

ENGINEERING RESEARCH INSTITUTE

MIXING OF SUPERSONIC JETS

PROGRESS REPORT NO. 2

FOR THE PERIOD

SEPTEMBER 15 TO NOVEMBER 15, 1954

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DEPARTMENT OF AERONAUTICAL ENGINEERING

UNIVERSITY OF MICHIGAN

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The time since 15 September has been spent in completing the layout of the nozzles, calculating boundary layer thicknesses, and in design calculations on the structure. The nozzle design is complicated by the fact that the jets should be as nearly parallel as possible, taking into account rate of growth of the boundary layers at the lip; the determining factor on the thickness of the lip is the pressure loads resulting from the fact that the pressures in the two jets will be varied independently. Easy, rapid, and reproducible changes in the Mach numbers and pressures further complicate the design of the structure and the mechanism for accomplishing the changes.

The layout and some of the design calculations are completed. The detail design should be completed by December 15.

Submitted for the Project
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