



# OPERATION MANUAL

# Dropmaster

(Patented)

*By GECCO, Inc.*

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## **Operation Manual Table of Contents**

I.	Introduction	page 2
II.	Safety Instructions	page 3
III.	Operations Procedures	page 4 & 5
IV.	Water Calculations Sheet	page 6
V.	Troubleshooting	page 7
VI.	Maintenance	page 8
VII.	Model Information – options/replacement parts	page 9
VIII.	Warranty	page 10 & 11
X.	Registration - Updates	page 12

**\*KEEP THIS DOCUMENT FOR FUTURE REFERENCE\***

## **I. Introduction**

Dropmaster's family of tools utilizes the most advanced combination vacuum siphoning and water discharge system available on the market to aid the fire protection contractor during the change out of sprinkler heads. Our innovative design allows for a clean effective way to change sprinkler heads. The Dropmaster will allow a sprinkler fitter to change heads with no residual odor or water coming from the sprinkler piping network when a head is removed or the system is breached. Sprinkler fitters will only need a minute or two to change each sprinkler head in a finished ceiling area. The Dropmaster's unique combination of water siphoning and discharge will allow the fire protection contractors' fitters to work in a safe, clean environment while producing cost effective results. The Fire Protection Contractor benefits by saving time, the client benefits because there is less disruption, less down time and less clean up.

Dropmaster siphoning system utilizes technology that removes odor and water from a sprinkler system by creating a vacuum in the sprinkler piping network; when a sprinkler head is removed or the system is breached a siphoning action takes place removing both water and odor. Dropmaster is designed to maintain a 10" HG vacuum at all times. The machine is designed to maintain that level of vacuum because the manufacturers of grooved couplings recommend not exceeding 10" HG of vacuum pressure.

The 20 feet of flexible vacuum hose allows for a quick and easy connection to any drain. Connect the hose, activate the power source and the Dropmaster is ready to GECCO.

The Dropmaster Mini E is rugged, portable and constructed to be transported in a service truck or van. The unit (2' x 2'-6") is built on a handcart and designed to fit through a hospital, nursing home, motel or office standard door opening. Dropmaster comes with an electric motor (120-volt 20-amp circuit required). **No extension cords.**

The Dropmaster comes standard with an automatic draining system. Please note the draining system should be protected from freezing temperatures.

Dropmaster benefits:

1. Odor free, bacteria free working environment
2. Easy set up, easy clean up
3. Less down time

## **II. Safety Instructions**

1. Read all instructions before operation. Retain instructions for your permanent records.
2. Disconnect power source before servicing or cleaning unit.
3. Do not permit unauthorized persons to use the unit at any time.
4. Do not put alcohol or other combustible materials in the vacuum tank.
5. Never operate compressor at pressures or speeds in excess of those recommended by manufacturer.
6. Some elements on the unit may be quite warm in normal operation. Do not touch or permit combustible materials to come in contact with these components.
7. Do not touch moving parts while Dropmaster is in service.
8. Technician operating Dropmaster should utilize eye and hearing protection at all times.
9. Unit should be operated in a clean and well-ventilated area.
10. Dropmaster is to be used for siphoning water or non-toxic antifreeze sprinkler systems only. Do not use for other applications.
11. Use caution when transporting Dropmaster unit, make sure unit is properly secured in transporting vehicle. Transport unit upright.
12. Please note separate safety instructions are enclosed for the motor and the compressor used in the Dropmaster. These manuals must be reviewed before operating Dropmaster.

### III. Dropmaster Operating Procedures

1. Dropmaster is to be used only by a qualified fire protection technician.
2. The Dropmaster is designed to be used on one sprinkler system at a time.
3. Utilize normal shut down procedures for 'Alarms'; i.e. customer/owner must notify service monitoring alarms and insurance company.
4. Drain system main and inspector's test at main location and at auxiliary drains. ***Research system as to size and amount of sprinkler lines, sprinkler heads and what length the drops are. To determine the distance from Dropmaster to the area being serviced, a preliminary calculation should be done to determine amount of water trapped in system. See page 6 for water calculations.***
5. Close all control valves on the sprinkler system on which you will be working drain as much water as possible at the main drain and the inspectors test valve or auxiliary drain valves before hooking up the Dropmaster to the sprinkler system.
6. Check to see if the fire department connection and ball drips are on system side of alarm valve. If they are on system side of alarm valve they must be capped or plugged before you begin using the Dropmaster.
7. ***IMPORTANT*** - Before connecting Dropmaster, you must review the power sources. The Mini J unit requires a 120 volt 15 amp circuit with no extension cords.
8. Connect the 'Dropmaster Odor and Water Eliminator' to the main drain or any convenient drain connection. When putting the Dropmaster in to service according to specified procedures, it will maintain a constant 10.00 inches of mercury vacuum pressure, which in turn will cause a siphon effect when a sprinkler head is removed; thus allowing the sprinkler fitter the time required to replace the sprinkler head with no water back splash or odor from the pipe.
9. Connect the 3/4" discharge hose to the drains, any outlet.
10. Turn on the unit, ensure the unit is operating and pulling a vacuum on the system to be worked on.

11. Make sure Dropmaster is operating before breaching sprinkler system. When approaching sprinkler head a slight vibration from the siphon effect will be noticed at the base of sprinkler head. If you do not notice this vibration make sure Dropmaster is running.
13. **Caution** – The number of sprinkler heads that can be changed at a time on a sprinkler system when utilizing the Dropmaster depends entirely on the size of the system, the amount of trapped water and the efficiency of the fitters. Generally speaking changing up to three heads at one time may not present any problems. In order to ensure that the Dropmaster system works as intended experienced persons familiar with the operational features of the Dropmaster siphoning system should determine the number of heads that can be changed simultaneously.
14. When using the Dropmaster, periodically check the reservoir tank and drain water from the reservoir tank.
15. When project has been completed, disconnect the Dropmaster and return sprinkler system to service. Make sure customer/owner notifies alarm company that work is complete. Monitoring company should begin to monitor sprinkler system again. Follow normal procedures.
16. When you are finished using the Dropmaster drain all water from tank, check electrical cord, vacuum hose and coupling for wear. Flush tank after each use. Check and clean both strainers in the automatic draining system. Keep the strainers clean and free of any debris at all times.

#### IV. Water Calculations

***Please Note***

Utilize this worksheet to perform calculations at project site to determine residual water that will be captured by Dropmaster tank before placing Dropmaster in service.

1 Gallon of water = 8.344 lbs.

Pressure

Vacuum

1 psi = 2.036 inches H.G.

5 psi = 10.18 inches H.G.

10 psi = 20.36 inches H.G.

15 psi = 30.54 inches H.G.

#### Water in Pipes By Size

<u>Pipe Size</u>	<u>Schedule 40</u>	<u>Schedule 10</u>
1" per foot	.045	.049
1 ¼" per foot	.078	.085
1 ½" per foot	.106	.115
2" per foot	.174	.190
2 ½" per foot	.248	.283
3" per foot	.383	.433
4" per foot	.660	.740
6" per foot	1.501	1.649

## V. Trouble Shooting

### A. Dropmaster Not Siphoning

1. Check for power.
2. Check that valves are in proper position.
3. Check filter.
4. Check strainer on the intake side of the tank
5. Check reservoir tank – if full, drain tank.

### B. Dropmaster Stalls

1. Check electrical current.
2. Check GFI and circuit breaker to see if either has tripped
3. Check Manual Thermal Overload Protection Button

### C. No suction from vacuum pump, not developing 10” HG.

1. Check integrity of sprinkler system  
Valves, ball drips, fire department connection inspector’s test valves, etc.
2. Ensure that the strainer is clean and free of debris.

### D. Discharge pump getting warm

1. Check current, ensure unit is connected to 120 volt 15 amp power source
2. Ensure all extensions chords are short and are a minimum of 12/3 wire

### E. Discharge pump cavitating

1. Clean and flush strainer between tank and discharge pump.



## **VI. Maintenance**

### Daily:

- Check for any unusual noise, failure to compress, overheating, vibration and correct before damage of a serious nature can develop.
  - Check and add oil to vacuum pump reservoir, if necessary
- Flush and clean storage tank after daily use.
- Unit should be stored indoors in a clean, dry location.
- Check and clean both strainers. Remove the strainer baskets and ensure they are free of debris or sludge. Replace the basket.

### Weekly:

- Keep compressor clean for efficient operation.

### Monthly:

- Check and tighten all bolts as required. Check air connections and joints for leaks – tighten if necessary.

### **Please Note:**

**Follow compressor and motor manufacturer's recommendations for maintenance. Copies are enclosed with separate operations manuals.**

## **VII. Model Information**

**Model**      **Mini J**                      120 Volt      1/3 Horse Power      Electric

### **Standard Equipment:**

Mounted on a portable handcart  
20' of 3/4" flexible hose suction  
20' of 3/4" flexible hose discharge  
20' electrical cord GFI  
10 Gallon holding tank  
120 Volt Automatic Draining System 15 AMP  
Anti-flood device

### **Options:**

1.      3/4" Flexible Hose  
         -20'  
         -100'
2.      Solid Rubber Tires-Mark Free
3.      Pneumatic Tires

### **Replacement Parts In Stock:**

1.      Vacuum Filters
2.      3/4 "x 20' Flexible Hose
3.      Vacuum Pump
4.      Electric Motor
5.      Shaft couplings and inserts
6.      Relief Valve
7.      Discharge pump



## **VIII. Warranty**

Dropmaster warrants to the original purchaser thereof (the “Original Purchaser”) that the Dropmaster and parts thereof furnished by GECCO, Inc. – (“GECCO”) will, when properly installed, used operated and maintained by the Original Purchaser, be free from defects in material and workmanship for a period of *Ninety (90) Days* from the date of delivery to the Original Purchaser. Any Dropmaster that is found not to meet these standards by GECCO within this ninety-day period will, at GECCO’s sole option, be repaired or replaced without charge. Any defect or condition that has been caused by misuse, unauthorized use or modification, or abnormal conditions of operation or maintenance, will be repaired by GECCO or its designee at GECCO’s then current repair charges. In this case, upon the request of the Original Purchaser, GECCO will submit an estimate of the repair cost to the purchaser prior to making the repairs. Any defective Dropmaster or component thereof should be returned promptly to GECCO at the sole expense of the Original Purchaser. Any loss or damage during shipment of a defective Dropmaster or component thereof shall be at the Original Purchaser’s sole risk.

*The motor and compressor are warranted One Year (1) from the date of delivery from the manufacturer.*

**WARRANTY EXCLUSIONS.** EXCEPT AS EXPRESSLY PROVIDED HEREIN, GECCO MAKES NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED BY OPERATION OF LAW OR OTHERWISE WITH RESPECT TO THE DROPMASTER INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE SOLE AND EXCLUSIVE REMEDY OF THE ORIGINAL PURCHASER FOR BREACH OF GECCO OF ANY WARRANTY SET FORTH HEREIN SHALL BE LIMITED, AT GECCO’S SOLE ELECTION, OF THE REPAIR AND REPLACEMENT OF THE DROPMASTER OR ANY COMPONENT THEREOF. GECCO NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT, ANY ADDITIONAL LIABILITY OR RESPONSIBILITY IN CONNECTION WITH THE DROPMASTER AND NO AGENT, EMPLOYEE OR REPRESENTATIVE OF GECCO HAS THE RIGHT TO MODIFY OR EXPAND THE WARRANTIES SET FORTH HEREIN AND NO SUCH MODIFICATION OR EXPANSION SHOULD BE RELIED UPON BY THE ORIGINAL PURCHASER.

The warranty shall not apply to a Dropmaster unit or to any component thereof if it has been subjected to operations in excess of design limitations, negligent maintenance, abuse, or damage by alteration not expressly authorized in writing by GECCO.

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***LIMITATION OF LIABILITY.*** To the extent allowable under law, GECCO's liability for consequential and incidental damages is expressly disclaimed. GECCO's liability in all events is limited to and shall not exceed the purchase price of the Dropmaster.

We undertake no responsibility for work done or expense incurred in connection with repair or replacement except on specific authority. We accept no liability hereunder, whatsoever, for consequential damages of, or for the negligence of others. The foregoing warranties are exclusive and there are no warranties, which extend beyond the period set forth herein. These express warranties are in lieu of all other warranties whether written, oral or implied and GECCO, Inc. hereby expressly excludes the implied warranties of merchantability and fitness for a particular purpose.

**WARRANTY CLAIMS:**

All warranty claims shall be made to GECCO, Inc., **1-866-GECCO-00**, and shall be supported by satisfactory evidence in respect of conditions herein noted. For a warranty claim please call GECCO for further instructions. Any part which is determined to be defective in material or workmanship and returned to GECCO as instruction will be, as the exclusive remedy, repaired and replaced at GECCO's option.

**IX. Registration – Updates**

Please complete the following warranty and registration information and mail to:

GECCO, Inc.  
RR 2, Box 2476G  
Factoryville, PA 18419

GECCO will periodically update all registered owners about the Dropmaster unit.

Name of Business: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Name of Distributor: \_\_\_\_\_

Dropmaster Serial #: \_\_\_\_\_

Lot # \_\_\_\_\_