

FITTING AN ELECTRIC BILGE PUMP

David Walton – April 2012

CAPACITY

Pumps are rated at “zero head” and so whilst a capacity of 750/800 gallons/hour may seem impressive, this capacity will be reduced by about 50% when you allow for the discharge point being 2 – 3 feet above the pump itself. Also worth remembering is that the reserve of buoyancy is less in a smaller boat as compared to a larger vessel and you therefore need to remove the water at a faster rate to stay afloat. Accordingly I would now advise fitting a pump with at least a 1,000 gallon/hour capacity, ideally 1,500.

MANUAL versus AUTOMATIC

Certainly if your boat is kept afloat for much of the year, then an automatic pump is the preferred option. Many pumps now have sensors built in, but they can be fitted as separate items if required. An electronic sensor is preferred to the traditional float switches as debris in the bilge can cause the float to jam.

LOCATION (Based on a Mk III)

Logically the pump needs to be in the lowest part of the Bilge, but there is insufficient room beneath the cabin sole and probably the best place is in the aft bilge by the Cockpit drains, as failure of either the cockpit drain hoses or the skin fittings themselves is probably the most likely cause of water ingress.



ELECTRICAL WIRING

An automatic pump needs to be wired permanently to the battery such that power is available 24/7 even when the remainder of the electrical system has been isolated; an easy way of achieving this is to use a battery with dual terminals and hardwire the pump to a dedicated terminal.

Aim to get the cable “out of the bilge” as quickly as possible, use “heat shrink sleeves” on any joints in order to keep the wiring run waterproof and keep the cable run as short as practical to avoid power loss.



DISCHARGE HOSE & SKIN FITTING

For maximum pump efficiency, use a re-inforced hose with a smooth interior bore and keep bends and the length of discharge hose to a minimum. Plastic skin fittings are ideal for this purpose, but ensure the discharge point is at least 12-18 “ above the waterline. To avoid water entering the discharge hose when the boat is heeled, fit either a one way valve into the discharge run or create an “anti-siphon loop” in the hose immediately by the skinfitting.

INTERNET RESOURCES - There are a number of You Tube videos and other web based articles on this subject, Google “How to fit an electric bilge pump” to reveal all!.