

Remove and replace cycle derailleur gear components

Overview

This standard is about removing and replacing derailleur gear components so the cycle is left in a safe and roadworthy condition.

In this standard the term 'cycle' includes pedal-propelled vehicles with two, three or four wheels. It may also include pedal-assisted e-bikes:

- Road legal up to 15.5 mph with a motor with an output of up to 250w
- E-cycles used for other purposes

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Performance criteria

You must be able to:

P1 use suitable personal protective equipment throughout all cycle derailleur gear **component** remove and replace activities

P2 ensure the cycle and the work area is safe prior to work commencing

P3 support your removal and replacement activities by reviewing:

P3.1 cycle technical data

P3.2 removal and replacement procedures

P4 identify **components** relevant to cycle derailleur gear component removal and replacement

P5 prepare, check and use all the **tools and equipment** required following manufacturer's instructions

P6 carry out all cycle derailleur gear component remove and replace activities following:

P6.1 manufacturer's instructions

P6.2 industry recognised methods

P6.3 your workplace procedures

P6.4 health, safety and environmental requirements

P7 work in a way which minimises the risk of:

P7.1 damage to the cycle, its systems and components

P7.2 damage to your working environment

P7.3 injury to self and others

P8 use suitable **testing methods** to accurately evaluate the performance of the reassembled system

P9 ensure the reassembled system performs to the cycle operating specification

P10 promptly report any problems or issues relating to the cycle's condition or conformity to the relevant person(s)

P11 ensure your records are accurate, complete and promptly passed to the relevant person(s) in the format required

P12 complete all cycle derailleur gear **component** remove and replace activities within the agreed timescale

P13 promptly report any anticipated delays in completion to the relevant persons(s)

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Knowledge and understanding

You need to know and understand:

Legislative and organisational requirements and procedures

K1 the health and safety legislation, environmental requirements and workplace procedures relevant to cycle derailleur gear **component** remove and replace activities and personal and cycle protection

K2 your workplace procedures for:

K2.1 recording removal and replacement information

K2.2 the referral of problems

K2.3 reporting delays to the completion of work

K3 how to work safely avoiding damage to other cycle systems, components and units and injury to self and others

K4 the importance of documenting cycle derailleur gear **component** remove and replace information

K5 the importance of working to agreed timescales and keeping others informed of progress

K6 the importance of promptly reporting anticipated delays to the relevant person(s)

Use of technical information

K7 how to find, interpret and use sources of current technical information applicable to cycle derailleur gear **components** remove and replace activities

K8 the importance of using the appropriate sources of technical information

Tools and equipment

K9 how to select, prepare, check and use all the removal and replacement **tools and equipment** required

Cycle derailleur gear component removal and replacement

K10 how to identify the **components** in cycle derailleur gear systems

K11 how to identify compatibility of **components** within the group set

K12 how to identify wear in the system

K13 how to calculate chain length, compatibility

K14 how to identify chain joining methods

K15 how to check and rectify gear hanger alignment

K16 the difference between cassettes and freewheels

K17 how to remove and replace cycle derailleur gear **components** for the types of cycle on which you work

K18 how to route cables and index gear systems

K19 how to use **testing methods** to evaluate the performance of replacement cycle derailleur gear **components** and the reassembled system against the cycle operating specifications and any legal requirements

K20 the manufacturer's specification for the type and quality of **components** to be used

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Scope/range

1. **Tools and equipment** are:

- 1.1 hand tools
- 1.2 work stand
- 1.3 gear hanger alignment tool

2. **Components** are:

- 2.1 chain
- 2.2 derailleurs
- 2.3 cable and casing/housing
- 2.4 shift levers
- 2.5 cassette
- 2.6 freewheel
- 2.7 chain rings

3. **Testing methods** are:

- 3.1 functional
- 3.2 measurement

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Glossary

This section contains examples and explanations of some of the terms used but does not form part of the standard.

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Agreed timescales

Examples include industry recommended work times, job times set by your company or a job time agreed with a specific customer

Conformity

Examples include conformity to approvals and specifications, UK and European legal requirements where applicable

Cycles

In this standard the term 'cycle' includes pedal-propelled vehicles with two, three or four wheels on which the rider sits. It may also include pedal-assisted e-bikes:

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