

 **G.2 ST**  **G.2 LT**

*Parallel suspension seatpost*

**INSTALLATION + OPERATING INSTRUCTIONS**

## INTRODUCTION

Thank you for purchasing a by.schulz product. Please read the manual carefully before installation and usage. If you have any further question please contact your specialist dealer. Have a great ride!

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## 1. USAGE PERMISSION

by.schulz products (e.g. the speedlifter system) are available on the bike market for more than 20 years. By.schulz is an international supplier for bike manufacturer, wholesale dealers and dealers. Multiple components are standard equipment on bicycles, cross country MTB, pedelecs and e-bikes.

The G.2 ST/ G.2 LT seat post is suited for use in bicycles, pedelecs and e-bikes up to 45 km/h. It is not usable for extreme stress such as downhill riding, dual slalom, free-riding or riding with jumps.

The G.2 ST/ G.2 LT seat post is forged from aluminium and is tested according to the DIN norm and approved:

<b>City Trekking</b>	<b>Ebike</b> bis 25km/h <b>Pedelec</b>	<b>Speed-Ebike</b> bis 45km/h <b>S-Pedelec</b>	<b>MTB</b> <b>Cross Country</b>
DIN EN ISO 4210	DIN EN ISO 15194	DIN EN ISO 15194	DIN EN ISO 4210
✓	✓	✓	✓

## 2. DELIVERY CONTENTS

- Seatpost
- Mudcover (nicht bei Erstausrüstung)
- Operating instructions

## 3. SAFETY INSTRUCTIONS



1. This instruction contains important information about the proper installation, usage, and maintenance of the G.2 ST/ G.2 LT seat post. Please take the listed warnings and safety instructions seriously. Otherwise personal injury and material damage may occur, for which the dealer or manufacturer is not liable.

2. In order to avoid further risks of accidents the seat post must be replaced after damaged due to a fall or accident.

3. Child seats, trailer couplings or luggage racks may not be attached to the G.2 ST/ G.2 LT seat post because this can lead to breakage or damage.

4. Always use the neoprene mud cover to cover the spring mechanism when a child seat is installed behind the seat post. The cover prevents the child's finger from getting caught in the spring mechanism. There is considerable risk of injury for the hands of the children when no cover is used!

5. The installation is easy with bicycles and e-bikes, but please be aware of the installation requirements. If you do not have the appropriate expertise, we strongly recommend the installation by a specialist dealer.



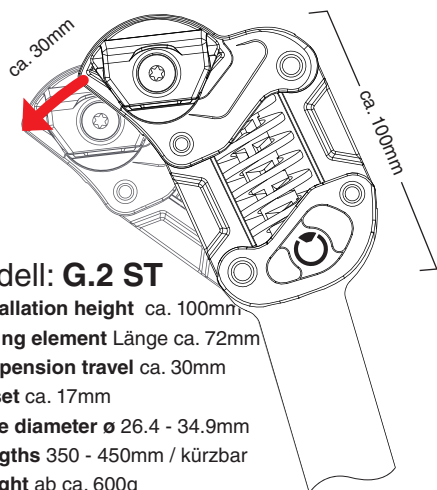
This symbol indicates an important screw connections, and the screw must be tightened with an specific tightening torque. The correct tightening torque is either listed on the part itself or in these operating instructions. A torque wrench is required for proper installation. Screws that are not tightened correctly, may loosen or break without warning. This may cause a fall and lead to personal injuries and material damage.

### Before the first ride:

We strongly recommend checking the overall fitness of the bicycle and the operational safety of the seat post before each ride. Start with checking if the saddle is firmly attached in the saddle clamp. Then make sure that the seat post tube is firmly attached to the bicycle frame without slack. It must be clamped in the desired position so that it cannot be turned or shifted inside the seat post tube. Please note that the minimum insertion depth of the seat post is 90 mm.

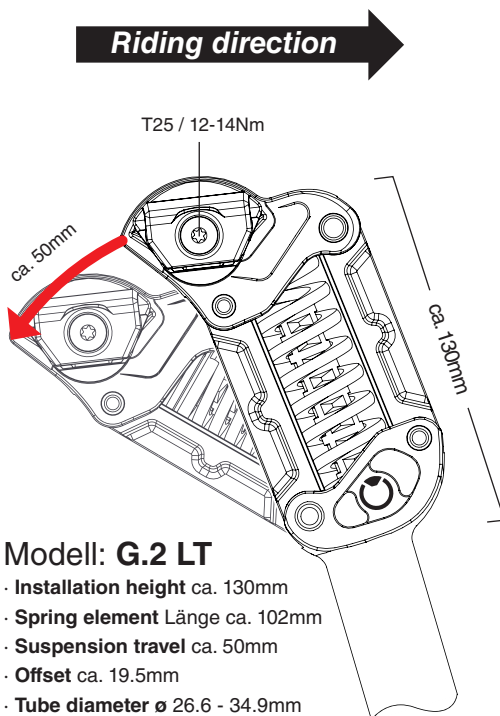
## 4. TECHNICAL DATA

- Parallel suspension seat post
- Material: 3D forged aluminium AL-6061-T6, AL-6066-T6
- Designed for a maximum rider weight of 150 kg
- IGUS high performance polymer plain bearings/stainless steel pins
- Spring elements in 5 different strengths, selectable according to rider weight and easily exchangeable
- Seat clamp with fine adjustment and robust grating
- For saddle rail tubes with 7mm diameter, 8 mm is optionally available



### Modell: G.2 ST

- **Installation height** ca. 100mm
- **Spring element** Länge ca. 72mm
- **Suspension travel** ca. 30mm
- **Offset** ca. 17mm
- **Tube diameter**  $\varnothing$  26.4 - 34.9mm
- **Lengths** 350 - 450mm / kürzbar
- **Weight** ab ca. 600g



### Modell: G.2 LT

- **Installation height** ca. 130mm
- **Spring element** Länge ca. 102mm
- **Suspension travel** ca. 50mm
- **Offset** ca. 19.5mm
- **Tube diameter**  $\varnothing$  26.6 - 34.9mm
- **Lengths** 380 - 670mm / kürzbar
- **Weight** ab ca. 750g

Length [mm]	$\varnothing$ G.2 ST Seatpost									
	26.4	26.6	26.8	27.2	30.6	30.9	31.6	33.9	34.9	
350	X	X	X	X	X	X	X			
400				X						
450							X	X	X	

Available combinations July 2018, may change at any time

Length [mm]	$\varnothing$ G.2 LT Seatpost									
	26.4	26.6	26.8	27.2	30.6	30.9	31.6	33.9	34.9	
380		X		X		X	X			
480							X	X	X	
670								X		

## 5. FUNCTION

The parallel suspension seat post is developed to offer optimum riding comfort in cities as well as on rough terrain. The suspension is progressive, i.e. the system responds softly to small impacts and with increasing spring resistance to hard impacts.

During compression the G.2 ST parallel suspension seat post dives in up to 18 mm backwards and 22 mm downwards, the G.2 LT up to 33.5 mm backwards and approx. 40.5 mm downwards.

Due to the use of a highly durable flat wire steel spring as well as technical elastomers in the spring centre and on the inside of the arms even hard impacts (e.g. deep pot-holes) do not lead to blocking of the suspension.

Additionally the backward extension movement is damped by the hemispherical elastomers in the head and base part. In order to adjust the G.2 ST/ G.2 LT to the weight of the rider and way of riding easily exchangeable spring elements with different spring stiffness and dampers are available.

This exploded view diagram illustrates the components of a motorcycle rear suspension system. The parts are identified by the following callouts:

- 1:** Upper shock absorber body.
- 2:** Lower shock absorber body.
- 2.1:** Shock absorber pin/bush.
- 3:** Lower shock absorber bracket.
- 3.1:** Shock absorber pin/bush.
- 4.1:** Spring plate.
- 4.2:** Shock absorber pin/bush.
- 4.3:** Shock absorber pin/bush.
- 5.1:** Shock absorber pin/bush.
- 5.2:** Shock absorber pin/bush.
- 6.1:** Shock absorber pin/bush.
- 6.2:** Shock absorber pin/bush.
- 7:** Lower shock absorber bracket.
- 7.1:** Shock absorber pin/bush.
- 8:** Shock absorber pin/bush.
- 1.1:** Shock absorber pin/bush.
- 1.2:** Shock absorber pin/bush.
- 1.3:** Shock absorber pin/bush.
- 1.4:** Shock absorber pin/bush.
- 2.2:** Shock absorber pin/bush.
- 3.2:** Shock absorber pin/bush.
- 4.4:** Shock absorber pin/bush.
- 5.3:** Shock absorber pin/bush.
- 6.3:** Shock absorber pin/bush.
- 7.2:** Shock absorber pin/bush.
- 8.1:** Shock absorber pin/bush.

## 6. COMPONENTS

### SEAT CLAMP :

- 1. Seat clamp- assembled
- 1.1 Seat clamp base with toothing
- 1.2 Seat clamp pressure spring
- 1.3 Seat clamp upper part
- 1.4 Seat clamp screw Torx T25 with washer  
(optional: Allen 5mm)

### HEAD :

- 2. Head base part with fine toothing
- 2.1 Internal backstroke damper

### SPRING ARM :

- 3. Spring arm with spring plate
- 3.1 Elastomer - stop damper
- 3.2 M5 headless screw (Allen, 2.5 mm)

### SPRING ELEMENT :

- 4.1 Flat wire steel spring
- 4.2 Elastomer – central damper
- 4.3 Spring end cap with centring pin

### SMALL PIVOT BEARING :

- 5.1 Igus plain bearing inner diameter 6.5 mm
- 5.2 Stainless steel pin outer diameter 6.5 mm

### LARGE PIVOT BEARING :



- 6.1 Igus plain bearing inner diameter 8 mm
- 6.2 Stainless steel pin outer diameter 8 mm

### SEATPOST BODY :

- 7. Seat post tube with base part
- 7.1 Internal backstroke damper
- 8. Mudcover

## 7. SPRING ELEMENTS

Für die Parallelogramm gefederte G.2 ST / LT Sattelstütze werden verschieden starke Federelemente angeboten, die einfach und schnell gewechselt werden können (siehe Seite 08-09). Anhand der folgenden Tabelle können Sie sich bei der Wahl des richtigen Federelements orientieren, wobei die Kriterien Fahrergewicht, Fahrposition und Fahrprofil in die Entscheidung einfließen.

	FARBCODE	HÄRTEGRAD	
	<b>ROT</b>	<b>Soft</b>	45-65 Kg
	<b>GELB</b>	<b>Medium</b>	60-85 Kg
	<b>GRÜN</b>	<b>Standard</b>	80-105 Kg
	<b>BLAU</b>	<b>Hard</b>	100-130 Kg
	<b>SCHWARZ</b>	<b>Extra Hard</b>	125-150 Kg

### Permissible rider weight =

body weight of the rider + additional weight (e.g. backpack)

Spring elements are available in soft, medium, standard, hard and extra hard for riders with a body weight ranging from 45 to 150 kg. The spring elements are marked with a colour code indicating their properties.



**G.Serie ST Spring element**



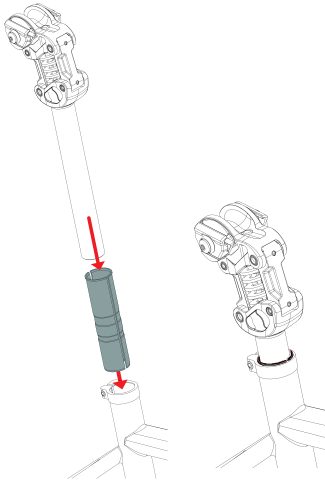
**G.Serie LT Spring element**

Only use spring elements made by the by.schulz company for the G series seat posts. Using third party components may interfere with the function of the seat post and may cause accidents, personal injuries, material damages and the loss of claims based on liabilities and guarantees (see page 11).

## 8. INSTALLATION REQUIREMENTS

- Please make sure that the inner diameter of the seat tube of the bicycle frame and the outer diameter of the G.2 ST or G.2 LT seat post are the same.
- Difference in dimensions can lead to the failure of the clamping as well as accidents, personal injuries and material damages.
- If necessary a reduction shim may be used to adjust the diameter of the seat post to the diameter of the seat tube. We recommend using the intended double-slotted aluminium reduction shim from by .schulz with a height of 120 mm. The following diameters are available:

Ø 34,9 > 31,6  
 Ø 33,9 > 31,6  
 Ø 33,9 > 30,9  
 Ø 31,6 > 27,2  
 Ø 30,9 > 27,2  
 Ø 30,2 > 27,2  
 Ø 30,0 > 27,2



- When using a third party reduction shim please make sure that it is out of aluminium, has a minimum length of 90 mm and is completely inserted into the seat tube.

- Always use the appropriate saddle clamps for the corresponding saddle frame. Saddle clamps for saddle rails with a diameter of 7 mm are installed by default. 8 mm saddle clamps can also be installed. Never combine 8 mm saddle clamps with 7 mm saddle rails or vice versa.

**Note:** Saddles with oval rails must not be installed.

## 9. INSTALLATION

### 9.1 Seatpost installation

#### Before installation:

In order to avoid scratching the seat post tube all sharp edges and burrs at the intake part of the seat tube of the bike frame must be removed and the area must be cleaned.

For metal frames we strongly recommend greasing the inside of the upper seat tube (when using a reduction shim it must be greased also). This ensures problem-free subsequent height adjustment of the seat post.

Do NOT use grease for frames made out of carbon fibre reinforced plastics (Carbon). Instead use a special assembly paste for carbon parts and frames.

1. Please make sure that the insertion depth of the seat post tube is not shorter than the minimum value of 90 mm. This is illustrated by a marking on the full length seat post tube. This marking (STOP MIN: INSERT) is located on the back of the seat post below the extension scale. You can find the production serial number above the scale.



Minimum-insert

Serial No.

2. Particularly on small bicycle frames or frames with pre-installed bottle cages it might be impossible to insert the seat post tube deep enough into the seat tube of the bicycle. In this case the seat post tube of the G.2 ST / G.2 LT can be shortened. We explicitly recommend that you ask a specialised dealer to perform this step. After shortening the seat post tube always make a new marking for the 90 mm minimum insertion depth.

The new marking must not be made by a cut or notch (indentation?). The seat post tube must never be shorter than the minimum length of 90 mm.

3. After insertion into the seat tube of the bicycle the seat post is fastened by correctly tightening the clamping screw or closing the quick release lever of the clamping sleeve of the seat tube (please refer to the recommendations from the bicycle manufacturer).



## 9.2 Saddle installation

1. Loosen the screws of the seat clamps on both sides (Fig. 9.2.1) until the gap of the fastening groove is approximately 8 mm. (Fig. 9.2.2). When loosening the seat clamping screws the hidden springs inside will push the seat clamps open without twisting.



Fig.9.2.1



Fig.9.2.2

2. Insert the seat frame from above into one of the fastening grooves of the seat clamp (Fig. 9.2.3).



Fig.9.2.3



Fig.9.2.4

3. Then push the seat frame into the groove of the opposite seat clamp (Fig. 9.2.4). You must overcome a slight pressure point until the seat frame audibly engages.

4. Fasten the two seat clamping screws so that the seat frame cannot be pulled out but adjusted horizontally in the groove.

1. The seat clamps and the head part of the G.2 ST / G.2 LT seat post are equipped with a forged fine toothing. This allows you to individually adjust the seat's angle to the desired inclination. You can also adjust the seat frame in the seat clamp horizontally (Fig. 9.2.5).

2. After finding your seat position tighten the two seat clamp screws with the required torque of 12-14 Nm using a torque wrench. The correct torque is also printed on top of the two seat clamps.

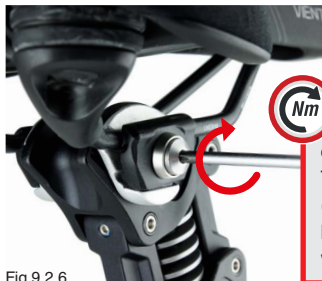


Fig.9.2.6

The M6 Seat clamp screw Torx T25 with washer (optional: Allen 5mm) have to be tightened with 12-14 Nm.

3. To adjust the seating height open the clamping screw or the quick release lever of the clamping sleeve of the seat tube. Move the seat into the desired position and tighten the screw with the specified torque or close the quick release lever.

4. When adjusting the correct seat position you should take into account the basic damping of the seat post when sitting on the seat. In order to compensate for the compression of the spring mechanism by the weight of the rider the seat should be set approx. 1 cm higher. Your specialist dealer will gladly advise you.

## 9.3 Seat Angle / Seating Position Adjustments



Fig.9.2.5

Mounting example



**Note:** make sure the saddle is firmly attached to the seat clamps. A loose saddle can lead to accidents, personal injuries or material damage.

## 9.4 Saddle Removal

1. In order to remove the saddle first loosen the two seat clamp screws. The clamping mechanism opens automatically because of the tension of the hidden spring inside the seat clamp.

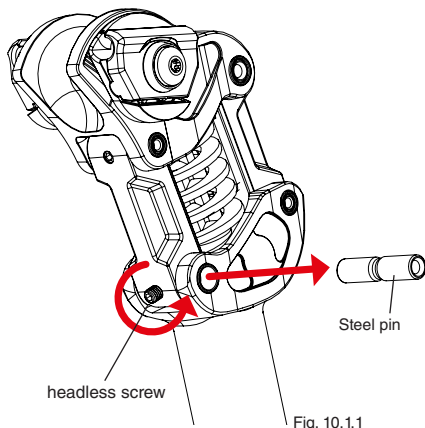
2. When the opening width of the fastening groove is approx. 8 mm pull the seat upwards and out of the saddle clamp. You may have to overcome a slight pressure point.

## 10. CHANGING THE SPRING ELEMENT

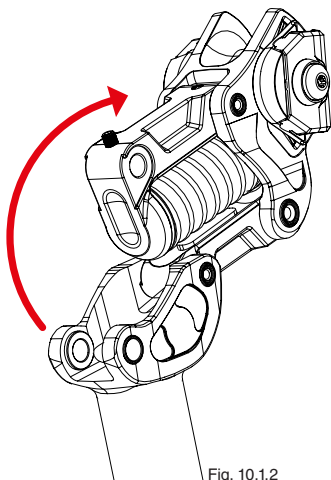
### 10.1 Removal of the Spring Element



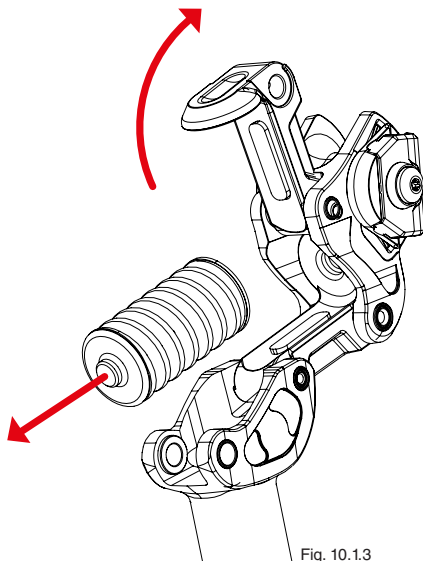
**Note :** we recommend keeping the G.2 ST/ G.2 LT seat post mounted in the bicycle frame when changing the spring element. The saddle does not have to be removed either.



1. Open the M5 headless screw of the large pivot bearing in the rear arm of the G.2 ST/ G.2 LT seat post with a 2.5 mm Allen wrench. Turn the screw counter-clockwise until it protrudes approx. 2 mm from the arm. Then push the 8 mm stainless steel pin out of the bearing.



2. Open the parallel suspension mechanism by pulling the rear spring arm upwards by hand. The entire upper part of the seat post will tilt forward towards the riding direction.



3. Lift up the rear spring arm in the small pivot bearing until the spring element detaches from the spring plate.

The spring element can now be removed by hand.

The 8 mm pin has holes into which suitable tools can be inserted to ensure that the pin and the bearing bushings are not damaged during removal or installation.

These tools (e.g. mandrel) should be used to push the pin out of the bearing.



**Note :** Use the changing the spring for a visual inspection of the elastomer damping elements in the seat post base, the spring arms and the head of the G.2 ST/ G.2 LT seat post. The spring mechanism must be opened completely in order to check the backstroke damper. Clean the inner area of the head and body if necessary.



## 10.2 Installation of the spring element

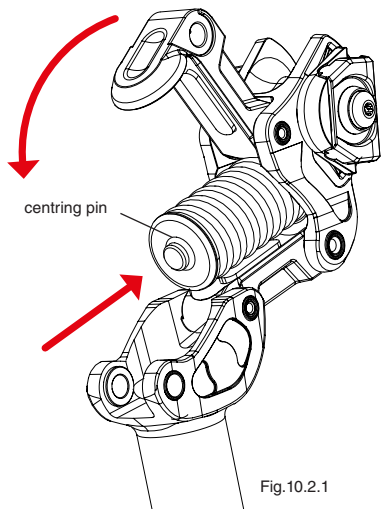


Fig.10.2.1

1. Place the selected original G.2 ST/ G.2 LT spring element into the parallel suspension mechanism of the seat post by hand. Push the spring element with the centring pin of the spring end cap into the corresponding hole of the spring arm plate of the front spring arm.

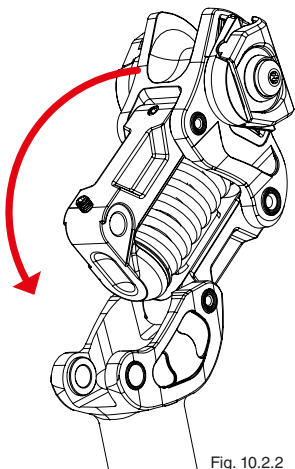


Fig. 10.2.2

2. Now push the rear spring arm back downwards to adjust the spring element between the arms. The centring pin of the second spring end cap must engage audibly into the hole of the spring arm plate of the rear spring arm.

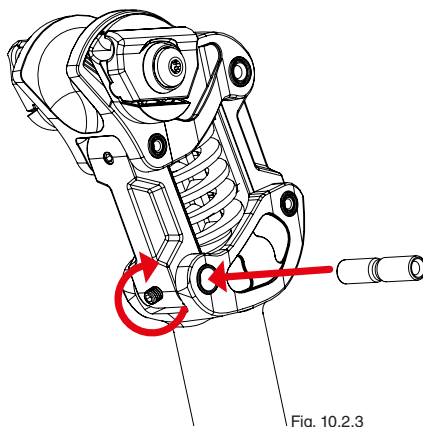


Fig. 10.2.3

3. Fold the entire parallel suspension mechanism in the small pivot bearing back downwards to the stop. Then reinsert the 8 mm pin. Make sure the pin is correctly aligned with all holes. The M5 screw must have sufficient blue thread locking adhesive, apply new adhesive if necessary. Refasten the M5 headless screw and tighten it with a torque of 3 Nm. The pin is now safely fastened by its centring groove.

Please check the correct fit of all components before the first ride with the new spring.



**Note :** The M5 headless screw must be inserted with medium strength thread locking adhesive and under no circumstances may it become loose on its own after tightening. Check if the headless screw is still tightened with a torque of 3 Nm after approx. 1-2 hours of operation. Use a torque wrench with a 2.5 mm Allen head attached.

## 11. MAINTENANCE / CARE

The G.2 ST/ G.2 LT seat post is based on a well thought out concept and consists of high-quality components. With regular maintenances this will guarantee a long riding pleasure.

After the first 3 months or riding 250 km all screws must be checked if the tightening torque is still correct. Then let a specialist dealer perform and document this inspection once per year or at least every 1500 km.

The mounted neoprene mud cover effectively protects the components from dirt (mud, sand etc.) and ensures little cleaning and low maintenance care.

Keep the parallel suspension mechanism of your G.2 ST/ G.2 LT seat post and the bearings free from dirt and mud and clean them regularly. Stubborn dirt can normally be removed with warm water and commercial detergents. Do not use a steam jet or aggressive cleaners such as acetone, trichloroethylene or methylene because these cleaners attack components, elastomers and bearings.

Look out for cracks , deformation or other changes to the components when cleaning the G.2 ST/ G.2 LT seat post. Your specialist dealer will gladly help you if you have any questions regarding the operating safety.

**NOTES :**



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**Operating instructions  
available for download:**

[www.byschulz.com](http://www.byschulz.com)



**Installation videos  
available under :**

[www.youtube.com](http://www.youtube.com)

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