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Title Direct Drag Measurements on Two LCA-Related Afterbodies
Using the Jet Simulation Rig

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Remarks

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Abstract

Results of zero-lift drag characteristics on two LCA-related afterbodies employing the jet simulation rig are reported. One of the afterbodies was an axisymmetric configuration relevant to LCA Kaveri Engine and the other involved a three-dimensional boat-tailing concept leading to a square base; the annular base area to (max) forebody cross-sectional area was 0.23 for both afterbody configurations. The tests were made at freestream Mach numbers of 0.80 and 0.96 and covered a jet pressure ratio of 1.5 to 5.0. The results show that, while the total drag levels for the two afterbodies are comparable at $M_{\infty} = 0.80$, the drag of the square base afterbody is appreciably lower (about 20%) relative to the axisymmetric case at $M_{\infty} = 0.96$. Certain broad features of the flow on square base afterbodies are discussed as well.