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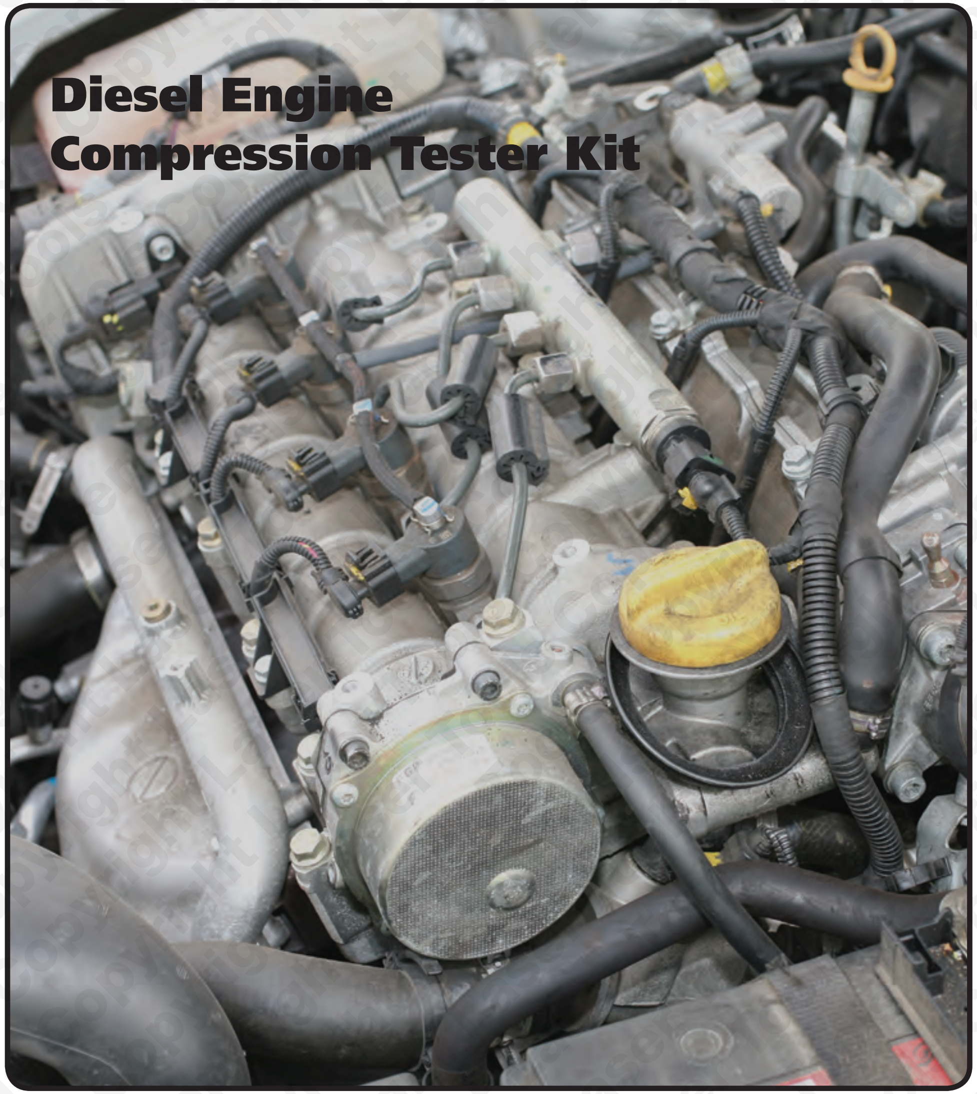
LASER®

Part No. 2596

Diesel Engine Compression Tester Kit



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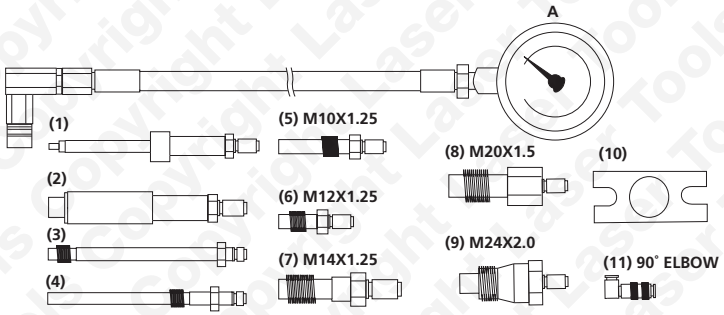
Plan Layout



Contents

Item	Description	Overall Length	Gauge Diameter	Scale
A	Gauge Assembly	560	83	0-1000 psi/0-70Kgcm
Item	**Description**	**Overall Length**	**Thread**	**Outside Diameter**
1	Stanadyne Dummy	112	N/A	19
2	Dummy Injector	114	N/A	21
3	Glow Plug Adaptor	114.5	M10 x 1.25	
4	Glow Plug Adaptor	119	M10 1.0	
5	Glow Plug Adaptor	73.5	M10 x 1.25	
6	Glow Plug Adaptor	54	M12 x1.25	
7	Glow Plug Adaptor	72	M14 x 1.25	
8	Dummy Injector	78	M20 x 1.5	
9	Dummy injector	64	M24 x 2.0	
Item	**Description**	**Length**	**Width**	**Hole Diameter**
10	Clamp Plate	63.5	25	17
11	90° Elbow			

Applications

BMW, Citroën, Dacia, Daihatsu, Fiat, Ford, Isuzu, Land Rover, Leyland Daf, Mazda, Mercedes-Benz, Mitsubishi, Nissan, Opel, Peugeot, Renault, Rover, Seat, Toyota, Vauxhall, Volkswagen, Volvo

Glow Plug	Vehicle Manufacturer
1	Ford Transit
2	Ford Transit
4	General Motors I Isuzu I Land Rover
6	Alfa Romeo I Bedford I BMW I Citroën I Fiat I Ford I Mercedes-Benz I Opel Peugeot Renault I Seat I Vauxhall
7	Citroën I Fiat I Land Rover I Opel
9	Audi I Citroën I Ford I Mercedes-Benz I Opel I Peugeot I Renault I Vauxhall Volkswagen I Volvo

Instruction

The Laser Diesel Engine Compression Test Kit 2596 is a comprehensive tool kit for checking the condition of diesel engines on most cars and small boats fitted with diesel engines.

It tests for compression loss resulting from worn valves and valve seats, valve guides, piston rings, cylinder head and gasket seals.

Test Procedure

Check the battery condition before cranking tests. Approx. 8-10 cranking cycles should be enough to indicate the cylinder pressure. For running tests, start the engine and perform the compression test at idle or full revs if required.

CHECK MANUFACTURERS SPECIFICATION AGAINST RESULTS.

This method is the preferred test method as it avoids damage to the injector and fuel system contamination.

1. Run the engine and warm up to normal running temperature
2. Disconnect the supply to the heater plug relay, remove glow plug from cylinder and fit the appropriate dummy glow plug.
3. When cranking the engine stop the fuel supply by either disconnecting the fuel pump solenoid or manually by using the PULL TO STOP knob. (When running tests are required unfasten the fuel line from the appropriate injector and fit the plastic hose over the end to re-direct the fuel into a suitable container.
4. Couple the tester assembly on to the dummy glow plug
5. In order to repeat the test on the same cylinder, the gauge pressure can be released by pressing the relief valve button.
6. To repeat the test on other cylinders, stop the engine and connect as appropriate.

A comparison of pressure readings from each cylinder is a better guide to condition of valves or piston rings than a single cylinder test.

Included in the test kit is a precision gauge, conforming to BS 1780, with a range of 0 - 1000 psi and 0 - 70 kg/cm. It has a rubber shroud for durability and to protect against damage. The gauge incorporates an exhaust valve to enable repetitive tests to be carried out without the need to remove the gauge.

A range of dummy injectors and glow plugs covers most European and Japanese vehicles, which are connected to the gauge by a quick release system.

IMPORTANT: Always wear eye and hand protection when using the Laser Diesel Engine Compression Test Kit.

DUMMY INJECTOR METHOD

1. Run engine to normal operating temperature
2. Remove the appropriate injector. Fit the plastic pipe over the fuel line to redirect the fuel into a suitable container
3. When a crank test is required ensure the battery is fully charged as this could influence the results.
4. Crank the engine to clear away the port
5. Place the correct dummy injector in position using the clamp plate to ensure the mating faces are sealed.
   DO NOT OVER TIGHTEN
6. Couple the tester assembly on to the dummy injector
7. Start or crank the engine and perform the test – reading the display for the compression of that cylinder.
8. In order to repeat the test on the same cylinder, the gauge pressure can be released by pressing the relief valve button.
9. To repeat the test on other cylinders, stop the engine and reconnect as appropriate.

How to diagnose faults:

Check the pressure reading for each cylinder against the specification laid down by the engine or vehicle manufacturer in the workshop manual. Also, compare the pressure reading from each cylinder with all other cylinders.

If the pressure varies from the specified figure by more than 44 psi, the engine has a fault. Most diesel engines should give a pressure reading of about 308 psi, but check the manufacturer's workshop manual to obtain an accurate specification.

If the compression pressure is low, the fault may be: