



CRANE

Innovation Infosheet

Downloaded March 2, 2021

Wheel Support

Track Code: CRANE-99947

Categories:

- Mechanical Engineering
- NSWC Crane

Keywords:

- Crane
- Mechanical Engineering
- Weapons

Military helicopters frequently have machine guns or other weapon systems mounted within doorways or windows formed in the helicopter airframe to provide for defense of the aircraft from within. When occupants are entering and exiting the aircraft, the weapon system and mount can be decoupled from the airframe at the removable mounting point and pivoted about, thereby swinging the system either inboard or outboard so that the opening is no longer blocked by the system. When the mount is decoupled from the removable mounting point, the weight of the weapon system is cantilevered away from the pivotable mounting point at the other side of the airframe, creating the need for a method to support this cantilevered weight while maintaining the pivotable function of the mounting system.

Naval Surface Warfare Center, Crane Division (NSWC Crane), has developed and patented a wheel support for helicopter mounted weapon systems. A wheel support assembly is mounted to a pivotable system spanning an opening, with the pivotable system mounted to one side of the opening at a pivotable connection and to another side of the opening at a removable connection. The support assembly is disposed proximate the removable connection and spaced apart from the pivotable connection and has a wheel positioned and oriented to support the pivotable system weight that would otherwise be cantilevered as the pivotable system rotates about the pivotable support. In addition, the pivotable system is substantially removed from the opening because the wheel support assembly rotates through an arc-shaped path.

Advantages:

- Facilitates entering and exiting a helicopter

Potential Applications:

- Military

People:

- Shimmel, Jeffrey T (Project leader)
- Buechler, James
- Holzmeyer, Michael

Intellectual Property:

Application Date: November 30, 2009

Type: Utility Patent

Country of Filing: United States

Patent Number: 8,398,038

Issue Date: March 19, 2013

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