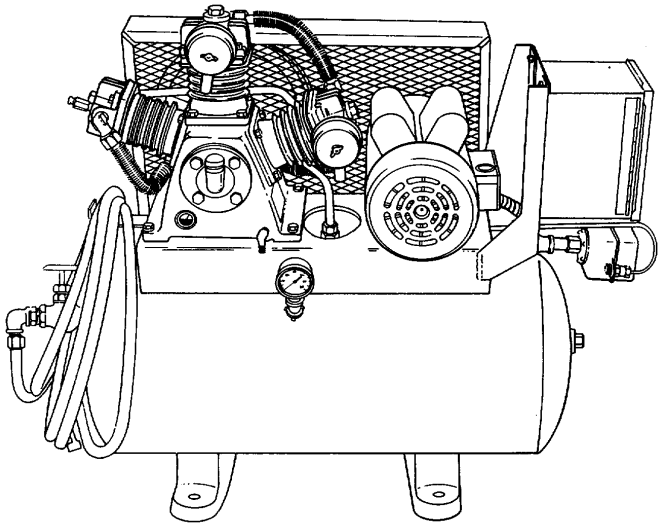
TECHNICAL MANUAL

OPERATOR'S UNIT, FORWARD INTERMEDIATE, AND REAR INTERMEDIATE MAINTENANCE MANUAL



COMPRESSOR UNIT, RECIPROCATING, 5 CFM, 175 PSI, ELECTRIC MOTOR DRIVEN

MODEL: E23CV7A
NSN 4310-01-165-6676

HEADQUARTERS, DEPARTMENT OF THE ARMY

28 JUNE 1984

TECHNICAL MANUAL

HEADQUARTERS
DEPARTMENT OF THE ARMY
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OPERATOR'S UNIT, FORWARD INTERMEDIATE, AND REAR INTERMEDIATE MAINTENANCE MANUAL FOR COMPRESSOR UNIT, RECIPROCATING, 5 CFM, 175 PSI, ELECTRIC MOTOR DRIVEN

MODEL: E23CV7A
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REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Troop Support Command, ATTN: DRSTR-MPS, 4300 Goodfellow Blvd., St. Louis, MO 63120. A reply will be furnished to you.

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CHAPTER 1

INTRODUCTION

Section I. GENERAL INFORMATION

1-1. SCOPE.

a. Type of Manual.

Operator's, Unit, Forward Intermediate, and Rear Intermediate Maintenance Instructions.

b. Equipment Name.

Compressor Unit, Reciprocating, 5 CFM, 175 PSI, Electric Motor Driven.

c. Purpose of Equipment.

Provides 175 psig (12.3 kgs/cm2) compressed air at a discharge rate of 5.0 cubic feet (0.141 m3) per minute.

1-2. MAINTENANCE FORMS AND RECORDS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, The Army Maintenance Management System (TAMMS)."

1-3. HAND RECEIPT (HR) MANUALS.

This manual has a companion document with a TM number followed by "-HR" (which stands for Hand Receipt). The TM 5-4310-377-13-HR consists of preprinted hand receipts (DA Form 2062) and list end item related equipment

1-3. HAND RECEIPT (HR) MANUALS - Continued.

(i.e., COEI, BIL, and AAL) you must account for. As a aid to property accountability, additional -HR manuals may be requisitioned from the following source in accordance with procedures in Chapter 3, AR 310-2:

The US Army Adjutant General Publications Center
ATTN: AGLD-OD
2800 Eastern Blvd.
Baltimore, MD 21220

1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

Refer to TM 750-244-3 for methods and procedures to destroy Army materiel to prevent enemy use.

1-5. PREPARATION FOR STORAGE OR SHIPMENT.

To prepare the equipment for storage or shipment, refer to Chapter 3, Section XI.

1-6. REPORTING OF EQUIPMENT IMPROVEMENT RECOMMEN- DATIONS (EIR's).

If your air compressor needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at DRSTR-QX, 4300 Goodfellow Boulevard, St. Louis, MO 63120. We'll send you a reply.

1-7. LIST OF ABBREVIATIONS.

Abbreviation	Definition
cfm	cubic-feet-per-minute
cm	centimeter
EIR	Equipment Improvement Recommendation
hp	horsepower
Hz	Hertz
kg	kilogram
lb-ft	pound-foot
lbs	pounds
mm	millimeters
nm	newton meters
psi	pounds-per-square-inch
psig	pounds-per-square-inch-gage
rpm	revolutions-per-minute
vac	Volts-alternating-current

1-8. WARRANTY INFORMATION.

The air compressor is warranted by Curtis-Toledo for 12 months. It starts on the date, found in block 23, DA Form 2408-9, in the logbook. Report all defects in materiel or workmanship to your supervisor, who will take appropriate action through your organizational maintenance shop.

Section II. EQUIPMENT DESCRIPTION

1-9. CHARACTERISTICS.

a. Electric motor driven.

b. Belt driven.

c. Stationary tank mounted.

d. Air cooled.

e. Two-stage compressor.

1-10. CAPABILITIES AND FEATURES.

a. Supplies 175 psig (12.3 kgs/cm^2) air to the receiver tank.

b. Can supply 5.0 cubic feet (0.141 m^3) of free air per minute.

c. Operates at a normal motor speed of 1,740 rpm and a compressor speed of 680 rpm.

d. Has a receiver tank with a 20 gallon (74.7 liters) capacity.

e. Has a 50 foot (15.24 meters) flexible hose.

f. Receiver tank has air pressure gage reading from 0 to 300 psi (21.2 kgs/cm^2) capacity.

g. Starter overload in the starter box is set at 30 amps.

1-11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

(Refer to Figure 1-1).

a. Air Intake Filters. The air intake filters (1) remove the dust and debris from the incoming air to prevent damage to the compressor.

b. Intercooler. The intercooler (2) cools the compressed air between the first and second stages.

c. Belt Guard. The belt guard (3) prevents personnel and debris from getting caught in the belts.

d. Fan Pulley. The fan pulley (4) directs cooling air to the finned intercooler and to the finned cylinders.

e. Air Compressor. The air compressor (5) is of three cylinder design and compresses the air.

f. Motor. The motor (6) is a 2 hp, brushless type that provides the motive force to drive the compressor.

g. Pressure Switch. The pressure switch (7) automatically turns on the motor at 175 psi ±10 (12.3 ±0.70 kgs/cm^2) and turns off the motor at 200 +0, -10 psi (14.1 +0, -0.70 kgs/cm^3) to regulate the pressure in the tank.

h. Air Receiver Tank. The air receiver tank (8) holds the compressed air until ready for use.

i. Air Pressure Gage. The air pressure gage (9) reads the air pressure in the air receiver tank.

j. Starter. The starter (10) starts and stops the motor upon command from the pressure switch.

k. Flexible Hose. The flexible hose (11) transfers the compressed air from the air receiver tank to where the air will be used.

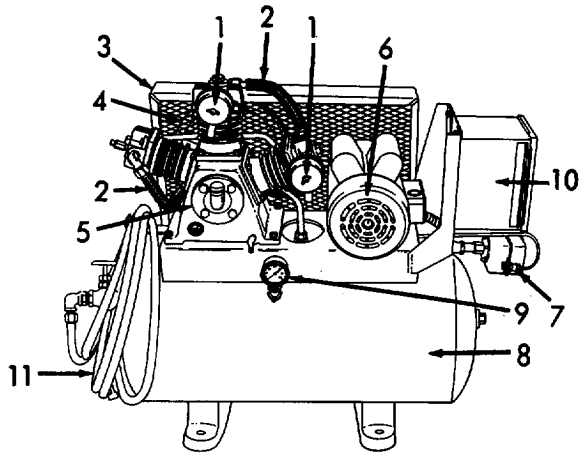

Figure 1-1. Compressor Unit, Reciprocating, 5 CFM, 175 PSI, Electric Motor Driven.