

100 AMP BATTERY LOAD TESTER

Item Number W2988

OWNER'S MANUAL

1 YEAR WARRANTY

PERFORMANCE TOOL® extends only the following warranties, and only to original retail purchasers. These warranties give specific legal rights. Except where prohibited by local law, the law of the State of Washington governs all warranties and all exclusions and limitations of warranties and remedies. There may be other rights which vary from state to state.

PERFORMANCE TOOL® warrants the product to be free from defects in materials and workmanship under normal use and service. A defective product may be returned for a free replacement within 90 days from the date of purchase, provided that product is returned to place of purchase immediately after discovery of defect. After 90 days and up to one year from date of purchase, PERFORMANCE TOOL® will replace at no charge any parts which our examination shall disclose to be defective and under warranty. These warranties shall be valid only when a sales receipt showing the date of purchase accompanies the defective product or defective part (s) being returned. For part (s) after 90 days, please remit your request, postage prepaid to:

PERFORMANCE TOOL, P.O. Box 88259 Tukwila, WA 98138

These warranties exclude blades, bits, punches, dies, bulbs, fuses, hoses, and other consumables which must be replaced under normal use and service. These warranties shall not apply to any product or part which is used for a purpose for which it is not designed, or which has been repaired or altered in any way so as to affect adversely its performance or reliability, nor shall these warranties apply to any product or part which has been subject to misuse, neglect, accident or wear and tear incident to normal use and service.

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The laws on limitation of implied warranties may differ from state to state, so the above limitations may not apply in all cases.

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▲WARNING: READ, UNDERSTAND AND FOLLOW ALL INSTRUCTIONS AND WARNINGS BEFORE OPERATING THIS TOOL. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE AND WILL VOID WARRANTY.

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SAFETY GUIDELINES / DEFINITIONS

This instruction manual is intended for your benefit. Please read and follow the safety, installation, maintenance and troubleshooting steps described within to ensure your safety and satisfaction. The contents of this instruction manual are based upon the latest product information available at the time of publication. The manufacturer reserves the right to make product changes at any time without notice.

▲WARNING: Read and understand this entire instruction manual before attempting to assemble, install, operate or maintain this product. Failure to comply with the instructions may result in serious personal injury and/or property damage!

The following signal words are used to emphasize safety warnings that must be followed when using this product:

▲DANGER: Indicates an imminently hazardous situation that, if not avoided, WILL result in death or serious injury.

▲CAUTION: Indicates a potentially hazardous situation that, if not avoided, MAY result in minor or moderate injury.

▲WARNING: Indicates a potentially hazardous situation that, if not avoided, COULD result in death or serious injury.

▲NOTE: Indicates important information, which if not followed, MAY cause damage to equipment.

IMPORTANT SAFETY INFORMATION

▲WARNING! - RISK OF EXPLOSIVE GASES

- Working in the vicinity of a lead acid battery is dangerous. Batteries generate explosive gases during normal battery operation. For this reason, it is of utmost importance that each time before using your tester; you read these instructions carefully and follow instructions by battery maker as well.
- To reduce risk of battery explosion, follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use in the vicinity of the battery. Observe cautionary markings on these items.

TESTING THE BATTERY

- Check if the needle of the instrument points to the zero position on the graduated disc; if not, turn the zero adjuster in the middle of the instrument cover until it points to zero.
- Connect the red clamp to the positive terminal of the battery, while the black one is connected to the negative terminal. The instrument needle should move away from the zero to the right side. If the needle moves the other direction, this means that the clamp connection is wrong. If there is no reading at all check to ensure the testing clamps are properly connected to the terminals.
- Turn the load switch on the tool to the ON position. Keep the unit on until the needle is steady but do not exceed 10 seconds.
- Read the battery state on the graduated disc.

TESTING THE CHARGING SYSTEM

- Connect the tester the same as for battery testing
 - Start the engine and allow it to reach normal operating temperature
 - Run engine at 1200 to 1500 rpm.
- ▲CAUTION:** STAY CLEAR OF MOVING ENGINE PARTS. DO NOT PRESS THE LOAD SWITCH.
- Read the meter. A reading in the red band area indicates a problem in the charging system that will undercharge a battery; if the meter is beyond the OK area, the charging system is likely to overcharge the battery.

STARTER MOTOR TEST (12 VOLT VEHICLES)

This test identifies excessive started current draw, which makes starting difficult and shortens battery life. Perform battery load test-proceed to make sure if battery is GOOD.

ENGINE MUST BE AT NORMAL OPERATING TEMPERATURE

- Connect negative (black) clamp to the negative (NEG, N -) battery post. Connect positive (red) clamp to the positive (POS, P+) battery post. ROCK clamps back and forth to ensure a good electrical connection.
- Disable the system ignition so the car will not start.
- Crank the engine and note the voltage reading during cranking.
- A meter reading of 9 volts or less indicates excessive current draw. This may be due to bad connections or a failing started motor, or the battery is too small for the vehicle's requirements.

BATTERY ANALYSIS

METER REACTION AFTER 10 SECONDS OF LOAD

LOAD TEST	BATTERY CONDITION
OK (GREEN BAND). 10 seconds of load.	Battery capacity is good may or may not be after fully charged. Determine state of charge by checking specific gravity (use hydrometer). If gravity is less than full charge, check for possible charging system trouble or electrical drain. Recharge battery to full charge.
WEAK OR BAD, BUT STEADY (meter reading steady after 10 seconds of load)	Battery capacity is unsatisfactory. Battery may be either: (1) defective (2) partly discharged. To determine which, check specific gravity. If gravity is over 1.225, battery is considered defective. If gravity is under 1.225, recharge battery and re-test. If cell-to-cell gravity varies more than 0.025 (25 points) cell trouble may exist. If charging does not bring gravity to full charge level, the battery is either sulfated or has lost active material.
WEAK OR BAD AND FALLING (meter continues to fall after 10 seconds of load)	BATTERY MAY BE DEFECTIVE (E.G. A BAD CELL) for a quick check, release load switch and note volt meter reaction. If voltage recovers to 12.0 volts or more in a few seconds battery is probably defective. If voltage recovers slowly, battery may be only very run down. For more accurate results, check gravity and follow above procedure.

If the load indicates poor battery condition, allow the battery to stabilize for a few minutes and check the open circuit voltage by voltmeter. This is a good measure of the percent charge in the battery. The battery is considered charged if it measures 75% or more. If it failed the load test with 75% charge, it should be replaced. If the battery charge measures less than 75%, it should be charged and load tested again. Replace the battery if it fails again. The values in the following charge are for a 12 volt battery; divide these in half 6 volt batteries.

TEMPERATURE COMPENSATION	1 STEP = 50 Cranking Amps		
BATTERY TEMPERATURE	+20°F	0°F	-20°F
DECREASE BATTERY RATING BY:	1 STEP	2 STEP	3 STEP