



Donaldson
FILTRATION SOLUTIONS
AFS | LE BOZEC | WESTERN FILTER

AEROSPACE & DEFENSE

Leading the Way in Rotorcraft Filtration

Filtration Solutions Designed

Just for YOU.



Rotorcraft operations are unique, and filtration products from Donaldson Aerospace & Defense group are designed to meet those unique challenges.

Experience the Donaldson difference:

Rotorcraft specific expertise

Commercial and military

Proven to reduce maintenance and
improve performance

Industry-leading engine protection



Filtration Powerhouse

As part of Donaldson Company, a global leader in filtration solutions, the Aerospace & Defense group offers a wide-ranging product line designed to make flight safer and more efficient.

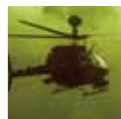
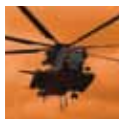
The biggest names in aerospace and defense rely on Donaldson's ever-evolving portfolio of filtration solutions. A deep understanding of the aerospace and defense industries, coupled with the most innovative products, has resulted in a robust product line that meets the needs of those who operate ground vehicles, airplanes, rotorcraft, and more.



Innovation in Action

Functional excellence is the hallmark of Donaldson products. Innovative design and materials enable Donaldson filtration systems to deliver outstanding protective capabilities, reliability and competitive acquisition and operational costs. Equally important, operators who choose

Donaldson filtration systems will enjoy quick returns on investment. In the case of engine air filtration, customers pay for the filter installation cost within one engine overhaul cycle. In many cases our filtration solutions may improve engine and aircraft performance. What's more, cleaner airflow will naturally extend component useful life and enable many critical parts to function up to design life specification versus premature disposal.





Protecting Mission-Critical Equipment

Protecting engines and other mission-critical equipment with effective, reliable filtration is paramount for safe, efficient operations. Providing the right protection for helicopter components is especially challenging. Equipment is often complex, and missions involve nearly constant exposure to adverse environments while operating in close proximity to terrain. Donaldson filtration solutions keep dirt, dust, debris, or Foreign Object Damage (FOD) out of critical equipment and components. Donaldson air and liquid filtration systems protect main engines and auxiliary power units from FOD and particulate contaminants, which can cause power loss, component wear, increased engine temperature, and excessive maintenance costs. Environmental control systems, avionics cooling systems and main hydraulic systems also require clean filtered air and liquid for optimal performance, and Donaldson has the solutions to effectively meet those needs.

Imagine how hazardous flight would be without the full range of filtration solutions available from Donaldson. Unfettered flow of particulates into propulsion, avionics or hydraulic systems means real trouble for any vehicle.

In extreme situations, a lack of adequate protection could potentially result in downed aircraft, flight crews in danger, accident victims waiting for lifesaving assistance, wildfires left to burn, and criminals avoiding apprehension.

Solving Customer Problems

“Hot and high has become very achievable for us, and the IBF has literally allowed us to save lives as a result of better performance capabilities of the aircraft (Bell 407).”

*-- Pilot Kevin Kraayenbrink,
Maricopa County (Ariz.) Sheriff's
Air Support Unit*

“Previously, we would only get 1,400 flight hours from an engine before needing overhaul due to degradation, meaning reduced flight time and increased expenses. “I’m now at 2,100 hours into the 2,400 hour engine overhaul cycle, and I expect to make it without interruption. We were never able to do that before equipping (UH-1s) with the IBF.”

*--Jim Miller,
owner, Pacific Valley Aviation*

“Our experience has been very positive, after installing the barrier filters on our fleet of AW119 helicopters, the overhaul cost dropped by an average of 25% (\$102,000) largely due to the reduced erosion. We operate our aircraft in a very sandy environment and the filter system stops it all with no loss of power.”

*--Sid Essex,
director of maintenance,
TriState CareFlight*



Comprehensive Solutions

Donaldson is continuously improving the state-of-the-art in filtration technology to better meet the needs of aerospace and defense customers. In fact, a variety of solutions are available exclusively from Donaldson. Donaldson is ISO 9001/AS9100 certified, FAA PMA approved, and a U.S. military approved manufacturer.

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Crew Compartment and Avionic System Filtration

Donaldson has filtration solutions to keep essential operating helicopter systems functioning at peak performance, free of damage from all types of contamination. Donaldson provides solutions to clean and purify air before it enters vehicle crew compartments and avionics cooling systems. These critical systems demand advanced filtration, and Donaldson offers an assortment of barrier filters and Strata™ Tubes to meet a range of customer requirements.

Donaldson avionics and crew compartment filters are available for a range of Eurocopter, Northrop Grumman, and Sikorsky helicopters.





Engine Filtration Systems

Donaldson Aerospace & Defense is the acknowledged industry leader in the design, development and production of inlet protection solutions, including Inlet Barrier Filters (IBF) and Engine Air Particle Separators (EAPS) with Donaldson's patented Strata™ Tube technology. IBF performance is unsurpassed, separating more than 99 percent of FOD matter from engine airflow. Donaldson EAPS offer reliable, minimal maintenance air filtration for every space requirement and performance level. Donaldson offers several different size Strata™ Tubes, depending on the area available and performance requirements. Customers may choose from a single stage IBF, single stage EAPS or a two stage system with an EAPS followed by an IBF. Donaldson inlet filtration is especially effective in desert operations, as proven by the U.S. Army, in locations where sand is a continuous threat. Most Donaldson IBF and EAPS are available factory direct on the aircraft Type Certificate, or in the case of many IBF, installed by a Supplemental Type Certificate (STC). STCs may be installed in most rotorcraft with minimal structural modifications and without significant aircraft alteration.



Donaldson works closely with air vehicle Original Engine Manufacturers (OEM) and the U.S. armed forces to develop filtration solutions for a wide range of new and existing aircraft, including rotorcraft engaged in Iraq and Afghanistan combat operations. Donaldson is honored by its selection to develop filtration solutions for the UH-60 BLACK HAWK, CH-53K, OH-58D Kiowa Warrior, AH/MH-6 Little Bird, ARH-70A, Bell 429, AW119, AW139, and many others.

Donaldson IBF systems are available for a growing family of AgustaWestland, Boeing, Bell Helicopter, Eurocopter, MD Helicopters, and Sikorsky helicopters.

Donaldson EAPS are available for Enstrom, Eurocopter, MD Helicopters, and Sikorsky helicopters.



Engine Liquid and Hydraulic System Filtration

Donaldson designs and manufactures a variety of liquid filtration systems for use in helicopter hydraulic systems and engine fuel lines, lubrication/oil systems, oil and cooling systems. These include single or complete multiple circuit filter manifold assemblies. Components include manifold heads, filter bowls, filter elements, bypass valves, shut-off valves, check valves, fluid sampling ports, and differential pressure indicators that signal when filter replacement is required.

Donaldson has designed a line of cost-effective visual indicators and also offers more advanced electrical or electro-mechanical sensors to signal filter blockages. Donaldson's patented Intelligent Filter Indicator provides electronic signals to an on-board computer, allowing the operator to monitor the time remaining before filter element replacement. This device measures remaining filter life in real time, providing precise data on filter replacement cycles.

These critical filters protect main engine and APUs from contaminants that can cause component wear, power loss and system malfunctions. Nearly all Eurocopter models and the AgustaWestland EH-101 rely on Donaldson liquid products to keep critical systems ready to fly in any conditions.

Donaldson liquid and hydraulic filters are available for a wide range of AgustaWestland, Bell, Bell/Boeing, Eurocopter, MD Helicopters, and Sikorsky helicopters.





Always Innovating

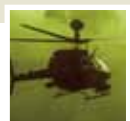
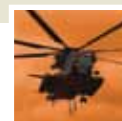
Donaldson filtration experts are constantly leveraging advancements to improve technologies and product effectiveness. Built on more than 500 patents, Donaldson technology expands product applications. This has led to new, more efficient and effective products that bring better performance and better value to customers across the board. As Donaldson introduces new filtration media, it's likely these materials will migrate into markets for which they never were intended and in which they will be immensely successful.

Of course filtration challenges will never end. New platforms will have new and unique performance characteristics and mission requirements. As customers adopt new equipment and new technologies, Donaldson Aerospace & Defense will continue to develop innovative solutions to new challenges that ensure commercial and military rotorcraft meet or exceed high performance standards in operational arenas throughout the world.



A Global Company for Global Requirements

Donaldson is headquartered in Minneapolis, Minnesota, USA, but its manufacturing facilities span the globe. In addition, the company has worldwide sales, engineering and distribution capabilities, as well as customer support resources for international customers who account for nearly 60 percent of total annual revenue.





Donaldson Company, Inc.
PO Box 1299
Minneapolis, MN
55440-1299

www.DonaldsonAerospace-Defense.com
www.donaldson.aero

Bloomington, MN USA 1-952-887-3435
St. Louis, MO USA 1-877-314-9640
Valencia, CA USA 1-877-314-9637
Paris France +33-1-30-86-66-66

Brochure No. F112241 (5/11)
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