

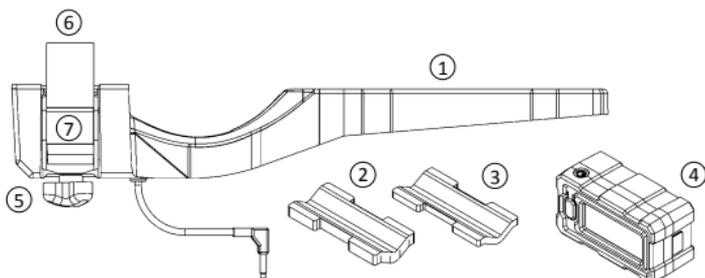
# MagnetoSpeed

## Sporter Ballistic Chronograph

For barrel diameters: 0.5" – 1.0"

Muzzle brakes up to 2.7" in length

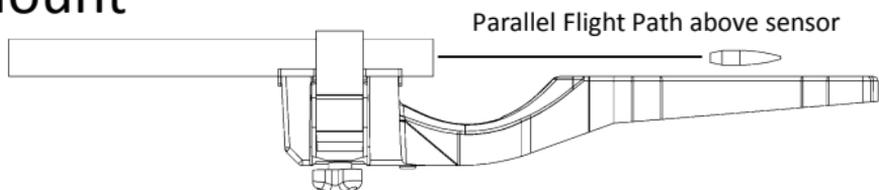
## Parts List



1	Bayonet sensor (Bayo)
2	Thick Rubber Spacer
3	Thin Rubber Spacer
4	Display Unit
5	Thumb Nut
6	1" Cordura Strap
7	Cam Buckle

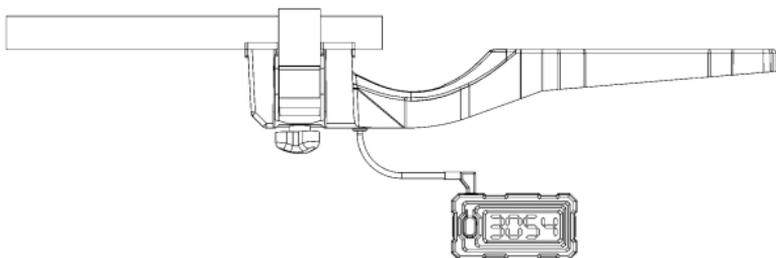
## Quick Start Guide

### Mount



- With thumb nut loosened to end of threads, slip strap over barrel and pull strap tight through cam buckle then tighten thumb nut firmly
- Double check that spacing is good and bullet will travel in a parallel path above the sensor (tapered barrels will introduce a slight angle which is OK)

### Connect



- Plug in cable to display, this will turn the display unit on
- Display will go through startup sequence and when - - - is displayed, unit is ready to record shots

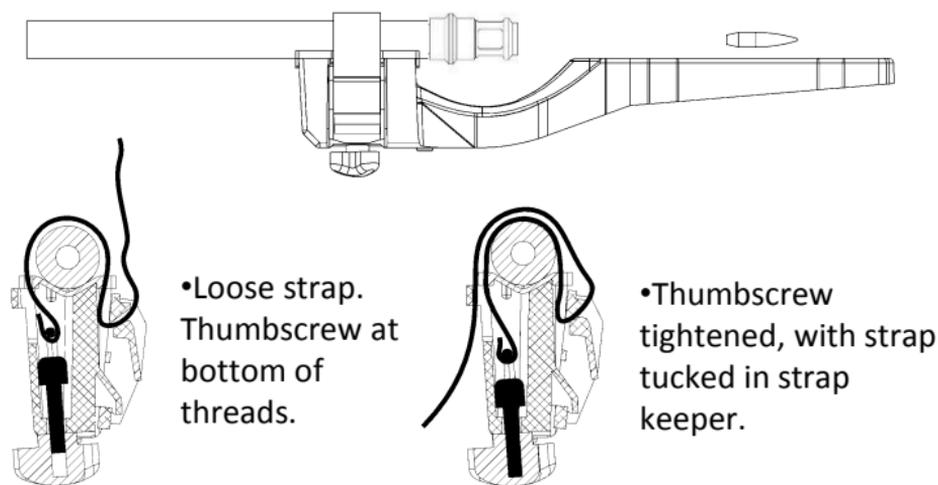
### View

- To view the stored shot data, press and release the button from the home screen to enter the Review Data Menu.
- “Stat Data” is displayed first, then each item is scrolled three times. Press the button to advance to the next item: average, high, low, SD, ES, then each shot individually.
- To clear the stored shot data, go into the Review Data Menu, advance to “AVG”, then hold down the button till you see “DONE”.
- To clear an individual shot, advance to the shot you would like to delete, then hold the button till you see “DONE”.

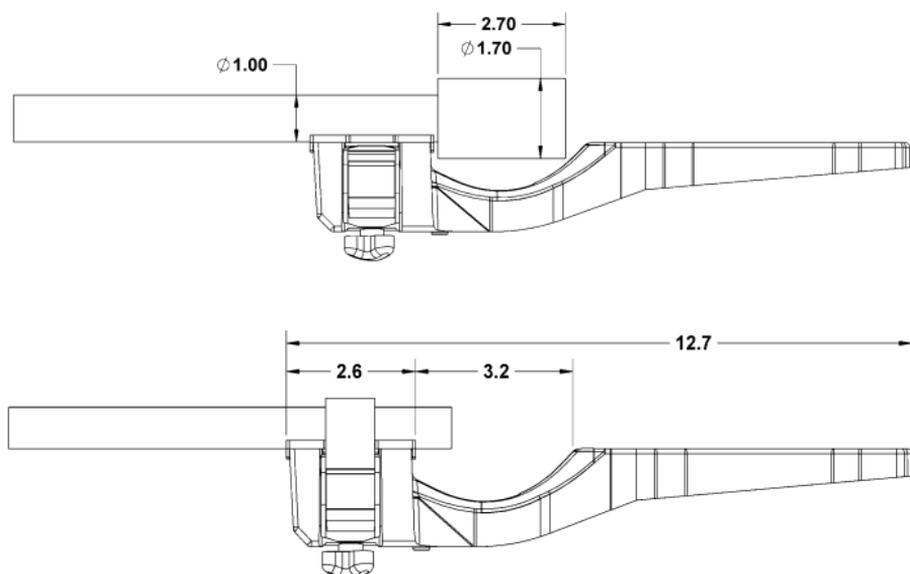
**Note: Read full instructions before operating**

# Strapping the Bayonet (Bayo)

- Seat muzzle end of barrel in V-block groove under strap. Use thicker rubber pad for thin-walled barrels
- Make sure sensor deck is down-range from muzzle.
- Make sure muzzle is 0.25-2.0 inches down-range from front of V-block (overhanging into blast zone).
- Make sure Thumb Nut is "unscrewed" almost all the way but still attached to end of Strap Screw.
- Pull cinch strap up through strap adjuster until ALL slack is taken up around barrel. (make sure buckle rung is hooked onto bayo ledge).
- Tighten Thumb Nut against V-block until tight.
- Test grip of strap by tugging on the bayo; if unmovable then proceed. If not, continue tightening Thumb Screw.
- Remove bolt from gun (if possible) and look down the barrel towards the muzzle; make sure the bayo sensor deck cannot be seen through barrel to ensure bullet will not encounter bayo. **MAKE SURE BAYO SENSOR DECK IS NOT IN THE PATH OF THE BULLET!**
- Plug data cord into display unit jack. Continue to check muzzle location with reference to the V-block. If bayo is creeping off, retighten strap with muzzle in proper position.
- To remove, simply unscrew Thumb Nut to let off tension, pull back strap adjuster, slide off muzzle.
- Note: Loose strap end can be placed in strap collector slot in V-block during storage/use.



## Dimensions



**Disclaimer: The bayo is designed to fit tapered and bull barrel muzzles between 0.50 and 1.00 inches in diameter. It is the responsibility of the user to make sure that the bayo is mounted correctly with the sensor deck away from the bullet path.**

# Display Operation

•To turn display on, plug cable into the jack on top of the display. The display will show “8888”, then cycle through a startup sequence that displays the following, and the current settings

- Firmware version
- Battery voltage (ex. 8.8)
- Sensitivity (Regular, High 1, or High 2)
- Units (ft/s, or m/s)

The display unit will then arrive at the **Home Screen**



**Home Screen** with zero & 12 shots  
**Ready to record** new shots

•To view stored data, from the Home Screen press and release the button. This puts you in the Review Data Menu. This menu allows you to view the stored data, delete individual shots, and clear all the stored data. The Review Data Menu consists of two main parts “Stat Data” (the statistics) and “Shot Data” (the individual shots). Short button presses skip past the current item. If you don’t press the button for 20 seconds, the display unit goes back to the home screen. Press and hold on “AVG” till “done” appears to clear all shots. Press and hold till “done” appears on an individual shot to clear it. If you let off the button too soon, the device will assume you decided not to delete and abort (“Abt”) the operation.

bAtE	Battery
vLt9	Voltage
UnIt	Units
mPs	m/s
fPs	ft/s
HOlD	Hold
dEL	Delete
ALL	All
Abt	Abort
dOnE	Done
StAt	Statistics
AVG	Average
HI	High velocity
LO	Low velocity
Sd	Standard deviation
ES	Extreme spread
dAtA	Data
SHOt	Shot
nO	No
COnf	Configuration
SEnS	Sensitivity
PLUG	Plug
UnPlUG	Unplugged
rEG	Regular sensitivity
HI 1	High 1 sensitivity
HI 2	High 2 sensitivity
Err	Error
SEn1	Sensor 1
SEn2	Sensor 2
GOOd	Good
CHng	Change
PHOn	Phone
PLUG	Plug
SEt	Setting sensitivity
CLr	Clear
SYnc	Sync
rUBr	Rubber
bAnd	Band

## Review Data Menu Example

Press and hold till dOnE to clear all shots

Press and hold till dOnE to clear a velocity

Stat dAtA

- AVG 4 167
- HI 4 169
- LO 4 166
- Sd 1
- ES 3

SHOt dAtA

- 3 4 167
- 2 4 169
- 1 4 166

Scroll

Quick press

\*20 second timeout\*

•To change sensitivity, from the Home Screen hold down the button until “Conf” flashes. Release the button. The current sensitivity setting will be displayed. Hold down the button again, until “done” is displayed. The sensitivity settings will change in the order of Reg, HI 1, then HI 2.



After a change of sensitivity the display will flash the new setting. At any point if the button is not pressed for 20 seconds, the display will return to the home screen.

•To change units of measure, hold down the button while plugging unit in. After “Conf” flashes, release button. Current units will be displayed. Hold down button until “done” is displayed to cycle between FPS and MPS. Display will return to home screen after 20 seconds.

# Troubleshooting

## Check Sensor Spacing



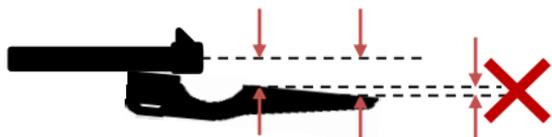
Use a cleaning rod to check the spacing of sensor 1 and sensor 2 from bottom bullet edge. Distances should be between 1/8" and 0.375" and they should be within 1/16" of each other.

### Common Issues

- Lean in
  - Bayo damage
  - Reduced velocity accuracy



- Lean out
  - Sensor 2 not detected (Err 1)
  - Reduced velocity accuracy



- Thick muzzle/barrel
  - Low signal (may not pick up)
  - Reduced velocity accuracy



- Muzzle too close to Sensor 1
  - Signal gets noisy
  - Reduced velocity accuracy



- V-block overlaps muzzle
  - Bayo/strapping damage



### Error Codes

- Err 1 Sensor 2 not detected (often caused by bayo lean out)
- Err 2 Adjust sensitivity and ensure proper spacing
- Err 3 Velocity out of range, high
- Err 4 Velocity out of range, low
- Err 5 Decrease sensitivity or reduce spacing
- Err 6 Decrease sensitivity or reduce spacing

Error codes may not always be solved by the suggested actions, if you need further assistance please contact customer support.

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Designed and Assembled in the USA  
Patent Pending

