

See Warranty on page 4 for important information about commercial use of this product.

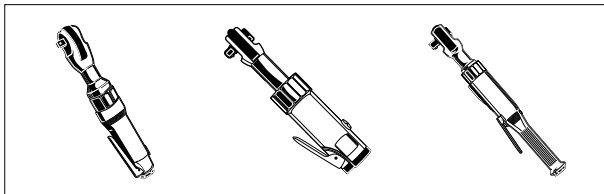
Operating Instructions

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.



**CAMPBELL
HAUSFELD®**
BUILT TO LAST

Air Ratchet



Description

Air ratchets are air tools designed for removing and installing spark plugs and different engine parts such as water pumps, radiators, etc.

Unpacking

When unpacking this product, carefully inspect for any damage that may have occurred during transit.

General Safety Information

CALIFORNIA PROPOSITION 65

DANGER

You can create dust when you cut, sand, drill or grind materials such as wood, paint, metal, concrete, cement, or other masonry. This dust often contains chemicals known to cause cancer, birth defects, or other reproductive harm. Wear protective gear.



This product is a part of a high pressure system and the following safety precautions must be followed at all times along with any other existing safety rules.

1. Read all manuals included with this product carefully. Be



thoroughly familiar with the controls and the proper use of the equipment.

2. Only persons well acquainted with these rules of safe operation should be allowed to use the air tool.

CAUTION Do not exceed the maximum operating pressure of the air tool (90 psi). This can reduce the life of the tool.

3. Do not exceed any pressure rating of any component in the system. Maximum operating pressure of 90 psi is measured at the tool inlet while the tool is running. The pressure drop between the compressor and tool needs to be compensated for at the compressor.
4. Disconnect the air tool from air supply before changing tools or attachments, servicing and during nonoperation.

WARNING

Safety glasses and ear protection must be worn during operation.



5. Do not wear loose fitting clothing, scarves, or neck ties. Loose clothing may become caught in moving parts and result in serious personal injury.
6. Do not wear jewelry when operating any tool. Jewelry may become caught in moving parts and result in serious personal injury.
7. Do not depress trigger when connecting the air supply hose.
8. Always use attachments designed for use with air powered tools. Do not use damaged or worn attachments.
9. Never trigger the tool when not applied to a work object. Attachments must be securely attached. Loose attachments can cause serious injury.
10. Protect air lines from damage or puncture.
11. Never point an air tool at oneself or any other person. Serious injury could occur.
12. Check air hoses for weak or worn condition before each use. Make sure all connections are secure.

WARNING

Release all pressure from the system before attempting to install, service, relocate or perform any maintenance.



13. Keep all nuts, bolts and screws tight and ensure equipment is in safe working condition.

REMINDER: Keep your dated proof of purchase for warranty purposes! Attach it to this manual or file it for safekeeping.

General Safety Information (Continued)

14. Do not put hands near or under moving parts.
15. Always secure workpiece in a vise or clamp.

WARNING *Excessive exposure to vibration, working in awkward positions and repetitive work motions can cause injury to hands and arms. Stop using any tool if discomfort, numbness, tingling or pain occur and consult a physician.*

Operation

LUBRICATION

Proper lubrication is the owner's responsibility. Failure to lubricate the air tool properly will dramatically shorten the life of the tool and will void the warranty.

CAUTION *This air tool requires lubrication before the initial use and before and after each additional use.*

Air tools require lubrication throughout the life of the tool. Campbell Hausfeld air tool oil (ST127000AV) is recommended because this oil cleans, lubricates and inhibits rust all in one operation.

WARNING *After an air tool has been lubricated, oil will discharge through the exhaust port during the first few seconds of operation. Thus, the exhaust port must be covered with a towel before applying air pressure. Failure to cover the exhaust port can result in serious injury.*

1. Disconnect air supply.
2. Pour about 1/4 teaspoon of airtool oil into air inlet.
3. Operate trigger lever to allow oil to enter air motor.

4. Connect the air tool to the air supply and cover the exhaust port with a towel. Run the air tool for 7 to 10 seconds. Oil will discharge from the exhaust port when air pressure is applied.

SPEED ADJUSTMENT

The ratchet should never be used to set the torque. Use a torque wrench to set the torque.

WARNING *When tightening, do not torque down the nuts or bolts with the ratchet as typically done with a hand wrench. This can damage the tool by breaking parts in the ratchet mechanism.*

AIR TOOL SET-UP

PLEASE REFER TO AIR TOOL AND SPRAY GUN SET-UP (IN170102AV) FOR AIR SYSTEM HOOK-UP INSTRUCTIONS.

To remove nuts, turn the forward/reverse dial to the right. To install nuts, turn the forward/reverse dial to the left. Reverse the procedure if the threads are left-handed. Do not overtighten the nuts.

NOTE: It is not recommended to install a quick coupler between the air tool and the leader (whip) hose.

WARNING *Use of a whip hose prevents accidental triggering of the tool when pressurized air is connected to the system.*

In addition, the tool's vibration wears out quick couplers prematurely.

Using fittings or air hoses which are too small can create a pressure drop and reduce the power of the tool. A 3/8" (I.D.) fitting with 1/4" NPT threads is recommended. Most compressors are shipped with a short, 1/4" I.D. hose. For proper performance and more convenience, use a 3/8" I.D. hose. Hoses longer than 50 feet should have a 1/2" I.D.

WARNING *Never carry a tool by the hose or pull the hose to move the tool or a compressor. Keep hoses away from heat, oil and sharp edges. Replace any hose that is damaged, weak or worn.*

STORAGE

The air tool must be lubricated before storing. Follow the air piston lubrication instructions with an exception to step 4. Only run the air tool for 2 to 3 seconds instead of 7 to 10 seconds because more oil needs to remain in the air tool when storing.

Technical Service

For information regarding the operation or repair of this product, please call 1-800-543-6400.

Replacement Parts Information

For information regarding where to order replacement parts, call toll free 1-800-543-8622. Please provide the following information:

- Model number
- Stamped code
- Part number and description

Address parts correspondence to:

Campbell Hausfeld
100 Production Drive
Harrison, Ohio 45030 USA

Troubleshooting Chart

Symptom	Possible Cause(s)	Corrective Action
Tool runs slowly or will not operate	1. Grit or gum in tool	1. Flush the tool with Campbell Hausfeld air tool oil, gum solvent, or an equal mixture of SAE 10 motor oil and kerosene. If Campbell Hausfeld oil is not used, lubricate the tool after cleaning
	2. No oil in tool	2. Lubricate the tool according to the lubrication instructions in this manual
	3. Low air pressure	3a. Adjust the regulator on the tool to the maximum setting (If applicable)
		3b. Adjust the compressor regulator to tool maximum while the tool is running free
	4. Air hose leaks	4. Tighten and seal hose fittings if leaks are found
	5. Pressure drops	5a. Be sure the hose is the proper size. Long hoses or tools using large volumes of air may require a hose with an I.D. of 1/2" or larger depending on the total length of the hose
		5b. Do not use a multiple number of hoses connected together with quick connect fittings. This causes additional pressure drops and reduces the tool power. Directly connect the hoses together
6. Worn rotor blade in motor	6. Replace rotor blade	
7. Worn ball bearing in motor	7. Remove and inspect bearing for rust, dirt and grit or worn race. Replace or clean and regrease bearing with bearing grease	
Moisture blowing out of tool	1. Water in tank	1. Drain tank. (See air compressor manual). Oil tool and run until no water is evident. Oil tool again and run 1-2 seconds
	2. Water in the air lines/hoses	2a. Install a water separator/filter (PA2121). NOTE: Separators only work properly when the air passing through the separator is cool. Locate the separator/filter as far as possible from the compressor
		2b. Install an air dryer
2c. Anytime water enters the tool, the tool should be oiled immediately		
Ratchet mechanism slips or will not loosen	1. Ratchet mechanism is dirty	1a. Clean mechanism with air tool oil
		1b. Replace worn mechanism

Limited Warranty

1. **DURATION:** From the date of purchase by the original purchaser as follows: Standard Duty Products - One Year, Serious Duty Products - Two Years, Extreme Duty Products - Three Years.
2. **WHO GIVES THIS WARRANTY (WARRANTOR):** Campbell Hausfeld / Scott Fetzer Company, 100 Production Drive, Harrison, Ohio, 45030, Telephone: (800) 543-6400
3. **WHO RECEIVES THIS WARRANTY (PURCHASER):** The original purchaser (other than for purposes of resale) of the Campbell Hausfeld product.
4. **WHAT PRODUCTS ARE COVERED BY THIS WARRANTY:** Any Campbell Hausfeld nailer, stapler, air tool, spray gun, inflator or air accessory supplied or manufactured by Warrantor.
5. **WHAT IS COVERED UNDER THIS WARRANTY:** Substantial defects in material and workmanship which occur within the duration of the warranty period.
6. **WHAT IS NOT COVERED UNDER THIS WARRANTY:**
 - A. Implied warranties, including those of merchantability and FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED FROM THE DATE OF ORIGINAL PURCHASE AS STATED IN THE DURATION. If this product is used for commercial, industrial or rental purposes, the warranty will apply for ninety (90) days from the date of purchase. Some States do not allow limitation on how long an implied warranty lasts, so the above limitations may not apply to you.
 - B. ANY INCIDENTAL, INDIRECT, OR CONSEQUENTIAL LOSS, DAMAGE, OR EXPENSE THAT MAY RESULT FROM ANY DEFECT, FAILURE, OR MALFUNCTION OF THE CAMPBELL HAUSFELD PRODUCT. Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
 - C. Any failure that results from an accident, purchaser's abuse, neglect or failure to operate products in accordance with instructions provided in the owner's manual(s) supplied with product. Accident, purchaser's abuse, neglect or failure to operate products in accordance with instructions shall also include the removal or alteration of any safety devices. If such safety devices are removed or altered, this warranty is void.
 - D. Normal adjustments which are explained in the owner's manual(s) provided with the product.
 - E. Items or service that are normally required to maintain the product, i.e. o-rings, springs, bumpers, debris shields, driver blades, fuses, batteries, gaskets, packings or seals, fluid nozzles, needles, sandblast nozzles, lubricants, material hoses, filter elements, motor vanes, abrasives, blades, cut-off wheels, chisels, chisel retainers, cutters, collets, chucks, rivet jaws, screw driver bits, sanding pads, back-up pads, impact mechanism, or any other expendable part not specifically listed. These items will only be covered for ninety (90) days from date of original purchase. Underlined items are warranted for defects in material and workmanship only.
7. **RESPONSIBILITIES OF WARRANTOR UNDER THIS WARRANTY:** Repair or replace, at Warrantor's option, products or components which are defective, have malfunctioned and/or failed to conform within duration of the warranty period.
8. **RESPONSIBILITIES OF PURCHASER UNDER THIS WARRANTY:**
 - A. Provide dated proof of purchase and maintenance records.
 - B. Deliver or ship the Campbell Hausfeld product or component to the nearest Campbell Hausfeld Authorized Service Center. Freight costs, if any, must be borne by the purchaser.
 - C. Use reasonable care in the operation and maintenance of the products as described in the owner's manual(s).
9. **WHEN WARRANTOR WILL PERFORM REPAIR OR REPLACEMENT UNDER THIS WARRANTY:** Repair or replacement will be scheduled and serviced according to the normal work flow at the servicing location, and depending on the availability of replacement parts.

This Limited Warranty applies in the United States, Canada and Mexico only and gives you specific legal rights. You may also have other rights which vary from state to state or country to country.