

OUTBOARDS

Andy Clark



Two or four stroke?

Q I want to buy a new outboard, but am not sure whether to go for a two-stroke or a four-stroke. What do you recommend?

A It depends on your type of boating. If your boat is a fast, responsive planing hull, a two-stroke gives sharper performance and a better power to weight ratio, but drinks more fuel and is generally noisier.

Older two-strokes are more likely to have suffered during storage than a four-stroke, as they do not have a sump of oil nursing all the delicate bits, and they also have needle roller con-rod bearings, which are more sensitive to corrosion.

Four-strokes do not smoke, unless the piston rings are worn out, but servicing takes longer as tappets need adjusting at set intervals.

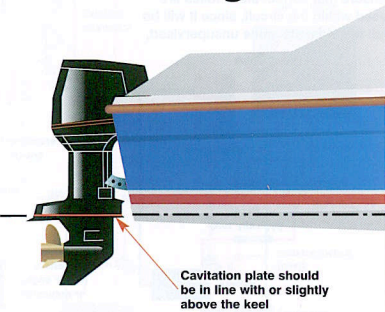
The gap between two- and four-stroke motors has become narrower with the introduction of the digitally injected two-strokes. These motors use much less fuel than carburetted two-strokes, but they are much harder for the average home mechanic to look after himself.

Four-stroke motors come into their own on inland waterways. They are extremely quiet – just the job for that potter down the canal.

Outboard at the correct height

Q How can I tell if my outboard is the correct depth for my boat?

A The cavitation plate just above the gearbox should be in line with the last 6ft of the keel on a planing hull, or slightly above, depending on how efficient your propeller is. On a displacement hull, this is not so critical, but if the motor projects too far under the hull, your propeller is more likely to snag the bottom and pick up weed. Also, check with your boat's manufacturer – they should tell you what shaft length works best.



Service time

Q When should I have my outboard serviced?

A Generally, once a year, at the end of the season, not the beginning. It does no favours to an outboard to store it over the winter after use in the sea without some attention. Salt deposits dry and harden, blocking waterways, and various acids and varnishes can decimate an engine's sensitive internal bits if left untreated.

Old fuel will start to gel in the carbs and filters, and nuts, bolts and linkages begin to freeze together without a clean-up and some fresh grease.

Also, outboard repair shops start to get busy around February, and you may have to wait before your motor is ready to use. A lot of owners find themselves without a functioning boat at Easter because they left it too late.

Milky-white oil

Q The gearbox oil in my outboard came out a milky-white colour when I drained it. Is this serious?

A Yes – new seals and gaskets are needed. The seal that usually fails first is not the prop shaft seal, but the seal beneath the water pump. This often fails because the lower water pump plate wears out, allowing pressurised water from the pump to leak into the cavity beneath it, forcing water into the gearbox. Water causes cavitation, as well as corrosion. Cavitation occurs when a droplet of water is suddenly subjected to the crushing force of the gear teeth engaging. The water is then turned to superheated steam in an instant, and can actually cause tiny pieces of the gear to be removed.

Digital injection

Q How reliable are the new breed of digitally injected two-strokes?

A Very – early glitches have largely been overcome. The most notorious was the OMC Ficht, which caused much gnashing of teeth and wringing of hands, but since Bombardier took over the company, the wrinkles have been ironed out. The latest Ficht motors are great, but the Yamaha HPDI, the Optimax motors from Mercury and Mariner, and the injected Tohatsus are also extremely good.

I would add one point about this new breed of engine – it gives the most amazing performance. If you are a speed junkie, no other type of internal combustion engine gives such sharp, crisp power. Hit the throttle, and the rev counter needle hits the red zone before you have finished pushing the lever all the way down.



Better older engines

Q My washing machine engineer claims that older machines are much better than the new ones now available – is this also true of outboards?

A Absolutely not. Old outboards are terrible. They used strange things called 'points' instead of sealed electronic control units. Points were mechanical switches that break the primary ignition circuit causing the HT coils to send a spark to the plugs – sometimes. Store an old outboard in a damp place and a film develops over the face of the points, stopping them from working. Also, carburettor science has

come a long way in the last 30 years – have a look at a British Seagull carb compared to a modern Mikuni unit. The former is very crude, with little thought to the art of gas flow management. Noise and vibration levels on old outboards are much higher than their modern counterparts, and devices that help the operator such as power trim, overheat alarms and multi-position tilt brackets were only just being thought of in the 1960s.

However, old motors have their fans – if you are a British Seagull nut you are not alone. Have a look at www.saving-old-seagulls.co.uk – a website



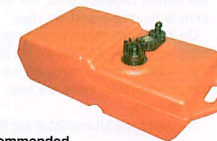
▲ There are lots of people who love playing with old engines like this OMC

run by enthusiast John Williams. There are also a lot of American websites dedicated to old motors. Your starting point should be www.aomci.org – the homepage of the Antique Outboard Motor Club.

Two-stroke life

Q How long can I keep mixed two-stroke fuel for?

A 12 weeks is the recommended maximum – after this, bacteria starts to form around filters, and it begins to gel. Every year owners try to run their motors on last year's fuel, with inevitable consequences.



▲ Two-stroke can be stored but should be used up every 12 weeks

Radio interference

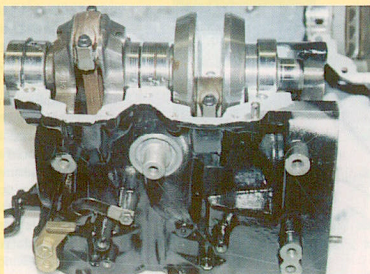
Q I get a lot of interference with my VHF when my outboard is running. What can I do to stop this?

A The best way is to fit spark plugs with a special resistor. In the NGK range, these plugs have a Z in the code – BUHW becomes BUZH. These work very well, but are not cheap.

Can I fix it myself?

Q My outboard has lost its get-up-and-go, and I would like to fit new piston rings and generally overhaul the engine. Is this an easy task for a DIY man to undertake?

A If you are a competent DIY practical boat owner and have an up-to-date workshop manual, experience using spanners etc (and the patience of a saint) go ahead. But for larger, and more complicated engines, you will need specialised tools – so it might be more cost effective to take it into a professional outboard engineer.



▲ Overhauling a complicated outboard engine might be best left to a professional engineer

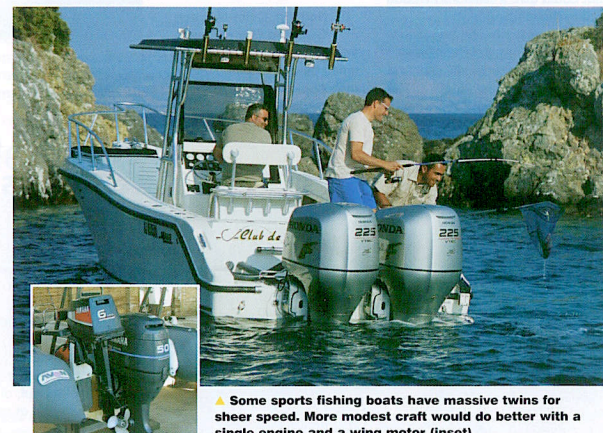
Twin or wing?

Q Are twin engines preferable to a big outboard and a wing motor?

A No, not unless you are a rescue boat. Theoretically, a twin-engine rig gives you the chance to maintain speed if one breaks down, but one motor is not usually powerful enough to bring the boat up onto the plane. I much prefer a single big motor and a pusher that gives the maximum displacement speed.

Bear in mind that on a recreational boat, if the motor breaks down you can usually head back to port using your wing motor – a rescue boat may not have that option on its way to an emergency.

Incidentally, you lose around 15% of your effective power with a twin-motor rig. Two 60hp motors will give much the same speed as a single 100hp.



▲ Some sports fishing boats have massive twins for sheer speed. More modest craft would do better with a single engine and a wing motor (inset)

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