

## Features and Benefits

### Engine Block

- Four cylinder, four cycle, in-line, liquid cooled, overhead valve, marine diesels with heavy-duty industrial engine blocks.
- Replaceable, wet cylinder liners for long life, lower rebuild costs.
- Bimetallic valves have chrome plated stems and rotators. Replaceable valve seats and guides.
- Balanced crankshaft with induction hardened journals and rolled fillets.
- Two gear-driven, counter-rotating, balancing shafts for smooth operation.
- Three ring aluminum alloy pistons with Ni-Resist insert for the top ring. Keystone piston ring reduces carbon buildup under light loads.
- Self adjusting, poly-vee drive belt powers the alternator and jacket water coolant pump.

### Direct Fuel Injection System

- **L1064T1**: Mechanical rotary fuel injection pump. Automatic timing advance for cleaner exhaust during start up and under light loads.
- **L1064A**: Engine control unit (1) electronically controls rotary fuel injection pump (2) for higher injection pressures, variable injection timing and precise fuel metering for higher power output with lower emissions.
- Ring clamp fuel filter with air bleed and drain.
- Diaphragm-type, mechanically driven fuel transfer pump with manual priming lever.

### Air System

- Dry air filter silences air intake noise.
- **L1064T1** is turbocharged.
- **L1064A** is turbocharged and aftercooled to increase output. Turbocharger (1) turbine housing is jacket water cooled for safety. Aftercooler has aircraft quality, 70/30 cupronickel, two pass element (2). Oval water tubes are easy to clean and promote better heat transfer than round tubes. Corrugated air cooling fin design supports tubes better than plate fin type. Seawater piping (3) is cast bronze and stainless steel; water never touches the cast aluminum air ducts (4). No gaskets; all components are machined and have o-ring seals. Seawater direct from the gear driven pump, for maximum cooling.

### Cooling System

- Jacket-water cooling has two thermostats for safety and quicker engine warm-ups.
- Cast iron expansion tank has no welds to break. Large brass filler neck for easy filling.
- Cast-iron exhaust manifold has double pass jacket water flow for even temperature control, fast warm-up and no hot spots.
- Heat exchanger cooling has: Gear driven, flexible impeller seawater pump. Easy to clean, tube-type, cupro-nickel heat exchanger. Zinc anode electrolysis protection.
- **L1064T1** available in keel cooled version.

### Lubrication System

- 250 hour oil change.
- Positive displacement gear-type oil pump.
- Oil spray cooling reduces piston crown temperature for longer life.
- Plate-type, full jacket-water flow oil cooler reduces heat and thermal breakdown of oil.
- Full flow, spin-on oil filter.
- Cast aluminum, rocker cover traps valve noise. It's also a closed loop crankcase vent to keep oil mist inside the engine.

### ESP and DC Electrical System

- Standard 12 volt, negative ground, DC system has circuit breaker, starter motor and battery charging alternator with regulator.
- **L1064A**: The Electronic System Profiler (ESP) supplies an SAE J1939 engine information data stream through a CANbus plug for optional monitor.
- Instrument panel has tachometer, DC volt meter, hour meter, coolant temperature gauge, oil pressure gauge, stop button, key switch and gauge light rheostat. Warning lights and audible alarm for low oil pressure and high water temperature. Installation of main and optional panels is plug-in simple.
- Engine and panel are prewired. 20-foot wire harness with plug-ins is standard.

### Special Equipment

- Cast iron, centerline mounting brackets.
- Belt guard protects operator.
- Sparkling, white IMRON® polyurethane paint.
- Operator's and parts manuals on CD-ROM.

## Options and Accessories

- **L1064A**: Electronic System Profile (ESP) monitor keeps you in touch with your engine's operating condition.
- DC systems: 12 volt isolated ground. 24 volt standard and isolated ground.
- Flybridge and auxilliary panels. Plug-in installation.
- Coolant level sensor/alarm.
- Alternators:  
12 volt/90 amps, 12 volt/140amps, 24 volt/75amps as a second alternator or in place of the original.
- Wet and dry exhaust elbows. Dry exhaust flex. Fiberglass water lift exhaust muffler.
- Crankshaft pulleys: 3-A/B or 4-A grooves.
- Twin Disc® or ZF® marine gears. Trolling valves. Shaft couplings.
- Vibration isolating engine mounts.
- Spare parts kits.
- Racor® fuel filters.
- High capacity front PTO (power take off) with a 12 volt or 24 volt electric clutch and an SAE B or C splined hydraulic pump mount pad. At the touch of a button you have power to power your vessel's hydraulic auxiliary systems. Maximum torque:  
L1064T1 = 168 ft lbs, L1064A = 306 ft lbs.

### 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 Luger are registered trademarks of Northern Lights, Inc.  
© 2012 All rights reserved. Litho USA. S129a 6/12



# L1064 Series

# General Specifications and Dimensions

Model Number	L1064T1	L1064A
High Output Rating - fwhp (kW) @ rpm	n/a	140 hp (104) 2400
Medium Duty Rating - fwhp (kW) @ rpm	n/a	125 hp (93) 2200
Continuous Duty Rating - fwhp (kW) @ rpm	100 (75) @ 2500	115 hp (85) 2000
Cylinders	4 Inline	4 Inline
Displacement - CID (ltr)	276 (4.5)	276 (4.5)
Operating Cycle / Aspiration	4 / Turbocharged	4 / Turbo-Aftercooled
Bore x Stroke - in (mm)	4.19 x 5 (106 x 127)	4.19 x 5 (106 x 127)

Cooling (General)		
Jacket-water circ pump flow - gpm (lpm) / rpm	53 (200) / 2500	51 (192) / 2400
Heat rejection to jacket water - BTU/min	3465	6147

Cooling (Heat Exchanger) available on all models, all ratings.		
Raw water intake and discharge dia. - inch (mm)	1.25 (32)	2 (51)
Raw water pump flow - gpm (lpm) / rpm	31 (117) 2500	53(200) / 2400
Raw water pump max. suction head - in (m)	39 (1)	39 (1)
Maximum raw water temp. at inlet - °F (°C)	86° (30°)	86° (30°)
Freshwater system capacity - US gal (ltr)	5.5 (21)	5.5 (21)

Cooling (Keel Cooled) available on L1064D only.*		
*Based on 70° F seawater and minimum full boat speed of 8 kts. Return water from keel cooler 70-130° F.		
Water hose inside diameter - in (mm)	2-3/8 (60)	HE cooling only
Head diameter - in NPT	1-1/2	HE cooling only
Turbo tube length - ft (m)	18 (6)	HE cooling only
One inch plain round tube length - ft (m)	42 (12.75)	HE cooling only
Skin cooler aluminum / steel - sq ft (m <sup>2</sup> )	18 (1.65) / 60 (5.55)	HE cooling only

Electrical		
Min. 12V battery capacity - amp hrs/CCA	180 / 640	180 / 640
Battery cable size up to 10 ft run	"00"	"00"
Standard panel harness length - ft (m)	20 (6)	20 (6)

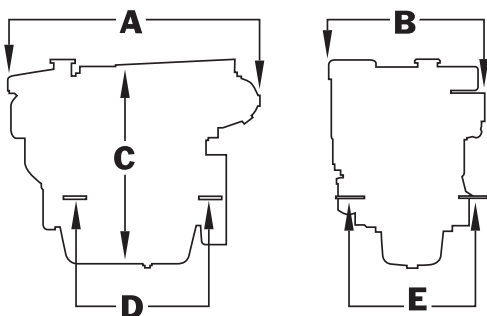
Air and Exhaust		
Engine air consumption - cfm (m <sup>3</sup> /min)/rpm	254 (7.2) / 2500	360 (10.2) / 2400
Minimum engine room vent area - sq in (m <sup>2</sup> )	73 (.047)	105 (0.06)
Exhaust gas flow at - cfm (m <sup>3</sup> /min)/rpm	544 (15.3)	858 (24.3) / 2400
Exhaust gas temperature - °F (°C)/rpm	1184 (640) 2500	887 (475) / 2400
Maximum exhaust back pressure - in (mm) H <sub>2</sub> O	30 (762)	30 (762)
Suggested dry/wet exhaust I.D. - in (mm)	3 (75) / 5 (127)	3 (75) / 5 (127)

Fuel and Oil		
Minimum fuel suction and return line - in (mm)	3/8 (10)	3/8 (10)
Maximum fuel pump head - in (m)	39 (1)	39 (1)
Crankcase oil capacity - US qts (ltr)	21.7 (20.5)	21.7 (20.5)

Other Data		
Engine rotation (facing flywheel)	Counter-Clockwise	Counter-Clockwise
Flywheel housing size - SAE #	SAE 4	SAE 4
Optional front PTO size - SAE #/ Max Torque	SAE 5 / 168 ft lbs	SAE 5 / 306 ft lbs
Max. operating down angle front/rear	0° / 12°	0° / 12°

## Dimensions and Weight NOT intended for installation. Contact factory for installation drawings.

Approximate Weight		
Heat exchanger cooled dry weight w/o gear - lbs (kg)	1190 (540)	1250 (567)
Keel Cooled dry weight w/o gear - lbs (kg)	1160 (526)	n/a

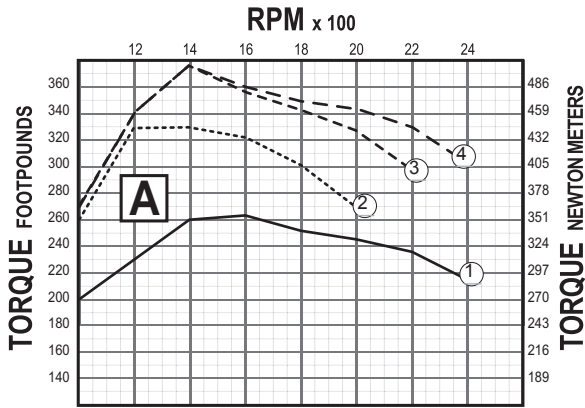


Dimensions:	L1064T1	L1064A
A length in(mm)	40.48 (1028)	45.05 (1144.3)
B width in(mm)	32.66 (830)	29.42 (747.3)
C height in(mm)	35.93 (911)	35.93 (912.6)
D mounts in(mm)	24.2(614.6)	24.2 (614.7)
E mounts in(mm)	24.0 (609.6)	24.0 (609.6)
Dry Weight:	L1064T1	L1064A
Heat Exchanged lbs (kg)	1190 (540)	1250 (567)
Keel cooled lbs(kg)	1160 (526)	n/a

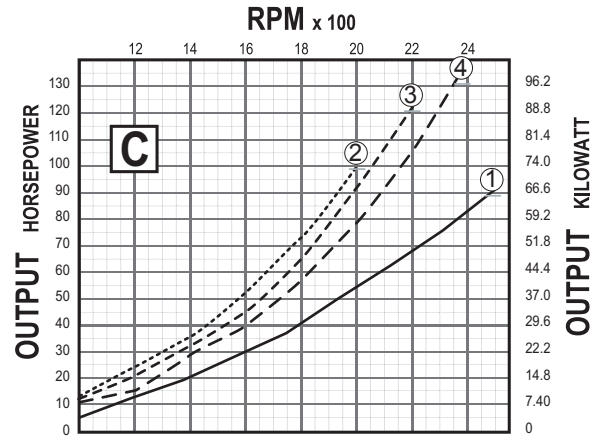
Weights do not include gear or options. Dimensions subject to change without notice.

### Performance Curves

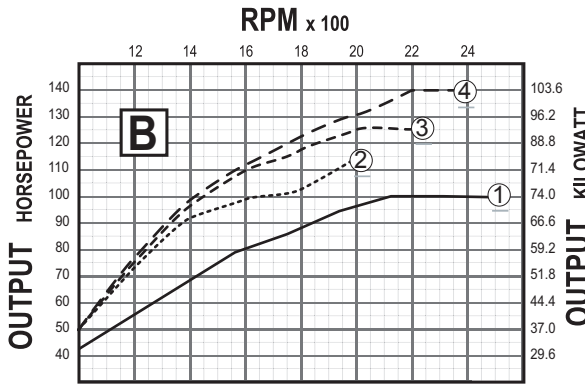
Model Number	L1064T1	L1064A
High Output Rating - fwhp (kW) @ rpm	n/a	140 hp (104) 2400
Medium Duty Rating - fwhp (kW) @ rpm	n/a	125 hp (93) 2200
Continuous Duty Rating - fwhp (kW) @ rpm	100 (75) @ 2500	115 hp (85) 2000



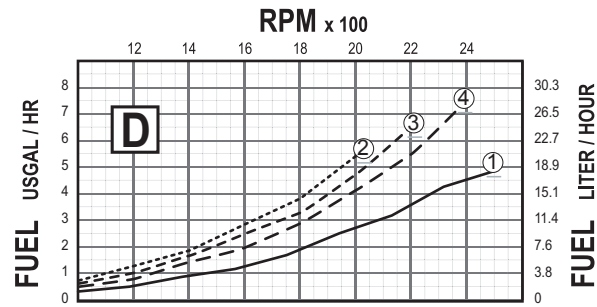
A. Maximum torque at flywheel.



B. Flywheel power. Prop shaft power is 3.0 - 3.5% lower due to marine reduction gears.



C. Theoretical Propeller Power Draw. Prop shaft 3.0 - 3.5% lower due to marine reduction gear / power loss.



D. Fuel consumption based on theoretical propeller power draw. Your fuel consumption will vary based on vessel and operating conditions.

① L1064T1 RATING CONTINUOUS OUTPUT

Curve	A	B	C	D
RPM	ft/lbs	fwhp	pdhp	gph
1000	200	42	5	0.2
1200	240	55	13	0.5
1400	260	65	20	1.0
1600	261	79	30	1.3
1800	252	86	40	1.8
2000	245	94	53	2.6
2200	236	100	68	3.4
2400	216	100	82	4.5
2500	--	100	100	5.1

② L1064A RATING CONTINUOUS

Curve	A	B	C	D
RPM	ft/lbs	fwhp	pdhp	gph
1000	263	50	12.4	0.7
1200	333	76	21.4	1.1
1400	334	89	34	1.8
1600	322	98	51	2.7
1800	301	103	72.5	3.9
2000	270	115	99.4	5.4
2200	--	--	--	--
2400	--	--	--	--

③ L1064A RATING MEDIUM DUTY<sup>1</sup>

Curve	A	B	C	D
RPM	ft/lbs	fwhp	pdhp	gph
1000	273	52	11.3	0.6
1200	341	78	19.6	1.0
1400	368	98	31	1.6
1600	358	109	44.5	2.4
1800	344	118	66	3.4
2000	328	125	91.5	4.8
2200	298	125	121	6.6
2400	--	--	--	--

④ L1064A RATING HIGH OUTPUT<sup>1</sup>

Curve	A	B	C	D
RPM	ft/lbs	fwhp	pdhp	gph
1000	273	52	9.7	0.5
1200	341	78	16.9	0.8
1400	368	98	26.8	1.4
1600	361	110	40	2
1800	353	121	57	2.9
2000	344	131	78	4.0
2200	334	140	104	5.5
2400	306	140	135	7.5

**Rating Definitions** Following are the definitions of duty ratings for Luggers. Please contact your Luger representative to verify your application.

**High Output:** Based on a load factor of 20% or less. A maximum of five minutes at full throttle, followed by not less than ten minutes at cruise power or below. For applications up to 200 total hours per year.

**Medium Duty:** Based on a load factor of 66% or less. A maximum of two hours at full throttle, followed by at least one hour at cruise power or below. For applications up to 4000 total hours per year.

**Continuous Duty:** Based on a load factor of 100%. No limit on time at full throttle. No limit on hours per year.

**Notes:** 1. Max. cruise rpm for High Output and Medium Duty ratings is 200 rpm below highest attainable rpm.

**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 Luger are registered trademarks of Northern Lights, Inc.  
 © 2012 All rights reserved. Litho USA. S129b 6/12

