SEALEY

THE TOOL COMPANY

Polarity Free Professional Battery Drop Tester 6/12V

OPERATOR INSTRUCTION MANUAL



Model No

BT91/7PF.V3

Important: Please read these instructions carefully. Note the safe operational requirements, warnings & cautions. Use the product correctly and with care for the purpose for which it is intended. Failure to do so may cause damage and/or personal injury and will invalidate the warranty. Keep these instructions safe for future use.

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Fig.1



1	Vents
2	Meter
3	Load Switch
4	Negative (-) Connection Cable
5	Positive (+) Connection Cable

1. Introduction

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions, and properly maintained, give you years of trouble free performance.

1.1 Intended Use

Designed to assess the condition of 6V and 12V lead-acid batteries and to assist in diagnosing vehicle charging systems. The tester applies a controlled load to the battery and provides a visual indication of battery condition through an analogue meter.

Applications

Battery condition testing
Battery load testing
Charging system evaluation
Individual battery cell testing (where applicable).

1.2 Description

American-style battery tester designed for quick and effective load testing. Polarity protected cables prevent damage from incorrect connection. Load applied via internal switchgear eliminates sparking during testing. Suitable for testing both 6V and 12V automotive batteries. Applies load across battery cells while measuring output on the integrated meter. Provides accurate indication of battery voltage and highlights faulty or short-circuited cells.

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Disclaimer: All errors and omissions excluded. It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice. See **www.sealey.co.uk** for the latest information.

Country of origin: China.

2. Safety Symbols



Refer to instruction manual



Wear eye protection



Wear protective gloves



Wear protective clothing



Warning! Corrosive substance



Warning! Explosive material



No open flames



Ventilate area when battery charging

3. Safety

DANGER! Be aware, lead acid batteries generate explosive gases during normal battery operation, for this reason, it is very important to read and follow these instructions carefully each time you use the battery tester. Follow these instructions in conjunction with those of the battery and vehicle manufacturer, and the maker of any equipment you intend to use in the vicinity of the battery. Remember to review warning marks on all products and on engines.

WARNING! Modern vehicles contain extensive electronic systems. You are required to check with the vehicle Manufacturer, for any specific instructions regarding the use of this type of equipment on each vehicle. No liability will be accepted for damage / injury, where this product is not used in accordance with all instructions.

3.1 Personal Precautions

- Ensure there is another person within hearing range of your voice and close enough to come to your aid, should a problem arise when working near a lead-acid battery.
- Wear safety eye protection and protective clothing. Avoid touching eyes while working near battery.
- Have fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
- Wash immediately with soap and water if battery acid contacts skin or clothing. If acid enters eye, flush eye immediately with cool, clean running water for at least 15 minutes and seek immediate medical attention.
- Remove personal metallic items such as rings, bracelets, necklaces and watches. A lead-acid battery can produce a short-circuit current which is high enough to weld a ring or the like to metal, which would cause severe burns.
- Ensure hands, clothing (especially belts) are clear of fan blades and other moving or hot parts of engine, remove ties and contain long hair.

DO NOT smoke or allow a spark or flame in the vicinity of battery or engine.

3.2 General Safety

DO NOT operate the load test switch for more than 10 seconds at a time. (Failure to release the switch after 10 seconds may result in the switch burning out and invalidating your warranty.)

- Familiarise yourself with the application and limitations of the tester as well as the potential hazards. Also refer to the vehicle manufacturer's hand book. **IF IN ANY DOUBT CONSULT AN ELECTRICIAN.**
- Ensure the tester is in good order and condition before use. If in any doubt do not use the unit and contact an electrician.
- Only use recommended attachments and parts. To use unapproved items may be dangerous and will invalidate your warranty.
- Ensure the tester load switch is 'Off' before attaching/detaching the power clamps to/from the battery terminals.
- Keep tools and other items away from the engine and ensure you can see the battery and working parts of engine clearly.
- Confirm that the battery to be tested is either 6 or 12 volt before attaching clamps to battery terminals.
- Should the unit suffer excessive shock, it must be checked by a qualified service agent before further use.

DO NOT disassemble the tester for any reason. The tester must only be checked by qualified service personnel.

- If the battery terminals are corroded or dirty clean them with a solution of water and baking soda before attaching the clamps.
- Keep children and unauthorised persons away from the working area.

WARNING! To prevent the risk of sparking, short circuit and possible explosion **DO NOT** drop metal tools in the battery area, or allow them to touch the battery terminals.

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⃠ **DO NOT** pull the cables or clamps from the battery terminals.

⃠ **DO NOT** use the tester outdoors, or in damp, or wet locations and **DO NOT** use within the vicinity of flammable liquids or gases.

- Ensure there is effective ventilation to prevent a build-up of explosive gases, and do not cover or obstruct tester ventilation louvres.

⃠ **DO NOT** use the tester for a task for which it is not designed.

- When not in use, store the tester in a safe, dry, childproof location.

4. Specification

Model No	**BT91/7PF.V3**
Battery Voltage	6V and 12V DC
Battery capacity range	12Ah to 500Ah
Load current	100A to120A
Meter range	0V to 16V
Meter Accuracy	Class 2.0
Test Method	Manual load application
Meter range	5 seconds
Nett Weight	0.993kg

5. Operation

! **WARNING!** Ensure you read, understand and apply the safety and operational instructions before connecting the tester clamps to the battery. Only when you are sure that you understand the procedures is it safe to proceed with the testing process.

5.1 Preparation

5.1.1 Check the battery casing for cracks, damage or leakage and confirm whether 6 volts or 12 volts.

5.1.2 Clean the battery terminals.

5.1.3 If practical, check the electrolyte levels and top up with distilled water as required.

5.1.4 Verify that the tester pointer returns to zero when not connected. If adjustment is required, use the zero-adjustment screw located on the rear of the meter.

5.1.5 Ensure the battery is fully charged.

5.2 Connection

! **WARNING!** Ensure the vehicle or battery is in a well ventilated area before starting to test.

5.2.1 Attach the clamps to the battery terminals. Use the extended clamps if necessary. To ensure good electrical contact twist the clamps on the terminals two or three times. Correct connection indication will sweep the pointer clockwise across the voltage scale. If there is no movement from the pointer, it is either a bad connection or a dead battery.

5.2.2 Ensure that the clamp cables are clear of hot or moving engine parts, especially if a starter or charging test is required. Ventilation slots in the tester casing should not be obstructed **(fig.1.1)** and the meter scale **(fig.1.2)** easily visible with access to the load switch **(fig.1.3)**.

Confirm that the meter responds when connected.

5.2.3 A sweep of the pointer across the voltage scale indicates correct connection.

5.2.4 No movement may indicate a poor connection or a fully discharged battery.

Ensure tester cables are routed clear.

6. Battery Load Test

6.1 Connect the tester to the battery.

6.2 Observe the battery voltage reading.

6.3 Press and hold the load switch **(fig.1.3)**.

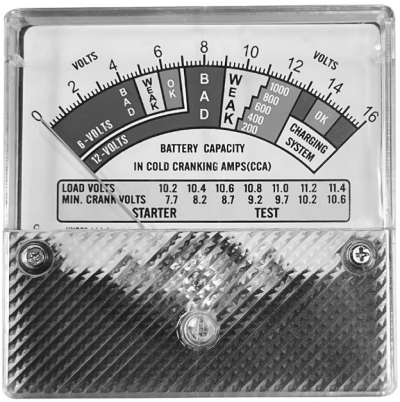
6.4 Maintain the load for a maximum of 5 seconds.

6.5 Observe the voltage reading while the load is applied.

6.6 Release the load switch immediately after the reading stabilises.

Interpreting Results

fig.2



Meter Zone	Condition
Green	Battery condition good.
Yellow	Battery weak, recharge and retest.
Red	Battery discharged or potentially faulty.

6.7 If the voltage falls rapidly into the red zone during the load test, the battery may require replacement.

7. Charging System Test

7.1 This test evaluates alternator and charging system performance.

7.2 Connect the tester to the battery.

7.3 Start the engine and allow it to reach normal operating temperature.

7.4 Increase engine speed to approximately 1200-1500 rpm.

⃠ **DO NOT** press the load switch.

7.5 Observe the meter reading.

Interpreting Results

Reading	Interpretation
Green Zone	Charging system operating correctly.
Red Zone	Charging system fault or insufficient charging voltage.

7.6 If the reading remains in the red zone, further inspection of the alternator, regulator, and wiring is recommended.

8. Individual Cell Testing

Where battery design permits access to individual cells:

8.1 Connect the positive test lead.

8.2 Place a probe across each cell in turn.

8.3 Observe the voltage indication.

Typical Results

8.4 Approximately 2V per cell indicates normal cell condition.

8.5 No reading or significantly lower voltage may indicate a defective cell.

📖 Ensure all connections are clean and secure before diagnosing a faulty cell.

9. Consumables & Accessories

A wide range of consumables and accessories are available.

Visit www.sealey.co.uk to explore our extensive range.

10. Maintenance & Storage

10.1 Store the tester in a clean, dry location.

10.2 Protect the tester from rain and excessive moisture.

10.3 Inspect cables and clamps regularly for damage.

10.4 Clean clamp contacts periodically to maintain accurate test results.

⃠ **DO NOT** attempt to repair damaged tester components. Replace damaged parts before use.

11. Warranty

- Guarantee is 12 months from purchase date, proof of which is required for any claim.

📖 Please note that guarantee claims must be made via the place of purchase where you may need to provide proof of purchase. All consumable items are under no warranty period. All warranties exclude general wear and tear and misuse, see our terms of business for more details.

12. Aftersales Support

We are committed to supporting our products throughout their lifetime.

- If your product is outside of the warranty period, we offer an extensive range of spare parts along with expert technical advice to help keep your equipment in working order.
- Our technical team is on hand to assist 8.30am-5.00pm Mon-Fri with fault finding, repairs and general product queries.

  Telephone 01284 757505

  Email: technical@sealey.co.uk

📖 If required, products can also be returned to Sealey or one of our authorised repair agents for inspection, servicing or repair at a reasonable cost.

13. Troubleshooting

Problem	Possible Cause	Corrective Action
Meter pointer does not move when connected to battery.	**Poor clamp connection.**	Clean battery terminals and reconnect clamps securely. Twist clamps on terminals to ensure good contact.
	Battery fully discharged or defective.	Verify battery voltage using a voltmeter. Recharge or replace battery if necessary.
Meter reading fluctuates excessively.	**Loose connection between clamp and terminal.**	Check and tighten all connections. Ensure clamps are firmly attached.
Meter reading appears incorrect.	**Dirty or corroded battery terminals.**	Clean terminals thoroughly and repeat the test.
Meter pointer does not return to zero when disconnected.	**Meter requires adjustment.**	Adjust the zero setting using the front adjustment screw located beneath the meter cover. Remove the two crosshead screws to access the adjustment point.
Battery tests in red zone under load.	**Battery discharged.**	Recharge battery fully and repeat the test.
Battery tests in red zone after charging.	**Battery capacity reduced or internal fault present.**	Replace battery.
Battery tests in yellow zone.	**Battery weak or partially discharged.**	Recharge battery and retest. If result remains unchanged, battery replacement may be required.
Charging system test remains in red zone.	**Faulty alternator, voltage regulator, or wiring.**	Inspect charging system and repair as necessary.
Tester becomes excessively hot during use.	**Load switch held for too long or repeated testing without cooling period.**	Allow tester to cool and follow the maximum test duration specified in this manual.
Tester cables become hot.	**Excessive current draw or poor connection.**	Stop testing immediately. Check connections and battery condition before retesting.
No indication during individual cell testing.	**Poor probe contact or open cell.**	Verify probe contact and repeat test. Replace battery if an open cell is confirmed.

Weee Regulations

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

Product Registration

It's quick and easy to register your warranty online at www.sealey.co.uk. Just log in or create a free MySealey account, then head to the 'My Products' section to fill out the short warranty registration form. If your product is advertised with a free extended warranty upon registration, this will activate your extended warranty.

Environment Protection

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

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