ASEP Test results
Replacement exhaust systems

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Overview

• 7 vehicles tested according to ASEP procedure

• Diesel and petrol
  • Vehicle A PMR = 44.8
  • Vehicle B PMR = 52.9
  • Vehicle C PMR = 72.9
  • Vehicle D PMR = 52.3
  • Vehicle E PMR = 46.6
  • Vehicle F PMR = 53.4
  • Vehicle G PMR = 51.4
<table>
<thead>
<tr>
<th>[dBA]</th>
<th>Original</th>
<th>Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle A</td>
<td>69.0</td>
<td>69.3</td>
</tr>
<tr>
<td>Vehicle B</td>
<td>72.5</td>
<td>72.3</td>
</tr>
<tr>
<td>Vehicle C</td>
<td>69.0</td>
<td>68.7</td>
</tr>
<tr>
<td>Vehicle D</td>
<td>70.1</td>
<td>70.2</td>
</tr>
<tr>
<td>Vehicle E</td>
<td>68.2</td>
<td>68.5</td>
</tr>
<tr>
<td>Vehicle F</td>
<td>69.5</td>
<td>70.3</td>
</tr>
<tr>
<td>Vehicle G</td>
<td>71.2</td>
<td>71.0</td>
</tr>
</tbody>
</table>
ASEP: Vehicle A

**Original**

**Gear i**

<table>
<thead>
<tr>
<th>Engine speed [rpm]</th>
<th>1000</th>
<th>2000</th>
<th>3000</th>
<th>4000</th>
<th>5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>( L_{ASEP} )</td>
<td>60.00</td>
<td>65.00</td>
<td>70.00</td>
<td>75.00</td>
<td>80.00</td>
</tr>
</tbody>
</table>

Lwot = 68.9dBA at 2917rpm  
Slope = 4.9 dBA/1000rpm (Y=1)

**Replacement**

**Gear i**

<table>
<thead>
<tr>
<th>Engine speed [rpm]</th>
<th>1000</th>
<th>2000</th>
<th>3000</th>
<th>4000</th>
<th>5000</th>
</tr>
</thead>
<tbody>
<tr>
<td>( L_{ASEP} )</td>
<td>60.00</td>
<td>65.00</td>
<td>70.00</td>
<td>75.00</td>
<td>80.00</td>
</tr>
</tbody>
</table>

Lwot = 69.2dBA at 2895rpm  
Slope = 5.0 dBA/1000rpm (Y=1)
ASEP: Vehicle B

**Original**

**Gear i**

- Engine speed [rpm]: 1000, 2000, 3000, 4000
- Measurement points
- Limit

**Gear i+1**

- Engine speed [rpm]: 900, 1400, 1900
- Measurement points
- Limit

Lwot = 72.8dBA at 2325rpm
Slope = 5.0dBA/1000rpm (Y=1)

**Replacement**

**Gear i**

- Engine speed [rpm]: 1000, 2000, 3000, 4000
- Measurement points
- Limit

**Gear i+1**

- Engine speed [rpm]: 1000, 1500, 2000, 2500
- Measurement points
- Limit

Lwot = 73.0dBA at 2343rpm
Slope = 5.0dBA/1000rpm (Y=1)

Lwot = 71.6dBA at 1538rpm
Slope = 5.0dBA/1000rpm (Y=1)
ASEP: Vehicle F

Original

Gear i

![Graph showing Lwot = 72.0dBA at 4217 rpm, Slope = 5.0dBA/1000rpm (Y=1)]

Gear i+1

![Graph showing Lwot = 68.5dBA at 2722 rpm, Slope = 5.0dBA/1000rpm (Y=1)]

Replacement

Gear i

![Graph showing Lwot = 73.4dBA at 4155 rpm, Slope = 4.6 dBA/1000rpm (Y=1)]

Gear i+1

![Graph showing Lwot = 69.7dBA at 2706rpm, Slope = 5.0dBA/1000rpm (Y=1)]

L_ASEP Measurement points

Limit
THANK YOU