

Singer 500 Series Needle bar free motion repair guide

Ok, kind of tough without pictures, but lets give it a go. When taking anything apart, lay the parts out in the order that they came off in, and put it back together in the reverse order.

First you'll need to mark the position of part number 172535 (the eccentric) in relation to where it is in the machines casting. I usually use a Dremel, or Moto Tool, for this with a cutting wheel. I'll cut a small line in the part and the casting as my reference point. Then loosen the screw, 209 in part 172231 and work it off the bottom of the eccentric (172535). To remove the eccentric, you'll need to loosen the pinch screw in the machine casting that holds it in place, which should be 1489 and located just to the bottom left of the top of the eccentric. Now working that part out may be a little tough, as it is gummed up, so using a big enough screw driver, and the old hairdryer, warm it up so it'll move freely enough and start to pull it out of the machine. Clean the eccentric up, and then using a Q-Tip, clean as best as possible inside where it fits into 172058.

Go ahead and put that part back in, line up your marks and tighten the pinch screw in the frame of the machine that holds it in place. The re-install 172231, and tighten the screw. Just snug now, don't over do it, as it can break off.

Now if it still doesn't zigzag correctly, we need to look at the bushings that the needle bar rides in. Part number 172034, and there are two of them, upper and lower. Work on the top one first, so you'll get a feel for how it comes apart before tackling the lower one. The lower one is a little tricky to get out. Anyway, loosen the pinch screw 50311 and remove 172220. Then remove 172036 followed by 172034. Clean the bushing (172034) and the bushing ring (172036), and again using a Q-Tip, clean inside 172058 where they ride. Now re-install as it came apart, but the trick here is not to over tighten 172220. The pivot 172034, you should be able to move it with your finger from side to side fairly easily, and at the same time have very minimal up and down movement, almost none, but it must be free enough to move from side to side when you tighten 172220 back down on it. Check it again when you tighten the pinch screw 50311, as sometimes it will tighten the unit up even more. Repeat the same steps for the lower bushing, but you'll find using a tension screwdriver will help remove 172220.

Now you noticed I haven't removed the needle bar itself, as I don't wish to fiddle with the timing right now if we don't have to. However, before removing the bottom bushing, you can remove the unit 172224 (needle clamp parts), the just slide the bushings off the bottom of the needle bar. After cleaning it up, put it back together as it came apart, and follow the same rules for tightening the unit as with the top bushing. But wiggling with the finger isn't really possible, so just see if the needle bar will make its sweeping from side to side motion without resistance. You can do this by just pushing 172058 to the right and letting go. It should snap right back.

Now if you marks are accurate when you re-installed the eccentric (172535), center needle position and the zig zag swing should be just fine.

Hope that gets it going, but if not, then we need to look at different parts inside the machine.

Good luck,
Terry

