



## AVOCET CYCLOMETER 20

The Avocet Cyclometer 20 is a precision electronic instrument. It accurately monitors critical data while racing or touring. The custom designed, patented circuit provides a speedometer, a trip odometer, a cumulative odometer, and a timer. The circuit demands so little power that it operates full time and needs no on/off-switch. Calibration for tire size is achieved through rapid electronic calibration (99.9% accurate). This precision, the ease of operation, the large display, and the rugged water resistant construction put the Avocet Cyclometer 20 in a class of its own.

### Operation

The four functions of the Cyclometer 20 are selected in sequence by pressing the right button. The left button starts and stops the timer. Pressing both buttons at the same time resets the timer and the trip odometer, and it activates the calibration mode from the cumulative odometer. **Before you use your Cyclometer 20, be sure to calibrate it for your bicycle.**



### Speed

The speedometer function shows a "v" in the upper left corner of the display. Speeds up to 67.5 mph or 108 km/h with half mph or half km/h resolution are displayed.



### Trip Distance

The trip distance function shows a "d" at the left of the display. Distances up to 999.9 miles or kilometers are recorded. To reset the trip distance press both buttons at the same time while trip distance is displayed.



### Total Distance

The cumulative distance function shows a "D" in the lower left corner of the display. Distances up to 9999 miles or kilometers are recorded in whole numbers. This number can only be reset by removing the battery.

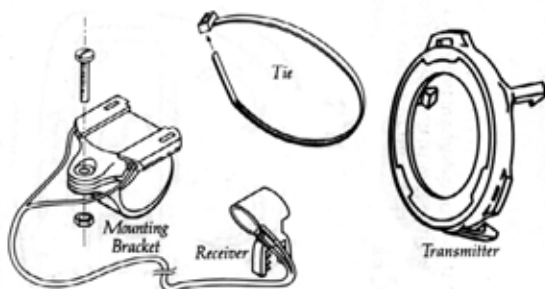
**Note:** Removing the battery erases all data and sets the calibration number at 100.



### Timing

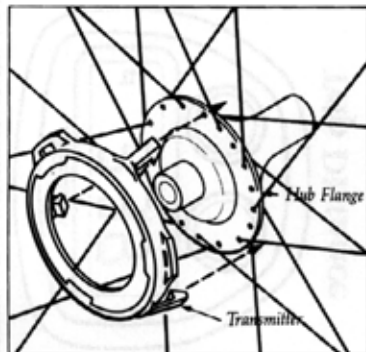
Press the left button to start and stop the timer. To reset the timer, press both buttons at the same time. For use as a time-of-day clock, reset and start the timer at noon or midnight.

## Parts and Tools



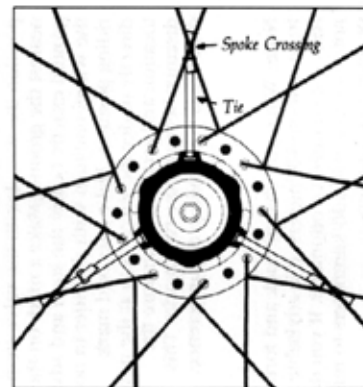
**Tools:** The installation requires a small screwdriver, scissors, and for non-quick release wheels, a wrench to remove the front wheel.

## Step One

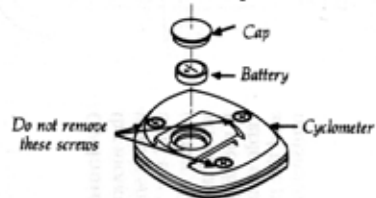


**Transmitter:** Remove the front wheel. The transmitter ring will snap onto the right flange of a standard low flange hub. The front wheel may be reinstalled after this operation.

**Other Hubs:** If the snap ring does not fit your hub, use scissors to cut off the three snap tabs. Use three cable ties to attach the transmitter ring to three nearest spoke crossings. Carefully keep the ring centered as you tighten the cable ties because once tightened they cannot be loosened. Cut off the free ends of the cable ties with scissors and reinstall the front wheel.



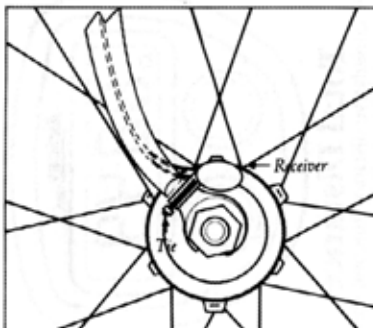
## Battery



**Battery Removal and Insertion:** The battery is located under the rubber cap on the back of the Cyclometer. All units are supplied with the battery installed. Replacements can be obtained from your dealer. To remove the battery, remove the rubber cap using your thumbnail and extract the battery from the cyclometer. The battery must be installed with the (+) side toward the cap.

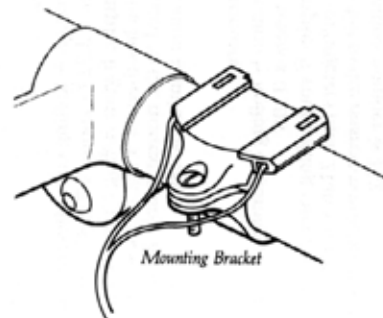
**Note:** Removing the battery erases all data and resets the calibration number to 100.

## Step Two



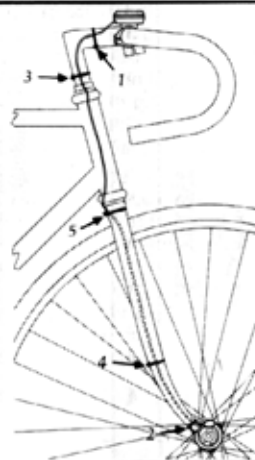
**Receiver:** Fit the clawed jaw of the receiver over the neck of the fork tip with the receiver in front of the fork. Adjust the receiver so that it is as close as possible to the transmitter. Thread a cable tie through the hole in the mounting jaw and around the fork. Pull it tight firmly. Cut off the free end of the cable tie with the scissors.

**Mounting Bracket:** Undo the clamp screw and place the mounting bracket on the handlebar to the right of the stem. Tighten the clamping screw enough to secure the bracket against movement when the Cyclometer is inserted and removed.



## Step Three

**Receiver Cable:** Align the cable with the fork and secure it with cable ties or tape starting at the receiver. Attach the cable only to the fork, handlebar stem, or front brake cable because only these parts rotate together when steering. Fold any extra cable together under a convenient attachment place near the fork crown. Cut off the free ends of the cable ties.



## Step Four

**Cyclometer:** Slide the cyclometer into the mounting bracket from front to rear until it snaps on. Press the right button until the "v" appears in the upper left corner of the display. Rotate the front wheel and watch for a velocity reading. If the display remains at zero, check the cable connection plugs at the receiver and the position of the receiver and the transmitter ring.



## Calibration

To calibrate your cyclometer for tire size, select total distance and hold both buttons down for about two seconds to make the calibration number appear. There are 200 calibration numbers for miles followed by 200 for kilometers. 'km' is visible in the upper right corner of the display when you are in the kilometer range. Press the left button repeatedly to arrive at the correct number (selected from the following table or determined by the formula). To rapidly advance the calibration number, hold the left button down. After you reach the desired number, press the right button to leave the calibration mode.

## Calibration Numbers for Common Tires

Tire Size	mi	km
20 x 175 .....	164	165
26 x 1 1/8 .....	222	223
Tubulars .....	224	225
700 x 25 .....	224	225
26 x 2.125 .....	225	226
700 x 28 .....	225	226
27 x 1 .....	226	227
700 x 32 .....	227	228
27 x 1 1/8 .....	228	229
27 x 1/4 .....	230	231

**NOTE:** Tire sizes are molded into the tire sidewall. This table is based on popular tire brands and assumes recommended inflation pressure and a rider weight of 150 lb.

## Precise Calibration By Formula

To more accurately calibrate your Cyclometer 20 you must determine the rolling circumference of your tire. With the tire properly inflated and the bicycle loaded as in use, position the wheel with the valve stem nearest the ground. Make a mark on the ground exactly below the stem and advance the wheel one turn with the rider in normal riding position. Make a second mark directly under the valve stem at the new location and accurately measure the distance between the two marks. This distance is your rolling circumference.

**Note:** When you change back and forth from miles to kilometers, it is advisable to reset the cumulative odometer. If you do not reset, you will add kilometers to miles or miles to kilometers.

The measured rolling circumference can be converted to the calibration number by one of the following formulas:

### Miles-

Calibration = Rolling circumference in inches x 2.7273 (note:  $2.7273 = 30/11$ )

**Example:** If your rolling circumference is 84.5 inches then  $84.5 \times 2.7273 = 230.46$   
Rounded to the nearest whole number your calibration number is 230.

### Kilometers-

Calibration = Rolling circumference in millimeters x 0.108

**Example:** If your rolling circumference is 2146 millimeters then  $2146 \times 0.108 = 231.77$   
Rounded to the nearest whole number your calibration number is 232.