

LANLEO16 - SQA Unit Code F9EN 04

Service and repair tyres and tracks on land-based equipment



Overview

This standard covers the comprehension of the types, construction, function and operation of land-based equipment employing tyres and tracks to transfer power to the ground, (e.g. track systems, wheels and tyres or ground drive systems).

This standard covers traction and the transfer of tractive power from a powered land-based vehicle to the ground through tyres or tracks including traction and tractive aids, (e.g. ballast, weight transfer, dual cage wheels, slip control or tyre track construction types and characteristics). Areas examined are tyre and track construction maintenance and repair, the capabilities and limitations of each and how traction can be improved.

Level and extent of responsibility

This unit is appropriate for persons working under supervision.

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Performance criteria

You must be able to:

- P1 remove and replace track and wheel assemblies and their components
- P2 dismantle, assess and reassemble tracked and/or wheeled systems and their running gear for serviceability in accordance with manufacturers' guidelines, e.g. conformity of wheel/track assemblies, settings and adjustments
- P3 adjust, attach and/or remove aids to achieve stability and greater tractive effort, e.g. tyre pressure, dual wheels, cage wheels, liquid ballast and weights
- P4 recognise and rectify faults relating to tyres, tracks and traction, e.g. torque

Knowledge and understanding

You need to know and understand:

- K1 the types, construction and operating principles of tracked and/or wheeled systems and their running gear
- K2 the methods of dismantling, repairing and reassembling tracked and/or wheeled systems and their running gear, e.g. split rim, bead seating, track alignment/adjustment
- K3 the types, construction and applications of wheels, tyres tracks and tractive aids, e.g. size, ply rating, load index, speed rating, orientation, pressure/tension, ballasting
- K4 the implications of weight distribution/transfer/ballast, on tractive performance, e.g. excessive slip, slip control, ground pressure, stability, tyre pressures dual, cage wheels, liquid ballast, weights and variable loads (fertiliser spreader, extending arms, tankers)
- K5 the implications of weight distribution/transfer/ballast aids on legislative and/or legal responsibilities, e.g. axle/tyre/gross loadings, escort vehicles, police notification and road or bridge restrictions
- K6 the relationships between driven axles and tractive power, e.g. PTO driven axles, land drive, inter axle ratios and correct tyre combinations for 4-wheel drive vehicles with unequal size drive wheels
- K7 how to carry out physical checks to confirm inter axle mechanical ratios and the suitability of tyre combinations

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