BA notes re proposal for EAPC regulation changes – Jan 2024

Summary

- Proposed changes to the well proven EAPC regulations put at risk the pedal cycle status of e-bikes, which is key to their growth potential.
- There are potential unintended consequences to what may seem 'simple' changes, including around vehicle definitions, product safety and tampering/de-restriction.
- The introduction of a new LSZEV framework would be an opportunity to consider the spectrum of vehicle types which it is desirable and practical to permit to use cycle lanes, shared spaces and roads. If a new category is to be introduced it could be done then, as part of a holistic plan, rather than as a change made in isolation.
- Is there a pressing need for change to EAPC regulations? We do see scope for some relatively minor clarifications, but the 'big picture' is that rules aligned with current UK EAPC regs are widely used and accepted internationally, and in many countries EAPCs under these rules make up a significant part of the transport fleet and modal share. The industry stands ready to propose a number of interventions to Government which would boost uptake of EAPCs as has been done overseas.
- Easy availability of e-cycles for which no pedalling is required, and with higher power, could make the active travel modes of walking, wheeling and (e-)cycling relatively less attractive for users.

Our understanding of what is proposed:

We understand it is proposed that the current EAPC regulations be amended to:

- Change the maximum permissible continuous rated power for the motor to 500 W.
- Remove the requirement for the rider to be pedalling for the motor to actuate (when the vehicle is travelling at above 4 mph).
- Leave the maximum motor assistance speed at 25 km/h.
- And leave all other aspects of the regulations unchanged, including the need for the vehicle to have functional pedals.

If these changes are not to bring the vehicle into scope of type approval then Article 2.2 (h) of the type approval framework 168/2013 would need to be amended. We understand that this could be potentially achieved via secondary legislation under the REUL Act.

For convenience in the rest of this document we will refer to such a 500W, throttle vehicle as a Throttle Electric Pedal Cycle or TEPC.

General considerations

Unlike an EAPC, a TEPC would not be a pedal cycle in character or performance.

- **This would make it far more difficult to resist calls for mandatory insurance, registration etc. of TEPCs, even if these were not put in place immediately**. TEPCs would be perceived by other road users and the public as closer to motorbikes/scooters than cycles.

  Much of the appeal, which springs from their treatment as cycles, rather than motor vehicles, of EAPCs would be lost. By comparison, the category of motor vehicle electric mopeds/scooters is far less popular.

  So while the idea of more power and throttles may seem superficially attractive **we believe it cannot be introduced without putting at risk the electric cycle's category status as "not a motor vehicle" which we (the cycle industry) understand as key to its role and potential as a universal mode of transport.**

  Without the current regulatory freedom, granted under the well proven performance-limiting EAPC regulations, the potential for electric bikes to contribute to transport decarbonisation and public health would also be put at risk.

- EAPCs were designed to have bicycle-equivalent acceleration and maximum assist speed. Thus EAPCs fit unproblematically in cycle lanes etc. with unassisted cyclists. With greater acceleration and more powerful motors, TEPCs could present performance differentials which raise collision risks with cyclists, pedestrians and other road and path users. Careful trialling should be undertaken to understand these risks.

- Elderly or frail users of e-cycles can sometimes struggle to control the handling even of EAPCs. The greater power of TEPCs may increase this risk.

- The health benefits of cycling are maintained or even enhanced when pedalling is required for motor assist to actuate. This forms part of the case for treating EAPCs as pedal cycles. This argument is not applicable for TEPCs which do not require pedalling.

- Mountain biking and trail centres make considerable economic contributions to local and regional tourism economies. Most allow EAPC mountain bikes to access their trails – a change to TEPC regulations could put this access at risk.

Possible unintended consequences:

- As there is no real need for the pedals to operate efficiently on a TEPC (because the throttle can be used at all times) it is likely that unless further steps were taken to tighten the vehicle category definition, other types of vehicle could be fitted with 'token' barely-functional pedals so as to enter this category – for example e-scooters. The careful work being done by DfT and TRL to develop a comprehensive set of regulations for e-scooters could be made largely irrelevant.

- The 250 W power limit of EAPCs indirectly also limits the typical physical motor size – so even if the vehicle is tampered with, the extra performance which can be 'achieved' is limited. By raising the 'starting power' to 500 W, the extra power/speed which de-restricted vehicles could achieve is greater.

  It is also not clear what the response of owners of the UK's current EAPC fleet (probably between 0.5 and 1 million vehicles), which were designed around 250 W and pedalling, would be to a change to 500 W and no pedalling requirement.

  It seems likely that modification or de-restriction of the existing fleet would be widespread, taking these vehicles into a performance regime for which they are not designed or tested, and legitimising the modification/de-restriction of vehicles. It is unlikely that such modifications could be authorised by the manufacturers, whose safety case was built around the lower limits.

- "Conversion kits" which turn conventional bikes into e-bikes are also an area of concern. Even when kits keep to the EAPC power and speed limits, they are being added to cycles which were not designed for electric use. If under TEPC rules the kit has higher power, the loadings applied to the converted cycle will be even more different to those for which it was designed.

- Currently, police can often immediately and visually distinguish between a legitimate EAPC and an unregistered motorbike. If the rider is not pedalling but the vehicle is clearly being motor-driven at above walking pace, this is a clear visual indicator that it is likely to be an unregistered motorbike rather than a legitimate EAPC (although very limited legitimate exceptions do exist to the need to be pedalling). Moving to TEPC specification would remove the visual indication of pedalling – so it would become harder for police to visually distinguish between legitimate e-bikes vs motor-vehicle-category motorbikes.

- TEPCs would tend to use even larger battery packs than EAPCs (because of higher power motors, and no need to pedal) making them potentially significantly heavier and even less bicycle-like, with further implications for road safety.

Product safety considerations

- The current harmonised product safety standard for EAPCs, EN15194, has been developed over decades based on real-world experience of EAPC[1] performance. The requirements (for frame and fork fatigue testing, etc.) in this or a replacement standard would need to be fully reviewed and re-validated for a 500W, throttle-only vehicle.

  International work is also ongoing on a comprehensive safety standard for cargo cycles, EN 17860. This would also require full review and revalidation for use on TEPC-specification vehicles.

  The UK industry and BSI committee does not have the resources to do this effectively (standards development is now an international enterprise, driven largely by countries which retain more manufacturing capability than the UK).

  Without an available product standard, it would be up to each individual company to develop suitable test loadings – and it is unlikely that this approach could match the safety levels achieved by e-cycles developed using the current highly-evolved standards. Lack of a product-specific standard also makes product safety enforcement more difficult.

[1] To be more accurate, the EN standards are based around the current European **EPAC** regulations, which basically identical to the current **EAPC** regs in the UK, with the exception that there is no equivalent available to the UK's "Twist and go EAPC" category.

If these changes are to take place we suggest:

- Consider any amendments to EAPC regulations only as part of a comprehensive, overall plan for micromobility not as an isolated change. E.g. consider 500W throttle vehicles as a new category within the future LSZEV framework

- Add TEPCs as a separate category and leave EAPCs unaffected (but we would still be concerned that future restrictions on TEPCs would also be applied to EAPCs)

- Potentially, carefully limit TEPC availability and legal use to riders with disabilities and, perhaps, to responsible cycle logistics operators (who e.g. sign up to the BA-developed Code of Practice and minimum rider training standards). Leave the EAPC category unchanged. But even in this scenario we would still be concerned about the risk to the current status of EAPCs.

- If revising EAPC regulations the opportunity should be taken to remove any ambiguity about the acceptability for EAPCs of:
    - Series hybrid drives (aka digital drives – no mechanical transmission between pedal and drive wheel)
    - Drive systems where the max 250W motor power is split across two more more electric motors (i.e. multiple motors but total combined rated power does not exceed 250W).

  The BA would be happy to engage in detail on both of these points, which are increasingly relevant to emerging designs of cargo cycle.

- If a TEPC specification is introduced, consider (before it comes into effect) funding development work via BSI to review and re-validate the relevant international product safety standards, before re-publication as “designated” British Standards, so that UK suppliers can continue to deliver the safest possible products.