

User's manual

Petrol Pump Vacuum Tester 51986



Illustration similar, may vary depending on model

Please read and follow the operating instructions and safety information prior to initial operation.

Technical changes reserved!

Illustrations, functional steps, and technical data may deviate insignificantly due to continuous further developments.



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Introduction

Thank you for choosing to purchase this quality product. To minimise the risk of injury, we ask you to always take some basic safety precautions when using this product. Please read this operating manual carefully and make sure that you understand it. Keep these operation instructions in a safe place.

Product-specific safety instructions

- Before testing, untighten the tank cap to reduce the pressure of the petrol pump.
- Before testing the petrol system, check all connections for tightness to eliminate leaks.
- Do not exchange the connections with the engine running.
- Petrol is highly flammable. Do not perform tests near open flames or electric sources of sparks. Do not smoke while performing the test.
- Make sure that no fuel may touch the hot lines or other components of the engine.
- Do not move the vehicle while performing the test.
- When portable lighting is required, only explosion-proof tube light can be used.
- Read and follow all instructions found in the vehicle manufacturer's maintenance manual.
- After testing, stop the engine and release the pressure from the system before removing any testing component. Put absorbent cloths around the connection spots before disconnecting the connections. Wipe up petrol that have possibly been split and gather the cloths in a fire-proof container.
- Before storing, clean all rests of petrol away from the testing components.

Warning! The instructions of this user's manual cannot cover all circumstances or situations that could happen during use of the tester. Therefore, always use the device with caution.





AG = male thread; IG = female thread

Technical specifications

Petrol-pump pressure (bar)	approx. 0.7 (10 psi)
Engine vacuum (\"Hg)	28
Hose length (cm)	approx. 60

Operation

Warning! For the possible case of a fire, keep a dry powder extinguisher (class B) ready before connecting and testing.

Preparing the vehicle for testing

- Park the vehicle in a well-ventilated place. If the vehicle is parked inside a garage, make sure that its exhaust is directed towards the door. Always leave the door of the garage open.
- Put the control gear to the park/neutral position and apply the hand brake of your vehicle.

Testing the pressure of the petrol pump

With the components of this testing kit, you can control the petrol delivery pressure to the engine. The connections of the vacuum/pressure gauge are directly connected to the pump.

1. Release the pressure inside the petrol line of the vehicle. Refer to the vehicle manufacturer's maintenance manual for any instructions on how to release the pressure of the petrol line, to perform tests, to find the connection points, and to know the normal pressure values of the petrol pump.
2. Disconnect the petrol outlet line on the pump.
3. Use one of the adaptors included and the rubber hose to directly connect the vacuum/pressure gauge to the petrol pump.
Use a small quantity of pipe sealant or pipe thread sealing tape (not included) on the thread of the connection to prevent leaks. Tighten using a wrench (not included).

Warning! Make sure that all connections are tight to prevent any petrol leak.



4. Start the engine, let it idle, and immediately check for petrol leaks. If petrol is leaking, stop the engine and repair the leaks.
5. Read the value shown on the vacuum/pressure gauge to determine the correct pressure.
6. Switch off the engine. The value measured should remain for one to two minutes before falling to zero.
7. Put a cloth around the connection point of the hose before releasing the pressure from the petrol line. Then remove all testing components.
8. Re-connect the petrol line of the vehicle to the pump.
9. Wipe up any petrol that possibly has been spilt. Gather the cloths soaked with petrol in a fire-proof container.
10. Start the engine and immediately check for tightness. If petrol is leaking, stop the engine and repair the leaks.
11. Clean the testing components and replace them into the box.

Vacuum-testing the petrol pump

1. With the engine being stopped, disconnect the intake line of the petrol pump coming from the petrol tank. Have a towel ready to wipe up petrol that might have been spilt.
2. Connect the vacuum/pressure gauge to the intake connection of the petrol pump. Use the rubber hose and one of the adaptors included that fits to the inlet connection of the pump. Do not kink the rubber hose and make sure that no air can leak.
3. Adjust the throttle valve and idling until the temperature of the engine has reached its normal operating temperature.
4. Read the vacuum on the vacuum/pressure gauge. With the engine idling and the carburettor set correctly, the gauge needle will remain between 17 and 22 "Hg (green area of the gauge). The optimal value is 19.5. The values measured will vary according to the height. Refer to the vehicle manufacturer's maintenance manual to know normal and anomalous values as well as methods of adjusting and repairing.

You can diagnose other possible engine problems as follows:

- The pressure shown on the pressure gauge occasionally falling by 4 "Hg might indicate valves sticking together. Remove the rubber hose, put some drops of penetrating oil into the valve, and re-test. After the valves cease from sticking together, they must be cleaned.
- A constantly low value read on the gauge might indicate a burnt valve or burnt valves.
- The gauge needle quickly pulsating with the engine speed increasing might indicate weak valve springs or a valve badly fitting.
- The tester needle pulsating, though remaining constant with higher a speed, might indicate loose valve shaft guides.
- The tester needle slowly falling after the engine has been started several times every second might indicate a stuck silencer. A silencer not being stuck would cause the needle of the tester to occasionally falling to zero.
- The needle remaining at 12" Hg at any engine speed might indicate retarded valve timing.
- Test the starter by completely closing the throttle valve and starting the engine. The gauge needle should immediately increase to 22 "Hg (green area). The tester needle remaining between 3 and 6 "Hg might indicate a riser pipe burnt or a throttle valve not being closed. There might also be air leaks in the intake manifold system.

Testing the vacuum

1. With the engine stopped, connect the vacuum/pressure gauge as close to the intake manifold as possible. Use the rubber hose and one of the adaptors included as needed. Do not kink the rubber hose and make sure that no air can escape. Engines having two intake manifolds must be tested separately.
2. Start the engine and let it idle until its temperature as reached the normal operating temperature.
3. Read the value on the vacuum/pressure gauge.



With the engine idling and the carburettor set correctly, the gauge needle will remain between 17 and 22 "Hg (green area of the gauge).

The value slowly vacillating between 14 and 22 "Hg indicates the need of the carburettor to be adjusted or the presence of other engine problems. Refer to the vehicle manufacturer's maintenance manual to know normal and anomalous values as well as methods of adjusting and repairing.

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