
DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL
DS, GS, AND DEPOT MAINTENANCE MANUAL
INCLUDING
REPAIR PARTS AND SPECIAL TOOL LISTS

COMPRESSOR RECIPROCATING,
AIR, RECEIVER MTD ELECTRIC
MOTOR DRIVEN 25CFM, 175 PSI
(CHAMPION PNEUMATIC
CO, MODEL HR7-8M-1)
FSN 4310-063-7371

This reprint includes all changes in the at the time of publication; changes 2 and 3.
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HEADQUARTERS
DEPARTMENT OF THE ARMY
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MOTOR DRIVEN 25CFM, 175 PSI, (CHAMPION PNEUMATIC
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Current a of 19 April 1968

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1. GENERAL DESCRIPTION

The HR7-8M-1 (figure 1) is a four cylinder, reciprocating type air compressor capable of delivering 25 cubic feet per minute. The compressor assembly and associated electric motor are mounted on a frame which is welded to the air receiver, an 80 gallon steel tank. The electric motor drives the compressor assembly by means of a matched pair of V belts associated electric motor are mounted on a frame which is welded to the air receiver, an 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 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.

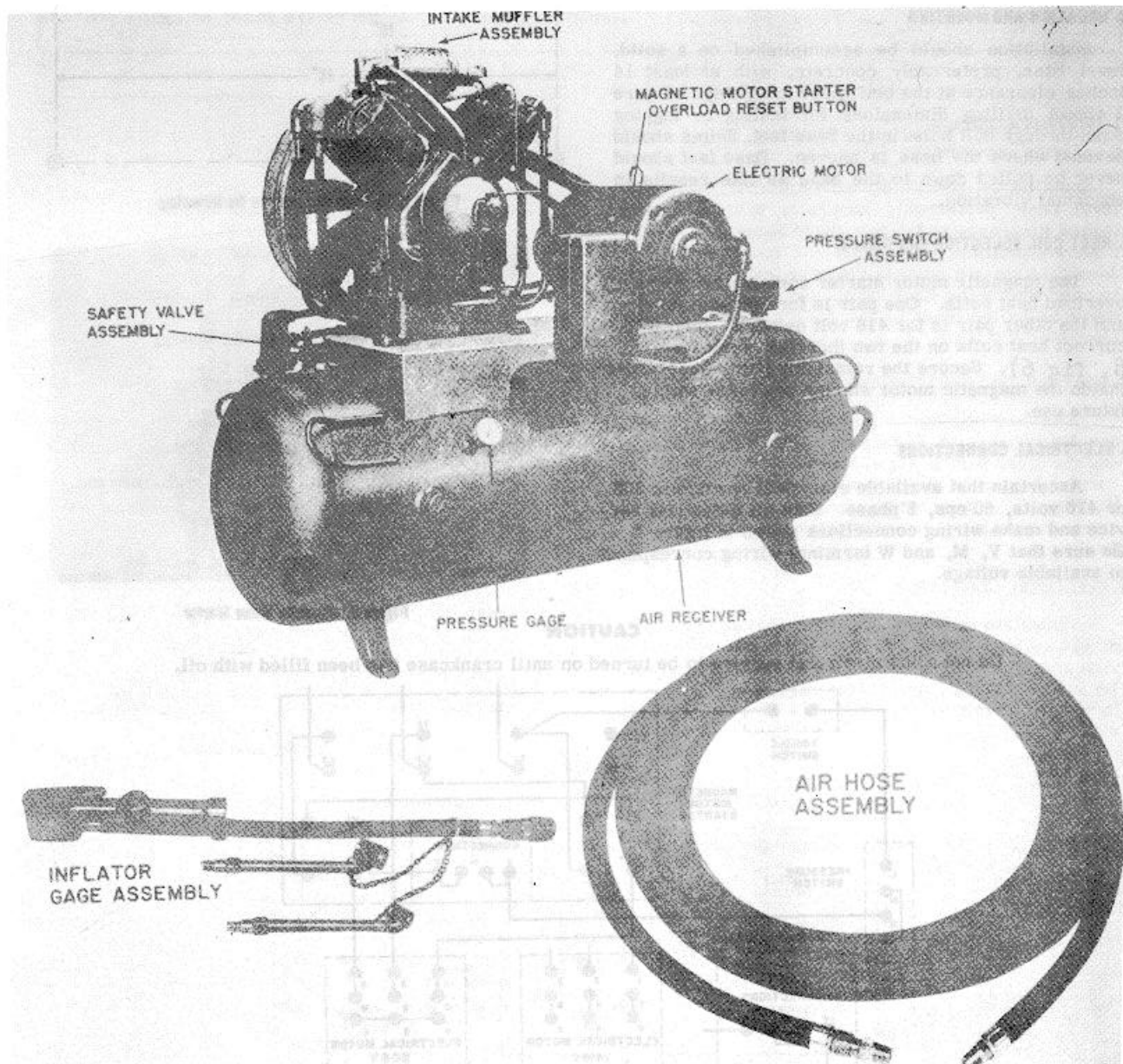


Figure 1. HR7-8M-1 Air Compressor

Table 1. Tabulated Data

Bore and Stroke	4-4/8 (2) and 2-1/2 (2) x 3
CU, FT/REV	0.05828
Air Receiver Working Pressure	200-psi at -25° to +450° F
Displacement	33.7 CFM
Delivery	26.3 CFM
Crankcase Capacity	4 qts
Shipping Weight.....	760 lbs
Overall Dimensions	50" x 22" x 66"
Power Requirements	208 or 416 volts, 60 cps, 3 phase

2. INSTALLATION

3. LOCATION AND MOUNTING

Installation should be accomplished on a solid, level base, preferably concrete, with at least 14 inches clearance at the belt guard assembly. Figure 2 shows drilling dimensions for bolting or lagging down through bolt holes in the base feet. Shims should be used where the base is uneven. Base feet should never be pulled down to the base as this results in abnormal vibration.

4. HEAT COIL SELECTION (See figure 3)

The magnetic motor starter contains two pairs of overload heat coils. One pair is for 208 volt service and the other pair is for 416 volt service. Install the correct heat coils on the two thermal overloads (5, 8, fig 6). Secure the remaining pair of heat coils inside the magnetic motor starter box for possible future use.

5. ELECTRICAL CONNECTIONS

Ascertain that available electrical service is 208 or 416 volts, 60 cps, 3'phase.: Shut off electrical service and make wiring connections -shown in figure 4. Be sure that V, M, and W terminal wiring corresponds to available voltage.

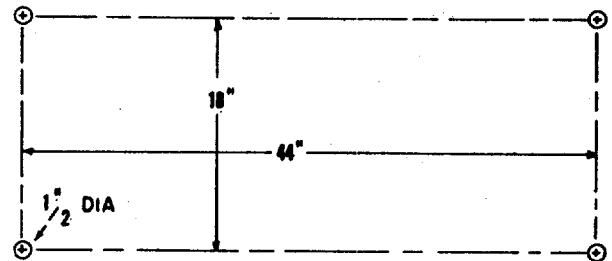


Figure 2. Drilling Dimensions for Mounting

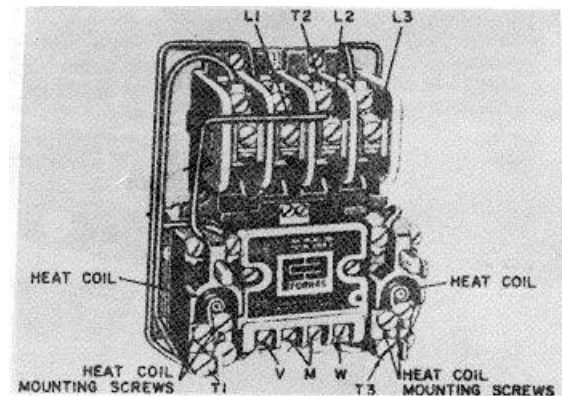


Figure 3. Magnetic Motor Starter

CAUTION

Do not allow electrical service to be turned on until crankcase has been filled with oil.

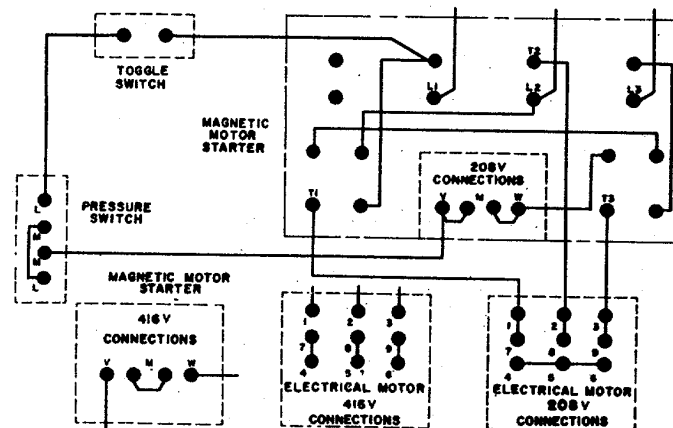


Figure 4. Electrical Wiring