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FINAL REPORT

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for the period

1 September 1985 to 31 August 1988

AFRAPT TRAINEE PROGRAM

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During the period 1 September 1985 to 31 August 1988, four Air Force Research in Aero Propulsion Technology (AFRAPT) trainees were in residence as graduate students at Princeton University's Department of Mechanical and Aerospace Engineering. They were:

Mr. Christopher Kappelmeier

Mr. David M. Konopka

Mr. Jeffrey L. Emdee

Mr. Robert J. Lawson

Mr. Kappelmeier completed two academic years at Princeton and performed his industrial traineeship at the General Electric Company. He was awarded the M.S.E. degree in 1987. His thesis under the direction of Prof. F. Bracco was entitled, "Study of the Liquid Behavior in a Pre-filming Air-Blast Atomizer". He accepted a position to work in the aircraft propulsion field with Textron-Lycoming.

Mr. Konopka also completed two academic years at Princeton and performed his industrial traineeship at Pratt and Whitney in East Hartford. He was awarded a M.S.E. degree and submitted a thesis related to the solution of complex chemical kinetic mechanisms of combustion processes. He is now working in the aircraft propulsion field at Pratt and Whitney-West Palm Beach.

Mr. Emdee remains at Princeton. Because of his remarkable academic record he was encouraged to remain for the Ph.D., passed his General Examination and is now completing his Ph.D. thesis on the oxidation kinetics of aromatic fuels under the direction of Prof. I. Glassman. Mr. Emdee has been performing his industrial traineeship at the United Technologies Research Center.

Mr. Lawson is currently completing his Master's thesis on the subject of the combustion of heavy fuel particulates under the direction of Prof. F.L. Dryer. He will receive his M.S.E. degree in 1989. His traineeship was with Pratt and Whitney-West Palm Beach. He has accepted a position in the aircraft propulsion field with General Electric-Cincinnati.

The AFRAPT program has been beneficial to Princeton's research efforts in another very important way. It has attracted to Princeton for graduate study U.S. applicants who would not normally have applied. Some who were not awarded AFRAPT fellowships chose to accept normal assistantships and begin graduate study.