



2011 Exhaust Noise Information Update

Introduction:

Over the past few years since the introduction of the objective noise testing (ONT) regime, a number of additional pieces of advice and guidance have been provided to LVV Certifiers on various aspects of the ONT process. This advice and guidance to LVV Certifiers has been provided at LVV Certifier training presentations and in LVVTA newsletters. The intention of this Information Sheet is to collect together, for the convenience of LVV Certifiers, all of these loose bits and pieces of ONT-related advice and guidance.

Changes to noise legislation - green stickers

Late in 2009 some changes were made to the regulations regarding exhaust noise. These are as follows:

- A vehicle that is green or pink stickered for exhaust noise will still have to go to a TSDA for a new WOF, but as part of the WoF check the TSDA is no longer allowed to make a judgment on the exhaust noise. Instead, the TSDA must require an Objective Noise Test (ONT) pass.
- If a vehicle is green-stickered for noise after it has already passed an ONT, it must have a new ONT carried out after the green sticker was issued. This is not an error; - it is a requirement. In this case, an LVV Certifier should still conduct a full ONT, even if he has already carried out an ONT previously. A new ONT exhaust label can be applied on top of the old one, with the same surface preparation as usual.

It is possible, although unlikely, that you may be presented with a green-stickered vehicle which is fitted with a standard exhaust. To get the green-sticker removed, a new ONT is required. The second amendment of the Exhaust Noise Emissions Standard precludes testing of a standard exhaust, but the third amendment (2011 release) covers this scenario.

ONT required for engine swaps?

Following discussion at LVV Certifier training sessions, LVVTA has clarified with NZTA the legal requirement for noise testing of engine-swapped vehicles.

Unlike scratch-builts, an ONT is not mandatory for an engine swap. However, exhaust noise is a Warrant of Fitness check-sheet item and so is covered by Formset F003 - Safety Item Form. This provides two options for an LVV Certifier.

The LVV Certifier either:

- Obtains a valid WoF/CoF check-sheet (or WoF/CoF Pass issued less than 14 days before the date of the LVV inspection), or
- Applies the WoF/CoF subjective test for exhaust noise, using a 'quick-check' noise meter.

Note that if a 'quick-check' meter is used, then the VIRM requires the noise output measured to be lower than the actual noise limits in the LVV standard, to ensure that the exhaust 'would clearly pass'. In other words, if the LVV Certifier is taking responsibility for the 'remaining safety items', a quick-check meter test must be carried out. If one of the above options is not achievable, then an ONT will have to be carried out before LVV certification can be completed.

LVVTA recognises that this may not be an ideal situation in many cases, however we are all obliged to work with the regulations as they are written.

Overloads caused by noise-spikes

If the upper limit in the top right corner of the screen of the ONT meter flashes 'OVL' instead of showing the upper limit (100, 120 or 130dBA), then a noise spike has occurred during recording, and the decibel figure recorded is not valid and must be done again.

ESMP data

Since LVVTA set the target engine speeds within the LVV Noise Standard that the test must be carried out at, we've become aware that there is sometimes quite a difference between our 'fall-back' figures, and the actual 75% of 'Engine Speed Maximum Power' (engine speed at which the engine makes its maximum power) figures.

It is still appropriate to apply the figures specified in the LVV Standard when no ESMP data is available, however it is necessary for an LVV Certifier to apply the ESMP figures from the manual supplied by LVVTA, wherever possible. This may not have been emphasised sufficiently at the ONT training sessions for LVV Certifiers. Using the ESMP manual figures will in fact result in some 'fails' which would have been 'passes' if using the figures provided in the LVV Standard, however, as we discussed at the training sessions, we have to apply the requirements properly in order to fix the problems with the system.

The ESMP manual does not apply if the engine has been modified, however if the only modification is the exhaust system itself, the ESMP manual does apply.

Low battery mis-reads/back-up battery

LVV Certifiers have found that the rechargeable batteries often run down in the ONT meter. It is possible that when the low-battery symbol is flashing, the meter accuracy may drop, so it is very important to always use charged batteries. The meter also has a back-up battery hidden inside it that stores the yearly calibration settings. This battery recharges from the main batteries.

The meter must not be left more than 3 months without charged batteries in it or the calibration will be lost and the meter will need to be returned to the supplier for recalibration. Calibration isn't cheap, at around \$250 per time. It is good practice when not using the meter for extended periods to remove the batteries to prevent leakage, but please bear in mind that they should be charged and put back in every month or so to keep the back-up battery healthy.

Care of equipment

LVVTA asks all LVV Certifiers to please take all precautions necessary to avoid damage to the ONT equipment. There has been some damage due to operator carelessness, especially to:

- Tachometer inductive cable (burnt on extractors);
- Microphone cable (wires pulled from connectors).

Please also regularly check the batteries for signs of leakage – two tachometers have been irreparably damaged, and a noise meter is away having expensive repairs due to corrosion from leaking batteries.

LVVTA would appreciate it if LVVTA could be informed of any equipment fault or damage information as soon as possible.

Tachometer faults

Over time some of the inductive tachometers have developed faults, often due to burnt cables. If for practical reasons the laser tachometer cannot be used instead, then as a last resort the vehicle tachometer can be used. Please note this on the formset and report the inductive tachometer fault to the LVVTA office as soon as possible.

Latest version of the form-set

Please ensure that the current ONT form-set FS037 is used, not an old version, as some requirements have changed over time. The latest version will be available from the website as well as in the LVV Certifier's manual.

Aluminium exhaust labels

One aluminium exhaust label is to be attached to the exhaust where it can be read, but not so visible that the owner would object – the underside of the tailpipe is the common position. Twin exhausts only require one label. For permanent adhesion the section of the exhaust must be thoroughly cleaned with the fluid supplied.

We have had a number of reports of exhaust noise labels falling off the tailpipe. We don't know the reason in each case, but it is most likely to be one or more of the following:

- Not using the cleaning fluid supplied. Note that brake cleaner and similar products will not work. If you have run out of the correct cleaning fluid, please order more from the LVVTA office
- Applying the label to a cold exhaust. The adhesive is cured with heat and so a label on a cold exhaust could fall off before it has had a chance to set. Fit the label when the exhaust is warm.

If you do have to replace a label because the original has disappeared or been damaged, the process is as follows:

- Clean the surface as usual - the new label can go over an old label, or remnants of one
- Fill out a new test certificate, identical to the original, except write the new label number
- Take the owner's original white copy and give them the new white copy
- Send the original white copy with the blue copy to the Wellington LVV office, briefly explaining the situation. A fee is not currently charged for this.

We would like to know if there are more instances of labels coming off. If anyone has easy access to a vehicle that they have noise tested, please have a quick look to see if the label is still in place.

White copy of triplicate certificate form to customer, blue copy to LVVTA, keep yellow copy

Each time an LVV Certifier conducts an ONT, he must remember to give the white copy of the triplicate ONT test certificate to the customer. The LVV Certifier must also send the blue copy and the formset to the LVVTA office in Wellington, together with the prescribed LVVTA ONT fee. The LVV Certifier keeps the yellow copy.

Fees and how much to charge

The LVVTA fee for an ONT is \$49 excluding GST; \$56.35 including GST. This fee covers the system set up, administration, documentation and consumable fees. The price band given at the initial training sessions was \$114 to \$174, excluding GST. As of 2011 LVVTA and NZTA now quote a noise test at 'around \$200' (including GST).

Hologram sticker

The mandated hologram sticker is applied to the white copy only; - it doesn't need to go on the blue office copy. The hologram sticker is used so that the LVV Certifier and customer don't have to wait for the LVVTA office to return a stamped and laminated copy (as we do with upper seatbelt anchorage declaration forms).

Send in form-set, blue copy, & payment promptly

Each month LVVTA is required to send the details of all ONT results conducted to NZTA so that the Government can accurately monitor what is happening throughout the country. NZTA also need up-to-date information in order to check that WoF garages are referring green-stickered vehicles for an ONT.

Therefore, it is very important that we get the blue copy from the LVV Certifier shortly after each test. Please do not store them up for long periods of time in order to send in batches. We will periodically ask all LVV Certifiers with LVEX category to bring their ONT test certificate book and remaining exhaust labels to a training session so that we can ensure we are up to date with tests done.

Return of ONT kit

The case is usually couriered locked – the key is in the handle. When returning the case please ensure to lock it and place the key back in the handle. If possible, charge the batteries so that the next LVV Certifier can use the equipment immediately.

Certifiers on holiday

If an LVV Certifier holds a noise meter ONT kit and is not going to be available for a length of time, he should contact the closest LVV Certifier with EX category and pass the kit to that person for the period of time that he is away. This is especially important when NZ Police carry out vehicle compliance operations

and may issue many green stickers for noise. The LVVTA office should also be informed of any prolonged absence so that we are not referring customers to someone who is unavailable.

NZTA noise testing pamphlet

NZTA have a pamphlet on exhaust noise. A copy is enclosed in the instruction folder in each ONT kit and is also available on the NZTA website. Alternatively, it can be found by searching 'noisy vehicle' or directly accessed here:

<http://www.nzta.govt.nz/resources/vehicle-failed-noisy-exhaust/docs/noisy-vehicle.pdf>

Finally:

If any assistance in the use of this Information Sheet is required, please contact an LVVTA technical team member at the Wellington LVVTA office.

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