

TM 5-4310-227-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT
GENERAL SUPPORT, AND DEPOT MAINTENANCE MANUAL

COMPRESSOR, RECIPROCATING: AIR; GASOLINE ENGINE;
15 CFM, 175 PSI; RECEIVER MOUNTED

(CHAMPION PNEUMATIC MODEL OEG-458-ENG-1)
FSN 4310-861-9818 RECEIVER MOUNTED (CHAMPION
PNEUMATIC MODEL OEG-458-ENG-2) FSN 4310-075-
5251 RECEIVER MOUNTED

(CHAMPION PNEUMATIC MODEL OEG-458-ENG-3) FSN
4310-965-1197 BASE MOUNTED FOR MOUNTING ON
ORD TRAILER WINTERIZED (CHAMPION PNEUMATIC
MODEL BMW-452-ENG) FSN 4310-861-9819 BASE
MOUNTED; Winterized (CHAMPION PNEUMATIC MODEL
BMW-452-ENG-1) FSN 4310-088-5342



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BASE MOUNTED; WINTERIZED (CHAMPION PNEUMATIC MODEL
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* This manual supersedes TM 5-4316-227-15, 17 January 1964, including C 1, 11 August 1965, and C 2, 18 January 1966.

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. This manual is published for the use of personnel to whom the Champion Pneumatic Models OEG458-ENG-1, OEG-458-ENG-2, OEG458-ENG-3, BMW-452-ENG, and BMW452-ENG-1 air compressors are issued. Chapters 1 through 3 provide information on the operation, daily preventive maintenance services, and organizational maintenance of the equipment, accessories, components, and attachments. Chapter 4 provides information for direct and general support and depot maintenance.

b. Appendix A contains a list of publications applicable to this manual. Appendix B contains the list of basic issue items authorized the operator of this equipment and the maintenance and operating supplies required for initial operation. Appendix C contains the maintenance allocation chart.

c. DA Form 2028 (Recommended Changes to DA Publications) will be used for reporting discrepancies and recommendations for improving this equipment publication. The form will be completed by the individual using the manual and forwarded direct to Commanding General, U. S. Army Mobility Equipment Center, ATTN: SMOME-MPD, 4300 Goodfellow Boulevard, St. Louis, Mo., 63120.

d. Report all equipment improvement recommendations as prescribed by TM 38-750.

1-2. Record and Report Forms

a. DA Form 2258 (Depreservation Guide of Engineer Equipment).

b. For other record and report forms applicable to the operator and organizational maintenance, refer to TM 38-750.

Note. Applicable forms, excluding standard Form 46 which is carried by the operator, will be kept in a canvas bag mounted on the equipment.

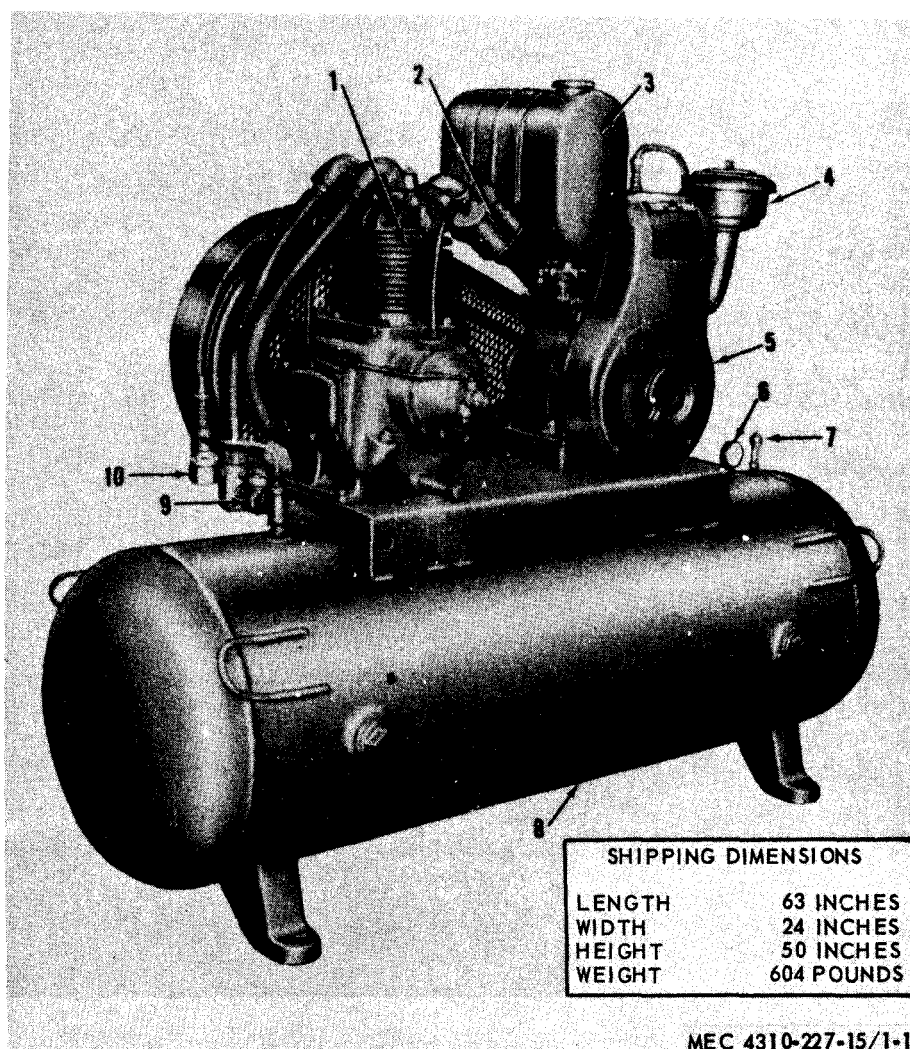
Section II. DESCRIPTION AND DATA

1-3. Description

a. General. The champion air compressor, Models OEG-458-ENG-1, OEG458-ENG 2, and OEG458-ENG-3 are portable, foot mounted, belt driven units (figs. 1-1, 1-2, 1-3, 1-4, and 1-5). The compressor assembly and gasoline engine are mounted on a platform welded to the air receiver tank. Model BMW-452-ENG is base mounted for mounting on a trailer (figs. 1-6 and 1-7. Model BMW-452-ENG-1 is base mounted. The latter two models are winterized. All five models are driven by a gasoline engine, and are designed to produce

15 cubic feet per minute (cfm) at 175 pounds per square inch (psi) of compressed air.

b. Gasoline Engines. The gasoline engine for models OEG-458-ENG-1, OEG-458-ENG-2, BMW-452-ENG, and BMW-452-ENG-1 is a Wisconsin Model MAE-NLD. The engine is a four-cycle, one-cylinder, L-head, air-cooled unit. The governed speed is 2,625 revolutions per minute (rpm). The gasoline engine for Model OEG458-ENG-3 is a Military Standard Model 4A032-1. Complete data on this engine is contained, in TM 5-2805-203-14.



- | | | |
|--------------------------|---------------------|-------------------|
| 1 Air compressor | 5 Engine | 9 Check valve |
| 2 Compressor air cleaner | 6 Pressure gage | 10 Unloader valve |
| 3 Fuel tank | 7 Safety valve | |
| 4 Engine air cleaner | 8 Air receiver tank | |

Figure 1-1. Air compressor (model OEG458-ENG-1) left front, three-quarter view.

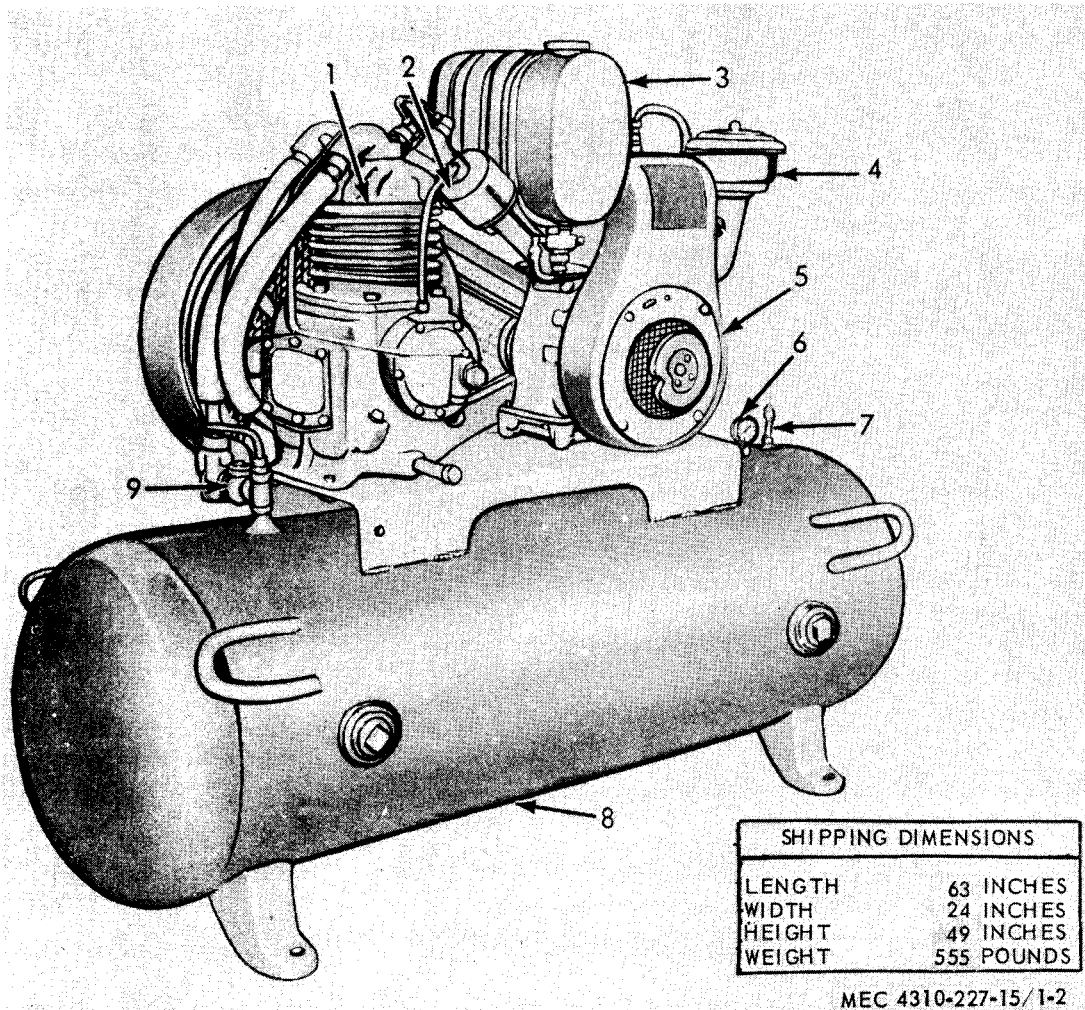
c. *Compressor Assembly.* The Champion compressor assembly is an air-cooled, 2-stage, vertical, reciprocating pump that delivers 15 cfm at 175 psi to the air receiver tank. All models operate at 690 rpm.

d. *Air Receiver Tank.*

- (1) The air receiver tank, models OEG-458-ENG-1, OEG-458-ENG-2 and OEG-458-ENG-3 is the horizontal

type supported on 4 steel feet. It has a capacity of 10.7 cu ft (cubic feet) and a maximum working pressure of 200 psi.

- (2) The air receiver tank, models BMW-452-ENG and BMW-452-ENG-1, is mounted on the platform at the front of the unit. Each has a capacity of 2.673 cubic feet.



- | | | |
|--------------------------|----------------------|---------------------|
| 1 Air compressor | 4 Engine air cleaner | 7 Safety valve |
| 2 Compressor air cleaner | 5 Engine | 8 Air receiver tank |
| 3 Fuel tank | 6 Pressure gage | 9 Check valve |

Figure 1-2. Air compressor (model OEG-458-ENG-2) left front, three-quarter view.

1-4. Identification

a. The Corps of Engineers identification plate, for models OEG-458-ENG-1, OEG-458-ENG-2 and OEG-458-ENG-3 specifies the name of the manufacturer, make, model number, date of manufacture, serial number, and Federal stock number of the air compressor. It is located on the left side of the air receiver platform.

b. The Corps of Engineers identification plate for models BMW-452-ENG and BMW-452-ENG-1 specifies the name of the manufacturer, make, model number, date of manufacture, serial number, and Federal stock number of the engine.

ture, serial number, and Federal stock number of the air compressor. It is located on the outside of the instrument panel door.

c. The compressor identification plate specifies the name of the manufacturer, and the model and serial number of the air compressor. The plate is mounted on the governor housing of the compressor.

d. The gasoline engine identification plate includes the engine manufacturer, model number, serial number, lubrication instructions, and starting and stopping instructions. The plate is mounted on the left side of the engine.