

# ergotec®

## The Guide to Cycling Ergonomics



The specialists in  
bicycle steering systems

[humpert.com](http://humpert.com)



# Cycling right is all a matter of adjustment.



On the following pages you will find information and useful tips that will help you to adjust your bike correctly – the easiest way to do this is of course together with your ergotec bicycle dealer.

Taking the time to adjust your bike correctly is definitely worthwhile. Sometimes it can take several steps to get it right. Because many positive effects will only become noticeable during a longer ride or after you have become used to the new feel of the bike.

With a little patience you'll get where you want to be: cycling easily and healthily on a bike that is a joy to ride!

*Achim Schmidt*

Dr. Achim Schmidt  
Cycling sports expert at the  
German Sports University Cologne

PS: Ergonomically shaped handlebar grips and specially padded saddles provide added comfort. But this is only one side of the story – positioning and posture on the bicycle are just as important.

■ **Muscle work and load distribution:** On a bicycle the whole body is in action – and not just when doing sport, but every time you ride. A great many muscles are involved, and each muscle has its counterpart. Because all of the forces need to be balanced out before you can begin to experience true „riding comfort“.

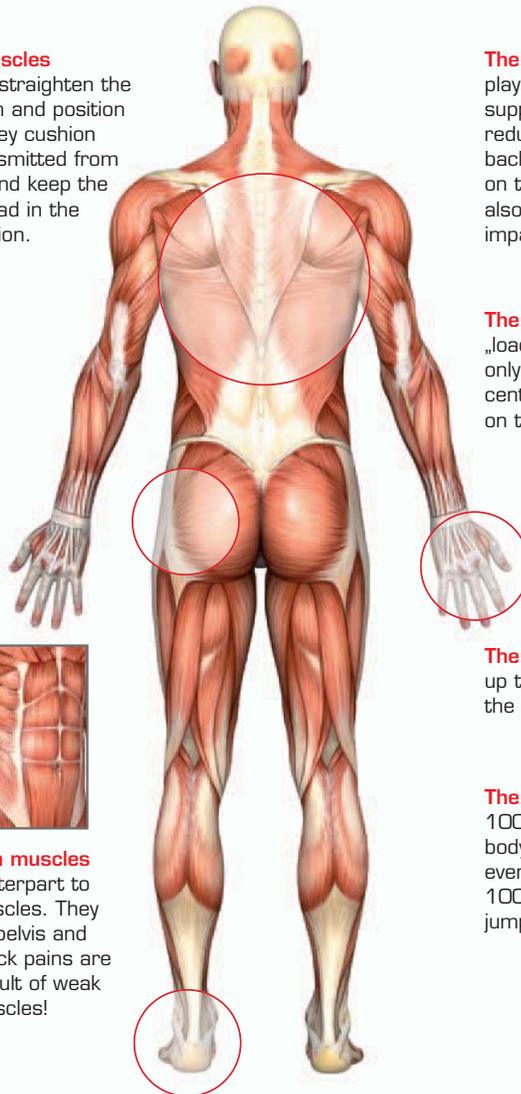
**The back muscles** stabilize and straighten the spinal column and position the pelvis. They cushion impacts transmitted from the ground and keep the torso and head in the desired position.

**The shoulder muscles** play an important supporting role. They reduce the load on the back and the pressure on the hands, while also cushioning terrain impacts.

**The hands** are especially „load-sensitive“ and can only bear about 20 percent of the load acting on the body.

**The buttocks** bear up to 50 percent of the load.

**The feet** typically carry 100 percent of the body's weight and can even withstand up to 1000 percent during jumps.



**The stomach muscles** are the counterpart to the back muscles. They stabilize the pelvis and the back: Back pains are often the result of weak stomach muscles!

## ■ Basic posture: dynamic!

The golden rule: „Think dynamic“ when cycling! Make sure you actively use as many muscles as possible. And remember to alternately relieve the pressure on your hands, buttocks and feet – your three contact points with the bike.

## ■ Seat of comfort: the pelvis.

The starting point for a consistently comfortable posture is the right „dynamic“ positioning of the pelvis. According to the experts, if the pelvis is wrongly angled, this can cause pain at a completely different point in the body (e.g. shoulder, back, etc.)



**When the pelvis is correctly angled**, the spine takes on an „S“ shape, thus producing a back with a slight natural hollow.



**When the pelvis is wrongly angled** it tilts slightly backward into an „upright“ position. As a result, the back becomes rounded and the spine less „resilient“...

### Problem: hands

... hurt because: ■ the arms are straightened, ■ the torso and arms are at an unfavorable angle (excessive stress on the arms), ■ the handlebar and grips are not optimally shaped.

**Remedy:** Change your posture by choosing the right handlebar orientation, handlebar shape and type of grip ...

### Problem: buttocks

... hurt because: ■ the saddle is positioned too high above the handlebar level, ■ the distance between the saddle and the crank is not right, ■ the saddle is at the wrong angle, ■ the saddle is unsuitable, ■ the pelvis is „upright“ (see above).

**Remedy:** Change your posture by adjusting the right saddle-to-handlebar positioning, finding an appropriate saddle and adjusting it correctly.

### Problem: knees and feet

... hurt because: „the saddle is too low“ the foot is wrongly positioned on the pedal the shoes are unsuitable or too tightly laced the selected gears are too „heavy“ for the terrain.

**Remedy:** Adjust the saddle height, adjust the pedals and shoes, position the feet correctly.

# Riding style? Getting your own style **right.**



## ■ Classic (Dutch) bike position

Very upright posture, almost vertical with back at 90° angle to the ground. The handlebar and grips are very close to the torso.

### Advantages

- Intuitively, the spine is held in its natural S-shape.
- The stress on the arms and hands is very low.

### Disadvantages

- The power transfer to the pedals is relatively low.
- All the weight rests on the buttocks.
- After a short while many people tend to take on a slumped posture.



## ■ City bike position

Slightly inclined torso, approx. 60 to 70° angle to the ground. High handlebar.

### Advantages

- The upright posture gives the rider a good view of the traffic.
- Power can be firmly applied to the pedal.

### Disadvantages

- The arms are often held straight to grip the high handlebars. – which leads to cramped shoulders and pain in the hands.
- The high seat can easily tempt one to slump in the saddle.

**By the way:** the frame height of a bicycle can often be misleading, as manufacturers have different methods of determining this. When buying a bike, the frame height should be considered as a rough guide as to whether the bike is more or less the right size for you. You will usually need an appropriate seatpost, handlebar and handlebar stem.

■ The first thing to do is to decide which riding style you prefer. Do you usually ride short distances at a moderate speed? Or do you prefer to go out on longer runs and want to cover ground fast? In either case your riding style will differ – and so will the bike you need. We have picked out four bicycle categories and the matching riding styles to give you an idea of the range of possibilities.



## ■ Trekking bike position

Distinctly inclined torso, approx. 30 to 60° angle to the ground. Large distance between the handlebar and the saddle.

### Advantages

- The shoulders, back of the neck and hands take a greater share in supporting the load, resulting in a more versatile, active riding style.
- This relieves pressure on the back, spine and buttocks, which is especially important when riding long distances.
- The whole body is involved in transmitting power to the pedals.

### Disadvantages

- The hands, back of the neck and shoulders are more highly stressed.

The muscles need training to withstand this load comfortably.



## ■ Sporty position

Sporty, fast-paced cycling. Significantly inclined torso, approx. 15 to 30° angle to the ground. The saddle is higher than the handlebar.

### Advantages

- Optimal power transmission.
- Aerodynamic: low air resistance.

### Disadvantages

- Demands highly trained muscles in the back, legs, shoulders and stomach!
- This position is not suitable for cycling in everyday traffic - the body is continuously tensed to performance level.

**By the way:** in a representative study conducted by the German Sport University Cologne on behalf of Humpert/ergotec, 57% of the interviewed cyclists said that they had not previously done anything to reduce discomfort experienced when cycling. We say that nobody has to put up with discomfort – and if you continue reading, you'll be on the right track to getting your bike properly equipped and adjusted.

# First things first: getting the saddle **right**.

## ■ Preparation

Align the saddle so that it is horizontal! Push the saddle on the bracket so that it is positioned centrally above the seatpost. To do this, you will usually need an Allen key (5 or 6 mm). A spirit level can be useful to get the alignment right.



## ■ Pedaling correctly



When riding and pedaling, the ball of the foot should be on the pedal, to be precise: right over the pedal spindle.



It's easier to get the adjustment right when you lean against a wall. Or better still, ask a helper to hold the bike steady as you sit on it.

## 1 The right saddle height

Climb onto your bike and stretch out one leg. Place your foot with the heel on the pedal at the lowest point of its arc. Your knee should now be straight.

If you are sitting square on the saddle when in this position, the saddle is at the right height.

Of course, nobody rides with straight legs. When you place your foot on the pedal in the correct riding position (ball of the foot with base joints of the toes above the pedal spindle), if the saddle height is right, your knee should still be slightly bent when the pedal reaches its lowest point.

A short test ride will soon show whether the saddle is too high. If your pelvis tilts to the right and left when pedaling, the saddle is too high. If it is too low, you will probably only notice this after many miles of riding when your knees start to hurt.

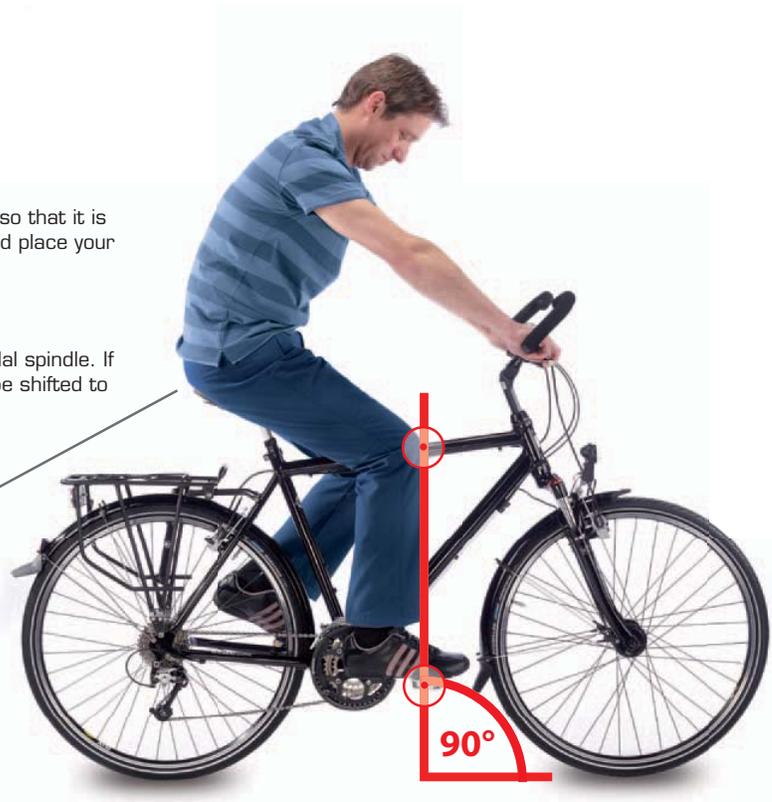
By the way: saddle frames with a graduated scale are useful as they make it easy to adjust the saddle height quickly after transporting it in a car, for example.

■ No matter what riding style you prefer, the starting point for adjusting your bike for your own personal comfort is getting the saddle into the right position! This is not just a matter of the correct height. The saddle also has to be shifted into the optimal position in relation to the crank. Luckily, finding the saddle position that is best for you is easy to do.

## 2 The right saddle position

To find the right saddle position, turn the crank arm so that it is horizontal (3 o'clock position). Climb onto the bike and place your foot on the pedal in the optimal pedaling position.

Ideally, your kneecap should be exactly above the pedal spindle. If it is slightly behind the spindle, the saddle needs to be shifted to the front.



The saddle can be shifted along the bracket. Once it is in the right position, your legs will have the correct leverage ratio. This avoids sore knees and pains resulting from wrong pelvis orientations.

If you have shifted the saddle more than 10 mm, you will have to readjust the saddle height because these two adjustments influence each other.

If the saddle frame won't allow the saddle to be shifted far enough, it is possible to install a seatpost with an angled head which extends the saddle adjustment range to the rear.

## 3 Saddle inclination

The optimal saddle inclination depends on the saddle position, the handlebar position and the shape of the saddle itself. Thus, the inclination should only be adjusted once you have found the handlebar position that suits you best and are happy cycling with it.

Adjust the saddle inclination to horizontal. This is a good starting point, and in most cases it will not even be necessary to readjust it.



# High? Low? Getting the handlebar **right.**



## **1** Creating a pretension

A handlebar will only be correctly positioned when it creates a certain pretension in the back muscles. The back muscles and stomach muscles need to be tensed slightly so that they will be able to stabilize the spine and protect it from excessive stress. If the muscles are passive, they cannot fulfill this important function.

## **2** Determining the inclination of the torso

The inclination of the torso depends on a person's individual riding style. Someone who wants to ride fast will prefer a flatter inclination, while recreational and city bikers favor a more upright posture. Choose a handlebar height that matches the inclination you want.

■ The handlebar and its position determine your posture on the bike. Of course, every solution should be a customized one, and the ideal thing would be to keep your choices open through simple readjustment. And you can have just that! Because there are handlebar stems that can be set at any height and angle you like, and there are even freely adjustable handlebars. This allows you to find the position that is most comfortable for you – and you can vary it whenever you need to.

### 3 Setting the upper arm-to-torso angle

① On a classic bike the angle is a very small one, the upper arms run almost parallel to the torso and the hands sit loosely on the handlebars (no supporting work).

② On a city bike, a 75-80° angle is a good guide. But many people prefer a smaller angle, down to about 60° (less supporting work for the shoulders/arms/hands).

③ In a typical trekking style, the angle should optimally be about 90° (good load distribution). At 90° the supporting work of the shoulder, arm and back muscles is reduced.

④ Road racers and mountain bikers, on the other hand, often ride at an angle of more than 90° to achieve a very aerodynamic position. The shoulders, arms and hands have to do a lot of work here, the supporting muscles of the back are very much involved and the pressure in the seat area shifts forward.

The upper arm-to-torso angle is mainly set by adjusting the length and the angle of the handlebar stem (see illustrations on the left; the angle is also partly determined by the shape of the handlebar).



Angle approx. 20°  
... typical classic bike style



Angle approx. 60°  
... typical city bike style



Angle approx. 90°  
... typical trekking bike style

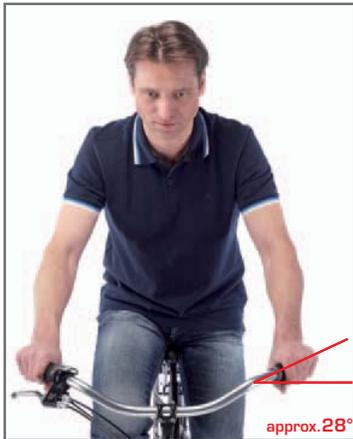


Angle approx. 90°  
... typical sporting bike style

### 4 Check the overall system

Setting the handlebar could change the position of the pelvis on the saddle. This can have a major effect on the position of the hip joint and shorten the useful leg length at the saddle by up to 3 cm. So, check the saddle height and position once more and readjust the saddle if necessary. A subsequent readjustment of the saddle may be necessary.

# Flat or curved? Choosing the **right** handlebar.



City bike position



Trekking bike position



Sporting position

## 1 Determining the handlebar width

The handlebar should be at least as wide as your shoulders. The width is measured from center-to-center of the handgrip position (palm rests). Even if this distance is the same, a curved handlebar will be slightly narrower than a flat handlebar.

The broader a handlebar is, the better control it offers but requires more effort in the process. Particularly on well-loaded touring bikes and on tandems, a broader handlebar is a good idea for safety reasons. On the other hand, a broader handlebar is less aerodynamic, as it puts up greater resistance to the air when riding fast.

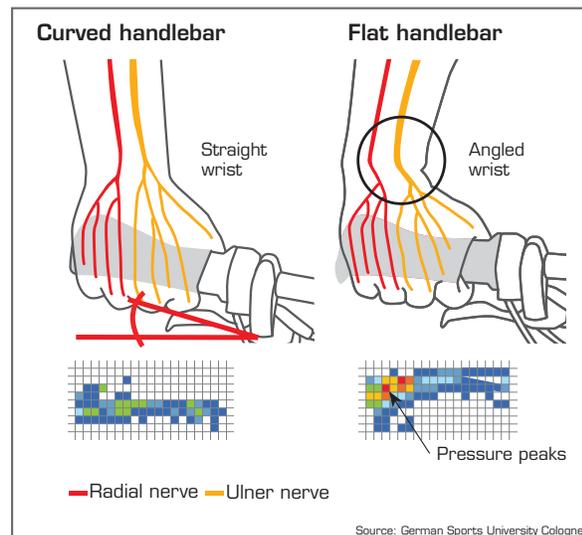
## 2 Selecting the hand position

The hand rests best on the handlebar when the lower arm and the hand are in a straight line, i.e. the wrist is not angled. In this position, the ulner and the radial nerves run straight and therefore pain-free.

Many sport physicians therefore advocate curved handlebars. The wrist is less strained and the carpal tunnel (the nerve tunnel on the palm side of the hand) is not squeezed.

The narrower the shoulders are, the greater the curvature of the handlebar should be – up to 28 degrees (see illustrations at top).

Flat handlebars are more suitable for sporting bikes, such as mountain bikes. They provide more direct steering control but also cause pressure peaks (see illustration of measurement data), thereby placing a greater strain on the arm and shoulder muscles.

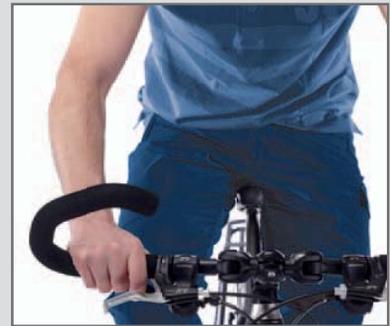


■ A handlebar is a key element when it comes to the looks of a bike. So people often choose handlebars for esthetic reasons. But a handlebar should primarily be selected for its function, not for its visual impact. The handlebar must suit you in three ways: it must match your riding style, your physical fitness and your performance capability. The best choice is a well-adapted „steering system“ with a multifunctional handlebar that you can easily adjust to variable positions.

### 3 Dynamic riding = changing hand positions

You can easily avoid hand strain and fatigue. Ride dynamically and keep changing your hand position as you ride! For your own comfort and particularly for the good of your hands on long rides, you should choose a handlebar that allows different hand positions. There are two general options here.

#### Option 1: Multi-position handlebars



Multi-position handlebars are ideal for „dynamic“ riding. The curved ends, also known as cow horns, offer a variety of different hand positions. Actively changing hand positions with different tension levels is an ideal way to relax your hands on a long-distance ride.

#### Option 2: Bar ends



On normal handlebars, additional horns - known as bar ends - do the same job.

There are grips with integrated bar ends. And bar ends can also be attached to many handlebars and grips.

Adjustable bar ends are especially useful. They have an ingenious ball-and-socket joint which allows you to customize the position - this is particularly helpful on curved handlebars.

**Correctly adjusted bar ends:** hand, elbow and shoulder are all aligned when the hand grips the bar end.

## 1 Finding the right handlebar



Ergotec handlebar XL with ergotec grips [AKSB-09]. Adjustable stem [Octopus] with Up&Down adapter. The height of the handlebar can be varied at will.



Getting the adjustment right helps!

## Being able to adjust the handlebar height offers you the full range of options.

A height-adjustable handlebar? Why not! The idea isn't new - think of the steering column in modern cars. On a bicycle this is possible too! In fact, it's even more important because a cyclist's muscle power acts as the engine. So your posture needs to be precisely matched.

The adjustment of the handlebar determines how far the torso is inclined. The torso inclination, on the other hand, decides which muscles are called upon and to what extent. Pain in the neck, shoulders and back is an indication of one-sided, i.e. uneven,

loading. The work of the muscles must then be more harmoniously distributed whereby it is important to remember that in terms of body height, proportions and performance capability every person is different.

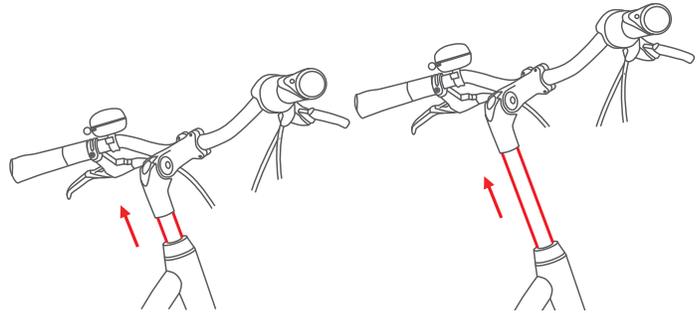
A steering system that offers a wide range of adjustment options is therefore a major advantage because it is then relatively easy to customize your bike by accommodating personal requirements. The cyclist who rides pain-free, rides for longer. Because you are riding longer distances and more frequently, your riding style will change. A variable steering system can be adjusted in an instant!



Classic handlebar stem

**Left.** Bike with shaft stem: the shaft and stem are permanently connected as one single component that is clamped into the fork tube. The stem and shaft cannot be replaced individually, only together as a single unit.

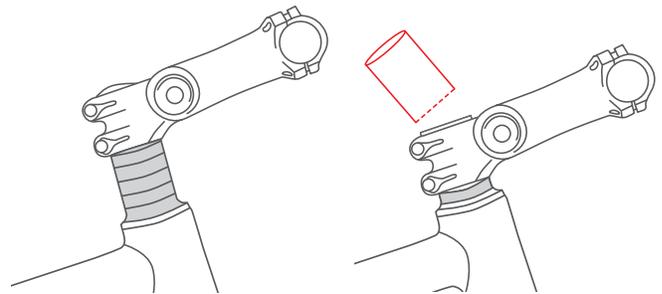
**Right.** The handlebar is raised by extending the stem shaft upwards. This is usually only possible within a small range. The solution: stems with an extra long shaft (quill) which can be extended significantly further.



Ahead stem with spacers

**Left.** Bicycle with „ahead“ stem: the stem attaches directly to the fork tube that towers above the frame.

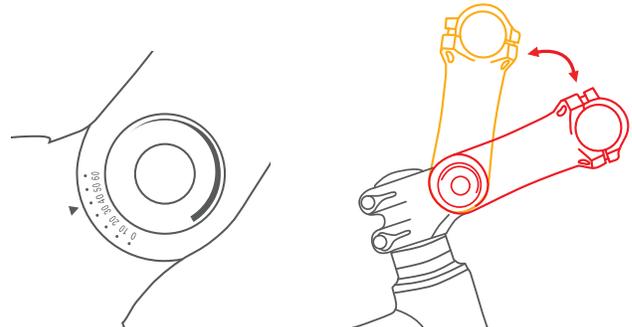
**Right.** The handlebar height is set once using spacers of varying thicknesses. The protruding length of fork tube is then removed, after which time the handlebar stem can no longer be extended to increase the height.



Stem – with adjustable angle!

**Left.** Bike with angle-adjustable stem. This solution is available with different stem lengths for both quill stems and ahead stems (ill.)

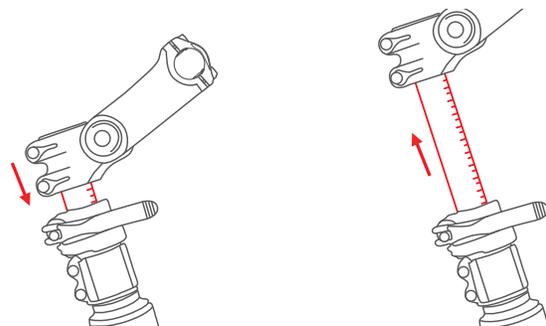
**Right.** When the angle of the stem can be adjusted, this allows the height of the grips as well as the distance of the handlebars to the saddle to be precisely „fine-tuned“. Note: this also alters the distance of the torso to the handlebars!



Adapter – height adjustable!

**Left.** Bike with „ahead“ stem: The ergotec Up&Down adapter is fitted to the fork, with the ahead stem, as usual, mounted on top.

**Right.** The handlebar height is infinitely adjustable by 100 mm – also when using an ahead stem. With the ergotec Up&Down adapter this is possible at any time without the need for any tools.



## 2 Finding the right handlebar



AHS handlebar Superlight: the angle of the grip can be adjusted to meet individual requirements. Grip MF1: the slight elevation at the end of the grip effectively prevents the hand from slipping off the end. It is ergonomically shaped and individually adjustable.



Getting the adjustment right helps!

# The handlebar shape and grips bring the hands into the optimal position.

If a garden hose develops a kink, the flow of water is interrupted. A similar thing happens when nerves and blood vessels are unnaturally and permanently compressed. Where cyclists are concerned, the hands in particular are at risk. A sensation of tingling and numbness can then be experienced.

The ideal countermeasure: the right handlebars support the wrists and hands in their natural posture, preventing them from being bent in any

direction. Here the right handlebar width and angle as well as the support of the wrists by the grips are crucial.

The pressure load plays a key role too. Just think about your buttocks! We stay seated for much longer on a well formed seat than on a narrow board because the pressure is evenly distributed. The same applies to the hands on the handlebar of a bike. This is where enlarged and anatomically shaped ergotec grips can be a real help!

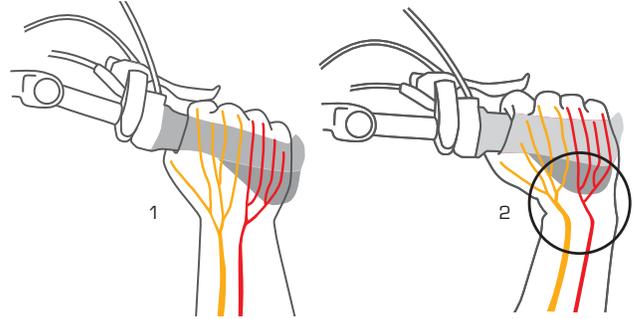


AHS handlebars – freely adjustable!

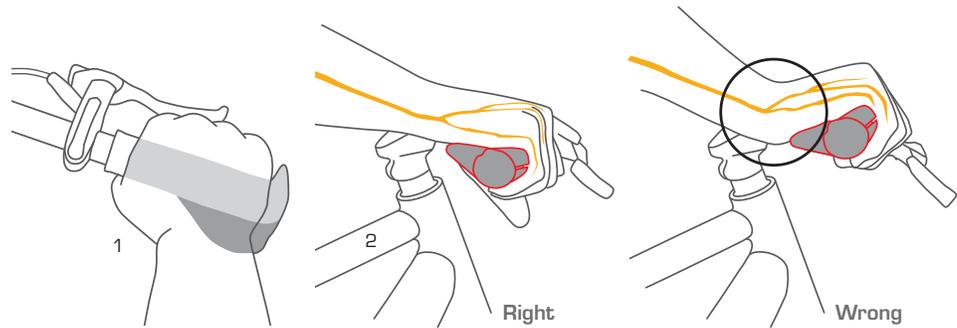
**Left.** Ergonomically adjustable handlebar: with the AHS handlebar system the handlebar angle can even be adapted to meet individual requirements.

**Right, ill. 1. Correct adjustment:** Lower arm and hand in alignment. The wrist is ideally stabilized. The nerves and vessels run freely without being bent or compressed.

**Right, ill. 2. Possible causes of pain:** The „flat sporty“ handlebar position has been selected. The wrist is under greater strain see also page 10).



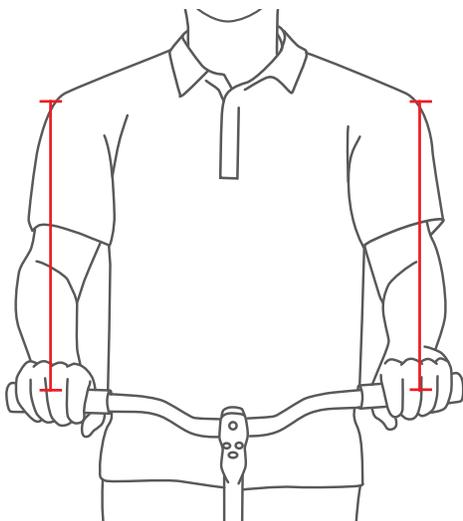
Ergonomic grip



**Top.** On larger and anatomically shaped grips the pressure is better distributed.

**III. 1.** Ergonomic grip: The palm of the hand lies on the anatomically shaped grip. An enlarged contact area allows the pressure to be more evenly distributed. There is no compression of the nerves and vessels in the carpal tunnel running along the palmar side of the wrist.

**III. 2.** Attention: Bring the grip into the correct position and fix in place. This will ensure that the nerves and vessels in the wrist don't get bent.



**Ergonomically correct handlebar width.** Handlebar width equals shoulder width (distance between shoulder joints, on the handlebar distance between the middle of the hands). The broader the handlebar, the greater the angle of the grip. The special ergotec handlebar series has been developed to accommodate these greatly varying physical requirements. Ask your specialist bicycle dealer.



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

### 3 Finding the right handlebar



Ergotec handlebar XXL combined with ergotec grip [AKSO7] and bar end EVO-Touring. Rotatable around 360°, it can be fixed in any position. The angle can be adjusted via the ball-and-socket joint.



Getting the adjustment right helps!

## Multi-position handlebar: It's best to ride dynamically.

Whenever joints and muscles are forced to adopt a rigid, tense posture, they are subjected to one-sided stress. This leads to fatigue and ultimately pain.

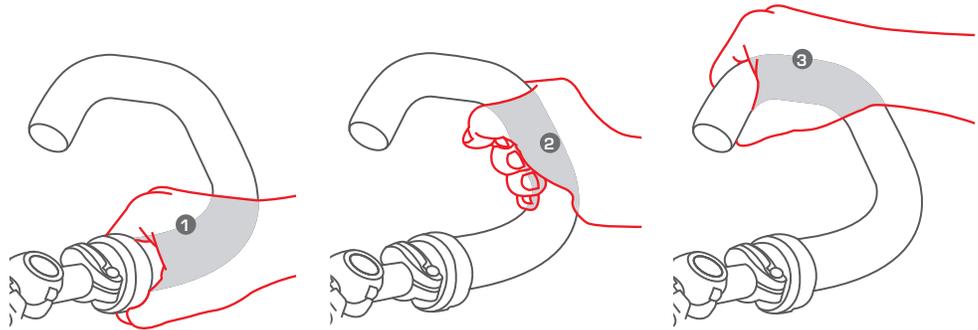
If you want to cycle right, make sure you move the entire body and never stick to one basic posture. For instance, it can be helpful to ride a short distance out of the saddle. This takes the pressure off the buttocks and the entire body then „swings“ in a completely different rhythm.

Particularly hands, arms, shoulders and the neck benefit from deliberate changes in posture. The best handlebars are those that encourage you to frequently vary the position of the hand on the grips.

The classic multi-position handlebars have proven their worth in this respect. But also normal handlebars – when combined with ergotec grips and bar ends – are well suited to encouraging cyclists to ride dynamically and in a more body-conscious manner.



**Top.** The multi-position handlebar. The ideal solution when it comes to varying the position of the hands and the inclination of the torso while cycling. See also the large illustration on page 18.



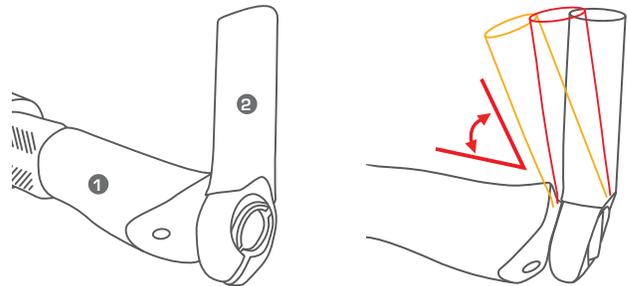
- ① When the hand grasps the lower part of the grip, the torso is more inclined and the fingers are close to the brake lever.
- ② When the hand grasps the middle part of the grip, the arm and wrist adopt a naturally upright and relaxed position.
- ③ When the hand grasps the upper part of the grip, the torso is upright and the basic posture is relaxed.



Ergotec grip, straight bar end, adjustable!

**Left.** Ergotec grip combined with bar end (cow horn), both elements covered in real leather.

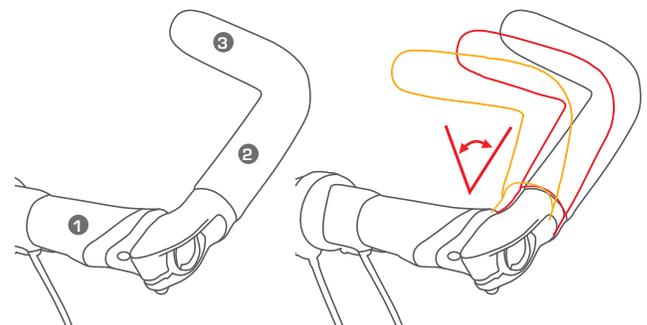
**Right.** The position of the grip can be altered. This relieves the pressure on the wrist and hand and prevents numbness in the fingers. The angle of the bar end can be individually adjusted via the patented ball-and-socket joint.



Ergotec grip, bent bar end, adjustable!

**Left.** Ergotec grip combined with large bar end „EVO Touring“. Illustration shows the foam-covered model, a leather version is also available.

**Right.** With a choice of three positions, this combination is just as effective as a multi-position handlebar. The angle of the bar end can be individually adjusted via the patented ball-and-socket joint.





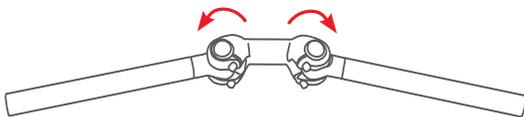
A pain-free ride.  
Your online guide to cycling ergonomics.



AHS-Superlight, freely adjustable grip angle.  
As a grip the MF2 model is mounted with palm rest and bar end.

## AHS. The steering system that makes any adjustment possible.

No other handlebar offers such versatility of adjustment as the AHS steering system from ergotec. You can vary the grip position and in two to three versions individually adjust the grip angle in addition. You can choose whatever grip you want: you decide whether you want to ride with ergonomic grips (also with bar end) or with multi-position grips. Compatible with all the usual shifting levers.



### AHS-Superlight

The grip angles can be individually adjusted. It is possible to fit virtually any grip and bar end. Compatible with all shift and brake systems.



AHS-Superlight combined with real leather grip and rotary shifter – almost anything is possible!

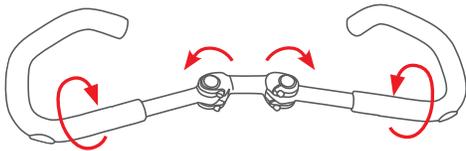


### Transport? No problem!

In the transport position the handlebar with angle-adjustable grip can be completely folded in. Ideal for transporting on the car roof rack or for space-saving storage in the garage.



AHS-Premium, freely adjustable grip angle. Shown here with special ahead stem for different handlebar heights (clamping height 60-125 mm).



### AHS-Premium

The grip angles can be individually adjusted. Multi-position grips with individually adjustable angle.



### AHS-Basic

Lightweight multi-position handlebar. Two designs to choose from: Comfort or sport. Grips with individually adjustable angle.



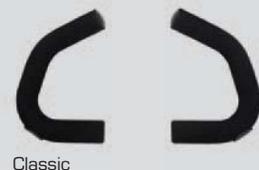
Simple, extremely safe mounting of the grips. Major advantage of these „attachable“ multi-position grips: It's no problem to also attach rotary shifters!

### Choice of three different grips

The grip versions for the AHS-Premium and AHS-Basic. One of three grip designs can be chosen to meet individual requirements.



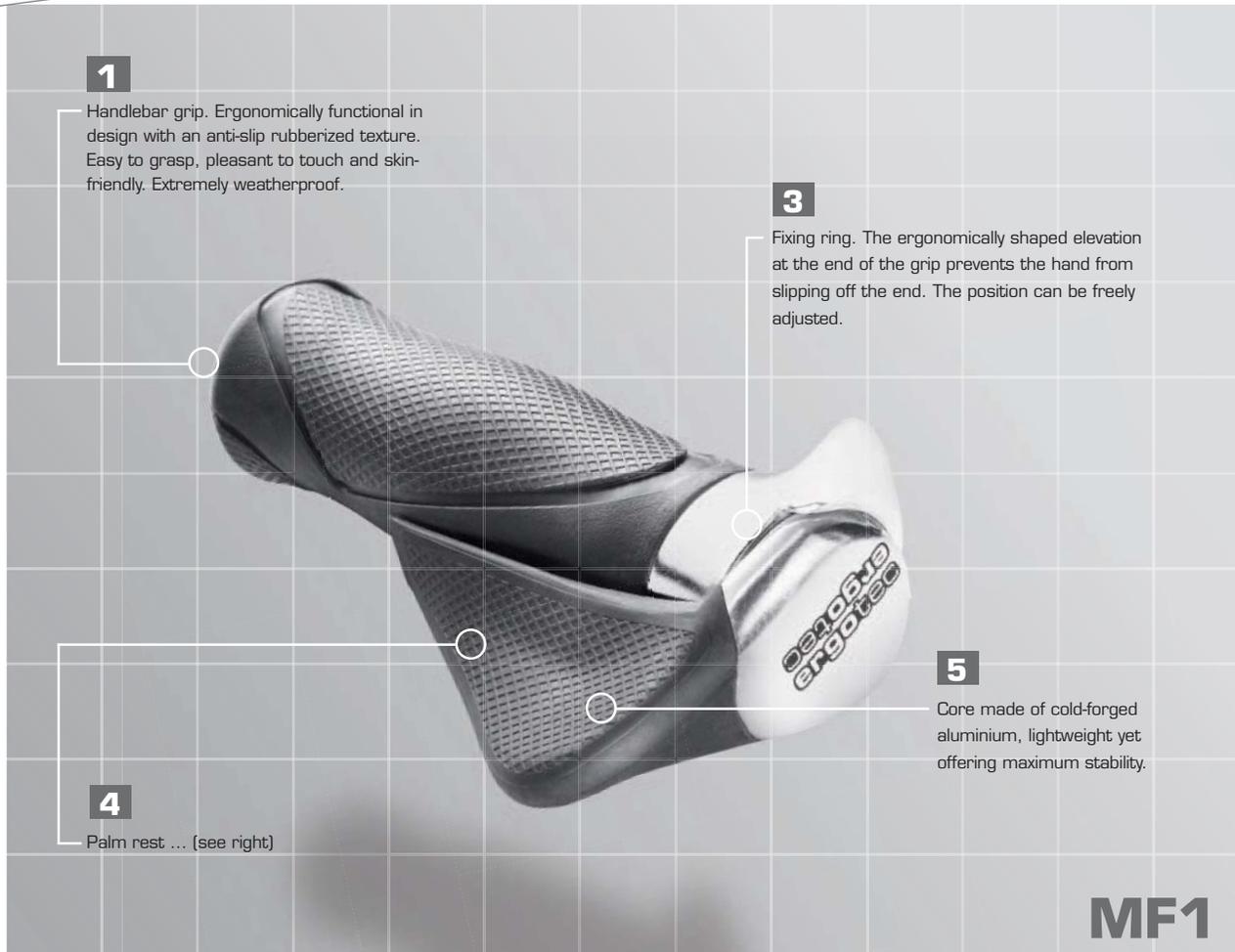
Comfort



Classic



Sport



## MF Series. New ergonomic grips.

The aim is to distribute the pressure on the hand and fingers over a large surface area. Here it is crucial that the support for the palm of the hand can be individually adjusted! If the wrist can be „stabilized“ in this way, then the nerves and blood

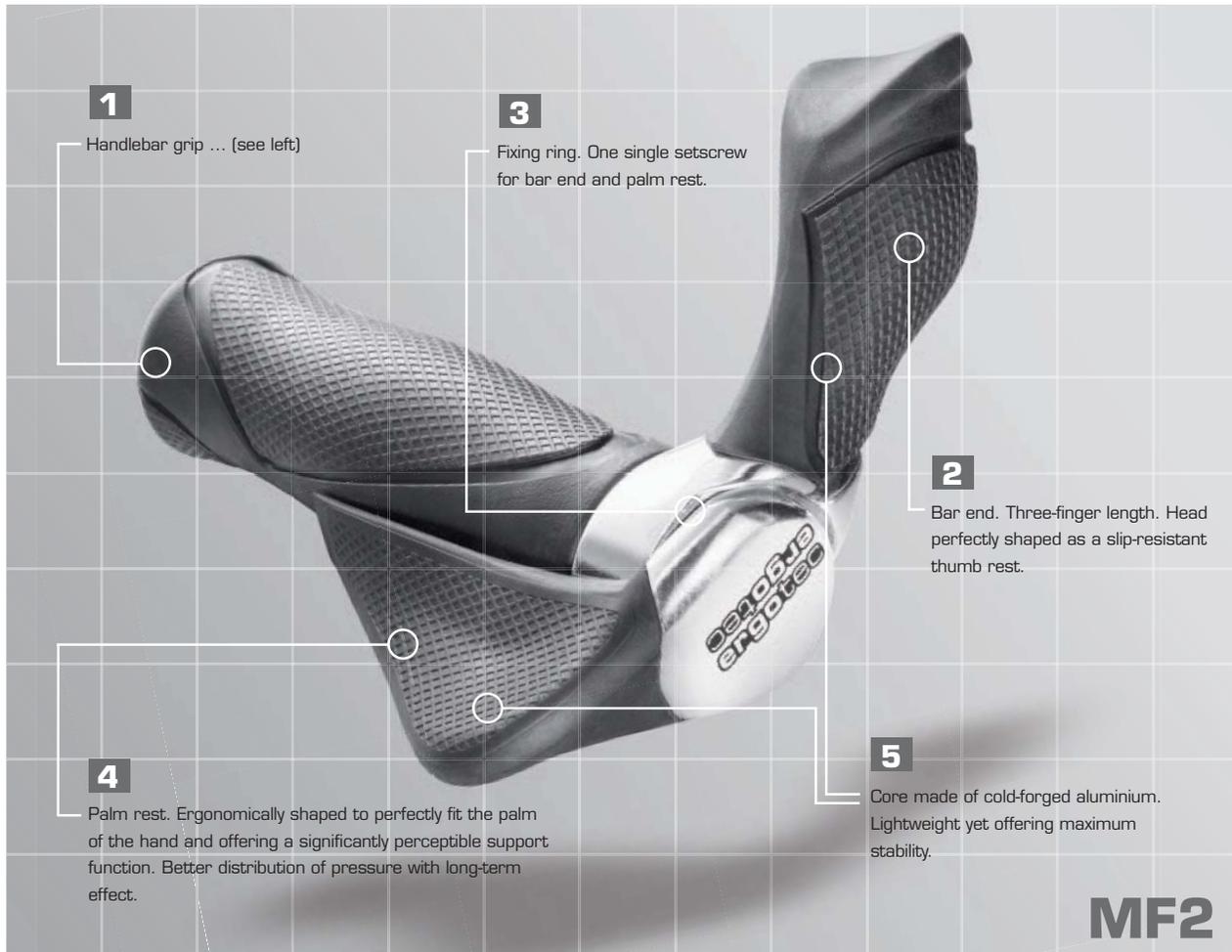
vessels will not be compromised even when riding longer distances. What is unique about the MF series is the two-fold flexibility: firstly, the palm rest, grip and bar end can be freely adjusted in relation to each other.



Compatible with any gears. The MF series is available with long or short grip. The short grip is always used whenever a bike has gears with rotary shifters.



Only a single clamp bolt needs to be tightened to 10 Nm! Even when greater force is exerted, the palm rest and bar end stay safely and securely seated. Tool: Allen key 4 mm.



Secondly, the grips can be used as classic monogrips or thanks to the perfectly integrated bar ends as multi-position grips. In terms of the ergonomics the bar ends are extremely effective:

not only the hands benefit from a minimal change of posture, but also the muscles in the arms, shoulders, neck and back because they are then stressed and moved differently.



**Open for riding style** and individual customization. Simply retrofit bar ends – or just as simple „build back“.  
**Straightforward replacement** in the case of damage or wear: only the damaged module needs replacing!



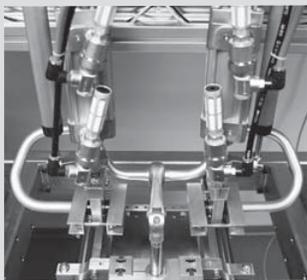
A pain-free ride.  
Your online guide to cycling ergonomics.



At Humpert we have been inventing, improving and manufacturing bike parts for over 90 years - and are now into our fourth generation as a family-run company. Hardly anyone in Europe can offer such a large range of „cycling right“ parts as we do – manufactured in excellent and ecologically responsible quality.

Cycling is right on trend. Because it helps people to keep fit, have fun and stay healthy. Because it is the most economical and ecological individual transport mode for short distances – especially in such a densely populated country like Germany. We will continue to make our contribution to the future of the bicycle – as the specialists in bike steering systems.

Wilhelm Humpert



The ergotec test center: every model has to pass rigorous tests.

## Tips to make things easier.

### ■ Manufacturer's specifications

The manufacturer's specifications, such as the frame height, only give a first rough guide to finding the right bike for your personal needs. Measuring methods and size specs are not standardized and can vary quite considerably. The important thing is not the specified frame size, but that the bike should fit you! Every bike should therefore be „tried out“ for size.

### ■ Listen to what your body tells you

If you start developing aches and pains when cycling, then you should do something about that at once. If a new adjustment doesn't bring an improvement after a few kilometers, then it should be changed. If the handlebar, saddle or grips still don't feel comfortable after trying out several different adjustments, they should be replaced. Ask your bicycle dealer to advise you!

### ■ Don't alter too many things at once

Wherever possible, adjust just one parameter at a time. This will help you to recognize cause and effect more easily and find the best setting without taking too many „detours“.

### ■ Pedal right

Dynamic cycling means pedaling dynamically. Make sure you pedal smoothly and rhythmically, avoiding heavy gears and making active use of the gear-shifting options offered by your bike.

### ■ Take breaks

When you are out on longer runs, make sure you give different areas of your body a chance to relax. Get off your bike and walk a few meters every now and then. Change your hand position on the handlebar or simply shake your hands out one at a time.

### ■ Tools

If you need tools to adjust bike parts, use high-quality ones. That way you won't damage your bike or get annoyed, and you'll be able to work faster and with greater success. Check that all threaded connections are properly seated.

### ■ Handlebar movement

Every time you adjust the handlebars, grips or stem, check whether the shift and brake cables are long enough to be able to steer freely. If the cables are too short this can make it difficult to steer safely and could even lead to an accident.

### ■ Almost anything is possible

If the frame size of the bike roughly fits you, ergotec bike parts can help you to make virtually all useful adjustments. In addition to the actual system parts, there are a number of adapters to match the specifications of different bike frames. Your ergotec dealer has the complete ergotec catalog showing the whole spectrum of possibilities.



Your ergotec bicycle dealer will be happy to help you.

Let us perform the ergotec **Handlebar Check** for you – of course with good advice and practical help included!

**ergotec**

## Handlebar Check

We check to see whether: your steering system is technically OK.

More safety	Technical testing		
	ok	Replacement recommended	defective
Handlebar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storage control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grips	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar Ends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments

We assess whether your steering system can be improved upon.

More ergonomics	That's possible.		
	Replacement recommended	Can be fitted	Cannot be fitted
Better handlebar shape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better stem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better grips	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar ends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Handlebar height adjustable  possible  with longer cables  not possible

Comments

We ascertain whether the saddle and handlebars are optimally adjusted.

More cycling fun	Check setting.	
	OK	Corrected
Saddle height	<input type="checkbox"/>	<input type="checkbox"/>
Position of handlebar	<input type="checkbox"/>	<input type="checkbox"/>
Position Griffe	<input type="checkbox"/>	<input type="checkbox"/>
Position Bar Ends	<input type="checkbox"/>	<input type="checkbox"/>

Name: \_\_\_\_\_  
Bicycle: \_\_\_\_\_  
Your ergotec bicycle dealer

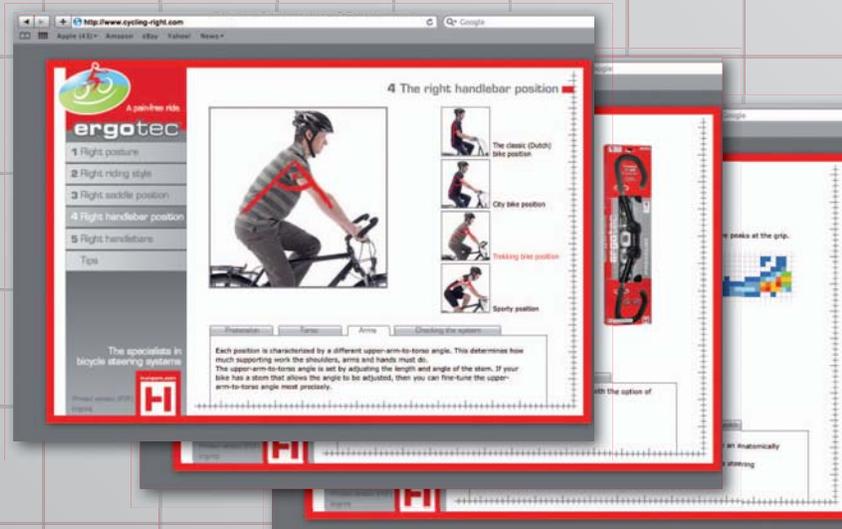
Kumpert: \_\_\_\_\_ Signature: \_\_\_\_\_



Taking the time to adjust your bike correctly is definitely worthwhile.

## Riding a bike shouldn't be painful!

Dr. Achim Schmidt Cycling sports expert at the German Sports University Cologne



Your ergotec bicycle

[www.cycling-right.com](http://www.cycling-right.com)  
All tips online!

We perform the  
**handlebar  
check** for you

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Pro Fahrrad ist eine Initiative  
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