

**INSTRUCTIONS FOR INSTALLING
KAHLENBERG P449 SERIES COMPRESSORS
PART NOS. P449-27 (12 VOLT) AND P449-28 (24 VOLT) Compressor Kits**

REFERENCES: Drawing No. 3-6747

Thank you for buying a Kahlenberg P449 Series Intermittent Duty Compressor Kit. This is powerful, compact, oil-less piston compressor for your air horn system and should give you years of trouble-free performance. Although installation of this compressor kit is straightforward and simple, we offer the following guidelines to assist you.

WARNING

THIS COMPRESSOR SYSTEM IS RATED FOR INTERMITTENT DUTY ONLY. PLEASE READ AND UNDERSTAND THESE INSTRUCTIONS INCLUDING SAFETY PRECAUTIONS ON PAGE 5.

IMPROPER INSTALLATION CAN BE DANGEROUS, AND MAY ALSO RESULT IN PERMANENT DAMAGE TO THE SYSTEM WHICH IS NOT COVERED UNDER WARRANTY.

THE FOLLOWING ITEMS ARE INCLUDED IN THIS PACKAGE:

- (1) P449 Series Compressor Pump with P516-04 1/4" tube fitting installed (10 ft.) PT130-005 1/4" (6mm) Nylon Tube
 - (1) Plastic Package containing:
 - (1) P254-08 12V or P254-09 24V Relay
 - (1) P516-02 1/8" NPT x 1/4" tube Fitting
 - (2) Extra Air Filters for compressor intake
1. Arrange compressor, air horn in such a way as to keep air line run as short as possible. The kit provides you with 10' of 1/4" SAE J844 air tubing, but shorter runs are preferable as the blast of the horn is more instantaneous (by fractions of a second). The P516-02 1/8" NPT connector included is to be installed directly into the base of the air horn. It is pre-coated with Teflon sealant, so no additional sealant or Teflon tape is required. Cut tube off square with razor or sharp knife and push firmly into connector. To disconnect, press in on red connector collar and pull tube out. This provides a simple, airtight flexible connection. **See Installation Drawing 3-6747 attached for additional details.**
 2. Because the compressor pump is oil-less, it can be mounted in any vertical or horizontal orientation. The compressor head will become warm in operation. It will become HOT if used excessively. Although the compressor pump includes an internal thermal disconnect switch which will automatically shut the unit off if it becomes too hot, as much ventilation as possible for this unit is advised. **Do not install the pump in a very small, unvented, enclosed space.**

3. **Wiring Control Voltage Per Drg. 3-6747, to relay contacts 85 and 86:**

Control voltage and compressor line voltage must match the compressor pump ordered, whether P449-15 (12 volt D.C) or P449-16 (24 volt D.C.). Control voltage is connected to the relay from a push button switch, automatic signaling timer, or other contact closure to energize the coil on the relay, thereby closing the contacts in the relay connecting line voltage to the compressor. 18 gauge wire is recommended for the control circuit which requires very low current (.26 Amps max @ 24 volts).

4. **Line Voltage Per Drg. 3-6747 to relay contacts 87 and 30:**

14 gauge wire minimum should be used from the power source for line voltage to the relay and compressor. (see recommended wire gauge vs. length of run on the following page). For 24 Volt Units, the electrical circuit should include a slow burn fuse or breaker rated for 15 amps. For 12 Volt Units, a 25 amp slow burn fuse or breaker should be used.

5.) **Maintenance:**

Routine maintenance of the compressor pump is minimal. However, after the first year of service, the air filter (inside small gray plastic cover on head side of pump) should be checked for excessive clogging. The filter can be washed with soapy water and put back in service once dry, or can be replaced with spares included in this kit. A clean intake filter improves the performance of the pump, and the air delivery to the horn to maintain maximum dB output.

IMPORTANT!!!

<u>RUN DISTANCE</u>	<u>WIRE GAUGE</u>
Less than 10'	14 AWG
10' to 35'	12 AWG
35 to 50'	10 AWG
50 to 70'	8 AWG

NOTE: THESE ARE THE WIRE GAUGES NECESSARY FOR THE ENTIRE WIRING RUN OF LINE VOLTAGE TO YOUR POWER SOURCE (BATTERY). IF THIS IS NOT DONE, IT WILL RESULT IN A LOW AMPERAGE CONDITION AND SUBSEQUENT DAMAGE TO THE COMPRESSOR UNIT.

TROUBLESHOOTING

IF THE COMPRESSOR OPERATES BUT DOES NOT PROVIDE ADEQUATE AIR SUPPLY TO THE HORN:

- VERIFY THE LINE VOLTAGE CURRENT TO THE COMPRESSOR (VOLTAGE AND AMPERAGE) WITH A MULTIMETER, AND VERIFY WIRE SIZE (SEE ABOVE SUGGESTED WIRE SIZES) GOING TO THE COMPRESSOR. NOTE: THE 12-VOLT COMPRESSOR MOTOR REQUIRES 21 AMPS AT FULL LOAD.
- CHECK THE SYSTEM FOR AIR LEAKS WITH SOAP AND WATER SOLUTION, ESPECIALLY AT FITTINGS.
- IF CURRENT IS VERIFIED AND NO AIR LEAKS ARE FOUND, COMPRESSOR IS DAMAGED AND MUST BE REPAIRED OR REPLACED.

IF THE COMPRESSOR DOES NOT OPERATE AT ALL:

- VERIFY CONTROL VOLTAGE IS PRESENT AT RELAY TERMINALS 85 AND 86 WHEN PUSH BUTTON IS PRESSED TO BLOW HORN. IF NONE IS PRESENT, WIRING OR PUSH BUTTON OR CONTROL PROVIDING CURRENT TO CONTROL SIDE OF RELAY IS DAMAGED OR DISCONNECTED.
- IF CONTROL VOLTAGE IS PRESENT AT RELAY PER ABOVE, TURN OFF LINE VOLTAGE CIRCUIT BREAKER OR DISCONNECT LINE VOLTAGE FROM TERMINALS 87 AND 30 ON THE RELAY. VERIFY THAT WHEN PUSH BUTTON IS DEPRESSED (VOLTAGE IS PRESENT BETWEEN CONTACTS 85 AND 86), CONTINUITY IS OBSERVED BETWEEN TERMINALS 87 AND 30 ON RELAY. AN AUDIBLE “CLICK” SHOULD BE HEARD FROM THE RELAY. IF NO CONTINUITY (CLOSURE OF RELAY CONTACTS) IS OBSERVED, THE RELAY MUST BE REPLACED.
- IF CONTROL VOLTAGE AND LINE VOLTAGE IS CONFIRMED, AND RELAY IS CONFIRMED OPERATING PER ABOVE STEPS, YET COMPRESSOR STILL DOES NOT RUN, TRIPS BREAKERS, OR BLOWS FUSES, MOTOR WINDINGS ARE POTENTIALLY DAMAGED, OR COMPRESSOR PISTON IS SEIZED AND MUST BE REPAIRED OR REPLACED.

FOR ADDITIONAL ASSISTANCE, CONTACT:

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IMPORTANT SAFETY INFORMATION

Read and understand the following information and instructions included with this product before using. This information is for your safety and to prevent damage to the product.

! CAUTION: To reduce risk of electric shock or electrocution:

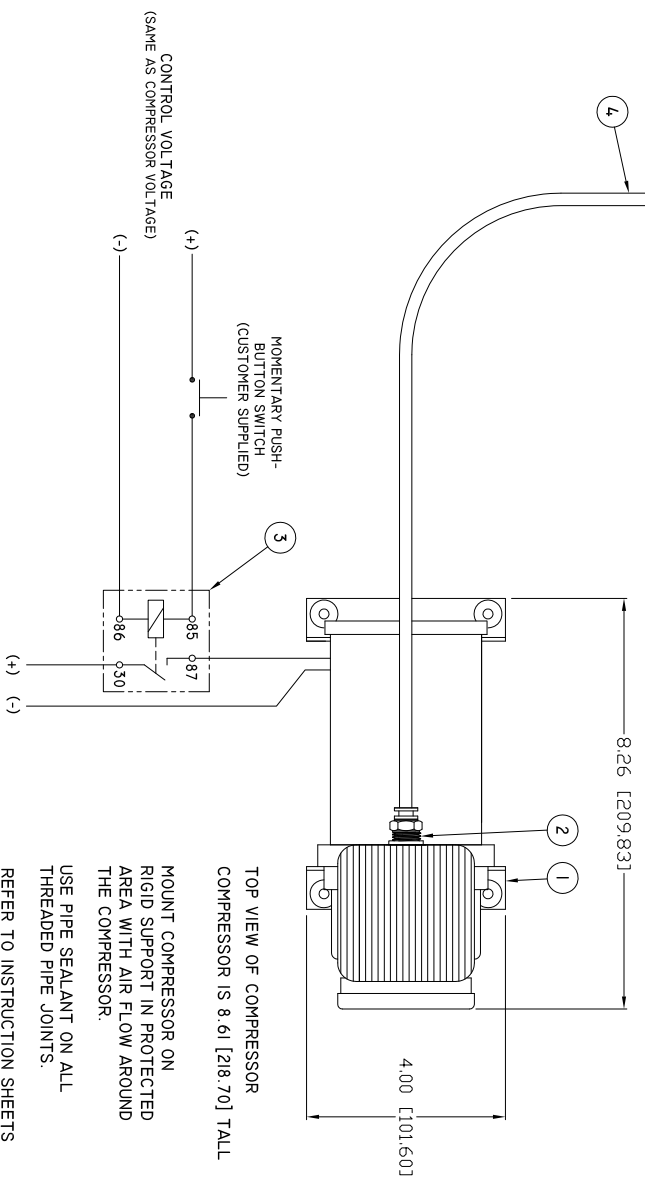
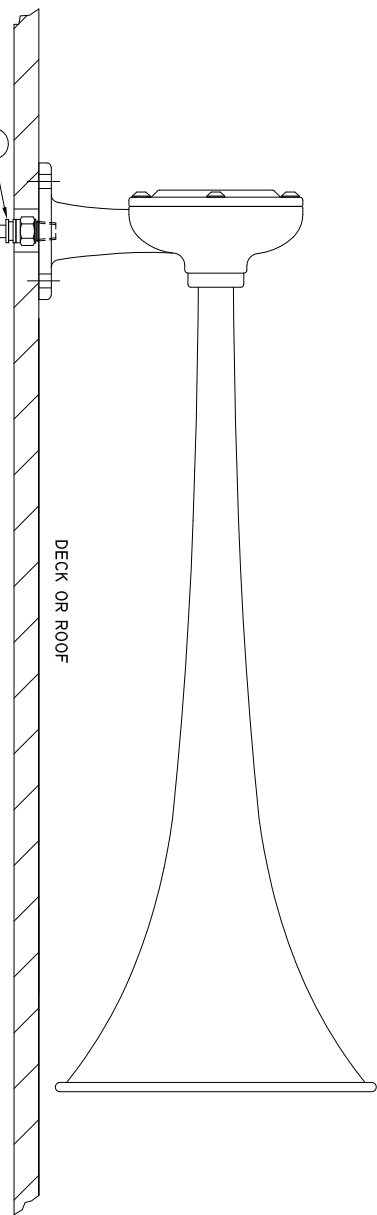
1. Do not disassemble compressor pump. Disassembly or attempted repairs if accomplished incorrectly can create electrical shock hazard.
2. Do not use this product in or near an area where it can fall or be pulled into water or other liquids.
3. Do not reach for this product if it has fallen into liquid. Disconnect power immediately.
4. Never operate this product outdoors in the rain or in a wet area.

! DANGER: To reduce risk of explosion or fire...

1. Do not use this product in or near explosive atmospheres or where aerosol (spray) products are being used.
2. Do not pump anything other than atmospheric air.
3. Do not pump combustible liquids or vapors with this product or use in or near an area where flammable or explosive liquids or vapors may exist.
4. Do not use this product near flames.

! CAUTION: To prevent injury...

1. Never operate this product if it has been dropped or damaged, or if it has fallen into water. Return the product to the factory for examination and repair.
2. This unit is thermally protected and can restart when the protector resets. Always disconnect power source before servicing.
3. Use only in well ventilated areas.
4. Do not use any tools or attachments without first determining maximum air pressure for that tool or attachment.
5. Never point any air nozzle or air sprayer toward another person or any part of the body.
6. All electrical products generate heat. To avoid serious burns, never touch unit during or immediately after operation.



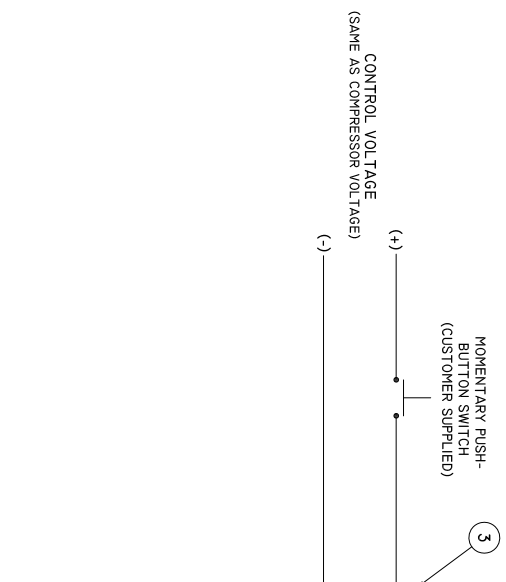
TOP VIEW OF COMPRESSOR
 COMPRESSOR IS 8.61 [218.70] TALL

MOUNT COMPRESSOR ON RIGID SUPPORT IN PROTECTED AREA WITH AIR FLOW AROUND THE COMPRESSOR.

USE PIPE SEALANT ON ALL THREADED PIPE JOINTS.

REFER TO INSTRUCTION SHEETS FOR ALL INSTALLATION REQUIREMENTS.

CURRENT REQUIREMENTS	
12 VOLT	21 AMP
24 VOLT	12 AMP
USE 14 GAUGE CONDUCTORS	
FUSE REQUIREMENTS	
FUSE & FUSE HOLDERS ARE CUSTOMER SUPPLIED	
12 VOLT	25 AMP SLOW BURN
24 VOLT	14 AMP SLOW BURN



NO.	PART NO.	DESCRIPTION	QUAN.
1	P449-15	COMPRESSOR PUMP ONLY, 12V DC	1
2	P516-04	CONNECTOR, MALE 1/4" NPT X 1/4" TUBE	1
3	P254-08	RELAY, 12V DC	1
4	P254-09	RELAY, 24V DC	1
4	PT130-005	TUBING, NYLON, 1/4" O.D., .190 I.D. X .030 WALL	10'
5	P516-02	CONNECTOR, MALE 1/8" NPT X 1/4" TUBE	1

P449-15 SPECIFICATIONS

12 VDC
 CFM @ P.S.I.: 0.85 @ 100 P.S.I.
 MAX PRESSURE: 150 P.S.I.
 CURRENT @ RATED LOAD (AMPS): 21
 MAX. AMBIENT TEMPERATURE: 158°F, 70°C
 MIN. AMBIENT TEMPERATURE: -40°F, -4.4°C
 MAX. DUTY CYCLE: 33%
 WEIGHT: 7.91 LBS./3.59 KG.
 (PUMP ALONE P449-15)

P449-16 SPECIFICATIONS

24 VDC
 CFM @ P.S.I.: 0.99 @ 100 P.S.I.
 MAX PRESSURE: 150 P.S.I.
 CURRENT AT RATED LOAD (AMPS): 12
 MAX. AMBIENT TEMPERATURE: 158°F, 70°C
 MIN. AMBIENT TEMPERATURE: -40°F, -4.4°C
 MAX. DUTY CYCLE: 33%
 WEIGHT: 7.91 LBS./3.59 KG.
 (PUMP ALONE P449-16)

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KAHLEMBERG INDUSTRIES INC. TWO RIVERS, WI, U.S.A.
P449-27 (12VDC) & P449-28 (24VDC) COMPRESSOR KITS

DR.	DATE	CKD.	SCALE	DRWG. NO.	REV.
ZJN	02/04/13	EMK	N.T.S.	3-6747	

CAGE: 75214

REV.	BY	DATE	DESCRIPTION	APP'D.