



American Voyager Association

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Carburetor Remove & Install- Additional Items & Tips

By Bruce Kauffman

I have written three articles aimed at helping you work on the CV carburetor, *Enrichen the Needle Jet*, *Pilot Jet Adjustment* and *Float Valve Replacement*. Hopefully the following will assist you to get the carbs on the workbench and back into the bike without too many wrenches flying across the garage!

The good news is you most likely will never pull them out again if you do a top notch job the first time!

STANDARD REMOVAL TIPS

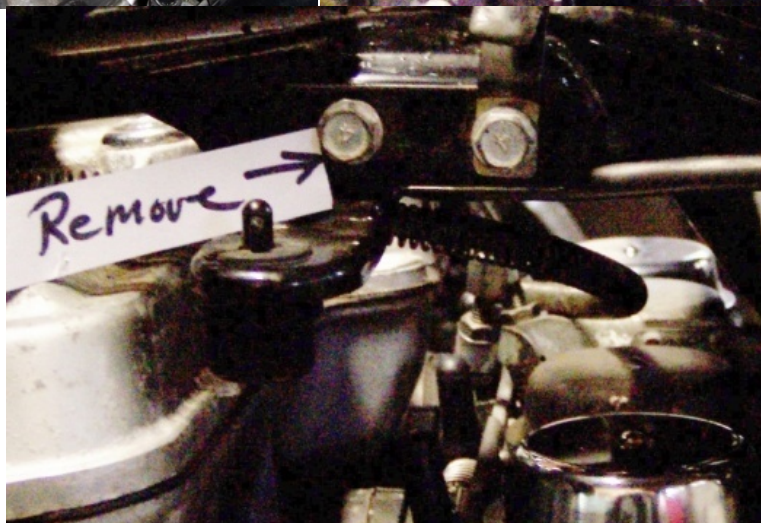
Remove the air box, front seat and whatever else you like until you can clearly see the carbs from the top of the bike. Drain the float bowls, and then fully loosen the four clamps on the output side of the carb so the rubber can expand when the carbs are pulled out leaving the engine clamps tight.

Roll the four intake spring clamps back onto the surge tank boots. Disconnect all the vacuum lines from the top of the carbs; I discard all of these tubes, yet more on that later....

Remove the throttle cable clamp on the top of the valve cover.

Remove the top two mounting bolts of the air surge tank to allow more rearward movement.

Remove the left faux gas tank mount from the frame rail to create room for the carbs to exit.



Now kneel next to your baby firmly grasping her left & right carb and start pulling them toward the rear. Pull on one side, then the other, working the carbs out of the rubber engine mounts. This will take a bit of effort; you may even want to switch sides as you coax them out...

Once the carbs pull free of the front boots, work them upward so the carbs are now sitting above the mounts, this gives you a bit more room to disconnect the fuel line from between carbs 2 & 3.

Work the carbs toward the left side until the throttle cable lock nuts can be easily reached. With the adjusters loose, take the closing cable off first. Then hold the butterfly valves fully open and take off the opening cable.

The carbs should come out with ease from here; all that is left are few goodies like the choke cable...

BONUS REMOVAL TIPS

Confessions of a fanatic; I fix, adjust, lube or clean anything and everything I can get my grubby little hands on when something else is apart. Here is the stuff I include while in the neighborhood.

Lube Cables: Disconnecting Cables from Choke Lever & Throttle Grip will also make hook-up easier

Drain & Flush Coolant Tank: Get the crud out from the bottom of the tank

Clean the Top of the Engine Case: This area is rather hard to clean with the carbs in place

Clean & Inspect Air Surge Tank: Also makes room to get at the fuel filter once out of the bike

Change the Fuel Filter

REMOVE & DISCARD - OPTIONAL

I cut my teeth on early Kawasaki's before the EPA or CARB came along, so I naturally prefer to remove the unnecessary 'smog crap' which creates more problems than I see worth. The picture shows the pile of stuff removed from my California Voyager taking note the vacuum valves were already in the garbage can....



Fuel Evaporative Canister, Liquid Separator Valve & Carb Vent Valve (CA Model Only)

Hidden behind the air surge tank and mounted on the frame, the canister and valve are best removed when the carbs are out. While you can easily just yank out the vacuum lines to disconnect the system, I prefer to take out the whole shebang.

In short, the canister collects any gas from an overfilled gas tank and routes the fumes back to the left side of the air box for burn. The biggest problem with the set-up is the bike will most likely fail to start if you have a slight tip over dumping a large amount of fuel into system. Until enough gas dissipates, the overly rich air mixture will keep you stranded as the engine will fail to start.

The little silver vacuum valve on the bottom right of the air surge tank shuts off the atmosphere to the carburetor bowls when the bike is not running, just another place for a vacuum leak to develop in my book.

When this system is fully removed, 3/8 inch id rubber caps are used to cover the vacuum ports on the carbs and the gas tank vent, the vacuum valve is taken off the surge tank yet the screws remain to plug the holes, plus the return hole in the left side of the air box is sealed with a grommet. (Reference the right side photo)



Rubber Caps on Vacuum Ports



Vacuum Valve Removed



Right Side of Air Box with Plugged Port

Exhaust Port Air Injection (All Models)

This system has no real drawback, it simply adds oxygen to the exhaust just as it comes out of the cylinder head to help further burn the fumes as they travel to the end of the tailpipe. Performance is unhindered with or without the injection (suction in reality) yet my issue is the plumbing was always a nuisance when adjusting the valve clearance as it is attached to the valve cover and air box. While the Voyager design does not require regular valve cover removal, I still rather not have the bulky tubing, vacuum lines and the valve in my way...

When fully removed, 3/8 inch id rubber caps are used to cover the vacuum ports on the carbs (see above), the supply hole in the right side of the air box must be sealed with a grommet (see above), and 5/8 inch id rubber caps seal off the left & right suction valves using the stock hose clamps.



Rubber Cap on Right Suction Valve

INSTALLATION TIPS

I suggest you leave the overflow hoses off the bottom of the float bowls. I never put these tubes on any of my older bikes as fuel never comes out under normal circumstances. If you do want to keep the hoses on your ride, leave them off for the moment to make installation easier.

Apply a light coat of grease to the insides of the engine intake boots and the mating parts on the carbs.

Reverse the procedure for assembly: partway install the carbs into the left side of the bike and install the opening cable then the closing cable leaving the lock nuts loose for later adjustment.

Push the carbs in over the mounts, connect the fuel line, and pull the carbs back and into the mounting rubber which takes a bit of wiggling to keep the rubber from folding over. Do not just shove; move the carbs around until you can see all four rubber mounts have encompassed the carbs then push forward.

Once seated in the motor side, leave the clamps loose while you carefully work the surge tank boots around the carbs, a flashlight is a good thing about this point. If the surge tank is fighting you, it means a boot is folded over, use your fingers to feel all around each boot. A large Phillips screwdriver can be used to help push a folded boot outward, yet use great care so you don't poke a hole!

Once you have done a 100% check on the air surge boots, the air surge tank should easily push fully onto the carbs. Secure the engine intake boot clamps, then roll the spring clamps into place on the surge tank boots and secure the tank to the frame.

Now comes cable adjustment time, this is where the grin starts coming in for me! Nothing quite like a slack free throttle cable that snaps closed with the bars at full right side lock.....

I lube the cables removed from the choke and throttle grip and reassemble them. Getting the cable ends back in the throttle grip is made easier by taking the closing cable adjuster out of the carb bracket, yet leaving the cable end hooked into the butterfly linkage. Once the grip is back together, the closing cable adjuster is placed back into the carb bracket for adjustment.

Start with the manual suggestion of 8mm distance on the closed adjuster and 5mm on the opening; keep the adjusters at the grip fully closed. Now feel the throttle play, too much on opening? Take out the slack down at the carb adjuster. Does the closed cable actuate the cruise control switch? If not, take out the slack at the carb.

Once done, the throttle should snap shut when you let go at full right lock. HINT: make sure your cables are not tie wrapped to the handle bars with your wires; let them run free to the loop at the top of the triple clamp. I adjust my throttle cables so it is a tad too tight at full right lock, and then loosen it up until I get a good snap in this position.

Now put on the rest of the stuff you took off then enjoy a frosty adult beverage to celebrate!

Safe Travels.....

