Maintenance

Vessel maintenance

- A well-maintained vessel is basic to safety at sea.
  - Poor motor maintenance alone is responsible for thousands of calls for assistance each year.

Stability

- You do not need permission to make changes to a recreational vessel.
- Adding a flybridge (and the weight of people on it) or a hardtop will raise the centre of gravity and reduce stability.
- Fitting a bigger motor will change the trim.
- Adding fittings might pierce a buoyancy chamber.

Engine service

- Manufacturers usually recommend a service by a specialised workshop at least once a year, even if you use the motor very little.
  - This ensures that vital internal parts, like the water pump, get looked at.
  - If you work your motor hard, then you should have the gearbox oil changed every three months.

Electrical system

- Electrical systems on boats commonly fail through corrosion.
  - Keep all electrical systems clean and corrosion free by frequent inspections.
  - Spray terminals, electrical connectors, etc. with a corrosion-retarding agent. Keep all electrical fittings dry.
  - Check the lights are working even if you expect to be out only during daylight hours.

Electrical system

Batteries

- One of the most common reasons for calling on sea rescue is a flat battery. Batteries deserve a lot of attention at regular intervals.
  - Use a genuine marine battery – your motor's handbook will tell you what capacity. Check it and charge it regularly. If the battery does not hold its charge, it should be tested or replaced.
  - Batteries should always be secured in brackets.
  - If it is in an enclosed space, ensure it is properly ventilated.
  - Terminals and cables must be kept clean, and terminals greased.
  - Terminals and connections must be tight and secure.
  - Top up battery cells with distilled water and check each cell with a hydrometer.
  - Turn off the power to the charger before disconnecting the charging pads. This may prevent an explosion.

Electrical system

Spark plugs

- With modern engines, spark plugs generally last longer. If they fail, then cleaning them is not very likely to bring them back to life.
- Carry a spare set of new plugs and a plug spanner.

Water pump

- Outboard impellers are normally changed at the annual service.
- If you have been operating in the shallows and stirring sand, consider changing more often.
- Make sure water is being discharged from the exhaust system or telltale when started.
- Regularly check for water leaks.

Fuel system

- Fuel is a key element in successful boating.
- Running out of it, disabling the engine because of dirt or excess moisture in it, or exposing it to fire risks are all possibilities against which you should take precautions.

Fuel system

- Check and change filters frequently to be assured of clean fuel entering your engine.
- Carry spare filters.
- Keep tanks topped-up and close them up when not in use. This reduces the chance of condensation occurring and putting water in your fuel.

Fuel system

Use clean, fresh fuel

- Clean out portable fuel tanks at least yearly and replace old fuel after a long period of inactivity; water is likely to have built up in it.
- If your motor uses pre-mix lubrication you should not use petrol-oil mix older than three months.
  - The oil will lose lubrication properties and produce sludge.
- For direct oil injection motors, ensure the oil reservoirs are kept full.

Fuel system

Fire/explosion risks

- Fuel, for engines or for stoves, is the most common component of boat fires or explosions.
- Leaks in systems and ventilation shortcomings are the usual problems.
- Regularly inspect fuel and gas tanks, valves, pumps and lines for visual condition – especially corrosion – and leaks.
- Get problems fixed by an expert; temporary repairs can be dangerous.
- Do the sniff test each time you board your vessel.
  - If you smell fuel – find the problem.

Gearbox

- Snagged fishing line wrapping around the outboard leg propeller shaft can destroy the gearbox seals and allow water in.
  - Water in the gearbox will eventually cause it to fail.
- Remove the propeller monthly to check for fishing line – or any time you think you might have hit a line.
- Also monthly, bleed a little oil from the drain screw in the gear case – if water appears, or if the oil looks milky, take the motor to a service centre.

Propellers

- The bushing of an outboard or sterndrive's propeller can fail, especially if it has hit sand or rocks.
  - Some older models use a shear pin instead to protect the shaft.
- Carry a spare shear pin, if appropriate, and a spare propeller – perhaps a second-hand one.
- Keep shafts and props in clean and good working order. This includes removing the propeller, hammering out any bends, and filing any jagged bits smooth.

Routine maintenance

Before each trip

- Test navigation lights and torch.
- Check the bilges are clean and dry; investigate the sources of leaks.
- Check that the bilge pump works.
- Check that the bungs are not worn and that the washer is in good condition.

Routine maintenance

After each trip

- As you winch the boat onto the trailer inspect the wire, webbing or rope for wear.
- Flush the engine with fresh water and wash down its exterior.

Routine maintenance

Monthly

- When you winch the boat onto the trailer, hold an oily rag around the wire.
- Test steering gear for stiffness; oil the cable with the correct lubricant; check hydraulic fluid levels.
- Check freeing ports (deck drain flaps) for positive opening and closing action.
- Check condition of all safety equipment (the detail of this is included in the safety equipment section) before securely storing it.
- Inspect the boat for rubbish – it is especially important to remove stray metal items from an aluminium boat.
- Check berthing lines and anchor rope for wear.
- Check that all auxiliary systems (anchor winch, windscreen wipers etc) are functioning.

Routine maintenance

Yearly

- Inspect through-hull fittings for corrosion and water tightness; ensure sea cocks are working and check the condition of hoses and clamps attached to them.
- Check that important fittings (for example cleats, engines bolts, guard and grab rails) are still securely attached.
- Have the LP gas system serviced.
- Have any 240 volt system checked.
- Check aluminium hulls for corrosion and fatigue cracks; check fibreglass for blistering and impact cracks.
- Check anodes for erosion; replace when about 40 per cent eroded.