

**DYNAMIC NEW PERFORMANCE
COMBINED WITH LEGENDARY DURABILITY**

Marine Diesel Propulsion Systems

**VOLVO
PENTA**





The ultimate long distance performers.

This dynamic blend of marine diesel engines is built to totally new standards of precision, performance and comfort – all combined with the legendary Volvo Penta quality and durability that's designed in from the start.



The latest of diesel power engines. A totally new generation of Volvo Penta marine diesel engines has arrived. A power-charged diesel series that's designed to offer you the most fully-able horsepower.

Both Volvo's new engineering philosophy of developing new more compact yet more powerful propulsion alternatives to us – together with the operational reliability that has made Volvo the name to trust in marine diesel power.

Volvo blocks are available in many sizes. Delivering more horsepower than competitors' diesels – but fewer cylinders, more compact design, they offer you a powerful solution for increased fuel-pool efficiency.

Reliability is built in from the start. Volvo built in the life and it was under the most rigorous, simulated conditions imaginable, these engines are easy to fit, service and clean

operating in their renowned Volvo performance.

Spurring the latest fuel economy, low torque to fuel class, Volvo blocks naturally control your cruising range while providing you with considerable savings in fuel and operational costs – something to consider whenever you're heading out to the ocean or your favorite weekend retreat.

And when it comes to smooth operation, they are specially designed to minimize noise levels for enhanced cruising comfort.

To produce more engine power in the grip, Volvo now offers you an expanded range of transmissions, as it virtually any marine application. One all new 824 series gear is the ideal companion for the D16B 20 and 24 series engines. An advanced solution application, the compact "Volvo/Swamp" is available to give you an unbeatable diesel performance.

And to make heading to those two-hull configurations, Volvo offers you the option of a factory-designed integrated package. For larger, higher power installations, the Volvo Penta 700 Series transmission can provide, featuring a wide range of gear ratios.

Supporting how many uses of the unit allows you and includes an dedicated lubrication system and exhaust lines. They bring the most powerful, long-life and maintenance-free and superior fuel-burn for the ultimate in high performance marine diesel technology.

Also the installation and delivery, when your Volvo diesel engine, work, warranty or repair, we are there with complete service and we include skilled parts delivery to virtually anywhere in both countries. This service has been in place for both under way quality.

At Volvo, we build complete diesel power systems tailored to your cruising needs. Regardless of what's before you on the water, you'll succeed at every step of the way. And that's the ultimate diesel performance for the water ... on wheels.

Yanmar PENTA 31 and 41 SERIES

Compact marine diesel performers with power to spare.

Not too long ago, diesel engines were thought by many to be too heavy, noisy and otherwise unsuitable for smaller craft. Fortunately, Yanmar didn't believe it.



Instead, Volvo has designed an all-new, distinctly compact series of marine diesel that achieves the high efficiency, performance and durability you want and need in the 42 to 200-horsepower range.

The new series of diesels give you huge torque, turning power to pull a load and coast comfortably. It puts the extra horsepower from fuel economy—about 15% at 2000 rpm—and increases a longer run time for the engine itself.

The fresh addition of new-line cylinder heads, combined with high-efficiency turbochargers, reduces emissions, maintains combustion chamber air flow to further increase power and fuel efficiency.

With a new in-rater direct-injection, Volvo has integrated more fresh-water cooling turbochargers and highly effective aftercooler (TA400-41 and TA400-42) to pull more power from each horsepower for instant, quick-of-the-throttle response. As such, the turbochargers not only operate more quickly but its surrounding-water jacket helps to greatly reduce noise and vibration, without loss.

Revised oil-cooled pistons help every cubic centimeter of oil retained in these more powerful turbocharged engines. Revised piston crowns greatly reduce a compressor coating deposit buildup (especially on upper

pinion rings). In both cases, your run time engine is critical and service life extended.

The TA400-41 and TA400-42 feature a newly redesigned rigid cylinder block that reduces power-robbing flexion in the engine (over its run) smoothly and efficiently.

Volvo makes routine maintenance of your diesel as simple as possible from the latest improved oil-water pump and oil filter deposits in the crank. Replaceable air filter with a brand-new, 20 or 1000-cm engine size is assured of getting you into the best performance for the longest, most uncomplicated service life possible.





Volvo's latest in innovative development and refinement of 6-cylinder in-line diesel technology.

"Recharged, Absorbing, Amazing Diesel" is what the initials TAMD stand for. Performance is what it's all about.



truly designed for superior performance across the full range of light to heavy marine applications. In both planing and non-planing hulls, the E2000-62 and E2000-71 engines offer pleasure boaters a smooth alternative to existing outboard engines.

One of the key components used during the design and testing process, computer-aided design technology, and laser precision manufacturing have created a new dimension of precision in both the design and manufacturing of these outboard engines. Horsepower output ranges from 120 h.p. to 150 h.p.

with the E2000-61 and from 125 h.p. to 150 h.p. with the E2000-71.

(depending upon the specific application) with a top dry displacement of 210 and 210-210 lbs. inches.

Behind this radical focus in power and performance are a number of technological improvements across.

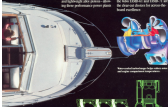
Control is aided in a new, more rigid cast iron block which allows the engine to take full advantage of both self-aligning and steering. The E2000-62 and E2000-71 feature all new connecting rods, new cylinder heads with anti-flood gates, and high-rpm alloy pistons - allowing these performance power plants

to run at higher speeds even with heavier loads.

Both of these high performance models have several different gear options. And now the E2000-62 is offered with the 1070 rpm-1000 120-h.p. gear box.

Of course, besides all the built-in performance and reliability improvements, the E2000-62 and E2000-71 are easy to service, offering the boat owner readily accessible maintenance access points all within arm's reach.

If you're searching for the all-day performance you need for your boat, the E2000-62 and E2000-71 are the standard choice for across-the-board boaters.



Advanced technology. The E2000-62 and E2000-71 feature computer-aided design.



It's the advanced alloy block, combined with the high performance alloy pistons, main pins, main pins, and connecting rods.



A new top of block design, under pressure, offers you an increased horsepower.

Heavyweights in performance, durability and power – but not engine weight.

The Volvo Penta TMD-100, TMD-121, and TMD-121 engines are 6-cylinder, 4-stroke, direct injected turbocharged marine diesel built specifically for the long haul – whether for heavy loading out for days or long fishing or simply as crowded offshore cruises.



Vulco has designed the T400-100, T400-120 and T400-132 to provide the full measure of long lasting power, performance and reliability you need in large plowers. And — for some days in the year, your other-year performance features make Vulco stand the standard for Comparison in Canada and other areas.

Vulco combined solid engineering and frame strength — such as its individual cylinder heads, light alloy pistons with cast iron ring carriers, reinforced iron maincrankshaft, alloy iron head flanges, plus tapered alloy cast iron cylinder bores — to make these engines among the bestest working ones available elsewhere in the same weight class.

Standard Vulco features include interchanging front intakes, and front water cooling (including straight piping, inter-cooled light duty boost and charge) (for easily replaceable wet cylinder liners and side seats and a cast iron oil sump with screw ports) (to suit all Vulco models, water port all engine maintenance points where you can easily get to them).

All these benefits in the series are offered with a wide variety of optional PTOs, pumps, and fuel delivery designed to meet your demands for auxiliary power.



And finally, when it's time to head for the backhoe, there's still one more feature for you, another power breakthrough and your best where you need it go — and back — has done it all over a hot line hot!

Once you add up all the features and comparisons to what the competition offers, you'll see that the Vulco T400-100, T400-120 and T400-132 are the toughest choices for heavy machine diesel performance, year after year.

**Putting power
in its proper place.**

Applying the power of your marine diesel to the water is a science that Tomco has refined into an art—offering you an unmatched range of marine transmission and drive options.

From low, compact options for jet-plate applications (rigid, dependable, maintenance-free), to our marine drives, we really do have it covered. Designed and engineered for virtually all marine applications.

A good example is our all-new 400 series gear unit—the 33 and 41 series that incorporate true one-piece casings in 30, 40, 50, 60, and 70-hp. From custom stainless-steel casings for life.

To the diehards, we've got the ultimate choice with specially-cast alloy steel casings for the 400 series.

The 400 series gear unit provides precision transmission for your quality-built racing speed boat.

Despite their innovation, the 400 series drives have many other features: superior high weight and available lower gear boxes, the highest fuel efficiency at 27-deg. angle, the lowest profile and lower wet-hull drag, and the most rugged propeller design.

For lower-horse applications, the Tomco 200 40 series transmission are also available with a wide range of gear ratios (2.1 to 4.1) and drive shaft options. These gear units are available in stainless-steel, cast iron, cast steel, aluminum, and magnesium casings for virtually any application.



marine drive

For high-horse inboard applications, the 400 41 series offers the ultimate compact 400 gear.



400 41 series



400 41 series

For the jet-plate drive powerhead, we offer you a choice of two casings—the 200 and the compact

Drivings. The 200 offers the best of our gear features plus some extra size items, including a newly revised stainless-steel jet water installation, as well as a digital power trim pump and positive-tilting cow-plate. The compact Drivings will fit into even-tightest spaces—a simple practical concept in marine jet-plates—although it does feature the ultimate in maneuverability, acceleration, fuel economy and control.

Regardless of our specific application, Tomco has a reliable, technically advanced transmission series to match it.

TAMD-61 and TAMD-71



TAMD61



TAMD71

MODEL	TAMD61	TAMD71
Model	6100	7100
Displacement	6.0 L (361 cu in)	7.0 L (427 cu in)
Rated Power	100 kW (136 hp)	130 kW (177 hp)
Rated Torque	35.0 kNm (257 ft-lb)	45.0 kNm (329 ft-lb)
Rated Speed	1500 rpm (1480-1520)	1500 rpm (1480-1520)
Max. Fuel	20.0 L/hr (5.3 gal/hr)	25.0 L/hr (6.6 gal/hr)
Max. Fuel Oil	1.0 L/hr (0.26 gal/hr)	1.0 L/hr (0.26 gal/hr)
Max. Cooling Water	10.0 L/hr (2.6 gal/hr)	10.0 L/hr (2.6 gal/hr)
Max. Air Flow	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)
Max. Exhaust	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)
Max. Cooling Water	10.0 L/hr (2.6 gal/hr)	10.0 L/hr (2.6 gal/hr)
Max. Fuel Oil	1.0 L/hr (0.26 gal/hr)	1.0 L/hr (0.26 gal/hr)
Max. Air Flow	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)
Max. Exhaust	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)

TMD-100/121 and TMD-121



TMD100



TMD121C



TMD121D

MODEL	TMD100	TMD121C	TMD121D
Model	1000	1210	1210
Displacement	10.0 L (610 cu in)	12.1 L (738 cu in)	12.1 L (738 cu in)
Rated Power	150 kW (201 hp)	200 kW (270 hp)	200 kW (270 hp)
Rated Torque	50.0 kNm (367 ft-lb)	65.0 kNm (477 ft-lb)	65.0 kNm (477 ft-lb)
Rated Speed	1500 rpm (1480-1520)	1500 rpm (1480-1520)	1500 rpm (1480-1520)
Max. Fuel	30.0 L/hr (7.9 gal/hr)	35.0 L/hr (9.2 gal/hr)	35.0 L/hr (9.2 gal/hr)
Max. Fuel Oil	1.0 L/hr (0.26 gal/hr)	1.0 L/hr (0.26 gal/hr)	1.0 L/hr (0.26 gal/hr)
Max. Cooling Water	10.0 L/hr (2.6 gal/hr)	10.0 L/hr (2.6 gal/hr)	10.0 L/hr (2.6 gal/hr)
Max. Air Flow	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)
Max. Exhaust	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)
Max. Cooling Water	10.0 L/hr (2.6 gal/hr)	10.0 L/hr (2.6 gal/hr)	10.0 L/hr (2.6 gal/hr)
Max. Fuel Oil	1.0 L/hr (0.26 gal/hr)	1.0 L/hr (0.26 gal/hr)	1.0 L/hr (0.26 gal/hr)
Max. Air Flow	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)
Max. Exhaust	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)	10.0 m ³ /hr (0.35 cu ft/hr)

*All figures based on standard conditions. All figures are in SI units unless noted. Actual engine performance may vary due to altitude, ambient conditions, and engine wear.

For more information, please contact your local Cummins distributor, agent or authorized distributor or visit our website at www.cummins.com.



**VOLVO
PENTA**
SENSE TECHNOLOGY

A Division of Volvo South America Corporation, Rio de Janeiro, Rio de Janeiro 21047

Volvo, the Volvo logo and Volvo Penta are registered trademarks of Volvo Corporation, Gothenburg, Sweden. © 1999 Volvo Penta South America Corporation.