

TM 5-4310-339-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

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

COMPRESSOR, RECIPROCATING, AIR;

15 CFM, 175 PSI;

ELECTRIC MOTOR DRIVEN

(INGERSOLL-RAND MODEL 242D7 - ½)

FSN 4310-143-9280

HEADQUARTERS, DEPARTMENT OF THE ARMY
DECEMBER 1969

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TECHNICAL MANUAL

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WASHINGTON, D.C., 29 December 1969

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SECTION I

GENERAL INFORMATION

1-1. INTRODUCTION. This manual covers the installation, operation and maintenance of the Model 242 D7-1/2 Air Compressor.

The instructions contained herein are for the guidance of personnel responsible for the operation and maintenance of the equipment.

1-2. GENERAL DATA.

Manufacturer's Name	Ingersoll-Rand Company
Manufacturer's Model No.	.242D7-1/2
Manufacturer's Serial No.	X30T275953 through X30T276025 inclusive
Capacity, CFM(cubic feet per minute).	.15
Pressure, PSIG (pounds per square inch gauge)	175
Speed of Shaft, RPM (revolutions per minute)	1040
Motor Horsepower	.75
Working Pressure, PSIG	
First Stage	.35-40
Second Stage	.195
Safety Valve Pressure Setting, PSIG	
First Stage	.60
Second Stage	.200
Contract No	.DAAK-69-C-1735
Federal Stock No	.4310-143-9280
Maintenance Forms and Records.	Maintenance forms, records, and reports which are to be used by maintenance personnel at all levels are listed in and prescribed by TM 38-750.

Section I

1-3. ASSOCIATED COMPONENTS. Refer to Section VI for the details of the following components:

Driver	General Electric
Controller	General Electric
Air Pressure Switch	Square D
First Stage Safety Valve.	.KunkleValve
Second Stage Safety Valve...	.Kunkle Valve

1-4. WEIGHTS.

Controller, Lb (Pound)	.6
Recievcr, Lb	.360
Motor, Lb	.127
Compressor -Dry, Lb.....	.170

1-5. OVERALL DIMENSIONS.

Width, In. (Inches)	...24.5
Height. In	...41.0
Length, In	...63.0

1-6. DESCRIPTION OF COMPONETS

1-7. GENERAL DESCRIPTION. The Model 242 D7-1/2 Air Compressor described by this manual is a two stage. air cooled reciprocating air compressor, capable of continuous operation at a rated capacity of 15 CFM at a discharge pressure of 175 PSIG when operating at a speed of 1040 RPM. The Model 242 D7-1/2 Air Compressors compact package consisting of several major components. These components are as follows: Model 242 Compressor, induction motor with magnetic controller, belt guard assembly, receiver, and an air hose assembly with inflator gauge. Refer to Figures 1-1 and 1-2.

1-8. MODEL 242 COMPRESSOR. The Model 242 Compressor (Figure 1-3) is a 2-3/4-inch stroke, two cylinder, single acting, air cooled compressor. The cylinder bore diameter of the first stage cylinder is 4 inches and that of the second stage cylinder is 2-1/2 inches. The compressor assembly comprises a totally enclosed crankcase which supports a counter-weighted crankshaft and a balanced fan-type flywheel, an oil filler, a pilot valve and centrifugal unloader, two compressing cylinders, an intercooler assembly and an aftercooler assembly. The crankcase also serves as a sump for the lubricating oil. The crankshaft supports

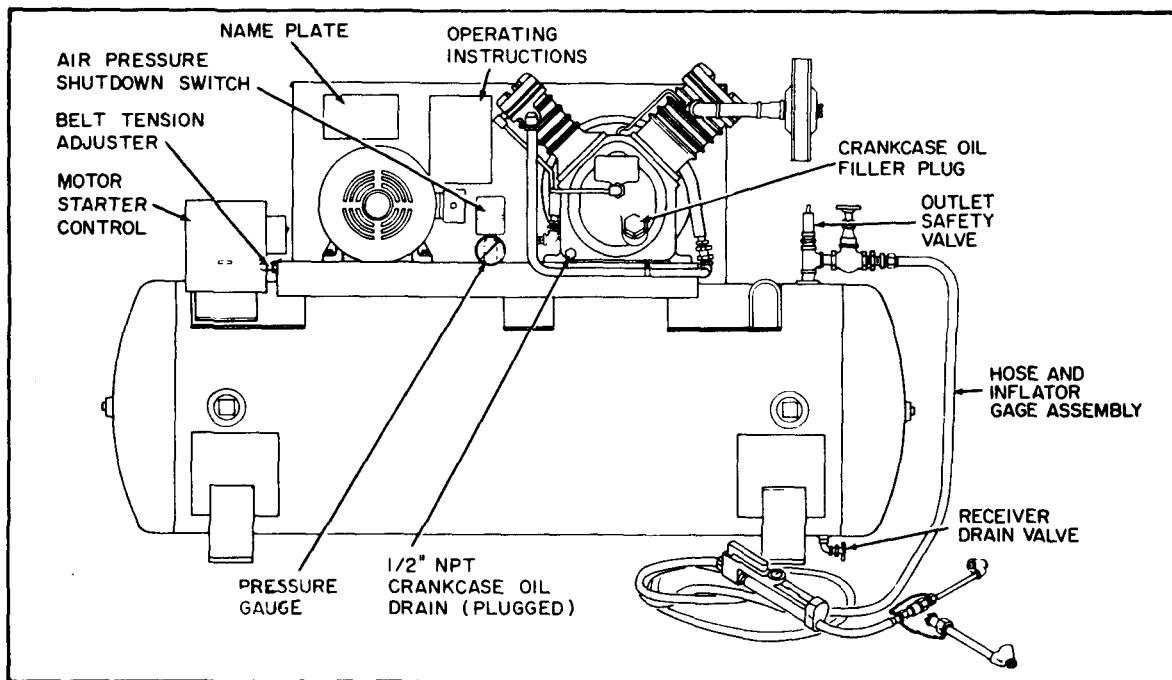


Figure 1-1. Model 242D7-1-1/2 Compressor, Front View

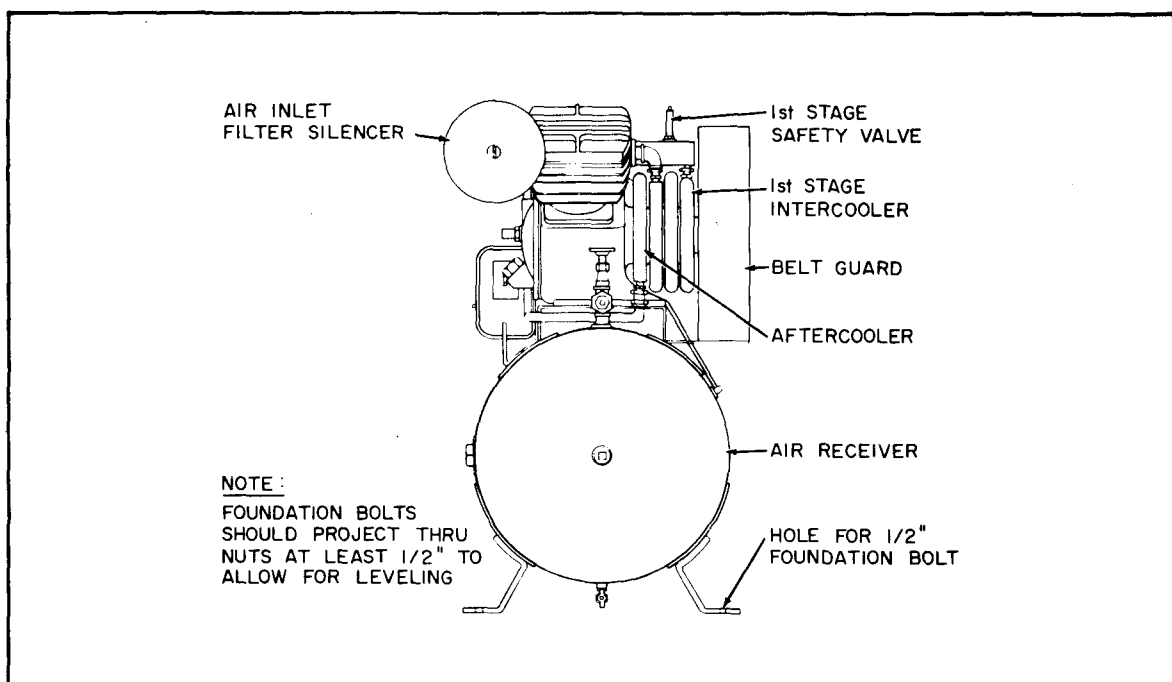


Figure 1-2. Model 242D7-1-1/2 Compressor, End View