

Operation Manual

Compression Tester for Diesel Engines

51292, 51293



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.

General safety instructions

- **Keep your working area clean, tidy, and well illuminated.** Untidy and badly illuminated working areas lead to accidents.
- **Keep bystanders, children, and visitors away from your working area** when you operate a device or accessory. Distractions may lead to loss of control of the device. Protect other persons present in your working area, e.g., by installing dividers or protective shields.
- **Always stay vigilant and concentrate on what you are doing.** Always use devices and accessories with caution. Do not use devices and accessories if you are tired or under the influence of alcohol, drugs, or medicine altering the consciousness. A short moment of inattention may lead to accidents and severe injuries.
- **Wear clothing adapted to the work to be performed.** Do not wear loose clothing, belts, or jewellery. Securely tie long hair together. Keep hair, parts of clothing, gloves, etc. away from moving parts; they might get caught by them, which might lead to accidents.
- **Ensure a safe stand hand keep your balance.** This will allow a better control of the device in unforeseen situations.
- **When using the device, use a safety equipment,** e.g., safety goggles, work gloves, etc.
- **Do not use devices by force.** Always use the device or tool adapted to the job to be performed. The appropriate device or tool will do a better and safer job if it is used according to the intended use.
- **Store devices, tools, and accessories that are not used out of children's or other untrained persons' reach.** They can be dangerous in untrained persons' hands.
- **Maintain and care for devices and tools with prudence.** Do not use any damaged devices or tools. Mark defective devices and tools until they are repaired to avoid them being used by others.
- **Immediately have damages repaired before using a device or tool.** Regularly check devices and tools for loose parts and fastenings, cracks or broken spots, and any other conditions that might impair proper use. Numerous accidents are caused by incorrect maintenance.
- **Only use accessories recommended by the manufacturer.** Using improper accessories is dangerous.
- **Only a qualified person should repair the device.** Repairs performed by unqualified persons might lead to a dangerous situation.
- **When maintaining a device, only use identical spare parts.** Using unauthorised accessories or disobeying the instructions might lead to injuries.

Special safety instructions

-  **Warning!**
 - Never exceed the maximum pressure of this device (70 bar/1000 psi). Exceeding the maximum pressure may lead to severe injuries and/or material damages.
 - Only use the compression tester in well-ventilated areas. A running engine generates harmful exhaust fumes that, being inhaled, may lead to severe respiratory diseases, a heart attack, or stroke.
 - The warnings, precautionary measures, and instructions of this operation manual cannot cover all possible conditions and situations. Therefore, always use the device with caution.
- Read and understand all warnings, precautionary measures, and instructions of the operation manual of the engine to be tested before using the compression tester.




- When you heat the engine up before the test, make sure that the gear mechanism is set to “park” or a neutral gear (with manual mechanism). Also make sure that the handbrake is engaged.
- Keep hands and fingers away from moving parts and heated-up parts of the engine.

Technical specifications


Item number		51292	51293
Accesso- ries	Adapter for injection nozzle thread	M18 × 1.5 M24 × 2.0 M24 × 1.5	M24 × 1.5 / 88 mm M22 × 1.5 / 73 mm M24 × 2 / 63 mm M20 × 1.5 / 75 mm
	Adapter for glow plug thread	M10 × 1.0 × 68 mm M10 × 1.25 × 54 mm M10 × 1.25 × 68 mm M12 × 1.25 × 45 mm	M10 × 1.0 / 91 mm M10 × 1.0 / 119 mm M10 × 1.0 / 113 mm M10 × 1.0 / 102 mm M10 × 1.0 / 83 mm M10 × 1.0 / 135 mm M10 × 1.25 / 64 mm M12 × 1.25 / 47 mm M22 × 1.5 / 118 mm
Display (bar)		0–70 (1000 psi)	
Hose length (cm)		36	

Before using the product

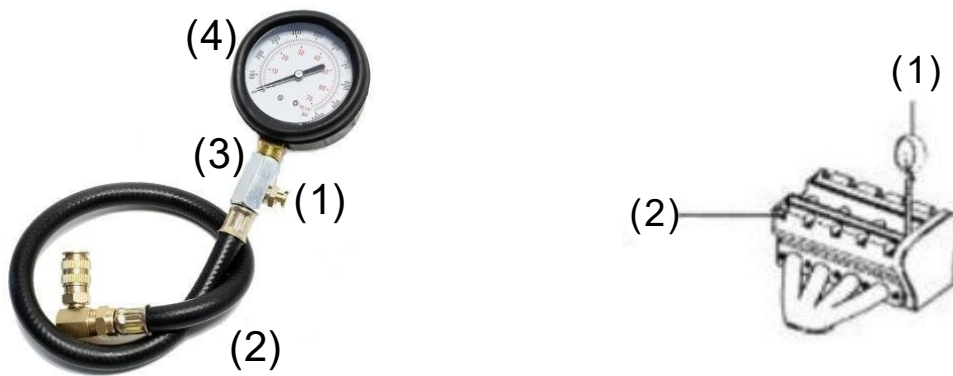
The model TU-15 serves as gauge of the highest pressure generated via the compression stroke inside the air cylinder of a diesel engine. It has numerous adapters for different specifications and connections that can measure the different types of diesel engines.

 **Attention!** Disconnect the injection unit from the fuel supply! No fuel must be injected for the motor could start and cause injuries!

- To perform a typical compression test, the engine is prepared for the test by being started and heated up to its normal operating temperature. Do not touch any hot parts of this device. Burning hazard!
- Make sure that the handbrake is firmly engaged and the engine is switched off before beginning work.
- Remove cables from injectors and injection nozzles. To do so, obey the manufacturer's instructions.

 **Attention!** Do not touch the live parts. **Danger of electric shock!**

- Remove injectors or glow plugs and obey the order of assembly and disassembly.



No	Name	No	Name	No	Name/description
1	Air outlet knob	3	Adapter connection	1	Pressure gauge
2	Hose	4	Pressure gauge	2	Remove glow plugs

Performing a compression test

Notes!

- Performing a compression test requires two persons, one of them operating the vehicle, the other operating the compression tester.
- A good cylinder compression of the engine is displayed with a high initial value and a progressive build-up until the final maximum value. A bad cylinder compression of the engine cylinder is displayed with a low initial value and a slower build-up until the final maximum value. The compression values for all cylinders of the engine should not vary by more than 10 %.
- Look up the acceptable pressure ranges in your user's manual or maintenance manual.

1. To perform a typical compression test, the engine is prepared for the test by being started and heated up to its normal operating temperature. Then switch off the ignition.



Warning! Never let the engine run inside a closed garage or another closed area!

2. If necessary, choose an appropriate adaptor and connect the hose of the pressure gauge to the thread of the injector or glow plug.
3. Either fix the adaptor connection or hose and the hose connections to the pressure gauge.
4. Start the engine and kick down the accelerator pedal. Floor it until the hand of the pressure gauge does not increase further on.
5. Observe and note down the maximum value shown on the pressure gauge.
6. As soon the maximum value is reached, do not start the engine any more. Then discharge the air pressure of the pressure gauge by pressing the air outlet knob.
7. Remove the compression tester from the first cylinder of the engine. Repeat the steps for the other cylinders of the engine.

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