



**PerkinElmer Manual
Crimping Tools**

Operation Guide

Notices

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Safety Notices

CAUTION

A **CAUTION** notice warns of a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING

A **WARNING** notice warns of a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

This operation manual applies to the following products:

- 11mm Manual Crimper, part number N6621035
- 20mm Manual Crimper part number N6621037
- 11mm Manual Decapper, part number N6621036
- 20mm Manual Decapper part number N6621038

WARNING

Remember to wear safety glasses when crimping or decapping.



The crimper or decapper jaws can pinch severely.

Never insert fingers into the crimper or decapper.



Selecting Compatible Vials, Caps and Seals

PerkinElmer crimping tools may be used with standard sample vials and seals. Steel caps can be crimped, although considerable effort is required.

Aluminum caps or two-part caps with aluminum sides and seals of standard size and thickness are appropriate.



Under Crimp
Loose seal,
Cap twist easily



Over Crimp
Deformation of sides,
Upward bulge



Correct Crimp
Clean, undeformed
sides, good seal

Adjusting Crimpers for Use

The crimpers must be adjusted for the vials, caps and seals that will be used. The adjustment knob on top of the tool can be turned to set the stop position for the stroke of the tool.

The adjustment of the crimping tool is effectively a height adjustment. The setting determines the amount of compression of the cap and is very accurate. There may be some drifting over time due to stretching or wearing-in of components of the new crimper, but generally the reproducibility of the crimp is as good as the consistency of the vials and seals.

1. Select 5 or so vials, caps, and seals for the purpose of setting the crimp.
2. Place the seal and cap on the vial and rest the crimper on top of the cap.

3. Squeeze the handles until the adjustment knob has seated against the top of the plastic case. This is the stop position, and the crimper cannot be tightened further.
4. Check the crimped vial for satisfactory form and tightness. If the cap spins easily, turn the adjustment knob about ½ turn in the + direction. Try the new setting with a new vial and cap.
5. Crimping the same vial two times will not generally give the same results and sometimes will result in vial breakage. See the section on “Troubleshooting” for more information.
6. If the crimp is too severe, or the cap is too tight with deformed sides, try a lighter setting by pressing turning the adjustment knob in the – direction.
7. Special considerations for 20mm Headspace vials. It is common practice to use the “twist test” to check headspace vials for satisfactory crimps. In fact many sealing systems hold pressure perfectly well so long as the seal is well compressed.



Adjusting Decappers for Use

The adjustment is not very important when decapping. As shipped from the factory the decapper should remove a cap satisfactorily.

1. The 11mm decappers work by closing the jaws around the neck of the vial and stripping the cap off. For the 11mm decapper to work the glass vial must be strong enough to resist the force applied by the decapper. In the case of inferior or soft glass or if a vial is reused the lip of the vial may break during decapping.

To adjust the 11mm decapper make sure that the stroke is long enough to remove the cap.

2. The 20mm decapper works by pinching the sides of the cap with the decapper jaws and pushing out the glass. The pinching action starts to pull the cap off, and the force of the decapper does the rest of the work.

To adjust the 20mm decapper, just make sure that the stroke is long enough to remove the cap.

Maintenance

The crimper tools do not contain user-serviceable parts.

Cleaning

The crimping tool may not be immersed in water or solvent. The outside of the case may be cleaned with an ordinary detergent and wiped off with a damp rag.

Avoid permitting metal parts of the crimping tool come into contact with corrosive material during use. If they do, try to wipe them clean with a suitable mild neutralizing solution.

If metal fines accumulate around the inside of the jaws they can be wiped out with a cotton swap or small rag.

Troubleshooting

Condition	Possible Cause	Recommendation
Side of cap is indented. Seal is deformed in hole.	Crimp setting is too high. The crimp is too tight.	Adjust crimper to a lower crimp setting.
Cap spins easily.	Crimp setting is too low. The crimp is too loose	Adjust crimper to a higher setting by pressing the plus button.
Crimping is inconsistent. Some vials are good and some are not.	Vials, caps or seals are inconsistent.	Check crimper by using some standard, approved, vials caps and seals.

Table 2 Troubleshooting