



# Assembly & Instruction Manual

## 100 AMP LOAD BATTERY AND CHARGING SYSTEM TESTER

### Model 4240



Distributed Exclusively By



**CUMMINS**  
INDUSTRIAL TOOLS



**THANK YOU FOR BUYING CUMMINS INDUSTRIAL TOOLS**  
Your new 100AMP Load Battery And Charging System Tester has been engineered and manufactured to Cummins tools high standards for dependability, ease of operation, and operator safety. Properly cared for, it will give you years of rugged, trouble-free performance

**CAUTION:** Carefully read through this entire operator's manual before using your new machine

Pay close attention to the Rules for Safe Operation, Warnings, and Cautions. If you use your machine properly and only for what it is intended, you will enjoy years of safe, reliable service.

**SAVE THIS MANUAL FOR FUTURE REFERENCE**



**WARNING**

To reduce risk of injury, everyone using, installing, repairing, maintaining, or changing accessories on your machine must read and understand these instructions before performing any work.

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You can purchase additional items at [www.cumminstools.com](http://www.cumminstools.com)

## Safety Warnings and Precautions

**WARNING:** When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

**Read all instructions before using this tool!**

1. **Keep work area clean.** Cluttered areas invite injuries.
2. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted.
3. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
4. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
5. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
6. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
7. **Use eye protection.** Always wear ANSI approved impact safety glasses underneath a full face shield during use. Also, wear heavy duty work gloves.
8. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.
9. **Maintain tools with care.** Keep tools clean for better and safer performance. Follow instructions for lubricating and changing accessories. The handles must be kept clean, dry, and free from oil and grease at all times.
10. **Remove adjusting keys and wrenches.** Check that keys and adjusting wrenches are removed from the tool or machine work surface before starting work.
11. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
12. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Any part that is damaged should be replaced.
13. **Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Cummins Industrial Tools.
14. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.

**Warning:** The warnings, cautions, and instructions discussed in this instruction 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.

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## SPECIFICATIONS

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| Item                   | Description   |
|------------------------|---|
| Capability             | 6 and 12 VDC battery tester with charging system output           |
| Load Test Capacity     | 100 amps; 50~1000 cold cranking amps                              |
| Display Meter          | Analog, 0~16 VDC (maximum)  |
| Test Cycle             | 10 seconds per test with 1 minute cool down; 3 tests in 5 minutes |
| Battery Cable / Clamps | 16-3/4 inch; Copper plated clamps                                 |
| Overall Dimensions     | 12-3/4 (L) x 6 (W) x 3 (D) inches                                 |
| Features               | Carrying handle and four rubber feet                              |

### Save This Manual

You will need the manual for the safety warnings and precautions, operating and maintenance procedures. Keep your invoice with this manual in a safe and dry place for future reference.

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## SAFETY PRECAUTIONS

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### WARNING!

**READ AND UNDERSTAND ALL INSTRUCTIONS.** Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.

**SAVE THESE INSTRUCTIONS**

1. Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents.
2. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes.
3. Keep bystanders, children, and visitors away while operating a power tool. Distractions can cause you to lose control. Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed.
4. Do not force the tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.
5. Do not use the power tool if the Power Switch does not turn it on or off. Any tool that cannot be controlled with the Power Switch is dangerous and must be replaced.
6. Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

- Maintain tools with care. Keep clean. Do not use a damaged tool. Tag damaged tools "Do not use" until repaired.
- Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.
- Maintain labels and nameplates on this tool. These carry important information. If unreadable or missing, contact Cummins Industrial Tools for a replacement.
- Always wear ANSI approved safety impact eye goggles and heavy work gloves when using this tool. Using personal safety devices reduce the risk for injury. Safety impact eye goggles and heavy work gloves are available from Cummins Industrial Tools.
- Maintain a safe working environment. Keep the work area well lit. Make sure there is adequate surrounding workspace. Always keep the work area free of obstructions, grease, oil, trash, and other debris. Do not use this tool in areas near flammable chemicals, dusts, and vapors. Do not use this product in a damp or wet location.

### **CAUTION!**

Battery acid may cause severe injury to eyes; always wear ANSI approved safety goggles. Avoid touching eyes while working with or near a battery. **In case of accidental contact, rinse eyes with clean water for at least 5 minutes and see a doctor immediately.**

**WARNING! People with pacemakers should consult their physician(s) before using this product. Operation of electrical equipment in close proximity to a heart pacemaker could cause interference or failure of the pacemaker.**

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## **SPECIFIC SAFETY RULES FOR THE BATTERY TESTER**

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- When connecting the Battery Cables to the battery, avoid creating sparks (always connect and disconnect clamps exactly as described in rule number 2, below, and on page 4), especially when the battery is being charged. Explosive gases are created during charging. Sparking could also damage the vehicle electrical system.
- Be certain of the test battery polarity before connecting the test Cable Clamps. The red Cable Clamp (A) goes to the positive terminal of the battery. The black Cable Clamp (B) goes to the negative terminal of the battery.
- When placing the Battery Tester in the vehicle (on the frame, engine, or fender), take special care that the metal housing of the Battery Tester does not come in contact with either terminal of the battery or other electrical connections.
- Do not drop the Battery Tester as it may affect proper operation.
- Do not smoke or have open flames near the battery.

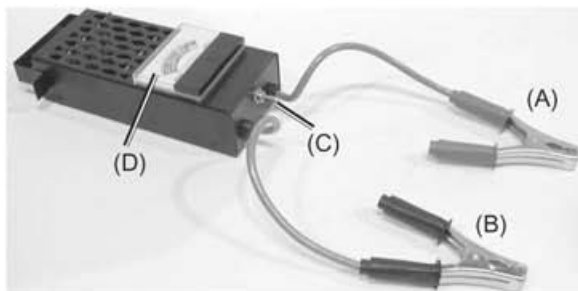
6. Reversing Battery Tester Cable Clamps on the battery will damage the tester.
7. Do not connect the Battery Tester to the battery while the battery is being charged. Turn the engine off before connecting.
8. Do not touch the cooling vents on the Battery Tester immediately after testing the battery. They become very hot.

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## UNPACKING

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When unpacking, check to make sure that all the parts are included. Refer to the Assembly section, and the Assembly Drawing and Parts List at the end of this manual.



If any parts are missing or broken, please call Cummins Industrial Tools at the number on the cover of this manual as soon as possible.

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## OPERATING INSTRUCTIONS

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### Testing the Battery

**CAUTION! Undercharged lead-acid batteries will freeze during cold weather. NEVER TEST OR CHARGE A FROZEN BATTERY.**

1. To help ensure a good connection, clean battery terminals with a solution of baking soda and water, and wipe the battery terminals with a cloth to remove any dirt and grease.
2. Connect the red (positive) Cable Clamp (A) to the positive terminal (+) on the 6 or 12 V lead-acid battery. (See photo above.)
3. Connect the black (negative) Cable Clamp (B) to the negative terminal (-) on the battery. Turn clamps slightly to ensure a good connection.
4. With the clamps connected, the tester's gauge will show the battery's current charge. If it is less than 12 V, disconnect the battery and recharge before testing. If recharging will not bring the reading above 12 V the battery is defective. If it shows no reading, verify that the tester is connected properly. If the tester is connected properly, the battery is defective.
5. Press (and hold) the Toggle Switch (C) for at least 5 seconds to simulate an actual load on the battery.

- View the Meter Display (D) and read the battery condition. Refer to the "Battery Condition Analysis" section below.
- Release the Toggle Switch (C) and remove the Cable Clamps from the battery.

### Testing the Charging System

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

- Connect the Cable Clamps (A, B) to the battery as previously described.
- Outside, or in a well ventilated area, start the vehicle engine and run at fast idle speed. Never start and run the vehicle's engine in a closed garage.

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

- View the Meter Display (D) and read the charging system condition (far right on the gauge). Refer to the "Battery Condition Analysis" section below.

**CAUTION! DO NOT** press the Toggle Switch (C) during this test.

### Battery Condition Analysis



| LOAD TEST / 5 Sec.<br>(Display Reading) | BATTERY CONDITION  |
|---|--|
| OK<br>(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.  |
| WEAK<br>(yellow area)                   | If the Display Meter needle is steady, the battery capacity is not good. Battery may be defective or partly discharged. Check SG. If over 1.225, the battery is defective. If below 1.225, recharge battery and re-test. If there is a difference in SG between cells over 2 points (0.025), a particular cell may be damaged. If charging does not bring SG to full charge level, then battery is either sulfated, or has lost its active material. |
| BAD<br>(red area)                       | If the Display Meter needle is falling, the battery is defective or has a bad cell. For a quick check, release the load Toggle Switch and note 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<br>(white area)         | If the Display Meter needle reads OK, charging system is functional. If it falls on the low red or high red areas, charging system may be malfunctioning.  |

## Testing the Starter

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

1. Connect the Cable Clamps (A, B) to the battery as previously described.
2. Disable the ignition so the engine will not start. (Refer to your vehicle's manual.)
3. Have an assistant crank the engine. Note the voltage reading during cranking.
4. View the Meter Display (D) and read the voltage. A reading of 9 Volts or less indicates excessive current draw. This may be due to a poor connection, a failing starter, or a battery of insufficient size for the motor.

**CAUTION! DO NOT** press the Toggle Switch (C) during this test.

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## **INSPECTION, MAINTENANCE, AND CLEANING**

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1. Periodically recheck all nuts, bolts, and screws for tightness.
2. Store in a clean and dry location.
3. Clean the outside of the unit with a damp cloth. Never use solvents to clean any part of this tool. Use compressed air to blow out debris from the load vents.
4. After each use, clean the Cable Clamps of any possible battery electrolyte. Apply a thin coat of silicon grease to prevent corrosion.

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## **REPLACEABLE PARTS**

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**The Battery Tester has no replaceable parts.**

### PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.