

**CONSEW** *Since 1898*®

CONSOLIDATED SEWING MACHINE CORP.

— INDUSTRIAL SEWING & CUTTING EQUIPMENT

# OPERATING INSTRUCTIONS

**146RB-1A-1**

**146RB-2A-1**

**146RB-3A-1**

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— INDUSTRIAL SEWING & CUTTING EQUIPMENT

400 VETERANS BLVD, CARLSTADT, NJ 07072



# HOW TO USE THIS MACHINE

## 1. MAIN PARTS AND DESCRIPTION

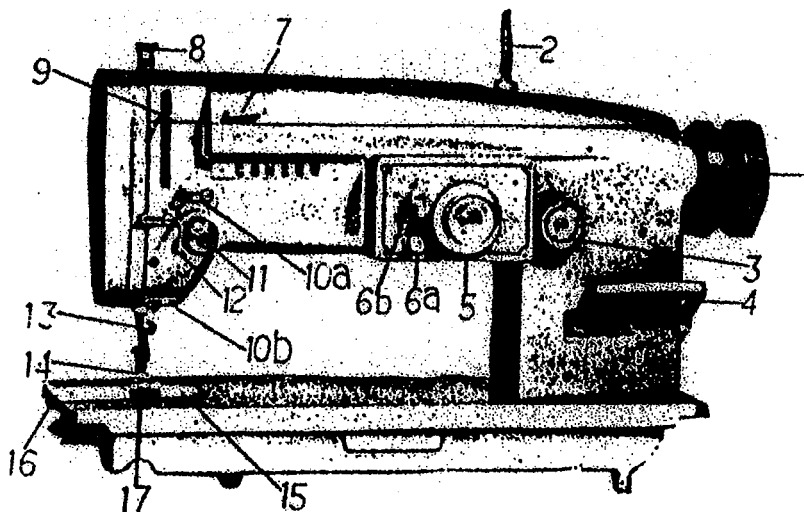


Fig. 1

- |  |  |
|--|--|
| 1. Hand Wheel                          | 10a. Upper Arm Thread guide                |
| 2. Spool pin                           | 10b. Lower Arm Thread guide                |
| 3. Feed Regulating dial                | 11. Upper thread tension regulator         |
| 4. Feed reverse lever                  | 12. Tension post thread guide              |
| 5. Zigzag width indicator              | 13. Needle bar and needle bar thread guide |
| 6a. Stopper for zigzag width indicator | 14. Presser foot                           |
| 6b. Stopper for zigzag width indicator | 15. Throat plate                           |
| 7. Thread guide with three holes       | 16. Slide plate                            |
| 8. Presser bar regulator screw         | 17. Feed dog                               |
| 9. Thread take-up lever                |  |

### DESCRIPTION

#### 2. SPOOL PIN

For the sake of convenience, the spool pin is packed separately in the accessory box. Place the pin atop the machine as illustrated in Fig. 1, #2.

#### 3. SPEED

The machine is set to run at a speed of 3,000 rpms and at a maximum zigzag width of 10 mm. However the speed is dependent upon the type of motor being used and the size of the pulley. Also, in order to insure longevity and durability, it is recommended that the machine be run at a maximum speed of 2,500 rpms when first put into service.

#### 4. LUBRICATION OF THE HOOK

Please supply a few drops of oil to the groove of the rotating hook every day. (Fig. 2)



(Fig- 2)

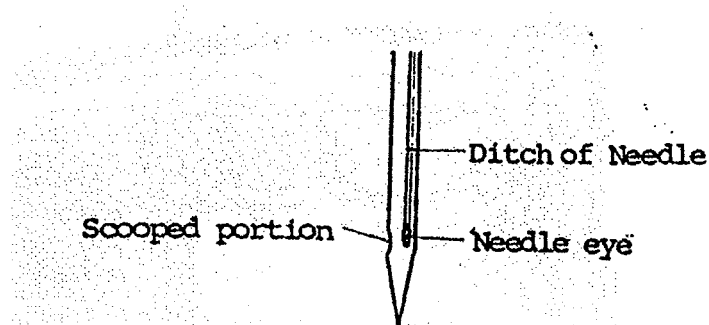


## 5. NEEDLE AND THREAD

The size of the needle to be used should be determined by the type and thickness of the thread as well as the materials to be sewn. The needle should be set with its groove facing you, as shown in (Fig. 3).

### Needle and Thread Chart

Thread size	Needle Size
120-100	9
100-80	11
80-60	14
40- 20	19
20-16	21



## 6. LUBRICATION

It is most important that the machine is properly oiled every day. One or two drops of oil should be supplied to all the spots indicated in (Fig. 4).

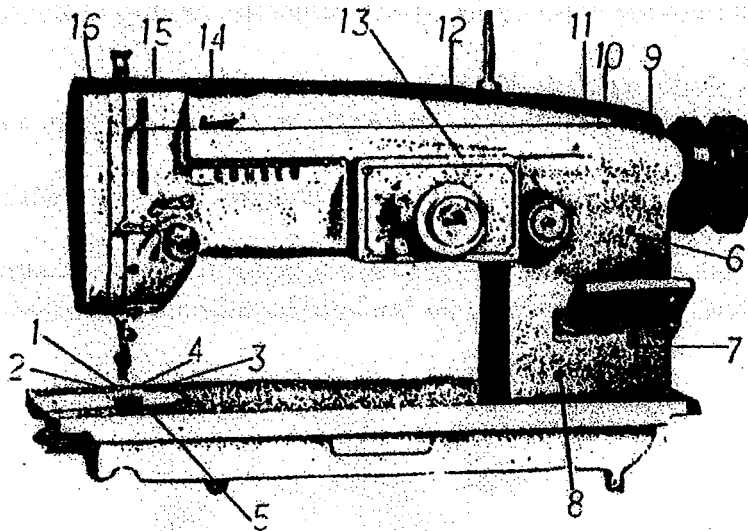


Fig. 4

## 7. ADJUSTMENT OF ZIGZAG WIDTH AND FEED LENGTH

1. To adjust the width of the zigzag stitch use the stitch regulator dial. When straight sewing is required, set the dial to "0" and gradually raise it. The zigzag width can be widened up to the maximum width of 10 mm.
2. The feeding volume can be adjusted by using the feed regulation dial. When the dial is set at 0, feeding is stopped. The maximum feeding length is 5mm.

## 8. HOW TO THREAD THE MACHINE

Starting from the spool pin (1), please lead the thread while following the numerical progression depicted in Fig. 5.

- (1) Spool pin (2) Three hole thread eyelet (3) Tension disc (4) Tension spring (5) Tension post thread guide
- (6) Upper arm thread guide (7) Take up lever (8) Tension post thread guide (9) Lower arm thread guide
- (10) Needle bar thread guide (11) Needle

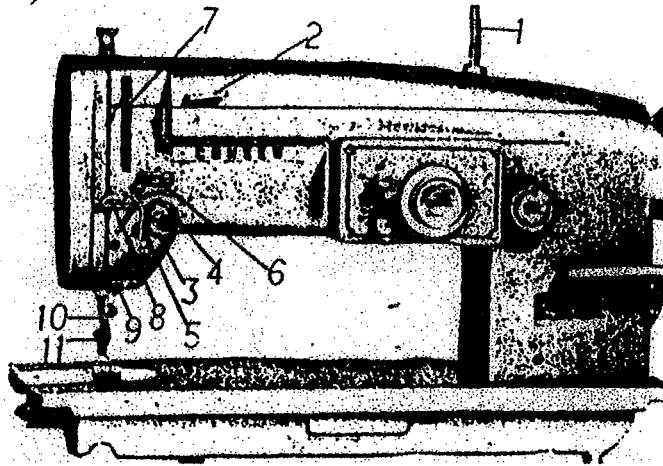


Fig. 5

## 9. HOW TO WIND THE BOBBIN

If the thread on the bobbin does not wind evenly it will affect the quality of the stitch so it is important to follow these instructions carefully.

1. Push the bobbin on the spindle as far as it will go.
2. Pull the thread forward towards the bobbin, winding from the underside in a clockwise direction several times.
3. Push the bobbin winder lever downward until the wheel comes in contact with the drive belt then start the machine.
4. The adjusting screw (4) can be turned in or out to increase or decrease the amount of thread to be wound on the bobbin. If the thread does not wind evenly on the bobbin, adjust the tension thread guard by moving it right or left as required.

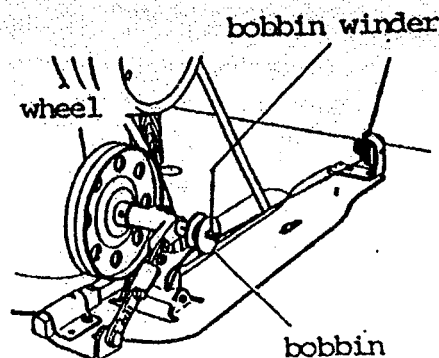


Fig. 6

## 10. INSERTING THE BOBBIN INTO THE BOBBIN CASE

To insert a fully wound bobbin into the bobbin case, hold it between the thumb and index fingers of your left hand and place in the bobbin case with the tail end of the thread remaining outside. Pass the end of the thread through the slot of the bobbin case, under the tension spring, then through the pig tail thread guide.

### BOBBIN CASE PARTS

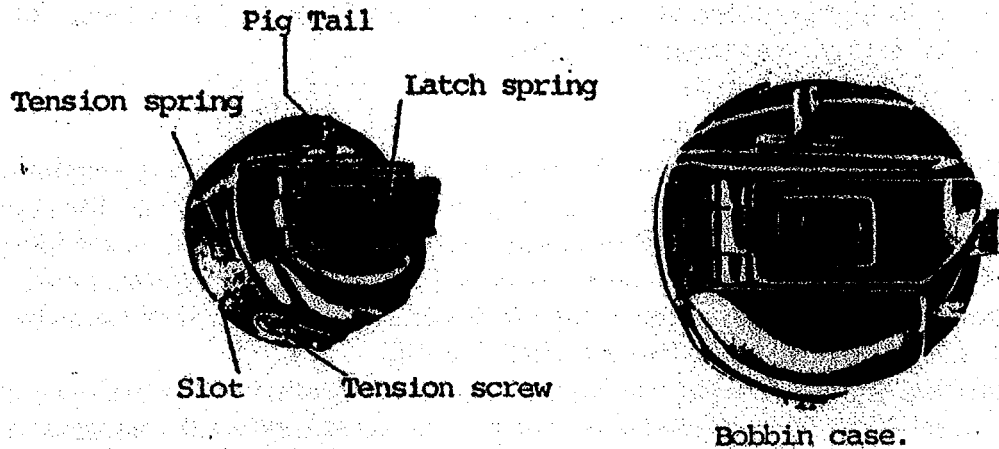


Fig. 7

## 11. REGULATING THE THREAD TENSION

For ordinary stitching, the tension of the upper and lower thread should be equal so both threads are locked in the center of the fabric.

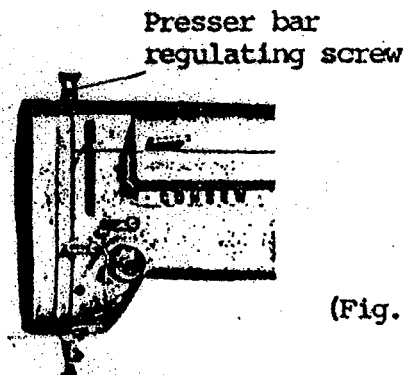
The tension of the bobbin thread is regulated by means of the tension screw, but it is preferable to keep it rather weak. Once it is regulated, the perfect stitch can be obtained by adjusting the tension of the upper thread by increasing or decreasing the tension.

## 12. REVERSE

To reverse the feed of the machine, depress the reverse feed lever, #4 (Fig. 1) as long as necessary. If you release the lever, forward stitching will resume. (For all other forward stitching, the lever remains in the up position).

## 13. REGULATING THE PRESSURE ON THE MATERIAL BEING SEWN

Always use the lightest pressure possible to allow the material to feed smoothly. It can be adjusted by using the regulating screw. To increase the pressure, turn the screw to the right to decrease it, turn it to the left.



(Fig. 8)

#### 14. PREPARING TO SEW

1. Turn the balance wheel toward you with the right hand until the needle moves down and back up again to its highest point, thus catching the lower (bobbin) thread.
2. Now pull the end of the upper thread you are holding and the bobbin thread will be brought up with it through the needle hole in the throat plate and place both ends of the thread back under the presser foot.
3. Place the fabric to be sewn beneath the presser foot, lower the foot upon it and then start sewing.

#### TO REMOVE THE FABRIC AFTER SEWING

Raise the needle bar to its highest point, lift the presser foot and draw the fabric back and to the left. Cut the ends of the thread a few inches away from the needle.

#### ADJUSTMENTS

##### 1. Adjustments for straight sewing (Ref. Fig. 9)

At the time of delivery, the factory setting on the machine is set so that the zigzag regulator is fixed at "0". If for some reason it is not set at "0", please reset the indicator dial to "0" and run the machine to insure that it is sewing straight stitches. Should you fail to sew an accurate straight stitch, do the following; loosen the regulator screw (A) and adjust the zigzag width regulator (B) by moving it sideways until you are able to produce straight stitches. After the adjustment tighten the (A) and (B) tight with the indicator set at "0".

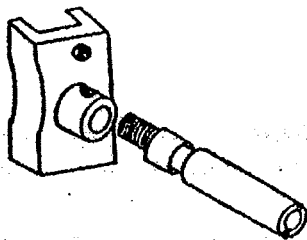
##### 2. ADJUSTMENT TO CENTER THE NEEDLE (Ref. Fig. 10)

Set the zigzag regulating dial for straight stitching and turn the hand wheel towards you until the needle reaches the lowest point of its downward stroke. See that the needle enters the needle slot in the throat (needle) plate at the very center. Also make sure that the hook point meets the vertical center of the needle at this position. If it does not, adjust the needle bar frame pitman eccentric stud (D) (Fig. 11) by loosening set screw "C".

##### 3. ADJUSTING THE ZIGZAG MOVEMENT (Ref. Fig. 11)

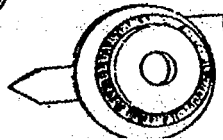
If the zigzag drive cam is incorrectly placed, move the needle to its lowest point and tighten the set screw, "E" on the cam so it is situated at the top, as shown in the Fig. 11.

Zigzag regulator  
B

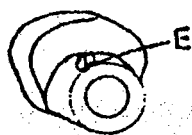


(Fig. 9)

Adjusting Screw A

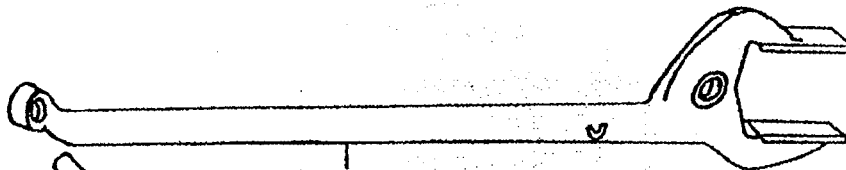


Zigzag regulating dial



Zigzag Drive Cam

Fig. 11



Needle bar frame pitman

(Fig. 10)

Set screw Eccentric Stud Pin

##### 4.) ADJUSTMENT OF THE UPPER FEED MECHANISM (Ref. Fig. 12)

A. To increase the lift of the outer foot.

1. Loosen the adjusting belt (A, Fig. 12)
2. Raise the position of the Rock Shaft crank to the desired height.
3. Set the bolt tightly after the adjustment.



**B. For still more lift of the outer foot.**

**1. Loosen the adjusting bolt B.**

**2. Raise the position of lifting crank connecting line to the desired position.**

**3. Reset the bolt tightly after the adjustment.**

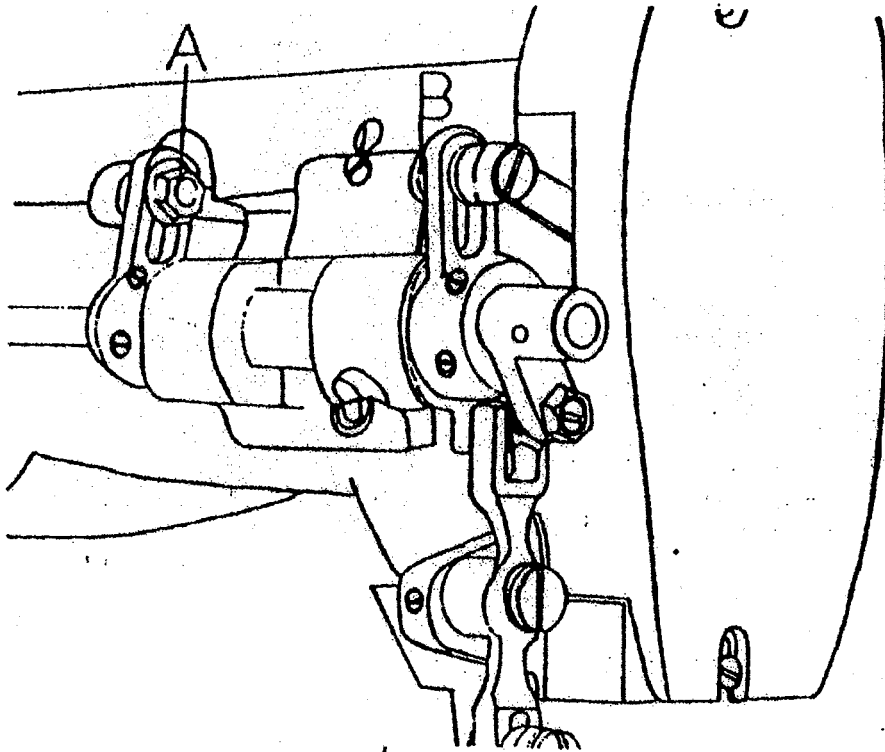
**C. To increase the feeding volume of order foot.**

**1. Loosen the adjusting bolt C.**

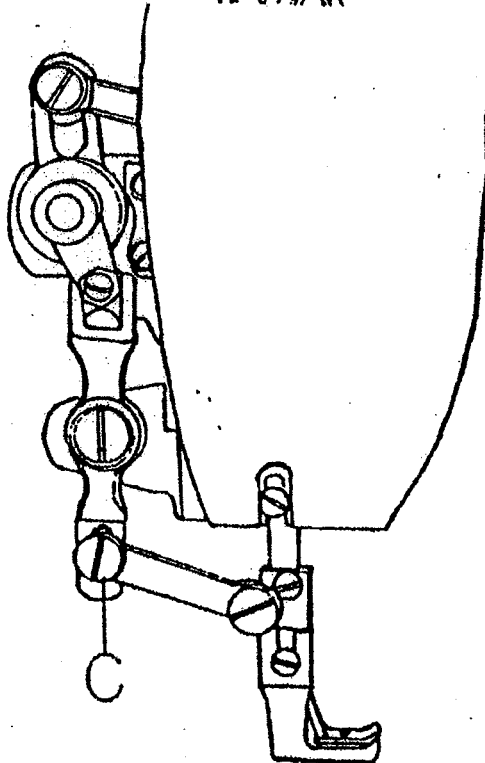
**2. Raise the position of feed correcting link as you desire.**

**3. Reset the bolt after the adjustment.**

ADJUSTMENT OF UPPER FEED MECHANISM



(Fig. 12)



### 5. ADJUSTING THE TIMING OF THE NEEDLE (Ref. Fig. 13)

Remove face plate and loosen the screw on the needle bar bracket. Turn the hand wheel slowly towards you until the needle bar F is aligned with the screw on the needle bar crank rod. This is considered the lowest position for the needle.

1. Turn the zigzag dial right to its widest setting of 10mm and have the needle reach as far right as possible and to its lowest point.
2. Now set the hook so that the end of the hook gib is 0.5mm to the right of the needle "L". (See Fig. 14)
3. Turn the hand wheel as far left and as low as possible. Make sure that the hook point travels 1mm above the eye of the needle. (See Fig. 15)

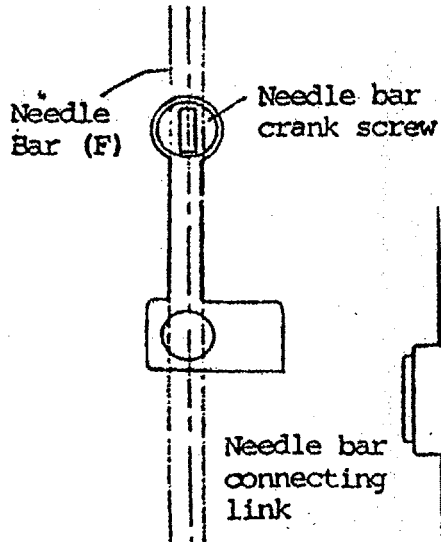


Fig. 13

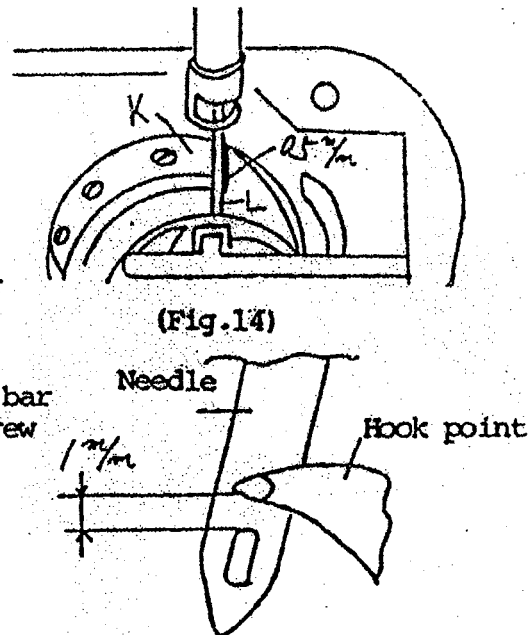


Fig. 15

## **TROUBLESHOOTING**

If the following problems occur, please check the suggestions below.

### **Problem: Thread breakage**

#### **Check the following;**

- Is the hook damaged? Carefully check the point of the hook.**
- Is the timing between the needle and the hook correct?**
- Is the point of the hook worn down?**
- Is the quality of the thread good?**
- Are there any scratches on the thread guides?**
- Is there any damage or scratches on the hook retainer?**
- Is the needle all right?**
- Is there any damage to the needle plate, particularly around the needle hole?**
- Is the check spring set up correctly?**
- Is there lint in bobbin case?**

### **Problem: Fabric is tearing as you sew**

- Is the machine very old and running as smoothly as it could?**
- Is the needle lined up with and penetrating the center of the needle hole on the needle plate?**
- Is the needle bent?**
- Is there enough play on the zigzag drive fork?**
- Is the thread tension correct?**

### **Problem: Stitches skip**

- Is the timing between the needle and hook correct? Is it too early or too late?**
- Is the needle bent?**
- Is the point on the hook worn down?**
- Is there excessive play on the needle bar?**
- Is the clearance excessive between needle and the hook point?**
- Is the needle hole on needle plate too large relative to the size of the needle being used?**

### **Thread Breakage (On straight sewing).**

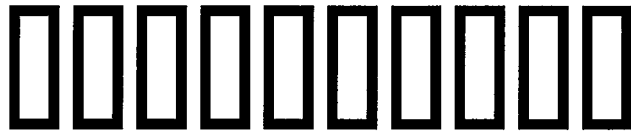
- Is there excessive clearance between the needle and the hook point?**
- Is the hook timing correct? Maybe a little too early?**
- Is check spring too rigid?**
- Is the check spring moving freely?**

### **Needle Breakage**

- Is the needle hitting the needle plate?**
- Is the clearance between the needle and the hook point correct?**
- Is there too much play on needle bar frame?**
- Is there too much play on the hook shaft thrust collar?**







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