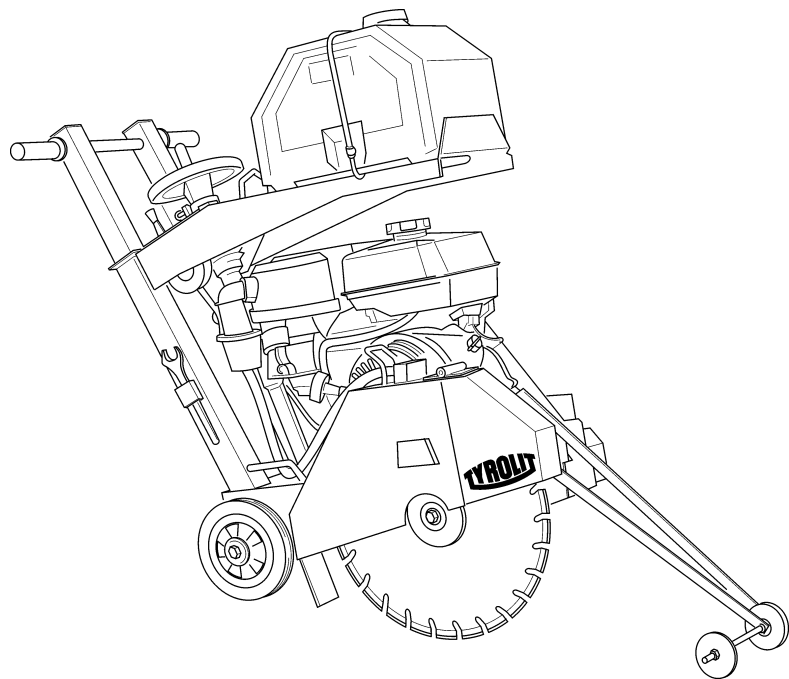




Operating Manual Spare Parts List

Floor Saw FSG513P

Index / Indice 004



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Preface to the operating manual

This operating manual makes it easier to become familiar with the machine and to use it properly.

The operating manual contains important information on how to operate the machine safely, properly and efficiently. Following the operating manual helps avoid danger, reduce repair costs and downtime, and increase the machine's reliability and life.

The operating manual must be supplemented with instructions based on national regulations for accident prevention and environmental protection.

The operating manual must always be readily available at the location where the machine is used.

The operating manual must be read and used by any person assigned tasks with the machine, such as:

- operation, including set-up, repair of malfunctions during operation, disposal of production waste, maintenance, disposal of materials
- maintenance (service, inspection, or repair) and/or
- transport

In addition to the operating manual and the regulations for accident prevention in force in the country and at the location where the machine is used, recognized technical rules for safe and correct operation must be followed.

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1. Basic safety instructions

1.1 Warning and symbols in the manual

Danger!	Points out that serious or even fatal injuries may result if not followed.
Caution!	Points out that injuries may result if not followed.
Notice!	Points out that damage to the machine or other equipment may result if not followed.

1.2 Principle of intended use

- 1.2.1 The machine has been constructed using the latest technology and in accordance with recognized safety guidelines. Nevertheless, the use of the machine may still represent a risk of injury or death to the user or third parties, or damage to the machine and other material.
- 1.2.2 The machine may only be used when it is in correct working order and for its intended purpose. The operator must follow the instructions in the operating manual and be fully aware of the safety requirements and hazards posed by the machine! In particular, any faults that may compromise the safety of the machine must be repaired immediately.
- 1.2.3 The Floor Saw is intended solely for cutting joints in concrete or asphalt. Cutting of wood, plastic or metal (except reinforcements in concrete) is prohibited!
Any additional or other use is considered improper. The manufacturer/supplier is not liable for damages resulting from improper use.

Compliance with the operating manual and observation of inspection and service requirements are essential components of proper use.

1.3 Organizational measures

- 1.3.1 Always keep the operating manual readily available at the location where the machine is used!
- 1.3.2 In addition to the operating manual, observe and instruct the user in all generally applicable legal and other mandatory regulations on accident prevention and environmental protection!
- 1.3.3 Personnel assigned to work on the machine must have read the operating instructions and, in particular, the chapter on safety before beginning work. Read the manual for the first time when already working on the machine is too late. This applies especially to persons who work on the machine only occasionally, such as those performing set-up and maintenance.
- 1.3.4 Check at least from time to time whether personnel are performing the work in compliance with the operating manual and paying attention to risks and safety factors!
- 1.3.5 Use personal protective equipment where necessary or if required by regulations!
- 1.3.6 Obey all safety and danger notices on the machine!
- 1.3.7 Ensure that all safety and danger notices on the machine remain clearly legible!

- 1.3.8 In the event of safety-relevant changes to the machine or its operating performance, stop the machine immediately and report the malfunction to the responsible authority/ person!
- 1.3.9 Do not make any modifications to the machine, add attachments, or reconfigure it without the supplier's permission!
- 1.3.10 Only use manufacturer's original parts!
- 1.3.11 Observe the stipulated periods or the periods given in the operating manual for inspections!
- 1.3.12 Equipment and tools appropriate to the work are absolutely essential for performing maintenance work.

1.4 Personnel selection and qualification;

- 1.4.1 Only reliable personnel may work with the machine. Observe the minimum legal age.
- 1.4.2 Use only trained or instructed staff. Clearly establish individual responsibilities for operation, set-up, maintenance and repair!
- 1.4.3 Ensure that only assigned personnel work with the machine!
- 1.4.4 Specify machine operator responsibilities – including those pertaining to road traffic regulations – and authorize the operator to ignore any instructions from third parties that may compromise safety!
- 1.4.5 Personnel who are being trained or instructed on the machine or are in a general training program may only be permitted to work on the machine while under the constant supervision of an experienced person!
- 1.4.6 Work on electrical equipment on the machine may only be carried out by an electrician or by instructed persons under the guidance and supervision of an electrician in accordance with electrical regulations.

1.5 Safety instructions during specific operating phases

1.5.1 Normal operation

- 1.5.1.1 Avoid all working methods which may compromise safety.
- 1.5.1.2 Take steps to ensure that the machine is operated only in a safe and proper condition!
- 1.5.1.3 Check the machine for visible external damage and defects at least once per shift! Immediately report any changes (including in operational performance) to the responsible department/individual! If necessary, stop the machine immediately and secure it.
- 1.5.1.4 In case of a fault, stop machine immediately and make it secure. Immediately repair any malfunctions!
- 1.5.1.5 Before starting work, become familiar with the work environment at the location where the machine is used. This includes obstacles in the work and traffic area, the load-bearing capacity of the floor, required securing of the construction site from the public traffic area and possibilities for help in case of accidents.

1.5.2 Special work in conjunction with use of the machine and maintenance and repairs during operation; disposal

- 1.5.2.1 Observe all the setting, maintenance and inspection activities and timetables, including instructions for replacing parts/secondary devices, as described in the operating manual! Only technically qualified personnel should carry out these activities.
- 1.5.2.2 Brief operating personnel before beginning special operations and maintenance work! Appoint supervisory personnel.
- 1.5.2.3 If the machine is completely shut down during maintenance and repair work, it must be mechanically secured to prevent accidental activation.
- 1.5.2.4 Before cleaning the machine with water or steam jet (high-pressure cleaner) or other cleaning agents, cover/seal all openings that, for reasons of safety and/or functioning, water/steam/cleaning agents must not be allowed to enter. Particularly endangered are electrical motors and switches.
- 1.5.2.5 After cleaning, the covers and tapes must be removed completely!
- 1.5.2.6 Always tighten loose screw connections during servicing and maintenance work!
- 1.5.2.7 Any safety devices removed during set-up, maintenance or repair must be reinstalled and checked immediately upon completion of the maintenance and repair work!
- 1.5.2.8 Dispose of fuel and consumable materials and replacement parts in a safe and environmentally friendly manner!

1.6 Notice on specific hazard types

1.6.1 Electricity

- 1.6.1.1 Only use original fuses with the specified amperage! If the electrical power supply is interrupted, shut down the machine immediately!
- 1.6.1.2 Work on electrical equipment may only be carried out by electricians or by trained persons under the guidance and supervision of an electrician in accordance with electrical regulations.
- 1.6.1.3 The electrical equipment on the machine should be inspected/checked on a regular basis. Defects, such as loose connections or scorched cables, must be repaired immediately.

1.6.2 Dust

- 1.6.2.1 Observe applicable national regulations when working in enclosed spaces!

1.6.3 Noise

- 1.6.3.1 Wear required personal hearing protection!

1.7 Transport

- 1.7.1 When loading, use only hoists and lifting gear with sufficient capacity!
- 1.7.2 Appoint a trained supervisor for the lifting procedure!
- 1.7.3 Machines should be lifted with lifting gear correctly in accordance with the specifications in the operating manual (lifting points for load-lifting equipment, etc.)!
- 1.7.4 Use only suitable transport vehicles with sufficient lifting capacities!
- 1.7.5 Secure the load reliably. Use suitable lifting points!
- 1.7.6 Disconnect all power sources before moving the machine, even for very short distances! Ensure that the machine is correctly reconnected to the power supply before restarting!
- 1.7.7 Restart the machine strictly in accordance with the operating manual!

2. Machine description

2.1 Overview of components

Item 1 - Saw blade protective hood

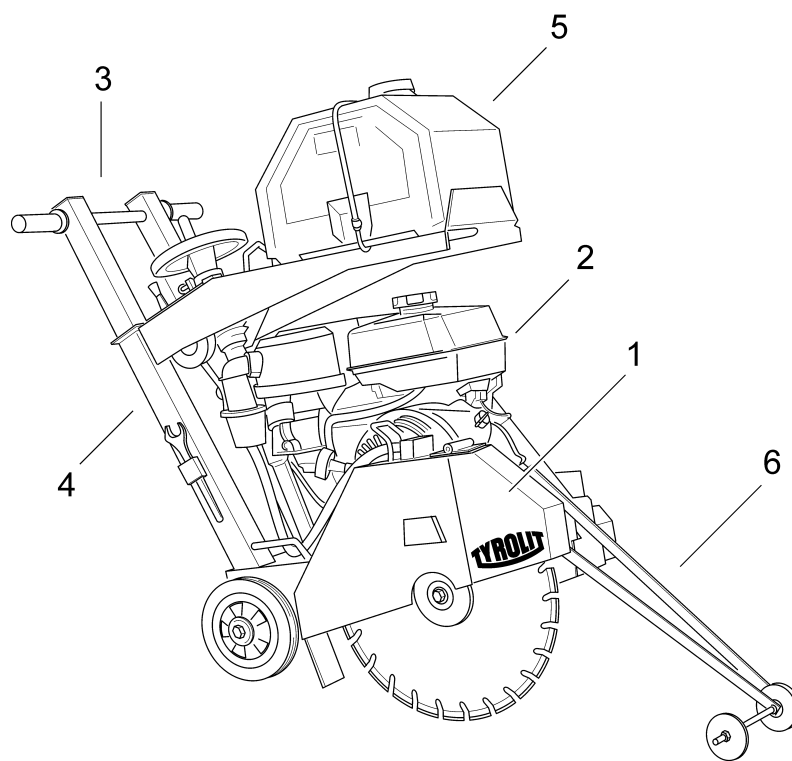
Item 2 - Petrol motor

Item 3 - Steering rod

Item 4 - Frame

Item 5 - Water tank

Item 6 – Cut indicator



2.2 Protective equipment

Item 1 - Saw blade protective hood

2.3 Technical data

	FSG513P
Max. Cutting depth	170 mm
Max. saw blade diameter	450 mm
Saw blade receptacle	25.4 mm
Drive motor	1-cylinder Honda
Performance (kW/PS)	8.0 kW/ 10.9 PS
Fuel	Petrol
Tank contents	6.1 l
Dimensions L/W/H	1136 x 578 x1016 mm
Operating weight	145 kg
Weight when empty	113 kg
Water tank contents	25 l

2.4 Noise level and vibrations

Parameter	Value
Noise level at the ear of the user (L_{eq})	92.2 dB(A)*
Noise level at workplace (L_{PA})	85.8 dB(A)*
Sound power level in accordance with ISO 3744 (L_{WA})	106 dB(A)*
Vibrations DIN EN ISO 5349-2	< 2.5 m/s ²

*Value applies under the following condition: Travel drive is switched off and the saw blade is not engaged. The measurement is performed with the motor under full load with the saw blade dia. 450mm. Higher noise levels may be generated in cutting operation.

ATTENTION! Hearing protection must be worn when 90 dB(A) is exceeded!

3. Placement in operation

3.1 Connections and fuel

- Use regular petrol (unleaded)
- Connect cooling water hose or fill water tank

3.2 Water supply

- Connect the external water hose to the connecting piece of the floor saw
- Connect the water tank`s connecting piece for diamond blade cooling

3.3 Saw blade installation

- Take off saw blade protective hood
- Remove flange nut and thrust washer
- Install saw blade

Important!

- * Flange surfaces must be clean
- * Match direction of rotation of the saw blade (arrow on the blade) with arrow on the saw hood

(synchronized saws)

- Install thrust washer and flange nut
- Put on saw blade protective hood

3.4 Preparations for start

- Move the Floor Saw into position
 - * Guide bar disk and saw blade are over the cut line
- Open water faucet
- Start petrol motor (see operating manual for motor)
- Set motor to full throttle
- Slowly initiate downward movement with crank – until the saw blade begins to cut.
Attention! Is the saw blade getting enough cooling water?
- Set cutting depth indicator to “zero”
- Dip saw blade down to the desired cutting depth
- Slowly start feed movement

4. Transport

4.1 Transport position means:

Attention! Do not tip Floor Saw (motor oil will run into the combustion chamber)

- The motor is turned off
- Saw arm is in horizontal position

4.2 Movement with crane

- Remove water tank
- Attach sling equipment, with adequate capacity, to the jack rings
- Lift carefully
- **Danger!** No one may stand under suspended loads
- **Danger!** Always keep an eye on the Floor Saw

4.3 Securing for transportation

- Snap brake mechanism
- Secure Floor Saw via handling device

5. Operation

5.1 Normal cutting operation

- Initiate feed movement through steering rod
- Adjust feed speed to the feed force
- If feed force is too great, you must check the following points:
 - * Saw blade dull?
 - * Too little cooling water?
 - * Saw blade choice correct?
 - * Is the motor producing its full power or speed?
- Take care to achieve a straight cut so the saw blade does not jam.

5.2 Cooling water

- Make sure the saw blade is adequately supplied with cooling water
 - * Use only clean water
 - * Do not bend water hose

5.3 Shut-down

- Shut down motor (see operating manual for Honda motor)
- Secure Floor Saw by snapping the brake mechanism

6. Maintenance

6.1 Servicing

- Before starting any maintenance work – activate brake (item 13) / shut down motor

Maintenance work	daily	weekly	monthly
Clean Floor Saw thoroughly ATTENTION: Cleaning with steam jet is not permitted!		X	
Check the oil level of the motor	X		
Change motor oil (see operating manual for motor) ATTENTION: Place a suitable oil receptacle (funnel) under the oil drain plug.			
Grease lubrication points (bearings) (regular lubricating grease)			X
Tighten all bolts after 20 hours of operation			
Tighten V-belt after the first 2 hours of operation			

Please follow the motor manufacturer's operating manual (which is included with every new machine); pay particular attention to the safety and maintenance rules.

6.2 Fuel / Lubricant

- Petrol motor – see Honda operating manual
- Lubricate bearings
 - * Energrease LS2 BP

IMPORTANT

We hereby advise that damage occurring within the motor's warranty period may be repaired only by an authorized service partner (see service directory for motor)!

7. Repair of malfunctions

7.1 Standard tool

- Combination wrench SW 24

7.2

Fault	Cause	Remedy
Low cutting performance	Saw blade is blunt	Replace saw blade
	Too little cooling water	Clean water cooling system
	V-belt slips	See point 7.3 and 7.4!
	Motor does not produce full power	See operating manual for motor!
Floor Saw does not start	Motor damage or incorrect operation	See operating manual for motor!

Please follow the motor manufacturer's operating manual!

7.3 Check the V-belt tension

- Remove protective cap
- With medium force, it should be possible to depress the V-belt by one belt thickness

7.4 Adjusting the V-belt tension

- Loosen the 4 screws (Motor/chassis)
- Loosen the jam nut and turn the bolt until the belt tension is correct, then retighten the jam nut
- Retighten the 4 screws (Motor)

8. Warranty

TYROLIT Hydrostress AG Warranty Terms

Terms for the end consumer

TYROLIT Hydrostress AG warrants that the supplied machine is free from material or manufacturing defects. For the undertaking of warranty services by TYROLIT Hydrostress AG - in international sales, under the express exclusion of the warranty regulations of the UN law on sales of 11 April 1980 - the following conditions shall apply:

1. Any warranty claims must be made within 12 months from hand-over. An undertaking of warranty service does not extend this time limit.
2. Immediately upon a defect being discovered, the machine and/or the affected parts must be sent for repair or replacement to TYROLIT Hydrostress AG or a local authorised TYROLIT Hydrostress AG branch office.
3. This warranty covers the free repair or free replacement of the defective parts. No warranty exists over and above this.
4. Parts which are subject to normal wear and tear are not covered by this warranty. Refer to "**Wearing part terms**" in the appendix
5. The warranty service will only be undertaken providing that the machine has been correctly used, handled, serviced and cleaned in accordance with the operating instructions and the technical integrity has been preserved, i.e. that only original TYROLIT Hydrostress AG consumable material, accessories and spare parts have been used with the machine.
6. All further claims above this are excluded. In particular, TYROLIT Hydrostress AG shall not be liable for direct or indirect damages, losses or costs associated with the use of the machine.
7. The warranty expires immediately if the machine or just one individual component of it is in any way converted, changed or modified.
8. Any verbal or implicit warranty agreements are invalid. Implicit assurances concerning the use or suitability for a particular purpose are expressly excluded.
9. For second-hand machines, TYROLIT Hydrostress AG grants a warranty of 6 months from delivery ex works Pfäffikon ZH.

TYROLIT Hydrostress AG Wearing Part Terms

Wearing parts are those parts which are subject to operational wear and tear when the machine is used correctly. The wear period depends on the individual duration and intensity of use. The wearing parts must be maintained, adjusted and if necessary replaced according to the manufacturer's operating instructions or handed over to the Service Center of TYROLIT Hydrostress AG for maintenance according to the operating instructions.

Operational wear and tear does not give entitlement to warranty claims.

Wearing parts are, for example:

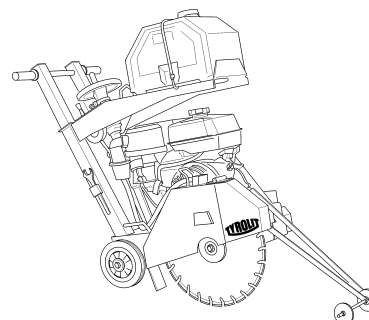
- Feed and drive elements, such as toothed racks, toothed wheels, pinions, spindles, spindle nuts, spindle bearings, wires, chains, chain wheels, belts, toothed belts, hollow hubs
- Seals, cables, hoses, sleeves, connectors, couplings
- Switches for pneumatics, hydraulics, water, electricity and fuel
- Guide elements, such as guide beads, guide bushes, guide rails, rollers, bearings and anti-slip supports
- Electromotor
- Clamps of quick-release systems
- Flushing head seals
- Friction and anti-friction bearings
- Shaft sealing rings and seals
- Friction and overload couplings, brake devices
- Carbon brushes, collectors
- Easy release rings
- Adjusting potentiometers and manual control elements
- Fuses and lamps
- Auxiliary and operating resources
- Anchoring elements such as dowels, tie bolts and screws
- Floor coverings
- Lamellas
- Membranes
- Spark plugs, glow plugs
- Parts of the reversing starter such as starting cord, starting handle, starting roller, starting spring
- Sealing brushes, rubber seals, splash guards
- Filters of all kinds
- Drive and diverter rolls and bandages
- Wire movement guards
- Blade guard elements
- Running and drive wheels
- Water pumps, hydraulic pumps, hydraulic motors
- Cutting spoil transport rollers
- Drilling, parting-off and cutting tools
- Measuring devices in the cooling water circuit
- Storage batteries

No claim is made regarding the completeness of the above wearing parts list.

CE Declaration of conformity

Description: Floor Saw
with petrol engine

Type: FSG513P



The TYROLIT Hydrostress AG certifies that the inspected above machine against the following guidelines and that we confirm compliance with these standards:

Guidelines:

2006/42/CE 17.05.2016

2000/14/CE 08.05.2000

Standards:

EN 12100:2010

EN 13862:2001+A1:2009

Tyrolit Hydrostress AG

Witzbergstrasse 18
CH-8330 Pfäffikon ZH

Pfäffikon, 07.06.2017

A handwritten signature in black ink, appearing to be "P. Schmid".

P.Schmid
Head of Research and Development