


Guidelines for the parts replacement on speed pedelecs with type or individual approval with a pedal assist of up to 45 kmh (28 mph)

CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4
Important basic information	Parts that may only be replaced upon presentation of a valid test report (parts approval (ABE, EC, ECE) or part certificate*)	Parts that may be replaced in consideration of the conditions described further below	Special notes for mounting accessories
<p>> Fast e-bikes with a motor assistance of up to 45 kmh (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 type approval are mainly subject to the regulations of the EU Directive 2002/24/EC.</p> <p>> All parts that 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 may potentially lead to 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 adjustment range may lead to critical steering properties. The length of the saddle rails at the saddle frame as well as the saddle form are also an issue)</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 (If tested in accordance with ECE-R 81 and identical mounting position only)</p> <p>> Acoustic signalling device (horn) (If tested in accordance with ECE-R 28 and identical mounting position only)</p> <p>> Pedals (Vehicles with 168/2013 approval)</p> <p>* 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 TUEV or DEKRA in Germany.</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 the vehicle documents, either in accordance with ECE-R 75 or with approval of the tyre manufacturer. With a permissible overall weight less than 150 kg and a width less than 67 mm the tyres do not require approval according to UN ECE-R 75)</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>> Shifters / Twist grip (Provided that position on the handlebar remains unchanged)</p> <p>> Cables and housings</p> <p>> Chainwheels / Belt sprockets / Cassette sprockets (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 arms (Provided that both the length (centre of axle mount – centre of pedal thread) as well as the distance 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 adjustment range may lead to critical steering properties. The length of the saddle rails at the saddle frame as well as the saddle form are also an issue)</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. 2.1.7 of the certificate of conformity and a coupling device under no. 7.2.8. Note: The maximum permissible trailer load is 50 % of the tractor vehicle's empty weight (without batteries). There are only 50mm 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 after approval by the vehicle manufacturer only.</p> <p>> Removable pannier bags and top cases are permissible. The permissible total weight, maximum loading of the luggage carrier and a correct load distribution have to be observed.</p> <p>> Bar ends are not permissible.</p>

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 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 2023. In the event of any misunderstandings, the original German version (Leitfaden für den Bauteiltausch bei S-Pedelecs mit Typ- oder Einzelgenehmigung 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 alphabetic order):



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