



Australian Government

AURTTA006 Inspect and service hydraulic systems

Release: 1

AURTTA006 Inspect and service hydraulic systems

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to inspect and service hydraulic systems. It involves preparing for the task, inspecting the system, reporting the inspection findings, servicing and adjusting the system, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The hydraulic systems include those of agricultural machinery, heavy commercial vehicles, marine vessels, mobile plant machinery or outdoor power equipment. This unit is not intended for drive systems, power steering or hydraulic braking systems.

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

Competency Field

Mechanical Miscellaneous

Unit Sector

Technical

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to inspect and service hydraulic system	1.1 Job requirements are determined from workplace instructions 1.2 Servicing information is sourced and interpreted 1.3 Hazards associated with the work are identified and risks are

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	managed 1.4 Tools, equipment and materials are selected and checked for serviceability
2. Inspect hydraulic system	2.1 Hydraulic system inspection and operational testing are carried out according to manufacturer specifications, workplace procedures, and safety and environmental requirements 2.2 Inspection results are compared with manufacturer specifications 2.3 Inspection findings are reported according to workplace procedures, including recommendations for necessary repairs or adjustments
3. Service hydraulic system	3.1 Service and adjustments are carried out according to manufacturer specifications, workplace procedures, and safety and environmental requirements, and without causing damage to components or systems 3.2 Post-service testing is carried out according to workplace procedures
4. Complete work processes	4.1 Final inspection is made to ensure work is to workplace expectations and hydraulic system is presented ready for use 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 4.3 Tools and equipment are checked and stored according to workplace procedures 4.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	locate appropriate sources of information efficiently.
Reading skills to:	interpret information from manufacturer and workshop literature when seeking service procedures and specifications relating to hydraulic systems.

Skills	Description
Writing skills to:	legibly and accurately fill out workplace documentation when reporting inspection findings, making recommendations, and recording parts and material used.
Oral communication skills to:	- clarify instructions - report inspection findings and make repair recommendations.
Numeracy skills to:	- use mathematical operations, including addition and subtraction, to determine liquid quantities - interpret pressure gauges and units of pressure.

Range of Conditions

This section specifies work environments and conditions that may affect performance.

Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Hydraulic system</i> must include:	- reservoir - accumulator - pump - valves - actuators - motor - filters - hoses, pipes and connectors.
<i>Safety and environmental requirements</i> must include:	- work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: - using raising, lowering and supporting equipment - working with fluids under pressure - working with hot fluid hazards - isolating and stabilising vehicles or machinery - environmental requirements, including procedures for: - trapping, storing and disposing of hydraulic fluid released from hydraulic systems - disposing of filters.

Unit Mapping Information

Equivalent to AURTTA2006 Service hydraulic systems

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

Assessment Requirements for AURTTA006 Inspect and service hydraulic systems

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Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- inspect and service two different hydraulic systems, in which the work must involve:
 - evaluating hydraulic fluid condition
 - replacing hydraulic filters
 - carrying out adjustments
 - carrying out visual inspections
 - carrying out operational testing.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting and servicing hydraulic systems, including procedures for:
 - using raising, lowering and supporting equipment
 - working with fluids under pressure
 - working with hot fluid hazards
 - isolating and stabilising vehicles or machines
- environmental requirements, including procedures for:
 - trapping, storing and disposing of hydraulic fluid released from hydraulic systems
 - disposing of filters
- identification, function and basic operation of major hydraulic system components, including:
 - reservoir
 - accumulator

- pump and charge pump
- pump
- valves
- actuators
- motor
- oil cooler
- filters
- hoses, pipes, connectors and fittings
- AS 1101.1 Graphic symbols for general engineering, Part 1: Hydraulic and pneumatic systems
- types and applications of hydraulic oils, including:
 - additives
 - viscosity ratings
 - viscosity index
 - fire resistant fluids
 - synthetic fluids
- types and applications of hydraulic filters, including:
 - filter types
 - position of filters
 - filter ratings
- inspection, evaluation and operational test procedures for hydraulic systems, including:
 - hydraulic oil sampling
 - oil contamination control
 - cycle times checks
 - pressure checks
- service and adjustment procedures for hydraulic systems, including:
 - oil and filter replacement scheduling
 - oil cleanliness procedures
- post-service testing procedures for hydraulic systems.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the hydraulic systems that they have worked on, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer hydraulic system specifications
- AS 1101.1 Graphic symbols for general engineering, Part 1: Hydraulic and pneumatic systems
- two different hydraulic systems requiring servicing
- tools, equipment and materials appropriate for the inspection and servicing of hydraulic systems.

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