Technical Comments

Comment on "Flow Past Nonconical Wings with Separation"

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IT is apparent from Ref. 1 that Ramakrishnan and Subramanian have rediscovered the extension to nonconical flow of the Brown and Michael model for leading-edge separation which I published some years ago.[2] Since they suggest the results might be used to extend the more elaborate vortex-sheet model to the same case, it is worth pointing out that the vortex-sheet model has already been applied successfully to nonconical flow.[3,4] Although these extensions remain within the framework of slender-body theory, more recent developments, such as Ref. 5, have been aimed at removing this limitation. A brief review of the subject may be found in Ref. 6.

References

[1]Ramakrishnan, S.V. and Subramanian, N.R., "Flow Past Nonconical Wings with Separation," *Journal of Aircraft,* Vol. 15, June 1978, pp. 383-384.

[2]Smith, J.H.B., "A Theory of the Separated Flow from the Curved Leading Edge of a Slender Wing," ARC R&M 3116, 1957.

[3]Jones, I.P., "Leading-Edge Separation from Nonconical Slender Wings at Incidence," *Proceedings of the 4th International Conference on Numerical Methods in Fluid Dynamics, Lecture Notes in Physics,* Vol. 35, Springer, 1974, pp. 225-32.

[4]Clark, R.W., "Nonconical Flow Past Slender Wings with Leading-Edge Vortex Sheets," ARC R&M 3814, 1976.

[5]Johnson, F.T., Lu, P., Brune, G.W., Weber, J.A., and Rubbert, P.E., "An Improved Method for the Prediction of Completely Three-Dimensional Aerodynamic Load Distributions on Configurations with Leading-Edge Separation," AIAA Paper 76-417, San Diego, Calif., June 1976.

[6]Smith, J.H.B., "Inviscid Fluid Models, Based on Rolled-Up Vortex Sheets, for Three-Dimensional Separation at High Reynolds Number," AGARD Lecture Series No. 94, 1978.

Reply by Author to J. H. B. Smith

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I AM thankful to Smith for having pointed out the reference in regard to the similar work carried out by him. While publishing this paper we were unaware of the existence of such a publication.

Errata

Flow Past Nonconical Wings with Separation

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IN the above Engineering Note some errors were noted after its publication. The corrections are as follows:

Fig. 3, caption: Z_v should read z_v

Equation (9)

$$A\frac{dy_v}{dx} + B\frac{dZ_v}{dx} = \text{real}\left(\frac{v}{V}\right)$$

should read

$$A\frac{dy_v}{dx} + B\frac{dz_v}{dx} = \text{real}\left(\frac{v}{V}\right)$$

Equation (10)

$$C\frac{dy_v}{dx} + D\frac{dZ_v}{dx} = \text{imag}\left(\frac{v}{V}\right)$$

should read

$$A\frac{dy_v}{dx} + D\frac{dz_v}{dx} = \text{imag}\left(\frac{v}{V}\right)$$

In the right hand column page 384:

First line: "where $y_v + iZ_v = Z_v$. . ." should read "where $y_v + iz_v = Z_v$. . ."
Fourth line: "dy_v/dx, dZ_v/dx, and hence . . ." should read "dy_v/dx, dz_v/dx, and hence . . ."
Eleventh line: "a delta wing of semivortex" should read "a delta wing of semivertex".
Seventh line in Conclusion "It was also observed that the Z location . . ." should read "It was observed that the z location . . ."