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## ROTORCRAFT ENGINE INLET BARRIER FILTER SYSTEMS for MILITARY AIRCRAFT



# INSTALL BEFORE FLIGHT

Helicopters routinely contend with dust, sand and debris that attack turbine engines and impact engine reliability, hampering efficient engine operation. Installing an Inlet Barrier Filter (IBF) system is the most effective way to protect engines from damage ranging from lost efficiency to catastrophic failure while adding significant advantages.

- Reduced engine turbine operating temperatures over alternate systems
- More power available than alternate filtration solutions
- Meets established engine time between overhaul limits
- Reduced engine maintenance over alternate systems
- Extends engine life due to elimination of erosion
- Available factory-direct

## PERFORMANCE AT-A-GLANCE

Features	OH-58A/OH-58C Kiowa, TH-57, TH-67 Part number 109000-103	AH/MH-6 Little Bird Part number 102200-101	UH-1H Huey, TH-1H Part number 111001-103	OH-58D/F Kiowa Warrior Part number 101000-101	H-60 BLACK HAWK Part number 107000-103, -105
Design Features	Structurally integrated kit; two rugged flat filters for fast filter exchange via top access door; simple installation with minimal modifications; maintains firewall integrity; utilizes original mount provisions for particle separator; includes improved water wash manifold	Structurally integrated kit; two rugged flat filters with quarter turn fasteners for fast exchange; all new engine inlet fairing engineered to be structurally sound, lighter, and less complex; reduction in parts compared to original OEM design; unique dual entry inlet optimizes airflow in hover and forward flight	Structurally integrated kit; four interchangeable rugged, lightweight, flat filters designed for fast filter exchange: self-contained kit integrated into existing inlet plenum; new forward firewall interface; improved drive shaft and coupling access; minimal aircraft modification: includes improved water wash manifold	Structurally integrated kit; two rugged, lightweight, flat engine inlet filters; separate system for protection of the engine inducer bleed system with one small flat filter; designed for fast filter exchange after removal of blast shields; self-contained inside existing inlet plenum; maintains existing engine wash system	Structurally integrated Sikorsky A-kit; removable Donaldson B-kit; modular design; transition module mounts to engine inlet; filter & bypass module mount to aircraft; eight interchangeable filters; swings open for maintenance access; cruise flight bypass system; inherent bird strike protection capability
Emergency Bypass	Internal compartment bypass door to protect against dirt, ice & snow; activation allows flight in all environments	Conformal external bypass door with fewer parts than original OEM design; activation allows flight in all environments	Dual access bypass system with vertical doors to protect against dirt & snow; activation allows flight in all environments	Internal compartment bypass door protects against dirt & snow; activation allows flight in all environments	Unique bypass system with forward ram air entry for use as bypass or for power recovery in forward flight
Components	Easily accessible via lower side access doors; non-intrusive cockpit installation; filter maintenance aid for on-condition filter assessment	Easily accessible externally and inside forward inlet fairings; Uses OEM cockpit annunciation system; filter maintenance aid for on-condition filter assessment	Easily accessible externally and inside forward cover; non-intrusive cockpit installation; filter maintenance aid for on-condition filter assessment	Easily accessible via lower side access doors; Filters protected by blast shields; non-intrusive cockpit installation	Easily accessible B-Kit with components mounted for quick change out; modular design for fast combat damage repairs
Performance	Operate with more power margin than EAPS, uses basic inlet charts with backup EAPS charts; lower pressure drop than other options with superior particle separation efficiency	Per TMs, significant performance improvement over EAPS with lower inlet pressure drop and a flat pressure drop characteristic with forward airspeed; fully qualified for weapons fire	Operate with more power margin than EAPS, uses basic inlet charts; lower pressure drop than other options with superior particle separation efficiency	Per TMs, lower pressure drop than EAPS; superior particle separation efficiency; fully qualified for weapons fire	Per TMs, designed to provide lowest possible inlet loss with fully contaminated filters in a hover condition with superior particle separation efficiency
Proven	The US Army has equipped 100% of its TH-67 fleet and has equipped over 25% of its OH-58A/C fleet with the IBF. The Iraqi Air Force operates the IBF. Commercial kits used by law enforcement and commercial operators worldwide.	Standard configuration on the US Army Special Operations Little Bird; Standard equipment on the MD Helicopters production line. The Royal Jordanian Air Force, Afghan Air Force and Republic of Korea Army OH/AH-6 operate the IBF. Commercial kits used by law enforcement and commercial operators worldwide.	Fielded by the US Department of State on its fleet of UH-1H Huey II aircraft. The Iraqi Air Force, Royal Thai Air Force and Georgian Air Force operate the IBF. Commercial kits used by law enforcement and commercial operators worldwide.	Standard configuration on the US Army fleet. Engines routinely make published TBO even while operating in Iraq and Afghanistan. The significant advantages of the filter led to it being specified on the US Army Armed Reconnaissance Helicopter (ARH) Program.	The US Army has equipped 25% of its UH-60 fleet with the IBF. The United Arab Emirates Air Force, Royal Saudi Air Force and Swedish Armed Forces operate the IBF.

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## **ROTORCRAFT AUXILIARY POWER UNIT INLET BARRIER FILTER SYSTEMS for MILITARY AIRCRAFT**

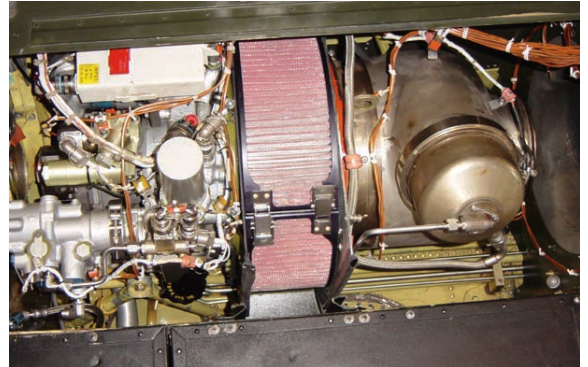


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Donaldson Military platform APU IBF Systems (U.S. patent #6,824,582) are available for the UH-60 BLACK HAWK, SH-60 SEAHAWK, AH-64 Apache, CH-47 Chinook, UH-1Y Venom, and AH-1Z Viper.

- Meets established APU time between overhaul limits
- Extends APU life due to elimination of erosion
- Provides clean filter air to secondary systems
- Available factory-direct
- No operating limitations
- 99% particle separation efficiency at rated APU airflow



AH-64A Apache APU

## PERFORMANCE AT-A-GLANCE

Features	UH-60 BLACK HAWK, UH-1Y Venom, AH-1Z Viper Hamilton Sundstrand APU Part number 104002-101	UH-60 BLACK HAWK, Honeywell APU Part number 104003-101	AH-64A Apache Part number 110001-103	AH-64D Apache Part number 110001-105	CH-47 Chinook Part number 104004-101
Design Features	Structurally integrated APU kit; two rugged half moon filters designed for fast filter exchange; common APU model firewall provisions	Structurally integrated APU kit; two rugged half moon filters designed for fast filter exchange; common APU model firewall provisions; integrated APU lifting lug	Structurally integrated APU kit; new inlet plenum with dual entry inlets; two rugged half moon filters for fast filter exchange; improved sealing system	Structurally integrated APU kit; new inlet plenum with dual entry inlets; two rugged half moon filters for fast filter exchange; improved sealing system	Structurally integrated APU kit; two rugged half moon filters designed for fast filter exchange; can install without removing APU
Components	Frame assembly secures filters to APU; filter maintenance aid for on-condition filter assessment	Frame assembly secures filters to APU; filter maintenance aid for on-condition filter assessment	Plenum assembly secures filters to APU; filter maintenance aid for on-condition filter assessment	Plenum assembly secures filters to APU; filter maintenance aid for on-condition filter assessment	Frame assembly secures filters to APU; filter maintenance aid for on-condition filter assessment
Proven	The US Army/Navy have equipped over 1,300 of its APUs with the IBF. The Israeli Air Force, Royal Jordanian Air Force, Royal Saudi Air Force, Swedish Armed Forces and United Arab Emirates Air Force operate the APU IBF.	The US Army/Navy have equipped over 600 of its APUs with the IBF.	The US Army has equipped over 100 of its APUs with the IBF.	This kit is completing qualification testing with the US Army.	The US Army has over 170 Donaldson APU IBF kits.

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