

**Q&A for Rebuilt/Remanufactured TRU Engines
(<50 hp Off-Road Compression-Ignition) January 29, 2008**

Background:

Rebuilders must follow the engine rebuilding practices of Title 40 Code of Federal Regulations, Part 89.130 (40CFR89.130) and 40CFR1068.120. Below is a link to Code of Federal Regulations.

<http://www.access.gpo.gov/nara/cfr/cfr-table-search.html#page1>

ARB has unique labeling requirements that began January 1, 2007, for rebuilt engines, which can be found in Title 13, California Code of Regulations, section 2423, subsection I (13 CCR 2423(I)). Below is a link to ARB's regulations for off-road diesel engines, which include section 2423(I).

<http://www.arb.ca.gov/regact/offrdcie/frooal.pdf>.

It is imperative for the reader to read these sections of the code since these are the legally definitive documents. It may also be helpful to review the Agency Response to Comments on pages 16 through 19 of ARB's Final Statement of Reasons (FSOR) for the Tier 4 off-road compression-ignition engine standards regulation (public hearing date 12-09-04) located at

<http://www.arb.ca.gov/regact/offrdcie/fsor.pdf>.

In late 2007, a number of questions were asked by TRU OEMs, engine rebuilders, consultants, and engine manufacturers regarding engine labeling, rebuilt engines, and remanufactured engines. The following compilation of questions and answers provides clarification of the requirements. There were subtle differences in many questions that subtly affected the answers. Although it may appear somewhat repetitive, the reader is cautioned to read carefully.

Question:

Can compliance with the TRU ATCM be achieved by replacing a noncompliant engine with a rebuilt engine?

Answer:

Yes, if the following three conditions are met:

1. The rebuilt replacement engine must be the cleanest engine available that fits in the chassis (with reasonable modification if necessary) and that can still do the required work. If the replacement engine is rebuilt to a less stringent emissions configuration than that of the most current model year available, the Executive Order date of the less stringent certified emissions configuration shall be used to determine the compliance date for the TRU ATCM's Ultra-Low-Emissions In-Use Performance Standard.
2. The engine must be rebuilt to a certified configuration, which is defined as follows:

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“Certified configuration” or “certified emissions configuration” means the assembled state of an engine that is equipped with a complete set of emission-related components and systems that are equivalent from an emissions standpoint (i.e., tolerances, calibrations, and specifications) to those components and systems that:

- (A) were originally installed on the engine when it was issued an Executive Order,
- (B) have been approved by the engine manufacturer to supersede any of the original emission-related components and systems for that engine, or
- (C) are direct replacement parts equaling or exceeding the emission-related performance of the original or superseded components and systems.

This means that all parts must be matched components and/or have been authorized (with unique part numbers) as replacement parts for the resulting configuration. “Matched components” means a complete set of components corresponding to the certified emissions configuration of the engine that is being used as the reference for the engine that is to be rebuilt. This means that you can rebuild a Tier 2 engine to a Tier 4 Interim engine if all of the replaced parts (including the block or core) have been authorized for use in a previously certified Tier 4 Interim engine. You cannot legally rebuild an engine with a mixture of some Tier 2 parts and some Tier 4 Interim parts.

3. Supplemental labels are required, complying with all of the provisions of 13 CCR section 2423(l)(2)(C). The supplemental labels must include the name of the rebuilder, year of the rebuild, and the emissions standard being met (e.g. Tier 4 Interim).

Question:

Is it correct that where possible, engines with the latest emission level shall be used when replacing older engines unless there are limitations? For example, the original engine is a MY 2006 Tier 2, but a 2008 Tier 4i is available; however, there is a reason such as physical or functional limitations precluding the use of the Tier 4i engine.

Answer:

Yes, we require you to use the cleanest replacement engine available that fits the chassis (with reasonable modification if necessary) and that can still do the required work (see 13CCR2423(j)(A)), even if that replacement engine results in a less stringent emissions configuration than that of the current model year.

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Question:

Regarding remanufactured engines for TRUs (<50 hp) - 2 cases:

1. Starting with an MY 2004 Tier 2 engine and remanufacturing in 2007, can it be relabeled as an MY 2007 engine, since it is the same tier? If it can be relabeled, what section of the new engine standard regulation allows this and what section applies to the labels?
2. Starting with a 2003 Tier 1 engine and remanufacturing in 2008 to Tier 4 Interim, can this be relabeled as an MY 2008 meeting Tier4-Interim?

Answer:

Pursuant to the labeling requirements for rebuilt engines in 13 CCR 2423(l), rebuilders are allowed to go from a higher emitting tier to a more stringent tier (e.g., Tier 1 to Tier 2 or Tier 2 to Tier 4, etc.), but they must ensure that the resulting engine is equivalent in all material (and calibration) respects to an engine meeting a previously certified emissions configuration. For example, an engine that originally met the Tier 2 standard cannot be rebuilt to a Tier 2.5 standard via the incorporation of tier exclusive parts from Tier 2 AND Tier 3 engines. All parts used in a rebuild must have part numbers that authorize use in a specific tier (or range of tier) engines and the resultant designation must be that of the highest common denominator of the tier applicability of all the finished engine's parts.

Regarding the question of whether or not a rebuilder can relabel a remanufactured (rebuilt replacement) engine as a current model year engine, the answer is absolutely NO with one exception. 13 CCR 2423(l)(2)(C)4. states that anyone who sells a rebuilt engine must affix a supplemental label to the rebuilt engine that, among other things, "does not state or imply that the rebuilt engine is "new" or that it belongs to an engine family other than the one to which it was originally certified ...". The one exception to this rule would be if the rebuilder wanted to recertify the rebuilt engine as if it were a brand new engine, complete with new engine warranty and subject to all the other requirements of new engines, including, durability, certification, and in-use compliance. Such an engine is described in 13 CCR 2423(l)2(D) and is called a "rebuilt new engine." The label on such an engine would be the same as for an otherwise new engine.

Question:

Can a carrier/fleet owner rebuild their own engines to a more stringent standard?

Answer:

Yes, but with stipulations. The regulations do not specifically exempt any particular type of rebuilder, but ARB's policy towards individuals or fleets that rebuild their own equipment for compliance with the TRU ATCM is that supplemental labels are required. These supplemental labels would need to comply with all of the provisions of 13 CCR section 2423(l)(2)(C), and include the name of the rebuilder, year of rebuild, and the emissions standard being met.

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Question:

Are there any requirements for the remanufacturing of off-road diesel engines?

Answer:

Yes. ARB considers a remanufactured engine to be a type of rebuilt engine referred to in the regulations as a Rebuilt Replacement Engine and subject to the same rebuilding practices and labeling requirements as for other rebuilt engines found in 40CFR89.130, 40CFR1068.120, and 13CCR2423(l).

Question:

Is it true that land-based non-road diesel engine rebuilds must be generally restored to original manufacturer specifications by using new manufacturers' parts or parts reconditioned to original factory specs?

Answer:

This is essentially correct. ARB requires that all rebuilt engines, including remanufactured engines, be rebuilt to a certified emissions configuration. This may be a configuration that meets a more stringent emissions standard. The definition for "certified emissions configuration" is as follows:

"Certified configuration" or "certified emissions configuration" means the assembled state of an engine that is equipped with a complete set of emission-related components and systems that are equivalent from an emissions standpoint (i.e., tolerances, calibrations, and specifications) to those components and systems that (A) were originally installed on the engine when it was issued an Executive Order, (B) have been approved by the engine manufacturer to supersede any of the original emission-related components and systems for that engine, or (C) are direct replacement parts equaling or exceeding the emission-related performance of the original or superseded components and systems.

Question:

Is it correct that rebuilt engines may be rebuilt to original emissions levels or better, as long as the emissions levels are still in effect? For example, Tier 2 cores could be rebuilt to Tier 2 or Tier 4 Interim (4i) (if physically possible)?

Answer:

Any engine can be rebuilt to a more stringent emissions configuration so long as that configuration is a certified emissions configuration (see definition above) and so long as all parts are matched components and/or have been authorized (with unique part numbers) as replacement parts for the resulting configuration. "Matched components" means a complete set of components corresponding to the certified emissions configuration of the engine that is being used as the reference for the engine to be rebuilt. This means that you may rebuild a Tier 2 engine to a Tier 4i engine if all the replaced parts have been authorized for use in a previously certified Tier 4i engine. You cannot legally rebuild the engine using

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a mixture of some Tier 2 parts and some Tier 4i parts or even all Tier 4i parts from multiple engines of the same tier, but different emission configurations, because the resultant engine would not correspond to a previously certified emissions configuration.

Question:

Could a rebuilder start with a Tier 1 core and rebuild with Tier 2 or Tier 4i parts (as long as they are a complete set of certified Tier 2 parts or a complete set of certified Tier 4i parts)?

Answer:

The answer is yes - a rebuilder may rebuild a Tier 1 core to a Tier 2 or Tier 4i certified emissions configuration so long as all the parts (including the core) were authorized replacements for a previously certified Tier 2 or Tier 4i, respectively. Often the same core block is used in a variety of tier ranges making this possible. These engines must follow the rebuild practices in 40CFR89.130, 40CFR1068.120, and 13CCR2423(l).

For Tier 1 engines rated greater than 50 horsepower, the aforementioned rebuilding practices and labeling requirements are optional. However, should the rebuilder desire to replace the original emissions control label with one indicating a more stringent emissions configuration according to the provisions of 13CCR2423(l), the rebuilder must voluntarily follow the practices of 40CFR1039.120 and 13CCR2423(l). Otherwise, removal of the original label would be considered a violation of the anti-tampering provisions of the regulation and subject to civil penalty.

Question:

Is it true that Tier 2 cores can be rebuilt to the latest model year (and labeled as such) as long as the specifications of the latest model year are met? For example, can 2005 manufactured Tier 2 cores be labeled as a new 2007 model year emissions engine as long as the core and internal parts are used which meet 2007 model year specifications?

Answer:

No, with one exception. ARB has very strict labeling requirements that intentionally prohibit the relabeling of a rebuilt engine as a new engine (see 13CCR2423(l)(2)(C)). The rebuilder is required to include the date of remanufacture on a supplemental label, but cannot change the engine family name of the rebuilt engine nor indicate more stringent model year emissions performance other than that permitted by the labels described in 13CCR2423(l)(2)(A)2. The one exception to this rule would be if the rebuilder wanted to recertify the rebuilt engine as if it were a brand new engine, complete with new engine warranty and subject to all the other requirements of new engines including, durability, certification, and in-use compliance. Such an

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engine is described in 13 CCR 2423(l)(2)(D) and is called a "rebuilt new engine." The label on such an engine would be the same as for an otherwise new engine.

Question:

Can core original serial numbers be changed? The EPA language seems to be mute on this question.

Answer:

Although it may not be specifically spelled out in the regulations, it is both ARB and USEPA policy that original serial numbers should not be changed. In the event of recall, we need to have a unique identification number to ensure that all affected engines are serviced and a rebuild does not necessarily ensure that the defective part will be replaced.

Question:

Is it correct that after 1/1/2008, when Tier 2 engines are used as replacement engines in older units (where appropriate) the original engine, even if a Tier 2, must be destroyed?

Answer:

All engines replaced with new "replacement engines" according to the provisions of 40CFR1068.240 and 40CFR89.1003(b)(7)(ii) must be taken into possession by the engine manufacturer or otherwise destroyed regardless of the date. The "destruction of engines" requirement is only for engines replaced with a "new" replacement engines (some other types of replacement engines may require destruction if funded under the Carl Moyer program). The intention for destroying the engines rather than allowing them to be rebuilt was a tradeoff to ensure emissions equilibrium in allowing into commerce a higher emitting new (and potentially longer lasting) engine. With a normal rebuild, the engine being rebuilt has already been introduced into commerce whereas with a new replacement engine the new engine is an addition to the existing fleet of engines.

Question:

Is it correct that anyone other than a "backyard mechanic", when rebuilding MY 1999 or later engines, must maintain required information records for at least two years?

Answer:

While the definition of "backyard mechanic" is somewhat ambiguous, this is generally a true statement for anyone who rebuilds for profit or otherwise reintroduces a rebuilt engine into commerce. Additionally, all labels replaced during a rebuild because of damage must be retained by the rebuilder (or photographic evidence thereof) for at least 8 years per the requirements in 13CCR2423(l)(2)(A)1. Notwithstanding, the rebuilding of precontrolled engines or engines greater than 37 kW that were originally certified to the Tier 1 standards is not subject to ARB regulations; however, ARB policy requires that

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these engines voluntarily be rebuilt according to the regulatory requirements previously stated to be eligible for compliance credit under ARB's TRU ATCM.

Question:

Related to 2324(l)2(D), can an engine manufacturer relabel all of their over-stock from 2006 with a current year label for 2007, if it's in the same tier and the configuration is identical for each?

Answer:

A manufacturer cannot relabel an engine that has already been certified because it is considered tampering (inferred from 2425(d)(9)(E) which lists the emissions control information label as an emission related component). The only exception ARB makes to removing a label is during a rebuild to a more stringent specification. However, we allow the manufacturer to sell over-stock or surplus engines from a previous year as new in the current year (with the previous year label) even if they were produced to a less stringent standard than required for the current model year. With that said, the manufacturer is not allowed to use this provision to "circumvent" the regulation by stockpiling engines before a major change in standards.

Question:

Can an engine manufacturer build a non-road compression ignition engine in calendar year 2007 but yet have it labeled as a 2008 model year engine?

Answer:

An off-road CI engine manufacturer is allowed to specify the 2008 model-year starting from January 2, 2007 thru December 31, 2008, or a subset of that period. Therefore, it is possible for a 2008 model-year engine to be produced in 2007, if the manufacturer chooses such a model-year production period.

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