Chemglass Life Sciences

CLS-3854-SPK

Versa-Roll™ Roller Apparatus Slow Speed Kit

Installation Manual

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DESCRIPTION
The slow speed conversion kit adapts a Cell Production Roller Apparatus, to roll 110mm bottles at 0.10 (bottle) RPM.

PARTS LIST
2 ea.   Pulley   ELE-032-019
2 ea.   Timing Belt   ELE-045-013
2 ea.   Pulley   ELE-032-018

TOOLS NEEDED
1/8 " Allen Wrench
5/32" Allen Wrench

INSTALLATION
1. Verify power switch is in the Off position. If the Battery Back Up option is installed, verify that the Battery toggle switch is also in the Off position.

2. Remove rear base guard. Loosen four (4) 8-32 Hex Drive Button Head Cap Screws (BHCS).
   Slide guard upwards and lift off.
   Remove the first deck rear guard. Loosen two (2) ¼-20 Hex Drive Button Head Cap Screws (BHCS).
   Slide guard upwards and lift off.

3. Remove the o-ring belts (2) and the center o-ring pulley on the right side of the bottom deck. (right side as viewed from the rear). Loosen the set screw in the timing belt pulley.
   Remove the o-ring belts (2) and the o-ring pulley on the right side of the next higher deck. (the deck above the base deck, on the right side). Loosen the set screw in the timing belt pulley.
   Grasp the (2) timing belt pulleys, and the (1) timing belt, as a group and pull. These parts will slide off the roller shafts together.

4. Loosen, but do not remove, the motor mount plate. The (2) hex drive button head cap screws are identified in the drawing. Loosen these screws and slide the motor upwards to remove the tension on the motor's timing belts. Remove the timing belts.

5. On the other side of the roller also remove the o-ring belts and the center o-ring pulley. Loosen the set screw and remove the left side, base, outside, timing pulley.

6. Loosen the set screws (1 each) on the (2) motor pulleys. (The set screws are located between teeth on the pulleys). Remove motor pulleys. (The shaft adapter may remain on the motor shaft.) The set screw for the first timing pulley is tightened directly on to the shaft adapter. When you remove the second pulley you will see that the set screw tightens through the hole in the shaft adapter into the slot in the motor shaft. Save the set screw from this pulley and use it in the new aluminum slow speed pulley. Be sure the set screw tightens through the adapter on to the motor shaft.

7. Install one (1) new motor pulley ELE-032-18, one (1) new base deck pulley ELE-032-019 and one (1) new initial timing belt ELE-045-013, to the right side of unit. Reinstall the deck to deck pulleys and the deck to deck belt removed in step # 2.
8. Install a new left side motor pulley, base deck pulley and belt.

9. Reinstall the o-ring pulleys and belts. Tighten all set screws.

10. Adjust the initial drive belt tension by sliding motor downwards. Apply only enough tension (on the belts) to engage the teeth on the belts and pulleys. Do not over tighten belts. Too much tension may damage the motor and/or roller shaft bearings. Tighten motor mount screws.

11. Replace the rear base guard. Tighten the screws (4) that secure the rear guard. Replace the rear deck guard. Tighten the screws (2) that secure the deck guard.

12. Adjust front panel display to reflect the changes to final drive ratio.

Figure: Rear View

ELE-032-019 pulley (2ea)

ELE-045-013 timing belt (2ea)

ELE--032-018 pulley (2 ea)

Motor tension screws (2)

Belts and Pulleys drawn in bold must be removed to install the Slow Speed Pulleys and Belts.
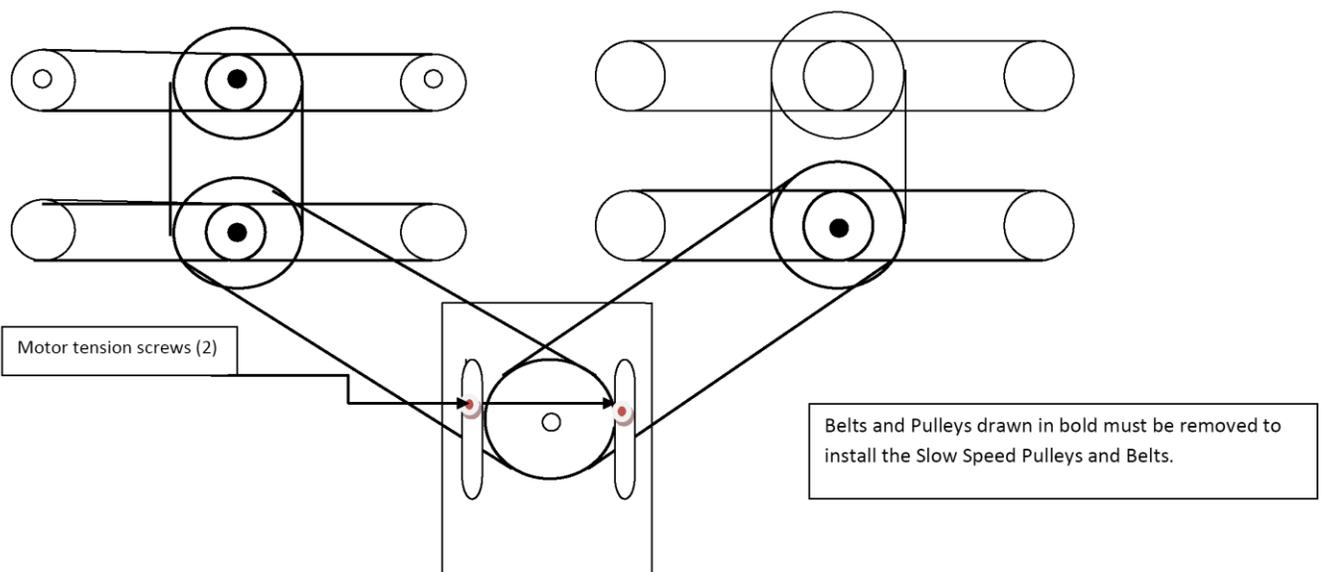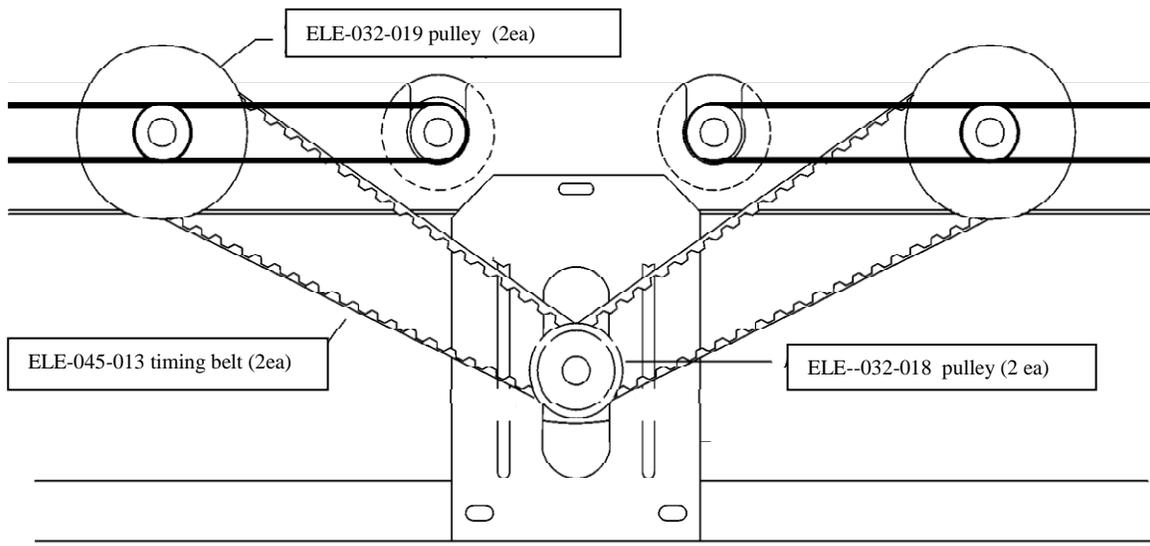
1. Entering the Programming Code to Unlock the Display.
On the front panel display, press the <SEL> button for 2 seconds until the display flashes **Pro CodE** and **000**.
Press and quickly release the **<RST>** button. The first **0** will start to flash. Press the **<RST>** button three more times and the display will advance to **1**, then **2**, then **3**.
Press the <SEL> button once and the second **0** will start to flash. Press the **<RST>** button three times and the second **0** will advance to **1**, then **2**, then **3**.
Press the <SEL> button one more time and the third **0** will start to flash. Press the **<RST>** button seven times to display **733**.
Press the <SEL> button and hold for one second, then release. The display will flash between **Pro** and **No**. The display is now unlocked and the values may be adjusted.
The same procedure may be used to change or re-install a protection code after re-calibration has been completed.

2. Recalibrating the display for operation with the Slow Speed Kit.
With the display unlocked as detailed in section 1.
Press the **<RST>** button two times to access the second program module, 2-**RAtE.**
Press the **<SEL>** button one time to access the first parameter, **RAtE Enb**. the value should be **YES**.
Press the **<SEL>** button one time, the second parameter is **RAtE dP**. Press the **<RST>** one time to change from **0.00** to **0.000**.
Press **<SEL>** once again to access parameter **RAtE dSP**. Change value to **19.300**
Press **<SEL>** to advance through the following parameters.
Verify: **RAtE dP =   0.000**
         RAtE INP = 10000.0
         LO-Vdt =   01.0
         HI-Vdt =   02.0

In the first module 1- verify: **Cnt A Scf = 01.0000**
                               Cnt Ld = 00000500

3. Recalibrating for bottle size.
RAtE dSP (in Module 2) is the parameter that is adjusted to calibrate the display. A higher value gives a higher displayed RPM. Use a stopwatch to verify the actual bottle speed of rotation. Operate the roller at one RPM (1.00 RPM shown on display). Make a reference mark on a roller bottle. Place the bottle on the apparatus and time the interval for one revolution of the bottle. If the the interval is more than 60 secs, the **RAtE dSP** value should be slightly decreased. Example: change from 19.300 to 19.280. This will decrease the displayed RPM. Now the use the speed control knob to re-adjust the speed up a little until the display once again shows **1.000** RPM. This speeds up the rotation of the bottle. Continue to time the interval for one revolution, then adjust the display. (If the interval for one revolution was less than 60 seconds, the value of **RAtE dSP** would have to be increased and the speed control knob would have to be adjusted to slow the bottle.) Repeat as necessary. Units with the Slow Speed Kit may repeat the process at 0.100 RPM to fine tune the calibration.

4. Removing or Changing the Programming Code.
With the display unlocked as detailed in section 1.
Press the **<RST>** button three times, the display will read **3-dSPLAY**. Press the **<SEL>** button six times. The display will flash between **ProCodE** and **733**. Press the **<RST>** button to change the first **3** to a **0**. Press the **<SEL>** button one time to select the second digit. Press the **<RST>** to change the second **3** to a **0**. Press **<SEL>** button one more time to select the third digit. Press **<RST>** until you have changed the **7** to a **0**. Press **<SEL>** five times to exit the programming function. The protection code has been removed. The same process may be used to enter a new programming code.
Note: **222** is a default ProCode that may be entered to access the programming functions.