Australian Government

AURKTAX03 Inspect, service and repair crop planting and seeding equipment

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Release: 1

AURKTAX03 Inspect, service and repair crop planting and seeding equipment

Modification History

Release	Comments
1	This unit of competency was first released in AUR Automotive Retail, Service and Repair Training Package Release 11.0.

Application

This unit describes the performance outcomes required to inspect, service and repair faults in crop planting and seeding equipment. It involves preparing for the task, inspecting the equipment to determine the service and repair requirements, carrying out the service and repair, performing post-repair testing, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry, including the agricultural machinery sector. The crop planting and seeding equipment is that of agricultural machinery and refers to specialised equipment involved in planting and seeding. It does not cover generalised equipment and systems that form the platform or the towing vehicle. Work involves purpose-designed and constructed crop planting and seeding and air seeding equipment, including self-propelled and towed equipment.

Licensing/Regulatory Information

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

Pre-requisite unit(s)

No pre-requisite units

Competency field(s)

Mechanical - Mobile Plant

Unit sector(s)

Technical

Elements and Performance Criteria

Elements	Performance Criteria

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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 crop planting and seeding equipment	1.1 Identify job requirements from workplace instructions 1.2 Identify required information for inspection activity 1.3 Analyse inspection options and select those most appropriate to the circumstances using workplace and manufacturer procedures 1.4 Identify hazards and environmental issues, assess potential risks and implement control measures in line with workplace policies and procedures 1.5 Identify tools and equipment required for inspection activity and establish serviceability according to workplace procedures
2. Conduct inspection and analyse results	2.1 Isolate and stabilise equipment, apply lockout and tagout (LOTO) according to workplace and manufacturer procedures 2.2 Conduct inspection according to workplace procedures, manufacturer specifications, and ***safety and environmental requirements*** 2.3 Compare inspection results with manufacturer specifications 2.4 Document and report inspection findings and recommendations for necessary repairs according to workplace procedures
3. Service and repair crop planting and seeding equipment	3.1 Identify required information for service and repair activity 3.2 Identify tools, equipment and materials required for service and repair activity and establish serviceability according to workplace procedures 3.3 Carry out service and adjustments according to manufacturer specifications, workplace procedures, and ***safety and environmental requirements*** 3.4 Carry out repairs, component replacements and adjustments according to manufacturer specifications, workplace procedures, and ***safety and environmental requirements*** 3.5 Carry out post-repair testing according to workplace procedures, and ***safety and environmental requirements***
4. Prepare equipment for operation	4.1 Identify variable operating parameters from manufacturer specifications and by analysing the proposed work environment and conditions

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	4.2 Establish and prepare equipment variables, including management system settings, controls and monitoring systems for proposed operations 4.3 Carry out a test run on equipment and systems and make final adjustments
5. Complete work processes	5.1 Conduct final inspection according to workplace procedures and confirm equipment is ready for use, including checking that protective guards, safety features and cowlings are in place 5.2 Clear work area and dispose of or recycle materials according to workplace procedures 5.3 Check and store tools and equipment according to workplace procedures 5.4 Complete documentation according to workplace procedures

Foundation skills

This section describes the foundation skills essential to performance.

Skill	Description
Learning	• Locates manufacturer and workplace information efficiently
Reading	• Interprets service manuals, specifications, schematics, seed and product rate tables and fault code information for crop planting and seeding equipment
Writing	• Records inspection findings, repair recommendations and parts used accurately in workplace documentation
Oral communication	• Clarifies job requirements and reports findings to operators, customers, supervisors and dealer support
Numeracy	• Measures components and calculates tolerances and deviations from manufacturer specifications • Calculates seed and product rates when checking metering systems
Planning and organising	• Plans own work requirements • Prioritises actions to achieve required outcomes • Ensures tasks are completed within workplace timeframes
Technology	• Uses specialised diagnostic equipment

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Range of conditions

Safety and environmental requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: o controlling stored energy and pressurised hydraulic systems o working near moving, cutting and crushing components o test runs of operating equipment, including exclusion zones o preventing fires from fuel and hot machinery components • environmental requirements, including procedures for waste management, machine hygiene, dust and clean-up management.

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Assessment Requirements for AURKTAX03 Inspect, service and repair crop planting and seeding equipment

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, service and repair:
  - one air feed crop planting and seeding equipment
  - one conventional feed crop planting and seeding equipment.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- methods to locate and interpret information required to inspect, service and repair crop planting and seeding equipment, including:
  - information provided by customers and supervisors
  - manufacturer specifications and procedures or equivalent documentation
- workplace procedures required to inspect, service and repair crop planting and seeding equipment, including:
  - establishing serviceability of tools and equipment
  - documentation procedures
  - housekeeping procedures, including:
    - storage of tools and equipment
    - identification, tagging and isolation of faulty equipment
    - disposal of excess materials
    - recycling procedures
- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting, servicing and repairing crop planting and seeding equipment, including procedures for:
  - isolating and stabilising equipment, including lockout and tagout (LOTO)
  - controlling stored energy and pressurised hydraulic systems
  - working near moving, cutting and crushing components
  - working at heights, including safe access to and from elevated machine platforms and use of fall prevention equipment
  - test runs of operating equipment, including exclusion zones
  - identifying and controlling hazards in field locations

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  - fire prevention when working near hot components and crop residue
  - controlling exposure to hazardous chemicals and chemical residues on equipment, including treated seed and fertiliser
  - selecting and wearing personal protective equipment (PPE), including respiratory protection
- environmental requirements, including procedures for:
  - trapping, storing and disposing of oils, fuels and fluids released during work
  - containing and cleaning up oil, fuel and hydraulic fluid spills, including during field repairs
  - preventing chemical contamination of soil and waterways
  - machine hygiene, including removing soil, seed and plant material to prevent the spread of weeds and disease
  - dust and clean-up management
- operating principles of crop planting and seeding equipment, including air feed and conventional planting and seeding systems
- purpose and operation of crop planting and seeding equipment, including:
  - electronic monitoring system
  - variable rate and section control systems
  - metering systems, including differences between mechanical, hydraulic and electric drive systems
  - air seeding delivery systems, including primary and secondary delivery, and the effect of airflow, product flow, hose size and hose length on product distribution
  - adjustable tine tension system
  - adjustable press wheels
- inspection procedures for crop planting and seeding equipment, including:
  - confirming safety guards and systems are in place and operating as designed
  - measuring and analysing component wear and clearances
  - system operation analysis
  - accessing and interpreting fault codes
- service and repair procedures for crop planting and seeding equipment, including:
  - removing, replacing and repairing components
  - adjusting pressure, volume and coverage of crop planting and seeding equipment
- post-repair testing procedures for crop planting and seeding equipment, including:
  - variable operating parameters

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- impact of environmental factors.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- assessment must include direct observation of tasks.
- where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the crop planting and seeding equipment that they have serviced and repaired, e.g. repair orders.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- manufacturer crop planting and seeding equipment specifications
- crop planting and seeding equipment specified in the performance evidence and requiring service and repair
- diagnostic equipment for crop planting and seeding equipment
- tools, equipment and materials appropriate for inspecting, servicing, repairing and adjusting crop planting and seeding equipment.

Mandatory Workplace Requirements

Assessment of performance evidence may be in a workplace setting or an environment that accurately represents a real workplace.

Unit Mapping Information

Previous Code and Title	Equivalence	Comments
AURKTA003 Inspect, service and repair crop planting and seeding equipment		Performance criteria and assessment requirements updated. No change to performance outcomes.

Links

Companion volumes, including implementation guides, are found on the national training register - https://training.gov.au/training/details/AUR.

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