Diamond Back, Centurion and Avenir products are designed by WSI. © WSI California.

Recycled Paper

Patent pending

Avenir AV-1 Owner's Manual

Read all directions carefully before using your Avenir AV-1.

Precautions

- Do not preoccupy yourself with watching the computer while riding. Pay attention to traffic and road conditions.
- Do not leave the main unit in direct sunlight when not in use.
- If the Main Unit will not be used for extended periods, remove the battery.

Avenir AV-1 Installation Instructions

Mounting the Wheel Magnet:

Attach the Wheel Magnet by wrapping it around the spokes on the right hand side of the front wheel as shown in Figure 1. Secure with screw provided

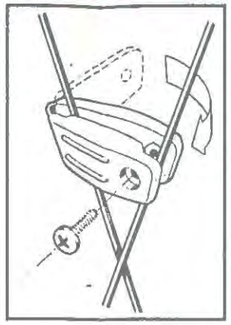


Figure 1

Mounting the Wheel Sensor Unit:

Attach the Wheel Sensor Unit to the right forkblade of the bicycle as shown in Figure 2. Use the Rubber Friction Pad to ensure that the unit grips the forkblade securely.

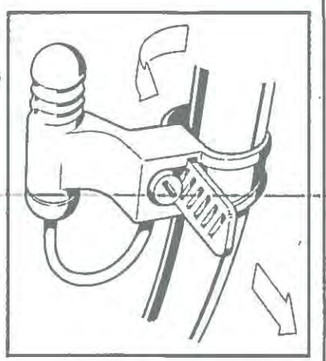


Figure 2

Alignment of the Wheel Sensor Unit:

The Wheel Sensor Unit and the Wheel Magnet must be aligned as shown in Figure 3 in order to function properly. When the Wheel Magnet passes the Wheel Sensor Unit, there should be no more than a 1mm gap.

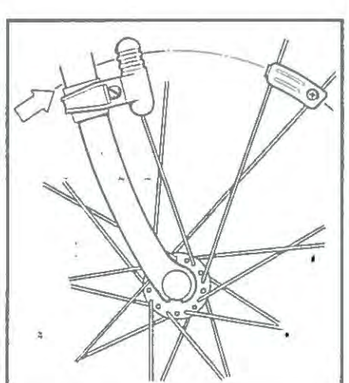


Figure 3

Mounting the Handlebar Bracket:

Using the 1mm or 2mm thick pads to ensure proper fit, attach the bracket on the right hand side of the stem so that the mounting channels for the main unit are located directly above the stem as shown in Figure 4. If the stem does not provide enough clearance for the mounting bracket, slide the bracket further to the right.

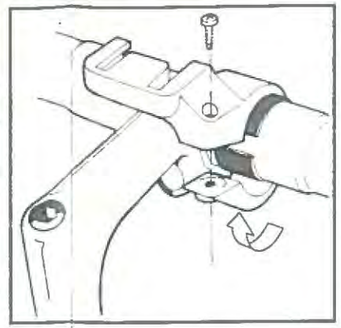


Figure 4

Securing the Wire:

Using the wire clips provided, secure the wire between the Wheel Sensor Unit and the Handlebar Mounting Bracket. Strap the wire to the forkblade and to the head tube of the bicycle. Make sure there is enough slack in the wire to allow the handlebars to rotate freely to both sides. Use pliers (or similar tool) to pull tight the wire clips. Trim the excess part of the clip with wire cutters or heavy duty scissors.

Mounting the Main Unit:

Starting with the main unit in front of the Handlebar Mounting Bracket, align the mounting channels with the corresponding channels on the main unit. Slide the main unit back until it clicks in place.

Main Unit Preparation

Before operating your computer the following steps must be completed

Installing the Battery:

Turn the main unit over. Using a coin (or similar object) remove the battery cover by twisting it counter-clockwise. Insert the included CR2032 lithium battery, making sure that the positive (+) pole is facing upwards. Once the battery is in place, replace the battery cover securely (Figure 5).

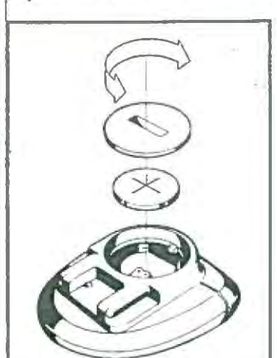


Figure 5

Setting the Unit for Miles or Kilometers:

Press and hold down the Mode and Set buttons simultaneously for 6 seconds. The display will clear, except for the Km/h/MPH indicator. The unit is preset for kilometers (Figure 6). To switch to miles, press the Set button once. The indicator on the display will change to MPH. Once the desired setting has appeared on the display, press the Mode button once. The display will change to show the wheel circumference indicator (203.0) across the bottom of the screen (Figure 7).

Figure 6

Figure 7

Setting the Wheel Circumference:

The unit is preset for the circumference of a standard ATB wheel (80.5 inches). If you need to revise this number, refer to the following chart to determine the proper circumference

Wheel Chart

Wheel Diameter		circumference	note
inches	centimeters		
20	51	159.6	
20.25	51	161.6	
20.5	52	163.6	
20.75	53	165.6	
21	53	167.6	
21.25	54	169.6	
21.5	55	171.6	
21.75	55	173.6	
22	56	175.5	
22.25	57	177.5	
22.5	57	179.5	
22.75	58	181.5	
23	58	183.5	
23.25	59	185.5	
23.5	60	187.5	ATB 24 x 1.75
23.75	60	189.5	
24	61	191.5	
24.25	62	193.5	
24.5	62	195.5	
24.75	63	197.5	
25	64	199.5	ATB 26 x 1.4
25.25	64	201.5	
25.5	65	203.5	ATB 26 x 1.5
25.75	65	205.5	ATB 26 x 1.75
26	66	207.5	650 A
26.25	67	209.5	700 x 25 C
26.5	67	211.5	Tubulars
26.75	68	213.4	700 x 28 C
27	69	215.4	700 x 32 C
27.25	69	217.4	
27.5	70	219.4	
27.75	70	221.4	
28	71	223.4	700 B
28.25	72	225.4	
28.5	72	227.4	
28.75	73	229.4	

If your wheel size is not included in the chart, or if you wish to determine the setting with the highest degree of accuracy, calculate the circumference of your wheel as follows:

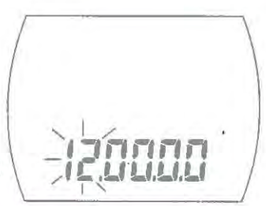
Place your bicycle on a flat surface and rotate the front wheel until the valve stem is at the bottom. Mark the spot. Roll your bicycle in a straight line until the wheel has completed one full revolution. Mark this spot as well. Measure the distance between the two marks in centimeters (or inches and then multiply by 2.54).

Enter the wheel circumference into the main unit using the Set button. Pressing the Set button once advances the setting by 0.1. Holding the Set button down will rapidly advance the setting. Once the desired number is displayed press the Mode button. The display will change to the current time indicator across the bottom of the screen (12:00:00).

Setting the Current-Time:

When the current time indicator is first selected, the hours digit will flash (Figure 8). To set the correct time, press the Set button until the proper hour is displayed. Once the hour is correct press the Mode button once. The hours digit will stop flashing and the minutes digit will start. Use the Set button to advance the minutes indicator until the current minute is displayed (by pressing the Set button continuously the minutes indicator will advance rapidly). Once the minutes digit is correct, press the Mode button. The seconds digit will flash. Press the Set button. The seconds digit will change to zero. Press the Mode button. The main unit is now ready to use.

Figure 8



Operating Functions

The computer is reset every time the Mode and Set buttons are held down simultaneously. Resetting the computer will clear all functions except for the Total Distance Odometer and Current Time.

The function display is changed by pressing the Mode button once.

An auto-hold function will suspend the Average Speed and Elapsed Time calculations if the bicycle remains stationary for more than seven (7) seconds. Data for all functions will be held in memory. When the auto-hold function is enabled, the Mode button can be used to review the status of all of the functions. The auto-hold function is cancelled once the bicycle is in motion.

Current Speed:

The Current Speed is displayed continuously on the top line of the display (Figure 9). Current Speed will display even when the Set button has not been pressed. Current Speed is updated at one second intervals.

Figure 9

(AVS) Average Speed:

Average Speed is calculated on the basis of the elapsed time and the trip distance. Average Speed is calculated to 0.1 MPH (0.1 Km/h). Average Speed will be calculated for trips lasting up to 24 hours or 1000 miles (kilometers) (Figure 10). Figure 11 shows error reading if 24 hour period is exceeded.

Figure 10

Figure 11

(MAX) Maximum Speed:

Maximum Speed is stored in memory until the unit is reset. The computer will accurately (+/- 1 MPH or Km/h) record speeds up to 50 MPH (80 Km/h). Above this speed, accuracy will gradually diminish (Figure 12).

Figure 12

(ETM) Elapsed Time:

Elapsed Time function operates only when the wheel rotates. The computer will display time in HH:MM:SS format for trips lasting up to 24 hours. After 24 hours the elapsed time will roll over to zero and continue from there (Figure 13).

Figure 13

(TRP) Trip Odometer:

The Trip Odometer measures the distance travelled since the time of the last reset. Distances are measured in 0.1 mile (0.1 kilometer) increments. When 1,000 miles (1,000 kilometers) are reached, the Trip Odometer returns to zero and counting continues (Figure 14).

Figure 14

(ODO) Total Distance Odometer:

Mileage is continuously measured, accumulated and displayed until the battery wears down (Figure 15). Distance is measured in 0.1 mile (0.1 kilometer) increments. When 10,000 miles (10,000 kilometers) are reached, the Total Distance Odometer returns to zero and counting begins anew.

Figure 15

Clock/Current Time:

The current time is displayed in HH:MM:SS format.

Troubleshooting

1. Problem- The liquid crystal display is unusually dark and the digits are difficult to read.

Solution- This occurs when the display has been left in direct sunlight too long. The display will return to normal once it has been placed in the shade for a few minutes. Data will not be adversely affected when this occurs.

2. Problem- Display response is slow.

Solution- Cold temperatures (under 32 degrees) will slow the response of the liquid crystals in the display. Once the temperature rises above freezing the display response will return to normal.

3. Problem- No display.

Solution- Check the battery. Replace with CR2032 lithium battery as outlined in the owners manual.

4. Problem- Confused or incorrect data appears on the display.

Solution- Perform the Main Unit preparation sequence outlined in the owners manual.

5. Problem- Current Speed does not appear in the display.

Solution- Check to see that the Main Unit is securely mounted in the Handlebar Mounting Bracket. Make sure the leads on the bottom of the Main Unit and top of the Handlebar Mounting Bracket are both clean and dry. Check the alignment of the Wheel Magnet and the Wheel Sensor Unit. Make sure there is no more than a 1mm gap between the two when the Wheel Magnet passes the Wheel Sensor Unit. Check the alignment of the Wheel Magnet and the Wheel Sensor Unit.

Avenir AV-1 Warranty

All Avenir Cycle Computer products are manufactured to the highest standards of quality. This cycle computer is warranted to be free from defects in workmanship and materials for a period of one year from the date of purchase. Should the cycle computer fail under normal use, please return it to your Avenir dealer along with proof of purchase for inspection. It will be replaced without charge to you (except for freight to and from your Avenir dealer) if it is determined to be defective in workmanship or materials.

The following conditions apply to the warranty:
1. The warranty becomes void if the cycle computer shows evidence of (a) use other than that for which it was designed, (b) damage resulting from attempted repairs or disassembly, (c) improper storage/safekeeping, (d) impacts received during accidents, (e) damage resulting from fire, earthquake or other acts of God and (f) damage or wear resulting from normal use.

2. Batteries are not covered by this warranty.