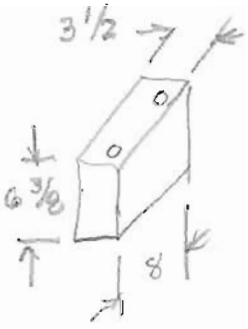
Tool Kit
10mm x 1/4 Socket, 8mm
6" Long 1/4 Socket Extension
6" Long Ratchet
Lg. Head Phillips
Pliers
10mm Combination Wrench

Battery No. 12V, 2Ah
"Yuasa"
YuMicron Y50-N18L-A



Removal of Evaporative Emissions Control System

This is for '97 VN1500D California models.

The Evaporative Emissions Recovery system does not affect emissions measured at the exhaust. The system is designed to recover fuel vapor from the fuel tank and float bowl, store it while the bike is idle, and pass the vapors into the engine when the bike is started. As noted in the owner's manual, overfilling the gas tank results in hard starting and hesitation during the operation of the bike. Overfilling causes liquid gasoline to flow into the carbon cannister located under the locking side cover. This cannister is intended to only handle gas vapors, introducing liquid into the cannister can render it useless.

There are many reasons why one would wish to remove this system. Here are a few:

*If the charcoal cannister becomes saturated, it is ruined and the system will not work. (you could just replace the cannister)
*Overfilling the tank causes unacceptable performance characteristics.
*The cannister blocks access to the tool kit and takes up locking storage space.
*The system contains many extra vacuum connections which can cause vacuum leaks.
*The system is a hiderance when removing the gas tank for maintenence.
*Some people just like fiddling with thier bike.

The chart located inside the locking cover shows all of the lines and components in the system. The removal of the components will not affect the performance of the engine.

(1) Remove the gas tank, if there is fuel in the tank be careful when removing the hose from the nipple with the red dot (left side), it will leak gas. Permanently cap the red nipple, it will not be used again (I used a vacuum cap temporarily, then sealed it with fuel tank repair epoxy later as I don't trust gas in contact with the rubber cap for the long term). The blue nipple is the tank vent, the gas ~~cap on Calif. models is not vented~~, if the blue nipple is obstructed, the tank will build vacuum and the bike will not run very long unless you open the cap.

(2) There are two vacuum operated accessory devices on the bike, the return pump (which we will remove) and the air valve (which is optional for this discussion because it may affect exhaust emissions, it can however be disabled when the bike is not being tested by blocking the large air lines going from the air valve to the reed valves located on the front of the front jug and the rear of the rear jug. Blocking the reed valves will almost completely eliminate backfiring through the pipes. If you are subject to exhaust emissions testing, try it once with the lines blocked, if you pass, yank the stuff off and install coasters. For complete removal of the clean air system [KCA], see "Coasters" http://www.vroc.org/mailarchive/varchive/msg07953.html in the archives). The air valve is located on the top, center of the engine, between the carb and the airbox, if memory serves. The vacuum line runs from a nipple on the top of the carb, to a plastic tee, to each of these items. The vacuum line is coded white. If you are retaining the air valve, route the hose directly from the carb to the air valve.

remove white R

(3) Follow the extra vacuum line, or the blue and red lines you removed from the bottom rear of the fuel tank to a cylindrical cannister (return pump) mounted on the vertical frame member directly behind the engine, below the battery box. Remove the rubber bungee and return pump along whith the four hoses connected to it.

(4) Remove the carbon cannister from under the left side locking side cover. The yellow hose connected to it is the float bowl vent. The green hose goes to the LH aircleaner, remove it at both locations.

(5) There are two courses you can use. One option is to cap the nipple on the LH aircleaner where you removed the green hose from and allow the yellow hose (float bowl vent) and blue nipple on the fuel tank (tank vent) to hang open. If you use this option, connect one of the vacuum lines you removed to the blue nipple when you install the tank. Route the hose to vent under the bike where gas leakage from an over-filled tank will do no

green – cap nipple on L.H. aircleaner,

blue – vent to atmosphere

yellow – vent to atmospherer

Red – cap red nipple on tank

harm. The second option is to purchase a universal vacuum tee from an automotive parts store, trim the tee to fit the different diameter hoses, and tee the tank vent, float bowl vent and the open nipple on the air cleaner backing plate together. This will allow gas to overflow into the aircleaner when the tank is overfilled. (the vented cap allows the fuel to run out of the cap and onto the fuel tank on non-CA models)

I removed this stuff while installing coasters (metal plates which eliminate the reed valves, air suction valve and other KCA components) and the Coyote kit (air intake mod which eliminates airbox, LH aircleaner, crossover pipe, and some other stuff). I thought I needed the fix until I removed all this stuff, but the backfiring, hesitation, and hard starting went away after I did this. Here's some links for what all I did:
http://www.vroc.org/mailarchive/varchive/msg07953.html for description of coasters
http://www.vroc.org/mailarchive/varchive/msg08333.html for Coyote Kit
http://www.vroc.org.mailarchive/varchive/msg07842.html for classic carb modifications

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