



FREQUENTLY ASKED QUESTIONS FOR DUAL FLOW PCV VALVE DF-17 REVISION 1

BEFORE CALLING M/E WAGNER

M/E Wagner is available for technical support to assist you with your tuning application. **To provide you with the most efficient support, we ask that you read this Frequently Asked Questions document in its entirety before calling.** We have compiled the answers to the most commonly asked questions here.

If you do require technical support, **we ask that you gather the following information before calling.**

1. Are you using Fixed Orifice or Dual Flow mode?
2. If using Dual Flow Mode, what spring are you using?
3. What IDLE screw settings are you using?
4. How much manifold vacuum does your engine have at idle?

TUNING RELATED ISSUES

Problem: My vacuum gauge is not responding as expected when I tune the CRUISE circuit using directions in the *Shop Manual* (Dual Flow mode, steps 6 and 7). **TRY THESE BASIC SOLUTIONS FIRST before progressing into more specific troubleshooting!**

Solution 1: Ensure your vacuum gauge is working properly by connecting it to a known source of vacuum.

Solution 2: Pull the Dual Flow PCV Valve from the valve cover grommet and try the tuning procedure again. If the valve works normally, the fresh air inlet to the crankcase may be too restrictive. Also, make sure there are not any other sources trying to evacuate vapors from the crankcase (i.e. a second PCV valve, vacuum pump, etc.)

Solution 3: With the Dual Flow PCV Valve still in the valve cover for tuning, try removing the fresh air inlet breather or fresh air inlet line. If the valve works normally the fresh air inlet may be too restrictive.

Solution 4: Ensure you have removed the cross passage plug before installing the vacuum adaptor fitting to the Dual Flow PCV Valve.

Solution 5: Make sure you run the CRUISE screw through its entire range of travel. Start 10 turns out from flush (1/2" above flush), and turn slowly until the screw is flush with the top of the valve.

Solution 6: Make sure both the IDLE and CRUISE balls can move freely in their bores. Ensure that debris has not been picked up that may impede motion. Disassemble and clean if necessary.

Problem: My vacuum gauge is not responding as expected when I turn the CRUISE circuit screw (*Shop Manual*, Dual Flow Mode, step 6), **it is stuck on 0" Hg and will not move.**

Solution: The installed spring may be too light for your manifold vacuum level. If you are using the low vacuum spring, try switching to the high vacuum spring. If you have high idle manifold vacuum (18"+), note that the CRUISE spring may need to be turned in to almost flush with the top of the valve to get the valve to transition to CRUISE mode.

Problem: My vacuum gauge is not responding as expected when I turn the CRUISE screw (*Shop Manual*, Dual Flow Mode, step 6), **it is stuck on 3"+ Hg and will not return to 0" Hg.**

Solution: The installed spring may be too heavy for your manifold vacuum level. If you are using the high vacuum spring, try switching to the low vacuum spring. If you are already using the low vacuum spring try using fixed orifice mode.

Problem: I successfully tuned the CRUISE screw using a vacuum gauge (*Shop Manual*, Dual Flow Mode, step 6), but when I rev the engine to verify the CRUISE transition level (step 7) **the vacuum gauge will not jump off of 0" Hg.**

Solution 1: You may not be revving the engine aggressively enough. A very quick, aggressive rev of snapping the throttle to 1/2 to 3/4 open that makes the RPM rise briefly is preferred over a slower gradual rev that makes the RPM rise excessively. *The goal is to make manifold vacuum drop to verify the CRUISE circuit will come online.*

Solution 2: Try turning in the CRUISE screw 1/8 turn at a time and repeating this tuning step.

Problem: I successfully tuned the CRUISE screw using a vacuum gauge (*Shop Manual*, Dual Flow Mode, step 6), but when I rev the engine to verify the CRUISE transition level (step 7) **the vacuum gauge jumps off of 0" Hg, but then does not return to 0".**

Solution 1: Your CRUISE circuit setting may be set too close. Try backing out the CRUISE screw 1/8 turn at a time and repeating this tuning step.

Problem: My vacuum signal is very low or unsteady, and it causes the CRUISE ball to flutter.

Solution: If you are using the high vacuum spring, try switching to the low vacuum spring. If you are already using the low vacuum spring try using fixed orifice mode.

Problem: My Dual Flow PCV Valve responds to tuning normally, but I still have excessive crankcase pressure buildup under full throttle.

Solution: Make the fresh air inlet source to the crankcase less restrictive, i.e. change from 3/8" to 1/2" line from the valve cover to air cleaner, or try a less restrictive fresh air breather configuration.

Problem: When I back off the CRUISE screw 10 turns, the CRUISE ball is still forced against the seat and does not have any free play.

Solution: When using the low vacuum spring, this is normal due to the increased length of the spring.

(over for page 2 of FAQ)



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Problem: My automatic transmission vehicle surges or has idle speed inconsistencies when I put it in Drive after tuning the Dual Flow PCV Valve per the instructions in the manual.

Solution: Some vehicles may experience a large vacuum drop when put into Drive. Try backing off the CRUISE screw adjustment an additional 1/8 turn at a time to compensate for this.

Problem: My Dual Flow PCV valve was shipped to me with the CRUISE screw adjusted very high above the top of the valve.

Solution: This is normal. 10 turns out (1/2" above flush) is the default setting to ensure the CRUISE circuit is off for initial tuning.

PCV SYSTEM CONFIGURATION

Question: Is there a preferred way to mount my DF-17 valve with inline adaptor installed?

Answer: Although it may be mounted in any position ranging from vertical to horizontal, vertical installation is preferred. It should not be mounted upside down or any angle past horizontal.

Question: Can I put a T in my PCV line running from your PCV valve to the carburetor and run from the T to my brake booster?

Answer: No. You will disturb PCV airflow to the carburetor. Also you should never run blow by vapors to your brake booster.

Question: What is an acceptable manifold vacuum source where I should run the vacuum line from my Dual Flow PCV valve?

Answer: Most carburetors have a 3/8" fitting in the baseplate for a PCV valve. Check your carburetor shop manual for recommendations. It is also acceptable to run to a fitting in a carburetor spacer. If a fitting is not provided some spacer manufacturers have a specific location where they recommend you drill and tap to install a PCV fitting.

Question: Can I run my PCV vacuum line to a fitting on an intake runner?

Answer: No, this is not recommended. Ideally the PCV flow should be equally distributed to all cylinders equally. Feeding to one intake running will not accomplish this.

Question: I have a multi carb setup on my engine, can I run my PCV line to one carb?

Answer 1: If you have a (3) 2-barrel setup you can run your PCV line to the center carb base.

Answer 2: If you have a (2) 4-barrel setup with progressive linkage (idle and cruise on one carb) you can run to the carb used for normal driving.

Answer 3: If you have a (2) 4-barrel setup with straight linkage, splitting the PCV flow to both carbs is recommended.

Question: I'm using a roots blower, can I run a Dual Flow PCV Valve?

Answer: Yes. Most customers will connect the PCV valve above the blower. In this configuration the PCV line will never be under positive pressure, even under boost conditions.

Question: I'm running a centrifugal blower / turbocharger / blow through carburetor. Can I run a Dual Flow PCV Valve?

Answer: Yes. In this application the PCV line will be under positive pressure under boost conditions. We reverse flow test every Dual Flow PCV Valve to 30 PSI as part of our QC process. Our experience has shown that the Dual Flow's design has better backfire protection than any stock valve tested due to its check ball design. The user however should determine if any additional backflow check valves are needed. Our experience has shown us that some industrial check valves have good backflow resistance but are restrictive to PCV flow.

OIL CONSUMPTION RELATED

Question: Should I run an air-oil separator with in my PCV system?

Answer: If possible, yes. Running an air-oil separator reduces the amount of oil vapor recirculated through your engine, and also provides an excellent method for evaluating how much oil is being pulled through the PCV system.

Question: Can you recommend an air-oil separator part number?

Answer: We have used Moroso part number 85474 with excellent results. We don't have any business relationship with Moroso so you can be certain this recommendation is unbiased.

Question: Where should I put an air-oil separator in my system?

Answer: Between the PCV Valve and manifold vacuum source.

Question: How much oil consumption is normal with a properly baffled PCV system?

Answer: Based on projecting consumption data over an established inspection interval, our test vehicles would go over 5,000 miles before consuming a quart of oil through the PCV system.

Question: I am consuming excessive oil through the PCV system. Can you offer some baffle recommendations?

Answer: The following guidelines should be used for baffling:

- Maintain at least 3/8" of clearance from the underside of the PCV valve to the top surface of the baffle
- Maintain at least 3/8" of clearance from the baffle to the underside of the valve cover. More clearance is desirable if possible.
- See the Baffle Study on our website for more information
- PVC Reinforced Braided Vinyl Tubing can be used as a diagnostic tool. It is clear with a reinforcing braid, and can be purchased at your local hardware store. It provides visibility and allows you to see oil movement through PCV lines while the engine is running.