

Big Power in a Small Package

A tireless little powerhouse, the L844D can power the smaller sized vessel, with the same reliability, durability and simplicity that have been hallmarks of the Lugger product lines for decades.

The L844D produces 40 horse power at 2800 rpm, or 30 horse power at 2500 rpm. Built to the rigorous specification of Lugger's custom marinization process, the L844D features an impressive power-to-weight ratio and highly efficient fuel consumption. The L844D is certified to meet current emission regulations.

Like all Lugger engines, it is highly customizable, and known for a commonality of parts; providing for a remarkably flexible and adaptable marine propulsion unit.

Mechanically injected and naturally aspirated, the L844D is designed for maximum simplicity in a technologically advanced package. To reduce troublesome gaskets

and hoses, the L844D's cast iron manifold, expansion tank and heat exchanger are combined into a single component system.

Other service features of the L844D are designed with the recreational boater in mind. The raw water pump is located to make impeller changes a breeze, and it is gear driven, eliminating the pump drive belt. Most service points are grouped on a single side to further aid in service.

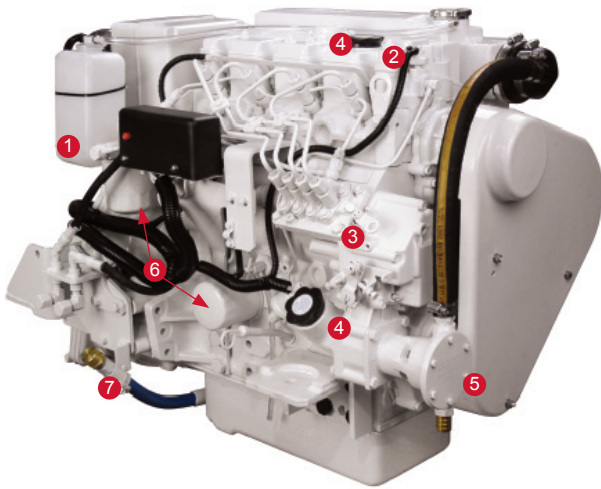
The two valve per cylinder design provides for maximum air flow in a compact space. The L844D features an electronic control unit, which provides protection by self-diagnosis, outstanding throttle response and excellent fuel economy. Swirl combustion chambers improve reduce smoke and further improve fuel efficiency. The DC Logic electrical system continuously controls and monitors vital engine functions.

HORSEPOWER	30 HP /2400 rpm Medium Duty
	40 HP /2800 rpm High Output

By combining the world renowned technology of Northern Lights' engineering, with an eye toward the simplicity and efficiency required by small vessel operators, the L844D produces quality marine propulsion in a small and economical package.

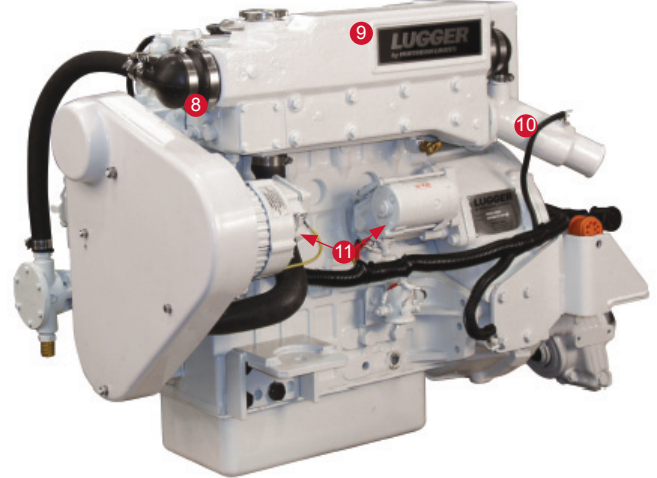
Lugger engines by Northern Lights feature many components for outstanding performance and cost efficiency. Recognized world wide as the most reliable and durable marine engines, Lugger delivers the highest quality engines on the water.

Service Side



1. Coolant expansion bottle keeps engine room clean and dry.
2. Cast air intake manifold with washable air filter/silencer reduces air intake noise. Crankcase oil vapor trap for clean air.
3. Bosch type inline injection pump.
4. Top & side oil fills.

Non-Service Side



5. Gear driven, rubber impeller, seawater pump. Bronze and stainless steel. No belt. Mechanical seals.
6. Spin-on oil & fuel filters.
7. Oil drain for quick changes.
8. Removable heat exchanger end covers for easy core cleaning.
9. Jacket water cooled with one piece, cast iron expansion tank and exhaust manifold with removable cupro-nickel heat exchanger core.
10. Cast iron wet exhaust elbow w/ temp switch.
11. 12 volt DC starter and battery charging alternator.

STANDARD FEATURES

As a base engine in a small vessel, or a wing engine in a larger one, the L844D is built to be driven hard over the long haul.

Cooling System

Northern Lights engineering has produced an engine with a minimal amount of leak or breakage points. This leads to a cooling system that is uniquely designed for the rigors of the marine environment.

Reliable and efficient cooling is built in to the L844D, thanks to its single-piece cast iron exhaust manifold.

Fuel System

The L844D combines the tradition of Northern Lights engineering excellence with the advances of modern technology. The fuel system is electronically controlled, allowing for smooth, efficient horsepower in a package that that is easy to understand and service.



Air System

The L844D is designed to meet US EPA Tier II emission standards. Its air and ventilation systems are built to run as efficiency and cleanly as possible. The closed circuit crankcase vent traps oil vapors to keep the engine room and environment clean. The cast-iron wet exhaust elbow is unique in the marketplace and comes standard.

Lubrication System

The L844D uses a gear-type, high capacity oil pump with a lube oil cooler and a full flow filtration system. This technology filters particles large and small from the oil flow in a single unit. Northern Lights is so dedicated to the principals of customization and ease of use, that the L844D comes available with left or right handed dipsticks.



Electrical System

The standard L844D electrical system is a technological standard-bearer, with a 12 volt isolated ground system standard, and available as an option. The battery charging alternator and starter come standard, as does the control panel featuring tachometer, hourmeter, coolant temperature meter, DC voltage meter, oil pressure gauge and key switch.



LUGGER[®]

by NORTHERN LIGHTS

www.northern-lights.com

L844D Specifications and Installation Data

Output rating	Medium	Performance
FWHP (kW)	30 (22.2)	40 (29.6)
Maximum RPM	2400	2800
Cylinders/Configuration/Cycle	4 / Inline / 4	
Displacement CID (ltr)	121 (1.9)	
Aspiration	Natural	
Bore x Stroke in (mm)	3.30 x 3.50 (84 x 90)	

Cooling (General)

Coolant circ pump flow - US gpm (lpm)	14.2 (54)	20.1 (76)
Heat rejection to jacket water - BTU-min	1176	1567
Freshwater system capacity - US gal (ltr)	1.4 (5.3)	

Cooling (Heat Exchanger)

Raw water intake dia. - in (mm)	75 (19)	
Raw water discharge dia. - in (mm)	75 (19)	
Raw water pump flow - gpm (lpm)	10.2 (39)	
Raw water pump max. suction head - in (m)	39 (1)	
Max. raw water temp. at inlet -°F (°C)	86° (30°)	

Cooling (Keel Cooled)

Based on 70° F seawater and minimum full boat speed of 8 knots. Return water from keelcooler 70°-130° F.

Water hose inside diameter - in (mm)	1.25 (31.5)	
Head diameter - in	1.0	
Turbo tube length - ft (m)	2 (0.61)	
Skin cooler aluminum - sq ft (m ²)	4.5 (0.42)	6 (5.6)
Skin cooler steel - sq ft (m ²)	15 (1.4)	20 (1.89)

Electrical

Voltage	12V standard ground (see options)	
Min. battery capacity	120 amp hours	
Battery cable size up to 10 ft run	#1	
Standard panel harness length - ft (m)	20 ft (6m) std, (10, 20, 40 ft opt)	

Air and Exhaust

Engine air consumption - cfm (m ³ /min)	72 (2.0)	101 (2.86)
Min. engine room vent area - sq in (m ²)	--	
Exhaust gas flow at - cfm (m ³ /min)..	169 (4.8)	
Exhaust gas temperature -°F (°C)	1022 (550)	
Max. exhaust back pressure - in (mm) H ₂ O	48 (1220)	
Suggested dry exhaust I.D. - in (mm)	--	
Suggested wet exhaust I.D. - in (mm)	2 (51)	

Fuel and Oil

Minimum fuel suction line - in (mm)	0.3125 (8)	0.3125 (8)
Minimum fuel return line - in (mm)	0.3125 (8)	0.3125 (8)
Maximum fuel pump head - in (m)	39 (1)	39 (1)
Crankcase oil capacity - US qts (ltr)	8.4 (8.2)	8.4 (8.2)

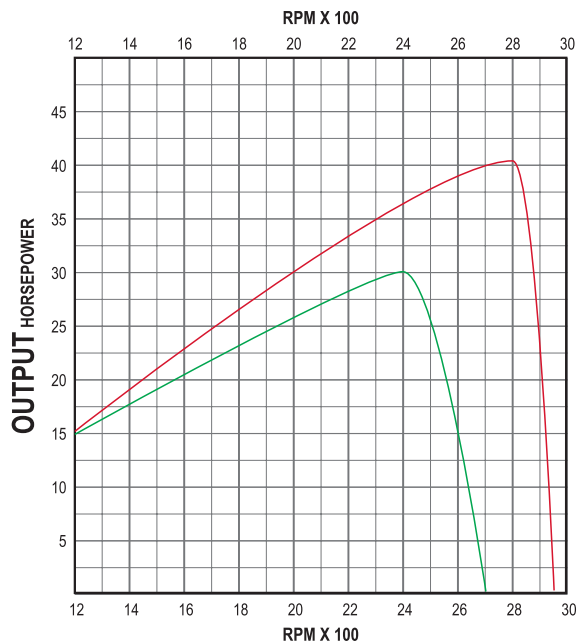
Other Data

Engine rotation (facing flywheel)	All: Counter-Clockwise
Flywheel housing size	All: Std. SAE 4
Optional front PTO size SAE # - inch	All: SAE "3" Pad
Maximum operating angle any direction	All: 35° for less then 2 minutes
Maximum installed operating angle	All: 10° rear down - 0° front down
Keel Cooled Weight - without gear	Consult factory
Heat Exchanger Weight - without gear	Consult factory

* Based on 70° F seawater and minimum full boat speed of 8 knots.
Return water from keecooler 70-130°F

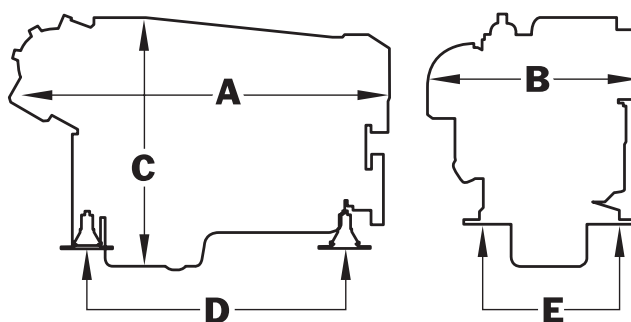
L844D Performance Data

High Output Rating ¹ FWHP / kW / @ rpm	40 / 22.2 / 2800
Medium Duty Rating ¹ FWHP / kW / @ rpm	30 / 29.6 / 2400



Notes: 1. Ratings based on SAE J-816B. Maximum cruise rpm for Medium Duty and High Output is 1900 or 200 rpm below highest attainable rpm- whichever is lower. Continuous max cruise is 1800 rpm.
Curves: A. Maximum torque at flywheel. B. Flywheel power. Prop shaft power is 3-3.5% lower due to marine reduction gear power loss. C. Theoretical prop power draw (3.0 exponent). D. Calculated fuel consumption based on the theoretical propeller power draw. Your fuel consumption will vary higher or lower depending on your vessel and operating conditions. E. Specific fuel consumption.

Dimensions



Overall Dimensions L x W x H: 31 (789) x 20 (508) x 26.9 (602)
Dimensions given in inches (mm). Dimensions subject to change without notice.
Contact dealer or visit www.northern-lights.com for current installation drawings.

*Do NOT use for installation. Contact factory for current installation drawings.

Dealer

4420 14th Ave. NW., Seattle WA 98107
Tel: (206) 789-3880 • 1-800-762-0165 • Fax: (206) 782-5455
Information and dimensions subject to change without notice.
Northern Lights and Lugger are registered trademarks
of Alaska Diesel Electric, Inc.
© 2008 All rights reserved. Litho USA. L728 01/08

LUGGER[®]

by NORTHERN LIGHTS

www.northern-lights.com