

# Feasibility Report Proposal Memo

**To:** Dr. Susan Codone

**From:** A Student

**Date:** June 13, 2003

**Re:** Proposal to Write a Feasibility Report for Engine Design for the F/A-22 Raptor

The following is a proposal to conduct a feasibility study for the need for an engine design F/A-22 Raptor and the benefits to be expected to the military. The proposal contains background on the need for an engine design, an outline of my schedule work, my qualifications, and a schedule. This study may have to be expanded to include the entire department. I look forward to hearing your ideas on the scope of this feasibility report.

## Need for an Engine Design

Lockheed Martin, Boeing and Pratt & Whitney have joined with the U.S. Air Force to develop and produce the revolutionary F/A-22 Raptor. This will be the world's first stealth air-to-air fighter, making it unseen and deadly at long range and unmatched at close-in dogfighting. The F/A-22 needs an engine that will allow it to have superb, precision-strike ground attack. Currently, the new air and ground threats are looming and the fact is the F-15 will not be able to counter these threats from other foreign planes so the F/A-22 is being developed to counter these threats.

## Report Audience

I will address the report to you. However, I will target the report to the administration of the U.S. Air Force avionics department, Boeing, and Pratt and Whitney's directors of the engine department. As you know since these companies also help with the F/A-22 development.

## Tentative Outline

- I. Introduction
  - A. Description of the F/A-22 Raptor
  - B. Reason for new design military jet
  
- II. Need for an engine design
  - A. Types of engines available
    1. F119-PW-100
    2. F135-PW-100
    3. F100-PW-232

## B. Engine Characteristics

1. F119-Pw-100
2. F135-PW-100
3. F100-PW-232

## III. Benefits of a suitable engine

- A. Benefits of each engine to the F/A-22
- B. Costs of each engine
- C. Compare and contrast of each engine

## IV. Conclusion

- A. Summarize benefits
- B. Summarize costs
- C. Recommend action