

CHAPTER FIVE : Bilge Pump Switch.

Actually, any brand bilge switch will work, but what I did was install a Rule-a-Matic bilge float switch which has a mercury switch and #41 3-way on/off/auto control switch. (Another one that looks good is a Waterwitch #217. I found these fairly priced on www.Defender.com.) . The instruction sheet that comes with the float switch includes a wiring schematic that is easy to follow. I mounted the bilge switch in the bilge as close to the sump well as I could get it. If I were to do it again, I would probably opt for one of the electronic sensors instead. It's pretty obvious that one wouldn't want to use screws to secure it, so I just glued the base in place with 3M 5200. When you make your wiring connections, use water tight connectors because the switch connections could get wet in the bilge. (There is valid argument for going straight from a battery to the bilge switch, but don't do it without a fuse or a breaker in the line close to the battery. If the pump overloads for some reason without circuit protection it'll smoke the pump or the wiring, and in an extreme case start a fire.) As for the pump hose: I had to put in an elbow so that the brass strainer would "nest" in the bilge sump. The pump hose that was original to the boat was overly long in the first place

I then wired the bilge switch into the bilge pump circuit. and installed a 3 position switch in the Nav station panel,. The panel switch I used was a Rule #41, 3-position, switch and still utilized the original bilge pump breaker and wiring. This nav switch gives me off/on/auto capability to the pump

Wiring option A, per Doug (the original installer of the switch): The way my pump is wired, I went from the output side of the Bilge pump breaker to the 3 way bilge pump switch. I basically ran a jumper from the output side of the breaker to the 3 way, disconnected the original pump lead from the breaker and reconnected it to the 3 way. The wiring from the battery positive buss to the breaker panel is definitely a heavy enough #6 to carry the electrical load. One 3-way switch wire comes from the breaker panel, one wire from the bilge switch. If using two-conductor cable, another wire goes from the bilge switch back to the 3-way and connects to the lug that has the "on" wire that goes to the pump wiring junction box and joins wires #14 and #162, which are already joined together in the box. If using single wires, the return from the bilge switch could go to the junction box, but so would the "on" switch wire. All the wires in the junction box gets to be a crowd since the two fresh water pressure pump wires are in there also.

Wiring option B, but not the best way, but easy: To avoid using a 3-way control switch, run a wire from either the battery side of a battery on/off switch under the quarterberth, or from a battery positive post itself. Place an inline fuse of the suggested capacity as close to the battery supply as possible. There are already a

mess of wires on the battery switches, so a wire from the battery by the drive shaft would be shortest and best. Run that wire to the bilge switch. The other side of the bilge switch would go to the pump's electric junction box and attach to two wires already joined, #14 and #162. In this manner, you have installed the "auto" function while the circuit breaker still retains the "ON" function. But note: there is no way to turn the float switch totally "OFF", but I'm not sure why you'd want to.

Wiring option C, recommended: To avoid using a circuit breaker (and would actually free up a breaker for other use), run a wire from a battery as in B, but run it to a 3-way control switch (on/off/auto) with a fuse on it. Connect the wire to the fuse 'hot' lug. (The fuse should be factory wired to the control's "on" switch.) The on/off switch's output goes to the bilge switch for the "AUTO" function. If using single wires, the bilge switch return could be run straight to the junction box, but you also would have to run a wire from the 3-way to the junction for the "ON" function. In this case, both wires would have to connect to #14 and #162 in the junction box. It's probably easier to use a two-conductor cable and have the bilge pump return wire terminate on the same lug as the on/off switch's lug that goes to the pump junction box. When I do mine, I'll put an on-off switch in the junction box-out the way of normal use.

Wiring option D, pick up a 12-volt supply from the third output of the battery charger. This works if you have shore power, but remember the charger would have to ALWAYS be on. For a bilge switch, you'd want a power source that could not be "accidentally" turned off, or "forgotten" to be turned on. An "uninterruptable" supply is what is preferred.

NOTE: Doug used a float-type switch, but thought if he did it again he'd use an electronic switch instead. I looked at them in the store, and see they would be a "constant-on" and use juice all the time- like a TV does even when off. Okay when on shore power, but the couple of you on moorings might not like the drain on the battery. January 21, 2009