

TECHNICAL MANUAL

**OPERATOR, ORGANIZATIONAL, DIREC
AND
GENERAL SUPPORT MAINTENANCE MANUAL
INCLUDING
REPAIR PARTS AND SPECIAL TOOLS LIST
COMPRESSOR, AIR; TANK-MOUNTED; EI,EC'T1'IC
MOTOR DRIVEN; 25CFM AT 175 PSI**

CHAMPION MODEL NO. HR10-8M-1 AND HR10-8M-4

NSN 4310-00-133-3512 AND NSN 4310-01-020-7773

AND

C&H MODEL NO. 20-277M

NSN 4310-01-037-2441

**This copy is a reprint which includes current
pages from Changes 1 through 3**

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**OPERATOR'S, ORGANIZATIONAL, DIRECT
AND GENERAL SUPPORT MAINTENANCE MANUAL
INCLUDING
REPAIR PARTS AND SPECIAL TOOLS LIST**

**COMPRESSOR, AIR; TANK-MOUNTED; ELECTRIC
MOTOR DRIVEN; 25 CFM AT 175 PSI
(CHAMPION MODEL NO. HR 10-8M-1 AND HR 10-8M-4)
NSN 4310-00-133-3512 AND NSN 4310-01-020-7773
AND
(C & H MODEL NO. 20-277M)
NSN 4310-01-037-2441**

Current as of 21 June 1974

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 or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, US Army Troop Support and Aviation Materiel Readiness Command, ATTN: DRSTS-MPSD, 4300 Goodfellow Boulevard, Saint Louis, MO 63120. A reply will be furnished directly to you.

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. These instructions are published for the use of the personnel to whom the air compressors, Champion Pneumatic Models HR10-8M-1, HR10-8M-4, and C&H Model 20-277M are issued. They provide information on the operation and maintenance of the air compressor at the organizational, direct and general support levels.

b. Appendix A contains a list of publications applicable to this manual. Appendix B contains the Maintenance Allocation Chart. Appendix C contains the organizational, direct and general support maintenance repair parts listings.

1-2. Maintenance Forms and Records
Maintenance forms and records that you are required to use are explained in TM 38-750.

1-3. Reporting of Errors

See Table of Contents.

1-4. Equipment Serviceability Criteria (ESC)

This equipment is not covered by an ESC.

1-5. Destruction of Army Materiel to Prevent Enemy Use

Refer to TM 750-244-3 covering destruction of Army materiel to prevent use.

1-6. Administrative Storage

Refer to TM 740-90-1 covering administrative storage.

Section II. DESCRIPTION AND DATA

1-7. Description

a. The HR10-8M-1, HR10-8M-4 (fig. 1-1 and 1-2); and the 20-277M (fig. 1-1.1 and 1-2.1) are four cylinder, reciprocating type air compressors capable of delivering 25 cubic feet of air per minute. The compressor assembly and associated electric motor are mounted on a frame which is welded to the air receiver on an 80-gallon steel tank. An electric motor drives the compressor assembly by means of a matched pair of V-belts.

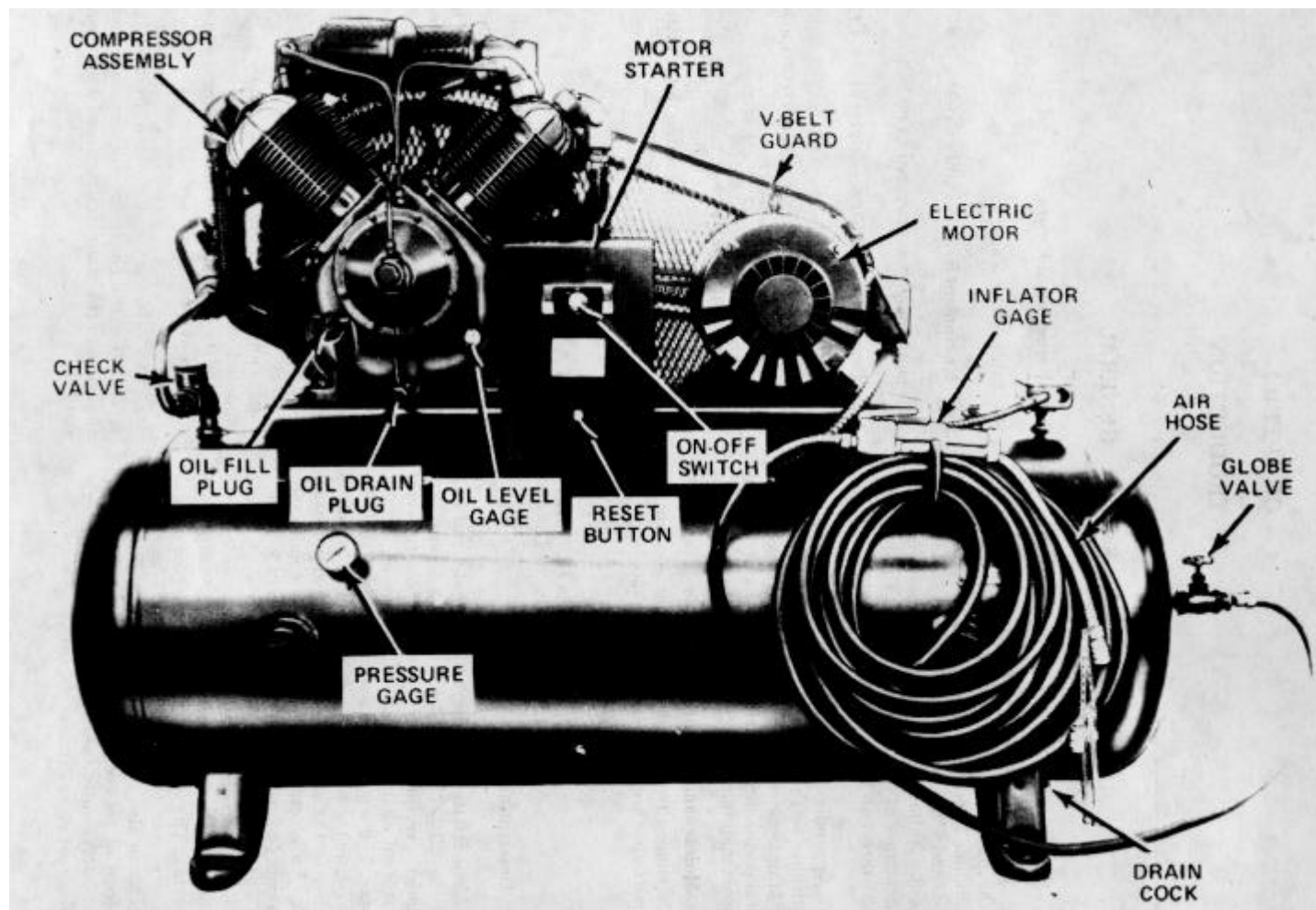
b. The pressure switch assembly determines cut-in and cut-out pressure for the compressor assembly. The switch can be adjusted for cut-out pressure over the range of 140- to 175-psi. The switch can also be adjusted for a 35 psi to 65 psi differential between cut-in and cut-out pressure. The safety valve assembly releases when air receiver pressure exceeds 200 psi.

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 federal stock number, or 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.



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Figure 1-1. HR10-8M-1 or HR10-8M-4, Air compressor, right side view.

Change 2 1-2