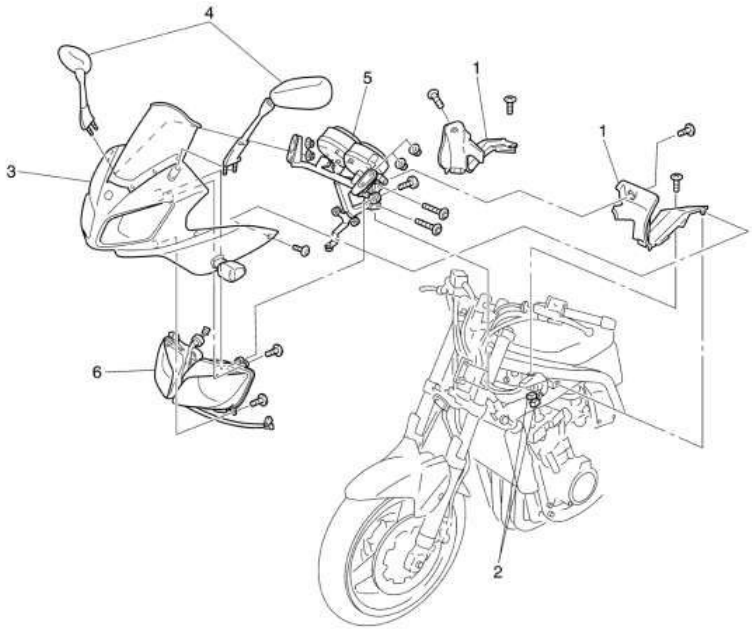
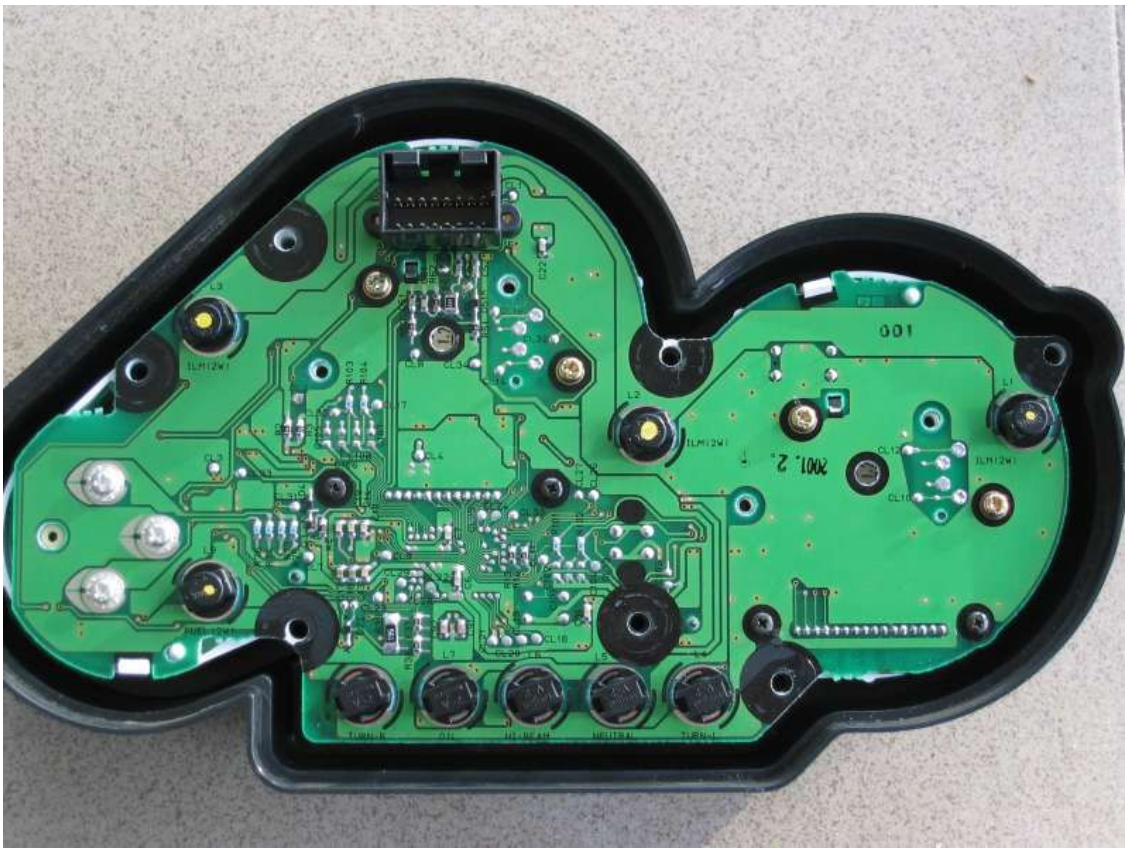
Multi-gauge installation instructions
FZ1gen1/FZS1000 2002 – 2005 and FZS600 2002 - 2003

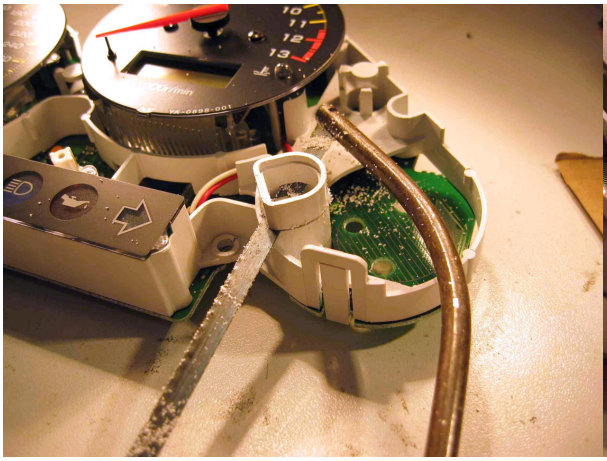
1.) Remove windshield and inner fairings(1)
2.) Pull off rubber boot and unplug connector from cluster using a flat blade screwdriver
3.) Remove 3 nuts and washers (10 mm wrench) on the back side of cluster

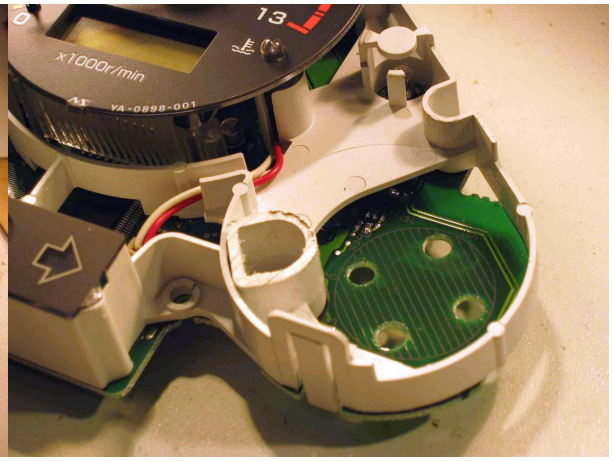


4.) Flip cluster around and open 7 screws
5.) Open cluster. If present, first remove rubber strips with a flat blade screw driver.

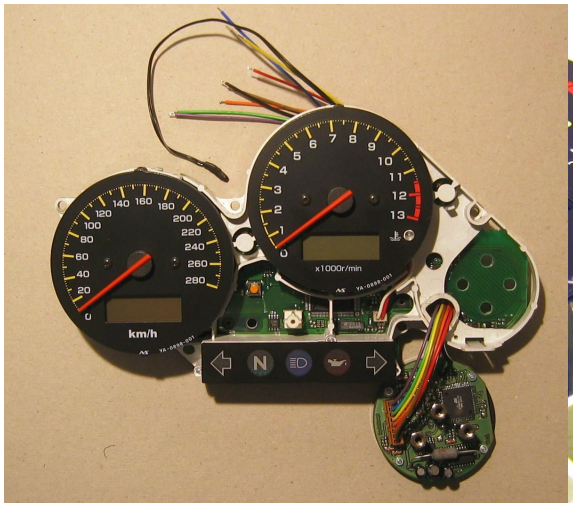


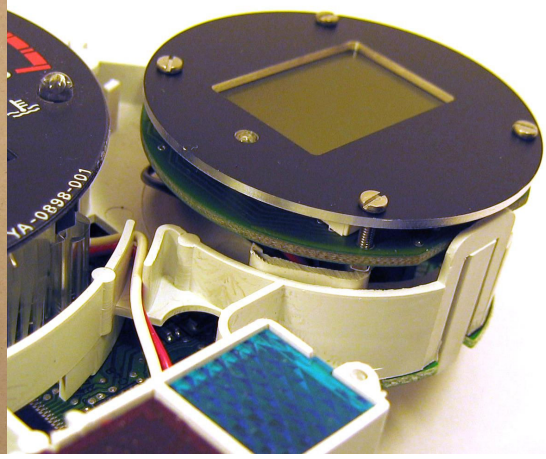
6.) Remove fuel gauge (3 screws)
7.) Pull off bulb and remove orange glass
8.) Cut off plastic tube of the fuel warning light (about 3/8" or 10 mm) to be flush with the frame.





9.) Pull all the cables from the gear indicator through the resulting hole
10.) Tighten the 3 screws (supplied in little plastic bag) to secure the unit. Use the washers, otherwise the screws might not rest firmly.

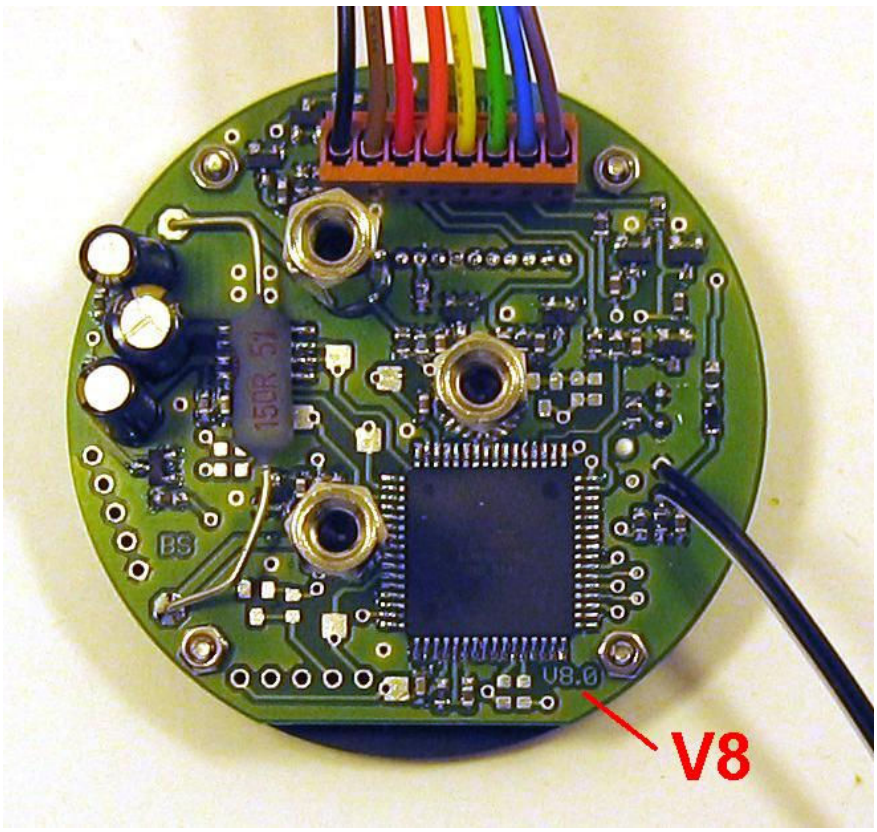




To protect the needles and surfaces use the upper part of the housing to carry the instrument from now on.

Now the "easy" part:

11.) Check the correct version of the multi-gauge's hardware, instructions are only valid for "V8". Ask for more details in case you work on older versions. Identify the proper spots where the wires have to be soldered onto (take a look to the following pictures). Shorten all wires to the minimum required length to avoid squeezing during reassembly of the housing:



Configuration (left to right):
Version 8:

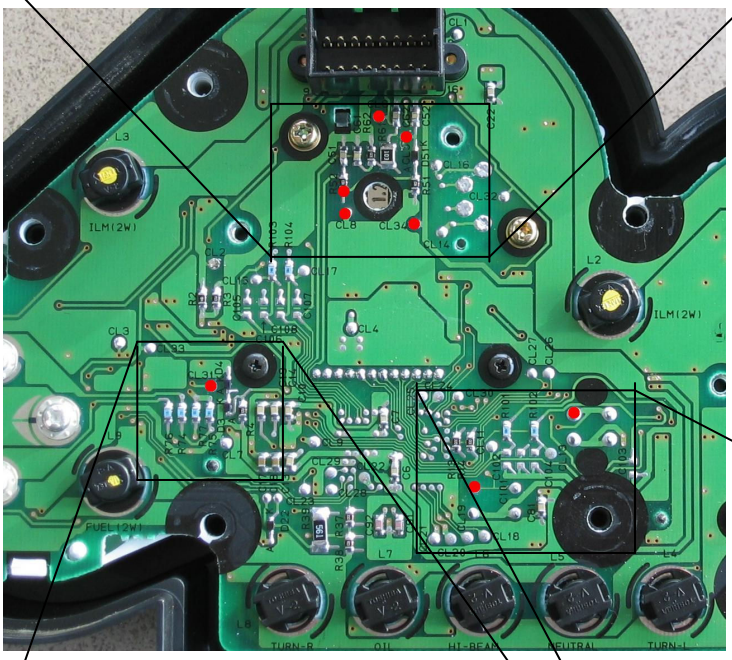
Color	Function	Solder spot
Black	RPM input	CL6
Brown	Watertemperatur	CL31
Red	Neutral	CL34
Orange	Speedohealer output	New resistor
Yellow	Speedo signal input	CL5
Green	Third button (optional)	-
Blue	Button RESET	See picture
Purple	Button SELECT	See picture

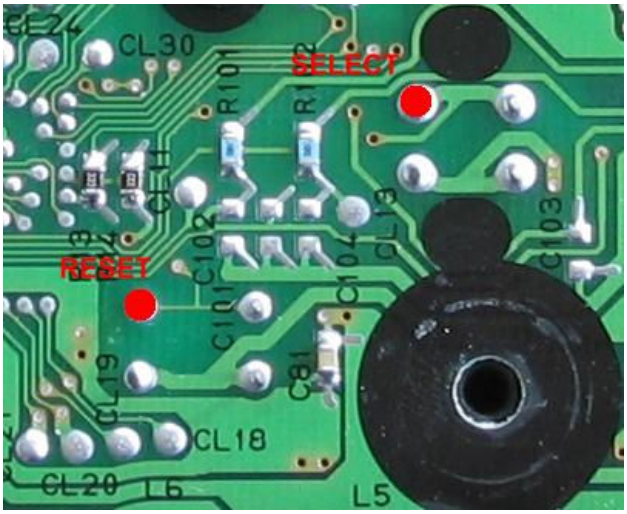
The green wire gives the option to connect an optional third button for switching viewmodes or stopwatch. Active when 12V applied.

The ambient temperature sensor is located at the tip of the additional black double wire, no soldering required.

8-pin-header:

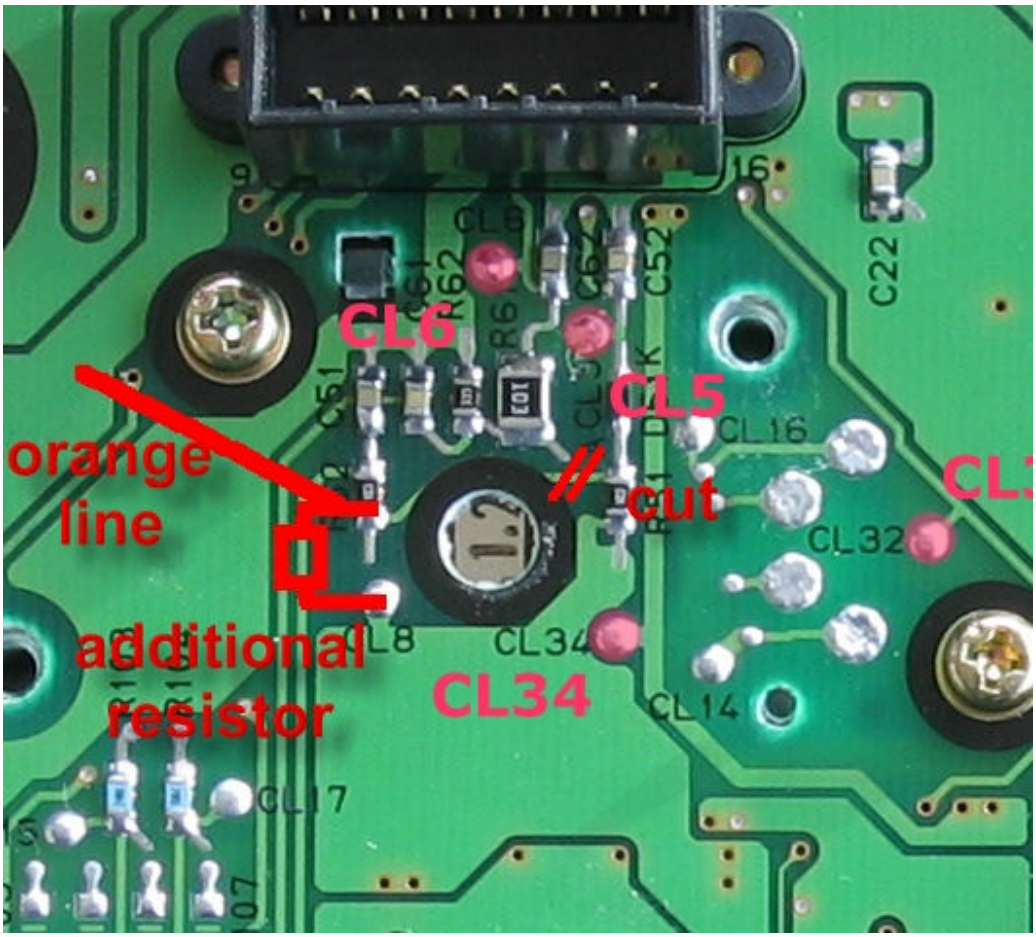
black	-> CL6
brown	-> CL31
red	-> CL34
orange	-> (speedohealer)
yellow	-> CL5
green	-> (outside)
blue	-> RESET
purple	-> SELECT





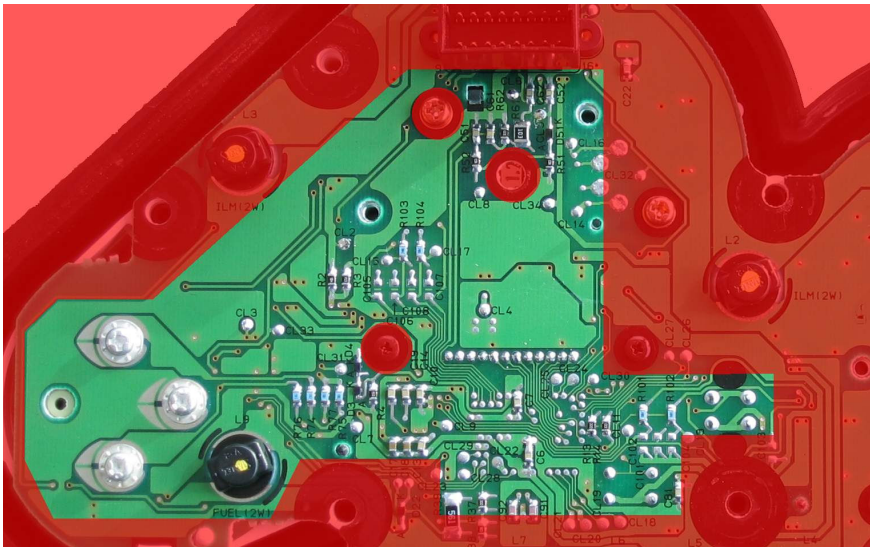
In case you want to use the build-in speedo-healer the following modifications have to be done:

- Solder the additional resistor to the position shown below.
- Solder the orange wire to it.
- Make a cut to the copper line on the board.

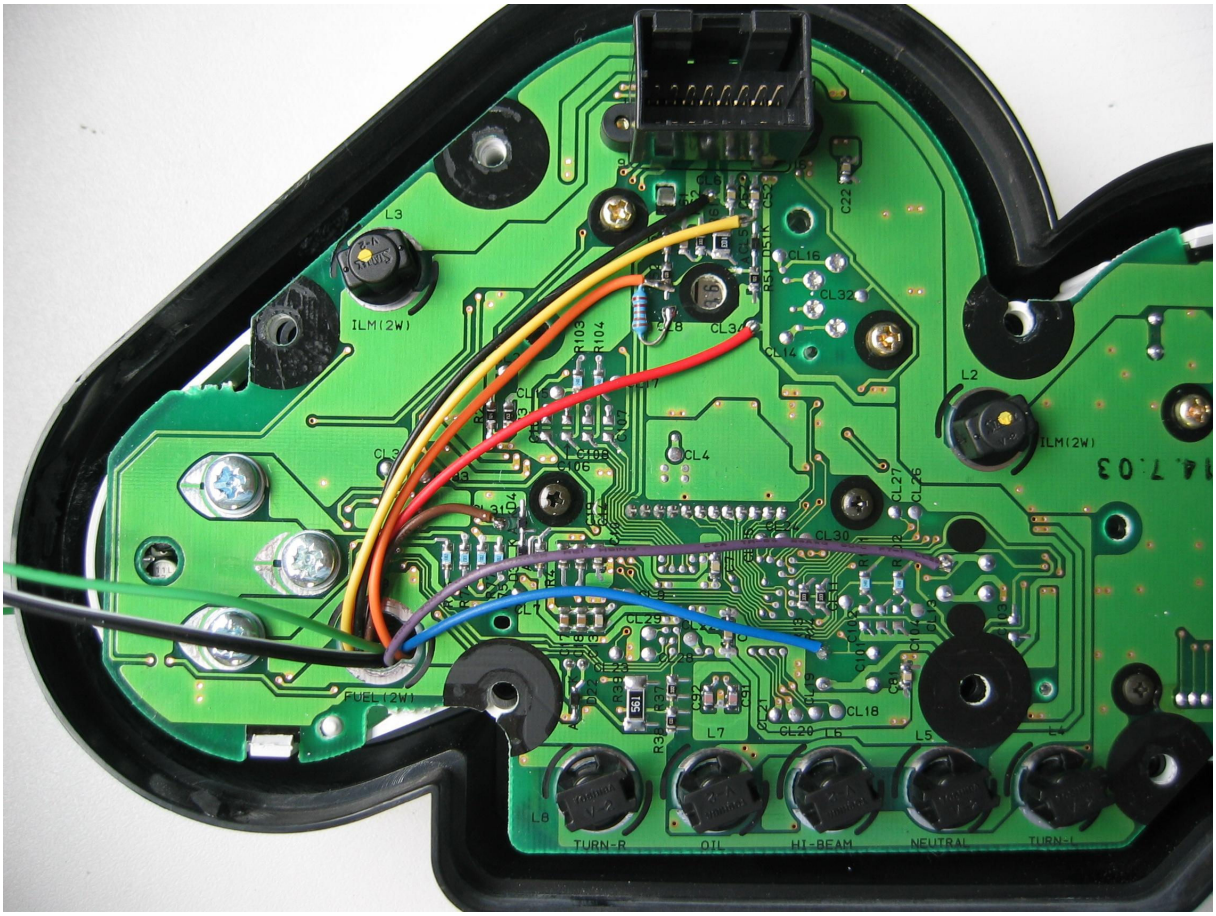


12.) Check the pictures twice to make sure that only the right spots are used.

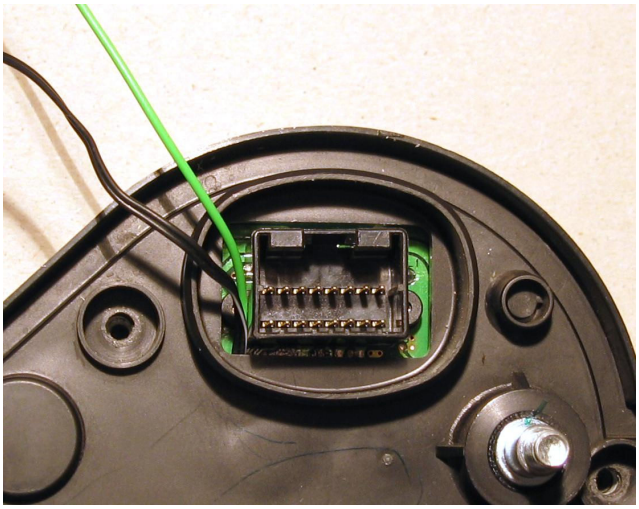
13.) Make sure the wires are not squeezed when putting the housing back on. Do not route inside the “red regions”.

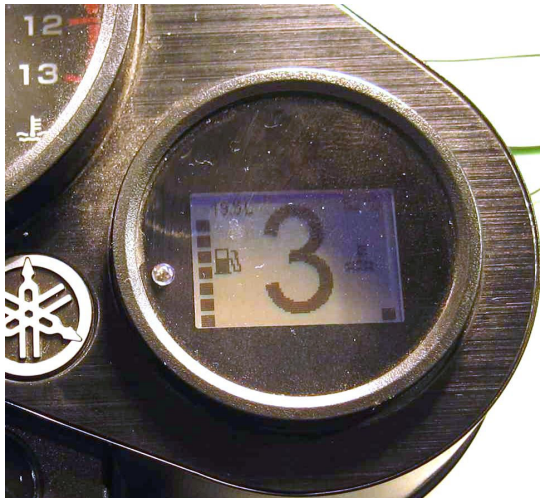


The final wiring should look as follows (including speedo-healer):



14.) Pull double black cable (ambient temperature sensor) and the optional green control cable through the hole in the cluster's rear wall before reassembling the cluster. Check the correct alignment of the gauge relative to the other instruments. Close the housing with 7 srews.





15.) Connect the cluster again and retighten the three 10mm nuts
16.) Set your clock
17.) Enjoy

Operation and settings

The multi-gauge is operated by using the **SELECT** and **RESET** button on the cluster. To avoid interferences with the speedometer the multi-gauge only reacts if SELECT is pressed for more than two seconds. Don't get confused by the naming of the buttons, their function is not related to the naming.

During normal usage the RESET button is used to toggle between different view modes in a circle.

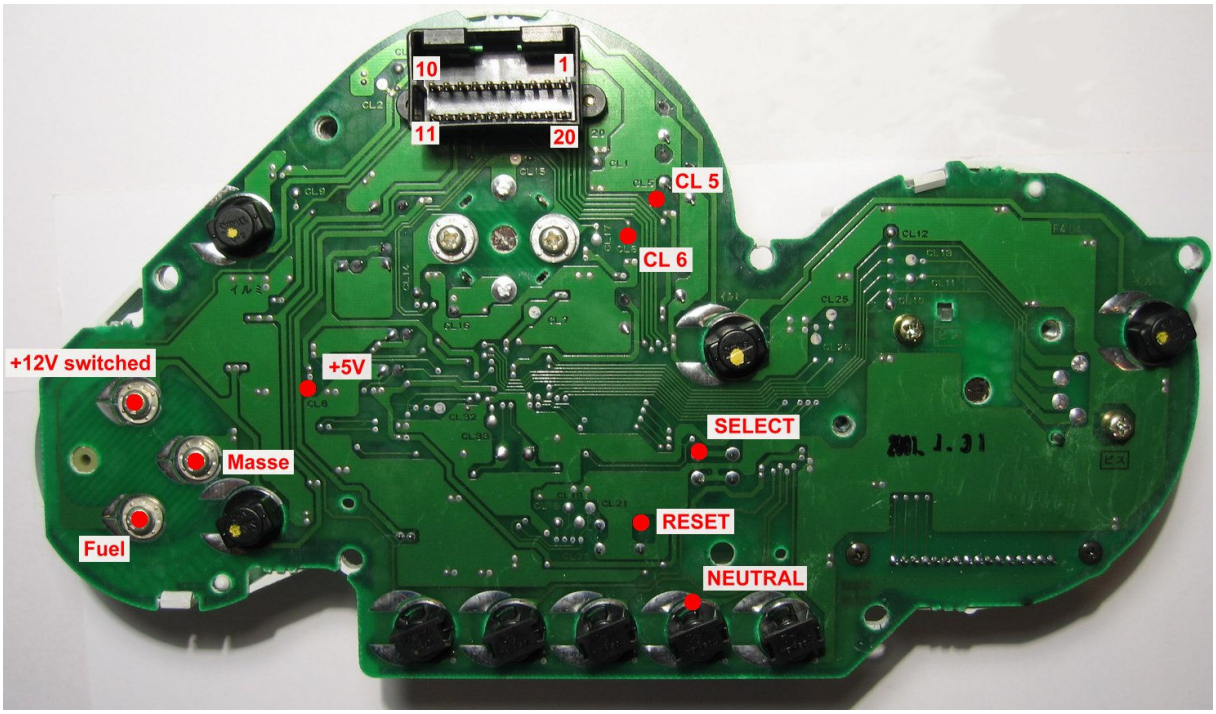
To access the settings menu press and hold the SELECT button until the display shows the menu screen.

During menu operations the SELECT button serves to move the cursor on the screen, RESET is used to execute the selected action. Best practice is to keep SELECT pressed until the desired menu item is reached. The cursor runs through the items in a cycle.

FZS600 2000 – 2001 and TDM850 1999 - 2000

These models differ compared to the FZ1:

- No sensor for water temperature is present. Aftermarket oil-sensors can be used instead.
- The speedo sender is located at the front wheel. Using the speedo-healer makes no real sense.
- The cockpit board has a different layout, the solder spots are at different locations.



Color	Function	Solder spot
Black	RPM input	CL6
Brown	Watertemperatur	See below
Red	Neutral	Near Neutral bulb
Orange	Speedohealer output	Not used
Yellow	Speedo signal input	CL5
Green	Third button (optional)	See FZ1
Blue	Button RESET	See picture
Purple	Button SELECT	See picture

Take special care to select the correct spot for CL5, don't connect it to the nearby lead! The printing on the board is misleading. The red mark indicates the exact position. CL5 is the flat test point.

The NEUTRAL pad is difficult to recognize. Don't shorten with the large, nearby solder pad.

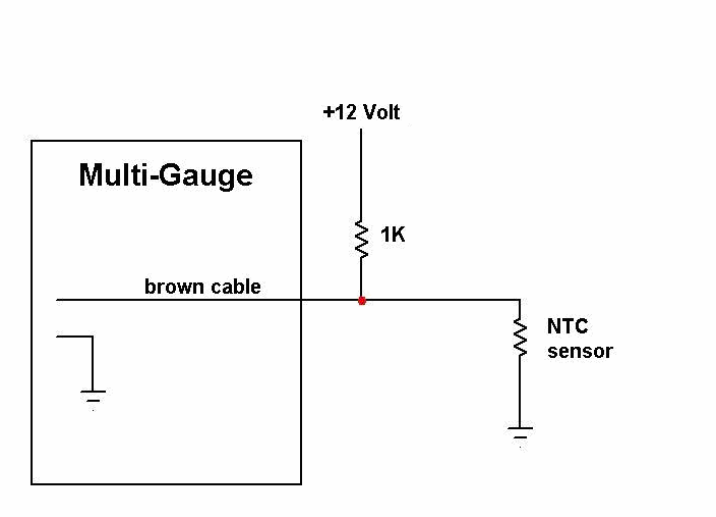
Sensor for oil temperature

Instead of the missing water temperatur sender the following alternatives can be used. The sensor's dimension is M14 x 1,5mm:

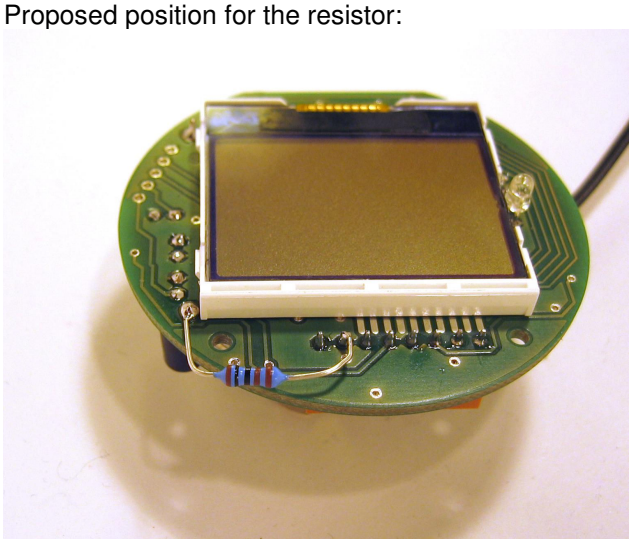
- VDO NTC 1K #10034663 (Louis Motorrad)
- VDO Type 1, 323-801-005-005D, 51 Ohm @ 90°C, available in several housing variants.
- VDO Type 2, 36 Ohm @ 120°C (= #10034663 Louis)
- KOSO temp150 #BF140150-n, KOSO

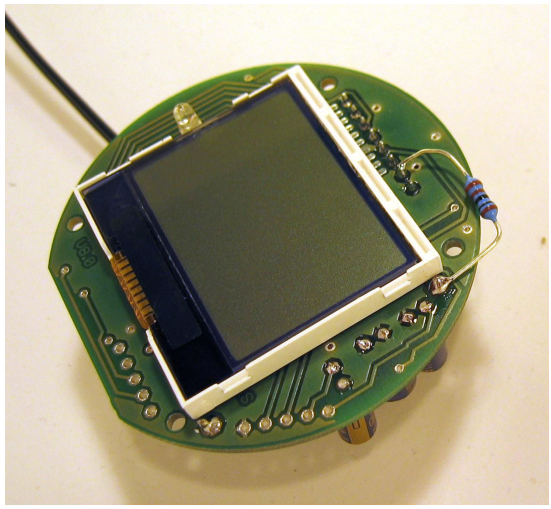
In all cases an additional pull-up resistor (going from the sensor to 12V) is needed.

Sensor	Resistor	Supply Voltage
VDO Typ1, 323-801-005-005D, 51 Ohm @90°C	1k	12V
VDO Typ 2, 36 Ohm @ 120°C (= #10034663 Louis)	1k	12V
KOSO temp150 #BF140150-n	1k	12V



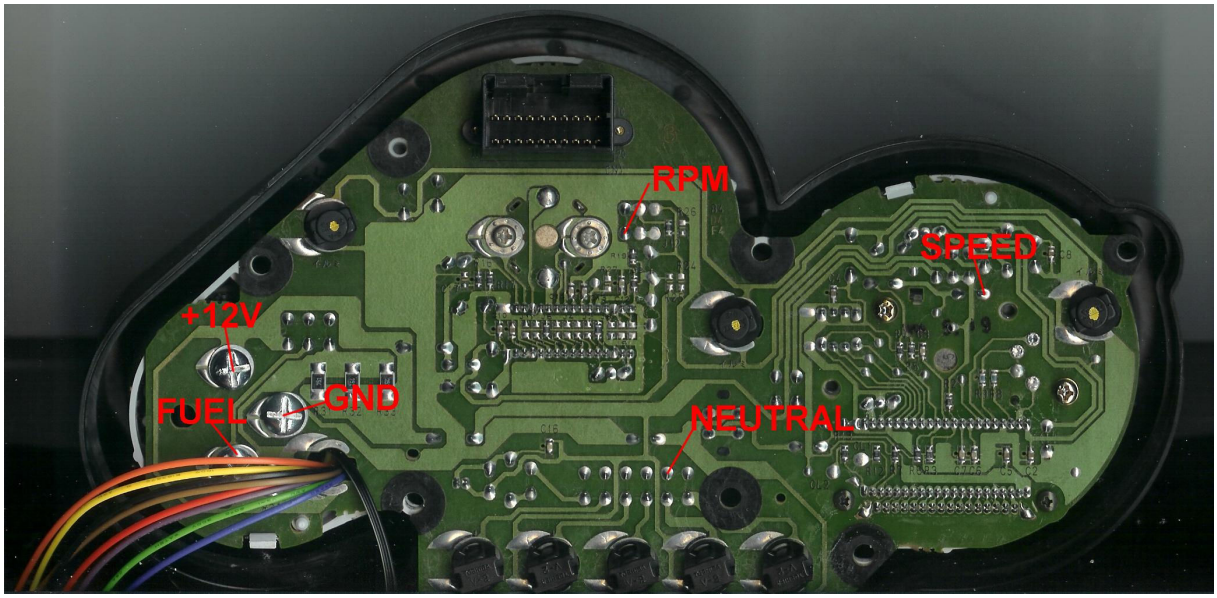
Proposed position for the resistor:



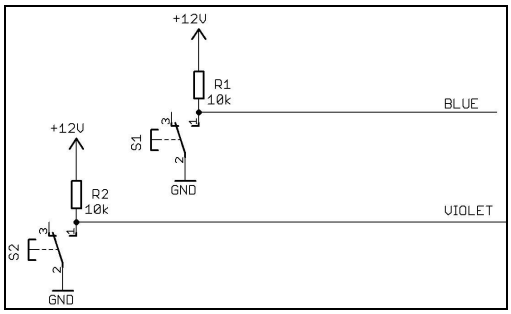


FZS600 1998-1999 and TDM850 ?

Same restrictions as FZS600-2000 (water sensor is missing). In addition there is one button missing to control the gauge.



Solution with 2 additional buttons, the present one is not used:

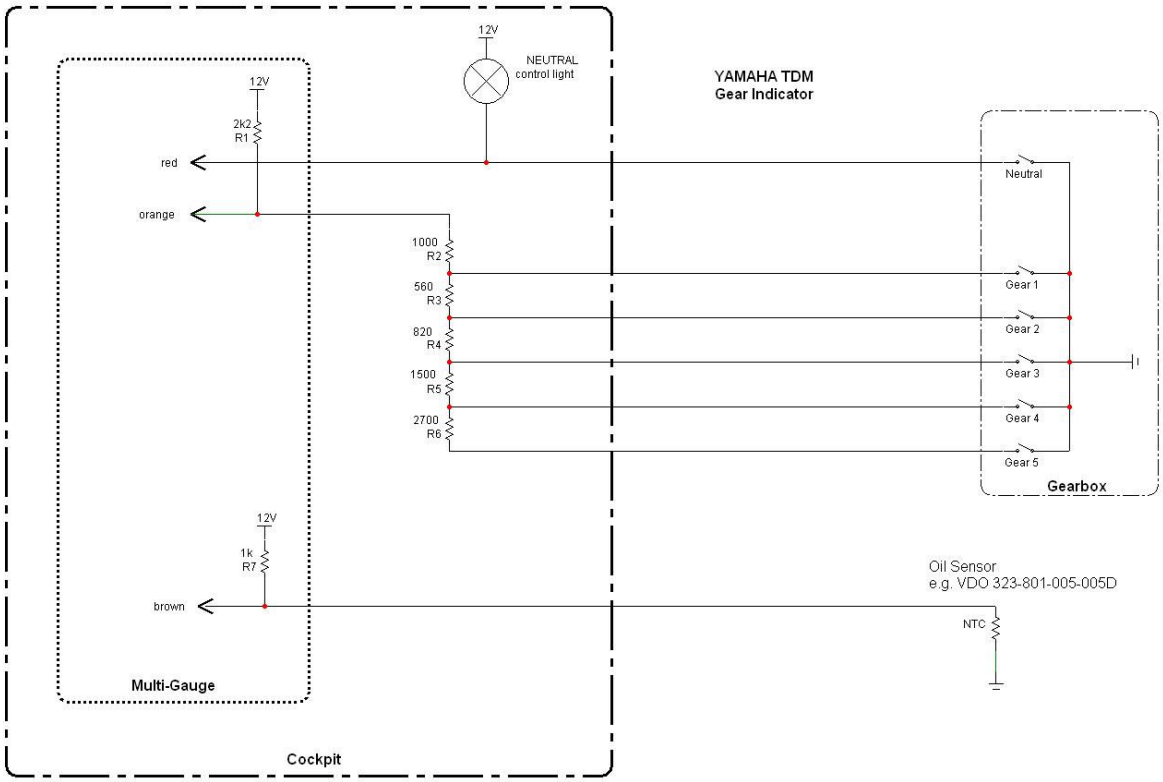


Example parts from „Conrad-Elektronik“:

- Button: #700182
- Sealed Cap: # 700506

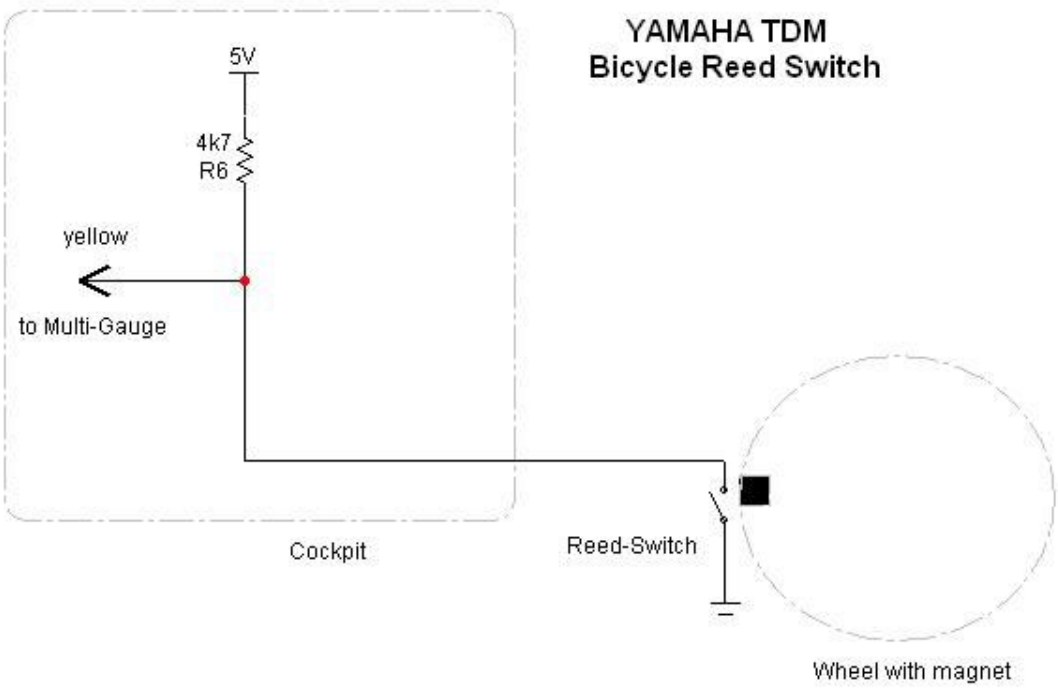
2 of each are needed.

Those models provide a complete “real” gear switch. The multi-gauge is able to assign gears to voltages instead of calculating from speed/RPM. More details on how to modify on request.



TDM859 3VD and TDM 4TX

The missing digital speedo signal can be replaced by a reed-switch from a bicycle computer.



FZS600 Variants

The Yamaha FZS 600 exists in 3 different variants:

Model year **1998**:

Time frame 1998 – 1999
Model Code 5DM1 / 4
Fuel 18 liter
Rectangular headlights. Cockpit with only 1 button.

Model year **2000**:

Time frame 2000 – 2001
Model Code 5DM7 / 8 / 9 / A / C
Fuel 20 liter
Same look as 1998.
Rechteckige Scheinwerfer. Cockpit has 2 buttons now.

Model year **2002**:

Time frame 2002 – 2003
Model Code 5RT1 / 4
Fuel 22 liter
Curved headlight, same look as FZS1000. Same cockpit as FZS1000.