



LM-100J FIREHERC

REDEFINING THE FIGHT



FIREHERC

THE AIRTANKER FOR THE 21ST CENTURY

FIRE IS A FORMIDABLE ENEMY

Fire isn't easily intimidated and has no reason to relent. It arrives without warning, expanding rapidly in size and scope. It endangers anyone and anything in its path. It destroys lives and landscapes with equal force. Its presence remains long after its flames are extinguished — altering lives, homes, businesses, communities and environments.

Fire doesn't go away. If anything, its flames will increase and destroy more lives and more land. The need to effectively reduce and restrain fires is real. It is urgent.

Successfully defeating fire requires an asset that is agile enough to operate in compromised conditions, but proven enough to withstand the heat. Frontline responders need a resource that is ready and reliable — poised to fight anywhere, at any time, in any condition.

There is only one aerial tanker that can meet all these requirements and more: the LM-100J FireHerc. This newest member of the C-130J Hercules family combines more than four decades worth of firefighting experience with unmatched performance proven with millions of flight hours.

The FireHerc brings the Super Hercules' established performance advantages to firefighting. The FireHerc's rugged design allows it to excel in supporting the low-level, low-speed firefighting mission profile like no other large air tanker in operation. Advanced flight deck avionics provide enhanced situational awareness and improved safety features to protect and guide flight crews through comprised flight conditions.

The FireHerc also offers a path forward to deploying integrated technology to support night firefighting, allowing responders to combat fires on an unprecedented 24/7 cycle — providing an unmatched advantage against nature.

Proven performance. Known capabilities. Optimized design. Integrated technology. Unmatched versatility.

THE LM-100J FIREHERC: REDEFINING THE FIGHT



LOCKHEED MARTIN



PERFORMANCE

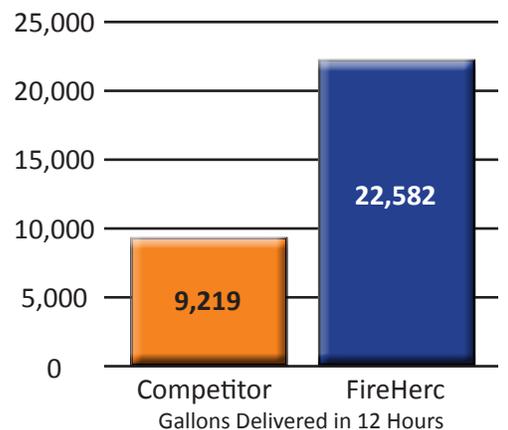
Large air tankers play a critical role in firefighting, dispersing retardant in austere locations to prevent flames from destroying more land and more lives. To do this, an air tanker has to be able to navigate this challenging terrain, remain close to the flames, fly in low-visibility conditions and bring crews home safely. Airframes must remain strong and performance can never be compromised.

The LM-100J FireHerc excels in this operational environment with its turboprop powerplant, straight wing design and known performance capabilities — all of which offer an unmatched, optimized large air tanker that exceeds some existing platforms by more than 200 percent in gallons or retardant delivered in a high/hot environment.

SUPERIOR PERFORMANCE AND EFFICIENCIES

- The FireHerc's high/hot performance and short field capability allows it to deploy from airfields closer to fire locations with full retardant loads, whereas many competitors must make compromises, choosing between fuel, retardant, and location to operate safely. With FireHerc, there's no requirement to trade fuel for retardant based on environmental and airfield conditions. FireHerc lets the operator dictate how and where to fight.
- Four Rolls Royce AE 2100D3 turboprop engines coupled to GE-Dowty Aerospace R391 propellers deliver:
 - Instant increased thrust, unlike turbofan engines that must spool up to build power
 - Greater takeoff thrust to enable unrestricted operations out of shorter airfields
 - Maintained power in high altitude/hot day conditions
 - Optimized for low-altitude, low-speed operations in degraded environmental conditions
- The FireHerc's straight wing design offers greater and safer low speed maneuverability compared to swept-wing aircraft.

High/Hot Delivery Rate Comparison 5,000' Elevation & 85°F





EXPERIENCE WITH THE MISSION

The C-130 Hercules has logged thousands of flight hours as a firefighting platform since the U.S. Air Force first deployed it specifically for the mission in the early 1970s. Today, the U.S. Air Force operates both legacy and Super Hercules variants in support of firefighting efforts. Commercial operators also recognize the value of a Hercules, relying on modified legacy C-130s to function as aerial firefighting tankers. As the newest member of the Super Hercules family, the FireHerc carries on and expands this role with its enhanced technology, known capabilities and proven performance differentiators.



UNMATCHED SITUATIONAL AWARENESS

Aerial firefighting demands that pilots keep their heads on a swivel looking outside the cockpit. The FireHerc sets the gold standard for airtankers with a fully-integrated, two-pilot flight deck, built to reduce workload in demanding low-level environments. Using head-up displays (HUDs), the pilot flying has immediate aircraft performance information available that allows focus outside the aircraft for safe operations during critical mission phases. Additionally, FireHerc's windows provide outstanding visibility not offered with converted passenger aircraft.

Advanced features of the FireHerc include:

Superior Situational Awareness provided by dual HUDs certified as Primary Flight Displays, augmented by:

- Flight management system
- Dual-inertial navigation system
- Global positioning system
- Four digital head-down displays
- Moving Map Display
- Color Weather Radar

Mission enhancement via:

- Fully NVIS lighting compatible cockpit
- FAA-certified and full civil communications, navigation, surveillance/air traffic management (CNS/ATM) compliant
- Low-noise interphone system

Integrated safety and warning with visual/aural:

- Stall warning system
- Windshear detection
- Terrain awareness and warning system



DELIVERY SYSTEMS

Two retardant delivery systems are currently available that enable the Hercules to perform aerial firefighting—RADS and MAFFS II. Each of these roll-on/roll-off (RO/RO) systems provide capability to assist with containment of large wilderness and urban fires. Both systems have been certified on the Hercules family of aircraft to meet current U.S. Forest Service standards for set variable coverage levels and quantities per discharge.

COULSON AVIATION RADS PRODUCT LINE

The Coulson Aviation USA RADS offers the proven and superior performance of a gravity drop retardant delivery system (RDS). It consists of mission specific components that are easily installed or removed in less than two hours, allowing the FireHerc to maintain its full multi-mission utility. Upon removal of the RADS Upper Tank, full cargo floor strength is retained.



The FireHerc equipped with the Coulson RDS is:

- A gravity drop-type RDS with altitude and airspeed compensation
- The most effective method of aerial fire retardant application
- Results in consistent ground Coverage Levels from higher altitudes to provide added safety margins
- Planned tank capacity up to 5,000 U.S. gallons of retardant
- A constant flow system capable of delivering consistent retardant coverage up to Coverage Level (CL) 12
- Optimized for low airspeed, low altitude retardant application
- Capable of conducting direct attack fire suppression missions



MODULAR AERIAL FIREFIGHTING SYSTEM II (MAFFS II)

If a less intrusive aircraft modification is desired by the operator, the FireHerc can support operation of the RO/RO Modular Aerial Firefighting System II (MAFFS II). MAFFS II offers an alternate method to apply retardant utilizing a pressure discharge-type dispersal system that can deliver up to CL 8 ground coverage.

The MAFFS II system provides:

- Self-contained RO/RO system with minimal permanent modification of the aircraft
- Mission conversion in four hours
- Applicable to C-130H, J or J-30 and FireHerc aircraft
- Capacity up to 3,000 gallons of fire retardant or water
- 30-minute retardant loading/charge time
- Pressurized discharge



NIGHTTIME FIREFIGHTING CAPABILITY

Current firefighting protocol only supports daytime operations to ensure best visibility and crew safety. Fires know no difference between night and day, and continue to cause damage no matter what the time is. Lockheed Martin believes technology is available to allow operators to change the way they fight fires by expanding the operations envelope. Lockheed Martin is developing an integrated system to enable effective and safe night firefighting capabilities.



The FireHerc is ready for today's night operations, as it is built with a flight station that is fully night vision compliant.

Using Lockheed Martin's superior technical integration and C-130 expertise, FireHerc will be ready for future night firefighting missions by blending leading edge innovative features such as:

- Multi-spectral sensors allowing the pilot to see a composite image augmenting what he sees out the window whether day, night or in the weather
- Synthetically generated three-dimensional terrain features helping the pilot understand his position relative to terrain and flight path
- Integration of these synthetic and multi-spectral sensors will provide a 24-hour-a-day Visual Meteorological Conditions (VMC) capability solution for all-weather conditions, from darkness to clouds to smoke

FOCUSED ON COMPREHENSIVE SUPPORT

As the Original Equipment Manufacturer, Lockheed Martin has unique insights into all aspects of the C-130, including best practices and approaches in sustaining the global C-130J fleet, from "nose to tail" at every phase of a C-130's operating career. In joining the C-130J family, FireHerc operators have instant access to this robust support and sustainment community.

The Lockheed Martin approach ensures successful integration into the Hercules operator community by tailoring long-term support based on each operator's needs and requirements. These support and sustainment solutions enable the customer to achieve a high level of availability and mission performance.

Support options include:

- Lockheed Martin-endorsed service centers on six continents
- A 24/7 Customer Service Center; Field Management Teams
- Data analytics to determine parts support and follow-on support
- Logistics supply management
- Component refresh
- Replenishment programs
- Support equipment
- Spare pooling options
- Technical publications

FireHerc operators now also have access to the state-of-the-art Hercules Training Center (HTC), which includes classroom space, training devices and a new, reconfigurable C-130J/LM-100J full mission simulator. The HTC opened in 2018 and is co-located with the C-130J/LM-100J production line at Lockheed Martin's Marietta, Georgia, USA facility.



WE'RE ENGINEERING A BETTER TOMORROW

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