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| Title | Lift and transport electrical machines, and associated repair equipment within a motor rewinding workshop environment | | |
| Level | 3 | Credits | 5 |

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| Purpose | <p>This unit standard covers the use of lifting equipment found as standard in a motor rewind workshop. It refers to the handling of items weighing between 35 kg and 2 tonnes. Consequently it does not refer to manual lifting or to the use of equipment rated for lifting loads greater than 2 tonnes.</p> <p>This unit standard does not cover the use of forklifts.</p> <p>This unit standard is for people intending to qualify in the electrical industry as motor rewinders.</p> <p>People credited with this unit standard are able to in accordance with industry practice:</p> <ul style="list-style-type: none"> – establish the weight of an item to be lifted and transported; – estimate the weight of an item to be lifted and transported when no weight data is available; – prepare items for lifting and transporting; – identify and prepare lifting equipment; – ensure safety of personnel when operating lifting equipment; – operate lifting equipment; and – prepare location for depositing lifted items. |
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| Classification | Electrical Engineering > Electrical Machines |
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| Available grade | Achieved |
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Guidance Information

- 1 This unit standard has been developed for learning and assessment on-job.
- 2 Definitions

Industry practice – those practices that competent practitioners within the industry recognise as current industry best practice.

Machine specifications – the manufacturers' specifications for the machine, but may also include data generated at previous overhauls. In situations where neither of these is available, general guidelines contained in industry handbooks may be used instead.

3 References

Health and Safety at Work Act 2015;
Approved Code of Practice for Load-Lifting Rigging 2012 (available from www.worksafe.govt.nz);
and all subsequent amendments and replacements.

4 Assessment

- a Performance in relation to the outcomes of this unit standard must comply with the Health and Safety at Work Act 2015, associated regulations, industry practice, and any applicable company safety and health procedures.
- b The number and type of machines to be lifted and transported in the workshop is left to the discretion of the assessor, but must be sufficient to assess competence in all outcomes of the unit standard.
- c The assessor must ensure that safety is properly safeguarded at all times during the assessment. If the candidate makes an inappropriate judgement (e.g. in under-estimating the weight of a load or selecting inappropriate slings) the assessment must not proceed further.

Outcomes and performance criteria

Outcome 1

Establish the weight of an item to be lifted and transported.

Range at least three weights are required.

Performance criteria

1.1 Accurately identify the weight of the item using available data.

Range may include but is not limited to – plate data, machine specifications, manufacturer's instructions, existing service history.

1.2 Document weight for future servicing purposes.

Outcome 2

Estimate the weight of an item to be lifted and transported when no weight data is available.

Range at least five weights are required. Assessor to identify actual weight before assessment.

Performance criteria

2.1 Correctly estimate weight of items within plus or minus 20 percent.

Range may include but is not limited to – electric motors, repair equipment.

Outcome 3

Prepare items for lifting and transporting.

Performance criteria

- 3.1 Select appropriate attachment device for the item to be lifted.
- Range may include but is not limited to – webbing slings, covered chain slings, wire rope slings, shackles, D bolts, welded eyes.
- 3.2 Inspect and fit selected attachment.
- Range inspection may include but is not limited to – visual check for snags, fraying, chemical damage, thread damage, rusting, currency of check tags.
- 3.3 Correctly connect attachment device to the load ensuring that the load cannot move out of control once raised.
- Range shackles or bolts are properly tightened, slings are fully drawn in to grip the load, the load is balanced when using multiple attachments.

Outcome 4

Identify and prepare lifting equipment.

Performance criteria

- 4.1 Select lifting equipment.
- Range may include but is not limited to – monorail electric winch, rail mounted, gantry mounted or A frame mounted endless chain block, hydraulic pump-up platform.
- 4.2 Inspect lifting equipment for faults or incorrect set-up.
- 4.3 Correct any faults or set-up errors before use.
- 4.4 Manoeuvre lifting gear into position for a safe and controlled lift.
- 4.5 Connect attachment devices to the lifting equipment and the load.

Outcome 5

Ensure safety of personnel when operating lifting equipment.

Performance criteria

- 5.1 Ensure all personnel working in the vicinity are made aware that a lift is to occur and stood clear of potential danger.

- 5.2 Clean and free floor area of any potential danger.
Range obstructions, trip hazards, slip hazards.
- 5.3 Operator does not stand or permit any other person to stand beneath the raised load.
- 5.4 Clear route for transportation of any personnel or obstruction.

Outcome 6

Operate lifting equipment.

Performance criteria

- 6.1 Operate controls correctly in accordance with manufacturer's specifications and/or workshop procedures.
- 6.2 Take up lift strain in a controlled fashion to minimise swinging or violent movement of the load.
- 6.3 Use clear directions to coordinate a multi-hoist lift.
Range may include two or more winches.
- 6.4 Transport suspended items at an appropriate speed to minimise swinging or violent movement.
- 6.5 Lower lifted item into position in a safe and controlled manner.

Outcome 7

Prepare location for depositing lifted items.

Performance criteria

- 7.1 Select appropriate resting place for repair work or for storage.
Range may include but is not limited to – floor area, racks, pallets, benches, trolleys, vehicle platforms.
- 7.2 Make preparations to ensure stability and manoeuvrability of the item once it comes to rest.
Range may include but are not limited to – wedges, blocks, cradles, roller stands, purpose-built crating.
- 7.3 Assure weight-bearing capacity and structural integrity of resting place before the load is placed upon it.
Range may include but is not limited to – work benches, floor, trolleys.

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| Planned review date | 31 December 2023 |
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Status information and last date for assessment for superseded versions

| Process | Version | Date | Last Date for Assessment |
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| Registration | 1 | 22 August 2008 | 31 December 2023 |
| Rollover and Revision | 2 | 15 March 2012 | 31 December 2023 |
| Revision | 3 | 15 January 2014 | 31 December 2023 |
| Review | 4 | 22 August 2019 | N/A |

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| Consent and Moderation Requirements (CMR) reference | 0003 |
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact The Skills Organisation reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.