LOCKHEED MARTIN

We never forget who we're working for®

HULC®

Exoskeletons Enhance Mobility and Increase Endurance

HULC®

Dismounted warfighters often carry heavy combat loads that increase the stress on the body leading to potential injuries. With a HULC exoskeleton, these heavy loads are transferred to the ground through powered titanium legs without loss of mobility.

The HULC is a completely un-tethered, hydraulic-powered anthropomorphic exoskeleton that provides users with the ability to carry loads of up to 200 pounds for extended periods of time and over all terrains. Its flexible design allows for deep squats, crawls and upper-body lifting.

An onboard micro-computer ensures the exoskeleton moves in concert with the individual. The HULC's modularity allows for major components to be swapped out in the field. Additionally, its unique power-saving design allows the user to operate on battery power for extended missions. When battery power is low, the HULC system continues to support the loads and does not restrict mobility. HULC can also support a maximum load, with or without power.

Lockheed Martin is also exploring exoskeleton designs for industrial use and a wider variety of military mission specific applications.

PD079-208

Traverses Tough Terrain

Carries Heavy Loads

PD079-231

Lifts Heavy Objects with Front Attachment

PD079-232; PD079-233

Enables Rapid Movement

Preserves Combat Flexibility

Specifications

Weight	• Total weight without batteries: 53 lb
Power	• Lithium polymer batteries
Electronics	• Flexible, expandable electronics architecture
	• Custom single-board microelectronics housed in a sealed enclosure
	• Heat sinks on actuators. No fans used or needed.
Hydraulics	• Efficient low-flow, high-pressure hydraulic system
	• Uses standard hydraulic fluid

Features

- Range: 20 km on level terrain at 4 km per hour
- Load Carriage: Up to 200 lb; carries front and back loads
- Speed: 3 mph march; up to 10 mph burst
- Fits warfighters' height range of 5'4" to 6'2"

Extensibility

- Wide variety of mission specific attachments
- Capable of serving as backbone for integrated systems such as armor, heating or cooling systems, sensors and other custom attachments
- Long-range extended 72-hour mission model available

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Front top: PD079-206; Front bottom: PD079-207