

**TECHNICAL MANUAL**  
**OPERATOR'S INSTRUCTIONS**  
**FOR**  
**CRANE, WHEEL-MOUNTED, SELF-PROPELLED**  
**FOR AIRCRAFT MAINTENANCE AND**  
**POSITIONING (SCAMP): 4 TON**

**GROVE MANUFACTURING COMPANY**  
**MODEL RT41 AA**

**NSN 3810-01-144-4885**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**  
**20 FEBRUARY 1987**

## **FOREWORD**

This manual has been compiled to assist you in properly operating and maintaining your crane.

Before placing the crane in service, take time to thoroughly familiarize yourself with the contents of this manual. After all sections have been read and understood, retain the manual for future reference in a readily accessible location.

The crane has been designed for maximum performance with minimum maintenance. With proper care, years of trouble-free service can be expected.

Information in this manual does not replace federal, state, or local regulations, safety codes, or insurance requirements.

Throughout the manual, references are made to left, right, front, and rear when describing locations. These references locations are to be considered as those viewed from the operator's seat with the superstructure over the front of the carrier frame.

The definitions of WARNING, CAUTION, and NOTE as used in this manual apply as follows:

### **WARNING**

**A WARNING IS USED TO EMPHASIZE THAT IF AN OPERATION, PROCEDURE, OR PRACTICE IS NOT FOLLOWED EXACTLY, DEATH OR INJURY TO PERSONNEL MAY RESULT.**

### **CAUTION**

**A CAUTION IS USED TO EMPHASIZE THAT IF AN OPERATION, PROCEDURE, OR PRACTICE IS NOT FOLLOWED EXACTLY. EQUIPMENT DAMAGE MAY RESULT.**

### **NOTE**

**A note is used to emphasize an important procedure or condition.**

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## SECTION 1

### INTRODUCTION

#### PURPOSE AND FUNCTION.

This handbook provides operation instructions for the Crane, Wheel-mounted, Self Propelled for Aircraft Maintenance and Positioning (SCAMP), Grove Manufacturing Co. Model RT41AA. The SCAMP is shown in figure 1-1 which identifies the major components.

#### CAPABILITIES.

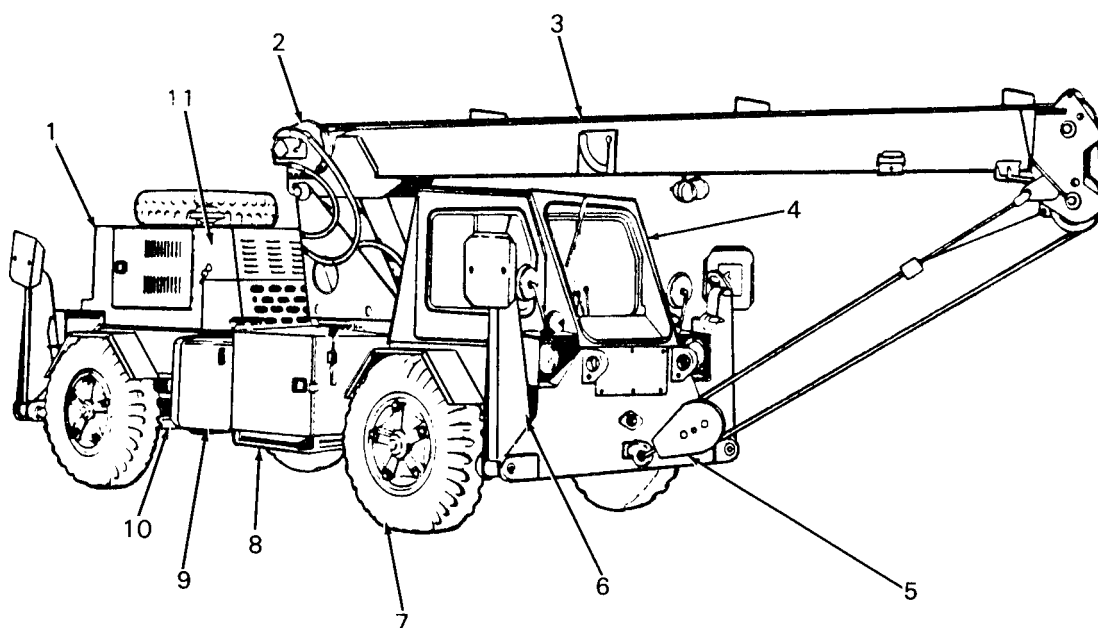
The Grove Model RT41AA hydraulic, telescoping boom, crane (SCAMP) was designed for the U.S. Army Tank-Automotive Command according to Procurement Specification 3810-APS-000. It is a rough terrain, four ton capacity machine intended for use in removing, replacing, and positioning components and assemblies and lifting Army aircraft. It is also used for towing or spotting aircraft on the flight line, unimproved airfields, and heliports. The crane is transportable, without disassembly, by C-130, C-141 and C-5A aircraft and may be air lifted by Army medium lift helicopters.

#### PERFORMANCE

##### **SPEED AND GRADEABILITY.**

| GEAR | MAXIMUM SPEED |      | GRADEABILITY<br>@ STALL (%) | TRACTIVE EFFORT AT STALL |      |
|------|---------------|------|-----------------------------|--------------------------|------|
|      | MPH           | KM/H |                             | LBS                      | KG.  |
| 1st  | 5.4           | 8.7  | 135.9                       | 13206                    | 5990 |
| 2nd  | 10.5          | 16.9 | 43.5                        | 6704                     | 3041 |
| 3rd  | 23.2          | 37.3 | 16.4                        | 2902                     | 1316 |

NOTE: All performance data is based on a 14,600 lb. (6623 KG) gross crane weight with 9.00 x 20 tires, White D-3400 engine and may vary plus or minus 10% due to variations in engine performance and vehicle weights. Gradeability values above 45% (4 x 4) and 27% (4 x 2) are theoretical. Cranes should be operated within the limits of engine crankcase design.



#### LEGEND

- |                                |                        |
|--------------------------------|------------------------|
| 1. Engine/Transmission         | 7. Front Axle          |
| 2. Hoist                       | 8. Tool/Storage Box    |
| 3. Boom                        | 9. Hydraulic Reservoir |
| 4. Operator's Cab              | 10. Rear Axle          |
| 5. Hook Block (in Travel Mode) | 11. Batteries          |
| 6. Outrigger Arm               |                        |

Figure 1-1. Army SCAMP, Grove Model RT 41AA

#### LIFTING CAPACITY

The Rated Lifting Capacity Charts (figure 1-2) provide the necessary information to ensure lifting within the crane's design limitations. Capacities are based on structural strength and stability determined by calculation and verified by test.

#### TOWING CAPACITY

As required by the procurement specification, the SCAMP crane is capable of continuous towing in forward and reverse from speeds of 10 feet per minute to 4 mph with a drawbar pull of 5,000 pounds.