

RCBS®

RANGEMASTER 2000



PRODUCT INSTRUCTIONS

WARNING!

Before using this product, read and follow these instructions carefully. Failure to do so could result in serious injury or death, or property damage.

**If you have any questions while assembling or operating this product,
call us at 1-530-538-2699
Or email us at rcbs.tech@rcbs.com**

This manual contains important safety and operating information. Keep this as a permanent part of your reloading equipment. If lost, contact us for a replacement.

ELECTRICAL WARNINGS

Leave the unit unplugged until you have read all the instructions and are ready to use.

To avoid death or serious injury, observe the following precautions:

WARNING! Electric Shock hazard.

- Never immerse device in water or other liquid. If the device falls into water, do not touch. Unplug first.
- Never touch the power cord or plug with wet hands.
- Unplug by grabbing the power plug, not the cord.
- Protect device from damage. Do not use if any part of the plug, cord, electrical housing, or device is damaged. Inspect device regularly.
- Do not disassemble the device or attempt repairs yourself; contact RCBS.
- Use only in a properly grounded, polarized outlet. Do not remove or alter the grounding prong or use with adaptors other than those provided with this product.



WEEE Symbol

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment.

The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

GUNPOWDER WARNINGS

WARNING! Keep out of reach of children

- Store powders in their original package in a cool, dry environment free from wide temperature variations.
- Keep cans tightly sealed and labels intact.
- Mark date of purchase on can, for future reference. Use older stock first.
- Never use glass as a storage container. This may cause a “greenhouse effect” raising temperature in container and degrade the powder.
- Check cans and powder for signs of degradation. Many powders will exhibit a fine red-brown dust on the granules and/ or inside the container when this happens. If it does, do not use propellant; dispose of it properly in compliance with local regulations.
- DO NOT have more than one can of powder on the bench at one time. Powder Cans should be stored away from the bench to avoid picking up the wrong one.
- DO NOT use any powder unless its identity is positively known. The only positive identification is the manufacturer's label on the original canister. Properly discard all mixed powders and those of uncertain identity in compliance with local regulations.
- If you use a powder measure, replace the lids on both the Powder Hopper and Powder Can after the Powder Hopper has been filled.
- When using a Powder Measure, settle the powder in the Powder Hopper before charging any cases. Throw and check the weight of at least ten (10) charges. This will assure you that the correct powder charge is being thrown.

- When you finish a reloading session, pour any remaining powder back into its original factory container. This will preserve the identity and shelf life of the powder.
- DO NOT smoke while reloading.

RELOADING SAFETY

NOTICE - This manual is not intended to provide comprehensive instructions or safety information on how to reload, or handle or use reloading components. Always read and thoroughly understand a reloading manual before attempting to reload ammunition.

Reloading is an enjoyable and rewarding hobby when conducted safely. But, as with many hobbies, carelessness or negligence can make reloading hazardous. When reloading, always follow these safety guidelines to minimize the risk of personal injury or death.

- Always wear safety glasses.
- Understand what you are doing and why. Read handbooks and manuals on reloading. Talk to experienced reloaders. Write or call suppliers of equipment or components if you have questions or are in doubt.
- Read and understand all warnings and instructions accompanying your equipment and components. If you do not have written instructions, request a copy from the manufacturer. Keep instructions for future reference.
- Don't rush or take short cuts. Establish a routine and follow it at a leisurely pace.
- Keep complete records of reloads. Label each box showing the date produced, and the type of primer, powder and bullet used.
- Do not smoke while reloading, or reload near sources of heat, sparks or flame.
- Observe good housekeeping in the reloading area. Keep tools and components neat, clean and orderly. Promptly and completely clean up any spills.
- Keep your hands and fingers away from "danger" spots and pinch-points where they might be injured.
- Keep all reloading equipment and components out of reach of children.
- Stay alert. Reload only when you can give your undivided attention. Do not reload when tired, ill, rushed or under the influence of drugs or alcohol.

Because RCBS® has no control over the choice, assembly or use of components or other reloading equipment, RCBS assumes no liability, expressed or implied, for the use of ammunition reloaded with this product.

LOADING DATA

Use only laboratory tested reloading data. We highly recommend the current Hodgdon Reloading Manual.

OBSERVE ALL WARNINGS ABOUT THE USE OF MAXIMUM LISTED LOADS.

WORKING WITH CARTRIDGE CASES

- Examine empty cases to be sure they are in good condition before reloading. Thin, split, deformed, or badly corroded or pitted cases may be structurally weak, and result in a dangerous condition. Pay particular attention to splits in the mouth, separation between the case and the head, and dents in the shoulder.
- Do not store cartridge cases or ammunition near harsh chemicals such as gasoline, household cleaners or cat urine. The fumes can weaken the metal and present a dangerous condition.
- Do not clean cases with chemicals other than those specifically designed for the purpose.
- Do not attempt to clean loaded ammunition or primed cases. Doing so can cause corrosion, and weaken the case, or cause a misfire/hangfire condition.
- Ensure cases have proper primer pocket sizes; remove primer staking/crimp if necessary. Attempting to seat a primer into an undersized pocket or pocket with staking/crimping can result in detonation.
- Do not ream out or enlarge flash holes of cartridge cases. This may change the ignition rate and result in dangerous pressures.
- Resize and trim fired cases to ensure reliable chambering and obtain proper bullet tension and crimp.
- Never attempt to guess at the identity of your ammunition.

MAIN FEATURES/SPECIFICATIONS

- Power Requirements (AC Power)
 - Input 100/240 VAC 50/60Hz
 - Output 9VDC 1.0 Amp
- Power Requirements (DC Power)
 - 9 Volt Battery
- Power Consumption
 - 15 mA – During Use
 - 10 μ A – Standby
- Operating Temperature
 - 41-95° Fahrenheit
- Auto Shut Off
 - Unit will automatically shut off after 3 minutes of no activity, when using battery power.
- Accuracy:
 - 0-500 grains / +/- 0.1 grain
 - 501-1000 grains / +/- 0.2 grain
 - 1001-2000 grains / +/- 0.3 grain
- Ambidextrous Scale Pan
- Storage Dust Cover
- Sealed load cell

The RangeMaster 2000 features a 2000 grain capacity, digital touch display, units displayed in grains or grams, quick repeatability, easy re-zero feature and will operate on either 120/240 VAC or 9 VDC power.

UNPACKING

Your RangeMaster 2000 is packed in a specially designed carton to provide maximum protection, which should be saved and used for transporting the scale and should be used for long term storage of the unit. Unpack the scale carefully to avoid damaging components. Identify parts as you carefully unpack your new RangeMaster 2000 (*Photo 1*).



Photo 1: Scale Components

IMPORTANT

The RangeMaster 2000 is a high precision measuring instrument and needs to be handled with care as the load cell can be damaged from the following:

- Pushing down with excessive force on the platen
- Pulling up on the platen in such a way which binds the load cell
- A sudden violent physical shock such as dropping the scale

We suggest using either OIML Class F2 standard check weights or NIST class F RCBS Check Weights such as the RCBS Deluxe or Standard check weights for checking the accuracy of your scale.

DISPLAY / TOUCH SCREEN

GN/GM: Change scale units from grains (GN) to grams (g). Scale defaults to grains (GN) and will display 0.0 GN. If scale is in grams mode display will show 0.00 g.

ZERO: Use to re-zero your scale. To remove the tare weight of the pan from the scale, place the scale pan on the platen and press zero on the keypad. This will remove the weight of the pan, thus when you remove the pan the display will show a negative number. When the scale pan is placed back onto the platen the display will read 0.0 GN.

CAL: Calibration key used to calibrate your scale. The scale should be calibrated each time you begin a new reloading session. See calibration section below to correctly calibrate the RangeMaster 2000.

ON/OFF: To power unit on touch ON/OFF, to power off touch ON/OFF and hold for two seconds, unit will power off.

BATTERY SYMBOL: Battery symbol will only be displayed when unit is powered by 9 volt battery.

- over 8.5V ; - 8V~8.5V ; -7.5V~8V ; 7~7.5V 
- Once the Battery voltage is lower than 6V, the scale will automatically power off.

OPERATING INSTRUCTIONS

The RangeMaster 2000 can be powered by either the provided 9 VDC power supply or by one 9 Volt battery, not supplied. To use the power supply plug the output cable into the scale and then plug the input cable into any standard 120/240 VAC power receptacle (ensure the correct AC adapter is being used), (Photo 2). If using a 9 Volt battery remove battery cover on bottom of scale and insert battery as shown in Photo 3.

NOTE: The RangeMaster 2000 is very sensitive to fluctuations in air temperature and air currents, please take this into consideration when setting scale up for use.



Photo 2: 9 VDC Power Supply

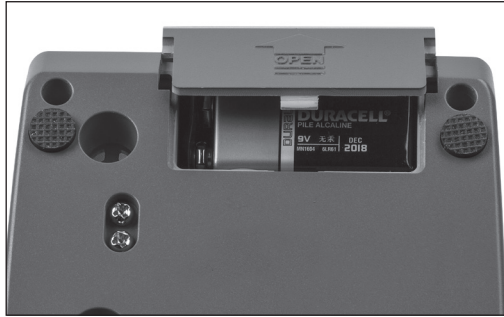


Photo 3: 9 Volt Battery

INSERT PLATEN: To insert platen into scale, ensure oval shape feature on platen is aligned with oval shape pocket on load cell, the oval shape serves as a locating feature to ensure the platen is placed onto the load cell properly (*Photos 4-5*). Apply enough downward force to ensure platen is properly seated into pocket on load cell (*Photo 6*). **IMPORTANT: DO NOT USE EXCESSIVE FORCE WHEN APPLYING DOWNWARD FORCE TO INSERT PLATEN.** There is an overload device to protect the load cell; however use of excessive force can still cause load cell damage. The manner in which the platen is attached to the load cell greatly reduces the amount of contaminants that can accumulate around or on the load cell which can cause accuracy errors.



Photo 4: Align feature on platen and load cell

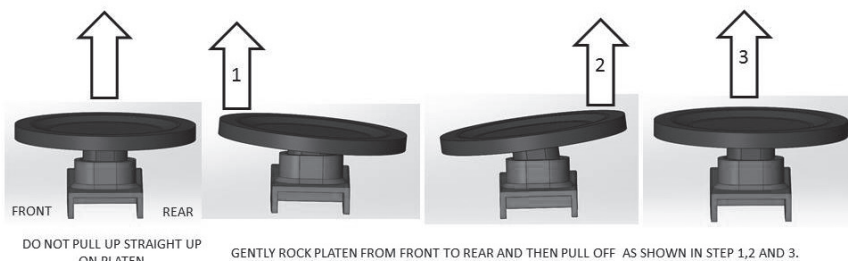


Photo 5: Insert platen into load cell pocket



Photo 6: Apply downward force to seat platen into pocket

To remove platen, follow the directions below. Not following this procedure could result in damage to load cell.



CALIBRATION: Calibration should be performed before every use. Prior to performing calibration process, scale should be turned on and allowed to warm up for at least 15-20 minutes, prior to calibration. If using battery as power source, place both 50 gram calibration weights onto platen, this will bypass the auto shutoff of 3 minutes and allow the scale to complete the 15-20 minute warm up period. the warm up process should be performed prior to every use if scale has been off for more than 30 minutes. Calibration is performed **WITHOUT** scale pan on the platen. To calibrate correctly, follow the calibration steps below:

1. Remove powder pan from scale platen and touch the ON/OFF display key. When the scale powers on it will display "88888" briefly and then display "0.0 GN" (grains mode). Do not proceed to the next step in calibration until "STABLE" is displayed (*Photo 7*).



Photo 7: Calibration Step #1

2. When stable is displayed touch the CAL display key, “C 0 GM” will be displayed, (scale units automatically defaults to grams mode during calibration as calibration weights are measured in grams). Once “STABLE” is displayed, touch the CAL display key a second time to confirm the 0 gram load (*Photo 8*).



Photo 8: Calibration Step #2

3. When “C 50 GM” and stable is displayed, place one of the 50 gram weights onto the platen. When “STABLE” is displayed touch the CAL display key to confirm the 50 gram load (*Photo 9*).



Photo 9: Calibration Step #3

4. When “C 100 GM” and stable is displayed, place the second 50 gram weight onto the platen. When “STABLE” is displayed touch the CAL display key to confirm the 100 gram load (*Photo 10*).



Photo 10: Calibration Step #4

5. When “100.00 GM” and “STABLE” is displayed, Photo 11, remove both the 50 gram calibration weights and the scale will display “0.0 GN” (Photo 12) (scale will automatically switch back to units of grains). Upon completion of this step scale calibration is complete. If “0.0 GN”, is not displayed, repeat calibration steps 2 thru 5.

NOTE: It is good practice to check or verify calibration curve during use, to do this place one or both of the 50 gram calibration weights onto scale to ensure correct weight value is displayed. If the correct weight value is not displayed, re-calibrate scale by following calibration process listed above. (Ex. When checking scale and the 50 gram calibration weight is placed on scale display should read between 49.99-50.01 grams or 771.5-771.8 grains.)

50 gram = 771.6 grains

100 gram = 1543.2 grains

.01 gram = .15 grains



Photo 11: Calibration Step #5



Photo 12: Calibration Step #5

ZERO SCALE: After scale has been successfully calibrated and “0.0 GN” is displayed and scale is “STABLE”, the tare weight, or the weight of the scale pan, will need to be removed. Place the scale pan onto the platen and touch the ZERO display key to zero the scale, doing this will allow for actual weight readings of only the contents contained within the scale pan (*Photo 13*).



Photo 13: Scale Zero

AUTO POWER OFF: The RangeMaster 2000 has an auto power off function only when using a 9 volt battery. The auto shut off will automatically power off the scale if the weight on the scale is less than 5 grains and if the display has not been touched for 3 minutes. This function helps preserve battery life.

HOW TO CARE FOR YOUR SCALE

Keep the scale clean at all times and prevent the accumulation of dirt, powder or other debris around the platen by using the dust cover when not in use. Do not leave scale in direct sunlight for long periods of time and avoid using in dusty environments.

RCBS LIMITED WARRANTY

Your RCBS® RangeMaster 2000 is warranted to be free from defects in material or workmanship for one (1) year from the date of purchase. This warranty is extended only to the original consumer purchaser. All RCBS products are intended for non-commercial use by hobbyists. Any other use of these products will void the warranty. If you believe that your product is covered by this warranty, you must return the product to RCBS at the address below, postage paid, with proof of purchase for evaluation. If covered, we will (at our sole option) repair, replace, or refund the purchase price of any part or product found to be defective. This remedy will be without charge except for reasonable shipping, handling and insurance charges.

TO ENSURE ACCURACY OF YOUR WARRANTY INFORMATION, SEND YOUR DATED PROOF OF PURCHASE TO THE ADDRESS BELOW. This limited warranty does not cover defects or damage resulting from carelessness, misuse, commercial use, abuse, neglect, improper installation or assembly, water submersion, unauthorized or improper repair, failure to follow operation instructions, modification or normal wear and tear.

ANY WARRANTIES IMPLIED BY LAW SHALL IN NO EVENT EXTEND BEYOND DURATION OF THIS EXPRESS WARRANTY. Some States do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. REPAIR OR REPLACEMENT AS PROVIDED HEREIN IS YOUR EXCLUSIVE REMEDY FOR ANY DEFECTIVE PRODUCT. IN NO EVENT SHALL WE BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND ARISING OUT OF THE PURCHASE OR USE OF THIS PRODUCT, WHETHER BASED UPON CONTRACT, TORT, STATUTE OR OTHERWISE. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

CONTACT US

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PRECISIONEERED RELOADING EQUIPMENT

We think that we make the very best reloading equipment in the world.
If you agree, please tell your friends. If you disagree, tell us; we want to
do something about it!

Customer Service

1-530-538-2699

E-mail rcbs.tech@rcbs.com, or visit rcbs.com

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