

## RESPA<sup>®</sup>-SD or Gideon<sup>®</sup> HVAC Fresh Air Filtration System Installation Guidelines for John Deere 450J, 550J, 650J, 700J, 750J, 850J Crawlers

### Cab Air Quality Systems

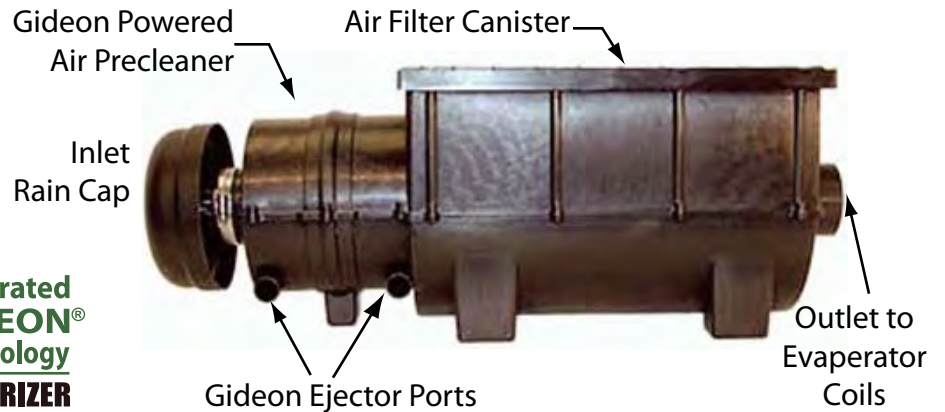
#### Filter Options:

HEPA-level (EU P3)

MERV 16 (EU P2)

MERV 8 (EU P1)

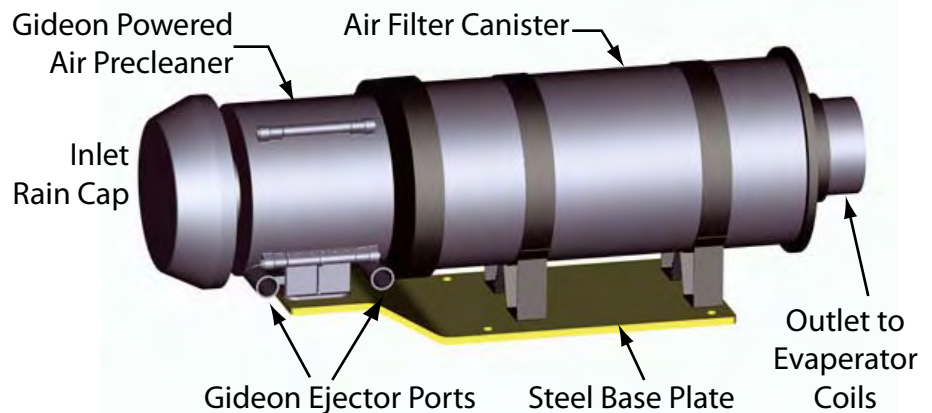
**RESPA<sup>®</sup>-SD** Integrated  
**GIDEON<sup>®</sup>**  
**Technology**  
**POWERED PRECLEANER/FILTER/PRESSURIZER**



**GIDEON<sup>®</sup>**  
**Technology**  
Powered HVAC Fresh Air  
Filtration System

#### Filter Options:

MERV 8 (EU P1)



### Notes

**RESPA was designed as a direct replacement for the Gideon Powered HVAC Filtration System. The bolt alignment for the mounting plates on both systems is identical.** If you are installing a RESPA-SD for the first time on the machine or a Gideon Powered HVAC Filtration System, **the following instructions apply to both systems.** Photographs used in the following installation instructions can be with of the Gideon Powered HVAC Filtration System or the RESPA-SD and are used for illustrative purposes.

If you have a Gideon Powered HVAC Filtration System on the machine currently and due to hours of run time the device is worn out, we strongly recommend that you replace the system with the RESPA-SD. Since the bolt holes are in the same place you can do a direct replacement by bolting the new unit on in the same location using the same bolt holes as the unit that is being replaced.

**NEITHER RESPA NOR GIDEON IS CERTIFIED FOR USE IN EXPLOSION RISK ENVIRONMENTS.**

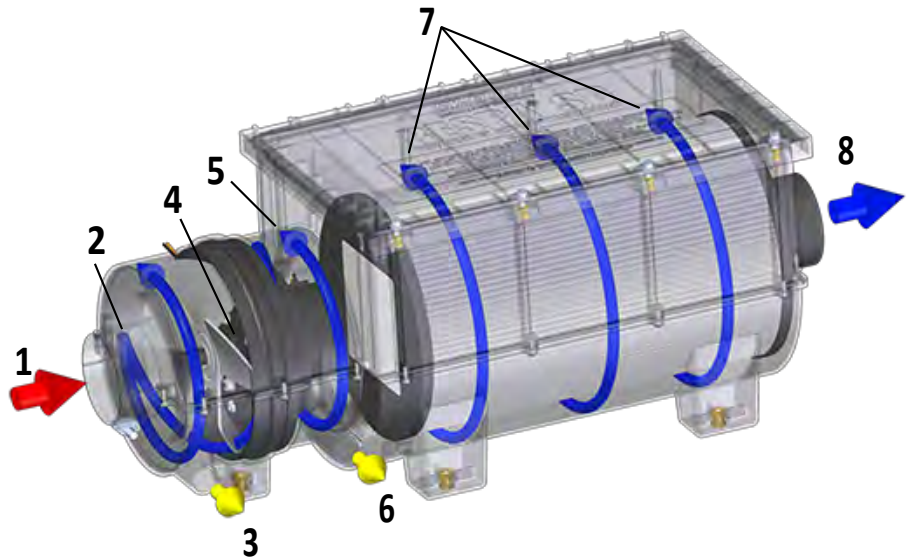
# FUNCTION

## 1st ejection cycle:

1. Debris-laden air enters the primary ejection chamber. A rain cap prevents large debris from blocking the intake.
2. Debris particles are accelerated outward by centrifugal forces. The particles then ride along the outer wall of the ejection chamber.
3. When the debris reaches the ejection port, it is expelled back into the atmosphere.

## 2nd ejection cycle:

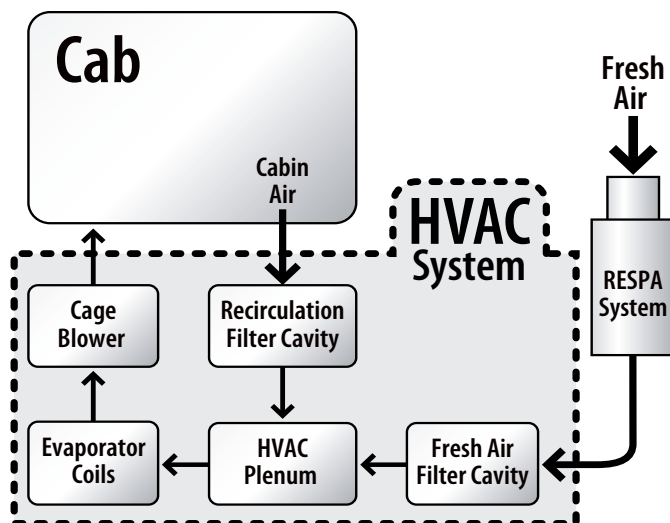
4. Air is accelerated as it passes through louvers, further enhancing the debris-separating forces.
5. Finer debris is then stratified in the secondary ejection chamber.
6. When the fine debris reaches the ejection port, it is expelled back into the atmosphere.



## Filtration:

7. Clean air continues into the air filter housing and passes through the filter.
8. Fresh air continues through the RESPA air outlet, passing into the evaporator coil box for heating and cooling.

# Plumbing Schematic



# INSTALLATION GUIDELINES

## 1. MODIFY HVAC EVAPORATOR PLENUM COVER

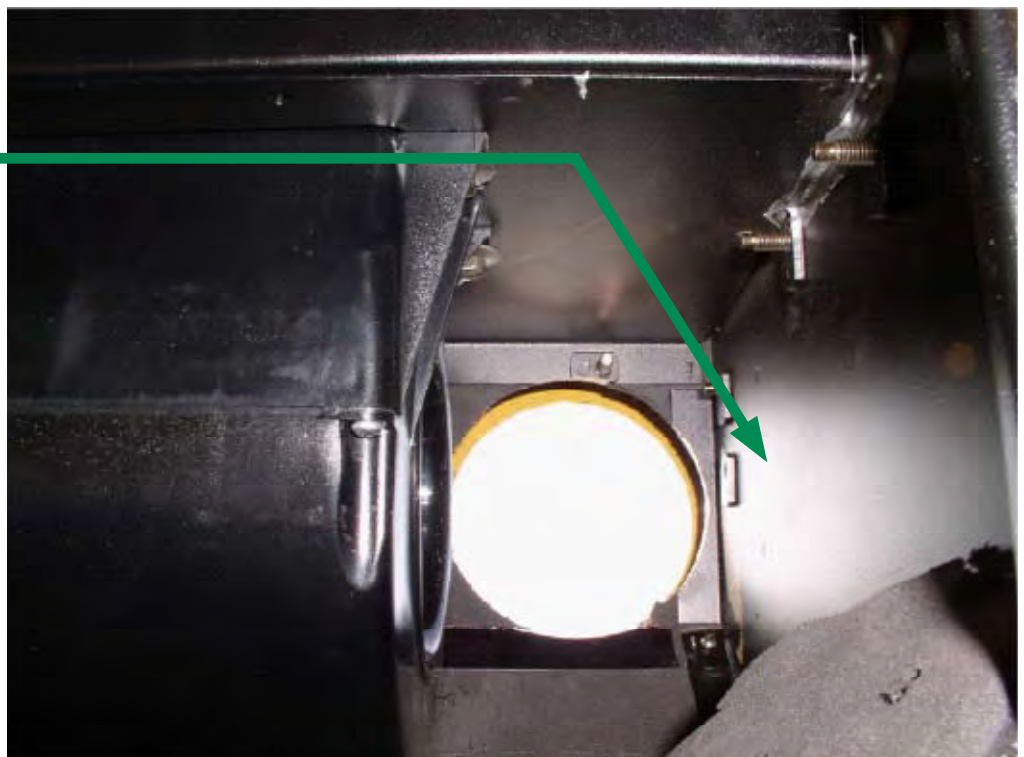
1. A pilot hole will be drilled for the center location of a 4" hole to be drilled through the roof and into the fresh air plenum in the HVAC box.
2. The location of this pilot hole will be determined from measuring the appropriate placement of the penetration within the HVAC box. The HVAC box can be seen in Figure 2.

**NOTE:** For proper pilot hole location the center of the hole must be far enough from the side of the roof to allow for a 4" hole. Remember to verify your measurements and pilot hole location before drilling and cutting.

3. Once a location is determined, drill a small hole through the evaporator box and the roof of the cab. This will locate the center of the four inch diameter hole.
4. Using a four inch hole-saw, drill the hole from the top of the cab through the HVAC air box using the pilot hole as the center.



**Figure 1:** Cab top and rear view of roof.



**Figure 2:** Inside view of the HVAC plenum box.

## 2. INSTALL FLANGE ADAPTER

1. Insert flange adaptor into the hole and secure with self tapping screws.
2. Use RTV to seal the adapter inside the AC box to prevent any air leaks.



**Figure 3:** Flange Adapter

## 3. DRILL HOLES TO MOUNT RESPA OR GIDEON SYSTEM

1. In order to mark the holes properly, see Appendix A for the dimensional layout of the Gideon System. Verify that the flange adapter is in line with the outlet of the RESPA or Gideon System.
2. Mark the four mounting holes with a marker.
3. The holes will need to be able to fit the proper size Krem Nut.

**NOTE:** Use the mounting plate as a template to mark proper location for holes.



**Figure 4:** Locating and drilling mounting holes

## 4. ATTACH RESPA OR GIDEON SYSTEM TO ROOF OF CAB

1. Bolt the RESPA-SD or Gideon System to the roof.
2. Once the system is installed on the roof, attach the provided flex hose from the flange adapter to the outlet of the RESPA-SD or Gideon System and secure with the provided hose clamps.
3. INSTALL THE BLANK COVER PLATE OVER THE FRESH AIR INLET. Previous air intakes must be sealed off so that all fresh air entering the system is passing through the RESPA-SD/Gideon System.
4. The evaporator box must be sealed. If there are leaks after the RESPA, this will allow dirt to enter the system and negate the value of the precleaner.



**Figure 5:** Gideon system installed on roof.

## 5. ELECTRICAL WIRING

1. There is a spare two-pin weather pack connector behind the fuse pane.
2. Remove the fuse cover, (right side, below the seat) and locate the spare weather pack connector (shroud) behind the fuse panel. "A" wire is hot, "B" wire is the ground wire.
3. This wire is fused for 10 amp on the 700J and 15 amp for the 459J to 650J models.
4. Replace the fuse with a 7 amp on the 700J to 850J and a 10 amp on the 450 to 650J.
5. Route the wire harness down thru the cab from the RESPA-SD to the fuse panel.
6. The RESPA-SD/Gideon System requires a constant 12/24 volt power source that is providing current whenever the key is in the "On" position.
7. The orange wire is the hot lead that should go to the constant voltage source.
8. The black wire (ground wire) should be properly grounded.
9. Use the wire Flex Loom on all wiring in this installation.
10. UNDER NO CIRCUMSTANCE SHOULD THE SYSTEM BE WIRED TO A VARIABLE POWER SOURCE.

## 6. VALIDATE THE INSTALLATION

1. Turn the master power switch on to inspect the RESPA-SD/Gideon system.
2. If the system powers on with the ignition key off, an alternate power source must be located.
3. Turn the ignition key to the on position and inspect the following:
  - a. System is running. If not, alternate power source must be located.
  - b. Remove the rain cap and ensure the fan blade is spinning in the counter-clockwise direction. If not, check wire polarity (see #7 in wiring section).
  - c. Airflow out both ejection ports is strong. If not, check that power source is not variable voltage.
  - d. Make sure there are no are leaks.
4. See troubleshooting section for more information.

## MAINTENANCE: CHANGING THE FILTER

### When to Replace Filter:

Replace filter when the cab pressure sensor light comes on and remains on even after the cab door is closed and the machine is turned on. (Refer to Pressure Sensor Installation Manual)

If there is not a cab pressure sensor, replace the filter when you notice an increase in the amount of dust in your cab.

Change the RESPA-SD or Gideon filter after every 1000 hours of operating time, even if the pressure monitor does not alert and there are no noticeable changes.

**Sy-Klone recommends the use of a Cab Pressure Monitor System with most installations to determine the appropriate time to change the filter.**

**Replace filter only!  
Do not clean or re-use filters. Re-using filters can create health hazards!**

**Replace with Sy-Klone filters only. Order from your dealer or from Sy-Klone.**

## TROUBLESHOOTING

**The RESPA unit(s) must be correctly installed in order to provide satisfactory service. The following is a summary of common problems experienced during prototype and field installations.**

**Reversed Wiring:** To check for this, remove the rain cap and turn the RESPA on while looking into the inlet. The fan blade should turn counter-clockwise.

**Broken Circuits:** Verify power is supplied to the unit.

**Incorrect Voltage:** Make sure the correct voltage is used. Incorrect power to the RESPA can cause severe performance issues, which may include burning up the motor.

- The 12V requires between 12 and 13.6 vdc and draws 5.4 amps at 12 vdc.
- The 24V unit requires between 26 and 27.2 vdc and draws 3.1 amps at 24 vdc.

**Variable power sources:** The RESPA power supply must operate at constant voltage. In order to maintain designed fan speed and to obtain optimum precleaning efficiency the RESPA must be connected to a power source that provides the specified voltage whenever the machine ignition is on.

If the operator sets the internal blower to a low or off setting, a properly wired RESPA will continue to run at constant speed and simply eject more air from its ports, thus increasing its efficiency.

**Original fresh air intake not sealed:** Previous air intakes must be sealed off so that all air entering the system is passing through the RESPA.

**Air leaks after the precleaner:** The evaporator box must be sealed. If there are leaks after the RESPA, this will allow dirt to enter the system and negate the value of the precleaner.

**Cab must be sealed:** If the cab cannot hold pressure, the effectiveness of the RESPA system will be reduced.

**Sy-Klone recommends the use of a Cab Pressure Monitor System with most installations to as it will make troubleshooting issues with leaks and seals much easier.**

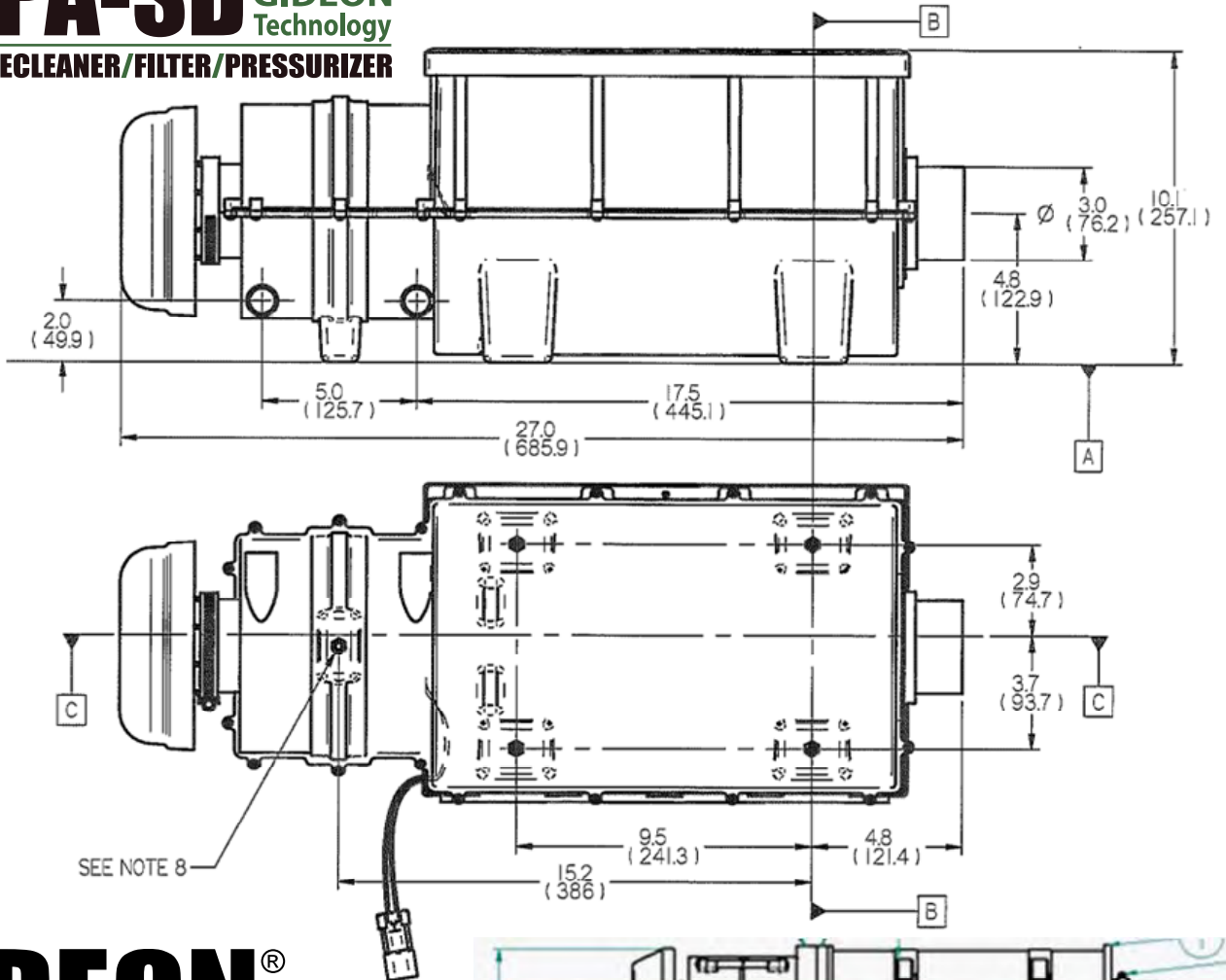
# TECHNICAL SUPPORT

For additional technical questions regarding Installations, please contact Technical Support at (904) 448-6563 or email support@sy-klone.com.

Videos are available on sy-klone.com, including RESPA-SD filter change and Gideon Maintenance. Additional information, including detailed RESPA-SD Filter Change instructions, are available on sy-klone.com

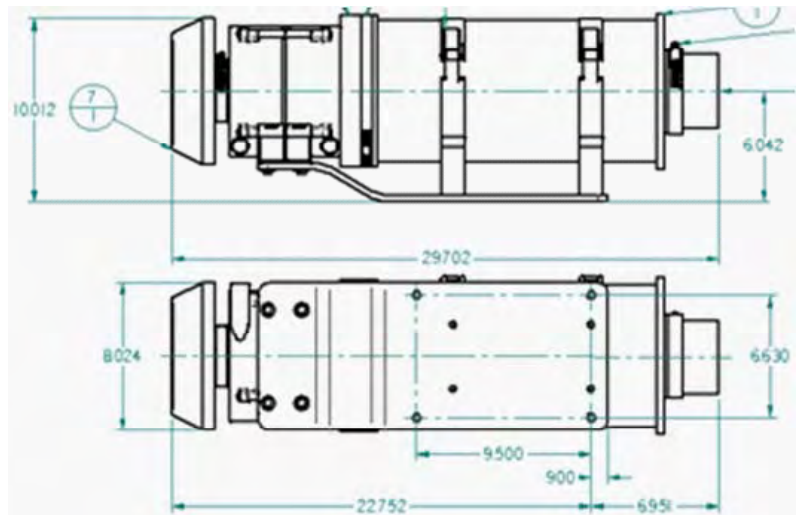
# DIMENSIONS

## RESPA®-SD Integrated GIDEON® Technology POWERED PRECLEANER/FILTER/PRESSURIZER



## GIDEON® Technology

Powered HVAC Fresh Air Filtration System



# Sy-Klone International Powered Precleaners

## LIMITED LIFETIME WARRANTY:

Sy-Klone International warrants that its Gideon® Technology Powered Precleaners, its RESPA® Powered Precleaner & Filtration Systems and the Power-KLONE Powered Precleaners ("Sy-Klone Powered Precleaner") to be free from defects in material and workmanship. If a Sy-Klone Powered Precleaner fails because of a manufacturing or workmanship defect within the limited warranty period, Sy-Klone will replace the defective part or refund the purchase price, subject to the following conditions:

### Warranty Period:

The Sy-Klone Powered Precleaner housings are warranted to be free of defects in material and workmanship for the operating life of the machine upon which the precleaner is initially installed. The motor and fan are warranted for a period of two (2) years or 5,000 operational hours, which ever expires first, from initial installation. Service parts are covered for a period of one (1) year from date of purchase.

### What is covered:

This limited warranty covers the Sy-Klone Powered Precleaners.

### What is not covered:

This limited warranty DOES NOT COVER –

- Failures resulting from incorrect application.
- Damage caused by improper installation, improper or abnormal use, misuse, neglect or accident or unauthorized repair.
- Failures resulting from parts not sold or approved by Sy-Klone.
- Damage to parts, fixtures, housings, attachments and accessory items that are not part of the air precleaner.
- Incidental or consequential losses.

**This limited warranty is VOID if the Sy-Klone Powered Precleaner is altered or modified in any way including unauthorized repair efforts or the use of any service or repair parts other than those supplied by Sy-Klone.**

### Sy-Klone's responsibilities:

If a defect in material or workmanship not caused by an excluded failure is found in the Sy-Klone Powered Precleaner during the warranty period, Sy-Klone will provide, at Sy-Klone's option, new parts or Sy-Klone approved repair parts or assembled components needed to correct the defect. Sy-Klone reserves the right to provide a refund of the purchase price in lieu of replacement or repair at Sy-Klone's option. The replacement or repaired product will be sent to you freight prepaid or made available to you for pick up at a local dealer designated by Sy-Klone. Items replaced under this warranty become the property of Sy-Klone and shall be returned to Sy-Klone upon request.

### User's responsibilities:

Report your issue to Sy-Klone's Technical Services Department at 1-800-351-8265 or by fax to 904-448-6626 immediately. After contacting Sy-Klone you may be required to deliver or send the air precleaner properly packaged, freight prepaid, to Sy-Klone. The user is responsible for the cost of packing, shipping, labor, and installation.

### Exclusions and Limitations on Damages and Remedies:

THIS LIMITED WARRANTY IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, WHETHER EXPRESSED BY AFFIRMATION, PROMISE, DESCRIPTION, DRAWING, MODEL OR SAMPLE. ANY AND ALL WARRANTIES OTHER THAN THIS ONE, WHETHER EXPRESSED OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

SY-KLONE IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. REMEDIES UNDER THIS WARRANTY ARE THE EXCLUSIVE REMEDIES AVAILABLE AND ARE LIMITED TO THE PROVISIONS FOR REFUND, REPLACEMENT OR REPAIR OF THE WARRANTED PRODUCT AS SPECIFIED HEREIN.

This limited warranty gives you specific legal rights and you may also have other rights that vary from state to state.

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**We are proud  
of the fact that  
Sy-Klone's  
products are  
built to last!**