

		Unit ID: 1110
Domain	HEAVY EQUIPMENT OPERATIONS	
Unit Title:	Demonstrate mechanical awareness and plant appreciation as part of heavy equipment operations	
Level: 2	Credits: 5	

Purpose

This unit standard is intended for those who carry out heavy equipment operations. People holding credit for this unit standard are able to: Identify and describe functions of major components and systems; identify and describe functions of instruments and controls; apply the principles for inspecting and recording operational fitness of plant components; and demonstrate knowledge of the principles of leverage.

Special Notes

1. Assessment evidence may be collected from a real workplace or a simulated workplace in which heavy equipment operations are carried out.
2. Safe working practices are to include day to day observation of safety policies and procedures and compliance with emergency procedures.
3. Performance of all elements in this unit standard must comply with all relevant workplace requirements, contractual agreements and/or manufacturers' specifications.
4. Regulations and legislation, including subsequent amendments, relevant to this unit standard may include but are not limited to the following:
 - Labour Act, No. 11 of 2007
 - Regulations relating to the Health and Safety of employees at work, 1997 and industry specific regulations, legislations, code of practice, or code of conduct.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority. All approved unit standards, qualifications and national assessment arrangements are available on the Namibia Training Authority website www.nta.com.na.

Elements and Performance Criteria

Element 1: Identify and describe functions of major components and systems

Range

Major components and systems may include but are not limited to engine; fuel system; hydraulic system; electrical system; braking system; transmission; cooling system; torque converters; differentials; and final drives.

Performance Criteria

- 1.1 Major components and systems of heavy equipment plant are identified and their basic functions described.

Element 2: Identify and describe functions of instruments and controls

Performance Criteria

- 2.1 Heavy equipment plant instrumentation is identified and their basic functions described.
- 2.2 Heavy equipment plant controls are identified and their basic functions described.
- 2.3 Warnings from machine indicators and gauges are interpreted in accordance with manufacturer's specifications.
- 2.4 All safety features and warning devices on the machine are identified, and their purposes described in accordance with manufacturer's specifications.

Element 3: Apply the principles for inspecting and recording operational fitness of plant components

Performance Criteria

- 3.1 Procedures for pre-operational and post-operational checks are demonstrated.
- 3.2 Checklist is completed according to workplace procedures.
- 3.3 Start-up and shutdown procedures are demonstrated according to manufacturer's specifications.

Element 4: Demonstrate knowledge of the principles of leverage

Performance Criteria

- 4.1 Knowledge of principles of leverage in relation to the load and capacity charts is demonstrated.
- 4.2 Knowledge of what constitutes load rating in relation to the load radius, height, stability, structural and operational area is demonstrated.

- 4.3 Knowledge of heavy equipment plant most suitable for an allocated task and method of operation is identified to ensure safe operating.

Registration Data

Subfield:	Surface Mining and Quarrying
Date first registered:	27 March 2013
Date this version registered:	27 March 2013
Anticipated review:	2016
Body responsible for review:	Namibia Training Authority