Stelvin Capper

Setup and Maintenance

We recommend that you send us your bottle and Stelvin capsules in advance. We will set up the capper before shipping. If you do this, you need only to focus on periodic lubrication and cleaning of the Avt400. You must carefully adjust bottle height and center the bottle when using a bottle of different height and diameter.

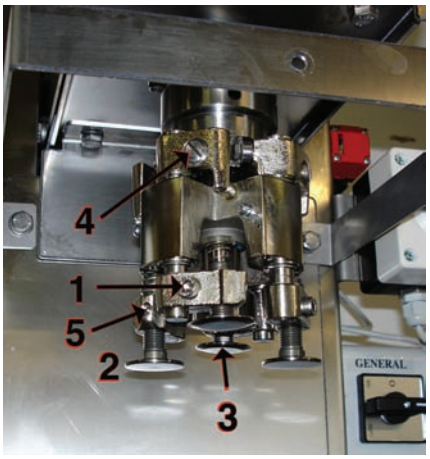

Figure 1.
1. Allen bolt (1 for each roller). Sets spacing of each roller.
2. Lower Roller
3. Upper Roller
4. Set screw (fine adjustment of roller tension)
5. Set screw. To lock height of each roller

Quick explanation of principles of the Stelvin Capper.
The lower rollers make the tamper-proof seal.
The upper rollers make the threads.
It is important to recognize that neither the lower nor upper rollers seal the bottle. The seal of a Stelvin capsule is formed by the liner (disc in the top of the capsule) pressed onto the top of the bottle. This is the fundamental difference between a Stelvin screw top and screw tops on oil and other products. The Stelvin capper applies more downward force than other types of cappers to make this seal.

Operation:
Turn switch to "1". Green light below switch will come on. If it does not, be sure interlock is engaged (shield in position) and be sure Emergency Stop is pulled out.
Put capsule on bottle and place on bottle stand. (be sure bottle is at correct height)
Depress both buttons simultaneously for ~1 second, and then release. Capsule will be applied and head return to starting position.

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Setup:
Instructional videos online at StPats.com. We have five short videos online which demonstrate the adjustments of the rollers.

Unplug the unit.

1. Turn head manually to lower/raise head to check heights of the rollers. [You can also manually apply a capsule by turning the head by hand.]

2. Cut off top of screw cap. Place this cap top onto bottle.

3.Place bottle on platform and adjust Bottle Height. Bottle Height is critical to proper operation. The distance between top of bottle (with capsule) and bell (inside bottom of bell) must be 45 mm.

4. Center the bottle. Carefully center the bottle so that the capsule is aligned with the bell of the capper.

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5. Adjust Spacing of Rollers.
Carefully measure diameter of screw cap with micrometer.
Set roller spacing of the two LOWER rollers 5.5-6 mm wider than diameter of screw cap. [For most 30 mm Stelvin, this will be 35.5 to 36.0 mm] See NUMBER 1 in Figure 1. Loosen this allen bolt to change spacing of roller.

Now set spacing of two UPPER rollers to be 0.5 mm wider than spacing of lower rollers. For example, if lower rollers are 35.5 mm apart, the upper rollers should be 36.0 mm apart.

6. Adjust Height of Rollers.
The two Lower rollers crimp the tamper-proof seal. Both Lower rollers align with the bottom edge of the bottle neck collar. Loosen small set screw and thread the Lower roller up/down to correct height. Repeat with other lower roller. The two Lower rollers should be at the same height.

Manually lower head to check position. Lock in position with set screw after correct height is found.

The two Upper rollers thread the capsule. Both Upper rollers align with the uppermost thread on the bottle. Loosen set screw and move each upper roller to correct position. Check manually and lock set screw.

7. Plug in unit and test. Make adjustments as needed to Upper and Lower roller heights.

8. Tension of rollers. *NOTE: The bottle height must be set correctly (see step 3 above) before adjusting or evaluating the roller tension.*
The four upper screws (Number 4 in Figure 1) adjust the amount of lateral force applied to the screw cap by each of the rollers. Turning the screw cw increases the force. Typically, there will be ~1 thread of the set screw visible. Generally, you want the tension to be high, but not so much that the capsule is cut by the rollers. If the capsule is being cut by the lower rollers (below tamper proof seal) then adjust the tension on the lower rollers equally. If the capsule is cut on the threads, then relax the tension on the upper rollers only.

This completes the standard setup.

Visible examination of capsule.
1. Threads should not be cut. If they are, check bottle height first, (step 3 above). If bottle height is correct, then decrease lateral tension of upper rollers (screw number 4 in Figure 1). See step 8 above.
2. Tamper proof seal should not be cut. If bottle height is correct, then decrease lateral tension of lower rollers (screw number 4 in Figure 1). See step 8 above.
3. Remove capsule and carefully inspect liner disc at top of capsule. The bottle rim makes a uniform indentation near the outer edge of the liner, leaving about 1/16" ring on outside edge. If this is not centered, then check the alignment of the bottle with the capping bell. Please note that the seal of the bottle is made at this junction.

Maintenance and other features.

1. Bottle Release. See Figure 2. The assembly on top of the unit controls the bottle release. There is a large spring that should be lubricated annually. Typically the distance A will be about 2" and B will be about 4" when properly set up. If the adjustment is too loose, the head does not cleanly release the bottle after capping, and the assembly needs to be turned clockwise (decrease A). If the assembly is too tight (A and B too small), then the rollers will not move in and make the tamper-proof seal (or thread the capsule). It is important not to interpret this problem with the adjustment of screw Number 4 in Figure 1.

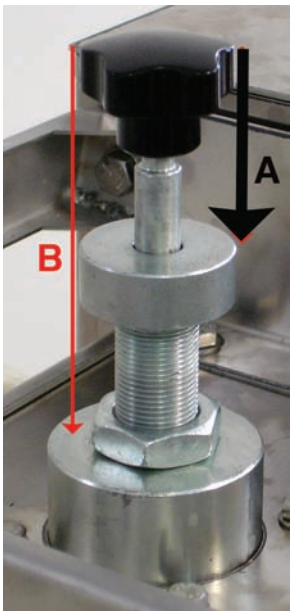

Figure 2. Bottle Release

Removing the Bottle Release Assembly. Loosen the large nut at base. Loosen small bolt and allen screw near top. Unthread assembly and pull straight out. Lubricate with grease.

To reassemble. Note the slot below the spring. Use a flashlight to locate the male counterpart inside unit. Reinsert spring assembly and be sure these engage. [note: remove the allen screw nearly completely before this. This makes aligning the slot with its male counterpart easier.] Thread the assembly into the unit until A is about 2". Lock down the large nut at base. Test unit. If bottle is not released, tighten assembly further. If rollers are not creasing the capsule, unthread the assembly a bit.

2. Vertical Force. Drive Spring inside unit. Remove back cover. See Figure 3. Lubricate every 20 hours of use. DO NOT MAKE ANY ADJUSTMENT TO THIS SPRING. This spring determines the vertical load. THIS HAS BEEN ADJUSTED TO MEET THE STELVIN SPECIFICATION AND SHOULD NOT BE CHANGED.

3. With back cover removed, lubricate rails and cam (on opposite end of the spring rod) annaully.

4. Grease fittings on rollers. Lubricate after 40 hours of use. Also inspect, clean,and lubricate all roller components routinely.


Figure 3. Drive Spring

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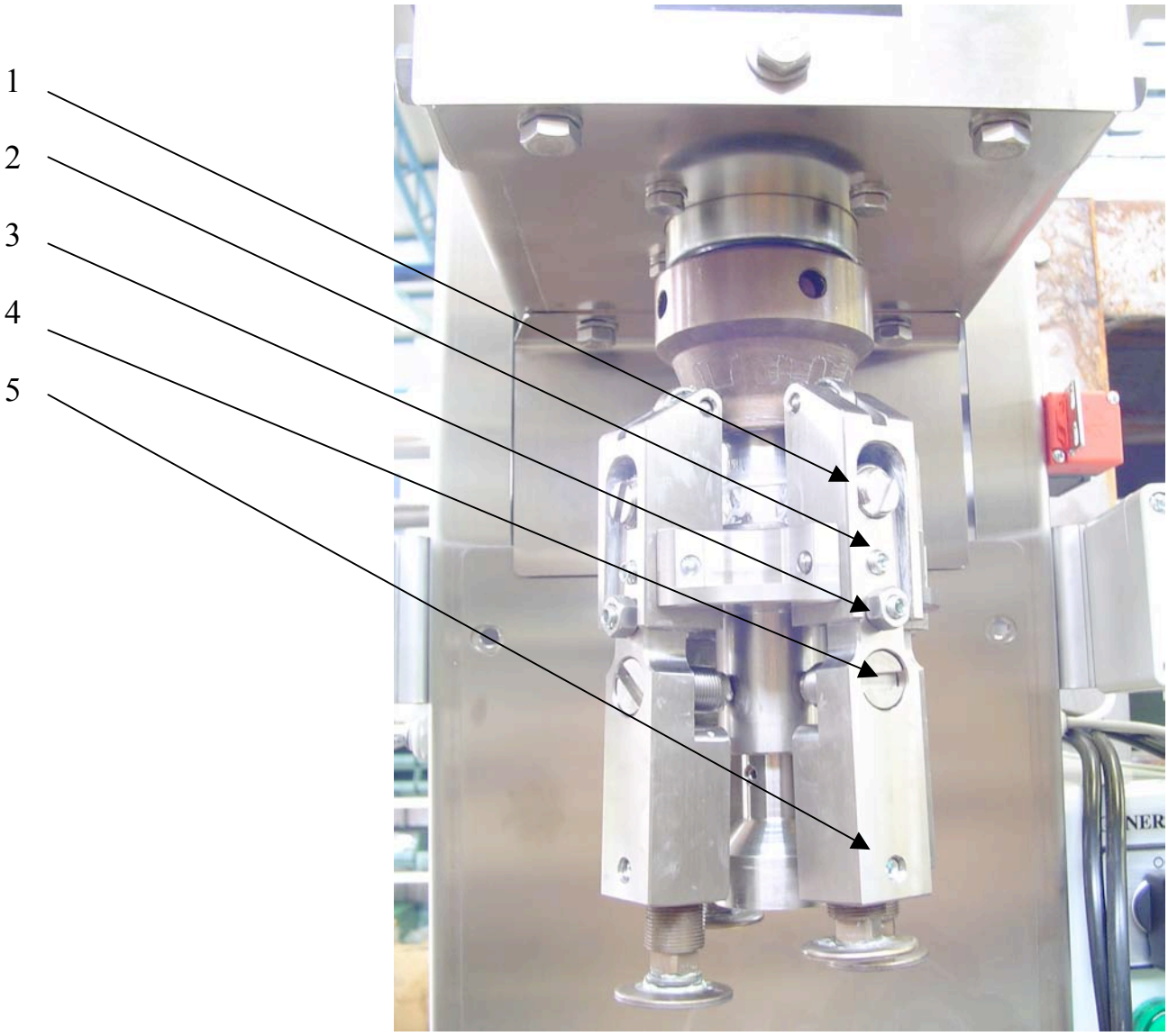
New Head Adjustments. Follow steps on page 1 and 2 but location of the adjustment points is a little different from old head.

6.0-6.2 mm upper rollers-spacing from bottom of block to top of roller

21.6-22.4 mm lower rollers



1) large flathead screw, I confirm it is to control the lateral force of the roller on the cap

2) this screw is to fasten the pin for the movement of the bracket, it is not for any adjustments

3) screw with a nut, I confirm it is to set the distance between to roller and the cap

4) large flathead screw in the bottom, it is to fasten the spring to put away the bracket after the screw operation in the cap, it is not for any adjustments

5) this screw is to fasten the threaded cylinder with the roller, to adjust the height of the roller it is necessary to loose this screw and turn the threaded cylinder