



# **MARK IV**

# **PULSATOR<sup>®</sup>**

## **Transmission Oil Cooler Flusher**

MADE IN USA

# **OPERATING MANUAL**

## TABLE OF CONTENTS

- SAFETY WARNINGS
- TIPS FOR OIL COOLER FLUSHING
- MARK IV OPERATING INSTRUCTIONS
- SAFE-FLUSH MSDS
- WARRANTY & REGISTRATION

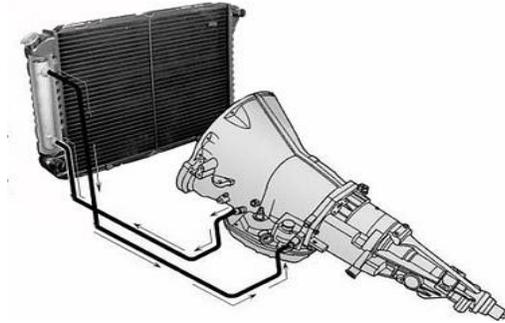
|   |   |   |  |
|---|---|---|--|
|   | <b>WARNING</b><br>Risk of eye injury.<br>Wear eye protection. |   | <b>WARNING</b><br>Read and understand operator's manual<br>and all other safety instructions before<br>using this equipment.                     |
|  | <b>WARNING</b><br>Wear safety gloves.                         |  | <b>WARNING</b><br>This equipment should be used in locations<br>with mechanical ventilation that provides at<br>least four air changes per hour. |

## HECAT® FLUSH EQUIPMENT SAFETY WARNINGS

- This is a standard safety warning document. Some warnings, may not necessarily apply to the specific flushing tool you have purchased, or are using. **For your own personal safety, health, and protection; please read this entire page.**
- **Read and understand the entire operating manual.** The manual contains much more than just machine operation instructions; tips, warnings, and other “do’s and don’ts”; as well as process validation steps, which are all designed to assist you in the most successful and proper completion of the flushing task.
- **DO NOT USE** this equipment if you are not willing to completely accept responsibility and risk of any possible injury or damage occurring from the use of this Equipment. Use conditions and hazards exist, which are inherent to the workshop environment, and the type of services performed; such conditions cannot be controlled by HECAT, Inc.
- **Safety is your responsibility**, and starts with proper Equipment maintenance and inspections; any damaged, broken, abused, or otherwise non-conforming materials should be repaired or replaced before using this Equipment. This Equipment is designed for use by trained and qualified service professionals only.
- **Quick Coupler Warning:** Quick Couplers used with this Equipment are not valved (or have had valves removed) for flushing flow. Never operate, start, activate a control valve, or connect Shop Air to any flusher unless the Flush and Return hoses are properly connected to a Component or to the Storage Fittings (if equipped). Under normal operating conditions it is safe to disconnect the Flush and Return hoses, when instructed to do so. Under abnormal conditions (hard blockage, equipment failure, not following instructions, etc.) couplers could be under pressure, and proper precautions should be taken when disconnecting.
- Operator must be familiar with, understand the dangers, and accept the responsibility to take the necessary safety precautions, when working with compressed gas and pressurized fluid systems; including but not limited to air conditioning systems, engine cooling systems, lubrication systems, compressed air systems, and chemicals such as lube oils, refrigerants, and solvents.
- Personal protective equipment, including but not limited to safety goggles and gloves, is recommended when working with the above pressurized systems and fluids.
- This equipment should only be used in locations with adequate mechanical ventilation. In certain conditions, respiratory protection should be employed. Avoid Breathing refrigerants, as well as lubricant and flush vapor or mist. Exposure may irritate eyes, nose, and throat. Additional health and safety information may be obtained from the refrigerant, lubricant, and flush manufacturers.
- Operator is responsible for complying with any and all applicable laws and regulations governing the use of this equipment, as well as the disposal of used solvents, refrigerants, waste oils, the equipment, and any of its components.
- With certain equipment, operator must be trained and EPA certified to work on Air Conditioning systems; and be familiar with the safe and proper handling and storage of refrigerants. To remove refrigerant from the A/C system, use recovery equipment which meets the current requirements of the EPA, and is certified to current SAE standards.
- Do not pressure test or leak test refrigerant service equipment and or vehicle air conditioning systems with compressed air. Some mixtures of air and refrigerant have been shown to be combustable at elevated pressures. Additional health and safety information can be obtained from refrigerant manufacturers.
- Repairs to this equipment are to be performed by trained and approved service technicians ONLY.

## TIPS FOR TRANSMISSION OIL COOLER FLUSHING

More detailed information regarding Transmission Oil Cooler Systems and Line flushing can be found in the **“Flushing Technical Paper”** listed with other industry Articles on our web site at [www.hecatinc.com](http://www.hecatinc.com). The following information is a basic guide to cooler flushing, and cannot cover all possible scenarios a technician may encounter. You must always isolate the heat exchanger and back-flush through the line sets or hoses in the most direct and unrestricted path to obtain the most satisfactory flushing results.



**BACK FLUSHING:** The arrows in this picture to the left are indicating a dated but typical oil cooler flow. The internal mesh, parallel paths, micro channels, and other oil cooler designs used to enhance thermal transfer; also work very well to filter and trap the metallic debris and clutch materials. Because this restrictive material cannot be pushed thru the cooler, it is very important that the flow path of the circuit you are working on is properly identified so you can connect your flusher to properly and effectively back-flush the cooler.

**OE COOLER CURCUIT:** The most efficient cooling is done with the OE circuit. The Trans Oil Cooler is a component of the modern vehicle’s complete thermal management system. Cleaning and restoring this circuit (not just bypassing) is the proper, prescribed, and published OE Service Procedure.

**AUXILIARY COOLERS:** These air/oil coolers are often OE or aftermarket installed for HD cooling needs and will also need to be properly back-flushed. Bypassing the OE circuit in favor of the auxiliary cooler may cause the computer to gain false thermal management data, which could adversely affect fuel economy and emissions. With vehicle noses and air flow paths so small today, careful engineering consideration should be given as to how such a cooler would affect air flow over the Radiator and A/C Condenser.

**DRAIN BACK CHECK VALVE & FILTERS:** These items and any other possible item in the cooler circuit, which can restrict or inhibit the high flow pulse cleaning action, must be bypassed or remove for flushing.

**THERMAL VALVES:** Most thermal valves are on external bypass circuits located on the side of the transmission, or internal to the transmission; these thermal valves will have no effect (nothing to do with) proper oil cooler and line flushing. However, a very small limited number of thermal valves will be found in the line sets or coolers. When encountered, these items must be removed or bypassed for flushing.

**FLOW VERIFICATION:** It is important to see and understand how this Pulse flusher works. Operating this machine on the storage fittings as seen in the “first time user” operating instructions, in combination with the use experience you will gain; will make you very familiar with what is a normal strong Pulse. As long as you are seeing this normal strong Pulse during the flushing job, you are also well exceeding any OE flow verification test and therefore always validating flow during the flushing job. **NOTE:** If Pulse is weak, you can always return to operating on the storage fitting to confirm whether the problem is with the cooler or the flusher. If cooler, flush some more, to see if it will clear before condemning it for replacement. If flusher, check and make sure you have changed the fluid recently, as Pulse will weaken as fluid becomes more contaminated. Do not try to overuse the flush; it will begin to take away from the quality of your work.

**ENGINE COOLING:** Don’t forget that the traditional transmission oil cooler is water over oil. With this Transmission oil cooler flushing process you are cleaning, clearing and flow verifying only the oil side. It is well documented that there are a lot of problems associated with neglected Engine Cooling Systems today. To further protect your Transmission work, professionalism, and the value you offer your customer with a complete thermal management service; be sure to inspect the Engine Cooling System, and take a look at acquiring our very popular **Engine Cooling Pulsator®**. Why send them somewhere else for this service?

# HECAT<sup>®</sup> Model MARK IV PULSATOR<sup>®</sup> Operating Instructions

Always Stay Focused on the Goal: Clean & Dry (Debris, Oil, and Solvent Free)

Read this entire operating manual before using this equipment, pay attention to the **IMPORTANT NOTES** and perform the “First time user” training procedures. Understand and become familiar with the operation, servicing, processes, and validating procedures provided to you. The Tool operation plus the specific procedures offer a complete process designed to guarantee you achieve a successful Transmission Oil Cooler flush every time.

SAFE-FLUSH<sup>®</sup> is the required solvent for use in this equipment. Continued and exclusive use of this product supports a Lifetime Warranty (see details in Warranty Statement) on this equipment; and will do no harm to the materials used in this equipment, or the materials of the system being cleaned. Use of other solvents may be harmful to the system and/or damage this equipment, and void any equipment warranty.

## Operating Valve Designations

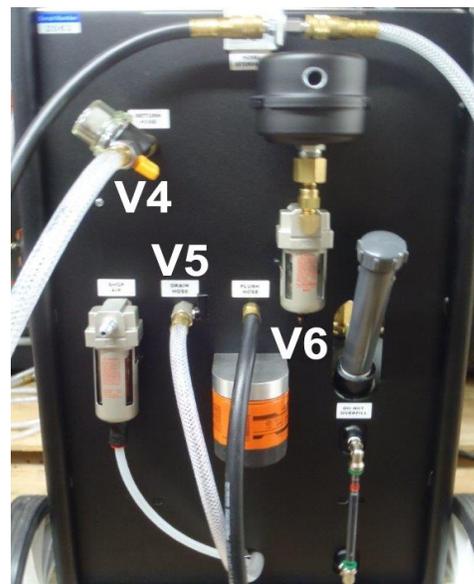
### Control Panel

- V1** Recycle Valve
- V2A** Flush Air Valve
- V2B** Purge Air Valve
- V3** Flush (Liquid) Valve



### Back Panel

- V4** – POP Valve @ T-Strainer
- V5** – System Drain Valve w/ Hose  
(Large containers for 2 gal required)
- V6** – Exhaust Mist Separator Drain Valve  
(Small soda bottle size container required)



## Shop Air Supply

- This unit requires clean and dry shop air sustained at 6-7 CFM @ 90 PSI min. Max inlet pressure is 250 PSI
- A typical 3/8 inch repair shop air line is usually sufficient - Internal (not adjustable) regulator is pre-set at 80 PSI.
- If air supply volume (CFM) is inadequate (smaller compressor, lines, etc.), the flushing process will likely work as it uses less CFM, but be prepared to increase the time required to complete the purge/drying process.
- This unit has an inlet air filter with auto drain. This water will drain under the machine.
- Be prepared to mop or wipe this water as needed to prevent any unnecessary slips.

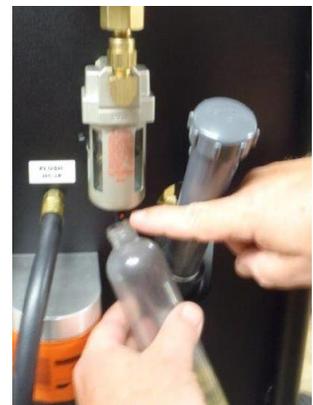
## Pre-Op Procedures

Pre-Op and Operating Procedures will become common and proper practice after a few times using this equipment.

1. Control Panel - Verify all the Valves (V1, V2, and V3) are in the OFF position.
2. Back Panel - Verify the Drain Valve (V5) is closed (handle 90 degrees from valve body).
  - Verify the Pop Valve (V4) is open (handle parallel with valve body).
  - Verify the Exhaust Mist Separator (V6) has been drained.
3. Verify both the Flush and Return hoses are connected to hose storage fittings.
4. Connect shop air supply.
  - **First time user, verify (or change) inlet shop air nipple to match your air quick coupler.**
5. Turn Flush Air Valve (V2A) ON then OFF. Allow 5-10 seconds for air to dissipate from unit.
  - **IMPORTANT NOTE:** *Always perform the previous function (V2A ON-OFF) to reset pilot valve circuit before removing T-Strainer bowl; otherwise circuit could be under pressure and damage to threads and or personal injury may occur.*
6. Verify T-Strainer bowl and screen are clean and debris free. If necessary, remove, clean, and re-install.
  - **IMPORTANT NOTE:** *Never clean T-Strainer assembly with any type of chemical (Brakeclean, alcohols, and other chemicals will damage the bowl); always blow the bowl and screen clean with shop air only.*
7. Turn Recycle Valve (V1) ON and verify if SAFE-FLUSH® (from last use) has been recycled or drained. Watch for level in sight tube, it may take up to 60 seconds for the first gallon to appear. When recycling is complete, (approx 2 minutes for 2 gallons) turn V1 OFF. It is now safe to remove fill neck cap if needed.
  - **IMPORTANT NOTE:** *Always perform the previous function (Recycle-V1) to reset pilot valve circuit before removing fill neck cap; otherwise circuit could be under pressure and damage to threads and or personal injury may occur.*
8. Determine condition and quantity of SAFE-FLUSH® available in the unit, and take one of the following actions.  
Note: This unit has a 2 Gallon capacity – **Always** recycle to verify what's possibly in unit – **Do Not Overfill**.
  - If unit is empty (drained by last user); replace spin-on filter (**first time user, do not replace**), remove fill cap and add 2 gallons of fresh SAFE-FLUSH®, and re-install fill neck cap.
  - If topping off; remove fill neck cap, add SAFE-FLUSH® to full mark on sight tube, and re-install cap.
9. Install the appropriate flushing adapters to the Transmission Oil Cooler and Line circuit.
  - **IMPORTANT NOTE:** *Never flush through drain back check valves, filters, screens, or thermal valves. These items must always be removed for flushing and replaced or cleaned (if possible) by other means.*
  - **IMPORTANT NOTE:** *Always isolate and back flush the Transmission Oil Cooler. The small passages and micro channels of the modern coolers work like a big filter. Larger particulates will reside at the inlet chamber of a the cooler, and cannot be pushed thru; they must be backed flushed out.*

## Operating Procedures

10. Connect Flush and Return hoses to component being flushed.
  - **First time user, leave Flush and Return hoses connected to hose storage fittings.**
11. Connect air supply to Shop Air port on back panel.
  - **Tip:** Before Flushing, remove return line from back panel (quick coupler); direct it to a waste container, turn Air Valve (V2A) ON, and air purge the waste oils from the oil cooler into the waste container. Limiting unnecessary loads of oil into the solvent will extent the solvent's potential re-usable life.
12. To Flush Component...
  - Turn Flush Air Valve (V2A) ON, wait 10 seconds for pressure to build (stronger initial flush rush).
  - Turn Flush Valve (V3) ON. Observe Pulse in hoses and T-Strainer.
  - **IMPORTANT NOTE:** If no pulse, you may have encountered a hard blockage; wait a moment to see if the pressure will clear. If not, carefully disconnect Flush and Return hoses (**WARNING:** Flush Hose may be pressurized). Connect hoses to storage fitting and verify machine is Pulsing and functioning properly.
  - Allow the entire 2 gallons of flush to pass thru the component.
  - When pulsating flush flow stops...
    - Turn Flush Valve (V3) OFF.
    - Turn Flush Air Valve (V2A) OFF.
13. Initial Air Purge and Pop Test (This test is focused on evaluating debris removal).
  - Turn Purge Air Valve (V2B) ON and wait 10 seconds...
  - Close Pop Valve (V4) and let air dissipate from system (about 5-10 sec.).
  - Open Pop Valve (V4) rapidly and quickly close.
  - This creates an air Pop (surge) in the component to lift and carry out any remaining stubborn debris that may remain.
  - Repeat 5 or 6 times (V4) while allowing air to dissipate between each opening.
    - **First time user; should note the burst of solvent mist in T-Strainer bowl each time the Pop Valve (V4) is opened.**
14. Inspect T-Strainer.
  - Open the Pop Valve (V4) and turn the Purge Air Valve (V2B) OFF.
  - It is now safe to remove the T-strainer bowl and screen.
  - Inspect for debris (document or save to show customer as needed).
  - Air blow clean T-Strainer bowl, screen, and housing and re-assemble T-Strainer.
15. Repeat Initial Air Purge and Pop test, and check T-Strainer for any new debris (validation step).
  - Normally only one flush is necessary. But it is important to be diligent and “pop” a few more times after you have cleaned it out; to validate and ensure component is debris free.
  - If no debris is present, move on to next step.
  - If debris is still present, Recycle the flush (instructions in next step); then flush component again. Repeat Initial Air Purge and Pop test; to confirm complete debris removal.
16. Recycle Flush
  - Turn Recycle Valve (V1) ON.
  - While it is Recycling, with suitable capture container in place under the Exhaust Mist Separator (under black charcoal filter), press drain valve (V6- orange button) and drain bowl.
  - After flush Recycling is completed, turn Recycle Valve (V1) OFF.



17. Air Purge (Solvent Drying) **DO NOT** shortcut this critical step.
- Turn Purge Air Valve (V2B) ON, and purge for 10 minutes.
  - **First time user; with hoses connected only to the storage fittings (no component); purge time will only need to be for a few minutes.**
  - After the appropriate time has passed, leave the Purge Air Valve (V2B) ON, and go to the next step.
18. Final Pop Test (To validate all solvent has been removed and component is dry).
- Close Pop Valve (V4) and let air dissipate from system (about 5-10 sec.).
  - Open Pop Valve (V4) rapidly and quickly close.
  - This creates an air “Pop” (surge) in the component to assist in identifying any remaining solvent and verifying that component is clean and dry.
  - Repeat 5 or 6 times (V4) while allowing air to dissipate between each Closing of the Pop Valve (V4).
  - Observe the solvent mist burst or lack of mist burst in the clear T-strainer bowl each time the Pop Valve (V4) is opened. **First time user; focus on the solvent mist burst or lack thereof in T-strainer.**
  - If solvent mist burst is still present, continue to air purge and repeat Final Pop Test until completely satisfied. Solvent removal is critical – REMEMBER THE GOAL – BE DILLIGENT.
  - If no solvent mist or debris is present in the T-Strainer; component is now verified to be clean and dry.
  - Leave Pop Valve (V4) OPEN and turn Purge Air Valve (V2B) OFF.
19. Determine condition of SAFE-FLUSH® and what action to take.
- If system components were heavily laden with debris, burnt oils, and you are not comfortable using it again, it should be drained.
  - If you are instructed to change the SAFE-FLUSH® after each vehicle repair, it should be drained.
  - If the SAFE-FLUSH® is laden with waste oils and has exceeded its usable life (about 10 Trans oil coolers), it **must** be drained.
  - **IMPORTANT NOTE:** *It is your responsibility to remove contaminated SAFE-FLUSH® as necessary. Failure to do so can set up the next user to unknowingly use contaminated SAFE-FLUSH®. Make sure you always have an adequate back up supply of SAFE-FLUSH® in stock.*
20. If draining is necessary; use empty solvent containers or anything suitable to capture the waste 2 gallons.
- Turn Flush Air valve (V2A) ON.
  - Pull Drain Hose from storage hole located in lower back panel.
  - Place Drain Hose in appropriate container.
  - Hold hose in place and a rag is recommended to be used around the hose and neck of container to minimize splash and mist fumes.
  - *Slowly* open Drain Hose Valve (V5); and *regulate flow rate* with this valve. Drain entire 2 gallons of SAFE-FLUSH®.
  - When empty, continue to hold hose in place and turn Flush Air Valve (V2A) OFF at control panel.
  - Leave Drain Hose Valve (V5) open to vent remaining air pressure, and then close V5. Wipe off, and return hose to storage hole in back panel.
- 
21. If draining is not required, or after draining is completed...
- Flushing process is now complete. Disconnect air supply.
  - Remove Flush and Return hoses, and reconnect both hoses to the hose storage bracket.
  - Remove flushing adapters and return them to storage case.
22. Disposal of SAFE-FLUSH®. As a low odor, low VOC; this product is disposed of with waste oil. However, as deemed no longer usable as a precision cleaning solvent; it may also be used (additional life) in heavy parts degreasing, or in waste oil heating. Always follow all company, local, state, and federal regulations and guidelines, regarding proper and safe handling and disposal.

# MSDS – SAFE-FLUSH®

EMERGENCY PHONE NUMBER: 1-800-380-9501

Last Revised: February 2012

## SECTION 1

Company Name:  
Address:  
Phone/Fax:  
Trade name:  
Chemical name:  
Composition:  
Application:  
SECTION 2  
General:

## COMPANY IDENTIFICATION AND CHEMICAL

Hecat, Inc  
2910 Ridge Court Cumming, GA 30041  
770-205-5600 / 770-205-5633  
Hecat Safe-Flush A/C & Hecat Safe-Flush Trans  
Synthetic Hydrocarbon Cleaner  
Proprietary percentages of Hydrotreated light distillates (CAS# 64742-47-8) and P-Menta-1, 8-Diene (CAS# 5989-27-5)  
Flushing fluid used with or without Hecat flushing equipment to clean the internals of automotive heat exchangers.

## COMPOSITION / INFORMATION ON INGREDIENTS

This product is non-hazardous. The product contains no known Carcinogens. No special warning labels are required Under OSHA 29 CFR 1910-1200.

## SECTION 3

Appearance:  
Known hazards:

## HAZARDS IDENTIFICATION

A/C version - Clear liquid / Trans version - Red dye added.  
Contains no known hazardous ingredients

## SECTION 4

Eyes:  
Skin:

## FIRST AID MEASURES

Flush with clean lukewarm water. Seek physician's assessment if eyes are inflamed  
Wash affected areas thoroughly with soap and water. Wash contaminated clothing.  
Avoid breathing oil mists. Remove to fresh air. If breathing is difficult, get medical attention.  
Do not induce vomiting. Force fluids. Has a laxative effect.

Inhalation:

Ingestion:

## SECTION 5

Flash point:  
Flammable limits:  
Auto ignition temp:

## FIRE FIGHTING MEASURES

165 - 170 F min.  
N/A  
N/A  
Low fire hazard. Do not cut, drill, or weld empty containers  
Dry chemical foam, water spray, and carbon dioxide for small fires.  
Contain liquid, cover with extinguishing agent; use water to cool fire-exposed containers.

Fire & explosion hazards:

Extinguishing media:

Fire fighting procedures:

## SECTION 6

Spill or leak  
Waste Disposal:

## ACCIDENTAL RELEASE MEASURES

Contain spill, absorb with commercial absorbents, or by using pumps.  
Dispose in approved containers through a licensed waste reclaimer.

## SECTION 7

Storage temp:  
Shelf life:

## HANDLING AND STORAGE

<120 F recommended.  
12 months in original closed HDPE container.  
Not for internal use. Avoid prolonged contact with skin, eyes, and clothes.

Precautions:

## SECTION 8

Eye protection:  
Skin protection:  
Respiratory protection:  
Ventilation:

## EXPOSURE CONTROL / PERSONAL PROTECTION

Chemical goggles if splashing is likely. Normally none required.  
PVC or Nitrile gloves if in direct contact for more than 2 hours. Normally none required.  
If mist is present, wear approved organic respirator. Normally none required.  
General ventilation.

Exposure limits:

## SECTION 9

Appearance:  
Boiling point:  
Vapor pressure:  
Specific gravity:  
Odor:  
Solubility in water:  
Evaporation rate:

## PHYSICAL AND CHEMICAL PROPERTIES

A/C version - Clear liquid / Trans version - Red dye added.  
> 300 degree F  
< .4 mm/hg  
0.83 (water = 1)  
Very slight hydrocarbon odor.  
Non soluble

## SECTION 10

Stability:  
Hazardous polymerization:  
Incompatibilities:  
Decomposition products:

## REACTIVITY

Product is stable.  
Will not occur.  
Strong oxidizers and chlorine.  
Analogous compounds evolve, carbon monoxide, carbon dioxide, and other undefined fragments when burned.

## SECTION 11

General:

## TOXICOLOGICAL INFORMATION

Acute LD. >5000mg/Kg (rat: oral) Practically non-toxic. Negative when tested by Ames test.

## SECTION 12

General:

## ECOLOGICAL INFORMATION

Biodegradable CEC L33T82 > 80% @ 45 days

## SECTION 13

Waste disposal:

## DISPOSAL CONSIDERATIONS

Used product must be disposed of in according to federal, state, and local environmental regulations.

## SECTION 14

Technical name:  
Packaging:  
DOT hazard class:  
IATA:  
U.N./N.A.#:  
Product label:

## TRANSPORTATION INFORMATION

Synthetic hydrocarbon cleaner  
1 gallon HDPE round (case qty-4)  
Not regulated - packaged for ground transportation only.  
Standard packaging not suitable for air transportation.  
Not regulated.  
Hecat Safe-Flush

## SECTION 15

OSHA status:  
TSCA status:  
RCRA status:

## REGULATORY INFORMATION

Non hazardous under 29 CFR 1900 1200  
N/A

CARB status:

If discarded in its purchased form this product would not be a hazardous waste either by listing or characteristic. However, It is the users responsibility to determine if it is hazardous and the type of disposal. (40 CFR 261.20-24)  
Title 17 California Code of Regulations classification 94509 Consumer Product - General Purpose Degreaser - Safe-Flush is a 5% VOC.

## SECTION 16

General:

## OTHER INFORMATION

This information is furnished without warranty, expressed or implied, except that it is the accurate to the best knowledge of Hecat, Inc. The data on this sheet related only to the specific material designed herein. Hecat, Inc assumes no legal responsibility for the use or reliance upon this data.



## **PRODUCT WARRANTY INFORMATION**

HECAT, Inc. offers with any model HECAT® Flusher a **ONE YEAR LIMITED WARRANTY**. This warranty covers all manufacturing defects in materials and/or workmanship for one year from the date of purchase. This warranty is offered to the original purchaser only, and is not transferable. Original dated proof of purchase is required. See warranty claim instructions below.

HECAT, Inc. also offers a **LIMITED LIFETIME WARRANTY**. This offer is limited only to the Professional Pulsator® Series (HECAT® Flusher Models: FAC-200, FAC-400, MARK II, and MARK IV only). This extended warranty offer is contingent upon the exclusive use of HECAT® SAFE-FLUSH® only. This warranty guarantees the internal operation and function of the pulse performance for a lifetime. This warranty does not cover service items or the normal “wear and tear” issues with external items such as the finish, cover, wheels, hoses, filters, quick couplers. Proper fluid exchanges, maintenance, and care of the equipment are required. This warranty is offered to the original purchaser and is not transferable. Original dated proof of purchase is required. Documentation (proof of purchase) of consistent SAFE-FLUSH® purchasing activity will also be required. See warranty claim instructions below.

### **NO WARRANTY WILL APPLY TO ANY HECAT® FLUSHER...**

- That has failed due to abuse, misuse, neglect, or accident.
- That has been tampered with, modified, or repaired by an unauthorized person.
- That shows evidence of rust, corrosion, or material failure and/or reactions from the use of corrosive, incompatible, unapproved, or inappropriate flushing chemicals.
  - Use only manufacturer recommended cleaning chemicals.
  - Use only clean, dry, and filtered compressed air.

### **CHEMICALS, ADAPTER KITS, & SPARES ARE FIT FOR USE ONLY; NO WARRANTY IS OFFERED.**

**INCIDENTAL OR CONSEQUENTIAL DAMAGES** occurring as a result of the use or failure of this equipment is not covered by the manufacturer’s warranty. There are no other warranties implied or stated.

### **WARRANTY CLAIM INSTRUCTIONS:**

1. Warranty issues, as well as after warranty service and repair needs, are handled directly by the manufacturer.
2. If you have a problem with this product, please contact HECAT, Inc. directly for the most immediate assistance. Tel. 800-380-9501, Tel. 770-205-5600, Fax. 770-205-5633, or contact us at [www.hecatinc.com](http://www.hecatinc.com).
3. As in many cases, HECAT, Inc. may be able to quickly deliver a replacement part with instructions to correct the problem; thus eliminating lost use time and shipping costs associated with returning a unit.
4. If a return is necessary, you must obtain a **Return Authorization (RA) number**, before returning any unit to the manufacturer. Original Equipment and SAFE-FLUSH® Proof of purchase(s) may be required.
5. Units for warranty evaluation must be properly packaged and shipped freight pre-paid to the manufacturer’s specified location. Do not ship collect (unexpected and unknown collect shipments may be refused).
6. Upon receipt, HECAT, Inc. will evaluate any warranty claim and then, if approved, repair or replace at its option, and return unit to customer. Warranty repairs are returned prepaid within USA only.
7. If for any reason a warranty repair claim is unfortunately declined; justification (in writing, if necessary) and reasonable repair (if possible) or replace options will be provided.

**PLEASE COMPLETE AND RETURN WARRANTY REGISTRATION ON NEXT PAGE.**

# HECAT PRODUCT WARRANTY REGISTRATION

Please detach and fill out this Form completely and accurately.  
Fax completed Form to 770-205-5633, or e-mail to [sales@hecatinc.com](mailto:sales@hecatinc.com).

## **Product Information**

MODEL \_\_\_\_\_

S/N \_\_\_\_\_

DATE PURCHASED \_\_\_\_\_

CHECK ONE: ONE YEAR WARRANTY \_\_\_\_\_ LIFETIME WARRANTY \_\_\_\_\_

## **Purchaser-Owner Information**

COMPANY NAME \_\_\_\_\_

YOUR NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE \_\_\_\_\_

E-MAIL \_\_\_\_\_

## **Distributor-Dealer Information**

DIST NAME (where purchased) \_\_\_\_\_

CONTACT NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE \_\_\_\_\_