

moving the water fan switch in the Gen I of the years '99 - '07

Hi buddy's,

since the problem of, in the Gen I, over fee, say beyond the middle bar, rising water temperature occurs again and again, I have written here once a technical help.

Note :

With the Gen II (from '08 onwards) no such conversion is necessary because there are no fan switch in the cooler.

As the fan switch in the Gen I sits in a seemingly unfavorable place in the radiator and thus can not start the fan correctly, clever minds have come up with a solution.

This is simple :

Put the switch in the right tube.

Thus, the fan switch is always lapped by water and just can not detect anything wrong, or he measures here the temperature that comes directly from the engine and not only when the water, already a bit cooled down, at the old measuring point, top left at the radiator, arrives.

The T-piece thus serves to safely start the fan when reaching the switch-on point (according to manual 105°C / 221 °F).

Due to this repositioning, the fan gets its start signal earlier and starts earlier, which means that even at 39°C / 102°F ambient temperature and heavy stop n'go the display does not go beyond the middle line - so I have it in 2015 in a brutal heat wave here in Berlin, Germany life experienced.

Here below a little info

What,

Where

How

must be made.

It should be noted, however, that the transfer of the fan switch one does not release it, when changing the cooling water (*) every 2 years (according to manual) correctly fill the radiator & vent, as it by my brother is finest described on my homepage.

(*) According to my personal assessment, a change of the cooling water at the latest after 3 years should be just okay.

But then, I think, the old broth is definitely due, because the glycol is subject to aging and eventually loses its effect. (By the way, this also applies to our cars, but in general nobody cares so much about that.)

One more thing :

A. - Look at the following two pictures and realize that at least the switch **MUST** be out and cleaned every time when changing water!

B. - Something like that can be found if the cooling water was probably never changed!
These two following pictures are from a 99 Hayabusa.

My principle :

Who believes that the switch in THIS condition can still measure properly, or a radiator can still cool properly, certainly believes also in Santa Claus and Easter Bunny.



**moving the water fan switch
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1 click on the picture & it opens big in a new tab

gritty greenish green
mud on the measuring surface



gritty greenish green
Sludge plug in the radiator



**NO wonder if the Busa blows the head gasket
at such a crap & maintenance backlog!**





**Do not start the work until the cooling water has cooled down sufficiently so that
you can loosen up the radiator. Otherwise threaten massive scalding!**

the actual work (out of my sight) :

1.	side covers both off
2.	tank up and remove the air filter box
3.	remove radiator cap and possible! remove limescale even under the rubber seal
4.	empty the expansion tank, remove the retaining screws and hang away the container
5.	pull off the coolant hose (left) on the water pump and collect the broth
6.	pull off the coolant hose (right) on the radiator and collect the broth
7.	remove plug from fan switch (Pic. 2)
8.	unscrew the fan switch (hex 24), clear the contact surface with fine 800 - 1,000 emery sand of possible deposits and screw it in the same way into the T-piece as the stopper (Fig. 2) and tighten to 17 Nm / 12.5 ft lbs Now also screw the new plug (Pic. 6) into the thread of the radiator - 17 Nm / 12.5 ft lbs
9.	cut the coolant hose on the right side (Fig. 1) approx. 1 1/4" cm behind the protective hose and shorten the hose leading to the cooler by approx. 1"
10.	mount the T-piece as shown in Pic. 1 / insert it into the hose & gently! hand-tighten the 2 clamps (Pic. 7) - best - with a hex ratchet 6 nut
11.	reassemble the hose on the radiator and fix it with the hose clamp, but only gently! hand-tighten ! A hex 6 or 7 ratchet nut, with a 1/4 inch ratchet, is the best choice here, a screwdriver the worst, because this is extremely the risk of slipping.
12.	free the contact surface of the fan switch with fine 800 - 1,000 emery sand from possible deposits (see above gritty greenish green ..)
13.	screw in the fan switch (together with its seal) into the T-piece, hex size 24, and tighten to 17 Nm / 12.5 ft lbs

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14.	cut the wire of the fan switch about 10 cm / 4" away from the plug (Fig. 3)
15.	plug the switch into the new slot of the fan switch on the same (Fig. 4) and close the "gap" in the wire. The laying track is up to you. (I always put it through under the air filter box along the overflow hose.) If you want, you can make sure that the colors of the main wires come together again, but not necessarily because the fan switch is a pure I / O switch and thus when the 105°C / 221°F water temp. just switch "on", let current flow, which makes the fan work.
16.	reassemble the hose on the water pump and fix it with the hose clamp, but only gently! hand-tighten (too much pressure is not created in the cooling system - estimated around 1.1 - 1.15 bar / 15.9-16.7 psi (lb / in ²))
17.	reassemble the hose on the radiator and fix it with the hose clamp (hex nut), that means gently! hand-tighten
18.	fill with new liquid (XX) and vent the radiator
19.	warm up engine and check for leaks at <ul style="list-style-type: none"> a. the clamps on the T-piece b. the clamp on the water pump c. the clamp on the radiator d. the Fan switch in the T-piece e. the plug in the radiator
20.	air filter box back on it, gas-tank down and side panels back to it aaaaaaaaaaaaaaaaand  ready to ride 

What you need on components :

a.	blanking plug (metric!) M 18 x 1.5 with rubber O-ring seal (Pic. 6) (17 Nm / 12.5 ft lbs)
b.	T-piece (picture 5)
c.	2 hose clamps nominal size approx. 1 3/8" (~35 mm) - you can get 'em at the plumber
d.	(XX) ~ 170 cu in of cooling liquid - mixed 50:50 distilled water & glycol makes a anti-freeze protection to at least -37 °C / -34 °F only glycol which is non-aggressive against aluminum
e.	2 x approx. 1.0 m / 1 yd of wire with thickness 3/44" (0.75 mm ²) its color does not matter
f.	shrink tubing or insulating tape for solder joints

last but not least :

Fill the old broth / coolant into the empty containers and dispose of for disposal.
(at the seller? as is legal requirement in Germany?)

AND

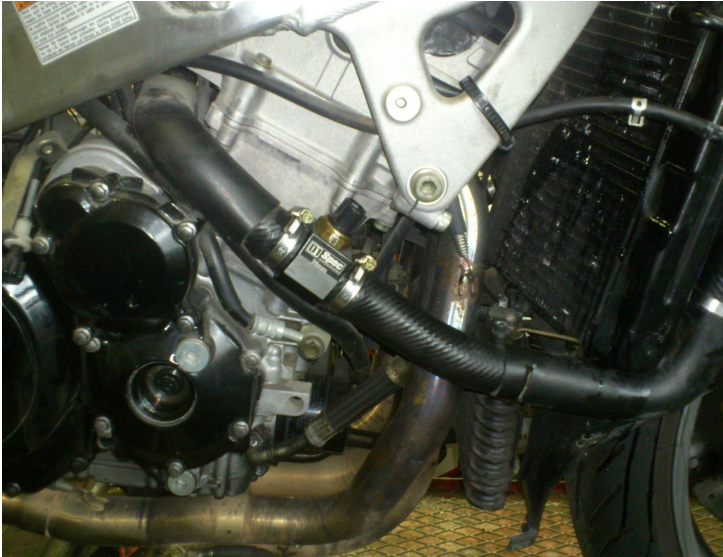
Please **NEVER** pour the old broth / coolant into the environment or into the drain anyway - the glycol itself (and also in any dilution) is basically poisonous / toxic for all living beings and always harmful to the environment.

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a few explanatory pictures

1 click on the picture & it opens big in a new tab

**Pic. 1 - Installation location of the T-piece
the original switch is already screwed in**



**Pic. 2 - Switch connector
(blind-plug is already screwed into the rad.)**



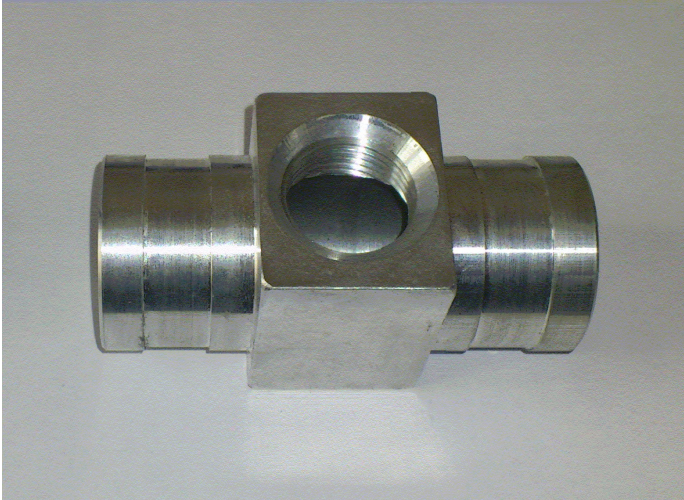
**Pic. 3 - plug wire cut off
(main harness left side / front, above the air duct)**



Pic. 4 - Connector plugged on switch



Pic. 5 - T-piece (example)
inner thread M 18 x 1,5 (fan switch)
conn.-ends outer dia 26 mm (1 ²/₈₅"



Pic. 6 - Plug M18 x 1.5 with O-ring (example)
placed in radiator

here shown a hexagon head / Allen also possible



Pic. 7 - Hose clamp (example)
dia appr. 1 ³/₈" (Ø ~ 35 mm



Hint :

Pic's 5 - 7
illustration similar

That all the work is done with a cold engine, I mention only as a matter of safety.
Not that afterwards one comes to me with blisters and scalded hands and thinks he can demand compensation for pain and so on.

Here, as with all descriptions of a repair or conversion,
it is clear that :

EVERYONE WORKS AT HIS OWN RISK !