



Australian Government

FWPHAR3227 Operate forwarder

Release: 1

FWPHAR3227 Operate forwarder

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 a forwarder for log production and use optimised production processes in a commercial forest harvesting environment. The main job functions are to load logs at felling or pre-bunching sites, transport and unload logs at a mill or landing area. Activities are to be conducted safely and efficiently.

The unit applies to individuals who work as forwarder operators in small to large harvesting crews. Operators generally work under broad direction to complete routine activities related to forwarding operations and take responsibility for their 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 a forwarder	1.1 Review production plan, confirm its targets for felling and processing and assess wood flow requirements to ensure efficient machine operation and overall productivity 1.2 Confirm type, size and quantity of logs to be moved with forwarder to ensure that the load and the machine are in line with safe

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<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	working requirements and industry standards for operation 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 entry points to the coupe, extraction routes and directions to the landing or other locations for efficient extraction of logs, minimum environmental impact and interference with other forestry operations 1.7 Assess terrain characteristics to establish machine stability 1.8 Carry out pre-operational checks on machine in line with workplace procedures or manufacturers' recommendations to ensure optimal production performance and operational effectiveness
2. Operate forwarder for loading	2.1 Use industry-accepted warning signs, vehicle-to-vehicle communication systems and procedures to maintain communication and workplace safety during operation 2.2 Drive and position forwarder for stability, safe access to logs and within reach of the crane and adjust the technique in response to terrain conditions 2.3 Use cabin controls to operate the crane to load the rear bunk by aligning and grappling logs to create a stable load 2.4 Systematically load logs into the bunk by using handling techniques to avoid log damage in line with the production plan requirements 2.5 Use techniques to maintain product separation in the bunk when multiple product grades are loaded or in line with the production plan requirements
3. Operate forwarder for transporting and unloading	3.1 Use techniques and appropriate equipment to restrain load in line with positioning and stability requirements for transportation 3.2 Line up the crane behind the forwarder and drive to the mill or landing site efficiently and safely to avoid damage to logs and equipment

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	3.3 Unload logs into safe and stable stacks at landing area or directly onto a truck 3.4 Recover all merchantable product from site in line with the production plan requirements
4. Segregate and stack logs	4.1 Visually assess logs for size, species and quality characteristics during loading at the felling site and unloading at the landing bay to ensure they are placed in the appropriate stack and in line with the production plan requirements 4.2 Mark and report logs that cannot be clearly and safely assessed in line with the production plan requirements 4.3 Position and construct log stacks to avoid log damage, provide stability, restrict height and facilitate safe access and conduct of other landing and equipment operations in line with planned worksite layout 4.4 Maintain stack separation and identification to ensure products are presented for an optimum transport and logistics cycle time and are in line with industry standards and production plan requirements 4.5 Clean area of all debris resulting from loading and unloading operations in line with resource management policies
5. Carry out machine operator maintenance	5.1 Park, shut-down, de-energise and isolate forwarder in line with workplace procedures or manufacturers' recommendations 5.2 Clean, check and carry out routine maintenance tasks on forwarder and equipment to maintain optimum operational performance 5.3 Identify and report machine and equipment faults, malfunctions or problems in line with workplace procedures or manufacturers' recommendations 5.4 Clean work area and dispose of or recycle waste materials in line with site environmental management plan 5.5 Record forwarder 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
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 forwarder 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 load plate 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
FWPHAR3227 Operate forwarder	FWPHAR3206 Conduct forwarder operations	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 to reflect outcomes of unit and consistency with 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 FWPHAR3227 Operate forwarder

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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 a forwarder and equipment to load, transport and unload logs in stacks and/or on a truck
- checked risks associated with the operation and apply standard operating procedures
- followed production plan requirements and site safety and environmental management plan
- determined suitability and stability of forwarder for operation and safe working load limits, by considering capacity and limitation of machine, terrain characteristics and type, size and quantity of logs to be loaded
- adjusted machine driving and positioning techniques in response to terrain conditions
- applied loading, unloading and driving techniques to minimise damage to logs, standing trees, machine and environment in line with the production plan requirements
- placed, stacked and presented logs 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 forwarder parts.

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 forwarder operations 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 single grip harvesting 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 workplace safety during forwarder operations
- required emergency response procedure including firefighting resources and emergency response
- potential impacts of forwarder operations on onsite and offsite environmental values including cultural heritage, flora, fauna, ground compaction, water contamination and soil erosion
- industry-accepted environmental control measures, environmental restrictions, legal obligations of current Environment Protection Acts and regulations and requirements of industry standards and/or codes of practice for forwarder operations as outlined in workplace procedures and production plan
- landings usage, typical location of loading and/or landing site
- extraction methods for tree felling patterns
- wood flow requirements and extraction and production bottlenecks particular to a production system
- effects of weather on ground conditions
- effects of slope and terrain conditions on forwarder stability and operation
- 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 defects and minimum quality allowances particular to a production system
- techniques particular to a production system to avoid mechanical damage to logs during loading, unloading and stacking; separate and present logs for efficient transportation and identification of the product
- 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 to restrain logs safely
- techniques for safe and efficient driving of forwarder to landing area or the mill
- 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
- methods to conduct machine pre-operational checks and detect faults as outlined in workplace procedures or operator's manual
- 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:
 - forwarder
 - suitable logs to load, unload and stack
 - personal protective equipment required in harvesting operations
 - vehicle-to-vehicle communication systems
- specifications:
 - access to workplace policies and procedures which cover current Work Health and Safety Acts or Occupational 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 and safety and environmental management plans
 - access to site emergency procedure
 - access to workplace safety procedures for operating single grip harvester or operator's manual
 - access to user manual for vehicle-to-vehicle communication system.

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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