

# INBOARD DIESEL

Engines are improving, but fuel prices are in a state of flux. You are confused. You don't know which engine route to take. You are scared of making the wrong choice. Simon Everett helps you make up your mind.



# OUTBOARD PETROL



**T**he difference in fuel price between duty paid petrol and low duty diesel on marina fuel berths is about 55p per litre – or at least it was at the point of going to press. The corresponding difference between petrol engines and diesel engines is such that at this fuel price there is good reason to fit diesel provided you operate for a sufficient number of hours each year.

Fuel availability might have you favouring diesel and there are also concerns over the longevity of the different engines. Diesel lumps are famed for their robust dependability. But this only becomes a concern for those operators with very heavy work or extremely long hours of use. There are plenty of outboards still going perfectly well after 20 years of leisure use. With correct maintenance procedures there is no reason a petrol engine shouldn't provide a long service life.

With the removal of the low duty benefit, the case for diesel is less clear cut and as petrol inboards, and outboards especially, become more reliable, better designed, lighter, more corrosion resistant and more powerful, they are offering a genuine alternative to the big diesel. There is also the option of using inboard petrol, but the benefits are confined primarily to initial installation cost.

A diesel inboard is typically about 30 per cent more expensive than an inboard petrol engine of equivalent horsepower, but the petrol engine will

have a significantly higher consumption rate with a relatively small extra slice of performance. A petrol outboard on the other hand is significantly cheaper and the installation cost makes it even more attractive.

When considering which engine layout to adopt there is the question of handling to consider in addition to the cost and fuel economy. There is little weight differential between the two inboard options, so the balance of the rig is the same.

Large outboards, on the other hand, sit higher than inboards, so they have a substantial effect on the handling of a boat, particularly at high speed – which is a fairly common form of use for big horsepower outboards.

Handling with an inboard layout will always be more predictable than with outboard power unless great care is taken during the design and construction of the boat to take the outboard into account. Outboards also carry the inertia of the crank higher, creating more turning effect in the air to say nothing of the added stresses of having all the engine weight concentrated on the transom. With inboards this loading is spread between the transom and the hull on load carrying stringers designed to dissipate the stresses over a greater area of the hull. Transoms have to be more heavily built to withstand the enormous local stresses created by large capacity outboards.

Diesel power is more dependable because there is less reliance on electrical

Versatile, space saving and low maintenance, even 300hp plus is no longer a problem for outboards



components with the traditional compression combustion engine. But modern diesels are also making heavy use of electronic controls for engine parameters in the same way as their petrol equivalents.

For instance, the ignition system of a petrol engine is entirely absent on a diesel and speaking from personal experience, spark plugs can generally be relied upon to foul at the most inappropriate moment. The greater simplicity and higher compression ratio of the diesel will still provide an economic edge over petrol, but as the price difference between the two fuels reduces, the time taken to realise that benefit increases. Eventually, it will increase to a point that most leisure users will never see.

There is another consideration that might influence a decision and that is the safety aspects between a spirit engine and an oil engine. Diesel is a much safer form of fuel than petrol, a fact that is not lost on insurers both afloat and ashore. The cost of insurance for fuel pontoon operators who supply petrol and diesel is many times that of diesel-only bunker berths. This is the main reason why there is a reduction in the number of petrol pumps in marina complexes.

I spoke to a private marina operator who has taken the decision to drop petrol. Bringing his petrol storage and delivery system up to the required

standards was going to cost in excess of £30,000 for one pump. They had done their sums and discovered that with the limited margin available on the supply of petrol it would take over 30 years to recoup the investment.

It was decided that the money would be better spent on providing more undercover winter storage. As a result, shoreside petrol is becoming more and more localised. The answer in Hugh Town, St. Marys, Scilly, is to use a portable tanker and run a fuel hose down over the quay. It is a facility that is very welcome amongst locals and visitors alike.

On the south coast heading west, a popular cruising stretch, there is petrol available in Poole Harbour, Weymouth, Dartmouth and Plymouth. From there, you will find nothing until Falmouth, up the river at Mylor Yacht Harbour.

On the west coast of Wales petrol is even less available with only a couple of sports boating strongholds able to justify maintaining the facility. On the Scottish west coast the situation is yet more restricted with Largs being the most northerly petrol berth I can find. And even Craobh Haven has had to build a brick bunker to house the petrol for its lawn mower.

I know safety is important, but at the same time there are cars in the car park with plastic petrol cans in their boot. ➤



The bureaucracy is becoming farcical with common sense flying out the window, but if you want the Fire Safety Officer to sign your certificate you have to comply with the demands. For many small harbours this is just not viable, so they take the line of least resistance. The result is that petrol-refuelling berths are becoming more and more scarce.

The weight of the different engine options is something else to consider. Modern outboards, even the huge horsepower ones, are far and away lighter per hp than an inboard equivalent. For instance, the new Suzuki 300hp 4-stroke at 275kgs is about half the weight of an equivalent diesel sterndrive.

For trailering your boat to different launch sites this has an implication over and above the boat itself, because an outboard-powered boat is eminently more towable than one with half-a-ton of engine in the stern sheets. If it tips the scales that bit too much you have to resort to a specialised towing vehicle, in which case you then have to factor in the cost implications of the vehicle over your normal car. A large family car will easily tow, launch and recover a 6.3m boat with a decent sized outboard. A similarly sized inboard package would need a serious 4x4 to cope comfortably.

The initial purchase price savings of buying an outboard boat for leisure use are particularly attractive because they allow you to get more boat for your

money and to use it more extensively for the same budget. And even for light commercial duties the outboard option can prove a more viable proposition as the price difference in initial set up can sometimes be the difference between success or failure of the venture.

The residual value of the rig can also influence decision-making when it comes to choosing the engine. Diesel engines have always attracted a higher residual price, but whether this will change should the cost of running increase we can only speculate.

But part of that high diesel residual value comes from the reduced running costs. Obviously, if marine diesel is brought into line with road diesel, the benefit is lost. The remainder of the residual value comes from the fact that marine diesels are built for the rigours of the saltwater environment and use a closed, freshwater, cooling system. Outboards just pump raw saltwater through their veins, with accompanying corrosion issues. Special alloys, stainless steel cool water channels and plenty of galvanic protection are used to combat this but it's still an issue.

Even if the low rate of duty on diesel is abolished, it will retain some merits. It is not a clear-cut case of petrol for leisure and diesel for commerce. There are plenty of overlapping criteria, so here's a table of pointers to help you make your choice:

## DIESEL INBOARD

### PROS

- Rugged dependability
- Fuel economy
- Lower cost of servicing
- High residual value
- Good availability of fuel
- High torque characteristics
- Longevity
- Easier on the structure of the boat

### CONS

- High initial purchase price
- Higher cost of installation
- Takes up space within the boat
- Heavier engine
- Noisier
- Smellier
- More sedate performance

## PETROL INBOARD

### PROS

- Lower purchase cost
- Higher performance
- Faster acceleration
- Easier on the structure of the boat
- Cleaner and less smelly

### CONS

- Higher fuel consumption
- Lower residual value
- Higher servicing costs - consumables
- Less reliable
- Takes up room in the boat

## OUTBOARD

### PROS

- High power to weight ratio
- Lower initial cost
- Quiet
- Clean
- High-performance
- Light-weight
- Ease of access for maintenance
- More room in the boat

### CONS

- Theft vulnerability
- Lower residual value
- Higher servicing costs - consumables
- Higher centre of gravity
- Higher weight on the transom
- Reduced availability of fuel
- Currently, a higher fuel cost

Inboard means a big sunpad and a small cockpit but the girls aren't complaining

