Yanmar pannel wiring diagram

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Yanmar wiring diagramme

I’m trying to understand the Yanmar wiring schematic and in particular how the warning lights and buzzer work. I can see that, when the main isolator and key switch are closed (on), the buzzer is energised and returns to earth along the Y/W wire via a diode to the oil pressure switch which I assume is closed until there is some oil pressure to open it. (closed = low pressure = fault). Similarly, the oil pressure warning light will be on. The temp warning light I assume will be open on start up and so not illuminated. I can’t hazard a guess as to the operation of the ‘charge’ light at all.
When the start button is pressed, the solenoid is energised and hopefully the engine starts thus breaking the circuit through the oil pressure switch and extinguishing the oil light. However, there is an alternative for the buzzer so why does it stop?
There seems to be some magic in the alternator contacts. Could someone explain please?

Its easier if the bits are labelled, so similar yanmar diagram

VicS · 25 May 2012 at 15:42

With the key switch on 12 volts is applied to all the warning lights. They will light if the sensor is closed (ie: no oil pressure or high temperature or sail drive seal warning ... the unlabeled one)

The buzzer will sound, because there is no oil pressure, the negative return being via a diode to each sensor so that they dont interact..

When the engine is not running The charge warning light is illuminated by current flowing through it and the alternator field circuit , viz regulator, brushes, slip rings and field coil to earth.
That current gives the alternator its initial field current without which (except for some modern alternators) it will not start to generate.
When the alternator is generating the field current is supplied from within via the field diodes. There will then be 12 volts on both wires, RB and LB. so the light will no longer be illuminated.

No mysterious contacts ... the same as your car ... at least the same as my car, being pretty old.

25 May 2012

Funny I was just working on this having built a new instrument console.

We have two engines i.e. all cables doubled up and it was a real mess before so I have cleared up all the cable bunches and labelled them for easier identification. However when I checked to make sure I had put it all back together correctly I

now have a situation whereby all three lights shine when I turn the key. The way it was before was that you had to press a "test" button while turning the key to test the charge light.

Anyway, the diagram came in very handy. I have printed it and will double check all the wiring today on the boat. Thanks VicS

Having said that I also have a few questions someone might be able to help out with:

The key switch is very big and bulky in the new panel, can it be replaced with anything smaller that can be sourced from Maplins or someplace similar?

What is the fourth light on the diagram?

Cheers,
Per

Sybaris said:

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As I explained ..... the 4th light is the warning light for the sail drive.

The diagram I posted came from the workshop manual which, together with other engine manuals, can be found at http://www.motoren.ath.cx/

Possibly Maplin will have a suitable key switch
You are more likely to find something at FurneauxRiddall

I'm not sure about how many lights are on, but have a feeling that only two of the warning lights illuminate when the keyswitch is operated. I'll check my operating manual later.

When the panel is turned on but the engine is not running, you should have "low oil pressure" and "not charging" illuminated, because the oil pump and alternator are not turning. You should not have "overheat" and "leaking saildrive" lit up, because the engine is cold and the rubber seal is (hopefully!) intact. All perfectly logical.

Sybaris said:

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It can certainly be replaced, but there is a minimum current rating mentioned in the workshop manual. It's either 25 or 30 amps; can't remember which. Seems excessive to me, but it's what the book says so I followed it when I built my new panel. I bought from RS; you should be able to use their search / filter mechanism to find only switches with the proper rating.

Pete

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the only drawback with this arrangement is that it doesn't warn you if the temp lamp has failed. A 'lamp test' switch would be a useful facility IMHO.
Pete

VicS, I finally understand having looked at an informative U-tube video on the mysterious workings of alternators. The secret ingredient is the primary (energiser) coils and the secondary coils. BTW I think there is a wire missing from your diagram. The R/B wire from the primary circuit.

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DavidWHowells · 14 Jul 2023

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Peter

VicS, found this very helpful. Currently rebuilding my panel (originally probably a C type on a 4JH(B)E) which is a mess. Can't find any diodes in the circuit, the idiot lights and buzzer all seem to be interconnected but not working. The Yanmar user manual doesn't indicate what diodes should be there, don't have the service manual. Any thoughts on how I should fix.

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Quick reply

Later panels have a buzzer which incorporates the diodes so there will be 4 connections to it. . . . . Positive supply plus three connections to the warning light/ sensor circuits

Last edited: 14 Jul 2023