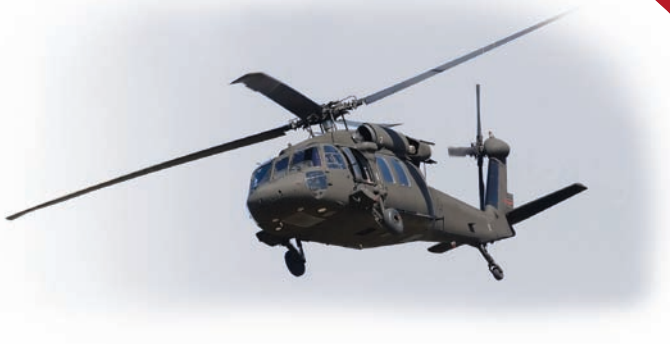
Honeywell | Aerospace

Air Turbine Start System Upgrade

for the UH/SH-60 and H-1 Helicopter Platforms

Air Turbine Starter (PN 3505300-10)
Starter Air Valve (PN 3213850-6)

Provides operators an optimized Air Turbine Start System with higher reliability, greater performance and reduced maintenance costs over the life cycle of the aircraft.



Expertise

80% of the World's Military and Commercial Aircraft use Honeywell Air Turbine Starters

We have pioneered virtually all Air Turbine Starter System technological advances

160+
Pneumatic Starter Models designed and produced since 1950

200,000+
Air Turbine Starters have been shipped

140,000
Daily main engine starts

8 million+
Starter operating hours logged per month

Since 1938

Honeywell has been at the forefront of design and manufacturing of high performance pneumatic valves for aerospace applications

1,500
Pneumatic Valve Designs designed and produced by Honeywell

200+ Applications
Across military, commercial air transport, business and regional aircraft

10+ years
Demonstrated reliability of PN 3213850-6 Starter Air Valve on the S92 Helicopter

Innovation

Air Turbine Starters

>14% Increased Light-off Torque

Imperative during engine start conditions with elevated resistance:
- Degraded aerodynamics
- Higher internal drag/resistance
- Colder temperatures

Quick Drain Oil Valve
- Allows maintainer to quickly and easily drain oil without removing starter from helicopter

Fill-to-Spill Oil Neck
- Ensures proper oil servicing every time; prevents overfilling the oil sump

Starter Configuration
- Redesigned lubrication system and output shaft
- Redesigned stator inlet duct
- Retains all safety features from previous design

Starter Air Valves

More Robust Design
- More compatible with high inlet temperatures and provides better support of steel duct clamps
- Addresses wear, corrosion and distortion failure modes associated with current valve

Increased Operational Capability
- Upgraded Position Indicator Switch is a more robust, high reliability design than current micro-switch
- Hermetically-sealed gold contact switch replaces silver contact position micro-switch
- Complies with explosive atmosphere test requirements and prevents oxidization at low currents

Excellent Wear Characteristics
- Provides excellent wear characteristics and low closing friction

High Inlet Temperatures
- Flow body and butterfly plate upgraded from Aluminum to Steel

Proven Design

Increased Mean Time Between Failure (MTBF)

Improved starter performance with lower cost of ownership:

>4,000 hours – Air Turbine Starter
Starter reliability proven over 4-year flight evaluation test

>8,000 hours – Starter Air Valve
Valve reliability proven over 10+ years flight operation

Reduced Maintenance Costs

Drop-in Replacement

No aircraft modifications required

Global Service and Support Network

Knowledge and resources for all service needs – whenever and wherever maintenance and repair services are required

Made in the USA

Find out more at www.aerospace.honeywell.com