TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

COMPRESSOR, RECIPROCATING: AIR: HANDTRUCK MOUNTED, GASOLINE ENGINE DRIVEN 5CFM, 175PSI (KELLOGG AMERICAN MODEL G-311-PC) NSN 4310-00-843-8885

This copy is a reprint which includes current pages from Changes 1 through 6.

HEADQUARTERS, DEPARTMENT OF THE ARMY

FEBRUARY 1978

TECHNICAL MANUAL

NO. 5-4310-276-14

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, *15 February 1978*

OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

COMPRESSOR, RECIPROCATING: AIR: HANDTRUCK MOUNTED, GASOLINE ENGINE DRIVEN 5CFM, 175 PSI (KELLOGG AMERICAN MODEL G-311-PC) NSN 4310-00-843-8885

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Troop Support Command, ATI'N: AMSTR-MCTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

Table of Contents

*This manual supersedes TM 5-4310-276-15, 6 September 1868, including all changes.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. These instructions are published for use by personnel to whom the Model G-311-PC Reciprotating Compressor is issued. Chapters 1 through 4 provide information on operation, preventive maintenance services, and organizational maintenance of equipment, accessories, components and attachments. Chapters 5 through 7 provide information for direct and general support maintenance. Also included are descriptions of main units and their functions in relationship to other components.

b. Numbers in parentheses following nomenclature callouts on illustrations indicate quantity.

1-2. Maintenance Forms and Records

a. DA Form 2404 (Equipment Inspection and Maintenance Worksheet).

b. DA Form 2407 (Maintenance Request Used for Requesting Support Maintenance.

c. DA Form 2407-1 (Continuation Sheet Used for Requesting Support Maintenance.

d. For further information, refer to DA Pam 738-750, The Army Maintenance Management System (TAMMS).

1-2.1. HAND RECEIPT

Hand receipts for the End Item/Component of End Item (COEI), Basic Issue Items (BII), and Additional Authorized List (AAL) items are published in a Hand Receipt Manual. The Hand Receipt Manual numerical designation is the same as the related Technical Manual with the letters HR added to the number. These manuals are published to lid in property accountability and are available through: Commander, US Army Adjutant General Publication Center, 2800 Eastern Blvd., Baltimore, MD 21220-2896.

1-3. Administrative Storage

a. Storage Site.

(1) Select the best available site for administrative storage. Separate stored equipment from equipment in use. Conspicuously mark the area "Administrative Storage".

(2) Covered space is preferred. When sufficient covered space for all items to be stored is not available, priority should be given to items which are most susceptible to deterioration.

(3) Open sites should be improved hardstand, if available. Unimproved sites should be firm, well drained, and kept free of excessive vegetation.

b. Storage Plan.

(1) Store equipment so as to provide maximum protection from the elements and to provide access for inspection, maintenance, and exercising Anticipate removal or deployment problems and take suitable precaution.

(2) Take into account environmental conditions such as extreme heat or cold; high humidity; blowing sand, duet, or loose debris; soft ground; mud; heavy snows; earthquakes; or combinations thereof and take adequate precautions.

(3) Establish a fire plan and provide for adequate firefighting equipment and personnel.

(4) For further information, refer to TM 740-90-1 (Administrative Storage).

1-4. Destruction of Army Material to Prevent Enemy Use

a. Demolition of Air Compressors. Methods of destruction should achieve such damage to equipment and repair parts that it will not be possible to restore the equipment to a usable condition in the combat zone either by repair or cannibalisation.

(1) Mechanical destruction. Using an axe, pick, sledge hammer, or any heavy implement, damage the engine assembly, air receiver tank and all other vital parts.

(2) Explosives. Place 1/2-pound (0.225 kilogram) charges on the following items for demolition using explosives:

(a) One 1/2-pound (0.225 kg) charge between fuel tank and the air receiver tank.

(b) One 1/2-pound (0.225 kg) charge between engine and compressor assembly.

b. Additional lnformation. For additional information on procedures for destruction of equipment to prevent enemy use, refer to TM 750-244.9.

1-5. Reporting Error and Recommending Improvements

(Deleted)

Section II. DESCRIPTION AND DATA

1-6. Description

a. General. The Kellogg-American Model G 311-PC Air Compressor, Serial Number range 585130 through 588000 (figs. 1-1 and 1-2), is a two-stage, reciprocating type designed to deliver 5 cfm (cubic feet per minute) of compressed air at 175 psig (pounds per square inch gage) and powered by a Military Standard Model 1A08 Gasoline Engine. The compressor pump and engine are mounted on a two-wheel pneumatic tire handtruck. The maintenance paragraph of this manual contain detailed descriptions of its components.

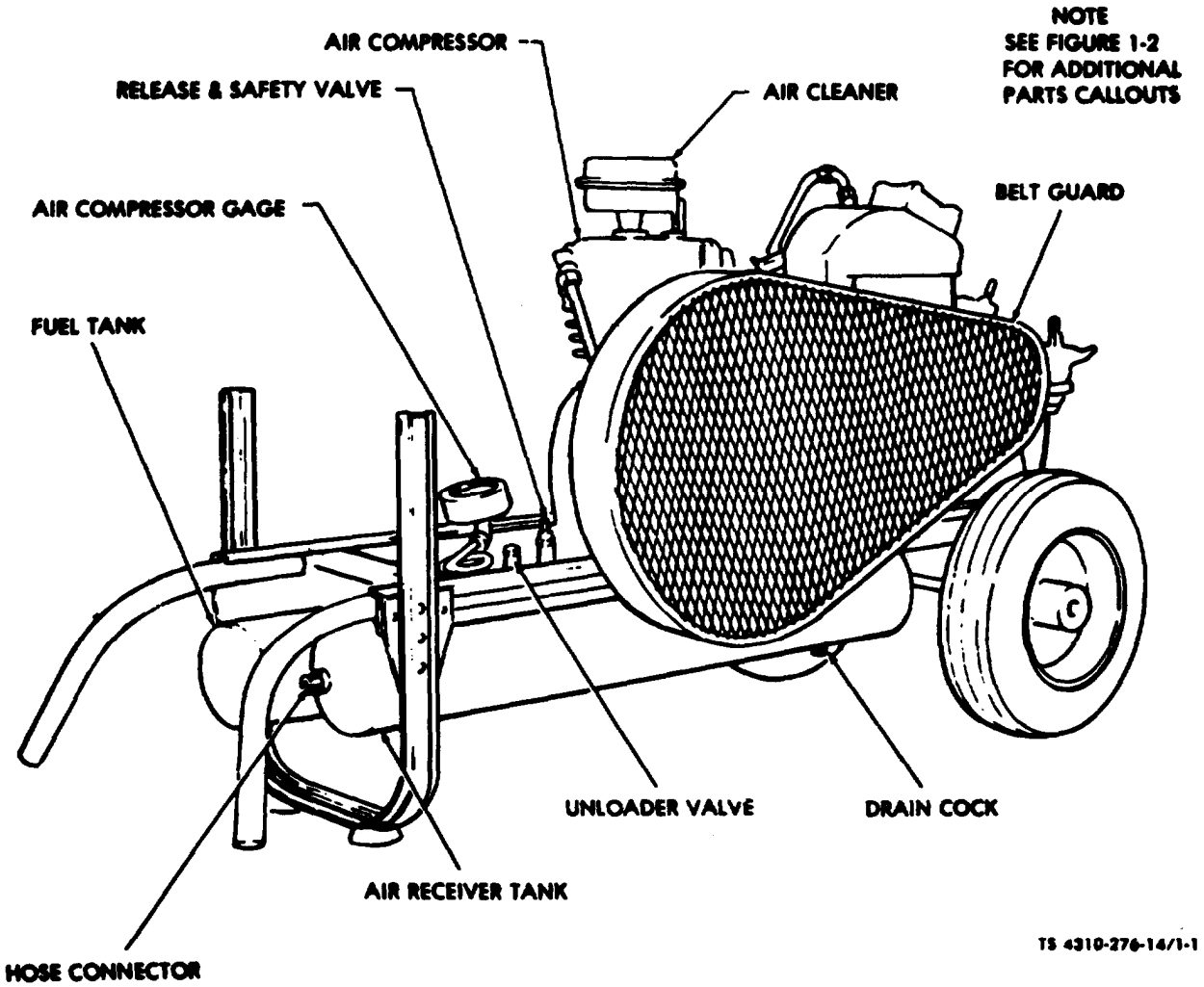

Figure 1-1. Air Compressor Assembly, Right Rear, Three-Quarter View.

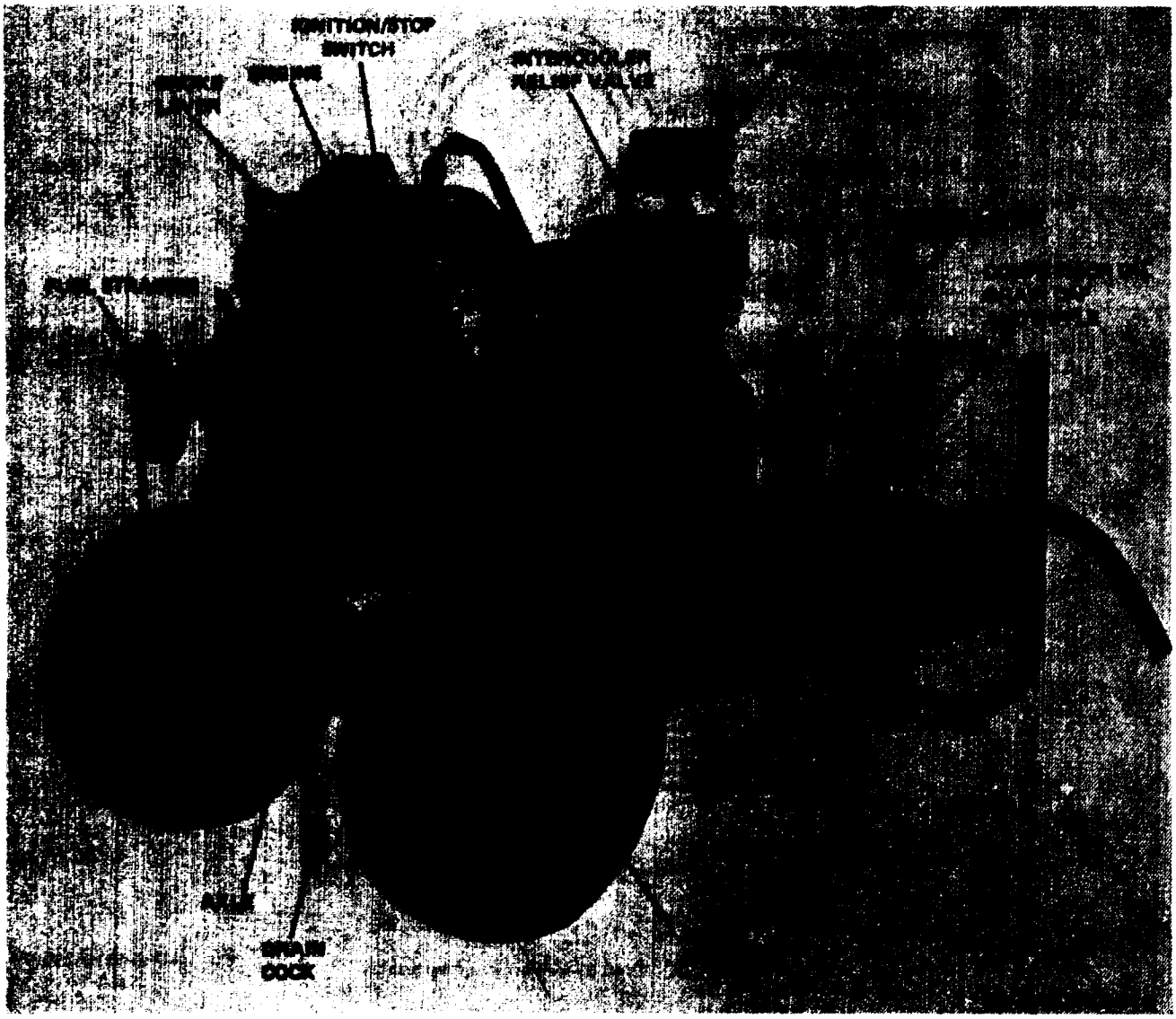

Figure 1-2. Air compressor assembly, left front, three-quarter view.

b. Compressor. The commpressor is a two-cylinder, two-stage, air cooled unit. It will deliver 5 cfm of air at 175 psig to the air receiver tank when belt-driven by the gasoline engine running at a speed of 3,600 rpm (revolutions per minute.) Filtered air as shown in figure 1-3 is drawn into the low pressure cylinder (the large one) at atmospheric pressure as the piston moves down. Air is compressed when the piston is moving upward, this action closes the inlet valves and opens the outlet valves, through which the air is forced into the intercooler. As the air flows through the intercooler much of the heat of compression is dissipated. The second stage is similar to the first, except the air enters the high pressure cylinder and is recompressed to higher pressure. The air next flows through the aftercooler where it is cooled before passing into the air receiver tank.