

# ironton™

## 6/12V 100 AMP BATTERY LOAD TESTER

### Owner's Manual



**⚠ WARNING:** Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

**Item #5826581**

**SAVE THESE INSTRUCTIONS**

Thank you very much for choosing a Ironton product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code: \_\_\_\_\_

Purchase Date: \_\_\_\_\_

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This product is designed for certain applications only. Northern Tool and Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-222-5381**.

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## **WARNING**

- Explosive gases! Prevent flames and sparks. Provide adequate ventilation during charging.
- For indoor use. Do not expose to rain.
- For test 6/12V lead acid automotive type batteries only.
- Make sure the area around the battery tester is free from spark or flame when testing automotive batteries. Not doing so may cause serious damage to vehicle's electronic circuitry, thereby resulting in fire or explosion.
- Never smoke when working near a battery or engine.
- Do not drop a metal tool on the battery, as doing so can create a spark or short circuit in the battery or other electrical parts, resulting in battery explosion.
- Never reverse the connection between the positive / negative clamps of the battery tester and battery terminals.
- Do not connect the positive/negative clamps to battery terminals when the spring-loaded switch is in the ON position.
- Always operate the battery tester in a well-ventilated area.

## **WARNING**

### **PERSONAL SAFETY**

- Stay alert, watch what you are doing, and use common sense when operating the battery tester
- Do not use the unit while you are tired or under the influence of drugs, alcohol, or medication.
- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing, and gloves away from the battery.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety goggles (not safety glasses) with side shields, or when needed, a face shield.
- Ensure the power switch is off after each use.
- The surface of case may be hot after use, ensure to hold handle always, avoid touch front case!



**Wear protective gloves throughout the operation to avoid scald!**

# WARNING

## WORK AREA SAFETY

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well-lit.
- Cluttered, wet, or dark work areas can result in injury. Using the product in confined work areas may put you dangerously close to cutting tools and rotating parts.
- Do not use this battery tester where there is a risk of causing a fire or an explosion, e.g., in the presence of flammable liquids, gases, or dust. The product can create sparks, which may ignite flammable liquids, gases, or dust.
- Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the product.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

## TECHNICAL PARAMETERS

Part Number	5826581
Tester Type	Portable pointer load tester
Battery Type	6V / 12V
Charging System Test	12V
Starting System Test	12V
Meter Scale Range	0V ~ 16V DC
Meter Scale Graduation	0.2V

## MAIN FEATURES

### **ADJUSTMENT SCREW**

The screw is used to set the dial pointer to zero on the battery / charging system scale.

### **METER SCALE**

The scale represents the "state of charge" of the battery. Use the 6-volts or 12-volts on the scale to check the voltage level and condition of 6 V and 12 V batteries during the battery load test. Use the charging system section on the scale to check the voltage level and condition of the battery during the charging system test.

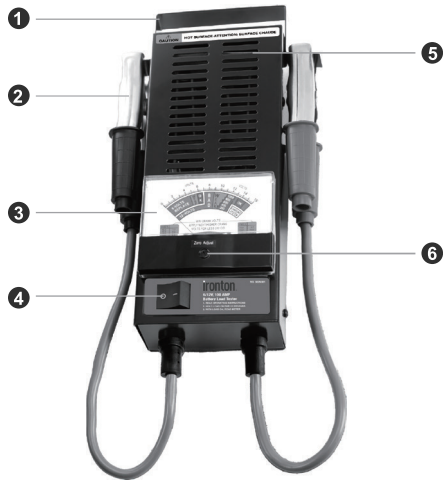
### **POSITIVE AND NEGATIVE CLAMPS**

These clamps are connected to the positive and negative terminals of the battery respectively.

### **SPRING-LOADED SWITCH**

This switch must be held ON for 10 seconds while testing the 6V or 12V batteries.

## PRODUCT ILLUSTRATION



1. Handle
2. Clamps
3. Display gauge
4. Spring-loaded Switch
5. Dissipation window
6. Adjustment Screw

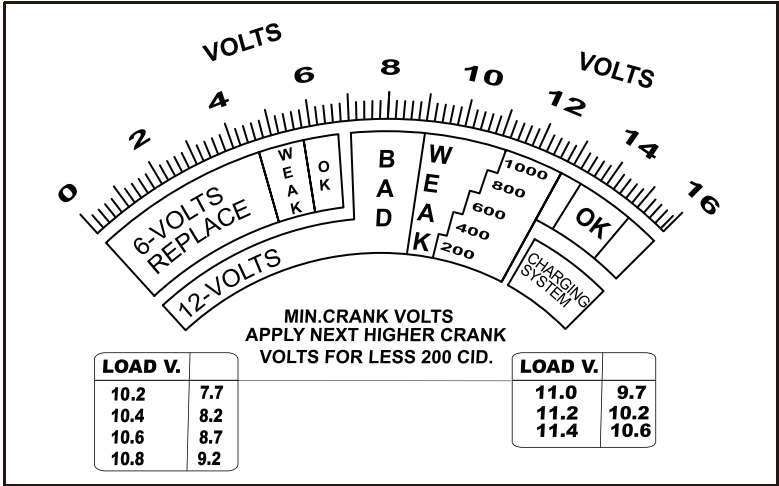
## TEMPERATURE COMPENSATION

This battery tester's accuracy will be affected by cold temperatures. For every 20°F (11°C) drop in battery temperature, the battery tester will indicate the battery nominal rating of 200 cranking amperes less than the actual rating of the battery.

BATTERY TEMPERATURE	DECREASE IN BATTERY RATING
6.7°C (20°F)	1 Step
-17.8°C (0°F)	2 Step
-28.9°C (-20°F)	3 Step

\*1 step = 200 cranking AMPs

Consider the case if the battery tester tests a battery with nominal rating of 1000 CCA.

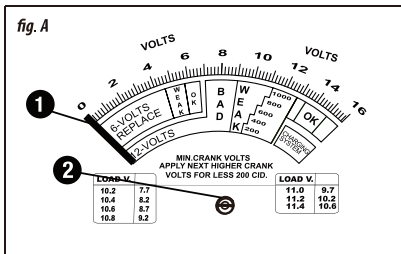


Refer to the table below for the position of the dial pointer in the meter scale with respect to drop in temperature:

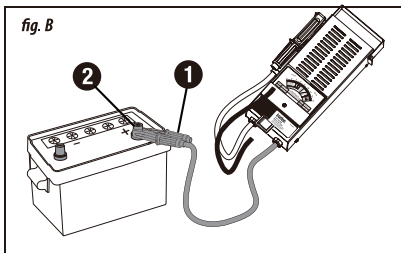
BATTERY BAND	BAND	METER SCALE
40F (4.5C)	Green band	Dial pointer to right of 1000
20F(-6.7°C)	Green band	Dial pointer to right of 800
0F (-17.8C)	Green band	Dial pointer to right of 600
-20°F (-28.9C)	Green band	Dial pointer to right of 400

## BATTERY LOAD TEST

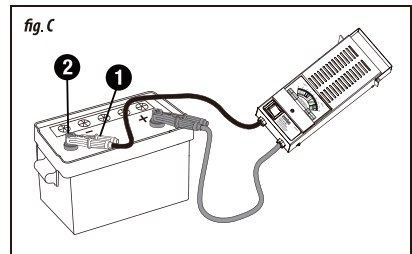
1. Ensure the dial pointer (1) on the meter scale is pointing at zero. If not, set the dial pointer using the adjustment screw (2) (fig.A).



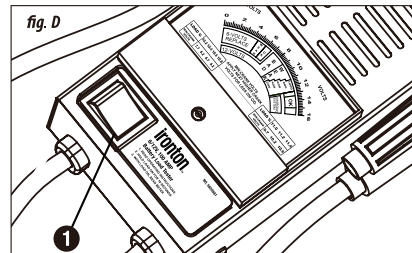
2. Connect the positive (red) clamp (1) of the battery tester to positive terminal (2) of the battery (fig.'B).



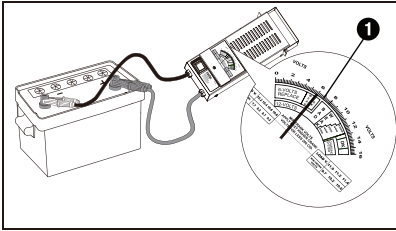
3. Connect the negative (black) clamp (1) of the battery tester to negative terminal (2) of the battery (fig.C).



4. Push the spring-loaded switch (1) to ON position and hold the switch for at least 10 seconds (fig. D).



5. Holding the spring-loaded switch in the ON position, check the 6-volts or 12.volts section (1) of the meter scale to identify the voltage 'level and condition of the battery (fig.E).



### WARNING!



A spark near a battery may cause a battery explosion!

NOTE: a marine battery installed in a boat must be removed and charged on shore. To charge it onboard requires equipment specially designed for marine use.

## BATTERY ANALYSIS CHART

LOAD TEST	BATTERY CONDITION
OK (GREEN BAND)	Battery capacity is good. Unit may or may not be fully charged. check state of charge (Specific Gravity) with a hydrometer. If SG is less than a full charge level, check for possible system trouble. Recharge battery to full.
WEAK OR BAD (NEEDLE STEADY)	Battery capacity is insufficient. Battery may be defective or partially charged. To determine which, check SG, If SG is over 1.225, the battery is defective. If SG is below 1.225, recharge battery and retest. If difference in cell-to-cell SG is greater than 0.025 (2 points), cell trouble may exist. If charge does not bring SG to full charge level, battery is either sulfated or has lost active material.
WEAK OR BAD (NEEDLE FAILING)	Battery may be defective (possibly a bad cell). For a quick check, release load switch and note voltmeter reaction, If voltage recovers to its full potential after a few seconds the battery is probably defective. If voltage recovers slowly, battery may only be very run down. For more accurate results, check SG using above procedure.

## CHARGING SYSTEM TEST

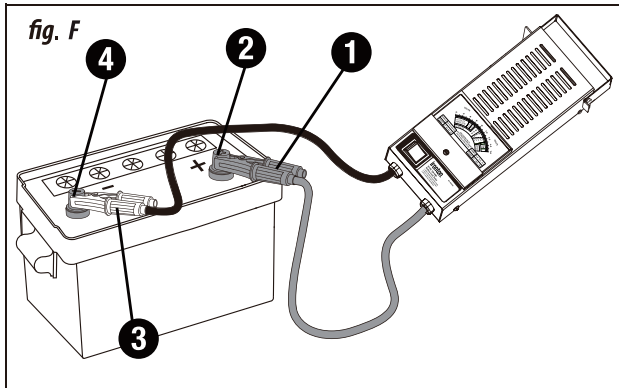
- Turn off all the vehicle lights and electrical accessories.
- Connect the positive (red) clamp (1) of the battery tester to the positive terminal (2) of the engine battery and connect the negative (black) clamp (3) to the negative terminal (4) of the engine battery (fig. F).
- Run the vehicle engine at a fast idle speed.



### WARNING!

A spark near a battery may cause a battery explosion!

NOTE: a marine battery installed in a boat must be removed and charged on shore. To charge it onboard requires equipment specially designed for marine use.



## BATTERY ANALYSIS

METER SCALE (CHARGING SYSTEM SECTION)	BATTERY CONDITION
Dial pointer indicates green (OK) band.	The battery capacity is good.
Dial pointer indicates red band.	The battery capacity is insufficient. Check the operating condition of the charging system.

## STARTER MOTOR TEST

Connect the positive and negative clamps to the battery terminals.

Note the exact voltage in the meter scale.

**Note:** This test cannot be performed if the voltage continues to drop after 10 seconds.

- Disable the ignition system of the vehicle so that the spark plugs will not fire.
- Crank the engine and check the voltage on the meter scale.

**Note:** If the reading is lower than the minimum cranking voltage, there is excessive current draw in the starting system. Check for poor connection, corrosion, defective cables, or a defective starter motor or solenoid.

**Refer to this table for identifying minimum cranking voltage**

LOAD VOLTAGE (FROM BATTERY LOAD TEST)	MINIMUM CRANKING VOLTAGE
10.2	7.7
10.4	8.2
10.6	8.7
10.8	9.2
11.0	9.7
11.2	10.2
11.4	10.6

**Note:** This table is also provided below the meter scale of the battery tester.

## MAINTENANCE

- After use, disconnect the positive and negative clamps of the battery tester from the battery terminals.
- The positive and negative clamps of the battery tester are liable to come into contact with battery electrolyte. Clean and dry the exterior surface of the battery tester after use to prevent accumulation of dust and dirt.
- Apply a thin film of silicon grease to the tester to prevent corrosion.

## LIMITED WARRANTY

Northern Tool and Equipment Company, Inc. "We" or "Us" warrants to the original purchaser only ("You" or "Your") that the Ironton product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of **3 months** from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

### **Limitations on the Warranty**

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

### **Obligations of Purchaser**

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim, any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

### **Remedy Limits**

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

### **Assumption of Risk**

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

### **Governing Law**

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.

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