1100 V- STAR Installation Guide

Congratulations on your purchase of
The KJS System

Revised: June; 2015

Please read carefully before you start the installation of this new composite system. These tips's are proven through years and hours of R&D and were designed for self-installation with minimal prior mechanical background. It is mentioned in the trouble shooting section in a separate attachment, about vacuum leaks on installing the manifold, please remember, you can't do the final checks of the carb's performance, if is not sealing properly, intake manifold leaks are 99% of all problems! The carb supplied for your system is a TM40-6 formally known as a HS40, here's a link to mikuni for more details, http://www.mikuni.com/pdf/hs40_manual.pdf also, visit the FAQ from the web site for further explanations, on how the system works and exhaust system clarifications
NOTE: which ever air filter you choose, the one on the web site is a K&N, part # RC 1950, no brackets required, but custom filters, depending on how heavy will need brackets to the frame to support any extra weight that some air filters have. This save's ware & tear on the rubber boot. NOTE: you also, once the system is installed will see how to adapt your factory (round face cover only) once it's torn apart from the rest of the junk, it's been done before. We don't sell air filters there just too many kinds.

MANIFOLD INSTALLATION

The most important thing to remember is the old theory, practice makes perfect. Use **BLACK SILICONE ADHESIVE SEALANT** ULTRA BLACK RTV SILICONE GASKET MAKER, this is for installing and sealing the manifold correctly & takes 24 HR.S, too cure, read there package for use

A: With the old dual carb system, it's a fact that on older models or abused, that one cylinder may have run richer than the other. Over a period of time, this gums up the cylinders & intake/exhaust valves the valve stems and piston rings with the spark plugs & old duels removed you can spray down into the cylinder intake onto the valve stems with WD 40, turning the engine over from time to time. Do this over a period of a day or two, to loosen up all the old crap, so when you fire up the new system, it clears it out and you'll be able to enjoy the KJS system to its fullest potential. If you choose to perform this step, be aware that you'll see lots of really nasty smoke on your first engine start up. . If the engine pops, then the valves are carboned up and it will clear in a 100 mile. This holds true for older abused models that used duel carb's that been bad for years

B: Note, with the composite manifold never over tighten it. There tough! So be sure you understand this, it works! Never over tighten, again, let the silicone do its job. If you have a 3rd party do the install for you, remember, most mechanics know everything, and they don't get paid to read these instructions, so if they brake it, as they say, they have to buy you a new one. This is called installation abuse! Please just use common sense, thank you.

C: Here comes the practice part: NOTE; Record the size of gaskets being used! Place the gaskets supplied on the front & rear cylinders; insert the 4 bolts, finger tightening in a figure 8. **Front Cylinder TOP. This will act as a pivot point,** then swing the manifold down into position, then insert the **Rear Cylinder TOP**, **Front Cylinder BOTTOM**, **Rear Cylinder BOTTOM**, holding the manifold as still as possible! This will give you a good sense for the final install with silicone. There

will be enough room for the silicone, we call this the squish zone, this space is needed for final installation, which the silicone will take up, and when cured, will seal perfectly

D: By now, you have mastered this technical part, and are ready to apply silicone. With the gaskets supplied, after cleaning the cylinder heads, apply silicone on the gasket, only on the circle part, and stick it to the head, pad it down, and the excess can be wiped out and applied to the face, this will help when installing the manifold to bond with each other & Apply silicone to the manifold, only again in a circle about 3/16 of an inch wide, and 1/16 th of an inch high, not to wiggle it, and install with the bolts & washers supplied. Remember. It, s going to ooze out a little when bolted up, so you'll have to determine what's fair

E: Well, everything looks good. Use the four new bolts with the 4 washers provided; to help spread the torque pattern. You should have silicone on the gasket face, to match the manifold you put the silicone on. From the right side of the bike, tilt the manifold out at the rear without letting the silicone coming in contact with the gaskets, and insert one bolt in the **Front Cylinder TOP. This will act as a pivot point,** then swing the manifold down into position, then insert the **Rear Cylinder TOP**, **Front Cylinder BOTTOM**, **Rear Cylinder BOTTOM**, holding the manifold as still as possible! Otherwise, you'll smear the silicone, and you'll have to start all over again.

Finger tight in a figure 8 pattern as many times as necessary starting with the REAR bottom, while positioning the manifold, feeling the seating motion - You'll feel it match up as you wiggle the manifold from the front and a up and down motion. This manifold is like nothing else's and has 3 compound angles, so feeling the motion is part of the installation. These bolts are tiny, so don't go crazy. You're only going to use 75 % of the specified torque. That's barely finger tight, once this is done, let cure for a couple of hours, (Patience is important) and then do the other 25% let cure there for up to 24 hr.s then check it again and do the final torque. The torque is ((1.8 ft lbs)), or ((23 INCH lbs.)) or gently the tip of your baby finger on the end of a 10mm box end wrench. Remember that this isn't a head bolt on a Chevy. After warm up, and cool down, check them again for the last time. They should be about up to half of a turn loose if installed correctly. Note!!! Let the silicone do its job, never over tighten, that would be installation abuse!!!!! Now the manifold installation is all done. SEE trouble shooting for seal check

F: There is now a video of just the manifold installation on the web page for downloading just so you get the idea and these paper instructions are true.

CARB INSTALLATION

A**:** The new rubber intake boot is pre installed for you.

(AIS) With the dual system you have front & rear ½ inch chrome tubes from the exhaust pipes can now be removed and plugged, (a 10MM fine thread will tap itself nicely) or just simply cut them back one inch a squish then in a vise and re install. This is the (AIS) air induction system and is no longer needed and can be eliminated. This will make a difference in performance and also will clean up the engines appearance's dramatically

B**:** Now the carb is ready to install: insert carb into the rubber intake boot (use oil to promote) rotate to feel it seal and clamp it up easy. There is a vacuum port rubber plug on the side if needed.

There are 2 slide body vent hose's on the carb, never block them, and one float bowl over flow hose, the 3 can be placed along the back side of oil lines facing towards the rear of the engine and cut off neatly then the heat from the engine will make them conform to shape of the engine galley towards the left rear side of the bike in case they ever have to over flow away from the exhaust. Again, make sure there not obstructed or blocked off, DO NOT use twist tie's, this will cause the carb not to function, everything has been pre adjusted, and ready to go, again, important check for vacuum leak on the manifold, DON'T even try to adjust the carb, re install the manifold. It can be removed by using a 1 inch putty knife shaved to an edge, and gently tapped with a 6 oz hammer going from front to rear

C**:** Depending on what bars your using the throttle cable may have to be re-routed to give enough slack, so when turning the handlebars, it won't pull the gas on by mistake, and rev up the engine. The choke cable can be eliminated all together, since there is a manual button/cable for cold start up's only

D**:** Now that everything is hooked up, you must prime the float bowl. Turn the fuel tap to the on position to feed the fuel to the float bowl & gently tap the float bowl, so the needle and seat doesn't stick otherwise you'll never get it to run. Your model has an electric fuel pump, turn the ignition on and off a few times until you do not hear any more click, click, click (the sound of the fuel pump pressurizing the system).

E**:** SPARK PLUGS: gap at .038 (new). This system was designed to use NGK. BPR 5ES NGK Stock # (7734) YES 5's NOT 7s

F: The engine has a crank case breathing system, on the front cylinder head cam shaft cover, attach a ½ inch heater hose, and direct it upwards, under the tank is good, and attach a small breather filter; there are many kinds, the simpler, and the better

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Additional installation information:

1: On the front cylinder, there is a bracket and grommet bolted to the cam chain tentioner simply with a pair of grips, bend it over 45 degrees to clear the carb when mounted. This can also be used for a support bracket for your air filter later. Do not remove it from the bike; otherwise you will have to re-set the cam chain tenstioner, real pain!
2: Throttle cables can be re routed to the right side, just above the ignition key if needed to give enough clearance when turning the handlebars, especially with custom bars
3: fuel line can be joined with a straight threw barb at the old "T" to the correct size of line 5/16 s
4: Factory choke cable can be removed completely.
5: When adapting whatever air filter you choose, either your factory one re worked, be sure it doesn't obstruct any linkages, including the accelerator pump rod
6: Replace the 4 Allen head bolts for the manifold with the hex head bolts supplied
7: Carb heater wires are not used & can be loomed and tucked away
8: California models 04 & newer and ALL 06 & newer are equipped with fuel cut off solenoids on the float bowls and are designed for the duel carb's on de acceleration to stop fuel from passing the main jet and are not used now, the ignition box need to think there still there, otherwise the yellow engine light will appear, in the kit is supplied a pair of 1 Watt, 10 ohm resistors, each wired to the 2 plastic plugs and soldered and both grounded to complete the circuit. This will trick the computer box to thinking there still there. Barons I believe sells a complete wire harness if you're not good with doing it your self

The TPS (*Throttle Positioning Sensor*) tells the computer the position of the throttle shaft, in relation to the engines RPM range.

In the factory configuration there are 3 wires, blue, and 5 volts. Black, ground, and the yellow, which is the reference point.

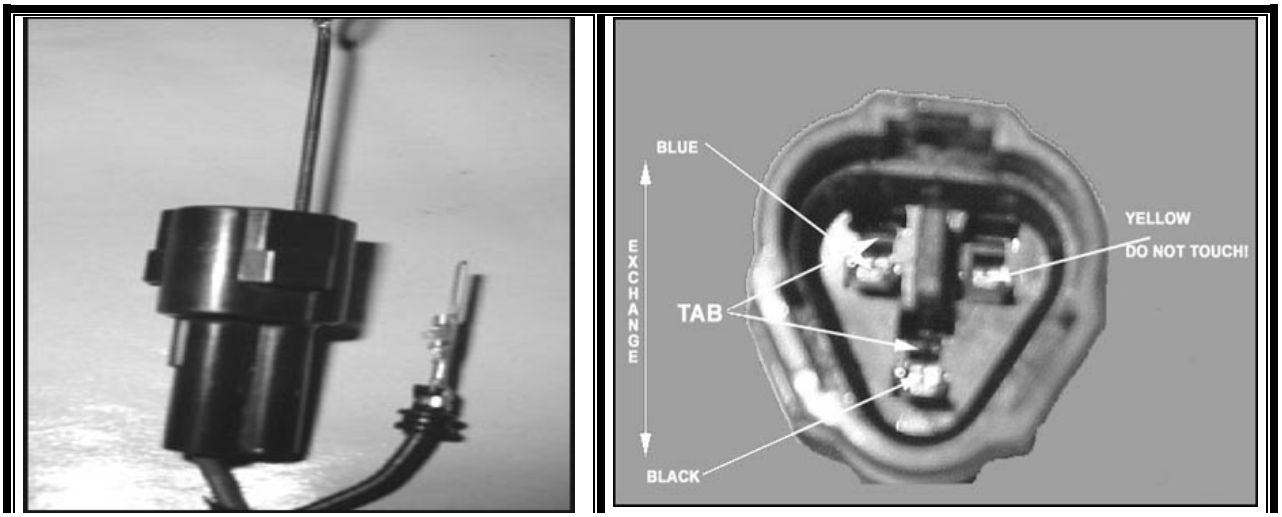
With the new location for this conversion, it now rotates in the opposite direction from the factory, by simply reversing the Blue and the black wires in the plastic housing, it will function properly. There is no need to move or modify the yellow wire.

Note: Never cut and splice these 2 wires, they come out of the plastic holder

Please refer to the photo: with a small pin, or jeweler's screwdriver, you want to release the plastic tab that retains the actual wire pin itself. The tab is part of the housing itself; it's not on the metal pin.

Place it against the wire pin, and bend the tab away, this will release it so it can easily slide out. You're just exchanging the Blue and the Black wires only.

Specifications for when you're ready to do the final carb assembly; Use a DIGATAL OHM meter set at 20K scale. Place the red led on the blue pin, black led on the yellow pin, be sure the throttle is in the closed position. Set the TPS so it reads between 0.56 – 0.86K Ohms. Turn the throttle full open, it should read between 3.01-4.51K Ohms.



V Star: Some models have on the float bowls, Fuel cut off solenoids. You'll have to hard wire in a pair of resistors, 10 ohms 1 watt resistors one to each pair of wire's and ground the other side, try and make your wire harness, so it tucks up under the gas tank and away from weather' What this does is tricks the ignition box, to thinking the float bowls are full, of course, the needle and seat, will do the rest
TPS Installation:

When removing the TPS from the dual carbs, they have two tamper proof screw's, they can be taken out with small grips, or a TX20, driver bit, and discard them. Also leave the brass colored plate attached to the old carbs; you don't need it when lining up the TPS.

You'll have to turn the inside of it to line up with the pivot shaft, and match up the 3 way groves, then using the two nuts, and bolts supplied, use the washers and nut on the inside only, install finger tight, you want to be able to open and close the throttle, watching the north, south, east and west motion, so

nothing binds. At the same time have the ohm meter readings within spec's, take your time, the TPS is made of plastic, and you don't want to split it, when satisfied, tighten easy.

START UP TIPS

A**:** When engine is cold, turn the idle screw up 2 ½ turns, and has you push the star button, pull choke button at the same time out just as the engine turns over, then release it within 5 to 20 seconds or as soon as possible, not to fowl the plugs let the idle warm it up, then re adjust the idle when hot
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B**:** This new system is more mechanical than automatic; attention to warm up is important. When starting the bike for the first time, **DO NOT REV IT UP**, let it idle for 20 minutes, the engine heat will help cure the silicone, and check for leaks before riding, see troubleshooting

C**:** Vacuum leaks are 99% of the cause of most problems; check the seal with Ether (quick start). It comes in a spray can, ETHER, no other product will do, with engine running, at no more than 1100 RPM spray it liberally 2 inch's all around the manifold sealing points, top and bottom, so it run's down the cylinder, it will evaporate within 2 seconds when the engine is hot If there is a leak through the silicone, the engine will change pitch, will probably smother the engine. Do take care in this operation. This is one way to tell if it's not sealing. You'll notice the difference right away! If you experience a leak, you will need to reinstall the manifold: Do not polish the inside of the manifold; it's balanced just the way it is!

D; The brass airscrew (PMS) is the only adjustment and only functions for the first parts of the carb system. PMS airscrew is pre set and marked on the carb body and can never go past 3 turns out. It is marked were it has been pre set by me If this section is rich, then turn the airscrew in 1/4-turn increments to find the sweet spot. Again, if you have a vacuum leak, this action will be futile

NOTE: When cleaning the plugs, never use a brass brush; it will coat the plugs with brass, always use steel wire brush or sand blast. REMEMBER, if a plug is badly fouled up inside, the carbon deposits, will make the plug run erratically, and will miss led you, replace it with new ones!!!

F**:** It should be noted that the new carb system does supply a good atomized charge, so the plugs under good condition will have a light color to them, the outside rim of the plugs will show darker, and half way up the electrode hook, or tip. This is normal. To compare: like a WW2 fighter, the cylinder heads should be 180 degrees before you go, 160 min, the manifold itself will run around 85 degrees, making the fuel charge cold & excellent for performance, it is cold blooded !

G**:** **This system is guaranteed to work, let the silicone do its job of sealing, over tightening the manifold's specific torque may result in cracking the flange, this is considered installation abuse, and there is no warranty. Again, please use common sense.**

CONCLUSION: I know it may be hard to control your excitement with this new system, but you'll have plenty of time to give it the works. Revving it up, will only loads the cylinders up with unburned gases, and thus you will not be able to judge the coloration of the plugs, which tell the tale. You know so-called trade secrets. It's my firm belief, you will be a carb expert, and should be proud of your accomplishment and enjoy the new throttle response & outstanding performance that this system delivers. Relearning to shift and throttle twisting will be a whole new experience. Some say that they don't look for a 6 th gear any more. Yours truly; Ken