

BVA-360/360P OPERATOR'S MANUAL HAND-HELD ACCURACY WITH A 40 AMP LOAD

The BVA-360P is the Ultimate hand-held tester. It is the auto industry's answer to portability in a professionally accurate load tester and system analyzer.



Auto Meter Products Inc.

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Sycamore, IL 60178

Service (815) 899-0801
Toll Free (866) 883-TEST (8378)

www.autometer.com/test



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REPLACEMENT PARTS

AC-31 - Adapter for Group 31 Batteries
AC-74 - Side Terminal Adapter
AC-122 - Optional Charging Dock
AC-127 - Replacement Thermal Paper - 24pack
AC-124 - Replacement Lead Set
AC-140 - Replacement Wall Outlet Charger
R3-D - Battery Reset Adapter



Limited Warranty

12 MONTHS FROM DATE OF PURCHASE

The manufacturer warrants to the consumer that this product will be free from defects in material or workmanship for a period of twelve (12) months from the date of original purchase.

Products that fail within this 12 month warranty period will be repaired or replaced at the manufacturer's option to the consumer, when determined by the manufacturer that the product failed due to defects in material or workmanship. This warranty is limited to the repair or replacement of parts and the necessary labor by the manufacturer to effect the repair or replacement of the product. In no event shall this warranty exceed the original purchase price of the AutoMeter product nor shall AutoMeter Products, Inc. be responsible for special, incidental or consequential damages or costs incurred due to the failure of this product.

Improper use, accident, water damage, abuse, unauthorized repairs or alterations voids this warranty. The manufacturer disclaims any liability or consequential damages due to breach of any written or implied warranty on its test equipment.

WARRANTY AND SERVICE INFORMATION

Original purchase date will be tracked by serial #. Please contact the call center if you have a warranty question/issue. Shipper damage incurred during return shipments is not covered under this warranty. It is the responsibility of the shipper (the customer returning the Test Equipment) to package the tester properly to prevent any damage during return shipment. Repair costs for such damages will be charged back to shipper (customer returning the Test Equipment). Protect the product by shipping in original packaging.

FCC Regulatory Information

Contains FCC ID: SQG-EWB1

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CONGRATULATIONS!

You have purchased one of Auto Meter's hand-held Electrical System Analyzers. It is designed to test the battery, and each component of a vehicle's electrical starting and charging system with speed and accuracy. If you should have any questions about your tester, testing procedures, or service see page 28 for contact information.

Specifications

- Load Test Capacity 40A
- Battery Sizes 100 CCA to 1600 CCA
- Back-Lit Touch Screen User Interface 2.125" x 3.750"
- Volt Range 0-30v
- Cooling Vented
- Leads 2.5 Ft., 16 Gage
- Size 8-7/8" wide x 13" Long
- Memory Stores the last 1000 Tests
- Internal Battery 7.2 Volt Rechargeable Li-Ion Battery. 3350 mAh
- Internal Battery Charging Input 5.0 VDC, 4.0A
- Weight 3 lbs., 1 oz.

What to Expect from the BVA-360: Immediately recognize a bad battery and perform a complete starting and charging system analysis. The BVA-360 is a portable full- featured menu-driven battery tester, starting, and charging system analyzer that provides quick, professional load results using Auto Meter's Digital Pulse Load. The BVA-360 is user friendly. It tells you what to do. Detailed test results provide "Next Steps" advice and are displayed after each test or can be reviewed. With the BVA-360P, you may also print the results.

Note: The BVA-360/360P checks and load tests 6 volt and 12 volt batteries, and tests the starting and charging systems on 12 volt systems.



SAFETY

- Carefully read all operating instructions before using the BVA-360.
- Wear eye protection when working around batteries.
- Be sure each test is completed before removing load clamps to prevent arcing and potential explosion from battery gases. Never remove load clamps while testing. Keep sparks flames, or cigarettes away from batteries.
- Keep hair, hands, and clothing as well as tester leads and cords away from moving blades and belts.
- Provide adequate ventilation to remove car exhaust.
- In extremely cold temperatures, check for frozen electrolytic fluid before applying load. Do not attempt to Load Test or charge a battery under 20 degrees. Allow the battery to warm to room temperature before testing or charging.
- **Warning!** Never attach the BVA-360 to a battery that is connected to any other tester or charging unit. Damage may result.

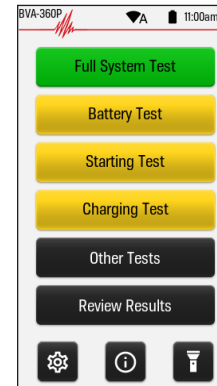


WARNING!
This device is only to be used on 12V electrical systems. Not for use on high voltage electrical systems

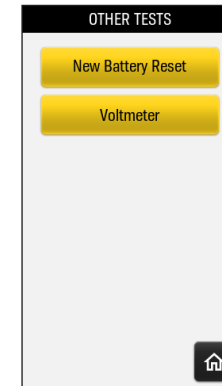
CAUSE OF BATTERY FAILURE

- **Incorrect Application:** Wrong size battery may have inadequate cold cranking rating for original vehicle specifications.
- **Incorrect Installation:** Loose battery hold-downs cause excessive vibration, which can result in damage to the plates.
- **Improper Maintenance:** Low electrolytic fluid and corrosion on battery connections can greatly reduce battery life and affect battery performance.
- **Age of Battery:** If the date code on the battery indicates it is fairly old, the failure may be due to natural causes.
- **Overcharging:** Overcharging caused by a high voltage regulator setting or incorrect battery charging can cause excessive gassing, heat and water loss.
- **Undercharging:** Undercharging caused by a faulty charging system or low voltage regulation can cause lead sulfate to gradually build up and crystallize on the plates greatly reducing the battery's capacity and ability to be recharged.

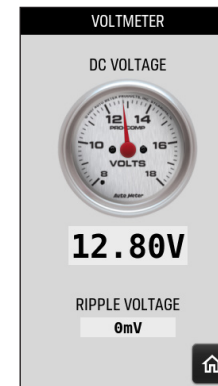
VOLTMETER



To access the Voltmeter option, touch Other Tests on the Home page.



Then touch Voltmeter.



Connect the clamps, Red to positive, and Black to negative to obtain a reading.

AMPNET & WiFi

The BVA-360/BVA-360P can automatically receive over-the-air firmware updates when connected to WiFi. The BVA-360/BVA-360P can optionally send test results for storage and analysis to AutoMeter's AMPNET cloud data management services. This requires an AMPNET account and an assigned Location Code.

The BVA-360/BVA-360P uses a local 2.4 GHz Wi-Fi connection with WPA2 authentication to access the internet for communications with the AMPNET services. The local Wi-Fi network SSID name as well as the Wi-Fi password used by the tester is configured on the Settings Screen.



SETTINGS & UNIT INFORMATION

SETTINGS

Location Zip: 60178
 Location Country: USA
 Location Phone: 815-895-8141

Temperature Unit: Fahrenheit
 Language: English/Inglés
 Default Battery Rating Unit: CCA
 Default Battery Rating: Always enter value
 Default Battery Rating Value: -
 Default Battery Type: Standard/Flooded
 Display Measured Capacity: Yes

Select Default Battery Type:

Standard/Flooded
 AGM
 AGM Pure Lead
 EFB

Default to previous type

Example: Here you can change the battery test defaults to suit your needs, by touching the appropriate setting to modify.

Select Default Battery Rating:

Default value
 Default to previous rating
 Always enter value

Select Default Units of Battery Rating:

CCA
 MCA
 CA
 EN

Default to previous unit

BVA-360P 11:00am

Full System Test
 Battery Test
 Starting Test
 Charging Test
 Other Tests
 Review Results

To display Unit Info, touch the icon in the middle lower part of the screen.

Auto Meter
 Times & Scales Agreement

BVA-360P

Auto Meter Garage
 413 West Elm Street
 Sycamore
 IL, 60178
 866-248-6356

Revision: 2.05
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 Autometer Products

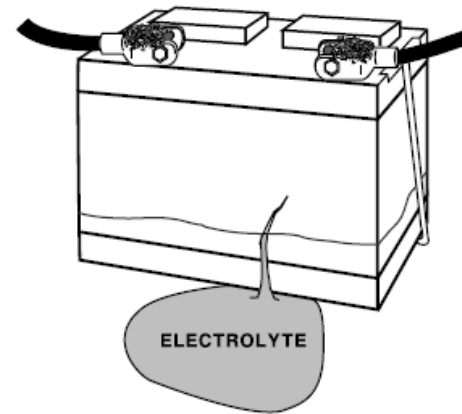
Example of the Unit Info page.

INSPECTION

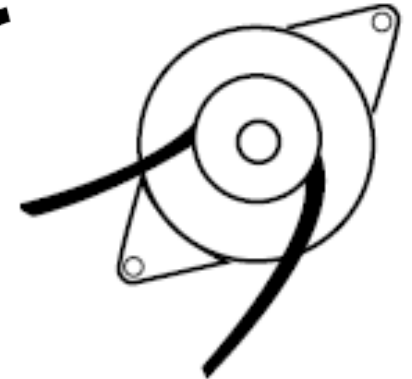


- **Valid Automotive Electrical System Testing** depends on all the components being in good operating condition. In addition, the battery MUST have sufficient charge for testing. Carefully perform the following steps before attempting any electrical diagnosis.
- **Inspect Belts** for cracks, glazed surface and fraying. Most late model vehicles use an automatic belt tensioner. Tighten loose belts, or replace a faulty belt tensioner.
- **Inspect Battery** for terminal corrosion, loose or broken posts, cracks in the case, loose hold-downs, low electrolyte level, moisture, and dirt around the terminals. Attempt to charge a dead battery prior to testing (a frozen battery must be thawed first!).
- **Inspect Starting System.** Check starter, solenoid, and regulator for loose connections, loose mounts and frayed or cracked wires.
- **Important Note:** A damaged battery must be replaced before proceeding.

Correct loose or dirty battery terminal



Check for leaks, If no leaks are present, top off with water, if serviceable.



Correct loose or low tension alternator belt.

CONTROLS AND FUNCTIONS

SETTINGS & UNIT INFORMATION

Printer and Printer Paper Compartment (On BVA-360P Version)

Paper Feed Button/Printer Indicator (On BVA-360P Version)



Power Button/Power Indicator

Battery Test Only
Starting Test Only
Charging Test Only

Includes Battery, Starting, and Charging System Tests

Other Tests Includes New Battery Reset & Voltmeter

Displays Tester Info and Settings

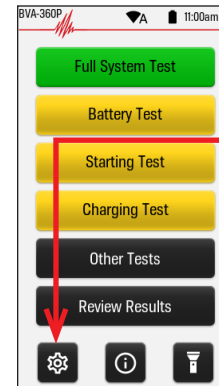
Flashlight

Displays Unit Info

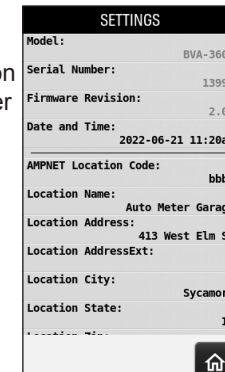


USB Port

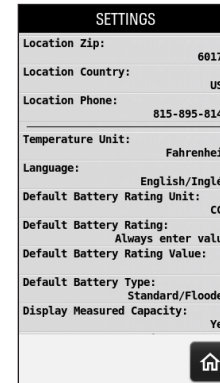
Charging Port



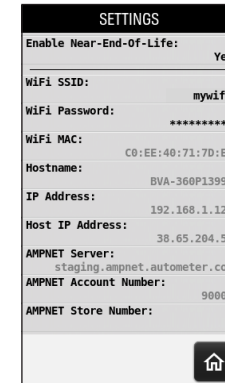
To display settings, touch the settings icon on the left lower of the screen.



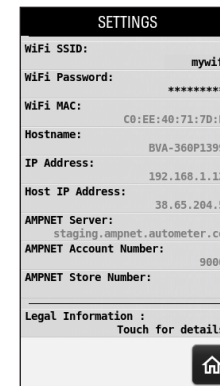
Example of the Settings page. You can scroll up for additional settings, as shown.



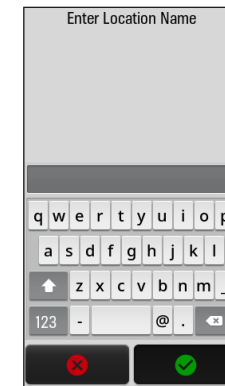
Settings



Settings



Settings




When you tap on a particular setting (a non shaded setting), you have the option to change that setting. Shown here is the Location Name setting where you can enter your shop/Business name.

NEW BATTERY RESET

Turn On the Ignition
Do Not Start the Engine.

For keyed start vehicles, insert and turn the key to the On position.

For keyless start vehicles, press the START button once or twice without depressing the brake pedal.




Follow the screen prompts to Turn On the Ignition or to Turn on the Engine during the procedure.

NEW BATTERY RESET RESULT

COMPLETE

Test : #77
VIN : 1FM5K8D88FGA68753

Print Result 

When the battery reset process completes successfully, the Complete result is shown. No further action is needed.




CONTROLS AND FUNCTIONS

NEW BATTERY RESET RESULT

UNSUPPORTED

Test : #75
VIN : 1G1JC5444R7252356


Print Result 

If the vehicle does not contain a supported smart charging system, the Unsupported result is shown.

NEW BATTERY RESET RESULT

NO VIN FOUND

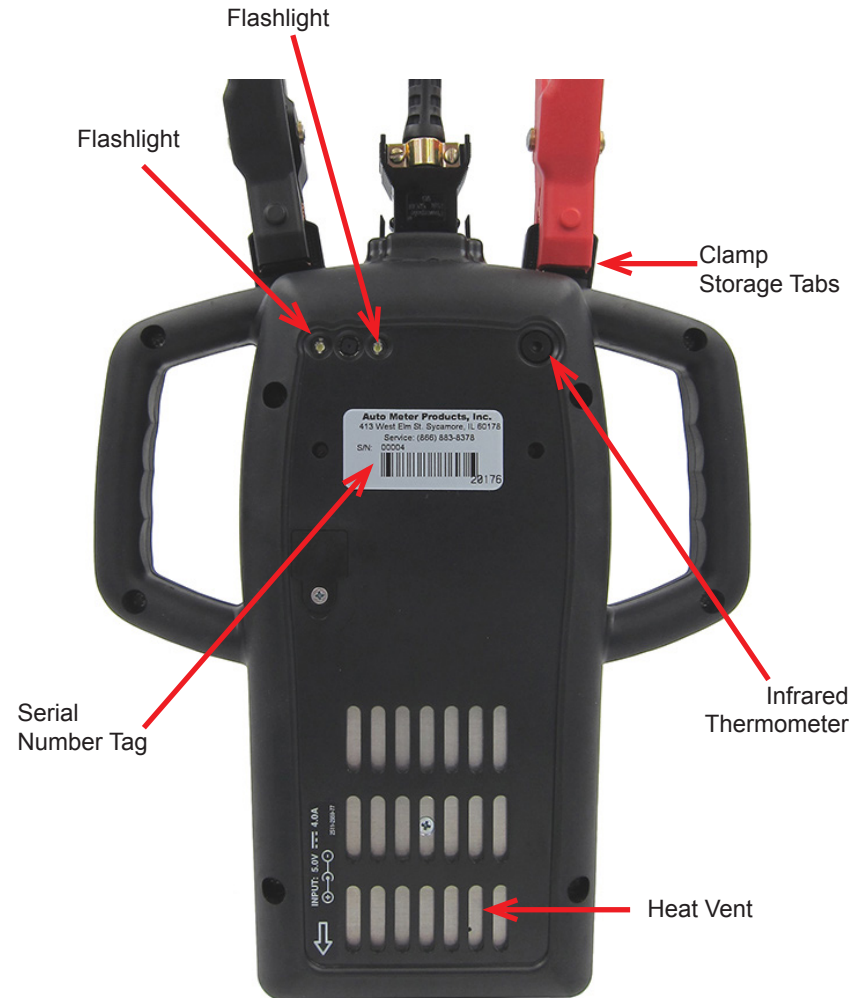
Test : #76
VIN :

Print Result 

If the vehicle is too old to support OBD II communications or if the R3-D Battery Reset Adapter is not properly connected, the No VIN Found result is shown.

NOTE:

When replacing the battery on a vehicle with a smart charging system, be sure to install a battery that has an equal or greater CCA rating, and also that the battery type matches the OEM battery. (Replace an AGM battery with an AGM battery). For vehicles that require the smart charging system be reset, confirm the compatibility of the tester and adapter with the vehicle prior to replacing the battery.



CONTROLS AND FUNCTIONS

- **Power Button:** To power on, push and hold the button for 1 second, then release.
- To put the unit “to sleep”, push and hold the power button for about 2 seconds. The word “Sleep” will flash once on the screen, then you can let go of the button, and the screen will go dark. When in sleep mode, the power button will flash green about every three seconds.
- To “wake up” the tester from “Sleep” mode, simply push the power button for about 1 second, then let go.
- To power the unit off, push & hold the power button for 5 or 6 seconds. The word “Off” will flash once on the screen, then you can let go of the button.
- **Printer Compartment:** Lift up on the tab in the center of the printer compartment door to open the door, and to access the paper roll. To close, simply push it shut at both lower corners until it clicks shut.
- **Settings:** This displays the tester Model Number, Serial Number, Firmware Revision, Date & Time, Store number, Store address, Store phone number, Temperature units, Language, and Wi-Fi SSID.
- **Flash Light:** A momentary touch of the flash light icon on the screen will turn on the flash light on the back of the unit. Another momentary touch of this icon will turn the flash light off.
- **Full System Test:** This is used for a complete test which includes Battery, Starting System, and Charging System. See page 16 for further information on performing a Full System Test.
- **Battery Test:** This is used for a battery-only test in, or out of the vehicle. See page 11 for further information on performing a Battery Test.
- **Starting Test:** This is used for testing the starting system of a vehicle, when a Full System test is not needed.
- **Charging Test:** You may use this when a charging system test is needed, rather than a Full System Test, such as after an alternator replacement to verify proper function.
- **Other Tests:** Here you will find New Battery Reset, which is used to reset the smart charging system required by some vehicles when a new battery is installed in the vehicle. See page 21 for further information on performing a New Battery Reset. You will also find Voltmeter, (page 25) which is a simple voltmeter mode for measuring battery voltage (up to 30v)
- **Review Results:** This unit stores up to 1,000 test results, and you can review past results by touching this icon. See page 19 for further information on reviewing results.
- **Infrared Thermometer:** Aim the thermometer on the back of the tester, at the battery to be tested.

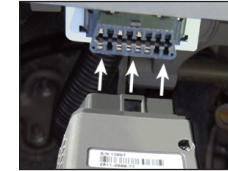
NEW BATTERY RESET



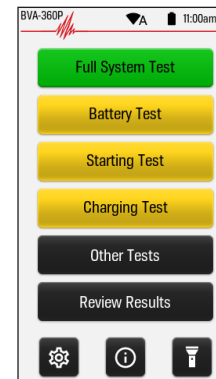
For vehicles that support New Battery Reset such as late model Ford Trucks, Late model BMW, and late model Mini Cooper applications.



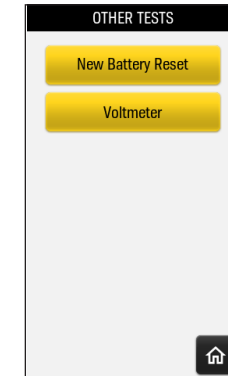
Connect the R3-D Battery Reset Adapter to the USB port of the tester.



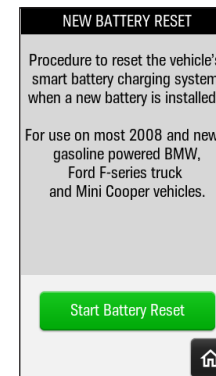
Connect the other end of the Adapter to the vehicle's OBD II port.



Touch Other Tests.



Touch New Battery Reset.



Touch the green “Start Battery Reset” button to begin the reset procedure.

PRINTER (BVA-360P VERSION)



Printer Status Light:

If the Paper Feed Button/Status Light blinks twice quickly, then the paper has run out, or the paper is not correctly inserted underneath the printer door. A single, occasional blink means the printer is functioning correctly.

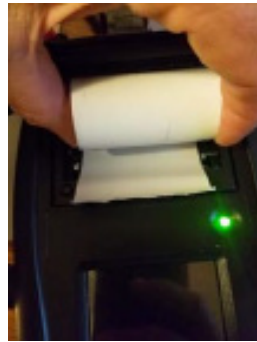
To Access the Printer Paper, lift up on the tab as shown in the picture below, and pull the printer door open.



Clear out any old paper, or debris from the printer cavity.



Simply drop in the new paper, with the end of the paper coming out from underneath the roll, and closest to the screen. As shown.



Push the lid closed, with the end of the paper sticking out of the tester.



You can push the button at the lower left of the printer door to manually feed paper. The tester must be on for the paper feed to function. If the tester is in "Sleep" mode or turned off, it will not feed paper when you push the button.



MAINTENANCE

Both jaws of each clamp must firmly engage the battery terminal. One copper jaw contains a wire that reads the voltage and the other jaw connects to another wire that draws the load in each test. Damaged clamps or loose wires will affect the readings. Keep clamps clean and in good repair.

BATTERY CLAMP/LEAD REPLACEMENT

Over time the battery clamps will need to be replaced if any of the following are indicated:

- If there is excessive damage or corrosion to the cables or clamps.
- If there are signs of frayed, or broken wires between the tester and the clamps.

PROCEDURE

- Grasp the leads connector at the top of the tester, and squeeze the two locking tabs toward each other, and then pull the connector out of the tester.
- The clamps & leads are offered as a complete set.
- To install, simply plug the connector of the new set into the top of the tester until the locking tabs click, and are seated. The connector will only plug in, one direction with the black connectors on top and the red connectors on the bottom.



Order Auto Meter model number **AC-124** Replacement Lead Set

Charging the Tester

This tester is rechargeable and should be stored on the optional charging dock or plugged into the wall outlet charger when not in use. When the tester is charging, the power button will flash red. When the tester is finished charging, the power button will flash green.

1 HOOK UP

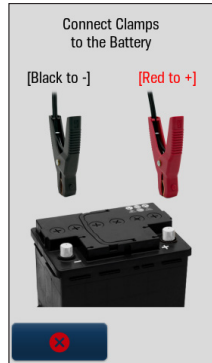
1. Turn the tester on
2. Connect the leads to the battery. Red to positive (+), and black to negative (-)
3. Choose either Battery Test, or Full System test. If your leads are not connected or not making good contact, the tester will prompt you to connect the leads after entering in the battery information.



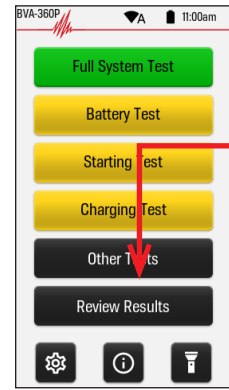
When testing dual post batteries always check the post to which the system is attached. If a load test is made from a post connection and the alternator is connected to side terminals a battery load test and charge can be completed, but the problem may be in the side post connections. AutoMeter offers proper side post adapters as model number AC-74. Connections should never be made to a steel bolt, as that may result in improper test readings.

CONNECTION ERRORS

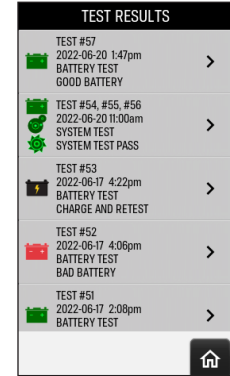
- If the clamps are reversed the “WARNING CLAMPS ARE REVERSED” message will be displayed on the LCD with an audible beeping.
- If one or both of the clamps are not in complete contact “Connect Clamps to the Battery” will display on the LCD.



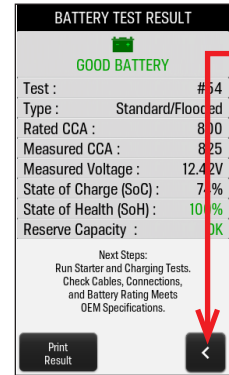
REVIEW RESULTS



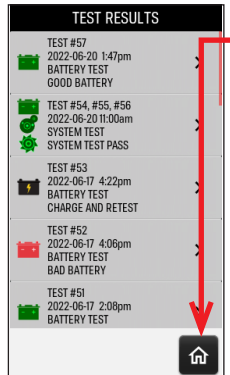
To review a previous test, touch the black Review Results button.



This will be an example of what you will then see. You may touch the arrow at the right of a given test that you wish to review.



From here (on 360P version) you may print the test results. To go back, touch the left pointing arrow at the bottom right of the screen.



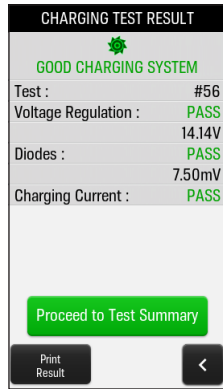
To Exit Test Results, touch the Home icon at the bottom right of the screen.

5 FULL SYSTEM TEST

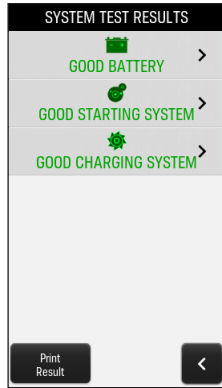
2 BATTERY TEST



This screen will appear for up to 30 seconds, and then will automatically test the charging system.



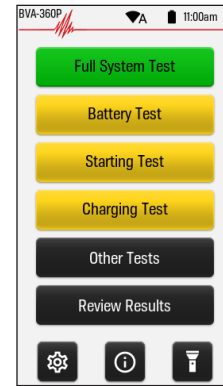
This is an example of a system that has passed the charging system test. Touch the green "Proceed to Test Summary" button.



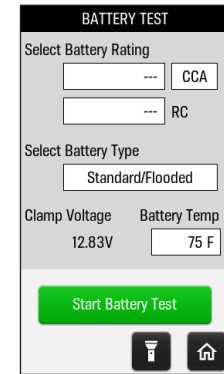
Here you have the summary of test results. You may also touch the print button at the bottom left to print the test results. (Printing available on BVA-360P version only).



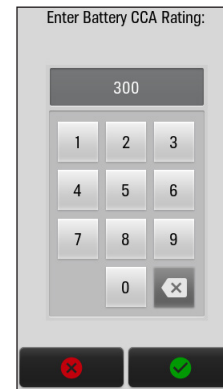
Example of Printed Results



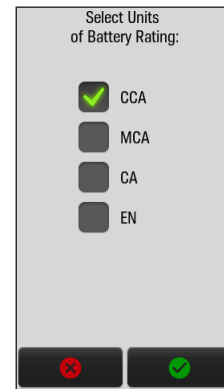
Touch the "Battery Test" Button.



Enter CCA by touching the blank box to the left of CCA.



Here you will enter the CCA number found on the battery, then touch the green check mark.



If a battery does not have a CCA rating touch the CCA box to display this menu to change the battery rating.

- At the end of the Full System test, or an Individual Test, if you have the BVA-360P version, you have the option to Print the test results.
- To Print, touch the Print Button, and the results will print as shown in the picture above.

2 BATTERY TEST

BATTERY TEST

Select Battery Rating

300 CCA

50 RC

Select Battery Type

Standard/Flooded

Clamp Voltage Battery Temp

0.00V 76 F

Start Battery Test

Enter RC (Reserve Capacity) by touching the blank box to the left of RC. NOTE: RC is optional and can be skipped/left empty if no RC value is printed on the battery.

Enter Battery Reserve Capacity (RC) Rating:

50

1 2 3

4 5 6

7 8 9

0

Here you can enter in the RC number found on the battery. Then touch the green check mark.

BATTERY TEST

Select Battery Rating

300 CCA

50 RC

Select Battery Type

Standard/Flooded

Clamp Voltage Battery Temp

0.00V 76 F

Start Battery Test

You may proceed to the next step, unless you have to change the battery type. Inspect the battery label to identify the type. Touch the Standard/Flooded box to change.

Select Battery Type:

Standard/Flooded

AGM

AGM Pure Lead

EFB

Choose the battery type from the menu shown here. Then touch the green check mark.

Aim the back of the tester at the battery for battery temperature.



BATTERY TEST

Select Battery Rating

300 CCA

50 RC

Select Battery Type

Standard/Flooded

Clamp Voltage Battery Temp

0.00V 76 F

Start Battery Test

Touch the Green "Start Battery Test" button to start the battery test.

BATTERY TEST

Select Battery Rating

300 CCA

50 RC

Select Battery Type

Standard/Flooded

Clamp Voltage Battery Temp

12.49V 75 F

Test in progress

Test in progress

5 FULL SYSTEM TEST



STARTING SYSTEM TEST

TESTING STARTING SYSTEM

PLEASE WAIT

Test in progress

Start the engine

Select Engine Type:

Gas

Diesel

This screen may appear after the start up, if more information is needed to determine a Pass or Fail of a Starting system.

Select Number of Engine Cylinders:

4 Cylinders

5 Cylinders

6 Cylinders

8 Cylinders

This screen may appear next. Touch the number of cylinders, and the Starting Results will display.

STARTING TEST RESULT

GOOD STARTING SYSTEM

Test : #55

Beginning Voltage : 12.31V

Min Cranking Volts : PASS 12.00V

Cranking Current : PASS

Cranking RPM : PASS 222 RPM

Number of Cylinders : 6

Proceed to Charging Test

Print Result

If no problems detected, you will get a Good Starting System Screen. Leave the engine running. Touch the green "Proceed to Charging Test" button.

STARTING TEST RESULT

BAD STARTING SYSTEM

Test : #69

Beginning Voltage : 12.42V

Min Cranking Volts : FAIL

Cranking Current : PASS 12.17V

Cranking RPM : ---

Number of Cylinders : 8

Next Steps:
Check Cables and Connections.
Remove Starter and Test on

Proceed to Charging Test

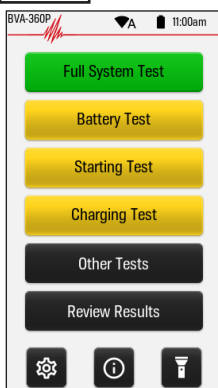
Print Result

If a problem is detected, this would be an example of a failed starting test. Touch the green "Proceed to Charging Test" button.

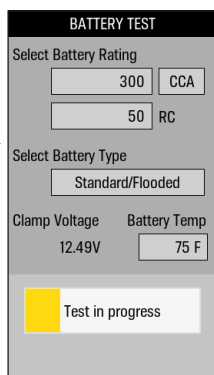
Proceed to Page 18

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FULL SYSTEM TEST



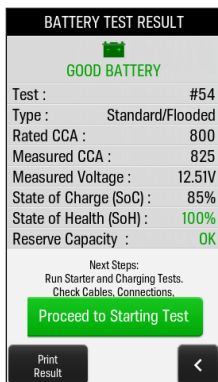
Touch the green "Full System Test" button.



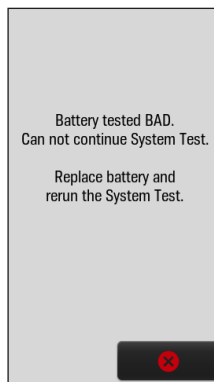
Follow battery test procedure, the same as shown in the Battery Test section.



If the battery is failed, or too low of charge, you will not be able to proceed to the starting test until a charged, or replacement battery is installed.



When the Battery Test passes as a Good Battery, this screen will appear. Touch the green "Proceed to Starting Test" button.



STARTING CURRENT DRAW AND DIESEL ENGINES

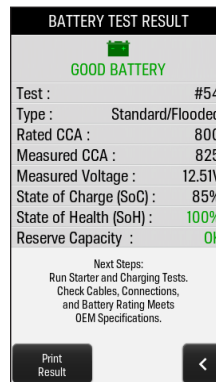
There are a few points to consider in testing a starting system on a diesel engine. The BVA-360/360P is designed to recognize any significant amount of draw; this includes glow plugs in small diesel engines.

- Make sure you start the engine quickly. The engine should be warm.
- Turn the ignition on and allow the glow plugs to heat up and click off before you run the Starting Test.

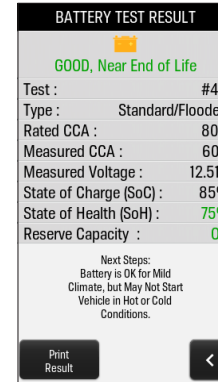
Proceed to Page 17

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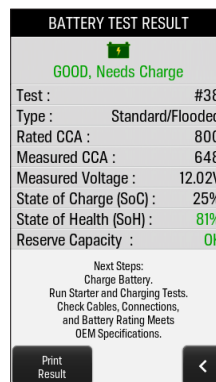
BATTERY TEST



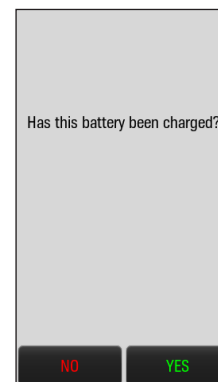
If the battery tested good, this screen will appear. No further charging, or testing of the battery is required at this time.



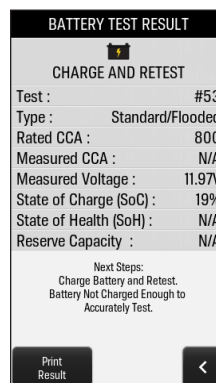
If a battery has tested good, however the tester detects normal wear. Recommend retesting battery in 3 months. months, as this battery may fail under extreme circumstances, and is nearing the end of its life.



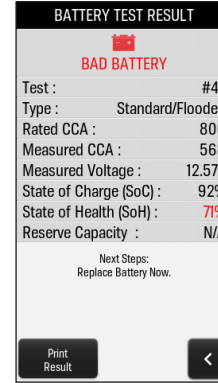
The battery tested good, however is low on charge, you will receive this message. Recommend charging battery.



You may get this message if the battery tests "low". Answer by touching the red "NO", or green "YES" button. If you are unsure, choose "NO".

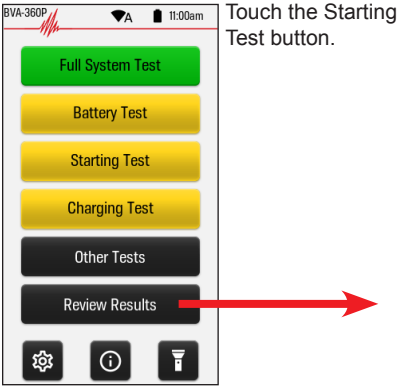


This screen will appear if "NO" was chosen above. Charge the battery and retest.

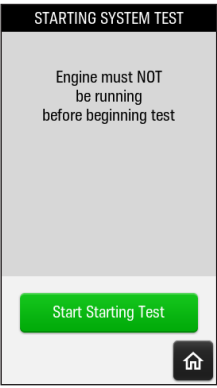


This screen will appear if the battery is bad, or if "YES" was chosen above. Replace the battery, as the battery tested bad, or did not properly accept a charge.

3 STARTING TEST



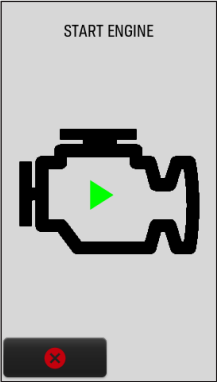
Touch the Starting Test button.



Make sure the engine is turned off, then touch the green Start Starting Test button.



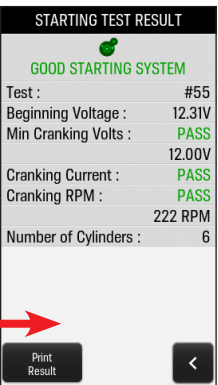
Connect the clamps as shown.



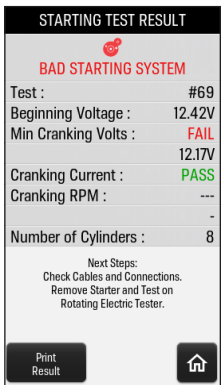
Start Engine as prompted. After starting of the engine, the tester may ask you if the engine is Gas or Diesel if more information is required to determine an accurate test result.



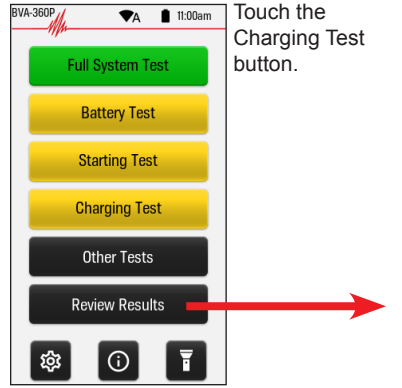
The BVA-360 may ask you to input how many cylinders the engine is.



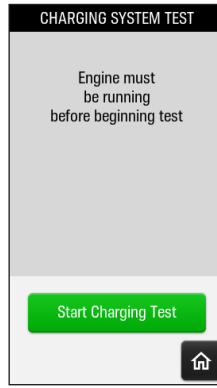
The starting system results will be displayed.



4 CHARGING TEST



Touch the Charging Test button.



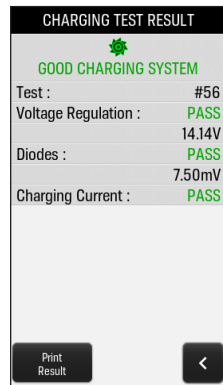
The engine must be running, so start the engine, then touch the green Start Charging Test button.



This message will come up if no clamps connected. Connect the clamps as shown.



Waiting for voltage to stabilize. The test will resume on its own, when stable.



The charging system results will be displayed.

