

Overview

This NOS is about removing and replacing motorcycle transmission and driveline units and components previously identified as faulty, damaged, deteriorating or where a customer has requested a replacement, where dismantling and re-assembly of the transmission and driveline systems is required. Units and components are mechanical, electrical/electronic and hydraulic. It is also about evaluating the performance of replaced units and components. The units and components concerned are those not replaced as part of normal routine, motorcycle maintenance (servicing) activities.

In this standard the term 'motorcycle' includes motorcycles, scooters, mopeds and motorcycle-derived three- or four-wheel vehicles (such as quad bikes) on which the rider sits.

DRAFT

Performance criteria

- You must be able to:
- P1 wear suitable personal protective equipment and use motorcycle coverings (where applicable) throughout all removal and replacement activities
 - P2 ensure the motorcycle and the work area is safe prior to work commencing
 - P3 support your removal and replacement activities by reviewing:
 - P3.1 motorcycle technical data
 - P3.2 removal and replacement procedures
 - P3.3 legal requirements
 - P4 prepare, test and use all the **equipment** required following manufacturer's instructions
 - P5 carry out all removal and replacement activities following:
 - P5.1 manufacturer's instructions
 - P5.2 your workplace procedures
 - P5.3 health and safety requirements
 - P6 work in a way which minimises the risk of:
 - P6.1 damage to other motorcycle systems
 - P6.2 damage to other motorcycle components and units
 - P6.3 contact with leakage
 - P6.4 contact with hazardous substances
 - P6.5 injury to self and others
 - P7 ensure replaced transmission and driveline **units and components** conform to the motorcycle operating specification and any legal requirements
 - P8 record and report any additional faults you notice during the course of your work promptly
 - P9 use suitable **testing methods** to evaluate the performance of the reassembled system accurately
 - P10 ensure the reassembled **transmission and driveline system** performs to the motorcycle operating specification and meets any legal requirements prior to return to the customer
 - P11 ensure your records are accurate, complete and passed to the relevant person(s) promptly in the format required
 - P12 complete all removal and replacement activities within the agreed timescale

IMIMC12

Remove and replace motorcycle transmission and driveline units and components



P13 report any expected delays in completion to the relevant person(s) promptly

DRAFT

Knowledge and understanding

You need to know and understand:

Legislative and organisational requirements and procedures

- K1 the legal requirements relating to the motorcycle (including road safety requirements)
- K2 the health and safety legislation, environmental requirements and workplace procedures relevant to motorcycle maintenance activities and personal and motorcycle 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 of documenting removal and replacement information
- K5 the importance of working to agreed timescales and keeping others informed of progress and delays
- K6 the relationship between time and cost

Use of technical information

- K7 how to find, interpret and use sources of information applicable to **unit and component** removal and replacement within transmission and driveline systems
- K8 the importance of using the appropriate sources of technical information
- K9 the purpose of and how to use identification codes

Transmission and driveline system operation and construction

- K10 how transmission and driveline systems and their related units and components are constructed and their operation for those motorcycles worked upon
- K11 how transmission driveline systems and their related units and components are removed and replaced for those motorcycles worked upon

You need to know
and understand:

Equipment

K12 how to prepare, test and use all the removal and replacement equipment required

Transmission and driveline unit and component removal and replacement

K13 the hazards associated with high voltage electrical systems and components

K14 how to remove and replace transmission and driveline system mechanical and hydraulic components for those motorcycles worked upon

K15 how to select and use gaskets, sealants, seals, fittings, fluids, fasteners and locking devices

K16 how to test and evaluate the performance of replacement transmission and driveline system units and components and the reassembled system against the manufacturer's operating specifications and any legal requirements

K17 the relationship between testing methods and the transmission and driveline system units and components replaced – the use of appropriate test methods

K18 when replacement units and components must meet the original equipment specification (OES) for warranty or other requirements

K19 how to work safely avoiding damage to other motorcycle systems, components and units, contact with leakage and hazardous substances and injury to self and others

Electrical and electronic unit and component operation and construction

K20 how electrical and electronic units and components are constructed and their operation for those motorcycles worked upon

K21 how electrical and electronic units and components are removed and replaced for those motorcycles worked upon

Electrical and electronic principles

K22 electrical and electronic principles associated with transmission and driveline systems

K23 types of circuit protection and why they are necessary

K26 how electrical circuits work

K27 electric symbols, units and terms

K28 the hazards associated with high voltage electrical systems

Scope/range

All of the items listed below form part of this National Occupational Standard

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

- 2 **Testing methods** are:
 - 2.1. sensory
 - 2.2. functional
 - 2.3. measurement

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

- 4 **Transmission and driveline systems** are:
 - 4.1. clutch
 - 4.2. manual gearbox
 - 4.3. automatic and semi-automatic gearbox
 - 4.4. chain and sprockets
 - 4.5. drive shafts
 - 4.6. gear drive
 - 4.7. belts and pulleys
 - 4.8. wheel bearings, hubs and seals

Additional information

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 manufacturer's recommended work times, job times set by your company or a job time agreed with a specific customer

Units and components

Any unit or component from the combustion engine system as defined in the Scoping Statement above

Motorcycles

In this standard the term 'motorcycle' includes motorcycles, scooters, mopeds and motorcycle-derived vehicles with a third or fourth wheel (such as quad bikes) on which the rider sits.

Sensory testing methods

These may include looking, listening, smelling and touching for heat.

IMIMC12

Remove and replace motorcycle transmission and driveline units and components



Developed by	IMI
Version number	3
Date approved	Not yet approved
Indicative review date	March 2025
Validity	Draft
Status	Original
Originating organisation	IMI Ltd
Original URN	MC13
Relevant occupations	Engineering; Vehicle Trades; Motorcycle Service Technician; ATV Service Technician
Suite	Maintenance and Repair - Motorcycle
Key words	Remove; replace; motorcycle; engine; units; ATV; components; starting; charging; battery