THE SINGER MANUFACTURING CO.

SINGLE NEEDLE

LOCK STITCH

SINGER SEWING MACHINES

NAVY TYPE "B"

245-3

SINGER SEWING MACHINE

FOR USE IN AND ADJUSTING

INSTRUCTIONS

Form 19793
Printed in U.S.A.

The balance wheel turns toward the operator. Depending on the nature of the material being stitched, the maximum speed recommended is 3500 R.P.M. The

**Speed**

Optionally when specified, presser foot tilt is 3/8 inch rearward or 7/16 inch. The needle bar stroke is 1 15/32 inch and the maximum machine makes from 57 to 60 stitches per inch.

**Specifications**

Gears which are grease-injected through automatic replenishing. It has a rotary hook, driven by spur gear. The Singer 245-3 is a single-speed, single-needle, single-thread, lightweight, portable machine designed for stitching heavy weight fabrics.
KEEP ALL MACHINE SURFACES WITH OIL.
APPLICATION AT LEAST FOUR TIMES DAILY.

When used continuously, the machine should be
applied through all oil ports indicated by the unlettered arrows.

PICT. 2: Rear View of Class 245 Machine - Oiling Points

PICT. 2: Front View of Class 245 Machine - Oiling Points

LUBRICATION
Since wheel is applied grease through these grease fittings.

**CAUTION:** To avoid overfilling the gear cases, do not turn the bat-
the same manner and in the same quantity as for gear case (5), (6).

Through grease fitting (2), (5) and apply lubricant
rear side and remove lever note
lay the machine back on top
screw (C) and arm top cover.

Through the note at (C), replace
the note at (C). The quantity can
be roughly checked by observation
enough to cause it to emerge from
overfill the gear case nor apply
overfill the gear case, nor apply
Grease fitting (A), (4). Do not
Grease fittings (A), (4). After
move the lever note screw (C), (6).
cover to the machine arm and re-
screws which raises the arm top
extra charge, take out the two
Grease Guns are supplied on order at
(2 oz. capacity) or larger grease gun (1/2 lb. capacity).

*Fig. 4, Top View, Arm Top Cover Removed, Upper Gear Case Information.*
In the throat plate, oil the hook with oil. Never oil the sewing hook race through the needle hole.

**CAUTION:**

1. Oil the point in hook race.
2. Oil the outer bearing in the sewing hook race, as shown in Fig. 7.
3. At least four times each day apply one drop of oil to the bobbin.
4. Oil the parts in machine bed.

(Figures and diagrams are shown in the image.)
The best stitching results will be obtained with needles furnished by the Singer Sewing Machine Company.

The following is an example of an identify order:

<table>
<thead>
<tr>
<th>Size</th>
<th>Needle</th>
<th>Quantity Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>18,14,16,17,18,19,21</td>
<td>16g67</td>
<td>500 NO. 16, 16g67 Needles</td>
</tr>
</tbody>
</table>

The above needles are regularly stocked but are available with corinthium finish if ordered.

Needles

- 18, 14, 16, 17, 18, 19, 21
- 6, 9, 10, 11, 12, 14, 16, 17

Measure 7/16" presser
Bar tilt 2/8" with
Sizes and variety
Bar tilt 7/16" presser
24g-2 with
Needles for this machine are as follows:
NEVER TOUCH THE STITCH REGULATOR PLUNGER WHEN THE MACHINE IS RUNNING.

DO NOT PRESS ON THE KNEE JIGGER LEVER WHILE THE MACHINE IS IN OPERATION.

The slide over the bobbin case should be kept closed when the machine is not in use. The machine feeds the work without assistance. Do not try to help the machine by pulling the fabric. Do not run the machine when both bobbin case and needle are threaded without cloth under the presser foot. Do not run the machine when the presser foot rests on the feed dog. The balance wheel must always turn toward the operator.

**Hints for Perfect Operation**

<table>
<thead>
<tr>
<th>Size of Work</th>
<th>Class of Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 to 60 linen</td>
<td>16 to 20 cotton</td>
</tr>
<tr>
<td>60 to 80 linen</td>
<td>20 to 30 cotton</td>
</tr>
<tr>
<td>Trouser, trousers, heavy clothing, gen.</td>
<td>Heavy woolens, thickens, heavy</td>
</tr>
<tr>
<td>80 to 40 cotton</td>
<td></td>
</tr>
<tr>
<td>Trouser, boys' clothing,童服</td>
<td>Thickens, upholstery, woolen goods, etc.</td>
</tr>
<tr>
<td>10 to 40 cotton</td>
<td>18</td>
</tr>
<tr>
<td>10 to 60 cotton</td>
<td>17</td>
</tr>
<tr>
<td>En goods, heavy, stick, seamless, stitch</td>
<td>All kinds of heavy calicoes, light wool, etc.</td>
</tr>
<tr>
<td>10 to 40 cotton</td>
<td>16</td>
</tr>
<tr>
<td>General work, stick, press goods and all classes of</td>
<td>Shirtings, sheetings, calicoes, muslins, etc.</td>
</tr>
<tr>
<td>Cotton, linen</td>
<td>Needle sizes of work</td>
</tr>
</tbody>
</table>

The following table gives the recommended sizes of needles and thread for the different classes of work.
To remove the bobbin:

1. Turn the balance wheel over towards you until the needle moves up to the highest position. Draw out the slide in the bed of the machine.

2. Open the bobbin case latch (Fig. 9) and by means of this latch, re-
move the bobbin case from the sewing hook.

3. With the latch remaining open, the bobbin will drop out.

Printed in U.S.A.
Bobbins can be wound while the machine is in operation.

To wind less thread on the bobbin, turn this screw counterclockwise.

(b) To wind more thread on the bobbin, turn the screw clockwise.

The amount of thread wound on the bobbin is regulated by the screw.

As may be required, then tighten the screw.

If the thread does not wind evenly on the bobbin, loosen the screw.

When sufficient thread has been wound upon the bobbin, the bobbin

will stop automatically.

Machine.

When sufficient thread has been wound upon the bobbin, the bobbin

will stop automatically. Then wind the end of the thread around the bobbin a few times, push

the bobbin winder pulley over against the machine belt and start the

machine.

Then wind the end of the thread around the bobbin a few times, push

the bobbin winder pulley off the driving pulley, then wind the bobbin winder to the table with its driving pulley in

front of the machine belt, so that the pulley will drop away from the

belt. When sufficient thread has been wound upon the bobbin, the bobbin

will stop automatically. Then fasten the bobbin winder to the table with its driving pulley in

See Fig. 10.

To wind the Bobbin
To thread the bobbin case:

1. Place the bobbin into its slot in the edge near the top, and with the left hand, hold the bobbin between the thumb and forefinger of the right hand, as shown in Fig. II, the slot in the edge of the bobbin case as shown in Fig. I. T, the thread under the tension spring and into the delivery eye at the end of the ten-sion spring (see Fig. 12). Then pull the thread into the

Fig. 12

Fig. 11

Fig. 10
To Set the Needle

To thread the bobbin, you need to follow these steps:

1. Loosen the screw of the needle bar and put the needle up into the bar as far as it will go. With the long groove of the needle toward the left and the eye of the needle directly in line with the arm of the machine, turn the balance wheel over toward you until the needle bar moves up to its highest position. Loosen the screw in the lower end.

2. Turn the balance wheel over toward you until the needle bar moves up to its highest position. Loosen the screw in the lower end.

3. Release the latch and press the bobbin case back until the latch catches the groove near the end of the stud (see FIG. 14). Allow the bobbin case to hang free, and replace the slide in about two inches of thread.

4. Replace the bobbin case on the center stud (2/3 of the bobbin case holder) after threading. Take the bobbin case by the latch and place the bobbin case threaded and replaced.

FIG. 14.
the threaded eyefelt (10), down through Guide (11) on the needle clamp, take-up lever (8), down through the threaded Guide (9), down through slot in reverse lever (6), up and back over the wire through Guide (4), up to the tension discs (4), into the thread take-up spring (5), under the thread retainer, down under and from right to left between the thread retainer and from right to left through the bottom hole (3) in the thread retainer, from left to right through the center hole (2) in the machine, from right to left through the top hole (1) in the machine. From right to left through the upper threading.
To prepare for sewing:

1. Draw up the bobbin thread toward you until the needle moves down and up again to its highest position, thus catching the bobbin thread. Draw up the needle thread from the bobbin guide over the balance wheel. With the left hand, hold the end of the needle thread, leaving two inches of thread through the needle eye. With the right hand, draw about one inch of thread through the eye (1/2) of the needle.
FIG. 19. Loose Needle Thread Tension

Fig. 18. Tight Needle Thread Tension

FIG. 17. Perfect Stitch

Locked in the center of the thickness of the material, thus:

For ordinary stitching, the needle and bobbin threads should be tensioned.

Goods. The presser foot, draw the work back and cut the threads close to the
Let the thread take-up lever rest at its highest position, raise
To remove the work
To commence sewing
To Regulate the Tensions

The pressure on the material is regulated by the thumb screw (M).

To increase the pressure, turn this thumb screw over to the right. To decrease the pressure, turn this thumb screw over to the left. The tension on the bobbin thread is regulated by the large screw and this thumb screw.

Usually be obtained by varying the tension on the needle thread. Just as it is seldom necessary to change it, a correct stitch can be obtained.

When the tension on the bobbin thread has been once properly adjusted, the tension spring on the outside of the bobbin case (Fig. 11) will hold it in place. The pressure in the pressure plate should be regulated only when necessary.
CAUTION - NEVER press the plunger (N) while the machine is running.

When the desired setting is obtained, release the plunger.

Setting approaches the letter "M". Slight turns longer as the letter "M" approaches and shorter as the
The indicator plate is lettered from "M" to "L" in sequence. The
the indicator plate being opposite the screw at (O).
If decrease the length of stitch which is indicated by the letters on the feed eccentric, then turn the wheel forward or backward to increase

FIG. 21. Stitch Regulator

To change stitch length, press the plunger (N, FIG. 21) and turn the

To Regulate Length of Stitch
Thread the needle until the eye of the needle reaches the goods. In its descent, the needle thread should be just sufficient to take up the slack of the thread. The tension on the thread is caused by turning the tension stud (4) to the right to increase the tension, or to the left to decrease the tension. The tension on the thread take-up spring (R) is regulated by the set screw (p).

To set, securely tighten the set screw (p). If the spring is corroded, or if the spring is not correctly set, as instructed above, loosen the set screw (p). In the arm of the machine, and turn the thread take-up spring (R) as required. Set the stop on the thread take-up spring regulator. If the needle bar, the spring will be through acting and will rest in the needle plate.

Figure 23. Adjustment of Throated Take-up Spring

To Adjust the Throated Take-up Spring
Inserting a screw 14025X (not regular equipment).

The screw (U) which will allow the plunger to be withdrawn when the stitch length has been adjusted. The note in the plan should then be filled by screw (U).

The stitch regulator plunger (N; Fig. 22) can be removed to prevent changing stitch length.

Fig. 22. Feed Eccentric

Feed Eccentric Stop Screws

Also be used.

7 per inch (or 14025G, for 14 stitches per inch or shorter) can permit a maximum length of 56 stitches per inch. Stop screw 14025G, if used with the machine, determines maximum line by the stop screw (S; Fig. 22) in the feed eccentric. The machine is prevented from making longer stitches than a pre-
Lift the needle bar completely out of the machine.

1. Loosen the needle bar adjusting screw (M) and move the needle bar up or down to bring the hook point to the center of the balance wheel. Then turn the balance wheel to bring the hook point to the center of the needle bar bushing. The upper timing mark with the lower end of the needle bar bushing centered.

2. With the needle bar completely out of the machine, set the needle bar at the correct height.

3. Remove the face plate. The needle bar is pushed up into the needle bar as far as it will go. See that the needle is pushed up into the needle bar as far as possible.

To set the needle bar at the correct height:

1. Loosen the needle bar adjusting screw (M), and move the needle bar up or down until the hook point is centered with the lower end of the balance wheel. Then turn the balance wheel until the timing mark is in the machine when the needle bar is in the lower position. The needle bar should then be centered with the lower end of the balance wheel.

2. Loosen the needle bar adjusting screw (M), and move the needle bar up or down until the hook point is centered with the lower end of the balance wheel. Then turn the balance wheel until the timing mark is in the machine when the needle bar is in the lower position. The needle bar should then be centered with the lower end of the balance wheel.

3. Loosen the needle bar adjusting screw (M), and move the needle bar up or down until the hook point is centered with the lower end of the balance wheel. Then turn the balance wheel until the timing mark is in the machine when the needle bar is in the lower position. The needle bar should then be centered with the lower end of the balance wheel.

4. Loosen the needle bar adjusting screw (M), and move the needle bar up or down until the hook point is centered with the lower end of the balance wheel. Then turn the balance wheel until the timing mark is in the machine when the needle bar is in the lower position. The needle bar should then be centered with the lower end of the balance wheel.
shows the position of the hook point relative to the needle.

at (Z, Fig. 98). The inset in circle at the left of Fig. 98 plainly
point at the hook should be at the center of the needle as shown
on its upward stroke. With the needle bar in this position, the
the needle bar bushing as shown at (Y, Fig. 98) when the needle bar is
LOWER TIMING MARK on the needle bar is centered with the lower end of
In the machine, then turn the balance wheel over toward you until
To determine that the hook is correctly timed, place a new needle

Fig. 25. Needle and Sewing Hook Correctly Timed.

TAKE OUT THE TWO SCREWS (X, Fig. 24) and remove feed dog.
Remove presser foot, slide plate, throat plate and bobbin case.

TO TIME THE SEWING HOOK
and the three screws (F2).

Damage the bushes, then securely tighten the bushes with (c2) until the hook just clears the needle, being very careful not to cut the hook. Just clear the bushes (F2) or cut, as may be required. From it, loosen the three screws (F2) and the bushes in the needle (F2) from the hook. If the hook is too close to the needle or too far away from it, loosen the three screws (F2) and turn the hook on its shaft to bring the point of the hook at the center of the needle as shown.

After loosening the three screws (F2) turn the hook on its shaft machine bed. They can be easily reached from the top of the machine bed through the opening left by the re-

from the top of the machine bed through the opening left by the re-

In case the hook is not correctly timed, loosen the three screws
The top of the bobbin case holder, as shown in FIG. 2G, is turned to the position shown in FIG. 2F. Replace the bobbin case holder position bracket (KE, FIG. 2G) with the notch at the left end of the bracket. Then replace the bobbin case holder position bracket (KE, FIG. 2G) with the notch at the right end of the bracket. Turn the bobbin case holder (KE, FIG. 2G) until the notch (KE, FIG. 2G) is at the top, then turn the bobbin case holder (KE, FIG. 2G) until the notch (KE, FIG. 2G) is at the bottom, and then turn the bobbin case holder (KE, FIG. 2G) until the thread is removed.

When placing a new sewing hook in the short, have the thread from the hook short, then turn the bobbin case holder (KE, FIG. 2G) until the bottom of the bobbin case holder (KE, FIG. 2G) is at the bottom, and then turn the bobbin case holder (KE, FIG. 2G) until the thread is removed. Then turn the bobbin case holder (KE, FIG. 2G) until the thread is removed. Then turn the bobbin case holder (KE, FIG. 2G) until the thread is removed.

To remove and replace the sewing hook.

FIG. 2J. Showing Correct Position of Thread Guard and Bobbin Case Holder for Removal of Sewing Hook.
NOTE - It is good practice to mark these gears before removal.

TO REMOVE AND REPLACE THE SEWING HOOK SHAFT

1. Turn off the machine.
2. Loosen the screws marked with arrows.
3. Lift the two long arms (X and Y) up and remove the two screws (Z and Z') located on the left side of the machine.
4. Remove the bobbin case and slide plate.
5. Pull the hook toward the balance wheel to take up the end play in the hook shaft.
6. When tightening the three screws (Z2, Z', Z'') in the hole on the hook, ensure the needle bar and the sewing hook are indexed on pages 20 and 21.
7. Replace the position bracket by means of the screw (A2, Fig. 26).

(See Fig. 26) on the upper arm shaft. It can be seen that the arrow is orientated against the rear of the hook shaft. To ensure that the rear (Q2, Fig. 26) be-
then wipe the grease from the gears.

Two screws (L2, Fig. 26) and remove the cover of the gear case (K), then wipe the gear case by means of the grease.
Replace the gear case cover and fasten it in place with the two screws (Fig. 28).

Instructed on pages 20 and 21, bears against the flat portion on the shaft. Time the sewing hook as set screws in the gear (02), making sure that one of these two screws when the shaft is correctly positioned, securely tighten the two side of the body of the sewing hook.

Fig. 29. Removing and Replacing Sewing Hook Shelt

When the gear (02) will bear against it when tightened, the shaft should be set so that its left hand end is flush with the front (left hand) end of the body of the sewing hook.

Remove the gear and shaft from the machine, as indicated in Fig. 29. Then, while still holding the gears in mesh, withdraw the hook shaft (02) from the sewing hook end. Loosen the two set screws in the gear (02) and, while holding the
The complete take-up link hinge stud. The needle bar thread-up link hinge screw (2x PT 30), which holds the needle bar, can be loosened after the set screw (1x PT 30), then loosen the set screw (1x PT 30) when opening the above illustration. Through this opening first, the presser bar has been removed. The presser bar's guard plate normally covers the presser bar. Remove the presser bar lifting lever to gain access to the screw set (2x PT 30) which raises the guard plate (2x PT 30) to the machine head. Turn the balance wheel to bring the needle bar connecting link to the position F1.30. Removing needle bar link and threaded take-up.

To remove and replace needle bar link and threaded take-up: at the upper end of the presser bar spring.

NOTE - Be careful not to lose the small washer which is positioned in the presser bar lifting lever bracket. Remove tumb screw, presser bar spring, presser bar, presser bar slide bracket, presser bar clamp, needle, needle clamp, needle bar, presser bar.

02

RS

S2

0
is replaced, as shown in Fig. 28, with the oil hole (X2) facing outward.

As shown in Fig. 28, also that the needle bar connecting link (Z2) that has this slide block is in its slottedway in the face of the machine.

Fig. 28 (Z2) is on the end of the needle bar connecting link stud, and

the machine.
Set the needle bar and the needle bar bushing as instructed on the presser bar thumb screw.

The presser bar thumb screw is located on the upper end of the presser bar spring before inserting the positions shown in Fig. 31. Also make sure that the small washer lever bracket (D2, Fig. 31) and that these two parts are replaced in lever bracket (E2, Fig. 31) rests upon the presser bar lifting and thread slide end of the arm start at (G2, Fig. 32); also, make sure the presser bar slide.

Fig. 32. Removing needle bar connecting link and thread take-up up crank (B2, Fig. 32) and with its open end straddling the projective.

Also that the wearing plate (A2, Fig. 32) is replaced on the threaded take-up.
Timing of the Feeding Mechanism

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