CATEYE Cordless 2

CYCLOCOMPUTER

Model CC-CL200

CATEYE®

CE

US. PAT. NO.4633216,4636769,4642606,5089775,5236759 & Design Patented.
Copyright© Aug. 1994 CAT EYE Co., Ltd. CCMCL2-981118 Printed in Japan 0687303 9

Setting Values Cross Reference Table **(The tire size is marked on both sides of the tire.)**

TIRE SIZE	L(cm)	TIRE SIZE	L(cm)
24 x 1	1753	26 x 2.35	2083
24 x 3/4 Tubular	1785	27 x 1	2145
24 x 1-1/8 Tubular	1795	**27 x 1-1/8**	**2155**
24 x 1-1/4	1905	27 x 1-1/4	2161
24 x 1.75	1890	27 x 1-3/8	2169
24 x 2.00	1925	650 x 35A	2090
24 x 2.125	1965	650 x 38A	2125
26 x 1(559mm)	1913	650 x 38B	2105
26 x 1(650c)	1952	700 x 18C	2070
26 x 1.25	1953	700 x 19C	2090
26 x 1-1/8 Tubular	1970	700 x 20C	2086
26 x 1-3/8	2068	700 x 23C	2096
26 x 1-1/2	2100	700 x 25C	2105
26 x 1.40	2005	700 x 28C	2136
26 x 1.50	1985	700 x 30C	2170
26 x 1.75	**2030**	**700 x 32C**	**2155**
26 x 1.95	2050	700C Tubular	2130
26 x 2.00	2055	700 x 35C	2168
26 x 2.1	2068	700 x 38C	2180
26 x 2.125	2070	700 x 44C	2224

Specifications

Controller ..... 4-bit 1-chip Microcomputer (Crystal Controlled Oscillator)
Display ..... Liquid Crystal Display
Sensor ..... No Contakt Magnetic Sensor
Cordless Système ..... Directional electromagnetic induction
Operating Temperature Range/ ..... 0°C - 40°C(32°F - 104°F)

LIMITED WARRANTY

2-Year Warranty: Only Main Unit/Sensor

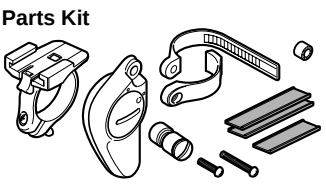
If trouble occurs during normal use, the part is repaired or replaced free of charge. The service must be performed by CATEYE Co., Ltd.. and the product needs service must be returned to CATEYE Co., Ltd. directly by purchaser. When returning the product for CATEYE warranty service, pack it very carefully, and enclose the warranty certificate and instructions for repair. Please make sure to write or type your name and address clearly on the warranty certificate, so that the product can be shipped back to you as soon as the necessary repair/adjustment is completed. Insurance, handling and transportation charges to our service shall be borne by person desiring service.

Address for service

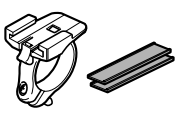
CATEYE CO.,LTD.
2-8-25, Kuwazu, Higashi Sumiyoshi-ku, Osaka 546-0041 Japan
Attn.: CATEYE Customer Service Section

Service & Research Address for United States Consumers:
CATEYE Service & Research Center
1705 14th St. 115 Boulder, CO 80302
Phone: 303-443-4595 Toll Free: 800-5CATEYE
Fax: 303-473-0006 e-mail: CatEyeUSA@aol.com

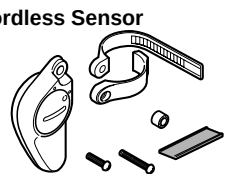
#169-6690
Parts Kit



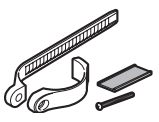
#169-6660
Bracket Kit



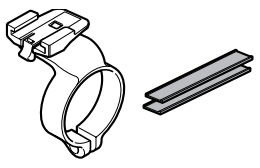
#169-6670
Cordless Sensor



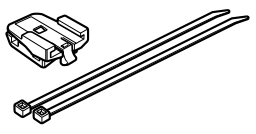
#169-6680
Universal Sensor Band



#169-6667
Center Mount Bracket Kit



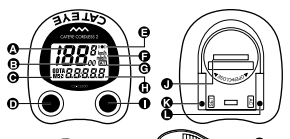
#169-6669
Stem Mount Bracket Kit



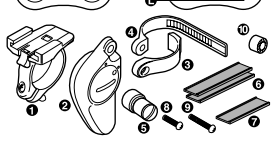
#169-6070
Wheel Magnet

#166-5150
Lithium Battery (CR2032)

E INSTRUCTION MANUAL



A. Main Display(Speed)
B. Wheel Circumference Mark
C. Mode Symbol
D. Mode Button
E. Wheel Sensor Pulse Symbol
F. Speed Scale Symbol
G. Auto Mode Symbol
H. Sub-Display (Selected function)
I. Start/Stop Button
J. Battery Case Cover
K. Set Button
L. AC Button



1. Bracket
2. Sensor(Transmitter)
3. Sensor Band A
4. Sensor Band B
5. Magnet
6. Bracket Rubber Pad (1mm,2mm)
7. Sensor Rubber Pad
8. Screw
9. Long Screw
10. Spacer

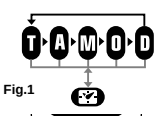


Fig.1

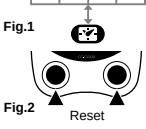


Fig.2 Reset

Fig.3

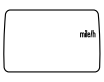


Fig.4

Fig.5

Fig.6

Fig.7

Fig.8

OPERATION FEATURES

Two buttons are provided on the top of the main unit and two on the bottom. These buttons are used as follows:

•Mode Button (top left button)

Whenever this button is pressed, the mode display changes in the order shown in fig.1, and the data is displayed on the sub-display. **Note:** If this button is kept pressed for more than 2 seconds, display appears.

•Start/Stop Button (top right button)

Measurement of trip distance, elapsed time and average speed is started or stopped when the start/stop button is pressed. Whenever this button is pressed, start and stop are repeated. During measurement the speed scale symbol blinks.

Note: This button does not function if the auto mode function is set to ON [Refer to the explanation of the Auto (Automatic Start/Stop) Function below].

•Set Button (bottom left button)

- To set the wheel circumference:
  Stop the measurement in the (O) mode, then press the SET button.
- To set the 24-hour clock time:
  Stop the measurement in ( ) mode, then press the SET button.
- To set auto mode to ON or OFF:
  Select the (T),(A) or (D) mode, then press the SET button.

•AC (All Clear) Button (bottom right button)

When this button is pressed, all the data stored in memory is cleared. After all displays illuminate, the "mile/h" symbol illuminates. This button should be pressed only after replacing the battery or when irregular display of information occurs due to static electricity,etc. Once this button is pressed and all memory is erased, it will be necessary to set the wheel circumference, time, etc. again. (refer to Main Unit Preparation)

Reset Operation: (Fig.2)

Press left button to select any mode except total distance (O) and press left and right buttons together. Stored data of trip distance (D), elapsed time (T), average speed (A) and maximum speed (M) are all reset to zero. (In the total distance display mode, the current wheel circumference (A) or (B) is shown.)

MAIN UNIT PREPARATION

User must make the following setting according to instructions before the cyclocomputer can be used properly.

1. How to measure the exact Wheel Circumference (L)(Fig.3)

First, adjust tire pressure and then put a mark on the tire tread and the ground simultaneously. Then ride the bike one full wheel revolution. Mark the ground at the end of one revolution and then measure the distance between the two marks. This measure is your actual wheel circumference. Or, the "Setting Values Cross Reference Table" can help you to find out an approximate wheel circumference according to tire size.

2. Setting the Speed Scale (Fig.4)

When the AC button is pressed and all displays illuminate then the "mile/h" appears as shown in fig.4. "km/h" and "mile/h" are displayed alternatively each time the right button is pressed. Select any speed scale as desired and press SET button to complete the setting.

3. Setting the Wheel Circumference (Fig.5.6)

This cyclocomputer is able to memorize two different wheel circumferences. One main unit can be used on two bicycles subject to buy another set of bracket and sensor.

Two wheel circumferences, (A) 2155mm and (B) 2030mm, have been set before the cyclocomputer left our factory. The (A) wheel circumference 2155mm (standard for 27 inch tire) will blink as shown in fig.5. If you want to enter 2155mm and 2030mm, simply press the SET button. If you want to change, press either the right button to increase or left button to decrease the number. To change the number rapidly keep the button pressed. Once you reach the setting you want, press the SET button. If you want to set a second circumference, press the left and right buttons together before pressing the SET button. The wheel circumference 2030mm is displayed and blinks(fig.6). Set to a desired wheel circumference in the same manner as the first circumference setting and press SET button to complete the setting.

4. Selecting one of the two Wheel Circumference (Fig.7)

Set the Auto Mode to ON. (Refer to the explanation of Auto Mode function.) While keeping the right button pressed , press the SET button. The first wheel circumference measurement will be displayed for a few seconds, then the second setting will appear.

5. How to reset the Wheel Circumference

Select the (O) mode and stop the measurement. Press SET button and the already set wheel circumference will blink on the sub-display. Refer to '3.Setting the wheel circumference' to complete the setting.

Setting the 24-hour Clock (Fig.8)

Press left button for more than 2 seconds to select the 24-hour clock display. Stop the measurement by pressing the right button. Press SET button and the minute display will start to blink. Press right button to select a minute time ahead of the current time by 1 to 2 minutes. Next press left button and the hour will blink. Press right button to set to current hour time. Press SET button to complete the setting.

MOUNTING TO BIKE

If necessary, use either the 1mm or 2mm thick rubber pads according to the handlebar diameter. Mount the bracket as shown in fig.9.

- Slide the main unit onto the bracket from front until it clicks into position. To remove the main unit, pull it forward while depressing the lever on bracket (fig.10).

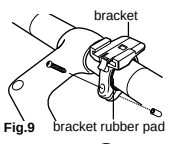


Fig.9

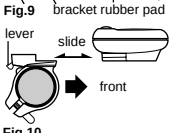


Fig.10

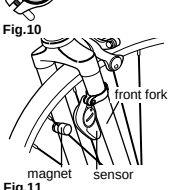


Fig.11

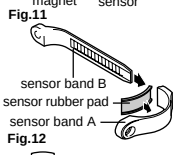


Fig.12

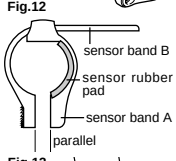


Fig.13

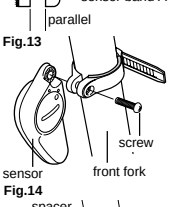


Fig.14

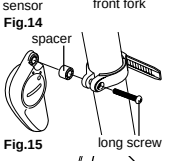


Fig.15

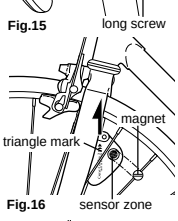


Fig.16

How to Mount the Sensor on the Right Front Fork Leg.(fig.11)

Mount the sensor in the highest possible position on the right front fork leg. Adjust the position, clearance and direction as follows:

(1) Insert the band B into the slit of the band A, and put the rubber pad inside of the band A (fig. 12). Adjust the length of the bands in order that the screw-fastening part of the bands is parallel when mounted to the fork (fig. 13). * To pull out the band B from band A, tug strongly.
(2) Mount the adjusted bands to fork along with the sensor, by temporarily tightening the screw (fig. 14).If the space between front fork and spoke of your bike is big, use the spacer and long screw as in the fig.15, so that the clearance between sensor and magnet will be approx. 5mm.
(3) Use a coin to install the magnet securely to the spoke so that it face the sensor zone.(fig.16 & 17)
(4) A 5mm clearance shall be kept between the sensor and magnet(fig.18). Then align the magnet with sensor zone (fig.16). Meanwhile, the sensor shall aim at the main unit indicated by the triangle marked on the sensor. Then tighten the screw to secure the sensor in position. Cut the excess sensor band B with scissors or the like.

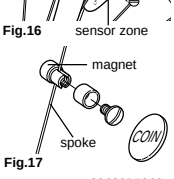


Fig.17

Check points for sensor mounting:

1. Keep a 5mm clearance between the sensor and magnet.
2. The magnet surface shall align to the sensor zone.
3. The triangle mark on the sensor shall aim at the main unit.

TEST

Mount the main unit on the bracket. If current speed doesn't appear on the main display, press either left or right button to release the unit from the power saving mode. Then spin the front wheel to make sure the wheel sensor pulse symbol flickers. If it does not flicker, adjust the position of sensor until it flickers normally. The mounting is completed and the cyclocomputer is operational.

THE CORDLESS SYSTEM

The sensor picks up wheel revolution signal and transmits the signal to the receiver in the main unit. The main unit receives, calculates and displays the data. The approximate service hour of batteries is as follows:

The main unit (receiver): --- Approx. 2 years (average 1 hour's use per day)
The sensor (transmitter): ------- Total distance of approx. 10,000 miles (16,000 km)

Note: To prevent external signal interference, the sensor signal reception range is restricted. For best performance, the triangle mark on the sensor shall aim at the direction to the main unit. The distance between the sensor and main unit must be kept within 45 cm. The signal reception range may shorten as a result of low ambient temperature or lowered battery power. It is advisable to replace the sensor battery before it fails. The battery service hours quoted above is the average for a 45cm distance between the sensor and main unit.

- The cordless system may be interfered with in the following situation, so that main unit may display false data.
  1. Riding near railroad crossings and trains.
  2. Riding in places where intensive electromagnetic wave or field exist, such as TV transmission station and radar installations.
  3. When two bicycles carrying similar cyclocomputers are ridden side by side.

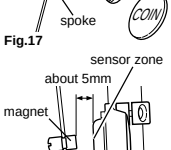


Fig.18

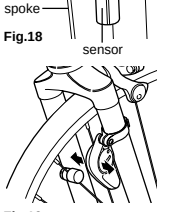


Fig.19

REPLACING THE BATTERIES

Batteries are already loaded in the main unit and the sensor.

How to replace battery in Main Unit (Fig.20)

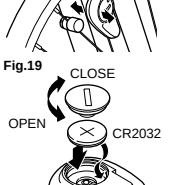


Fig.20

Open the battery cover on the back and insert a new CR2032 (lithium) with the (+) pole upward, while pressing the side of the battery against the contact. Press AC button to erase all stored data and then redo the settings.

How to replace battery in Sensor (Fig.21)

Take off the sensor from the bicycle. Open the battery cover on the back and insert a new CR2032 (lithium) with the (+) pole upward, while pressing the side of the battery against the contact. Mount the sensor back to the bicycle and adjust to relative position, clearance and direction.

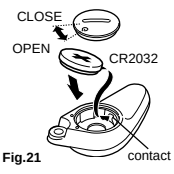


Fig.21

DISPLAY FUNCTIONS

S Current Speed 0.0(3.0) to 65.9 miles/hr ±0.3mile/h
This is always displayed on the main display and updated once a second.

O Total Distance 0.0 to 99,999 miles ±0.1mile
This is continuously measured until battery wears down or all clear operation is done. At 10,000 miles(km), it returns to zero and counting begins anew.

D Trip Distance 0.00 to 999.99 miles 0.01mile
The trip distance from start to current point is displayed. With Reset operation, it returns to zero.

T Elapsed Time 0:00'00" to 9:59'59" ±0.003%
Elapsed time is measured from start to current point, in units of hours, minutes and seconds. At 10 hours, it returns to zero and counting begins anew. With Reset operation, it returns to zero.

A Average Speed 0.0 to 65.9 miles/hr ±0.3mile/h
The average speed from start to current point is displayed within 27 hours 46 minutes 39 seconds (99,999 seconds) or 999.99 miles (km). If either is exceeded, (.E) is displayed and calculation ceases.

M Maximum Speed 0.0 (3.0) to 65.9 miles/hr ±0.3mile/h
With Reset operation, it returns to zero and counting begins anew.

24 hr. Clock Time 0:00´ to 23:59´ ±0.003%
The current time is displayed by a 24-hour clock.

POWER SAVING FUNCTION

When the main unit is left without receiving any signal for one hour, the power will be turned off automatically. Resulting in SLEEP state in which only the 24-hour clock displays. The main unit can not receive any signal in this state. Press left or right button to restore signal reception.

Note: Remember to restore signal reception before every journey.

AUTO (AUTOMATIC START/STOP) FUNCTION

The Cordless 2 is equipped with a selective auto function allowing automatic start or stop of measurement without using the right button.

How to Set On/Off the Auto Function

Select (T), (D) or (A) to sub-display and then press SET button. The AT symbol will display when auto function is set ON. Repeat to set OFF the auto function.

Note: In SLEEP state, auto start will not function. Press left or right button to restore signal reception first. (Refer to Power Saving Function)

MAINTENANCE/PRECAUTIONS

- Do not leave the main unit exposed to direct sunlight when the unit is not in use. Do not disassemble the main unit.
- Don't pay too much attention to your computer's functions while riding! Keep your eyes on the road and give due consideration to traffic safety.
- Check the relative position of magnet and sensor periodically.
- For cleaning, use neutral detergent on soft cloth, and wipe off later with dry cloth. Do not apply paint thinner, benzine, or alcohol, which may damage on the surface.

TROUBLE SHOOTING

No display. ---------- Replace the main unit battery with new one.
Incorrect data appears. ---------- Execute "All Clear" operation.
Figures do not appear on the main display ---------- Cancel the power saving function.
Current speed does not appear. ---------- Check the sensor position and direction.
Speed is not displayed when riding with high speed or at low temperature.
---------- Check the sensor position and direction.
---------- Has the battery worn out?
Even when the right button is pressed, the cyclocomputer does not operate.
---------- Set the auto mode to OFF.
The entire liquid crystal screen is dark and unusual display is seen where it should not be.
---------- It returns to normal state if left in the shade.
Display response is slow. ---------- It returns to normal state when temperature rises.

SPECIFICATIONS

Applicable Cycle Sizes	10 mm - 2,999 mm(Initial value:A:2155 mm B:2030 mm)
Power Supply	Main unit: ---------- Lithium Battery (CR2032)x1/approx.,2years
	Sensor with transmitter: ---------- Lithium Battery (CR2032)x1/approx.1,000miles
Dimension / Weight	2"x 1-13/10"x 29/32" / 1,2 oz (29 g)

* The specifications and design are subject to change without notice.