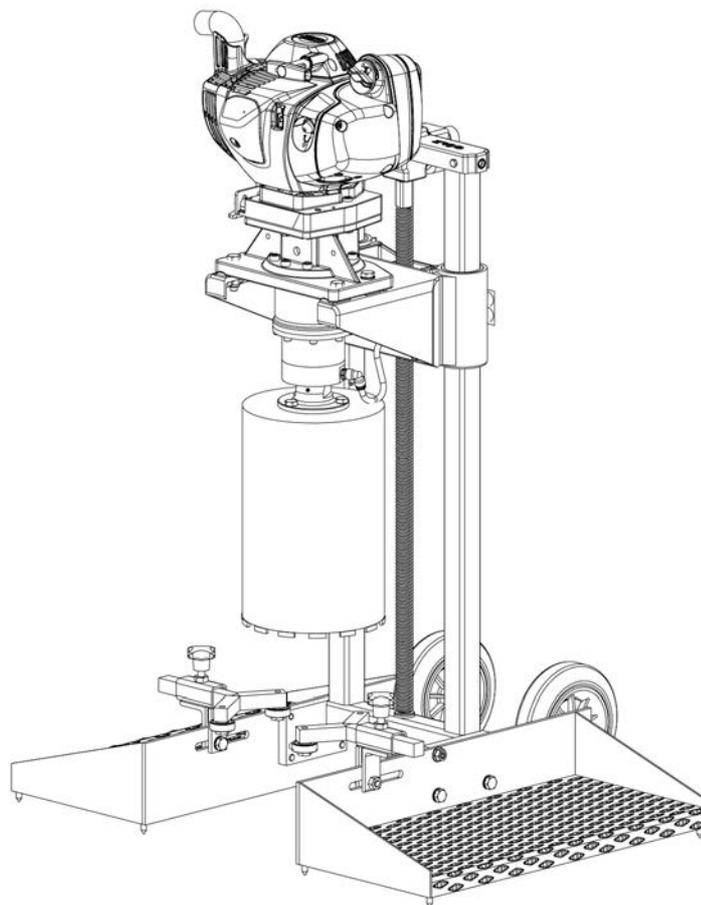


Drill rig
KB 200
with STIHL® Petrol-Engine
FS 560



ZN der Bedienungsanleitung: 5006599-02
Erstellt am: 05 / 2014
Erstellt von: Sabrina Linden
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KB200 with FS560

Translation of the original operating instruction and spare parts list



EC-DECLARATION OF CONFORMITY

Manufacturer

GÖLZ® GmbH
Dommersbach 51, D-53940 Hellenthal
Tel.: +49 (0) 2482 12 200 / Fax: +49 (0) 2482 12 222

Declare hereby certifies on its sole responsibility that the following product:

KB 200
Drill rig
with
FS560
STIHL® Petrol-Engine

Serial number: _____

which is explicitly referred to by this declaration meet the following directives:

2006/42/EC	Safety and health requirement
2004/108/EC	Electromagnetic compatibility
97/68/EG i.d.F. 2002/88/EC	Exhaust emission directive
2000/14/EC	Noise emission

meet the following standards:

EN 12100-1 / EN 12100-2, EN 12348:2000, EN 13309:2000, EN 61000, DIN EN ISO 3744-1995

Documented evidence conforming to the requirements of the directives is kept available for inspection at the above manufacturer's address.

Continuous sound level L _{peq}	101 dB(A) according to ISO 22868
Sound power level L _w eq	114 dB(A) according to ISO 22868



Hellenthal, den 16.05.2014

General Manager
B. Schmitz

Contents

Preface	7
General description.....	7
1. Technical data and accessory.....	8
1.1 Technical data of the machine.....	8
1.1.1 KB200	8
1.1.2 Motor STIHL®	8
1.2 Provided accessory	9
1.3 Optional accessory.....	9
2. Description.....	10
2.1 Main parts	10
2.2 Functional description	10
3. Basic safety instructions	12
3.1 Intended use	12
3.2 Operating range	12
3.3 Organisational measures	13
3.4 Selection and qualification of person.....	14
3.5 Safety instructions governing specific operational phases.....	14
3.6 Special work related to the maintenance and repair of the machine	15
3.7 Information about special risks with electrical energy	16
3.8 Gas, dust, steam, smoke.....	16
3.9 Noise.....	16
3.10 Illumination.....	17
3.11 Oils, greases and other chemical substances.....	17
3.12 Transport.....	17
3.13 Store	17
4. Bringing into service	19
4.1 Export checking.....	19
4.1.1 Mounting the base plates	19
4.1.2 Mounting the roller guide	19
4.2 Petrol drill motor FS560.....	20
4.2.1 M-Tronic.....	20
4.2.2 Fuel.....	20
4.2.3 Air filter.....	22
4.2.4 Winter operation	22
4.2.5 Spark plug.....	23
4.2.6 Adjusting the throttle cable	23
4.3 Fixing the machine	24
4.4 Assembling a drill motor	24

4.4.1	Assembling a drill motor with gear box.....	24
4.4.2	Changing a drill motor with gear box.....	24
4.5	Water supply.....	25
4.5.1	With water tank-pressurized type.....	25
4.5.2	Public water mains.....	26
4.6	Drill bit.....	26
4.6.1	With UNC-Adapter.....	26
4.6.2	With 3-hole flange.....	27
5.	Operation.....	28
5.1	Before starting.....	28
5.2	Starting the engine.....	28
5.3	Operating instructions engine.....	30
5.4	Start drilling.....	30
5.5	Stop drilling.....	31
5.6	Changing the drill bit.....	31
6.	Maintenance and care.....	32
6.1	Drill rig.....	32
6.2	Drill bit.....	32
6.3	Replacing the air filter.....	32
6.4	Cleaning the air filter.....	33
6.5	Changing the spark plug.....	33
6.6	Replacing the starter rope and rewind spring.....	34
6.7	Fuel pickup body in tank.....	37
6.8	Spark arrestor in muffler and spacer.....	37
6.9	Maintenance and care engine.....	37
7.	Troubleshooting.....	40
8.	Spare parts list.....	42
8.1	Using the spare parts list.....	42
8.1.1	Safety regulation.....	42
8.1.2	Ordering information.....	42
8.1.3	Distribution agencies.....	43
8.2	Wearing parts.....	44
9.	Exploded view and spare parts list.....	45
9.1	Drill rig assy.	47
9.1.1	Drill rig.....	47
9.1.2	Carriage.....	51
9.1.3	Crankcase.....	52
9.1.4	Roller support.....	53
9.1.5	Clamping tube.....	54

KB200 with FS560

Translation of the original operating instruction and spare parts list



9.2	Getriebeträger	55
9.3	Planetary gear	56
9.4	Drive motor	57
9.5	Tool acceptance	59
9.6	Motor	61
9.6.1	Motor - Crankcase, Cylinder	61
9.6.2	Motor - Rewind starter	63
9.6.3	Motor - Muffler, Shroud	65
9.6.4	Motor - Fuel tank	67
9.6.5	Motor - Spacer flange, Air filter, Filter housing	69
9.6.6	Motor - Carburetor	71
9.6.7	Motor - Ignition system	73
9.6.8	Motor - Clutch, Clutch housing	75
9.6.9	Motor - Handlebar	77

Preface

This operating manual is designed to familiarize the user with petrol drill motor, hereinafter referred to as the machine, and to use its intended applications.

The operating manual contains important information on how to operate the machine safely, properly and most efficiently. Observing these instructions helps to avoid danger, to reduce repair costs and downtimes and to increase the reliability and the life of the machine.

This operating manual is to be supplemented by the respective national rules and regulations for accident prevention and environmental protection.

The operating manual must always be available wherever the machine is in use.

It is to be read and applied by any person in charge of work with or on the machine, such as:

- **Operation** including setting up, troubleshooting in the course of work, elimination of manufacturing waste, care and disposal of fuels and consumables.
- **Servicing** (maintenance, inspection, repair) and/or
- **Transport**

In addition to the operating manual and to the mandatory rules and regulations for accident prevention of the country and place of use of the machine, the recognized technical rules for safe and proper working conditions and procedures are also to be observed.

In this manual all the information required for the intended use of the unit is included. If though you have any specific questions, please refer to your representative, to one of our sales representatives or directly to us:

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General description

Wear safety glasses!



Wear hard hat!



Wear ear muffs!



Wear safety boots!



Wear safety clothes!



Wear dust protection!



Wear protective gloves!



Read owner's manual before first initiation!



Important advice!



Never touch!



General danger!

Warning! Hot surface!
Risk of injuries !

Danger exists to cut oneself!



With water spraying forbidden!

KB200 with FS560

Translation of the original operating instruction and spare parts list



1. Technical data and accessory

1.1 Technical data of the machine

1.1.1 KB200

Type	KB 200	
Stroke	630 - 25.8	mm - in.
Feed	Manual	
Angle drilling	-	
Weight	33 - 72.7	kg - lbs.
Weight with motor	53 - 116.8	kg - lbs.
Length	660 - 26	mm - in.
Breadth	832 - 32.7	mm - in.
Height	1030 - 40.5	mm - in.
Drilling range	Ø 107 - Ø 200 - Ø 4.2 - Ø 7.9	mm - in.

1.1.2 Motor STIHL®

Type	FS560	
Driving mechanism	STIHL® - single cylinder - two-stroke-engine	
Capacity	57,1	cm ³
Cylinder bore	47 - 1.85	mm - in.
Piston stroke	32,9 - 1.3	mm - in.
Power	2,8 (3,8)	kW (PS)
Max. operating speed of the spindle	100 / 300 / 600	RPM
Weight with drilling gear	20 - 44.1	kg - lbs.
Continuous sound level L _{peq}	101 dB(A) according to ISO 22868	
Sound power level L _w	114 dB(A) according to ISO 22868	
Vibration measurement a	3,3 m/s ² according to ISO 22867	

Ignition system (with electronic speed limit)		
Principle	Electronically controlled magneto	
Spark plug (interference-suppressed)	NGK BPMR7A	
Electrode gap	0,5 - 0,02	mm - in.

Fuel system		
Carburettor	Non position sensitive diaphragm carburettor with integrated fuel pump	
Air filter	Paper	
Fuel tank capacity	0,99 (990)	L (cm ³)

Mixing ratio		
with STIHL® 1:50 two-stroke engine oil	1:50 = 1 part oil + 50 parts petrol	
with other branded two-stroke engine oils classification TC	1:25 = 1 part oil + 25 parts petrol	

1.2 Provided accessory

- Pressure tank 10l with hose
- 3-hole-flange or UNC-adapter
- Tool kit
- Wrench SW 17
- Wrench
- Exhaust hose; 4 m
- Operating instruction
- Spare parts list

1.3 Optional accessory

	KB 200
Work with electric motor	✓
Work with pneumatic motor	✓
Work with hydraulic motor	✓
Core pliers Ø 50 - Ø 200 mm	✓
Sharpening plate (drill bits)	✓
Fine dust vacuum cleaner, dry vacuum cleaner, wet vacuum cleaner	✓

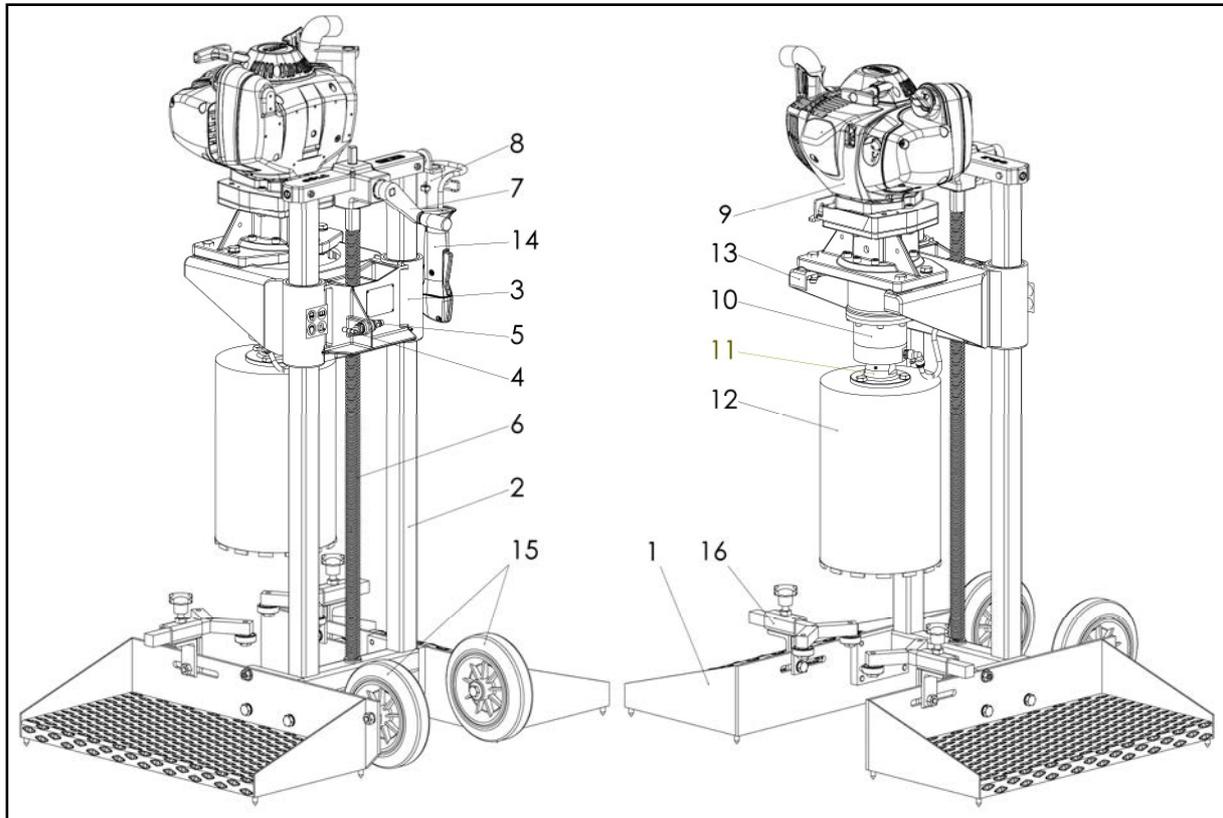
For the item number of accessories, please refer to the current catalogue of **GÖLZ®**

If accessories are used which do not correspond to **GÖLZ®** specifications, no liability is assumed for any damage resulting hereof.

For details regarding the selection of the right **GÖLZ®** diamond drill bits, please refer to the current **GÖLZ®** catalogue for diamond tools.

2. Description

2.1 Main parts



- | | | |
|-------------------|--------------------|----------------------|
| 1) Standing plate | 7) Handle | 13) Gear box carrier |
| 2) Column | 8) Control holder | 14) Handlebar |
| 3) Carriage | 9) Petrol engine | 15) Wheels |
| 4) Water tap | 10) Planetary gear | 16) Roller support |
| 5) Water coupler | 11) 3-hole-flange | |
| 6) Spindle | 12) Drill bit | |

2.2 Functional description

The machine KB200 with FS560 is, due to its compact design, quickly and easily ready for use. The proven STIHL®-Drive and the GÖLZ®-System-Technology ensure highest operational safety and economic efficiency.

The KB200 with FS560 is used as a core drilling machine for drilling up to Ø 280 mm for test core drilling in the concrete road construction and asphalt road construction as well as for drilling of bollard and post-setting, underfloor heating, crash barrier construction and fence construction. Due to the fact that this unit is operated by the STIHL® FS560 gasoline-combustion engine the unit can be used independently of power supply networks and irrespectively of its position.

To be able to operate this combustion engine also in a tight space, the supplied exhaust gas hose is fixed to the motor so that exhaust gases can be discharged.

KB200 with FS560

Translation of the original operating instruction and spare parts list



The exhaust of the motor as well as the exhaust gas hose were fitted with a protection against accidental contact in order to avoid direct skin contact with hot surfaces.

The operating handle of the motor can be kept in the hand but also be positioned via the grip-adaption to the unit. On the gear box, either a drill bit flange or an adapter for the different tool sizes can be fitted. The assembly of the tool is simple and easy. Regarding the flange the drill bit is fixed via a screw connection, regarding the adapter via a threaded bolt.

The safe and easy assembly allows a quick exchange of the tools.

Water is supplied either via the supplied pressurized water container or via an external water connection. The water hose of the pressurized water container is fitted via a coupling on the connection of the drill carriage. Thus the water is directly routed via the gearbox into the drill bit and provides a sufficient cooling of the tool and binds the cutting material.

The drill carriage moves on a double-guide column by means of a trapezoidal spindle. The trapezoidal spindle allows an easy and smooth movement of the drill carriage on the column.

The drive is provided manually by default via the hand crank which can be fixed to the unit in two different ways.

The base plates allow an individual work positioning. Dowel fixing or vacuum fixing is not necessary since the machine is held in position by the weight of the operator on the base plates. Due to the attached transport rollers the machine can be quickly relocated.

The attached roll holder serves for guiding the drill bit and can be individually adapted to the size of the bit.

The wide range of accessories allows opening up additional working areas and additional drive systems.

Due to its compact design, the unit is easy to transport. The motors can be easily and quickly removed for transport. By means of the attached transport rollers the KB200 with FS560 can be transported by one person.

The operator's station is on the base plates of the machine.

For working with this unit we recommend **GÖLZ**® diamond tools.

3. Basic safety instructions

In this manual the following terms and symbols are used for particular important information:

	<i>Note / Important: Contains important information which stands out from the other text!</i>
---	--

	<i>Attention: Contains instructions which must be strictly observed to prevent damage from the unit and the operator!</i>
---	--

Important text passages are highlighted in italics or bold or can be found in a grey highlighted text field.

3.1 Intended use

The machine has been built in accordance with state-of-the-art standards and the recognized safety rules. Nevertheless, its use may constitute a risk to life and limb of the user or of third parties, or cause damage to the machine and to other material property.

The machine must only be used in technical perfect condition in accordance with its designated use and the instructions set out in the operating manual, and only by safety-conscious persons who are fully aware of the risks involved in operating the machine. Any functional disorders, especially those affecting the safety of the machine, should therefore be rectified immediately!

The machine is designed exclusively for drilling in concrete, reinforced concrete, natural stone, cast stone and brickwork. Using the machine for purposes other than mentioned above (such as drilling in wood and so on) is considered contrary to its designated use. The **GÖLZ® GmbH** cannot be held liable for any damage resulting from such use. The risk of such misuse lies entirely with the user.

Only use gear drives and motors, which are provided by **GÖLZ® GmbH**. Also attend those operating manuals.

Operating the machine within the limits of its designated use also involves observing the instructions set out in the operating manual and complying with the inspection and maintenance directives.

	<i>Attention: Read and observe all the operating instructions which belong to this unit!</i>
---	---

3.2 Operating range

The operating range of the unit can be extended due its wide range of accessories allowing easy retrofitting which can be carried out by the operating personnel themselves.

Do not modify, add components to or retrofit the unit in a way which could affect its safety and do not use non-official accessories! This is not allowed without prior approval of **GÖLZ® GmbH**!

	<i>Note: Read and observe the operating instructions to the accessories!</i>
---	---

3.3 Organisational measures

This operating manual must always be at hand at the place of use of the machine and must be accessible to the person operating the machine!

In addition to this operating manual, all other generally applicable legal and other mandatory regulations relevant to accident prevention and environmental protection must be observed! Such obligations may also comprise the handling of hazardous materials, provisioning and/ or wearing of personal protective equipment, or road traffic regulations.

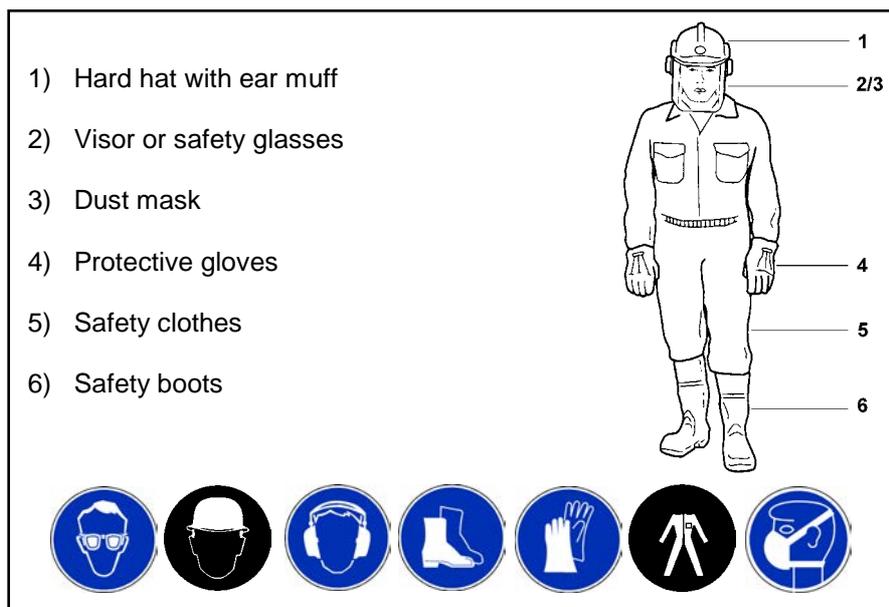
This operating manual must be supplemented by instructions covering the duties involved in supervising and notifying special organizational features, such as job organization, work flows or the person entrusted with the work. Person entrusted with work on the machine must have read the operating manual prior to taking up work. This applies especially to persons working only occasionally on the machine, e.g. during set-up or maintenance activities.

Check - at least from time to time - whether the personnel is carrying out the work in compliance with the operating manual and paying attention to risks and safety-relevant factors.

For reasons of safety, long hair must be tied back or otherwise secured, garments must be close-fitting and no jewellery - including rings - may be worn.

Severe injury may result from being caught by moving parts of the machine. Personal protective equipment must be used wherever required by the circumstances or by law (e.g. safety glasses, ear protectors, safety boots, suitable safety clothing). Observe the regulations for prevention of accidents! Observe all safety precautions and warnings attached to the machine and always keep them in good and perfectly legible condition.

The personal protection equipment should consist of the following parts:



In case event of safety-relevant modifications or changes in the behaviour of the machine, stop the machine immediately and report the malfunction to the competent authority/ person. Do not remove or make inoperative any safety devices the machine is equipped with.

Never make any modifications, additions or conversions which might affect safety without **GÖLZ® GmbH** prior approval! This also applies to the installation and adjustment of safety devices as well as to welding and drilling work on supporting structures.

Damaged or worn parts of the product must be replaced immediately. Use genuine spare parts only.

All spare parts and tools must comply with the technical requirements specified by the **GÖLZ® GmbH**. Adhere to the legally prescribed preventive maintenance and inspection intervals or those specified in this operating manual!

All maintenance and repair activities must be performed by qualified personnel using suitable tools and other suitable workshop equipment.

Observe the fire alarm and fire fighting measures. The personnel must be made familiar with the location and handling of fire extinguishers!

3.4 Selection and qualification of person

Only permitted personnel is allowed to work on and with the machine! The legal minimum age is to be observed! Only assign trained and instructed personnel! Clearly define the responsibilities of the personnel with regard to operating, setting-up, maintaining and repairing the machine! The **GÖLZ® GmbH** can assist you in training your personnel.

Make sure that only instructed and competent personnel works on the machine. Define the responsibility of the machine operator, also in terms of traffic regulations and enable him to refuse instructions of third parties which breach safety regulations.

Personnel that is to be trained or to be instructed or that is serving a general training is only to be permitted to operate the machine under the supervision of an experienced person.

To operate the machine you must be rested, in good physical condition and mental health. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating with the machine. Do not operate the machine if you are under the influence of any substance (drugs, alcohol) which might impair vision, dexterity or judgment.

Works on electrical, pneumatic, combustion and hydraulic fittings and equipment are only to be carried out by qualified personnel or instructed people being directed and supervised by qualified personnel in compliance with the respective rules!



Attention: Persons with pacemakers only: The ignition system of your machine produces an electromagnetic field of a very low intensity. This field may interfere with some pacemakers. GÖLZ® recommends that persons with pacemakers consult their physician and the pacemaker's manufacturer to reduce any health risk.

3.5 Safety instructions governing specific operational phases

Before work

Avoid any operational mode that might be prejudicial to safety!

Before beginning work, familiarize yourself with the surroundings and circumstances of the site, such as obstacles in the working and travelling area, the soil bearing capacity and any barriers separating the construction site from public roads.

Take the necessary precautions to ensure that the machine is used only when in a safe and reliable state. Operate the machine only if all protective and safety-oriented devices, such as removable safety devices, emergency shut-off equipment, sound-proofing elements and exhausters, are in place and fully functional.

Regard all safety specifications!

Check the machine at least once per working shift for obvious damage and defects. Report any changes (incl. changes in the machine's working behaviour) to the competent organization/ person immediately. If necessary, stop the machine immediately and lock it. Have any defects rectified immediately.

At any time, ensure the operator has sufficient view to his working area, in order to have intervention to the working process.

Wet drilling is to be accomplished while working. This prevents the appearance of particulate matter and increases the life-time of the diamond tool. During start-up and shut-down procedures always watch the indicators in accordance with the operating instructions!

Before starting or setting the machine in motion, make sure that nobody is at risk. Keep children and unauthorized persons away from the work area. Noise protection equipment on the unit must be in protective position during operation. Wear the required individual ear protection!

Always keep at a distance from the edges of building pits and slopes. Avoid any operation that might be a risk to machine stability! Keep the work area clean. Cluttered areas and benches invite injuries! Do not operate when you are tired! Watch what you are doing! Risk of stumbling! Cables and hoses must complete rolling up. After assembly do not leave any tools, a wrench for example, on the unit.

Check to see that the tools are removed from the drill rig before operating! Damaged drill bits have to be changed immediately. Use only recommended drill bits from the **GÖLZ® GmbH**.

Control the working area for water-, gas- and electrical lines!



Important: Wet drilling is to be accomplished while working! This prevents the appearance of particulate matter and increases the life-time of the diamond tool!

During work

Make sure, that the drill rig is well fastened before and while drilling!
Never touch rotating parts like drill spindle or drill bit!

After work

Before leaving the machine always secure it against unauthorized use!

3.6 Special work related to the maintenance and repair of the machine

Observe the adjustment, maintenance and inspection activities and intervals set out in the operating instructions, including information on the replacement of parts and equipment! These activities may be executed by skilled personnel only.

Brief operating personnel before beginning special operations or maintenance work, and appoint a person to supervise the activities.

In any work concerning the operation, conversion or adjustment of the machine and its safety-oriented devices or any work related to maintenance, inspection and repair, always observe the start-up and shut-down procedures described in the operating instructions and the information on maintenance work. Ensure that the maintenance area is adequately secured.

Carry out maintenance and repair work only if the machine is positioned on stable and level ground and has been secured against inadvertent movement and buckling. If the machine is completely shut down for maintenance and repair work, it must be secured against inadvertent starting.

To avoid the risk of accidents, individual parts and large assemblies being moved for replacement purposes should be carefully attached to lifting tackle and secured. Use only suitable and technically perfect lifting gear and suspension systems with adequate lifting capacity. Never work or stand under suspended loads.

The fastening of loads and the instructing of crane operators should be entrusted to experienced persons only. The marshaller giving the instructions must be within sight or sound of the operator.

For carrying out overhead assembly work always use specially designed or otherwise safety-oriented ladders and working platforms. Never use machine parts as a climbing aid. Wear safety harness when carrying out maintenance work at greater heights.

Clean the machine, especially connections and threaded unions, of any traces of oil, fuel or preservatives before carrying out maintenance / repair. Never use aggressive detergents. Use lint-free cleaning rags.

Before cleaning the machine with water, steam jet or detergents, cover or tape up all openings which -for safety and functional reasons - must be protected against water, steam or detergent penetration.

Do not clean the machine with a high-pressure cleaner. The hard water jet can put damage to parts of the machine. After cleaning, remove all covers and tapes applied for that purpose.

After cleaning check the machine for loose connections, chafe marks and damage! Have identified defects repaired immediately!

Always tighten any screwed connections that have been loosened during maintenance and repair.

Any safety devices removed for set-up, maintenance or repair purposes must be refitted and checked immediately upon completion of the maintenance and repair work. Ensure that all consumables and replaced parts are disposed of safely and with minimum environmental impact.



Attention: Do not clean with high-pressure / splash water! Water / Dirt must not attain into the exhaust system - engine damage!

3.7 Information about special risks with electrical energy

Observe the relevant national regulations or standards. Electrical connections must always be kept free from dirt and moisture.

Use only original fuses with the specified rating! Switch off the machine immediately, if trouble occurs in the electric power supply!

If your machine comes into contact with a live wire:

- warn others against approaching and touching the machine
- have the live wire de-energized

When working with the machine, maintain a safe distance from overhead electric lines. If work is to be carried out close to overhead lines, the working equipment must be kept well away from them. **Caution, danger to life!**

- Check out the prescribed safety distances.
- Work on the electrical system or equipment may only be carried out by a skilled electrician himself or by specially instructed personnel under the control and supervision of such electrician and in accordance with the applicable engineering rules.
- If provided for in the regulations, the power supply to parts of machines and plants, on which inspection, maintenance and repair work is to be carried out must be cut off.
- Before starting work, check the de-energized parts for the presence of power and ground or short-circuit them in addition to insulating adjacent live parts and elements.

The electrical equipment of machines is to be inspected and checked at regular intervals. Defects such as loose connections or scorched cables must be rectified immediately.

Necessary work on live parts and elements must be carried out only in the presence of a second person who can cut off the power supply in case of danger by actuating the emergency shut-off or main power switch. Secure the working area with a red-and white safety chain and a warning sign. Use insulated tools only.

If mobile electrical equipment, connecting cables and/ or extension/ appliance cords with plug connectors are used, ensure that such equipment, cables and cords are checked for correct function at least once every six months by a qualified electrician or - if suitable testing equipment is available - by a properly instructed person.

Protective installations with fault-current protection units used in non-stationary equipment must be checked for correct operation at least once a month by a properly instructed person.

Fault-current and fault-voltage protection units must be checked for correct operation by actuating the testing facility:

- once on every working day in the case of mobile equipment,
- at least once every six months in the case of stationary equipment.

3.8 Gas, dust, steam, smoke

Operate combustion engines only in well-ventilated rooms! Before starting the unit in closed rooms, make sure that the room is sufficiently ventilated and use the exhaust gas hose!

Welding, burning and grinding operations on the machine are only to be carried out if this is explicitly authorized (there is the danger of fire and explosion)!

Before welding, burning and grinding operations clean the machine and its surrounding area from dust and flammable substances and care for sufficient ventilation (danger of explosion)!

When working in confined spaces observe any existing national regulations!

3.9 Noise

During operation sound protection devices on the machine must be in safe position. Wear the prescribed personal ear protection! (UVV 29 § 10, Article 29 of the Accident Prevention regulations).

The use of noise emitting machines may be restricted to certain times by national or local regulations.

3.10 Illumination

The machine is designed for use in daylight! The machine operator / owner must ensure sufficient workplace lighting for non-illuminated work sites!

3.11 Oils, greases and other chemical substances

When handling hydraulic fluids, lubricants, greases or preservatives (referred to hereinafter as fuels and lubricants), the safety regulations which apply to the respective machine are to be observed!

Avoid long contact of the fuels and lubricants with your skin! Careful cleaning of the skin from adhering fuels and lubricants is necessary.

Be careful when handling hot consumables (risk of burning or scalding) particularly at liquid temperatures above 60°C, avoid any skin contact with these liquids!

If you get fuels or lubricants in your eyes, rinse them immediately and carefully with potable water. Then consult a doctor.

Remove flown out fuels and lubricants immediately! Therefore use a binder.

Fuels and lubricants must not seep into the soil or into the public sewage system! Fuels and lubricants which can no longer be used are to be collected, properly stored and to be properly disposed of.

The respective regulations and laws for handling fuels and lubricants which are valid in the country of use are to be observed and adhered to. This also applies to the disposal of such fuels and lubricants. To inform yourself turn to the responsible authorities.

3.12 Transport

Use only suitable means of transport and lifting gear of sufficient capacity when loading or transporting the machine! Appoint an experienced instructor for the lifting operation!

Always observe the instructions given in the operating manual when transporting the machine!

Use only suitable transport vehicles with sufficient load capacity! Secure the load carefully. Use suitable fastening points for securing!

Before loading the machine or parts of it, secure the machine against inadvertent movement! Attach a suitable warning sign!

The drill bit must be removed for transport. Even in case of a minor change of location, the engine must be stopped!

Before using the machine again, make sure that such protection material or devices are properly removed! Parts which had to be removed for transporting of the machine must be refitted and secured carefully before the machine is used again!

Before setting the machine in motion always check that all accessories are safely stowed.

The recommissioning procedure must be strictly in accordance with the operating instruction! Observe the instructions given in the operating instruction when reassembling and operating the machine.



**Attention: Check that all parts of the machine are well fastened before transporting.
Before transport the drill bit must be removed!
The machine is not suitable for crane transport - it has got no load handling points!**

By means of the attached transport rollers the KB200 can be transported by one person.

3.13 Store

Store the machine in a dry, high or locked place, out of the reach of children or unauthorized persons. Clean and preserve the machine with corrosion preventive if storing over a longer time like winter time!

KB200 with FS560

Translation of the original operating instruction and spare parts list



Note: store not mounted drill bits in a dry, high or locked place, out of the reach of children or unauthorized persons!

Drill bits with a small diameter are only to be stored in a horizontal position, drill bits with a large diameter only in a vertical position. Do not place any other parts or components on the drill bits.

4. Bringing into service



Attention: Do not yet turn the engine on! The following work is to be done with the drill motor being stopped!

4.1 Export checking

Remove the transport packaging and place the unit vertically on a horizontal, flat and stable surface. Dispose of the transport packaging according to environmental regulations. When supplied, the machine is not fully mounted. Check the machine for completeness and intactness. For the scope of delivery, see "Technical Data and Accessories". In addition, check the travel path of the drill carriage for proper movement.

4.1.1 Mounting the base plates

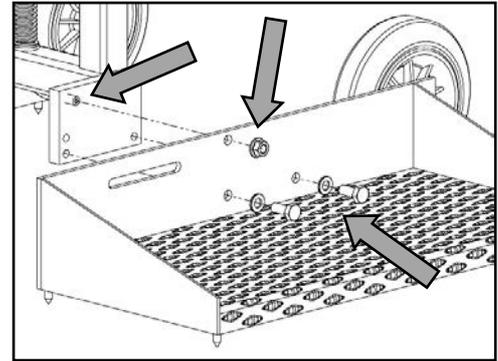
Place the machine in a horizontal position to make it easier to mount the base plates.

Position the first base plate on the threaded pin in the guide column. Align the base plate so that you can screw it together with the guide column. For this purpose, use the washers and screws M10x25, SW17.

To finish, screw the collar nut M10, SW17 on the threaded pin.

For mounting the second base plate, proceed in the way as described for the first base plate.

The machine is fully mounted for operation.



Caution: The threaded pin is glued in the guide column! Take precautions to make sure that the pin, when mounting the base plates, does not break off!

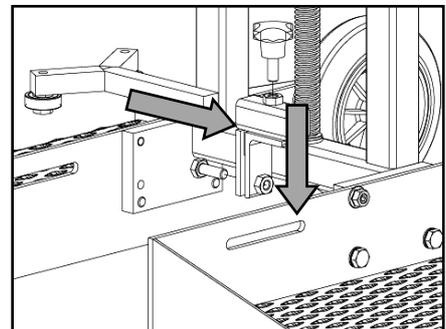
4.1.2 Mounting the roller guide

The roller guide serves for guiding the drill bit.

First screw the holder of the roller guide together with the base plate. For this purpose, fit the holder on the base plate. The options to position the holder are limited by the elongated hole and are locked by the screw M10x30, SW17.

The roller guide is slid into the holder and held in position by locking the star knob screw.

Adapt the position of the holder and roller guide to the respective drilling situation.



4.2 Petrol drill motor FS560

The meanings of the pictograms attached to the machine:

	Fuel tank <i>Fuel mixture of gasoline and engine oil</i>
	Operate manual fuel pump
	Intake air for summer operation
	Intake air for winter operation

4.2.1 M-Tronic

The M-Tronic controls fuel feed and ignition timing electronically in all operating conditions. M-Tronic guarantees simple and fast starts. The engine is started in the Start ▲ position irrespective of climatic conditions or engine temperature.

After starting, the Start ▲ position can be maintained until the engine runs smoothly. M-Tronic ensures optimum engine power at all times, very good acceleration and automatic adjustment to suit changing conditions. For this reason there is no need to change the carburetor setting - the carburetor has no adjusting screws.

If the usual good running behavior and engine power are not reached after an extreme change in operating conditions, contact your servicing dealer for assistance. **GÖLZ®** recommends that you have servicing and repair work carried out exclusively by an authorized **GÖLZ®** servicing dealer.

4.2.2 Fuel

	Attention: Avoid direct skin contact with and breathing in of gasoline fumes!
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The engine requires a mixture of gasoline and engine oil. Unsuitable fuels or a mixing ratio that deviates from the specification can lead to severe engine damage. The engine, seals, fuel lines and fuel tank may be damaged if poor quality gasoline or engine oil is used. Use only high-quality gasoline with an octane rating of at least 90 ROC - leaded or unleaded.

For reasons of health and for environmental reasons unleaded petrol is to be preferred. If fuel with an octane number below 90 RON is used, glow ignition (causing "pinging" in the engine) and a rise of temperature may be the result. This in turn can lead to damage to the driving mechanism on account of "piston jamming".

Mixing fuel

For preparing the fuel mixture only branded two-stroke engine oils are allowed! We particularly recommend the STIHL-two-stroke engine oil 1:50; this oil is specifically blended for use in STIHL-engines. Mixing ratio: with

STIHL 1:50 two-stroke engine oil: 1:50, 1 part oil + 50 parts petrol, with other branded two-stroke engine oils classification TC: 1:25, 1 part oil + 25 parts petrol.
When preparing the mixture, first fill in oil, then petrol.

Storing fuel mixture

Fuel mixture ages! Mix only as much as needed for a few weeks! Store in approved safety fuel canisters only in a dry, cool and secure place protected against light and sunlight.
Do not store fuel mixture for longer than three months. The fuel mixture can become unusable faster if exposed to light, sunlight or low or high temperatures. Fuel mixture that stagnates for a longer time unmixes. Therefore shake the can containing the fuel mixture well before you fill it up again.



Attention: Pressure can build up inside the canister - open carefully!

The fuel tank and the canister in which fuel mixture is stored should be cleaned thoroughly from time to time. Residual fuel and the liquid used for cleaning must be disposed of in accordance with regulations and without harming the environment!

Refuelling



Attention: Petrol is extremely flammable - keep it away from open fire - do not spill any fuel - do not smoke!

Before refuelling **stop the engine**. Do not refuel as long as the engine is hot - fuel can overflow - **fire hazard!** Open the fuel cap carefully so that overpressure is slowly reduced and no fuel spurts out. Refuel only at well-ventilated places. If some fuel was spilled, immediately clean the motorized equipment - let no fuel get in contact with your clothing, otherwise change your clothes immediately.



Attention: After re-fuelling tighten the screw cap as tightly as possible.

Thus the risk is reduced that the fuel cap unscrews on account of the vibration of the engine and fuel runs out. Pay attention to leaks - if fuel runs out, do not start the engine - **Danger to life on account of burns!**



Fuelling

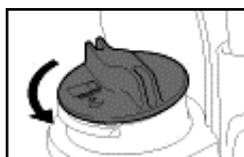


Attention: When fuelling on a slope, always position the machine with the filler cap facing uphill!



Preparations

On level ground, position the machine so that the filler cap is facing up. Before fueling, clean the filler cap and the area around it to ensure that no dirt falls into the tank.



Opening screw-type tank cap

Turn the cap counterclockwise until it can be removed from the tank opening. Remove the cap.

Filling up with fuel

Take care not to spill fuel while fueling and do not overfill the tank!



Closing screw-type tank cap

Place the cap in the opening.

Turn the cap clockwise as far as stop and tighten it down as firmly as possible by hand.

4.2.3 Air filter

The filter has a very long service life.



Attention: Do not remove the filter cover or replace the air filter as long as there is no noticeable loss of power!

Dirty air filters reduce engine power, increase fuel consumption and make starting more difficult.

Replacing the air filter: Only if there is a noticeable loss of engine power!

4.2.4 Winter operation

At temperatures below +10°C

Preheating the carburettor. Repositioning a shutter allows heated air to be drawn in from around the cylinder and mixed with cold air. This helps prevent carburettor icing.

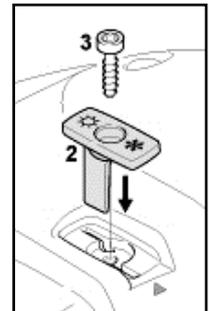


An arrow (Pos. 1) on the shroud indicates the setting of the shutter (Pos. 2) for summer or winter operation.

Symbol sun = summer operation

Symbol snowflake = winter operation

- Remove the screw (Pos. 3) from the shutter (Pos. 2).
- Pull the shutter (Pos. 2) out of the shroud.
- Rotate the shutter (Pos. 2) from the summer position to the winter position and refit it.
- Secure the shutter in position with the screw (Pos. 3).

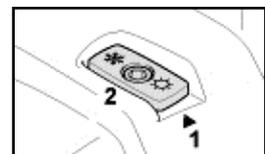


At temperatures between +10°C and +20°C

The machine can normally be operated in this temperature range with the shutter (Pos. 2) in the summer position. Change the position of the shutter if necessary.

At temperatures above +20°C

Always return the shutter (Pos.2) to the summer position.



Attention: Do not operate the machine in the winter position at temperatures above +20°C because there is otherwise a risk of engine running problems and overheating!

At temperatures below -10°C

In extreme wintry conditions:

- Temperatures below -10°C
- Powder or drifting snow



- It is advisable to use the optional "cover plate kit".
The cover plate kit contains the following parts for converting the machine:
- Pos. 4: cover plate partially blanks off the slots in the starter housing.
 - Pos. 5: Synthetic fabric filter element for the air filter.

After installing the cover plate kit set the shutter (Pos. 2) to the winter position.

At temperatures above -10°C

Remove the parts of the cover plate kit and refit the standard parts for summer operation. Depending on the ambient temperature set the shutter (Pos. 2) to the summer or winter position.

4.2.5 Spark plug

If the engine is down on power, difficult to start or runs poorly at idle speed, first check the spark plug. Fit a new spark plug after about 100 operating hours or sooner if the electrodes are badly eroded. Install only suppressed spark plugs of the type approved "specifications".

4.2.6 Adjusting the throttle cable

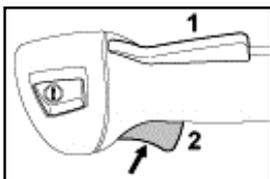
Correct adjustment of the throttle cable is a precondition for correct operation of the machine in all modes, from starting to full throttle. It may be necessary to readjust the throttle cable after assembling the machine or after a prolonged period of operation.

Check the adjustment of throttle cable

The control handle must be in the normal operating position.

In the following adjustments do not produce the required result, have your servicing dealer repair the machine.

Error: Engine speed increases when only the throttle trigger is depressed.



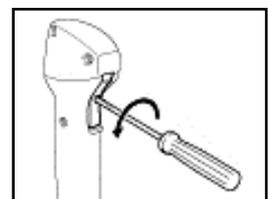
- Starting the engine.
 - Depress the throttle trigger (Pos. 2). Do not press down the throttle trigger lockout (Pos. 1).
- If the engine speed increases or if the cutting attachment rotates, the throttle cable has to be adjusted.
- Stopping the engine

Adjusting the throttle cable

Depress the throttle trigger lockout (Pos. 1) and the throttles trigger (Pos. 2) as far as stop and hold them in that position.

Apply only sufficient pressure to hold the levers against their stops.

- Rotate screw in throttle trigger ½ turn counter clockwise.
- Release the throttle trigger and throttle trigger lockout.
- Start the engine and check the adjustment.
- Shut down the engine and repeat adjustment if necessary.



Attention: Attention: If engine running behaviour is still unsatisfactory after servicing the air filter and adjusting the throttle cable, teh cause may be the muffler.

Have the muffler checked by a servicing dealer for contamination!

4.3 Fixing the machine

The machine does not need any fixing options such as dowel fixing or vacuum fixing. The operator stands on the base plates and must, under no circumstances, leave them during operation. The weight of the operator ensures the position of the machine. Weight should be at least 80kg, if necessary share it with two people on standing plates.



Caution: Never leave the base plates during operation! Stay on the base plates!

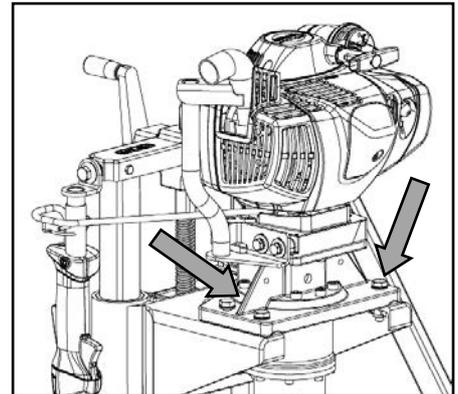
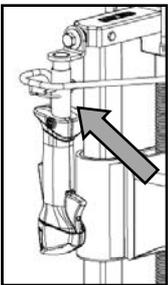
4.4 Assembling a drill motor



Attention: The following work is to be done with the drill motor being stopped!

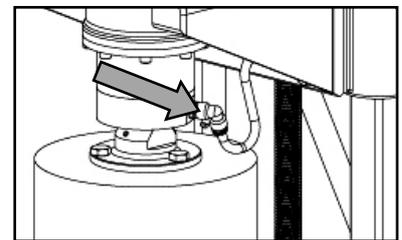
4.4.1 Assembling a drill motor with gear box

The gear carrier is fitted to the drill carriage by default. Place the motor via the gear box onto the gear carrier and screw the components with four M10x45 screws, SW17, as well as eight washers and four nuts.



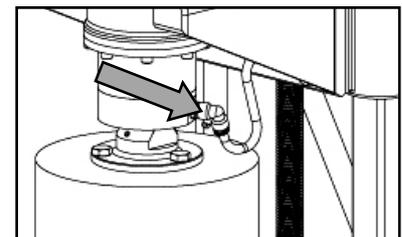
With the combustion engine FS560 you can attach the operating handle to the support of the operating handle and secure with the clip splint.

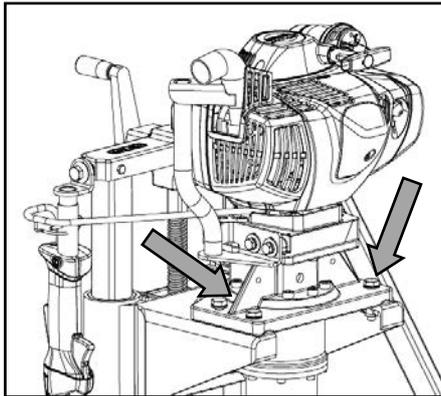
Provide the water supply to the gear box. The water supply is ensured via a plug connection between the gear carrier and the gear box.



4.4.2 Changing a drill motor with gear box

Loosen the connection of the water supply to the gear box. The water supply is ensured via a plug connection between the gear carrier and the gear box. Loosen the plug connector on the gear box and pull out the water hose.





Loosen the four M10x45 screws, SW17, between the gear box and the gear carrier.
Remove the four screws as well as the eight washers and the four nuts. You can remove the drill motor with the gear box from the gear carrier. With the combustion engine FS560 make sure that the operating handle is no longer attached to the support of the operating handle.

Assembling a drill motor with gear box

Fit the new drill motor as described under „Assembling a drill motor with gear box“.

4.5 Water supply



Important: Wet drilling is to be accomplished while working! This prevents the appearance of particulate matter and increases the life-time of the diamond tool!



Attention: Tools which are only designed for wet cutting, are never to be used without water supply! Always ensure sufficient water supply!

The water supply at the interface ensures that the tool is cooled, the dust of the material is bound and the drill hole is rinsed out.



Attention: For cutting only use water which is free from coarse impurities! Do not use salt water!

4.5.1 With water tank-pressurized type

New delivery: mount first the pressure-hose into the bottom-side-hole and tighten well.

Operation:

- Always make sure that there is no **pressure** left in the tank before you open the water-filling hole - so lift red button on top-lock and release eventual existing pressure.
- Depress **pump-handle** and turn handle left (anticlockwise).
- Fill approx. 10 litres (2.64 US gallons) but do not fill up completely. Put back hand pump and tighten clockwise.
- Pump up a pressure of approx. 2 bar (29 PSI).
- During drilling a constant pressure of minimum 0,5 bar (7 PSI) is needed to guarantee a frequent water flow.

Connection to core drilling machine

Connect Female Coupler on pressure hose to Male Nipple at the water-tap of the core drilling machine. The water flow is increased or reduced by the water tap.

Release the female-coupler

The water hose is disconnected by pulling the outer sleeve of the **female-coupler** backwards and pulling off the connection of the nipple

Safety regulations

Check periodically the pressure-relief-valve for proper function!

The maximum pressure is 6 bar (87 PSI). If the pressure is not released at max., pressure automatically, the **valve** has to be replaced immediately. Any sort of damage on the tank (bottle) cracks or bumps, the bottle must be changed and taken out of operation.

No repairs on the tank are permitted.

Do not expose the filled water tank to sun for a longer time, increased water temperature results in increased internal pressure! Store water tank empty and protect against freezing!



Note: Read and observe the operating instructions to the pressurized water container!

4.5.2 Public water mains

Connect a 1/2" water hose to the water tap of the core drilling machine. The flow of water is to be regulated by the tap.

4.6 Drill bit

The drill bits must meet the specifications of **GÖLZ® GmbH**. Use the appropriate bits depending on the material to be processed, the working process and the type of work to be carried out! In case of non-intended use, no liability is assumed for any damage resulting thereof.

All the bits which are used must, as far as their maximum admissible cutting speed is concerned, be designed for the maximum drive speed of the unit. For units with a variable drive speed use drill bits which, as far as their maximum admissible cutting speed is concerned, correspond to the respective drive speed. Ensure the right rotational direction of the drill motor and of the drill bit!

Check the drill bits for proper fit. Defective drill bits must be immediately replaced!

Each time a drill bit is fitted or changed, the drill motor is to be stopped first. After assembly do not leave any tools, a wrench for example, on the unit.



Important: Before fitting the drill bit, carefully clean all the fastening elements!

4.6.1 With UNC-Adapter



Important: The connection threads must be clean!

Fit the UNC-Adapter firmly to the gear box. Fit the adapter to the gearshaft in such a way that the serration meshes and screw the two set screws in the adapter into the gearshaft.

Now wind the drill carriage up, but only to such point that the drill bit easily fits under the adapter.

When fitting the drill bit, please observe the following order:

- first the brass disc
- then the O-ring
- finally the drill bit

4.6.2 With 3-hole flange



Important: The connection flanges must be clean!

Fit the 3-hole flange to the gear box. Fit the flange to the gearshaft in such a way that the serration meshes and screw the two set screws in the flange into the gearshaft. Now wind the drill carriage up, but only to such point that the drill bit easily fits under the flange.

Then, with a wrench SW 17, screw the three screws M 10 x 20 through the flange into the holes of the drill bit. Lock the flange with a SW 41 wrench.

5. Operation



 **Attention: Make the site free of parts that might obstruct the operation! Make sure, the drill bit is well mounted! Make sure, only authorized personnel is in the working area!**

 **Warning: Never touch rotating parts like drill spindle and drill bit!**

 **Attention: Make sure, that there are no mains in the material and location of the hole to be drilled!**

5.1 Before starting

Check that your machine is properly assembled and in good condition:

- All parts must be assembled properly and securely.
- The stop switch must move freely.
- Smooth action of choke knob, throttle trigger lockout and throttle trigger - the throttle trigger must return automatically to the idle position. The choke knob must spring back from the ▲ position to the run position I when the throttle trigger lockout and throttle trigger are squeezed.
- Check that the spark plug boot is secure - a loose boot may cause arcing that could ignite combustible fumes and cause a fire!
- Never attempt to modify the controls or safety devices in any way.

Do not operate your machine if it is damaged or not properly assembled!

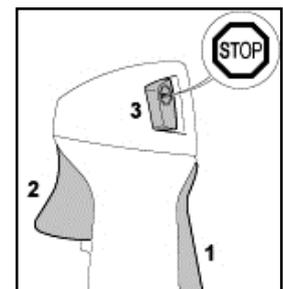
Pay attention to the whereabouts of the cooling and rinsing water as well as of cutting slurries. Cutting slurries must be collected, filtered and disposed of. Attach the unit according to the drilling problem and take the operating position. Move the drill bit with the hand crank to 5mm to the drilling surface.

 **Important: Fit the exhaust gas hose when working in closed rooms or below ground level!**

5.2 Starting the engine

Start the engine at least 3 meters from the fuelling spot. When work in closed or below ground level it is absolutely necessary to use the exhaust hose!

1. **Throttle trigger lockout**
2. **Throttle trigger**
3. **Stop switch** - with **run** and **stop** positions. Press the momentary contact stop switch to switch off the ignition.



Function of stop switch and ignition system

The stop switch is normally in the run position: Ignition is on in this position - the engine is ready to start and may be started. The ignition is switched off when the stop switch is depressed. It is automatically switched on again after the engine comes to a standstill.

Symbols on choke knob



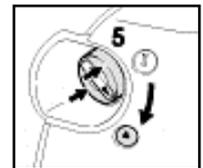
- Start ▲: the engine is started in this position.
- Normal run position I: engine runs or can fire.

Start the engine



- Press the fuel pump bulb (Pos. 4) at least five times. Even if the bulb is filled with fuel.

- Depress in the outer edge (arrows) of the choke knob (Pos. 5) and then turn it to start ▲.
- Hold the starter grip with your hand.
- Do not pull out the starter rope all the way - it might otherwise break!
- Do not let the starter grip snap back. Guide it slowly back into the housing so that the starter rope can rewind properly.
- Continue cranking until the engine runs.



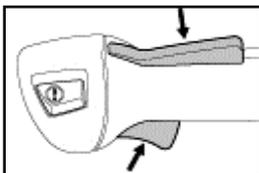
As soon as the engine runs: Make sure the engine runs smoothly.

If the engine stalls: continue cranking until the engine runs.

As soon as the engine runs smoothly

After a cold start, allow the engine to warm up in the start ▲ position.

If you have started the machine for the first time, refer to the notes on “starting for first time”.



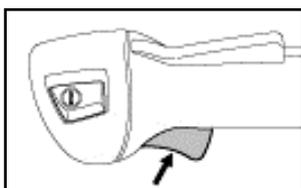
- Depress throttle trigger lockout and pull the throttle trigger - the choke knob moves to the run I position.



Attention: The spindle must not rotate in the run I position with the engine at idling speed!

If the spindle rotates when the engine is idling, refer to notes in chapter “adjusting the throttle cable” or have the machine serviced by your dealer.

Starting for first time



- Depress the throttle trigger - do not press down the throttle trigger lockout.
- If engine speed increases or the cutting attachment rotates:
- Go to section “stopping the engine”.
 - Go to chapter “adjusting the throttle cable”.
- If the engine speed does not increase, your machine is ready for operation.

At very low outside temperatures

- Set the engine to winter operation if necessary.
- If the machine is very cold (frost on machine), allow the engine to warm up in the start ▲ position after starting until normal operating temperature is reached. Warning: the spindle rotates in this position!

At very high outside temperatures

- If the engine does not start after 10 pulls in the start ▲ position:
- Start the engine in the run I position.

If the engine does not start

- Check that all settings are correct.
- Check that there is fuel in the tank and refuel if necessary.
- Check that the spark plug boot is properly connected.
- Repeat the starting procedure.

Fuel tank runs until completely dry

- After refuelling, press the fuel pump bulb at least five times. Even if the bulb is filled with fuel.
- Start the engine.

5.3 Operating instructions engine

During break-in period

A factory-new machine should not be run at high revs (full throttle off load) for the first three tank fillings. This avoids unnecessary high loads during the break-in period. As all moving parts have to bed in during the break-in period, the frictional resistances in the engine are greater during this period. The engine develops its maximum power after about 5 to 15 tank fillings.

During operation

After a long period of full throttle operation, allow the engine to run for a short while at idle speed so that engine heat can be dissipated by the flow of cooling air. This protects engine-mounted components (ignition, carburettor) from thermal overload.

After finishing work

Storing for a short period: Wait for the engine to cool down. Empty the fuel tank and keep the machine in a dry place, well away from sources of ignition, until you need it again.

- For longer out-of-service periods: For periods of 3 months or longer:
- Drain and clean the fuel tank in a well-ventilated area.
- Dispose of fuel properly in accordance with local environmental requirements.
- Run the engine until the carburettor is dry. This helps prevent the carburettor diaphragms sticking together!
- Remove, clean and inspect the machine!
- Store the machine in a dry and secure location - out of the reach of children and other unauthorized persons.

5.4 Start drilling



Important: Observe all the previous chapters in this manual, in particular the safety and warning instructions!



Warning: Never touch rotating parts like drill spindle and drill bit!



Attention: Transport the unit only when the engine is stopped! This applies also to a short change of location!



Attention: Wear appropriate individual protective equipment!

Care for safety clearance regarding third persons and take the operator's station on the base plates at the machine!

First provide the water supply as described in the chapter "water supply". The drill bit is about 5mm above the material which is to be drilled. Then start the motor as described in the chapter "Start the motor". When you start drilling first use a moderate feed pressure - turn the hand crank slowly to make the first cut.

After start of drilling you should care for an even drill feed (drill bit pressure). The drill feed must be adapted to the material to be drilled!



Feed too high - Motor overload!
Feed too low - Blunt segments!

5.5 Stop drilling

When winding the crank in the opposite direction, you move the drill bit out of the drill section. As soon as the drill bit has left the section, stop the motor.

Stopping the engine



- Depress the momentary contact stop switch.
- The engine stops.
- Release the stop switch.
- The stop switch springs back to the run position.

Next, block the water supply. If no further drilling is done, the drill bit is to be removed. Carry out the maintenance and care work according to the chapter "maintenance and care".

5.6 Changing the drill bit

The drill bit is changed if:

- the diamond segments of the drill bit are completely worn
- the material to be cut changes
- the drill bit turns irregularly
- the diamond segments are damaged or broken

For fitting a new drill bit, proceed as described in the chapter "drill bits".

6. Maintenance and care

	Attention: All maintenance, repair and care work is only to be done with the motor being stopped!
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Spare parts must comply with the technical requirements specified by the manufacturer. Spare parts from **GÖLZ®** can be relied to do so! Observe the following indications:

In accordance to the given cycles, the subsequently described maintenance work has to be enforced. Also the wearing parts subject to no certain maintenance-intervals have to be checked regularly for wear and to adjust if necessary or to exchange. With I.C. engines, the maintenance work has to be enforced in accordance with the separate maintenance-instruction of the engine manufacturer.

		Before starting work	After work	Weekly	In the event of a malfunction	If damaged
Machine	Visual inspection	x			x	x
	Clean		x			
Threaded spindle	Grease			x		
Column	Spray with sliding spray		x			
Drill bit	Check	x	x		x	
	Clean thread		x			
	Repair					x

6.1 Drill rig

Clean the machine and also the carriage well after each duty and check all functions. Replace all necessary parts that are out of order or worn out immediately. Spray in the column with commercial sliding spray.

6.2 Drill bit

When ending a drill job - check drill bit as follows:

Check segments for cracks or break-outs, Cracks between segment and core barrel, Deformation and out of round wear.

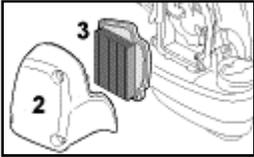
In case of doubt, send the drill bit for repair (retip). Blunt drill bits should be re-sharpened.

6.3 Replacing the air filter

	Important: Only if there is a noticeable loss of engine power!
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- Set the choke knob to ▲.
- Loosen the screws (Pos. 1).



- Remove the filter cover (Pos. 2).
- Clean away loose dirt from around the filter (Pos. 3) and inside the filter cover.

The air filter (Pos. 3) is a pleated paper filter element.

- Remove and check the filter element (Pos. 3) and replace if paper or frame is dirty or damaged.
- Unpack the new filter.

Do not bend or twist the filter before installation as it might otherwise be damaged. Do not use damaged filters!

- Fit the filter in the filter housing and fit the filter cover

Use only high quality air filters to ensure the engine is protected from abrasive dust. We recommend you use only original STIHL® air filters. The high quality standard of these parts guarantees trouble-free operation, a long engine life and very long filter service life. Maintenance and care of the special filter element for winter operation are described in the chapter on “winter operation”.

6.4 Cleaning the air filter



- Loosen filter cover mounting screws.
- Remove the filter cover (Pos. 5).
- Clean away loose dirt from around the filter (Pos. 5) and inside the filter cover.
- Knock the filter (Pos. 5) out on the palm of your hand or blow it clear with compressed air from the inside outwards.

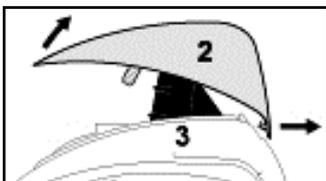
In case of stubborn dirt or sticky filter fabric:

Wash the filter in a clean, non-flammable solution (e.g. warm soapy water) and then dry. Always replace a damaged filter!

6.5 Changing the spark plug

Removing the spark plug

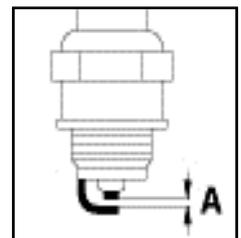
- Rotate the screw (Pos. 1) in the cap (Pos. 2) until the screw head projects from it.



- Lift the front of the cap (Pos. 2) and push it to the rear to disengage.
- Put the cap to one side.
- Remove the spark plug boot (Pos. 3).
- Unscrew the spark plug.

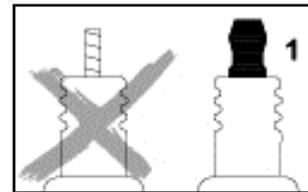
Checking the spark plug

- Clean dirty spark plug
- Check electrode gap A and readjust if necessary. See „specifications“.
- Rectify the problems which have caused fouling of the spark plug.



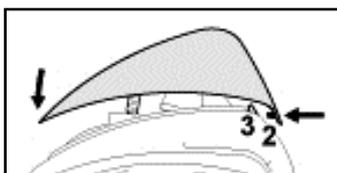
Possible causes are:

- too much oil in fuel mix,
- dirty air filter,
- unfavourable running conditions.



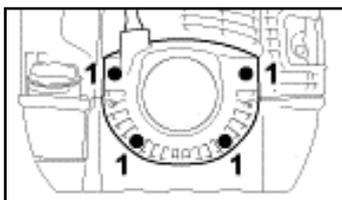
Attention: If the spark plug comes with a detachable adapter nut (Pos. 1) screw the adapter onto the thread and tighten it down firmly to reduce the risk of arcing and fire!

Installing the spark plug



- Screw the spark plug into the cylinder.
- Press the spark plug boot firmly onto the spark plug
- Fit the cap on the shroud from the rear and push the lug (Pos. 2) into the opening (Pos. 3) in the shroud at the same time.
- Swing the cap forwards onto the shroud, insert and tighten down the screw firmly.

6.6 Replacing the starter rope and rewind spring



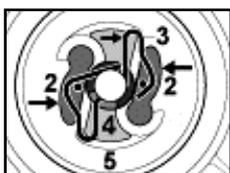
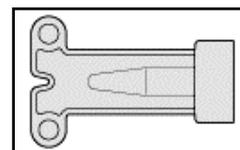
- Take out the screws (Pos. 1).
- Lift away the rewind starter.

Replacing the starter rope and rewind spring

If either the starter rope or rewind spring is broken, continue with “removing the rope rotor”. If either the starter rope or rewind spring are being replaced as a precautionary measure, continue with the following chapter.

Releasing tension on rewind spring

Use the tensioning wrench (Pos. 6). It is available as a special accessory.

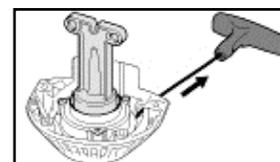


- If necessary, swing the pawls (Pos. 2) inwards.
- Rotate the spring clip (Pos. 3) out of the recesses (Pos. 4) in the carrier (Pos. 5).

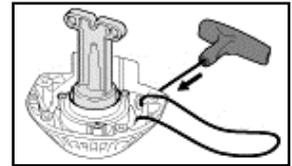


- Position the tensioning wrench in the carrier so that the peg (Pos. 6) engages one of the recesses (Pos. 4).

- Use starter grip to pull out the starter rope as far as stop.
- Hold the tensioning wrench and the starter mechanism steady so that the rope does not rewind onto the rope rotor.
- Grip the rope inside the housing, pull it out to its full length and make a loop.



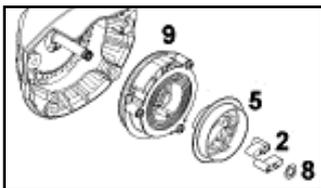
- Allow tensioning wrench to rotate slowly and thus release spring tension. The rope winds itself around the tensioning wrench in this process until the spring is no longer under tension.
- Remove the tensioning wrench from the carrier.



Removing the rope rotor



- Use a screwdriver or suitable pliers to remove the spring clip (Pos. 3) from the starter post.
- Carefully remove the E-clip (Pos. 7).



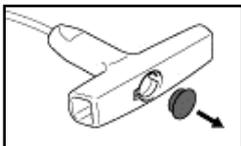
- Carefully remove the carrier (Pos. 5) with pawls (Pos. 2) and washer (Pos. 8) and put them to one side so that the pawls and washer cannot fall out.
- Pull the rope rotor (Pos. 9) off the starter post.



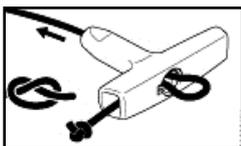
Attention: The pressure spring may pop out and uncoil during this operation. Take care to avoid the risk of injury!

If the rewind spring needs to be replaced, continue with “replacing the rewind spring”. If the starter rope needs to be replaced, continue with the following chapter.

Replacing the starter rope

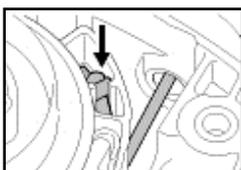
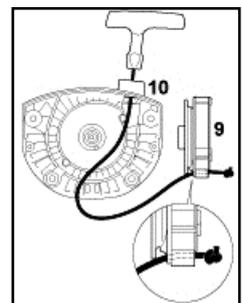


- Pry the cap out of the starter grip.
- Remove worn rope or remaining rope from the rotor and starter grip.



- Thread the new rope through the starter grip and tie a simple overhand knot in its end as shown.
- Pull the knot back into the grip.
- Refit the cap in the grip.

- Thread the rope through the top of the guide bushing (Pos. 10) and rope rotor (Pos. 9).
- Tie a simple overhand knot in the end of the rope.



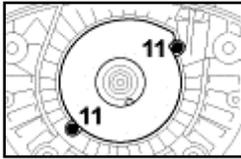
- Pull the knot into the rope rotor. If necessary, push the knot into the rotor's recess.

Go to “installing the rope rotor”.

Replacing the rewind spring



Attention: The bits of the spring may still be under tension and could fly apart when you remove the rope rotor and spring housing. To reduce the risk of injury, wear face protection and work gloves!



- Take out the screws (Pos. 11).
- Remove the spring housing and spring or bits of the spring.
- Lubricate the new, ready-to-fit replacement spring in the new spring housing with a few drops of resin-free oil.
- Fit the replacement spring with spring housing - the bottom plate must face up.

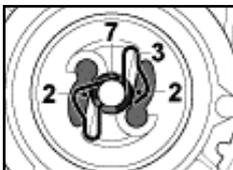
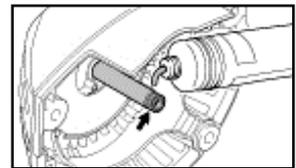


Attention: If the spring pops out of the housing during installation: wear face protection and work gloves and refit the spring in the spring housing - clockwise - from the outside inwards!

- Fit the screws.

Installing the rope rotor

- Coat the whole starter post uniformly - including the grooves (arrow) - with gear lubricant (special assessor).
- Slip the rotor over the starter post - turn it back and forth to engage the anchor loop of the rewind spring.
- Slip the carrier with pawls and washer over the starter post - turn it back and forth to engage the anchor loop of the rewind spring in the carrier.



- Fit the E-clip (Pos. 7) in the grooves in the starter post.
- Push the spring clip (Pos. 3) into position - it must point counter clockwise as shown and engage the pawls peg.

Tensioning the rewind spring



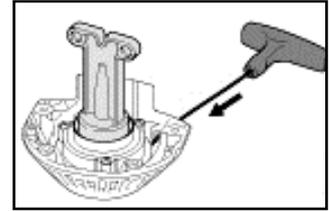
- Pull the starter rope out of the housing as far as stop and make a loop.
- Fit the tensioning wrench on the carrier.

- Use the tensioning wrench to rotate the rotor six full turns counter clockwise - the rope winds itself around the tensioning wrench in this process.
- Hold the tensioning wrench steady and unwind the rope.



- Pull out and straighten the twisted rope at the starter grip.
- Hold the rope steady with the starter grip.

- Release the tensioning wrench and rope slowly so that it winds onto the rotor.
- Remove the tensioning wrench.



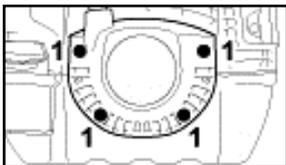
The starter grip must locate firmly in the guide bushing. If the grip droops to one side: add one more turn on the rope rotor to increase spring tension.



Attention: When the starter rope is fully extended it must still be possible to rotate the rotor at least one more turn. If this is not the case, the spring is overtensioned and could break!

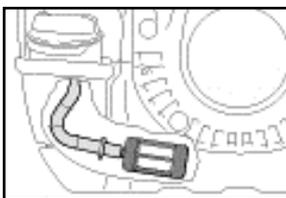
- Take one turn of the rope off the rotor.

Installing the rewind starter



- Position and line up the rewind starter on the engine
- Insert the screws (Pos. 1) and tighten them down firmly.

6.7 Fuel pickup body in tank



- Check the pickup body in the fuel tank every year and have it replaced if necessary.

The pickup body should be positioned in the area of the tank shown in the illustration.

6.8 Spark arrestor in muffler and spacer

- The spark arrestor is country-specific.
- If the engine power decreases, check the spark arrestor in the silencer.

6.9 Maintenance and care engine

The following intervals apply to normal operating conditions only. If your daily working time is longer or operating conditions are difficult (very dusty work area, etc.) shorten the specified intervals accordingly.

KB200 with FS560

Translation of the original operating instruction and spare parts list



		before starting work	after finishing work or daily	after each refuelling stop	weekly	monthly	annual	if problem	if damaged	if required
Complete machine	Visual inspection (condition, leaks)	X		X						
	clean		X							
	Replace any damaged parts	X								
Control handle	Check operation	X		X						
Air filter, paper filter	Visual inspection					X		X		
	replace ¹⁾								X	
Air filter, synthetic fabric filter	Visual inspection					X		X		
	clean									X
	replace								X	X
Fuel tank	clean									X
Pickup body in fuel tank	check ²⁾							X		
	replace ²⁾						X		X	X
Engine idle speed	Check - the spindle / the tool must not turn	X		X						
	If the tool turns when the engine is idling, have machine repaired by servicing dealer									X
Spark plug	Readjust electrode gap							X		
	Replace after every 100 operating hours									
Cooling inlets	Visual inspection		X							
	clean									X
Cylinder fins	clean ²⁾						X			
Spark arrestor³⁾ in muffler	check ²⁾							X		
	clean or replace								X	
All accessible screws and nuts ⁴⁾	retighten									X
Antivibration elements	Visual inspection	X						X		
	replace ²⁾								X	

KB200 with FS560

Translation of the original operating instruction and spare parts list



		before starting work	after finishing work or daily	after each refuelling stop	weekly	monthly	annual	if problem	if damaged	if required
Tool	Visual inspection	X		X						
	replace								X	
	Check tightness	X		X						
Exhaust port	Decoke after first 139 hours of operation, then every 150 hours of operation									X
Safety labels	replace								X	

¹⁾ Only if there is a noticeable loss of engine power

²⁾ by servicing dealer

³⁾ country-specific

⁴⁾ tighten down the muffler mounting screws firmly after first 10 to 20 hours of operation

7. Troubleshooting

Cause	Remedy
Blunt drill bit	
Hard bonded segment!	Use segments one class softer bonded
Segment too big surface	Attach a drill bit with less segments or reduce the rpm an increase the feed compression.
Too fast RPM!	Use lower RPM.
Drilling in steel!	Use lower gear and reduce feed and increase water flow.
Drill bit worn out!	Replace with a new one.
Diamond grains pressed into the binding!	Sharpen drill bit in sharpening plate, work with low feed.
Segment surface is daubed with material sludge	Increase the water flow, re-sharp the segments
Segment surface is daubed with steel chips	Reduce the speed, increase the water flow, re-sharp the segments
No free cut because of side wards wear-out of segments!	Replace the drill bit and have the drill motor spindle checked.
Excessive wear of segments	
Soft bonded segments!	Use segments one class harder bonded or increase rpm and reduce the feed compression
Segments to narrow!	Use drill bit with wider segments or reduce feed.
Too low RPM!	Shift the higher gear.
Drill bit is deformed!	Change drill bit for a new one and bring worn drill bit for rebalancing. Check drill stem and adjust or replace it. Do not use deformed drill bits - it is also wearing out the drill motor.
Drill bit out of true!	Change drill bit and bring worn drill bit for re-balancing.
Abrasive material!	Use segments one class harder bonded. Increase the water flow and the speed.
Water supply low!	Water supply raising.

Cause	Remedy
Drill bit is stuck	
Loose material (cut steel or aggregate is blocking the drill bit or between drill hole and drill bit!	Apply wrench and rotate drill bit in both directions while drill bit is under tension. Disconnect drill bit from the drill motor and drill over with a larger sized drill bit.
Drill rig was displaced during drilling (loose fastening)!	Disconnect drill bit and remove. Break and pull the core. Start again with improved fastening of the drill rig. If drill hole is misaligned, drill over with a larger sized drill bit.
Misaligned drill hole guidance of drill rig has too much clearance!	Disconnect the drill rig, adjust guidance. Start with a new hole or wash over. Do not enter the old drill hole.

8. Spare parts list

8.1 Using the spare parts list

The spare parts list is not a mounting or dismounting instruction. The only purpose of the spare parts list is to easily and quickly find spare parts which can be ordered with distribution agencies, see chapter 8.1.3 "Distribution agencies".

8.1.1 Safety regulation



Danger: Mounting or dismounting assembly groups can give rise to risks which are not mentioned in the spare parts list!

Using this spare parts list for mounting or dismounting purposes is not permitted. For assembly and disassembly work exclusively the corresponding descriptions in this operating manual are to be followed.



Danger: Non-observance of this instruction can result in injury which, in the worst case, can result in death!

8.1.2 Ordering information



Note: In order to avoid wrong deliveries the information the ordering information should be checked for accuracy and completeness before sending it! Completely indicate the delivery address!

GÖLZ® GmbH D - 53940 Hellenthal Tel. (02482) 120		
Typ		
KB 200		
Baujahr	Maschinen-Nr.	
20XX	XXXXX	
Gew. kg	kW	
XX	XXXXX	

So bekommen Sie schnell und richtig Ihr Ersatzteil	Always indicate	Pour obtenir rapidement les pièces de rechange indiquer
<ul style="list-style-type: none"> • Maschinentyp gemäß Typenschild • Baujahr gemäß Typenschild • Artikelnummer gemäß Ersatzteilliste • Maschinenummer gemäß Typenschild 	<ul style="list-style-type: none"> • machine type according to nameplate • year of manufacture according to nameplate • order number according to spare part list • serial number according to nameplate 	<ul style="list-style-type: none"> • type de la machine conforme de plaque d'identification • Année de construction selon plaque d'identification • Numéro de l'article selon la liste des pièces de rechange • numéro de la machine conforme de plaque d'identification
Für Bestellungen, Fragen und Informationen wenden Sie sich bitte an die zuständigen Stellen	For orders, questions and information, please contact the competent departments.	Pour les commandes, questions et informations, veuillez-vous adresser aux points de ventes correspondants.

8.1.3 Distribution agencies

<p>Deutschland – Germany - Allemagne GÖLZ® GmbH Dommersbach 51 DE-53940 Hellenenthal Tel: +49 (0)2482-12 200 Fax: +49 (0)2482-12 222 E-Mail: info@goelz.de / Internet: www.goelz.de</p>	
<p>Österreich - Austria - Autriche GÖLZ® Ges.m.b.H Samstraße 52 A-5020 Salzburg Tel: +43 (0) 662 - 43 81 75 Fax: +43 (0) 662 - 43 07 34 E-Mail: info@goelz.at / Internet: www.goelz.at</p>	<p>Frankreich - France - France GÖLZ® S.A.S. 1, rue de la Mairie F-67370 Berstett Tel: +33 (0)3.88.59.43.00 Fax: +33 (0)3.88.59.47.77 E-Mail: info@golz.fr / Internet: www.golz.fr</p>
<p>Großbritannien - Great Britain - Grande-Bretagne GÖLZ® (UK) Ltd. Unit A5, Springhead, Enterprise Park Northfleet Kent DA11 8HB Tel: +44 1 474321679 Fax: +44 1 474321477 E-Mail: info@goelz.co.uk / Internet: www.goelz.co.uk</p>	<p>Benelux GÖLZ® Benelux Eupener Straße 61 BE-4731 Raeren-Eynatten Tel: +49 (0)2482-12 200 Fax: +49 (0)2482-12 222 E-Mail: benelux@goelz.de / Internet: www.goelz-online.com</p>
<p>Australien - Australia - Australie GOLZ® Pty Ltd. 44 Stanley Street Peakhurst, NSW 2210 Tel: +61 (0) 2 9534 5599 Fax: +61 (0) 2 9534 5588 E-mail: info@golz.com.au / Internet: www.golz.com.au</p>	<p>USA GOLZ® L.L.C. 5860 East Osage Ridge Lane Columbia MO 65203-6018 Tel: +1 573 474 4961 E-Mail: info@golzusa.com / Internet: www.goelz-online.com</p>

8.2 Wearing parts

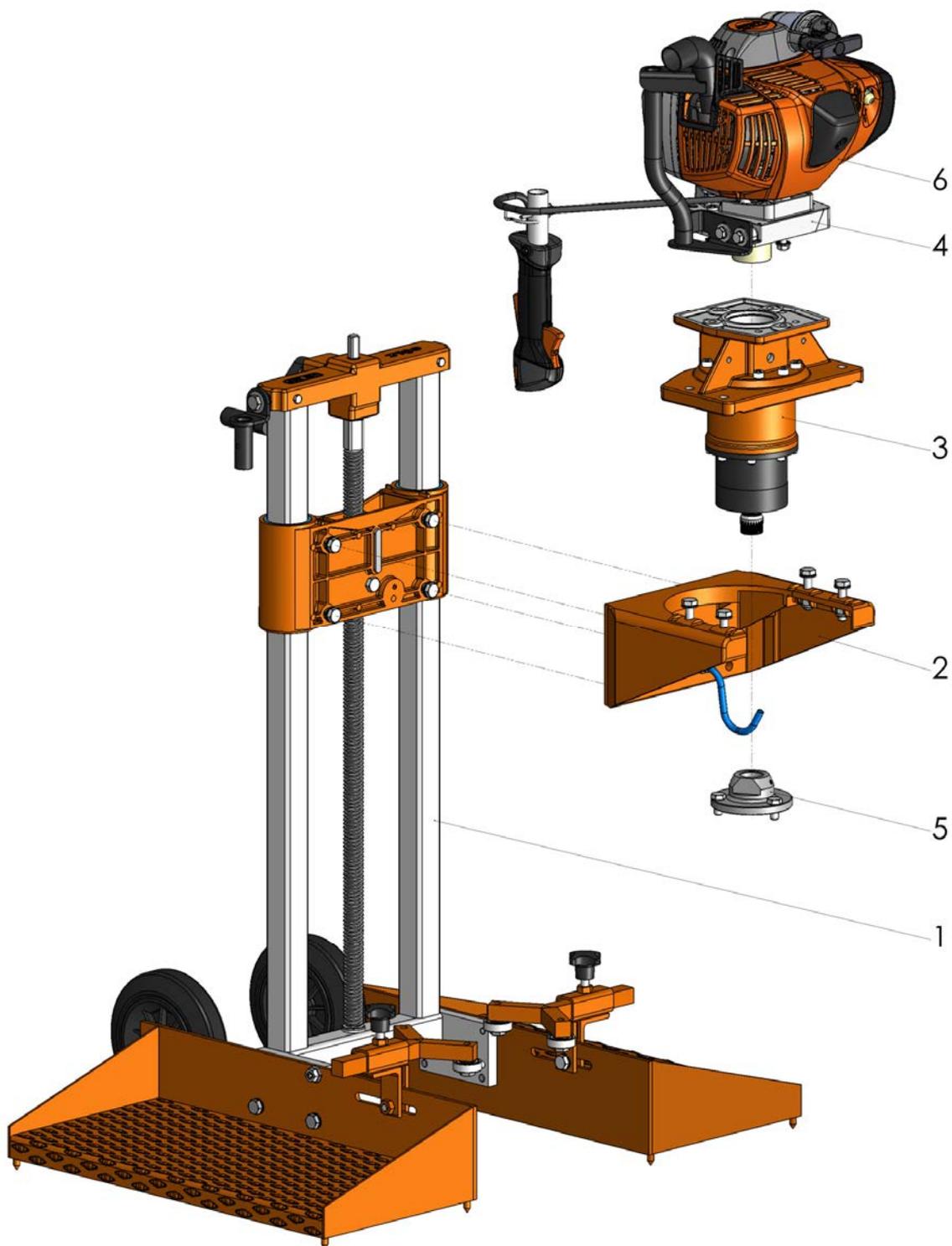
Wearing parts for construction devices mentioned in the operating manual such as drilling and sawing machines.

Wearing parts are the parts subject to operation-related (natural) wear during proper use of the device. The wearing time cannot be uniformly defined, and differs according to the intensity of use. The wearing parts must be adjusted, maintained and, if necessary, replaced for the specific device in accordance with the manufacturer's operating manual. Operation-related wear is not a reason for defect claims.

Wearing parts of this machine are grey marked in the spare parts list.

- Feed and drive elements such as toothed racks, gearwheels, pinions, spindles, spindle nuts, spindle bearings, cables, chains, sprockets, belts
- Seals, cables, hoses, packings, connectors, couplings and switches for pneumatic, hydraulic, water, electrical and fuel systems
- Guide elements such as guide strips, guide bushes, guide rails, rollers, bearings, sliding protection supports
- Clamping elements for quick-separating systems
- Flushing head seals
- Slide and roller bearings that do not run in an oil bath
- Shaft oil seals and sealing elements
- Friction and safety clutches, braking devices
- Carbon brushes, commutators / armatures
- Easy-release rings
- Control potentiometers and manual switching elements
- Securing elements such as plugs, anchors, screws and bolts
- Fuses and lamps
- Auxiliary and operating materials
- Bowden cables
- Discs
- Diaphragms
- Spark plugs, glow plugs
- Parts of the reversing starter such as the starting rope, starting pawl, starting roller and starting spring
- Sealing brushes, rubber seals, splash protection cloths
- Filters of all kinds
- Drive rollers, deflection rollers and bandages
- Cable anti-twist elements
- Running and drive wheels
- Water pumps
- Cut-material transport rollers
- Drilling, parting and cutting tools
- Energy storage

9. Exploded view and spare parts list



KB200 with FS560

Translation of the original operating instruction and spare parts list



Pos.	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
-	0295 202 2000				KB 200 mit FS 560	KB 200 with FS 560	KB 200 avec FS 560
1	0295 202 1031	1		KB 200	Bohrständer kpl.	Drill rig complete	Foreuse carotteuse complète
2	-	1			Getriebeträger	Gear box carrier	Support engrenage
3	0295 002 0015	1			Planetengetriebe kpl.	Planetary gear complete	Engrenage planétaire complète
4	0295 003 0005	1		EUROPA	Antriebsmotor kpl.	Drive motor complete	Moteur commande complète
	0295 003 0003	1		USA			
	0295 003 0004	1		KANADA			
5	-	1		Flansch	Werkzeugaufnahme	Tool acceptance	Levé outillage
	-	1		UNC			
6	0295 003 0000	1		EUROPA	Motor	Motor	Moteur
	0295 003 0009	1		USA			
	0295 003 0010	1		KANADA			

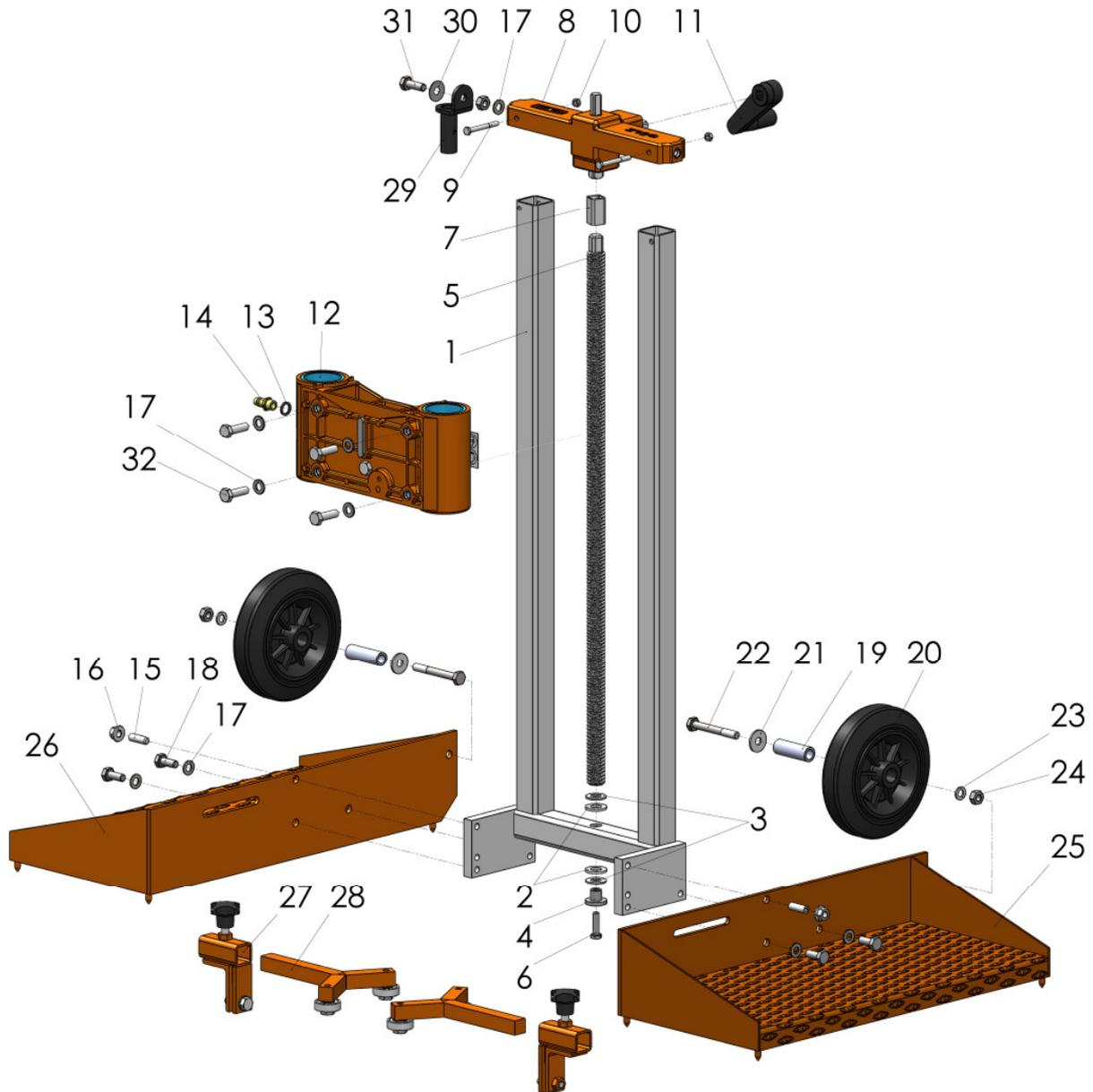
KB200 with FS560

Translation of the original operating instruction and spare parts list



9.1 Drill rig assy.

9.1.1 Drill rig



KB200 with FS560

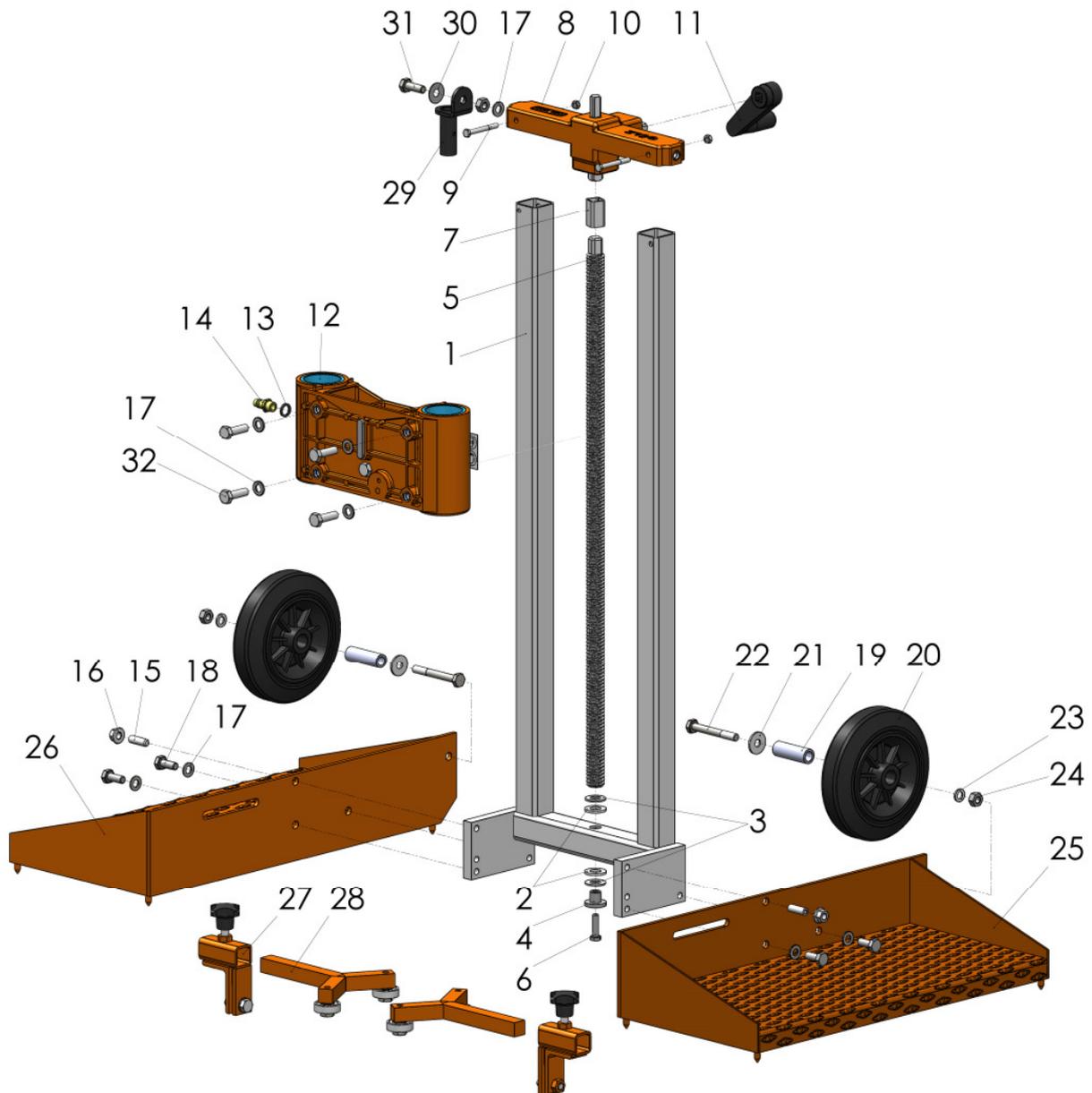
Translation of the original operating instruction and spare parts list



Pos.	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
-	0295 202 1031	1			Bohrständer kpl.	Drill rig assy.	Foreuse carotteuse compl.
1	0295 002 0043	1			Rohrführung	Column	Guide en fer carré
2	0295 000 0745	2		Ø 15,1	Scheibe	Washer	Rondelle
3	0295 600 1043	2	DIN EN ISO 7090	B 15	Scheibe	Washer	Rondelle
4	0295 000 0742	1			Buchse	Bushing	Douille
5	0295 002 0042	1		Tr 24 x 5	Spindel	Spindle	Arbre
6	0295 000 0074	1	DIN EN ISO 4017	M 8 x 30	Schraube	Screw	Vis
7	0295 000 0076	1			Vierkantkupplung	Clutch tube	Tube d'assemblage
8	0295 000 0092	1			Brücke kpl.	Crankcase assy.	Mécanisme à manivelle complète
9	0295 000 0172	2	DIN EN ISO 4041	M 6 x 55	Schraube	Screw	Vis
10	0285 300 0142	2	DIN EN ISO 4032	M 6	Mutter	Nut	Écrou
11	0295 000 0069	1		SW 12	Handkurbel	Handle	Manivelle
12	0295 000 0048	1			Bohrschlitten kpl.	Carriage assy.	Chariot de descente complète
13	0295 000 0066	1		1/4"	Dichtring	Seal	Joint
14	0298 100 0130	1		G 1/4" A	Stecknippel	Water coupler	Racoord rapide
15	0295 000 0410	2	DIN EN ISO 4026	M 10 x 30	Gewindestift	Set screw	Tige filetée
16	0295 000 0175	2	DIN EN 1661	M 10	Bundmutter	Nut	Écrou
17	0286 570 0047	9	DIN EN ISO 7090	B 10,5	Scheibe	Washer	Rondelle
18	0295 000 0179	4	DIN EN ISO 4017	M 10 x 25	Schraube	Screw	Vis
19	0295 200 0005	2			Achshülse	Bushing	Douille
20	0295 200 0004	2		Ø 180 x 50	Rad	Wheel	Roue
21	0298 900 0010	2	DIN EN ISO 7093	A 10,5	Scheibe	Washer	Rondelle
22	0281 045 0030	2	DIN EN ISO 4014	M 8 x 80	Schraube	Screw	Vis
23	0286 570 0043	2	DIN 127	A 10	Federring	Spring washer	Rondelle-ressort
24	0286 570 0046	2	DIN EN ISO 4032	M 10	Mutter	Nut	Écrou
25	0295 000 0117	1			Standplatte links	Standing plate left	Marchepied à gauche
26	0295 000 0118	1			Standplatte Rechts	Standing plate right	Marchepied à droit
27	0295 000 0114	2			Klemmrohr kpl.	Clamping tube assy.	Tube de serrage complète
28	0295 000 0111	2			Rollenhalter kpl.	Roller support assy.	Support de roulettes complète
29	0295 003 0023	1			Halter Bediengriff	Control holder	Manche
30	0282 300 0528	1	DIN 2093	28 x 10,2 x 1	Tellerfeder	Disk spring	Ressort à disque
31	0295 000 0173	1	DIN EN ISO 4017	M 10 x 30	Schraube	Screw	Vis
32	0295 000 0293	4	DIN EN ISO 4017	M 10 x 35	Schraube	Screw	Vis
-	0295 899 0015	1		„KB 200“	Aufkleber	Label	Macaron
-	0295 899 0033	1		„Pikto“	Aufkleber	Label	Macaron

KB200 with FS560

Translation of the original operating instruction and spare parts list



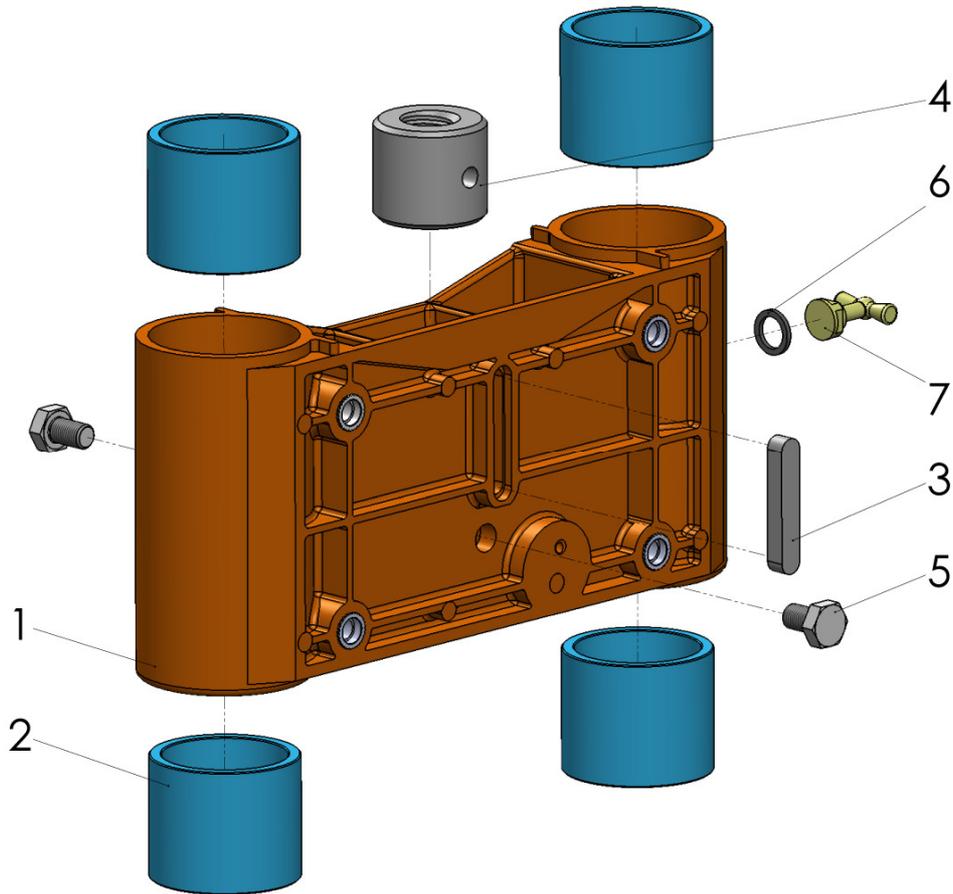
KB200 with FS560

Translation of the original operating instruction and spare parts list



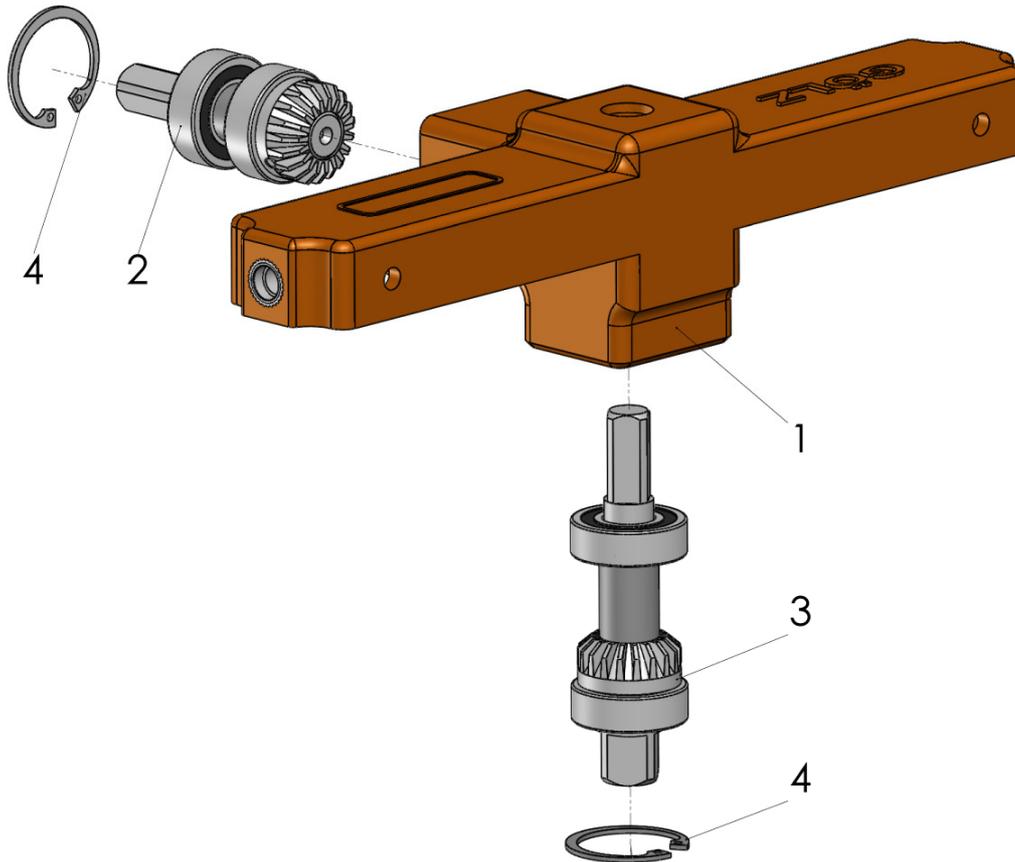
Pos.	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
-	0295 899 0051	1			Typenschild	Type plate	Plaque d'identification
-	0295 010 0014	1		4 m	Abgasschlauch	Exhaust hose	Tuyau d'évacuation des gaz
-	0295 010 0531	1			Schlauch kpl.	Hose assy	Tuyau complète
-	0295 000 0476	1			Wasserbehälter	Water tank	Réservoir
-	0295 000 0017	1		SW 17	Maulschlüssel	Wrench	Clé
-	0295 300 0005	-		Pos. 15-26	Satz Standplatten kpl.	Standing plate set	Marchepied set

9.1.2 Carriage



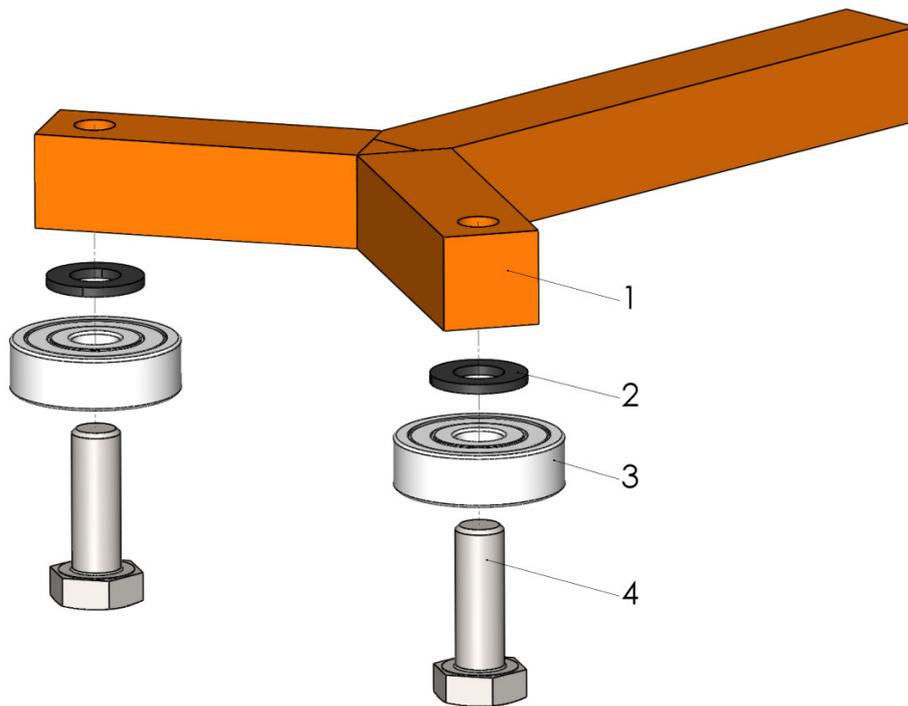
Pos.	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
1	0295 000 0048	1		Pos. 1-7	Bohrschlitten kpl.	Carriage assy.	Chariot compl.
1	0295 000 0093	1			Bohrschlitten	Carriage	Chariot
2	02950000231	4			Kunststoffbuchse	Bushing	Douille
3	0295 000 0206	1	DIN EN ISO 6885	10 x 8 x 56	Passfeder	Key	Clavette
4	0295 000 0077	1			Spindelmutter	Spindle nut	Entretoise
5	0295 000 0037	2	DIN EN ISO 4017	M 10 x 16	Schraube	Screw	Vis
6	0295 000 0066	1			Dichtring	Seal	Joint
7	0295 000 0063	1		1/4"	Ventiloberteil	Water tap	Robinet

9.1.3 Crankcase



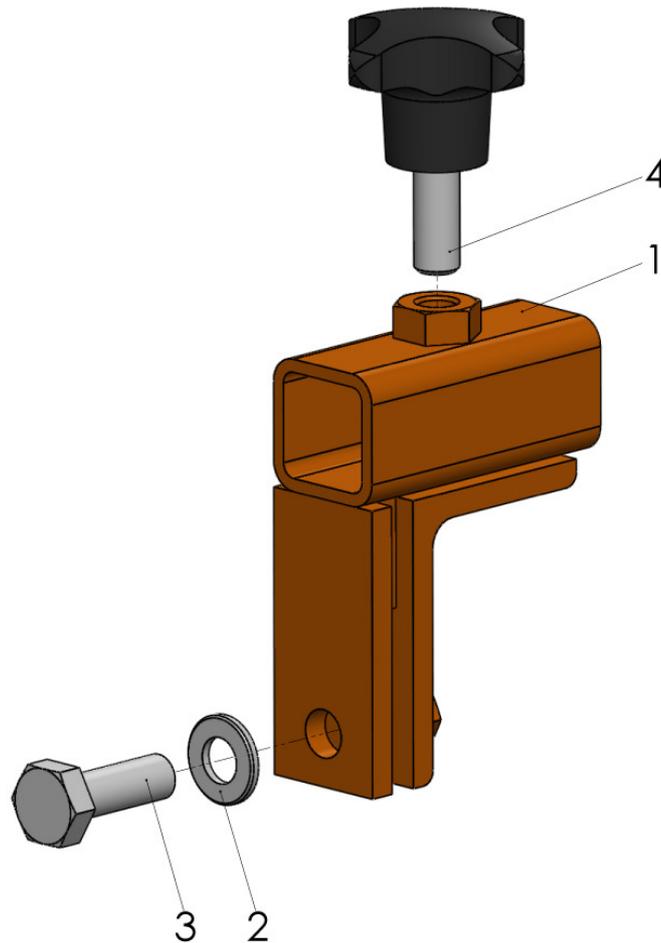
Pos.	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
-	0295 000 0092	1		Pos. 1-4	Brücke kpl.	Crankcase assy.	Pont de commande compl.
1	0295 000 0046	1			Brückengehäuse	Crankcase	Pont de commande
2	0295 300 0017	1			Ritzelwelle	Feed shaft and bearing	Pignon et roulement
3	0295 300 0018	1			Ritzelwelle	Feed shaft and bearing	Pignon et roulement
4	0295 000 0462	2	DIN 472	35 x 1,5	Sicherungsring	Circlip	Circlip

9.1.4 Roller support



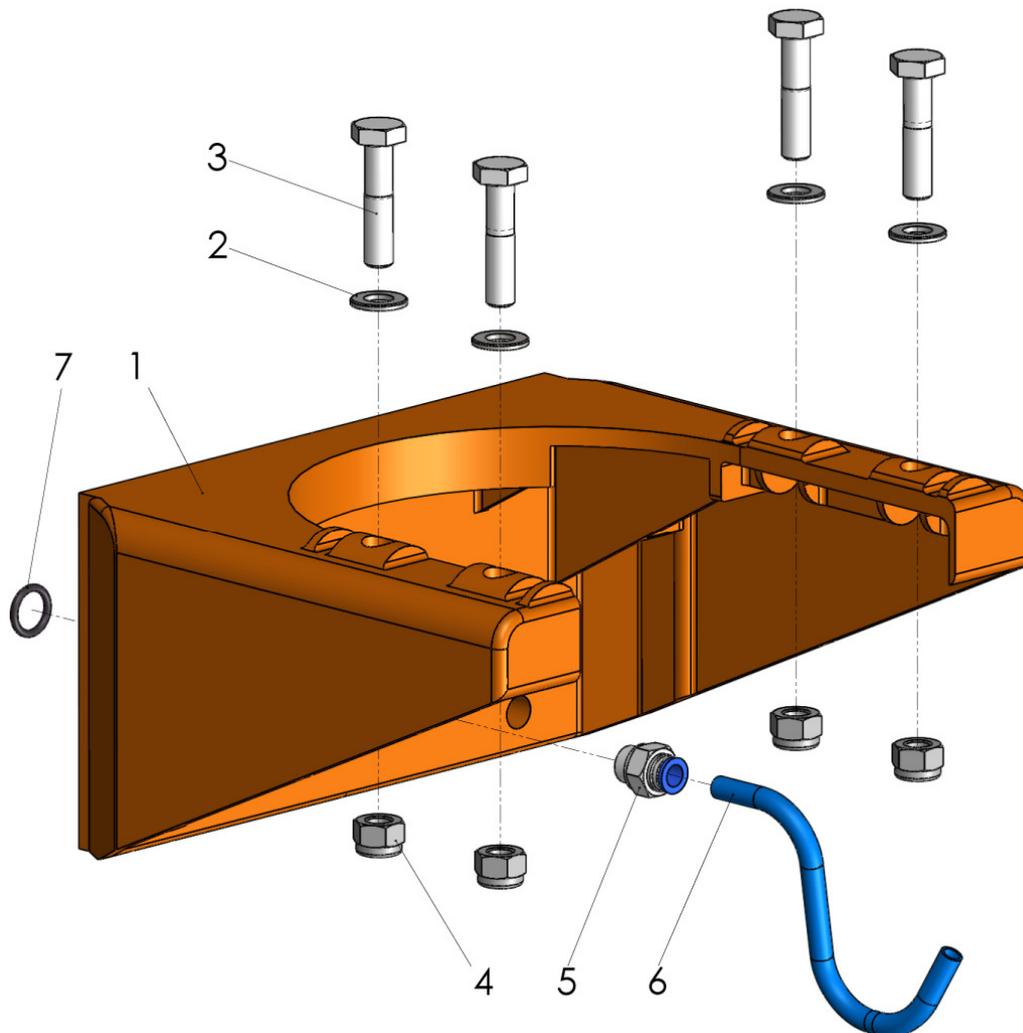
Pos	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
-	0295 000 0111	1			Rollenhalter kpl.	Roller support assy.	Support de roulettes complète
1	-	1			Rollanhalter	Roller support	Support de roulettes
2	0282 250 0662	1	DIN EN ISO 7089	A 10,5	Scheibe	Washer	Rondelle
3	0295 000 0115	1	DIN 625	6330.2RS	Lager	Ball bearing	Roulement
4	0295 000 0173	1	DIN EN ISO 4017	M 10 x 30	Schraube	Screw	Vis

9.1.5 Clamping tube



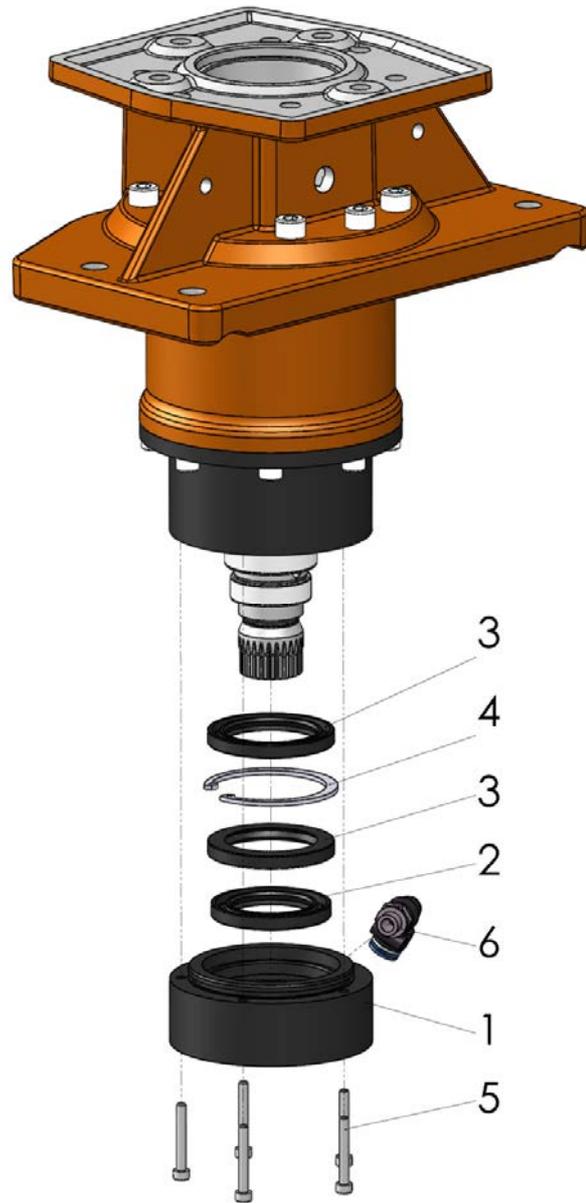
Pos	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
-	0295 000 0114	2			Klemmrohr kpl.	Clamping tube assy.	Tube de serrage complète
1	0295 200 5000	1			Klemmrohr	Clamping tube	Tube de serrage
2	0286 570 0047	1	DIN EN ISO 7090	B 10,5	Scheibe	Washer	Rondelle
3	0295 000 0173	1	DIN EN ISO 4017	M 10 x 30	Schraube	Screw	Vis
4	0295 000 0292	1	DIN 6335	M 10 x 30	Kreuzgriffschraube	Star handle	Poignée en étoile

9.2 Getriebeträger



Pos.	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
1	0295 300 0049	1			Getriebeträger	Gear box carrier	Support engrenage
2	0286 570 0047	4	DIN EN ISO 7090	B 10,5	Scheibe	Washer	Rondelle
3	0295 000 0101	4	DIN EN ISO 4014	M 10 x 45	Schraube	Screw	Vis
4	0286 570 0052	4	DIN EN ISO 7040	M 10	Mutter	Nut	Écrou
5	0284 000 0469	1		1/4", Ø 8	Einschraubsteckverbinder	Connector	Connecteur
6	0284 000 0476	1		Ø 8 x 100	Schlauch	Hose	Tuyau
7	0295 000 0176	1		14 x 2,5	O-Ring	O-ring	Joint

9.3 Planetary gear



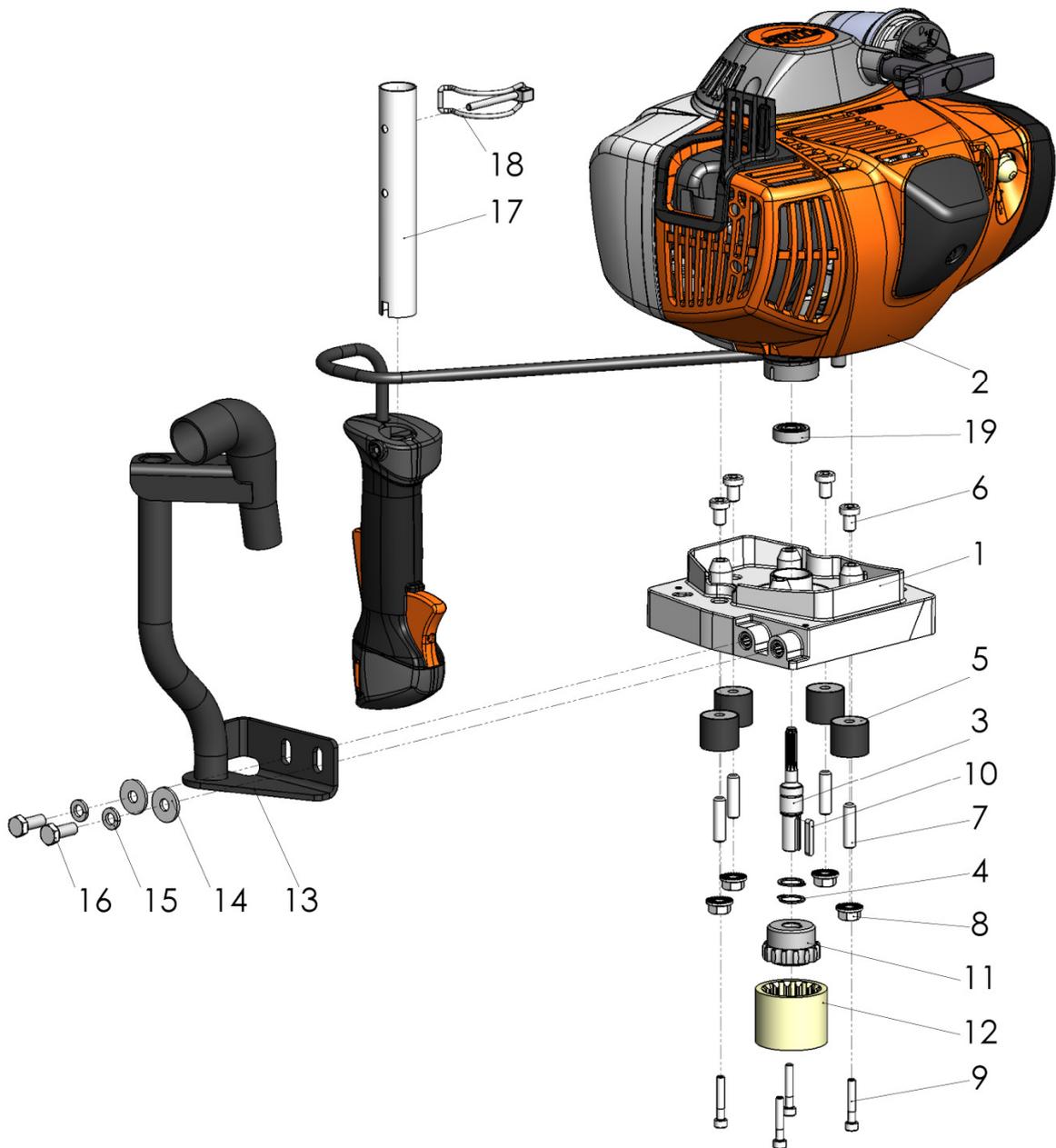
Interstices of Pos. 2 and Pos. 3 fill with waterproof fat.

Install Pos. 4 so that the hole of the flushing drill in the groove from Pos. 1 remains free

Use Pos. 5 with Loctite 243 and tighten to 3 Nm.

Pos.	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
-	0295 002 0015	1		KB 200	Planetengetriebe kpl.	Planetary gear assy.	Engrenage planétaire compl.
1	0295 002 0069	1			Deckel	Cover	Couverture
2	0295 002 0068	1	DIN3760	35 x 525 x 6	Radialwellendichtring	Radial rotary shaft seal	Bague - jointe de vague radiale
3	0295 002 0066	2	DIN 3760	40 x 55 x 6	Radialwellendichtring	Radial rotary shaft seal	Bague - jointe de vague radiale
4	0295 002 0067	1	DIN 472	J 55 x 2	Sicherungsring	Snap ring	Circlip
5	0295 002 0070	4	DIN EN ISO 4762	M 4 x 30	Schraube	Screw	Vis
6	0295 002 0065	1		G1/8"A - Ø8	Winkelschraubverschraubung drehbar	Angle screwing in screw connection swivelling	Angle vissant dans pivoter de raccordement de vis
-	0295 002 0073				Wasserfestes Fett	Water resistant fat	Graisse résistante de l'eau
-				z.B. Loctite 243	Kleber	Adhesive	Adhésif

9.4 Drive motor



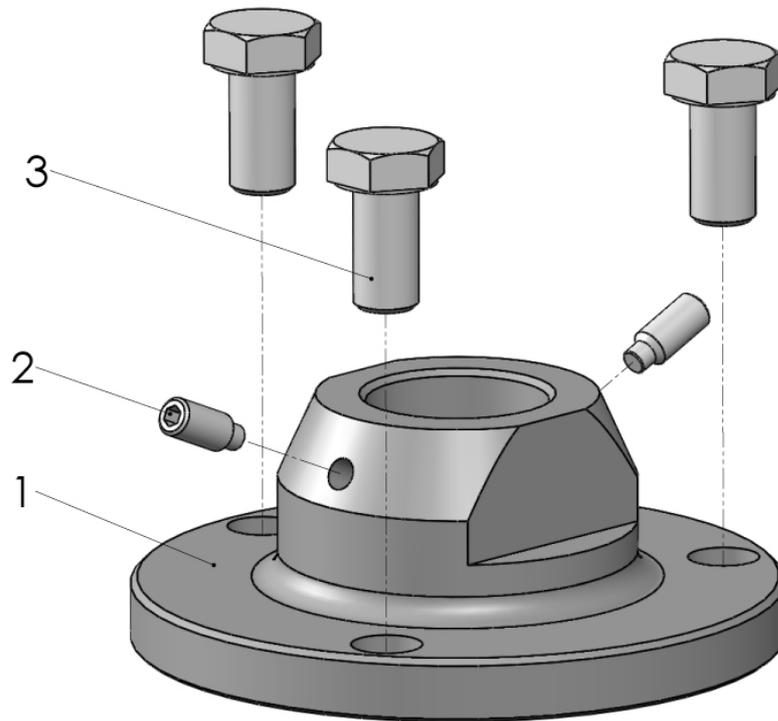
KB200 with FS560

Translation of the original operating instruction and spare parts list



Pos.	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
-	0295 003 0005	-		Pos.1-26 EUROPA	Antriebsmotor kpl.	Drive motor assy.	Moteur commande compl.
-	0295 003 0003	-		Pos.1-26 USA	Antriebsmotor kpl.	Drive motor assy.	Moteur commande compl.
-	0295 003 0004	-		Pos.1-26 KANADA	Antriebsmotor kpl.	Drive motor assy.	Moteur commande compl.
1	0295 002 0087	1		+Pos. 1.1-1.2	Flanschplatte kpl.	Flange plate assy.	Plaque de bride compl.
1.1	0295 000 0025	1	DIN 625	6202.2RS	Lager	Ball bearing	Roulement à billes
1.2	0295 000 0462	1	DIN 472	35 x 1,5	Sicherungsring	Circlip	Circlip
2	0295 003 0000	1		EUROPA	Motor für KB	Motor for KB	Moteur de KB
	0295 003 0009	1		USA	Motor für KB	Motor for KB	Moteur de KB
	0295 003 0010	1		KANADA	Motor für KB	Motor for KB	Moteur de KB
3	0295 002 0086	1			Antriebswelle	Shaft	Arbre
4	0267 118 0104	2	DIN 471	15 x 1	Sicherungsring	Circlip	Circlip
5	0295 002 0022	4		25,5 x 22	Maschinenfuss	Machine foot	Pied de machine
6	0295 000 0352	4	DIN 7984	M 8 x 12	Schraube	Screw	Vis
7	0282 250 0606	4	DIN EN ISO 4026	M 8 x 30	Gewindestift	Grub screw	Goupille de fil
8	0298 000 0962	4		M 8	Mutter	Nut	Écrou
9	0295 000 0059	4	DIN EN ISO 4762	M 5 x 30	Schraube	Screw	Vis
10	0295 002 0030	1	DIN 6885	A 4 x 4 x 25	Paßfeder	Key	Clavette
11	0295 002 0014	1		+Pos. 11.1	Kupplungsnahe	Clutch hub	Moyeu d'embrayage
11.1	0282 450 0119	1	DIN EN ISO 4029	M 5 x 8	Gewindestift	Grub screw	Goupille de fil
12	0295 002 0013	1			Kupplungshülse	Clutch case	Cas d'embrayage
13	0295 003 0028	1			Abstützung Auspuff	Support exhaust	Soutien échappement
14	0298 900 0008	2	DIN EN ISO 7093	A 8,4	Scheibe	Washer	Rondelle
15	0282 150 0036	2	DIN 127	A 8	Federring	Spring washer	Rondelle-ressort
16	0282 150 0035	2	DIN EN ISO 4017	M 8 x 20	Schraube	Screw	Vis
17	0295 003 0022	1			Griffaufnahme	Handle	Poignée
18	0266 420 3024	1		4,5 x 32	Rohrklappenstecker	Linch pin	Esse d'essieu
-	0295 003 0024	1		„Lwa“	Aufkleber	Label	Macaron
-	0295 002 0077	1		„Handschutz“	Aufkleber	Label	Macaron
-	0295 002 0078	1		„Warnung“	Aufkleber	Label	Macaron
-	0295 899 0345	1		„Verbot“	Aufkleber	Label	Macaron
-	0000 891 0801	1			Werkzeutasche	Tool kit	Trousse à outils
-	4128 890 3400	1			Kombischlüssel	Universal wrench	Clés universelle

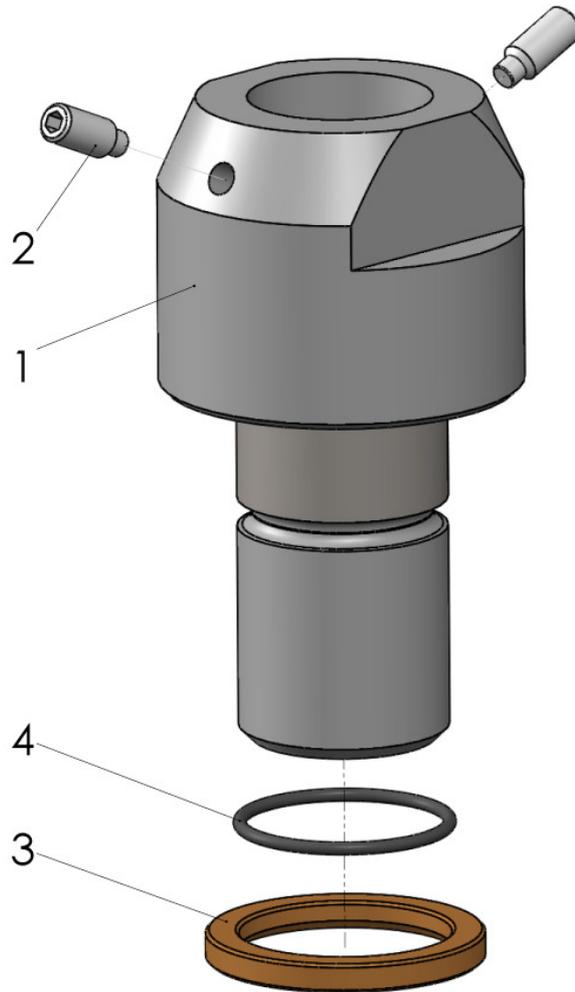
9.5 Tool acceptance



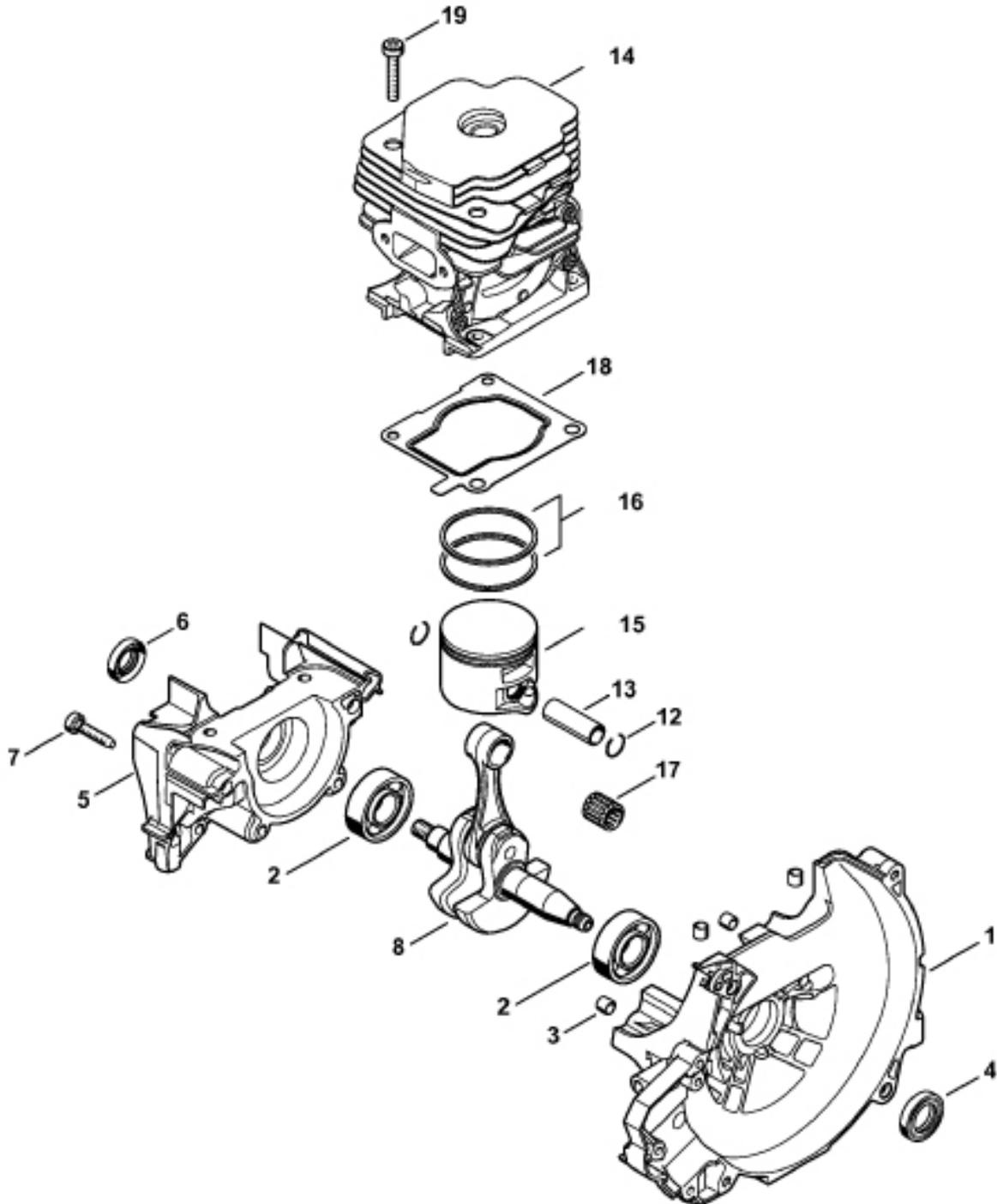
Pos	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
-	-	1			Werkzeugaufnahme	Tool acceptance	Levé outillage
1	0295 002 0000	1			3-Loch-Flansch	Flange	Bride
2	0285 300 0026	2	DIN EN ISO 4028	M 6 x 14	Gewindestift	Grub screw	Goupille de fil
3	0295 000 0187	3	DIN EN ISO 4017	M 10 x 20	Schraube	Screw	Vis

KB200 with FS560

Translation of the original operating instruction and spare parts list



Pos	Artikelnummer	Menge	Norm	Info	Bezeichnung	Description	Désignation
-	-	1			Werkzeugaufnahme	Tool acceptance	Levé outillage
1	0295 002 0001	1		5/4" UNC	Adapter	Adapter	Adapter
2	0285 300 0026	2	DIN EN ISO 4028	M 6 x 14	Gewindestift	Grub screw	Goupille de fil
3	0295 000 0277	1			Zwischenscheibe	Washer	Rondelle
4	0295 000 0278	1	DIN 3771	26 x 1,9	O-Ring	O-ring	Joint

9.6 Motor**9.6.1 Motor - Crankcase, Cylinder**

KB200 with FS560

Translation of the original operating instruction and spare parts list



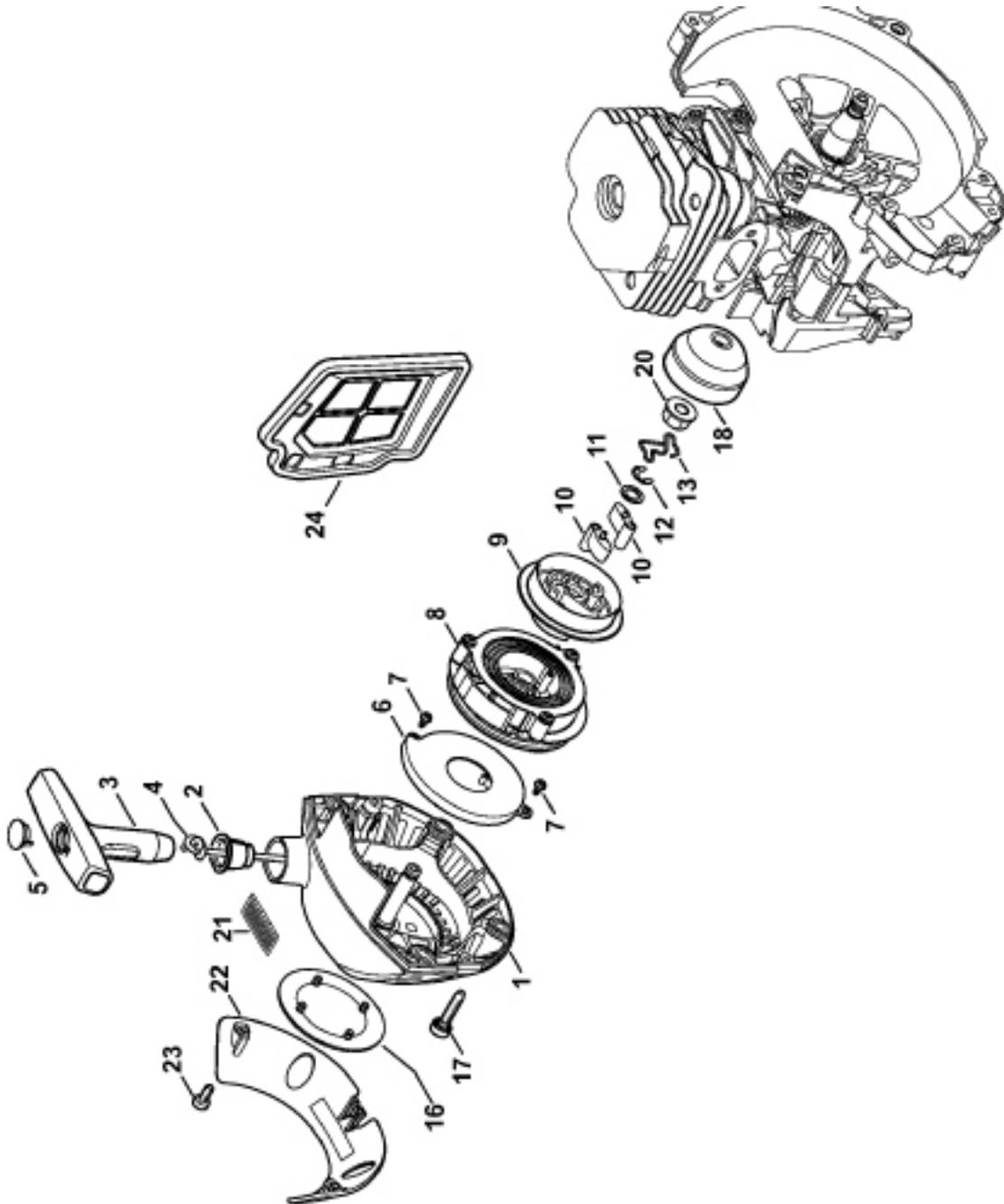
Pos.	Artikelnummer	Menge	Norm	Info	Benennung	Description	Désignation
-	-	1			Kurbelgehäuse, Zylinder	Crankcase, Cylinder	Carter, Cylindre
1	4148 020 2602	1		Pos. 2-4	Kurbelgehäusehälfte	Crankcase	Demi-carter de vilebrequin
2	9503 003 0340	1	DIN 625	6202	Kugellager	Grooved ball bearing	Roulement rainuré à billes
3	0000 988 8600	4			Hülse	Sleeve	Douille
4	9639 003 1585	1	DIN 3760	AS 15 x 25 x 5	Wellendichtring	Oil seal	Bague d'étanchéité
5	4148 020 2902	1		Pos. 2, 6	Kurbelgehäusehälfte	Crankcase	Demi-carter de vilebrequin
6	9640 003 1195	1	DIN 3760	BS 12 x 22 x 5	Wellendichtring	Oil seal	Bague d'étanchéité
7	9075 478 4159	4		M 5 x 24	Schraube	Screw	Vis
8	4148 030 0400	1			Kurbelwelle	Crankshaft	Vilebrequin
12	9463 650 1100	2	DIN 73130	C11	Sprengring	Snap ring	Jonc d'arrêt
13	4148 034 1500	1		11 x 7 x 32	Kolbenbolzen	Piston pin	Axe de piston
14	4148 020 1201	1		Pos. 12-16	Zylinder mit Kolben	Cylinder with piston	Cylindre avec piston
15	4148 030 2003	1		Pos. 12, 13, 16	Kolben	Piston	Piston
16	1140 034 3000	2		Ø 47 x 1,2	Verdichtungsring	Piston ring	Segment de piston
17	9512 00 2347	1		11 x 14 x 15	Nadelkranz	Needle vage	Cage à aiguilles
18	4148 029 2300	1			Zylinderdichtung	Cylinder gasket	Joint de cylindre
19	9022 341 0900	4		M5 x 28	Schraube	Screw	Vis
-	4148 007 1600	1		Pos. 4, 6, 18	Dichtungssatz	Set of gaskets	Jeu de joints
-	0295 000 0017	1		SW 17	Maulschlüssel	Socket wrench	Clé

KB200 with FS560

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9.6.2 Motor - Rewind starter



KB200 with FS560

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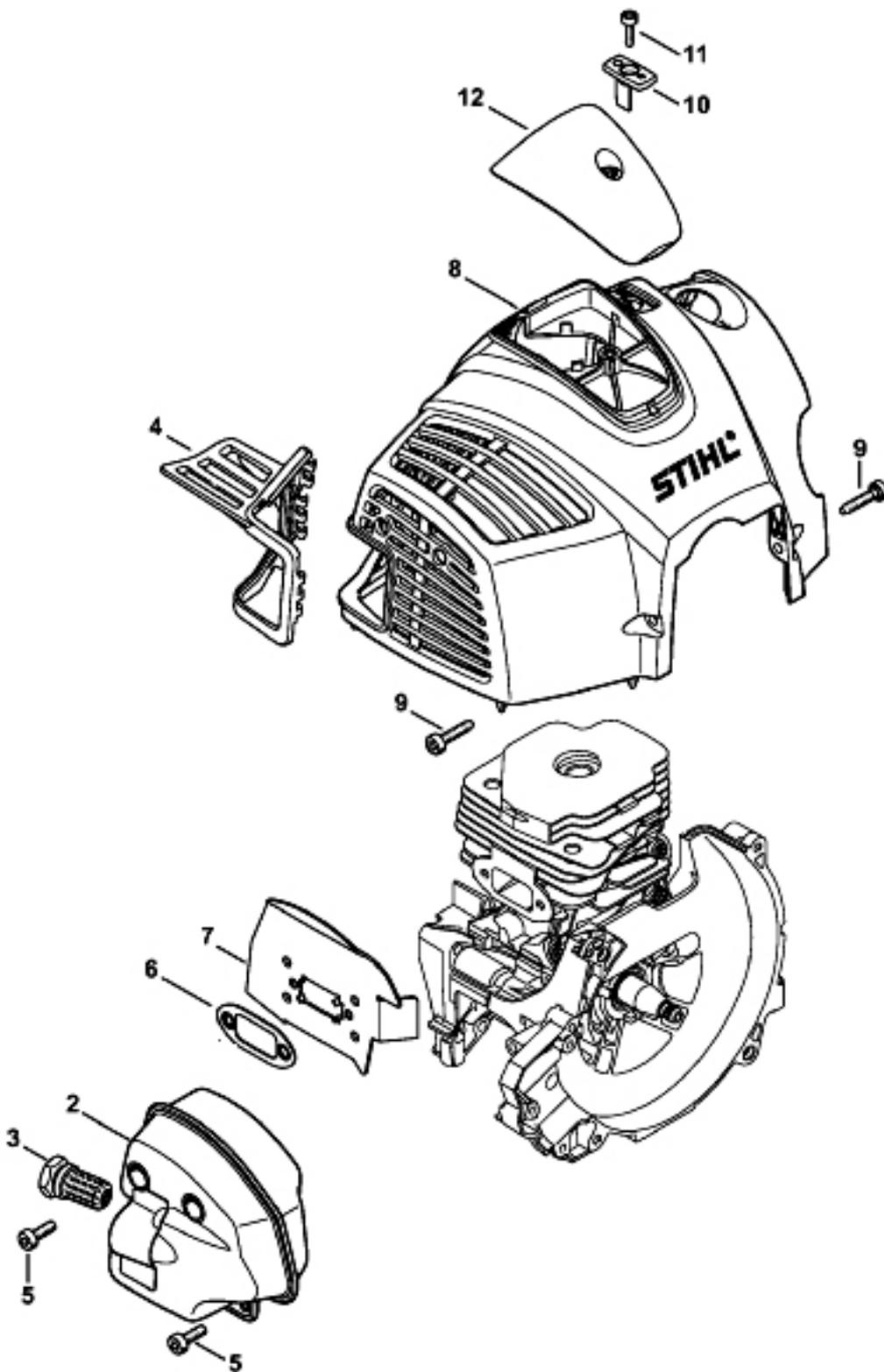


Pos.	Artikelnummer	Menge	Norm	Info	Benennung	Description	Désignation
-	4148 190 4000	1		Pos. 1-13	Anwerfvorrichtung	Rewind starter	Dispositif de lancement
1	4148 190 0400	1		+ Pos. 2	Starterdeckel	Starter cover	Couvercle de lanceur
2	1110 084 9102	1			Buchse	Bushing	Douille
3	0000 190 3501	1		+ Pos. 4, 5	Griff mit Anwerfseil	Grip with starter rope	Poignée avec câble de lancement
4	4147 195 8200	1		Ø 3 x 1010	Anwerfseil	Starter rope	Câble de lancement
5	0000 195 7003	1			Kappe	Cap	Capuchon
6	4147 190 0600	1			Rückholfeder	Rewind spring	Ressort de rappel
7	9104 003 0410	2		M 3 x 6	Schraube	Screw	Vis
8	4147 190 1011	1			Seilrolle	Rope rotor	Poulie à câble
9	4147 195 2000	1			Mitnehmer	Carrier	Entraîneur
10	0000 195 7200	2			Klinke	Pawl	Cliquet
11	0000 958 0806	1			Scheibe	Washer	Rondelle
12	9460 624 0600	1	DIN 6799	6	Sicherungsscheibe	E-clip	Anneau d'arrêt
13	1128 195 3500	1			Feder	Spring	Ressort
16	4148 967 1505	1			Typenschild	Model plate	Plaque matricule
17	9075 478 4159	4		5 x 24	Schraube	Screw	Vis
18	4147 195 0600	1			Starrerrad	Starter cup	Roue de lanceur
20	0000 955 0802	1		M 8 x 1	Mutter	Nut	Écrou
21	0000 967 4054	1		USA	Warnhinweis	Warning sign	Avertissement
22	4147 195 5400	1			Abdeckung	Cover	Recouvrement
23	9074 478 3005	2		M 4 x 14	Schraube	Screw	Vis
24	4148 140 4400	1			Luftfilter	Air filter	Filtre à air
-	4148 007 1000	1		Pos. 22-24	Satz Abdeckplatte	Cover plate kit	Jeu de pièces de plaque de recouvrement

KB200 with FS560

Translation of the original operating instruction and spare parts list

9.6.3 Motor - Muffler, Shroud



KB200 with FS560

Translation of the original operating instruction and spare parts list



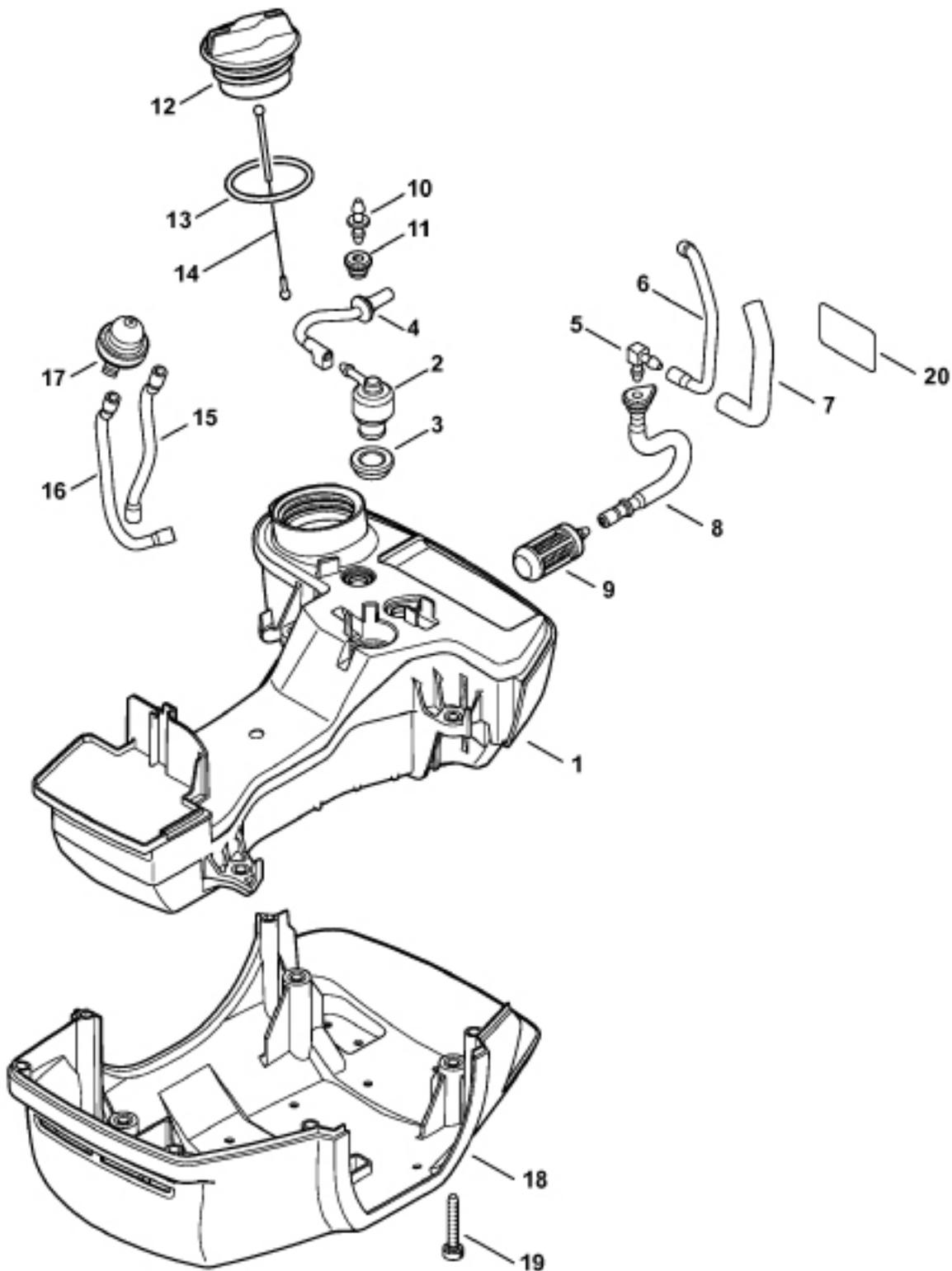
Pos.	Artikelnummer	Menge	Norm	Info	Benennung	Description	Désignation
-	-	1		-	Schalldämpfer, Haube	Muffler, Shroud	Silencieux, Capot
2	4148 140 0601	1			Schalldämpfer	Muffler	Silencieux
3	4148 140 6900	1			Stützen mit Gitter	Stub with screen	Embout avec grille
4	4148 084 6800	1			Distanzstück	Spacer	Pièce d'écartement
5	9022 341 0983	3		M 5 x 16	Schraube	Screw	Vis
6	4148 149 0600	1			Schalldämpferdichtung	Muffler gasket	Joint de silencieux
7	4148 141 3200	1			Kühlblech	Cooling plate	Tôle de refroidissement
8	4148 080 1601	1			Haube	Shroud	Capot
9	9075 478 4159	2		M 5 x 24	Schraube	Screw	Vis
10	4147 084 4102	1			Schieber	Shutter	Tiroir
11	9075 478 3015	2		M 4 x 15	Schraube	Screw	Vis
12	4148 080 0400	1			Abdeckung	Cover	Recouvrement
-	4148 007 1600	1		Pos. 6	Dichtungssatz	Set of gaskets	Jeu de joints

KB200 with FS560

Translation of the original operating instruction and spare parts list



9.6.4 Motor - Fuel tank



KB200 with FS560

Translation of the original operating instruction and spare parts list



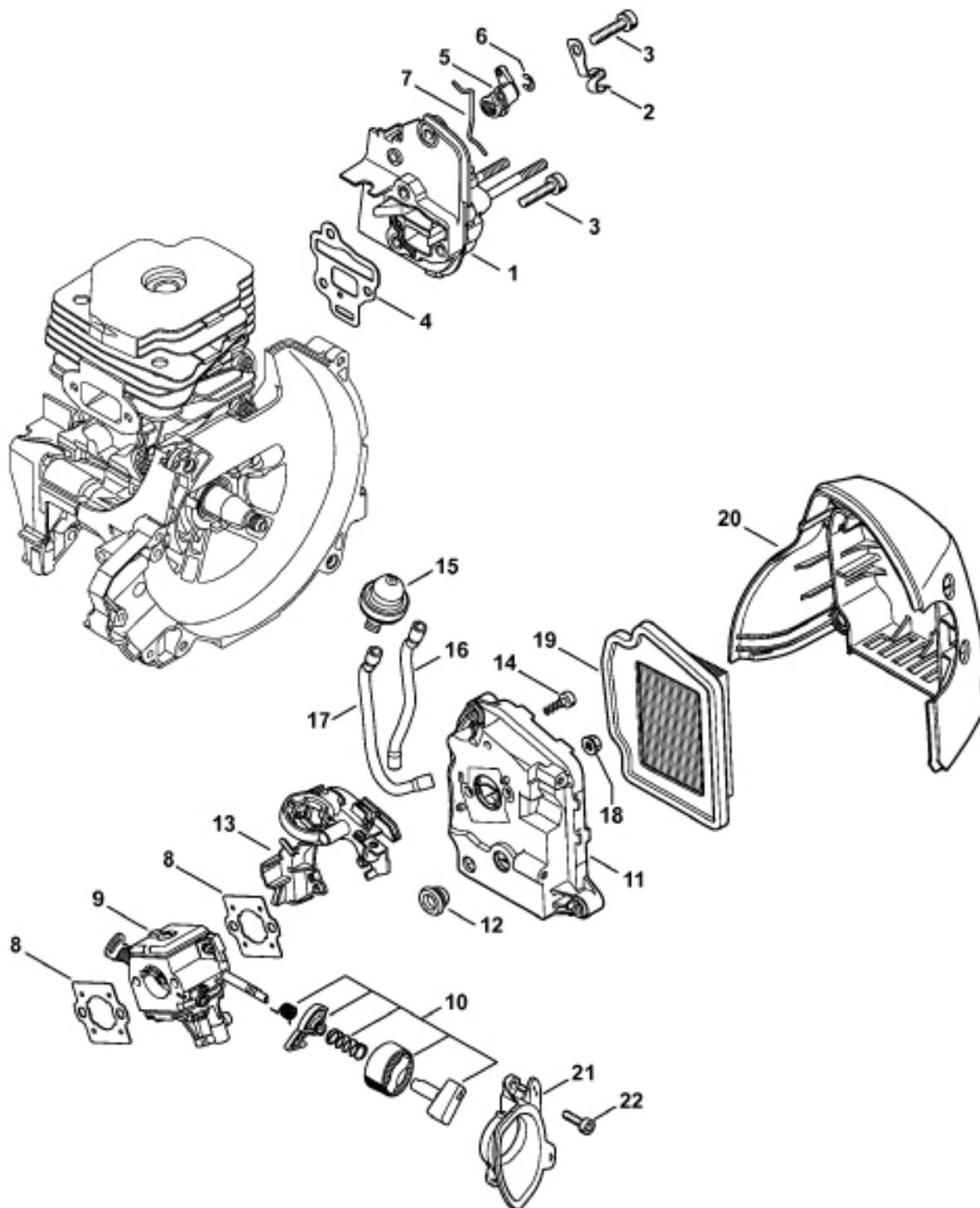
Pos.	Artikelnummer	Menge	Norm	Info	Benennung	Description	Désignation
1	4148 350 0401	1		Pos. 2-15	Kraftstofftank	Fuel tank	Réservoir d'essence
2	4147 350 5802	1			Tankfüllung	Tank vent	Aération de réservoir
3	4223 353 9201	1			Tülle	Grommet	Douille
4	4148 358 7700	1			Schlauch	Hose	Tuyau
5	4224 122 3900	1			Winkelstutzen	Elbow connector	Raccord en équerre
6		1		3,1 x 2,7 x 137	Schlauch	Hose	Tuyau
	0000 937 5004	1		3,1 x 5,7 x 1, R5	Schlauch	Hose	Tuyau
7	0000 937 4080	1			Schlauch	Hose	Tuyau
8	4148 358 0800	1			Schlauch	Hose	Tuyau
9	0000 350 3502	1			Saugkopf	Pickup body	Crépine d'aspiration
10	4148 353 2700	1			Verbindungsstück	Connector	Pièce de raccordement
11	1141 989 0600	1			Tülle	Grommet	Douille
12	0000 350 0517	1		+ Pos. 13, 14	Tankverschluss	Filler cap	Bouchon de réservoir
13	9645 951 3890	1		A 35 x 3	O-Ring	O-Ring	Joint
14	0000 350 0900	1			Seil	Rope	Corde
15		1		3,1 x 5,7 x 108	Schlauch	Hose	Tuyau
16		1		3,1 x 5,7 x 155	Schlauch	Hose	Tuyau
	0000 937 5004	1		3,1 x 5,7 x 1m, R5	Schlauch	Hose	Tuyau
17	4148 350 6200	1		+ Pos. 15, 16	Kraftstoffpumpe	Fuel pump	Pompe à carburant
18	4148 350 6600	1			Schutzplatte	Guard plate	Plaque de protection
19	9075 478 4167	4		M 5 x 32	Schraube	Screw	Vis
20	0000 967 3693	1		USA	Warnhinweis	Warning sign	Pictogramme

KB200 with FS560

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9.6.5 Motor - Spacer flange, Air filter, Filter housing



KB200 with FS560

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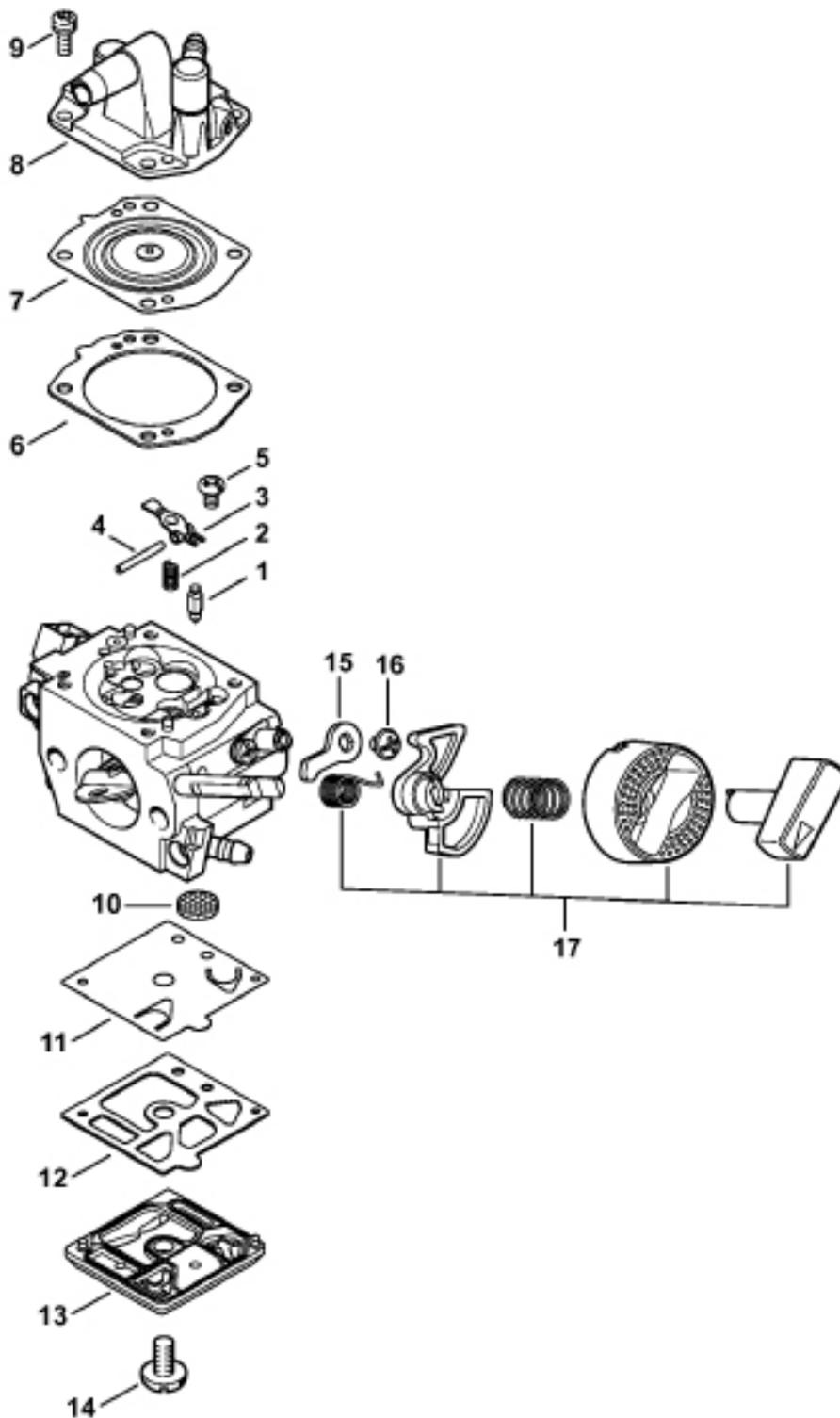
Pos.	Artikelnummer	Menge	Norm	Info	Benennung	Description	Désignation
-	-	1			Zwischenflansch, Luftfilter, Filtergehäuse	Spacer flange, Air filter, Filter housing	Bride intermédiaire, Filtre à air, Boîtier de filtre
1	4148 120 2300	1			Zwischenflansch	Spacer flange	Bride intermédiaire
2	4148 182 9600	1			Masseblech	Ground plate	Plaquette de mise à la masse
3	9022 341 1045	4		M 5 x 24	Schraube	Screw	Vis
4	4148 129 0900	1			Dichtung	Gasket	Joint
5	4148 182 2800	1			Hebel	Lever	Levier
6	9460 624 0400	1	DIN 6799	4	Sicherungsscheibe	E-clip	Anneau d'arrêt
7	4148 182 1500	1			Gasgestänge	Throttle rod	Tringlerie des gaz
8	4148 129 0901	2			Dichtung	Gasket	Joint
9	4148 120 0601	1		HDA-302A	Vergaser	Carburettor	Carburateur
10	4148 120 9500	1			Satz Vergaserhebel	Set of carburettor levers	Jeu de pièces de leviers de carburateur
11	4148 140 2800	1		+ Pos. 12	Filtergehäuse	Filter housing	Boîtier de filtre
12	4134 123 7500	1			Tülle	Grommet	Douille
13	4148 352 8200	1			Halter	Clamp	Crampon
14	9074 478 3005	2		M 4 x 14	Schraube	Screw	Vis
15	4148 350 6200	1		+ Pos. 16, 17	Kraftstoffpumpe	Fuel pump	Pompe à carburant
16		1		3,1 x 5,7 x 108	Schlauch	Hose	Tuyau
17		1		3,1 x 5,7 x 155	Schlauch	Hose	Tuyau
	0000 937 5004	1		3,1 x 5,7 x 1m, R5	Schlauch	Hose	Tuyau
18	9216 261 0700	2	EN 1664	M 5	Mutter	Nut	Écrou
19	4148 141 0300	1			Luftfilter	Air filter	Filtre à air
20	4148 140 1000	1			Filterdeckel	Filter cover	Couvercle de filtre
21	4148 141 9800	1			Tülle	Grommet	Douille
22	9075 478 3015	2		M 4 x 15	Schraube	Screw	Vis
	4148 007 1600	1		+ Pos. 4, 8	Dichtungssatz	Set of gaskets	Jeu de joints

KB200 with FS560

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9.6.6 Motor - Carburetor



KB200 with FS560

Translation of the original operating instruction and spare parts list



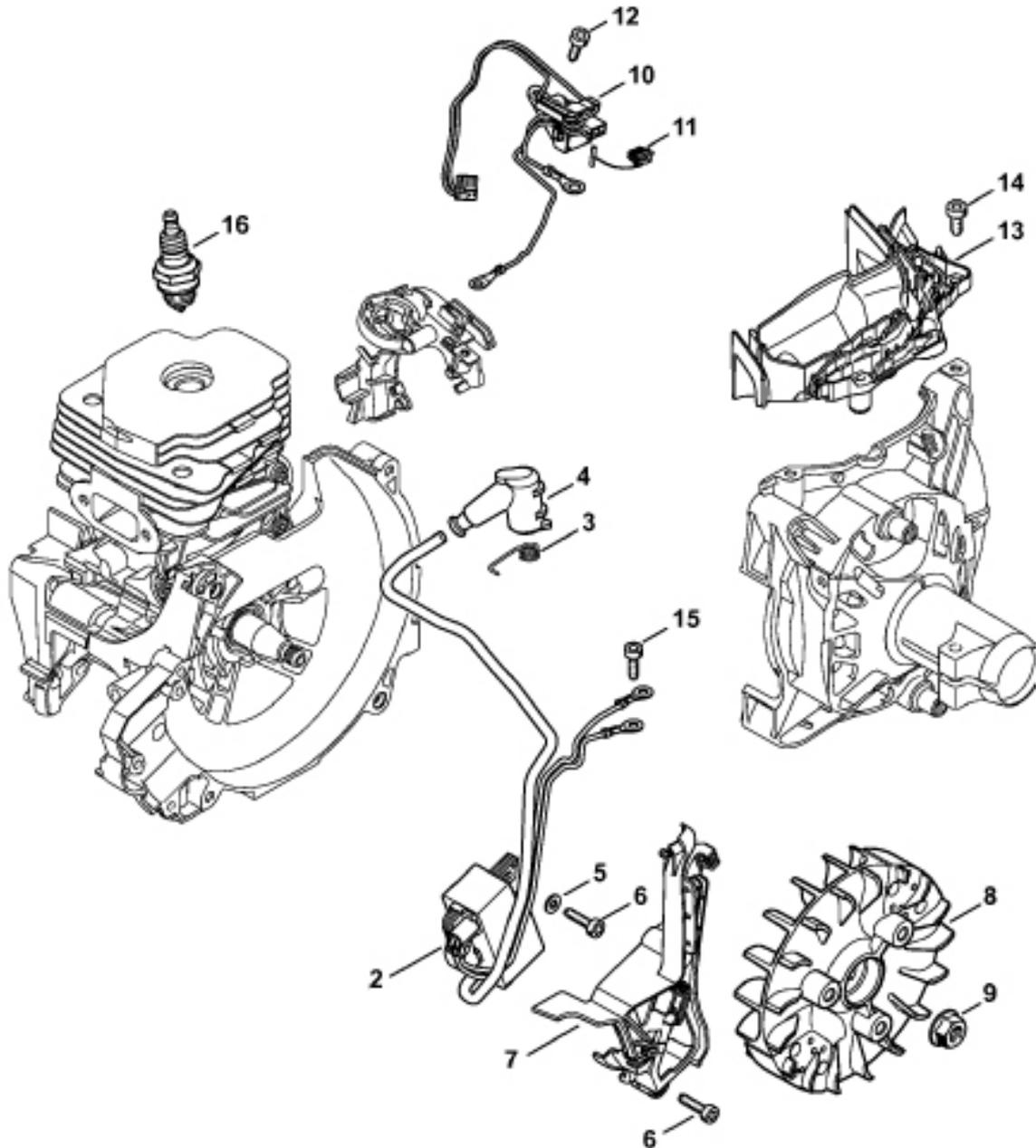
Pos.	Artikelnummer	Menge	Norm	Info	Benennung	Description	Désignation
-	4148 120 0601	1		Pos. 1-17	Vergaser HDA-302A	Carburetor HDA-302A	Carburateur HDA-302A
1	4116 121 5100	1			Einlassnadel	Inlet needle	Pointeau d'admission
2	4116 122 3002	1			Feder	Spring	Ressort
3	4116 121 5000	1			Einlassregelhebel	Inlet control lever	Levier de réglage d'admission
4	1113 121 9200	1			Achse	Spindle	Axe
5	1114 122 7400	1			Schraube	Screw	Vis
6	4148 129 0903	1			Dichtung	Gasket	Joint
7	4148 121 4700	1			Regelmembrane	Metering diaphragm	Membrane de réglage
8	4148 120 3200	1			Regeldeckel	Metering cover	Couvercle d'éléments de régulation
9	1121 122 7101	4			Schraube	Screw	Vis
10	1114 121 7800	1			Sieb	Strainer	Tamis
11	4116 11 4800	1			Pumpenmembrane	Pump diaphragm	Membrane de pompe
12	4203 129 0902	1			Dichtung	Gasket	Joint
13	4148 125 0200	1			Pumpendeckel	Pump cover	Couvercle de pompe
14	4148 122 7100	1			Schraube	Screw	Vis
15	4148 121 3500	1			Drosselhebel	Throttle lever	Levier de papillon
16	1121 122 7102	1			Schraube	Screw	Vis
17	4148 120 9500	1			Satz Vergaserhebel	Set of carburettor levers	Jeu de pièces de leviers de carburateur
-	4148 007 1700 1	1		Pos. 6, 7, 11, 12	Satz Vergaserteile	Set of carburettor parts	Jeu de pièces de carburateur

KB200 with FS560

Translation of the original operating instruction and spare parts list



9.6.7 Motor - Ignition system



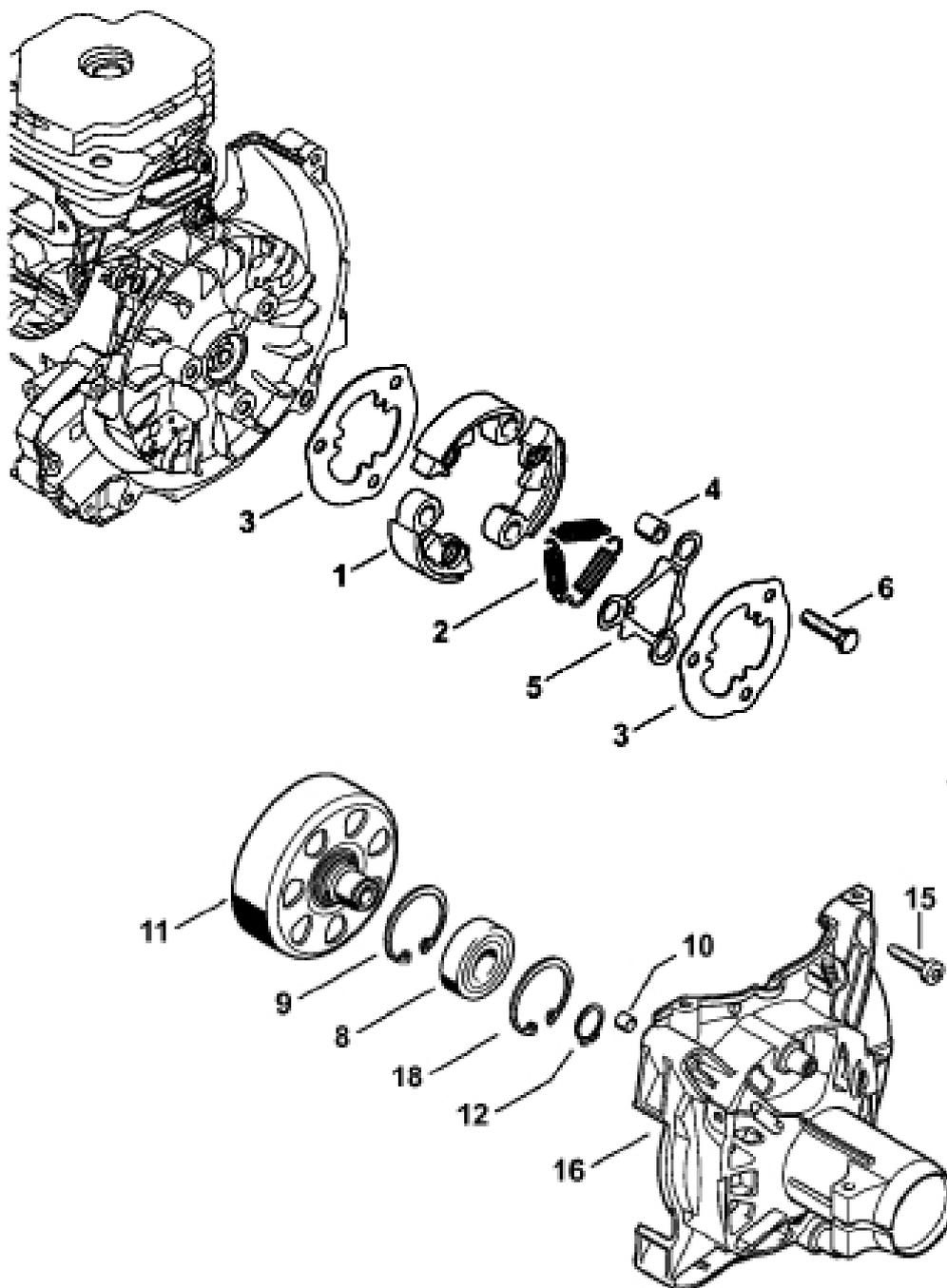
KB200 with FS560

Translation of the original operating instruction and spare parts list



Pos.	Artikelnummer	Menge	Norm	Info	Benennung	Description	Désignation
-	-	1			Zündanlage	Ignition system	Dispositif d'allumage
2	4148 400 4710	1		+ Pos. 3, 4	Steuergerät	Control unit	Appareil de commande
3	0000 998 0604	1			Schenkelfeder	Torsion spring	Ressort coudé
4	1128 405 1000	1			Zündleitungsstecker	Spark plug boot	Contact de câble d'allumage
5	9291 021 0100	2	DIN EN ISO 7089	A 4,3	Scheibe	Washer	Rondelle
6	9075 478 3018	4		M 4 x 18	Schraube	Screw	Vis
7	4148 352 3000	1			Abdeckung	Cover	Recouvrement
8	4148 400 1200	1			Schwungrad	Flywheel	Rotor
9	0000 955 0802	1		M 8 x 1	Mutter	Nut	Écrou
10	4148 430 1000	1			Schaltgerät	Trigger unit	Appareil de distribution
11	0000 430 4801	1			Stopfen	Plug	Bouchon
12	9074 478 3005	2		M 4 x 14	Schraube	Screw	Vis
13	4148 448 1201	1			Kabelhalter	Lead retainer	Attache de câble
14	9075 478 4115	2		M 5 x 16	Schraube	Screw	Vis
15	9074 478 3005	2		M 4 x 14	Schraube	Screw	Vis
16	0000 400 7000	1		NGK BPMR7A	Zündkerze	Spark plug	Bougie

9.6.8 Motor - Clutch, Clutch housing



KB200 with FS560

Translation of the original operating instruction and spare parts list



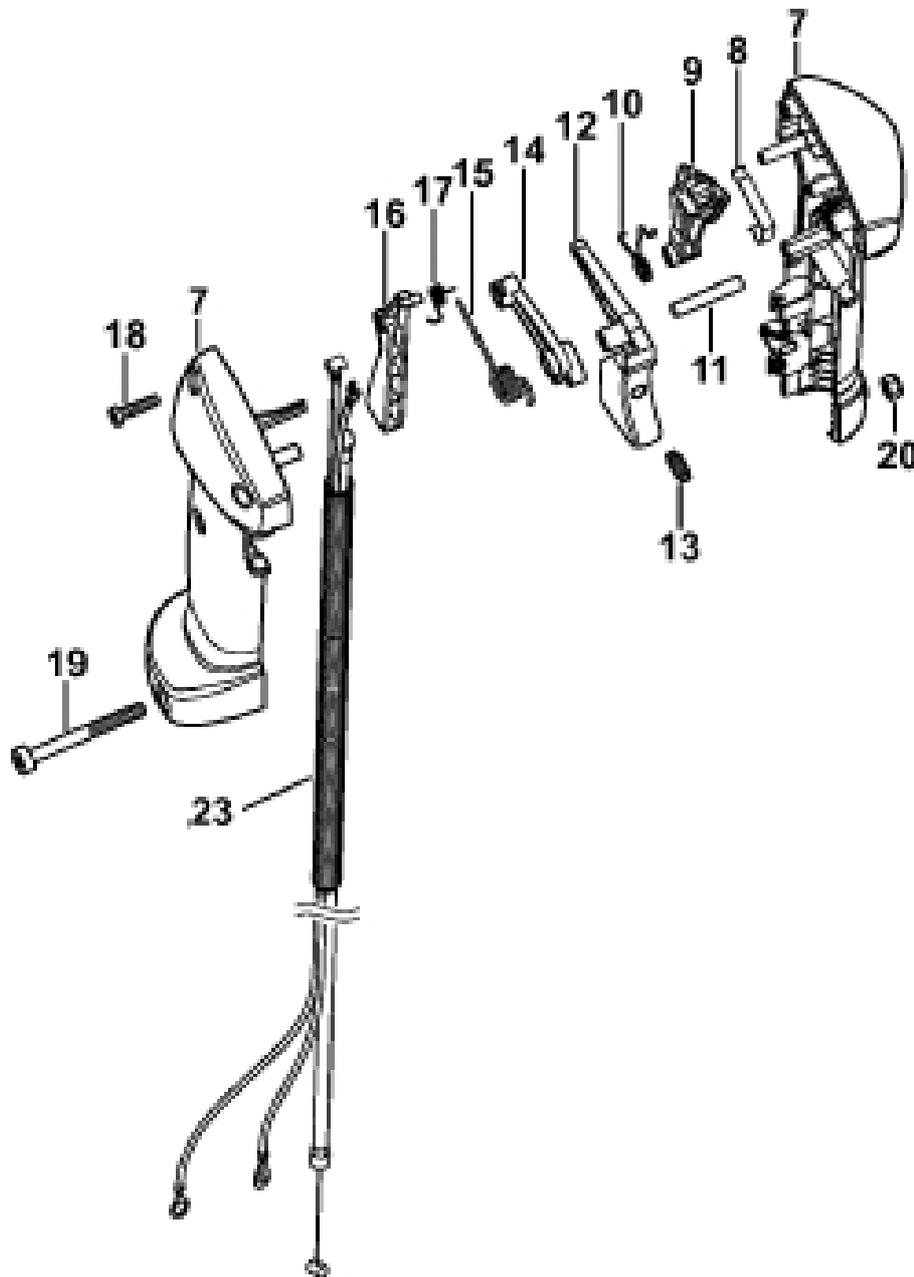
Pos.	Artikelnummer	Menge	Norm	Info	Benennung	Description	Désignation
-	-	1			Kupplung, Kupplungsgehäuse	Clutch, clutch housing	Embrayage, Carter d'accouplement
-	4148 160 2000	1		Pos. 1-5	Kupplung	Clutch	Embrayage
1		3			Fliehgewicht	Clutch shoe	Masselotte
2	0000 997 5904	3			Zugfeder	Tension spring	Ressort de tension
3		2			Abdeckscheibe	Cover washer	Rondelle de recouvrement
4	0000 961 0800	3			Ring	Ring	Anneau
5		1			Federscheibe	Spring washer	Rondelle-ressort
6	0000 951 0600	3		M 6	Schraube	Screw	Vis
8	9503 003 7450	1	DIN 625	6202-2RS	Lager	Grooved ball bearing	Roulement rainuré à billes
9	9456 621 3860	1	DIN 472	35 x 1,5	Sicherungsring	Circlip	Circlip
10	0000 988 8600	2			Hülse	Sleeve	Douille
11	4148 160 2901	1			Kupplungstrommel	Clutch drum	Cloche d'embrayage
12	9455 621 1520	1	DIN 471	15 x 1	Sicherungsring	Circlip	Circlip
15	9075 478 4159	4		M 5 x 24	Schraube	Screw	Vis
16	4148 160 0604	1		Pos. 8-10	Kupplungsgehäuse	Clutch housing	Carter d'accouplement
18	9456 621 3860	1	DIN 472	35 x 1,5	Sicherungsring	Circlip	Circlip

KB200 with FS560

Translation of the original operating instruction and spare parts list



9.6.9 Motor - Handlebar



KB200 with FS560

Translation of the original operating instruction and spare parts list



Pos.	Artikelnummer	Menge	Norm	Info	Benennung	Description	Désignation
-	4148 790 1303	1		Pos. 7-20	Bedienungsgriff	Handlebar	Poignée tubulaire
7	4148 790 0301	1			Handgriff	Handle	Poignée
8	4147 442 1600	1			Kontaktfeder	Contact spring	Ressort de connexion
9	4147 182 2801	1			Hebel	Lever	Levier
10	4147 182 4502	1			Schenkelfeder	Torsion spring	Ressort coudé
11	9371 470 2683	1	DIN 7	5 m6 x 28	Stift	Pin	Goupille
12	4144 180 1501	1		+ Pos. 13	Gashebel	Throttle trigger	Manette des gaz
13	0000 953 0808	1			Stiftschraube	Stud	Goujon fileté
14	4144 182 2801	1			Hebel	Lever	Levier
15	4144 182 4500	1			Schenkelfeder	Torsion spring	Ressort coudé
16	4144 182 0800	1			Sperrhebel	Lockout lever	Levier d'arrêt
17	4128 182 4501	1			Schenkelfeder	Torsion spring	Ressort coudé
18	9074 478 3025	3		M 4 x 16	Schraube	Screw	Vis
19	9022 341 1220	1		M 5 x 48 x 22	Schraube	Screw	Vis
20	9214 320 0700	1	DIN 980	M 5	Mutter	Nut	Écrou
23	4148 180 1100	1			Gaszug	Throttle cable	Câble de commande des gaz