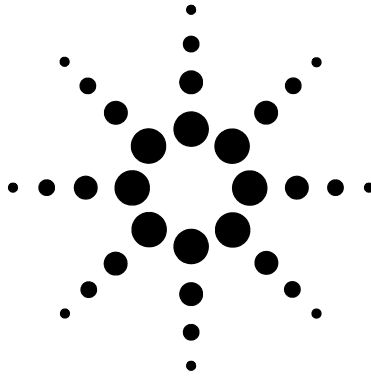




Agilent High Power Electronic Crimping Tool

Operation Guide



Agilent Technologies

Notices

© Agilent Technologies, Inc. 2013

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Agilent Technologies, Inc. as governed by United States and international copyright laws.

Manual Part Number

5991-1674EN

Edition

First edition, February 2013

Printed in USA

Agilent Technologies, Inc.
3501 Stevens Creek Blvd.
Santa Clara, CA 95051 USA

Warranty

The material contained in this document is provided “as is,” and is subject to being changed, without notice, in future editions. Further, to the maximum extent permitted by applicable law, Agilent disclaims all warranties, either express or implied, with regard to this manual and any information contained herein, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Agilent shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein. Should Agilent and the user have a separate written agreement with warranty terms covering the material in this document that conflict with these terms, the warranty terms in the separate agreement shall control.

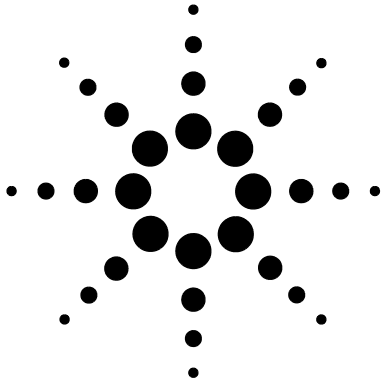
Safety Notices

CAUTION

A **CAUTION** notice denotes 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 denotes 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.



**Agilent High Power Electronic Crimping Tool
Operation Guide**

Safety and Regulatory Certifications 4
Warnings, Intended Use, and Limits 6
Description and Setup 8
Operation 9
Maintenance, Troubleshooting, and Repair 18
Appendix A - Base for Electronic Crimping Tool 20

This operation guide applies to the following products:

	Part number
High power electronic crimping tool	5190-4061
High power crimping tool with 20 mm crimper and decapper jaw sets	5190-4067

Related parts	Part number
Base for electronic crimping tool	5190-4066
Crimper jaw set, 11 mm	5190-4062
Crimper jaw set, 20 mm	5190-4064
Decapper jaw set, 11 mm	5190-4063
Decapper jaw set, 20 mm	5190-4065



Safety and Regulatory Certifications



The Agilent Electronic Crimping Tools are designed and manufactured under a quality system registered to ISO 9001.

Symbols

Warnings in the manual or on the instrument must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions violates safety standards of design and the intended use of the instrument. Agilent Technologies assumes no liability for the customer’s failure to comply with these requirements.

See accompanying instructions for more information.



Remember to wear safety glasses when crimping or decapping.



The crimper or decapper jaws can pinch severely. Never insert fingers into the crimping tool jaws.



You must not discard this electrical/electronic product in domestic household waste.



Sound emission declaration

Sound pressure

Sound pressure LpA = 79 dB(A).

Cleaning/Recycling the product

To clean the unit, disconnect the power and wipe down with a damp, lint-free cloth. For recycling, contact your local Agilent sales office.

Warnings, Intended Use, and Limits

Warnings

WARNING

Wear safety glasses when crimping or decapping.
The crimper or decapper jaws can pinch severely.
Never insert fingers into the crimper or decapper.

Special battery warnings

WARNING

Risk of burns; battery may explode or catch fire if mishandled.

CAUTION

Do not disassemble or dispose of in fire.
Use only the 12 v DC power supply supplied with the crimping tool.
Use of other batteries may cause fire during charging or use.
Only change jaws after the power supply has been disconnected or the tool has been locked.
Do not heat above 60 °C.
Do not crush or modify.

Disposal of battery

Do not throw the battery away. Recycle it in accordance with local regulations.

Intended use

Electronic Crimping Tools are intended for use in a laboratory environment, all other uses are prohibited.

Limits

Temperature 15 – 35 °C

Maximum humidity 75%

Pressure 0.75 – 1 bar

Description and Setup

Description

The High Power Electronic Crimping Tool can be used to crimp and decap standard crimp caps on laboratory sample vials. Jaw sets are available in 11 or 20 mm.

Crimping tool setup

Please read through this entire guide to familiarize yourself with the operation of the tool before proceeding. Use the same degree of care as you would with any precision instrument.

Remove the tool, power supply and cable, and CD from the shipping container. Inspect the crimping tool and any jaw sets. If there is any visible damage, contact your supplier immediately.

Operation

Connecting the power supply

Connect the 12 v DC supply to an electrical outlet with the power cord provided, and also to the connector on top of the crimping tool.

After power up, the jaw set may be selected with the  and  buttons while the display is blinking.



Locking the crimping tool

If the power is connected, the crimping tool must be locked before changing jaw sets.

To lock out the tool, hold the  or  button for 2 seconds. The display will show **OFF** and then flash with the last jaw set code in use. The go-button will not start the tool when it is locked out.



Selecting or changing a jaw set while power is connected



First, lock the tool by holding the $\oplus$ or $\ominus$ button for 2 seconds.

Insert the jaw set into the bushing at the bottom of the tool. Push up against the spring load and then twist until the set locks into position. To remove a jaw set, push the button on the outside of the supporting cup and rotate.

While the jaw set code is flashing use the $\ominus$ button to choose the size and the $\oplus$ button to select *c* for crimper or *d* for decapper.



When the selection is complete, press and hold the go- button for 2 seconds to confirm the selection. The display will show *On* momentarily and then enter operating mode.



The last setting for a given jaw set is reloaded when it is selected for use.

Selecting the wrong jaw set can cause the crimping tool to attempt to travel too far, creating an **Er1** (Stall) condition. See “Fault conditions” on page 17.

Selecting compatible vials, caps and seals

Standard aluminum, steel, or two-part caps with aluminum sides and magnetic tops, with seals of standard size and thickness, are compatible. 20 mm caps with very thin seals cannot be removed with the 20 mm decapper jaw set.

Adjusting the tool for crimping jaws

The electronic crimping tools must be adjusted for the vials, caps, and seals that will be used. The $\oplus$ and $\ominus$ adjustment buttons on the top of the crimping tool set a stop position for the motor that drives the tool. Pressing either button one time displays the current setting. Pressing again will change the setting.



The numerical setting of the crimping tool sets a stop position that determines the amount of compression of the cap and is very accurate. There may be some drifting in the setting over

time due to stretching or wearing-in of components of the new tool, but generally the reproducibility of the crimp is as good as the consistency of the vials and seals. Some adjustment for different lots of caps and seals is to be expected.

Select five or so vials, caps, and seals for the purpose of setting the crimp. Place the seal and cap on the vial and rest the tool on top of the cap.

Squeeze the go-button lightly to engage the motor. This button must be held down until the crimp is complete. If the button is released early, the tool will retract and display the error code **Er0**. The error code **Er1** means that the tool stalled– it was not able to deliver enough power to reach the position requested in the setting.

Check the crimped vial for satisfactory form and tightness. If the cap spins easily, press the  button two or three times. Try the new setting with a new vial and cap.

Crimping the same vial two times will not give the same results and sometimes will result in vial breakage. See “Troubleshooting” on page 19 for more information.

Special considerations for 20 mm 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.



Good crimp



Too tight



Too loose

Adjusting the tool for decapping jaws

The adjustment is not very important when decapping. The factory settings for the decapper jaw sets are probably satisfactory.

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

To adjust the tool for the 11 mm decapper jaw set, make sure that the stroke is long enough to remove the cap. Each step for the decapper jaw set is 5 units.

The 20 mm decapper jaw set 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 tool does the rest of the work.



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

Saving multiple programs for a jaw set

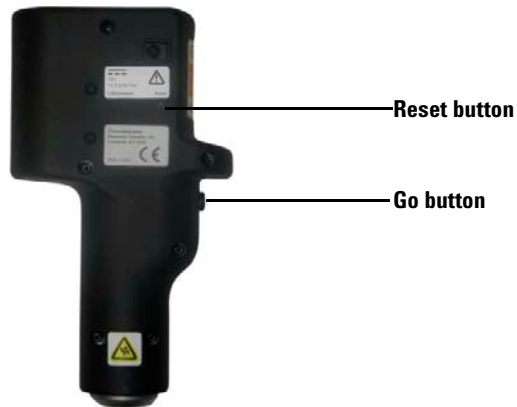
If you use more than one type of cap and seal of the same size, you may decide to store multiple settings. To do this, hold the **+** and **-** buttons down together for two seconds, until the current program number is displayed. Then use the **+** and **-** buttons to scroll through the programs (**Pr1- Pr9**). Programs displaying “- - -” are not in use. After choosing a program, press the go-button to select it. The program setting can be adjusted at that point. To remove a program use the **-** button until “- - -” is displayed. (Hold a button to scroll rapidly.)



Unless multiple programs are in use they will not appear on the display.

Reset

Pressing the reset button is the same as disconnecting and reconnecting power. After selecting the jaw set and pressing the go-button, the crimping tool retracts to the top zero position.



Storage and shipping

Remove power and place the protective cap over the jaws to prevent accidental cycling when storing or shipping the tool.

Fault conditions and display codes

Fault conditions

Major and minor faults are identified on the LED display, normally after a crimp cycle.

Table 1 Fault codes

Fault code	Possible cause	Recommendation
Er0	Early release of the go button – the tool retracted before completing the cycle.	Try again, making sure to hold the button down until the tool is returning to the home position.
Er1	Stall condition – crimp setting is too high.	Adjust tool to a lower setting.
Er2	Motor drive failure	See Maintenance/Repair section for contact information for warranty and repair service information.

Display codes

Table 2 Display codes

Display code	Description	Comment
xx d (e.g. 11d)	xx decapper jaw set selected.	See page 11.
xx c (e.g. 20c)	xx crimper jaw set selected.	See page 11.
Xx (e.g. 38)	The tool setting is 38.	
Prx (e.g. Pr0)	Program x for the given jaw set.	
Off	Tool has been locked out.	Press the go button for 2 seconds to resume operation.
On	Tool is returning to operation.	

Maintenance, Troubleshooting, and Repair

General maintenance

The high power electronic crimping 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. Care should be taken not to get the electronics wet.

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

Troubleshooting

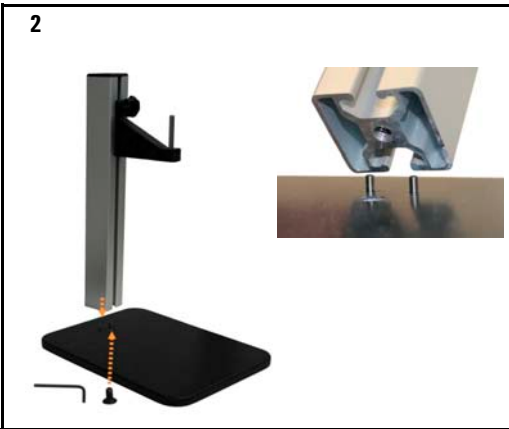
Table 3 Frequent troubleshooting solutions

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 tool to a lower setting by pressing the  button.
Cap spins easily.	Crimp setting is too low. The crimp is too loose	Adjust tool to a higher setting by pressing the  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.
	Electronic failure in crimper.	Visit www.agilent.com/chem/crimper-repair for support information.
11 mm decapper leaves caps hanging on vials.	Decapper adjustment is too low.	Adjust the decapper to a higher setting by pressing the  button.
	Jaws are worn or broken.	The decapper will have to be replaced or repaired. Visit www.agilent.com/chem/crimper-repair for support information.
Motor does not come on or moves in one direction only.	Drive circuit failure.	Visit www.agilent.com/chem/crimper-repair for support information.
No activity when power supply is connected.	Power supply failure.	Visit www.agilent.com/chem/crimper-repair for support information. (Power supply must be replaced).

Support and repair

If the crimping tool is still in the warranty period, contact your Agilent office or dealer for support. If the warranty period has expired, please visit www.agilent.com/chem/crimper-repair for information about the crimper repair service.

Appendix A - Base for Electronic Crimping Tool



www.agilent.com

© Agilent Technologies, Inc. 2013

Printed in USA 02/13
First edition, February 2013



5991-1674EN



Agilent Technologies