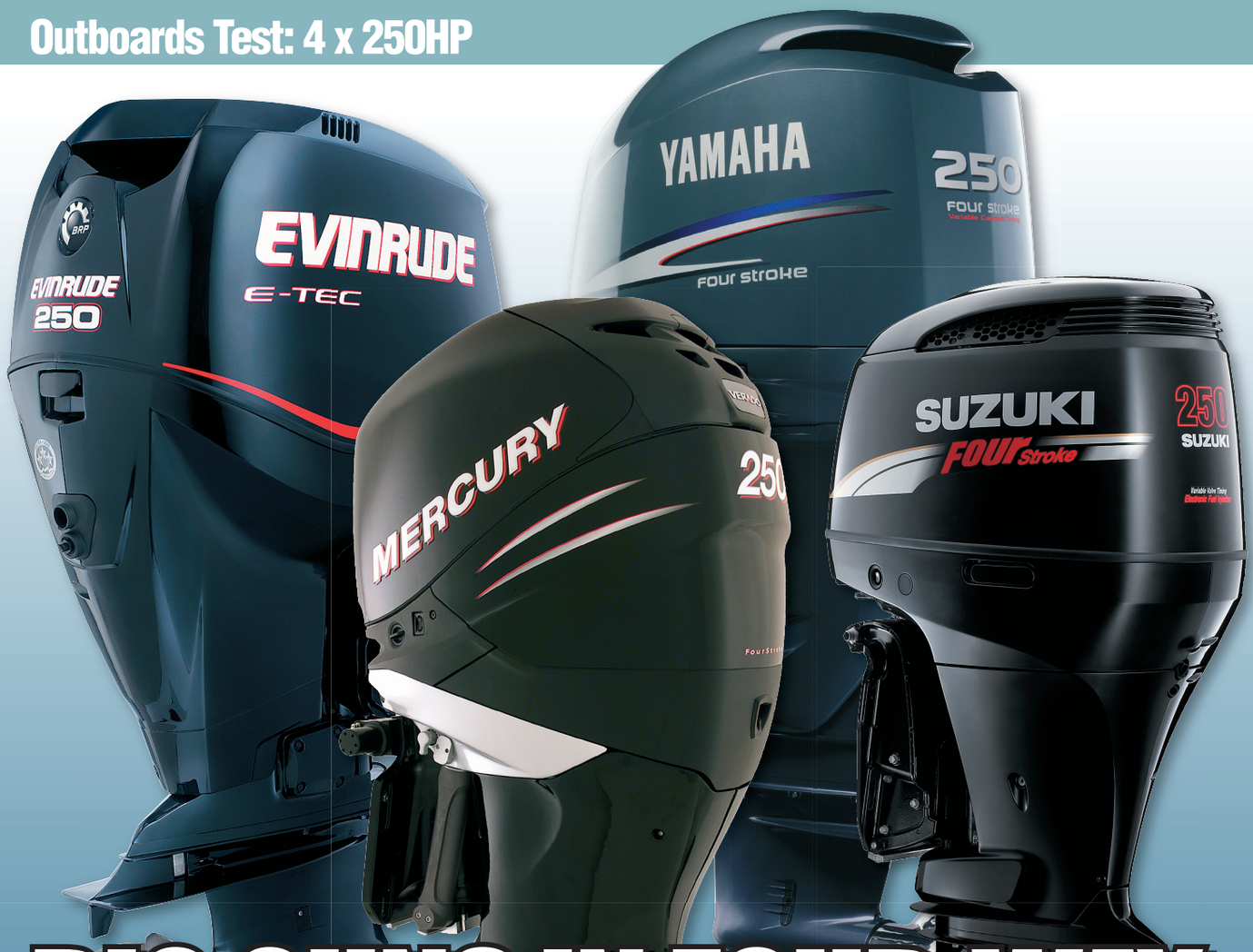

BIG GUNS IN FOUR-WAY SHOOT-OUT

QUICKEST, MEANEST, LEANEST, MOST TORQUE, SMOOTHEST, QUIETEST? IN RIB INTERNATIONAL'S INDEPENDENT HEAD-TO-HEAD TESTS, HELD OVER TWO DAYS, FOUR OF THE NEW BREED OF CLEAN-TECHNOLOGY, MUSCLE-BOUND 250HP OUTBOARDS WERE PUT THROUGH THEIR PACES. WHICH CAME OUT ON TOP? WELL, THAT ALL DEPENDS ON WHAT YOU WANT MOST FROM YOUR OUTBOARD ENGINE.

[illegible] east) be a mighty beast. Novamarines have migrated. Recently we've been witnessing a virility contest between the global players in the outboard motor business, with launch and counter-launch of evermore powerful products. The most powerful production outboard at present is Yamaha's Z300 two-stroke, although Mercury has recently upped the four-stroke ante with a 275hp Verado. We've been told by Yamaha in the USA it intends to trump this sometime this year with the first 300hp four-stroke outboard on the market.

So far, these are exotics, although probably not for very much longer. In the meantime there's a cluster of new 250hp models from Mercury, Yamaha, Suzuki and Evinrude that in terms of volume sales has become over the past two years the realistic top end market datum point for outboards. Sure, there has always been a market for outboards of this size, particularly among bass-sports fishermen and flats-boats enthusiasts on the lakes of North America and around extravagantl[illegible] two-stroke monsters that supplie[illegible] stroke rapidly being consigned to history. What's replacing them - driven on by environmental legislation in the US and Europe - is a new generation of powerful but cleaner, quieter and far more fuel-efficient engines.

These new lean, clean and mean machines have found ready markets not just in the US with its vast fleet of relatively heavy traditional-hulled open planing boats and day cruisers, but also in Europe - and the latter driven mainly by the growth in the RIB market. So high time, we thought, to test the latest mainstream offerings at the top of the market and find out which, if any of them, is the leader of the pack.

The test vehicles for our research were generously provided by JBT Marine, the Hampshire-based distributor of South African-built Ballistic RIBs. Each boat was an identical Ballistic 7.8m, weighing in at 1,550kg including a single 220kg (give or take) 250hp outboard, 150

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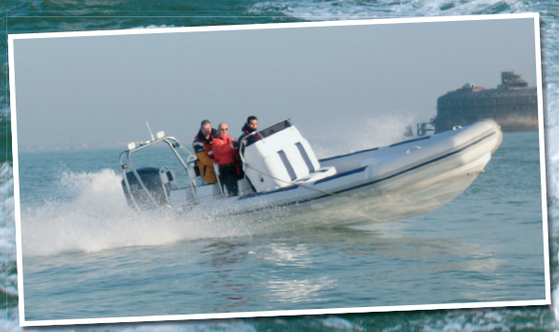


litres of fuel (150kg), safety gear including fire extinguisher (50kg-plus) and four-man crew with a combined weight of 300kg - so, all up, about 2,050kg.

Helming each boat was veteran RIB racer and round Britain champion Paul Lemmer, assisted by extreme distance ribster Jan Falkowski, RIBshop proprietor, spanner man and dab hand with a flow scan meter Kieron French, and boating media hack Bob Greenwood, who was there to record the test results and report the proceedings.

...And then there was Dougie. Having taken up temporary residence (one trusts) in the Solent last autumn, Dougie, a 4m bottlenose dolphin well-known to seafarers on this busy stretch of water, took a lively interest in our business for more than an hour on day two of our tests off Southsea beach, surfing our wake as we did timed speed trials, breaching while we were stationary at least a dozen times, and ducking and diving under our boat.

His interest from the aquatic perspective was almost matched by that of our esteemed editor, who on day one of our tests had exhibited dedication beyond the call of duty by executing an elegant swan dive into the briny when dislodged from his perch against the targa arch of his support RIB while photographing the test fleet at wide open throttle. Fortunately his pictures survived the immersion, which was more than could be said for his expensive digital camera and his dignity.

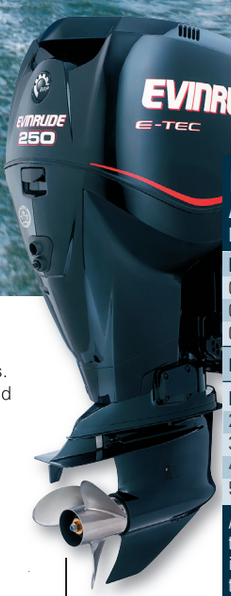
One other thing that Hugo could be grateful for was that was that his unscheduled dunking took place during a balmy mid-October day in water of 17°C. Because the Yamaha F250 was unavailable for us to test that day we had to return to complete the job nearly a month later in chilly December, when the temperature in the Solent had fallen to 9.5°C. But apart from the differences in water and air temperatures (8°C as against 18°C) we were lucky in that wind and sea conditions were remarkably similar on both days. Day one had light south easterly breezes pi up to just 8kts, while day two was virtually windless. Certainly there was nothing abous. wind and sea conditions to test the renownd grip of the reverse scalloped chine of the B hull.

Tides were more of a factor, however, day one, with a falling spring tide running t 2-3kts which may have had a slight influen on performance and fuel consumption whe running against it, although the figures sho in our tables are averages of three runs at e speed interval so any adverse effect shoulc been mitigated. The second day found us with at the beginning of a rising neap tide with virtually standing water, so arguably conditions then, including a colder air temperature, could have worked marginally in favour of the Yamaha.

PERFORMANCE

In terms of acceleration and top end performance our tests showed how closely the latest two-stroke and four-stroke engine outboard technologies have moved towards each other. Even so, BRP's state-of-the-art direct injection Evinrude E-TEC engine still displayed much of the traditional character of two-strokes. With one power stroke in every two it delivered the low-down torque familiar to admirers of the breed. That and a lower engine weight than its four-stroke counterparts enabled it to push its Ballistic 7.8 up onto the plane the quickest. All of the engines in our test were propped to their manufacturers' choice for acceleration. After all, unless you're racing or championship bass fishing, there's probably little need for propellers pitched for out-and-out speed. Driving through its 21in prop the lighter Evinrude hit 20kts a full second quicker than the nearest four-stroke (and all of these came within half a second of each other at this mark. From rest to 30kts the pattern continued, although in the mid to upper range the benefit of supercharging began to make itself felt in Mercury's mighty Verado swinging a 19in Tempest propeller. That said, however, the Yamaha F250 without this feature and driving through 23in Saltwater prop beat the Verado from standing to 40kts by about a second, contrary to expectation.

Suzuki's V6, with its 16x23in propeller, proved no slouch either, although in our test its acceleration faded significantly towards



EVINRUDE E-TEC 250
ACCELERATION AND FUEL CONSUMPTION

KNOTS	ACCELERATION
0-20	5.44secs
0-30	9.14 secs
0-40	14.71 secs

MAX SPEED RECORDED: 45kts

RPM	FUEL CONSUMPTION
2,000	6 litres per hour
3,000	12 litres per hour
4,000	24 litres per hour
5,000	36 litres per hour

Acceleration figures are an average of three test timings for each engine at each speed interval. Fuel consumption measured in the fuel line by flow scan meter.

EVINRUDE E-TEC E250
SPECIFICATIONS:

Engine type:	Loop charged 90° V6 2-stroke
Displacement:	3,279 cc
Full throttle RPM:	5,500-6,000
Induction system:	Direct injection
Shaft length:	635mm
Gear ratio:	1.85:1
Weight:	241 kg
RRP:	£14,299 inc VAT
Warranty:	3 years non-declining coverage
Service dealers (UK& Ireland):	70
Service intervals:	1st scheduled dealer maintenance 300hrs/3 years

the upper end of its rev range. At wide open throttle there was little to choose between all four engines, the Yamaha topping out a couple of knots faster on the day at just over 47kts.

FUEL CONSUMPTION

While keeping the performance virtues of two-stroke engines, BRP with its E-TEC Evinrudes has succeeded in ridding them of their worst vices: dirty exhaust emissions and poor fuel economy. On the first count, Evinrude E-TECs are claimed to be the only outboards to come within not only the US EPA 2006 and European EU 2006 limits but also gain the world's toughest emissions rating, the CARB 2008 three-star seal of approval.

On fuel economy too BRP has overturned conventional wisdom. In our tests the Evinrude 250 E-TEC returned the second best consumption figures overall, beaten only by Suzuki's frugal V6.

Less surprising was that the Mercury Verado, the heaviest outboard in our group, consumed the most fuel, although variances with its three competitors were not particularly marked except towards the top end of its operating range where they spiked.

CONTROLS

If there's one clear leader in this category it's the Verado. Mercury's SmartCraft digital throttle and shift (DTS). This 'fly by wire' system uses a data cable instead of the usual mechanical push-pull cabling. The result is that, by marine standards, the steering is remarkably light and responsive. Indeed, our test confirmed it to be far more like what one expects from today's more sophisticated motorcars.

By comparison, the steering and throttle controls of the other three outboards were markedly less sophisticated. While the Suzuki had perhaps the smoothest of the mechanical controls, the Yamaha was noticeably clunky and the otherwise excellent Evinrude E-TEC was let down by a downright crude shift and throttle.

NOISE AND VIBRATION

All four of the outboards that we tested come well within EU noise limits although each exhibited different noise and vibration characteristics. Whilst we took a noise meter with us, readings from the cockpit became indistinguishable from one engine to another when underway. As we accelerated, wind and wave noise began to drown out engine noise and so the readings became meaningless.

Trying to run the engines through the rev range while on the pontoon proved to be equally fruitless: as soon as the Verado's electronic engine management detected that we were trying to rev it under no load it very sensibly limited the engine's speed.

All we had to go on, therefore, were our own impressions. The consensus was that the Verado was the smoothest and quietest operator, being virtually silent at tickover and sounding reassuringly smooth and powerful as one went up through the operating range.

There was little to separate the Yamaha and the Suzuki, although if one had to choose between them on noise and vibration criteria perhaps the latter just shaded it by a whisker.

MERCURY VERADO 250 SPECIFICATIONS:

Engine type:	6 (in-line)
Displacement:	2,598 cc
Full throttle RPM:	5,800-6,400rpm
Induction system:	SmartCraft DTS electronic throttle, supercharged with charge air cooling and electronic boost pressure control
Shaft length:	635 mm
Gear ratio:	1.85:1
Weight:	288 kg
RRP:	£15,895 inc VAT
Warranty:	3 years
Service dealers (UK& Ireland):	85 (Mariner has 125)
Service intervals:	100 Hours

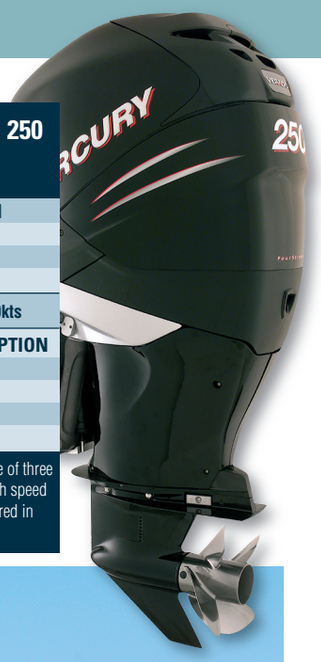
MERCURY VERADO 250 ACCELERATION AND FUEL CONSUMPTION

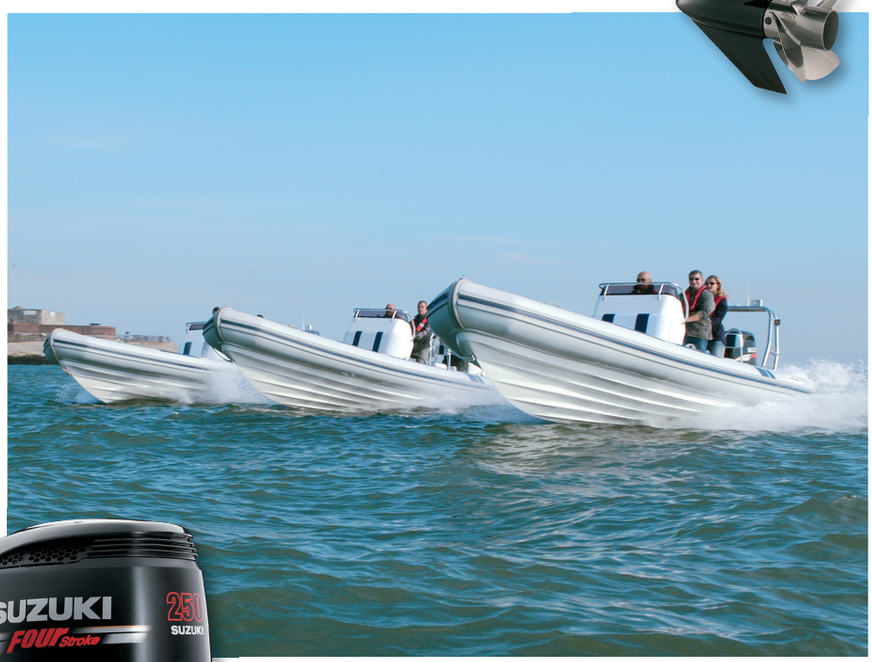
KNOTS	ACCELERATION
0-20	7.08 secs
0-30	9.97 secs
0-40	13.13 secs

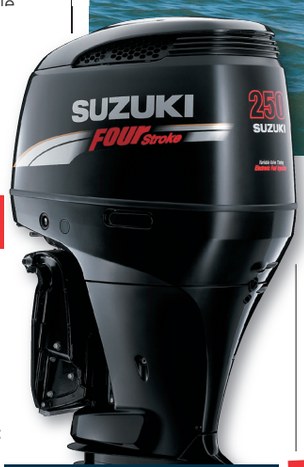
MAX SPEED RECORDED: 45.9kts

RPM	FUEL CONSUMPTION
2,000	6 litres per hour
3,000	9 litres per hour
4,000	21 litres per hour
5,000	72 litres per hour

Acceleration figures are an average of three test timings for each engine at each speed interval. Fuel consumption measured in the fuel line by flow scan meter.







SUZUKI DF250 SPECIFICATIONS:

Engine type:	DOHC 24-valve 55° V6
Displacement:	3,614cc
Full throttle RPM:	5,500-8,100
Fuel delivery system:	Multi-point sequential electronic fuel injection
Shaft length:	635mm
Gear ratio:	2.29:1
Weight:	263 kg
RRP:	£12,999 inc VAT
Warranty:	3 years in UK
Service dealers UK:	52
Service intervals:	PDI; oil change at 20hrs; then every 100hrs or 6 months 300hrs/3 years

SUZUKI V6 250 ACCELERATION AND FUEL CONSUMPTION

KNOTS	ACCELERATION
0-20	6.58 secs
0-30	10.16 secs
0-40	17.9 secs

MAX SPEED RECORDED: 45.75kts

RPM	FUEL CONSUMPTION
2,000	3 litres per hour
3,000	9 litres per hour
4,000	18 litres per hour
5,000	44 litres per hour

Acceleration figures are an average of three test timings for each engine at each speed interval. Fuel consumption measured in the fuel line by flow scan meter.

THE TESTERS

Bob Greenwood: Leading international journalist and former editor of *IBI*.
Jan Falkowski: Champion powerboat racer & cross Atlantic RIB expeditionary.
Paul Lemmer: Former Round Britain record holder, RIB designer & consultant.
Kieran French: Leading RIB specialist, engine rigger and principal of RIB Shop.

As one would expect of a two-stroke, the Evinrude had the most distinctive engine note, to which one's response can only be subjective. To those who love two-strokes their characteristic angry growl will probably be preferable to the higher-pitched whine of the fours at full bore.

OUR VERDICT

In less than 10 years outboard motors have taken a quantum leap forward in engineering refinement and sophistication, largely thanks to the imperatives of new environmental legislation. The four outboards that we tested are supreme examples this. There's certainly not a weak one among them, and in this consumer age nor should there be. One's choice of outboard, therefore, is more likely to come down to issues such as price - whether it's worth, for instance, paying more for the sophistication of the more fuel-hungry Mercury Verado.

Equally, if low servicing costs are an issue then Evinrude's promise of no servicing required for three years, with no oil changes and valve adjustments necessary, will certainly win friends. Customers who seek reassurance will, on the other hand, look at warranty and reliability records; although the low reported returns for each of the four engines tested suggest that there should be no real problems here for any of the featured engines.

Finally, there are those who might be reassured by the service organisations of our four manufacturers. If that's the case, the larger service networks of Mercury and Yamaha may be a deciding factor. After all, when there's little to choose between what are four very good outboard products, after sales service could well prove to be the sales clincher.

Bob**Greenwood**

YAMAHA F250 V6 SPECIFICATIONS:

Engine type:	V6 (60º) four-stroke
Displacement:	3,352 cc
Full throttle RPM:	5,000-6,000rpm
Compression ratio:	9.9:1
Induction system:	DOHC Fuel Injection VCT
Lubrication:	Wet Sump
Ignition system:	TCI Micro Computer
Starting system:	Electric
Shaft length:	635mm
Gear ratio:	15:30
Weight:	274 kg
RRP:	£14,789 inc VAT
Warranty:	3 year limited pleasureboat/1 year limited commercial
Service dealers:	86 (UK)
Service intervals:	1st - after 10 hours then every 50 hours

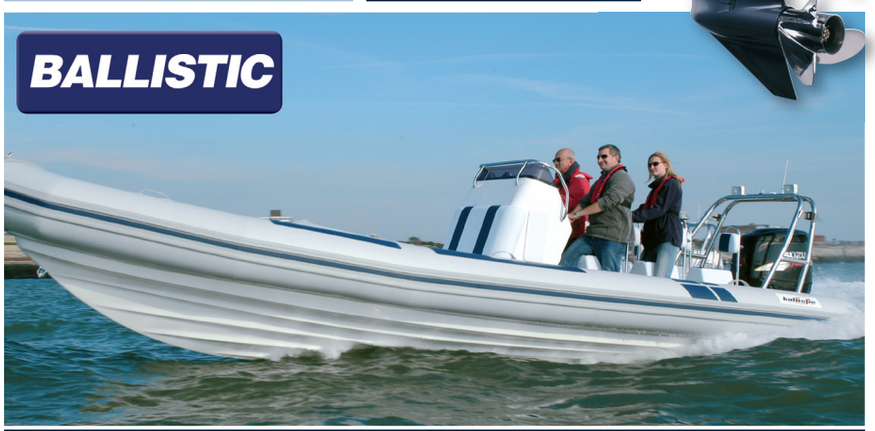
YAMAHA F250 V6 ACCELERATION AND FUEL CONSUMPTION

KNOTS	ACCELERATION
0-20	6.513 secs
0-30	8.847 secs
0-40	11.71 secs

MAX SPEED RECORDED: 47.35k

RPM	FUEL CONSUMPT
2,000	6 litres per hour
3,000	12 litres per hour
4,000	21 litres per hour
5,000	48 litres per hour

Acceleration figures are an average o test timings for each engine at each s interval. Fuel consumption measured the fuel line by flow scan meter.



All four identical Ballistic RIBs were provided courtesy of, and with the generous support of JBT Marine. See www.ballisticribs.com for details.

QUICK REFERENCE COMPARATIVE TABLE

SPECIFICATIONS	YAMAHA F250 V6	MERCURY VERADO 250	SUZUKI V6 250	EVINRUDE E-TEC 250
Engine type:	V6 (60º) four-stroke	6 (in-line)	DOHC 24-valve 55° V6	Loop charged 90° V6 2-stroke
Displacement:	3,352 cc	2,598 cc	3,614cc	3,279 cc
Full throttle RPM:	5,000-6,000rpm	5,800-6,400rpm	5,500-8,100rpm	5,500-6,000rpm
Compression ratio:	9.9:1			
Induction system:	DOHC Fuel Injection VCT	SmartCraft DTS	Multi-point sequential electronic fuel injection	Direct injection
Lubrication:	Wet Sump			
Ignition system:	TCI Micro Computer			
Starting system:	Electric			
Shaft length:	635mm	635 mm	635mm	635mm
Gear ratio:	15:30	1.85:1	2.29:1	1.85:1
Weight:	274 kg	288 kg	263 kg	241 kg
RRP:	£14,789 inc VAT	£15,895 inc VAT	£12,999 inc VAT	£14,299 inc VAT
Warranty:	3 year limited pleasureboat 1 year limited commercial	3 years	3 years in UK	3 years non-declining coverage
Service dealers:	86 (UK)	85 (Mariner has 125)	52	70
Service intervals:	1st - after 10 hours	100 Hours	Oil change at 20hrs; then every 100hrs or 6 months	1st scheduled dealer maintenance 300hrs/3 years

Acceleration figures are an average of three test timings for each engine at each speed interval. Fuel consumption measured in the fuel line by flow scan meter.

YAMAHA F250 V6 ACCELERATION AND FUEL CONSUMPTION

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MERCURY VERADO 250 ACCELERATION AND FUEL CONSUMPTION

KNOTS	ACCELERATION
0-20	7.08 secs
0-30	9.97 secs
0-40	13.13 secs

MAX SPEED RECORDED: 45.9kts

RPM	FUEL CONSUMPTION
2,000	6 litres per hour
3,000	9 litres per hour
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SUZUKI V6 250 ACCELERATION AND FUEL CONSUMPTION

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0-20	6.58 secs
0-30	10.16 secs
0-40	17.9 secs

MAX SPEED RECORDED: 45.75kts

RPM	FUEL CONSUMPTION
2,000	3 litres per hour
3,000	9 litres per hour
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5,000	44 litres per hour

EVINRUDE E-TEC 250 ACCELERATION AND FUEL CONSUMPTION

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0-20	5.44secs
0-30	9.14 secs
0-40	14.71 secs

MAX SPEED RECORDED: 45kts

RPM	FUEL CONSUMPTION
2,000	6 litres per hour
3,000	12 litres per hour
4,000	24 litres per hour
5,000	36 litres per hour