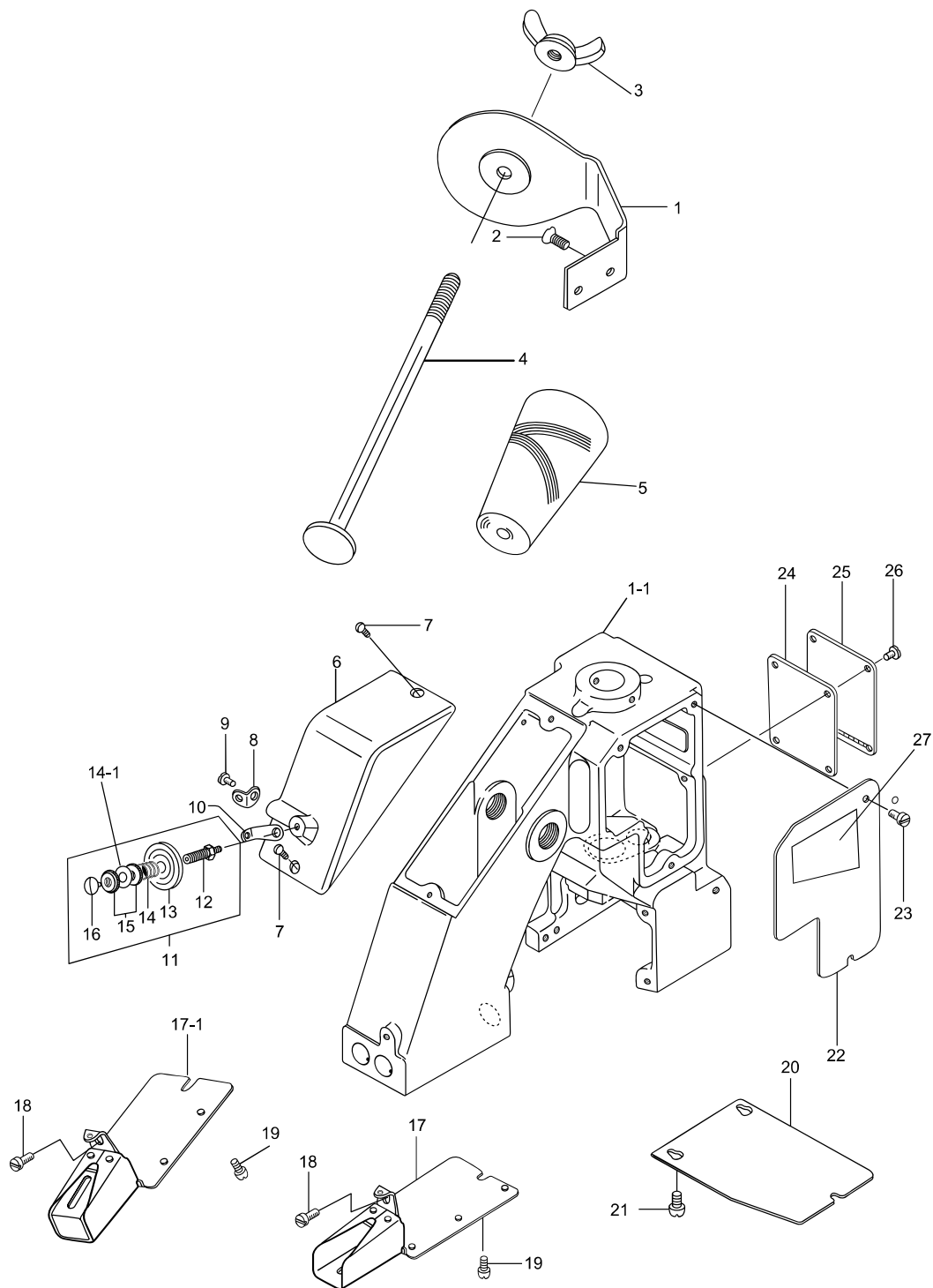
At the back of the manual a numerical index of all parts shown in this manual can be found. This facilitates locating the illustration and description when only the part number is available.



IMPORTANT! ON ALL ORDERS PLEASE INDICATE PART NUMBER, PART DESCRIPTION, QUANTITY RE-QUIRED AND RELEVANT STYLE OF MACHINE FOR WHICH THE PARTS ARE ORDERED.

VIEWS AND DESCRIPTION OF PARTS

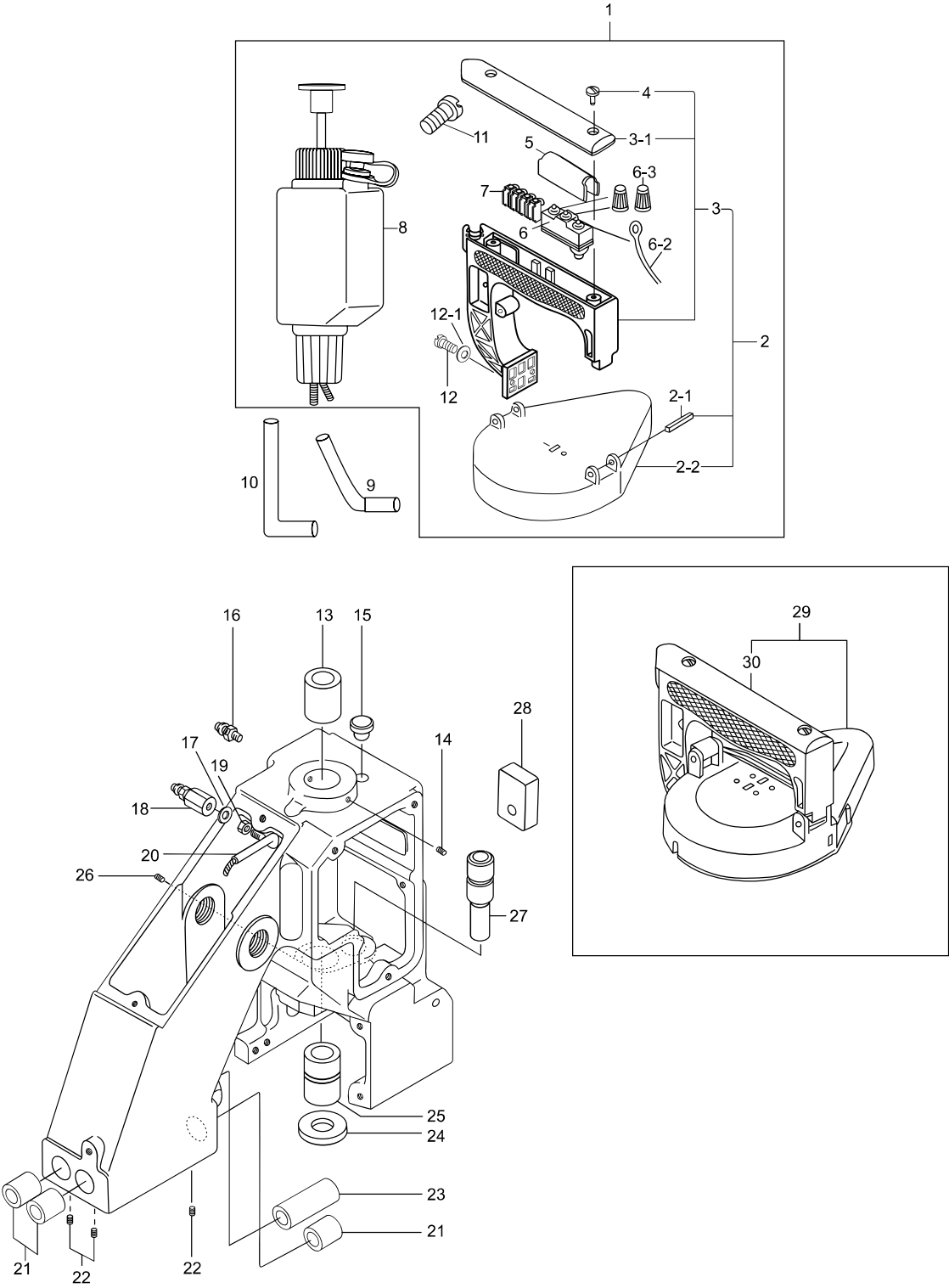
THREAD TENSION AND COVERS



THREAD TENSION AND COVERS

Pos. No.	Part No.	Description	Quantity
1	4501001	Thread stand	1
1-1	4501001-1	Main frame	1
2	4501002	Screw	2
3	4501641	Winged nut	1
4	4501634	Thread cone clamping rod	1
5	Z1-204-250WS	Thread	1
6	4501006	Top cover	1
7	4501007	Screw	2
8	4501008	Thread eyelet	1
9	4501009	Screw	1
10	4501010	Thread tension eyelet	1
11	4501011	Thread tension assembly	1
12	4501012	Tension post	1
13	4501013	Tension disc	2
14	4501014	Tension spring	1
14-1	4501014-1	Washer	1
15	4501015	Tension nut	2
16	4501016	Screw	1
17	4501017	Needle guard	1
17-1	4501017-1	Needle bar guard for „CE“-Type	1
18	4501009	Screw	1
19	4501023	Screw	2
20	4501020	Looper cover	1
21	4501019	Screw	2
22	4501022	Slide plate	1
23	4501023	Screw	3
24	4501024	Gasket	1
25	4501025	Inside cover	1
26	4501023	Screw	4
27	4501027	Name plate	1

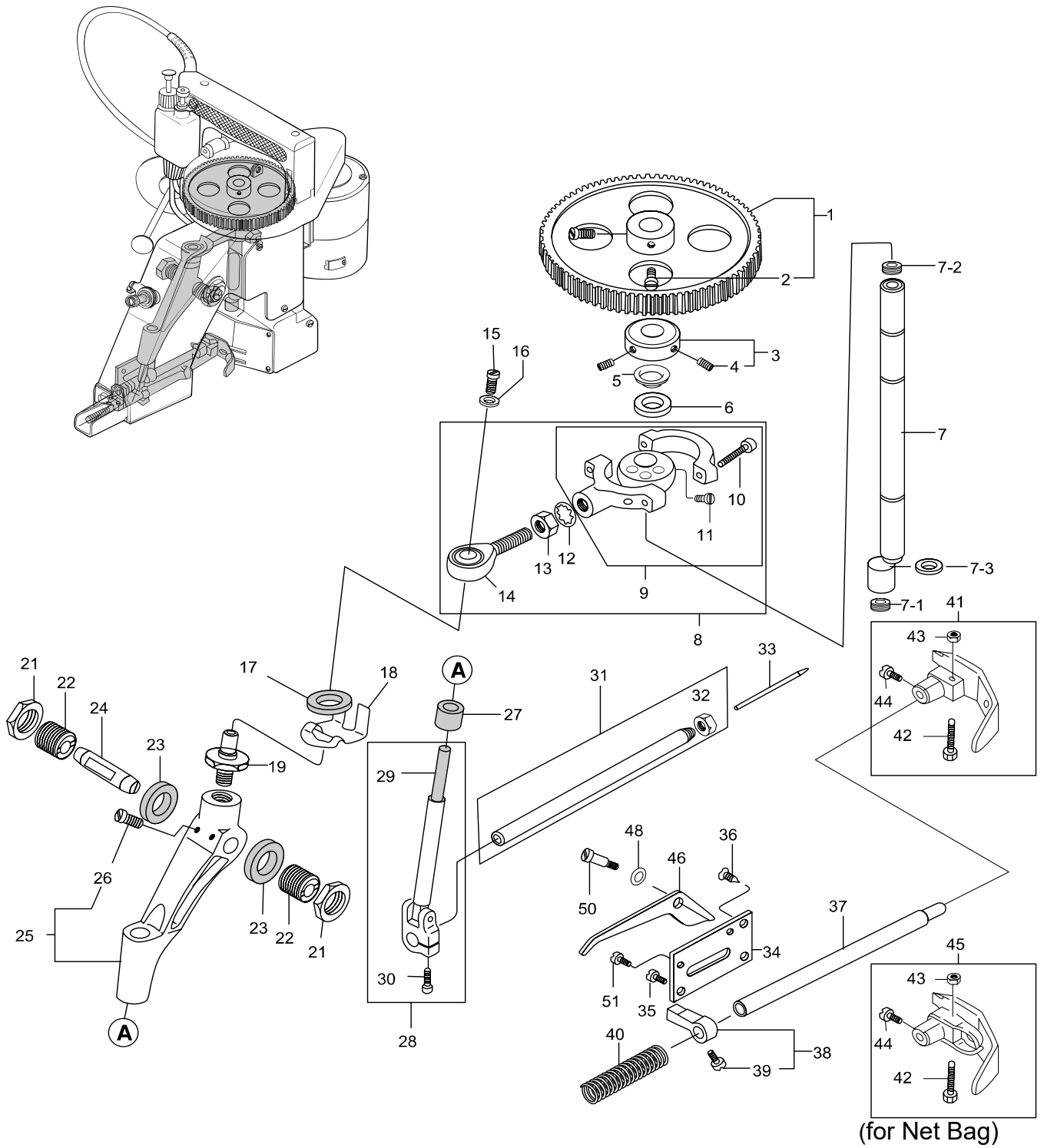
BUSHINGS, OIL PUMP AND HANDLE



BUSHINGS, OIL PUMP AND HANDLE

Pos. No.	Part No.	Description	Quantity
1	4501201	Handle assembly with oil switch	1
2	4501202	Handle assembly	1
2-1	4501202-1	Pin	2
2-2	4501202-2	Cover	1
3	4501203	Handle	1
3-1	4501203-1	Cover handle	1
4	4501016	Screw	2
5	4501205	Microswitch cover CE	1
6	4501206	Microswitch (Z-15GK655-B)	1
6-2	4501206-2	End plug wire	1
6-3	4501206-3	Nut wire	2
7	4501207	Flexible terminal block CE	1
8	4501208N	Oiler	1
9	4501209	Oil tube (6 x 95)	1
10	4501210	Oil tube (6 x 100)	1
11	4501430	Screw	1
12	4501212	Screw	2
12-1	4501212-1	Washer	2
13	4501213	Main shaft bushing, rear	1
14	4501214	Screw	1
15	4501215	Rubber plug	1
16	4501216	Joint	2
17	4501217	Washer	1
18	4501218	Joint	1
19	4501219	Nut	1
20	4501220	Oil pipe	3
21	4501221	Bushing for presser bar and needle bar, upper	3
22	4501222	Screw	5
23	4501223	Presser bar bushing, lower	1
24	4501224	Oil felt	1
25	4501225	Main shaft bushing, rear	1
26	4501222	Screw	1
27	4501227	Looper rocker shaft bushing	1
28	4501228	Oil felt	1
29	4501229	Handle assembly and switch	(1)
30	4501230	Handle and switch	(1)

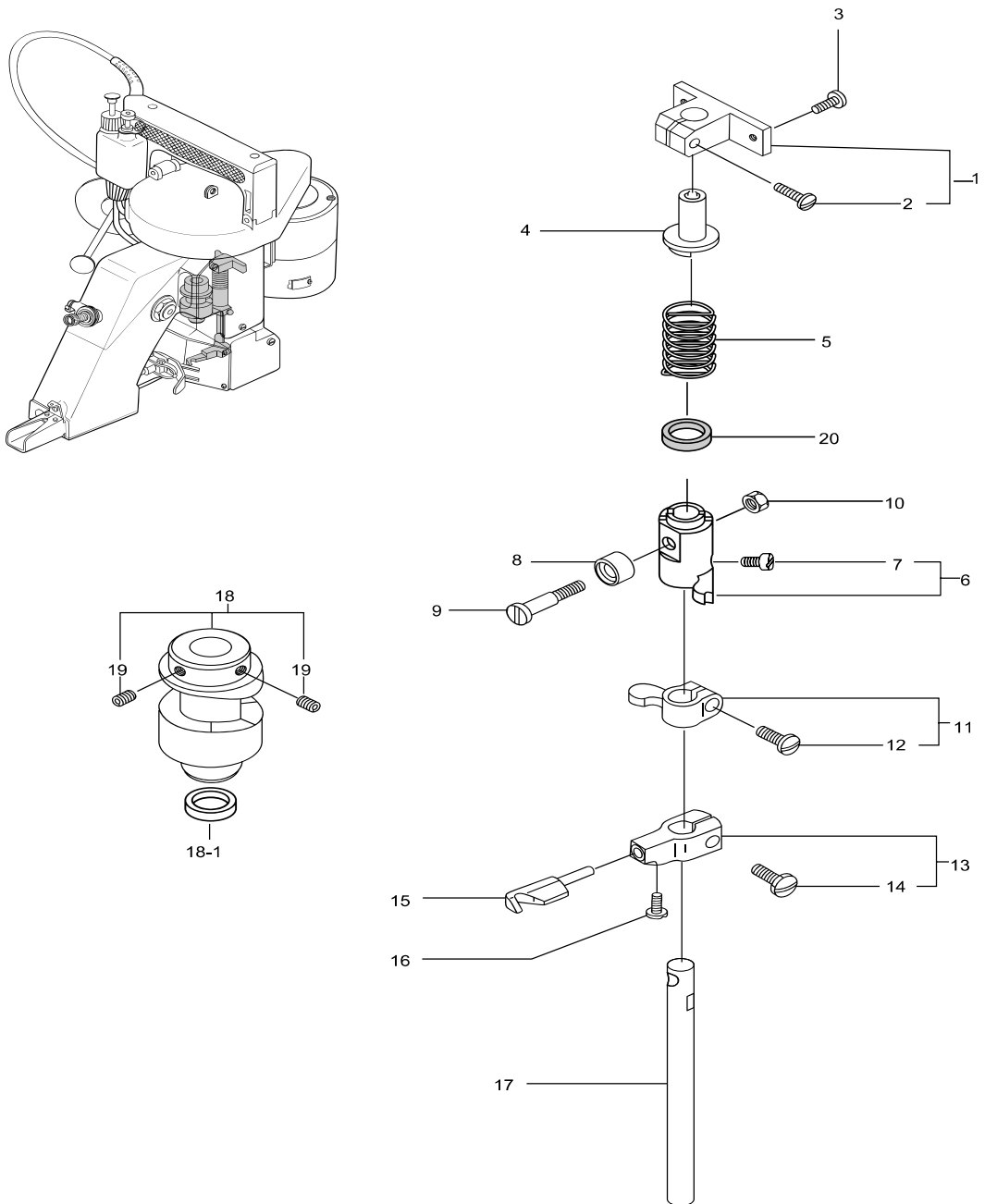
NEEDLE BAR, PRESSER BAR AND DRIVING PARTS



NEEDLE BAR, PRESSER BAR AND DRIVING PARTS

Pos. No.	Part No.	Description	Quantity
1	4501401	Synchro pulley (70 teeth)	1
2	4501402	Screw	2
3	4501203	Retaining collar	1
4	4501404	Screw	2
5	4501405	Spacer	1
6	4501224	Oil felt	1
7	4501407	Main shaft	1
7-1	4501407-1	Screw	1
7-2	4501407-2	Screw	1
7-3	4501407-3	Oil felt	1
8	4501408	Connecting rod assembly	1
9	4501409	Connecting rod sub-assembly	1
10	4501410	Screw for connecting rod cap	2
11	4501411	Screw for eccentric cam	1
12	4501412	Washer	1
13	4501413	Nut	1
14	4501414	Rod end	1
15	4501415	Screw	1
16	4501416	Washer	1
17	4501417	Oil felt	1
18	4501418	Spring	1
19	4501419	Rod end stud	2
21	4501421	Nut	2
22	4501422	Adjusting stud	2
23	4501423	Oil felt	2
24	4501424	Needle bar lever stud	1
25	4501425	Needle bar lever assembly	2
26	4501426	Screw	1
27	4501427	Oil felt	1
28	4501428	Needle bar connection assembly	1
29	4501429	Oil tube	1
30	4501430	Screw	1
31	4501431	Needle bar with nut	1
32	4501432	Needle clamp nut	1
33	DNX1-25-200/080	Needle (200/080)	1
34	4501434	Presser foot lifter base	1
35	4501435	Screw	2
36	4501436	Screw	1
37	4501437	Presser bar	1
38	4501438	Presser bar connection	1
39	4501430	Screw	1
40	4501440	Presser spring	1
41	4501441	Presser foot assembly	1
42	4501442	Screw	1
43	4501443	Nut	1
44	4501444	Screw	1
45	4501445	Presser foot assembly for CE	(1)
46	4501446	Presser foot lifter	(1)
48	4501448	O-Ring	(1)
50	4501450	Screw	(1)
51	4501451	Screw	(1)

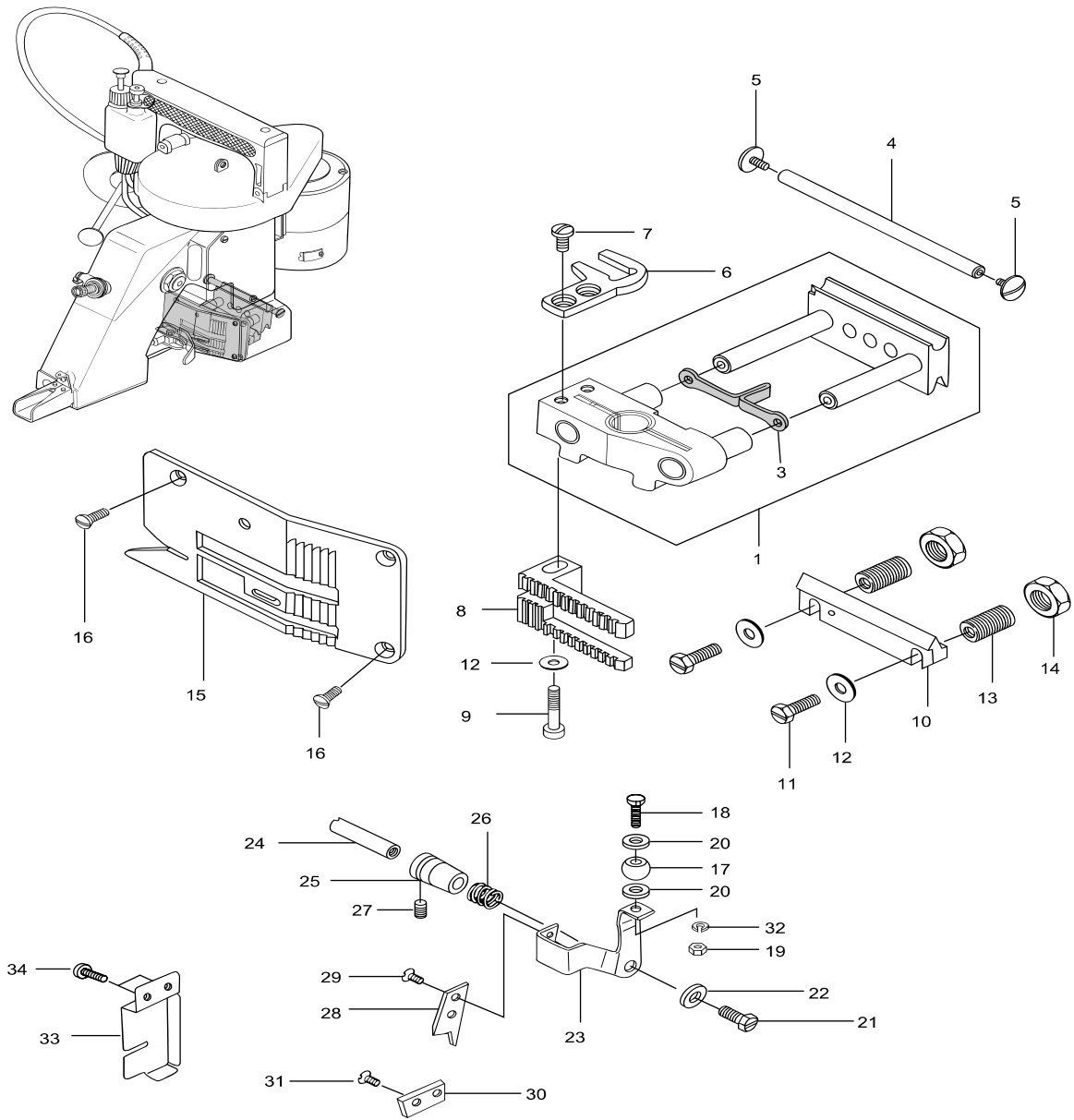
LOOPER DRIVE



LOOPER DRIVE

Pos. No.	Part No.	Description	Quantity
1	4501601	Spring supporter block	1
2	4501602	Screw	1
3	4501023	Screw	2
4	4501604	Spring supporter block	1
5	4501605	Spring	1
6	4501606	Looper rocker shaft arm	1
7	4501435	Screw	1
8	4501608	Roller	1
9	4501609	Roller stud screw	1
10	4501610	Nut	1
11	4501611	Looper rocker shaft arm	1
12	4501612	Screw	1
13	4501613	Looper rocker	1
14	4501415	Screw	1
15	4501615	Looper	1
16	4501451	Screw	1
17	4501617	Looper rocker shaft	1
18	4501618	Looper drive cam	1
18-1	4501618-1	Washer	1
19	4501619	Screw	2
20	4501224	Oil felt	1

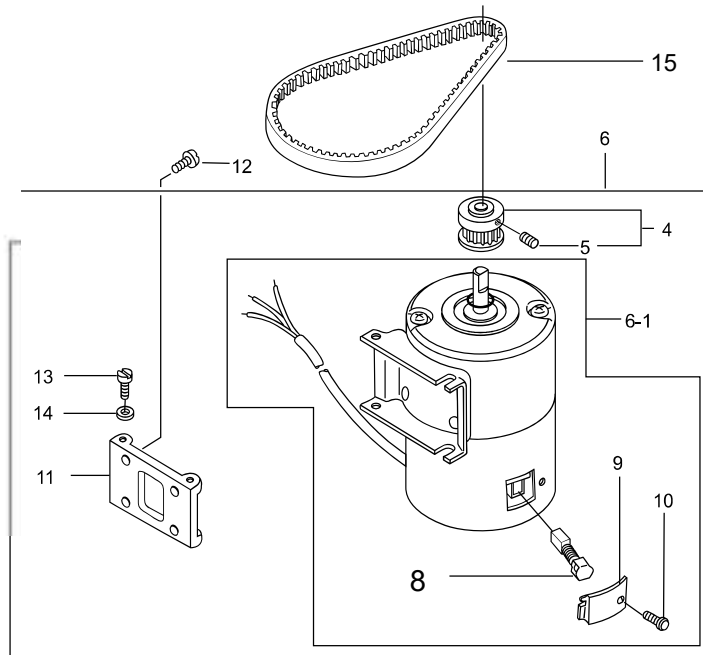
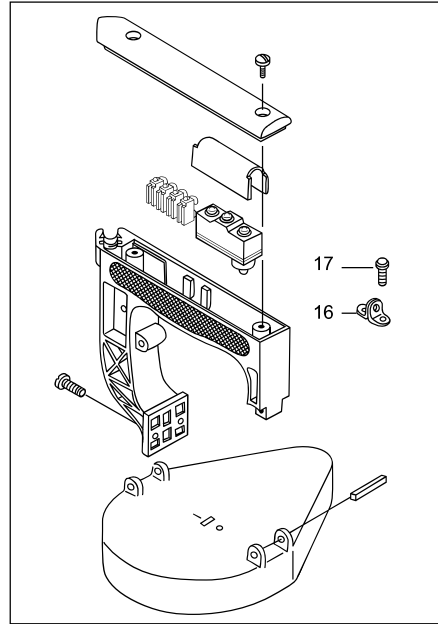
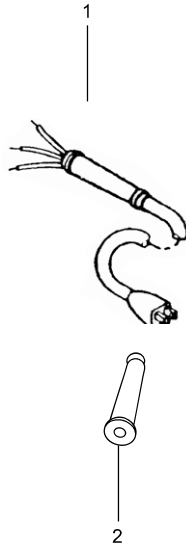
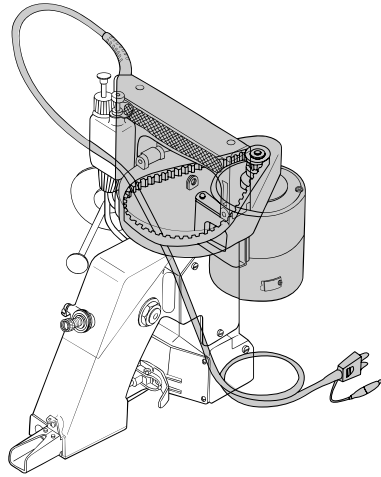
FEED DRIVE AND THREAD CUTTER



FEED DRIVE AND THREAD CUTTER

Pos. No.	Part No.	Description	Quantity
1	4501801	Feed dog carrier block assembly	1
3	4501803	Oil felt	1
4	4501804	Slide block guide stud	1
5	4501016	Screw	2
6	4501806	Knife bracket extension	1
7	4501807	Screw	2
8	4501808	Feed dog	1
9	4501809	Screw	1
10	4501810	Slide block adjusting	1
11	4501811	Lock bolt	2
12	4501416	Washer	3
13	4501813	Stud slide block adjusting support	2
14	4501814	Lock nut	2
15	4501815	Throat plate	1
16	4501007	Screw	3
17	4501817	Ball	1
18	4501818	Bolt	1
19	4501819	Nut	1
20	4501820	Washer	2
21	4501821	Screw	1
22	4501416	Washer	1
23	4501823	Knife bracket	1
24	4501824	Knife bracket pin	1
25	4501825	Bushing	1
26	4501826	Knife tension spring	1
27	4501222	Screw	1
28	4501828	Movable knife	1
29	4501829	Screw	2
30	4501830	Stationary knife	1
31	4501829	Screw	2
32	4501832	Spring lock washer	1
33	4501833	Knife cover	1
34	4502017	Screw	2

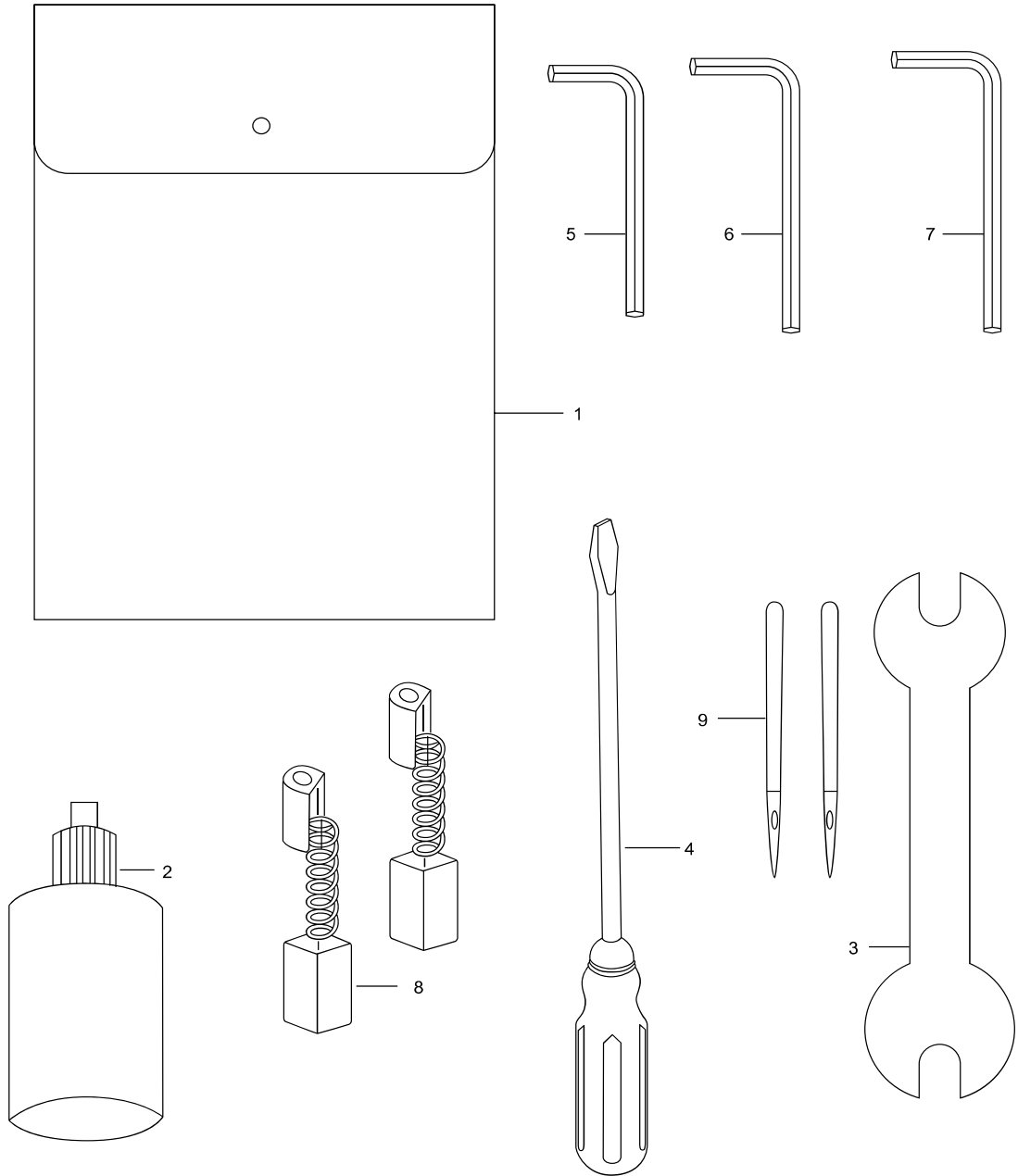
MOTOR PARTS (for completely enclosed type motor)



MOTOR PARTS (for completely enclosed type motor)

Pos. No.	Part No.	Description	Quantity
1	4502001	Device cable with plug 110 V	1
	4502001-2	Device cable with plug 230 V	1
2	4502002	Cable protection	1
4	4502004	Motor pulley	1
5	4502005	Screw	2
6	4502006	Universal motor assembly (110 V)	1
	4502006-1	Universal motor assembly (230 V)	1
6-1	4502006M	Universal motor (110 V)	1
	4502006-1M	Universal motor (230 V)	1
8	4502007	Carbon brush for AC Motor (Size: 6 x 8 x 15 mm)	2
9	4502009	Cap	1
10	4502010	Screw (with washer)	1
11	4502011-1	Motor base	1
12	4501212	Screw	4
13	4501415	Screw	4
14	4502014	Washer, for motor	4
15	4502015	Timing belt	1
16	4502016	Hanger hook	1
17	4502017	Screw	2
*18	90191M2	Spring balancer complete (Extra send and charge)	1
*	Price upon request		

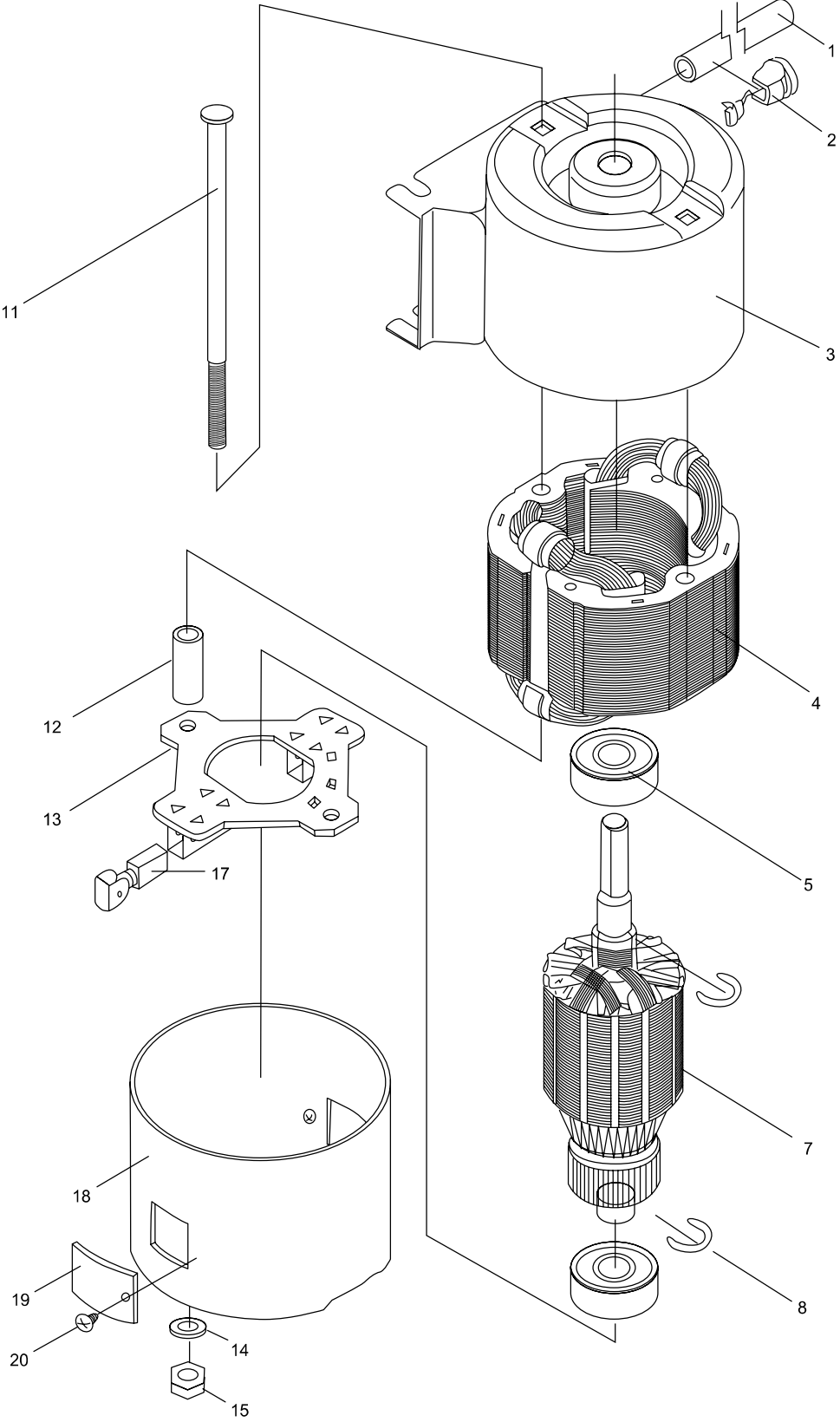
ACCESSORIES



ACCESSORIES

Pos. No.	Part No.	Description	Quantity
1	4503401	Accessory bag	1
2	4503402	Oiler	1
3	4503403	Spanner	1
4	4503404	Screw driver	1
5	4503405	Hex wrench 2.0 mm	1
6	4503406	Hex wrench 2.5 mm	1
7	4503407	Hex wrench 3.0 mm	1
8	4502007	Carbon brush for AC Motor (Size: 6x8x15 mm)	2
9	DNX1-25-200/080	Needle (200/080)	2

DRIVE PARTS



DRIVE PARTS

Pos. No.	Part No.	Description	Quantity
1	4503601	Cord	1
2	4503602	Strain relief bushings	1
3	4503603	Case „A“	1
4	4503604	Stator assembly for 110 V	1
	4503604-1	Stator assembly for 230 V	1
5	4503605	Ball bearing	1
7	4503607	Armature assembly for 110 V	1
	4503607-1	Armature assembly for 230 V	1
8	4503608	C-Ring	2
11	4503611	Screw	1
12	4503612	Pipe	1
13	4503613	PC plate	1
14	4503614	Washer	1
15	4503615	Nut	1
17	4502007	Carbon brush for AC motor	1
18	4503618	Case „B“	1
19	4502009	Cap for motor	1
20	4502010	Screw	1

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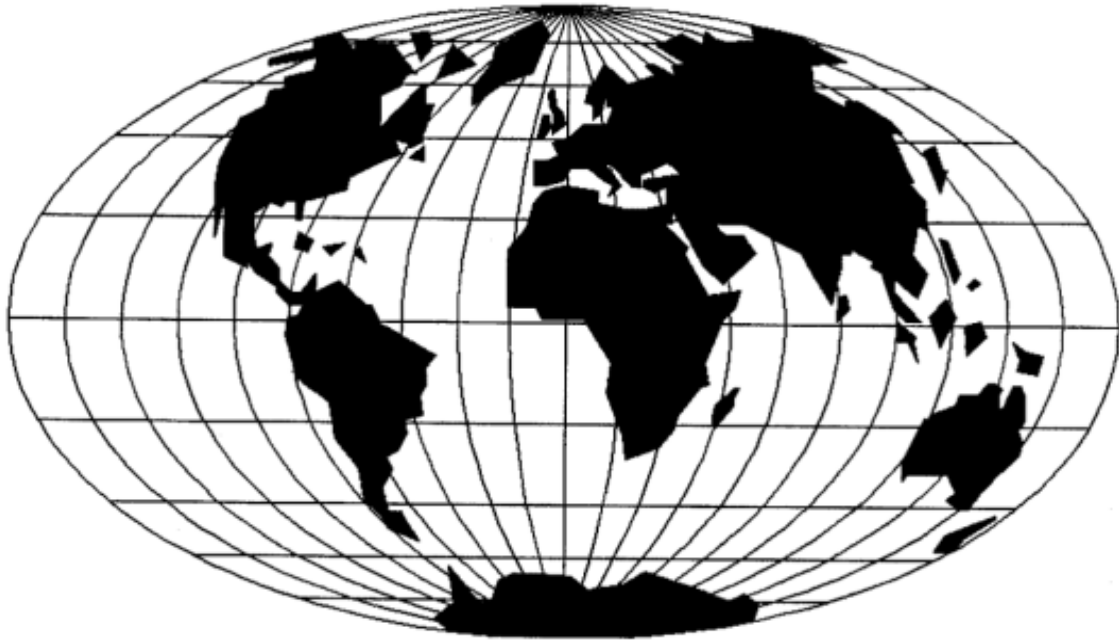
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