SEMMME3100

Slinging, lifting and moving equipment, components or materials for overhauling activities

Overview

This standard identifies the competences you need to move equipment, components or materials for mechanical overhaul activities, by slinging and lifting, in accordance with approved procedures. You will be required to use correctly specified items of lifting gear, which will include hand and/or power operated cranes and winches, and associated lifting accessories. You must check that the lifting equipment is within current authorisation dates, is undamaged and within the permitted safe working load (SWL) or working load limit (WLL). You will be expected to establish the weight of the load to be moved, and to attach the appropriate slings to suitable or designated lifting points on the load, in order to achieve a safe and balanced lift. You must check the area that the load will move through, to ensure that it is free from obstructions and is safe for the load to be moved. You will also be expected to able to give the correct hand and verbal signals during the lifting activities.

Your responsibilities will require you to comply with organisational policy and procedures for the slinging, signalling and lifting activities undertaken, and to report any problems with the slinging and lifting activities or equipment that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will be expected to work with a minimum of supervision, taking personal responsibility for your own actions and for the safety and integrity of the materials or items being moved.

Your underpinning knowledge will provide a good understanding of your work, and will provide an informed approach to applying slinging, lifting and moving procedures within a mechanical overhaul environment. You will understand the slinging, lifting and moving techniques used, and their application, and will know about the lifting equipment and accessories for lifting, in adequate depth to provide a sound basis for carrying out the activities safely and correctly.

You will understand the safety precautions required when slinging and lifting, and the safeguards that are necessary for undertaking the activities. You will be required to demonstrate safe working practices throughout, and will understand the responsibilities you owe to yourself and others in the workplace.

Performance criteria

You must be able to:

1. work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
2. position the moving equipment so that the weight of the load is evenly distributed
3. attach the appropriate handling equipment securely to the load, using approved methods to eliminate slippage
4. confirm that the load is secure before moving
5. move the load over the selected, suitable route
6. position and release the load safely in its intended final location

Knowledge and understanding

You need to know and understand:

1. the specific safety precautions to be taken when slinging and lifting loads, and the need for ensuring load security (general workshop and site safety, appropriate personal protective equipment (PPE), protecting other workers during the lifting operations, accident procedures, statutory regulations, risk assessment procedures and COSHH regulations)
2. the hazards associated with slinging and lifting of loads, and how to minimise them and reduce the risks
3. the Approved Code of Practice (ACOP) for safe use of lifting equipment, and Lifting Operation and Lifting Equipment Regulations (LOLER) also BS7121
4. the specific requirements for the marking of lifting equipment, and the specific method used in the organisation in which you are working
5. the range of equipment that is to be used for the lifting operations (such as hand and power operated cranes, winches, pulling equipment)
6. the lifting equipment accessories that are to be used (such as slings, chains, wire ropes, eye bolts)
7. checks that should be made on the lifting equipment prior to use, and items that you should look for
8. how to carry out visual in-service inspections of the equipment, and what to do should any defective equipment be identified
9. factors which affect the selection of the lifting equipment and lifting accessories (such as weight, type of load, operating environment)
10. how to identify the included angle when using multi-leg slings
11. how to check that the lifting equipment is capable of lifting the load to be moved
12. how to plan and prepare a route for moving loads, and the items that you will need to take into account
13. the specific requirements for the organisation of lifting operations
14. signalling techniques used to communicate with crane drivers (to include both hand signals and verbal commands)
15. how lifting equipment should be stored and handled
16. the problems that can occur with slinging, lifting and moving loads and how these can be avoided

17. the extent of your own responsibility and to whom you should report if you have problems that you cannot resolve

Scope/range related to performance criteria

1. Ensure that the lifting equipment to be used is suitable for the type of load being lifted and is in a safe and usable condition, by establishing **all** of the following:
    1. the lifting equipment is certified and is compliant, within current test dates (such as LOLER regulations and health and safety requirements)
    2. all lifting equipment registers are up to date
    3. all slings are free from obvious defects
    4. the lifting equipment selected is suitable for the type of load to be lifted
    5. the identification number and SWL or WLL are clearly marked on the equipment selected
    6. where applicable, the equipment is correctly colour coded

2. Before slinging, lifting or moving the load, ensure that **all** of the following, have been established/checked:
    1. weight of the load
    2. precautions are in place in case of spillage
    3. the proposed route of the load is clear of obstructions (where appropriate)
    4. those affected by the activities have been informed
    5. arrangements are made for securing/storing the load at its destination
    6. the final destination area is clear and ready to receive the load
    7. the agreed code of verbal/hand signals is understood (where appropriate)

3. Use **two** of the following lifting and moving methods and techniques:
    1. crane
    2. lifting appliances
    3. hand operated lifting equipment
    4. winch
    5. pulling appliances
    6. jacks, skates and trolleys
    7. low loaders
    8. multi-sheaved block combinations
    9. capstan
    10. powered lifting equipment

4. Use **two** of the following slinging methods:
    1. single leg slings
    2. lifting beams
    3. two-leg slings
    4. spreaders
    5. three- and four-leg slings

5. Move **two** of the following types of load:
    1. components/equipment with evenly distributed weight
    2. access structures
    3. components/equipment with unevenly distributed weight
    4. irregularly shaped objects
    5. raw materials
    6. fabricated units
    7. liquid containers (such as drums)
    8. sub-assemblies
    9. hot/radiant/toxic/corrosive
    10. fragile components

6. Move loads safely and correctly, and re-position in **two** of the following conditions:
    1. to differing elevations
    2. in the same elevation
    3. as part of an assembly
    4. rotate a load
    5. through complex rigging operations
    6. transfer a load to a different location

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