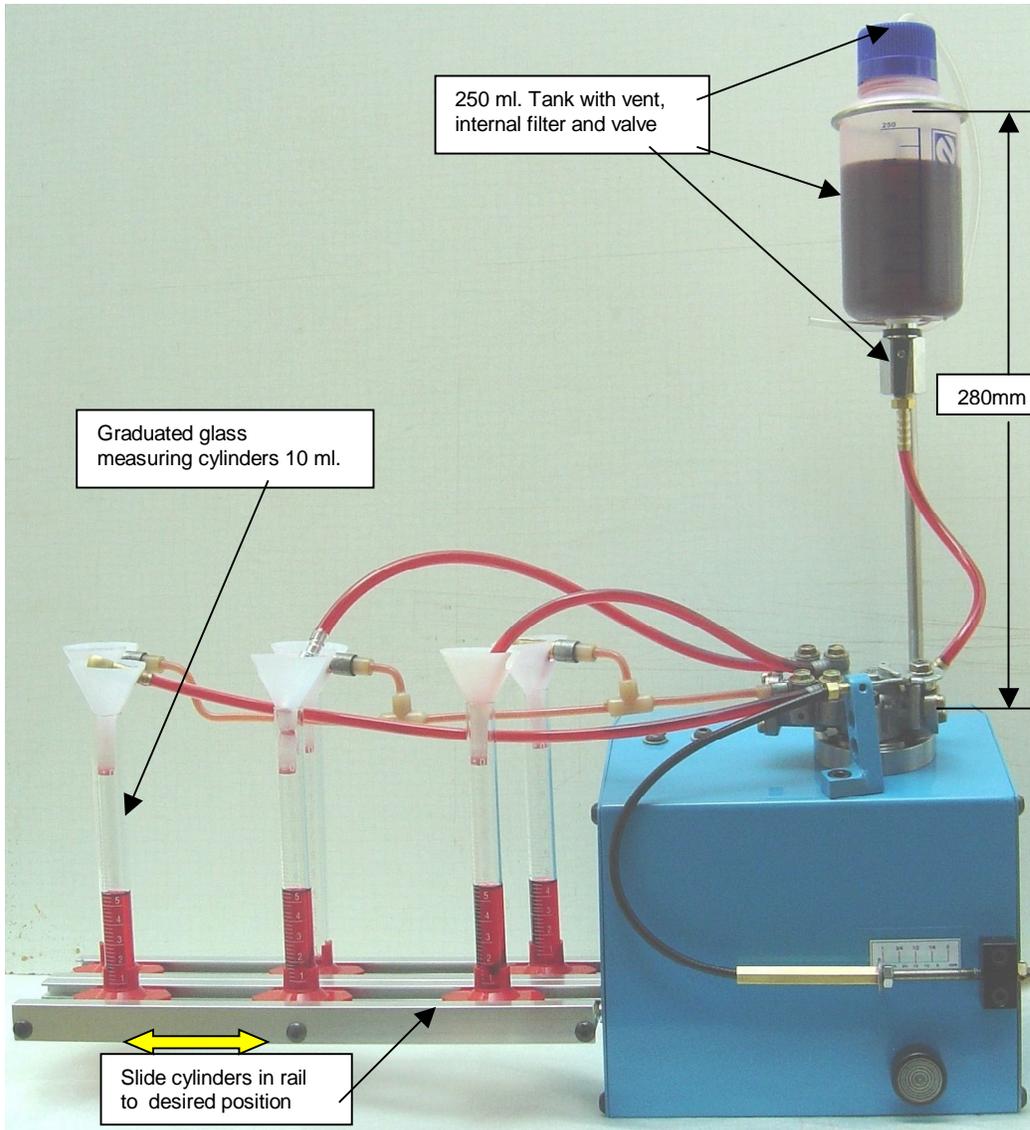


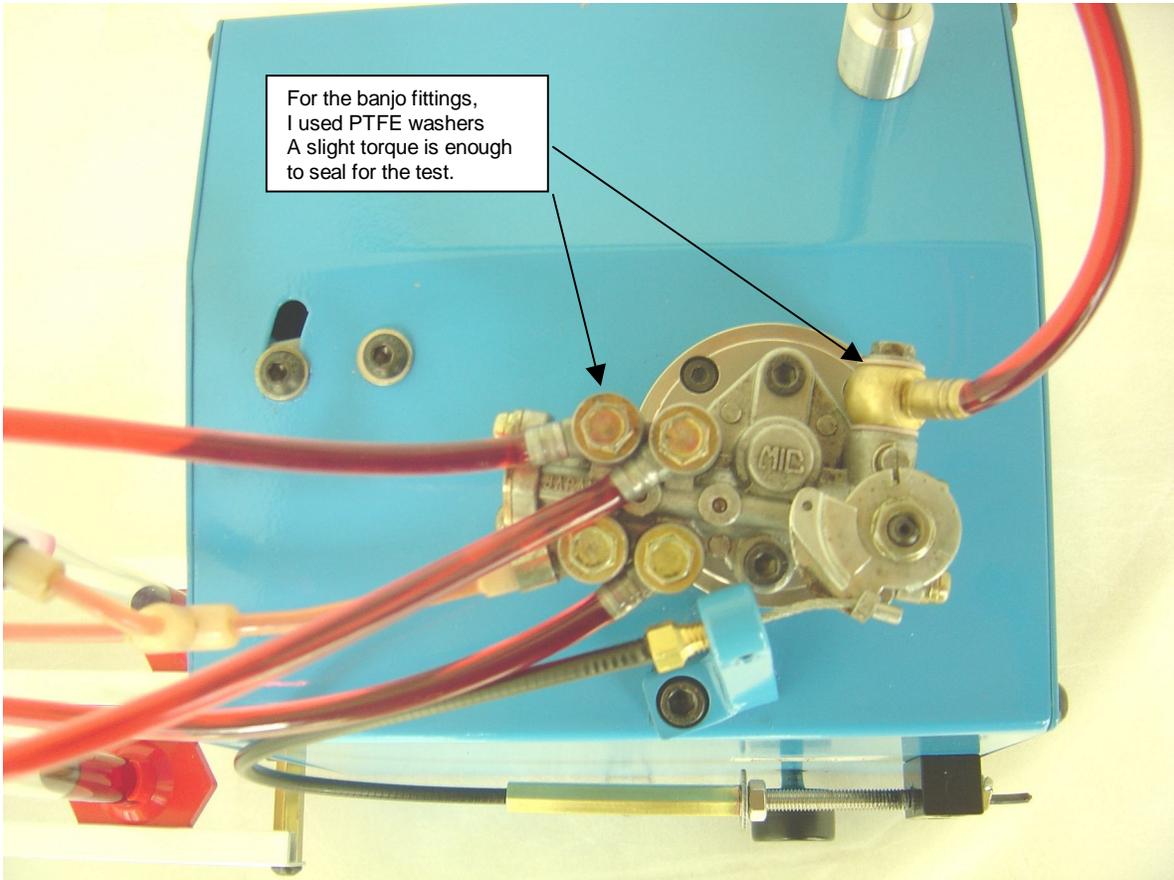
# PUMP TESTING

From: eng. Carlos A. Scorza – Brazil (kawasaki triples board member)

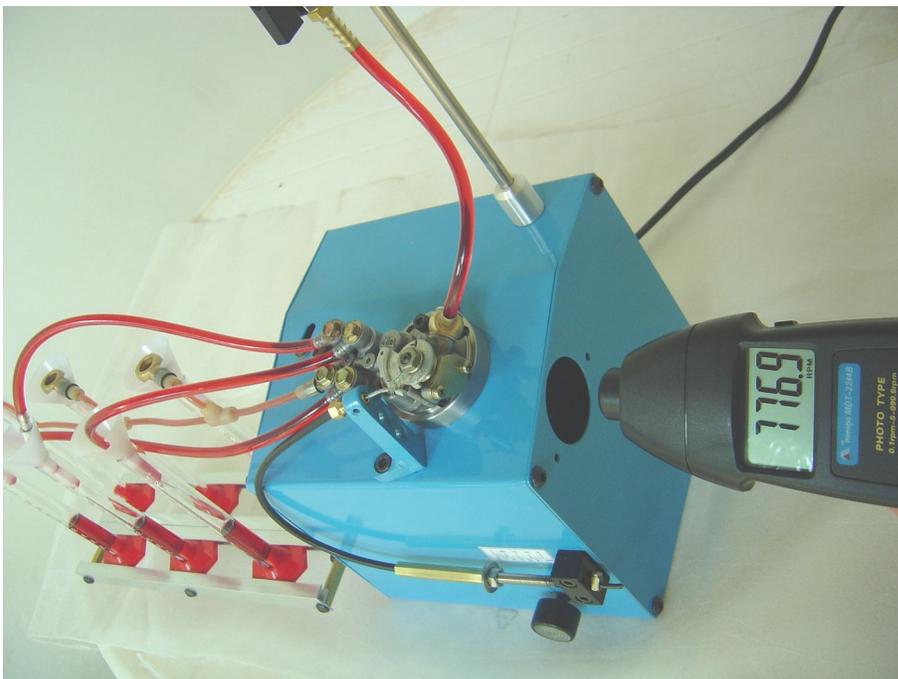
This is a simple test bench I made for testing Kawasaki triples oil pumps. It allows measuring flow of each output line at the given factory test speed specified in the shop manual.

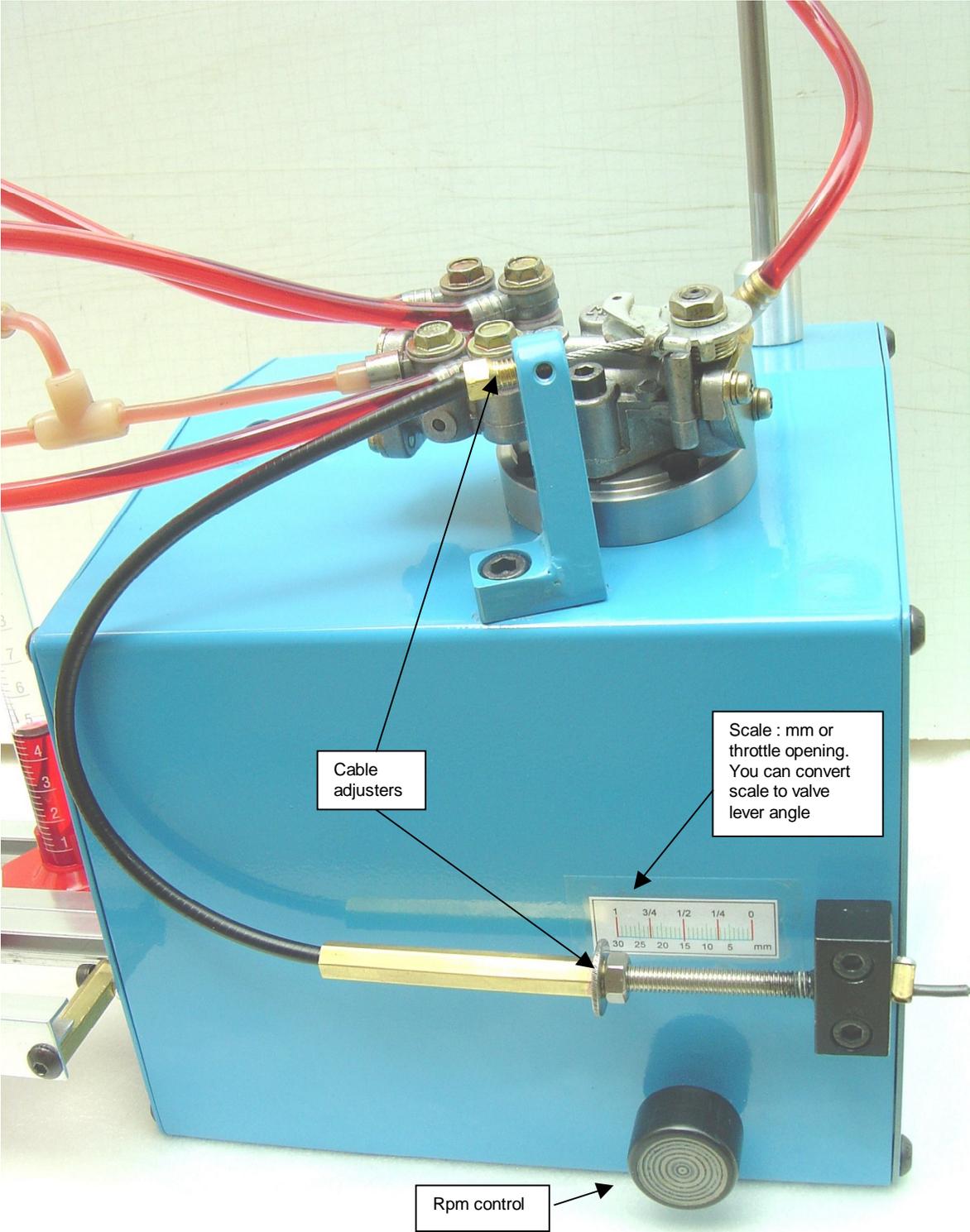
You can also build a curve of pump flow at different lever positions. Pump operation and check valves flow can be tested outside of the bike at precise speeds with no risk of damaging the engine and you can watch for leaks or noises.





Rpm is measured with a laser tachometer. Reflective tape is on driven pump pulley.



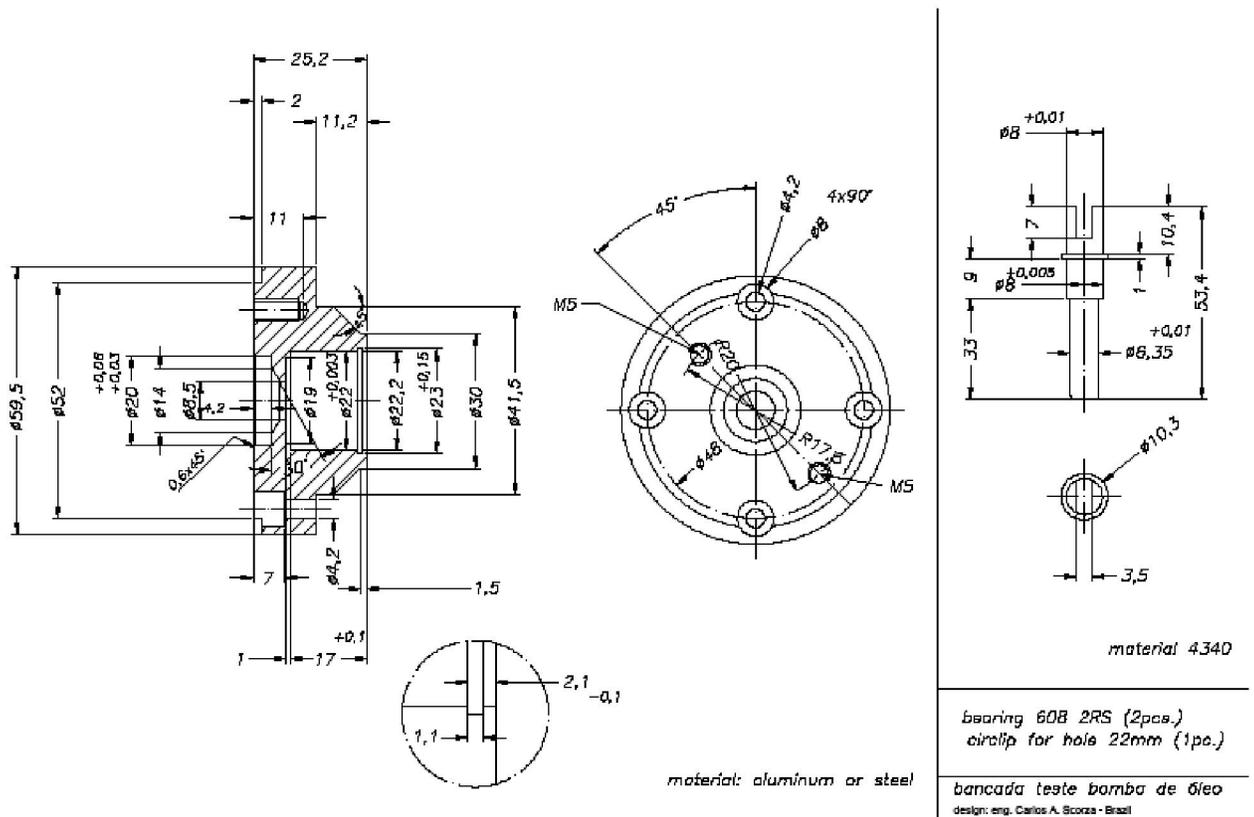


Cable adjusters

Scale : mm or throttle opening. You can convert scale to valve lever angle

Rpm control

Bearing head with shaft details. After assembly of these parts you will have the complete unit where the pump is attached with the drive shaft, exactly as if it was on the engine. Use the OEM gasket between pump and flange.



For the pump drive I used a low cost, home type sewing machine motor with speed regulator (I adapted it from foot type to a knob in panel); synchronized toothed belt and pulleys also available at a sewing machine shop.

Reduction used: 13 teeth pulley for the motor and 84 teeth for the pump shaft. This reduction allowed operation at test speeds from 100 to 1,900 rpm at the pump shaft.

Kawasaki specifies tests at 3,000 and 2,000 rpm in the shop manuals or service bulletins.

Don't forget that this is the rpm at the crankshaft and should be converted to pump shaft actual speed.

**2,000 rpm in the crankshaft = 776 rpm in the pump shaft**

**3,000 rpm in the crankshaft = 1,165 rpm in the pump shaft**

Hope this material is helpful. I'll post more on test results, separately.  
Carlos