

The following are 2 letters received by the editor regarding "Effect of mean flow and damping on the performance of reactive mufflers", P.T. Thawani and A.G. Doige, Canadian Acoustics, Vol. 11(1), pp.29-47, 1983, and are published unedited.

LETTER TO THE EDITOR

This letter is intended for two purposes, namely, to point out the misleading statement concerning equation (10) of [1] and to raise a question regarding equation (8.1) of [2].

Firstly, the statement about equation (10) of [1] is misleading in that it was mentioned there that it was the governing equation of wave propagation for the case of no flow and yet the constant $\alpha = [(c+U)/(c-U)]^2$... quoted was a function of mean flow U.

Secondly, it is interesting to note that a governing equation of wave propagation for the case with mean flow, equation (8.1) of [2] was not quoted and instead replaced by equation (10) of [1]. It is interesting because the writer of this letter was working in the same department as the authors of [1] and [2] was written in 1975.

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References

1. P. T. Thawani and A. G. Doige, 1983, CANADIAN ACOUSTICS, Vol. 11, No. 1, 29-47. Effect of mean flow and damping on the performance of reactive mufflers.
2. C. W. S. To, 1975, M.Sc. Thesis, The University of Calgary, Calgary, Canada. A transient testing technique for matrix parameters of acoustic parameters.

AUTHORS' REPLY

It should be understood by the reader that the mean flow velocity, U , is equal to zero in the case of 'no flow' as stated prior to equation (10) of [1]. The main purpose of this exercise was to arrive at a transfer matrix form shown in equation (11) of [1] for which U is obviously non-zero. Perhaps a footnote in reference to α stating that $U=0$ for equation (10) would have avoided the confusion. We regret if anyone was misled by this.

In response to Dr. To's second point, we would like to add that all the equations of wave propagation expressed in [1] were in terms of the acoustic pressure, p , and not the velocity potential, Ψ , as in equation (8.1) of [2]. Therefore, it was not felt necessary to quote equation (8.1) of [2]; instead, it was referenced by [3] and [4].

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REFERENCES

1. P. T. Thawani and A. G. Doige, "Effect of Mean Flow and Damping on the Performance of Reactive Mufflers, Canadian Acoustics, Vol. 11, No. 1, 1983, pp. 29-47.
2. C. W. S. To, "A Transient Testing Technique for Matrix Parameters of Acoustic Systems," M.Sc. Thesis, 1975, The University of Calgary, Calgary, Alberta, Canada.
3. S. N. Rschevkin, A COURSE OF LECTURES ON THE THEORY OF SOUND, The MacMillan Company, New York (translation from Russian edition), 1963.
4. C. W. S. To and A. G. Doige, "A Transient Testing Technique for Matrix Parameters of Acoustic Systems; I. Theory and Principles," J. Sound Vib. 62 (2), pp. 207-222 (1979).

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