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Environmental and Safety
Engineering Staff
Ford Motor Company

The American Road
Dearborn, Michigan 48121

June 8, 1981

Mr. Kenneth E. Feith
Standards and Regulations Division
U.S. Environmental Protection Agency
Washington, D.C. 20460

Dear Mr. Feith:

Your May 5, 1981 letter to Mr. D. E. Petersen requested additional details regarding noise treatments and their associated costs for trucks to comply with the 80 dB(A) regulation. We were tracking costs of four typical vehicles which we consider representative of our overall product line. Our engineering estimates are based upon the limited results of noise tests conducted to date. The attached charts summarize the available information as to incremental costs, additional hardware requirements and noise source reductions which must be applied to our current 83 dB(A) production vehicles in order to comply with an 80 dB(A) regulation.

To give you an idea of a typical breakdown of the incremental costs associated with achieving 80 dB(A) compared to 83 dB(A), the following percentages on a premium diesel may be of interest. Chassis and engine shields account for approximately 45% of the total added cost of noise control, diesel engine modifications ("no-slap" pistons, changes to the turbocharger, oil pan enclosures, etc.) account for 30%, and the balance (modified transmissions, intake and exhaust changes, cooling changes and component relocation) account for 25% of the cost.

We trust that this additional information will assist you in your analysis. If you have further questions please contact Mr. R. J. Genik at (313)322-6830 or myself at (313)323-4175.

Sincerely,

B. H. Simpson, Executive Engineer
Fuel Economy and Emissions
Control Planning

Attachments

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ATTACHMENT I

<u>Truck Category</u>	<u>Incremental Cost Per Truck Retail Price Equivalent* (1981 Dollars)</u>	<u>Additional Hardware Required for 83 dB(A) Trucks to Comply With 80 dB(A)</u>
F-Series Gasoline	\$166	Hood sound insulation Engine cooling fan clutch Modifications to the air intake system Larger mufflers
Conventional L-Series Mid-range diesel (naturally aspirated)	\$517	Hood sound insulation Chassis and engine shields Modified engine from the supplier Modification to brake systems plumbing Larger mufflers
Conventional L-Series Mid-range diesel (turbocharged)	\$1136	Hood sound insulation Chassis and engine shields Modification to engine cooling systems Modification to air intake systems Modified transmissions from the supplier Larger mufflers
Conventional L-Series Premium diesel	\$1130	Hood sound insulation Chassis and engine shields Modified engines from the suppliers Revised air intake systems Modified transmissions from the suppliers Larger mufflers

* Retail Price Equivalent (RPE) includes recovery of all projected Ford costs, plus a Ford mark-up and a dealer margin. RPE may not necessarily reflect the final suggested retail price.

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NOISE SOURCE REDUCTIONS REQUIRED TO COMPLY WITH 80 dB(A)

<u>Source</u>	<u>Noise Level dB(A)</u>	
	83 dB(A) Production	80 dB(A) Objective
<u>L-Series Mid-range Diesel (N.A.)</u>		
Engine	77.6	73
Exhaust	74.5	68
Air intake	67.8	67
Transmission	74.3	71
Miscellaneous	67.8	68
<u>Total Vehicle</u>		
Sum of components	81.0	77.0
<u>L-Series Premium Diesel</u>		
Engine	78.5	73
Exhaust	70.7	68
Air Intake	67.0	67
Transmission	69.5	71
Miscellaneous	63.5	68
<u>Total Vehicle</u>		
Sum of components	79.7	77.0

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