


Guidelines for the parts replacement of speed e-bikes / pedelecs up to a pedal assist of 45 km/h (28 mph)

CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4
Important basic information	Components which may only be replaced upon presentation of a valid test report (parts approval (ABE*, EC, ECE) or part certificate**)	Components which may be replaced in consideration of the conditions described further below	Special notes for mounting accessories
<p>> Speed e-bikes with a motor assistance of up to 45 km/h (28 mph) are considered motor vehicles and subject to the EU Directive 2002/24/EC or the EU Regulation No. 168/2013.</p> <p>> Depending on the vehicle there may be different requirements which must be strictly observed when replacing a component. Therefore, always check the indications given in the vehicle documents prior to doing any work on the vehicles.</p> <p>> Note: At present, vehicles with an individual operating licence are mainly subject to the regulations of the EU Directive 2002/24/EC.</p> <p>> All components which are not included in the list must only be replaced by original spare parts of the vehicle and/or component manufacturer.</p>	<p>> Brake systems</p> <p>> Brake discs / Brake hoses / Brake pads (With valid type approval acc. to ECE-R 90 or general operating licence only).</p> <p>> Handlebar-stem unit (Provided that there is no need of changing the lengths of cables and/or hoses. A modification of the seating position for the benefit of the consumer should be possible within the original cable lengths. A modification beyond results in a significantly changed load distribution on the bicycle and entails potentially critical steering properties).</p> <p>> Seat post (Provided that the offset to the rear does not exceed 20 mm with regard to the series / original field of use. Note that a modified load distribution beyond the intended setting range may possibly lead to critical steering properties. The length of the saddle rails at the saddle structure as well as the saddle form are also important).</p> <p>> Headlight (With valid type approval, identical mounting position as well as EMC proof only).</p> <p>> Rear light with brake light and licence plate light, if available (With valid type approval and identical mounting position only, as far as tested in accordance with ECE-R 50 as well as EMC proof).</p> <p>> Reflector (With valid type approval only).</p> <p>> Rear view mirror (Only if tested in accordance with ECE-R 81 and identical mounting position).</p> <p>> Acoustic signalling device (horn) (Only if tested in accordance with ECE-R 28 and identical mounting position).</p> <p>> Pedals (Vehicles with 168/2013 approval).</p>	<p>> Pedals (Incl. approved reflectors, provided that the pedal is not wider than the series / original pedal (vehicle with 2002/24/EC approval)).</p> <p>> Tyres (As specified in vehicle documents, either in accordance with ECE-R 75 or with approval of tyre manufacturer).</p> <p>> Grips with screw clamps (In this case, the vehicle width must not be modified).</p> <p>> Headset</p> <p>> Bottom bracket</p> <p>> Rear and front derailleur (All gear change parts must be suitable for the number of gears and compatible with one another).</p> <p>> Shift levers/Twist grip (Provided that position on handlebars remains unchanged).</p> <p>> Cables and housings</p> <p>> Chainwheels / Belt sprockets / Cassette sprocket (Provided that the number of teeth and the diameter is identical to the series / original field of use).</p> <p>> Chainguard (Provided that it is free of sharp outer edges and complies with the Delegated Regulation No. 44/2014, Annex VIII).</p> <p>> Mudguard (Provided that it is free of sharp outer edges and complies with the Delegated Regulation No. 44/2014, Annex VIII). The clearance to the tyre, which should be 10 mm at least, must also be taken into account).</p> <p>> Spokes (Provided that the dimensions correspond to the original part).</p> <p>> Inner tube (Provided that the design and the valve are identical).</p> <p>> Crank arm (Provided that the length and the dimensions, e.g. crank arms / frame centre (Q-Factor) are observed).</p> <p>> Chain / Toothed belt (Provided that the original width is observed).</p> <p>> Rim tape (Rim tapes and rims must be compatible. Modified combinations may result in rim tape shifting and thus in defective inner tubes).</p> <p>> Saddle (Provided that the offset to the rear does not exceed 20 mm with regard to the series / original field of use. Note that a modified load distribution beyond the intended setting range may possibly lead to critical steering properties. The length of the saddle rails at the saddle structure as well as the saddle form are also important).</p>	<p>> Additional battery/rechargeable battery-operated headlights are not permissible.</p> <p>> Trailers are only permissible, if a trailer load is entered under no. 17 of the certificate of conformity and a coupling device under no. 43.1. Note: The maximum permissible trailer load is 50% of the tractor vehicle's empty weight (without batteries). There are only 50 mm ball coupling devices possible.</p> <p>> Transporting children in a trailer is forbidden in general!</p> <p>> Front baskets are to be considered critical due to the undefined load distribution. Permissible upon approval of the vehicle manufacturer only.</p> <p>> Removable pannier bags and top cases are permissible. The permissible total weight, maximum loading of pannier rack and a correct load distribution has to be observed.</p> <p>> Bar ends are not permissible.</p>
<p>Translation and layout: Zedler-Institut www.zedler.de Last update: 2018/05/24</p>	* ABE: general type approval		

** Note: In the case of components with part certificate the field of application must be observed. The proper assembly must be certified by a testing engineer or an expert of a technical control board like TÜEV or DEKRA in Germany.

 This is the translation of the original guidelines issued by ZIV, VSF, BIV (German umbrella organisation for the German cycle industry guilds), velotech.de and the German Association for Technical Inspection (TÜV Rheinland) in cooperation with Zedler-Institut, updated in 2018. In the event of any misunderstandings, the original German version (Leitfaden für den Bauteiltausch bei schnellen E-Bikes / Pedelecs mit einer Tretunterstützung bis 45 km/h) shall be applicable.

Experts of the following associations / companies were involved in drawing up the present guidelines (in alphabetical order):

