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**owner's manual**

# GreenTRAP™ Diesel Particulate Filter



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# GreenTRAP™ Diesel Particulate Filter Warranty for the State of California

Nett Technologies Inc., warrants for the minimum periods, as specified in the table below, whichever occurs first, that if the GreenTRAP™ DPF is properly installed and maintained according to the directions provided in the owner’s manual, the GreenTRAP™ DPF will be free from defects in design, materials, workmanship, or operation. Provided there has been no abuse, neglect, or improper maintenance of your GreenTRAP™ DPF during this period of time, the GreenTRAP™ DPF will conform to the emission control performance level it was verified to, or to the requirements in the California Code of Regulations, Title 13, sections 2700 to 2706. Where a warrantable condition exists, Nett Technologies Inc. will repair or replace your diesel emission control system at no cost to you including diagnosis, parts, and labor. Also, where a warrantable condition exists, this warranty also covers other vehicle or equipment parts from damage caused by the diesel emission control system, subject to the same exclusions for abuse, neglect or improper maintenance of your vehicle or equipment. Failure of the engine owner to ensure scheduled maintenance or to keep maintenance records for the equipment, engine, or the GreenTRAP™ DPF, may void this warranty. Please review your owner's manual for other warranty related information.

**GreenTRAP™ DPF Engine Warranty Coverage**

Engine Type	Engine Size	GreenTRAP™ DPF Warranty Period
Prime and Emergency Use Stationary Generator Sets and Pumps	Under 25 hp, and for constant speed engines rated under 50 hp with rated speeds greater than or equal to 3,000 rpm	3 years or 1,600 hours
	At or above 25 hp and under 50 hp	4 years or 2,600 hours
	At or above 50 hp	5 years or 4,200 hours

## Your Warranty Rights and Obligations

Nett Technologies Inc., warrants that the diesel emission control system in the application for which it is sold or leased to be free from defects in design, materials, workmanship, or operation of the diesel emission control system which cause the diesel emission control system to fail to conform to the emission control performance level it was verified to, or to the requirements in the California Code of Regulations, Title 13, sections 2700 to 2706, for the periods of time listed above, provided there has been no abuse, neglect, or improper maintenance of your diesel emission control system, vehicle or equipment, as specified in the owner's manual. Where a warrantable condition exists, this warranty also covers the engine from damage caused by the diesel emission control system, subject to the same exclusions for abuse, neglect or improper maintenance of your vehicle or equipment. Please review your owner's manual for other warranty information. Your diesel emission control system may include a core part, the particulate filter, as well as hoses, connectors, a back pressure monitor, and other emission-related assemblies. Where a warrantable condition exists, Nett Technologies Inc. will repair or replace your diesel emission control system at no cost to you including diagnosis, parts, and labor.

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## Warranty Coverage

For the engine sizes and applications listed above, the warranty period will be the corresponding years or hours of operation whichever occurs first. If any emission-related part of your diesel emission control system is defective in design, materials, workmanship or operation of the diesel emission control system, thus causing the diesel emission control system to fail to conform to the emission control performance level it was verified to, or to the requirements in the California Code of Regulations, Title 13, sections 2700 to 2706, within the warranty period, as defined above, Nett Technologies Inc, will repair or replace the diesel emission control system, including parts and labor.

In addition, Nett Technologies Inc. will replace or repair the engine components to the condition they were in prior to the failure, including parts and labor, for damage to the engine proximately caused by the verified diesel emission control strategy. This also includes those relevant diagnostic expenses in the case in which a warranty claim is valid. Nett Technologies Inc. may, at its option, instead pay the fair market value of the engine prior to the time the failure occurs.

## Owner's Warranty Responsibility

As the (vehicle, engine, equipment) owner, you are responsible for performing the required maintenance described in your owner's manual. Nett Technologies Inc. recommends that you retain all maintenance records and receipts for maintenance expenses for your vehicle, engine, or equipment, and diesel emission control system. If you do not keep your receipts or fail to perform all scheduled maintenance, Nett Technologies Inc. may have grounds to deny warranty coverage. You are responsible for presenting your vehicle, equipment, or engine, and diesel emission control system to a Nett Technologies Inc. authorized dealer as soon as a problem is detected. The warranty repair or replacement should be completed in a reasonable amount of time, not to exceed 30 days. If a replacement is needed, this may be extended to 90 days should a replacement not be available, but must be performed as soon as a replacement becomes available.

If you have questions regarding your warranty rights and responsibilities, you should contact Nett Technologies Inc. at 1-800-361-6388 or the California Air Resources Board at 9528 Telstar Avenue, El Monte, CA 91731, or (800) 363-7664, or electronic mail: [helpline@arb.ca.gov](mailto:helpline@arb.ca.gov).

## Installation Warranty for the State of California

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### Your Warranty Rights and Obligations

Nett Technologies Inc. and its designated representatives or installers warrant that the installation of the GreenTRAP™ diesel emission system is free from defects in workmanship or materials which cause the diesel emission control system to fail to conform to the emission control performance level it was verified to, or to the requirements in the California Code of Regulations, Title 13, sections 2700 to 2706. The warranty period and the extent of the warranty coverage provided by Nett Technologies Inc. and its designated representatives or installers is the same as the warranty provided by Nett Technologies Inc. for the GreenTRAP™ DPF and the same exclusions apply.

### Owner's Warranty Responsibility

As the vehicle, engine or equipment owner, you are responsible for presenting your vehicle, engine, or equipment, and diesel emission control system to Nett Technologies Inc. as soon as a problem with the installation is detected.

If you have questions regarding your warranty rights and responsibilities, you should contact Nett Technologies Inc. at 1-800-361-6388 or the California Air Resources Board at 9528 Telstar Avenue, El Monte, CA 91731, or (800) 363-7664, or electronic mail: [helpline@arb.ca.gov](mailto:helpline@arb.ca.gov).

## GreenTRAP™ Diesel Particulate Filter Installation Procedure and Maintenance Requirements

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Note: In order for the GreenTRAP™ DPF to function properly and meet the emission control performance level it was verified to, or to meet the requirements in the California Code of Regulations, Title 13, sections 2700 to 2706, the following requirements should be taken into account before installing the GreenTRAP™ DPF:

- Engine operation and service should be according to OEM specifications
- The engine oil consumption should be according to OEM specifications
- The GreenTRAP™ DPF is designed to run using California diesel fuel with less than or equal to 15ppm sulfur or a biodiesel blend provided the biodiesel portion of the blend complies with ATSM D6751, the diesel portion of the blend complies with Title 13 (CCR), sections 2281 and 2282 and the blend contains no more than 20 percent biodiesel by volume.
- Do not use: fuel additives, kerosene, emulsified fuels, marine or mining diesel fuel, or any diesel fuel containing more than 15 ppm sulfur
- The GreenTRAP™ DPF should only be installed on engine models for which the unit was designed and verified by CARB
- Proper guidelines of exhaust temperature, running conditions, running times, etc, mentioned elsewhere in the CARB executive order should be followed at all times
- A proper scheduled cleaning service should be maintained; see “Maintenance” below

Failure to follow any of the above guidelines may void the Warranty.

### Installation Procedures

The GreenTRAP™ DPF replaces existing muffler or silencer of the engine on which it is installed.

Remove the existing muffler or silencer:

1. Loosen the inlet and outlet flanges
2. Remove the existing muffler/silencer and gaskets
3. Make sure existing flange faces are clean and free of any dirt that might interfere with a good seal. Replace gaskets that show any wear or are torn in this process.

**NOTE:** Please recycle the old muffler/silencer according to all City, County, State, and Federal Regulations.

**GreenTRAP™ DPF (with access door) installation:**

1. Be sure the exhaust flange gasket that fits between the filter housing flange and the engine exhaust pipe flange is the correct size. The flange face must be clean for a good seal. Cross bolt tightening pattern is the preferred procedure for securing flanges.
2. Mount the filter housing in such a way that the door housing is free of obstruction so that it can be opened for inspection and service.
3. Monitoring ports must also be kept free of obstruction. These ports accommodate the connection for a differential pressure switch/gauge transmitter and a temperature gauge. (*Refer to PTLOG™150 technical manual; attached*)
4. Be sure that all of the weight of the filter system is supported independently of the engine exhaust connection. A flexible exhaust connector must be used between the engine and the filter.

**Small GreenTRAP™ DPF with solid housing:**

1. Be sure the exhaust flange gasket that fits between the filter housing flange and the engine exhaust pipe flange is the correct size. The flange face must be clean for a good seal. Cross bolt tightening pattern is the preferred procedure for securing flanges.

**GreenTRAP™ DPF with removable centerpiece housing:**

1. Be sure the exhaust flange gasket that fits between the filter housing flange and the engine exhaust pipe flange is the correct size. The flange face must be clean for a good seal. Cross bolt tightening pattern is the preferred procedure for securing flanges.
2. Mount the filter housing in such a way that the centerpiece housing is free of obstruction so that it can be removed for inspection and service.

**GreenTRAP™ DPF Start-up Procedure**

The following data should be recorded by the installer:

1. Date of installation
2. Engine hours of operation at time of start-up
3. GreenTRAP™ DPF serial number
4. Record in the SERVICE LOG, pressure loss of exhaust gas and temperature of exhaust gas at idle and at half power or 50% load and at full power or 100% load. This recorded data will be used to monitor the filter system by comparison of the new and old data. Field data for the GreenTRAP™ DPF shows that the backpressure range imposed on the engine range from 15 - 25" of water.
5. Never operate the engine in an idle mode for more than 300 consecutive minutes.
6. The diesel particulate filter system must be regenerated after every ten cold engine start-ups. To achieve filter regeneration the engine must run until the exhaust

temperature exceeds 380<sup>0</sup> C and the back pressure monitoring system indicates a normal back pressure reading.

7. Always check the DPF filter housing for exhaust leaks.

## GreenTRAP™ DPF Maintenance

**NOTE:** Diesel particulate filters remove particulate matter and inorganic ash from the engine exhaust system. During this process the filter collects this material until the required heat is sufficient to burn the accumulated particulate matter. In normal operating conditions the engine exhaust will have a small degree of inorganic ash from engine oil and lubricants. This ash will not burn away and instead begins to slowly accumulate in the filter. The filter needs to be routinely cleaned to remove ash; the recommended cleaning interval is every 2,000 hours.

## Filter Cleaning Procedure

To perform cleaning wear gloves, mask, and safety glasses.

### Service Equipment Required:

1. Compressed dry air (80 to 100 psi) with standard shop air nozzle
2. Industrial vacuum cleaner

### Units with access door:

1. Loosen all bolts and remove the access door.
2. Before removing the filter for cleaning mark the outlet (clean) side of the filter as a reference point when repositioning the filter after cleaning.
3. Loosen the V-band clamps and carefully slide the filter housing and gasket out of the filter chamber.
4. Using the air nozzle, slowly direct the air into the filter cells in the outlet (clean) side while applying vacuum on the inlet side to collect ash. Continue this process for approximately 30 - 40 minutes. Larger diameter filters will require additional cleaning time.
5. Once the filter cleaning is finished, reinstall the filter in the same direction from which it was removed. The mark that was put on the outlet side of the filter should be on the outlet (clean) side of the airflow.
6. Reinstall the gasket and the v-band clamps.
7. Replace the GreenTRAP™ DPF access door, making sure the door gasket is in place. If the gasket is damaged in any way, it must be replaced. Replacement gaskets are available from Nett Technologies Inc. Tighten all bolts.

### Units without any access door (solid housing):

1. Loosen all bolts on the inlet and outlet flanges of the GreenTRAP™ DPF.



2. Mark the outlet (clean) side of the GreenTRAP™ DPF housing as a reference point when repositioning the housing after cleaning.
3. Remove the GreenTRAP™ DPF from the exhaust flow
4. Using the air nozzle slowly direct the air into the filter cells in the outlet side while applying vacuum on the inlet side to collect the ash. Continue this process for approximately 20 to 30 minutes. Larger diameter filters will require additional cleaning time.
5. Once the filter cleaning is finished, reinstall the filter in the same direction from which it was removed. The mark that was put on the outlet side of the filter should be on the outlet (clean) side of the airflow. Replace any gaskets that show wear or are torn. Replacement gaskets are available from the housing manufacturer. Tighten all bolts.

**Units with removable centerpiece housing:**

1. Remove the v-band clamps that keep the centerpiece housing in place.
2. Mark the outlet side of the DPF Housing as a reference point when repositioning the Housing after cleaning.
3. Remove the DPF Housing from the exhaust flow.
4. Using the air nozzle slowly direct the air into the filter cells in the outlet side while applying vacuum on the inlet side to collect the ash. Continue this process for approximately 20 to 30 minutes. Larger diameter filters will require more cleaning time.
5. Once the filter cleaning is finished, reinstall the filter in the same direction from which it was removed. The mark that was put on the outlet side of the filter should be on the outlet (clean) side of the airflow. Replace any gaskets that show wear or are torn. Replacement gaskets are available from Nett Technologies Inc.
6. Fasten the V-Band clamps.

**NOTE:** Disposal of ash should be in accordance with all Federal, State and local laws and regulations. For information regarding ash disposal contact the California Department of Toxics Substances Control (DTSC) Regional Duty Officers at (800) 728-6942. If you have additional questions, DTSC's webpage can be accessed at:

[http://www.dtsc.ca.gov/HazardousWaste/index.cfm#Generator Information](http://www.dtsc.ca.gov/HazardousWaste/index.cfm#Generator%20Information)



## Service Log

For proper maintenance of the GreenTRAP™ DPF product a DPF filter service record should be kept up to date. We recommend the installer and the customer use a service log similar to the one provided below.

GreenTRAP™ DPF SERVICE LOG			
Engine			
Unit installation date			
GreenTRAP™ DPF serial #			
Load conditions:			
Back pressure at idle			
Back pressure at full			
PRESSURE DROP AT FULL LOAD:			
Before cleaning			
After cleaning			
Hours of operation between each cleaning:			
Date:		Hours:	
Date		Hours:	
Date:		Hours:	

## Contact

### GreenTRAP™ DPF Sales, Technical Questions and Issues:

Nett Technologies Inc.  
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