

## ADJUSTING TIPS FOR 221K AND 222K

### TO REMOVE BOBBIN CASE AND BOBBIN.

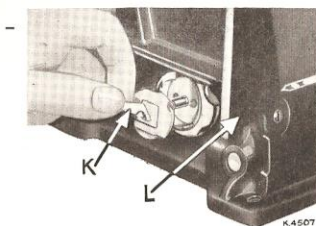


Fig. 53.

Turn the hand wheel over toward you until the thread take-up lever is at its highest position. Raise the bed extension L as far as it will go, and with the thumb and forefinger of the left hand, open the latch K and withdraw the bobbin case.

While the latch is held open, the bobbin is retained in its case. On releasing the latch and turning the case downward, the bobbin will drop out.

### TO REPLACE BOBBIN CASE

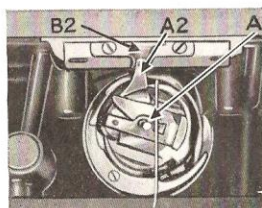


Fig. 54.

After threading the bobbin case hold its latch between the thumb and forefinger of the left hand. Place the bobbin case on the centre stud A of the bobbin case base with the thread drawing from the top of the bobbin case. Release the latch and press the bobbin case back until the latch catches the groove near the end of the stud. Allow about three inches of thread to hang free, and turn down the bed extension.

**Caution:**—If the throat plate is removed for cleaning the stitch-forming mechanism, etc., **make certain when replacing the throat plate** that the position finger A2 enters the notch B2 of the position plate attached to the underside of the throat plate. (Fig 54.)

### TO REMOVE AND REPLACE BOBBIN CASE BASE

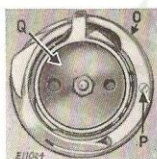


Fig. 55.

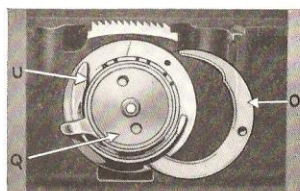


Fig. 56.

Remove throat plate and take out screw P so that the gib O can be

displaced as shown in Fig. 56. Turn the bobbin case base so that the small point U on the base is beneath the point of the sewing hook, as shown in Fig. 56 and take out the bobbin case base Q. To replace the base, reverse the operation.

N.B. Before replacing bobbin case base see that the raceway is clean and apply a drop of oil

### TO DISASSEMBLE THE NEEDLE THREAD TENSION

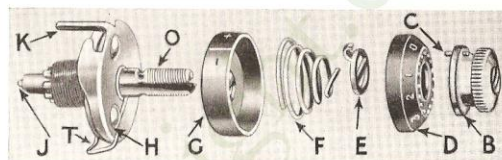


Fig. 57.

Turn thumb nut B to the left until the numeral 0 on numbered dial D stops opposite the centre line between the plus and minus signs, then press in the dial to disengage pin C in the thumb nut from the dial, and remove thumb nut and dial, stop washer E, tension spring F, indicator G and tension disc assembly H which includes the thread take-up spring, thread guard plate and two discs.

**Note:** It is not necessary to remove stud O from the machine arm to disassemble the thread tension. It is shown removed in Fig 57 only for the purpose of illustration.



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#### TO TIME THE ROTARY SEWING HOOK (221K)

Remove the face plate, presser foot, throat plate and feed dog. Place a new needle in the needle bar, pushing it up into the needle bar as far as it will go. The

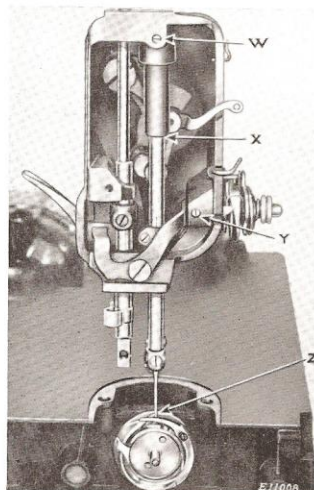


Fig. 115. Timing Rotary Sewing Hook.

In case the hook is not correctly timed, turn the machine over on its rear side and remove the bottom cover plate after taking off the thumb nut which holds the bottom cover plate in place. Loosen the two set screws (C, Fig. 116), making sure that the gear is pushed against the bushing at the right hand end of the shaft, and that the slightly raised portion or "boss", on one side of the collar and counterbalance is against the bushing to prevent end play.

#### TO RAISE OR LOWER THE FEED DOG

When the feed dog is raised to its highest point by the feed connecting rod, the top of the teeth should be not more than  $\frac{3}{16}$  inch above the top surface of the throat plate. At this height, slightly less than the full depth of the teeth will protrude from the feed dog slots in the throat plate.

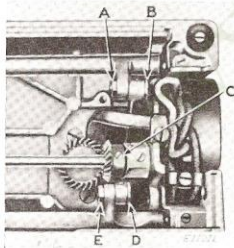


Fig. 116. Feed Dog Adjustment.

When it is necessary to raise or lower the feed dog, remove the bottom cover plate and loosen the nut (E, Fig. 116) on the end of the feed lifting eccentric screw (D, Fig. 116). Turn the eccentric screw (D) until the high throw of the eccentric is toward the rotary hook shaft gear (C, Fig. 116). When the eccentric screw (D) is in this position, the top of the feed dog teeth will be at the correct height above the throat plate. Be careful not to adjust the feed dog low enough to strike the hook when the feed is in reverse and when the longest stitch is being used. Then securely tighten nut (E, Fig. 116).

#### TO SET THE NEEDLE BAR AT THE CORRECT HEIGHT

With the hook correctly timed, as instructed on page 25a, turn the balance wheel toward you until the needle bar reaches its lowest point.

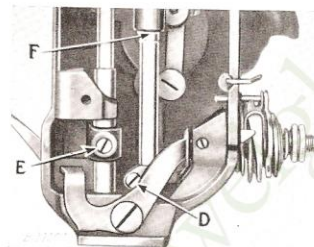


Fig. 117. Needle Bar Set at Correct Height.

With the needle bar in this position, the **upper timing mark** should be centred with the lower end of the needle bar bushing as shown at (F, Fig. 117). If the needle bar is not set at the correct height, loosen screw (D, Fig. 117) and move the needle bar up or down until the **upper timing mark** is centred with the lower end of the needle bar bushing as shown at (F, Fig. 117). Then securely tighten screw (D).

The needle bar bushing is accurately set at the factory, and its position should not be disturbed. If its position has been disturbed, turn the balance wheel toward you until the point of the hook is at the centre of the needle and approximately  $\frac{1}{16}$  inch above the top of the eye of the needle. Loosen set screw (W, Fig. 115) and move the bushing up or down until its lower end centres with the **lower timing mark** at (X, Fig. 115). Then tighten set screw (W, Fig. 115).

#### TO ADJUST THE POSITION OF THE FEED DOG LENGTHWISE IN THE FEED DOG SLOTS IN THE THROAT PLATE

The feed dog should be positioned in the slots of the throat plate so that it will not come in contact with the throat plate at either end of the slots during its travel. If the feed dog is not correctly positioned, remove the bottom cover plate. Loosen the nut (A, Fig. 116) on the end of the eccentric screw, (B, Fig. 116) and turn the screw so that the centre row of teeth will be close to the end of the feed dog slot nearest the needle hole in the throat plate, but not close enough to strike the end of the slot. The eccentric screw (B, Fig. 116) is in correct position when the high throw of the eccentric is upward and away from the gear (C, Fig. 116) on the hook shaft.



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## OILING POINTS OF 221K

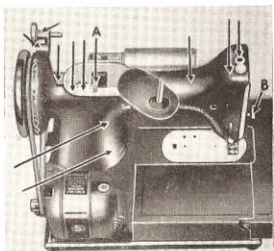


Fig 16.

All moving parts in contact must be covered with a film of oil and not allowed to become dry. Oil should be applied at the points indicated by the unlettered arrows in the above illustrations, a drop of oil being sufficient at any place.

Turn back the cover at the top of the machine and oil the moving parts inside the arm as indicated, and occasionally apply a small quantity of Singer Motor Lubricant to the teeth of the gear (A), then replace the cover. When oiling insert the oil can spout well into the oil holes. Occasionally apply a drop of oil at the hook bearing.

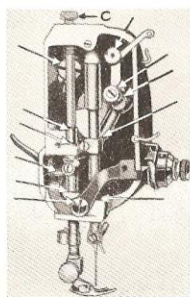


Fig 14.

Take out the thumb screw and remove the face plate. Put one drop of oil into each of the holes and joints indicated, then replace the face plate and thumb screw.

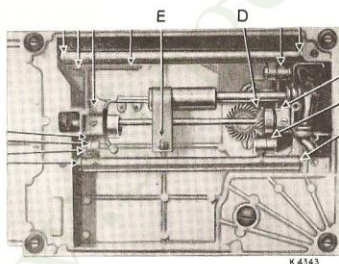


Fig 15.

Turn the machine over on its rear side, remove the thumb nut from the screw (E) and take off the cover plate. Apply oil at the holes and bearings indicated, and occasionally apply a small quantity of Singer Motor Lubricant to the teeth of the gears (D). Replace the bed cover plate and fasten it with the thumb nut, being careful not to turn the latter too tightly.

## OILING POINTS FOR THE SINGER 222K

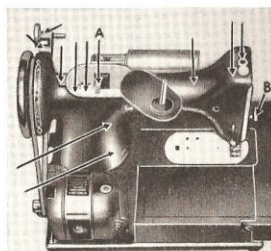


Fig 16a.

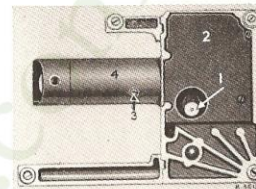


Fig. 17.

All moving parts in contact should be covered with a film of oil. These must never be allowed to become dry.

If used constantly, the machine should be oiled daily. A drop of oil should be applied to each of the points indicated in figure 16a. Occasionally apply a small quantity of Singer Lubricant for Electric Motors to the teeth of the Gear A.

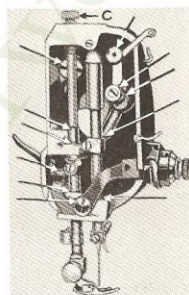


Fig. 18.

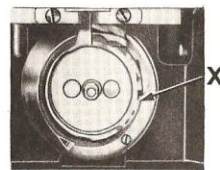


Fig 19.

Remove face plate and put one drop of oil into each of the oil holes and joints arrowed as in Fig. 18.

Occasionally apply a drop of oil at the hook bearing indicated by "X" in Fig. 19.

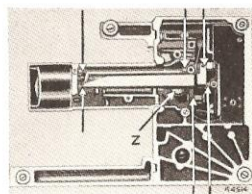


Fig. 20.



Fig. 21.

Turn machine over on its rear side. Remove large cover plate. Take out screw and remove tubular bed cover.

Apply oil to the oil holes and bearings indicated in Fig. 20 and occasionally apply a small quantity of Singer Lubricant to the gears "Z".

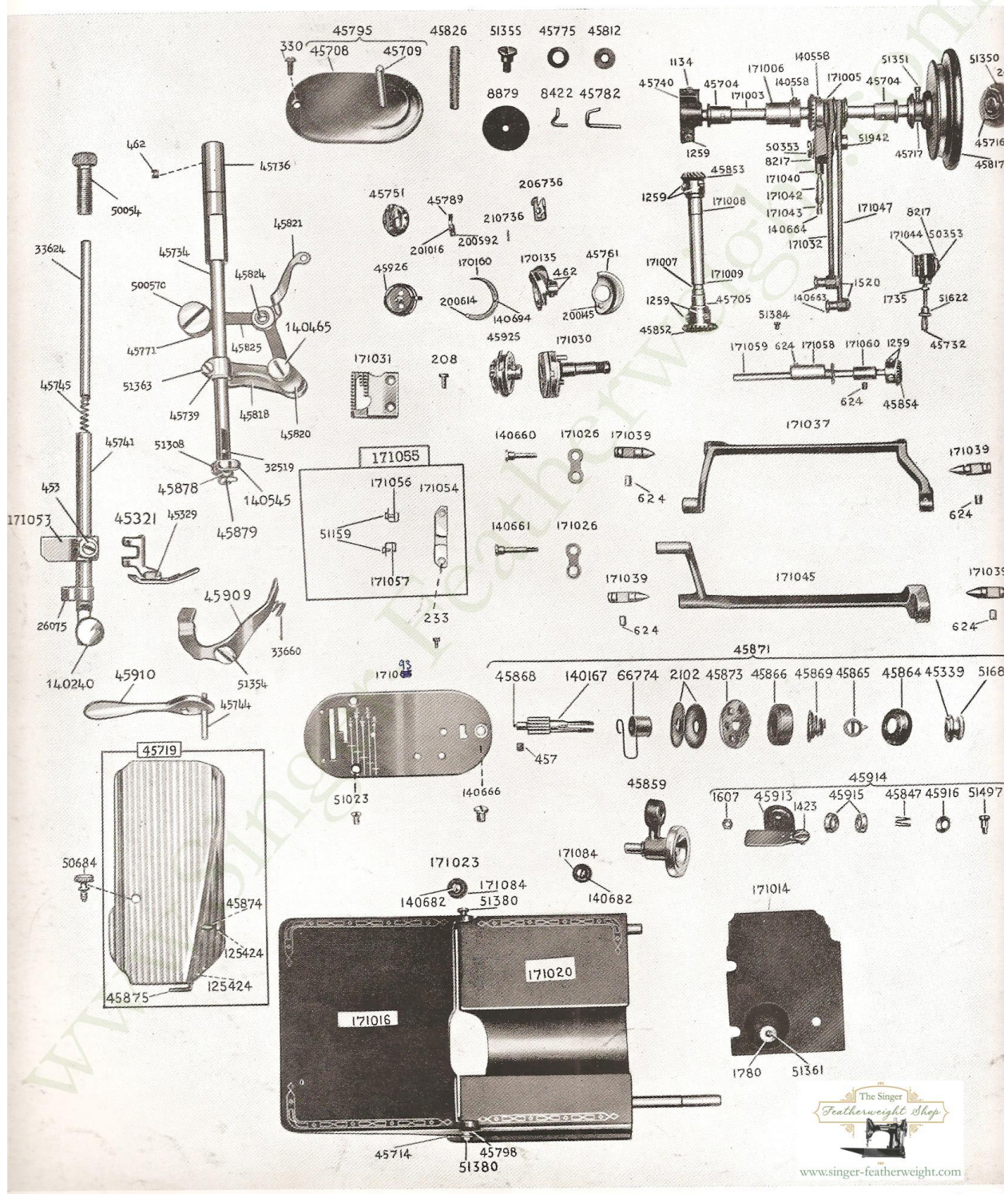
### TO LUBRICATE THE MOTOR.

Use only Singer Lubricant. Apply the nozzle of the tube of grease to points "A". This must be done at least every 6 months and more frequently if the machine receives much use.

The latest motors have self-lubricating bearings and DO NOT REQUIRE LUBRICATION.

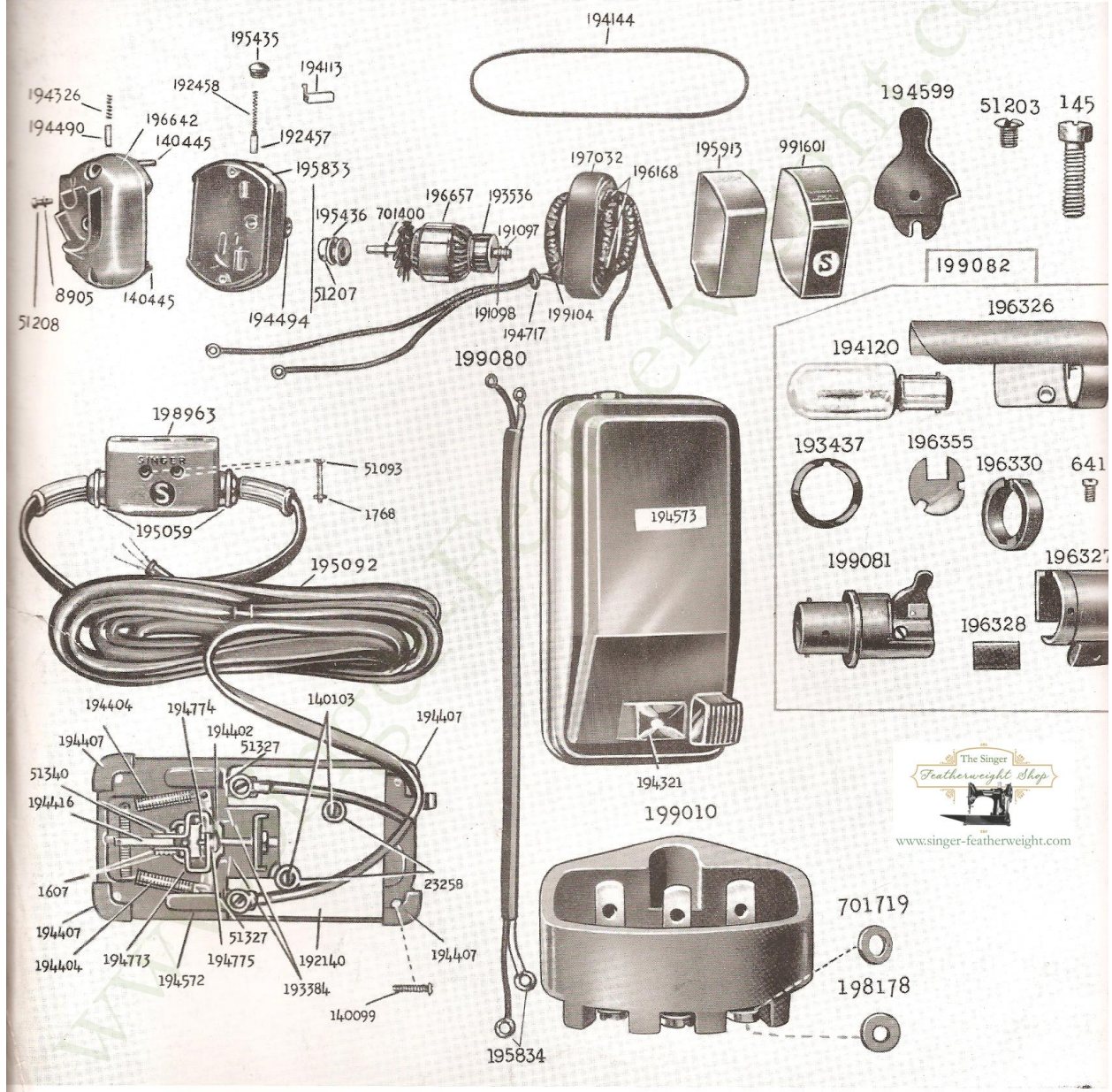


# 222K





## 222K MOTOR (CAK 7)





## FOOT CONTROL

