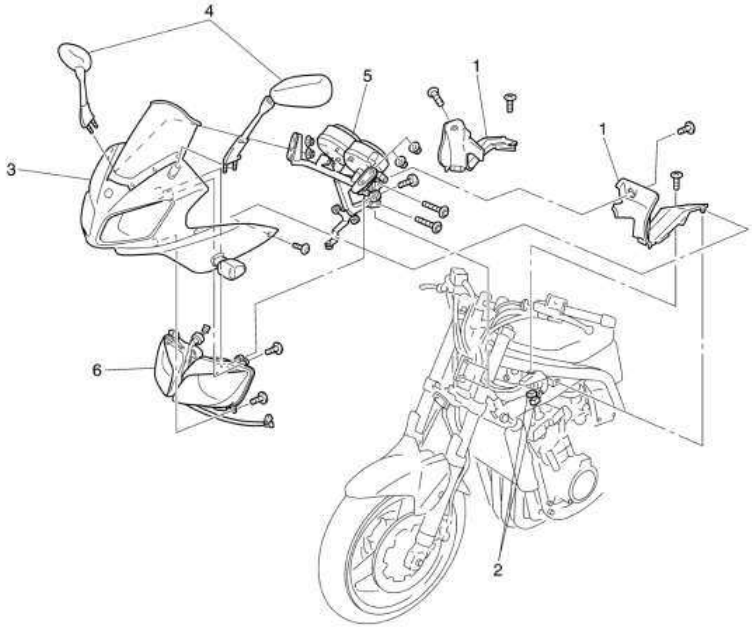
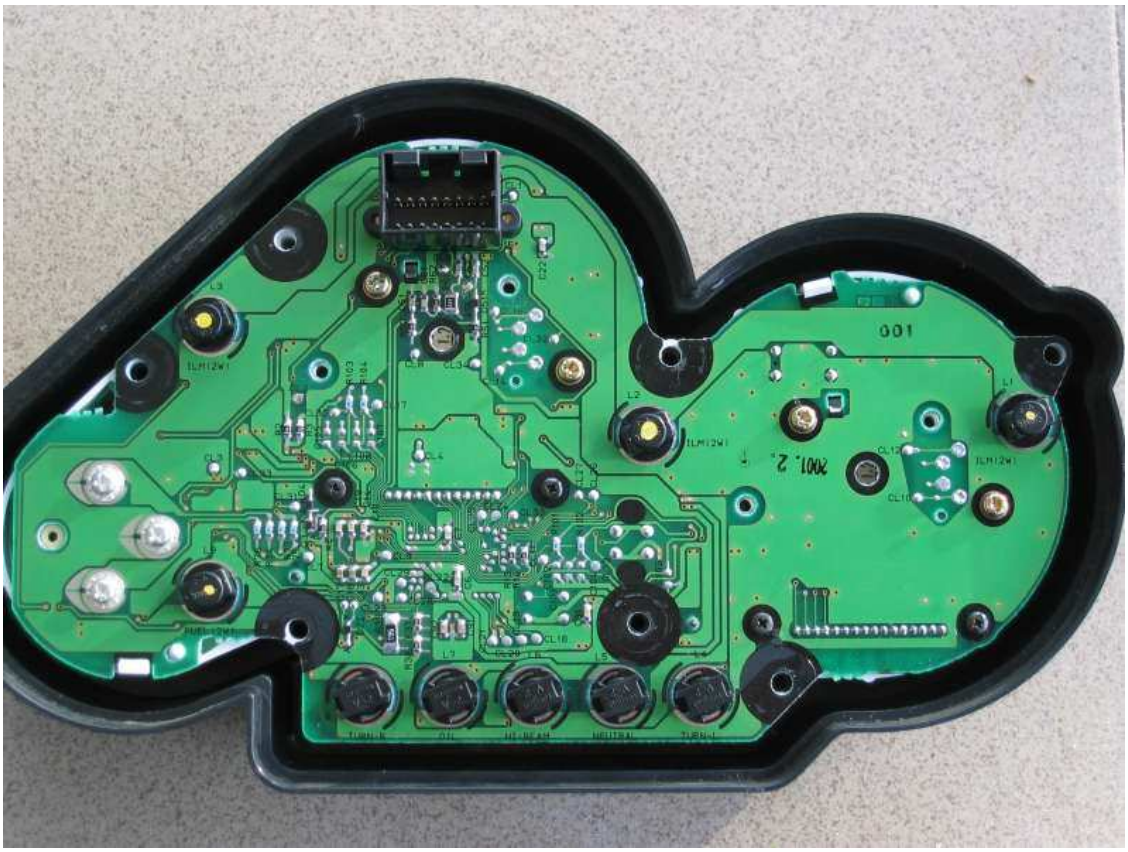
Multi-gauge installation instructions

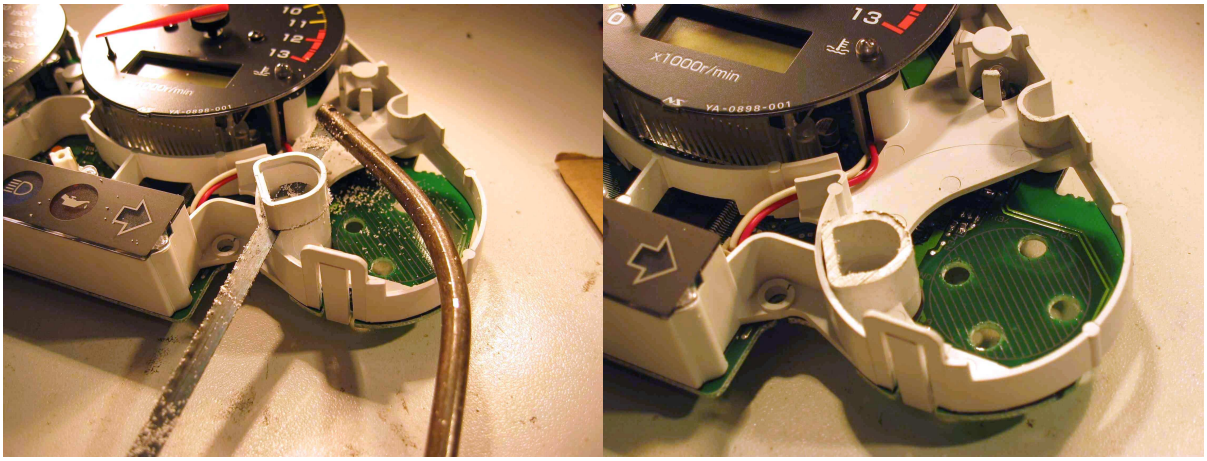
1.) Remove windshield and inner fairings(1)
2.) Pull off rubber boot and unplug connector from cluster using a flat blade screwdriver
3.) Remove 3 nuts and washers (10 mm wrench) on the back side of cluster



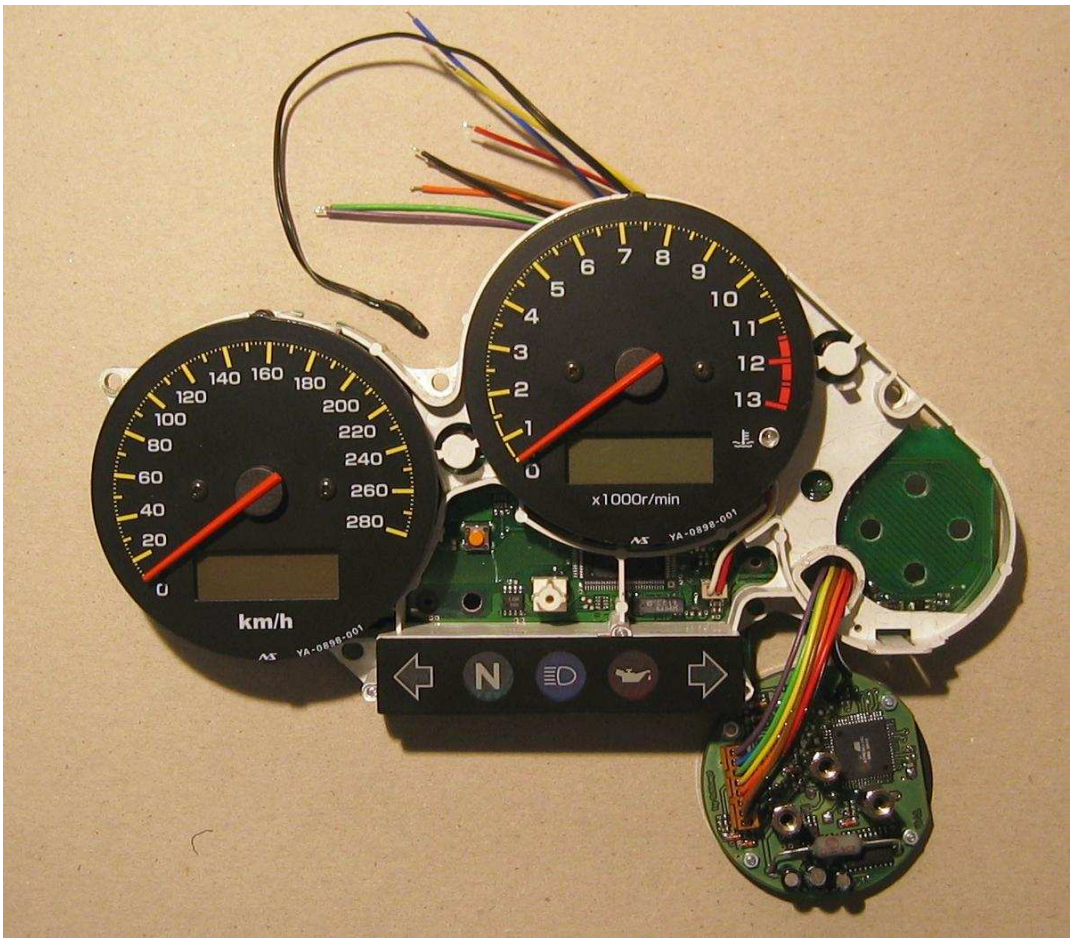
4.) Flip cluster around and open 7 screws
5.) Open cluster (you may have to "wiggle" around with a flat blade screw driver too)



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)

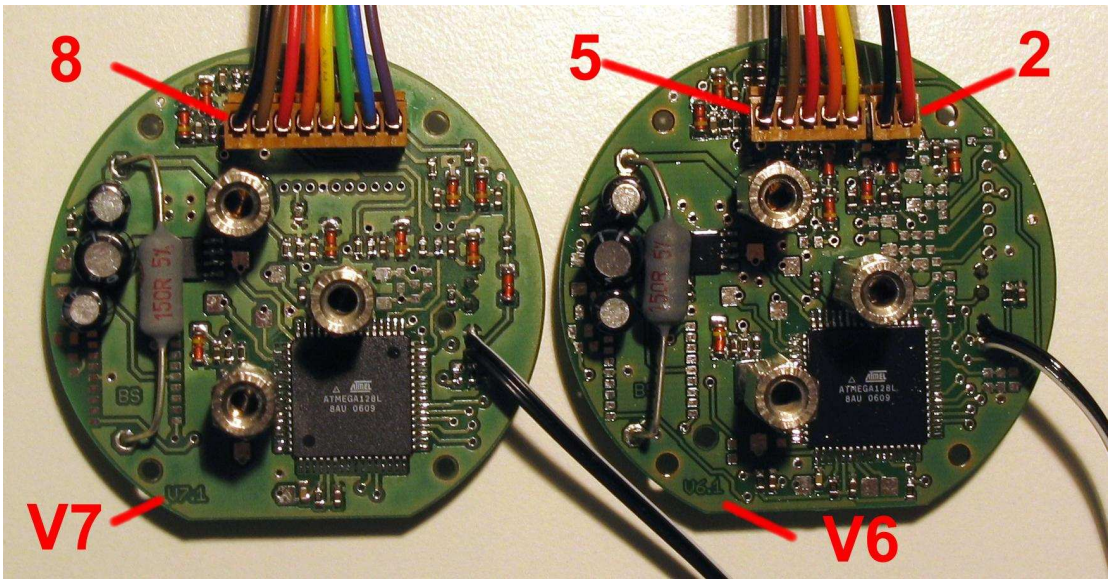


9.) Pull all the cables from the gear indicator through the resulting hole
10.) Tighten the screws (supplied in little plastic bag) to secure the unit



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.) Depending upon version there are 1 or 2 plugs with wires on the multi-gauge. Identify the proper spots where the wires have to be soldered onto (take a look at the following pictures). Shorten wires to minimum required length to avoid squeezing during reassembly of housing:



Version **7** has **one** 8-pin-header

Version **6** has **two** headers, 2-pin and 5-pin.

Configuration (left to right):

Version 7:

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

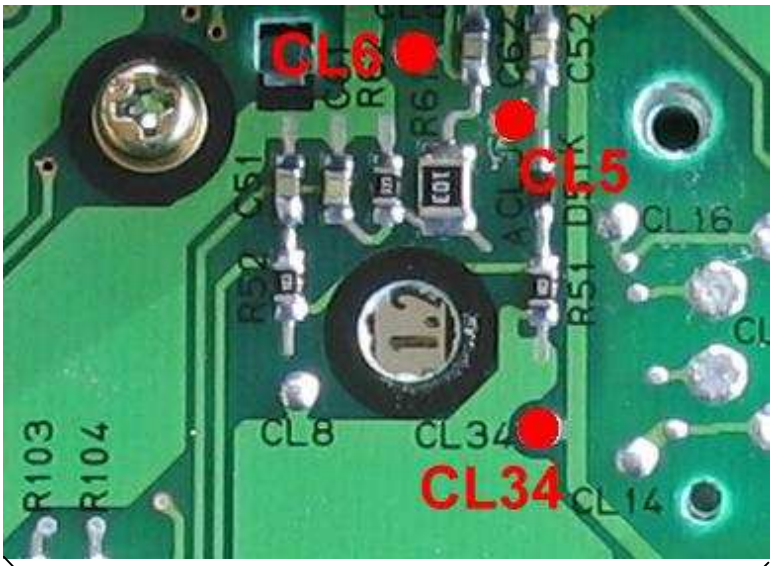
Version 7 gives the option to directly connect a third button (green cable) for switching viewmodes or stopwatch.

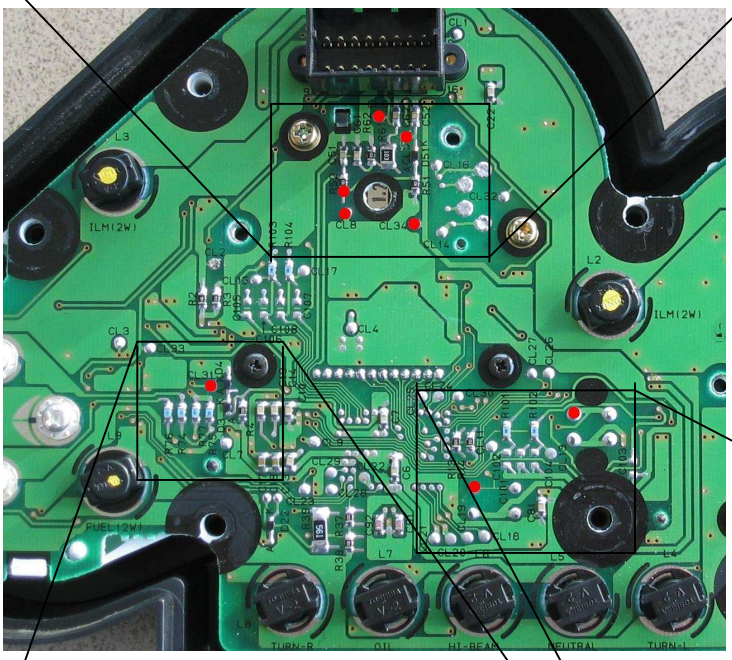
Version 6 (same as version 5):

Color	Function	Solder spot
Black	RPM input	CL6
Brown	Watertemperatur	CL31
Red	Neutral	CL34
Orange	Speedohealer output	New resistor
Yellow	Speedo signal input	CL5

Black	Button RESET	See picture
Red	Button SELECT	See picture

The air temperature sensor is located at the tip of the additional black wire pair, no soldering required. Same for the green cable (version 7), this has to be connected to any switch supplying +12V outside the cockpit (if demanded, otherwise leave unused).



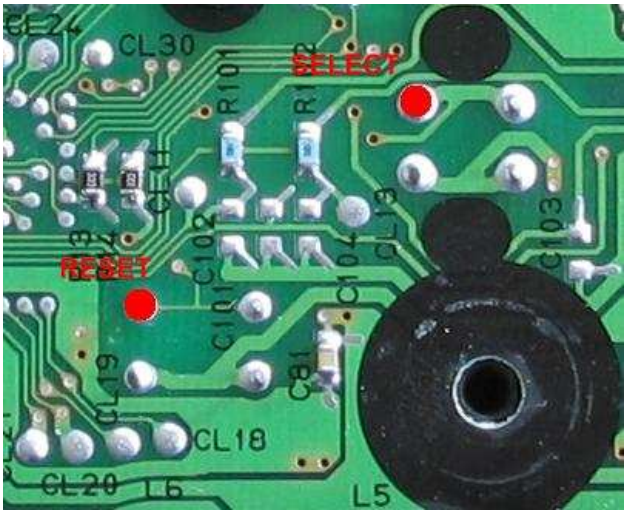


8-pin-header:
black -> CL6
brown -> CL31
red -> CL34
orange -> speedohealer only
yellow -> CL5
green -> n.c. (outside)
blue -> RESET
purple -> SELECT

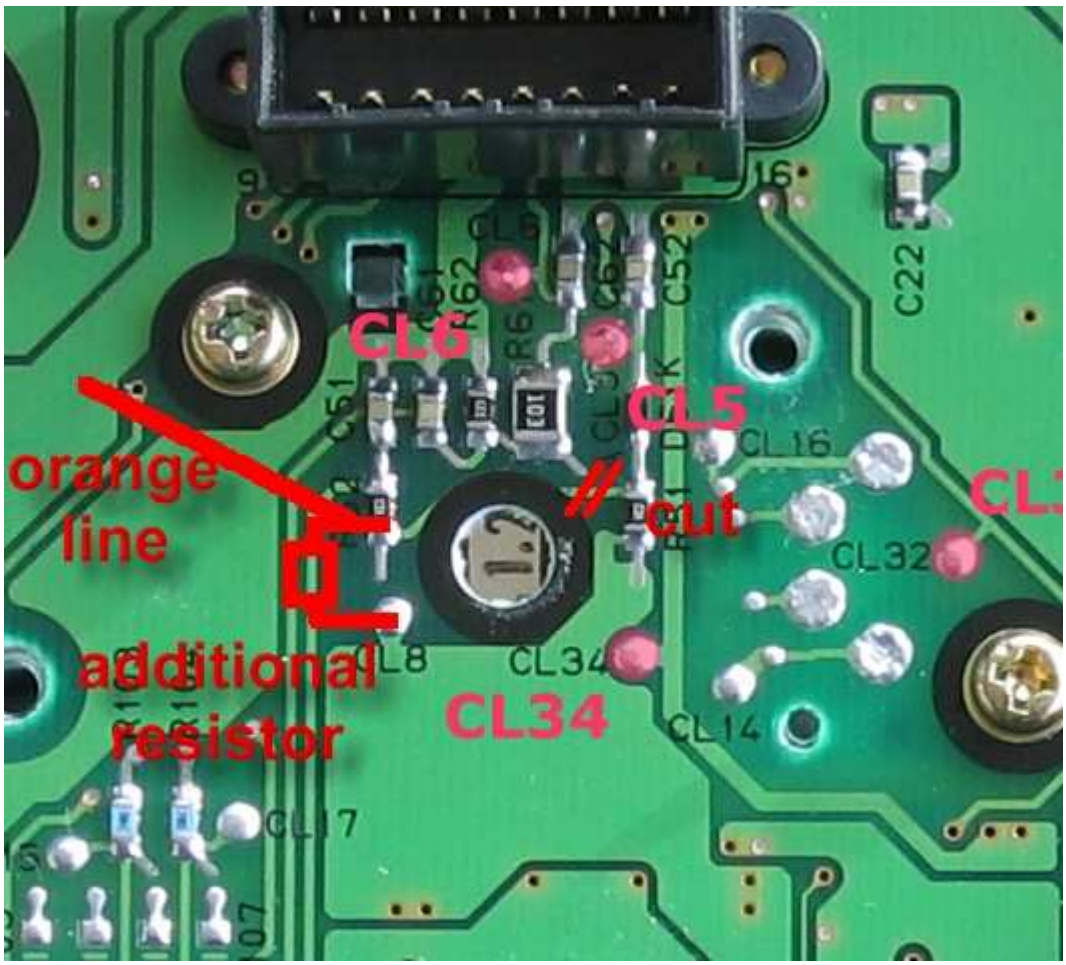
or

5-pin-header:
black -> CL6
brown -> CL31
red -> CL34
orange -> speedohealer only
yellow -> CL5

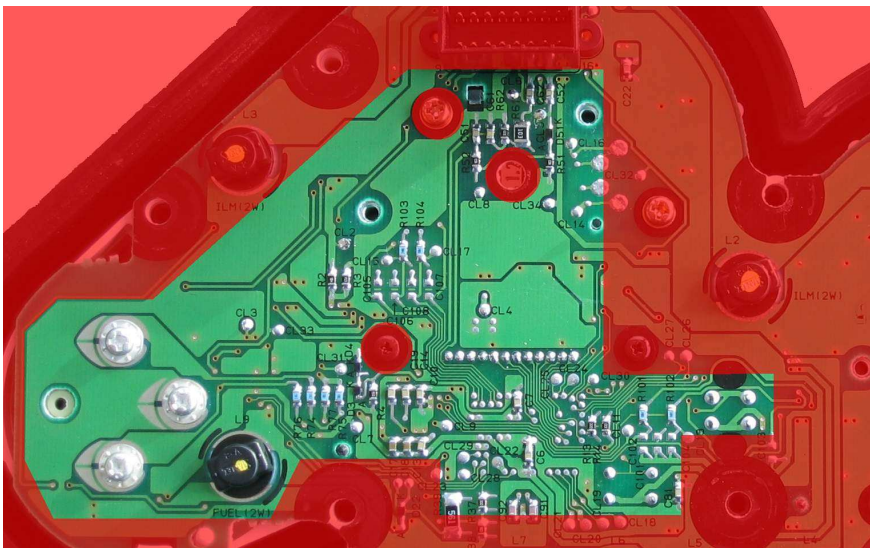
2-pin-header:
black -> RESEET
red -> SELECT



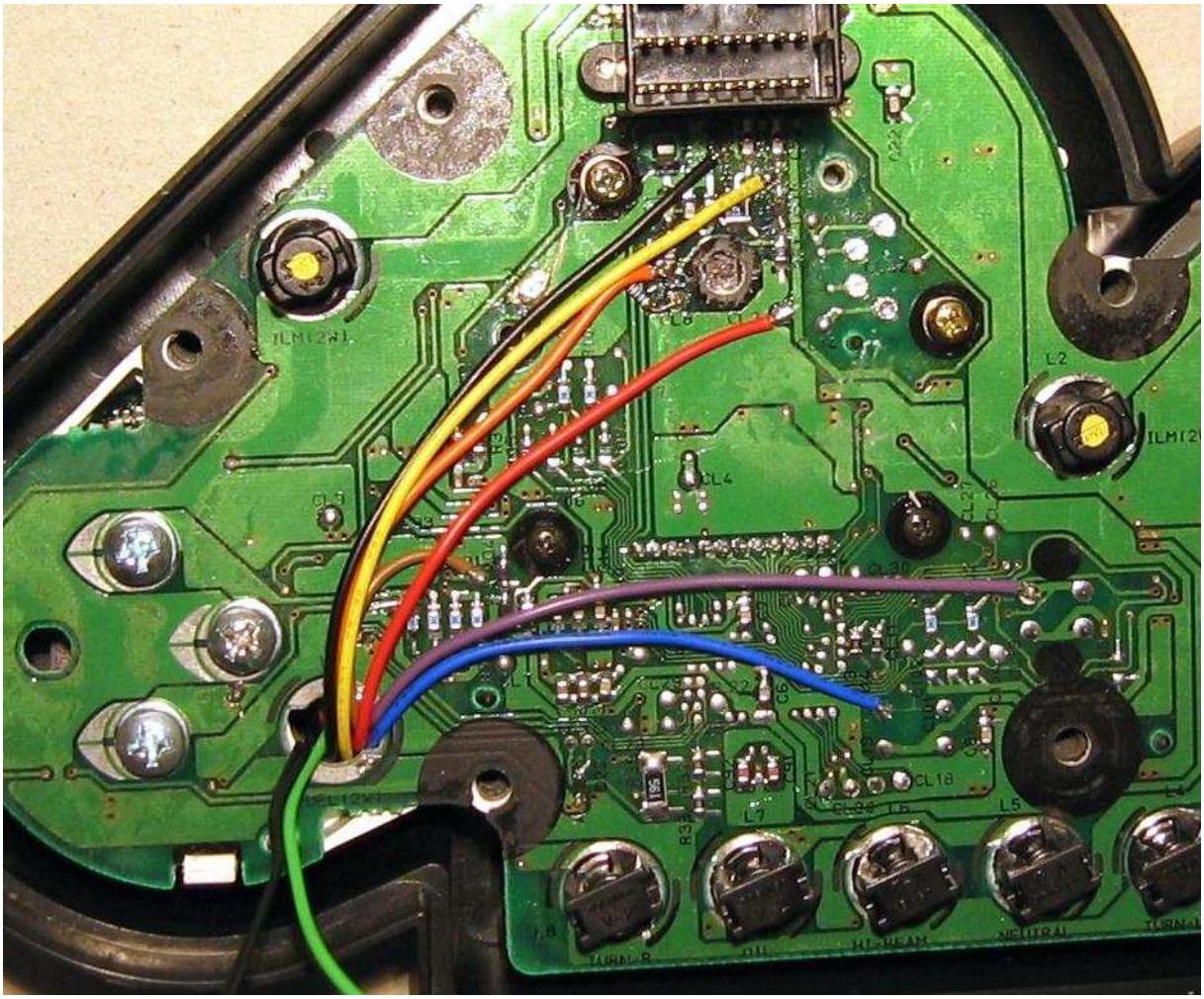
IMPORTANT : If you have a unit with the speedo-healer you need to solder the supplied resistor on the board and connect the orange wire to it. Also you need to separate one of the existing conductor lines. Use a sharp knife or something similar to do that. Make two tiny cuts about 1mm apart and pull off the copper of the conductor line. No deep cuts necessary, the copper is very thin.



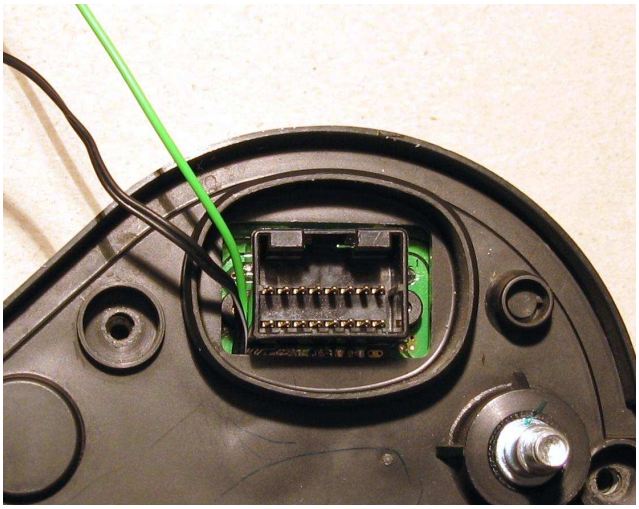
12.) Before soldering check the pictures twice or even three times to make sure you soldered them on the right spot. Don't get confused because you have 2 red and 2 black wires (version 6). Check carefully to solder the correct ones to RESET and SELECT.
13.) After everything is soldered on properly, make sure the wires are not squeezed when you put the housing back on. Do not cross the “red regions”.

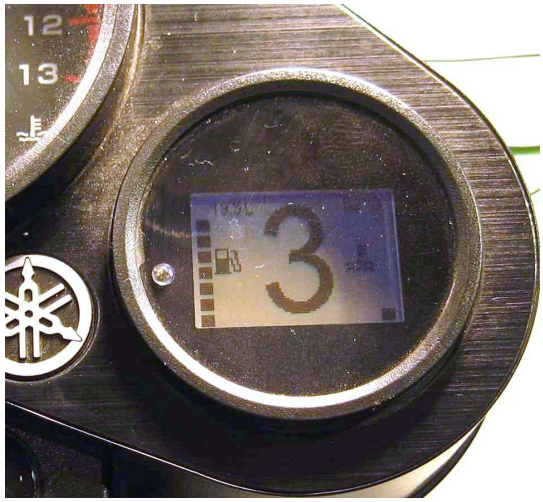


The final wiring should look as follows (including speedo-healer):



14.) Pull double black cable (from the air temperature sensor) and the optional green control cable through the hole in the cluster's rear wall before you re-assemble the cluster. Check 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

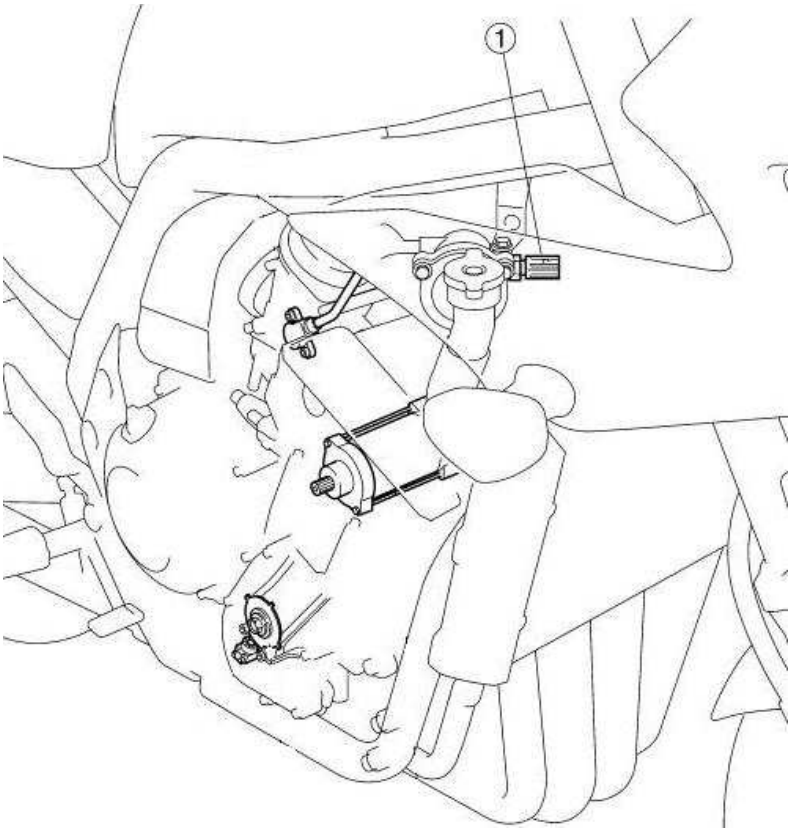
The multi-gauge is operated by using the **SELECT** and **RESET** button on the cluster. To avoid interference with the speedometer the multi-gauge only reacts if SELECT is pressed for more than two seconds. Don't get confused by the naming of the buttons. Their function is not related to the naming.

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.

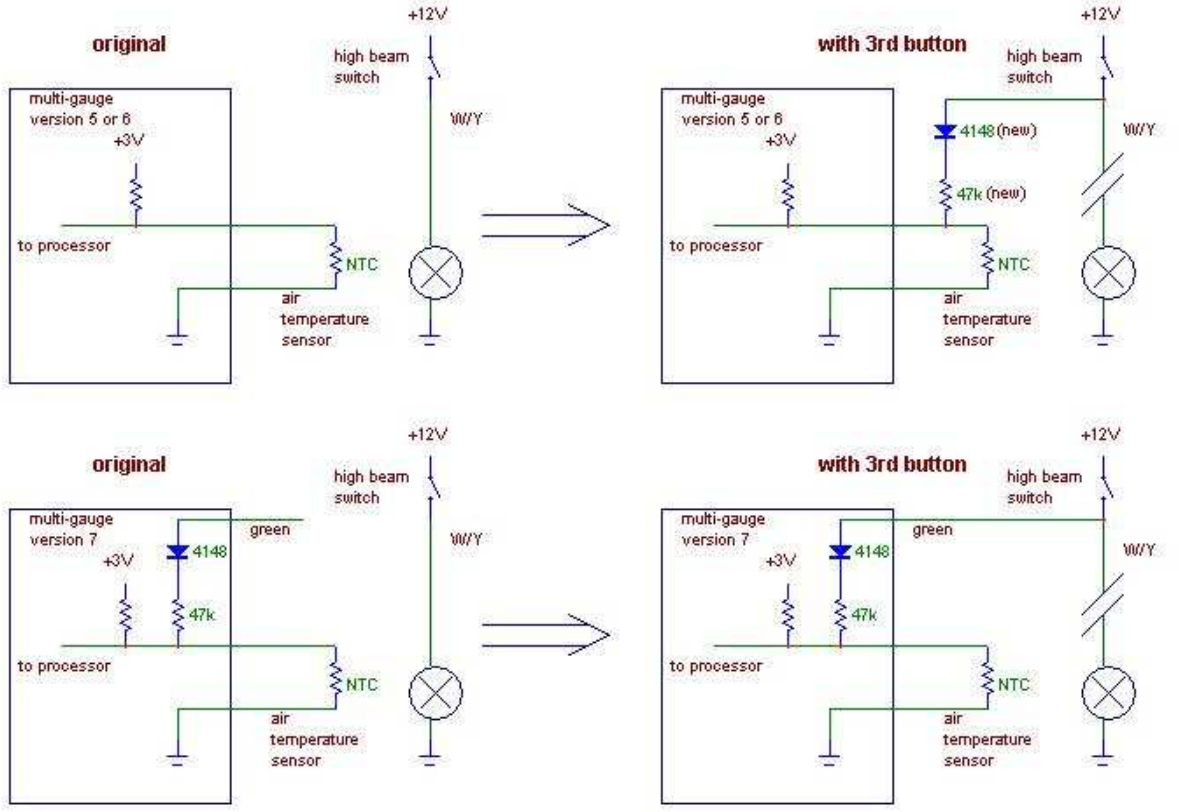
To further increase the accuracy for water temperature readout a short adjustment might be performed. Ignition off. Unplug the header of the temperature sender (1). Ignition on. Enter menu and go to VCCWATERTEMP. Select SAVE to adjust. Ignition off. Re-mount header. Ready!



Additional (third) button

To ease usage a third button can be connected to the multi-gauge. He serves for switching between preset viewmodes or as start/stop for the laptimer. The buttons for high-beam or horn could be used for that. A button-hit is detected when tied to +12V.
This function is first supported with software V45.

Versions 5 and 6 need 2 additional protection-parts (diode and 47k resistor) to be connected as given below.
Version 7 has these components already onboard. The **green cable** can be connected directly to the switch (e.g high-beam).



Take care to NEVER connect the cables from the temperature sensor directly to +12V. The multi-gauge will be destroyed immediately!!