1	Bolin pump	6	Headlight
2	Shower pump	7	Water pump
3	*not in use*	8	Power circuit
4	Battery neg terminals	9	Lights
5	Horn	10	Lights
11	Battery neg terminals;		2A socket in engine room
12			2A socket in shower
13-	*not in use*		

3. Keyswitch. In the off position all terminals are disconnected from each other. Terminal 1 is connected to battery 1 positive terminal (via a lead from the starter motor!). Turning the key one notch to the left links 1 and 4, running the auxiliary circuits (hourmeter etc). One notch to the right connects 1 to both 2 and 4: the latter runs to the red "ignition" light and thus to the alternator. Turning further to the right (the spring loaded position) connects terminal 3 as well, firing the starter motor. It does this by closing the solenoid, which engages the rack onto the flywheel and closes the primary circuit (in battery 1).

If the key is lost, move the wire from 2 on to terminal 1; then remove the wire running to 3 and *temporarily* touch it onto terminal 1 until the engine starts (then replace it on 3). Move the wire that was on 2 back there when you stop the engine (so that the red light goes out).

4. Adverc. *See separate instructions*. This sealed unit adjusts the current in the alternator field coils (terminals 4 and 5), whilst detecting the voltage at the alternator outputs (2 and 1) and the battery (3). Terminal 10 is not in use; 6 provides a diagnostic test, illuminating the green light by causing the voltage at 6 to fall below 12V.

5. Charging relay. The relay links the positive terminals of batteries 1 and 2. When the relay is closed the amber light on the control panel is lit. **This light does not indicate a problem** - quite the reverse. The relay is controlled by a switch on the panel, which has three positions:

Normal — The relay closes when the alternator is generating current (as detected by the voltage at the IND terminal rising to 12V: this rise puts out the red light and closes the relay).

Off — Self-explanatory: the relay does not close.

Test — The relay closes when the keyswitch is turned to the right (see 3 above), i.e. possibly before the engine is running.

Please leave the switch at Normal *unless you know what you are doing.*

6. Bilge pump. This should operate by closing a relay in the box on the portable unit: this relay is energised either by the switch on the control panel (utilising the earth prong of the 2A socket) or by pressing the button on the box itself. At present the relay is inoperative, and a shorting wire (shown at Z) has been installed temporarily. Thus the pump is controlled directly by the switch on the 2A socket in the engine room and shower.

WIRING DIAGRAM AND EXPLANATORY TEXT

FOR THE NARROW BOAT

S C H O L A R G Y P S Y

Date	Drawing revisions	Text revisions
3/12/84	Version 3 of first drawing	
11/4/92	This version first drawn	
13/4/92	Bilge pump expanded	
23/4/92	Starter motor expanded	First version

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1. Fuses. The fuses are disposed as follows:

Main box

1	Bolin pump; bilge pump relay energising circuit
2	Headlight
3	Horn (NB polarity wrong at front end of cable)
4	Fresh water pump
5	Lights; 2A power in saloon
6	Lights; shower emptying pump

Supplementary box (in centre of boat)

X1	2A power in engine room (for bilge pump)
X2	2A power in shower (for bilge pump and shaver charger)

Line fuses

A	Auxiliary equipment on control panel
B	Fridge (on battery 2: note circuit is broken on diagram between FP/FN markers. The fridge has a dedicated circuit to reduce voltage loss)

The heaters, and their solenoid, are not fused. Neither is the starter motor or the charging relay linking battery 1 and battery 2 in parallel.

2. Negative returns. In general the negative return is via cable, rather than the chassis of the boat and/or the engine. This is achieved via two common negative panels, with terminals numbered 1-10 and 11 upwards: