

**DRAPER**<sup>®</sup>

INSTRUCTIONS FOR

# 1/2" Square Drive Reversible Air Ratchet

Stock No.22413 Part No.5296-PRO

**IMPORTANT:** PLEASE READ THESE INSTRUCTIONS CAREFULLY TO ENSURE THE SAFE AND EFFECTIVE USE OF THIS PRODUCT.



**DRAPER**<sup>®</sup>

## GENERAL INFORMATION

These instructions accompanying the product are the original instructions. This document is part of the product, keep it for the life of the product passing it on to any subsequent holder of the product. Read all these instructions before assembling, operating or maintaining this product.

This manual has been compiled by Draper Tools describing the purpose for which the product has been designed, and contains all the necessary information to ensure its correct and safe use. By following all the general safety instructions contained in this manual, it will ensure both product and operator safety, together with longer life of the product itself.

All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the product. Whilst every effort has been made to ensure the accuracy of information contained in this manual, the Draper Tools policy of continuous improvement determines the right to make modifications without prior warning.

# 1. TITLE PAGE

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## **1.1 INTRODUCTION:**

USER MANUAL FOR:

**½" SQUARE DRIVE REVERSIBLE AIR RATCHET**

Stock no. 22413

Part no. 5296-PRO

## **1.2 REVISIONS:**

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Date first published May 2012

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As our user manuals are continually updated, users should make sure that they use the very latest version.

Downloads are available from: <http://www.drapertools.com/b2c/b2cmanuals.pgm>

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## **1.3 UNDERSTANDING THIS MANUALS SAFETY CONTENT:**

**WARNING!** Information that draws attention to the risk of injury or death.

**CAUTION!** Information that draws attention to the risk of damage to the product or surroundings.

## **1.4 COPYRIGHT © NOTICE:**

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## 3. GUARANTEE

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### 3.1 GUARANTEE

Draper air tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship for 12 months from the date of purchase except where tools are hired out when the guarantee period is ninety days from the date of purchase.

Should the machine develop any fault, please return the complete tool to your nearest authorized warranty repair agent or contact Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, SO53 1YF. England. Telephone (023) 8049 4344.

A proof of purchase must be provided with the tool.

If, upon inspection it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accident, or repairs attempted or made by any persons other than the authorized Draper warranty repair agent.

Note: If the tool is found not to be within the terms of warranty, repairs and carriage charges will be quoted and made accordingly.

This guarantee applies in lieu of any other guarantee expressed or implied and variation of its terms are not authorized.

Your Draper guarantee is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the guarantee period.

Please note that this guarantee is an additional benefit and does not affect your statutory rights.

# 4. INTRODUCTION

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## 4.1 SPECIFICATION

Stock no. ....	22413
Part no. ....	5296-PRO
Anvil size.....	1/2"
Maximum torque .....	102Nm/75ft-lbs
Maximum operating air pressure.....	90psi (6.2bar)
Average air consumption .....	4.0cfm (113L/min)
Revolutions per minute (no load) .....	400r/min
Minimum air line size.....	3/8" ID
Air inlet.....	1/4" BSP
Sound pressure level† .....	90dB(A)
Sound power level†† .....	96dB(A)
Vibration level.....	15.3m/s <sup>2</sup>
Weight .....	1.28kg

WARNING: WEAR APPROVED SAFETY GLASSES AND EAR DEFENDERS.

† Continuous A-Weighted Sound Pressure Level at the workstation in accordance to prEN ISO 15744:1999 and declared according to EN ISO 4871.

†† A-Weighted Sound Power Level in accordance to prEN ISO 15744:1999 and declared according to EN ISO 4871.

## 4.2 HANDLING & STORAGE

Although this machine is small in size, care must still be taken when handling and lifting. Dropping this machine will have an effect on the accuracy and may also result in personal injury. This machine is not a toy and must be respected.

The environment will have a negative result on its operation if you are not careful. If the air is damp, components will rust. If the machine is unprotected from dust and debris; components will become clogged: And if not cleaned and maintained correctly or regularly the machine will not perform at its best.

# 5. HEALTH & SAFETY INFORMATION

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## 5.1 GENERAL SAFETY INSTRUCTION FOR AIR TOOL USE

### IMPORTANT:

Draper Tools Limited recommends that this machine should not be modified or used for any application other than that for which it was designed. If you are unsure of its relative applications do not hesitate to contact us in writing and we will advise you.

- Power tools shall not be used in potentially explosive atmospheres unless specifically designed for that purpose.
- Power tools shall be isolated from the energy source before changing or adjusting the inserted tool.
- **WARNING:**
  - There is a risk of loose clothing, hair, etc. being caught in the rotating spindle of the power assembly tool.
  - There is a risk of being injured by whipping air hoses.
- Unexpected direction of inserted tool movement can cause a hazardous situation.
- Release the start and stop device in the case of an interruption of the energy supply;
- Only lubricants recommended by the manufacturer shall be used;
- Release pressure when not in use. Disconnect from air line;
- Do not modify this air tool in any way.
- Do not carry or move the tool by the air line.
- In the event of hydraulic fluid/monograde oil contact or spillage refer to the manufacturer's datasheet. As a general guide refer below.

### IMPORTANT NOTE:

Residual Risk. Although the safety instructions and operating manuals for our tools contain extensive instructions on safe working with power tools, every power tool involves a certain residual risk which can not be completely excluded by safety mechanisms. Power tools must therefore always be operated with caution!

## 5.2 AIR SUPPLY

**FAILURE TO FOLLOW THESE INSTRUCTIONS WILL LEAD TO PREMATURE MALFUNCTION OF THE EQUIPMENT WHICH IS NOT COVERED BY THE GUARANTEE.**

### • LUBRICATING OIL SPECIFICATION:

Lubricating oil viscosity refers to it's properties to flow and how it reacts with heat. A low viscosity is thinner than a high viscosity.

Lubricating oil becomes thinner as it heats so choosing the right viscosity is essential. If the viscosity is too low it may provide insufficient lubrication when heated. Equally if it is too high the oil may provide excessive resistance to move through the lines when cold.

The ISO (International Standards Organisation) viscosity grading system measures the kinematic viscosity in centistokes (cSt) at 40° which is today's accepted standard. The SAE (Society of Automotive Engineers) viscosity grade value is based on a scale.

This equipment is suited to an ISO grade 22-32 (SAE grade 5W-15W) monograde oil.

The oil must be constantly supplied to the equipment during use to ensure complete lubrication and optimum performance is achieved. It also acts as a rust inhibitor when the equipment is not in use. Most of the major brand petroleum companies produce a suitable lubricant to the above specifications.

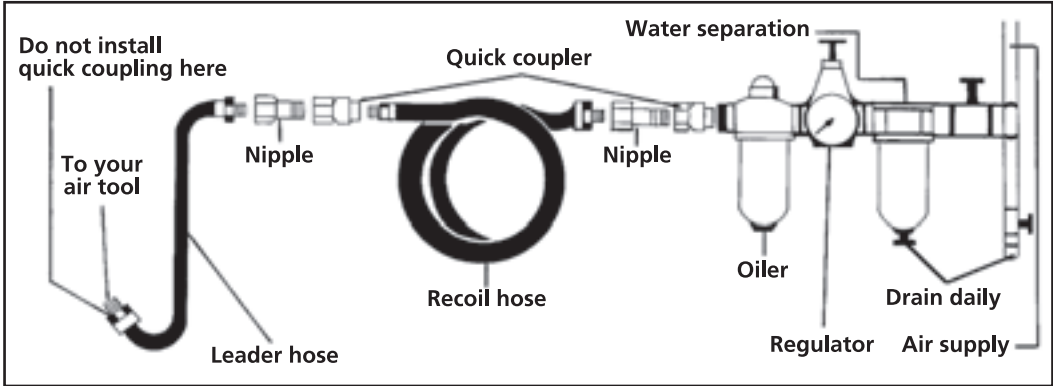
This air tool operates at a maximum pressure of 90psi and must be controlled via a combination pressure regulator, in-line lubricator and moisture filter such as the Draper range (see your local Draper stockist) which with proper maintenance will ensure a constant supply of dry air and lubricating oil at all times (see illustration below). Always check machine operating pressure before use.

**WATER IN THE COMPRESSOR TANK WILL CAUSE SERIOUS CORROSION TO YOUR AIR TOOLS AND SHOULD BE DRAINED DAILY TO AVOID EXCESSIVE WATER IN YOUR AIR SUPPLY. DIRTY WET AIR RAPIDLY SHORTENS THE LIFE OF YOUR AIR TOOL.**

If you are using an air tool on a hose over 25ft. long it is advisable to increase the bore of the hose to the next larger size available ie. ¼" increases ⅜". This will ensure adequate pressure and volume of air to power the machine.

## 5. HEALTH & SAFETY INFORMATION

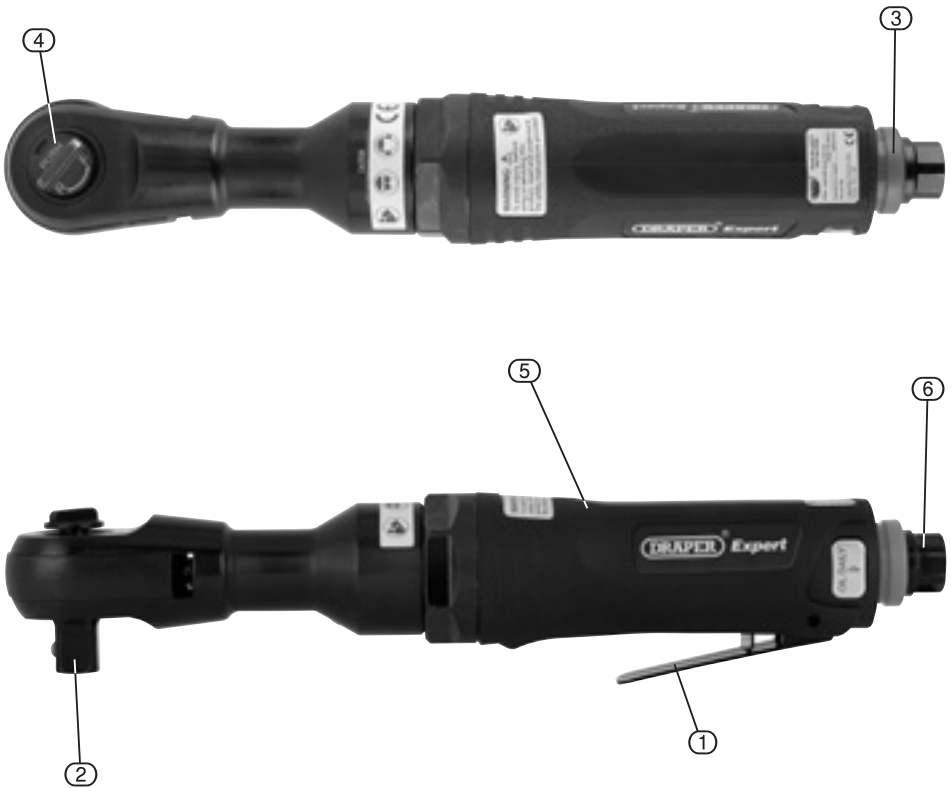
### 5.3 RECOMMENDED AIR SUPPLY SET UP



## 6. TECHNICAL DESCRIPTION

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### 6.1 IDENTIFICATION



- ① Trigger switch
- ② 1/2" square drive anvil
- ③ 360° adjustable exhaust port

- ④ Reverse/forward selector
- ⑤ Composite comfort grip
- ⑥ 1/4" BSP (female) air inlet



## 7. PREPARING THE SANDER

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### 7.1 WHIP HOSE - FIG 1

To connect the air ratchet to an air line a ¼" BSP male thread whip hose† will be required (not supplied). Wind a length of PTFE tape†† around the thread before securing the hose in place. The connection must be tight for an airtight union.

† Draper Stock No.54438.

†† Draper Stock No.63389.

NOTE: Due to the rotating air inlet feature a spanner will be required to hold the inlet while securing the whip hose.



## 8. SETTING THE AIR RATCHET

NOTE: Before connecting the air ratchet to the air supply reduce the line pressure according to the specification.

### 8.1 TRIGGER - FIG 2

Confirm direction of rotation prior to starting. Pull trigger ① to operate the impact wrench.

Release the trigger to stop the impact wrench.

NOTE: Before tool operation and work commences ensure the compressor reservoir is drained of condensate along with all connected air lines. Check and drain the air line regulator's water trap and fill up the lubrication reservoir.



NOTE: Disconnect from the air supply before carrying out adjustment, servicing or maintenance.

### 8.2 FORWARD/REVERSE SELECTION - FIG 3

NOTE: Air ratchets are not torque wrenches and are not designed or capable of installing fasteners to a specified torque. For fasteners requiring a specific torque, use a hand torque wrench.

Rotate the selector ④ anti-clockwise to select forward or clockwise for reverse operations.



## 8. SETTING THE AIR RATCHET

### 8.3 ANVIL - FIG 5

Ensure the socket correctly locates on the square drive anvil firmly engaging on the locating ball (2).

**WARNING:** Only use accessories specifically hardened and designed for use with impact toolst.

Do not use standard chrome type hand tool sockets and accessories as they may shatter and splinter.

† Example: Draper 19 pieces ½" impact socket set 54651.



### 8.4 EXHAUST PORT - FIG 6

Adjust the exhaust port (3) away from yourself and ensure it does not agitate any dust in close proximity.



## 9. TROUBLESHOOTING

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### 9.1 TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	REQUIRED ACTION
<ul style="list-style-type: none"><li>• Motor turns. Spindle doesn't run or runs erratically.</li></ul>	<ul style="list-style-type: none"><li>• Worn teeth on ratchet or pawl.</li><li>• Weak or broken pawl pressure spring.</li><li>• Weak drag springs fail to hold spindle while pawl advances for another bite.</li></ul>	<ul style="list-style-type: none"><li>• Replace worn parts.</li></ul>
<ul style="list-style-type: none"><li>• Motor seized - ratchet head rotates by hand.</li></ul>	<ul style="list-style-type: none"><li>• Blocked motor.</li></ul>	<ul style="list-style-type: none"><li>• Pour a liberal amount of air tool lubricating oil into air inlet.</li><li>• Operate throttle in short bursts with socket engaged on the bolt.</li><li>• If motor remains jammed return to service centre.</li></ul>

## 10. MAINTENANCE

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### 10.1 EVERY DAY:

Before connection to the air supply;

- Drain the compressor reservoir of condensate.
- Drain the air lines of condensate.
- Drain the combined separator filter, regulator, water trap.
- Fill up the combined separator filter, regulator, lubricant reservoir.
- Check the line pressure is correct for the tool.

### 10.2 AFTER DAILY USE:

- Repeat the above procedures.
- Lubricate the tool with approximately 1.5ml of oil directly down the air inlet.

# 11. EXPLANATION OF SYMBOLS

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## 11.1 EXPLANATION OF SYMBOLS



Warning! Operator's instruction shall be read before work starts



WARNING: Risk of crushing.



Direction of rotation.



Warning! Eye protection shall be used or safety glasses worn



Warning! Hearing protection shall be worn

## 12. DISPOSAL

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### **12.1 DISPOSAL**

- At the end of the machine's working life, or when it can no longer be repaired, ensure that it is disposed of according to national regulations.
- Contact your local authority for details of collection schemes in your area.

In all circumstances:

- Do not dispose of power tools with domestic waste.
- Do not incinerate.
- Do not abandon in the environment.



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