

Vacuum / Pressure pump set PRO-538771321

Instructions for use

In addition to being a hand-operated vacuum pump, the hand-operated vacuum pressure pump is fitted with a bypass that allows it to be used in both vacuum and pressure positions.

Vacuum position

In this position it is possible to measure the vacuum exerted directly on a diaphragm, while the engine is running, and without any manual operation. With the engine turned off, and while a vacuum is being exerted on the same elements, it is then possible to check that these elements are properly working.

Pressure position

In this position it is possible to measure any pressure exerted up to 1.5mbar while the engine is running. When the engine is off, if the pump handle is squeezed, there is sufficient pressure to check whether the diaphragms are working correctly or not. The press/ vac pump is fitted with a pressure gauge with a measuring capacity range from – 1000mbar/0/ +1500mbar.



Points to note

When using the hand-operated vacuum pump, make sure no fluid gets into the pump cylinder. A vacuum pump is not a fluid pump. Fluids are transferred using the containers supplied in the kit. To avoid damaging the pressure gauge mechanism, vacuum must not exceed 950 mbar. Pressure must not exceed 1.5 bar.

Maintenance recommendations

In case of accidental hydrocarbon injection (gasoline, fuel oil) into the pump: take pump apart and carefully clean all components in soapy lukewarm water. Components must be properly cleaned and dried. Lubricate piston end with a silicone lubricant and reassemble the pump.

APPLICATIONS

A. Checking membrane on gas pressure regulator

Disconnect the pipe coming from the inlet manifold. Plug pump at the vacuum inlet to the regulator. Pump until a vacuum of 600 mbar is reached. Make sure the pressure gauge needle holds for at least 10 seconds. If vacuum does not hold, change the regulator.

B. Control of vacuum advance curve

Hold engine speed at 2500 rpm. Disconnect vacuum hose from cap. Plug pump on distributor cap. Choose "D" as reference point of maker's initial setting. Read centrifugal advance. Pump until vacuum is reached. Hold engine speed again. Read total advance (centrifugal + vacuum) and write it down. The difference between total and centrifugal advance is the vacuum advance. If values read exceed those indicated, check distributor on test bench.

C. Control of the wastegate working

Disconnect tube of relief valve. Plug in the pump instead. Put the pump lever in pressure position. Pump until a pressure between 920 and 980 mbar is reached. Using a comparator, measure the transfer of the control rod which must be in the 0.36 0.40mm range.

D. Control of an EGR valve

Disconnect hose from EGR valve located on the inlet manifold. Plug vacuum pump on valve. Start engine and let it idle. Pump to reach a vacuum of approximately 200 mbar. If vacuum holds and engine stalls, the EGR valve is working properly. If vacuum drops without the engine stalling, replace EGR valve. If vacuum holds without the engine stalling, remove valve and make sure it is not clogged; do the same for the inlet manifold. Double check.

E. Control of a servo brake diaphragm

Disconnect hose between the servo brake and the inlet manifold, or the vacuum pump in case of a diesel engine. Plug pump on hose. Pump until maximum vacuum is reached. Make sure pressure gauge needle holds for at least 20 seconds. If not, replace servo brake.

F. Brake circuit bleeding

Use the bleeding kit containing the pump, container and bleeder adapters. Loosen bleeding screw of receiver cylinder one & a half turns. Place correct adapter on bleeding screw and plug in both the pump and container. Pump out to suck the brake fluid into the container and frequently check the level in the master cylinder jar. When fluid comes out bubble free, tighten bleeding screw and disconnect fitting. Proceed likewise on the other wheels. Check braking efficiency.

G. Checking membrane on injection pump (LDA Diaphragm)

Disconnect the tube coming from the inlet manifold. Plug in the pump instead using the connection provided in the kit. Place pump lever in pressure position. Pump until a pressure of 600 to 700 mbar is reached. Pressure must hold for at least 30 seconds. If pressure does not hold, replace diaphragm.

H. Control of assistance vacuum pump.

Disconnect hose linking the vacuum pump to servo brake. Plug in pump on hose. Start engine and run it at 2000 rpm. Pump pressure gauge must read a pressure higher than 770 mbar. If not, replace vacuum pump.



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