

Product: EMC 1M, EMC 6ML, EMC 6MTL, CH 1 & *EMC 6, *EMC 6M, *EM 1

Parts Replaced: X Drive Belt p/n 005117-01 * (p/n 504376-01 for EMC 6-6M, EM 1)

Required Tools: 9/64 Allen Wrench

3/32 Allen Wrench

Gates Tension Meter

Procedure:

1. Turn off the machine and remove the chassis table top insert.
2. At the right end of the beam assembly, loosen the belt tensioning screw (A) counter clockwise six full turns. (See Figure 1)

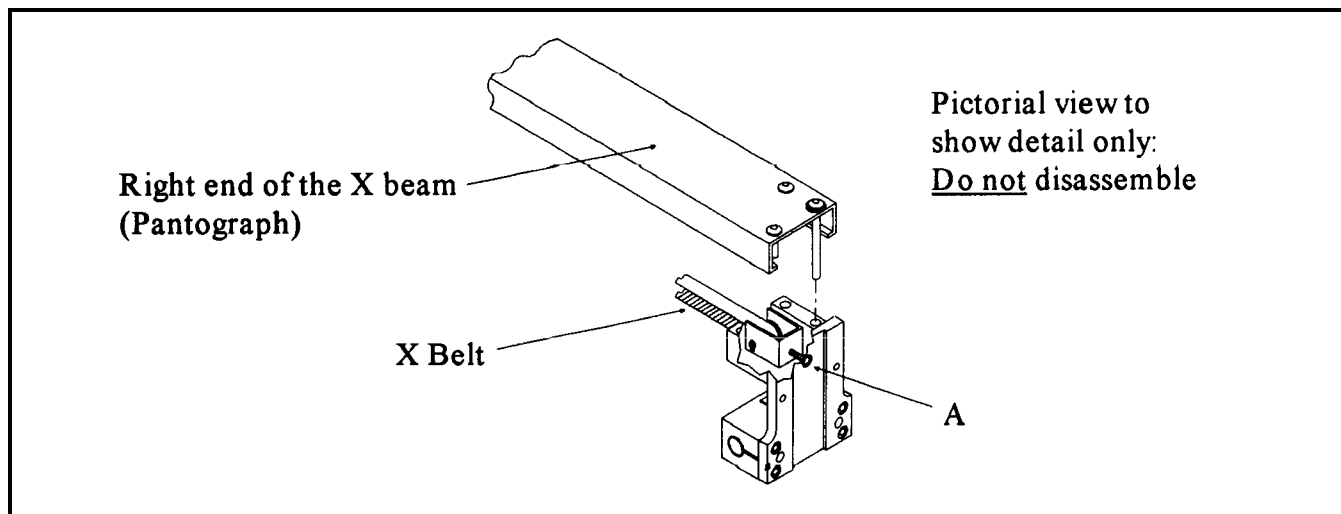


Figure 1

3. Remove the two socket head cap screws (B) from each of the "L SHAPED" roller adjusting plates under the X carriage (See Figure 2). Allow the roller adjustment plates to come out of the X carriage into your hand. This will allow the X carriage to drop out of the pantograph.

Note: Drop the carriage only as low as the silver bed cover under the X carriage. Do not pull the carriage out. You do not want to pull the belt out from around either of the X pulleys at this time.

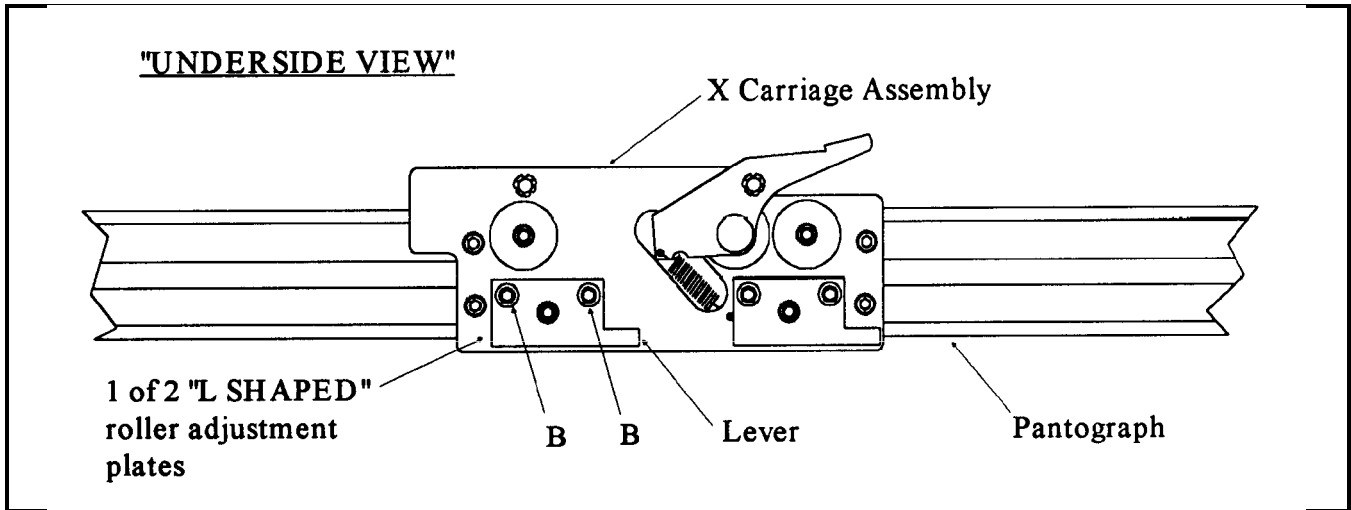


Figure 2

4. Observe where the break in the X belt is located.

Note: Do not pull any part of the broken belt out yet, because you will want to use the old X drive belt to thread the new belt through the pulleys at each end of the pantograph. If the upper part of the X belt is broken between the two pulleys located at each end of the pantograph, attach the broken ends of the belt together with masking tape.

5. Note how the old belt is attached to the belt clamps, then remove the two screws (C) securing the belt clamp on the left side of the X carriage. (See Figure 3)

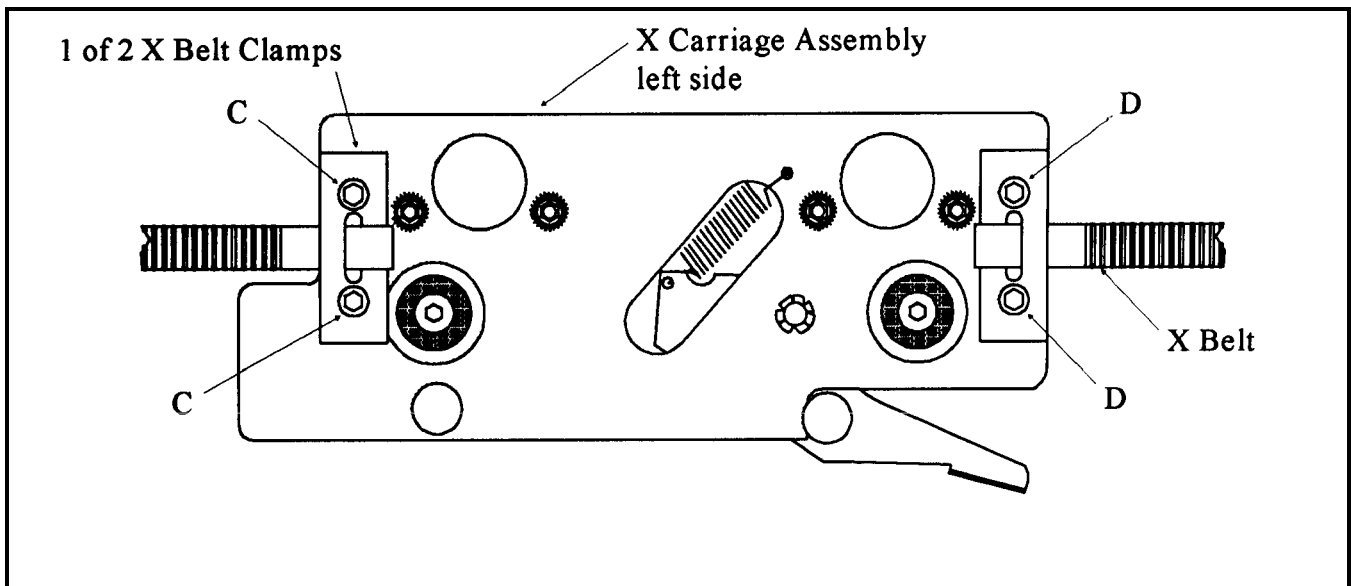


Figure 3

6. Install one end of the new belt into the clamp that was removed in step 5. Refer to the following steps and Figure 4 below. Refer to the end of the X carriage assembly that still has the clamp holding the old belt as a guide.
 - a) Position the belt clamp with the recessed middle area facing up.
 - b) From the bottom of the clamp, put the end of the belt through the slot in the middle of the clamp. Allow 6 or 7 grooves of the belt to show through the clamp slot.
 - c) Fold the clamp and the end of the belt over and onto the portion of the belt that is directly in front of the clamp. The grooves and the teeth of the end of the belt will mesh with the grooves and teeth of the portion of the belt that is directly in front of the clamp thus causing the clamp to be captured by the belt. (Check that the length of the belt that overlaps around the clamp is approximately the same as what is shown at the old belt that is still clamped.)

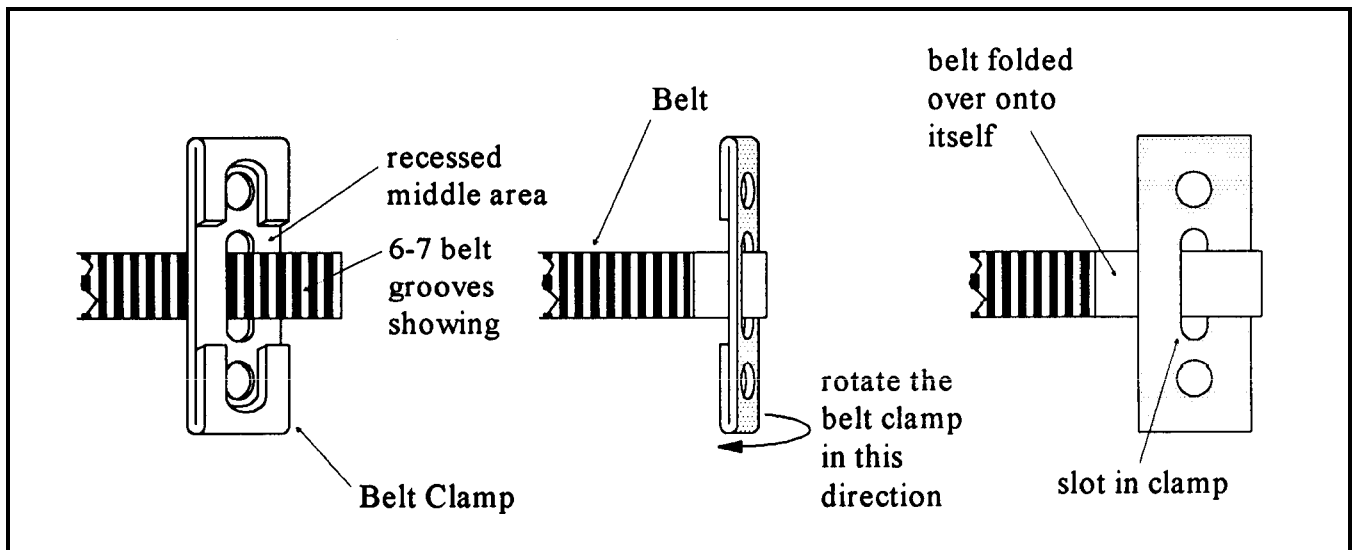


Figure 4

7. Center the belt into the slot of the clamp and attach it securely in place with the existing two screws (C) (See Figure 3).
8. Use masking tape to attach the loose end of the new belt to the detached end of the old belt that is still routed through the drive pulley. Make sure the teeth of both belts are facing upward; this will allow the belts to ride onto the pulley teeth.
9. Pull the old belt gently from the right side of the X carriage. The new belt will thread through the left pulley and the right pulley located on each end of the pantograph.
10. Disassemble the other end of the old belt from the remaining end of the X carriage assembly, by removing the two screws (D) (See Figure 3).

11. Remove the masking tape attaching the old belt and the new belt. Then attach the new belt to the X carriage with the belt clamp, and by referring to step 6a thru 6c.

Note: **Do not** allow the belt to have any twists when you attach it to the X carriage.

12. Center the belt into the slot of the clamp and attach it securely in place with the existing two screws (D) (See Figure 3).

13. Add a drop of machine oil between the two shoulder screws and the two rollers, then add a drop of oil on the two rollers (See Figure 5). Then reinstall the X carriage into the pantograph as it was before.

14. On each of the "L SHAPED" roller adjusting plates add a drop of oil between the shoulder screw and the roller, then on the roller (See Figure 5). Then install both of the roller adjusting plates onto the X carriage with the existing socket head screws (B), and tighten down just enough to move the roller adjusting plates back and forth (See Figure 2).

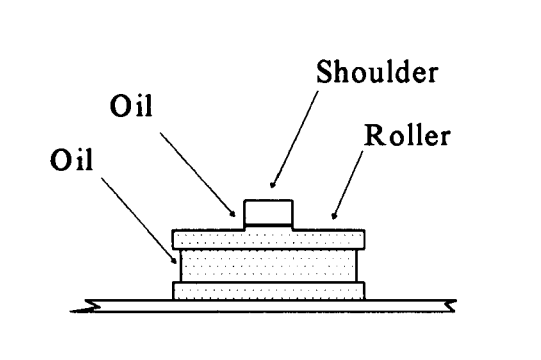


Figure 5

15. Adjust the tension on the roller plates, one at a time. Push the lever toward the back of the machine until it stops. Apply light pressure to the lever when tightening the two screws (B) (See Figure 2). This adjustment will take the play out of the X carriage, so the carriage travels left to right smoothly.

Note: If you push on the lever too hard the pulley will bind against the inside of the pantograph bar.

16. Push the X carriage all the way to the left side of the pantograph until it mechanically stops. Then adjust the tension of the X belt by tightening the belt tensioning screw (A) clockwise six full turns. (See Figure 1)

17. Check the tension of the X belt with the Gates Tension Meter, by positioning the tension meter onto the belt as close to the center as you can. It should read 5 to 6 lbs, if the tension is out of the preferred range adjust the tension screw (A) counter clockwise to loosen or clockwise to tighten until the tension reads 5 to 6 lbs.

Note Do not over tighten the tension screw.

18. Move the X carriage assembly slowly all the way to the right and back to the left side of the pantograph. The X carriage should move smoothly in the pantograph, if it moves rough or binds, repeat step 15.

19. Reinstall the chassis table top insert onto the chassis.