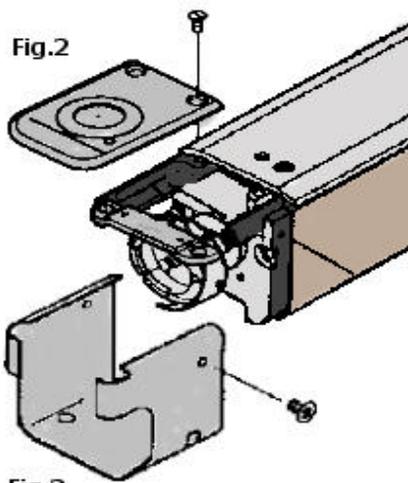
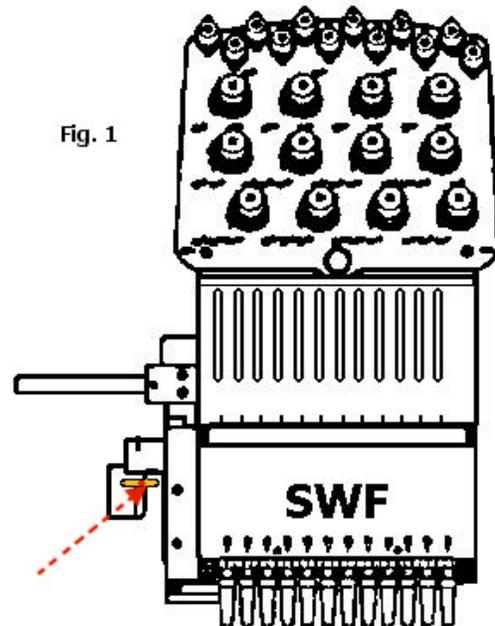


Setting the hook timing on SWF machines

Follow the instructions below to set hook timing on the SWF machine.
The tools required are found in the tool kit that came with the machine.

Notice: The following procedure is normally performed by a qualified service representative and is NOT recommended if performed otherwise. Any damage that may result from attempting to perform this procedure will be the responsibility of the consumer (customer). Mesa Distributors, Inc. will NOT be held liable for any misrepresentation on this documentation due to changes in equipment manufacturing or necessary changes in removal, adjusting, or reassembly procedures.

1. Move the needle case to the last needle.
(#12 on 12 needle machines and #15 on 15 needle machines.)
2. On the left side of all heads turn the silver knob to where the red dot is facing to the left.
See **fig.1**. *This is the jump clutch set and will manually disengage the needles.*
3. Move the needle case to the center needle.
4. Insert a new needle and turn it around backwards. *(With the scarf facing you.)*



5. Remove the needle plate. See **fig. 2**
6. Remove the bobbin case cover. See **fig. 3**

Hook Timing cont.

7. Remove the rotary hook support arm.
See **fig.4**.

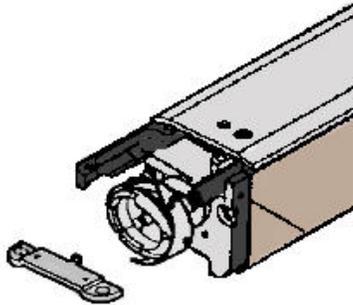


Fig.4

8. Loosen the three flat-head screws securing the hook. See **fig. 5**. *Note: You will have to rotate the main shaft degree wheel to reach all three screws. (Always rotate in the direction that increases the numbers. This is the direction of sewing. When rotating the main shaft always rotate in the direction of sew.)*

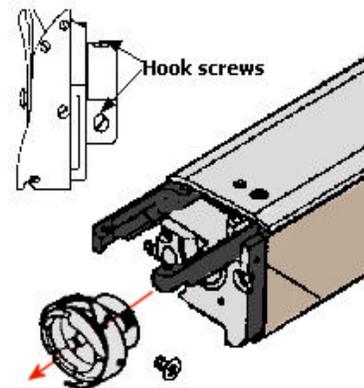


Fig.5

9. Remove the hook from the lower shaft of the machine and inspect it:
 - Clean out any thread or lint from the hook.
 - Polish any scratches or nicks on the front edge of the hook.
As a machine sews, thread rides on the front edge of the hook. Scratches or nicks caused by broken needles and debris can cause thread breaks and fraying. It is important to polish out these nicks and scratches. To do this, use a Very Fine sandpaper or a polishing wheel similar to that used on a dremel tool.
 - Remove any thread and debris from the lower shaft area.

10. Rotate the main shaft to 200 degrees.

Hook Timing cont.

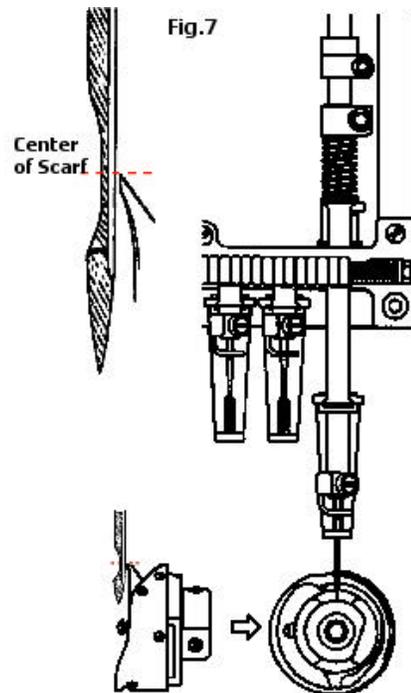
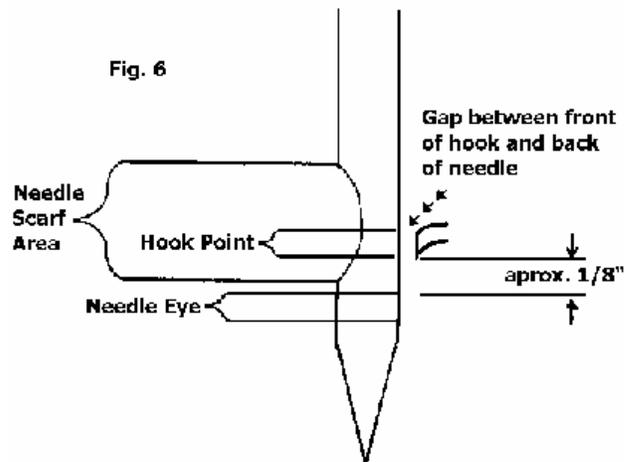
11. Insert the hook back onto the lower shaft of the machine, then pull the needle bar down manually until it locks in place. *Note: You will need to rotate the inner basket section of the hook around keeping it clear of the needle.*

Important Note:

You are now ready to start retiming the hook. Before you begin there are some things to take note of. Hook timing can be between 198 and 202 degrees on the main shaft degree wheel. We turned the needle around backwards to help determine exactly where **your** machine needs to be. If you look at the picture in **fig. 7** (*Center of scarf*), you will notice the top edge of the hook point is just below the center of the scarf on the needle. This is the proper position. You may need to turn the main shaft some in either direction to obtain this position. As long as you stay between 198 and 202 degrees on the main shaft degree wheel proper hook timing can be obtained. If you are forced to move the main shaft past 198 or 202 degrees, you may need to make *needle depth* adjustments.

12. Turn the hook to position the **tip** (*Hook point*) directly behind the needle. See **fig. 7**. Tighten the screw on the bottom right hand side slightly. **Note:** You will still need to move the hook so do not over tighten at this point.

13. Position the hook where its tip directly behind the needle and as close to the back of the needle as possible without touching it. (.2mm or about the thickness of a piece of paper.) See **fig. 6**.



14. Firmly tighten the screw on the bottom right side of the hook. Then, rotating the degree wheel tighten the other two screws of the hook.

Hook Timing cont.

15. Turn the degree wheel completely around a couple of times and stop at 200 degrees (Or whatever degree you used in timing the hook). Then recheck the position and gap. **Note:** Sometimes when tightening all three screws the position and or gap can move slightly. If it does you may need to repeat the procedure.
16. Rotate the degree wheel one full turn, disengaging the needle bars, and stop at 100 degrees. (This is the machine's normal stop position.)
17. Reinstall the rotary hook support arm.
 - Rotate the inner basket section of the hook around and position it to receive the retaining tab of the rotary hook support arm. See **fig. 8**.
 - Position the retaining tab of the rotary hook support arm centered on the hook, leaving enough space for thread to pass through, but securing the basket from rotating. *Note: In determining the front to back gap. 0.5 ~0.7 mm, you can use a loose needle. It is about the thickness of a needle.*
 - Tighten the screws securing the rotary hook support arm.

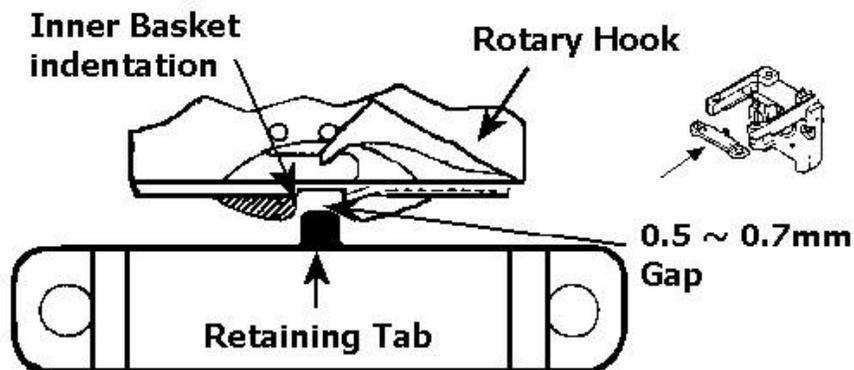


Fig. 8

18. Rotate degree wheel one full turn and stop at 100 degrees (Stop position).
19. Replace the needle plate and bobbin case cover, Shown in figures 2 & 3.
20. Turn the needle back around with the groove facing you.
21. Move the needle case to the last needle and turn the jump clutch set on all heads, to position the red dot facing you. (This will reengage the needle bars.)