

## Replacing the Reciprocator on an SWF Standard Single head.

Follow the instructions below to replace the reciprocator in the SWF standard single head machines. The tools required are found in the tool kit that came with the machine.

### Preparation

1. First, place the machine at needle #6 for the 12-needle machine, or at #8 for the 15-needle machine. This will make the removal and replacing of the needle case somewhat easier. **Note:** *Once in place, do not move the manual color change knob at anytime during the procedure.* Turn off the machine.
2. Remove the thread from the needle case.
3. Remove the cover from the back of the tension base by lightly pulling down on the top while pulling away from the tension base.
4. Remove the four screws that hold the face of the tension base to the machine. See fig. 1. The top two are Phillips head and the bottom two are 3mm allen screws. Note: If you place the tension base on the thread stand you won't have to disconnect the wires connected to it.
5. Remove the upper faceplate. See fig. 2.
6. Remove the wiper guide arm. See fig. 3, four Phillips head screws, two on each side of the needle case.

**Note:** *At the rear of the machine is the main shaft rotation wheel. It should be pointing to the 100-degree mark. Make sure it stays on that mark when removing and replacing the needle case. See fig. 4.*

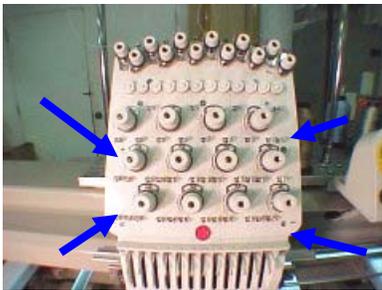


Fig. 1

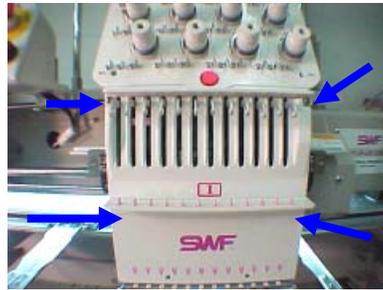


Fig. 2



Fig. 3

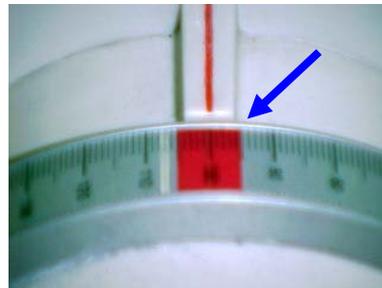


Fig. 4

## Removing the needle case

1. Remove the four 3mm allen head screws that secure the needle case to the sewing head. See fig. 5.
2. Carefully lift the needle case slightly and pull the top towards you, It should come loose easily. **Do not force the needle case if it does not come loose.**
3. Set the needle case assembly to the side. You will not need it until re-assembly.

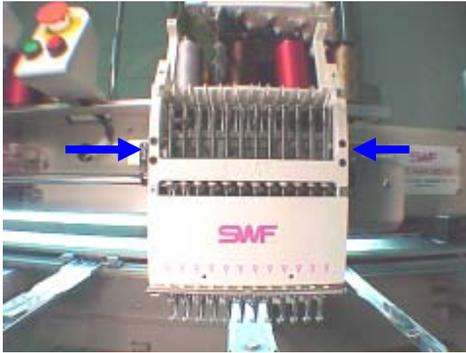


Fig. 5

## Removing the broken reciprocator

1. Remove the left and right arm guard plates. There are four flat head screws, two in each plate. See fig.6.
2. Remove the lower bearing guide plate by removing the two screws. See fig. 7.
3. Locate the hole at the lower left side of the head See fig. 8. There is a 2mm allen screw in this hole. You cannot see the screw so you will have to “feel” the allen wrench fit into the screw head. Loosen 2 to 3 turns, but do not completely remove the screw.
4. Remove the take up lever guide rail by removing the 4 screws as seen in fig. 9.
5. Gently pull the wick up and out of the needle bar drive shaft. See fig. 10

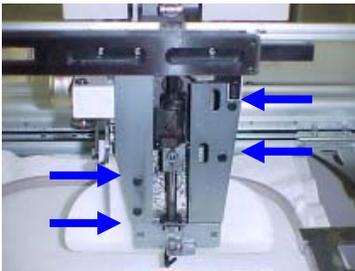


Fig. 6



Fig. 7

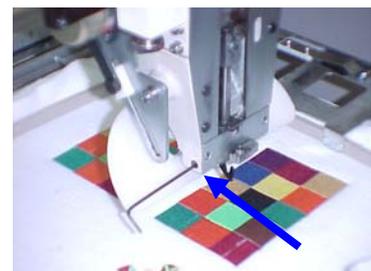
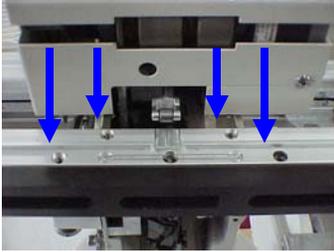
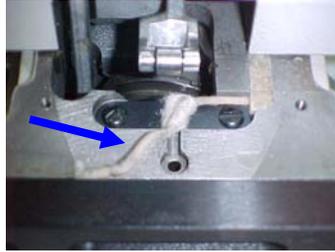


Fig. 8

6. Carefully slide the shaft up through the top of the head until the reciprocator assembly is free. See fig. 11.
7. Remove the reciprocator assembly by pulling straight out until it is free of the connecting link.



**Fig. 9**



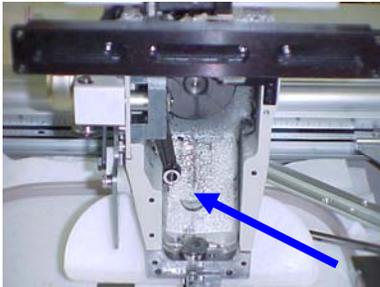
**Fig. 10**



**Fig. 11**

### **Installing the new reciprocator**

1. Line up the pin on the back of the reciprocator assembly to fit in the hole at the bottom of the connecting link as seen in fig. 12. Slide it all the way in the hole.



**Fig. 12**

2. Before inserting the drive shaft back down through the top of the head, notice that the bottom end has a flat side. As you insert the shaft, align this side to the left and keep it facing that direction at all times.
3. Slide the drive shaft down through the top of the head, through the hole in the top of the reciprocator, and place the felt gasket and bearing on the bottom of the shaft, felt on top.
4. Start the shaft into the hole at the bottom of the head, then place the lower bearing guide plate over the bearing and slide it down into position at the bottom. Insert and tighten the 2 screws to hold the plate in place.
5. Continue sliding the drive shaft down through the bearing collar into the bottom of the head until the top of the drive shaft is flush with the top of the head. Refer to fig. 10 again.
6. Once the shaft is in place, tighten the 2mm set screw at the bottom left of the head that you loosened in step 2 of removing the reciprocator.
7. Replace the wick into the top of the drive shaft as before. Using a small allen wrench is advisable for this task.
8. Replace the take up lever guide plate using the 4 screws taken out previously. Try to center the screws in each hole before completely tightening all the screws.
9. Replace the left and right arm guard plates.

### **Remounting the needle case**

Before remounting the needle case on the machine there are some things to take note of. Turn the needle case over and look at the back.

1. At the bottom is a metal rail, when remounting the needle case this rail will have to go behind the Head rail holder set (*Small bearing sticking out at the bottom of the head*). See fig.13.
2. The take-up levers have two notches, a small notch that will set on and line up with the top of the silver take-up guide rail. And a large notch that will have to line up with the take-up driving lever of the needle you are on. **Tip:** Use a rubber band to hold all of the take-up levers level as you put the needle case back on the head. This will help keep them all at the same position during the remount procedure.
3. Before you remount the needle case, notice you have a roller base with rollers at the top of the needle case. The roller will fit into the color change gear. Make sure you have the same needle lined up over the needle plate hole that was there when you removed the needle case. See fig. 14

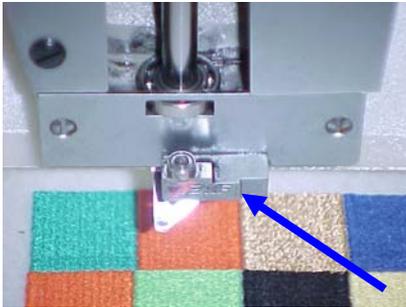


Fig. 13



Fig. 14

### **Remount the needle case**

1. Set the lower lip of the needle case into, or behind the small bearing at the bottom of the head. Tilt the needle case up, and with light upward pressure, set the top of the case down onto the take up lever guide rail. If mounted properly, there should be virtually no movement of the needle case. It may take two or more attempts to get the needle case to seat properly on top of the head, **Do not force it.**
2. If the needle case is mounted correctly, the 4 bolts that hold it on should automatically line up. If they do not, redo step 1 again. If they do, insert the 4 bolts and tighten them. Insert all 4 before tightening any of them.
3. Turn on machine, move it through all colors one at a time. Return to center.
4. Replace the tension base using the 2 phillips and 2 allen screws. Again, start all screws before tightening any of them all the way.
5. Replace the back cover of the tension base. It should snap closed when seated correctly.
6. Reinstall the wiper guide arm that you took off in step #6 of the Preparation.  
Note: The wiper guide arm needs to be lined up properly and tested before running the machine. You can test it by manually pulling down on the linkage by hand and then releasing. It should come down smoothly and pop back up by itself. If it does not, adjust the angle of the bracket until it does. Test this on the first and last needles before completely tightening all the screws.