

**DRAPER**<sup>®</sup>

**STORMFORCE**

# INSTRUCTIONS FOR Air Die Grinders

Stock Nos. 65130  
65132  
65137

Part Nos. SFAG  
SFAG25  
SFAG90

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



Stock No. 65130 shown.

**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:

## **AIR DIE GRINDERS**

Stock no's. 65130, 65132, 65137

Part no's. SFAG, SFAG25, SFAG90

## **1.2 REVISIONS:**

Date first published November 2014

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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 tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, please return the complete tool to your nearest distributor or contact Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, SO53 1YF. England. Telephone Sales Desk: (023) 8049 4333 or Product Helpline (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 period covering parts/labour is 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. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised 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 variations of its terms are not authorised.

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.

Draper Tools Limited.

# 4. INTRODUCTION

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## 4.1 SCOPE

Straight and 90° composite body high speed die grinders, with a 6mmØ collect used to clamp grinding stones.

## 4.2 SPECIFICATION

Stock no. ....	65130	65132	65137
Part no. ....	SFAG	SFAG25	SFAG90
Collet size.....	6mm	6mm	6mm
Offset .....	0°	0°	90°
Revolution per minute (no load).....	25,000r/min	20,000r/min	20,000r/min
Max. operating air pressure .....	90psi (6.2BAR)	90psi (6.2BAR)	90psi (6.2BAR)
Average air consumption .....	4cfm (113L/min)	4cfm (113L/min)	4cfm (113L/min)
Min. air line size (inner Ø) .....	3/8" (10mm)	3/8" (10mm)	3/8" (10mm)
Air inlet.....	1/4" BSP	1/4" BSP	1/4" BSP
Sound pressure level† .....	97dB(A)	83dB(A)	92dB(A)
Sound power level†† .....	108dB(A)	94dB(A)	103dB(A)
Vibration level.....	0.9m/s <sup>2</sup>	1.1m/s <sup>2</sup>	1.4m/s <sup>2</sup>
Weight .....	0.35kg	0.50kg	0.55kg

**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.

## 5. HEALTH & SAFETY INFORMATION

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### **5.1 GENERAL SAFETY INSTRUCTIONS FOR POWER TOOL USE**

When using any type of power tool there are steps that should be taken to make sure that you, as the user, remain safe.

Common sense and a respect for the tool will help reduce the risk of injury.

**Read the instruction manual fully.** Do not attempt any operation until you have read and understood this manual.

Most important you must know how to safely start and stop this machine, especially in an emergency.

**Keep the work area tidy and clean.** Attempting to clear clutter from around the machine during use will reduce your concentration. Mess on the floor creates a trip hazard. Any liquid spilt on the floor could result in you slipping.

**Find a suitable location.** If the machine is bench mounted; the location should provide good natural light or artificial lighting as a replacement. Avoid damp and dust locations as it will have a negative effect on the machine's performance.

If the machine is portable; do not expose the tool to rain. In all cases do not operate power tools near any flammable materials.

**Keep bystanders away.** Children, onlookers and passers by must be restricted from entering the work area for their own protection. The barrier must extend a suitable distance from the tool user.

**Disconnect and house all power tools that are not in use.** An air tool should never be left unattended while connected to the power supply. They must be housed in a suitable location, away locked up and from children.

**Do not overload or misuse the tool.** All tools are designed for a purpose and are limited to what they are capable of doing. Do not attempt to use a power tool (or adapt it in any way) for an application it is not designed for. Select a tool appropriate for the size of the job. Overloading a tool will result in tool failure and user injury: This covers the use of accessories.

**Dress properly.** Loose clothing, long hair and jewellery are all dangerous because they can become entangled in moving machinery: This can also result in parts of body being pulled into the machine.

Clothing should be close fitted, with any long hair tied back and jewellery and neck ties removed. Footwear must be fully enclosed and have a nonslip sole.

## 5. HEALTH & SAFETY INFORMATION

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**Wear personal protective equipment (PPE).** Dust, noise, vibration and swarf can all be dangerous if not suitably protected against. If the work involving the power tool creates dust or fumes; wear a dust mask. Vibration to the hand, caused by operating some tools for longer periods must be protected against. Wear vibration reducing gloves and allow long breaks between uses. Protect against dust and swarf by wearing approved safety goggles or a face shield. These are some of the more common hazards and preventions; however, always find out what hazards are associated with the machine/work process and wear the most suitable protective equipment available.

**Do not breathe contaminated air.** If the work creates dust or fumes; connect the machine (if possible) to an extraction system either locally or remotely. Working outdoors can also help if possible.

**Move the machine as instructed.** If the machine is hand held, do not carry it by the air line. If the product is heavy; employ a second or third person to help move it safely or use a mechanical device. Always refer to the instructions for the correct method.

**Do not overreach.** Extending your body too far can result in a loss of balance and you falling. This could be from a height or onto a machine and will result in injury.

**Maintain your tools correctly.** A well maintained tool will do the job safely. Replace any damaged or missing parts immediately with original parts from the manufacturer. As applicable; keep blades sharp; moving parts clean, oiled or greased; handles clean; and emergency devices working.

**Wait for the machine to stop.** Unless the machine is fitted with a safety brake; some parts may continue to move due to momentum. Wait for all parts to stop; then disconnect it from the air line before making any adjustments, carrying out maintenance operations or just finishing using the tool.

**Remove and check setting tools.** Some machinery requires the use of additional tools or keys to set, load or adjust the power tool. Before starting the power tool always check to make certain they have been removed and are safely away from the machine.

**Prevent unintentional starting.** Before connecting any machine in to the air supply, make sure the switch is in the OFF position. If the machine is portable; do not hold the machine near the switch and take care when putting the machine down; that nothing can operate the switch.

**Concentrate and stay alert.** Distractions are likely to cause an accident. Never operate a power tool if you are under the influence of drugs (prescription or otherwise), including alcohol or if you are feeling tired. Being disorientated will result in an accident.

## 5. HEALTH & SAFETY INFORMATION

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**Have this tool repaired by a qualified person.** This tool is designed to conform to the relevant international and local standards and as such should be maintained and repaired by someone qualified; using only original parts supplied by the manufacturer: This will ensure the tool remains safe to use.

### **5.2 ADDITIONAL SAFETY INSTRUCTIONS FOR AIR DIE GRINDER TOOLS**

- **WARNING:**

- Only insert tools of the correct shaft diameter shall be used.
- Cutting off wheels and routing cutter wheels shall not be used.
- The allowed speed of the insert tool must be higher than the speed of the die grinder.
- The allowed speed of the mounted point must be lowered due to the increase of the length of the shaft between the end of the collet and the mounting point (overhang). Make sure that the minimum gripping length of 10mm is observed.
- Working in certain materials creates emission of dust and fumes, causing a potentially explosive environment.
- Beware of mismatching the insert tool shaft to the collet size. The shaft should be a snug fit before tightening the collet and should never require pressure to insert. Excessively loose shafts may result in the bit being thrown during use.
- Beware of excessive vibration levels due to improper mounting or damaged insert tool. Stop immediately and rectify the cause.
- Attention shall be paid to ensure the maximum permissible pressure is not exceeded. The use of an inline water separator, lubricator and pressure regulator should be used to control the pressure of the air being supplied to the power tool.
- The insert tool and output shaft will run on after the trigger has been released.
- Wear close fitting apparel, remove jewellery and tie long hair back to prevent the risk of being drawn in.
- Ensure any sparks generated pose no threat of ignition to stored gas or fluid.
- In the event of an air line failing the whipping compressed air hose poses a risk of injury or damage to property. Isolate the air hose from the supply quickly and safely.
- Personal protective safety glasses shall be worn. Gloves and protective clothing are recommended.
- Assess the need for personal protection and the provision for dust collection appropriate for the material to be worked on.
- Die grinders are not insulated for coming into contact with electric power sources.
- Die grinders shall not be used in explosive atmospheres unless specially designed for that purpose. This product is not designed for that type of atmosphere.



## 5. HEALTH & SAFETY INFORMATION

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### 5.3 SAFETY RECOMMENDATIONS FOR THE CORRECT USE OF ABRASIVE PRODUCTS

- a. General. Bonded abrasive products are breakable and shall therefore be handled with utmost care. The use of damaged or improperly mounted or used abrasive products is dangerous and can cause serious injuries.
- b. Delivery, handling and storage. Abrasive products shall be handled and transported with care. Abrasive products shall be stored in such a manner that they are not subjected to mechanical damaged and harmful environmental influences.
- c. Selection of the abrasive product. Information on the label or the abrasive product as well as restrictions of use, safety indications or any other instructions shall be followed. In case of doubt concerning the selection of abrasive products, the user shall request information from the manufacturer or supplier.
- d. Visual inspection and ring test. Abrasive products shall be subjected to a visual inspection as received before mounting. In addition, a ring test shall be executed for vitrified wheels with  $D > 80\text{mm}$ . Damaged abrasive products shall be destroyed.
- e. Mounting before starting and information for grinding. The mounting of abrasive products shall be carried out according to the instructions provided by both the wheel and the machine manufacturer. Mounting of abrasive products shall be carried out by a qualified trained person. Each time after mounting, the wheel shall be test run for a reasonable time - the specified maximum operating speed of the wheel shall not be exceeded.
- f. Further information. The following instructions shall be observed, supplementary to the information contained in the instruction for use of the grinding machine:
  - Observance of the user's information from the grinding machine manufacturer.
  - Safety devices shall be mounting to the machine and shall be secured.
  - No grinding operations without protection by safety devices.
  - Use of personal protective equipment according to the type of machine and type of application, e.g. eye and face protection, ear protection, respiratory protective devices, protective footwear, protective gloves and other protective clothing.
  - Only grinding operations for which the abrasive product is suitable shall be carried out (taking into account restrictions of use, safety indications or other information).
  - Jamming of the hand-held grinding machine shall be prevented. In the case of cutting-off with hand-held grinding machines, the abrasive product shall be placed in the cutting gap in a straight position.
  - Before placing the hand-held grinding machine on the workbench or on the floor it shall be turned off and it shall be ensured that the abrasive product has stopped.

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## 6. TECHNICAL DESCRIPTION

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### 6.1 IDENTIFICATION



- ① Collet nut.
- ② Output shaft.
- ③ Composite body.
- ④ Air flow (speed) selector.
- ⑤ 1/4" BSP (female air inlet).
- ⑥ Exhaust.
- ⑦ Trigger.
- ⑧ Trigger safety lever.

## 7. UNPACKING & CHECKING

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### 7.1 PACKAGING

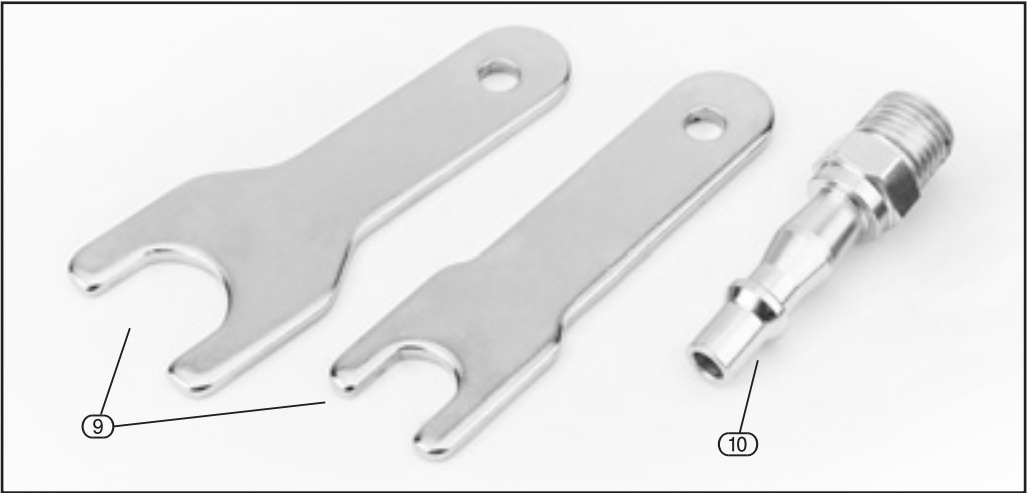
Carefully remove the product from the packaging and examine it for any sign of damage that may have happened during shipping. Lay the contents out and check them against the parts shown below. If any part is damaged or missing; please contact the Draper Helpline (the telephone number appears on the Title page) and do not attempt to use the product.

The packaging material should be retained at least during the guarantee period: in case the machine needs to be returned for repair.

Warning! Some of the packaging materials used may be harmful to children. Do not leave any of these materials in the reach of children.

If any of the packaging is to be thrown away, make sure they are disposed of correctly; according to local regulations.

### 7.2 WHAT'S IN THE BOX?



⑨ 2 x open ended collet wrenches.

⑩ Airline coupling screw adaptor.

## 8. AIR SUPPLY

### 8.1 AIR TOOL OIL SPECIFICATION

**Failure to follow these instructions will lead to premature malfunction of the equipment which is not covered by the guarantee.**

Air tool oil viscosity refers to its properties to flow and how it reacts with heat. A low viscosity is thinner than a high viscosity.

Air tool 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 fluid 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.

We recommend the use of Draper Air Tool Oil:

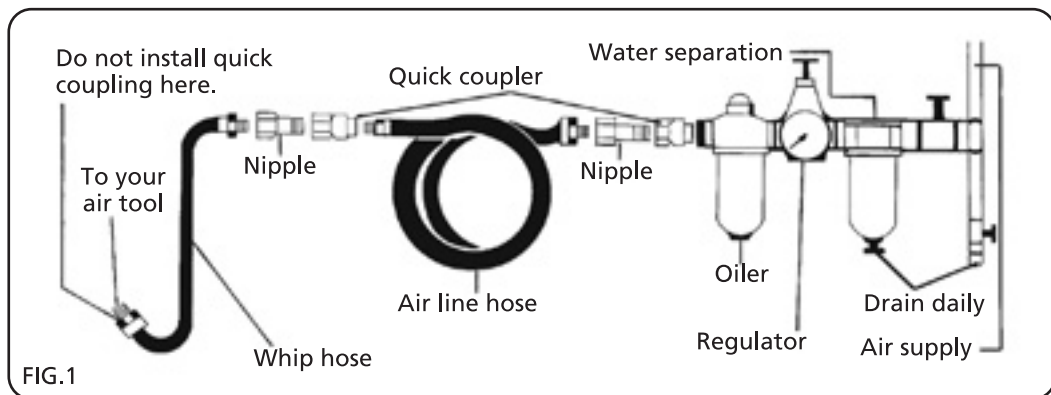
**250ml = Stock No.34679, 500ml = Stock No.34681, 1Litre = Stock No.34682.**

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, i.e., 1/4" increases 3/8". This will ensure adequate pressure and volume of air to power the machine.

### 8.2 RECOMMENDED AIR SUPPLY SET UP – FIG. 1



After each use and before prolonged storage, lubricate the equipment with approximately 1.5ml of air tool oil directly down the air inlet.

## 9. ASSEMBLY

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### 9.1 CONNECTION TO THE AIR SUPPLY - FIG. 2

#### Whip hose:

To connect the air ratchet to an air line, a ¼" BSP male thread whip hose\* will be required. 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.



# 10. OPERATION AND USE

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

## 10.1 INSERT TOOL - FIG. 2

**WARNING:**

Select the grinding point appropriate for the application, speed rated to the die grinder and with the correct shaft diameter for the collet.

Inspect the grinding point before use. Do not use chipped, cracked or otherwise defective products.

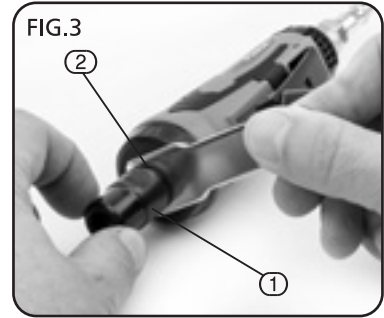
With the output shaft (2) held, loosen the collet nut (1) with the other spanner. Insert the grinding point shaft observing the minimum gripping length of 10mm. Secure the grinding point by tightening the collet nut fully.

NOTE: Never tighten the collet nut without an insert tool in the collet as damage will occur. Before storage remove insert tool to prevent distortion of the collet.

NOTE: Always wear safety goggles.

**WARNING:**

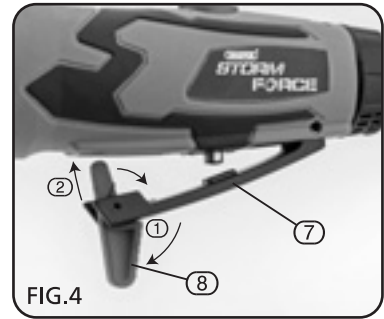
Never attempt to install cutting off wheels or router bits.



## 10.2 TRIGGER - FIG. 3

Due to the risk of unintentional starting the die grinder requires two separate and dissimilar actions to power the tool.

Pivot the trigger release lever (8) forward. This allows the trigger (7) to be pulled in toward the body of the grinder.



## 10.3 AIR FLOW (SPEED) SELECTOR - FIG. 4

Rotate selector (4) to regulate the speed most appropriate for the application.

Rotate clockwise to increase, anti-clockwise to decrease the air flow/speed.



# 11. MAINTENANCE

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## ***11.1 EVERY-DAY MAINTENANCE CHECKS***

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.

## ***11.2 AFTER USE MAINTENANCE CHECKS***

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



## 12. TROUBLESHOOTING

### 12.1 TROUBLESHOOTING GUIDE

Problems	Possible cause	Required action
<ul style="list-style-type: none"><li>• Tool will not operate. Air flows slightly from exhaust. Spindle turns freely.</li></ul>	<ul style="list-style-type: none"><li>• Motor or throttle seized with dirt.</li></ul>	<ul style="list-style-type: none"><li>• Check for dirt in air inlet.</li><li>• Pour air tool lubricating oil into air inlet.</li><li>• Operate trigger in short bursts.</li><li>• Disconnect air line supply, then turn spindle by hand. Reconnect air supply.</li><li>• If motor fails to turn return to service centre.</li></ul>
<ul style="list-style-type: none"><li>• Tool runs slowly. Air flows freely from exhaust.</li></ul>	<ul style="list-style-type: none"><li>• Rotor vane seized.</li></ul>	<ul style="list-style-type: none"><li>• Pour air tool lubricating oil into air inlet.</li><li>• Operate tool in short bursts.</li><li>• Tap motor housing gently with plastic mallet.</li><li>• If still not functional, return to service centre.</li></ul>
<ul style="list-style-type: none"><li>• Spindle seized.</li></ul>	<ul style="list-style-type: none"><li>• Motor vane broken.</li></ul>	<ul style="list-style-type: none"><li>• Return to service centre.</li></ul>
<ul style="list-style-type: none"><li>• Tool will not shut off.</li></ul>	<ul style="list-style-type: none"><li>• 'O' rings throttle valve dislodged from seat inlet valve.</li></ul>	<ul style="list-style-type: none"><li>• Replace 'O' ring or return to service centre.</li></ul>

We recommend the use of Draper Air Tool Oil:

250ml = Stock No.34679, 500ml = Stock No.34681, 1Litre = Stock No.34682.

# 13. DISPOSAL

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## ***13.1 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.
- During decommissioning of the equipment, certain hazards should be understood and avoided:
  - Only with the line pressure released shall the equipment be disassembled. Goggles should be worn.

# 14. EXPLANATION OF SYMBOLS

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The operator's instruction must be read before work starts.



Direction of rotation.



Wear safety glasses.



Wear ear defenders.





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