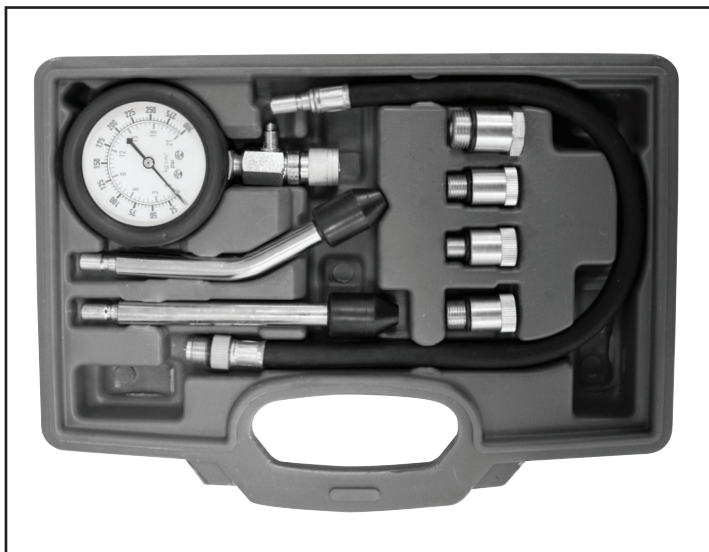


amtech®

automotive compression tester kit

Stock Code: J2905

INSTRUCTION MANUAL & SAFETY GUIDE





IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. PLEASE NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS AND CAUTIONS. USE THIS PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY. PLEASE KEEP THE INSTRUCTIONS SAFE FOR FUTURE USE.

AUTOMOTIVE COMPRESSION TESTER KIT

Stock Code: J2905

SAFETY:

Warning! Ensure all Health & Safety, local authority and general workshop practice regulations are strictly adhered to when using tools.

- This compression tester kit is only suitable for petrol engine vehicles.

- DO NOT use the compression tester if damaged.
- Ensure the equipment is in good condition for best performance.
- Wear approved eye protection. A range of personal safety equipment is available from Amtech.
- Wear suitable clothing to avoid snagging. DO NOT wear jewellery and always tie back long hair.
- When not in use, place in storage case and store in a safe, dry, childproof area.
- The ignition supply must be immobilised during compression testing to prevent the engine from starting.

Important: Always refer to the vehicle manufacturers service instructions, or workshop manual, to establish the current procedure and data. These instructions are provided as a guide only.

Warning! The warnings and instructions referred to in this manual cannot cover all possible usage conditions. If in doubt as to how to use the product or interpret the results consult a qualified auto engineer or garage.

INTRODUCTION:

Compression tester fitted with a pressure gauge reading up to 300psi and 20kg/cm² (Bar). The kit includes straight and angled push fit connectors, flexible air hose and 10, 12, 14 and 18mm spark plug adaptors. Supplied in storage/carry case.

OPERATION:

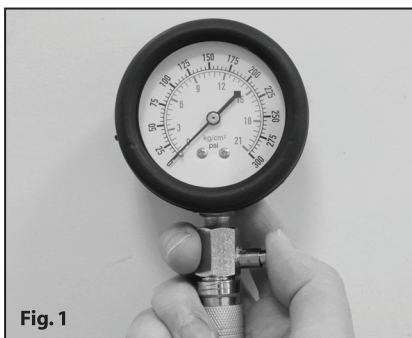


Fig. 1



Fig. 2

Test procedure

Warning! Always release the pressure via the Release Valve before disconnecting the tester.

Press the release valve slowly to release the pressure gradually. Refer to Fig 1.

Note! A variation in compression readings between cylinders is often a better indication of engine problems than the absolute values of compression.

- Run the engine until it reaches normal operation temperature.
- Stop the engine and disconnect all spark plug wires, numbering them according to the cylinder to which they were connected.
- Loosen all spark plugs by about half a turn, but do not remove them.
- Using an air hose or wire brush, remove all the dirt and debris from the spark plug wells.

test procedure (continued):

- Remove the spark plugs and clean them on a clean, flat surface in the cylinder order in which they were removed.
- Remove the air filter and set the throttle to the wide open position, taking care not to damage the linkage or throttle components.

Important! After test, failure to return the throttle to the closed position before starting the engine can cause serious damage to the engine.

- Disconnect the 12V ignition supply, following the manufacturers recommendations in the vehicle servicing manual.
- Select the spark plug adaptor required for the vehicle. Screw the adaptor to the hose. Screw the spark plug adaptor and hose assembly into a spark plug well. Hand tighten only. DO NOT use a wrench. Refer to Fig 2.
- Connect the coupling on the gauge to the hose. Ensure the coupling is fully engaged.
- Crank the engine for at least five complete revolutions, or until the pressure reading on the gauge stops rising.
- Record the compression reading, then push the side release valve to relieve the pressure.
- Repeat the test and record the reading. Relieve the pressure and remove the hose and adaptor from the spark plug well.
- Repeat for the remainder of the cylinders.
- For certain types of engines it may be easier to connect one of the push on connectors directly onto the gauge coupling. Select either the straight or angled stem for easiest access.

TEST RESULTS:**Gauge readings**

- On a normal cylinder, the gauge needle should travel round the scale on each compression stroke until it reaches a peak value. All cylinders should indicate a pressure that is within the vehicle manufacturers specifications, and the reading should not vary by more than 10% max. from cylinder to cylinder.
- If the gauge needle does not travel round the scale or if it remains at the same value for several strokes and then starts to climb, the problem could be a valve sticking.
- If the compression reading is considerably higher than the vehicle manufacturers specification, the problem may be carbon build-up in the cylinder. It may also indicate that either the piston, or the cylinder head, has been modified.
- If a reading on two adjacent cylinders is 20psi (or more) lower than the other cylinders, the problem may be a cracked cylinder head or defective main gasket. Under these conditions, both coolant and oil may be found in both cylinders.
- If the readings are low, or vary widely between cylinders, you need to carry out a wet compression test. Pour a small amount of light engine oil (SAE 30) into each cylinder and retest them. If the readings increase considerably, the problem may be poorly seated, or worn, piston rings. If the readings remain about the same, the valves and/or associated components may be the problem. A burnt or damaged piston may also cause the same results.

COMPLETION OF TESTS:

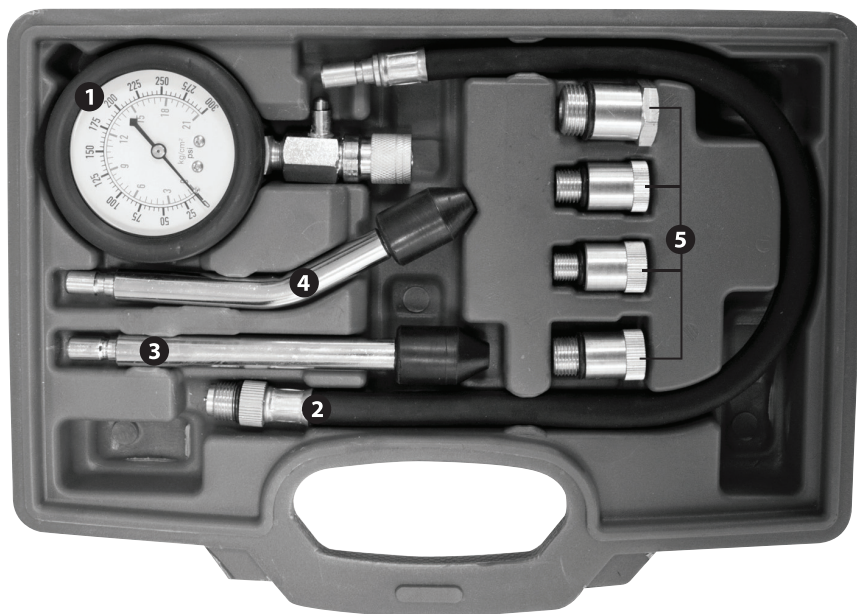
- Clean, re-gap and reinstall the spark plug in the same order in which they were removed, or install new spark plugs.
- Reconnect each spark plug lead to the plug it was connected to prior to removal.
- Return the throttle to the closed position.

Important! After test, failure to return the throttle to the closed position before starting the engine can cause serious damage to the engine.

- Reconnect the 12V ignition system supply wiring as stated in the test procedure paragraph above.

For detailed contents please see Fig 3 on page 3.

Fig 3.



- 1. Pressure gauge
- 2. 46cm flexible air hose
- 3. Push fit connector - straight
- 4. Push fit connector - angled
- 5. Spark plug adaptors (10, 12, 14 & 18mm)

WARNING: Using tools can be dangerous.
Always take care and keep away
from children. Wear protective
eyewear in work area at all times,
Always wear work gloves. Select
the correct type and size of tool
for work/application.

IMPORTANT:

No liability is accepted for the incorrect use of the product. Whilst every effort has been made to ensure accuracy of information contained in this manual the DK Tools Ltd policy of continuous improvement determines the right to make modifications without prior warning.