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› Caldwell Ballistic Precision Chronograph User Manual

Caldwell 1.O

Caldwell Ballistic Precision Chronograph User Manual

Model: 1.O

Brand: Caldwell

INTRODUCTION

This manual provides detailed instructions for the setup, operation, maintenance, and troubleshooting of your Caldwell Ballistic Precision Chronograph. This device is designed to accurately measure projectile velocities in both Feet Per Second (FPS) and Meters Per Second (MPS), making it an essential tool for firearms, archery, airgun, and paintball enthusiasts.

SAFETY INFORMATION

Always ensure the chronograph is set up in a safe location, clear of the projectile's path. Misalignment can result in damage to the unit or inaccurate readings.

- **Always wear appropriate eye and ear protection** when operating firearms or archery equipment.
- Ensure the chronograph is stable and level before use.
- Do not attempt to measure velocities of projectiles that exceed the device's specified range (5 to 9,999 FPS).
- Keep the device away from water and extreme temperatures.

PACKAGE CONTENTS

Verify that all components are present in your package:

- Caldwell Ballistic Precision Chronograph Unit
- Sun Screens (2)
- Support Rods (4)
- 3.5mm Audio Cable (for smartphone connectivity)
- User Manual (this document)

SETUP

1. **Install Battery:** Open the battery compartment on the underside of the chronograph and insert a fresh 9-volt battery.
2. **Attach Sun Screens:** Insert the four support rods into the designated holes on the top of the chronograph. Place the two sun screens onto the rods, ensuring they are securely seated and aligned directly above the optical sensors.
3. **Positioning:** Place the chronograph on a stable, level surface. For optimal accuracy, position the chronograph approximately 5-15 feet from the muzzle of your firearm or the release point of your arrow. Ensure the projectile will pass directly over the center of the sensors.
4. **Optional: Tripod Mounting:** The chronograph features a standard 1/4"-20 threaded insert on the bottom for mounting to a camera tripod (not included). This can provide greater stability and ease of adjustment.
5. **Optional: Smartphone Connection:** Connect the provided 3.5mm audio cable from the chronograph's data port to your smartphone's headphone jack. Download the Caldwell Ballistic Precision Chronograph app for enhanced data logging and analysis. (Note: iPhone 7 and newer models may require a Lightning to 3.5mm adapter, sold separately).



Figure 1: Caldwell Ballistic Precision Chronograph with sun screens installed.



Figure 2: Proper setup of the chronograph for archery, showing the unit on a tripod and connected to a smartphone.

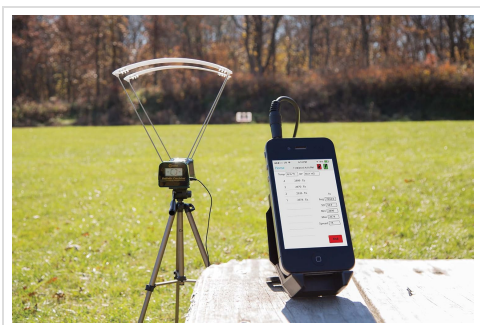


Figure 3: The chronograph connected to a

smartphone, showing real-time velocity readings on the app.

OPERATING INSTRUCTIONS

1. **Power On:** Locate the power switch on the side of the chronograph. Slide it to either "FPS" (Feet Per Second) or "MPS" (Meters Per Second) depending on your desired unit of measurement. The LCD display will illuminate.
2. **Ensure Proper Lighting:** The chronograph relies on ambient light to detect projectiles. It performs best in consistent, natural outdoor light. Avoid direct sunlight or heavy shadows on the sensors. For indoor use or low-light conditions, an optional Caldwell Infrared Light Kit (sold separately) is required.
3. **Take a Shot:** Carefully fire your projectile through the center of the detection area, between the two sun screens. Ensure the projectile does not strike any part of the chronograph or its support rods.
4. **Read Display:** The velocity reading will instantly appear on the large LCD display. If connected to a smartphone, the reading will also be transmitted to the app.
5. **Review Data (with App):** The smartphone app allows you to log multiple shots, calculate averages, standard deviation, and extreme spread, and save data for future reference.



Figure 4: Various screens of the Caldwell smartphone application, demonstrating data logging, group management, and settings.



Figure 5: Close-up of the chronograph's LCD display showing a velocity reading.

MAINTENANCE

The Caldwell Ballistic Precision Chronograph requires minimal maintenance.

- **Cleaning:** Wipe the unit and sun screens with a soft, dry cloth after each use to remove dust and debris. Do not use abrasive cleaners or solvents.
- **Storage:** Store the chronograph in a dry, cool place when not in use. Remove the 9-volt battery if storing for extended periods to prevent leakage.
- **Sensor Care:** Keep the optical sensors on the top of the unit clean and free from obstructions to ensure accurate readings.

TROUBLESHOOTING

ERR2/ERR3 Errors or No Reading:

These errors typically indicate an issue with light detection. Ensure the chronograph is in consistent, even lighting. Avoid direct sunlight or deep shadows. For indoor use, an optional infrared light kit is necessary. If errors persist in ideal outdoor conditions, contact Caldwell customer support as your unit may be affected by a known component issue from certain manufacturing batches (late 2014 - early 2015).

Inconsistent or Unexpected Readings:

Verify the projectile is passing directly over both sensors. Ensure the sun screens are properly installed and aligned. Check for any obstructions or debris on the sensors. Ensure the chronograph is stable and not moving during the shot.

Smartphone App Connectivity Issues:

- Ensure the 3.5mm audio cable is fully inserted into both the chronograph and your smartphone.
- Verify your smartphone's volume is turned up (this often affects microphone input).
- Check if your phone requires a Lightning to 3.5mm adapter (for newer iPhones).
- Update the Caldwell app to the latest version.
- Ensure your phone's operating system is up to date.
- Try swapping the cable end for end.
- Simulate shots by running a flashlight (LED works best) over the chrono from front to back to test sensor function.
- Test with a different device to determine if the issue is with the chronograph or the smartphone.
- Note: Some Android phones (LG, HTC, older Motorola, older Nexus tablets) and devices without a microphone input in the headphone jack may have compatibility issues.

Display Not Illuminating:

Check the 9-volt battery. Replace it with a fresh one if necessary. Ensure the power switch is fully engaged in either the FPS or MPS position.

SPECIFICATIONS

| Feature | Detail |
|--------------------|--|
| Brand | Caldwell |
| Model Name | Precision Chronograph with FPS and MPS Readings, Sun Screens and Large LCD Screen for Range Shooting |
| Model Number | 720001 |
| Style | 1.O |
| Color | Green |
| Product Dimensions | 3"D x 14.5"W x 6.5"H |
| Item Weight | 0.3 Kilograms |
| Screen Size | 2.2 Inches |
| Measurement Units | Feet per Second (FPS), Meters per Second (MPS) |

| | |
|----------------|-------------------------------------|
| Velocity Range | 5 to 9,999 FPS |
| Accuracy | +/- 0.25% (factory calibrated) |
| Power Source | 9-volt battery |
| Connectivity | 3.5mm audio jack for smartphone app |
| UPC | 661120200017 |

WARRANTY AND SUPPORT

Caldwell products are manufactured to high standards. For warranty information, technical support, or replacement parts, please visit the official Caldwell website or contact their customer service department. Keep your purchase receipt for warranty claims.

Online Resources:

- Caldwell Official Website: www.caldwellshooting.com
- User Manual (PDF): [Download PDF](#)