

[Manuals.plus](#) /

› [ES](#) /

› ES ESI 700 100 Amp Battery Load Tester Instruction Manual

ES 700

ES ESI 700 100 Amp Battery Load Tester Instruction Manual

Model: 700

1. INTRODUCTION

The ES ESI 700 Battery Load Tester is designed to evaluate the condition of 6-volt and 12-volt automotive batteries, test the starter motor's current draw, and assess the vehicle's charging system. This device features an internal 100-ampere loading capacity, making it suitable for identifying batteries that may struggle under the demands of modern automotive accessories. This manual provides essential instructions for safe and effective operation.

2. SAFETY INFORMATION

Always observe the following safety precautions when using the battery load tester:

- Wear appropriate eye protection and protective clothing.
- Ensure adequate ventilation when working with batteries, as they can produce explosive gases.
- Avoid sparks, flames, or smoking near batteries.
- Connect the tester clamps to the battery terminals correctly: red clamp to positive (+), black clamp to negative (-). Incorrect connection can damage the tester or battery.
- Do not operate the load switch for more than 10 seconds at a time to prevent overheating of the tester. Allow a 1-minute cool-down period between tests.
- Keep hands and clothing clear of moving engine parts when performing tests with the engine running.

3. PRODUCT OVERVIEW

The ESI 700 Battery Load Tester is a robust tool designed for quick and accurate battery diagnostics.





A front view of the ESI 700 Battery Load Tester, showing its blue metal casing, integrated analog meter, red load switch, and heavy-duty red and black battery clamps.

Components:

- **Analog Meter:** Displays battery voltage, battery capacity in Cold Cranking Amps (CCA), and charging system status.
- **Load Switch:** Activates the 100-amp load for battery testing.
- **Heavy-Duty Battery Clamps:** Red for positive (+), black for negative (-).
- **Ventilated Casing:** Blue metal casing with ventilation holes to dissipate heat during load testing.
- **Carrying Handle:** For portability and hanging.

4. SETUP

Before performing any tests, ensure the battery terminals are clean and free of corrosion. Follow these steps to connect the tester:

1. Ensure the vehicle's ignition is off and all accessories are turned off.
2. Connect the **red** positive (+) clamp to the positive (+) battery terminal.
3. Connect the **black** negative (-) clamp to the negative (-) battery terminal.
4. Once connected, the analog meter will display the battery's open-circuit voltage.

5. OPERATING INSTRUCTIONS

5.1. Battery Load Test (6V & 12V)

This test assesses the battery's ability to hold voltage under a significant load.

1. Ensure the tester is correctly connected to the battery terminals (Section 4).
2. Observe the open-circuit voltage reading on the analog meter.
3. Press and hold the red load switch for a maximum of **10 seconds**.
4. While holding the switch, read the voltage displayed on the analog meter.
5. Release the load switch immediately after reading the voltage or after 10 seconds, whichever comes first. Allow the tester to cool for at least 1 minute between tests.

Interpreting the Meter (Load Volts):

- Refer to the 'BATTERY CAPACITY IN COLD CRANKING AMPS (CCA)' table on the tester's face.
- Locate the CCA rating of your battery (usually printed on the battery itself).
- Find the corresponding 'LOAD VOLTS' row for your battery's voltage (6-VOLTS or 12-VOLTS).
- Compare your measured load voltage to the values in the table. A voltage below the recommended minimum for your battery's CCA indicates a weak or bad battery.

Battery Capacity in Cold Cranking Amps (CCA)

	CCA Rating						
	200	400	600	800	1000	Next Higher Crank Volts	
LOAD VOLTS (12-VOLTS)	10.2	10.4	10.6	10.8	11.0	11.2	11.4
MIN. CRANK VOLTS (STARTER)	7.7	8.2	8.7	9.2	9.7	10.2	10.6

The meter also has color-coded zones: **OK**, **WEAK**, and **BAD**. These provide a general indication of battery health.

5.2. Starter Motor Test

This test measures the voltage drop during engine cranking, indicating the starter's performance.

1. Ensure the tester is correctly connected to the battery terminals (Section 4).
2. Disable the ignition system (e.g., remove the fuel pump fuse or spark plug wires) to prevent the engine from starting.
3. Have an assistant crank the engine for approximately 5-10 seconds while you observe the lowest voltage reading on the analog meter.
4. Stop cranking the engine.

Interpreting the Meter (Min. Crank Volts):

- Refer to the 'MIN. CRANK VOLTS (STARTER)' row in the CCA table above.
- Compare your lowest measured cranking voltage to the values. A voltage significantly below the recommended minimum for your battery's CCA rating may indicate a weak battery, a faulty starter motor, or poor connections.

5.3. Charging System Test

This test checks if the vehicle's alternator is properly charging the battery.

1. Ensure the tester is correctly connected to the battery terminals (Section 4).
2. Start the vehicle's engine and let it idle.
3. Observe the voltage reading on the analog meter.
4. Increase engine RPM to approximately 1500-2000 and observe the voltage again.

Interpreting the Meter (Charging System):

- The meter has a dedicated 'CHARGING SYSTEM' zone, typically in the 13-15 volt range for a 12V system.
- A stable voltage reading within the 'CHARGING SYSTEM' zone (e.g., 13.5V to 14.5V for a 12V system) indicates a healthy charging system.
- Readings consistently below this range may indicate a faulty alternator or regulator. Readings significantly above this range may indicate an overcharging condition.

6. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your ESI 700 tester.

- **Cleaning:** Wipe the tester's casing and clamps with a clean, dry cloth after each use. Do not use abrasive cleaners or solvents.
- **Storage:** Store the tester in a dry, cool place, away from direct sunlight and extreme temperatures. Ensure the cables are neatly coiled and the clamps are not touching each other or conductive surfaces.
- **Inspection:** Periodically inspect the cables and clamps for any signs of damage, fraying, or corrosion. Replace if necessary.

7. TROUBLESHOOTING

If you encounter issues with your ESI 700 tester, refer to the table below:

Problem	Possible Cause	Solution
No voltage reading when connected	Poor connection; Dead battery; Damaged cables/clamps	Ensure clamps are securely attached and terminals are clean. Check battery voltage with a voltmeter. Inspect cables for damage.
Tester gets excessively hot during load test	Load switch held too long	Do not hold the load switch for more than 10 seconds. Allow 1 minute cool-down between tests.
Inconsistent readings	Loose connections; Corroded terminals; Internal fault	Check all connections. Clean battery terminals. If problem persists, contact customer support.

8. SPECIFICATIONS

- **Model:** 700
- **Brand:** ES (Electronic Specialties)
- **Test Capacity:** 6-volt and 12-volt batteries
- **Load Capacity:** 100 Amperes (internal)
- **Power Source:** Battery Powered (from battery under test)
- **Item Weight:** Approximately 1 Pound
- **UPC:** 855174001359
- **Manufacturer:** ELECTRONIC SPECIALTIES

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the manufacturer, Electronic Specialties, directly. Keep your proof of purchase for warranty claims.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

Open the live page

<https://manuals.plus/asin/B0013GO6G4>

More documents and user manuals: <https://manuals.plus/>