

Q: How can I perform an operational check of a mechanical fuel pump?

A: A quick check of a mechanical fuel pump can be made by simply working the priming lever to charge the pressure chamber of the pump ahead of the diaphragm, until the priming lever becomes completely free. If the engine has set idle for few days, it may take an extra stroke or two of the lever before the diaphragm has fully charged the pressure chamber within the pump. Wait for a minute or two, and work the priming lever again. If it is still fully free, it means that the pump is holding pressure, and is probably working properly.

A shortcoming of the quick check is that it could give a false "negative". If the pump does not appear to hold pressure, the pump could still be OK, but fuel could be forcing past the needle and seat of the float valve in the carburetor.

A more thorough check of the pump would be to remove the fuel line from the carburetor, and pump a couple pints of fuel through the pump and entire fuel supply system, using the priming lever on the fuel pump. Catch the fuel in a clean glass container and check for any sign of turbidity coming in with the fuel.

NOTE: If, when pumping fuel through the system, the fuel flow appears to contain air, or otherwise appears weak, but the pump still passes the following pressure check, there is probably a leak or restriction somewhere in the line (or filter) coming from the tank.

After the fuel clears, hold a finger over the end of the fuel line and work the priming lever again. The lever should feel limp after a couple of strokes as fuel builds up ahead of the diaphragm with no place to go. At this point, the activating spring of the diaphragm will be fully compressed, and until the fuel moves out of the pressure chamber of the pump (or leaks back past the inlet valve of the pump), the pressure should remain. Hold your finger over the line for 30 to 60 seconds (the longer the better), to be sure that the pump can hold pressure. If fuel pressure drops off after only a few seconds, the pump will more than likely need to be rebuilt.

If the pump passes the pressure check satisfactorily, it would be a good idea to remove the main passage plug from the bottom of the carburetor and pump another pint or two of fuel through the carburetor, catching it in the same clean glass container used in the pressure check of the pump. This step will flush any tiny particulates that might be lurking within the carburetor (especially within the float valve), and improve the overall reliability of the carburetor.