



Australian Government

Department of Education, Employment and Workplace Relations

FDFSUG301A Drive a master-slave locomotive

Release: 1

FDFSUG301A Drive a master-slave locomotive

Modification History

New Unit based on *SUGTDMS3A Drive a master-slave locomotive*.

Unit Descriptor

This unit describes the outcomes required to drive a master-slave locomotive.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFSUG206A Drive a cane locomotive

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare and connect the slave locomotive for operation	1.1 Personal protective clothing and equipment is selected and used 1.2 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures 1.3 Workplace records are checked to confirm operational status 1.4 The remote control system is set in accordance with workplace procedures and manufacturer's specifications 1.5 Slave locomotives are prepared and required operating mode is selected 1.6 Pre-start checks are conducted
2 Prepare and connect the master locomotive	2.1 Confirm that system is in link mode 2.2 Check control system and conduct system self-test to confirm that the system is operating effectively 2.3 Confirm braking system is operating effectively 2.4 Total control of the system is established and confirmed 2.5 Pre-departure tests are conducted to confirm control system and locomotive equipment meets operating standard 2.6 Front and rear train consists are coupled safely to form one train
3 Start, operate and monitor locomotive	3.1 Master-slave locomotives are operated in accordance with workplace procedures and manufacturer's specifications to meet transport requirements 3.2 Condition of locomotive equipment is monitored to maintain optimum operating condition and identify faults or defects 3.3 Faults are assessed to determine risk of injury to personnel or damage to equipment 3.4 Corrective action is taken in accordance with workplace procedures in response to OHS hazards, abnormal or unacceptable equipment condition or performance 3.5 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations 3.6 Housekeeping standards are maintained
4 Prepare for shift handover	4.1 Workplace records are maintained in accordance with statutory requirements and workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Changeover drivers are aware of locomotive and related equipment status, track conditions and incidents at completion of handover
5 Shut down locomotive	5.1 Shutdown procedures for master and slave locomotives are followed according workplace procedures

ELEMENT	PERFORMANCE CRITERIA
6 Complete work	5.2 Shut down sequence is confirmed and complete and locomotives are secured in accordance with workplace procedures
	6.1 Workplace information is recorded according to workplace recording requirements
	6.2 Plant and equipment are cleaned and stored/parked as required
	6.3 Defects and faults are identified and reported according to workplace procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information such as running slips to identify driving requirements
- select, fit and use personal protective clothing and/or equipment
- prepare the master and slave locomotive systems and operating settings including following procedures to prepare each unit, conducting visual inspections of equipment, pre-start checks and warm up procedures, and pre-departure checks and coupling of train components
- operate the master-slave locomotive and associated equipment according to work procedure to achieve work requirements including demonstrating full control of both locomotives
- monitor locomotive and equipment condition including monitoring operating status of both locomotives and related equipment and monitoring condition of bins in the rake
- take corrective action in response to abnormal or unacceptable performance of control systems or operating equipment
- assess equipment faults to determine appropriate corrective action
- follow procedure to notify a locomotive breakdown
- communicate with the traffic officer and rail personnel as required
- use appropriate communication methods and equipment
- maintain workplace records
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to driving a locomotive and associated control measures.
- purpose and limitations of protective clothing and equipment
- functions and basic operating principles of master and slave locomotive operating equipment
- purpose of the master and slave locomotives in controlling the train and operating principles of all instruments and controls
- safe operating capacities of equipment
- typical faults that can occur when operating a locomotive in a master-slave configuration including the ability to assess severity and risk in order to determine appropriate corrective action
- communication procedures, methods and equipment including an understanding of warning devices and signals
- procedures for responding to emergency situations including use of two-way radio system to report emergencies
- environmental issues and controls

- requirements to liaise/advise related work areas and personnel
- housekeeping standards
- reporting and recording systems and responsibilities

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: • prepare the master and slave locomotive systems and operating settings • operate the master-slave locomotive and associated equipment • monitor locomotive and equipment condition • take corrective action in response to abnormal or unacceptable performance of control systems or operating equipment • assess equipment faults to determine appropriate corrective action • follow procedure to notify a locomotive breakdown • communicate with the traffic officer and rail personnel as required
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: • Master and slave locomotives and related equipment such as brake vans • Cane railway system • Relevant services and equipment required to carry out inspections, checks and monitoring • Workplace information including running slips and daily schedule, to advise of driving requirements • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures
Method of assessment	Other units of competency relevant to the work role should be assessed in conjunction with this unit.
Guidance information for assessment	To ensure consistency in one's performance, competency

	should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
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Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Workplace documentation	Documentation and recording requirements may include: • marshalling strategy • documentation relating to the traffic schedule such as run slips • loco running sheets and log books.
Cane transport networks	Cane transport network features and their characteristics may include: • main and branch lines • yards, sidings • loops • dump points • pads.
Information systems	Information systems may be print or screen based.
Master-slave locomotive equipment	A master-slave configuration describes any mechanism and operating system that allows control of one motive power unit by another motive power unit which forms part of the same train. The slave or remote unit is not operated freely, unattached from the master or lead locomotive. Master-slave locomotives may be used within a yard for the purpose of marshalling and shunting and on running lines.
Hazards	Hazards include working with moving machinery, manual

	handling and working in exposed conditions.
Teamwork	Work may require the ability to work within a team environment.
Communication methods	Communication methods include: • use of two-way radios used in accordance with workplace requirements and state authority protocols and • hand and audible signalling.

Unit Sector(s)

Sugar Milling