Department for Transport
Open Consultation
Changes to the date of the first MOT test and
Research into other MOT enhancements

Response from the Institute of Acoustics

Background

The Institute of Acoustics (IOA) is the UK's professional organisation for those working in the fields of sound, noise and vibration. Members of the Institute carry out research into the effects of noise on human health and wellbeing and are also involved in the development and implementation of the national policies, legislation and guidance that deal with the management of noise.

This response has been prepared by experienced members of the Institute and has been approved by the IOA's Executive Committee on behalf of the IOA's Governing Council.

Scope of Response

The IOA is pleased to hear that the DfT is tackling the issue of excessively noisy vehicles and is consulting on possibly introducing a quantitative exhaust noise test into the MOT. The comments from the Institute are confined to the following issues:

18. Content of testing – enhanced testing of noise emissions:

22. What enhancements to the MOT could be made to tackle the issue of excessive vehicle noise and are there suitable technological solutions that would enable a metered sound level test to be undertaken in a typical MOT garage?

Comments

It is recommended that data from trials of measuring exhaust noise in an MOT centre are compared to equivalent data recorded in a quiet free-field environment. This will enable the impact of background sound and reflecting surfaces on the measured levels to be understood. Having said that, with exhaust noise levels typically around 80 dB it is not anticipated that background sound would overly influence the measured results. Similarly, given that the sound levels are recorded only 0.5m from the exhaust, it is not anticipated that reflecting surfaces would have too much of an impact on the results. Furthermore, new portable measurement equipment is also now available for the characterisation of less-than-ideal enclosed measurement environments.[1]

Although the loud part of the test only lasts a few seconds, it is acknowledged that neighbourhood disturbance could, in some situations, be an issue, especially if such tests have to occur outside. This would require further investigation, such as understanding the number of test centres in residential locations unable to conduct testing indoors, as well as the proximity of

[1] BSI (2010), BS EN ISO 3747:2010 Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering/survey methods for use in situ in a reverberant environment

the nearby dwellings or other noise-sensitive receptors. Technological solutions that would enable a metered sound level test to be completed by a single operator exist and could become less expensive given the size of the market that would open up for manufacturers, were this policy implemented.

However, the Institute would like to highlight other potential issues regarding the efficacy of using such a test to reduce excessive vehicle noise.

First and foremost, offending exhaust systems could be removed before entering the vehicle for the MOT only to be replaced after the test.

Secondly, as highlighted by DfT commissioned work[2], there is little correlation between exhaust noise levels and the noise levels recorded at type approval from pass-by and acceleration tests (under load) designed to be more representative of real world driving and typical exposure to traffic noise.

Thirdly, any such test would have to consider how to address modern exhaust systems and electric cars with added sound where the amount of noise they make is often linked to software defining the mode the vehicle is in. Therefore, the test would need to be defined with greater precision than is possible through implementing ISO 5130 alone.

Finally, as outlined in the TRL research, there are several factors to be considered when deciding upon an appropriate limit value, which, if exceeded, the vehicle could be said to have failed the MOT.

Conclusion

The IOA hopes that the Department for Transport finds these comments useful. The Institute would be happy to discuss with officials any of the points made if that would be helpful.

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[2] Muirhead M, Morgan P A and Morris L (2010), Proposals for in-service exhaust noise testing, Published Project Report 506, TRL Limited.