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**FINAL REPORT
JANUARY 1993**

REPORT NO. 93-06

**MIL-STD-209H TESTING OF
2.75-INCH ROCKET PALLET AS
PART OF EXTERNAL AERIAL
TRANSPORT(EAT) CERTIFICATION**

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A **SEP 07 1993**

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Prepared for:
Office of the Project Manager,
Ammunition Logistics
ATTN: AMCPM-AL
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93-20555



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**VALIDATION ENGINEERING DIVISION
SAVANNA, ILLINOIS 61074-9639**

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Form Approved
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1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b. RESTRICTIVE MARKINGS	
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION / AVAILABILITY OF REPORT UNLIMITED	
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE				
4. PERFORMING ORGANIZATION REPORT NUMBER(S) 93-06			5. MONITORING ORGANIZATION REPORT NUMBER(S)	
6a. NAME OF PERFORMING ORGANIZATION U.S. Army Defense Ammunition Center and School		6b. OFFICE SYMBOL (if applicable) SMCAC-DEV	7a. NAME OF MONITORING ORGANIZATION	
6c. ADDRESS (City, State, and ZIP Code) ATTN: SMCAC-DEV Savanna, IL 61074-9639			7b. ADDRESS (City, State, and ZIP Code)	
8a. NAME OF FUNDING / SPONSORING ORGANIZATION Office of the Project Manager, Ammunition Logistics		8b. OFFICE SYMBOL (if applicable) AMCPM-AL	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c. ADDRESS (City, State, and ZIP Code) ATTN: AMCPM-AL Picatinny Arsenal, NJ 07806-5000			10. SOURCE OF FUNDING NUMBERS	
			PROGRAM ELEMENT NO.	PROJECT NO.
			TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) MIL-STD-209H Testing of 2.75-Inch Rocket Pallet as Part of External Aerial Transport (EAT) Certification				
12. PERSONAL AUTHOR(S) Quinn D. Hartman				
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM _____ TO _____		14. DATE OF REPORT (Year, Month, Day) 1993 January
15. PAGE COUNT				
16. SUPPLEMENTARY NOTATION				
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP		
19. ABSTRACT (Continue on reverse if necessary and identify by block number)				
The U.S. Army Defense Ammunition Center and School (USADACS), Validation Engineering Division (SMCAC-DEV), was tasked by the Office of the Project Manager, Ammunition Logistics (PM-AMMOLOG) to conduct a MIL-STD-209H, Military Standard Slinging and Tiedown Provisions for Lifting and Tying Down Military Equipment, pull test on the 2.75-inch rocket pallet as part of the helicopter External Aerial Transportation (EAT) certification process. As prescribed by MIL-STD-209H, the pallet was statically pulled to 7,700-pounds for a period of 90 seconds utilizing a 4-legged sling. At the completion of the test, the pallet was inspected and determined to have sustained no permanent deformation as a result of the static load. Having successfully passed MIL-STD-209H, the 2.75-inch rocket pallet was then shipped to U.S. Army Combat Systems Test Activity (USACSTA) where helicopter flight tests were conducted.				
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED	
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U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL
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REPORT NO. 93-06

MIL-STD-209H TESTING OF 2.75-INCH ROCKET PALLET AS PART OF
EXTERNAL AERIAL TRANSPORT (EAT) CERTIFICATION

JANUARY 1993

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Justification	
By	
Distribution /	
Availability Codes	
Dist A-1	Avail and/or Special

PART 1

INTRODUCTION

A. BACKGROUND. The U.S. Army Defense Ammunition Center and School (USADACS), Validation Engineering Division (SMCAC-DEV), was tasked by the Office of the Project Manager, Ammunition Logistics (PM-AMMOLOG) to conduct a MIL-STD-209H, Military Standard Slings and Tiedown Provisions for Lifting and Tying down Military Equipment, pull test on the 2.75-inch rocket pallet as part of the helicopter External Aerial Transportation (EAT) certification process.

B. AUTHORITY. The test was accomplished IAW mission responsibilities delegated by the U.S. Army Armament, Munitions and Chemical Command (AMCCOM), Rock Island, IL. Reference is made to the following:

1. Change 4, 4 October 1974, to AR 740-1, 23 April 1973, Storage and Supply Activity Operation.

2. AMCCOM-R 10-17, Mission and Major Functions of USADACS, 13 January 1986.

C. OBJECTIVE. The purpose of this test was to determine if the top lift provisions and strapping configuration of the pallet were of sufficient strength to withstand the rigors associated with EAT prior to flight testing.

D. CONCLUSION. As a result of the successful completion of MIL-STD-209H, the 2.75-inch rocket pallet was determined to be suitable for helicopter flight testing. The pallet was forwarded to U.S. Army Combat Systems Test Activity (USACSTA) where flight testing was conducted.

PART 2

**MIL-STD-209H TESTING OF 2.75-INCH ROCKET PALLET AS PART OF
EXTERNAL AERIAL TRANSPORT (EAT) CERTIFICATION**

25 JANUARY 1993

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PART 3

TEST PROCEDURES

As part of the certification procedure for EAT, the design limit load of 7,700-pounds was applied to the 2.75-inch rocket pallet IAW MIL-STD-209H. Prior to testing, the 2,200-pound pallet was secured to an M871 semitrailer utilizing two 2-inch metal bands over the top of the second layer of missile containers (see page 5-3). A 50,000-pound capacity container handler was connected to the pallet utilizing a 4-legged sling appropriate for helicopter slinging. The pallet was then pulled to the design limit load (3.5 times the pallet weight) for a period of 90 seconds. During the pull test, the static load was monitored with a 10,000-pound capacity dynamometer. The actual test load was maintained in the 7,700- to 8,100-pound range. At the completion of the test, the pallet was inspected for damage due to the static load.

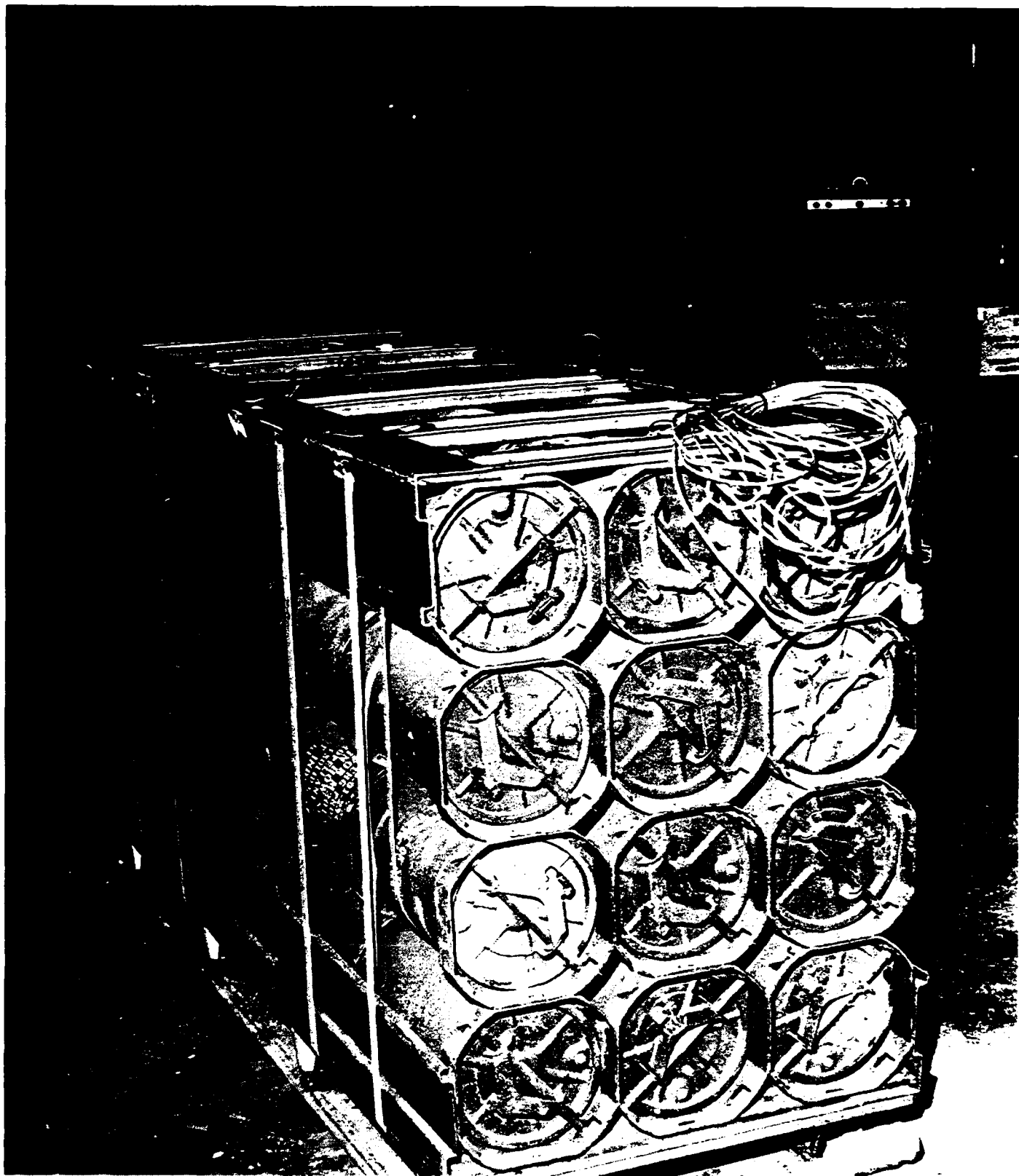
PART 4

TEST RESULTS

At the completion of MIL-STD-209H testing, the 2.75-inch rocket pallet was inspected for damage from the static loading. The pallet adapter was determined to have sustained no permanent deformation due to the static load. Metal strapping used to unitize the pallet was also determined to have sustained no damage as a result of the static loading.

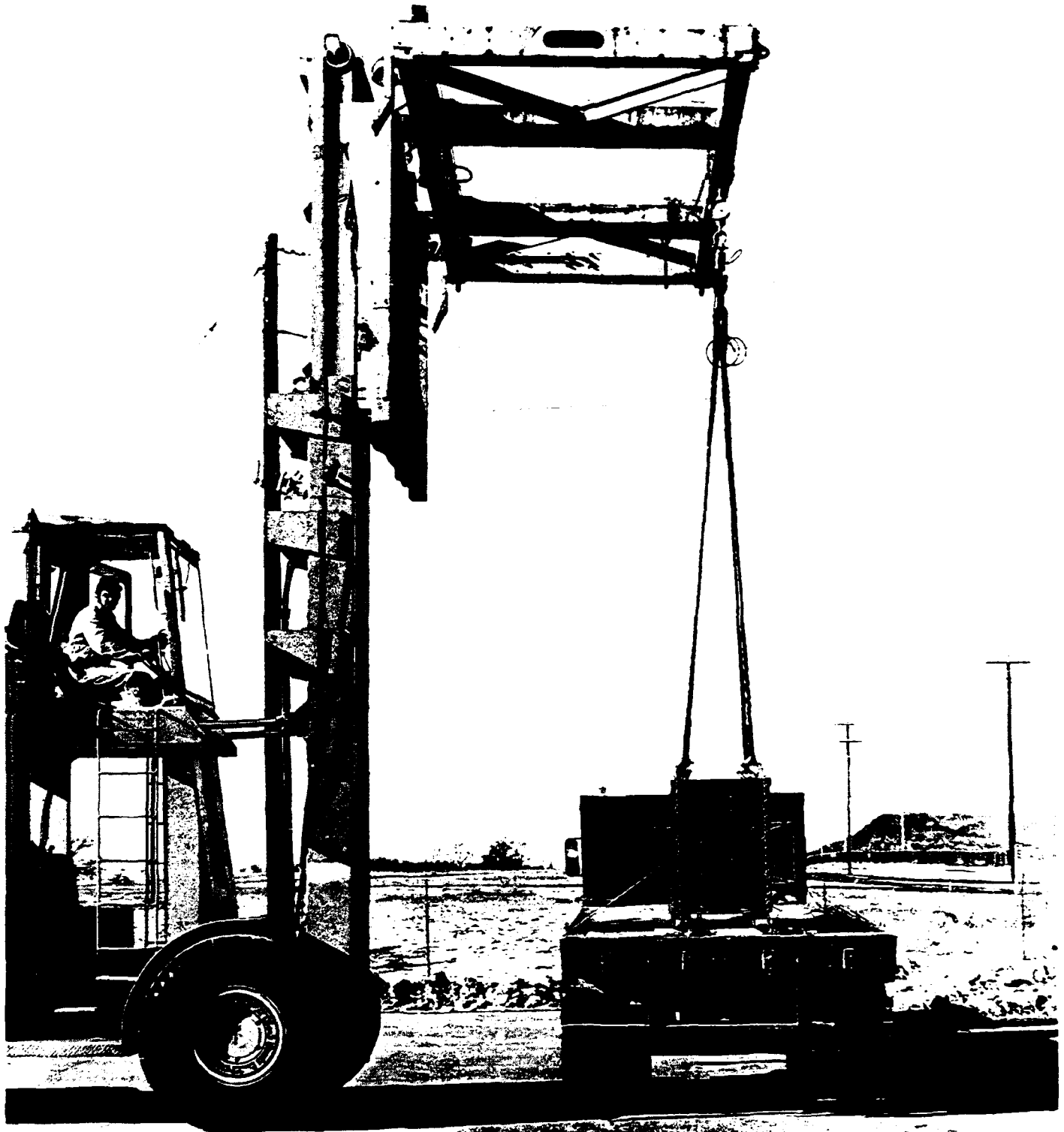
PART 5

PHOTOGRAPHS



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Photo No. AO317-SCN93-69-817. This photo shows the 2.75-inch rocket pallet prior to testing. The wiring seen on top of the pallet was for strain gauges that were installed on the pallet but failed to function during testing.



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Photo No. AO317-SCN93-69-816. This photo shows the test setup that was used to statically load the 2.75-inch rocket pallet to 7,700 pounds.
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