GENESIS MACHINERY PRODUCTS

WESTCAPPER®
Model LW
Operation and Maintenance
D-23631

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CHANGE HISTORY

CHAPTERS/PAGES	DESCRIPTION	BY	DATE
Cover Contents Chapters 1-3 Wiring Diagram Bill of Material Vendor Information	Initial release	EHA/LC	09/17/03

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FIGURES AND TABLES

HANDLING AND SAFETY GUIDELINES

Genesis Machinery Products produces capping machines for the pharmaceutical industry to meet many national and international standards. These cappers are sophisticated technical products that require you to properly install, use and maintain them so they will continue to operate according to their normal specifications. Genesis Machinery Products recommends that you adhere to and integrate the following guidelines into your safety program.

- Thoroughly review and understand the safety information in this document. Also, comply with the notice, caution, and safety notes that may appear on the cappers and those that appear throughout this manual.
- Read all instructions before you install, operate or service the capper. If you have question concerning any part of this manual, call Genesis Machinery Products at (610) 458-4900 for assistance.
- Inform and train your personnel in the proper installation, operation, and maintenance of the capper.
- Install your capper as specified in the installation instructions and according to prevailing local and national codes. Supply your capper through utility connections that permit only the proper levels and contain the required configurations.
- Allow only qualified personnel to install, operate, maintain, update, and program the capper.
- For replacement parts, use only those supplied or recommended by Genesis Machinery Products. Unauthorized parts and procedures can affect performance and place safe operation at risk. Look-alike substitutes may result in fire, electrical hazards, mechanical damage or damage to your product.

Genesis Machinery Products strongly recommends that all personnel who will work with the capper thoroughly read this manual before undertaking any installation, setup, operation, or maintenance tasks.

SAFETY SUMMARY

The following safety information is of a general nature and applies to the LW WESTCAPPER®. Specific safety information appears in this document at strategic points. However, the surest safety precaution is common sense, but be sure to acknowledge and comply with the safety information provided throughout this document.

CAUTION AND WARNING NOTES

⚠WARNING A warning symbol means people might be injured if the procedures are not followed.

⚠ CAUTION A caution symbol is used when equipment could be damaged if the procedures are not followed.

NOTICE A notice symbol identifies special information that elaborates on the performance of a procedure or clarifies and emphasizes specific areas.

GENERAL SAFETY ADVICE

1. Observe all the safety precautions provided in the vendors' documents supplied with this manual.
2. Do not connect the capper to a power source other than that specified for it. The primary power source must be properly grounded.
3. Do not install, remove, or wire components with power applied.
4. When removing broken glass, be sure to wear proper protective clothing, including safety glasses.
5. Do not attempt to operate and/or adjust the capper unless you are fully familiar with its functions and controls.
6. Before attempting to service or repair the capper, be sure that the power switch is off.

CHAPTER 1. GENERAL DESCRIPTION AND INSTALLATION

FUNCTIONAL OVERVIEW

The Genesis Machinery Products LW-WESTCAPPER® (capper) is a semiautomatic, hand-fed sealing machine. This capper is designed specifically to apply aluminum seals to unit-dose and other serum-type vials. The motor actuated capper combines a variable force crimping K-head and a variable seal compression to produce repeatable and wrinkle free seals.

INSTALLATION, UNPACKING AND ASSEMBLY

When you receive the capper, check it to determine if it has been damaged in shipment. In case of damage, inform the shipping agent and The Genesis Machinery Products. If the capper is received undamaged, follow the instructions in this section to unpack and assemble it.

1. Locate the screws on the top and one side of the plywood crate. Remove these screws, and take off the top and side panel.
2. The capper will be securely held by a shelf attached to the sides of the box by screws. Remove these screws to free the shelf.
3. Remove the capper.
4. If present, remove plastic covering or packaging material. Dust off the capper to remove any small particles of packaging.
5. Place the capper on a stable work surface that allows for ready access to the controls, switches, and additional components (located in the back of the unit).
6. Plug the capper into a properly grounded AC power outlet. Refer to Chapter 2 for setup and operating procedures.

GLOSSARY OF CAPPING MACHINE TERMS

Crimp. The action taken by the K-head to bend the aluminum cap under the lip of a serum bottle.
Crimping Pressure. The force required to close the K-head.
K-head. The device that seals the aluminum cap under the neck of a serum bottle.
Top Pressure. The force applied to the top of a bottle, stopper and cap to compress the stopper before crimping.
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CHAPTER 2. OPERATION

INTRODUCTION

This chapter provides the following information:

- Locations and descriptions of controls, switches, and indicators
- Setup procedures
- Operating procedures

CONTROLS, SWITCHES, AND INDICATORS

As shown in Figures 2-1, the capper controls consist of two proximity switches, a bottle setup switch, a power switch, and various mechanical adjustments. Table 2-1 lists and explains each of the capper controls, switches, and mechanical adjustment components.

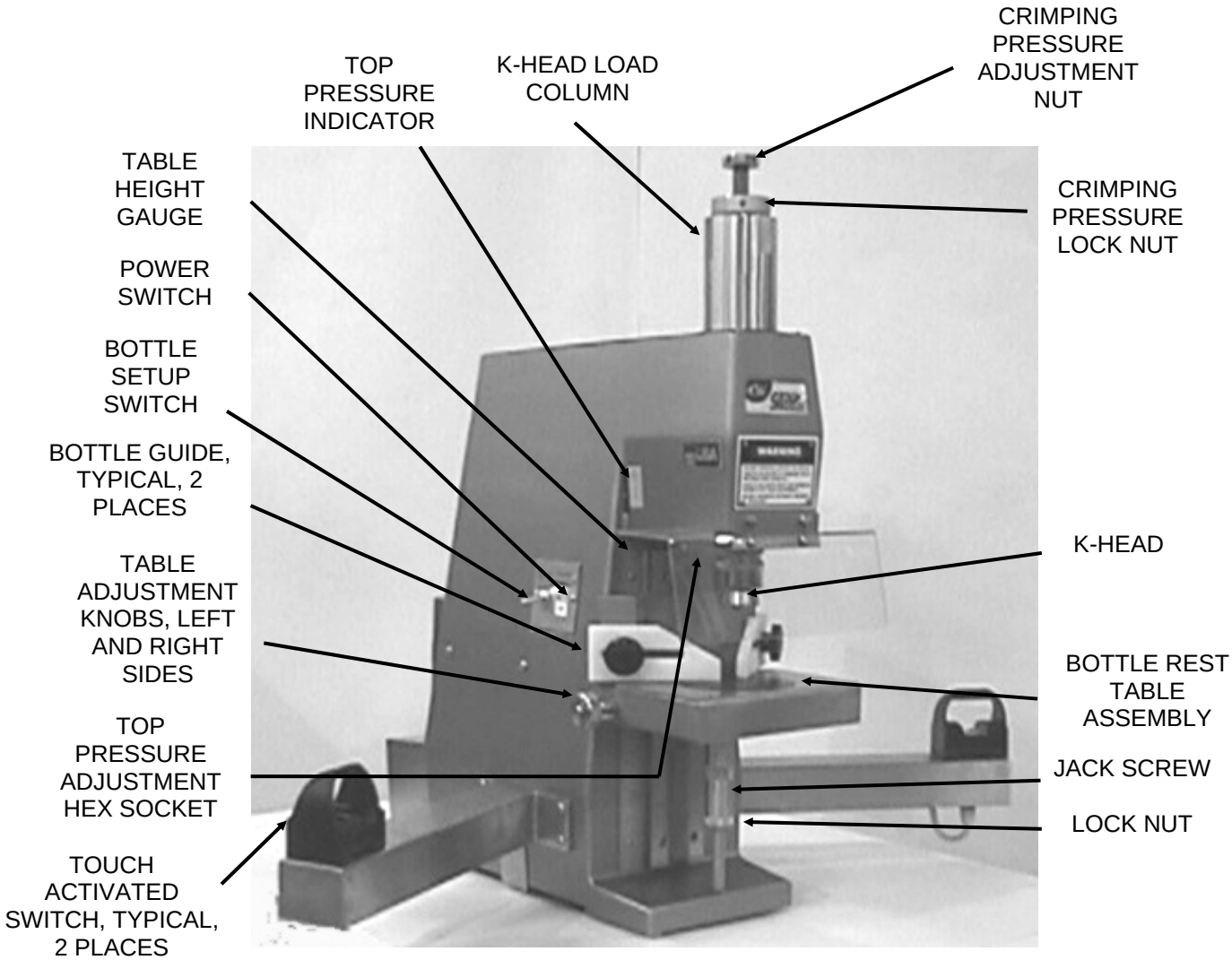

Figure 2-1. Capper Controls, Switches, and Adjustments, Standard

Table 2-1. Capper Controls, Switches, and Adjustments

DEVICE	DEVICE TYPE	DESCRIPTION
Touch Activated Switches	Proximity switches	The operator must activate both switches simultaneously for the capper to cycle. See the operating instructions later in this chapter for details.
Crimping Pressure Adjustment Nut	Adjustment nut	Turn the adjustment nut clockwise to increase crimping pressure and counterclockwise to reduce crimping pressure.
Crimping Pressure Lock Nut	Lock nut	Loosen this lock nut to enable movement of the crimping pressure adjustment nut..
Top Pressure Adjustment Hex Socket	Mechanical adjustment	Turn this hex-head screw clockwise to increase top pressure and counterclockwise to decrease top pressure. Use the ratchet wrench supplied with the capper for top pressure adjustments.
Top Pressure Indicator	Mechanical Indicator	This gauge indicates the top pressure in pounds.
Bottle Setup Switch	Two-position toggle switch	Turning this switch (ON) during setup causes the K-Head to fully close and clamp the bottle in position to facilitate the adjustments of the bottle rest and bottle guides.
Power Switch	Two-position rocker switch	Turn this switch to supply primary power to the capper.
Table Height Gauge	Mechanical gauge	This gauge is used to measure the position of the bottle rest table
Table Adjustment Knobs	Mechanical adjustment	These two knobs (one on either side of the capper) are used to raise and lower the bottle rest table. Use the right knob to raise the table and the left knob to release and lower the table.
Jack Screw and Lock Nut	Mechanical adjustment	In combination with the lock nut, the jack screw secures the table at the correct height.
Bottle Guides	Mechanical adjustment	These two guides are used to align a bottle with the K-head for crimping.

PRE-OPERATIONAL SETUP

1. Connect the power plug to a primary power source.
2. Refer to Table 2-2, and select the K-Head that is appropriate for the bottle to be capped.

Table 2-2. K-Head and Closure Size Chart

K-HEAD TYPE	CLOSURE TYPE	DESCRIPTION
K-83	8-I	8 mm Dental Cartridge Seal
K-81F	8-F	8 mm Flip-Off Dental Cartridge Seal
K-114	11-I, 11-10, 11-10 Lined	11 mm Single Seal
K-137	13-I, 13-10, 13-1 Lined, 13-10 Lined	13 mm Single Seal
K-137T	13-10T, 13-22, 13-23, 13-10 Lined	13 mm Single Tearoff Seal
K-138F	13-F	13 mm Flip-Off Seal
K-142	13-31	13 mm Triple, Two-Piece Tearoff and Disc Seal
K-146	13-30	13 mm Triple Seal
K-180	17.5T	17-1/2 Overseal Seal
K-207	20-I, 20-I-11, 20-10, 20-11, 20-10T, 20-10T-NN, 20-10T-N, 20-14, 20-22, 20-23, 20-22 Lined, 20-23 Lined, 20-25A, 20-27, 20-27N	20 mm Single Seal
K-205F	20-F	20 mm Flip-Off Seal & Flip Off-Tear Off Seal
K-216	20-20, 20-30, 20-32	20 mm Triple Seal
K-286T	28-20	28 mm IV Solution Seal
K-293T	28-20	28 mm Unit Dose Seal
K-310F	28-F	28 mm Flip-Off Seal
K-301	30-I, 30-10T, 30-14	30 mm Single Seal
K-304T	30-13	30 mm Snap Cap Seal

3. Completely raise the hinged safety shield to gain access to the sealing area.
4. Thread the K-Head into the crimping head holder in the base of the pressure loading column, and hand tighten. Do not use tools to tighten the crimping head in its holder.
5. Loosen the lock nut, then lower the jack screw and the bottle-rest table assembly to its lowest point.

⚠ CAUTION

In step 7, the K-Head will move down to the sealing position and close fully. Keep hands and fingers free of the mechanism to avoid personal injury.

6. Place the appropriate closure (cap) on one of the bottles, and insert the capped end of the bottle into the open K-Head.
7. While holding the bottle-stopper-cap combination in place in the K-Head, turn the POWER and BOTTLE SETUP switches ON. The K-Head is now fully closed, and the cap and bottle assembly will be secured; although, pressure sealing will not take place at this time.
8. Use the right table adjustment knob to raise the bottle rest table assembly to contact the bottle.
9. Bring both bottle guides forward to touch the bottle. Do not disturb the position of the bottle in the K-Head.
10. Turn the BOTTLE SETUP switch OFF; the capper will automatically complete the sealing operation and release the capped bottle.
11. Adjust the table height as follows:
    a. Remove the sealed or partially sealed bottle.
    b. Turn the height adjustment knob to raise the bottle rest table about 3/32” as measured on the table height gauge.
    c. Secure the table position with the jack screw and lock nut.
    d. Put a new bottle and closure on the table.
    e. Insert a finger in each of the Touch Activated Switch Finger Slots simultaneously until the sealing cycle is complete. If the table height adjustment is correct, the K-Head loading column will move upward about 1/64” or 1/32”.
12. After examining the sealed bottle, readjust table height or adjust crimping and/or top pressure (refer to the Top Pressure Adjustment and Crimping Pressure Adjustment procedures that follow). *Always adjust the top pressure first, then the crimping pressure.*

⚠ NOTICE

TO INSURE AN EFFECTIVE SEAL BETWEEN A SERUM BOTTLE AND CLOSURE ASSEMBLY, BOTH THE TOP PRESSURE AND THE CRIMPING PRESSURE MUST BE CAREFULLY CONTROLLED. THESE PRESSURES SHOULD BE CUSTOMER VALIDATED.

13. Put a new bottle and closure on the table, and complete the sealing process.
14. Again examine the sealed bottle. Refer to Chapter 3, Routine Maintenance and Trouble Shooting, to determine corrective action if an improper seal is obtained.

TOP PRESSURE ADJUSTMENT

⚠NOTICE Always *adjust the top pressure first, then the crimping pressure.*

Adjust top pressure using the supplied Allen head wrench according to the following procedure. When the top pressure adjustment hex socket is turned, the top pressure indicator will move in the appropriate direction. It may be necessary to make several small adjustments to the top pressure adjustment hex socket for a satisfactory top pressure setting.

1. To increase the top pressure, turn the top pressure adjustment hex socket counterclockwise.
2. To decrease the top pressure, turn the top pressure adjustment hex socket clockwise.
3. Record the top pressure indicator reading in a table similar to Table 2-3. Use this table to expedite setup when the capper is used for various bottle and closure configurations.

Table 2-3. Recording Chart for Table Height, Top Pressure and Crimping Pressure

BOTTLE HEIGHT	SEAL	LINER OR STOPPER	K-HEAD	RECORD OF SCALE SETTING		
				TABLE HEIGHT	TOP PRESSSURE	CRIMPING PRESSURE

CRIMPING PRESSURE ADJUSTMENT

Adjust the crimping pressure as follows. The amount of skirt of the aluminum seal that is crimped under the lip of the bottle depends on the crimping pressure. Typically, the most effective seal is obtained when the flange of the rubber stopper is compressed approximately 20% of its original thickness, and the amount of aluminum seal crimped under the lip maintains that compression.

1. Increase the crimping pressure as follows:
   a. Loosen the crimping pressure lock nut using a pin or Allen wrench in the hole provided.
   b. Insert a pin or Allen wrench into the hole of the crimping pressure adjustment nut and turn clockwise.
   c. Tighten the crimping pressure lock nut using the pin or Allen wrench.
2. Decrease the crimping pressure as follows:
   a. Loosen the crimping pressure lock nut using a pin or Allen wrench in the hole provided.
   b. Insert a pin or Allen wrench into the hole of the crimping pressure adjustment nut and turn counterclockwise.
   c. Tighten the crimping pressure lock nut using the pin or Allen wrench.

Refer to Figure 2-2. Measure the distance A indicating the optimum pressure reading and record in Table 2-3 for each bottle and closure configuration you are using.

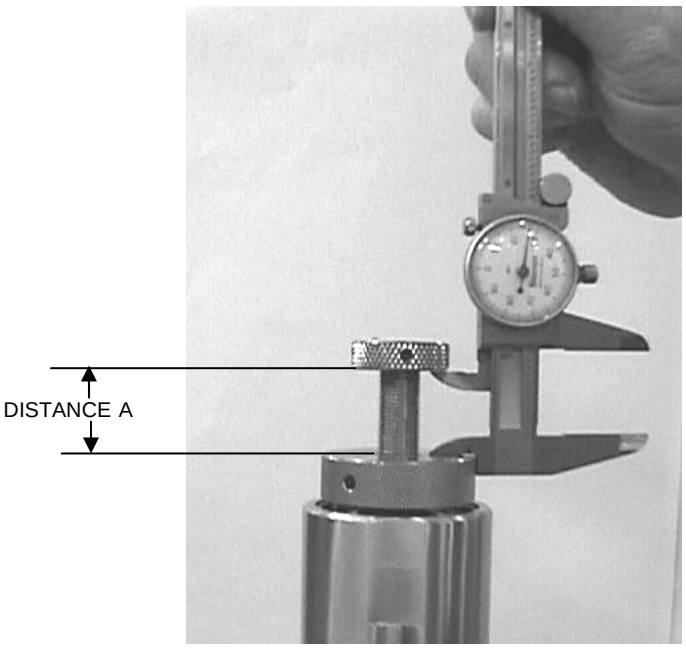

Figure 2-2. Measurement of Crimping Pressure

OPERATION

The capper is hand-fed and then electrically actuated according to the following procedure:

1. Put a bottle with a closure on the table in the proper position for sealing.
2. Simultaneously insert a finger in each of the Touch Activated Switch Finger Slots. The capping cycle will start. Do not remove your fingers until the capper cycle completes.
3. Remove the capped bottle from the capper. Periodically examine the seal to verify that it is satisfactory.

CHAPTER 3. ROUTINE MAINTENANCE AND TROUBLESHOOTING

OVERVIEW

The LW WESTCAPPER® requires very little in the way of routine maintenance except for cleaning and some minor lubrication.

CLEANING INSTRUCTIONS

Clean the capper thoroughly once a day during normal operation and perhaps more often as necessary. Remove product spills from the top of the capper using hot water, or an approved cleaning compound.

LUBRICATION

Lubricate the grease fittings on the capper every 250 hours or yearly, whichever comes first. Use an accepted food grade grease (Super FML#2 Lubriplate grease or the equivalent) to lubricate the grease fittings as follows:

1. Remove the four button head screws located on the top cover of the capper.
2. Swing the cover out of the way to gain access to the interior of the capper.
3. Locate and lubricate the two fittings (located on the ball joints of each end of the tie rod).
4. Replace the cover and tighten the four button head screws removed in step1.

TROUBLESHOOTING

A check list is included in Table 3-1 to help remedy occasional problems in the capping process. If you cannot correct a problem by referring to Table 3-1, contact Genesis Machinery Products Service Department, and a service engineer will help you diagnose the problem. Refer to Figure 3-1 to identify terms used in Table 3-1.

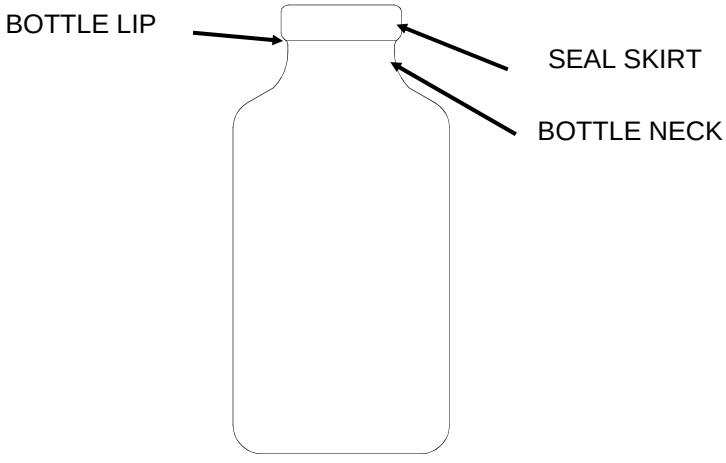

Figure 3-1. Identification of Bottle Terms

Table 3-1. Troubleshooting

TROUBLE	CAUSE	CORRECTION
Loose seal.	Top pressure too low. Crimping pressure too low.	Increase top pressure. Increase crimping pressure.
The aluminum seal is not crimped smoothly on the lip of the bottle.	Crimping pressure too low.	Increase crimping pressure.
The aluminum seal is crimped too far into the neck of the bottle.	The top pressure if too high. The table height* is too high.	Decrease the top pressure. Lower the table height.
The bottle breaks.	The top pressure is too high. The table height* is too high.	Decrease the top pressure. Lower the table height.
Capper shuts off by itself.	Bottle is off-center so K-Head jams against cap K-Head is positioned too low.	Verify the indexing finger is snug in a starwheel notch after each rotation. May require lowering table height* or decreasing crimping pressure. Return ON-OFF switch to ON.
Seal crooked on bottle.	Misalignment of bottle with K-Head K-Head loose in K-Head column	Verify the bottles are seated squarely at the bottom of the starwheel pocket. Tighten K-Head.
Seal bent or deformed.	Top pressure too high Crimping pressure too high.	Decrease top pressure. Decrease crimping pressure.
Wrinkle in top of seal.	Top pressure too low.	Increase top pressure.

- The K-head load column will move upward 1/64-1/32” if the table height is correct. If the column moves more than these measurements, the table height is too high. If the column moves less than the indicated measurements, the table height is too low.

VENDOR INFORMATION

BANNER

OPTO-TOUCH Momentary Action Optical Touch Buttons, OTB Series, 28436J6G
Duo-touch Two-hand Control Relay, Instruction Manual P/N 47550K7A

BODINE ELECTRIC

Motor/Gearmotor Safety, Installation, Use, and Maintenance Information

WARNER

Installation and Operation Manual, CBC-801 Series Clutch/Brake Controls