

for the flexbeam portion of bearingless rotor blades, which is normally designed to be relatively soft in torsion. Hence, the terms in Ref. 1 that Rosen would exclude are important in some rotor blade applications and not in others. Since they do not complicate the equations or present additional difficulties in solving them, it would appear logical to include these terms in any general purpose blade analysis.

References

¹Hodges, D.H., "Torsion of Pretwisted Beams due to Axial Loading," *ASME Journal of Applied Mechanics*, Vol. 47, June 1980, pp. 393-397.

²Hodges, D.H., "Author's Closure," *ASME Journal of Applied Mechanics*, Vol. 48, Sept. 1981, pp. 680-681.

Errata: "Karman Vortex Shedding and the Effect of Body Motion"

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[AIAAJ 18, pp. 935-944 (1980)]

THE results¹ in Fig. 13 for the structural angle cross section were interpreted assuming that the flow pattern was similar to that for the triangular cross section² in Fig. 2, with flow separation occurring on the 45-deg "boat tail" when the angle cross section faced the stream with the open, concave side. The measured Strouhal frequency¹ was, however, smaller when the apex faced downstream ($S_{v0} \approx 0.12$) than when it faced upstream ($S_{v0} \approx 0.20$). Thus according to Eq. (2), the wake width cannot have been smaller or even as small with the apex facing downstream as when it faced upstream.

The enclosed Fig. 1 shows Fig. 13 with the correct conceptual flow patterns. Comparing the flow pattern for $\alpha = -45$ deg with that for the rectangular cross section in Fig. 2 of Ref. 3, one can conclude that the large amplitude response at $\alpha = -45$ deg in Fig. 1 is likely to have the same source as the large amplitude response of the rectangular cross section.³ That is, the nose-induced flow separation generates negative lift on the embedded aft body until the amplitude becomes very large.

References

¹Modi, V.J. and Slater, J.E., "Unsteady Aerodynamics and Vortex Induced Aeroelastic Instability of a Structural Angle Section," AIAA Paper 77-160, Los Angeles, Calif., Jan. 1977.

Received Aug. 30, 1982.

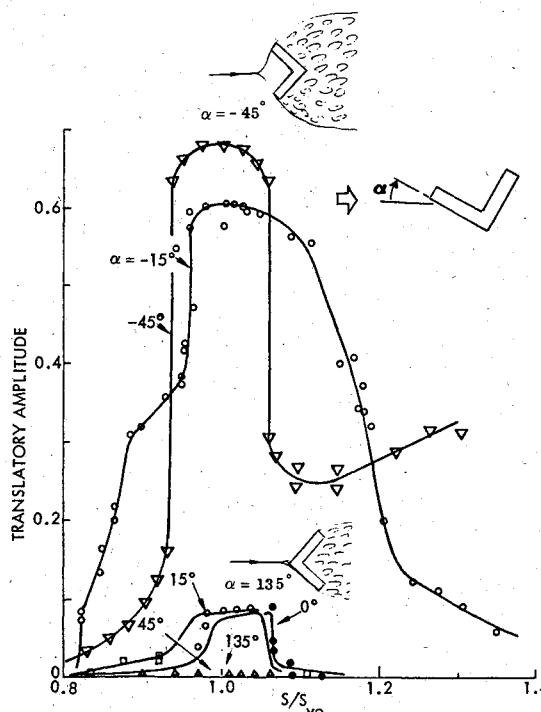


Fig. 1 Response of structural angle cross section to vortex excitation.¹

²Delany, N.K. and Sorensen, N.E., "Low Speed Drag of Cylinders of Various Shapes," NACA TN-3038, Nov. 1953.

³Ericsson, L.E., "Hydroelastic Effects of Separated Flow," *AIAA Journal*, Vol. 21, March 1983, pp. 452-458.

Errata: "Comment on Potential of Transformation Methods in Optimal Design"

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[AIAAJ, 20, pp. 1630-1631 (1982)]

THE second line in Table 2 on page 1631 should read:

Refs. 3, 5-6 1 NCON — — NCON + 1

Received Nov. 15, 1982.