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Form Approved
OMB No. 0704-0188

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1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE SEP 2000	3. REPORT TYPE AND DATES COVERED FINAL - 10/1/99 thru 9/30/00
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4. TITLE AND SUBTITLE Management and Operation of the PED SLA Lab Final Report	5. FUNDING NUMBERS C DAAH01-98-D-2001 DO# 059
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6. AUTHOR(S) Joseph Paxton

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) UAW 301 Sparkman Dr. Huntsville AL 35899	8. PERFORMING ORGANIZATION REPORT NUMBER 5-20734
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9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Aviation and Missile Command Redstone Arsenal, AL 35898	10. SPONSORING / MONITORING AGENCY REPORT NUMBER
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11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT See DOD 5230 'X'	12b. DISTRIBUTION CODE
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13. ABSTRACT (Maximum 200 words)
See attached

20011206 051

14. SUBJECT TERMS	15. NUMBER OF PAGES 2
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT
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DAAH01-98-D-R001 DO# 59
S-20734

Management and Operation of the PED SLA Lab
Final Report

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September 2000

Management and Operation of the Production Engineering Division Stereolithography (SL) Laboratory

Final Report
September, 2000

1.0 INTRODUCTION

The Production Engineering Division (PED), SEPD, MRDEC, AMCOM has the mission and function of providing rapid prototypes via SL to various AMCOM customers. The PED provides the following services to its customers: assistance in generating acceptable Computer Aided Design (CAD) files, delivering these files to the SL laboratory, building SL prototypes using both the ACES and QuickCast (QC) build styles, finishing prototypes to the customers' specifications, and facilitating the investment casting of QC prototypes. The PED requires engineering support in performing these SL tasks.

2.0 OBJECTIVE

The purpose of the work performed under this task order was to provide engineering support in producing SL prototypes for the PED customers.

3.0 TASKS

3.1 The tasks completed under this contract consisted of four (4) primary duties: maintaining the lab, quoting projects, scheduling projects and completing projects.

3.1.1 Maintaining the lab shall included tracking the needs of material and chemicals, as well as ensuring the lab continues to utilize state-of-the-art technologies. Maintaining state-of-the-art technologies included continuous research in the field, networking with other rapid prototyping service bureaus and users, and participating in conferences and user groups.

3.1.2 Scheduling projects included enhancing the build time estimator to incorporate QC builds and maximizing the SLA run time efficiency.

3.1.3 All SL prototypes were built using the PED SL equipment, including preparing and finishing the parts to customer specifications in accordance with standard SL procedures. This includes ACES and QC prototypes. Investment casting of QC prototypes were facilitated with various foundries.

3.2 The feasibility of developing relationships with private industry via Cooperative Agreements and other technology transfer avenues was investigated.

4.3 A marketing strategy for the PED SL facility was developed. The purpose of the strategy was to expand the customer base of the lab and identify possible areas of expansion, based on customer needs and the direction in which the industry moves.