



User Manual (EN)

muli motor st+px

muli



**muli motor st+px
User Manual**

**designed for
daily urban life...**

With the muli, you have acquired an innovative quality product that opens up completely new possibilities in everyday use. This manual will introduce you to the use of your muli.

Important!

Read the following instructions carefully before use, even if you are already an experienced cyclist and keep it for future reference.

The muli is a special bicycle and different in its construction and its riding characteristics from conventional bicycles. Remind riding a bicycle is a potentially dangerous activity – you should be aware of this. Be sure to read the sections „Before the first ride“ and „Before each ride“ before you take your first ride on your muli.





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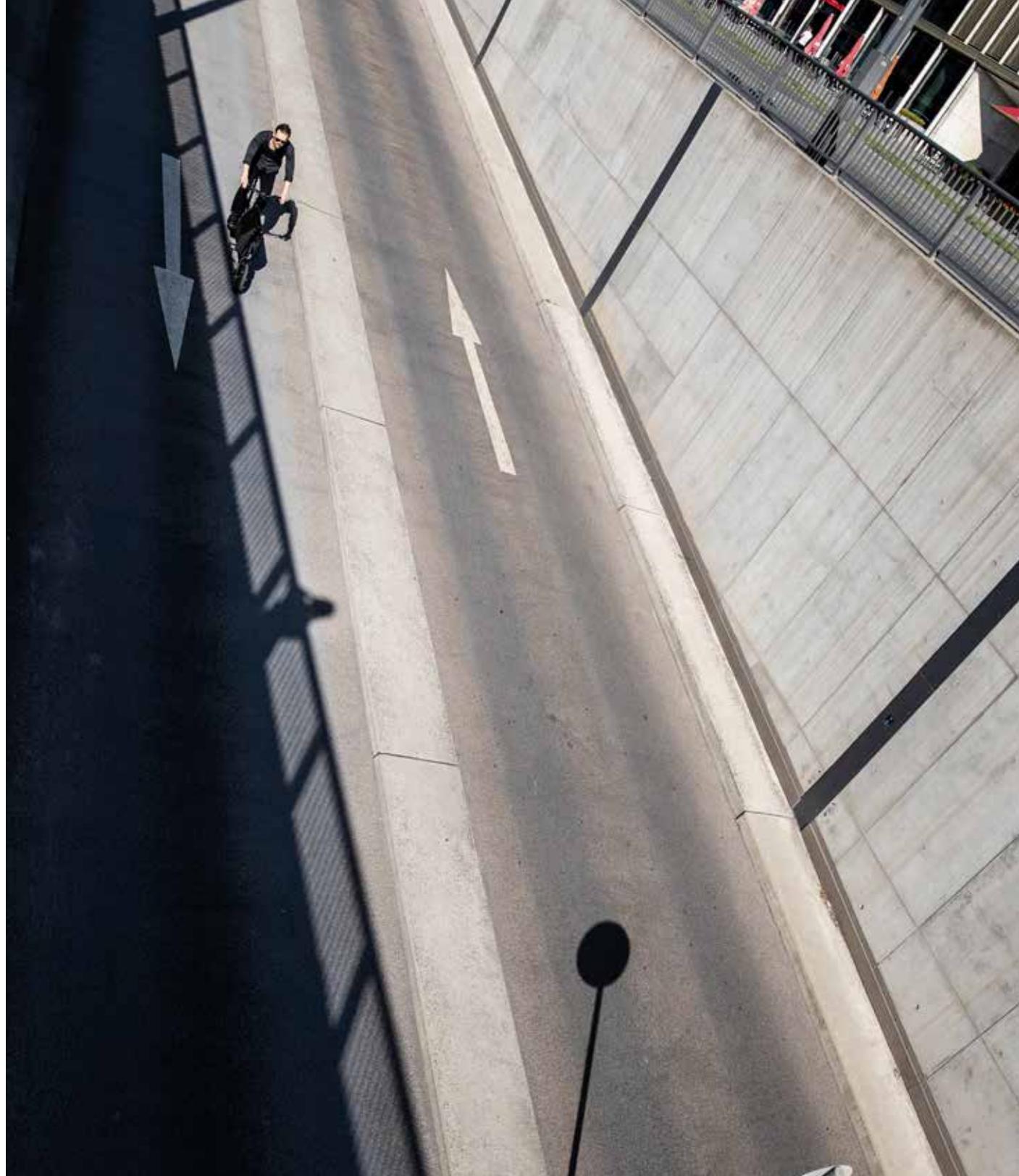
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Safety instructions



muli

General safety instructions

Symbols used in this Manual



Caution!

Indicates information that requires special attention.



Warning!

Warns you of misconduct that may result in minor personal injury and property damage.



Danger!

Indicates possible serious personal injury up to death



Danger of burning!

The temperature is above 45° (coagulation of protein) and can cause burns in humans.

The company multi-cycles GmbH is not liable for errors or omissions in this document. No liability or warranty is assumed if the e-muli is used beyond the intended use. Warranty and liability are void in case of non-observance of the safety instructions, overloading, assembly errors, accidents, intentional misconduct, tampering with the electrical system, non-compliance with the specifications for maintenance and care.

The e-muli is primarily a bicycle for urban areas. It is therefore designed for use on paved bike paths where the tires remain in constant contact with the ground. It is not suitable for rough terrain, high-speed descents, jumps, or riding with extreme lateral positions.

Please adhere to this usage recommendation, otherwise you risk exceeding the load limits of the e-muli and causing damage to the frame, basket and fork.

The information on maintenance and servicing as well as the proper operation of the e-muli in these instructions are part of the intended use.

Intended Use



The instructions and warnings in this manual refer exclusively to the e-muli and are not transferable to other bicycles. This manual does not impart the skills of a professional bicycle mechanic. If you want to make changes to the basic equipment of the e-muli, consult a professional bicycle repair shop and have these changes professionally checked.

Note that this manual cannot teach you how to ride a pedelec like the e-muli. To learn how to ride the e-muli, proceed carefully, practice riding on quiet and traffic-free paths until you feel confident and can keep the e-muli under control. Before using your e-muli, read the enclosed Shimano manual completely. Be sure to follow all safety instructions in the Shimano manual.



Even in the case of commercial use, it is essential to observe the load limits specified in this manual and, if applicable, on the frame and components must be observed.



Also, and especially in the case of commercial use, the checks listed in the chapter „Before each trip“ must be carried out before each trip. This will ensure that you notice increased wear or possible damage due to intensive use in good time.



Before performing any work on your e-muli such as maintenance, repair, assembly or transporting it, switch off the drive system and remove the battery. There is a risk of injury if the drive system is activated unintentionally.

Safety instructions



Adhere to this usage recommendation for intended use, otherwise you risk exceeding the load limits of the e-muli and causing damage to the frame, basket and fork. In addition, improper use will result in the loss of all warranty claims.

The e-muli st and e-muli px are bicycles in the category of Pedelecs (Pedal Electric Cycles) or EPACs (Electrically Power Assisted Cycles). On a pedelec, the auxiliary motor turns on only when the rider pedals. When they stop pedaling, the motor also stops assisting.

The e-mulis st and px have an electric drive that provides assistance when riding up to a speed of 25km/h. The assistance automatically stops again when you reach a speed of 25km/h. Both models can be ridden like a normal bicycle even with the drive system turned off.

Keep in mind that you move faster and quieter with an e-muli than with a bicycle without electronic assistance. You can therefore easily surprise other road users. If necessary, use your bell to make yourself known in time. Ride with extra foresight.

Keep in mind that cycling in general - and especially riding a pedelec - is a dangerous activity.

We therefore recommend wearing a helmet for the rider as well as for the children who may be transported in the cargo basket.



When climbing on, note that the e-muli starts moving immediately when you step on the pedal with the assistance level switched on. To climb onto the e-muli safely, apply one of the two brakes when climbing on. The immediate thrust of the drive can otherwise easily lead to accidents.



We recommend wearing a helmet both for the driver and for the children who may be transported in the cargo basket.



Keep in mind that, like any other bicycle, the e-muli requires regular maintenance and care in order to ensure long-term suitability for riding. Check brakes, tire pressure, steering, rims and all parts that are subject to increased wear at regular intervals. More information on this can be found in the chapter „Care and maintenance intervals“ and the chapters of the individual components in this manual.



The EPAC, like all mechanical components, is subject to wear and high stress. Different materials and components can react differently to wear or continuous stress. If a component exceeds its intended service life, it can suddenly fail, possibly causing harm to the driver. Any type of cracking, scoring or color change in highly stressed areas indicates the expiration of the component's service life; the component should then be replaced.

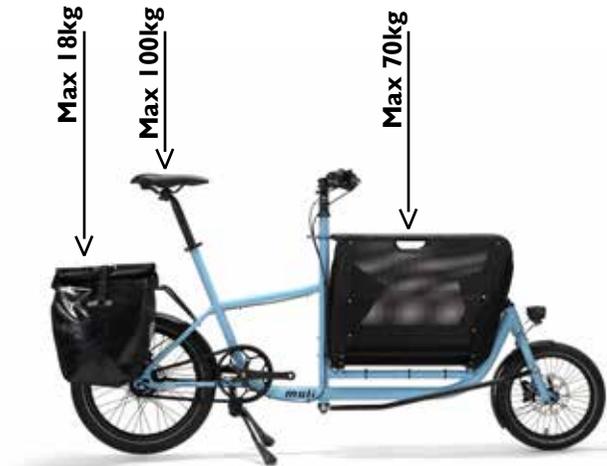
Permissible total weight

The permissible total weight of the e-muli is 195kg. This permissible maximum weight may be further restricted under certain circumstances by the component manufacturer's recommendation for use.

The permissible total weight is composed of:

- Dead weight of the muli 25kg
- + weight of the driver
- + weight of the payload

Permissible maximum load limits of the various load suspension points:



- Luggage carrier: Max 18kg
- Seatpost: Max 100kg + rider + backpack
- Cargo basket: Max 70kg

Examples of load distribution:

Example 1: 80kg driver + 33kg tare weight e-muli

According to the maximum permissible total weight of 195kg, a maximum of 82kg may be loaded here. Of these 82kg may be loaded into the load basket a maximum of 70kg may be loaded. The remaining 12kg may be partially or completely loaded onto the seat post (e.g. in the form of a backpack) or onto the luggage carrier.

Example 2: 100kg rider + 33kg own weight e-muli

According to the maximum permissible total weight of 195kg, a maximum of 62kg may be loaded here. These 62kg may be loaded completely in the load basket or distributed between the load basket and the luggage carrier, whereby the luggage carrier load may not exceed 18kg. On the seat post, however, no further load may be applied here.

Note on the suspension seatpost:

The suspension seatpost in our program is equipped with a spring for a **maximum rider weight of 85kg**. For higher rider weight you must resort to a non-suspended seatpost or retrofit a spring with higher permissible total weight.



Note that the e-muli is not approved for the mounting of child seats on the seat tube or even the seat post. The attachment of such child seats can lead to deformation of the frame.

Frame number/serial number

The frame number is stamped into the frame and is located at the marked position in the picture.



Trailer

The muli is not approved for the use of trailers.

Vibration loads

When using a cargo pedelec such as the e-muli st or e-muli px, the rider's body may be exposed to vibrations. When riding a cargo pedelec, vibrations can be transmitted in particular via the buttocks to the back and passed on to the entire body.

The decisive factor for the extent of the vibrations is the road surface on which the rider is riding. Accordingly, riding over cobblestones is more stressful than riding on paved roads.

Consider the following correlations:

- The higher the speed, the higher the level of vibration.
- The lighter the rider, the higher the vibration load.
- The highest vibration levels are reached in the unloaded state.
- The load of the whole-body vibrations is stronger than that of the hand-arm vibration. In the case of whole-body vibration, the limit values are reached in a shorter time.
- The lower the tire pressure, the lower the vibration load.

Exposure to whole-body vibrations can be prevented with a saddle suspension system, which is standard on the muli st. Such a saddle suspension is also recommended on the muli px. This option can be selected when ordering or retrofitted independently after purchase.



The short scenes from our crowdfunding video from spring 2017, in which the muli is moved on the rear wheel (so-called wheelie), are advertising images and do not present a recommendation for use and imitation. Riding on the rear wheel does not represent intended use.



The permissible total weight of the e-muli is 195kg. This means that the weight of the bike, the rider and the load must not exceed 195kg. A maximum of 100kg may be applied to the seat tube, and a maximum of 70kg may be applied to the load basket. These load limits must not be exceeded under any circumstances. By overloading, you risk damaging and breaking the e-muli. This can result in serious falls and accidents.



Never open the electric actuator yourself. By opening the actuator, you risk damaging it permanently. Repairs to all parts of the electric actuator may only be carried out by qualified persons and only with original spare parts. Unauthorized opening of the electric actuator will void the warranty and guarantee.



Never immerse the battery in water or clean it with a water jet. There is a risk of a short circuit, which can cause a fire hazard. Do not place the battery on wet contacts of the battery holder.

Legal requirements

To use the e-muli on public roads, you must comply with the applicable legal requirements of the country in which you intend to travel. Inform yourself about the corresponding country-specific laws.

In Germany, the Road Traffic Licensing Regulations (StVZO) stipulate three points:

1. The bicycle must have two independently functioning brakes.
2. The bicycle must have the following lighting devices:
 - I. White front and red rear lights that cannot be turned on together.
 - II. One white front reflector
 - III. One red Z-reflector at the rear
 - IV. Side reflectors on the wheel, either in the form of reflective rings around the entire circumference of the wheel or two spoke reflectors per wheel.
 - V. Two yellow reflectors per pedal, facing front and rear.
3. The bicycle must have a bright sounding bell.

The German StVZO is continuously revised and updated. Inform yourself regularly about the current status of the legal situation in Germany.

For participation in public road traffic in Austria, you must comply with the 146th Regulation / Bicycle Regulation. You can find this in the Federal Law Gazette Austria.

In Switzerland, the valid regulations are in the ordinances on the technical requirements for road vehicles in articles 213 to 218.



Inform yourself in each country in which you are driving your e-muli on public roads about possible nationally applicable legal regulations for driving with an EPAC.

Before use



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Assembly instruction

Open the cardboard box on the side of the front wheel, remove the wheel triangle and carefully pull the e-muli out of the box. Hold the e-muli in the scales while pulling it out and make sure that it does not tip over. To assemble the e-muli, first unfold the double-leg stand. This ensures that the e-muli stands securely.

Mounting the steering linkage

The e-muli is completely pre-assembled and adjusted except for a few parts. You only need to carefully fasten one screw - the connection of the steering arm to the steering linkage. It is important that you plug the individual elements onto each other in the correct order. The screw is attached to the steering linkage and prepared accordingly.

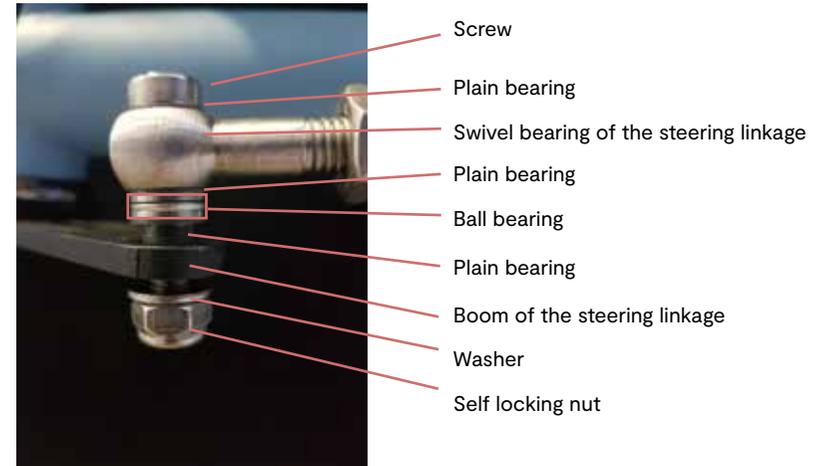


Prepared screw



Boom

1. Guide the steering tube extension and the swivel bearing head of the steering linkage over each other and put the individual parts on top of each other. To do this, simply loosen the nut at the bottom, remove the nut and washer. Then put the bolt through the extension arm and put the washer and nut back on the bolt. The slide bearing for the boom is then pressed into the boom by tightening the screw.



2. When you have prepared the connection accordingly, tighten the screw with a 6 mm Allen key and a 13 mm open-end wrench. This presses the plain bearing into the cantilever. Since this is a self-locking nut, you can adjust the heavy or light steering movement via the contact pressure of the screw. Adjust the screw pressure so that the handlebar can be turned comfortably. A very high contact pressure increases wear, a very low pressure can cause the steering linkage to rattle. Check this screw connection at regular intervals!



3. Then carry out all the instructions given in chapters 4 and 5 („Before the first ride“ and „Before each ride“).



Attention! The steering linkage is a highly safety-relevant component. Fasten this screw connection with the greatest care and ensure that the connection is firmly seated.

Assembly instruction



Check the bolts and nuts on the steering linkage before each ride. Loosening these connections while driving can lead to serious falls and life-threatening injuries.



Pull the muli out of the box extremely carefully to prevent scratches from occurring.

Mounting the pedals

On the axles of the pedals there is a small marking for the side assignment. „R“ stands for right, „L“ for left. Note that the left pedal has a left-hand thread and must be screwed counterclockwise into the crank.

Grease the pedal thread with commercially available assembly grease and screw it into the corresponding crank arm by hand. Make absolutely sure that you do not tilt the pedal when screwing it in. A pedal that is screwed in at an angle can cause massive damage to the thread. Then tighten the pedals with a 15 mm open-end wrench if the pedal has external hex nuts, or with a 6 mm Allen wrench if your pedal has an internal hex bolt. The corresponding torques can also be found listed in the „Recommended screw torques“ section.



Check the tightness of the pedals after 100km of driving.



Make absolutely sure that you do not tilt the pedal when screwing it in. A pedal that is screwed in at an angle can cause massive damage to the thread.

Mounting the bell

Mount the included bell at the desired position on the handlebar. Mount the bell so that you can reach it very quickly with your thumb without having to take your hand off the handle.



Before you take your e-muli for the first ride after the assembly has been completed, be sure to read the chapter „Before the first ride“ carefully and implement all instructions contained therein.

Adapting the e-muli to the rider



After all the adjustments described below, perform a functional test of the wheel. Follow the instructions in the „Before each ride“ section. After the adjustments have been made, test ride your e-muli in a place free of traffic.

The e-muli is only available in one frame size. The top tube sits so low that a very comfortable entry is possible and the standover height usually provides enough freedom of movement for all adult riders.



Adjusting the seat height

You can find out the optimum seat height as follows: sit on the saddle and place one leg with the heel on the pedal. The pedal should be in the lowest position for this. The saddle should be adjusted so that the leg is fully extended in this position.



Via the quick release on the saddle clamp, the saddle can be very easily adjusted in height. Open the quick release and set the desired seat height. Make sure that you do not pull the seat post out of the seat tube beyond the „MIN/MAX“ mark.



Make sure that the seat post is not too deep in the seat tube. With some seat posts, the tube tapers at the upper end and can no longer be clamped securely there.



Adapting the e-muli to the rider

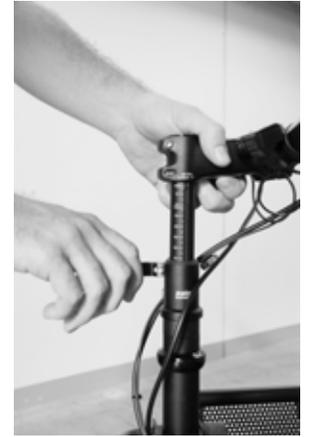
Then tighten the preload nut until counterpressure is felt at the quick-release lever from the middle of the entire lever travel and the force of the ball of the hand is required at the end of the lever travel to close the lever completely. It must not be possible to twist or tilt the saddle when the saddle clamp is closed. Align the saddle so that it is in line with the top tube.

The foot is optimally positioned on the pedal when the ball of the foot is above the pedal axle. Make sure that you can still reach the ground with the tips of your feet when sitting on the saddle.



Adjusting the handlebar height

The e-muli has a height-adjustable stem adapter, through which the handlebar height can be adjusted in height by up to 10cm with a few simple steps. Open the quick release lever on the handlebar stem and pull the handlebars up as far as you need and then close the quick release again.



Make sure you never adjust the stem adapter so that it is pulled past the min/max mark and the quick release lever is firmly closed.



The maximum load on the saddle is 100kg. This includes a backpack and other weights on the rider's body. Consider all weights that you load in addition to their own weight on the seat tube. The load limit of 100kg must not be exceeded!



The quick-release must be firmly closed and fit tightly against the seat post before you start riding. The tip of the lever must point forward when closed (see also illustration on page 29 below).



Adapting the e-muli to the rider

Adjusting the seat length and saddle angle

The distance between the saddle and handlebar grips can be adjusted somewhat by moving the seat post slide. It should be noted that moving the saddle changes the pedaling angle on the pedals.



By loosening the screw on the seat post carriage, you can also adjust the seat angle of the saddle.

To adjust the seat length and the saddle angle, you must loosen the hexagon socket screw on the saddle support carriage with an appropriate wrench and 2-3 turns. Be careful not to unscrew the screw completely. Then set the desired position and angle of the saddle and tighten the screw again. Make sure that the saddle again in a horizontal line determine.



After adjustment, make sure that the saddle cannot be twisted or tilted by pulling and pushing on the front and back of the saddle with your hands.



Under no circumstances should the saddle be fixed in a tilted back position.

Turning gear and brake levers

You can adjust the shift and brake levers on the handlebars to suit your seating and hand position. To do this, loosen the Allen screw on the shift and brake levers and turn them to the desired position and tighten the screws again.



In the riding position, test whether you can easily reach the shift and brake levers with your fingers. Also make sure that the forearm and brake lever form a line in the riding position.



After completing the adjustment, make sure that the shift and brake levers cannot be twisted.



No bar ends may be installed on the e-muli. be installed on the muli.

Adapting the e-muli to the rider

Adjusting the brake lever grip width

The distance between the handlebar grip and brake lever can be adjusted. To reduce the grip width, turn the hexagon socket screw on the brake lever counterclockwise. To increase the grip width, turn the screw clockwise.

Note that adjusting the grip width may require an adjustment of the brake pad spacing. For more information, see the „Brake system“ section.



Observe the torque specifications for handlebar, stem and stem adapter



It must not be possible to pull the brake lever through to the handlebar. The brake must engage clearly before this.

Setting the lights

The rear light is fixed to a rigid bracket and does not need to be adjusted. The front light, on the other hand, can still be tilted up and down on its bracket. Adjust the light so that the light cone hits the ground in the range 5-8 meters in front of the front wheel.



Make sure that the lamp is never tilted so that it shines upwards. This could blind oncoming road users. Falls and serious accidents can be the result.

Before the first ride

Please be sure to read this information carefully before driving your e-muli for the first time!

The muli is a special bicycle with very specific riding characteristics. Even if you have already ridden other bicycles or cargo bikes with a similar design, try riding the e-muli st or px carefully in a traffic-free, quiet place on paved paths. Do not start your first riding attempts on a surface covered with sticks, sand, stones or other debris, which makes it difficult for you to control the e-muli and thus increases the risk of falling.



Carry out their first driving tests in a place free of traffic on paved, clean, dry paths not covered with debris or sand.



The weight and weight distribution of the muli st and muli px differ significantly from the weight and weight distribution of the muli muskel or other conventional bikes without electric drive. A pedelec is significantly heavier than a bicycle without drive. Be aware that this makes it more difficult to park, push, lift and carry the e-muli in everyday handling.

Adapt to the rider

The e-muli is only available in one frame size. So that you can optimally adjust the e-muli to your respective body size, both the seat post and the handlebar stem are height-adjustable. Adjust the saddle and handlebars so that they correspond to your body size. The correct saddle height is achieved when you can still reach the pedal with your heel in the lowest pedal position. Check whether you can still reach the ground with the tips of your feet at this saddle height. For more information on this topic, see the section „Adjusting the muli to the rider“.

Ride-Off

Step over the top tube with one leg and place your foot on the ground. Do not step directly on the pedals so that the motor assistance does not start unintentionally and you lose control of the e-muli.

The electric pedal assistance makes it easier for you to start off. The safest way to start off is not to look at the basket or the front wheel, but to look at the road a little further away and start off with a strong pedal. Slow, hesitant starts make it more difficult to maintain your balance. Take your first ride on a track that allows for good straight-line driving without tight turns.



When getting on your e-muli, be careful not to pedal directly so that the motor assistance does not start unexpectedly and you possibly fall. First sit on the saddle and take a firm grip on the handlebars - now you can start pedaling.

Before the first ride

Steering response

Since the steering movement of the muli is not transmitted directly from the handlebar to the wheel, but via the steering linkage underneath the cargo basket to the front wheel, the driving behavior of the muli is very special. Familiarize yourself with the steering mechanism before your first ride by testing the steering while stationary. Usually you can hardly see the front wheel while driving (depending on whether the basket is open or closed); you will have to get used to this. Test the steering characteristics carefully in a place free of traffic.

Brake system

Familiarize yourself with the brake system of the e-muli before your first ride. The left brake lever operates the front wheel brake, the right brake lever the rear wheel brake. If you are not used to this brake lever arrangement or have previously ridden bikes with coaster brakes, it is essential that you carefully get used to this arrangement. Unintentional and incorrect application of the brakes can lead to serious falls and accidents.

The e-muli is equipped with very high-quality disc brakes on the front and rear wheel, which achieve a very high braking effect. Therefore, rehearse braking with the e-muli in detail before you ride it in public traffic.



Particular care should be taken when using the front wheel brake, as braking too hard, especially when cornering and even with a slight steering angle, can cause the wheel to slip and lead to a fall. It is best to always use the front brake in combination with the rear brake.



When transporting children in the cargo basket in particular, ensure that you brake gently and do not apply the brakes in a jerky manner. Jerky braking takes children by surprise and can lead to bruises and injuries, especially in the head and neck area.



Please note that the brakes of your e-muli are always stronger than the drive. Thus, you always have the possibility to bring your e-muli to a stop, even if the drive should unintentionally support you too strongly.



Keep in mind that the braking effect and the grip of the tires on the ground can be greatly reduced by wet conditions. Therefore, drive slower than usual in the rain and on wet surfaces and be especially careful.



If you are not used to the brake lever assignment of the muli or have previously ridden bikes with coaster, it is essential that you carefully get used to this arrangement. Unintentional and incorrect application of the brakes can lead to serious falls and accidents.

For more information on brakes, see the „Brake system“ section.

Before the first ride

Shifting

Familiarize yourself with the gearshift. The e-muli has a 5-, 8- or 11-speed gearshift. Test the shifting process on a traffic-free area. Do not shift gears under heavy pedaling, but stop pedaling for a short time during shifting. For more on shifting, see the „Shifting“ section.



Do not shift gears under heavy pedaling, but stop pedaling for a short time during shifting, otherwise you may severely damage the manual transmission.

Battery

The battery of the e-mulis must be charged before first use. Before the first ride, check that the battery is inserted correctly. Both the Pendix and Shimano batteries audibly engage. For more information, see the Battery Unit section of this manual and the drive manufacturer's system manual enclosed or on the web.

Shimano Steps system manual on the website:
https://si.shimano.com/api/publish/storage/pdf/de/sm/SHIMANO_STEPS/SM-SHIMANO_STEPS-002-GER.pdf



The Pendix drive system manual can be found on the website in the download section:

<https://pendix.de>:



Only charge your battery with the original charger supplied. Do not use a charger from another manufacturer; even if the plugs of the charger match your battery. Using a non-original charger can cause the battery to heat up, ignite or even explode.



It is best to charge the battery during the day in a dry room equipped with a smoke or fire detector. Be sure to place the battery on a non-flammable surface when charging.

Before the first ride

Operation drive

You control the motor of your multi st using the keys on the control units on the handlebars. Familiarize yourself with all keys and functions of the control units on the handlebars. Detailed information on the controls can be found in chapter 11 „Motor unit and control unit“ in this manual, in the enclosed Shimano Steps user manual series E6100 or on the net at:

Shimano Steps system manual on the website:
<https://si.shimano.com/pdfs/um/UM-79E0A-002-01-GER.pdf>



Do not operate the selector wheel on the Pendix battery while driving.

The Pendix drive is controlled directly on the battery. The drive comes without additional displays and control units on the handlebars. The three different support levels are selected via the rotary wheel on the battery. For more detailed information, please refer to chapter 11 „Motor unit and control unit“ in this manual, the enclosed Pendix system manual or on the web at:

The system manual of the Pendix drive can be found on the website in the download area:

<https://pendix.de>



Tires

Check the air pressure of the tires before the first ride. The information on the prescribed tire pressure can be found on the side surfaces of the tires. The tires on the multi are selected to have a relatively large volume, so you can achieve pleasant shock absorption when driving with a slightly lower air pressure. Always adhere to the specifications for the minimum and maximum pressure. Check the tires and rims for damage, cracks and deformation before the first ride.

Before the first ride

Cargo basket and child seat

Familiarize yourself with the cargo basket before your first ride. Open and close the basket and test the different perspective and handling of the e-muli standing in driving position. Test drive the e-muli in a traffic-free, quiet place with different loading conditions, both with the basket open and closed, before you go out on public transport with the e-muli.

If you have also purchased a child seat and want to transport your children with the e-muli, be sure to test driving with children in the basket in a traffic-free area, extensively in a safe place away from traffic. Install the child seat properly. To do so, please read the installation instructions in the „Child seat“ section very carefully and follow these instructions.

Strap the children in using the seat belts provided. Please note that even when buckled in, the children still have some room to move. Children can cause spontaneous weight shifts that make it difficult to control the e-mule. Do not transport children in public traffic until you have sufficiently practiced driving with children in the e-muli in a traffic-free location and feel absolutely safe. For more information, refer to the „Load basket“ section.



Keep in mind that even if you are wearing a seat belt, children still have some room to move. Children can cause spontaneous weight shifts that make it difficult to control the muli. Do not transport children on public transport until you have sufficiently practiced driving with children in the muli in a traffic-free location and feel absolutely safe.



Before you drive the e-muli with a payload, check the information on the permissible total weight in the Safety note in this manual.



For children transported in the cargo basket, we recommend wearing a helmet.



Make sure that loads you transport in the basket are always lashed tightly and securely.

Before each trip

You must check the following points before each trip:

1. Check all bolts, quick-releases on front and rear wheel, seat post, stem, stem adapter for secure and correct closure. Carry out these checks even if you have only briefly parked the e-muli unattended!

The wing of the quick release on the front wheel must be parallel to the fork tube with strong hand pressure.



2. Make sure the steering linkage is properly connected to the arms on the steering tube and fork. Check that the bolts and nuts are properly seated and safe. Loosening the connections while riding can lead to serious falls and life-threatening injuries.

3. Check that the spokes are intact and that the air pressure is correct. The information on the correct air pressure can be found on the sidewall of the tire.

4. Check that the brakes are working properly. The brakes must engage before the brake lever reaches the handlebars – otherwise they are set too loose and need to be readjusted. Make sure that no brake fluid is leaking at any point.

5. Make a quick visual check of the frame and the load basket connection, especially if you want to transport children. Open the cargo basket and lift up the rubber mat. Now you can see the fastening screws of the load basket and check that they are tight.

6. Switch on the drive and check the displays on the control element on the handlebar and battery for correctness. Never start the drive if a warning message appears on the display or flashes on the battery.

7. Make sure that the battery is firmly seated in its holder.

8. Check the correct function of the lighting system. If battery lights are installed, make sure the front and rear light batteries are charged.

9. Make sure that your saddle is firmly connected to the seat post. Likewise, the seat post must be firmly clamped in the seat tube. When the saddle clamp is closed, the saddle and the seat post must not be able to be twisted, tilted or loosened.

10 Make a short visual inspection on signs of material fatigue, cracks, discoloration, deformation and scratches at following spots, saddle tube, saddle brace and dropout, fork and steering tube. If you detected appropriate signs don't drive and have it checked by a professional repair shop.

11. Make sure that there is no play in the handlebars and handlebars by slightly lifting the e-muli by the handlebars.

12. If you ride with a child seat and want to transport children, check the child seat for damage before riding. Check screws, rivets, clamps, plastic belt connectors and belts for integrity and tight fit.

13. Make sure that the double leg stand is completely folded in before riding off. Caution: Risk of falling!

Before each trip



Caution, improperly closed quick-releases and screw connections can lead to components breaking and falling off and serious falls. Check the secure fit of all quick-releases, thru axles and screw connections, even if you have only parked your bike unattended for a short time. You may only ride off when all quick-releases are tightly closed.



Remember, a battery that is not inserted correctly can come loose and fall out while riding. This can damage the battery and cause falls.



A broken or loose spoke weakens the entire wheel structure and must be repaired immediately.

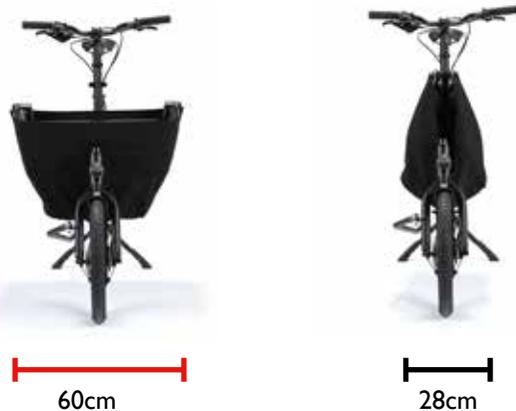
Riding the pedelec e-muli st and px

Driving characteristics

You can basically ride your e-muli st or px like a conventional bicycle. When the motor is switched on, the stronger you pedal, the more the motor supports you with its torque.

Start your riding attempts in the „Eco“ support level to get used to the drive system. Practice driving the e-muli in an area with little traffic. Practice different driving situations, such as starting and braking, tight cornering, stop-and-go driving, driving at high speed and driving on loose surfaces. In these riding situations, an e-muli differs greatly from the muli muscle or other non-motorized bicycle.

Also consider the greater width of the e-muli when the basket is unfolded. When unfolded, the basket has a width of about 60cm, providing much larger catching points than a conventional bicycle. When riding the e-muli, it is therefore very important that you keep a good eye on the lane width and always maintain a safe distance from the edge of the road or lane, especially on divided bike/pedestrian paths. Special care must also be taken when driving into driveways, through passages or other obstacles or roadway narrowings so that the wide load basket does not collide with them. It may be necessary to stop the ride, dismount and push the e-muli around an obstacle.



Keep in mind that the driving and braking behavior changes depending on the load. A high load increases the braking distance and makes short-term steering and driving maneuvers more difficult. Therefore, be particularly careful when driving with a heavy load. The braking distance is also longer when driving on sloping roads.



Avoid shifting gears under high load on the pedals. Therefore, take pressure off the pedals before shifting, otherwise the rear derailleur may be damaged.



Always consider the increased width of your e-muli when the basket is folded out. The unfolded basket forms enlarged catch points. Always drive with sufficient lateral distance to people and obstacles, otherwise you risk serious accidents.



Keep in mind: Heavy loads and driving on sloping and wet sloping and wet roads will affect the handling and braking performance of your e-muli. Heavy loads, wet and/or sloping roads increase the braking distance.

Riding the pedelec e-muli st and px

Driving with drive assistance



With your e-muli, you travel quietly and at higher speeds than with a conventional bicycle. Pedestrians can therefore easily misjudge you or perceive you too late. Therefore, ride particularly considerately and with foresight to avoid accidents. Using your bell also helps to avoid dangerous situations.

The electric drive assistance offers you a choice of three different assistance modes. On the e-muli st, you select the levels via the buttons on the control element on the handlebars. On the Pendix drive, the support modes are set via the selection wheel directly on the battery. Once switched on, pedaling activates the system and motor assistance kicks in. Sensors in the motor unit measure your pedaling movements and thus automatically control the motor assistance depending on the assistance selected.

The harder you pedal, the more support the drive provides. When you reach a speed of 25 km/h, the electronic assistance switches off.

At the beginning of using the e-muli px, you will notice that the mid-motor maintains the thrust for a small moment longer even after you stop pedaling. This is a common characteristic of the drive system. However, you will notice that after steady use, the Pendix system will adapt to your personal riding style and such effects will diminish.

You can read the battery charge level on the battery itself or, on the e-muli st, on the control on the handlebars.

Keep in mind that with an electronic assist, you will be riding faster than ordinary cyclists. Other road users may underestimate your speed.

For more information on the drive system, refer to chapter „Battery and control unit“ in this manual and to the system instructions of the drive manufacturer.



Get used to the higher speeds and accelerations of your e-muli on a traffic-free route before you venture out into traffic.



Drive with particular care in curves and on slippery surfaces such as wetness, scree or similar. The increased speeds due to the electric drive increase the risk of slipping away and falling in such situations.



When mounting the e-muli, be careful not to start pedaling before you are safely seated on the saddle and have the handlebars in your hand. Otherwise, the e-muli could start uncontrollably.



Charge your battery in good time and make sure that you do not deep discharge the battery. The rechargeable batteries do not know any memory effect and can be charged without problems at any charge level.



Only charge the battery of your e-muli with the original charger, even if the plugs of another charger should fit. There is a risk of explosion.

Riding the pedelec e-muli st and px

Range

The range of the battery is influenced by various factors. Among others these are:

- Selected support level
- Load
- Route conditions
- Weather conditions
- Tire pressure
- Individual riding style

Basically, the higher the assistance level, the higher the energy consumption of the battery and the shorter the range.

It is important not to forget to shift gears, even with an EPAC. On inclines and when starting off, always select a low gear, even if you could pedal in a high gear thanks to the electronic assistance. Shift to an appropriately low gear in such situations and you will save energy.

Some other tips that have a positive effect on battery range:

- In principle, shift gears as you would on a non-motorized bike.
- Driving with foresight and avoiding unnecessary stops also saves energy and increases the range of the battery.
- Be careful not to carry unnecessary luggage on your rides.
- Store the battery at cool temperatures indoors and mount it to your e-muli only shortly before driving.
- Do not park your e-muli in the blazing sun.

If the battery capacity is not enough to reach the destination, you can ride the e-muli without drive assistance like a conventional bike.

As a guideline for the e-muli px with the Pendix battery 300 Wh: In city traffic, with a light load and in activated Eco mode, approx. 40 km range.

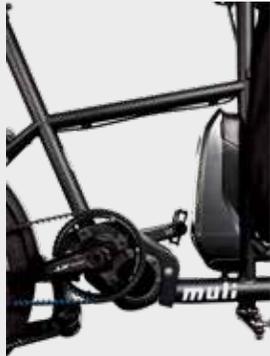
For the e-muli st with Shimano Steps battery 503 Wh: In city traffic, with light load and activated Eco mode approx. 100 km range.

Components

muli



Battery and control unit Shimano Steps battery 500 Wh



1. Place the battery on the lower holder.

2. Then swing the battery to the right into the upper holder so that the battery clicks into place.



Inserting and removing the battery

Before driving off, insert the battery into the holder provided for this purpose, which is located on the e-muli's steering tube.



To remove the battery, switch off the battery.

1. Insert the key into the lock cylinder on the battery.

2. Turn the key until you feel resistance.

3. Now slide the battery to the left at the upper end and remove the battery.



Never immerse the battery in water or clean it with a water jet. There is a risk of a short circuit, which can cause a fire hazard. Do not place the battery on wet contacts of the battery holder.

Battery and control unit Shimano Steps battery 500 Wh

Switching the drive on/off

Activate the drive by pressing the On/Off button on the battery. The LED display on the battery shows you the charge level.

More detailed information on the battery charge level display can be found in the enclosed Shimano E6100 user manual on p. 19ff. Press the button again to deactivate the drive and the LED display goes out.



Setting the support levels

The Shimano E6100 series offers you different modes of assistance with the following qualities:

Eco =

Lowest pedal assistance. Particularly suitable for journeys on level, good road surfaces without any particular gradients and with a low load. On long distances, the highest range is achieved in Eco mode.



Normal =

Medium pedaling support. Suitable for rides on tracks with alternating flat and slightly uphill sections and changing surfaces and for rides with a medium load.



High =

strongest pedal assistance, suitable for rides on challenging routes with many inclines and with a heavy load.



Go =

very light push power to help you push the e-muli. Suitable for pushing the wheel with heavy load or on heavy slopes.



Battery and control unit Shimano Steps battery 500 Wh

Off =
No support. Suitable if you do not need support from the drive or want to save battery capacity.



The drive is operated via the controls on the handlebars. The switches and display of the Shimano E7000 series are installed on your e-mulst. Additional information on these controls can therefore also be found in the Shimano E7000 user manual. You can call this up at:

<https://si.shimano.com/pdfs/um/UM-79E0A-002-01-GER.pdf>



Switch

Display



Using the buttons on the left switch, you can select the support levels and move the marker in the display menu settings.



Pressing the X button increases the support, pressing the Y button decreases the support. Pressing the Y button in Off mode will take you to Walk mode. Keep the button pressed as long as you need the push assist.

Press the X and Y button simultaneously to enter the settings menu on the display. Now you can navigate the marker in the menu by pressing the X and Y key. By pressing the function button on the display, you select a menu item. For example, you can switch the light on or off in the menu item Light.

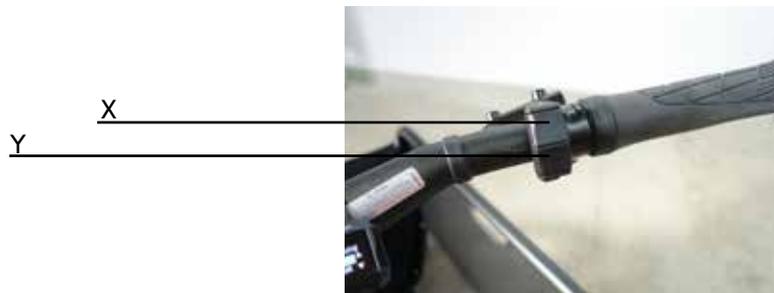


Battery and control unit Shimano Steps battery 500 Wh

We recommend that you set the light permanently to ON and also ride with the light on during the day. This will ensure that you do not forget to switch on the light in poor visibility conditions or when it is getting dark.



Using the buttons on the right shifter, you electronically shift to the various gear ratios of the transmission hub and select between automatic and manual shifting.



Press the X button to shift up one gear, press the Y button to shift down one gear. To change from automatic mode to manual shift mode. Press the X and Y button simultaneously.



The switching mode is indicated by an A or M on the top right of the display.



For detailed information on the individual driving data that can be shown on the display, please refer to the manufacturer's instructions:

<https://si.shimano.com/pdfs/um/UM-78N0A-001-01-GER.pdf>



Battery and control unit

Shimano Steps battery 500 Wh

Charging the battery

Before you take the first ride with your e-muli st, you must charge the battery. The battery is ready for use as soon as the LED on it lights up. You can charge the battery on the bicycle or remove the battery from the holder on the bicycle for charging. In either case, be sure to charge in a dry environment, preferably in a dry room. When charging the battery separately from the bike, make sure that you place the battery on a non-flammable surface during the charging process.

Only charge the battery with the original charger supplied. To charge the battery, insert

1. Insert the mains plug of the charger into the socket.
2. Open the cap of the charger. Open the cap on the battery and then insert the battery connector of the power supply unit into the charging socket on the battery.



Note that the charging time depends on the charger and the charge state of the battery when charging.

For information on error indications and troubleshooting, please refer to the enclosed system manual E6100 from Shimano from p.63ff.



Before performing any work on your e-muli such as maintenance, repair, assembly or transporting it, switch off the drive system and remove the battery. There is a risk of injury if the drive system is activated unintentionally.



Be sure to charge the battery before use.



Be sure to read the warnings at the end of this chapter „Battery and control unit“.



In addition to this information, please be sure to read the instructions for use of the E6100 series and the E7000 series of the component manufacturer Shimano! The instructions can be found enclosed in printed form or on the net at:

<https://si.shimano.com/pdfs/um/UM-78N0A-001-01-GER.pdf>

<https://si.shimano.com/pdfs/um/UM-79E0A-002-01-GER.pdf>



Battery and control unit Pendix eDrive 300



The Pendix eDrive 300 is a system with a gearless mid-motor that delivers 250 W of power. The built-in battery has a capacity of 300 Wh and weighs 2.3 kg. The total weight of the drive system including the motor is 6.9 kg.

Inserting and removing the battery

Before riding, insert the battery into the holder provided for this purpose, which is attached to the steering tube of the e-muli.

By turning the battery to the left while applying slight downward pressure, you can fix the battery on the holder. The sound of a click and a brief illumination of the LED display of the battery indicates the proper installation of the battery. However, this does not yet activate the electric drive.

When inserting the battery, make sure that the contacts and the holder are free of small objects and dirt and are also dry. The battery is removed with an opposite rotary movement.

Pull the battery vertically upwards until it is completely lifted out of the holder, the space up to the top tube is sufficient for this.

Be careful not to tilt the battery sideways before it is completely lifted out of the holder. This risks bending and breaking the connecting elements of the battery and the bracket.

If you do not want to remove the battery during shorter stops, you can secure it against theft with a safety bracket attached to the lower area of the battery. To do this, pull the steel bracket out of the battery and secure it to the bike with a suitable lock.

Switching the drive on/off

Activate the drive by pressing the On/Off button on the battery. Depending on the charge status, the LED display now lights up in either green, yellow or orange. Press the key again to deactivate the drive and the LED display goes out.

The e-muli is also functional with the electric drive deactivated. In deactivated mode, the Pendix drive causes hardly any increased pedaling resistance. Please do not operate the system while riding and always keep both hands on the handlebars.

Setting the support levels

The Pendix drive comes without display and control unit on the handlebar. All available settings are made directly on the battery. The Pendix drive has three support levels: ECO, SMART and SPORT. These define the strength of the pedal assistance. You can adjust the levels using the rotary switch on the battery. The straight line on the on/off button indicates the selected level.



Battery and control unit Pendix eDrive 300

The support modes have the following characteristics:

Eco

Lowest pedal assistance. Particularly suitable for journeys on level, good road surfaces without any particular inclines and with a low load. On long distances, the highest range is achieved in Eco mode.

Normal

Medium pedal assistance. Suitable for journeys on routes with alternating flat and slightly uphill sections and changing surfaces and for journeys with a medium load.

High

Strongest pedal assistance, suitable for trips on challenging routes with many inclines and with a heavy load.

In addition, you can also ride the e-multi px very well with the assistance switched off, for example, to save battery capacity on long distances. The switched-off drive does not produce any increased pedaling resistance.

Do not change the support levels while riding, but stop briefly to select another support mode.

For more information on assistance levels, refer to the enclosed Pendix system manual. Please also take care when setting the support levels. Please also take care when setting the support levels not to change them while riding.

Charging the battery

You can charge the battery both on the supplied plate station and without the plate station directly on the cable. To charge the battery directly on the cable, lay the battery on its side and insert the plug into the contact point of the battery.

The plug fits only in a certain position and locks magnetically. An illumination of the LED indicator tells you that the charging process has been initiated. When fully discharged, an average charging process takes about three hours.

You can charge the battery at any time and do not have to wait until it is completely discharged. The life of the battery is not shortened by this charging. The so-called „memory effect“ does not occur.



Check the battery at regular intervals to ensure that it is intact. Do not open or disassemble your rechargeable battery. Danger of explosion!



Charge the battery at an ambient temperature of 15 to 25 degrees Celsius. In winter and cold weather, allow the battery to warm up to room temperature before charging it. If, on the other hand, the battery has warmed up during operation, allow it to cool down first.

Battery and control unit Pendix eDrive 300



Only charge the battery with the original charger. Never use the charger of another manufacturer; even if the plug of the charger should fit to your battery. Using the wrong charger can cause the battery to heat up, ignite or even explode!



Charge your battery in good time and make sure that you do not deep discharge the battery. The rechargeable batteries do not know any memory effect and can be charged without problems at any charge level.



Before performing any work on your e-muli such as maintenance, repair, assembly or transporting it, switch off the drive system and remove the battery. There is a risk of injury if the drive system is activated unintentionally.



It is best to charge the battery during the day in a dry room equipped with a smoke or fire detector. Be sure to place the battery on a non-flammable surface when charging.



If you do not use your e-muli for a longer period of time (e.g. in winter), remove the battery and store it in a dry room at temperatures between 5 and 20 degrees Celsius. The battery should be charged to at least 50%. Check the charge level every 2 months and recharge the battery if necessary.



Never use a defective battery or charger.



Make sure that the battery and charger do not get into the hands of children!



Never expose the battery to fire or high heat. Danger of explosion!



Do not expose the battery or charger to direct sunlight when charging.

Battery and control unit Pendix eDrive 300



Never open the drive unit yourself. By opening the actuator, you risk damaging it permanently. Repairs to all parts of the electric actuator may only be carried out by qualified persons and only with original spare parts. Unauthorized opening of the electric actuator will void the warranty and guarantee.



Never immerse the battery in water or clean it with a water jet. There is a risk of a short circuit due to water penetration, which can cause a fire. You can clean the components of the drive system with a soft, slightly damp cloth.



Batteries must never be short-circuited. Always store the battery in a place where it is impossible for the battery to short-circuit accidentally. Do not store the rechargeable battery near another rechargeable battery, other conductive materials and objects, or near clothing.



When charging the battery, make sure that the battery and the charger do not get damp or wet, otherwise you risk electric shocks and short circuits.



Batteries may only be used in pedelecs for which they are intended.



If you park your e-muli without battery outdoors, you should protect the battery connections from rain, moisture, humidity and dirt, e.g. with a plastic bag. If the connections of the battery or battery holder are dirty, clean the connections with a dry cloth.



Remove the battery from the e-muli if you will not be using it for a long time.

Battery and control unit Pendix eDrive 300



If your battery or charger should become defective, use only original spare parts.



If your battery has reached its life limit or is defective, never dispose of it in normal household waste! The disposal according to the battery disposal law requires a proper disposal by the seller of the new battery.



Keep in mind that the battery of your e-mule wears out over the years. This is indicated by a reduction in the capacity of the battery and you will no longer get as far on one battery charge as you did at the beginning. After a certain time, the battery may even need to be replaced.



The battery on your e-muli is a lithium-ion battery. These do not have a memory effect and can therefore be recharged at any time, regardless of the current charge level, without the charging capacity suffering.



Observe the information on any stickers on the battery or charger and follow the instructions given there.

Handlebar and stem



Handlebars, stem and stem adapter must be bolted according to the torques indicated on the components. The corresponding torques can also be found listed in the section „Recommended screw torques“.

The e-muli has a height-adjustable stem adapter. This adapter allows the stem and handlebars to be adjusted in height by 10 cm. This allows the handlebar height to be adjusted to different riders but also load conditions in the cargo basket. Especially when transporting children in the e-muli child seat, this height adjustment allows the children more headroom when the child seat is mounted in the direction of travel.

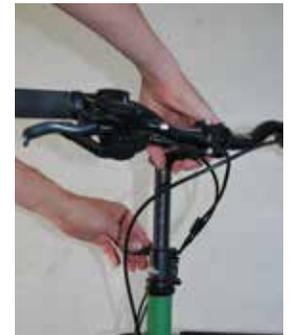
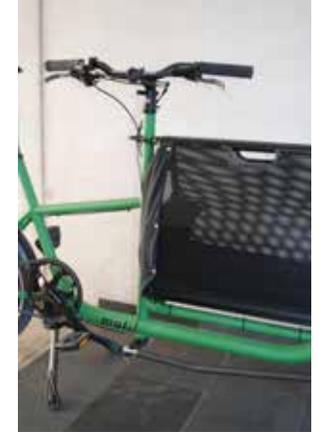


Make sure that the quick-release lever of the stem adapter is always firmly closed while riding and that the handlebars do not move in height.

Turning in the handlebar for transport and parking

In addition to height adjustment, the stem adapter also allows the handlebars to be turned in sideways, making the e-muli even more compact for parking - in a hallway, for example.

- To turn in the handlebars, open the quick release on the stem adapter, pull the handlebars up as far as they will go and turn them in sideways in this highest position.
- Hereupon you can guide the turned handlebar back down and lock it by quick release. To then turn the handlebar back to the normal riding position, guide the handlebar back to the highest position and turn it out.
- Note that the handlebar can only be turned in and back again in the top position!



Perform regular visual inspections for damage, dents, cracks, wobbling on the stem adapter. Do not ride with a damaged stem adapter. The component is highly relevant to safety. If the stem adapter is damaged, have it replaced by one of our specialist dealers.

Handlebar and stem

Adjust bearing clearance

To adjust the bearing clearance of the handlebar, please make sure that the quick release is tightened and the screw underneath is tightened to the specified 10 NM. Then tighten the lower clamping ring with the specified 3 NM.

Information on this also on:

<https://www.youtube.com/watch?v=immlUxp0GTA>



Over-tightening the stem bolts can damage the steering tube stem and cause it to break. Observe the torque specifications on the component.



Only in the uppermost position the handlebars can be turned in and back again. Forcibly turning the handlebars when they are not in the highest position can cause the stem adapter to bend and break.

Steering linkage



Since the front wheel of the e-mulibike, like all cargo bikes of the so-called Long John style, is not directly under the handlebars but in front of the load surface, the steering movement must be transferred from the handlebars to the front wheel. The steering linkage translates the steering movement of the handlebar to the front wheel. It is connected to the boom on the steering tube and the boom on the fork via a ball joint and a swivel joint.



Attention! The steering linkage is a highly safety-relevant component. If the steering rod rattles or wobbles, do not continue your ride.



Check the bolts and nuts on the steering linkage before each ride. Loosening these connections while driving can lead to serious falls and life-threatening injuries.

Lane setting

The toe of the front wheel is also set via the steering linkage. The lane is set correctly at the factory. If the lane should become misaligned over time, first try correcting the lane setting by slightly adjusting the handlebars by loosening the stem bolts and bringing the handlebars and front wheel back into alignment. The handlebar bar must be in a perpendicular position to the frame and the front wheel in line with the frame.

However, such a correction by adjusting the handlebar is only possible with a small toe adjustment, because the cantilever on the steering tube and the handlebar bracket should be largely in line. In the case of a large toe adjustment, it is necessary to correct the toe directly at the steering linkage. To do this, the lock nuts of the joints on the steering linkage must be loosened and the joint screws screwed in or out accordingly. Note that the lock nuts are glued in place with liquid threadlocker from the factory. So when you open and retighten the nuts, apply appropriate threadlocker as well.



Note that the lock nuts on the steering linkage are glued in place with liquid threadlocker from the factory. So when you open and retighten the nuts, apply appropriate threadlocker as well.

Steering resistance

The steering resistance can also be adjusted on the steering linkage. To do this, loosen the screw that attaches the linkage to the steering tube arm slightly or tighten it accordingly.

If you prefer a more stiff steering, tighten the screw a little more. Keep in mind that a strong contact pressure also increases the wear of the plastic plain bearings. If you prefer a smoother steering, tighten the screw less. Overall, however, make sure that the screw is neither too tight nor too loose. Too much contact pressure will jeopardize safe steering in traffic. On the one hand, too loose an adjustment can cause the steering linkage to rattle, swing open and make safe driving impossible. On the other hand, too little contact pressure can cause the nut to loosen completely while driving and the steering linkage to fall off, which can result in serious falls.



The plastic plain bearings on the steering rod bolting wear out and must be replaced when worn.

Brake system



The e-muli has hydraulic disc brakes on the front and rear wheel.

The left brake lever operates the front wheel brake.

The right brake lever operates the rear brake.

If you are not familiar with this brake lever assignment or have previously ridden bikes with coaster brakes, it is essential that you carefully get used to the braking system and the braking behavior of the e-muli.



Never apply the front brake alone when cornering or when the steering angle is low. Such braking behavior can very quickly cause the front wheel to slip and thus lead to serious falls.



Note that the installed, hydraulic disc brakes have a very high braking effect - dose the braking force carefully.



Please note that the grip of the tires is reduced in wet conditions and the braking distances increase accordingly. Brake earlier on wet roads. Drive with foresight.



Under no circumstances should it be possible to pull the brake lever through to the handlebars. The brake must engage clearly before this.



When replacing the brake pads or other parts of the brake system, use only original spare parts from the component manufacturer!



Make sure that the brake pads never come into contact with oil. If this does happen, you must change the brake pads.

Brake system

For more information on the installed Shimano hydraulic disc brakes, see the manufacturer's instructions on the web at:

<https://si.shimano.com/pdfs/um/UM-8VR0A-003-01-GER.pdf>



Note that the disc brakes may be heated after heavy use - there is a risk of burns.



The distance between brake pad and brake disc should be between 0.25 and 0.75mm.

Note that the installed hydraulic disc brakes have a very high braking effect - dose the braking force carefully. Always apply both brakes simultaneously when braking. Especially the use of the front brake alone is to be avoided on the e-muli due to the wide distance between handlebar and front wheel. On rough, sandy, uneven, very slippery, wet surfaces and when cornering, applying the front brake alone can very easily cause the front wheel to slip and lead to serious falls.

Keep in mind that the braking distance and the braking behavior change depending on the load conditions and the slope of the road. The braking distance increases when riding at high speeds and on sloping roads.

Check the screws on the brake caliper and the brake pads once a month. The brake pads are wearing parts. Replace the brake pads when they are less than 1mm thick. Check the brake system regularly for leaks.

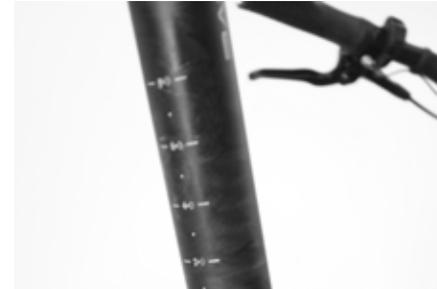
Hub Gear



You also have the option of leaving the shifting process to the automatic shifting system. To switch between manual and automatic mode, press the X and Y keys simultaneously. The current shift mode is indicated by an A or M in the top right of the display.



The e-multi st is equipped with the very robust Shimano Nexus InterE 5-speed hub gears and the Di2 electronic shifting system. The currently shifted gear can be read from the digits 1-5 on the display. The highest digit means the highest gear.



When the automatic mode is set, the system shifts to the correct gear according to your speed without you operating the switches. You should practice driving in this shift mode in a traffic-free location.

Regardless of whether you are driving in manual or automatic mode, the system automatically shifts to the lowest gear when you stop driving, for example at a traffic light. This makes it easier for you to start off. You always start in first gear.



The Shimano Di2 system allows you to shift gears at the touch of a button. By pressing the upper button (X), you shift up one gear. With pressure on the lower button (Y), they switch to a smaller gear.

Hub Gear

The e-muli px is equipped with the very high-quality Shimano Alfine 8-speed or 11-speed hub gears. The currently shifted gear can be read from the display on the gearshift. The highest digit means the highest gear.



When shifting gears, make sure to briefly interrupt pedaling or at least reduce pedal pressure.

To adjust the gears on the e-muli px, shift into fourth gear on the Alfine 8 and into sixth gear on the Alfine 11.

At the back of the hub, you can see two yellow markings under a small plastic window.

These two markings can be moved against each other and should be exactly at the same height in fourth gear and sixth gear respectively. If they are not on top of each other in fourth gear or sixth gear, you can adjust the cable tension at the adjustment screw at the front of the shift lever. You can see from the two yellow markings in which direction you have to turn the adjusting screw. Turn so that the two approach each



other and do not move further away from each other. Stop turning when the two yellow marks are at the same height again.

It is not necessary to adjust the gearshift for perfect gearshifts on the e-muli st with DI2. It is possible to influence the automatic shifting process using the menu. There you can set a value between -13 and +13. With a setting of „0“, one gear is increased as soon as a cadence of approx. 75 is reached. By the adjustable value one can influence the switching time in dependence of the cadence.

Further information on this topic can be found in the system instructions of the component manufacturer at <https://si.shimano.com> or <https://pendix.de/>.



https://si.shimano.com/api/publish/storage/pdf/de/sm/SHIMANO_STEPS/SM-SHIMANO_STEPS-002-GER.pdf



<https://pendix.de/>

Click in the download area the system manual click.



When shifting gears, be sure to pause pedaling briefly or at least reduce pedal pressure.

Chain and chain guard



For proper operation, the bicycle chain must be cleaned and greased regularly.

The chain is under constant stress when pedaling. Over time, the chain becomes elongated and the meshing with the chainring and the sprockets of the cassette no longer works correctly. This can lead to the chain slipping over the teeth when pedaling. At the latest then it is time to change the chain. Note that chain and cassette on the bike wear to the same extent. Therefore, always replace both parts at the same time.

Make sure that the chain is well tensioned. The vertical play of the chain should be 5mm.



To retighten the chain:

1. Loosen the two M6 hexagon socket screws on the dropout mount with a 5 mm hexagon wrench. Open the screws on the left and right side.



2. Then you can turn the grub screw in the dropout with a 2 mm hexagonal wrench and push the dropout backwards until the correct chain tension is achieved.



3. The line markings on the dropout help you to determine the same position of the dropouts for the right and left sides.



4. When the chain is taut and the two dropouts are in the same position, tighten the two cap screws on the dropout mount.

The chain guard „Chainrunner“ is installed on the e-muli px. It consists of a slotted tube that wraps around the entire chain and rotates with the chain around the chainring. The initial quiet crackling reduces in the course of operation. Grease the chain regularly, but sparingly – this will also reduce the accumulation of rust particles. Assembly instructions for the Chainrunner can be found at www.chainrunner.de.

Belt drive and frame lock



If your e-muli is equipped with a belt drive, it replaces the usual chain. The belt is lighter than a chain and requires significantly less maintenance. It runs almost noiselessly and with more smoothness than a chain, is insensitive to rust and strong sunlight.

The belt does not need and should not be oiled or lubricated. Due to its carbon fiber surface, dirt does not stick to the belt. If necessary, it can be cleaned with water and a soft brush.

The durability of the individual components of the Gates Carbon Drive System strongly depends on external influences and environmental conditions. Therefore, check the condition of the belt regularly.



Belt tension

When tensioning the belt, proceed in the same way as when tensioning the chain. Take a look at the photos there for the following steps for a better understanding.

1. To tension the belt, loosen the two M6 Allen screws on the dropout mount with a 5 mm hex wrench. Open the screws on the left and right side.
2. Then use a 2 mm hex wrench to turn the grub screw in the dropout and push the dropout backwards until the correct belt tension is achieved.
3. the line markings on the dropout will help you determine the same dropout position for the right and left sides.
4. When the belt is taut and the two dropouts are in the same position, tighten the two cap screws on the dropout mount.

You can determine the correct belt tension using the Gates Carbon Drive™ mobile app. This app is available free of charge for Android devices and iPhones.

Belt drive and frame lock

Without an app, you can use the following guide values for orientation: Press the belt down in the middle between the front and rear pulley on its upper side with a finger and a force of 20 - 45 N (2-4.5 kg). The correct belt tension is present when the belt can be pressed down by approx. 10 mm to the specified pressure. Since the tension values may vary slightly along the belt, this procedure should be carried out with the belt moving forward step by step. To do this, turn the pedal crank a ¼ turn at a time and repeat the measurement procedure.

In addition to this information, be sure to read the component manufacturer's instructions for use. To be found on the net at:

<https://www.gatescarbondrive.com/~media/files/gcd/owners-manuals/german-owners-manual-gates-carbon-drive.pdf?la=en>



More and detailed information and videos about the Gates Drive System can be found on the manufacturer's website:

<https://de.gatescarbondrive.com/gallery?tab=training>

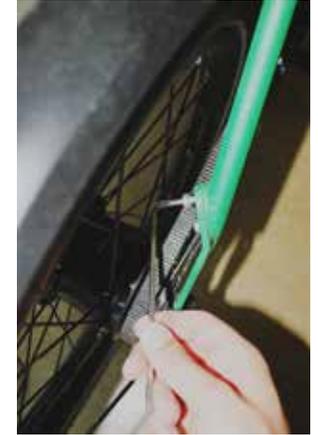


If you are unsure about the adjustment of the belt, contact a dealer in your area who is familiar with the belt drive.

Frame lock

To change the belt in case of damage or after wear, you must open the frame lock on the e-muli.

Loosen both screws of the frame lock and guide the belt flat through the opening. When doing this, you can slightly push the frame apart so that the belt fits through. Be very careful when opening and closing the frame lock so that the threads in the frame are not damaged. Replace the screws with new and clean ones each time you open the frame lock. The screws must not tilt under any circumstances when being screwed in, as damage to the threads in the frame can render the entire frame unsuitable.



For more information on the Gates belt drive, see the manufacturer's manual at:

<http://de.gatescarbondrive.com/resources/manuals-and-tech>



Belt drive and frame lock



Open the frame lock as rarely as possible. The screws on the frame lock must be loosened and screwed in very carefully. Make sure that the threads are clean and that the screws do not jam. Careless handling of the frame lock can damage the threads of the frame lock and thus make the entire frame unsuitable.



When a new belt system is run in, the blue layer on the inside of the belt quickly wears off on the inside of the belt. This removal does not represent wear of the belt. The blue layer is on the belt solely for production reasons. It is a release agent to enable the belt to be released from its mold during production. The blue layer has no technical significance for the function of the belt.

Lighting system



A functioning light system is mandatory for participation in public road traffic. The e-muli has either two battery-powered lights or two dynamo lights from Busch & Müller. Furthermore, a red rear light with integrated Z-reflector and a white front light with integrated reflector and two yellow reflectors per pedal and ring reflectors on the sides of the tires. Thus, the lighting system is StVZO compliant.

The battery light can be charged using a standard USB cell phone charging cable and do not require a special charger.

Make sure that the accumulators or batteries of both lights are always charged/full when you ride your e-muli. It is best to switch on the light at the onset of dusk - this will make you more visible to other road users and prevent accidents.

Make sure that the rear light is always clearly visible



The front light is fixed, but it can be tilted up and down, which allows you to adjust the angle of light. For optimum visibility, adjust the light so that the light cone hits the ground in the range 5-8 meters in front of the front wheel.



Adjustment screw

Make sure that all screws on the lamp are well fixed and that it does not adjust while driving. Keep in mind that the bulbs in the lamps wear out and must be replaced when they fail to function.



Never ride without a functioning light system. Especially driving in the dark with a non-functioning light system is life-threatening.



Make sure your lighting system is clean and all reflectors are clearly visible.

Load basket



The e-muli has a foldable aluminum cargo basket. The basket consists of two separate basket wings, which are connected to the steel frame of the e-muli at the bottom via pivot bearings. The basket floor is therefore not a continuous surface, but divided in the middle. The basket floor is lined with a rubber mat that covers the center gap and the pivot bearings.

The side walls of the wings are made of perforated aluminum sheet, which makes the wings very strong and light. On the basket tubes are welded 4 eyelets, which are used to brace load, to attach the child seat and as support points of a standard Eurobox with dimensions 40x60cm.



Note that unfavorable weight distribution can have a negative effect on braking behavior and driving stability.



Please note that when driving with heavy loads, only the use of two mounted locking rods ensures that no warping or bending of the basket wings occurs.

Loading and load securing

The load basket allows a maximum payload of 70 kg. The possible load in the load basket for a trip must always be determined depending on the driver's weight, the tare weight of the e-muli and possible additional loads. The framework for this is the permissible total weight of the e-muli. Observe the detailed information in the „Safety instructions“ section in the first part of this manual.

Adhere to the following guidelines for loading and load securing:

1. Generally keep the load's center of gravity as low as possible.
2. The load must be stowed in such a way that the center of gravity of the entire load is as centered as possible, i.e. above the longitudinal center line of the vehicle.
3. The e-muli must be loaded within the limits of the permissible total weight and the permissible axle loads.
4. Even with partial loads, an even weight distribution must be aimed for so that each axle is loaded proportionally.
5. Always secure your load carefully, e.g. with lashing or tensioning straps, so that it cannot move during the journey.

Load basket

Grip holes and folding mechanism

The grip holes in the basket wings serve as a point of contact when lifting the e-muli. To lift the e-muli, grasp the top tube with one hand and the grip hole on the closed basket with the other.



Since the load basket of the e-muli is not a rigid construction but a moving part that exhibits high precision, you must always use the basket carefully and cautiously. Make sure that you do not exceed the load limits of the basket, always open and close the basket carefully, and carefully secure and brace any load you are transporting.

Take special care when closing the basket to ensure that the locking bar is fully engaged in the basket. Give it a gentle tap to push the shackle completely into the basket.

When open, the cargo basket is not locked in place, so it can theoretically collapse at any time. Children should therefore never be transported in the basket without the muli child seat.

When closed, the basket locks to a spring-loaded locking bar on the steering tube.



By gently pulling the locking bar, the basket usually opens without further intervention.

Opening the basket is therefore very easy and can be done with one hand. Closing the basket, on the other hand, requires both hands, as the two wings can only be closed together and simultaneously.



Closing the basket is also very quick and easy. Guide both basket wings simultaneously with a slight swing against the spring-loaded locking bracket, and the wings will snap shut automatically.



The most gentle way to close the basket is to bring the two basket wings together at the locking device, hold them together with one hand and pull back the locking bar with the second hand.



Load basket

Basket covers

The basket covers on the front and back of the basket are made of high-strength and waterproof textile. On the inside are applied small and large pockets that provide very useful storage space.



The covers are attached to the bottom of the basket with screws and to the sides of the basket wings with screws.



Over time and due to heavy use, the textile covers can lose some of their tension. Since the fastening screws of the covers are inserted laterally through the perforated plate, they can easily be moved by one hole in order to slightly adjust the tension of the textile cover again. Should you attempt such re-tensioning of the covers, be very careful when loosening the pan head screws on the basket. Since these are lens head screws that provide the hex wrench with a somewhat reduced area to transmit force, it is very important to press the hex wrench into the screw with high pressure and then turn it. Otherwise, you risk damaging the lens head screw.



Children transported in the basket only in the multi child seat. The basket is not locked when open without the child seat installed and can collapse at any time and injure the children.



Never allow children to enter or exit the basket independently without securing the e-muli against tipping over. The folded-out stand alone is not sufficient for this purpose. You must hold the e-muli firmly by the handlebars and secure it against tipping over.



Especially when closing the basket, make sure that the locking bow is completely engaged in the basket. Give the bow a light tap to push the bow completely into the basket.



Be very careful when loosening the pan head screws on the basket. Since these are pan-head screws that offer the hexagonal wrench a somewhat reduced surface area for force transmission, it is very important to press the hexagonal wrench into the screw with high pressure and then turn it. Otherwise, you risk damaging the lens head screw.



Never tension the basket covers so tightly that the basket wings no longer rest on the supports of the frame. This gives the basket lateral play and causes it to tilt slightly back and forth permanently, which can lead to bending and breaking of some components.



The cargo basket is not locked when open, so it can be folded at any time.

Load basket



Never guide only one wing with momentum against the locking bow on the steering tube. The basket wings only engage in the locking mechanism if you guide both wings together and at the same time with a slight swing against the locking bow.



Do not knock basket wings together with great force. Exerting great force here can cause components to bend and break.



Since the load basket of the e-muli is not a rigid construction but a moving part, you must use the load basket with particular care and caution. Make sure that you do not exceed the load limits of the basket, that you always open and close the basket carefully and that you carefully secure and brace every load that you transport.



Improper use, violent tugging or pushing on the basket wings or blows and impacts on the basket wings, e.g. due to a fall, can cause components to bend and the basket can no longer be closed.



Make sure that the edge protector is always mounted in the recessed grip. Otherwise you risk dangerous injuries at the exposed sheet metal edge.

Furthermore, make absolutely sure that you do not tension the covers too much. It must be possible to open the basket wings fully and they must rest on the frame supports when open. If the covers are too tight, the basket will have play at the sides and will permanently tilt back and forth slightly, thereby placing too much stress on various components and the covers, which may bend, tear or break as a result. Note that the driver-side basket cover is fastened to the cable duct in the center with a screw.



When you have parked the e-muli, make sure that you or children in the basket do not exert unilateral, high, vertical pressure on the open basket wings when getting in and out. This may cause the e-muli to tip sideways over the stand and fall over. Especially at the front, upper edge, such pressure should be avoided, it can quickly cause the entire wheel to tip over here.

Always secure the e-muli against tipping over when children get on and off the bike by holding it firmly by the handlebars.



Load basket

Catch points

Consider the greater width of the e-muli when the basket is unfolded. When unfolded, the basket has a width of approx. 60cm and thus offers much larger catching points than a conventional bicycle. When riding the e-muli, it is therefore very important to keep a good eye on the lane width and always maintain a safe distance from the edge of the road or lane, especially on divided bike/pedestrian paths. Special attention must also be paid to driveways, passages or other obstacles or roadway tapers so that the wide load basket does not collide with them. It may be necessary to stop the ride, dismount and push the e-muli around an obstacle.

Child seat and child transport in the e-muli



The muli child seat is made of high strength waterproof textile with reinforced and padded backrest and two aluminum rods to hang the seat in the cargo basket.

The cargo basket has two opposing mounts at the front and rear for the child seat and rain cover. A locking bolt with spring balancer is located on each of the mounts. The end pieces of the seat bars are inserted into these holders. The seat offers space for two children and may be loaded with a maximum of 40kg. A child may be transported in the child seat up to a maximum weight of 22kg and a height of 120cm. Never use the seat for children who are not yet able to sit independently.



Note the maximum load of the seat of 40kg. The maximum allowed height of a child is 120cm and the maximum weight is 22kg. These values must not be exceeded, otherwise you risk breaking or failure of the seat, which may result in serious injury.



The child seat has two 3-point safety belts that can be adjusted in length and height. The child seat buckles snap magnetically into the holder. Because of the hanging system and the textile material, the seat also absorbs light road shocks and children sit very comfortably. Nevertheless, when driving with children, avoid driving over steep bumps, such as curbs, to keep the impact on the children as low as possible. Thanks to the high backrest, the seat also offers children protection in the neck and head area. In addition, the seat can be installed both in and against the direction of travel.

Before each ride, check the seam, rivet, plug-in, belt and screw connections for strength and integrity.



Regularly check the seams, rivets, plug-in connections, belts and screw connections of the child seat for strength and integrity. Do not transport children in a defective child seat, otherwise you risk serious injuries.



Child seat and child transport in the e-muli

Inserting the child seat into the basket

Proceed as follows to insert the child seat into the cargo basket:

1. Place the basket in position.



2. First push the plastic toggle at the back of the seat from bottom to top through the basket eyelets.



3. Pull back the locking bolts on both sides and turn the red knob slightly so that the bolt locks in the retracted position.



4. Place the bar of the child seat evenly on both sides. To do this, take the first rod with both hands at each end. Insert the rod evenly and parallel into the child seat raincover holders on the left and right. If necessary, use both hands to push the basket wings slightly apart so that the rod can engage in the profile.



5. Pull back the latch bolt, turn the knob slightly so that the bolt locks into the child seat raincover mount.



Always remember to fasten the plastic toggles to the basket eyelet. Otherwise, the backrest will not be sufficiently secured to the basket and consequently your child is also not safely strapped in.

If a very high pressure on the wings is necessary to insert the rods, the rods are set too long and can be shortened by screwing in the end pieces. In this case, loosen the lock rings on the end pieces of the rod and screw in the end pieces slightly. Tighten the counter rings again.

This procedure applies to the installation of the seat both against and in the direction of travel. Always remember to fasten the plastic toggles to the basket eyelet. Otherwise, the backrest will not be sufficiently secured to the basket.

Child seat and child transport in the e-muli

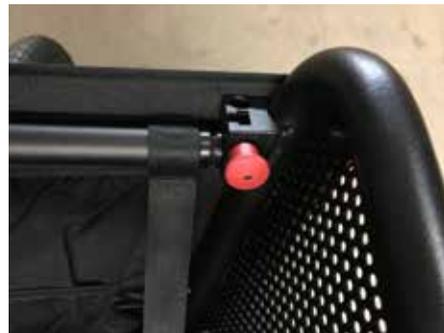
Adjusting the child seat

The knot in the rubber band allows the seat angle of the backrest to be adjusted somewhat in the position against the direction of travel. Be aware that once the knot is very tight, it is very difficult to loosen.

Make sure to select the appropriate harness height on the backrest for your child. To adjust the harness height, turn the harness end piece on the back of the seat and slide it forward through the slotted hole. Then select the desired height and push the end piece through the slot again from the front.



The rods from which the child seat is suspended can be adjusted in width. The end pieces can be turned out and in when the lock ring is loosened. The rods are adjusted from the factory so that some pressure is needed on the wings to insert the rods. This is important so that the rods are locked well into the basket. So, do not adjust the rods so that they are very loose in the basket.



Insert both rods parallel and uniformly into the profile angles on the right and left. Always remove the rods from the profile angles in parallel. If one end of the rod is inserted and removed on one side at first, it can tilt very easily and the seat cannot be installed properly.



If you insert or remove the rods from one side, a large leverage force is created which can quickly cause you to damage, bend or break the rods and the profile angles.



Due to the hanging system and the seat belts, the children in the seat are very well protected from road impacts. Nevertheless, you should always drive carefully and with foresight when transporting children in the e-muli and avoid strong road impacts and abrupt braking.

Child seat and child transport in the e-muli



Always remember to attach the plastic toggles to the basket eyelet. Otherwise, the backrest is not sufficiently secured to the basket.



Never use the bench for children who cannot yet sit independently.



Never transport children without the basket mat in the basket.



The basket mat is not suitable for consumption.



Note that the child seat is subject to high loads and wears out over time and must be replaced in due course.



Make sure that the children you are transporting in the child seat never kick the locking bars with their feet.



The e-muli stands very securely on the folded-out double leg stand. However, vertical pressure on the upper edge of the basket, especially on the front upper edge of the basket, can cause the e-muli to tip.



Child seat and child transport in the e-muli



Even if you have placed the e-muli on the stand, you should never let children climb into or out of the basket on their own without securing the e-muli with a firm grip to prevent it from tipping over. Otherwise, the e-muli can easily tip over and children can be seriously injured.



Before each ride, check the child seat's seams, rivets, plug-in connections, belts and screw connections for strength and freedom from damage. Check that the locking bar is not damaged.



Make sure that your child never leans out to the side over the basket wings. This weight shift can quickly cause the e-muli to tip over, both while riding and while stationary. Damage to the bicycle and serious injuries to the child can result.



Children you transport in a child seat should definitely wear a helmet.

Rain Cover



Avoid exerting great pressure on the metal bows when they are in the holders, both when the canopy is already mounted and when it is not yet mounted. The bows can bend and break due to strong lateral pressure when they are in the holders.



Be careful not to bend the transparent window material much when folding the canopy, otherwise it may break and crack. Be sure to follow the folding instructions below when folding the canopy for storage.

General Information

The multi rain cover is made of high quality waterproof materials. The translucent windows are bordered by opaque black material. A wide opaque strip is also incorporated in the upper middle area, which also serves as sun protection for the children.

It is important to note that the transparent window material must not be bent strongly when folding the canopy, otherwise it can break and crack!

To attach the canopy, four receptacles are screwed to the basket wings. Two separable metal bows are inserted into these receptacles to support the rain canopy. Be careful not to bend these metal bows. Avoid putting much pressure on the metal arches when they are in the receptacles, both when the rain top is already mounted and when it is not yet mounted. To install the convertible top, follow the instructions below.

The bow on the handlebar side is shorter than the bow on the front of the basket. This creates more headroom for the children in the front area when the child seat is installed against the direction of travel. This position is therefore also suitable for slightly larger children who still need to fit under the hood.

Rain Cover

Assembly Instruction

1. Loosen the quick release of the handlebar and bring the handlebar to the highest position. Fix again with the quick release.

2. Assemble the frame linkage. Insert the large rod into the two front frame holders and the small rod into the two rear holders.



3. Pull the rain cover from the front (!) over the frame linkage and make sure that it is already correctly positioned at the front. Only then can it be pulled over the basket plugs at the rear with slight force.

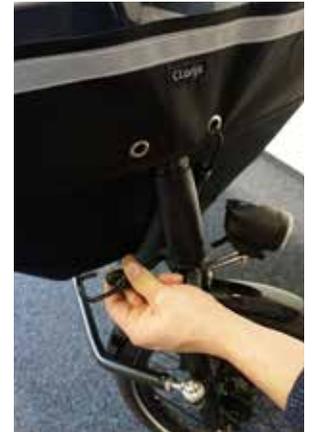


4. Then tension the rain cover on the handlebar side with the tensioning rope and the hooks on the down tube of the muli and on the eyelets provided on the rain cover.

First hang the long tensioning rope on one eyelet and guide it under the down tube to the second eyelet.



5. Finally, tension the rain cover at the front using the tensioning rope and the hooks on the front structure of the muli and on the eyelets provided on the rain cover.



Rain Cover

6. The position of the handlebars can now be changed again.

Important: The handlebar must be extended by at least 5 cm (observe marking).



Please always stow the straps on the ceiling inside the rain canopy (fastening of the side walls) well. If the straps are hanging down, there is a risk that the children will pull on them and the pressure may bend the carrier linkage.



Folding Guide

Please read these folding instructions carefully and memorize the folding steps. It is essential to fold the canopy according to these instructions, otherwise the transparent windows may be damaged by incorrect folding and get cracks and holes.

1. Lay the canopy on a flat surface. In a first step, lay it together as shown in this photo. Pay close attention to the fact that the window material on the sides is not up to the edge, but the black textile fabric ends at the edge. Otherwise, at this point the window material would be bent too often in the following.



2. Then fold in the side tips



Rain Cover

3. Then fold the entire canopy approximately in the middle along the dashed line to this position.



4. Now fold the canopy one last time, but this time not exactly in the middle, but at the level of the black textile material of the bottom layer. Approximately along the dashed line in this picture to this final position.



5. Now you can store the canopy including the metal sheets in the supplied bag and get a very compact packing size. Make sure that the folded canopy is not exposed to high loads. People or children must not stand or step on the folded canopy.



It is essential to fold the canopy according to the above instructions, otherwise the transparent windows may be damaged by incorrect folding and get cracks and holes.



Make sure that the folded soft top is not subjected to high loads. People or children must not stand or step on the folded soft top. Such behavior may cause the window material of the soft top to bend too much and break.

Double-leg Stand



The e-muli has a very robust double-legged stand from the company Ursus, with which the e-muli can be parked tilt-proof. This stand may be loaded with up to 80kg.

Note that the double leg stand is subjected to high loads and wears out over time and must be replaced in due course. Through frequent use and high loads, the stand can, among other things, lose some of its clamping force and then hang down a little further in the folded state. Make sure that the stand does not start to drag on the tire. It is very important to regularly check the screw connection of the double leg stand. Check the tightness of the screw connection of the stand to the frame before every ride! An incorrectly tightened screw can cause damage to both the stand and other components. Among other things, a stand that is not tight can cause the stand to twist and start grinding on the rear tire. This dragging, in turn, can cause the tire to wear and quickly crack or burst.

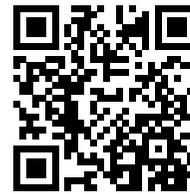
Parking

To place the e-muli on the double leg stand, press the stand onto the floor with your foot. Make sure that both feet touch the ground and that you do not push the e-muli backwards on one side over one stand leg. In general, but especially with heavy loads, it is helpful to lift the e-muli slightly upwards by the saddle while you push it backwards onto the stand. The e-muli is jacked up somewhat when parked on the stand and must therefore be pulled backwards with some force. To get the e-muli back into driving position from the parking situation, place

one foot in front of a stand leg and simply push the e-muli forward. No lifting is required here.

You can also find more info on parking with the double leg stand here:

<https://www.youtube.com/watch?v=MYRw0seoO4M>



Note that the double leg stand is subjected to high loads and wears out over time and must be replaced in due course.



Check the tight fit of the screw connection of the stand to the frame before each ride! An incorrectly tightened screw can cause damage to both the stand and other components.

Load

Note the load limit of 80 kg. In the parking position with the stand folded out, this means that the e-muli can be loaded with a maximum of 47 kg so as not to exceed the maximum load of the stand.

80 kg minus the

33 kg dead weight of the e-muli

= 47 kg possible load with folded out stand



Do not sit on the saddle of the e-muli with the stand unfolded.

Maintenance



mulii

Impacts and accidents

Your e-muli does not protect you in case of accidents, therefore always drive carefully and with foresight and observe the applicable traffic regulations. Impacts and high loads can weaken and damage the e-muli. Damage is often not immediately apparent after a violent impact or fall. It is therefore essential to have your e-muli checked at a specialist workshop after a fall. Accessories, such as the child seat, must also be checked for integrity if they are involved in a fall or impact.

Check the battery after a fall. If the battery is no longer correctly seated in its holder or shows signs of damage, you must not use the e-muli in motor mode for the time being. Switch off the drive at the battery.



Damage to the battery can lead to short circuits or, for example, that the drive suddenly no longer supports while driving. A damaged outer casing of the battery can allow water or moisture to enter, which can lead to short circuits or electric shocks. The battery may ignite or even explode! Do not store a damaged battery in closed rooms.



After a fall, check the display for damage. If an error message or a warning is displayed, you must no longer use the e-muli. Check whether the error messages disappear after switching off the system for at least 10s. For more information, refer to the system manual of the drive manufacturer.



Never drive the e-muli with the motor support switched on if an error message or warning is displayed.



Deformed parts can break abruptly. They must also not be straightened, i.e. not bent straight, because even then there is an acute risk of breakage. Never drive your e-muli if it shows deformations or cracks on a component.

Care and Maintenance Intervals

Cleaning

Use a soft, damp cloth to clean your e-muli and its components. soft, damp cloth. Keep your e-muli clean.

Do not clean your pedelec with a high-pressure cleaner. The strong water jet can penetrate the bearings and battery and destroy these components. If water gets into the battery, there is a risk of a short circuit that can lead to fire. The water jet can also remove stickers. Clean your e-muli regularly with water and a soft cloth.



Do not use a high-pressure cleaner to clean your e-muli. Never immerse the battery in water.



Never use aggressive cleaning agents on the parts of your e-bike. This can cause permanent damage to the bike.

Tires

The tires of the company Schwalbe, which are installed on your e-muli from year of manufacture 2020, are a special production. These tires have a higher maximum load than the other commercially available tires of the brand and type. The 20 inch tire has a maximum load of 130 kg, the 16 inch tire has a maximum load of 100 kg. If your tires are worn out, we recommend these special tires. You can purchase the tires from us. Contact our customer service, the best way is by mail: info@muli-cycles.de.

If you need to replace their tubes, buy for the front tire size AV3, 47/62-305 and for the rear tire size AV7, 40/62-406. We recommend the manufacturer Schwalbe.

Inspection

Like any bicycle, the e-muli must be serviced at regular intervals at a specialist workshop. The specialist workshop detects damage and worn components and ensures professional repair. Perform an inspection after:

- 1500-2000km
- every further 2000 or at least once a year

With an average mileage of **1500 - 2000km per year**, we recommend the maintenance intervals listed in the table below.

These figures are approximate - if you drive considerably more kilometers per year and put the e-muli under a lot of strain, you will have to carry out the maintenance work correspondingly earlier and more frequently.

Please keep in mind that rims also wear out. Since there are no rim brakes on the e-muli, this wear should be kept within limits, but it is still important to check that they are intact at regular intervals.



If you need to replace individual parts on your muli because they have reached their service life, use only original spare parts. Wear parts from other manufacturers can make the mule unsafe. There is a risk of accidents! The use of non-original spare parts will void the CE marking and your warranty.



A bicycle is subject to high stress and wear. When the load limit of a component is exceeded, it can suddenly fail, break or burst, possibly causing serious harm to the rider and others. Look for any cracks, nicks, discoloration, or dents on the frame, fork, or cargo basket. These are indications that these parts may have exceeded their useful life and may need to be replaced.

Care and Maintenance Intervals

Component	Activity	Before every ride	monthly	annual	other Intervals
Brakes	Check lining thickness, Brake test	S	W		
Brakes	Renew brake fluid			W	
Brake lines	Check for damage				weekly
Tires	Air pressure check	S			
Tires	Check profile height and material condition		S		
Wheels	Check spoke tension and concentricity		S		
Wheels	Re-center rim			W	
Wheels	Wear check			S	
Lightning	For function check	S			
Lightning	Check correct fit of the rear light	S			
Lightning	Check power cable and connections for damage		S		
Gear hub	Check bearing clearance		W		
Gear hub	Soak in oil			W	

W= Workshop
S = self-employed

Component	Activity	Before every ride	monthly	annual	other Intervals
Gear cables	Check and grease or renew			W	
Bottom bracket	Bearing clearance controlled		W		
Bottom bracket	Regrease			W	
Crank	Screws check/ tighten			W	
Chain	Check and grease		S		
Chain	Check for wear / replace				W from 600 Km
Belt	Check for wear		S		W from 600 Km
Painting	Cleaning		S		
Cargo basket	Fastening check		S		
Steering bearing	Bearing clearance check		S		
Steering bearing	Grease			W	
Steering linkage	Check plain bearings for wear		S		
Steering linkage	Check tight fit of screws and nut	S			

Care and Maintenance Intervals

Component	Activity	Before every ride	monthly	annual	other Intervals
Hubs	Bearing clearance check		S		
Hubs	grease			W	
Pedals	Check bearing clearance and check screws		S		
Seatpost	grease			S	
All bolts and nuts	Check and retighten if necessary	S			
Stand	Check and, if necessary, retighten the screw		S		
Stand	Check, stand must not drag on the tire		S		
Stem adapter	Check the tightening torque of the screws			S	S after 500 Km
Child seat	Check seams, rivets, textile, screws, locking bar		S		weekly
Dropout	Retighten M6 screws, check for tight fit				Retighten after the first 100Km
Frame	Check for cracks, deformations, discolorations				weekly
All screws + nuts	Check and retighten/ fix if necessary		S or W		

Recommended screw torques

Component	Connection	Torques
Stem handlebar mount	Clamping screws	6-8 Nm
Stem- shaft mounting	Clamping screws	10-12 Nm
Stem adapter	Clamping screws	9-10 Nm
Gear hub	Axle nut	30-45 Nm
Gearshift	Mounting screw steering bar	5 Nm
Hub	Axle clamp quick release	6-8 Nm
Pedal crank	Crank bolt	35-50 Nm
Chainring	Mounting screws	8-11 Nm
Pedal	Pedal axle	35 Nm
Brake caliper to frame	Mounting screws	6-8 Nm
Frame lock	Mounting screws	10-13 Nm and screw lock
Seat clamp - Fixing the seat post	Quick release on the seat tube	9-12 Nm
Seat post head - Saddle mounting	Allen screw	20 Nm
Mudguard	Mounting screws	5 Nm
Front wheel with SH hub dynamo	Axle nut	20Nm

For the Shimano components see also: www.paul-lange.de

W= Workshop
S = self-employed

EC Declaration of Conformity

In accordance with the EC Machinery Directive 2006/42/EC of 17 May 2006, Annex II A.

We hereby declare that the machine designated below, in its design and construction and in the version placed on the market by us, complies with the fundamental health and safety requirements of EC Directive 2006/42/EC. In the event of a modification of the machine not agreed with us, this declaration loses its validity.

Manufacturer	
Name:	multi-cycles GmbH
Street:	Widdersdorfer Str. 190
Zip, City:	50825 Cologne

Description and identification of the machine:	
Function:	Pedelec up to 25 km/h
Type/Model:	multi st and px

Compliance with other directives/regulations also applicable to the product is declared:
 RoHS Directive (2011/65/EU) of 08. June 2011
 EMC Directive (2014/30/EU) of 26 February 2014

Applied harmonized standards in particular:
 DIN EN ISO 12100 Safety of machinery - Basic concepts, general principles for design- Basic terminology, methodology, risk assessment.
 DIN EN ISO 12100 Safety of machinery - Basic concepts, general principles for design- Basic terminology, methodology, risk assessment.

Applied other guidelines, standards and technical specifications:
 REACH Directive 1907/2006 of 18.12.2006
 Battery and Accumulator Directive 2006/66/EC of 06. September 2006
 WEEE Directive 2012/19/EU of 04 July 2012
 DIN EN 15194 - Bicycles - Electric motor assisted bicycles - EPAC bicycles
 DIN 42020/4 - Bicycles - Safety requirements for bicycles.

Place/Date:
 Cologne, 01.01.2021

EC declaration of conformity

by the installation company



Information on the person of the authorized signatory:
 Signature: 
 (Sören Gerhardt)

Liability for material defects

The e-muli is manufactured with great care. Should your e-muli nevertheless be afflicted with production-related errors or defects, the legal warranty applies for the first 2 years after purchase. A prerequisite for our liability is that you have complied with all specified conditions during use and maintenance of the e-muli and accessories. These conditions can be found in this manual and in the enclosed instructions of the component manufacturers, if applicable.

We wish you a safe trip with your e-muli.
 If you have any questions, please contact us:

info@multi-cycles.de

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