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Monthly Technical Progress Report No. 15

for

**A METHOD FOR SIMULATING 3-D AIRCRAFT FLOW FIELDS  
WITH JET PLUME EFFECTS (NAS2-11711)**

December 1, 1984 - December 31, 1984

Prepared for

**NASA - AMES RESEARCH CENTER  
Moffett Field, CA 94035**

by

(NASA-CR-175802) A METHOD FOR SIMULATING  
3-D AIRCRAFT FLOW FIELDS WITH JET PLUME  
EFFECTS Monthly Technical Progress Report,  
1-31 Dec. 1984 (Amtec Engineering, Inc.)  
3 p HC A02/NF A01

M85-26664

Unclas  
15011

CSCL 01A G3/02

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## 1.0 INTRODUCTION

This technical progress report summarizes the work accomplished by Amtec Engineering Inc. under the NASA contract NAS2-11711 for the reporting period December 1, 1984 through December 30, 1984. The objective of the contracted work is to develop, demonstrate, and document a coupled flow analysis procedure for computing 3D aircraft flow fields with deflected subsonic and supersonic jet exhaust plumes.

## 2.0 PROGRESS

During the reporting period the PNS plume code was transferred to the Ames computer facility for execution on the Cray computer. No problems were encountered when installing this code. The Bower's test case is currently being run. This case is being used to fine tune the procedure for coupling the plume code to PANAIR.

## 3.0 PROBLEMS

No problems currently exist.

## 4.0 WORK PLANNED

The Bower's case will be completed. This will be followed by setting up and running the 623 model case. The final report and user's guide will also be started.

## 5.0 LEVEL OF EFFORT

Through December 31, 1984, 2133 manhours have been expended on this contract. Approximately 100 manhours will be expended during the next period.

