INSTRUCTION MANUAL

FOR

SINGER®

MACHINE

412U 141A
141B
141G
541A
541B
541G

CONTENTS

APPLICATION

Two needle lockstitch machine for sewing light weight to heavy weight materials.

NOTES ON SAFETY

The machine must only be commissioned in full knowledge of the instruction manual and operated by persons with appropriate training.

Before putting into service also read the safety notes and the instruction manual of the motor supplier.

The machine must be used only for the purpose intended. Use of the machine without the safety devices belonging to it is not permitted.

When gauge parts are exchanged (e.g. needle, presser foot, needle plate, feed dog and bobbin), during threading, when the workplace is left, and during service work, the machine must be isolated from the mains by switching off the main switch or disconnecting the mains plug.

On mechanically operated clutch motors without start inhibitor it is necessary to wait until the motor has stopped.

General servicing work must be carried out only by appropriately trained persons.

Repairs, conversion and special maintenance work must only be carried out by technicians or persons with appropriate training.

For service or repair work on pneumatic systems the machine must be isolated from the compressed air supply system. Exceptions to this are only adjustments and function checks made by appropriately trained technicians.

Work on the electrical equipment must be carried out only by electricians or appropriately trained persons.

Work on parts and systems under electric current is not permitted, except as specified in regulations EN50110.

Conversions or changes to the machine must be made only on adherence to all safety regulations.

For repairs, only replacement parts approved by us must be used.

Commissioning of the sewing head is prohibited until such time as the entire sewing unit is found to comply with EC regulations.

Meaning of the symbols:

Danger spot!
Items requiring special attention

Danger of injury to operative or service staff
Be sure to observe and adhere to these safety notes!

Earth

COMMISSIONING

To avoid disturbances or damages it is absolutely necessary to observe the following instructions:

Before you put the machine into operation for the first time clean it thoroughly, and oil it well (see page 3).

Have the mechanic check whether the motor can be used with existing mains voltage or not, and that junction box is correctly connected. Do not start the machine if the voltage is not correct!

When the machine runs, the balance wheel must rotate toward the operator. If it does not, have the electrician change the wires on the motor.

TO INSTALL THE BELT GUARD

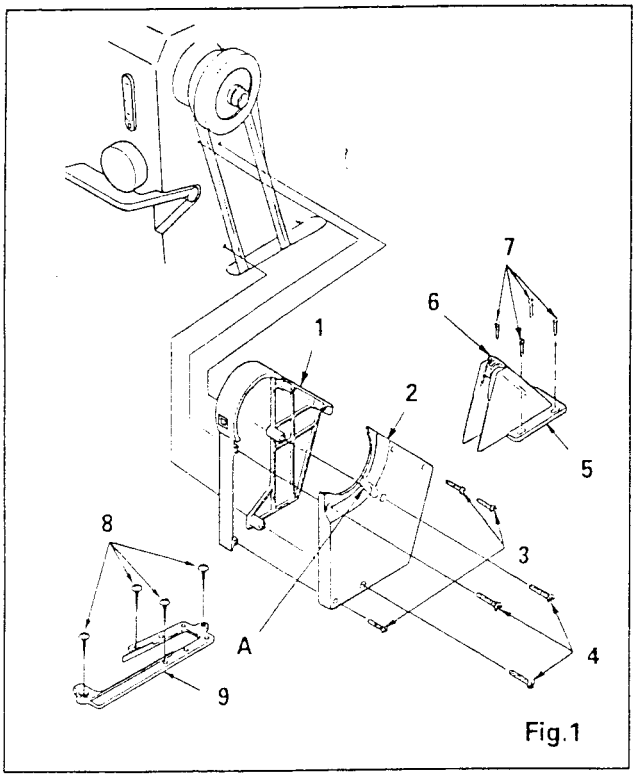


Fig.1

CAUTION

Switch off the machine.
Set sewing head upright again using both hands.
Danger of crushing between sewing head and table top.
Do not run machine without belt guard! Danger of accidents!

Above table surface (See Fig.1)

Fasten belt guards (1) and (2) to machine head with screws (3) and (4).

Then fasten belt guards (5) and (9) to table with wood screws (7) and (8) making sure they will not interfere with belt guards (1) and (2), and so that the V-belt will rest against the belt guard slide (6) when machine is tipped back on its hinges.

For machines fitted with back tack switch and needle positioner motor, break off portion (A) of belt guard (2).

Below table surface

Fasten belt guard to motor so that motor pulley and V-belt will rotate freely without interference.

LUBRICATION

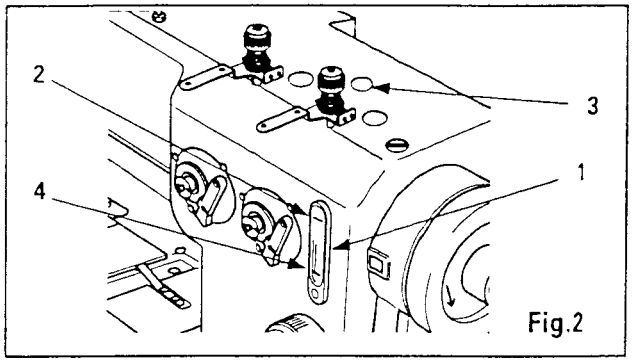


Fig.2

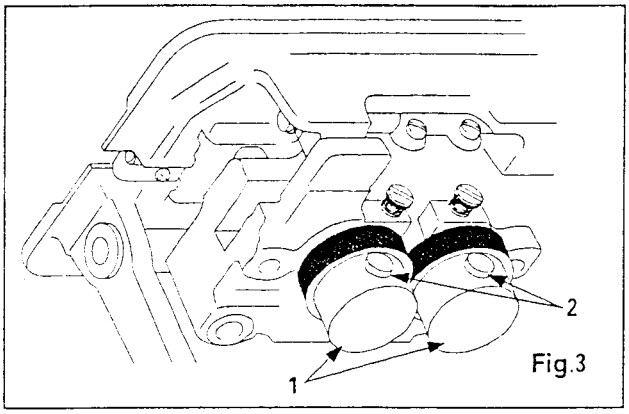


Fig.3

CAUTION

Switch off the machine.
Set sewing head upright again using both hands.
Danger of crushing between sewing head and table top.

Overall lubrication (See Fig.2)

Fill oil tank to upper red line (2) of oil gauge (1) from oil supply hole (3).

Check the oil level in the oil tank at regular intervals. Never let the oil level drop below the lower red line (4).

Lublication of sewing hook

Tip machine back on its hinges, remove rubber caps (2) shown in Fig. 3 from oil tanks (1) and fill the oil tank.

Check the oil level in the oil tanks (1) at regular intervals and fill oil when oil level becomes low.

Use only oil with a viscosity of 20.0mm²/sec. at 38 °C and a density of 0.888 g/cm³ at 15 °C.

We recommend use of Singer type "C" oil.

NEEDLE, THREAD AND FABRIC

Size of needle should be determined in accordance with the size of thread used and type of material being sewn.

A correct size needle will permit the thread to pass freely through the eye of the needle and avoid strain and breaking.

A bent needle will cause your machine to skip stitches.

A hook or burr on the needle point will result in a finish that looks blurred and when short stitches are used some materials may be cut.

Therefore, to obtain best sewing results, use SINGER needles.

Application of Class		For Light Weight Materials	For Medium Weight Materials	For Heavy Weight Materials
• Max. thread size - Synthetic	Metric No.	120-100	100-60	60-30
	Cotton No.	80-60	60-30	30-12
Needle size	SINGER	#8-#10	#12-#16	#18-#21
	Metric	60-70	80-100	110-130
Catalog No. (Needle system)		1955-01		
• or an equivalent size of other type of thread				

TO INSERT THE NEEDLE

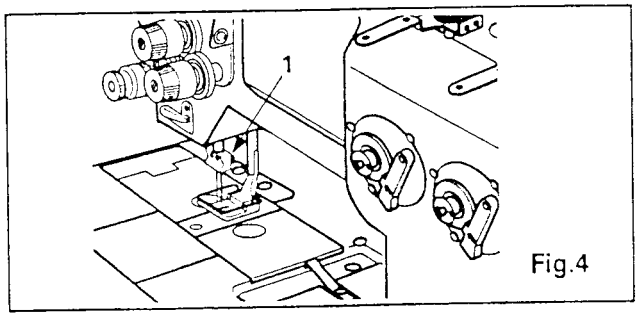
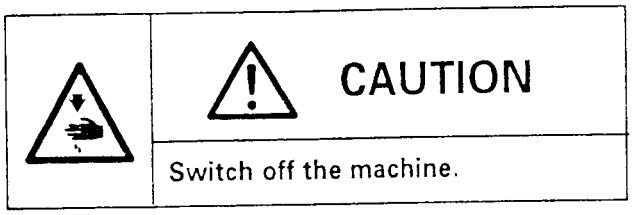


Fig.4



Use Cat. No. 1955-01 needles. (See table on page 3.)

Turn machine pulley toward you until needle bar is at its highest point and loosen needle set screw (1), Fig. 4.

Insert the needle into needle holder as far as it will go.

Set right needle with long groove facing the left and left needle with long groove facing the right and tighten needle set screws (1) securely.

TO WIND THE BOBBIN

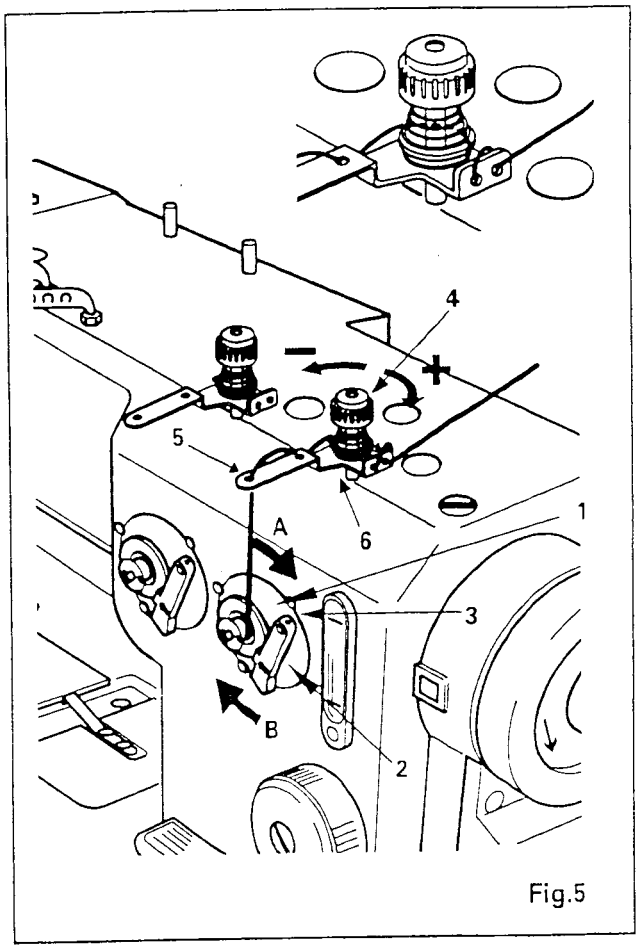


Fig.5

Bobbin thread is wound with bobbin winder shown in Fig. 5.

Bobbin winder spindle (1) rotates in the direction of arrow (A).

Push lever (2) in the direction of arrow (B) to wind the bobbin.

Loosen screw (3) and adjust lever (2) to regulate the amount of thread on bobbin.

Turn thumb nut (4) as required to regulate the tension for bobbin winding.

If thread winds unevenly on bobbin, loosen nut (6) and swing bobbin winder pretension (5) to the left or right, as required, and tighten nut (6).

TO THREAD THE MACHINE

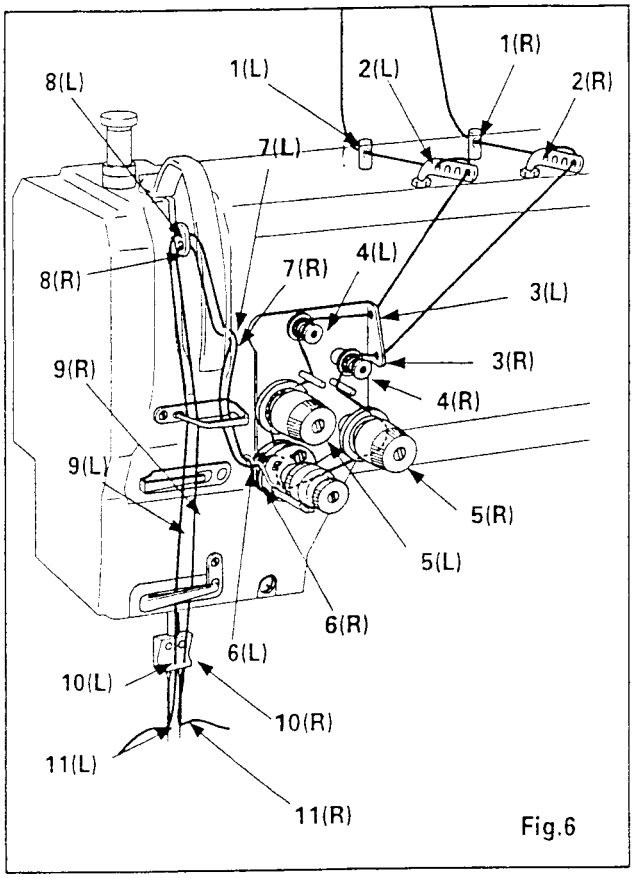


Fig.6

CAUTION

Switch off the machine.

To thread the needle thread

Turn machine pulley over toward you until needle bar is at its highest point.

To thread the left needle

Pass the thread from the unwinder through thread guide stud 1(L), thread retainer 2(L), hole in tension bracket 3(L), between pretension discs 4(L) and tension discs 5(L), through loop of thread controller spring 6(L), thread regulator 7(L), upper eye in take-up lever 8(L), thread guide 9(L) and needle holder thread guide 10(L) as shown in Fig. 6.

Thread the needle 11(L) from right to left leaving about 8cm of thread with which to start sewing.

To thread the right needle

Pass the thread from the unwinder through thread guide stud 1(R), thread retainer 2(R), hole in tension bracket 3(R), between pretension discs 4(R) and tension discs 5(R), through loop of thread controller spring 6(R), thread regulator 7(R), lower eye in take-up lever 8(R), thread guide 9(R) and needle holder thread guide 10(R) as shown in Fig. 6.

Thread the needle 11(R) from left to right leaving about 8cm of thread with which to start sewing.

TO REMOVE THE BOBBIN

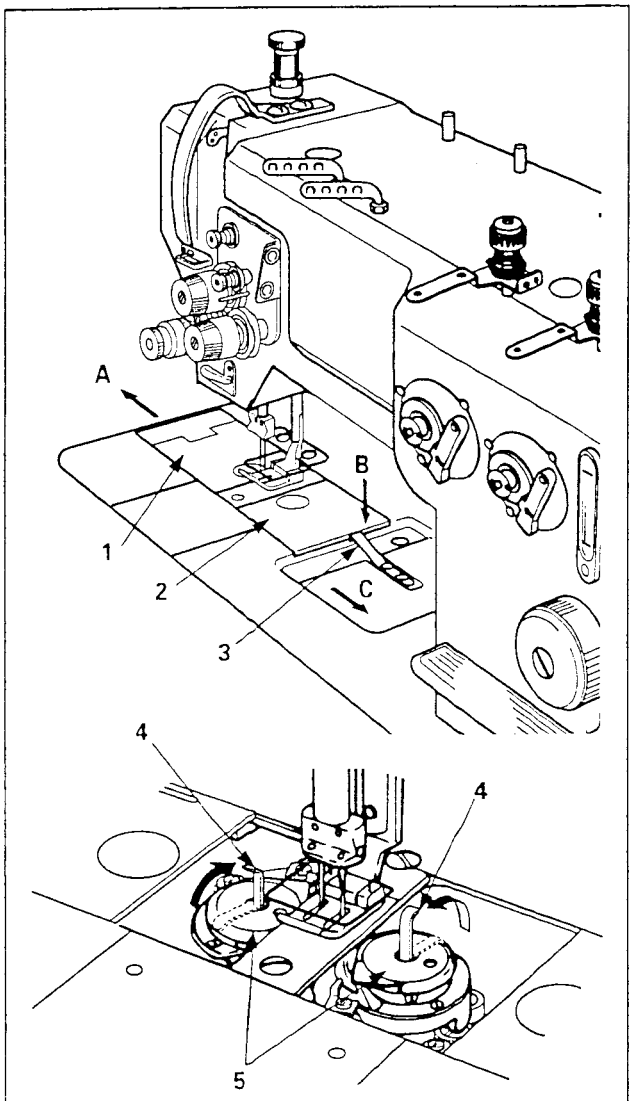


Fig.7

CAUTION

Switch off the machine.
Do not operate machine with bed slide open.

Open left bed slide (1) in the direction of arrow (A), as shown in Fig. 7.

Press bed slide spring (3) downward in the direction of arrow (B) and open bed slide (2) by sliding it in the direction of arrow (C).

Open latch (4) and remove bobbin case cap and bobbin (5) from sewing hook.

TO REPLACE THE BOBBIN

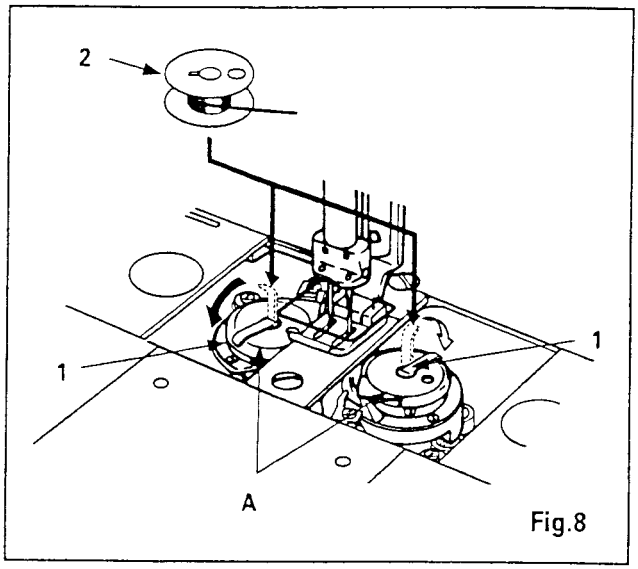


Fig.8

CAUTION

Switch off the machine.
Do not operate machine with bed slide open.

Place bobbin (2) on latch (1) and close latch as shown in Fig. 8.

NOTE: Be sure to place the bobbin in the sewing hook so that thread will unwind in the direction indicated by arrow (A).

TO THREAD THE BOBBIN CASE

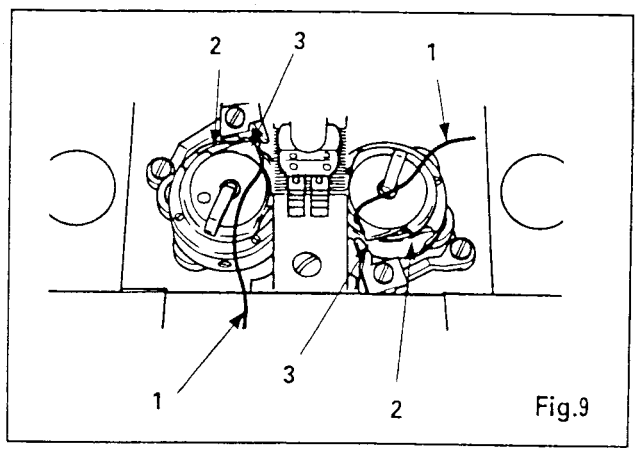


Fig.9

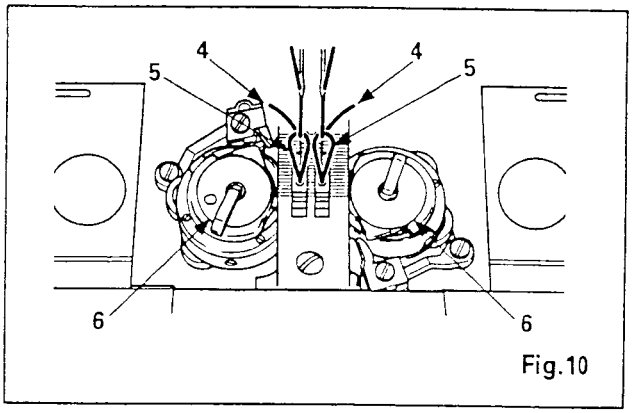


Fig.10

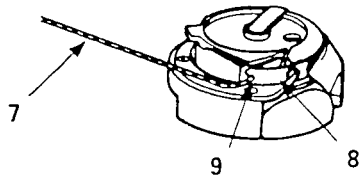


Fig.11

CAUTION

Switch off the machine.
Do not operate machine with bed slide open.

Pull bobbin threads (1) into slot (2) and under lobe (3) of left and right bobbin cases and draw thread end of left bobbin case to the front and thread end of right bobbin case to the rear of machine as shown in Fig. 9.

Turn machine pulley over toward you until needle bar is at its highest point.

Pull on the needle threads (4) and bobbin threads (5) will come up through the holes in the feed dog as shown in Fig. 10.

Then pull bobbin threads (5) to the rear of machine while pressing the bobbin (6) lightly.

Pulling the bobbin thread (7) to the rear of machine will draw the bobbin thread under the tension spring (8) and out from the delivery slot (9) in the tension spring as shown in Fig. 11.

TO REGULATE THE NEEDLE THREAD TENSION

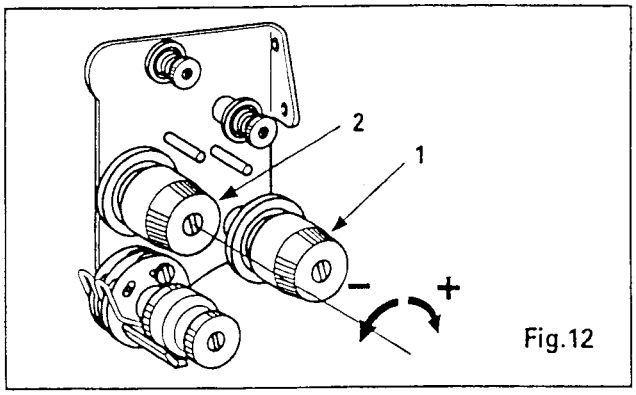


Fig.12

Turn tension regulating knob (1), as required, to regulate right needle thread tension and knob (2) to regulate left needle thread tension as shown in Fig. 12.

TO REGULATE THE THREAD CONTROLLER SPRING TENSION

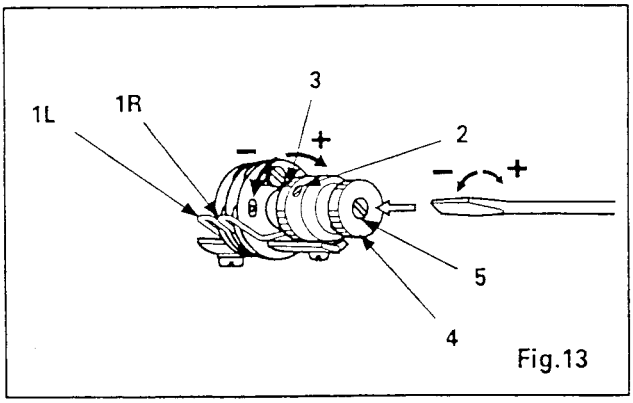


Fig.13

To regulate the tension on thread controller spring (1R) for the right needle thread, loosen set screw (2) and turn knurled ring (3), as required, as shown in Fig. 13.

To regulate the tension on thread controller spring (1L) for the left needle thread, loosen thumb nut (4) and with a large screwdriver in slot of stud (5), turn stud (5) as required.

TO REGULATE MOVEMENT RANGE OF THREAD CONTROLLER SPRING

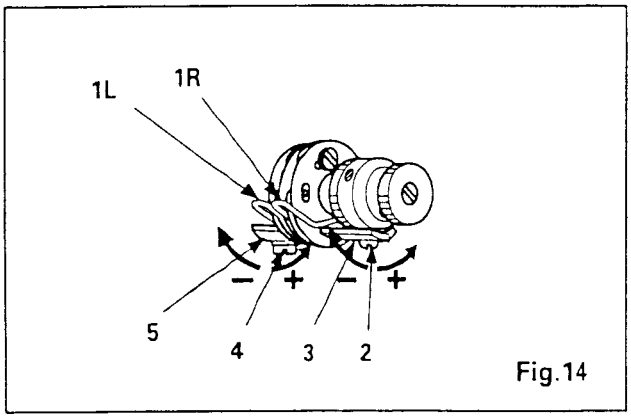


Fig.14

To regulate movement range of thread controller spring (1R) for the right needle thread, loosen screw (2) and adjust stop plate (3), as shown in Fig. 14.

To regulate movement range of thread controller spring (1L) for the left needle thread, loosen screw (4) and adjust stop plate (5) as required.

TO REGULATE THE PRETENSION

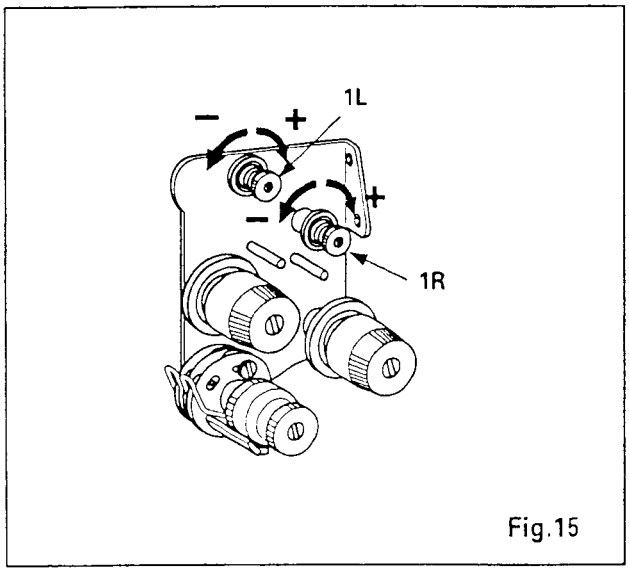


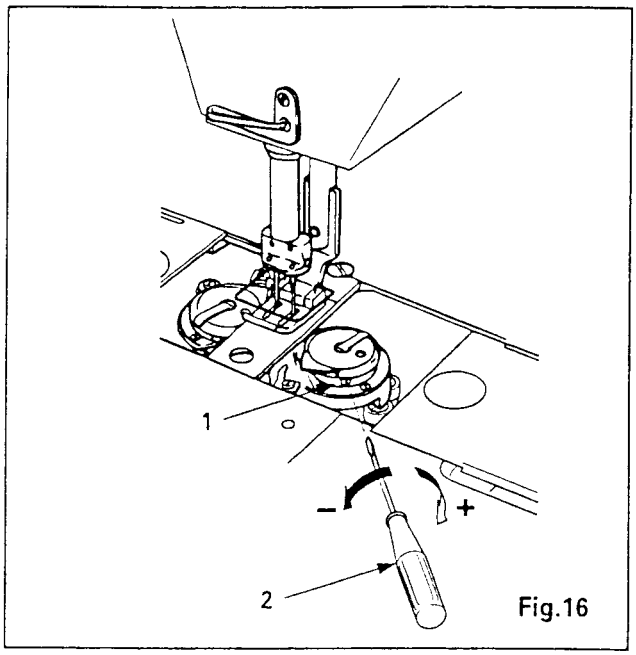
Fig.15

Adjust pretension as shown in Fig. 15 to eliminate twisting of the needle thread and prevent it from slipping out of the tension complete.

To adjust pretension for right needle thread, turn thumb nut (1R), as required.

To adjust pretension for left needle thread, turn thumb nut (1L), as required.

TO REGULATE THE BOBBIN THREAD TENSION

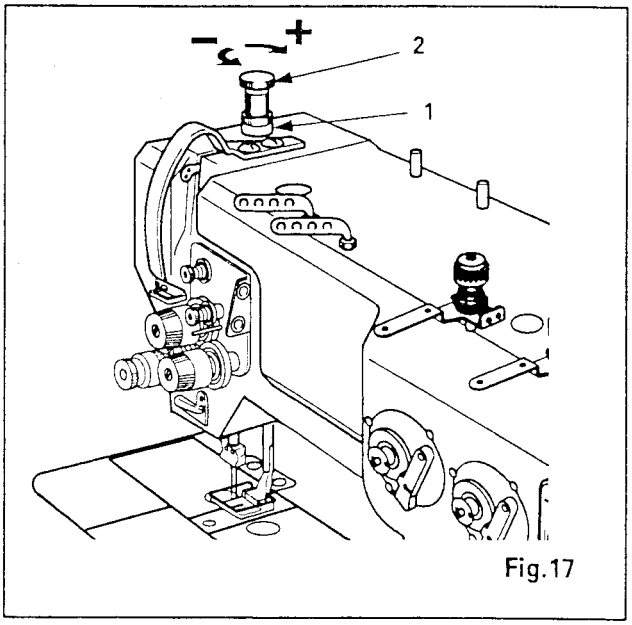


CAUTION

Switch off the machine.
Do not operate machine with bed slide open.

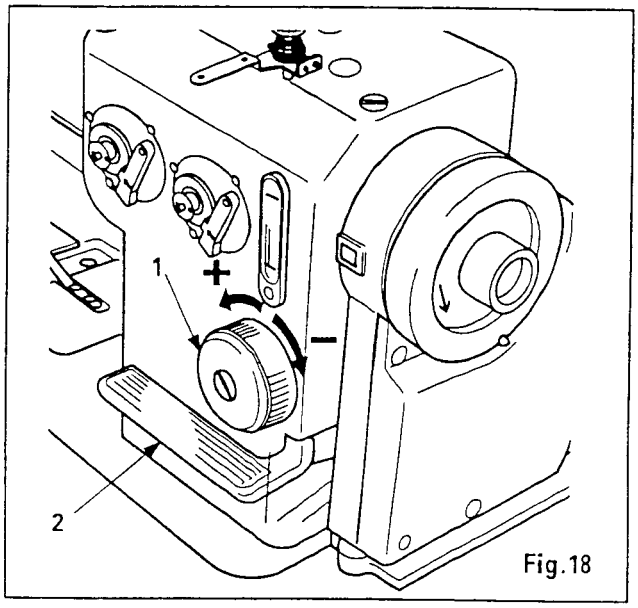
Turn machine pulley over toward you until bobbin thread tension spring screw (1) is accessible with a small screwdriver (2) as shown in Fig. 16 and turn tension spring screw (1) with screwdriver (2), as required.

TO REGULATE THE PRESSER FOOT PRESSURE



To regulate the presser foot pressure, loosen lock nut (1) as shown in Fig. 17, and turn thumb screw (2), as required.

TO REGULATE THE STITCH LENGTH



To regulate the length of stitch, turn feed regulating dial (1) to the left or right, as shown in Fig. 18.

To change the direction of feed for manual back tacking, press feed reverse lever (2) down and hold in this position until back tack is completed.

When lever (2) is released, direction of feed will change to forward feed.

NOTE: Numerals on feed regulating dial (1) denotes stitch length in millimeter although it may differ slightly depending on sewing condition.

TO REGULATE AMOUNT OF OIL FLOW TO SEWING HOOK

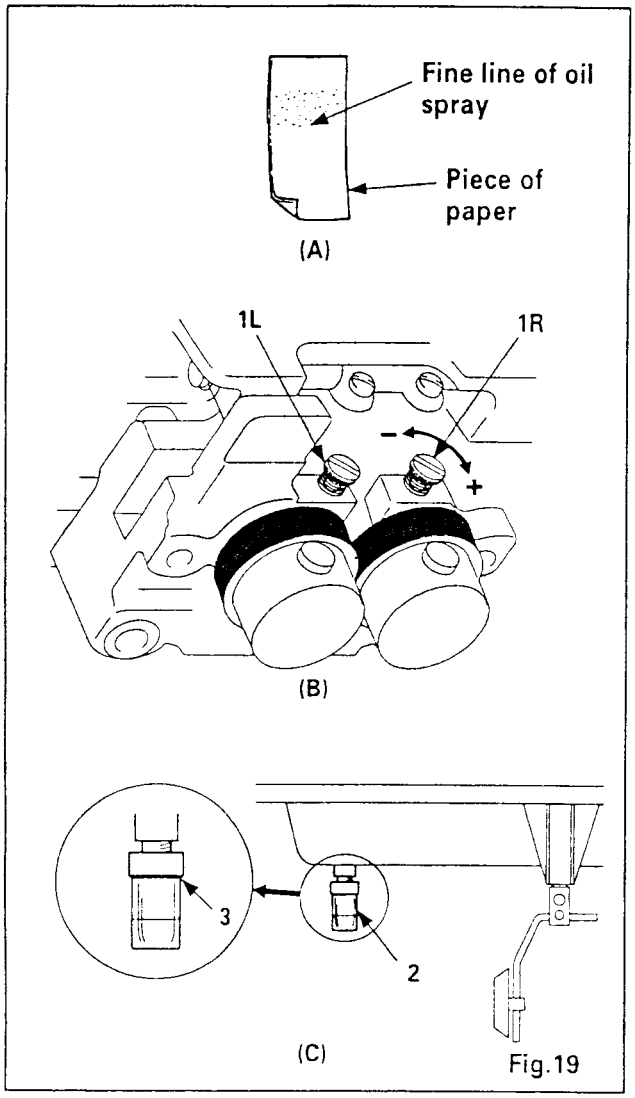
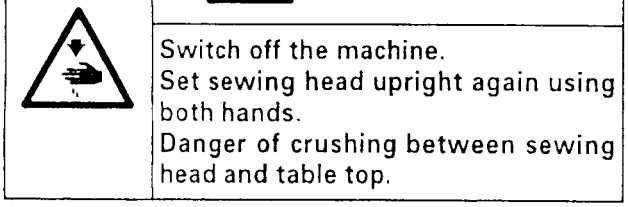


Fig.19



CAUTION

Switch off the machine.
Set sewing head upright again using both hands.
Danger of crushing between sewing head and table top.

Run machine for one minute to remove oil accumulated in the sewing hook.

Then hold a piece of paper alongside the sewing hook and run machine approximately 10 seconds to check oil flow.

A fine line of oil spray should show on the paper as shown in Fig. 19-A.

Depending on the oil spray pattern on the paper, increase or decrease oil flow by turning oil flow regulating screw (1R) for right hook, and (1L) for left hook, as shown in Fig. 19-B.

Remove oil accumulated in the drain jar (2),(Fig. 19-C) before it reaches the flange (3) of drain jar (2).

BACK TACK SWITCH (412U141G/541G)

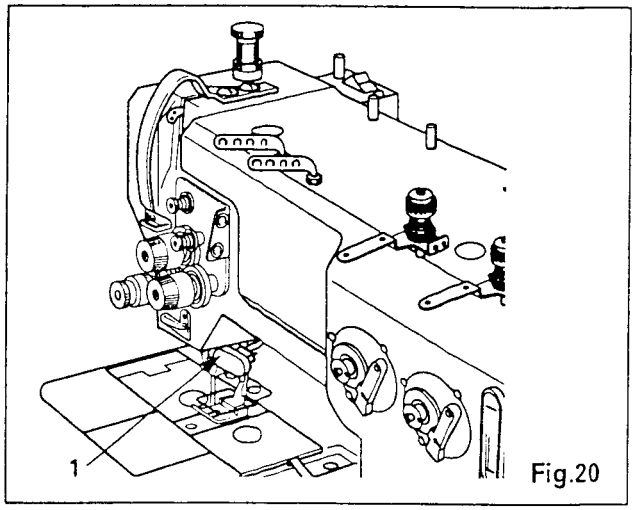


Fig.20

Push back tack switch (1), Fig. 20, for back tacking. The machine will continue to sew in reverse while the back tack switch is pushed.

WIPER (412U141B/141G/541B/541G)

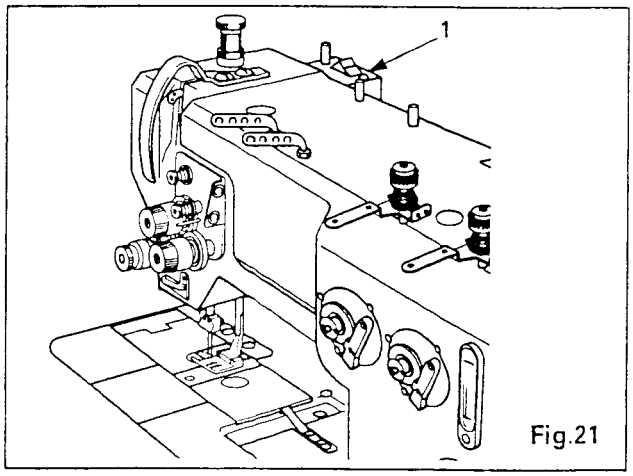


Fig.21

The wiper is very convenient for sewing operation such as sewing the needle thread end into the stitches on the underside of the fabric.
Turn switch (1) off when wiper is not required for sewing operation. (Fig. 21)

MACHINE CARE

CAUTION

Switch off the machine.
Set sewing head upright again using both hands.
Danger of crushing between sewing head and table top.

When machine is in regular use, remove the lint and dust from around sewing hook area once a day.

A machine in frequent use should be cleaned and oiled more frequently.

Oil accumulated in drain jar (Fig. 19-C) should be removed as occasion demands.

SPECIFICATIONS

VARIETY		141A	141B	141G	541A	541B	541G
Stitch type		Lockstitch					
Type of feed		Compound feed					
For sewing		Light to medium			Medium to heavy		
Needle bar stroke		33.4 mm			35.2 mm		
Max. speed**		4,500 SPM.			4,000 SPM.		
Max. stitch length		4.2 mm					
Presser bar lift (by hand)		6.4 mm					
Presser bar lift (By knee)		10.0 mm					
Needle gauge (*...Standard)		3.2mm (1/8in)	*4.8mm (3/16in)	*6.4mm (1/4in)	7.9mm (5/16in)	9.5mm (3/8in)	25.4mm (1in)
Needle		Cat. No. 1955-01 #14			Cat. No. 1955-01 #21		
Hook (Two-piece Auto-lebrication type)	Standard size	#554824			-		
	1.8 Times size	-			#554825		
Bobbin case type	Latch type	Standard					
	Cap type	Optional					
Bobbin		282762			282763	282764	
Thread trimmer		-	Sickle-type		-	Sickle-type	
Trimmer driving system		-	Solenoid and cam controlled		-	Solenoid and cam controlled	
Back tack		-	-	Solenoid (DC24V)	-	-	Solenoid (DC24V)
Machine pulley		74mm (Effective diameter of V-belt pulley)					
Lubrication system		Automatic lubrication by means of plunger pump and oil wicks					
Oil return system		Plunger type oil return system					
Oil		Singer type "C" oil					
Work space width		245 mm					
Work space height		105 mm					
Bed size		518 X 178mm					
Noise level		Lpa ≦ dBA Noise measurement according to DIN 45 635-48-A-1					
Net weight(Head only)		48.0	51.0	52.0	48.0	51.0	52.0
Gross weight(With accessories)		56.0	59.5	60.5	56.0	59.5	60.5

NOTE:** The machine should be operated at a speed slower than the maximum recommended speed depending on the material and thread used and also on the type of work being done.

Design, dimension and weight etc. may be changed without notification when considered necessary.

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