

Beta EVO - Checking the cooling Water system

There has to be room (air space) for coolant expansion in the top of the radiator so that when the coolant heats up and expands it compresses the trapped air, and when cooling down the pressure drops to atmospheric. If the radiator is filled to the neck, some coolant will blow off when hot but it should find equilibrium, As the radiator cap lifting pressure is 1.4 bar, normal heating and cooling cycles with fan operation would be within this range and no blow off would occur unless you are on full throttle continuously, in which case you may have reached the limit of the cooling system and should shut off!

Beta recommend standing the bike on the back wheel when filling the cooling system to allow venting of all air when initially filling the engine, but you may have noticed that in the last few years Beta have added a cylinder head vent screw just behind the spark plug. As both the cooling hoses go into the bottom of the radiator, the cylinder head is the highest point in the engine so gas or air from incomplete filling can be trapped at the top of the head.

With the engine cold, remove the radiator cap, note the level, then slacken the vent screw a few turns (8mm spanner) eventually a drop of water will come out round the vent screw and you know the head is full, if air/gas comes out you will know that the the head was not vented and the level will drop in the radiator until you get coolant. Top up the radiator with coolant -just visible at the bottom of the filler tube and refit the cap.

This should give normal operation with fan cutting in and out but in worst case scenario your head gasket may be leaking gas into the cooling space. In which case the gas displaces coolant in the head, back to the radiator and will eventually blow off during operation.

As it is a closed system, the pressure when cold should always be atmospheric, but if after an event or practice, maybe the next day when the engine is completely cold, you slacken the radiator cap and there is still pressure and a slight hiss, it may be an indication that the head gasket is starting to leak.

