



BA-2440VS

## NEEDLE/JET KIT - Yamaha V-Star 1100 Custom & Classic (99-10)

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Revision: 2.7 - 02/19/2010

Install Time: 2 Hours

CAUTION! We Strongly recommend that a qualified Yamaha Technician install this kit since the carburetors must be removed from the motorcycle.

### INCLUDED IN THE KIT:

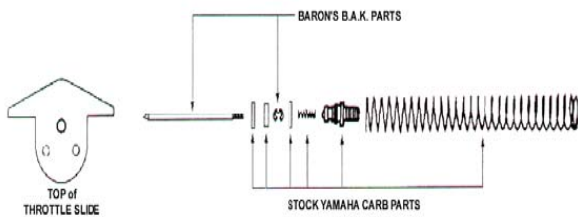
(4) Mikuni Main jets (107.5, 110, 112.5, 115)	(2) Baron Adjustable Needles
(2) Mikuni Pilot jets (2x22.5)	(2) "e" Clips
(8) Cap-head Allen Screws	

### TOOLS REQUIRED:

3, 4 & 5mm Allen Wrenches	Pliers (Std. & Needle-nose)
10 & 12mm Sockets	5/32" Drill Bit and Drill
10mm Open-end Wrench	Self tapping Sheet-metal Screw
Phillips & Flat Screwdrivers	Yamaha Service Manual

### INSTRUCTIONS:

1. You will need to remove and disassemble the following components: Fuel Tank - Factory Airbox - Carburetors per Yamaha shop manual procedures. *Note:* Always perform internal carburetor work in a clean area. Work on one carb at a time!
2. Remove the screws on the plastic cap of one carburetor, and pull the vacuum slide.
3. Remove the OEM needle, spacer and any washers that may sit under the stock "e" clip, noting order of assembly. (Note; washers are sometimes used as shims to raise the needle, each is equivalent to 1/2 clip position, if your bike has these washers then you must reuse them under the new "e" clip of the adjustable needles)
4. Counting from down from the top (The blunt end closest to the grooves) of the adjustable needle, install new "e" clip in the #4 slot of new adjustable Baron Needle.
5. Reinstall the OEM spacer and washers as shown in the figure below.



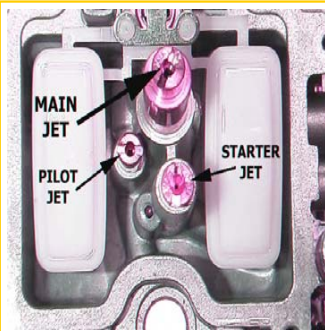
6. Reinstall the vacuum slide along with the diaphragm spring and reattach the diaphragm cover. Verify the slides maintain their full range of movement and do not bind.
7. Drain the fuel from the float bowls and remove the bowl covers. Take care as these screws are very soft and are prone to stripping, use the correct size phillips screwdriver and put firm pressure on the heads as you turn. Replacement allen screws are included in the kit.
8. Remove the OEM jets and replace them with Barons supplied Mikuni jets as indicated below. Make sure the front cylinder's carburetor gets the larger size main jet as indicated below.

**NOTE:** 2006-up bikes come with the proper main jets. They will flow more fuel with our needles but will require the included larger pilot jets.

**IMPORTANT:** Baron jet and clip recommendations best suit average riding. Differences in weather, altitude or modifications to your exhaust system may require jets other than those supplied.

Our install guides provide a basic outline on the proper installation of our products. Further tuning and/or fitment may be required. Barons bears no responsibility on installation costs associated with this product.

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USE THE FOLLOWING MAIN JETS AS INDICATED BELOW:

- Stock Air Filter/Pipes: 112.5 F 110 R
- Aftermarket Filter/Pipes: 115 F 112.5 R
- F=Front cylinder, R=Rear cylinder
- High altitude above 5000 applications may require the use of one size smaller/leaner jets.
- All 1100's use the richer Pilot Jets supplied in the kit.

9. Thoroughly clean the inside of the float bowls prior to reinstalling them.

10. Reassemble the carburetors by reversing the order of step #1 through step #9. Use the new supplied cap head allen screws in place of the OEM Phillips head screws for the float bowls.

11. Locate the air/fuel mixture screw in each carb. You will see either a screw head or a brass plug.



If it is a screw head, skip to step #11c. If you see a brass plug with a small hole in the center, proceed as follows:

- With a 5/32" drill bit, carefully and slowly drill through the fuel mixture plugs.  
**CAUTION!** The fuel mixture screw is directly under this plug. Be prepared to stop the drill the INSTANT you break through the plug or you may destroy the screw.
- Insert a self-tapping sheet metal screw into the drilled hole and remove the plugs.
- With air/fuel screw now accessible, use a flat blade screwdriver to turn the screw clockwise until it lightly seats, then carefully turn it counter-clockwise 4 turns.
- Refer to step #16 for assistance in fine-tuning the setting of the air/fuel adjustment screw. Do this to both carburetors.

12. Reinstall the carburetors.

13. Reconnect the fuel lines, ensuring the clamps are firmly in place.

14. Reinstall all vent hoses and electrical connectors that were previously removed, checking for any obstructions or blockage.

15. Reinstall the OEM air filter assembly or, if you are installing our Big Air Kit (BAK), follow the instructions that accompany that kit and then continue with step #16.

16. Verify proper throttle operation before starting the vehicle. Make sure the cables are not binding.

17. The adjusting procedure requires the use of carburetor sticks or a set of vacuum gauges. The carburetors must be synchronized in order to achieve optimum performance. This procedure should be performed by a qualified Yamaha repair technician. Verify that the air/fuel adjustment screw has been set to a starting position as described in step #11c, and that the clip has been installed as detailed in step #4. Check the engine at idle speed for any popping or back firing. For best results, we recommend the air/fuel mixtures be adjusted with an Exhaust Gas Analyzer (EGA) to a CO reading between 2% and 3%.

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