

Transmitted by the expert from Germany



Bundesministerium
für Verkehr und
digitale Infrastruktur

Informal document **GRB-67-03**
(67th GRB, 24-26 January 2018,
agenda item 17)

Problem with Noise-Emissions of L-Cat.-Vehicles / NORESS and possible Solutions

NORESS: Non Original Replacement Exhaust Silencer System

Contents:

1. Present Situation

2. Problem

3. Solution

Present Situation (1)

There are 4 reasons to use NORESS:

- Driver has to have a new silencer (because of e.g. accident or corrosion)
 - Driver wants to have better optical solution (different shape and/or material)
 - Driver wants to have a silencer with less weight (e.g. aluminum instead of steel)
 - **Majority: Driver wants to have better sound (“loud and powerful”)**
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Most L-Cat.-Vehicles in traffic fulfil old noise-requirements without ASEP (95%)

These Vehicles can use NORESS tested without ASEP (78/1015 – 97/24/EC Chap. 9)

Since 2017 new L-Cat.-Vehicles have to fulfil UN-R41.04 incl. ASEP inside EU

Measurement between $V_{AA'} \geq 20$ and max. $V_{BB'} \leq 80$ km/h (2nd, 3rd, 4th gear)

ASEP-Compliance is established via Manufacturer Declaration.

Contents:

1. Present Situation

2. Problem

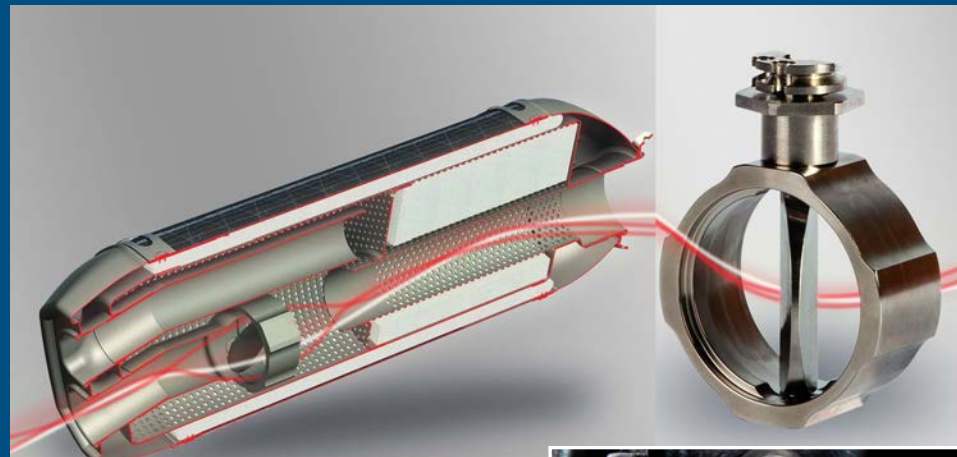
3. Solution

Problem

4. “Grey areas” of UN-Regulation

(Racing-Modes, Extremely loud outside ASEP or aggressive flap steering outside Annex 3 speed)

Working Principle:



Around
75 – 82
dB(A) !



Around
90 – 105
dB(A) !!!

Flap closed at Annex 3 speed (50 – 65 km/h) only inside 2nd & 3rd gear automatically (or manually steered by control switch)!

Flap opened outside Annex 3 speed (50 – 65 km/h) at 2nd & 3rd gear automatically (or manually steered by control switch)!

These technique very often is used for NORESS, which are designed for vehicles which have conventional OEM-Silencers (without flap-systems), only to produce high-sound levels inside real traffic use (outside Annex 3 test conditions) !

Problem

DE / EN / FR / IT / ES / JP

“... Our slogan “Feel the Sound.”

No other exhaust manufacturer succeeds so well in bringing the exhaust sound so pure and at the same time legal to the streets. Our electronics ensure that the sound system provides the driver with a unique sound experience and that it can be driven totally legal at the same time. These electronics ensure that the exhaust sound complies with the applicable laws.

You as the driver decide which of the different modes you like to choose. With ESE: out of town, following winding roads, towards the sun, freedom pure on two wheels...! In the evening heading back towards home, back into town, into your residential district – now totally ESE switching towards OFF mode and your neighbors will welcome you with a smile! ...”

This is not only a minor national problem, succesful manufacturer sell their NORESS also to ...



and many others ...



Contents:

1. Present Situation
2. Problem
- 3. Solution (see German proposal Supplement 2 of 01 series R92)**

Thanks for your attention!