

EMISSIONS UPGRADE GROUP

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What is an Emissions Upgrade Group (EUG)?

An Emissions Upgrade Group is an innovative use of previously certified emissions technology. Emissions Upgrade Groups help you lower emissions from your existing engines to meet strict state and local emissions requirements. A EUG includes the components necessary to upgrade an engine to an improved emissions level. The components that make up a EUG typically include an upgraded turbocharger, fuel pump/governor, nozzles, cylinder pack, after-coolers (if applicable), and installation parts. The upgrade groups are released as kits and can be used by Caterpillar dealers during engine overhaul. The servicing dealer must follow specific installation instructions and submit a validation form to Caterpillar in order to receive an emissions label for the engine.

How does it work?

Emissions Upgrade Groups utilize your current engine core. A range of upgrade options is available. Existing parts are replaced with new emissions-critical components that deliver lower emissions. The engine, marked with an emissions label, will be equipped with an indicator in the field that it achieves lower emissions levels. The engine will receive a new arrangement number and information label and get the same proven components used in later model engines.

What engine models are available?

- Diesel 3300 – Emissions Upgrade Groups are available for a vast majority of 3306 off-highway applications. The 3306 EUG is on the **US EPA verified** technologies list at <http://www.epa.gov/otaq/retrofit/verif-list.htm>.
- Diesel 3400 – Emissions Upgrade Groups are available for a vast majority of 3406 off-highway applications. This solution is not US EPA verified today.
- Diesel 3500 – Emissions Upgrade Groups are currently being developed.

What is verification?

The Verification Program evaluates technologies to support their use in the market while providing customers with confidence that the verified technologies will provide emission reductions as listed. This Verification process evaluates the emission reduction performance of retrofit technologies, including their durability, and identifies engine operating criteria and conditions that must exist for these technologies to achieve those reductions.

Can verified EUGs be sold in California?

Yes, a EUG (verified or not) can be sold in California. California views a EUG as an engine rebuild to more stringent emissions standards. Both an EPA and ARB approved and required label will need to be issued for each installation.

Will a verified EUG satisfy the requirements of in-use emission control regulation?

Yes. EUG's are accepted as recognized emissions reduction by the EPA's quantifier, Texas's calculator and a part of California fleet rule. A verified EUG can qualify for federal funding. A non-verified EUG can qualify for other funding, as specified.

What are the warranty and ESC (Extended Service Contract) options?

All engines carry the standard parts warranty and emissions component warranty. The *Cat® Insurance Engine Emissions Retrofit Extended Program* is a program that is available to customers through all U.S. dealers. The Caterpillar dealer must perform the entire emission retrofit.

Can an Emissions Upgrade Group be installed during a CCR or CPT procedure?

Yes. During a CCR (Cat Certified Rebuild) or CPT (Certified Power Train) is an ideal time to retrofit a EUG, Repower and/or aftertreatment solution to reduce emissions in an existing machine.

What is the process for installing a EUG?

1. Read the Special Instruction
2. Order parts for the Emissions Upgrade Group and overhaul
3. Complete the overhaul and EUG installation
4. Run engine on dynamometer
5. Submit validation form prior to installing engine in vehicle
6. Create SIMS entry. Update DBS.
7. Install engine labels

How many labor hours are required for a EUG?

Installation labor hours may vary depending on the machine and engine model and the dealers' previous experience with the job.

What Caterpillar EUGs are available?

The most up-to-date information can be found on the Emissions Solutions website under Machine Emissions Solutions < Emissions Upgrade < Solutions Report. Please contact your Emissions Territory Manager if you have trouble accessing the file. Also, the CES Dealer Application Guide (PEWJ0136) is available for dealer PSSR's. Another resource for finding EUG information is in the "Information Release Memo".

How do I order a EUG?

The EUG Solutions report lists the Special Instructions and Modification Groups that are related to the machine and engine model. Enter the Modification Group part number into TMI. Out of the parts list items, break non-serviceable groups down to serviceable parts and input into DBS parts ordering system.

What if the machine I need is not listed on the Caterpillar Emissions Solutions (CES) website?

This normally indicates that a Caterpillar engineered solution is not currently available. Please submit the EUG Web Request form for consideration of your request. The request form is available on the Emissions Solutions homepage under "Reference Information". The EUG engineers prioritize the engine development based multiple inputs (ie: volume of requests, level of engineering complexity, etc.)

Is there financial assistance for installing a EUG?

Yes, besides federal and state funding (up to 100%) where available; Caterpillar offers financial assistance. Available through December 2009, the "0% Financing for Emissions Retrofit Products & Services". There may be other financial assistance options available through your Caterpillar Dealer.

What are the advantages of the Caterpillar EUG?

- 100% Caterpillar engineered solution, matched to the application
- Nitrogen Oxides (NOx), Particulate Matter (PM), Carbon Monoxide (CO) and Hydrocarbon (HC) emissions are significantly reduced
- Decreases visible smoke
- Engines upgraded to Tier 1 equivalent emissions may enable Diesel Particulate Filter installations
- Caterpillar support and dedicated resources

Is the EUG pricing based on the parts "core charge" reimbursement?

Yes, the calculations were based on receiving 100% of the core return charge.

Do we need to calculate the parts "core charge" for the EUG pricing?

You may want to calculate the core return charge for parts that may not receive 100% reimbursement. This way you can more accurately estimate the parts cost to your customer.

Is the pricing for the critical EUG parts (cylinder packs, fuel nozzles, fuel pump & governor) based on remanufactured (reman) parts?

Yes, the critical EUG parts, as previously listed, are based on available reman (remanufactured) parts. Each machine may be different based on parts availability. If you have any questions regarding reman parts for the EUG, please contact your local Emissions Territory Manager.

Is DERA funding applicable to Emissions Upgrade Groups?

Yes, DERA funding is available for the verified 3306 engine family EUG.
No, DERA funding is not available for the non-verified 3406 nor 3500 engine family EUG.