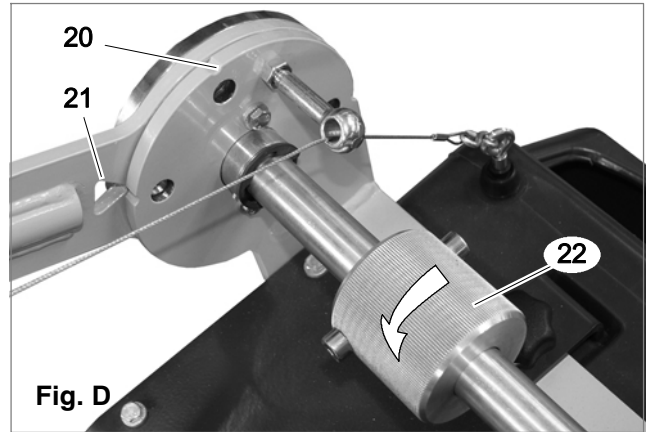
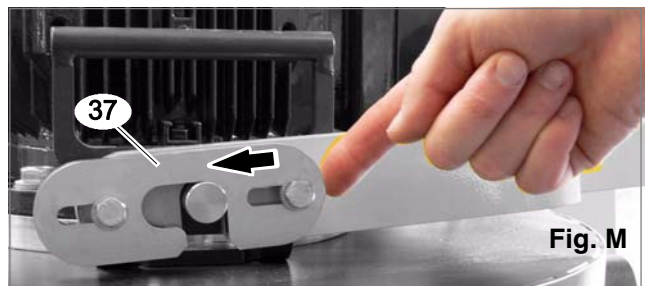
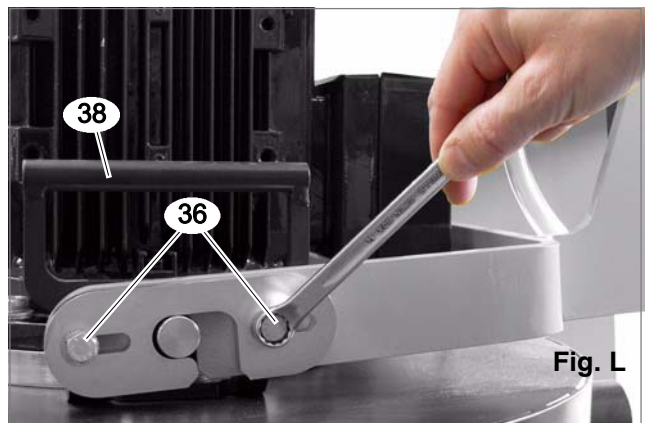
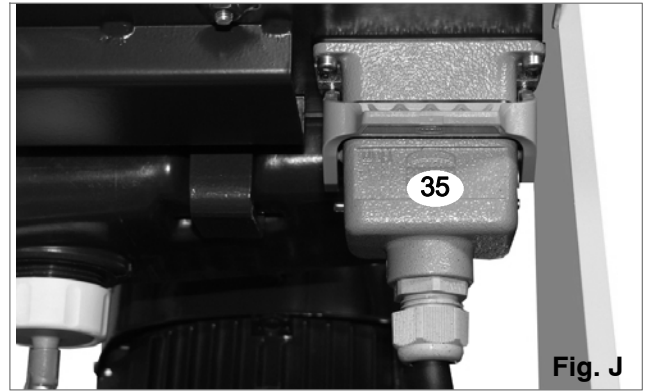
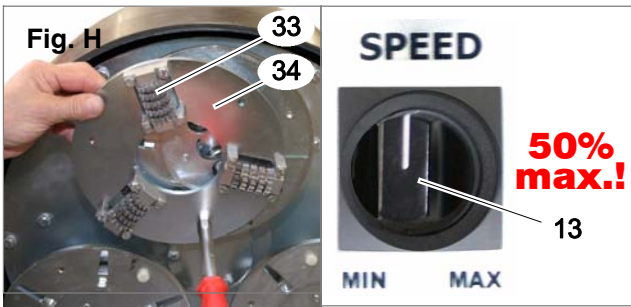
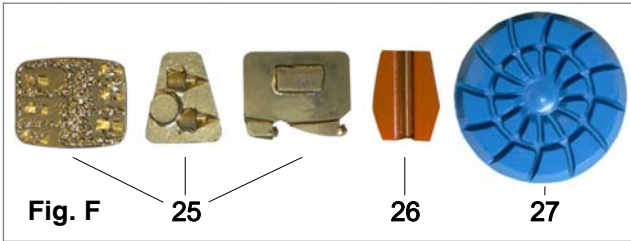




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EN	Floor grinding machine FGE 530	
	Translation of the original operating manual	4





EN Floor grinding machine FGE 530

Translation of the original operating manual

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Document: 10999150_en
Publishing date: 16.01.2018

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Key to the illustrations

Pos.	Fig.	Designation
1	A	Guide handle
2	B/A	Operating unit
3	A	Guide bar
4	A/I	Power plug (CEE 16 A)
5	A	Control box with frequency converter
6	A	Transport wheel
7	A	Safety hood
8	A	Dust cover
9	A	Drive motor
10	A	Tank
11	B	Operating hours counter
12	B	<i>RESET</i> button
13	B/H	Speed regulator <i>SPEED</i>
14	B/C	Safety cap
15	B	Lever (valve)
16	B	<i>FWD/0/REV</i> rotary switch
17	B	<i>DUTY</i> indicator light
18	B	EMERGENCY STOP button
19	C	Safety line
20	D	Groove
21	D	Open pointer
22	D	Control switch
23	K	Water connection
24	K	Connection to the dust extraction
25	F	Polycrystal diamonds (PKD)
26	F	Metal bonded diamonds
27	F	Synthetic resin bonded diamond pads
28	G	ETX locating plate
29	G	Gearbox
30	G	Recess
31	G	ETX diamond tool
32	H	Plastic screws
33	H	Surface milling element
34	H	Surface mill
35	J	Plug connection
36	L	Screws
37	M	Bolt
38	L	Handle

1 Important notes

The machine may be used only with the accessories supplied by the manufacturer for stripping, wet and dry grinding of floor surfaces such as:

- cement
- screeds
- synthetic resin screed / asphalt
- natural stone floors
- remnants of adhesive or filling compound
- floor remnants (e.g. foam backing)

Any other use of the machine can lead to dangerous situations and is prohibited!

To ensure correct use of the machine, follow the instructions in the operating manual, paying particular attention to any warnings and instructions relating to operation and maintenance!



Before using the machine, the operating personnel must carefully read and understand this operating manual! Keep this operating manual close at hand for easy reference!

Read and observe documents and operating manuals provided by suppliers!

If the machine is on loan to other parties, the operating manual needs to be provided with the machine and its importance must be made clear!

1.1 Symbols used

The following symbols are used in this documentation:



Safety instructions

This symbol indicates warnings, prohibitions and instructions regarding potential hazards. These instructions must be obeyed and closely observed.

Some safety instructions are accompanied by appropriate symbols.



Warning



Prohibition



Direction



Additional information

This symbol indicates additional information.

1.2 Liability and warranty

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All rights, including those pertaining to translation, lie with TYROLIT Hydrostress AG.

Liability or warranty is excluded if:

- The instructions in the operating manual have not been observed.
- The machine or its attachments were improperly operated.
- The maintenance was carried out inadequately or incorrectly.
- Specified spare parts were not used.
- The protective guards were not used, have been altered or were removed.
- The specified power supply ratings and surrounding conditions have not been observed.

The manufacturer is not liable for any damage that may result if the user makes any changes to the machine without the manufacturer's permission. Any such actions will also void the warranty.

2 Safety

This chapter contains a summary of the most important information on safety when handling the machine.

2.1 Accident prevention and safety

The following instructions comply with legislation, directives, and publications including:

- EC Machinery Directive
- EC General Product Safety Directive
- Law governing technical materials
- Law governing equipment safety
- Law governing product liability

This operating manual is intended for operators and tool setters, as well as for the personnel that service, maintain and repair the machine. Together with all the technical documentation, it is intended to help


- avoid hazardous situations
- use the machine for its intended applications
- avoid downtime and repair costs
- maintain the function of the machine
- extend the service life of the machine.


The manufacturer and owner of the machine must respect the contents and regulations of the EC directives. The effectiveness of any measure ultimately depends on how well all parties, i.e. the manufacturer, the owner and the machine operators, work together to uphold safety standards.

All laws and regulations (e.g. the valid regulations on waste disposal), accident prevention guidelines and generally recognised safety rules must be complied with when working on and with the machine.


2.2 Safety instructions

This machine incorporates the very latest technological innovations and has been built in accordance with recognized safety regulations. This ensures that the highest possible standards of occupational safety are maintained. However, incorrect use of the machine could endanger the health and lives of the personnel or cause material damage.


 The machine may only be operated by people who have been assigned to do so and who have the appropriate training and skills.

 If any defects are found in the machine that could endanger people or damage property, stop the machine immediately and ensure that it cannot be used again until all repairs are completed.




 The operating and maintenance personnel responsible for the machine must ensure that no one can enter the machine's danger zone during operation or maintenance work.




 Risk of injury if safety devices have been removed or are non-functional!
The safety fixtures must be checked for completeness and function before starting up.
The safety fixtures must be mounted during operation.


 The surfaces to be processed by the machine need to be free of obstacles.




 Risk of injury from rotating machine parts!
Limbs and clothing can be drawn in.
Proceed with the greatest care and caution!


 When working on the machine (set-up, maintenance, service, repair, cleaning, etc.), the power supply of the machine has to be disconnected from the mains
(disconnect power plug)!



 High-voltage electrical current can be fatal!
Only connect the machine to power supplies equipped with a ground fault circuit breaker!.
Connections with power lines need to be protected from splash water!
Only suitably knowledgeable, qualified professional electricians are permitted to perform work on any electrical parts of the system.



 Risk of poisoning due to harmful substances at the workplace!
Eating, drinking and smoking at the workplace is not permitted. Always eat in break rooms or canteen areas!
After completing the work, thoroughly clean yourself!

 A general inspection of the machine must be conducted before starting up the machine. Particular attention should be paid to damaged or loose components, and wear.


The machine may only be put into operation in perfect technical condition.

Adding to or modifying the machine in any way that could compromise operating safety is prohibited!


 Cleaning and maintenance may be done only by trained personnel.

Maintenance needs to be conducted according to the operation manual.

Do not use high-pressure cleaners to clean the machine!


 Do not operate the machine in areas where there is risk of explosion or where flammable materials are present.



 Risk of injury from dust formation during grinding work!
Connect an extractor unit to the machine or feed in water during the grinding process.
Respiratory protection must be worn!


3 Operating




 Risk of injury from parts flung out during grinding!
Wear protective clothing and protective goggles.
Wear safety shoes!
Wear safety gloves!

Proceed with the greatest care and caution!




 Danger of injury from loud noise during grinding operation of the machine!
Always wear hearing protection is required when the machine is in operation!





 High-voltage electrical current can be fatal! Do not allow the power line to be run over, crushed or pulled on!

3.1 Starting up the machine

 Follow the safety instructions in Chapter 2.
The initial start-up of the machine may be carried out only by qualified personnel.
A visual inspection of the machine needs to be done before starting up the machine.
Particular attention should be paid to damaged or loose components, wearing and filling levels.

Always use ETX diamond tools or abrasive bonding for the surface to be machined (e.g. some surfaces have to be ground wet).

1. Disconnect the power plug [4, Fig. A/I] from the mains.
2. Check ETX diamond tools for function and condition and replace if necessary (→ Chapter 4.3 - page 9).
3. Check the surface to be ground for protruding objects and remove if necessary.
4. **Either** (dry grinding)
 - Attach external dust extraction at the connection to the dust extraction [24, Fig. K].**or** (wet grinding)
 - Check the water level in the tank [10, Fig. A] and refill if necessary.
5. Hold the guide bar [3, Fig. A] as well as secure against dropping, and turn the control switch [22, Fig. D] to full stop. (→ arrow).
 The guide bar is unlocked.
6. Set the guide bar to the desired position.
 The guide bar is in locked position, when the open pointer [21] stands on the corresponding groove [20]:

- **Operation** begins in the standard position [Fig. A].
 - The stretched position is intended for **tool change** and for **maintenance**. The machine can then be tilted backward.
 - For **transporting** the machine, the guide bar can be swivelled to the front position [Fig. I].
7. Turn control switch back to full stop.
 - ✔ The guide bar is locked.
 8. Place the ETX locating plate with the inserted diamond tools on the surface to be ground.
 9. Check the dust cover [8, Fig. A] for proper position and function and, if necessary, correct.
 - ➔ **There should be a 3 ... 4 mm gap between the dust cover and the grinding surface.**
 10. Check the safety fixtures for completeness and function before starting up.
 - ⚠ **Risk of damage due to tensile strain exerted by the power line!**
 - ⚠ **The electric outlet serving as the power supply should be supported and installed according to local regulations.**
 - ⚠ **Risk of injury from inadvertent starting of the machine!**
Before plugging in the power plug, make sure the machine is switched off.
 11. Turn the *FWD/0/REV* rotary switch to *0*.
 12. Join the connecting cable (extension cable) with the proper power socket and plug the connection cable's coupling in the power plug [4, Fig. D].
 - ✔ The indicator lamp *DUTY* [17, Fig. B] lights up. The machine is ready for operation.

3.2 Operation

- ✔ Rotary switch *FWD/0/REV* [16, Fig. B] is at *0*.
1. For wet grinding, press the lever [15, Fig. B] according to the required amount water (empirical value).
 2. Hold the machine by the guide handle [1, Fig. A]
 3. Sling safety line [19, Fig. C] around the wrist so that when the operator goes away from the guide handle [1, Fig. A] the safety cap [14, Fig. C] will be reliably separated from the safety switch.

4. If necessary, press the safety cap on the safety switch until it snaps in.
 - ✔ The surface to be ground can now be machined.
5. Select the rotation direction with the *FWD/0/REV* rotary switch [16, Fig. B].
 - **FWD (forward):**
The gears turn anticlockwise; the ETX locating plates turn clockwise.
 - **REV (backwards):**
The gears turn clockwise; the ETX locating plates turn anticlockwise.

➔ **Many tools with polycrystal diamonds (PKD) [25, Fig. F] only permit use in one rotational direction.**

➔ **Tools with metal- or synthetic bonded diamonds [26/27, Fig. F] may be used in any rotational direction.**

i Clogged tools with synthetic resin-bonded diamonds [27, Fig. F] can regain the full grinding effect by changing the direction of rotation.

i All specifications on the direction of rotation are to be considered as seen from above the machine.

6. The drive is switched on and accelerates to the speed set at the *SPEED* regulator [13, Fig. B].
7. If necessary, use the *SPEED* regulator to adjust the speed for the grinding conditions.

➔ **If surface mills are being used, the speed (*SPEED*) may not exceed 50 %!**

3.3 Switching the machine off

⚠ **Follow the safety instructions in Chapter 2.**

⚠ **Risk of injury from a still rotating ETX locating plate even after the machine is switched off! Only switch off the machine with the tools resting on the floor. Otherwise, the tool mount can continue to turn in idle (run-on) for several seconds after switch off!**

— Turn the rotary switch *FWD/0/REV* [16, Fig. B] to *0*.

✔ The machine is switched off

i In an emergency, the machine can be switched off with the EMERGENCY-STOP button [18, Fig. B] or by pulling off the safety cap [14, Fig. B].

⚠ High voltage, danger of injury!
There is still residual voltage even after the machine has been switched off.
The power supply has to be disconnected to remove all voltage.

4 Maintenance

⚠ Follow the safety instructions in Section 2!



⚠ The operating and maintenance personnel responsible for the machine must ensure that no one can enter the machine's danger zone during operation or maintenance work.

⚠ Only trained and qualified personnel may perform maintenance and repairs on the instrument! They must be familiar with the dangers associated with such work, protect themselves and avoid danger!

⚠ When working on the machine (set-up, maintenance, service, repair, cleaning, etc.), the power supply of the machine has to be disconnected from the mains
(Disconnect power plug)!

Perform cleaning and maintenance work in accordance with the operating manual and check the safety guards for completeness and functionality.

4.1 Customer service and spare parts

In case of customer service queries, replacement parts or repairs, please contact the manufacturer. To ensure your queries are dealt with as quickly as possible, always quote your machine data. These are located on the machine's nameplate [Fig. E].

4.2 Tilt machine

1. Disconnect the power plug [4, Fig. I] from the mains.
2. If necessary, activate the lever [15, Fig. B] and empty the tank [10, Fig. A].
3. Swivel and lock the guide bar [3, Fig. A] in the stretched position (→ Chapter 3.1).

4. Tip the machine and place it on the floor.

4.3 Mounting and dismantling ETX diamond tools

The consistency of the surface to be ground determines the type or composition of the tools to be used.

i All ETX diamond tools authorised for this machine [Fig. F] are removed and mounted in the same manner.

➔ Always mount 3 or 6 tools of the same type and degree of wear per ETX locating plate according to the processing specifications.

Each ETX locating plate needs to be equipped with the same number of tools.

1. Tilt the machine (→ Chapter 4.2).
2. Gently tap with a lump hammer to loosen the tools [31, Fig. G] from the EXT locating plate [28, Fig. G] and then remove.
3. Insert new tools into the recess [30, Fig. G] of the ETX locating plate and press firmly in the direction of the arrow (use lump hammer if necessary).

- ➔ All locating plates need to be equipped with diamond tools of the same type and the same quantity. The heights of the diamond tools (degree of wear) also have to be the same.
- 4. Set the machine upright, swivel and lock the guide bar in standard position (→ Chapter 3.1).



4.4 Mounting and dismantling surface mills

1. Tilt the machine (→ Chapter 4.2).
 2. Fasten the three surface mills [34, Fig. H] with the supplied screws (3 each, M8) to the ETX locating plates.
 3. Set the machine upright, swivel and lock the guide bar in standard position (→ Chapter 3.1).
- ➔ All locating plates need to be equipped with complete surface mills of the same type. The degree of wear on all surface mills [33] has to be identical.
 - ➔ If surface mills are being used, the speed (*SPEED*) may not exceed 50 % (→ Chapter 3.2)!

4.5 Cleaning the machine

1. Tilt the machine (→ Chapter 4.2).
2. After using the machine and tools, clean and dry them with a cloth or suitable agents.
3. Set the machine upright, swivel and lock the guide bar in standard position (→ Chapter 3.1).

4.6 Checking electrical components

-  Only suitably knowledgeable, qualified professional electricians may perform work on any electrical components of the machine.
-  Risk of fire due to faulty electrical cables!
— Check the power line and power plug regularly for functional safety.

4.7 Final tasks

Either decommission the machine

- a. Disconnect the power plug [4, Fig. I] from the mains.
- b. If necessary, activate the lever [15, Fig. B] and empty the tank [10, Fig. A].

Reduce the projection if necessary:

- c. Swivel and lock the guide bar in the front position (over the drive motor, Fig. I) (→ Chapter 3.1).

or

- Restarting the machine (→ Chapter 3.1 – page 7).

5 Troubleshooting

i Only suitably knowledgeable, qualified professional technicians may perform repairs on the machine.

Malfunction	Cause	Rectification
Machine will not start.	The voltage supply has not been properly connected.	Join the connecting cable (extension cable) with a proper power socket and plug the connecting cable's plug into the power plug [4, Fig. A].
	Connecting cable is defective.	Replace connecting cable.
	Safety switch is defective.	Replace safety switch.
	The safety cap is not properly engaged [14, Fig. B].	If necessary, press the safety cap on the safety switch until it snaps in.
	EMERGENCY STOP button is pressed.	<ol style="list-style-type: none"> 1. Determine the cause for the emergency stop and rectify if necessary. 2. Turn the rotary switch <i>FWD/O/REV</i> [16, Fig. B] to <i>0</i>. 3. Unlock the EMERGENCY STOP button afterwards.
When using an extraction, the suction housing sucks itself to the floor.	There is not adequate clearance between the dust cover and the surface to be ground.	Correct the clearance between the dust cover and the surface to be ground (→ Chapter 3.1 - page 7).
Grinding pattern is uneven.	Tools are loose.	Fasten tools.
	Tools are damaged or worn.	Replace tools.
Machine shuts down by itself.	Machine is overloaded. The drive overload protection (MOP) has triggered.	<ol style="list-style-type: none"> 1. Press RESET button [12, Fig. B]. 2. Put the machine into operation (→ Chapter 3.1 - page 7). 3. If necessary, reduce the speed with the <i>SPEED</i> regulator [13, Fig. B].
	Connecting cable (extension cable) is too long.	The minimum diameter and the maximum length of the connection line (extension cable) → Chapter 7
	Faulty power supply.	<p>Check the connecting cable (extension cable) and replace if necessary.</p> <p>Use a different power socket if necessary.</p>


6 Acceptance and transportation

 Follow the safety instructions in Chapter 2.

6.1 Machine acceptance


The packaged machine is supplied complete from the manufacturer.

1. Unpack machine and check the delivery slip to make sure all parts are delivered.
2. Check for any transportation damage.
3. In case of damage, contact the transport company promptly.
4. Report any problems to the manufacturer immediately.

 Complaints at a later date cannot be acknowledged!

6.2 Transporting the machine




 **Risk of injury from heavy parts!**
Suspended loads can fall or tip over, causing serious injuries!

Do not stand under suspended loads!
Raising and lowering the load must be performed by two persons!
Do not raise loads any higher than necessary!
Prevent the load from swinging back and forth!
Keep sufficient safety distance.
Devices for stopping and transporting the unit have to be rated to handle its full weight and dimensions.
Observe weight data on packaging or in the accompanying documentation.
Never walk or reach beneath the load while it is being lowered.
Wear safety shoes!
Wear safety gloves!
Proceed with the greatest care and caution!

 For longer transports or longer storage, the machine needs to be covered to protect against soiling.

For transporting, the machine can be taken apart into 2 pieces. A relocation over shorter distances is possible on the transport wheels.

1. Decommission the machine (→ Chapter 4.7)
2. **Either**
 - a. Fasten all loose parts to the frame.
 - b. Move the machine to the respective location with the transport wheels [6, Fig. A] and deposit.
- or**
- a. Unplug the plug connection [35, Fig. J], Hose connection [23, Fig. K] and if necessary connection to the dust extraction [24, Fig. K].
- b. Loosen the 4 screws [36, Fig. L] as far as possible without removing, so that the bolts [37, Fig. M] are movable.
- c. Push the bolts into the open position [Fig. M].
- d. Disconnect drive from the frame.
- e. If necessary (e.g. for lorry transport), screw the 4 screws [36, Fig. L] tightly and fasten all loose parts on the frame.
- f. Move drive and frame to the respective location and deposit.
- g. If necessary, lift drive and frame onto a suitable transport device (e.g. a palette). If necessary, use suitable lashing gear (belts or ropes).

 **Always secure the machine according to regulations during lifting or transport by a vehicle or suitable devices and strap down with tension belts.**

7 Technical data

Designation	FGE 530
Rated voltage	400 V, 3~
Rated frequency	50 Hz
Rated current	8 A
Rated power	4 kW
Connecting cable	5 x min. 2,5 mm ² (max. 25 m) 5 x min. 4,0 mm ² (>25 m)
Operating hours counter	available
Tool-Speed	400 ... 1200 rpm
Protection rating	IP 23
Dust extraction	∅ 50 mm
Tank capacity	about 10 litres
Dimensions (LxWxH)	about 850 x 600 x 1000 mm
Working width	∅ 530 mm
Edge distance	min. 10 mm
Grinding wheel	3 x ∅ 200 mm
Grinding pressure	110 kg
Noise level	152 kg
Schalleistungspegel	79 dB
Vibration total value *)	≤ 2,5

*) determined under standardised manufacturer operation conditions according to measuring method HARM.

8 Declaration of conformity

TYROLIT Hydrostress AG
Witzbergstrasse 18
CH-8330 Pfäffikon ZH
Switzerland

We hereby declare that the machine
FGE 530

complies with the provisions described in

- **Directive 2006/42/EG**
Machine
- **Directive 2014/30/EU**
Electromagnetic Compatibility

The following harmonised standards apply:

- **ISO 12100**
Safety of Machinery
- **EN 60204-1**
Electrical Equipment of Machines
- **EN 61000-6-2/EN 61000-6-4**
Electromagnetic Compatibility

This declaration is no longer valid if the machine is modified or retrofitted without our prior consent and approval.

Pfäffikon, den 16.1.2018

Pascal Schmid
Development manager and responsible for the technical documentation



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