ROOF CAR SYSTEMS

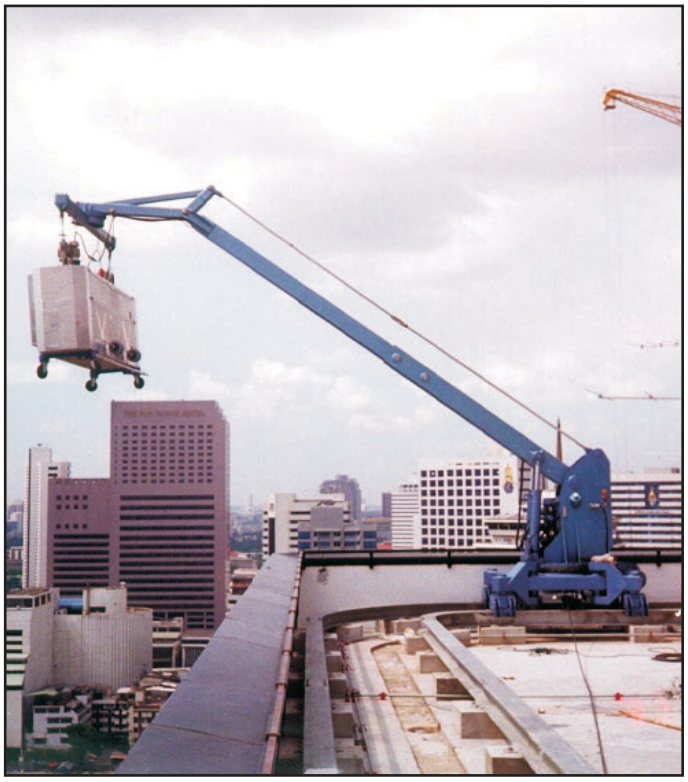
Refer to Powered Roof Cars literature for more detailed information.

Description

Dedicated to a specific building and owner purchased, Pro-Bel roof car systems and similar equipment e.g. rubber tire and long span boom machines, represent a generation of suspended maintenance equipment above that of other primary rigging equipment. A roof car, normally mounted at the highest elevation of the building, travels along I-Beam tracks, pipe rails, or concrete corridors/runways.

Roof cars are engineered to accommodate long span booms making it possible to extend the platform beyond terraces or roofs at lower levels. This feature can reduce or eliminate the need for additional roof cars, davits, or other primary equipment at lower levels.

Another consideration in “super-skyscraper” applications is the length of the control cable required to operate the hoisting mechanism. To eliminate the need for a control cable between the platform and the roof car, Pro-Bel employs a remote controlled hoisting system or control cable interwoven with any one of the four platform suspension cables to raise and lower the platform.



Roof car with traction hoists and wire winders on platform. Platform is 10’-0” (3 m) long.

Use

Permanent powered platforms rigged with conventional permanent support equipment such as davits, outrigger beams, monorails, etc. are impractical on modern skyscrapers. Many of these buildings require roof cars in order to accommodate multi-level rigging, long span reaches, high parapets and other complicated building geometries.

A motorized roof car system also provides complete horizontal movement via a roof mounted track system or a rubber tire machine. These systems significantly reduce the setup time between stage drops.

Generally there are two types of roof car designs:

1. *With traction hoists and wire winders on the platform*

   This design is suited to buildings under 490’-0” (150 m) in height, however the platform is typically small e.g. maximum 10’-0” (3 m), to accommodate the added weight of the suspension lines and power cord. The benefits of this type of roof car include being able to transfer the platform to other roofs for use with conventional supports, e.g. davits, outriggers, monorails, etc., and platform occupants can lower the platform to the ground using a descent control feature in the event of a power failure. See Pro-Bel Permanent Powered Platforms literature.

Roof car with traction hoists and wire winders on roof car. Platform is 40’-0” (12.2 m) long.

2. *With drum hoists at roof level on the roof car*

   This design is suited to buildings over 490’-0” (150 m) in height requiring a platform longer than 10’-0” (3 m). The benefits of this type of roof car include eliminating the added weight of the suspension cables which are now coiled at roof level using drum type hoists. Also, to eliminate the added weight of the power cord on the platform, a control cable can be interwoven in any one of the suspension cables or a radio-type remote control can be used to raise and lower the platform. A limitation of this type roof car is that with the main controls at roof level, in the event of a power failure a communication and training system is necessary to permit a worker on the roof to activate the descent control apparatus allowing the platform to safety descend to the ground.