



Installation & Warranty Registration D2-FM-023-NTD [NC-Temperature-Dependent]

PLEASE FILL OUT AND FAX BACK THIS FORM RIGHT AFTER INSTALLATION TO 1-905-672-5949 TO KEEP WARRANTY COVERAGE. ENSURE IT IS COMPLETE AND LEGIBLE. A COPY MUST BE GIVEN TO THE END-USER. KEEP A COPY FOR YOUR RECORDS.

Customer Information

Dealer/Installer Company Name:	Dealer/Installer Address	Dealer/Installer Contact (Name/Phone/Email):
Customer/End-User Company Name:	Vehicle/Equipment Location:	Customer/End-User Address/Contact (Name/Phone):

Vehicle/Equipment Information

Vehicle/Equipment Make and Year:	Vehicle/Equipment Model and Type:	Vehicle/Equipment Serial No.:
Vehicle/Equipment Voltage: <input type="checkbox"/> 12 V <input type="checkbox"/> 24 V	Engine Make:	Engine Year and Model:
Engine Serial No.:	Engine Family:	Engine Power (rated hp) and Displacement:
Engine Oil Used:	Fuel Type:	Service Interval (hours):

Emission Control Technology

Model:	Description:	Emission Control Technology Serial No.:
DPF Serial No.:	DOC Serial No.:	SCR Serial No.:
Vehicle/Equipment Hours at Installation:	Date of Installation:	System Fully Functional: <input type="checkbox"/> Yes <input type="checkbox"/> No

If no, list issues to correct before installation:

Installation Training Confirmation

Trainer's Full Name:	
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I hereby confirm that _____ from _____, has received, understood, and is ready to apply the following installation, setup and maintenance training:

(Trainee/Installer Name) (company)

- ☐ Review of pre-installation compatibility assessment criteria and their compliance (please fill out the check list on page 3 of this form)
- ☐ Review of the effects of engine maintenance on the emission control strategy's performance
- ☐ Identification of all warning and/or fault alarms and appropriate end-user responses
- ☐ Cleaning and maintenance information for the emission control strategy
- ☐ Review of major components, system installation and setup

Installation Training Certificate

- ☐ I have obtained a Certificate of Training Completion from Nett Technologies

Obligations

- ☐ I have performed pre-installation assessment of the equipment/vehicle and can confirm that it meets all the required compatibility criteria for installation

Authorized Installer Signature: _____ Date: _____

1. Authorized Installer (Dealer/Distributor) Requirements and Obligations

- 1.1. The installer of the Nett Technologies Diesel Emission Control Strategy (DECS) must be authorized and trained by the party that holds the verification, i.e., Nett Technologies Inc., for the DECS. The installer is also responsible to train the end-user at the time of commissioning. The Operational & Maintenance Manual must be made available to the end-user after installation.
- 1.2. The installer of the Nett Technologies DECS must comply with the pre-installation assessment requirements.

In general, the authorized installer (i.e., the party conducting the pre-installation compatibility assessment) must ensure that a candidate engine being considered for retrofit is compatible with the DECS by ensuring that each candidate engine meets all the guidelines laid out in the engine manual prior to installation. To determine suitability, smoke opacity limits, oil consumption limits, fuel inspection requirements, visual inspections, exhaust gas temperature requirements (if applicable), and other assessment criteria must be considered. These criteria ensure that the candidate engine is appropriate for use with the DECS. Additionally, they verify that the candidate engine is properly maintained and operates within the engine manufacturer's specifications. The party performing the installation/commissioning of the DECS must maintain a record of all documentation used to make the determination that the candidate engine was appropriate for use with the DECS (i.e., the pre-installation compatibility assessment and commissioning reports). These documents must be submitted to Nett Technologies Inc. and the end-user. In addition, the installer must keep track of all future assessments and installations for future reporting purposes.

2. Exhaust gas temperature requirement

If the Diesel Emission Control Strategy specifies exhaust gas temperature requirements, then the following pre-installation compatibility assessment requirements must be completed prior to installation:

The exhaust gas temperatures must be measured and recorded from each candidate engine to determine if it meets the exhaust temperature requirements. As an alternative, representative sampling can be conducted for a group of engines that are similar. However, data from engines outside the group cannot be used to support retrofit of engines within the group. Representative sampling can occur under the following conditions:

- 2.1. The DECS is used for only reducing diesel particulate matter (PM)
- 2.2. At least five representative engines or 10 percent of each group of similar engines, whichever is larger, must be data logged. All engines in a group comprised of 5 or fewer engines must be data logged.
- 2.3. In cases where representative sampling is selected, the party conducting the pre-installation compatibility assessment is still responsible for ensuring that all installations comply with the terms and conditions requirements specified by DECS manufacturer for that particular DECS

3. Data Logging Procedures

Data must be logged according to the following procedures:

- 3.1. The measured and recorded data must be representative of the actual duty cycle and operation of the candidate engine as best it can be anticipated at the time
- 3.2. The exhaust gas temperature must be measured at a point in the exhaust gas system that is within six inches of the proposed location of the inlet of the DECS
- 3.3. The data must be measured and recorded for a period long enough to determine the candidate engine's duty cycle but not less than 24 hours of representative, actual engine run time
 - 3.2.1. The data logging strategy must include a means to determine when the engine is actually running. This may include use of a data logging system that starts and stops automatically when the engine starts and stops, or a means to identify and remove data that correspond to the engine being off such as by simultaneously logging data from an engine revolutions per minute sensor or applying a temperature threshold that corresponds to a temperature just below the idle temperature of the engine
 - 3.2.2. The automatic exclusion of data logged during engine shutdown does not have to be integrated in the data logging system but before the data is assessed to determine compatibility, the data logged during engine shutdown must be excluded
- 3.4. At least 5 representative engines or 10 percent of each group of similar engines, whichever is larger, must be data logged. All engines in a group of 5 or fewer must be data-logged. Data from engines outside the group cannot be used to support retrofit of engines within the group. A group of engines is similar if:
 - 3.4.1. All engines belong to the same common ownership fleet
 - 3.4.2. All engines have the same make and model

- 3.4.3. All engines are certified to the same PM emissions standard
- 3.4.4. The maximum power ratings of all engines fall within a range of 100 horsepower (e.g. all engines rated between 250 and 350 hp)
- 3.4.5. None of the engines have exhaust gas recirculation, or all of the engines have external exhaust gas recirculation, or all of the engines have internal exhaust gas recirculation
- 3.4.6. All engines are installed in similar vehicles or equipment that perform a like function and have similar duty cycles.
- 3.4.7. The installer must keep a record of the data for the duration of the warranty period of the DECS and make the data available to the DECS manufacturer upon request

4. Data Logging System Requirements

The exhaust temperatures must be measured and recorded using a stand-alone data logging system that is independent of the DECS that meets the following requirements:

- 4.1. The recording accuracy must be within four degrees Celsius. The temperature sensor must have a range sufficient to accommodate the highest exhaust gas temperature measured plus 10 percent without exceeding the sensor's full-scale rating while ensuring that 90 percent of the measured data are within 10 to 90 percent of the sensor's full-scale rating.
- 4.2. The memory of the data logging system must be of sufficient size that data are not overwritten prior to retrieval.
- 4.3. All data must be recorded at a frequency of at least once every 5 seconds (0.2 Hertz).
- 4.4. The data logging system must record the time and date for each data point.

All installations must strictly adhere to the requirements of the party that holds the diesel emissions control strategy, i.e., Nett Technologies, and must not relocate the original equipment manufacturers exhaust system:

- 4.5. Over any occupied space (e.g., driver or passenger compartments); or
- 4.6. That would result in any noncompliance with any applicable safety standards; or
- 4.7. Any other location deemed unacceptable by Nett Technologies.

See your Operational & Maintenance Manual for more information.

Any party that installs a diesel emission control strategy must offer a warranty:

"The installer must furnish the owner with a copy of the following statement:

YOUR WARRANTY RIGHTS AND OBLIGATIONS

(Installer's name) must warrant that the installation of a diesel emission control 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 designed to. The warranty period and the extent of the warranty coverage provided by (Installer's name) must be the same as the warranty provided by Nett Technologies, and the same exclusions must 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 (Installer's name) 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

With respect to system labeling, the installer must ensure that the label is visible after installation. In the event that the original strategy label is damaged, destroyed, or missing, Nett Technologies shall issue a replacement. The end-user must notify Nett Technologies in the event of a damaged, destroyed, or missing original strategy label.

Proper engine maintenance is critical for the proper functioning of your diesel emission control strategy. Failure to document proper engine maintenance by the installer and end-user, including oil consumption records, may be grounds for denial of a warranty claim for a failed component of a diesel emission control strategy. In addition, proper maintenance is critical for the diesel emission control strategy to function as intended. Failure to document proper diesel emission control strategy maintenance, including cleaning and/or ash removal of the system, replacement of consumables, and replacement of broken/failed parts, may be grounds for denial of a warranty claim for a failed component of a diesel emission control strategy. See your Operational & Maintenance Manual for more information.

As an authorized installer, you are required to track all Warranty Claims. In addition, you must report annually by March 1st to Nett Technologies an Installation Warranty Report outlining all the installations of emission control technologies for the previous year, and any installation warranty claims for the previous year.

NOTE: This is a list of key requirements and obligations. Consequences may arise if the installer does not comply with these requirements and has not gone through the certified training. In the case of failure, Nett may have the grounds to deny the warranty claim.

5. Pre-installation Compatibility Assessment Criteria

Please go through and fill out the following check list and sign the form. If any of the shaded boxes have been checked, the engine/vehicle fails the pre-assessment and should not be retrofit without further consultation with Nett Technologies.

Pre-installation check list for Authorized Installer

Engine Characteristics and Maintenance History	Yes	No
Does the candidate engine exhaust characteristics meet all terms and conditions as per proposal (exhaust flowrate, exhaust temperature, exhaust emissions concentrations etc.) for the retrofit device being considered?		
Does the diesel fuel used comply with terms and conditions of retrofit (sulfur level, biodiesel specification, fuel additives)?		
Does the engine oil consumption rate exceed the limit given by the manufacturer?		
Is there a history of turbocharger replacements? More than two in past 3 years?		
Is there a history of fuel injector replacements? More than two in past 3 years?		
Is there a history of cylinder valve replacements? More than once in past 3 years?		
Visual Inspection	Yes	No
Are there any visual integrity problems in the exhaust system (exhaust leaks – manifold to tailpipe)?		
Are there any audible combustion problems?		
Is the intake air filter in good condition?		
Are there any indications of air intake system leaks (visible signs of leaks at seal connectors, visible cracks in the charge air cooler, audible turbo spooling problems, high tailpipe opacity)?		
Are there any visible signs of engine oil or diesel fuel present in exhaust system?		
Are there any visible signs of leaks from the turbocharger seals?		
Are there any visible signs of excessive crankcase vent tube emissions or dripping oil at the vent tube?		
Has the fuel pump and governor setting been tampered with?		
Does the Engine Control Module show any active error codes?		
Is there available space for the retrofit?		
Is the smoke level within the specification of the engine Tier level?		

Authorized Installer Signature:

Date: _____