

Inspect and replace light vehicle clutches

Overview

This standard is about inspecting and replacing light vehicle clutch components.

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Performance criteria

- You must be able to:*
- P1 select and use suitable personal protective equipment throughout all clutch **inspection** and replacement activities
 - P2 use suitable sources of technical information to support your **inspection** and replacement of clutch components
 - P3 work in a way which minimises the risk of damage to the vehicle and its systems
 - P4 confirm that all the **tools and equipment** required are safe prior to use
 - P5 ensure your **inspection techniques** are sufficiently in depth to identify the severity of all clutch component defects
 - P6 conduct all **inspection** and replacement activities following:
 - P6.1 vehicle equipment and component manufacturers' recommendations
 - P6.2 your workplace procedures
 - P6.3 health and safety requirements
 - P7 carry out all **inspection**, repair and replacement activities using:
 - P7.1 suitable **tools and equipment**
 - P7.2 the correct **inspection techniques**
 - P7.3 the correct type of replacement component
 - P8 clearly identify and record the possible cause of any clutch component faults following your normal workplace procedures
 - P9 make clear and accurate recommendations for further action to the relevant person(s) when necessary
 - P10 ensure that replaced and refitted **clutch components** are correctly fitted and conform to requirements prior to releasing the vehicle to the customer
 - P11 dispose of removed components safely to meet current legal and your workplace requirements
 - P12 complete all activities within the agreed timescale
 - P13 promptly report any anticipated delays in completion and any additional faults identified to the relevant person(s)

Knowledge and understanding

You need to know and understand:

Legislative and organisational requirements and procedures

K1 the current health and safety legislation and workplace procedures relevant to workshop practices, checking equipment and personal and vehicle protection

K2 your workplace procedures for:

K2.1 the referral of problems

K2.2 reporting of delays to the completion of work

K2.3 personal protection

K3 the importance of disposing of waste safely and the consequences of not doing so to others and the environment

K4 the importance of working to agreed timescales and keeping others informed of progress

K5 the relationship between time and costs

K6 your workplace requirements for recording measurements taken and adjustments made

K7 the importance of promptly reporting anticipated delays to the relevant person(s)

Tools and equipment

K8 the types, function and use of clutch removal, alignment and replacement **tools and equipment**

K9 the importance of checking the safety and operation of **equipment** prior to use

K10 the correct use of diagnostic tools

Inspection and replacement of clutches

K11 the different types of clutches and operating systems and how they and their associated components operate

K12 the different types of **inspection techniques** and how to carry them out

K13 the common faults associated with clutch systems (e.g. slip, drag, judder and noise), their possible cause and how to identify and rectify them

K14 the purpose, function and layout of different types of manual transmission

K15 the removal and replacement procedures associated with clutch systems, including the effective sequence of working

K16 how to make checks and adjustments to clutch operating systems

K17 the importance of taking accurate measurements

Inspect and replace light vehicle clutches

K18 how to find and use data relating to clutch working tolerances

K19 the importance of ensuring any adjustments and set up are within acceptable tolerances for the vehicle

K20 how to work safely avoiding injury to yourself, others and damage to the vehicle when inspecting and replacing clutches

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Scope/range

1. **Clutch components** include:
 - 1.1. clutch assembly
 - 1.2. spigot bearing
 - 1.3. flywheel (including dual mass)
 - 1.4. operating cable
 - 1.5. hydraulic clutch components (including master and slave cylinders, pipework and damper as required)
 - 1.6. automatic and manual adjusters
 - 1.7. clutch fork
 - 1.8. oil seals
 - 1.9. input shaft
 - 1.10. inspection cover
 - 1.11. clutch pedal
 - 1.12. fly-wheel housing (removal, for inspection purposes)
 - 1.13. gearbox (removal, for inspection purposes)
 - 1.14. driveshaft (removal, for inspection purposes)
 - 1.15. propshaft (removal, for inspection purposes)

2. **Tools and equipment** include:
 - 2.1. hand tools
 - 2.2. special purpose tools
 - 2.3. lifting and supporting equipment
 - 2.4. general workshop equipment
 - 2.5. electronic equipment
 - 2.6. oil drainer

3. **Inspection** includes:
 - 3.1. clutch operating systems
 - 3.2. clutch assembly
 - 3.3. flywheel
 - 3.4. oil leaks

4. **Inspection techniques** include:
 - 4.1. sensory
 - 4.2. measurement
 - 4.3. functional tests
 - 4.4. electronic

Glossary

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

Agreed timescales

Examples include job times set by your company or agreed with a specific customer.

Clutch assembly

This consists of the drive plate, pressure plate, release bearing and dual mass fly wheel (DMF)

Drive plate

This is also known as the friction plate

Pressure plate

This is also known as the clutch cover

Types of clutches and operating systems

Examples include: single/multi-plate, centrifugal, spring and diaphragm types, cable, hydraulic and electronic

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Suite Vehicle Fitting

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