

NW-44 MULTI-FUEL ENGINE

Northwest UAV

A GLOBAL COMPANY



Where Precision and Reliability Soar!

The Extra Features Built
Into The NW-44 Multi-Fuel
Engine, Will Have You Flying
Faster and Quieter
At Any Altitude.

- Heavy-Fuel/Gas Fuel Injection
- Less Drag = More Endurance
- Made in the USA

AVAILABLE NOW!



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REV D

AS9100

Quality Management Certified

ISO9001 CERTIFIED

NORTHWEST UAV: Turnkey Solutions for the UAS Industry

Northwest UAV is World industry leader in UAS Propulsion System Manufacturing, providing quality, made in the USA products to clients around the globe. At NWUAV we understand UAS requirements inside and out, incorporating a total lifecycle approach that provides top quality, high-performance solutions to enhance any system platform. Our onsite Engineering Group is dedicated to our company mission of delivering reliable, cost effective UAS systems, and their experience is proven. When you need to get in the air and stay there, you need Northwest UAV. NWUAV is a AS9100 | ISO 9001 certified supplier.

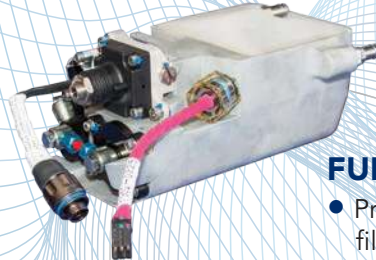


AS9100



BATTERY BACKUP MODULE (BBM)

- Full power system management
- Switches between generator shorepower and battery
- Uninterrupted backup battery power



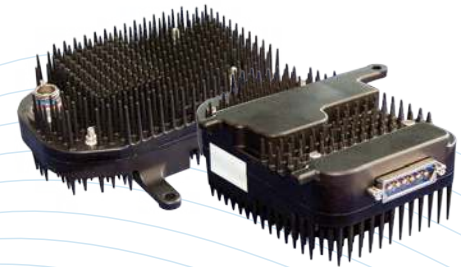
FUEL DELIVERY SYSTEM (FDS)

- Pressurized fuel for EFI, filtered with acrobatic pickup
- Regulated fuel pressure
- Pressure and Bingo level sensors



ENGINE CONTROL UNIT (ECU)

- Purpose built for UAVs
- Highly versatile baseline, customizable



GENERATOR CONTROL UNIT (GCU)

- 280-Watts
- Outputs: 28V, 12V & 6V
- Trimmable to your application



ECU WIRE HARNESS

- Mil SPEC connectors
- EMI/EMC protected



Northwest UAV

All products meet or exceed AS9100/ISO9001 standards.

[HEAVY-FUEL/GAS] UAV ENGINE



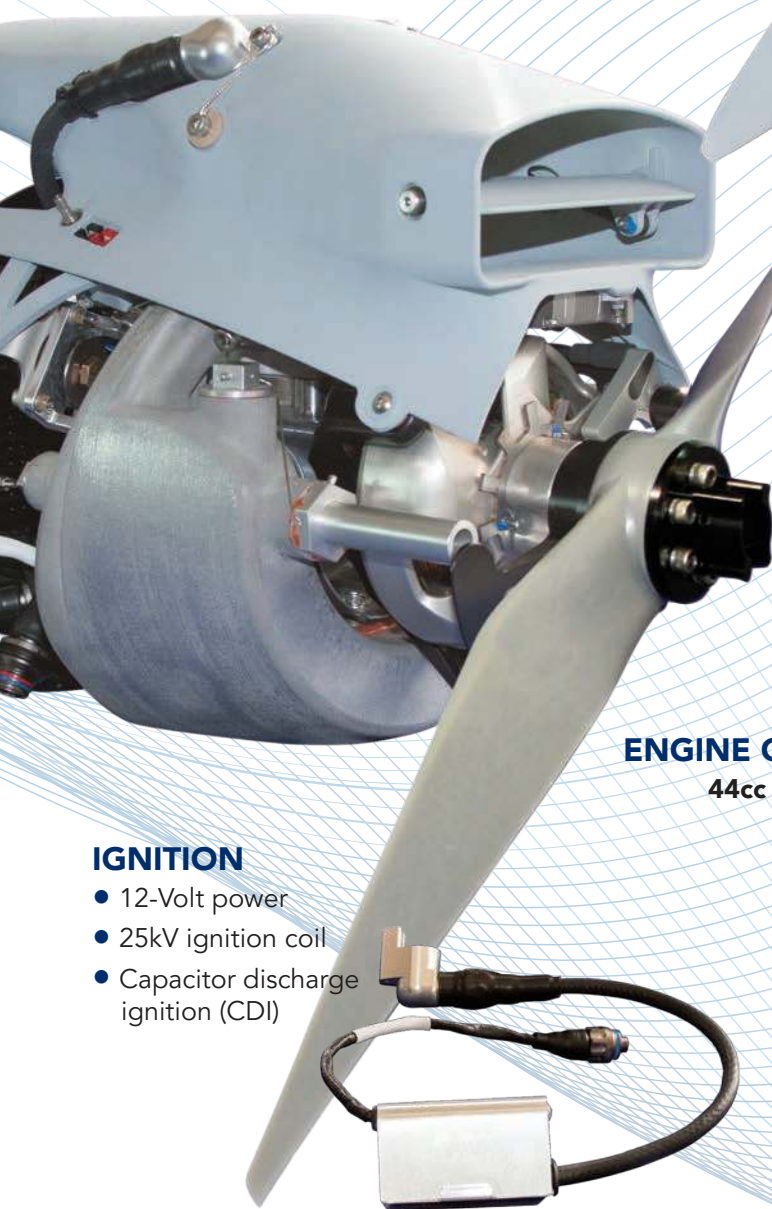
ROTOR & STRATOR

- 310-Watts
- 90+% Efficient



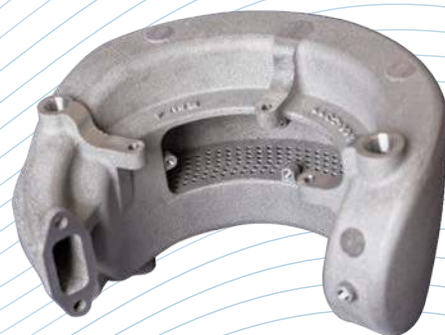
PROPELLER

- Exclusive aerodynamic design
- Low noise



ENGINE CORE

44cc



MUFFLER (PATENTED)

- Lightweight conformal design
- Extreme acoustic suppression

IGNITION

- 12-Volt power
- 25kV ignition coil
- Capacitor discharge ignition (CDI)

The NW-44 EFI is one of the most configurable small UAV engines on the market today. Purpose-built to handle aircraft from approximately 18 to 34 kg* (40-75 lbs.) depending on mission requirements. The NW-44 EFI core and sub-system components mitigate ITAR and end of life concerns and are primed to meet pending FAA Certification requirements.

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*Engine application is dependent on airframe factors including: Aerodynamics, propeller, and operational concept. Please contact NWUAV for guidance.

NWUAV purpose-built NW-44 EFI multi-fuel (heavy-fuel/gas) engine is designed, developed and built for unmanned aircraft systems, low altitude, long endurance aircraft and portable power generation.



SPECIFICATIONS

NW-44 EFI	
Total Weight	4344 ± 200 g*
Displacement	43.6 cc
Bore	38.99 mm
Stroke	36.53 mm
Maximum Continuous Speed	7250 rpm
Power Rating at 7250 RPM	3.2 hp
BSFC at Cruise	395-456 g/kWh
5000 RPM at Sea Level	0.65-0.75 lb/hp-hr
Ignition	Twin 25kv Capacitor Discharge Ignition (CDI)
Cooling	Air with Active Cylinder Head Temperature (AHT) Control
Generator Regulator	6/12/21 or 28 VDC, 250-Watts to AV at typical flight conditions
Generator	On-Shaft Permanent Magnet Alternator
Fuel System	Full Authority Digital Engine Controller with Electronic Fuel Injection
Fuel Type	Non-ethanol 93-100 octane gasoline (R+M)/2, Jet-A, JP-5, JP-8, TS-1, F35
Fuel to Oil Mixture	32:1 ratio by volume
Preferred Oil Type	Bel-Ray H1R
ECU Data Storage	1,000 hours at 1Hz Recording Rate
TBO (Estimate)	400-500 hours

NOTES: Actual performance will vary depending on PMU configuration, application, propeller, fuel, oil, environmental conditions and type of operation.

* Total weight with propeller, cowling and interface harness.

The NW-44 EFI is one of the most configurable small UAV engines on the market today. Purpose-built to handle aircraft from 18 to 34 kg* (40 to 75 lbs) depending on mission requirements.

Designed from the ground up for unmanned applications, the NW-44 is scalable for use in various classes of aircraft with multiple fuel types and incorporates features not available with hobby based engine designs.

Advanced materials incorporate characteristics needed for lighter weight and better performing engines when utilizing heavy-fuels. The specialized Fuel Injection System allows the NW-44 to dramatically enhance engine system reliability, maintainability, and performance while reducing weight.

The NW-44 core and subsystem components alleviate ITAR and end of life concerns and are primed to meet pending STANAG 4671 and FAA Certification requirements.



ADDITIONAL FEATURES

- Custom 250 watt direct drive generator with a 6/12/21 or 28 volt Generator Control Unit (GCU)
- Includes: Fuel injection, barometric pressure, cylinder head and intake air temperature sensors, and heavy-fuel cold start provisions
- **Multiple generator output configurations available to fit customer horsepower, electrical output and overall weight requirements**
- **Conformal design mitigates unwanted parasitic drag, which increases net fuel-efficiency**
- Manufactured entirely in the USA
- CAN or Serial Bus communication
- Lightweight quiet acoustic muffler
- Interfaces with popular autopilots

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