



Australian Government

MEM27030 Perform engine bottom-end overhaul

Release: 1

MEM27030 Perform engine bottom-end overhaul

Modification History

Release 1. Supersedes and is equivalent to MEM18033B Perform engine bottom-end overhaul

Application

This unit of competency defines the skills and knowledge required to dismantle, clean and assess parts, record and interpret measurements, and recondition components.

It includes cylinder honing using hand held power tools, and replacement of bearings, piston rings and similar activities but not major machining, including crankshaft grinding, cylinder boring and tunnel boring.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12003	Perform precision mechanical measurement
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18055	Dismantle, replace and assemble engineering components

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|--|-----|---|
| 1 | Determine job requirements | 1.1 | Follow standard operating procedures (SOPs) |
| | | 1.2 | Comply with work health and safety (WHS) requirements at all times |
| | | 1.3 | Use appropriate personal protective equipment (PPE) in accordance with SOPs |
| | | 1.4 | Identify job requirements from specifications, drawings, job sheets or work instructions |
| 2 | Dismantle, clean and assess parts | 2.1 | Determine the reuse or replacement of crankshaft and piston assemblies based on the characteristics of surface finish and wear patterns |
| | | 2.2 | Remove engine from plant, remove top-end components and dismantle block assembly according to manufacturer recommendations |
| | | 2.3 | Check parts for abnormal wear or defects and identify components for reuse or replacement |
| | | 2.4 | Select appropriate cleaning solution and procedure, clean and store ready for reassembly |
| | | 2.5 | Rack or set out parts according to their original location in the engine |
| | | 2.6 | Obtain and record measurements using appropriate measuring equipment |
| | | 2.7 | Interpret readings regarding replacement or reuse and determine appropriate under/oversize of replacement parts |
| 3 | Recondition components | 3.1 | Identify ridges, gaps, tapers, ovality and protrusions and take necessary corrective action |
| | | 3.2 | Assemble components according to manufacturer specifications using appropriate tools and equipment |

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 3.3 Determine bearing clearances by calculation or direct measurement

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

No range of conditions provided for this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM18033B Perform engine bottom-end overhaul

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>