SEALEY BT2015 Digital Start/Stop Battery and Alternator Tester with Printer Instruction Manual

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.

Contents

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.

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 the 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 the eye, fl ush the eye immediately with cool, clean running water for at least 15 minutes and seek immediate medi cal attention.
✓	Remove personal metallic items such as rings, bracelets, necklaces, and watches. A lead-acid battery ca n produce a short-circuit current that 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 th e engine. Remove ties and contain long hair.
✗	**DO NOT** smoke or allow a spark or flame in the vicinity of the battery or engine.

GENERAL SAFETY

✓	Familiarise yourself with the application, limitations, and potential hazards of the tester. Also, refer to th e vehicle manufacturer's handbook. IF IN ANY DOUBT CONSULT A QUALIFIED VEHICLE ELECTRICI AN.
✓	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 i nvalidate your warranty.
✓	Keep tools and other items away from the engine and ensure that you can see the battery and working parts of the engine clearly.
✓	Determine the system voltage before using the tester.
✓	If the tester receives a sharp knock or blows the unit must be checked by a qualified service agent befo re using.
✓	If the battery terminals are corroded or dirty clean them before using the tester.
✓	Keep children and unauthorized persons away from the work area.
✗	**DO NOT** disassemble the tester for any reason. The tester must only be checked by qualified service p ersonnel.
□	**WARNING!** To prevent the risk of sparking, short circuit, and possible explosion DO NOT drop metal tool s in the battery area or allow them to touch the battery terminals.
✗	**DO NOT** cross-connect the tester to the battery. Ensure the positive (RED) clamp is to positive terminal and negative (BLACK) clamp is to the negative terminal. If battery symbols cannot be distinguished, rem ember 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 it in the vicinity of flam mable 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.

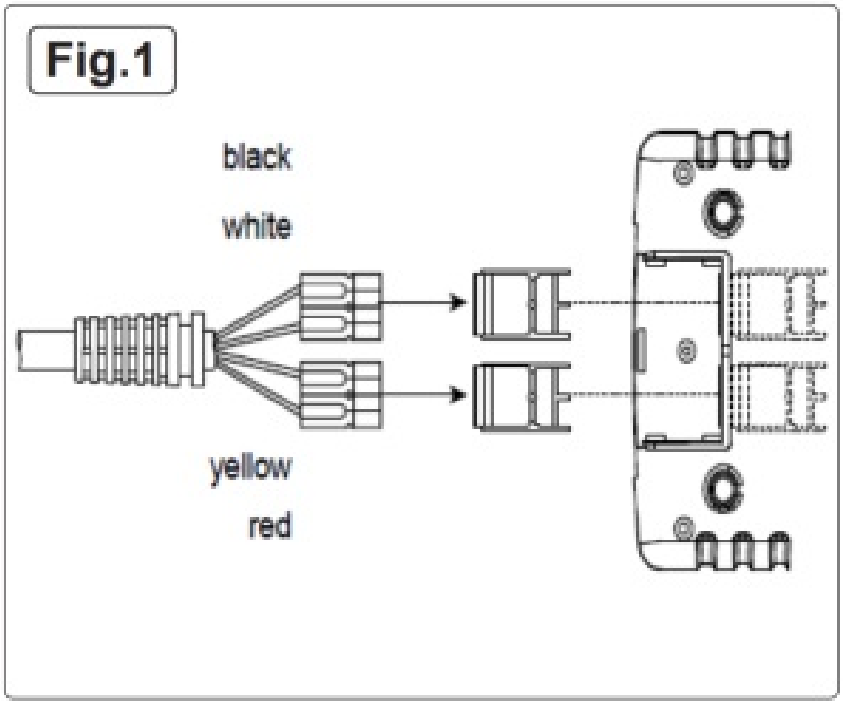
INTRODUCTION

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 the alternator, no complicated connections or interpretation required. Analyze the charging system at rest and under load to determine the 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 with batteries, two rolls of printing paper, PC software, and instruction manual.

SPECIFICATION

Model no: ……BT2015
Rated battery voltage: ……6/12V
Charging system capacity: ……..12/24V**
Rating systems: …….DIN, EN, IEC, JIS, SAE

Test ranges: …… 40-2830 CCA* EN
…….. 40-3000CCA* SAE
…….. 30-1985 CCA* IEC
…… 25-1685 CCA* DIN
…….. By battery type JIS
Minimum power requirement: ……..1.5V
Voltage range: ……..1.5-30V
Battery: …….. 6 x AA (supplied)
Consumable parts: …… BT2012.V2-01 – printing roll pack of 2
Note: ……*CCA – Cold Cranking Amps,
…….. **24V Alternator test only
Compatibility: …… Windows XP, 7, 8, 10



PREPARATION FOR TEST

1. **4.1.** Be sure the area around the battery is well ventilated while the battery is being tested.
2. **4.2.** Clean battery terminals. Be careful to keep corrosion from coming in contact with eyes.
3. **4.3.** Inspect the battery for a cracked or broken case or cover. If the battery is damaged, **DO NOT** use a tester
4. **4.4.** If the battery is not sealed maintenance-free, add distilled water in each cell until battery acid reaches the level specified by the manufacturer. This helps purge excessive gas from cells. **DO NOT** overfill.
5. **4.5.** If it is necessary to remove the battery from the vehicle to test, always remove the ground terminal from battery Make sure all accessories in the vehicle are off to ensure there is no arcing.

OPERATION

INSERTION OR REPLACEMENT OF LEAD WIRE Refer to fig.1

1. **5.1.1.** Remove the cover on the backside bottom of the battery tester.
2. **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 colors match between the connectors and sockets as shown in fig.1.

BEFORE TESTING

1. **5.2.1.** Before you test a battery in a vehicle, turn off the ignition, all accessories, and loads.
2. **5.2.2.** Make sure you have put 6 x AA 1.5V batteries into the battery chamber. Oxyride 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.
3. **5.2.3.** Note that nothing will be seen on the display until the tester is connected to a vehicle battery.
4. **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. **5.2.5.** Attaching to the clamp or other fixture rather than directly on the terminal could result in an unstable incorrect test result.

PAPER LOAD Refer to fig.2

1. **5.3.1.** Open the clear cover.
2. **5.3.2.** Place a new roll in the compartment.
3. **5.3.3.** Pull a short length of the paper from the compartment and press down the clear cover to close.

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	START-STOP XX.XXV
5.4.2. Press the ◄ ► key to select battery type: a) EFB (ENHANCED FLOODED) b) AGM FLAT PLATE Press 'ENTER' to confirm the choice.	BATTERY TYPE EFB
5.4.3. Press the ◄ ► key to select the battery rating: SAE (CCA), EN, IEC or DIN. Press 'ENTER' to confirm the choice.	SELECT RATING SAE
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.	SET CAPACITY XXXX SAE
5.4.5. Press the◄ ► key to confirm the position of the battery if a surface charge is det ected, follow the tester's instructions to remove the surface charge.	TEST IN VEHICLE? NO
5.4.6. Testing battery.	TESTING
Press the ◄ ► key to confirm the temperature of the tested battery.	BAT. TEMPERATURE ABOVE 32°F (O°C)? YES/NO
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 and capable of holding a charge.	GOOD & PASS XX.XXV XXXXSAE
GOOD & RECHARGE The battery is good but needs to be recharged.	GOOD & RECHARG E XX.XXV XXXXSAE
RECHARGE & RETEST The battery is discharged, the battery condition can not be determined until it is fully ch arged. 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 the test code for records.	CODE XXXXXXXXXX

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
Press the ◄ ► key to select the battery type: a) FLOODED b) AGM FLAT PLATE c) AGM SPIRAL d) VRLA/GEL Press 'ENTER' to confirm the 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 the choice.	SELECT RATING SAE
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 the test.	SELECT CAPACITY XXXX SAE
Press the ◄ ► to confirm the location of the battery if a surface charge is detected, follo w the tester's instructions to remove the surface charge, then test proceed as follows:	TEST IN VEHICLE? NO
Press the ◄ ► key to confirm the temperature of the tested battery.	BAT. TEMPERATURE ABOVE 32°F (O°C)? YES/NO
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 & PASS XX.XXV XXXXSAE
GOOD & RECHARGE The battery is good but needs to be recharged.	GOOD & RECHARG E XX.XXV XXXXSAE

RECHARGE & RETEST The battery is discharged, the battery condition can not be determined until it is fully ch arged. 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 the test code for records. Note: Under certain conditions, the following messages may be displayed.	CODE XXXXXXXXXX
LOAD ERROR The tested battery is bigger than 3000SAE (CCA), or the connection is not properly est ablished. Check the the capacity of the battery & make sure the clamps are properly connected.	LOAD ERROR
24V SYSTEM PRINTING To print a 24V system test result, the user must save the test results first. The test will b e saved until you connect to a 12V battery. The message to check printout will be displayed after you rec onnect to the battery.	PRINT 24V SYSTEM RESULT? YES

SYSTEM TEST

5.6.1. Press the '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. befo re starting the engine.	TURN OFFLOADS START ENGINE
5.6.3. When the engine is started, one of three results will be displayed along with the actual measured result. **CRANKING VOLTS NORMAL** The system is showing a normal draw. Press 'ENTER' to perform the charging system t est.	CRANKING VOLTS XX.XXV NORMAL

CRANKING VOLTS LOW The cranking voltage is below normal limits, troubleshoot the starter motor with the ma nufacturer'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 the charging system te st.	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 ensur e the alternator is rotating with the engine running. If the belts are slipping or broken, re place the belts and retest. Check the connections from the alternator to the battery. If the connection is loose or h eavily corroded, clean or replaces 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 func tioning 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 alternator s have the regulator built-in, this will require the replacement of the alternator. The nor mal high limit of a typical automotive regulator is 14.7 volts +/- 0.05. Check manufactur er 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 w ith accessory loads. Turn on the heater blower to high, high beam headlights and rear demister. DO NOT us e 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 engi ne 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 tw o 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

EXCESS RIPPLE DETECTED One or more diodes in the alternator are not functioning or there is stator damage. Che ck to ensure the alternator mounting is fixed securely and that the belts are in good sha pe and functioning properly. If the mounting and the belts are good, replace the alternat or.	RIPPLE DETECTED XX.XXV HIGH
5.6.10. Press the 'ENTER' key to continue testing the charging system with accessory loads. One of the followi ng 3 results will be displayed along with the actual measured results.	
CHARGING SYSTEM LOW WHEN TEST WITH ACCESSORY LOADS The alternator is not providing sufficient current for the system's electrical loads and the charging current for 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. Che ck the connections from the alternator to the battery. If the connection is loose or heavily corroded, clean or replaces the cable and retest. If the belts and connections are in good working condition, replace the alternator.	ALT. LOAD VOLTS XX.XXV LOW
CHARGING SYSTEM NORMAL WHEN TEST WITH ACCESSORY LOADS The system is showing normal output from the alternator, no problem detected.	ALT. LOAD VOLTS XX.XXV NORMAL
CHARGING SYSTEM HIGH WHEN TEST WITH ACCESSORY LOADS The voltage output from the alternator to the battery exceeds the normal limits of a func tioning regulator Check to ensure there are no loose connections and that the earth connection is properly connected. If there are no connection issues, replace the regulator. Since most alternators have th e regulator built-in, this will require you to replace the alternator.	ALT. LOAD VOLTS XX.XXV HIGH

WHAT IS THE TEST CODE & HOW TO USE IT

1. 5.7.1. Put the CD or CD/DVD/BLUE RAY combination drive.
2. 5.7.2. Follow the installation instructions and install the icon named "Decode_BT2010_Vxx.x" and the sheet below will pop up.

CODE	VOLTAGE		SET CCA		TEST CCA		TEMPERATURE		DATE & TIME	TEST RESULT
[illegible]	12.57	V	400	SAE	398	SAE	>0°C	>32°F	2000/04/22 5:41	GOOD & RECHARGE
		V								
		V								
		V								
		V								
		V								
		V								
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3. 5.7.3. Input the “Test Code” into the chart manually or by a barcode reader.
4. 5.7.4. The test result will show in the chart after decoding.
5. 5.7.5. The test data can be stored on the PC.

SETTINGS

LANGUAGE SELECT

1. 6.1.1. Connect the tester to a battery.
2. 6.1.2. The tester defaults to the BATTERY TEST display. Press the directional keys to get to the LANGUAGE SELECT display.
3. 6.1.3. Press ENTER and the display will show the language options. Press the directional keys to select the language you want the tester to display.
4. 6.1.4. Press ENTER and the display returns to BATTERY TEST.

SET THE DATE AND TIME

1. 6.2.1. Connect the tester up to a battery.
2. 6.2.2. The tester defaults to the BATTERY TEST display. Press the directional keys to get to the CURRENT DATE/TIME display.
3. 6.2.3. Press ENTER and the display will show ADJUST YEAR. Press the directional keys to change the setting.
4. 6.2.4. Press ENTER and the display will show ADJUST MONTH. Press the directional keys to change the the setting.
5. 6.2.5. Press ENTER and the display will show ADJUST DAY. Press the directional keys to change the setting.

6. 6.2.6. Press ENTER and the display will show ADJUST HOUR. Press the directional keys to change the setting.
7. 6.2.7. Press ENTER and the display will show ADJUST MINUTE. Press the directional keys to change the setting.
8. 6.2.8. Press ENTER and the display returns to BATTERY TEST.

ADJUST THE DISPLAY BRIGHTNESS

1. 6.3.1. Connect the tester to a battery.
2. 6.3.2. Navigate to the BRIGHTNESS display.
3. 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 pa ckaging should be sorted, taken to a recycling center, and disposed of in a manner that is compati ble with the environment. When the product becomes completely unserviceable and requires disp osal, drain any fluids (if applicable) into approved containers and dispose of the product and fluid s 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 recy cling information.
	**BATTERY REMOVAL** See section 5.2 Under the Waste Batteries and Accumulators Regulations 2009, Jack Sealey Ltd is required to inf orm potential purchasers of products containing batteries (as defined within these regulations), th at they are registered with Valpak's registered compliance scheme. Jack Sealey Ltd Batteries Pr oducer 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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Documents / Resources

	**SEALEY BT2015 Digital Start/Stop Battery and Alternator Tester with Printer** [pdf] Instruction Manual BT2015, Digital Start Stop Battery and Alternator Tester with Printer