KOBE INDUSTRIAL POWER TOOLS

THE ENVIRONMENT

Always dispose of unwanted tools, accessories and packaging materials in an environmentally friendly manner.

DECLARATION OF CONFORMITY

We hereby certify that KOBE 1/2" RATCHET WRENCH

(ORDER CODE: KBE-270-2300K)

complies with all the relevant provisions of the

Machinery Directive: 2006/42/EC

Standards Applied:

EN ISO 12100:2010, EN ISO 11148-6:2010, EN ISO 28927-2:2009, EN ISO 15744:2008

Signed:

Date: 28th March 2017

Name: Keith Read

Position: HSQE Manager.

KOBE TOOLS

THE KENNEDY GROUP LTD, WIGSTON, ENGLAND, LE18 2FS.

CE

QUALITY GUARANTEE & WARRANTY

KOBE INDUSTRIAL POWER TOOLS carry a one year manufacturer's warranty.

KOBE INDUSTRIAL POWER TOOLS are designed & manufactured to the highest standards & specifications
Assuring the quality and performance required by all sectors of industry.

KOBE INDUSTRIAL POWER TOOLS are fully guaranteed against faulty materials & workmanship.
Should they be found to be defective, they will either be repaired or replaced free of charge (fair wear and tear and/or misuse excepted).

Please retain supplier invoice as proof of purchase.

KOBE TOOLS OFFICIAL AGENT: THE KENNEDY GROUP, WIGSTON. LEICESTER, ENGLAND. LE18 2FS

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KOBE™

INDUSTRIAL AIR TOOLS

SPEED RATCHET
1/2"

MODEL:
FSR500

ORDER CODE:
KBE-270-2300K

- Suitable for the removal and installation of threaded fasteners when doing automotive and light assembly work.
- 1/2" reversible hardened steel square drive.
- Working torque range 14-68Nm.
- 150rpm



- Rubber handle provides grip and operator comfort with reduced hand chill.
- Three planetary gears for longer life and smoother running.
- Rubber cover protects the ratchet head and the workpiece.
- Short body length allows access into hard to reach areas.
- Low profile teasing throttle for precise speed control.
- Rotating rear exhaust with baffle for reduced noise.
- Rotating air inlet to prevent the air hose tangling.
- Adjustable air regulator.

CE

WARNING: THE SAFETY INFORMATION GIVEN INSIDE MUST BE READ AND UNDERSTOOD BY ANY PERSON USING, INSTALLING, REPAIRING OR MAINTAINING THIS PRODUCT.

ALWAYS WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT.

OPERATOR'S MANUAL

Please retain this information for future reference.

SAFETY INSTRUCTIONS

You have purchased a quality product that is designed for high performance and long service life. If correct use, safety and maintenance procedures are observed this machine will last for many years.

KOBE INDUSTRIAL POWER TOOLS have been specifically designed to help you work **SAFELY** and **EFFICIENTLY**. Your care and good judgement are the best protection against injury, but always ensure that the appropriate safety equipment is worn. All possible hazards cannot be covered here, but the most important ones have been highlighted.

ALERTNESS

- Always stay alert, watch what you are doing and use common sense when operating this tool.
- Always make sure you do not get distracted by other people.
- Always avoid accidental starting of the tool. Disconnect the tool before replacing accessories or repairing.
- Never operate the tool when tired or under the influence of alcohol or prescription/non-prescription drugs.

SIGHT

- Always wear approved eye protection during operation, repair or maintenance of the tool, or whilst changing accessories. Even small projectiles can injure eyes and cause blindness.

HEARING

- Always take measures to eliminate or reduce risks from exposure to noise. High sound levels can cause permanent hearing loss. Always use approved hearing protection.

HANDS, ARMS AND BODY

Cuts and burns

- Always wear gloves to protect hands from cuts and burns.
- Always wear shoes which are non-skid. In addition, wear shoes with steel toe caps where there is a risk of heavy or sharp objects falling on your feet.
- Never touch parts of the tool or accessories when they are moving.

Vibration and repetitive strain

Repetitive work motions, awkward positions and exposure to vibration can cause “Repetitive Strain Injuries”. If numbness, tingling, pain or whitening of the skin occurs consult a doctor.

- Always use appropriate safety equipment and take regular breaks.

Skin disorders

Frequent, prolonged contact with used engine oils may cause dermatitis and other skin conditions, including skin cancer.

- Always wear protective gloves and clean overalls. Never put oily rags into your pockets.

HAIR, CLOTHING & JEWELLERY

- Always ensure that all long hair and loose clothing, ties, scarves, jewellery, etc., are secured or removed.
- Never wear watches, rings or bracelets whilst using this tool.

CHILDREN AND OTHER PEOPLE

- Always ensure that all others in the area are wearing approved eye, face, respiratory, hearing and body protection.
- Always keep children away from the work area and where tools are stored.
- Never let people who are unfamiliar with the tool use it.

AIR PRESSURE

Air under pressure can cause severe injury.

- Always check for damaged or loose hoses and fittings. Whipping hoses can cause serious injury.
- Never direct air at yourself or anyone else.

LUBRICANTS

Mineral oils (Hydraulic fluid) used as lubricants are not considered hazardous to health under normal

Continued on page 3

NOTES

NOTES

SAFETY INSTRUCTIONS CONTINUED

conditions. First aid measures however should be taken if:

Ingested - Wash out

Contact with eyes - Thoroughly flush eyes with clean water for 5 to 10 minutes and seek medical advice.

Contact with skin - Wash area with soap and water. Remove effected clothing and wash. If irritation persists, seek medical advice.

Other - Seek medical advice immediately

- Always wear gloves and goggles when dealing with lubricants.
- Always extinguish using a foam or dry powder fire extinguisher. Never use water.
- Never allow lubricants to contaminate rivers, water ways or drains.

ELECTROCUTION, FIRE OR EXPLOSION

- Never work in a combustible atmosphere.
- Never make contact with electric power sources as this tool is not insulated.

GENERAL OPERATING HAZARDS

- Always ensure that all accessories are rated to the “Free” speed of the tool and intact before fitting or using.
- Always ensure all users are physically able and competent to handle the size, weight and power of the tools and have received appropriate training to perform the task.
- Always be aware of the tool rundown time. Control the tool as if it were under power.
- Always ensure the tool is kept in a good working condition. Do not use the tool if any parts are missing or damaged.
- Always make sure that the labels on the air tool are kept legible, indicating the model number, serial number, rpm and any warnings. If not, reorder and replace (See page 8).
- Never modify the tool or accessories and only use it for the task for which it has been designed.
- Never force or apply excessive pressure, let the tool do the work for you.

SPECIFIC OPERATING HAZARDS

- Always use impact sockets which are in good condition and are designed to be used with the tool. Never use standard chrome type hand tool sockets as they will shatter and splinter causing injury.
- Always use the correct size of impact socket that matches the size of the fastener.
- Always support the handle securely in the direction opposite of the spindle rotation to minimise the torque reaction.
- Always be aware of the risk of crushing between the tool and the workpiece due to sudden movement or reaction forces.
- Never use any additional force upon the Speed Ratchet in order to remove a fastener.
- Never over tighten fasteners. Speed 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.

WORKPLACE HAZARDS

- Always comply with Health & Safety regulations.
- Always be aware of excess hose around the work place. Slip/Trip/Fall is a major cause of serious injury or death.
- Always maintain a balanced body position and secure footing.
- Always use a vice or clamping device to hold the work piece firmly in place.
- Never carry the tool with your fingers on the trigger.

AIR SUPPLY AND CONNECTION HAZARDS

- Always shut off air supply, drain hose of air pressure and disconnect tools from air supply when not in use, before changing accessories or when making repairs.
- Always install lock pins when universal twist couplings are used.
- Never use quick disconnect couplings at tool. See instructions for suggested air supply.
- Never exceed the maximum air pressure of 6.2bar (90psi).
- Never carry the tool by the air hose.

SPECIFICATIONS

MODEL NUMBER	FSR500
WORKING TORQUE RANGE	14-68Nm (10-50ft-Lbs)
ANVIL SIZE	1/2"
FREE SPEED	150rpm
AIR INLET THREAD	1/4" NPT
MINIMUM AIR HOSE SIZE (ID)	10mm (3/8")
AIR PRESSURE	6.2bar (90psi)
AIR CONSUMPTION[1]	113Ltr/m (4cfm)

SOUND POWER LEVEL[2]	87dBA
SOUND PRESSURE/NOISE LEVEL[2]	80dBA
VIBRATION LEVEL[3]	2.6m/s²
OVERALL LENGTH	265mm
NET WEIGHT	1.20kg

[1] Air consumption without load in 1 minute.
[2] Per Pneurop Standard EN ISO 15744:2002.
[3] Per EN 28662-1.

UNPACKING & BOX CONTENTS

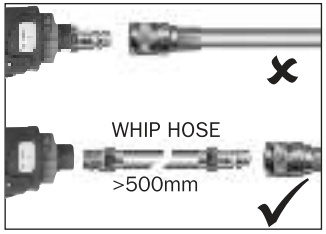
It is recommended that the packaging materials (plastic bags, polystyrene, cable ties etc.) are saved for future transportation of the tool in the event of it requiring service or repair. If you decide not to keep them, they must be disposed of in an appropriate refuse collection container. These materials must not be left within the reach of children as they are potential sources of danger.

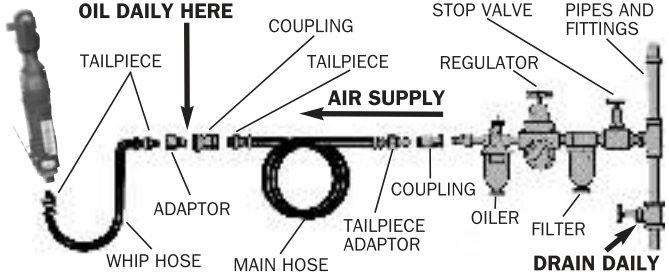
Make sure the tool is in perfect condition and that there are no visible damaged parts. If in doubt, do not use the tool and contact your local Kobe agent from whom it was purchased.



I x Speed Ratchet FSR500

SUGGESTED AIR SUPPLY





Before connecting, ensure the dust cap is removed (See page 6 for further details).
Connect tools to the air line using pipe, hose and fitting sizes listed in the specifications.

Supply tools with 6.2bar (90psi) of clean, dry air. A higher pressure and unclean air will shorten the tool life because of faster wear and may create a hazardous condition.

Requirements for Quick Acting Couplings connected to Air Tools:

A whip hose of minimum length 500mm between the tool and the coupling is required in order to comply with Health and Safety Executive Guide **HS(G) 39, BS4575:2, ISO 4414 and ISO 6150.** This will also reduce the strain applied by the weight of the air hose on the end of the air tool.

PARTS BREAKDOWN CONTINUED

No.	Order Code	Description	No.	Order Code	Description
1	KBE-298-5600A	Housing	31	KBE-298-5631H	Drive bushing
2	KBE-298-5601B	Spring pin (Ø3x20L)	32	KBE-298-5632J	Yoke
3	KBE-298-9303S	Air inlet	33	KBE-298-5633K	Reverse button
4	KBE-298-5603D	Throttle lever	34	KBE-298-5634L	Spring
5	KBE-298-5604E	Valve pin	35	KBE-298-5635M	Lock pin
6	KBE-298-5605F	Bushing	36	KBE-298-0100S	Washer
7	KBE-298-5550C	"O" ring (6.5x1.5)	37	KBE-298-0103S	Ratchet pawl
8	KBE-298-5607H	Spring	38	KBE-298-5638Q	Ratchet anvil 1/2"
9	KBE-298-5548A	"O" ring (11.4x1.25)	39	KBE-298-0112S	Spring (2)
10	KBE-298-5520X	Knob	40	KBE-298-0115S	Pin (Ø4.5x12.7L)
11	KBE-298-5546Z	"O" ring (2) (10.7x1.5)	41	KBE-298-5641T	Thrust washer 1/2"
12	KBE-298-5611M	Throttle valve	42	KBE-298-0124S	Retainer ring (RTW-31.5)
13	CES-298-0696P	Ball bearing (696zz)	43	KBE-298-0127S	Steel ball (2) (5/32")
14	KBE-298-5613P	Rear end plate	44	KBE-298-0016S	"O" ring (3.8x1.9)
15	KBE-298-0037S	Rotor	45	KBE-298-5543W	Fixed shaft
16	KBE-298-5615R	Rotor blade (4)	46	KBE-298-5268X	"O" ring (7.5x1.5)
17	KBE-298-0043S	Pin (2) (Ø1.5x6L)	47	KBE-298-5545Y	Washer
18	KBE-298-5617T	Cylinder	48	KBE-298-5649B	Deflector
19	KBE-298-5618V	Front end plate	49	KBE-298-5276E	"O" ring (25.12x1.78)
20	CES-298-0609B	Ball bearing (608zz)	50	KBE-298-5651D	Grip
21	KBE-298-0055S	Washer	51	KBE-298-2177S	Spring pin (2.5x6L)
22	KBE-298-0058S	Thread ring gear	52	KBE-298-5552E	Spring pin (2x12L)
23	KBE-298-5622Z	Idler gear (3)	53	KBE-298-9347S	Spring pin (2x5L)
24	KBE-298-0064S	Idler gear pin (3) (Ø4x13.8L)	54	KBE-298-2282S	Bushing (3)
25	KBE-298-0067S	Idler gear plate	55	KBE-298-5656J	Damping material
26	KBE-298-5626C	Clamp nut	56	KBE-298-5657K	Rubber hat
27	KBE-298-5627D	Needle bearing	57	KBE-298-5658K	Specification label
28	KBE-298-5628E	Ratchet housing	58	KBE-298-9904A	Warning label 32x14mm
29	KBE-298-0079S	Bushing	59	KBE-298-9905A	Warning label 22x14mm
30	KBE-298-5630G	Crank shaft			

SERVICE & REPAIRS

A comprehensive repair and service facility is available through your local Kobe agent.

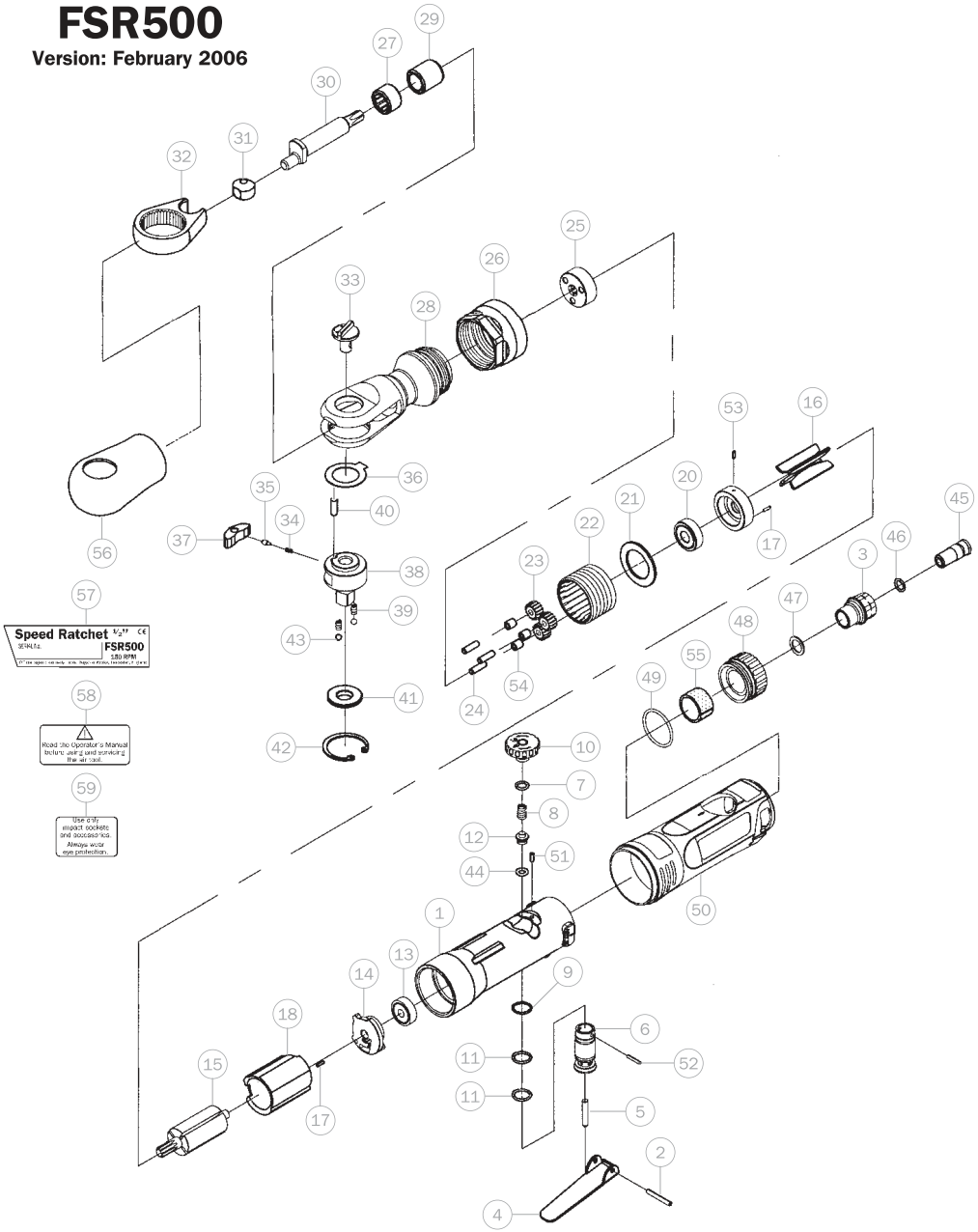




PARTS BREAKDOWN

FSR500

Version: February 2006



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LUBRICATION

Air tools require lubrication throughout the life of the tool otherwise moisture in the compressed air will rust the air motor. Correct lubrication is vital for the maximum performance of the air tool and an airline lubricator should be fitted into the system down stream of the filter. Failure to lubricate the tool at the air inlet will void your warranty.

Either use an air line lubricator with air tool oil adjusted to two drops per minute, or if an air line lubricator cannot be used, add a teaspoon of air motor oil to the inlet or into the hose at the nearest connection to the air supply once a day and then run the tool (See fig. 1). ISO Grade VG22 oil is recommended. A rust inhibitive oil is acceptable for air tools.

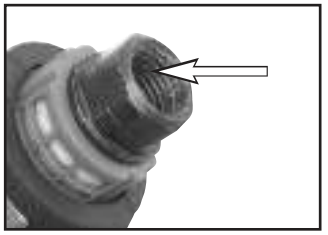


Fig. 1

Any excess oil in the motor is expelled immediately from the exhaust port. Always direct the exhaust port away from people or objects.

Lubricate the ratchet head regularly with a multi-grade oil via the side with the square drive head (See fig. 2).

Do not lubricate the tool with flammable or volatile liquids such as paraffin (kerosene), diesel or jet fuel.

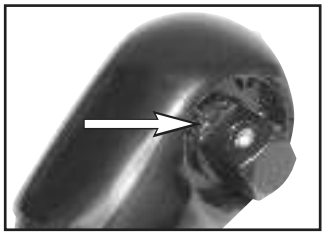


Fig. 2

OPERATION

Always use the correct size of impact socket that matches the size of the fastener.

Before using the Speed Ratchet, during use or installing impact sockets, inspect the impact sockets for cracks or excessive ware.

Only use impact sockets which are specifically designed and hardened for use with a Speed Ratchet. Impact sockets are generally black in colour rather than reflective chrome.

Do not use any additional force upon the Speed Ratchet in order to remove a fasteners.

Be careful not to over tighten fasteners. Speed 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.

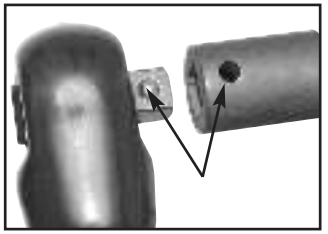


Fig. 3

ATTACHING OR REMOVING SOCKETS

1. Align the hole on the side of the impact socket with the retaining ball on the side of the square drive head (See fig. 3). This will ensure that the impact socket will not slip off when it is pulled away from the nut/bolt.
2. Press the impact socket firmly on to the drive head until you feel the retaining ball locate in the hole of the impact socket.
3. To remove, simply pull the impact socket off.

Continued on page 6

OPERATION CONTINUED

Do not drop the Speed Ratchet or apply excessive hand force as this may break the ratchet head.

1. Carry out daily inspection and lubrication of the tool.
2. Remove the plastic dust cap using a pair of pliers (See fig. 4).
3. Connect the Speed Ratchet to the air supply using a whip hose. Due to the rotating air inlet feature, a 17mm spanner will be required to hold the inlet while securing the whip hose.
4. Rotate the selector anti-clockwise to select forward or clockwise for reverse operations (See fig. 5).
5. Rotate the exhaust port (See fig. 6) so that the air is directed away from yourself and ensure it does not agitate any dust in close proximity.
6. Hold the Speed Ratchet firmly with both hands (See fig. 7).
7. Hold the impact socket over the fastener and squeeze the trigger to operate the Speed Ratchet (See fig. 8). Release the trigger to stop the Speed Ratchet.
8. The amount the throttle lever is squeezed, will determine the speed of the tool. **Do not allow the Speed Ratchet to free run for an extended period of time as this will shorten the tool's life.**
9. Turn the speed regulator knob to select a High or Low pressure (See fig. 9). The higher the pressure, the higher the torque output.



Fig. 4

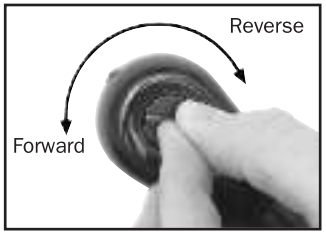


Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9

TROUBLESHOOTING

Other factors outside the tool may cause loss of power or erratic action. Reduced compressor output, excessive drain on the airline, moisture or restrictions in air pipes or the use of hose connections of improper size or poor conditions may reduce air supply. If outside conditions are in order and the tool still runs erratically, disconnect the tool from the air hose and take it to your local Kobe agent.

⚠ Repairs must be performed in a dirt-free environment by a qualified person who is familiar with this type of equipment.

Continued on page 7

TROUBLESHOOTING CONTINUED

FAULT	POSSIBLE CAUSE	SOLUTION
Motor turns. Spindle doesn't run, or runs erratically.	Worn teeth on ratchet or ratchet pawl.	Replace worn parts.
	Weak or broken ratchet pawl pressure spring.	
	Weak springs fail to hold spindle while pawl advances for another bite.	
The motor is seized and the ratchet head only rotates by hand.	The motor is blocked.	Pour a liberal amount of air tool lubricating oil into the air inlet. Operate throttle in short bursts with socket engaged on the bolt. If the motor remains jammed return the Speed Ratchet to your local Kobe agent for repair.

MAINTENANCE

Lubricate the ratchet head regularly with a multi-grade oil via the side with the square drive head (See fig. 2).

A competent person must disassemble and inspect higher wear parts periodically if the tool is used every day or if there is a noticeable drop in the tool performance. Any damaged or worn parts must be replaced. Your 12 month warranty could become void if the tool is unnecessarily dismantled and damage is caused. If you are unsure about dismantling the tool, please return it to your local Kobe agent.

Replace as necessary all "O" rings, bearings and rotor blades (See Spare Parts Breakdown). It is recommended that adequate stocks of standard service parts are held for servicing requirements.

The use of other than genuine Kobe replacement parts may result in safety hazards, decreased tool performance, increased maintenance and voiding of warranty.

Mineral spirits are recommended when cleaning the tool and its parts. Do not clean with any solvents or oils containing acids, esters, ketones, chlorinated hydrocarbons or nitro carbons. Do not use chemicals that have a low flash point.

For spare parts or servicing please contact your local Kobe agent. Remember to quote tool model number and spare part order code when ordering spares.

When disposing of components, lubricants, etc. ensure that relevant environmental procedures are carried out.

When not in use, disconnect from the air supply, clean the tool and store it in a safe, dry, childproof location.