

# KINCROME

PROFESSIONAL QUALITY TOOLS

# CARBON PILE BATTERY LOAD TESTER

12V

TEST  
VEHICLES  
CHARGING  
SYSTEMS

ANALYZE  
BATTERY  
CONDITION

TEST  
STARTER  
MOTOR

UP TO  
500  
AMPS



KP1461

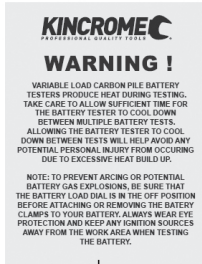
ED1 (SEPT 15)

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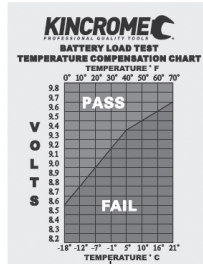
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## Know Your Product

1. DC Amps Display Meter
2. Carry Handle
3. DC Volts Display Meter
4. Battery Load Tester Dial
5. (+) Positive Battery Clamp
6. (-) Negative Battery Clamp
7. Battery Analysis Label (On R/H Side)
8. Product Safety Label (On L/H Side)



**8**



**7**

## Specifications

Model: .....	KP1461
Battery Test Capability: .....	12VDC Lead Acid Batteries
Load Test Capacity: .....	Adjustable Carbon Pile 0-500Amps @ 12VDC
Amps Meter: .....	0 - 160Ah (Amp Hour) 0 - 1000CCA (Cold Cranking Amps)
Volts Meter: .....	0-16VDC (Max)
Accuracy: .....	+/- 0.1VDC
Test Cycle: .....	15 Seconds Per Test (20 Seconds Max) 2 Minute Cool Down Per Test
Safety: .....	Test Buzzer After 15 Seconds

## General Safety Warnings



Save all warnings and instructions for future reference.

**WARNING!** Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

### 1) General Safety Warnings

- a) The warnings, cautions and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur.
- b) Common sense and caution are factors that cannot be built into this product, but must be supplied by the operator.

### 2) Work Area

- a) Operate in a safe work environment. Keep your work area clean and well lit.
  - b) Keep anyone not wearing the appropriate safety equipment away from the work area.
- Note: Minimize distractions in the work environment.**
- c) Distractions can cause you to lose control of the tool.
  - d) When connecting the carbon pile battery load tester cables to the battery, avoid creating sparks; especially when the battery is being charged. Explosive gases are created during charging. Sparking could also damage the vehicle electrical system.
  - e) Always lock up tools and keep them out of the reach of children

### 3) Personal Safety

- a) Wear ANSI-approved safety goggles during set up and use of the Battery Tester.
- b) Test in a well ventilated area. Explosive gases may be produced during testing. Do not smoke, cause sparks, or strike matches near the battery when testing.
- c) Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear steel-toed boots to prevent injury from falling objects.
- d) Refer to the user manual of the battery being tested for testing instructions and precautions prior to using the battery load tester.
- e) Do not connect in reverse polarity.
- f) Use this product in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of this product for operations different from those intended could result in a hazardous situation.
- g) This product is not a toy. Keep it out of reach of children.
- h) Maintain labels and nameplates on the unit. These carry important safety information. If unreadable or missing, contact Kincrome Tools for a replacement.
- i) People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure. Caution is necessary when near coil, spark plug cables, or distributor of running engine. Engine should be off during distributor adjustment.
- j) Undercharged lead-acid batteries will freeze during cold weather. Do not test or charge a frozen battery.
- k) Do not smoke or have open flames near the battery.
- l) Never remove battery load tester clamps while testing.

### 4) Risk of Electric Shock

- a) Never touch the clamps and the terminals with wet hands.
- b) Do not pull the clamps from the terminals by pulling on the clamp cables.
- c) Check the power cord and mains plug for damage before every use.
- d) Do not touch the cooling vents on the battery load tester during or immediately after testing the battery. They become very hot.
- f) When placing the carbon pile battery load tester in the vehicle's engine compartment, take special care that the metal housing of the battery load tester does not come in contact with either terminal of the battery or other electrical connections.
- g) Be certain of the test battery polarity before connecting the carbon pile tester battery clamps [5 & 6]. The RED (+) positive battery clamp (5) goes to the positive terminal of the battery. The BLACK (-) negative battery clamp (6) goes to the negative terminal of the battery. Reversing the carbon pile battery load tester battery clamps [5 & 6] on the battery will damage the carbon pile battery load tester.
- h) Do not drop the carbon pile battery tester as it may affect proper operation.
- i) Do not smoke or have open flames near the battery.

#### 4) Risk of Electric Shock (Continued)

- g) Do not connect the carbon pile battery load tester to the battery while the engine is running. Turn the engine off before connecting.
- h) The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.



**WARNING!** Never attach the unit to a battery that is connected to any other tester or charging unit. Damage may result.

#### 5) Tester Use and Care Instructions

This Carbon Pile Battery Load Tester was designed for a specific function.

**DO NOT:**

- 1. Modify or alter the carbon pile battery load tester, all parts and accessories are designed with built-in safety features that may be compromised if altered.
- 2. Use the carbon pile battery load tester in a way for which it was not designed.

#### 6) Icons on Product

The following symbols are shown on the product:



Hand protection should be used when operating this product.



Warning hot surface DO NOT TOUCH.



Eye Protection should be used when operating this product.



Warning!



Read the instruction manual before use.

#### 7) Unpacking

Unpack all the components from the box.

When unpacking the KP1461 500A Carbon Pile Battery Load Tester, carefully inspect for any damage that may have occurred during transit.

Check for loose parts, missing parts or damaged parts.

- 1. Ensure all packaging materials are disposed of as per your local council guide lines.

#### 8) Assembly

- 1. The KP1461 500A Carbon Pile Battery Load Tester comes fully assembled. Therefore no assembly is required!



**WARNING!** If any part is missing, do not operate the battery load tester until the missing parts are replaced. Failure to do so could result in serious personal injury.

## 9) Operation



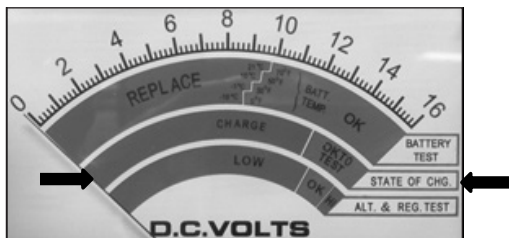
### WARNING!

1. Variable load carbon pile testers produce heat when in use. Take care to allow 2 minutes to cool down between tests to avoid injury due to heat build up of the tester body surface.
2. Ensure the carbon pile battery tester cables & all loose clothing is kept clear of the vehicles moving parts or hot surfaces.
3. Never incorrectly connect the RED (+ positive) battery clamp (5) or BLACK (- negative) battery clamp (6) to the vehicles battery terminals noted polarity. Doing so can cause damage to the battery tester or vehicles components and this is not covered under warranty by Kincrome.
4. Be sure the carbon pile battery load tester is OFF prior to use. Ensure the battery load tester dial (4) is in the OFF position (rotated anti clockwise as far as possible) before attaching or removing the RED (+ positive) battery clamp (5) or BLACK (- negative) battery clamp (6) to prevent arcing or potential explosion from battery gasses. Always use eye protection and keep any sparks away during testing.
5. During initial use of the carbon pile battery tester it is possible a small amount of smoke or burning smell can be experienced. This can be a result of a small amount of debris being left on the carbon pile element during the assembly of the product and is not of concern to the user or product. If the smoke or burning smell does not cease after the first 2-3 uses have the unit checked by a qualified service provider or sales representative.
6. Avoid carbon monoxide poisoning. This gas comes from the vehicle's exhaust and is colourless and odourless. It can cause serious injury or death if inhaled. Never run the vehicle's engine inside a garage or any other enclosed space.

## 10) Testing a Battery's State Of Charge

1. To help ensure a good connection, clean the battery terminals with a solution of baking soda and water, and wipe the battery terminals with a cloth to remove any dirt or grease.
2. Connect the RED (+ positive) battery clamp (5) to the positive terminal (+) on the battery.
3. Connect the BLACK (- negative) battery clamp (6) to the negative terminal (-) on the battery.
4. Twist the clamps slightly on the post to ensure a good connection.
5. With both the battery clamps connected, the carbon pile battery load tester's DC Volts display meter (3) will show the battery's state of charge.
6. Identify the batteries stage of charge by using the STATE OF CHARGE section in the centre of the DC Volts display meter (3) (Fig.1).
- 6a. If the display needle indicates less than 12.5VDC (or in RED area), disconnect the battery and recharge before re-testing.
- 6b. If recharging will not bring the voltage reading above 12.5V, the battery is defective.
- 6c. If the DC Volts display meter (3) indicates no reading, check that the carbon pile battery load testers battery clamps (5&6) are connected properly.
- 6d. If the carbon pile battery load tester is connected properly and still no reading, then the battery is defective.

Refer to your vehicles instruction manual for correct battery specification requirements, before fitting a new battery.



(Fig.1)

## 11) Load Testing the Battery



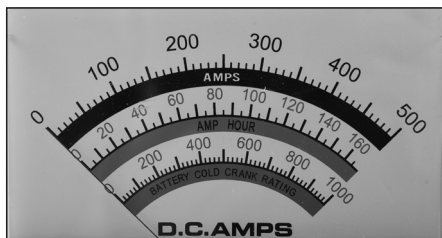
**WARNING:** Ensure the battery load tester dial (4) is fully rotated anti-clockwise (can not rotate any further) before attaching or removing + or - battery clamps (5 & 6) to prevent arcing and potential explosion from battery gases. Always shield eyes and keep sparks, flames or cigarettes away from batteries.

With the battery STATE OF CHARGE confirmed as "OK TO TEST" you can now proceed to check the condition of the battery via load testing.

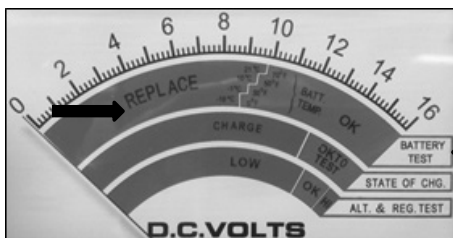
1. Inspect the batteries rating label to identify the battery CCA [Cold Cranking Amps] rating or Ah [Amp Hour] rating.  
**Note:** Once the CCA or Ah rating is confirmed you will need to calculate the load current amount that can be applied to the battery during a load test.
  - 1a. **General Cranking Batteries** → Load current that can be applied to the battery is ½ of the batteries indicated CCA rating.
  - 1b. **Marine or Deep Cycle Batteries** → Load current that can be applied to the battery is 3 times the battery Ah rating.
2. Connect the RED (+ positive) battery clamp (5) to the positive terminal (+) on the vehicles battery.
3. Connect the BLACK (- negative) battery clamp (6) to the negative terminal (-) on the vehicles battery.
4. Twist the clamps slightly on the post to ensure a good connection.
5. Rotate the battery load tester dial (4) clockwise until the required testing CCA or Ah rating is displayed/marked on the DC Amps display meter (1) [Fig.2].

**Note:** Ensure you **ONLY APPLY** the calculated load to the battery.

6. After 15 seconds of the load being applied via the battery load tester dial (4) a buzzer will sound.  
**Note:** The buzzer indicates the correct test time has been achieved and you need to quickly review the DC Volts meter (3) to identify the test results and remove the load by rotating the battery load dial (4) in a anti-clockwise direction.
  - 6a. If the needle in the DC Volts display meter (3) was indicating in the green area of the battery test scale then the battery is in good condition and has passed the battery load test (Fig.3).
  - 6b. If the needle is in the RED or replace area of the DC Volts meter (3) then the battery has failed the battery load test. Immediately remove the load applied to the battery by rotating the battery load test dial (4) anti-clockwise until is cannot be rotated any further. Once the battery load has been removed you can review the CCA, Ah rating indicated on the DC Amps meter (3) for the current battery rating.



(Fig.2)



(Fig.3)

## 12) Battery Condition Analysis Table

Load Test /15 Seconds (Display Reading)	DC Volts Display Meter Details
OK (GREEN Area)	Battery capacity is good. May or may not be fully charged. Check the charge state by testing the Specific Gravity (SG) with a Hydrometer. If SG is less than full charge, check for possible charging system trouble. Recharge to full level.
BAD (RED Area)	If the DC display meter (3) is falling, the battery is defective or has a bad cell. For a quick check, release the battery load tester dial (4) and note the display meter reaction. If voltage recovers to its full potential after only a few seconds, the battery is probably defective. If the voltage recovers slowly, the battery may only be run down. Check SG, recharge, and re-test.
CHARGING SYSTEM	If the DC volts display meter (3) needle reads OK, vehicles charging system appears to be functioning correctly. If the needle indicates in the low RED or high RED areas, the charging system may be malfunctioning.

## 13) Battery Load Analysis Label

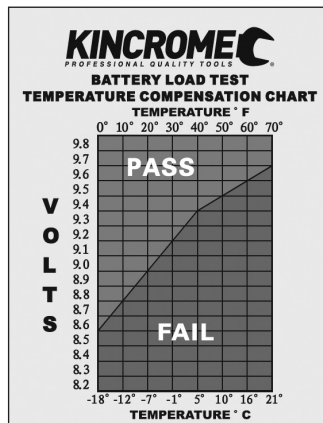
Many factors can contribute to variations in specifications being experienced when testing a battery.

Ambient temperature is the largest factor of battery output variation and this needs to be considered when testing a battery.

The battery analysis label (7) is located on the R/H side of the battery load tester and should be reviewed prior to testing a battery (Fig.4).

Test result variations can be factored into the test result details you experience to be sure you are assessing the battery condition correctly.

Ensure you review the battery analysis label (7) prior to use and adjust your test results according to the ambient temperature.



(Fig.4)

## 14) Testing the Vehicles Starter Motor

**Note:** The vehicles engine **MUST** be OFF, at normal operating temperature and the vehicles battery should be fully charged before doing this test.

**Caution:** Ensure the battery load tester dial (4) is fully rotated anti-clockwise (can not rotate any further) before performing this test.

1. Connect the RED (+ positive) battery clamp (5) to the positive terminal (+) on the battery.
2. Connect the BLACK (- negative) battery clamp (6) to the negative terminal (-) on the battery.
3. Disable the ignition of the vehicle so the engine will not run. (Refer to your vehicle's user/instruction manual or automotive professional for advice).

**⚠ WARNING!** Avoid carbon monoxide poisoning. This gas comes from the vehicle's exhaust and is colourless and odourless. It can cause serious injury or death if inhaled. Never run the vehicle's engine inside a garage or any other enclosed space.

4. Have an assistant crank the vehicles engine so you can view the DC Volt display meter (3) and note the voltage reading on the DC Volts display meter (3) during cranking.
- 4a. A reading of 9 volts or less indicates excessive current draw. This may be due to a poor connection, a failing starter motor, or a battery of insufficient size for the motor.

## 15) Testing the Vehicles Charging System

**Note:** The engine should be at normal operating temperature during this test.

**⚠ WARNING!** Avoid carbon monoxide poisoning. This gas comes from the vehicle's exhaust and is colourless and odourless. It can cause serious injury or death if inhaled. Never run the vehicle's engine inside a garage or any other enclosed space.

**Caution:** Ensure the battery load tester dial (4) is fully rotated anti-clockwise (can not rotate any further) before performing this test.

1. Connect the RED (+ positive) battery clamp (5) to the positive terminal (+) on the vehicles battery.
2. Connect the BLACK (- negative) battery clamp (6) to the negative terminal (-) on the vehicles battery.
3. Turn off all accessories within the vehicle including headlights, spotlights, stereos, vehicle fridges, air conditioning, heaters and personal charging devices.

**WARNING!:** Never start and run the vehicle's engine in a closed garage.

4. Ensure the vehicle is outside, or in a well-ventilated area, start the vehicle's engine and run at fast idle speed.
5. View the DC volts display meter (3) and read the ALT & REG Test indicator located on the lowest section of the DC Volts display meter (4) (Fig.5).
- 6a. Needle in the GREEN area indicates the vehicles Alternator and/or Regulator appears to be functioning correctly.
- 6b. Needle in the RED area indicates there could be an issue with the vehicles charging system and should be checked by a professional.
7. To double check that the vehicles alternator or regulator is functioning correctly, apply additional voltage load to the battery while the engine is still at fast idle and then turn on the vehicles headlights, air conditioning, heater etc, and the needle should remain in the GREEN area of the "ALT & REG TEST" section (Fig.5).



(Fig.5)



## 16) Care, Maintenance & Storage

1. Clean the outside of the carbon pile battery load tester with a damp cloth.
2. Never use solvents to clean any parts of the carbon pile battery load tester.
3. Using compressed air carefully blow out debris from the load vents.
4. After each use, clean the battery clamps (5&6) of any possible battery electrolyte (corrosion).
5. Apply a thin coat of silicon grease to prevent corrosion (Not Supplied).

## 17) Spare Parts

There are no spare parts available for this carbon pile battery load tester.

## 18) Service

Have your product serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the product is maintained.

## 19) Office Contact Details



**Phone:** 1300 657 528



**Fax:** 1300 556 005



**Email:** [enquiries@kincrome.com.au](mailto:enquiries@kincrome.com.au)



**Website:** [www.kincrome.com.au](http://www.kincrome.com.au)

## 20) Caring For The Environment



When a tool is no longer usable it should not be disposed of with household waste, but in an environmentally friendly way. Please recycle where facilities exist. Check with your local council authority for recycling advice.



Recycling packaging reduces the need for landfill and raw materials. Reuse of recycled material decreases pollution in the environment. Please recycle packaging where facilities exist. Check with your local council authority for recycling advice.

## 21) Warranty



Warranty given by Kincrome Australia Pty Ltd of 3 Lakeview Drive, Caribbean Park, Scoresby, Victoria [Tel 1300 657 528]. The applicable warranty period (12 months) commences on the date that the product is purchased. If this product has materials or workmanship defects (other than defects caused by abnormal or non warranted use) you can, at your cost, send the product to place of purchase, an authorised Kincrome service agent or one of Kincromes addresses for repair or replacement. Your rights under this warranty are in addition to any other rights you have under the Australian Consumer Law or other applicable laws. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. For further details please visit [www.kincrome.com.au](http://www.kincrome.com.au) or call us. Due to minor changes in design or manufacture, the product you purchase may sometimes differ from the one shown on the packaging.

**Notes:**



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