



Australian Government

FWPHAR3225 Operate excavator with log grapple

Release: 1

FWPHAR3225 Operate excavator with log grapple

Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 3.0.

Application

This unit of competency describes the skills and knowledge required to operate an excavator with log grapple for log production and use optimised production processes in a commercial forest harvesting environment. The main job functions are to load logs on trucks and/or sort log stacks at roadside or landing area for transportation. Other functions include slash removal. Activities are to be conducted safely and efficiently.

The unit applies to individuals who work as excavator with log grapple operators in small or larger harvesting crews. Operators generally work under broad direction to complete routine activities related to crawler tractor operations and take responsibility for their work.

This unit does not apply to excavator operations that undertake dogging, rigging and/or scaffolding work.

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

Pre-requisite Unit

Nil

Unit Sector

Harvesting (HAR)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare to operate an excavator with log grapple	1.1 Review production plan, confirm its targets for felling and processing and assess wood flow requirements to ensure efficient machine operations and overall productivity

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.2 Confirm type, size and quantity of logs or slash to be grappled, to ensure that loads and machine are in line with safe working requirements and industry standards for operations 1.3 Confirm, identify and report health, safety, environmental and heritage risks of operation in line with standard operating procedures and site safety and environmental management plans 1.4 Apply risk control measures in line with standard operating procedures, site operational plan, legislative requirements and industry standards to eliminate or minimise risks 1.5 Identify emergency plan procedures to follow in the event of an emergency 1.6 Use production plan to identify layout of landing or roadside area and access to logs for efficient process and minimum interference with other forestry operations 1.7 Assess terrain characteristics to establish machine stability 1.8 Carry out pre-operational checks on machine to ensure optimal production performance and operational effectiveness in line with workplace procedures or manufacturers' recommendations
2. Operate excavator with log grapple to load log trucks and/or sort log stacks	2.1 Use industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operation 2.2 Position excavator with log grapple for stability and safe access to logs by adjusting the technique in response to terrain conditions 2.3 Use machine cabin controls to grapple bunches of logs / slash and load trucks and/or sort stacks and ensure bunch size is suited to the log grapple capacity and terrain conditions 2.4 Systematically load trucks and/or construct log/slash stacks using handling techniques to avoid log damage and ensure safety and stability of truck and/or stacks 2.5 Use appropriate techniques to maintain log product separation in the truck when multiple product grades are loaded or in line with the production plan requirements 2.6 Drive the machine and manoeuvre log grapple safely and efficiently to avoid logs, machine and environmental damage 2.7 Ensure all merchantable product and/or slash from the site is loaded or sorted in line with the production plan requirements

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Segregate and stack stems and/or logs	3.1 Visually assess and measure products for size, species and quality characteristics at the felling site and during stacking at the roadside or landing bay to ensure they are placed in the appropriate stack and in line with the production plan requirements 3.2 Mark and report logs that cannot be clearly and safely assessed in line with the production plan requirements 3.3 Position and construct stacks of stems or logs to avoid product damage, provide stability, restrict height for efficient extraction and facilitate safe access and conduct of other landing and machine operation in line with worksite layout and production plan requirements 3.4 Maintain stack separation and identification to ensure products are correctly presented on roadside and/or landing bay for an optimum transport and logistics cycle time in line with industry standards and production plan requirements 3.5 Clean area of all debris resulting from excavator with log grapple operation, in line with resource management policies
4. Carry out machine operator maintenance	4.1 Park, shut-down, de-energise and isolate excavator with log grapple in line with workplace procedures or manufacturers' recommendations 4.2 Clean, check and carry out routine maintenance tasks on excavator with log grapple to maintain optimum operational performance 4.3 Identify and report machine faults, malfunctions or problems in line with workplace procedures or manufacturers' recommendations 4.4 Clean work area and dispose of or recycle waste materials in line with site environmental management plan 4.5 Record excavator with log grapple operations and maintenance activities

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
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Skill	Description
Reading	- read production plans, site safety and environmental management plans in a forest harvesting environment - read standard operating procedures and/or manufacturers' instructions for the operation of forest harvesting machinery
Writing	record operation, production and machine maintenance on paper based or electronic media
Oral Communication	- interact verbally and non-verbally using agreed systems and processes to communicate with others on site to ensure safe and effective machine operations - use appropriate vocabulary including technical language directly relevant to role
Numeracy	- interpret gauges relevant to safe operation of harvesting machinery - determine construction of stable log stack - estimate the weight of logs to determine loading requirements and compliance to machine specifications
Navigate the world of work	understand main tasks, responsibilities and boundaries of own role
Interact with others	- use modes of communication suitable to purpose to confirm and clarify understanding - communicate and report operational and safety information to on-site personnel
Get the work done	- recognise and respond to routine problems - plan and organise own work activities and resources

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPHAR3225 Operate excavator with log grapple	FWPHAR3219 Conduct excavator operations with grabs	Significant changes to reflect industry requirements for a safe, appropriate and efficient operation, including product quality. A new element and new PCs were added, most PCs were edited and PE and KE increased in content to	No equivalent unit

Code and title current version	Code and title previous version	Comments	Equivalence status
		map against the revised PCs. Additional foundation skills identified. Code and title change for consistency with industry terminology and other machine operation units.	

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPHAR3225 Operate excavator with log grapple

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Performance Evidence

An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that, on at least one occasion, the individual has:

- planned, prepared and safely and effectively operated an excavator with log grapple, to load logs/slash on trucks and/or sort and stack logs in line with a production plan
- checked risks associated with the operation and applied standard operating procedure
- followed production plan requirements and site safety and environmental management plan
- determined suitability and stability of the machine for operation by considering machine specifications, terrain characteristics and type and size of logs to be grappled
- adjusted machine positioning technique in response to terrain conditions
- demonstrated knowledge of log species, quality characteristics and defects in line with the production plan requirements
- applied machine techniques to drive, grapple, load and/or stack logs or slash and minimise damage to products, machine and surrounding environment in line with the production plan requirements
- placed, stacked and presented products for efficient transportation and identification in line with the production plan requirements
- communicated effectively with others in the work area
- shut down, de-energised and isolated machine in line with workplace procedures and operator's manual
- carried out routine maintenance on the machine.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- information and requirements contained in a production plan and site safety and environmental management plans
- hazardous or safe working zones in forest harvesting operations

- health and operational hazards or risks related to excavator with log grapple and factors that can change or introduce new hazards
- industry-accepted work health and safety risk control measures, legal obligations of the current Work Health and Safety Acts or Occupational Health and Safety Acts and regulations and requirements of industry standards and/or codes of practice for excavator with log grapple operations as outlined in workplace procedures and production plan
- industry-accepted warning signs, their correct positioning, vehicle-to-vehicle communication systems and procedures to maintain communication and work safety during operations
- required emergency response procedure, including firefighting resources and emergency response
- potential impact of excavator with log grapple operations on onsite and offsite environmental values including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- industry-accepted environmental control measures, restrictions, legal obligations of the current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for excavator with log grapple operations as outlined in workplace procedures and production plan
- landings usage
- wood flow requirements and extraction and production bottlenecks particular to a production system
- log species, quality characteristics and defects particular to the site and production system
- regional quality requirements for log products with particular end uses, markets, and values
- maximum log damage or defect and minimum quality allowances particular to a production system
- techniques particular to a production system to avoid mechanical damage to logs during grappling, loading and stacking; separate and present logs for efficient transportation and identification of the product
- effects of weather on ground conditions
- effects of terrain conditions on machine stability and operation
- machine specifications, restrictions and safe operating procedures, including stability and operation in different terrain conditions, slopes and road types and methods to shut down, de-energise and isolate the machine as outlined in workplace procedures or operator's manual
- using machine cabin controls
- techniques for safe and efficient driving of the machine during operation
- methods to conduct machine pre-operational checks and detect faults as outlined in workplace procedures or operator's manual
- location of machine's major mechanical systems and parts of the machine in which energy is stored as outlined in operator manuals for safe and efficient conduct of the machine operator maintenance tasks
- machine maintenance and servicing requirements, as outlined in workplace procedures or operator's manual

- industry-accepted reporting requirements regarding site, incident and hazard, personal reporting, check-in, production, machine maintenance and block completion.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a forest harvesting site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - excavator with log grapple
 - logs/slash for loading and/or segregation and stacking
 - personal protective equipment required in harvesting operations
 - vehicle-to-vehicle communication system
- specifications:
 - access to workplace policies and procedures which cover current Work Health and Safety Acts or Occupation Health and Safety Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to workplace policies and procedures which cover current Environment Protection Acts, regulations and related industry standards and codes of practice applicable to forest harvesting operations
 - access to production plan, site operational plan and safety and environmental management plans
 - access to site emergency procedure
 - access to workplace standard operating procedures for excavator with log grapple or operator's manual
 - access to user manual for vehicle-to-vehicle communication unit

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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