

Carrying out fault location on lifting platforms LEGACY

Overview

This standard identifies the competences you need to carry out efficient and effective location of faults on powered lifting platforms, in accordance with approved procedures. You will be expected to use a variety of fault location methods and procedures, such as gathering information from the person who reported the fault, using recognised fault finding techniques and diagnostic aids, measuring, inspecting and operating the equipment.

Your responsibilities will require you to comply with organisational policy and procedures for the fault location activities undertaken, and to report any problems with these activities, or with the tools and equipment used, that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will be expected to work to instructions, either alone or in conjunction with others, taking full responsibility for your own actions, and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will be sufficient to provide a sound basis for your work, and will provide an informed approach to applying fault location procedures to lifting platforms. You will have an understanding of the basic fault location methods and techniques used, and their application. You will also know how to interpret the information obtained from fault finding aids and equipment, in adequate depth to provide a sound basis for carrying out the activities.

You will understand the safety precautions required when carrying out the fault location activities, especially those for isolating the equipment. You will also understand your responsibilities for safety, and the importance of taking the necessary safeguards to protect yourself and others in the workplace.

Carrying out fault location on lifting platforms LEGACY

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. review and use all relevant information on the symptoms and problems associated with the product or asset
3. investigate and establish the most likely causes of the fault or faults
4. select, use and apply diagnostic techniques, tools and aids to locate faults
5. complete the fault diagnosis within the agreed time and inform the appropriate people when this cannot be achieved
6. determine the implications of the fault or faults for other work and for safety considerations
7. use the evidence gained to draw valid conclusions about the nature and probable cause of the fault or faults
8. record details on the extent and location of the fault or faults in an appropriate format

Carrying out fault location on lifting platforms LEGACY

Knowledge and understanding

You need to know and understand:

1. the health and safety requirements of the area in which you are carrying out the fault finding investigation, and the responsibility these requirements place on you
2. the isolation and lock-off procedure or permit-to-work procedure that applies
3. what constitutes a hazardous voltage and how to recognise victims of electric shock
4. how to reduce the risks of a phase to earth shock (such as insulated tools, rubber mating and isolating transformers)
5. the safe working practices for lifts (as described in BS7255)
6. the importance of wearing protective clothing and other appropriate safety equipment (PPE) during fault location activities
7. the hazards associated with carrying out fault location activities on lifting platforms (such as live electrical components, stored energy, misuse of tools), and how they can be minimised
8. how to obtain and interpret information from job instructions and other documents needed in the fault location process (such as drawings, charts, specifications, manufacturers' manuals, history/maintenance reports, graphical symbols)
9. the basic principles of how the lifting platform functions, its operating sequence, the purpose of the individual units/components and how they interact
10. how to use the various diagnostic aids to help identify the location of the fault
11. the various fault location techniques that can be used, and how they are applied (such as six point, half-split, input/output, unit substitution)
12. how to evaluate sensory information (sight, sound, smell, touch)
13. how to assess evidence and evaluate the possible causes of faults/problems
14. how to use a range of diagnostic equipment to investigate the problem
15. the care, handling and application of measuring/test equipment (such as mechanical and electrical measuring instruments)
16. how to check that the measuring/test equipment is within calibration, and that it is free from damage and defects
17. the problems that can occur during the fault location activity, and how they can be minimised
18. the importance of completing the correct documentation following the fault diagnostic activity
19. the extent of your own authority and to whom you should report if you have any problems that you cannot resolve

Carrying out fault location on lifting platforms LEGACY

Scope/range related to performance criteria

1. Carry out **all** of the following during the fault finding activity:
 1. undertake the fault location process to cause minimal disruption to the customer
 2. obtain and use the correct issue of company and/or manufacturers' drawings and documentation
 3. adhere to procedures or systems in place for risk assessment, COSHH, personal protective equipment and other relevant safety regulations
 4. ensure the safe isolation of equipment (such as electrical, mechanical)
 5. provide safe access and working arrangements for the area where the fault finding is taking place
 6. carry out the fault location activities, using approved procedures
 7. identify the fault or faults, and consider appropriate corrective action
 8. take actions to resolve the problem (in conjunction with others, where appropriate)
 9. dispose of waste items in a safe and environmentally acceptable manner
 10. leave the work area in a safe and tidy condition
2. Use **all** of the following diagnostic techniques, tools and aids to assist in the fault location:
 1. information gathered from the person who reported the fault(s), including the customer
 2. fault finding techniques (such as six point, half-split, input/output, unit substitution)
 3. diagnostic aids (such as manuals, flowcharts, troubleshooting guides, maintenance records)
 4. inspecting (such as checking for breakages, wear/deterioration, overheating, missing parts, loose fittings)
 5. operating (such as manually switching off and on, running the equipment)
3. Use **three** of the following types of test equipment to aid fault location:
 1. measuring instruments/devices
 2. insulation resistance tester
 3. multimeter
 4. self-diagnostic systems
 5. continuity tester
 6. other specific test equipment
4. Locate faults that have resulted in **two** of the following breakdown categories:
 1. intermittent problem

Carrying out fault location on lifting platforms LEGACY

2. partial failure or reduced performance
3. complete breakdown
5. Provide a record of the outcomes of the fault location, using **one** of the following:
 1. company-specific documentation
 2. service record card
 3. step-by-step outcome analytical report
 4. corrective action report

Carrying out fault location on lifting platforms LEGACY

Developed by	Enginuity
Version Number	2
Date Approved	28 Feb 2015
Indicative Review Date	30 Mar 2018
Validity	Legacy
Status	Original
Originating Organisation	Semta
Original URN	SEMEMI2-62
Relevant Occupations	Maintenance Fitter
Suite	Engineering Maintenance and Installation Suite 2
Keywords	Fault finding techniques and procedures; powered lifting platforms; measuring; test equipment; breakdowns; calibration; health and safety; diagnostic aids; breakdowns; record fault location