CYCLING THE RIGHT WAY,
WITH THE RIGHT SYSTEM.

ergotec®

MAKING THE RIGHT SETTINGS TO YOUR BIKE.
THE ERGONOMICS GUIDE.

NOW WITH 1 2 3 4 5 6 safety level®

CYCLINGRIGHT.COM

STEERING SAFELY AND SITTING SAFELY.

With ergotec, safety and ergonomics are inseparable. This is why all our components for steering systems and all our seatposts have an exclusive safety level. This means you're always on the safe side: whether you are looking for ergonomic handlebars, a comfortable seatpost … or even buying a new bike!

SAFETY LEVELS: THE RIGHT COMBINATION
A steering system always consists of two elements, the handlebars and the stem. The best way is to combine steering system components with the same safety level. However, you can also combine different safety levels. The safety will then correspond to the lowest level used.

SAFETY VALUES ARE NOT UNIFORM.
An e-bike has to meet more stringent norms than a conventional touring bike, while the stresses on a mountain bike are much greater than on a city bike. The demands vary greatly – depending on the type of bike involved.

THE WEIGHT FACTOR.
Requirements grow in line with the increase in weight, and body weight is the principal weight factor. This is why in the case of bikes, safety is always an individual responsibility.

TESTED AS A SYSTEM.
ergotec handlebars and ergotec stems are tested for stability. Not individually, but as a complete system! This is the only way to achieve real safety. The ergotec testing system complies with European norms, but in some areas even higher standards are applied internally. The long-term tests continue around the clock at our ergotec safety test centre. No other manufacturer of bicycle handlebars in Europe has such a large test centre.

HOW TO READ THE TABLE

YOU NEED TO KNOW:

1. How heavy you are
2. How heavy your bike is
3. What is the maximum luggage you will normally carry.

STEERING SYSTEM.

Here the overall weight matters: bike + rider + luggage.
If the handlebars and the stem feature different safety levels, the lower value will apply to the entire system.

SEAT POST.

Here only the body weight + rucksack count, because this is the only weight which impacts on the seatpost.

BICYCLE TYPE.

If you're not sure what the category of your bike is, simply ask a retailer.
With e-bikes keep in mind that: a so-called Pedelec has pedal assist up to 25 km/h.
A fast e-bike has pedal assist up to 45 km/h (mandatory registration).

Mountain bike/racing bike			Safety Level
	max. 100 kg	max. 100 kg	5 6
	max. 120 kg	max. 120 kg	6
E-BIKE 25 km/h + 45 km/h	max. 100 kg	max. 100 kg	5 6
	max. 120 kg	max. 120 kg	6
Trekking-Bike			Safety Level
	max. 100 kg	max. 100 kg	2 3 4 5 6
	max. 120 kg	max. 120 kg	3 4 5 6
	max. 140 kg	max. 140 kg	4 5 6
	max. 160 kg	max. 160 kg	5 6
E-BIKE 25 km/h	max. 140 kg	max. 100 kg	4 5 6
E-BIKE 25 km/h	max. 160 kg	max. 140 kg	5 6
E-BIKE 45 km/h*	max. 140 kg	max. 140 kg	5 6
E-BIKE 45 km/h*	max. 160 kg	max. 140 kg	6
City-Bike			Safety Level
	max. 100 kg	max. 100 kg	2 3 4 5 6
	max. 120 kg	max. 120 kg	3 4 5 6
	max. 140 kg	max. 140 kg	4 5 6
	max. 160 kg	max. 160 kg	5 6
	max. 180 kg	max. 180 kg	6
E-BIKE 25 km/h	max. 140 kg	max. 100 kg	4 5 6
E-BIKE 25 km/h	max. 160 kg	max. 140 kg	5 6
E-BIKE 25 km/h	max. 180 kg	max. 160 kg	6
E-BIKE 45 km/h*	max. 140 kg	max. 140 kg	5 6
E-BIKE 45 km/h*	max. 160 kg	max. 140 kg	6
Junior/young adult			Safety Level
	max. 100 kg	max. 100 kg	2 3 4 5 6
Child's/youth bike			Safety Level
12"-24"			1 2 3 4 5 6

Note: The product classification of the ergotec safety levels corresponds to the DIN EN ISO 4210 norm for bicycles and DIN EN 15194 for e-bikes. E-bike type: pedal assist up to the indicated speed.
* Retrofitting only with approval by a recognised certification body and entry on the documents for the bike.

CORRECT CYCLING REQUIRES THE RIGHT SETTINGS.

The next few pages provide you with know-how, support and tips on how to adjust your bike correctly – and your ergotec bike retailer will be happy to help.

It's a good idea to take some time to make all the right adjustments. Sometimes several steps are required. The reason for this is that many positive effects are only noticed during long rides and after a period of personal adaptation.

You therefore need a little patience, but you will achieve your target: enjoyable and healthy bike rides without physical problems!

Dr. Achim Schmidt

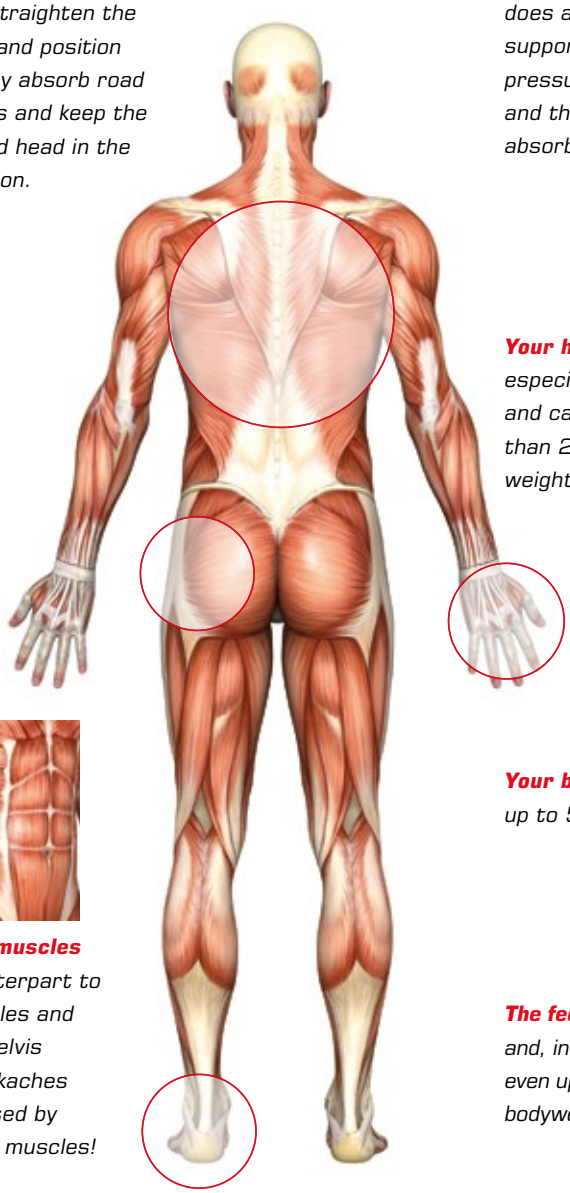
Cycling sports expert at the German Academy of Sports, Cologne

www.cyclingright.com

Muscle power and load distribution: on a bike the whole body is in operation – not just in sports cycling but with every ride. Lots of muscles are involved and every muscle has its counterpart, because all the powers involved need to be balanced out. Only this balance provides a comfortable ride.

The back muscles *stabilise and straighten the spinal column and position the pelvis. They absorb road surface shocks and keep the upper body and head in the required position.*

The shoulder girdle *does an important support job. It reduces pressure on the back and the hands, while absorbing road shocks.*



Your hands *respond especially sensitively and can't bear more than 20% of your body weight.*

Your buttocks *support up to 50% of the load.*

The stomach muscles *form the counterpart to the back muscles and stabilise the pelvis and back. Backaches are often caused by weak stomach muscles!*

The feet *carry 100 % and, in the case of jumps, even up to 1000% of the bodyweight.*

BODY POSITION: DYNAMIC!

The basic rule: make sure you ride dynamically! Activate as many muscles as possible. By changing position regularly you reduce the strain on the three contact points to the bike – your hands, buttocks and feet.

COMFORT CENTRE: THE PELVIS

The starting point for a long-term comfortable position is the correct dynamic positioning of the pelvis. According to the experts, if the positioning of the pelvis is wrong, this can cause pain somewhere else entirely (shoulders, back…).

The pelvis is positioned correctly *if the spine forms an S, in other words if there is a natural, slight hollow.*

The pelvis is in the wrong position *if it is too upright. In the process it tilts backwards a little, the back becomes rounded and the spine can no longer adapt correctly.*

Problem zone - the hands

… pain because: • the arms are stretched out • the upper body and the arms are at an unfavourable angle (too much load on the arms) • the shape of the handlebars and grips is not optimal

This helps: Change the position by the right selection of the handlebar position, shape and type of grip …

Problem zone - the buttocks

… pain because: • the saddle is too high in relation to the handlebars • distance between saddle and crank is unfavourable • saddle is at the wrong angle • saddle not suitable • pelvis is raised (see above)

This helps: change the position by creating the right relationship between the saddle and handlebar position, or find the right saddle and adjust it correctly.

Problem zone - knees and feet

… pain because: • the saddle is too low • the feet are not on the pedal correctly, the shoes are unsuitable or laced too tightly • transfer of power is too difficult

This helps: set the right saddle height, adjust pedals and shoes, position the feet correctly.

RIDING STYLE? ASSESSING YOURSELF CORRECTLY.

First you have to decide on your prefered cycling style. Do you normally ride short distances at moderate speed? Do you prefer long cycling tours and like to travel a little faster? In both cases you

DUTCH BIKE POSITION

Very upright position, almost vertical with the back at a 90° angle. Handlebars and grips are close to the upper body.

Advantages

- *Intuitively the spine assumes a natural S shape.*
- *The load on the arms and hands is very low.*

Disadvantages

- *The transfer of power to the pedals is relatively inefficient.*
- *The weight is primarily on the buttocks.*
- *With many people the spine slumps forward after a short time (raised pelvis).*

CITY BIKE POSITION

Upper body bent slightly forward, with the back at an angle of 60 to 70°. High handlebars.

Advantages

- *The upright position enables good view of traffic.*
- *Power can be transferred efficiently to the pedals.*

Disadvantages

- *The high handlebars lead to outstretched arms, which can cause shoulder tension and pain in the hands.*
- *The high seat can quickly tempt the spine to slump forward.*

By the way: *many manufacturers provide information about the frame height of a bike in different ways. When purchasing a bike, the frame height is at most an initial indication of whether the bike is suitable for your body size. In most cases you can only adjust it correctly with a suitable seatpost, handlebars and stem.*

have a different cycling style, and the most suitable bike will also be different. Four types of bike and the appropriate cycling style show the wide range of possibilities.

TREKKING BIKE POSITION

Upper body leaning forward with the back at an angle of 30 to 60°. Greater distance between handlebars and saddle.

Advantages

- *Shoulders, neck and hand provide more of the support work, which promotes a dynamic, active cycling style.*
- *The pressure on the back, spine and buttocks is reduced, which is especially useful on long rides.*
- *Power can be transferred effectively from the whole body to the pedals.*

Disadvantages

- *There is more pressure on the hands, neck and shoulders. The muscles need to be prepared for this increased load, which means exercise.*

SPORTS POSITION

Fast, sports cycling.
Upper body leaning well forward with the back at an angle of 15 to 30°. Saddle higher than handlebars.

Advantages

- *Optimal power transfer.*
- *Aerodynamic: low air resistance.*

Disadvantages

- *Requires highly trained muscles in the back, legs, shoulders and stomach!*
- *Position is only comfortable after suitable training.*

***By the way:** in a representative study carried out on behalf of Humpert/ergotec by the Centre for Health at the German Academy for Sports in Cologne, 57% of the cyclists surveyed said that they had so far done nothing to reduce physical complaints resulting from cycling. In our opinion physical complaints are not inevitable – and if you read on you will find out how to equip and adapt your bike in an optimal way.*

FIRST THINGS FIRST: ADJUSTING THE SADDLE CORRECTLY.

Regardless of your preferred cycling style, the starting point for adjusting your bike correctly is always getting the position of the saddle right! It doesn't just have to be at the right height,

An easy way to make the right setting is to lean against a wall, or even better, get someone to hold the bike while you sit on it in a stationary position.

Preparation

Make sure that the saddle is horizontal. Fit the base of the saddle centrally on the seatpost. For this you will normally need an Allen key (5 or 6 mm). A spirit level will help you get the right setting.

Pedalling the right way

During pedalling the front of the foot is positioned on the pedal – to be precise, the ball of the foot is on the spindle of the pedal.

1. THE CORRECT SADDLE HEIGHT

Get on your bike and extend one leg. Place the heel of your foot on the pedal when the pedal is at its lowest point. Your knee should now be straight.

If you can sit straight on the saddle in this position, then it is at the right height.

Of course after that you don't cycle with outstretched legs. If you place your foot on the pedal in the right cycling position (the ball of the foot with the articulation joint of the toes above the pedal spindle) and if the saddle height is set correctly, the knee will remain at a slight angle even at the lowest point of the crank rotation.

A ride around the block will indicate whether the saddle is too high or not. If the pelvis tilts to the right and left during pedalling, the saddle is positioned too high. If the saddle is too low, you will notice this with pains in your knees after a long ride.

By the way: seatposts with scale markings are useful for quickly setting the right saddle height, e.g. after you have transported the bike.

THE IDEAL ERGONOMIC PEDAL
P. 23

it also has to be in an ideal position in relation to the pedal crank. Fortunately, your personal ideal saddle position can easily be determined.

THE IDEAL ERGONOMIC SEATPOST
P. 23

2. THE RIGHT SADDLE POSITION

To find the right saddle position you place the crank in a horizontal position (three o'clock). Sit on the bike and place your foot in the optimum pedal position. In the ideal case a perpendicular line should now run from your kneecap through the spindle of the pedal. If the line runs behind the spindle of the pedal the saddle needs to be pushed forwards. If the line runs in front of the pedal, the saddle needs to be pushed backwards.

The saddle can be shifted on its frame. The right horizontal position provides the legs with optimal power. This prevents pain in the knees and painful incorrect positioning of the pelvis. If you have moved the saddle by more than 10 mm, you should then adjust the saddle height once more, because the two settings influence each other.

3. SADDLE ANGLE

The optimum angle of the saddle depends on its position, the handlebar position and the shape of the saddle itself. You should therefore only make adjustments here if absolutely necessary,and only after you have found and tested your personal handlebar position.

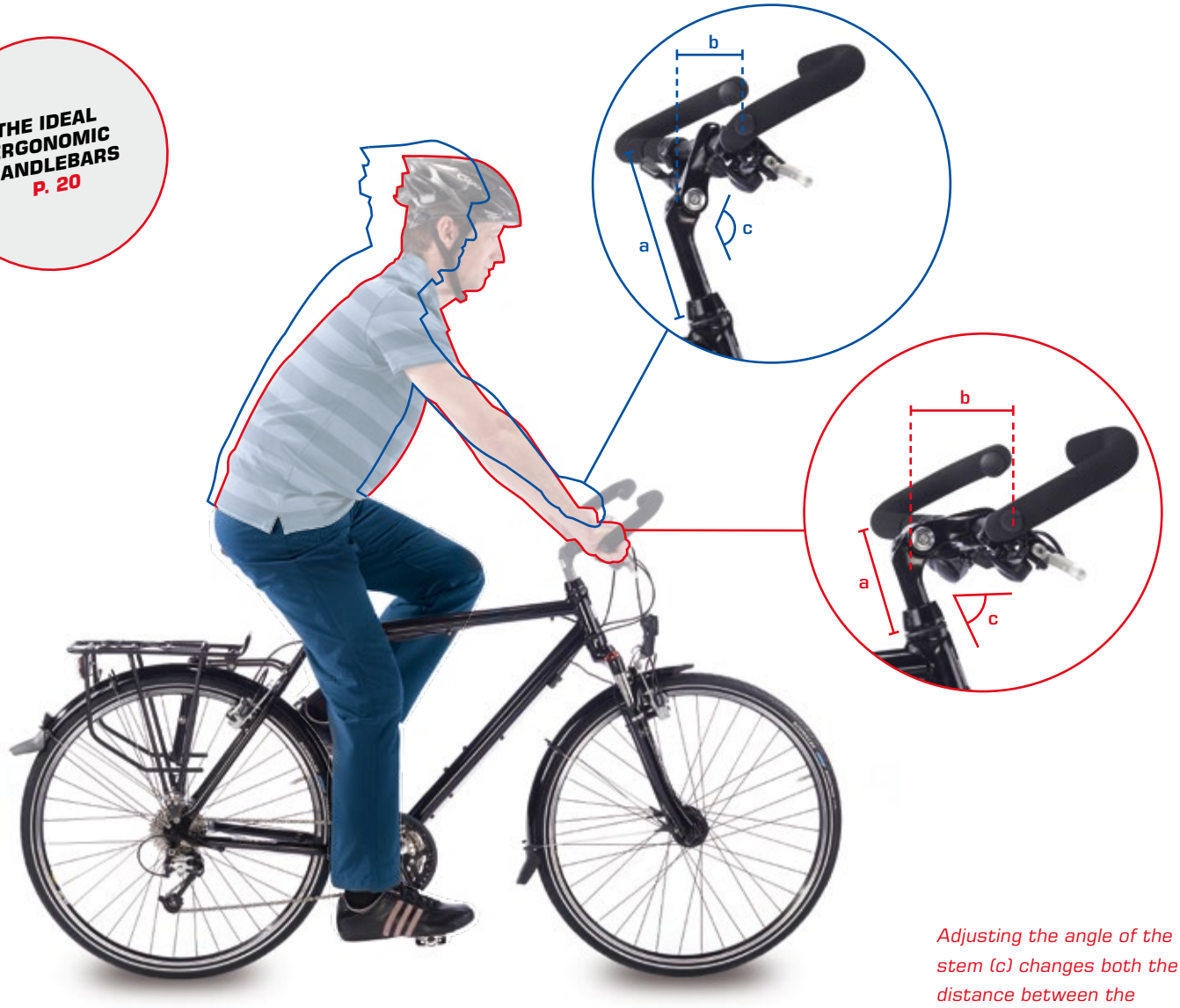
Set the angle of the saddle at horizontal. This is a good starting point, and normally it doesn't need to be corrected.

If the frame of the saddle doesn't provide enough room for adjustment, an offset seat post will help to move the saddle further backwards.

HIGH? LOW? POSITIONING THE HANDLEBARS CORRECTLY.

The handlebars and their position determine your posture on the bike. It's logical: every solution is individual , and in the ideal case a simple adjustment will provide a range of options. This is entirely possible, because there are handlebar stems

THE IDEAL ERGONOMIC HANDLEBARS P. 20



Adjusting the angle of the stem (c) changes both the distance between the upper body and the handlebars (b), and the height of the handlebars (a). See also Page 15.

1. CREATING THE RIGHT TENSION

Basically, the handlebars are only correctly positioned if the muscles of the back are in a state of pre-tension. The reason for this is that the back and stomach muscles can only stabilise the spine and protect against excessive strain if they are under tension. Muscles in a passive state are unable to carry out this important function.

2. DETERMINING THE ANGLE OF THE UPPER BODY

The angle of the upper body depends on the individual cycling style. Those who want to move fast will prefer a lower, flatter position. Anyone who is cycling for pleasure or in town will prefer a more upright back. Determine the handlebar height which corresponds to the angle you require.

with freely adjustable height and angles, and even freely adjustable handlebars. This will help you to find the position which is most comfortable for you,and you can easily vary it if required.

3. DETERMINING THE ANGLE OF THE UPPER ARM/UPPER BODY

1. *On a Dutch bike the angle is extremely acute, with the upper arms almost parallel to the upper body and the hands resting on the handlebars in a relaxed position (no support function).*

2. *On a city bike the body angle is 75-80°. However, many people prefer a smaller angle of up to 60° (less support necessary by the shoulders, arms andhands).*

3. *With the typical trekking style around 90° is optimal (good load distribution). At 90° there is reduced muscle support in the shoulder girdle, arms and back.*

4. *In contrast, racing cyclists and mountain-bikers often cycle at an angle of over 90°, in order to achieve a very flat position. In this case the muscles of the shoulders, arms and hands have to provide a lot of support, there is strain on the support muscles of the back and the load on the buttocks is transferred to the forward part.*

The angle of the upper arms and upper body is determined mainly by the length and the angle of the stem (see left-hand page; the angle can also be influenced by the shape of the handlebars).

1.

Angle approx. 20°
... typical Dutch bike

2.

Angle approx. 60°
... typical city bike

3.

Angle approx. 90°
... typical trekking bike

4.

Winkel über 90°
... typical sports bike

4. CHECKING THE ENTIRE SYSTEM

Under certain circumstances changing the setting of the handlebars can influence the position of the pelvis on the saddle. Tilting the pelvis can have a significant influence on the position of the hip joint, and can change the effective length of the leg by up to 3 cm. You should therefore check the height and position of the saddle. If necessary you can adjust the saddle once more.

STRAIGHT OR CURVED? CHOOSING THE RIGHT HANDLEBARS.

The handlebars can make a bike look stylish, and for this reason they are often selected for their looks. However, when you are choosing handlebars the main criterion should be their function, and not their looks. The handlebars must be right for you in three ways:

City bike position

Trekking bike position

Sporting position

1 DETERMINING HANDLEBAR WIDTH

The handlebars should be at least as wide as the shoulders. They are measured between the middle of the two respective hand-rest areas. With the same distance between the hands, curved handlebars are therefore narrower than straight handlebars.

The wider the handlebars are the more control they provide, but they also require more supporting force. Wide handlebars are useful in the case of trekking bikes with a heavy load, or tandems. Wide handlebars are of course also less aerodynamic, because there is more air resistance at high speeds.

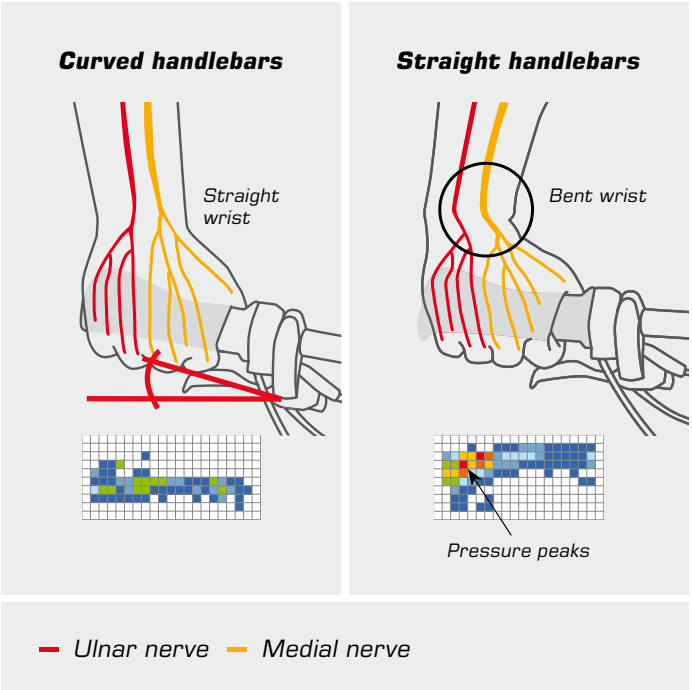
2 SELECT THE POSITION OF THE HANDS

The hands are in an ideal position on the handlebars when the lower arm and the hand are in a straight line and the wrist is not bent. The ulnar nerve and radial nerve are then in a straight position and free from pain.

Many sports medicine specialists are therefore in favour of curved handlebars. These provide the wrist with a relaxed position.

The narrower the shoulders are, the greater the curve of the handlebars needs to be – up to 28° (see illustration above).

Straight handlebars are recommended for sports bikes (e.g. MTB). They support direct steering, but lead to pressure peaks (see illustrated measurements) and more strain on the arm and shoulder muscles.



suiting your cycling style, your physical characteristics and your level of fitness. We recommend a coordinated steering system with multiposition handlebars. These can be adjusted and varied quickly and simply.

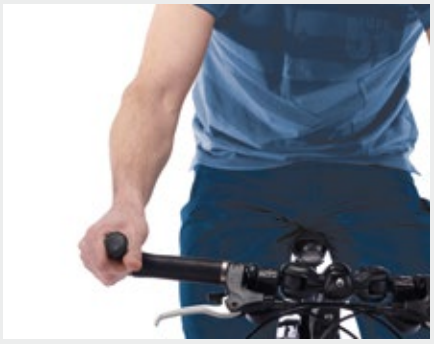
3 DYNAMIC CYCLING = VARYING THE GRIP POSITION

It's easy to avoid putting too much strain on your hands. Grip the handle bars dynamically, and vary your grip position during every ride! For your well-being and especially for the sake of your hands, especially during longer rides, you should select handlebars which enable different grip positions. In general there are two solutions to this.

Solution 1: multiposition handlebars

Multiposition handlebars are ideal for dynamic cycling. The curved ends of the so-called horn handlebars provide different grip options for your hands. Active variation with different areas of tension provides relaxation for your hands, arms and back during a long cycle ride.

Solution 2: bar ends



Bar ends adjusted correctly: when the hand grips the bar end the hand, elbow and shoulder are in line.

In the case of normal handlebars these additional so-called bar ends perform this function. There are grips with integrated bar ends. With many handlebars and and grips they can be fitted additionally.

Adjustable bar ends are especially useful. A clever ball joint makes it possible to select the optimal position individually, which is especially useful in the case of curved handlebars.

1 FINDING THE RIGHT HANDLEBARS.
ADJUSTABLE HANDLEBAR HEIGHT PROVIDES YOU WITH A WIDE RANGE OF POSSIBILITIES.

Adjusting handlebars? We're familiar with this in the car. It's also possible with your bike! In fact it's even more important, because the engine of the bike is our muscle power. This means that the right body position has to be selected with care.

The way the handlebars are set determines the angle of our upper body. In turn the angle of the upper body determines what muscles come into play. Pains in the neck, shoulder and back are a sign of excessive strain on a single area. In this case the work of the muscles has to be distributed better. The rule which applies is that every human being is different in terms of body size, proportions and strength and fitness.

It is therefore essential to have a handlebar system that can be adjusted. Personal changes can then also be adjusted for: those who cycle free from pain will cycle for longer. When we cycle for longer or more frequently, our cycling style changes: a variable steering system can be adjusted immediately!

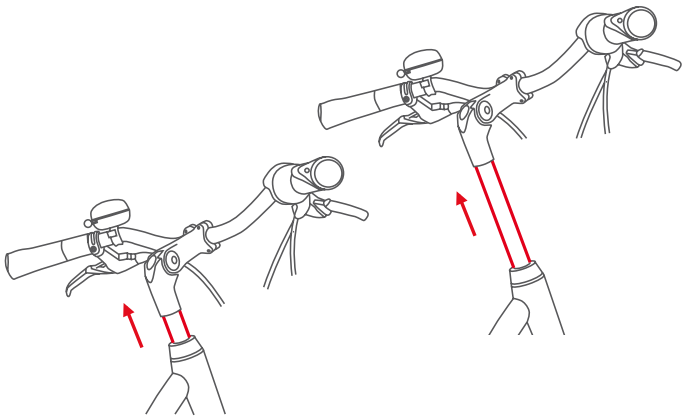
THE RIGHT SETTING HELPS!

ergotec XL handlebars with ergotec grips [AKSB-09]. Adjustable stem[Octopus] with Up&Down adapter. Handlebar height can be varied as required.

The classical handlebar stem

Left: bike with shaft stem: The stem and shaft are combined and are clamped into the steer tube. Stem and shaft can only be replaced together.

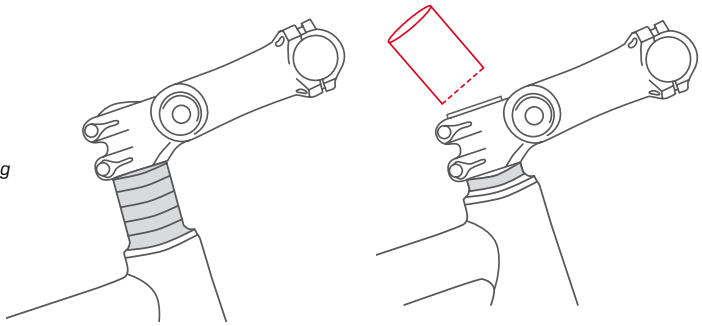
Right: the handlebars are raised by drawing the shaft stem higher. This is generally only possible over a small area. The solution: stems with an extra long shaft, which can be drawn out to a greater extent.



Ahead stem with spacers

Left: bike with „ahead" stem: The stem is placed directly on the steer tube, which protrudes beyond the frame.

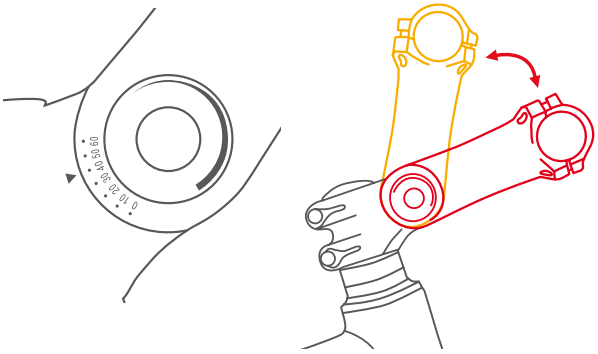
Right: the handlebar height is set once and for all by spacers (rings of differing thickness). The protruding steer tube is removed. After that the stem can no longer be set higher.



Stem with adjustable angle!

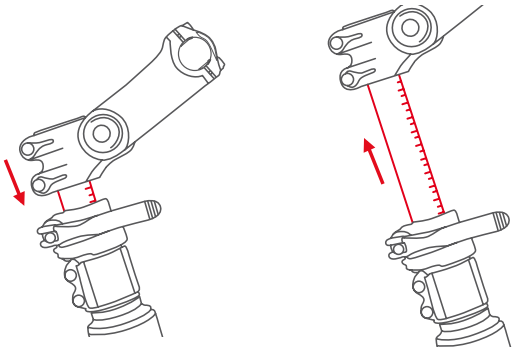
Left: bike with stem with adjustable angle. This solution is available in different stem lengths for shaft and ahead stems (Fig.).

Right: the angle adjustment enables fine tuning of both the distance from the handlebars and the saddle, and the height of the grips. Please note: this also changes the distance between the handlebars and the upper body.



Left: bike with „ahead" stem: the Up&Down adapter by ergotec is fitted on the fork with the ahead stem on top, as usual.

Right: handlebar height can be steplessly adjusted by 100 mm – with the ahead stem, too. With the Up&Down adapter by ergotec this is possible at any time, even without tools.



2 FINDING THE RIGHT HANDLEBARS.
THE SHAPE OF THE HANDLEBARS AND GRIPS ENSURES THE RIGHT POSITION FOR YOUR HANDS.

If there's a kink in a garden hose, nothing can flow through it. The same happens when nerves and blood vessels are positioned in an unnatural way for a long time. In cycling this can affect your hands in particular. The result is pins and needles and numbness.

The ideal remedy: the right handlebars enable your hands and wrists to maintain their natural position. The right width and curvature of the handlebars and support for your wrists provided by the grips are essential for this purpose.

The pressure which is exerted also plays an important role. We all know it from sitting down: you can sit for much longer on a well-shaped seat than on a narrow plank, because the pressure is distributed evenly. The same applies to the hands on the handlebars. The answer is enlarged and anatomically formed ergotec grips!

THE RIGHT SETTING HELPS!

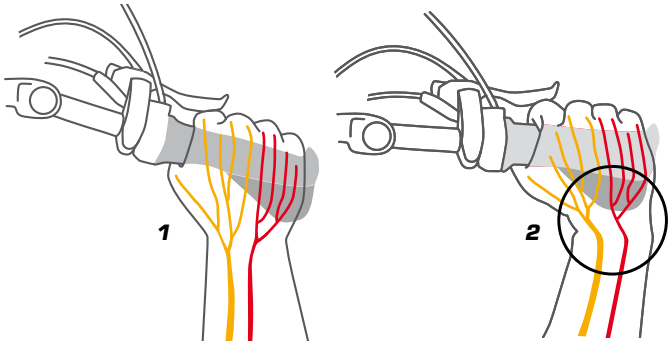
AHS Superlight handlebars: The angle of the grip can be adjusted as required. Grip MF1: The small raised element at the end of the grip protects the hands from slipping outwards. It is ergonomically shaped and can be set individually.

AHS handlebars – freely adjustable!

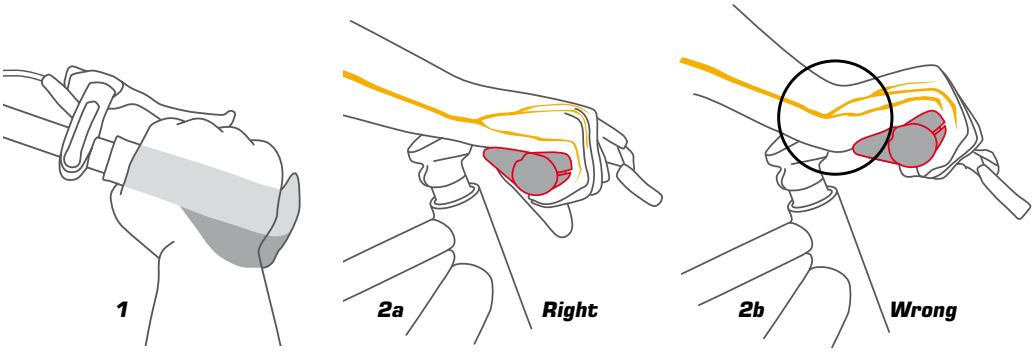
Left: ergonomically adjustable handlebars: the AHS handlebar system enables the angle of the handlebars to be set individually.

Right, Fig. 1:The right setting: hand and lower arm are in line. The wrist receives optimum support. The nerves and blood vessels are not in an unnatural position.

Right, Fig. 2: possible cause of pain: the handlebars are in a straight sports position. This means greater strain on the wrist (see also P. 12).

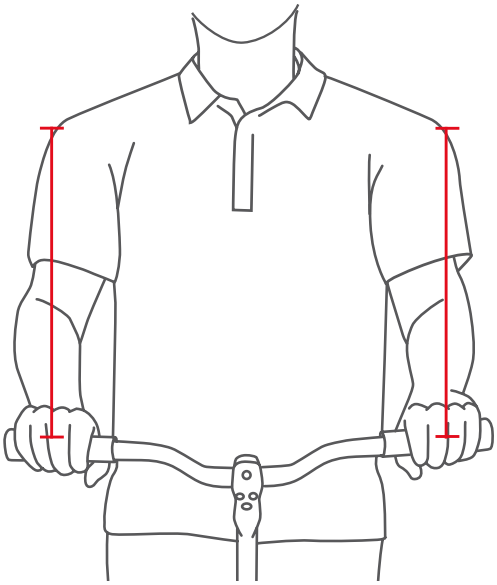


Ergonomic grip



Above: larger, anatomically shaped grips help to distribute pressure.

Fig. 1: Ergonomic grip: the inner surface of the hand lies on the anatomically shaped grip. A larger contact area enables improved pressure distribution. The nerves and blood vessels are not compressed in the interior carpal tunnel.
Fig. 2a, 2b: Please note: the grip has to be rotated into the right position and fixed there. This prevents the nerves and vessels in the wrist from being bent unnaturally.



The ergonomically correct bar width. The handlebars should be as wide as the shoulders (distance between shoulder joints = distance between the hands on the handlebars). The wider the handlebars, the wider the angle of grip becomes. To correspond with varying body sizes, ergotec provides a special handlebar series. Your specialist retailer will be happy to help you.

Available in sizes XS-S-M-L-XL-XXL

3 FINDING THE RIGHT HANDLEBARS.
MULTIPOSITION HANDLEBARS DYNAMIC CYCLING IS ALWAYS BEST.

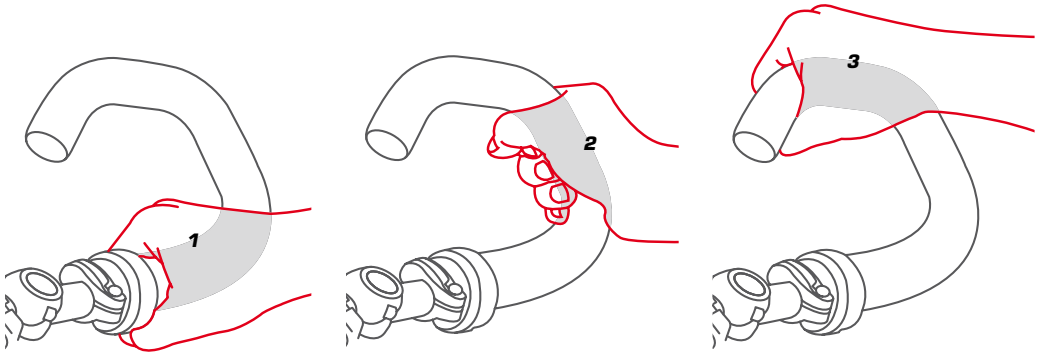
Whenever the joints and muscles are fixed in a rigid position, the strain on them is always unbalanced. The result is tiredness and pain. Those who cycle correctly make sure that their whole body is in movement, and is not fixed rigidly in the same basic position. For example, a short time pedalling standing up will help. This reduces the strain on the buttocks and the whole body moves to a different rhythm.

The hands, arms, shoulders and neck in particular benefit from a regular change of position. Handlebars which invite you to change your grip position regularly are ideal for this purpose.

Classical multiposition handlebars are a tried and tested solution. However, normal handle bars – combined with ergotec grips and bar ends - also enable you to cycle in a dynamic way which supports your body.

THE RIGHT SETTING HELPS!

ergotec XXL handlebars combined with ergotec grips [AKS07] and EVO Touring bar ends. It can be rotated around 360° and fixed in any position. The angle can be adjusted using the ball joint.

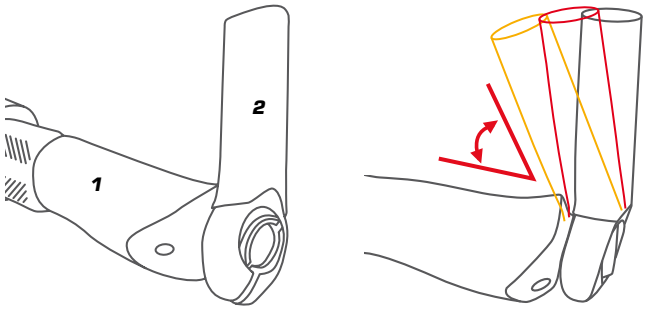


Above: ***multiposition handlebars.*** *The ideal solution for varying your hand position and upper body angle as you cycle. See also large illustration P.21.*

1 *With the lower position the upper body is at a greater angle and the fingers are closer to the brake lever.*
2 *With the middle position the arm and rest are naturally upright and relaxed.*
3 *With the higher grip position the upper body is upright and relaxed.*

Left: ergotec grip combined with bar end, both with a leather cover.

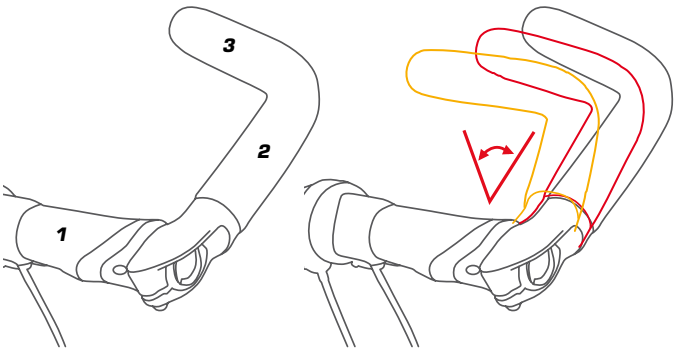
Right: the grip position can be changed. This relaxes the wrist and hand and prevents numb fingers. The patented ball joint enables the angle of the bar end to be adjusted.



ergotec grip, bar end straight, adjustable!

Left: ergotec grip combined with large EVO Touring bar end. Shown with foam covering, also available with leather cover.

Right: three different positions are available, making the combination as effective as multiposition handlebars. The patented ball joint enables the angle of the bar end to be adjusted.



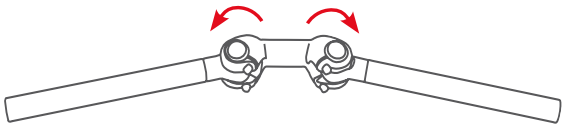
ergotec grip, bar end curved, adjustable!

AHS. THE STEERING SYSTEM, WHICH ENABLES THE SETTING OF YOUR CHOICE.

MF grip

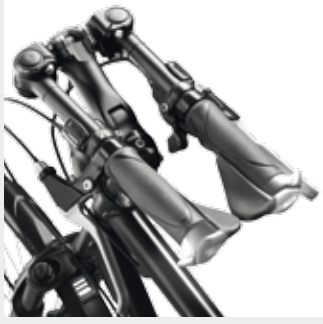
AHS Superlight, freely adjustable grip angle.
As grip Model MF2 is fitted with a hand surface area and bar end.

The AHS steering system by ergotec offers a wide range of adjustments. The grid position can be adjusted as required, and with two of the three versions the angle of grip can also be adjusted individually. You have a free choice of grip: decide for yourself if you wish to cycle with ergonomic grips (also with bar ends), or with multipo-sition grips. All the other operating levers are compatible.



AHS-Superlight
Angle of grip freely adjustable. Almost all grips and bar ends can be fitted. Compatible with all gear change and braking systems.

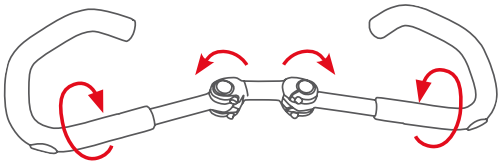
MF1 handlebar grip.
Ergonomically functional form and non-slip thanks to the rubber finish. Reliable grip, and friendly on the skin. Extremely weather resistant.



Transport? No problem!
In der transport position the adjustable angle of grip means that The handlebars are completely folded together. Ideal on your car's bike rack or for saving space in the garage during the winter.

AHS

AHS Premium, freely adjustable angle of grip. Here with special ahead stand for varying handlebar heights (clamping height 60-125 mm).



AHS-Premium
Angle of grip freely adjustable. Multiposition grips enable freely adjustable degree of tilt.

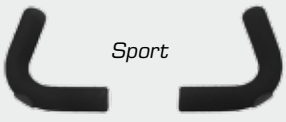
AHS-Basic
Light multiposition handlebars. Choice of two versions: Comfort or Sport. Angle of grip freely adjustable.

Simple, extremely secure fitting of grips. The great advantage of these push-on multiposition grips: grip gearshifts can also be fitted!

Triple choice of grip
The grip versions for AHS Premium and AHS Basic. One of three grip designs can be selected, depending on individual requirements.

Comfort

Classic



Sport

FUTURA.
THE VARIABLE SEATPOST.

Seatpost, Safety level 4. Patented.
Makes sure you find the right seating position.
Horizontal saddle adjustment across 60 mm.

EP-1.
THE ERGONOMIC PEDAL.

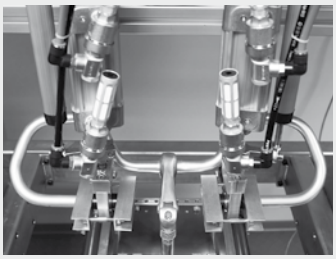
Anatomically shaped. Large pedalling area.
Optimal power transfer. Intuitively ideal foot position. Guide rails for perfect positioning.
Entire surface non-slip.

TOP TIPS
TO MAKE LIFE EASIER

At Humpert (now in the fourth generation) we have been inventing, developing and producing bicycle components – for over 90 years. Hardly any manufacturer in Europe offers Richtig-Radfahren (cycle right) components in such a large selection as we can - all produced in outstanding quality in sustainable manufacturing operations.

Cycling has never been more popular, because it promotes health, exercise and enjoyment of life, and because it is the most economical and ecological mode of transport for short distances - especially in densely populated countries. We will continue to make our contribution to the future of the bicycle as specialists for steering systems.

Wilhelm Humpert



The ergotec test centre. Every model undergoes rigorous testing.

MANUFACTURER INFORMATION.

Manufacturer information, for example on frame height, only provides an initial rough value on the way to the bike which is right for you. Measuring methods and size indications are not standardised, and can vary greatly. The important thing is for the bike to suit you, not the indicated frame height! For this reason it is important to ‚try on' every bike carefully.

LISTEN TO YOUR BODY

If you experience pain as a result of cycling, you need to act instead of waiting. If a new setting doesn't create any improvement after a few kilometres, then you need to try something else. If you try various settings and the handlebars, saddle or grips still don't feel comfortable, then they need to be replaced. Your specialist retailer will be happy to help you.

DON'T MAKE TOO MANY ADJUSTMENTS

If possible just change one setting at the time. This will enable you to identify cause and effect and help you to find the ideal setting faster.

PEDALLING THE RIGHT WAY

Cycling dynamically also means pedalling dynamically. Make sure that your pedalling is relaxed, avoid excessively heavy gears, make optimum use of your gear changes.

RELAX DURING THE RIDE

If it's a long ride, give different parts of your body a break from time to time. Pedal standing up for a while. Change your grip position on the handlebars or give your hands a shake.

TOOLS

If you need tools to make adjustments, make sure they are of good quality. This is better for your bike, for your nerves and the quality of the results. Be sure to check that all screw connections are tight.

FREE HANDLEBAR MOVEMENT

After every adjustment to the handlebars, grips or stem you should check if the gear and brake cables are long enough to enable unimpeded steering. Cables which are too short can impede your steering and cause accidents.

ALMOST ANYTHING IS POSSIBLE

If the bicycle frame size is basically suitable for you, then almost any adjustment can be made using ergotec components. In addition to the actual system components, there are numerous adapters to match the individual bicycle frames. Your specialist ergotec retailer has the complete ergotec catalogue with the entire range of possibilities.

SPECIALIST RETAILERS ARE BEST

ergotec products are available from all good retailers. All ergotec retailers certified by us will offer you especially expert advice. For an up-to-date list indicating all our certified retailers please see: www.ergotec.de

STEER SAFELY.
SIT SAFELY.

Only steering systems (handlebars + stem) and seatposts from ergotec feature our safety level: in long-term testing they have, individually or as a system, either fulfilled or significantly exceeded the DIN EN ISO norms.

1 2 3 4 5 6 safety level®

steering system	seat post

			Safety Level
Mountain bike/racing bike			
	max. 100 kg	max. 100 kg	5 6
	max. 120 kg	max. 120 kg	6
E-BIKE 25 km/h + 45 km/h	max. 100 kg	max. 100 kg	5 6
	max. 120 kg	max. 120 kg	6
Trekking-Bike			
	max. 100 kg	max. 100 kg	2 3 4 5 6
	max. 120 kg	max. 120 kg	3 4 5 6
	max. 140 kg	max. 140 kg	4 5 6
	max. 160 kg	max. 160 kg	5 6
E-BIKE 25 km/h	max. 140 kg	max. 100 kg	4 5 6
E-BIKE 25 km/h	max. 160 kg	max. 140 kg	5 6
E-BIKE 45 km/h*	max. 140 kg	max. 140 kg	5 6
E-BIKE 45 km/h*	max. 160 kg	max. 140 kg	6
City-Bike			
	max. 100 kg	max. 100 kg	2 3 4 5 6
	max. 120 kg	max. 120 kg	3 4 5 6
	max. 140 kg	max. 140 kg	4 5 6
	max. 160 kg	max. 160 kg	5 6
	max. 180 kg	max. 180 kg	6
E-BIKE 25 km/h	max. 140 kg	max. 100 kg	4 5 6
E-BIKE 25 km/h	max. 160 kg	max. 140 kg	5 6
E-BIKE 25 km/h	max. 180 kg	max. 160 kg	6
E-BIKE 45 km/h*	max. 140 kg	max. 140 kg	5 6
E-BIKE 45 km/h*	max. 160 kg	max. 140 kg	6
Junior/young adult			Safety Level
	max. 100 kg	max. 100 kg	2 3 4 5 6
Child's/youth bike			Safety Level
12"-24"			1 2 3 4 5 6

Note: The product classification of the ergotec safety levels corresponds to the DIN EN ISO 4210 norm for bicycles and DIN EN 15194 for e-bikes.
E-bike type: pedal assist up to the indicated speed.
** Retrofitting only with approval by a recognised certification body and entry on the documents for the bike.*

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