

TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT AND GENERAL
SUPPORT MAINTENANCE MANUAL

COMPRESSOR, AIR, RECIPROCATING,
ELECTRIC MOTOR DRIVEN RECEIVER MOUNTED,
15 CFM at 175 PSI (12.30 KGS PER SQ CM)
(CHAMPION PNEUMATIC MACHINERY COMPANY)

MODEL NO. HR5-8M-3

NSN 4310-00-537-8876

HEADQUARTERS, DEPARTMENT OF THE ARMY

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CHAPTER 1

INTRODUCTION

Section 1. GENERAL

1-1. Scope

a. These instructions are published for the use of the personnel to whom the air compressor, "Champion Pneumatic Model HR5-8M-3 or Model HR5-8M-4" is issued. They provide information on the operation, organizational, direct support, and general support maintenance of the air compressor, as well as a description of the main units and their functions in relation to the other components.

b. Appendix A contains a list of publications applicable to this manual. Appendix B contains the Maintenance Allocation Chart.

1-2. Maintenance Forms and Records

Maintenance forms and records that you are required to use with the air compressor are DA Forms 2400 (Equipment Utilization Record), 2402 (Exchange Tag), 2402 (Equipment Inspection and Maintenance Worksheet), 2407 (Maintenance Request), and DD Form 314 (Preventive Maintenance Schedule and Record).

1-3. Reporting of Errors

You can help improve this manual by calling attention to errors and by recommending improvements. Your letter, DA Form 2028 (Recommended Changes to Publications) and/or DA Form 2028-2 (Recommended Changes to Equipment Technical Manuals), may be used. Copies of DA Form 2028-2 are attached in the back of the manual for your use. Please mail your recommended changes directly to Commander, U. S. Army Troop Support Command, ATTN: AMSTS-MPP, 4300 Goodfellow Blvd., St. Louis, MO 63120.

1-4. Equipment Serviceability Criteria (ESC)

This equipment is not covered by an ESC.

1-5. 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 cannibalization.

(1) *Mechanical destruction.* Using an axe, pick, mattock, sledge, or any other heavy implement, damage all vital elements.

(2) *Explosives.* Place ½-pound charges on the following for demolition with explosives.

(a) One ½ pound charge between the compressor and the air receiver tank.

(b) One ½-pound charge between the motor and the air receiver tank.

b. For additional data on procedures for destruction of equipment to prevent enemy use, refer to TM 750—244—3.

1-6. 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 precautions.

(2) Take into account environmental conditions, such as extreme heat or cold; high humidity; blowing sand, dust, 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).

Section II. DESCRIPTION AND DATA

1-7. Description

The HR5-8M-3 and HR5-8M-4 (fig. 1-1 and 1-2) is a four cylinder, reciprocating type air compressor capable of delivering 15 cubic feet per minute (0.4248 cu meters per rein). The compressor assembly and associated electric motor are mounted on a frame which is welded to the air receiver, and 80 gallon steel tank. The electric motor drives the compressor assembly by means of a matched pair of V-belts.

The pressure switch assembly determines cut-in and cut-out pressure for the compressor assembly. The switch can be adjusted for cut-out pressures over the range of 140 to 176 psi (9.84 to 12.30 kgs per sq cm). The switch can also be adjusted for a 35 psi to 65 psi (2.46 to 4.57 kgs per sq cm) differential between cut-in and cut-out pressure. The safety valve assembly releases when air receiver pressure exceeds 200 psi (14.06 kgs per sq cm).

1-8. Identification

a. Identification plate mounted on the top of the air receiver platform of the air compressor, specifies the name of the manufacturer, make, model number, date of manufacture, serial number, and National stock number.

b. The compressor identification plate mounted on the governor housing, specifies the name of the manufacturer and the model and serial numbers of the compressor,

c. The electric motor identification plate mounted on the electric motor housing, specifies the name of the manufacturer, model number, and data.

1-9. Differences In Models

This manual covers the Champion Pneumatic Models HR5-8M-3 and HR5-8M-4 air compressors. The Model HR5-8M-4 differs from the Model HR5-8M-3 only in that it has a fungus and moisture resistance magnetic starter and the electrical circuitry, including all components and connections, are of the liquid tight type protected from the effects of moisture and fungus.

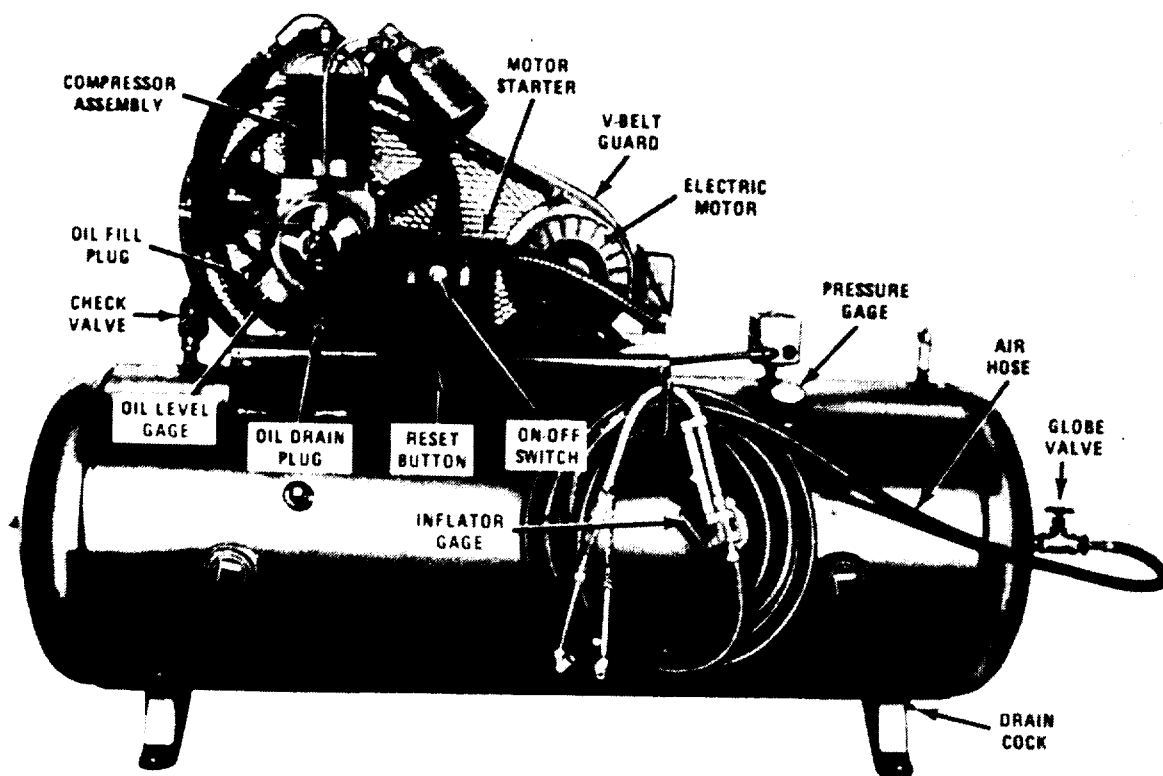


Figure 1-1. Air compressor, right side view.