

# LMS08 SR42

Printed Matter No. 9836 6515 00

Impact Wrench


Valid from Serial No. A3540001  
2015-04

## Product Instructions

LMS08 SR42 (7-45Nm)

8434 1081 06



	<b>⚠ WARNING</b>
	<b>Read all safety warnings and instructions</b> <i>Failure to follow the safety warnings and instructions may result in electric shock, fire and/or serious injury.</i> <b>Save all warnings and instructions for future reference</b>

**Atlas Copco**

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## General information

### ⚠ WARNING

- Read all safety warnings and all instructions.  
*Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.*
- Save all warnings and instructions for future reference.

### Safety signal words

The safety signal words Danger, Warning, Caution, and Notice have the following meanings:

DANGER	DANGER indicates a hazardous situation which, if not avoided, <b>will</b> result in death or serious injury.
WARNING	WARNING indicates a hazardous situation which, if not avoided, <b>could</b> result in death or serious injury.
CAUTION	CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	NOTICE is used to address practices not related to personal injury.

### Warranty

Contact the Atlas Copco sales representative within your area to claim a product. Warranty will only be approved if the product has been installed, operated and overhauled according to the Operating Instructions.

Please also see the delivery conditions applied by the local Atlas Copco company.

### ServAid

ServAid is a utility for providing updated product information concerning:

- Safety instructions
- Installation, Operation and Service instructions
- Exploded views

ServAid facilitates the ordering process of spare parts, service tools and accessories for the product of your choice. It is continuously updated with information of new and redesigned products.

You can use ServAid to present content in a specific language, provided that translations are available, and to display information about obsolete products. ServAid offers an advanced search functionality of our entire product range.

ServAid is available on DVD and on the web:

<http://servaidweb.atlascopco.com>

For further information contact your Atlas Copco sales representative or e-mail us at:

[servaid.support@se.atlascopco.com](mailto:servaid.support@se.atlascopco.com)

### Further information

For further information concerning this product, please see Printed Matter No. -, available in ServAid on the web.

## Overview

### Applications

This powerful, high-speed impact wrench (LMS) is typically used for loosening applications where fast tightening or disassembly is needed.

## Service intervals

### Service recommendations

Overhaul and preventive maintenance is recommended at regular intervals. See **the Preventive maintenance** section for detailed information regarding overhaul of your tool and specific parts. If the machine is not working properly, it should immediately be taken away for inspection. At the overhauls, all parts should be cleaned accurately and defective or worn parts should be replaced.

## Installation requirement

### General

The machine is designed for a working pressure (e) of 6.3 - 7 bar (max.) = 630 - 700 kPa (90 - 102 psi).

If the compressed air line pressure is higher than 7 bar it is preferable reduced with a pressure regulator of the type Atlas Copco REG.

The Atlas Copco Air Line Test equipment is suitable for checking of air pressure and airflow at the installation point (please see AirLine Accessories in our main catalogue).

The machine can operate at a lower working pressure. Maximum torque will be reduced at lower pressures.

- ❗ **If frequent used for tightening or loosening that need longer time than 3-5 seconds, a larger wrench should be used. Otherwise the servicelife of the impact mechanism will be reduced.**

To avoid pressure drop use recommended hosesize, length, and connections. For more information please read Atlas Copco Airline Installations, Ordering No. 9833 1191 01.

### Air quality

- For optimum performance and maximum machine life we recommend the use of compressed air with a maximum dew point of +10°C. We also recommend the installation of an Atlas Copco refrigeration-type air dryer.
- Use a separate air filter of type Atlas Copco FIL. This filter removes solid particles larger than 15 microns and also removes more than 90 % of liquid water. The filter must be installed as close as possible to the machine/equipment and prior to any other air preparation unit such as REG or DIM (please see Air Line Accessories in our main catalogue). Blow out the hose before connecting.

### Models which need air lubrication:

- The compressed air must contain a small quantity of oil.  
We strongly recommend that you install an Atlas Copco oil-fog lubricator (DIM). This should be set according to air consumption by the air line tool according to the following formula:

$L = \text{Air consumption (litre/s)}$

(May be found in our sales literature).

$D = \text{Number of drops per min (1 drop = 15 mm}^3\text{)}$

$L * 0.2 = D$

this applies to the use of long work cycle air line tools. A single point lubricator type Atlas Copco Dosol can also be used for tools with short running cycles.

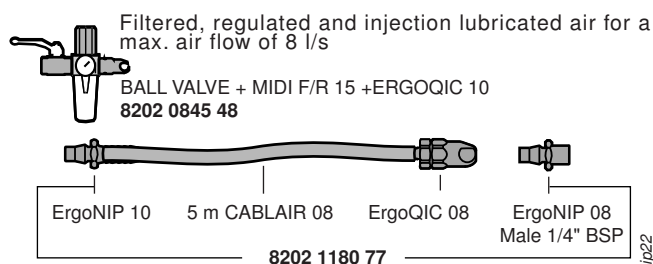
Information about Dosol settings may be found under Air Line Accessories in our main catalogue.

### Lubrication-free models:

- In the case of lubrication-free tools it is up to the customer to decide on the peripheral equipment to be used. However, it is no disadvantage if the compressed air contains a small quantity of oil e.g. supplied from a fog lubricator (DIM) or Dosol system. This does not apply to turbine tools, which should be kept oil free.

## Installation proposal

Choosing the correct couplings, hose and clamps can be a troublesome digging into details. To save your time and to ensure correct capacity of the airline installation, from the tapping point to the tool, we offer you an installation proposal.



For more information please read, Atlas Copco Industrial Power Tools catalogue Ordering No. 9837 3000 01.

## Ergonomics

### Ergonomic guidelines

Consider your workstation as you read through this list of general ergonomic guidelines and see if you can identify areas for improvement in posture, component placement, or work environment.

- Take frequent breaks and change work positions frequently.
- Adapt the workstation area to your needs and the work task.
  - Adjust for convenient reach range by determining where parts or tools should be located to avoid static load.
  - Use workstation equipment such as tables and chairs appropriate for the work task.
- Avoid work positions above shoulder level or with static holding during assembly operations.
  - When working above shoulder level, reduce the load on the static muscles by reducing the weight of the tool, using for example torque arms, hose reels or weight balancers. You can also reduce the load on the static muscles by holding the tool close to the body.
  - Make sure to take frequent breaks.
  - Avoid extreme arm or wrist postures, particularly for operations requiring a degree of force.
- Adjust for convenient field of vision by minimizing movement of the eyes and head during the work task.
- Use the appropriate lighting for the work task.
- Select the appropriate tool for the work task.
- Use ear protection equipment in noisy environments.
- Use high-quality inserted tools or consumables to minimize exposure to excessive levels of vibration.
- Minimize exposure to reaction forces.
  - When cutting:  
A cut-off wheel can get stuck if the wheel is either bent or if it is not guided properly. Make sure to use the correct flanges for cut-off wheels and avoid bending the wheel during cut-off operation.
  - When drilling:  
The drill might stall when the drill bit breaks through. Make sure you use support handles if the stall torque is too high. The safety standard ISO11148 part 3 recommends using something to absorb the reaction torque above 10 Nm for pistol grip tools and 4 Nm for straight tools.
  - When using direct-driven screw or nutrunners:  
Reaction forces depend on tool setting and joint characteristics. The ability to bear reaction forces depends on the operator's strength and posture. Adapt the torque setting to the operator's strength and posture and use a torque arm or reaction bar if the torque is too high.
- Use dust extraction system or mouth protection mask in dusty environments.

## Operating instructions

### Tightening torque

The tightening torque attained depends on the air pressure, tightening time and bolted joint in question. Extension pieces and worn sockets will reduce the effective tightening torque. Oversized power sockets (diameter and or length) will overload the impact mechanism and reduce the life of vital parts as the impact mechanism. The impact wrench must be used within the specified torque range. **Never exceed the recommended maximum tightening torque.**

### Test methods

Measurement using a hydraulic Torque Tension tester is recommended for testing tool performance, see Test data.

## Maintenance

### Service instructions

Overhaul and preventive maintenance are recommended at regular intervals once a year or after max. 100 000 tightening operations at the latest, whichever comes first. More frequent overhauls may be required if the machine is used for heavy-duty applications. If the machine fails to function correctly, it must be decommissioned immediately for inspection.

The strainer at the air inlet must be cleaned regularly in order to prevent clogging due to contamination. The machine capacity will otherwise be reduced.

All parts must be cleaned thoroughly during overhaul work and defective or worn parts must be replaced

It is important to ensure that the threaded connections on the machine are tightened properly; i.e. in accordance with the specifications in the exploded views. Lubricate the threads with grease prior to fitting.

#### **ⓘ All O-rings must be greased prior to assembly.**

When the machine is in constant operation, installation of an Atlas Copco DIM oil mist lubricating device or a Dosol type single point lubricating device is recommended.

### Impact mechanism

Check the specified wear limits and replace all parts which exceed these. See Inspection.

#### **ⓘ Recommended maximum wear limits for the clutch jaw, anvil and driver.**

### Rust protection and internal cleaning

Water in the compressed air, dust and wear particles cause rust and sticking of vanes, valves etc. An air filter should be installed close to the machine (see 'Air quality'). Before longer standstills, flush with oil (some drops) into the air inlet, run the machine for 5-10 seconds when absorbing the oil in a cloth.

## How to optimize service and performance of your impact wrench

**The service life of the impact mechanism is mainly dependent on:**

- service intervals
- air pressure
- tightening time/torque
- number of tightening
- socket/bolt size
- socket length

**Service intervals**

Shorter service intervals with cleaning and lubrication of the impact parts will improve the function and reduce the wear. Follow our service recommendations.

**Air pressure, tightening time/torque and number of tightening**

It is obvious that wear will increase with increased air pressure, longer tightening time/higher torque and number of tightening.

A tightening time of 1-5 seconds is recommended. The Skidmore-Wilhelm table in Test data can be used as a guide for max. tightening time.

Longer tightening or loosening times will increase wear, producing malfunction and risk of breakage.

**Socket and bolt size**

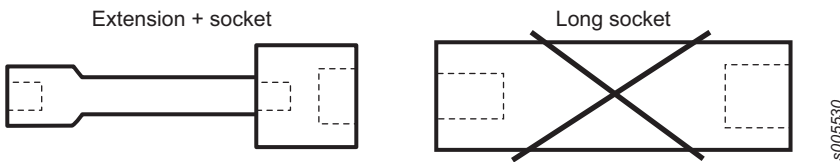
Each impact wrench covers a certain bolt size range. The impact mechanism parts have been designed for good durability in combination with the recommended standard socket/bolt size.

Usage of oversized sockets/bolts will increase premature wear and risk of breakage.

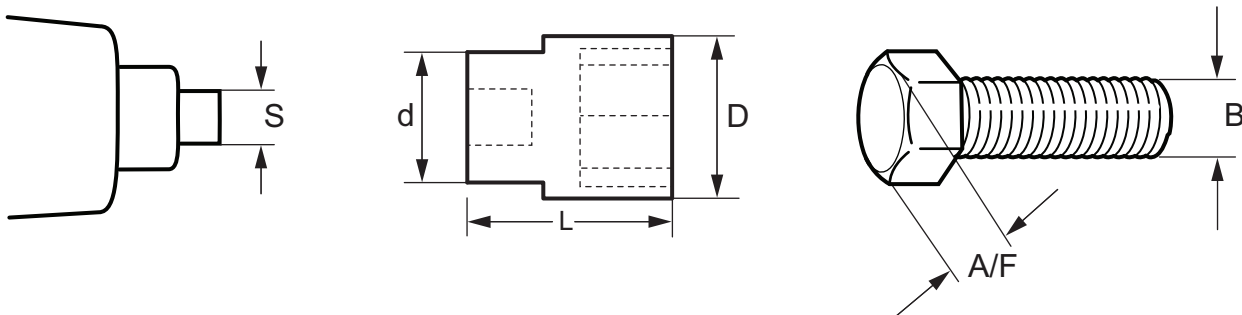
If frequent square drive breakages occur and different square drive sizes are available, use the largest size.

**Long sockets/extensions**

It is better to use extensions + standard socket instead of long or extra long sockets as the lower inertia /mass of the extension will give less stress on the impact mechanism. However an extension will reduce the applied torque to some degree.



**Recommendations for maximum socket / bolt size**

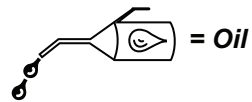
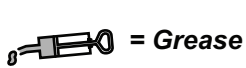


Drive S	Socket size d (max)	Socket length L (max)	Socket size D (max)	Socket opening A/F (max)	Bolt size B (max)
Quick change 1/4"	22mm	34mm	20mm	13mm (1/2")	M8 (5/16")



# Dismantling/ Assembling

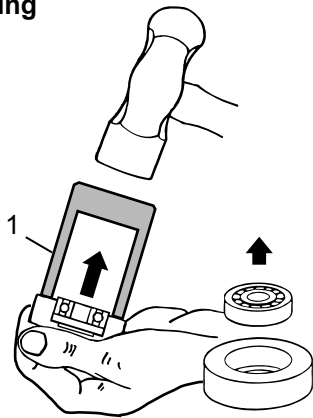
## Symbols



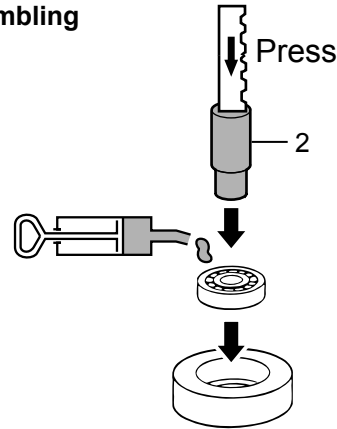
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## Motor bearings

### Dismantling



### Assembling

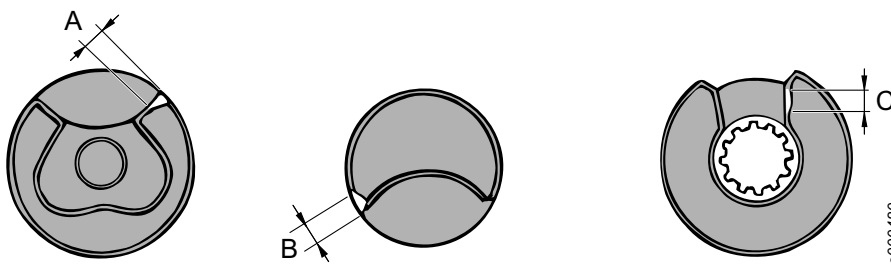


s000220

Ref. No.	Ordering No.	Qty	Description	Remark / Included in Service kit
1	4080 0182 07	1	Mandrel	
2	4080 0567 02	1	Mandrel	

## Inspection

### Inspection for wear on impact parts



s000480

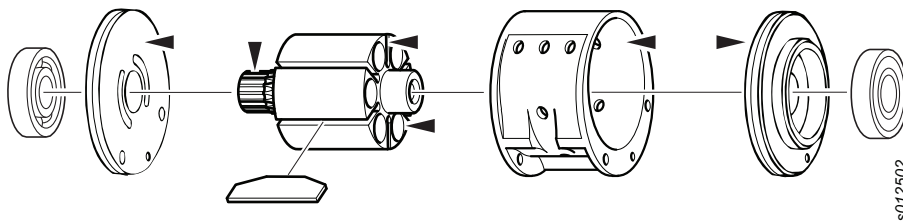
#### Wear limits

Anvil A (max)	Clutch jaw B (max)	Driver C (max)
1.1 mm	1.1 mm	1.5 mm

### Inspection of silencer

Change or clean the filters regularly. Clogged filters will reduce power output.

## Inspection of motor parts



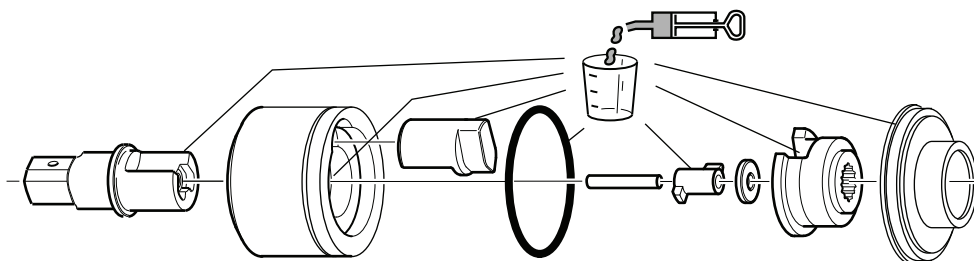
- **Clean all parts** before inspection.
- **End plates:** Check that they not are scored or scratched. If these are shallow, polish with fine grinding paste against a face plate. Clean thoroughly.
- **Rotor:** Check that the end faces do not have any marks or burrs. Check that the splines are not worn or cracked. Check that there are no cracks at the holes for the plugs.
- **Cylinder:** Check that the bore is not scored or scratched. If these are shallow, polish with a fine grinding cloth. Clean thoroughly.

## Lubrication

### Lubrication guide

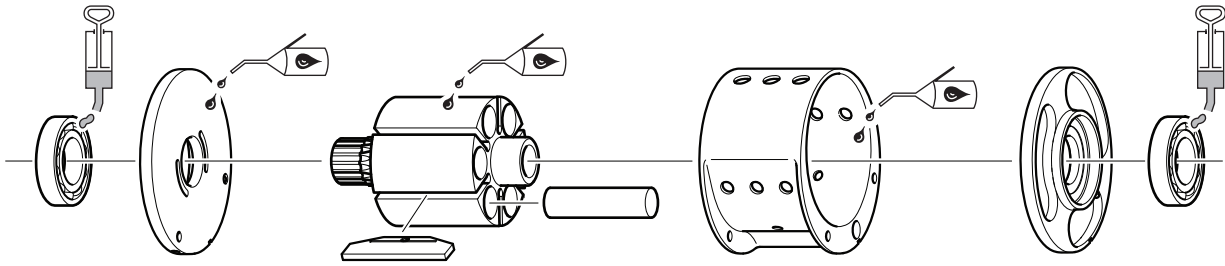
Brand	General purpose grease	Impact mechanism	Air and motor lubrication
BP	Energrease LS-EP2		Energol E46
Castrol	Spheerol EP L2		
Esso	Beacon EP2		Arox EP46
Q8	Rembrandt EP2		Chopin 46
Mobil	Mobilegrease XHP 222		Almo oil 525
Shell	Alvania EP2	Alvania Grease RL 2	Torcula 32
Texaco	Multifak EP2		Aries 32
Molycote			

### Lubrication of impact mechanism



Spread a layer of grease on all sliding and impact surfaces. Use the rest of the grease, approximately half the amount, inside the cavity of the hammer and on the driver flange. Total grease amount 1ml.

## Lubrication of motor parts



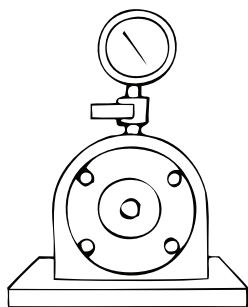
s001000

### Note

- No grease is needed for protected Ball bearings (ex. 2Z).
- Where oil is needed, apply only a thin layer.

## Test data

### Test on Tension tester (Skidmore-Wilhelm)



s005371

#### Test performance:

Test equipment according to the tables below.

Assemble selected test bolt set in the tester ensuring that threads and pressure faces are well lubricated with Molycote Longterm W2 or similar molybdenum disulphide lubricant.

Make 3 tightenings and check that the minimum tension can be reached.

#### Test conditions:

Air pressure = 6.3 bar (90 psi) dynamic.

#### Test result

Model	Tester	Bolt size	Min. Tension	Tightening time	Min. * Free speed	Test hose (3 m) inner diam.
LMS08 HR10	Skidmore-Wilhelm model J	5/8"	34 kN	2 s	11000 rpm	6.3 mm (1/4")
LMS08 HR42	Skidmore-Wilhelm model J	5/8"	21 kN	2 s	11000 rpm	6.3 mm (1/4")
LMS08 SR10	Skidmore-Wilhelm model J	5/8"	33 kN	2 s	11000 rpm	6.3 mm (1/4")
LMS08 SR42	Skidmore-Wilhelm model J	5/8"	19 kN	2 s	11000 rpm	6.3 mm (1/4")
LMS18 HR10	Skidmore-Wilhelm model J	7/8"	39 kN	2 s	7000 rpm	10 mm (3/8")
LMS18 HR13	Skidmore-Wilhelm model J	7/8"	53 kN	2 s	7000 rpm	10 mm (3/8")
LMS28 HR13	Skidmore-Wilhelm model RL	3/4"	83 kN	2 s	8000 rpm	10 mm (3/8")
LMS38 HR13	Skidmore-Wilhelm model RL	1"	110 kN	2 s	6800 rpm	10 mm (3/8")
LMS48 HR20	Skidmore-Wilhelm model RL	1"	161 kN	3 s	5500 rpm	12.5 mm (1/2")
LMS58 HR20	Skidmore-Wilhelm model H	1 1/4"	260 kN	3 s	4700 rpm	12.5 mm (1/2")
LMS58 HR25	Skidmore-Wilhelm model H	1 1/4"	270 kN	3 s	4700 rpm	12.5 mm (1/2")
LMS68	Skidmore-Wilhelm model H	1 1/2"	470 kN	4 s	4200 rpm	16 mm (5/8")
LMS88	Skidmore-Wilhelm model K	2"	660 kN	6 s	3200 rpm	16 mm (5/8")

\* = If Free speed is to low: check silencer for clogged filters.

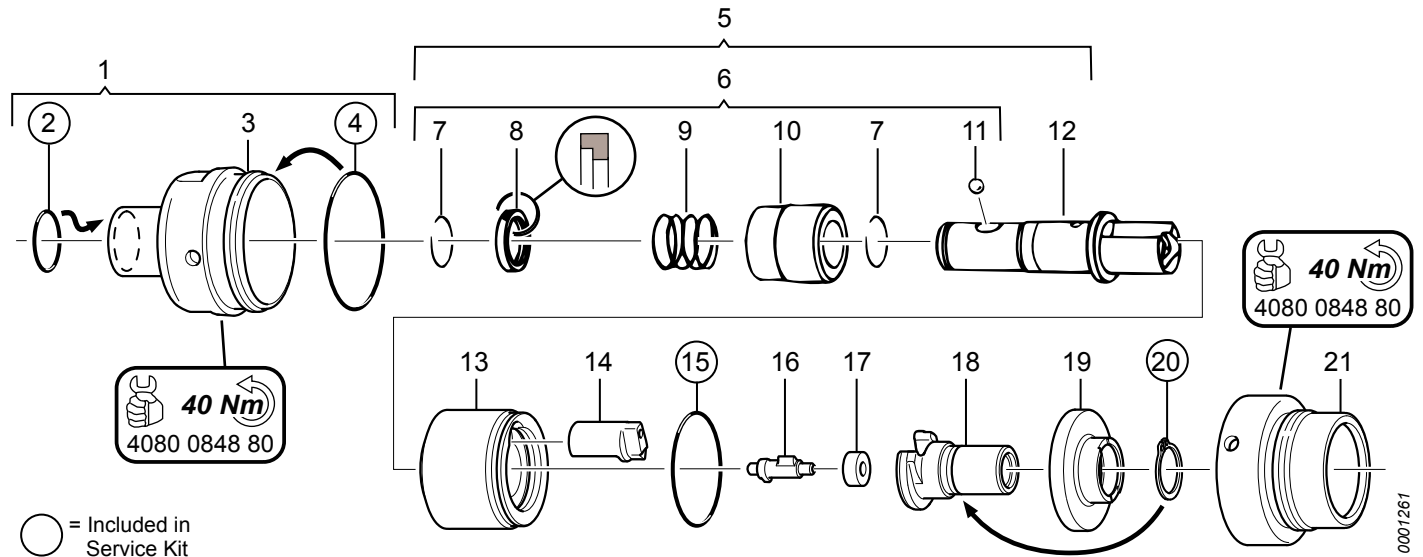
## Exploded views/tables

### Spare parts

Parts without ordering number are not delivered separately for technical reasons.

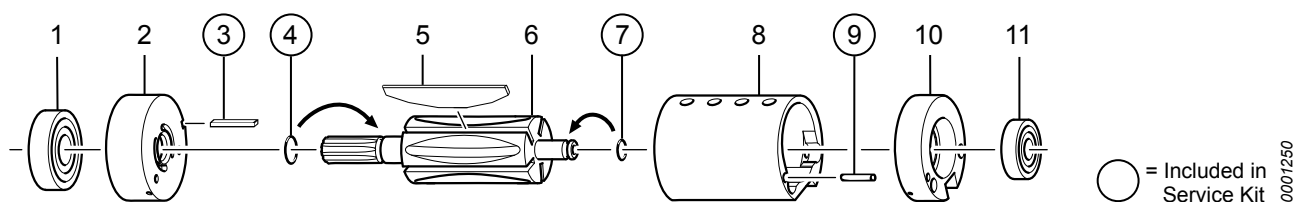
The use of other than genuine Atlas Copco replacement parts may result in decreased tool performance and increased maintenance and may, at the company option, invalidate all warranties.

### Front part



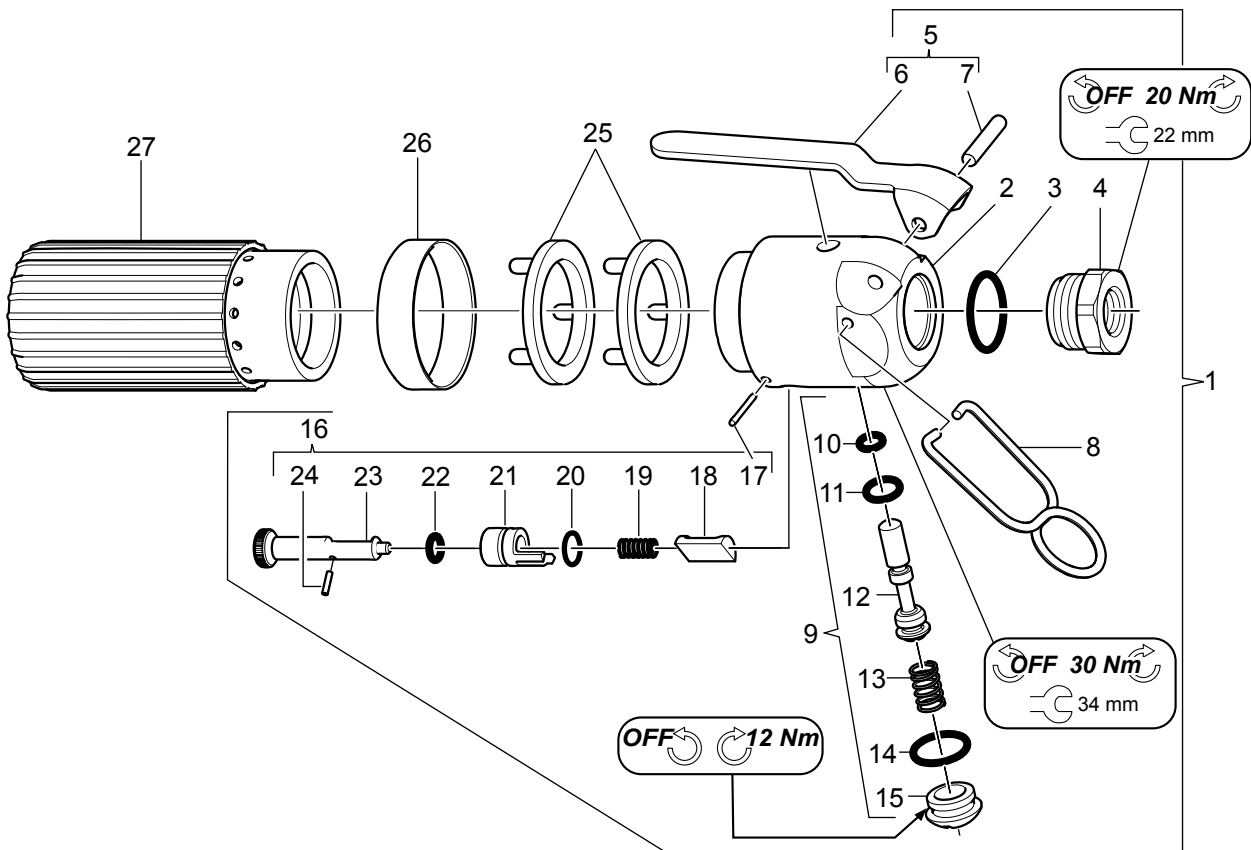
Ref. No.	Ordering No.	Qty	Description	Remark / Included in Service kit
1(2-4)	4250 2947 90	1	Clutch housing, compl.	
2	-	1	O-ring	13.1x1.6 / Service kit 4081 0465 90
3	-	1	Clutch housing	AF35
4	-	1	O-ring	35.1 x 1.6 / Service kit 4081 0465 90
5(6-12)	4250 2949 90	1	Anvil, compl.	1/4" Internal hex.
6(7-11)	4250 1512 90	1	Quick change chuck	Hex 1/4"
7	0335 3512 04	2	Snap ring	A 12
8	-	1	Ring	
9	-	1	Spring	
10	-	1	Sleeve	
11	0517 1106 00	1	Ball	Ø 4 mm
12	-	1	Anvil	
13	4250 2944 00	1	Hammer	
14	4250 2945 00	1	Clutch jaw	
15	-	1	O-ring	27.1x1.6 / Service kit 4081 0465 90
16	4250 1356 01	1	Cam	
17	4250 1352 00	1	Washer	
18	4250 2946 00	1	Driver	
19	4250 2794 00	1	Cover	
20	-	1	Circlip	SGA 12 / Service kit 4081 0465 90
21	4250 2948 00	1	Intermediate part	
	4080 0848 80	1	Adjustable spanner	Ø27-64 x Ø4.3 mm

### Motor



Ref. No.	Ordering No.	Qty	Description	Remark / Included in Service kit
1	0502 0100 12	1	Ball bearing	607-2Z
2	4110 1289 03	1	End plate	
3	-	1	Key	2x1x12 / Service kit 4081 0465 90
4	-	1	O-ring	5x1 / Service kit 4081 0465 90
5	4110 0861 95	1	Vane, kit	5 pcs
6	4250 1351 03	1	Rotor	z=9
7	-	1	O-ring	3.5x1.2 / Service kit 4081 0465 90
8	4210 0324 00	1	Cylinder	
9	-	1	Pin	2x14 / Service kit 4081 0465 90
10	4210 0322 00	1	End plate	
11	0502 1090 91	1	Ball bearing	625-2Z
	4080 1331 82	1	Motor service tool	Accessory included. Service tool for Motor. For further information, pls see Service instructions
	4080 0206 08	1	Mandrel	Ø75/85 mm. Service tool for Motor. For further information, pls see Service instructions
	4080 0208 03	1	Plate	Ø68 x 10 mm. Service tool for dismantling/ assembling of Motor bearings. For further information, pls see Service instructions
	4080 0206 07	1	Mandrel	Ø55/65 mm. Service tool for dismantling/ assembling of Motor bearings. For further information, pls see Service instructions

Motor casing



3006801

Ref. No.	Ordering No.	Qty	Description	Remark / Included in Service kit
1(2-24)	4210 1281 80	1	Back head, compl.	
2	-	1	Back head	
3	0663 6124 00	1	O-ring	17.1x1.6
4	4150 0588 80	1	Adapter, compl.	G1/4". With NPT-thread (for the US, Canada) 4150 0588 82
5(6-7)	4210 0135 90	1	Lever, kit	
6	-	1	Lever	
7	0101 1245 00	1	Pin	CP 4x22
8	4210 0243 00	1	Suspension yoke	
9(10-15)	4150 0594 90	1	Valve, compl.	
10	0663 6110 00	1	O-ring	3.1x1.6
11	0663 2111 00	1	O-ring	4.3x2.4
12	4150 0594 00	1	Valve	
13	4210 0252 00	1	Spring	
14	0663 9057 00	1	O-ring	9.2 X 1.8

Ref. No.	Ordering No.	Qty	Description	Remark / Included in Service kit
15	4106 2034 00	1	Plug	
16(17-24)	4210 1663 80	1	Trigger, compl.	
17	4210 0553 00	1	Pin	1.5h6x16
18	4210 0540 00	1	Slide	
19	4210 0541 00	1	Spring	
20	-	1	O-ring	7.2x1
21	-	1	Guide	
22	0663 9005 00	1	O-ring	6x1
23	-	1	Trigger	
24	0108 1120 00	1	Pin	FRP 1.5x5
25	4210 0421 00	2	Silencer	
26	4210 0422 00	1	Exhaust gard	
27	4210 0432 80	1	Jacket	

## Service Kits

### Service kit — Front part / Motor

Ordering No. 4081 0465 90

Ordering No.	Qty	Description	Remark / Included in Service kit
-	1	O-ring	13.1x1.6
-	1	O-ring	35.1 x 1.6
-	1	O-ring	27.1x1.6
-	1	Circlip	SGA 12
-	1	Key	2x1x12
-	1	O-ring	5x1
-	1	O-ring	3.5x1.2
-	1	Pin	2x14

Service kits are designed for a variety of products. This Service kit may contain more parts than listed in the table and parts might remain unused.

## Service Tools

### Service Tools

For motor

Section	Ordering No.	Description	Remark
Motor bearings	bear- 4080 0182 07	Mandrel	
Motor bearings	bear- 4080 0567 02	Mandrel	
Front part	4080 0848 80	Adjustable spanner	Ø27-64 x Ø4.3 mm
Motor	4080 1331 82	Motor service tool	Accessory included. Service tool for Motor. For further information, pls see Service instructions
Motor	4080 0206 08	Mandrel	Ø75/85 mmService tool for Motor. For further information, pls see Service instructions
Motor	4080 0208 03	Plate	Ø68 x 10 mmService tool for dismantling/ assembling of Motor bearings. For further information, pls see Service instructions
Motor	4080 0206 07	Mandrel	Ø55/65 mmService tool for dismantling/ assembling of Motor bearings. For further information, pls see Service instructions

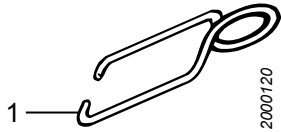
## Accessories included

### Cup



Ref. No.	Ordering No.	Qty	Description	Remark / Included in Service kit
	4080 1358 00		Cup	For filling Impact mechanism with grease, see service instruction

### Suspension yoke



Ref. No.	Ordering No.	Qty	Description	Remark / Included in Service kit
1	4210 0243 00	1	Suspension yoke	











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