



6/12/24V DIGITAL START/STOP BATTERY & ALTERNATOR TESTER WITH PRINTER

MODEL NO: **BT2015**

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.

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.



Refer to instructions



Wear eye protection



Wear protective clothing



Wear protective gloves



Warning: explosive material



Warning: corrosive substance

1. 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 and those published by the battery and vehicle manufacturers, 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.

1.1. PERSONAL PRECAUTIONS

- ✓ Ensure that there is another person within hearing range 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 such items to the vehicle and cause severe burns.
- ✓ Ensure that 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 the battery or engine.

1.2. GENERAL SAFETY

- ✓ Familiarise yourself with the application, limitations and potential hazards of the tester. Also refer to the vehicle manufacturer's hand book. **IF IN ANY DOUBT CONSULT A QUALIFIED VEHICLE ELECTRICIAN.**
- ✓ Ensure that the tester is in good condition before use. If in any doubt do not use the unit and contact a qualified vehicle electrician.
- ✓ Only use recommended attachments and parts. To use unapproved items may be dangerous and will invalidate your warranty.
- ✓ Keep tools and other items away from the engine and ensure that you can see the battery and working parts of engine clearly.
- ✓ Determine the system voltage before using the tester.
- ✓ If the tester receives a sharp knock or blow the unit must be checked by a qualified service agent before using.
- ✓ If the battery terminals are corroded or dirty clean them before using the tester.
- ✓ Keep children and unauthorised persons away from the work area.
- ✗ **DO NOT** disassemble the tester for any reason. The tester must only be checked by qualified service personnel.
- ☐ **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.
- ✗ **DO NOT** cross-connect tester to battery. Ensure positive (RED) clamp is to positive terminal and negative (BLACK) clamp is to negative terminal. If battery symbols cannot be distinguished, remember that the negative terminal is the one directly connected to the vehicle bodywork.
- ✗ **DO NOT** use the tester outdoors, or in damp, or wet locations and **DO NOT** use in the vicinity of flammable liquids or gases.
- ✓ Ensure there is effective ventilation to prevent a build-up of explosive gases.
- ✗ **DO NOT** use the tester for a task for which it is not designed.
- ✓ When not in use, store the tester carefully in a safe, dry, childproof location.

2. INTRODUCTION

Professional diagnosis of battery and alternator faults with the added facility to print the results. Tests batteries up to 3000 CCA* SAE with as little as 1.5V of residual charge. No heat, no sparks and no misdiagnosis. Checks condition of alternator, no complicated connections or interpretation required. Analyse the charging system at rest and under load to determine condition of the alternator. Suitable for use on motorcycles, cars (including start/stop), and commercial vehicles. Connect and follow the prompts on the 4-line/16 character LCD screen for straightforward answers. Supplied in storage case, two rolls of printing paper, PC software and instruction manual.

3. SPECIFICATION

Model no:BT2015
Battery: 6 x AA (not supplied)
Charging System Capability: 12/24**
Compatibility: Windows XP, 7, 8, 10
Consumable Parts: ... BT2012.V2-01 - Printing Roll Pack of 2
Minimum Power Requirement:1.5V
Note: *CCA - Cold Cranking Amps, **24V Alternator Test only
Rated Battery Voltage:6/12V
Rating systems: DIN, EN, IEC, JIS, SAE
Voltage Range:1.5-30V

4. PREPARATION FOR TEST

- 4.1. Be sure area around battery is well ventilated while battery is being tested.
- 4.2. Clean battery terminals. Be careful to keep corrosion from coming in contact with eyes.
- 4.3. Inspect the battery for cracked or broken case or cover. If battery is damaged, **DO NOT** use tester.
- 4.4. If the battery is not sealed maintenance free, add distilled water in each cell until battery acid reaches level specified by the manufacturer. This helps purge excessive gas from cells. **DO NOT** overfill.
- 4.5. If it is necessary to remove battery from vehicle to test, always remove ground terminal from battery first. Make sure all accessories in the vehicle are off to ensure there is no arcing.

5. OPERATION

5.1. INSERTION OR REPLACEMENT OF LEAD WIRE Refer to fig.1

- 5.1.1. Remove the cover on the backside bottom of the battery tester.
- 5.1.2. Insert the connectors which contain a black-yellow pair and a yellow-red pair, in one end of the lead wire into the sockets which can be found when the cover is removed as above. Make sure the colours match between the connectors and sockets as shown in fig.1.

5.2. BEFORE TESTING

- 5.2.1. Before you test a battery in a vehicle, turn off the ignition, all accessories and loads.
- 5.2.2. Make sure you have put 6 x AA 1.5V batteries into the battery chamber. Oxide batteries are not recommended because of the initial 1.7 Volt output. If the internal 1.5V batteries run out of power, the display will show "POWER LOW". Replace those 6 x AA 1.5V batteries before starting a new test.
- 5.2.3. Note that nothing will be seen on the display until the tester is connected to a vehicle battery.
- 5.2.4. Make sure all battery terminals are clean and wire brush them if necessary. Connect the red clamp to the positive battery terminal post, then connect the black clamp to the negative battery terminal post. For the most accurate results, clamp on the lead part of the terminal only.
- 5.2.5. Attaching to the clamp or other fixture rather than directly on the terminal could result in a unstable incorrect test result.

5.3. PAPER LOAD Refer to fig.2

- 5.3.1. Open the clear cover.
- 5.3.2. Place a new roll in the compartment.
- 5.3.3. Pull a short length of paper from the compartment and press down the clear cover to close.

5.4. START STOP BATTERY TEST

- 5.4.1. Press the ◀▶ to select START-STOP test. There are 3 tests for selection:

START STOP TEST
BATTERY TEST
SYSTEM TEST

- 5.4.2. Press the ◀▶ key to select battery type:

a) EFB (ENHANCED FLOODED)
b) AGM FLAT PLATE
Press 'ENTER' to confirm choice.

- 5.4.3. Press the ◀▶ key to select the battery rating:
SAE (CCA), EN, IEC or DIN. Press 'ENTER' to confirm choice.

- 5.4.4. Press the ◀▶ key to input the battery capacity:

SAE (CCA): 40~3000
EN: 40~2830
DIN: 25~1685
IEC: 30~1985
Press 'ENTER' to begin test.

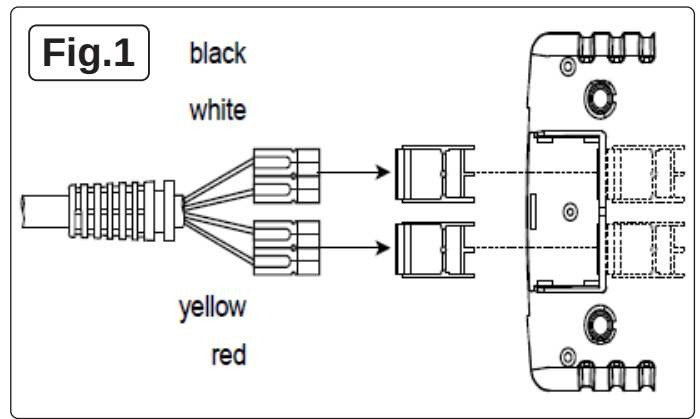


Fig.2

START STOP
XX.XXV

BATTERY TYPE
EFB

SELECT RATING
SAE

SET CAPACITY
XXXX SAE

5.4.5.	Press the ◀▶ key to confirm the position of the battery if a surface charge is detected, follow the tester's instructions to remove the surface charge.	TEST IN VEHICLE? NO
5.4.6.	Testing battery.	TESTING
5.4.7.	Press the ◀▶ key to confirm the temperature of the tested battery.	BAT. TEMPERATURE ABOVE 32°F (0°C)? YES/NO
5.4.8.	When the test is completed, the display shows the results as following (Press the ◀▶ key to select: SOH (STATE OF HEALTH) or SOC (STATE OF CHARGE)).	
	GOOD & PASS The battery is good and capable of holding a charge.	GOOD & PASS XX.XXV XXXXSAE
	GOOD & RECHARGE The battery is good but needs to be recharged.	GOOD & RECHARGE XX.XXV XXXXSAE
	RECHARGE & RETEST Battery is discharged, the battery condition can not be determined until it is fully charged. Recharge & retest the battery.	RECHARGE & RETEST XX.XXV XXXXSAE
	BAD & REPLACE The battery will not hold a charge, it should be replaced immediately.	BAD & REPLACE XX.XXV XXXXSAE
	BAD CELL & REPLACE The battery has at least one cell short circuited, it should be replaced immediately.	BAD CELL & REPLACE XX.XXV XXXXSAE
	TEST CODE Press enter to get test code for records.	CODE XXXXXXXXXX
5.5.	BATTERY TEST	
5.5.1.	Press the ◀▶ key to select Battery Test. There are 3 tests for selection: START STOP BATTERY TEST SYSTEM TEST Press 'ENTER' to proceed with the test for a regular starting battery.	BATTERY TEST XX.XXV
5.5.2.	Press the ◀▶ key to select the battery type: a) FLOODED b) AGM FLAT PLATE c) AGM SPIRAL d) VRLA/GEL Press 'ENTER' to confirm choice.	BATTERY TYPE AGM FLAT PLATE
5.5.3.	Press the ◀▶ key to select the battery rating: SAE (CCA), EN, IEC, DIN, or JIS. Press 'ENTER' to confirm choice.	SELECT RATING SAE

5.5.4.	Press the ◀▶ to input the battery capacity: SAE (CCA): 40~3000 EN: 40~2830 DIN: 25~1685 IEC: 30~1985 JIS: Battery type no. Press 'ENTER' to begin test.	SELECT CAPACITY XXXX SAE
5.5.5.	Press the ◀▶ to confirm the location of the battery if a surface charge is detected, follow the tester's instructions to remove the surface charge, then test proceed as follows:	TEST IN VEHICLE? NO
5.5.6.	Press the ◀▶ key to confirm the temperature of the tested battery.	BAT. TEMPERATURE ABOVE 32°F (0°C)? YES/NO
5.5.7.	When the test is completed, the display shows the results as follows (press the ◀▶ key to select: SOH (STATE OF HEALTH) or SOC (STATE OF CHARGE)). GOOD & PASS The battery is good & capable of holding a charge. GOOD & RECHARGE The battery is good but needs to be recharged. RECHARGE & RETEST Battery is discharged, the battery condition can not be determined until it is fully charged. Recharge & retest the battery. BAD & REPLACE The battery will not hold a charge, it should be replaced immediately. BAD CELL & REPLACE The battery has at least one cell short circuited, it should be replaced immediately. TEST CODE Press 'ENTER' to get the test code for records. Note: Under certain conditions the following messages may be displayed. LOAD ERROR The tested battery is bigger than 3000SAE (CCA), or the connection is not properly established. Check the capacity of the battery & make sure the clamps are properly connected. 24V SYSTEM PRINTING To print a 24V system test result, the user must save the test results first. The test will be saved until you connect to a 12V battery. The message to check printout will be displayed after you reconnect to the battery.	GOOD & PASS XX.XXV XXXXSAE GOOD & RECHARGE XX.XXV XXXXSAE RECHARGE & RETEST XX.XXV XXXXSAE BAD & REPLACE XX.XXV XXXXSAE BAD CELL & REPLACE XX.XXV XXXXSAE CODE XXXXXXXXXX LOAD ERROR PRINT 24V SYSTEM RESULT? YES
5.6.	SYSTEM TEST	
5.6.1.	Press 'ENTER' button, you will view the following screen.	SYSTEM TEST XX.XXV
5.6.2.	Turn off all vehicle accessory loads such as lights, air conditioning, radio etc. before starting the engine.	
5.6.3.	When the engine is started, one of three results will be displayed along with the actual measured result.	TURN OFF LOADS START ENGINE

CRANKING VOLTS NORMAL

The system is showing normal draw. Press 'ENTER' to perform the charging system test.

CRANKING VOLTS
XX.XXV NORMAL

CRANKING VOLTS LOW

The cranking voltage is below normal limits, troubleshoot the starter motor with the manufacturer's recommended procedure.

CRANKING VOLTS
XX.XXV LOW

CRANKING VOLTS NOT DETECTED

The cranking voltage is not detected.

CRANKING VOLTS
NOT DETECTED

5.6.4. If the cranking voltage is normal, press 'ENTER' to begin charging system test.

PRESS ENTER FOR
=CHARGING TEST=

5.6.5. Press the 'ENTER' key to view the following screen.

MAKE SURE ALL
LOADS ARE OFF

5.6.6. Press the 'ENTER' key, one of the following three results will be displayed along with the actual reading measured:

LOW CHARGING VOLTS WHEN TEST AT IDLE

The alternator is not providing sufficient current to the battery. Check the belts to ensure the alternator is rotating with the engine running. If the belts are slipping or broken, replace the belts and retest. Check the connections from the alternator to the battery. If the connection is loose or heavily corroded, clean or replace the cable and retest. If the belts and connections are in good condition, replace the alternator.

ALT. IDLE VOLTS
XX.XXV LOW

CHARGING SYSTEM NORMAL WHEN TEST AT IDLE

The system is showing normal output from the alternator, no problem is detected.

ALT. IDLE VOLTS
XX.XXV NORMAL

HIGH CHARGING VOLTS WHEN TEST AT IDLE

The voltage output from the alternator to the battery exceeds the normal limits of a functioning regulator. Check to ensure there are no loose connections and that the earth is connected properly. If there are no connection issues, replace the regulator. Since most alternators have the regulator built in, this will require replacement of the alternator. The normal high limit of a typical automotive regulator is 14.7 volts +/- 0.05. Check manufacturer specifications for the correct limit, as it will vary by vehicle type and manufacturer.

ALT. IDLE VOLTS
XX.XXV HIGH

5.6.7. Following the charging system at idle, press 'ENTER' for the charging system with accessory loads. Turn on the heater blower to high, high beam headlights and rear demister. **DO NOT** use cyclical loads such as air conditioning or windscreen wipers.

TURN ON LOADS
AND PRESS ENTER

5.6.8. When testing older model diesel engines, the operator needs to run up the engine to 2500rpm for 15 seconds. The 'run engine up' instruction screen will appear:

RUN ENGINE UP TO
2500 RPM 15 SEC.

5.6.9. Press 'ENTER' to look for the amount of ripple from the charging system to the battery. One of these two testing results will be displayed along with the actual testing measured.

RIPPLE DETECTED NORMAL

Diodes function well in the alternator/stator.

RIPPLE DETECTED
XX.XXV NORMAL

OR

NO RIPPLE
DETECTED

EXCESS RIPPLE DETECTED

One or more diodes in the alternator are not functioning or there is stator damage. Check to ensure the alternator mounting is fixed securely and that the belts are in good shape and functioning properly. If the mounting and the belts are good, replace the alternator.

RIPPLE DETECTED
XX.XXV HIGH

6.3. ADJUST THE DISPLAY BRIGHTNESS

- 6.3.1. Connect the tester to a battery.
- 6.3.2. Navigate to the BRIGHTNESS display.
- 6.3.3. Press the directional keys to adjust the brightness of the display.



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.



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.



BATTERY REMOVAL

See section 5.2

Under the Waste Batteries and Accumulators Regulations 2009, Jack Sealey Ltd are required to inform potential purchasers of products containing batteries (as defined within these regulations), that they are registered with Valpak's registered compliance scheme. Jack Sealey Ltd Batteries Producer Registration Number (BPRN) is BPRN00705.

Note: 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.

Important: No Liability is accepted for incorrect use of this product.

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

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