

Tram Maintenance Overhead Crane Ensures Safe Productive Lifting at Edinburgh Depot

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Street Crane Company, the UK's largest overhead crane and hoist manufacturer, has supplied a double girder overhead travelling crane to the Edinburgh Gogar tram depot. The 6.3 tonne crane is vital to maintaining the fleet of 27, seven-section, articulated trams. The crane will also load and unload the Unimog track maintenance vehicle.

At 42.9 metres long and weighing 56 tonnes, the Edinburgh trams are the largest and most technically sophisticated operating in the UK. Low floor access, just 300mm above the rail, has required the positioning of auxiliary equipment within the roof of the vehicle. The crane is essential for access and maintenance to service the pods on the roof containing air-conditioning and other key electrical equipment as well as the pantographs that supply electrical power.

With a 5.5 metre height of lift, the 19 metres span crane services three tracks and runs almost the full length of the building to give maximum flexibility in lifting and moving materials. To allow engineers easy access to the vehicle roof, raised access platforms are installed at the eastern end of the building with covered pits for working on the undercarriage. In the floor in the western end of the building, fixed jacks allow carriage bodies to be lifted from the tram bogies.

Large amounts of earth were excavated from the site to ensure that the depot building would sit lower in the landscape and not obstruct the flight path to the adjoining airport. Installed within a limited height envelope, the crane has a top running carriage to give maximum height of hook lift and for greater safety in transporting of loads.

In addition to servicing the trams, the crane will also be used to load and unload the track engineering vehicle, a specially made Unimog truck that can straddle the track for maintenance and repairs.

Safety and productivity is assured by the Street Crane (<http://www.streetcrane.co.uk>) ZX84 wire rope hoist. Technical features in the hoist include positive braking on the primary gear box shaft, overload protection, a fully enclosed permanently lubricated gear box and a rope guide to clamp the rope in position so protecting the rope and barrel from damage by slack roping and uneven rope reeving.

For flexibility and safety in final positioning, dual speed operation is provided on all crane motions with 40/10 metres per minute in long travel, 20/5 metres per minute in cross travel and 5/1.25 metres per minute for lift. All crane movements are controlled from a radio remote device so that the operator can stand where there is best visibility and greatest safety. A conventional pendant control is also provided for back-up crane control.

Overhead cranes from Street are used throughout the rail and rapid transit industry. Installations have been completed for major train builders such as Bombardier and in maintenance depots such as Alstom in Manchester servicing the West Coast Pendolino fleet. Overhead cranes provide a flexible answer to material handling, lifting and movement, allowing complete hook access to the whole swept area, but without taking up any floor space or requiring access roadways.

More information

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Images are on the web at www.ainsmag.co.uk/st165/5035st1a-edinburgh-tram-crane.htm