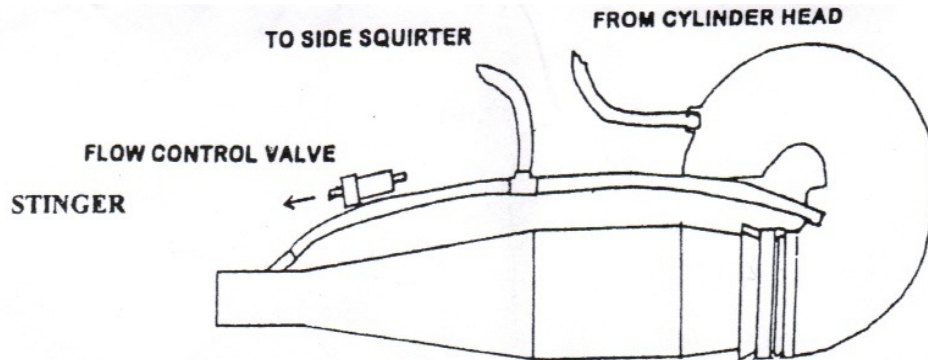




Performance

Flow Control Valve



Due to the nature of performance application, Jetworks shall not, under any circumstance be liable for any damages that may occur due to the misuse or incorrect installation of this product.

The Jetworks Flow Control Valve is designed to increase bottom end response by eliminating water flow to the water box at idle and slightly above idle speeds. It can be installed on any after market exhaust system, by using the water fitting at the stinger water inlet (See Diagram) **Always verify pressure before installing and make sure the flow arrow is pointing to the stinger on the exhaust pipe.**

To set the opening pressure, hold the hose on the inlet side of the valve and turn the hex part of the valve by hand. Turning clockwise will increase pressure and counter-clockwise will decrease pressure. You do not have to remove the hose clamps to adjust the pressure. To visually check water flow through the FCV undo the waterline at stinger while the craft is still tied down on a trailer submerged far enough to see water coming out through the bypasses. No water should be passing through at idle; water should begin exiting the FCV and into the stinger as soon as any amount of throttle would normally be applied while riding. Make sure the FCV Pressure is **never set too high** as not allow sufficient water to pass through when riding you PWC, this may cause over heating of your exhaust components.

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Read below for an article extract from a 1998 issue of Jet Sport Magazine

“Many racers who bought this product want to keep it a secret... but now Art Gomez of Jetworks Performance gives you the behind the scenes scoop on this performance device: The Flow Control Valve.

The Jetworks Flow Control Valve is for all personal watercraft that have aftermarket pipes. What the valve does is stop the water flowing at idle and off idle speeds into the stinger where it builds up in the waterbox and exhaust hoses. Normally this water has to be forced out upon sudden acceleration in order to get full exhaust flow.

Here’s how it works: At lower speeds, the water pressure in the water lines is low and the valve stops the flow to the stinger and raises the line pressure slightly. This improves response off the line and out of turns. At higher speeds, the water pressure rises and opens the valve to the stinger, allowing unrestricted flow of water. This creates a wall stream of water inside the stinger, thereby increasing the reflectability of the pipe in a similar way like a smaller diameter outlet would do.

Reflectability is how the sonic wave is returned to the exhaust port with more energy, energy that would have escaped through the outlet. What’s nice about the water stream is that it’s variable; as the back pressure increases, it will push the water aside.



Step 1: You have got the standard hose going from the headpipe to the stinger. Take note that most of the engine’s cooling water is run through this hose after cooling the engine and headpipe.



Step 2: When you cut the hose for the flow control valve installation, shorten it approximately one and a half to two inches (This is the length of the Jetworks flow control valve).



STEP 3

Step 3: Place the flow control valve between the hose ends with the arrow pointing toward the stinger. Tighten clamps. The valve is externally adjustable; you can turn the latter by hand without loosening the clamps.



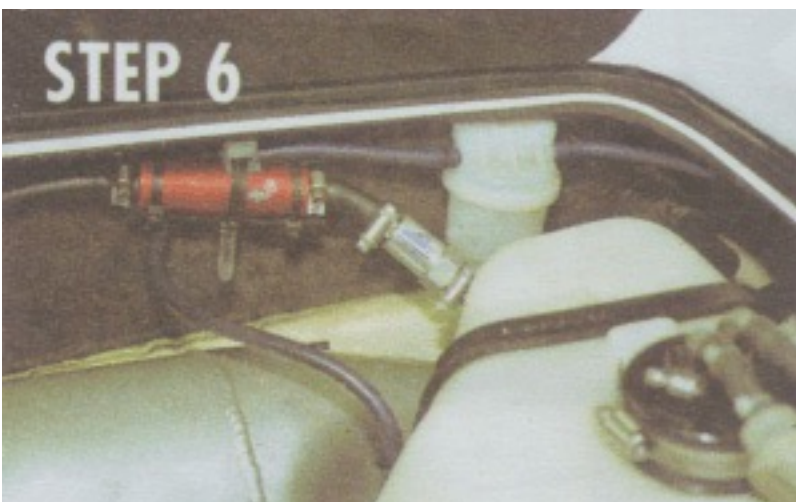
STEP 4

Step 4: Normally you want to run at four and a half PSI. The valve is adjustable so you can get it down as low as half a PSI or up to 16/17 pounds of pressure. You seldom have to run anything over 8 PSI. The water pressure in the cooling system is important because you have to take into consideration what is being bypassed. In other words, when would you run low PSI? Answer: If you are bypassing a lot of water. Triple pipe systems usually run two and a half PSI. One of the key things you want to remember is if you have a lot of water you're bypassing, you need to have low pop off on the valve. Remember, water always seeks the easiest path.



STEP 5

Step 5: In some applications of the flow control valve, you'll run a separate dedicated cooling line to the exhaust only. In those particular situations, you can run higher pressures. The pictured boat was set up at seven and a half PSI. By adding the valve and controlling the bypass and restrictor diameters, the valve can be used for complete water flow or pressure management.



STEP 6

Step 6: The advantages of a flow control valve over a solenoid system? The increased rpm in the top end is something that cannot be obtained when using an electronic solenoid to control the amount of water going to the stinger. Additionally, with a solenoid system, you've got more wiring, more connections, more moving parts that could go bad.

Why not increase rpm mechanically for less cost than the price of a solenoid itself? The flow control valve adds more water than the solenoid because the solenoid is limited to how much water it can flow, usually at 3/32 diameter orifice. In other words, the solenoid will not flow the amount of water needed in the top?end in order to increase the top end speed.

So, after I personally installed flow control valve, I can tell you beside the pipe, it is the best performance modification for the money! Added value and performance to your aftermarket pipe and, of course, your prized personal watercraft. And specifically, you will see some greater performance at the starting line as you wave bye, bye to the competition.”

Text by Jet Sports Magazine 1995