



Australian Government

FWPHAR3223 Use on-board computer systems for single grip harvester

Release: 1

FWPHAR3223 Use on-board computer systems for single grip harvester

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 use on-board computer technology and software for single grip harvesters, to achieve maximum value recovery in a commercial forest harvesting environment.

The unit applies to individuals who work as harvester operators. Operators generally work under broad direction to complete routine activities related to harvesting 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. Start up and shut down the on-board computer	1.1 Start up the on-board computer and respond to display prompts by pressing the appropriate buttons 1.2 Edit settings in the setting mode to update information about site identifier (ID) fields, operator and the start and end of a shift 1.3 Use mouse buttons and keyboard to shut down the measurement

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	system and computer 1.4 Identify on window screen that Global Positioning System (GPS) is active, to ensure it runs correctly during the operation, and report faults to appropriate personnel in line with workplace procedures
2. Reload or create a felling site file	2.1 Find existing felling site file by using the software menu and sub-menus to reload and activate cutting instruction files 2.2 Create a new felling site file when moving machine to a new site by loading a new cutting instruction file from a data storage device or computer hard drive and following display prompts to add site information and turn on settings for quality grade buttons 2.3 Assign quality grade to buttons on the joystick keypad 2.4 Open and edit cutting instruction file to adjust parameters on length and diameter, when instructed to by the forest management company 2.5 Review cutting instruction file and settings and report any identified error
3. Process trees using on-board computer system	3.1 Check that correct cutting instruction file is uploaded at the start of harvesting at an existing or a new felling site 3.2 Use appropriate methods to reset the harvesting head length counter to prevent loss of log volume or value 3.3 Upload, edit and save harvester settings and parameters for feeding and sawing by using the software's menus, files and fields 3.4 Select and use harvester controls and quality buttons and apply knowledge of species and quality characteristics, to process trees into the highest value combination, in line with the log cutting instructions 3.5 Override on-board computer settings, as necessary, to produce length results based on actual stem quality and potential or actual damage 3.6 Use on-board computer settings to adjust and monitor grapple or delimb arm pressures 3.7 Adjust the settings of diameter potentiometer or encoder, by using the software's diagnostic menu 3.8 Conduct accurate calibrations of harvesting heads as required by the forest management company to ensure that processed logs are within permissible error limits

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Conduct quality control audits	4.1 Conduct technical inspections on harvesting heads to check for wear and faults of measuring mechanisms and take corrective measures 4.2 Conduct length and diameter accuracy checks in line with the frequency outlined in manufacturers' manual or prescribed by the forest management company and by using standard or electronic equipment to verify processed logs against cutting instructions and remediate errors
5. Store, access and retrieve production and calibration data	5.1 Save production and calibration files on a data storage device by using the software menu, sub-menus and display prompts 5.2 Transfer files between computers or via mobile devices and applications in line with workplace procedures and within required timeframes 5.3 Discuss and resolve data and file matters with appropriate personnel in line with workplace procedures 5.4 Identify and report faults and errors related to the on-board computer system in line with workplace procedures

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 user manual for machine's on-board computer system
Writing	record log length and diameter measurements
Oral Communication	- interact verbally and non-verbally with technical personnel using communication means to remediate errors or resolve matters about electronic files and data - use appropriate vocabulary including technical language directly relevant to role
Numeracy	- interpret file variables including length, diameter and product quality - apply methods to measure log length and diameters

Skill	Description
	interpret instruments and data recording equipment
Navigate the world of work	understand main tasks, responsibilities and boundaries of own role
Interact with others	- communicate and report operational task and safety information to relevant personnel - participate in conversations relevant to role by responding and explaining as required
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
FWPHAR3223 Use on-board computer systems for single grip harvester	Nil	New unit	No equivalent unit

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 FWPHAR3223 Use on-board computer systems for single grip harvester

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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:

- used on-board computer system to process and mark logs safely and effectively in line with the log cutting instructions
- reloaded and/or created a felling site file in the cutting instruction file
- assigned log grades to buttons on the joystick keypad
- reset the harvesting head length counter
- uploaded, edited and saved harvester settings and parameters for feeding and sawing
- adjusted settings and monitored grapple or delimb arm pressures
- edited the diameter potentiometer' settings
- applied knowledge of species and quality characteristics to process trees and overridden the on-board computer settings to process trees into the highest value combination
- conducted accurate calibrations of harvesting heads
- conducted length and diameter accuracy checks of processed logs against cutting instructions
- saved production files on a data storage device and transferred files either manually or via mobile devices.

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:

- methods to correctly turn on/off the on-board computer system
- using the on-board computer keyboard and mouse or touchscreen
- navigating on-board computer menus, sub-menus and fields using cutting instructions, calibration and production files
- loading new cutting instruction files and reloading inactive files
- fields and data inputs required to start a processing operation
- editing cutting instruction file and restrictions

- saving production, control measurement and calibration files and transferring files using a data storage system or via mobile app
- fields and information contained in the cutting instruction file including matrix displays, maximum damage and minimum quality allowances for log grades and bark function
- values in the price matrix and how they affect the performance of the cutting instruction file
- computer methods to adjust feed performance, feed ramping, grapple or delimb arm pressures and diameter potentiometer
- harvesting head settings
- settings to program quality grade buttons on the joystick keypad
- using harvester's controls and quality buttons correctly
- methods to override the computer and limitations or restrictions as prescribed by forest management company to prevent issues with the software and the machine
- length and diameter measuring system fitted on harvesting heads
- on-board computer methods to calculate a diameter at a given distance along the stem
- methods for calibrating the measuring system of harvesting head for length and diameter
- signs of wear and faults to harvester head mechanisms
- effects of worn mechanical linkages on the length and diameter measuring mechanisms
- methods to conduct and record length and diameter accuracy checks and frequency of measurements
- methods for calibrating and verifying measuring tools for length and diameter including tapes and callipers
- causes of manual and mechanical length and diameter measurement error
- methods to reset the harvesting head's length counter
- methods to identify faults related to the on-board computer system and GPS.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a logging site or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - single grip harvester equipped with on-board computer system and GPS
 - standard and digital measuring tools for calibration
 - data storage system or mobile system/app for the purpose of saving and transferring production files
 - personal protective equipment required in harvesting operations
- specifications:
 - access to user manual for on-board computer system
 - access to sample cutting instruction, calibration and production files

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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