

NW-44 Multi-fuel Engine

+28,000
Operational
Hours



MISSION-VALIDATED PROPULSION FOR GROUP 2 UAS

ENGINEERING THE ENDURANCE BASELINE

The NW-44 Heavy-Fuel UAV Engine is a purpose-built power plant engineered to eliminate the reliability gap in the 18–34 kg (40–75 lbs) aircraft class. Designed and manufactured in the USA under strict AS9100-compliant quality management systems, the NW-44 offers a mature, EAR99 solution for global export.

01. Classification: Group 2 UAS Heavy-Fuel Engine
02. Origin: Made in the USA | AS9100-Compliant Manufacturing
03. Export Status: Approved for Export / EAR99

MILITARY PROVEN PROPULSION SOLUTIONS!





NW-44 UAV HFE - DEPLOYMENT READINESS

Unlike modified hobby-grade engines, the NW-44 was developed from the ground up for the rigors of unmanned systems and portable power generation. It provides a stable, repeatable propulsion platform that performs consistently across the entire altitude envelope, ensuring that your airframe meets its mission requirements—every time.

01. PERFORMANCE SPECIFICATIONS & OPERATIONAL ENVELOPE

- **Power Output:** Rated performance optimized for Long Endurance (LE) profiles.
- **Fuel Versatility:** Integrated Electronic Fuel Injection (EFI) supports heavy-fuel (JP-5, JP-8, Jet-A) and gasoline, aligning with one-fuel forward-operating mandates.
- **Aerodynamic Integration:** A minimized frontal profile reduces parasitic drag, directly extending on-station time and increasing cruise efficiency.
- **Acoustic Signature:** High-precision tolerances and purpose-built components ensure reduced dBA levels for low-observable operations.

02. NW-44 SPECIFICATIONS

PARAMETER	SPECIFICATION
Engine Type	Two-stroke, Purpose-Built UAS Core
Weights	Core ¹ 3402 ± 100 grams
(See Below)	Avionic (Puck) 933 ± 100 grams
	PMU ² 4335 ± 100 grams
Displacement	43.6 cc
Bore / Stroke	38.99 mm / 36.53 mm
Max Speed	7500 rpm (Continuous)
Rated Power	3.5 hp (@ 7250 rpm)
BSFC³	384-442 g/kw-hr / 0.63-0.73 lb/hp-hr (@ Cruise 5000 rpm @ Sea Level)
Ignition	Shielded Twin 25kv CDI (Capacitive Discharge Ignition)
Cooling	Air with ACHT (Active Cylinder Head Temperature Control)
Fuel Delivery	High-Pressure FADEC (Full Authority Digital Engine Control), EFI (Electronic Fuel Injection)
Fuel/Oil Mix	32:1 Ratio by Volume (Heavy Fuel or Gasoline)

NOTE: Actual performance will vary depending on PMU configuration, application, propeller, fuel type, oil, environmental conditions, type of operation, direction of rotation, generator losses, and cowling configuration.
¹Core = EMU with ACHT. | ²Core weight + avionic weight = total PMU weight. No prop, no prop hardware, no manual engine start interface. | ³BSFC numbers do not contain oil consumption. | ⁴Fuel is subject to regional and seasonal variations. The user is responsible for testing, validating, and defining operational limits with their local gasoline source.

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

03. OPERATIONAL CAPABILITIES

- **Multi-Fuel Compatibility:** Validated for JP-5, JP-8, Jet-A, and non-ethanol gasoline (R+M)/2⁴ (93-100 Octane).
- **Reduced Parasitic Drag:** Minimized frontal area allows for streamlined nacelle integration, enhancing airframe L/D (Lift-to-Drag) ratios.
- **Altitude Compensation:** Automatic EFI mapping adjusts for density altitude, ensuring consistent power and starting from sea level to MSL.
- **Low Acoustic Signature:** Optimized muffler and precision balance reduce the dBA footprint for stealth-reliant ISR missions.

04. PHYSICAL & ELECTRICAL DATA

- **Recommended MTOW:** ~000 lbs
- **Time Between Overhaul:** 400-500 hours.
- **Data Storage:** ECU (Electronic Engine Control) storage 1,000 hours at 1HZ recording rate.
- **Integration:** Designed for both Pusher and Puller configurations.
- **Ancillary Support:** On-shaft permanent magnet alternator supports integrated generator/alternator sets up to 6/12/21 or 28 VDC, 280-Watts of onboard power generation.

05. QUALITY & COMPLIANCE

- **AS9100 Aerospace Standard:** Every NW-44 unit is subject to rigorous quality control, traceability, and bench-testing prior to shipment. This ensures fleet-wide repeatability and minimizes the "infant mortality" rates common in non-AS9100 Aerospace Standard engines.



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