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- (54) Title
The Powered Aero Loader lifts, at a press of a button, Stryker Power Pro XT and Stryker Performance Pro (with adaption) stretchers and allows these stretchers to be secured into the aircraft. The Powered Aero Loaders aircraft interface specifically distributes loads generated by the stretcher systems during loading, unloading and inflight to allow for safe carriage in aircraft.
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ABSTRACT

The Powered Aero Loader is a Stryker PowerLOAD that has been modified to meet the requirements of aircraft environments. In addition to this modification, a light weight aircraft interface has been developed to appropriately distribute loads into the aircraft floor that were generated from lifting the stretcher and patient. The Powered Aero Loader eliminates the requirement of paramedics to lift and transfer patients between stretcher systems. This will assist in a decrease to injury occurrence to paramedics.

Editorial Note

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There are only 2
pages of
description.

DESCRIPTION

TITLE OF INVENTION OR TITLE

Powered Aero Loader

TECHNICAL FIELD OR FIELD

Engineering

BACKGROUND ART OR BACKGROUND

Paramedics are required to lift and transfer patients from road ambulance stretchers to aircraft stretchers. This is resultant from regulations governing airworthiness and safety requirements of items used in aviation.

Spinal injuries from lifting are common among paramedics. It is in the process of lifting and transferring patients between stretcher systems that these injuries can occur.

A product exists for road ambulance purposes that assists to decrease the chance of spinal injuries. In its current state, however, this product is not suitable for aircraft environments.

SUMMARY OF INVENTION OR SUMMARY

The Powered Aero Loader is a Stryker PowerLOAD that has been modified to meet the requirements of aircraft environments. In addition to this modification, a light weight aircraft interface has been developed to appropriately distribute loads into the aircraft floor that were generated from lifting the stretcher and patient.

The Powered Aero Loader eliminates the requirement of paramedics to lift and transfer patients between stretcher systems. This will assist in a decrease to injury occurrence to paramedics.

DESCRIPTION OF EMBODIMENTS

- The Powered Aero Loader interface is secured into the aircraft floor track by a stud and stop mechanism.
- The Powered Aero Loader contains a trolley assembly that traverses along a beam to receive and deploy select stretcher systems.
- At full extension along this traverse beam, the trolley receives along its guide tracks, a Stryker Power Pro XT or Stryker Performance Pro (with adaption) (known collectively as “the stretcher”), into gates at the side of the trolley that secure the stretcher into place.
- Communicating with the stretcher, two hydraulically powered hooks are activated from beneath the stretcher and rise up from the trolley to lift the stretcher from the ground, at the push of a button.
- The stretcher retracts its legs while being supported by the Powered Aero Loader.
- At full stretcher leg retraction, the Powered Aero Loader supports the weight of the stretcher.
- The trolley supporting the stretcher is pushed back along its traverse beam into the aircraft.
- Once completely traversed, the hydraulic hooks lower the stretcher into locks located on top of both the trolley and traverse beam where it is secured for flight.
- The Powered Aero Loader can traverse to different position on the floor track within the aircraft by releasing the stud and stop mechanism.

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- To deploy the stretcher, a latch is pressed which unlocks the stretcher from its position and activates the trolleys hydraulic hooks to support the weight of the stretcher.
- The stretcher can then be pulled out of the aircraft along the traverse beam until it is clear of the airframe.
- The stretcher communicates with the Powered Aero Loader to extend its legs.
- Once legs are extended and holding the weight of the stretcher, the trolleys hydraulic hooks release the stretcher. The stretcher can now be removed from the Powered Aero Loader.
- The trolleys hydraulic hooks are lifted by the operator and pushed back along the traverse beam into the stowage position inside the aircraft.

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CLAIMS

1. A shortened and lightened Stryker PowerLOAD to physical fit of device into aircraft.
2. An interface that connects to floor track and attaches to the device mentioned in claim 1. This interface is designed to specifically spread loads received through the device mentioned in claim 1.