Replacing the Sandpaper Belt

To replace the sandpaper belt you will need the following tools:

- 4mm long handle Allen wrench
- #2 Phillips screwdriver (magnetic tip preferred)
- 1.5 mm Allen wrench
- Thread cement
- Vice

Remove the belt tray assemblies:

1. **Remove the sliding plate**. Remove the two Philips head screws securing the sliding plate and lift it out.

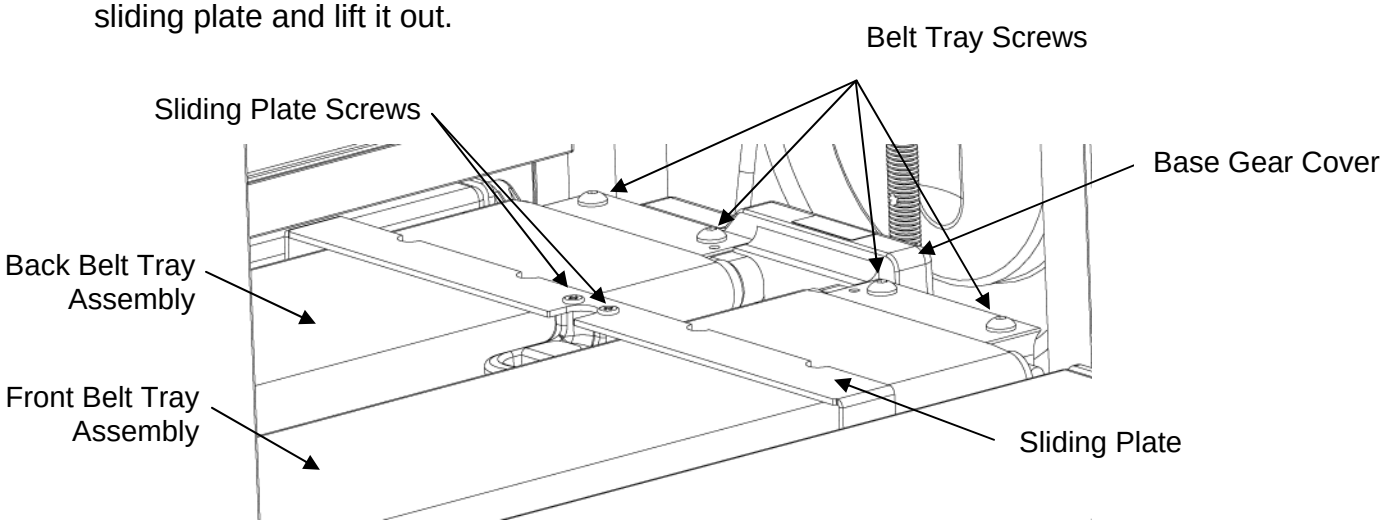

FIGURE 1: VIEW OF THE SLIDING PLATE AND BELT TRAY SCREWS (RIGHT SIDE)

2. **Remove the base gear cover.** Gently squeeze the base gear cover shown in Figure 1and pull straight up to remove. The base gear cover has been caulked around its edge with silicone to keep dust out. This caulking will pull away from the base when the cover is removed.

3. **Remove the belt tray screws.** Use the 4mm Allen wrench to remove the eight screws holding the front and back belt trays in place (See Figures 1 & 2).

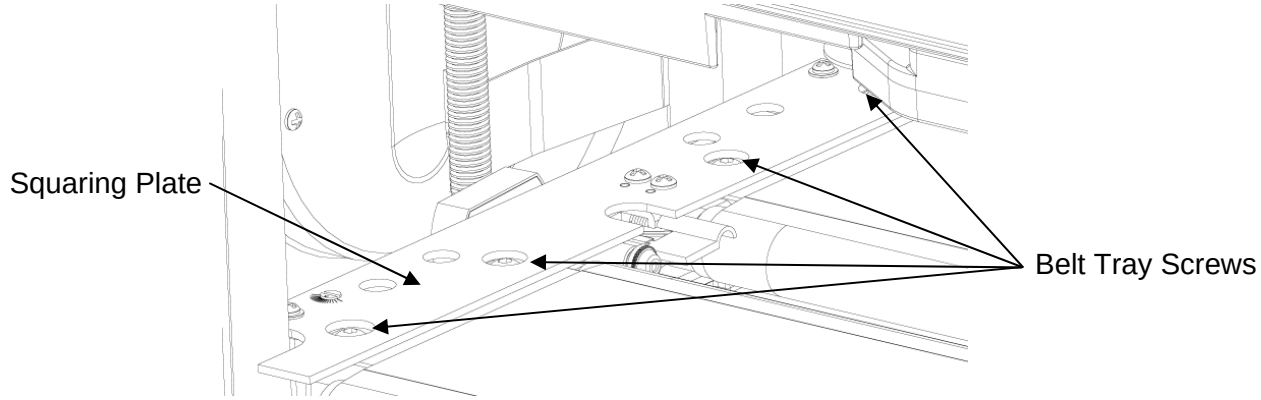

FIGURE 2: VIEW OF THE BELT TRAYS AND SQUARING PLATE (LEFT SIDE)

4. **Remove the belt trays.** Lift up on the right end of each belt tray and slide it to the right and out from under the squaring plate. Angle the belt tray slightly to remove from the machine. Be careful not to put any pressure on the squaring plate while removing the tray.

5. **Familiarize yourself with the tensioning mechanism**. The belt tensioning mechanism is shown below. The springs on both sides push on the spring pins pressed into holes in the slide rods. The slide rods are connected to the roller that tensions the traction belts.

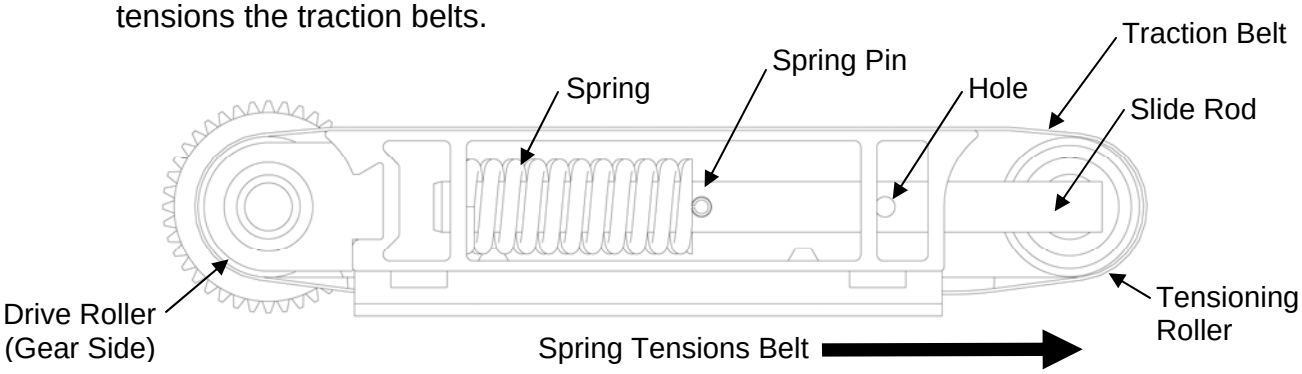

FIGURE 3: SIDE VIEW OF THE BELT TRAY TENSIONING MECHANISM

6. **Compress the belt tray**. In order to remove the sandpaper belt, you will need to remove the tension provided by the springs by compressing the ends of the tensioning roller with a vice. Place the belt tray into the vice such that pressure is applied only at the ends of the roller over the slide rods. **Do not press in the center of the roller. Pressing on or near the center of the roller can damage the roller. The machine will not work properly with a damaged roller.** Only press on one end at a time and insert the pin (as described in Step 7) before repeating on the opposite side.

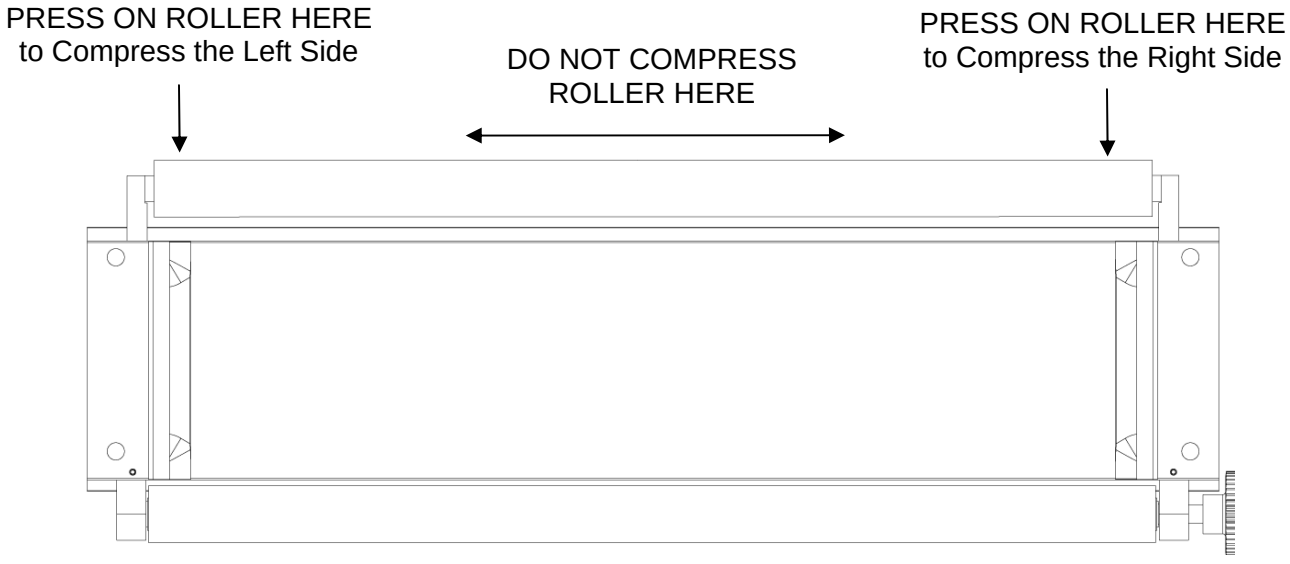

FIGURE 4: CORRECT LOCATIONS FOR COMPRESSING THE ROLLERS

Compress the belt tray using the vise until the open holes in the slide rods have moved inside the inner wall as shown below.

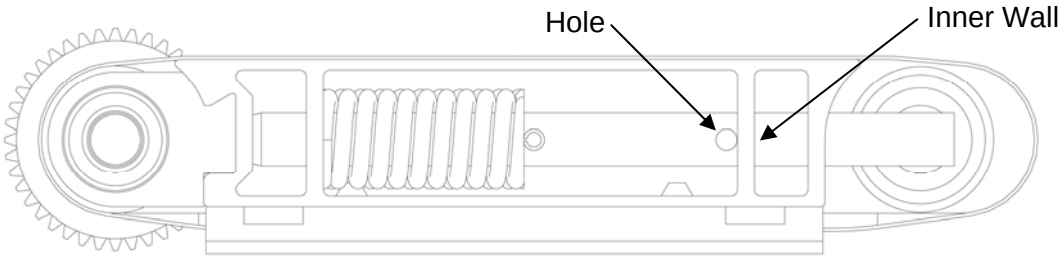

FIGURE 5: SIDE VIEW OF THE BELT TRAY TENSIONING MECHANISM

7. **Insert pins.** Insert a retaining pin (supplied with the replacement belts) into this open hole to hold the roller in the compressed position. Remove tray from the vice and repeat on the opposite side. Once both pins are in place remove the belt tray from the vise. The rollers will remain compressed.
8. **Remove the belt.** With the belt tray compressed, slip the belt off the side opposite the gear.
9. **Check the screws holding the rubber drive roller for looseness.** From time to time the setscrews holding the rubber drive roller can loosen and shift the position of the drive gear relative to the gears it meshes with. We want to assure that the spacing of this gear is correct as well as the tightness of the securing screws.

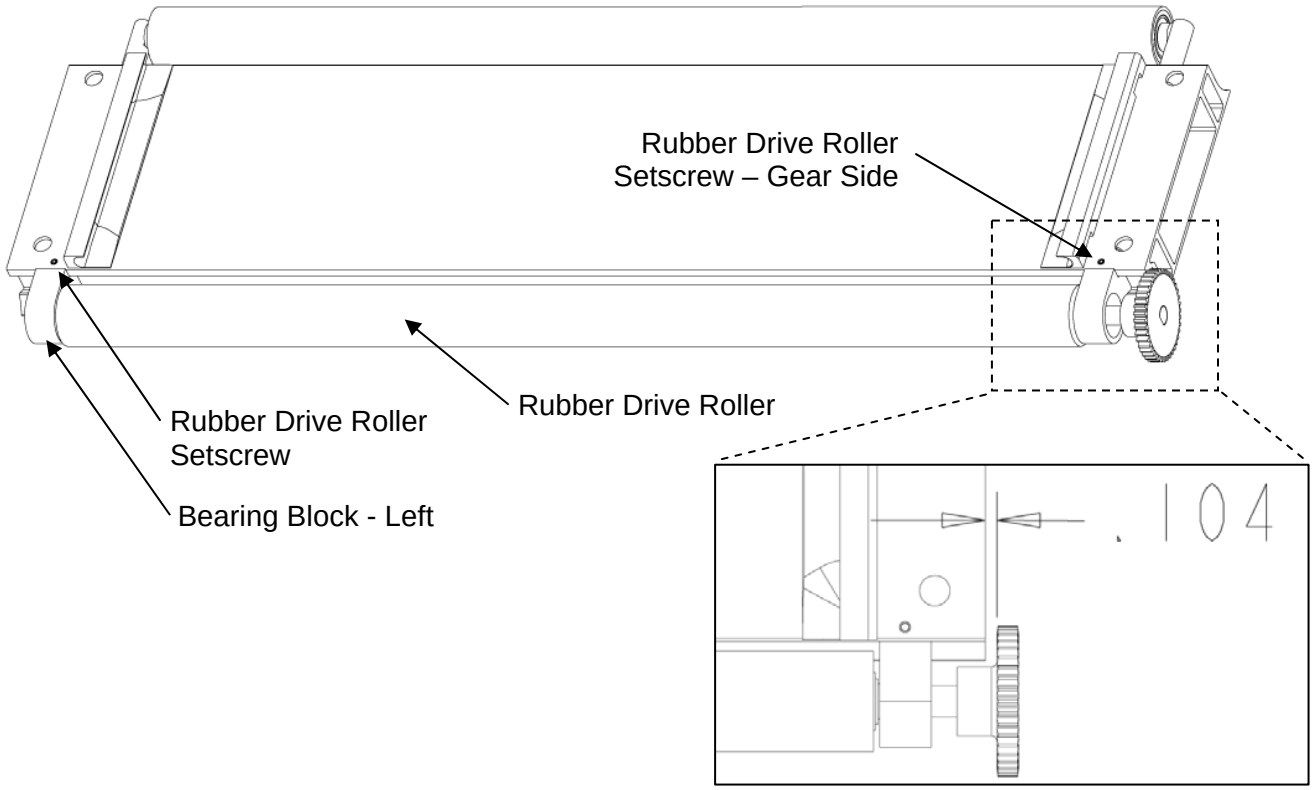

FIGURE 6: CHECKING THE SPACING OF THE DRIVE GEAR

10. **Check for slop in the drive roller.** Grab the rubber drive roller and attempt to move it side to side (in the length direction of the roller). If there is any movement at all you will have to reset this roller. If there is no movement in the roller quickly check the spacing between the inside of the drive gear and the end of the belt plate as shown in Figure 6 with the enclosed thickness gage block. The gap can be slightly larger (1/64") than the thickness of the spacer but no less. If the roller is tight and the spacing is correct proceed to Step 12.

11. **Reset the drive roller.** With the supplied 1.5mm Allen wrench loosen and remove both of the rubber drive roller setscrews (see Figure 6). They have thread cement on them so apply a small amount of heat to them if they will not break free. Set the supplied thickness gage block against the end of the belt tray and push the roller assembly over until the gear touches the block. Add thread cement to and insert the setscrew closest to the drive gear. Tighten firmly. Press the left bearing block toward the drive gear so that there is no side to side slop in the roller and insert the thread cemented setscrew (see Figure 6). Tighten firmly. Verify that the spacing is still correct and that there is no side to side slop in the roller.

12. **Assemble the new sandpaper belt.** Slide the new belt over the tray from the end opposite the drive gear. The belt needs to be placed between the two belt keepers as shown in Figure 7. Remove the retaining pins from the slide rods by applying a small amount of force to the tensioning roller and pulling them out or by reinserting the tray into the vise.

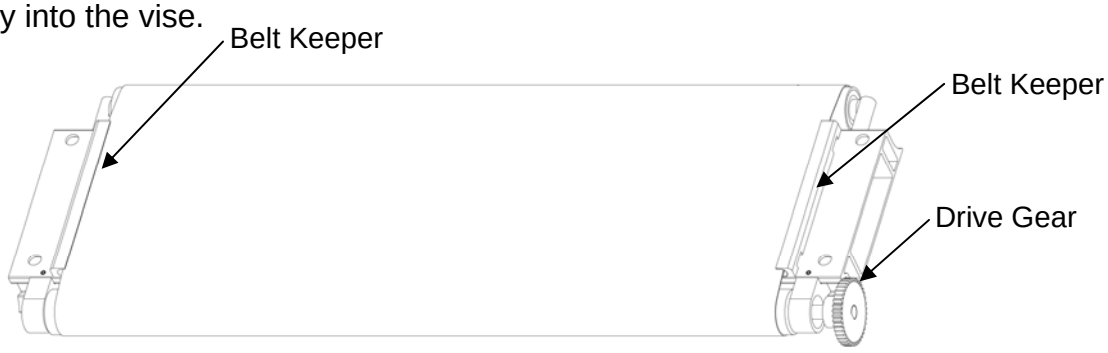

FIGURE 7: BOTTOM VIEW OF THE FRONT BELT TRAY SHOWING THE BELT KEEPERS

13. **Reinstall the belt tray.** Reinstall the belt tray by reversing steps 1-4.

14. **Reinstall the gear cover.** Make sure that the gear cover is pressed all the way down and that it snaps back in place. Though not absolutely necessary, a little caulking around the perimeter will help to keep dust out of the gears and avoid possible problems.

15. **Reinstall the sliding plate.** When reinstalling the sliding plate be careful not to snag the belts. Before tightening the screws on the sliding plate insert a board into the machine that has parallel sides. Slide the sliding plate up against the board and tighten the screws. This will ensure that the sliding plate is parallel to the squaring plate.