

Overview

This standard is about removing and replacing units and components where dismantling and re-assembly of transmission and driveline systems is required. It is also about evaluating the performance of replaced units and components.

The units and components concerned are those ~~outside these~~not replaced as part of a normal routine, lift truck maintenance (servicing) activities.

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Performance

criteria

- You must be able to:
- P1 wear suitable personal protective equipment throughout all removal and replacement activities
 - P2 support your removal and replacement activities by reviewing:
 - P2.1 lift truck technical data
 - P2.2 removal and replacement procedures
 - P2.3 legal requirements
 - P3 prepare, set up, test and use all the equipment required following manufacturers' instructions
 - P4 carry out all removal and replacement activities following;
 - P4.1 manufacturers' instructions
 - P4.2 recognised repair methods
 - P4.3 health and safety requirements
 - P5 work in a way which minimises the risk of:
 - P5.1 damage to other lift truck systems
 - P5.2 damage to other lift truck components and units
 - P5.3 injury to yourself and others
 - P5.4 contact with hazardous substances
 - P5.5 damage to your working environment
 - P5.6 instability when working on the lift truck
 - P6 ensure replaced driveline units and components conform to the lift truck operating specification and any legal requirements
 - P7 promptly record and report any additional faults you notice during the course of your work ~~promptly~~
 - P8 use suitable testing methods to evaluate the performance of there assembled system
 - P9 ensure the reassembled driveline system performs to the lift truck operating specification and meets any legal requirements prior to return to the customer
 - P10 ensure the reassembled transmission system performs to the lift truck operating specification and meets any legal requirements prior to return to the customer
 - P11 ensure your records are accurate, complete and promptly passed to the relevant person(s) in authority ~~promptly~~ in the format required

- P12 complete all removal and replacement activities within the agreed timescale
- P13 promptly report any expected delays in completion to the relevant person(s) in authority ~~promptly~~

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Knowledge and understanding

You need to know and understand:

Legislative and organisational requirements and procedures

- K1 the legal requirements relating to the lift truck (including road safety requirements)
- K2 the health and safety legislation and workplace procedures relevant to lift truck maintenance activities and personal and lift truck protection
- K3 your workplace procedures for:
 - K3.1 recording removal and replacement information
 - K3.2 the referral of problems
 - K3.3 reporting delays to the completion of work
- K4 the importance and purpose of recording removal and replacement activities
- K5 the importance of working to agreed timescales and keeping others informed of progress
- K6 the relationship between time and costs
- K7 the importance of promptly reporting anticipated delays to the relevant person(s) in authority promptly

Use of technical information

- K8 how to find, interpret and use sources of information applicable to unit and component removal and replacement within transmission and driveline systems
- K9 the importance of using the correct sources of technical information
- K10 the purpose of and how to use identification codes

Electrical and electronic principles

- K11 lift truck earthing methods
- K12 electrical and electronic principles associated with transmission and driveline systems, including types of sensors and actuators, their application and operation
- K13 types of circuit protection and why these are necessary
- K14 electrical safety procedures
- K15 electrical units, terms and schematics
- K16 electronic control system principles

Transmission and driveline system operation and construction

- K17 how transmission and driveline systems and their related units and components are constructed, removed and replaced for the classification of lift truck worked upon
- K18 how transmission and driveline systems and their related units and components operate for the classification of lift truck worked upon
- K19 transmission schematic symbols and diagrams

Equipment

- K20 how to prepare, inspect and use all the removal and replacement equipment required

Transmission and driveline system unit and component removal and replacement

- K21 how to remove and replace transmission and driveline system mechanical, electrical and hydraulic units and components for the classification of lift truck worked upon
- K22 how to file, fit, tap, thread, cut and drill plastics and metals
- K23 how to select and use gaskets, sealants, seals, fittings and fasteners
- K24 how to test and evaluate the performance of replacement transmission and driveline system units and components and the reassembled system against the lift truck operating specifications and any legal requirements
- K25 the relationship between testing methods and the transmission system units and components replaced and – the use of appropriate test methods
- K26 the relationship between testing methods and the driveline system units and components replaced
- K27 when replacement units and components must meet the original equipment specification (OES) for warranty or other requirements
- K28 how to work safely avoiding damage to other lift truck systems, components and units and contact with leakage and hazardous substances relating to yourself and the environment

Scope/range

1. **1. Equipment** includes:
 - 1.1. hand tools
 - 1.2. special workshop tools
 - 1.3. general workshop equipment
 - 1.4. electrical testing equipment

2. **2. Testing methods** include:
 - ~~2.1.~~ ~~visual~~
 - ~~2.2.2.1.~~ ~~auralsensory~~
 - ~~2.3.2.2.~~ functional
 - ~~2.4.2.3.~~ measurement

3. **3. Units and components** include:
 - 3.1. mechanical
 - 3.2. electrical
 - 3.3. hydraulic

4. **4. Transmission and driveline systems** include:
 - 4.1. powershift units
 - 4.2. hubs and bearings
 - 4.3. driveline shafts
 - 4.4. torque converters
 - 4.5. control valves
 - 4.6. final drive units
 - 4.7. motor control units
 - 4.8. hydrostatic
 - 4.9. generator

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Suite	Lift Truck
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