ne**X**TECH.

12-Function Cycle Computer

1 INTRODUCTION

This cycle computer BC 12 is a most advanced model, and provides with 12 functions and 4 auxiliary functions. We believe that it will become an inseparable friend on all your bicycle rides or during indoor training.

FUNCTIONS:

1. Current Speed	2. Average Speed	3. Maximum Speed
4. Trip Time	5. 24HR Clock Time	6. Alarm-clock
7. Trip Distance	8. Total Distance	9. Auto Start

10. Set Maximum Speed-alarm 11. Set Trip Time-alarm (Car Parking Meter) 12. Set Trip Distance-alarm

Auxiliary Functions:

1. Wheel-circumference Setting	2. LCD Auto Clear
3. Kilometre / Mile Conversion	4. Replacing Battery Indication

Before operation, thoroughly familiarize yourself with this manual so you can completely understand the functions of the BC 12 and maximize cycling fun. Keep this manual in a safe place for future reference.

2 SPECIFICATIONS

|		
1) Current Speed	SPD	
2) Average Speed	A V	0.0-199.9 km/h (110 mile/h)
3) Maximum Speed	MX	
4) Set Maximum Speed	MX	
5) Trip Time	TM	0'00"0 - 9:59'59"
6) 24HR Clock Time	⊙	0:00' - 23:59'
7) Alarm-clock Time	↑	0:00 - 23:59'
8) Set Trip Time (Countdown)	TM	0:00'00" - 9:59'59"
9) Trip Distance	DST	0.00 - 999.99km (miles)
10) Total Distance (Odometer)	ODO	0.0 - 9999.9km (miles)
11) Set Trip Distance (Countdown)	DST	0.00 - 999.99km (miles)
12) Auto Start	AS	

The specifications and design are subject to change without notice.

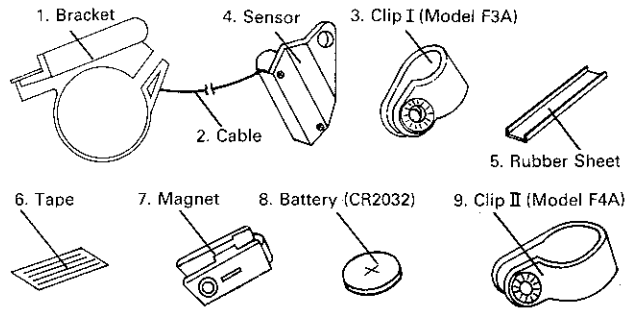| Display	Liquid Crystal
Sensor	No Contact Magnetic Sensor
Power Supply	Lithium Battery (CR2032) x 1
Operating Temperature	0°C - 50°C (32°F - 122°F)
Applicable Wheel Circumference	10mm - 2999mm
Dimension	57.5 x 51.5 x 19.5mm (2¼ x 2 x ¾ inch)

The specifications and design are subject to change without notice.

Main Unit
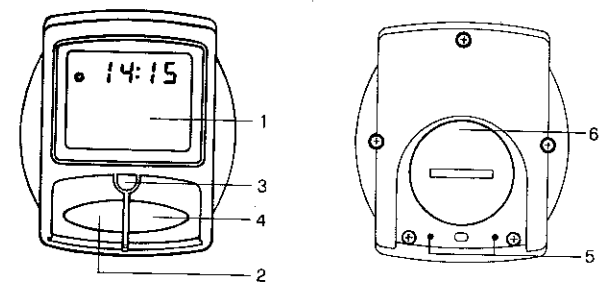
1. Liquid Crystal Display   2. Mode Key   3. Set Key   4. Start / Stop Key
5. Contacts   6. Battery Case Cover

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Accessories

1. Bracket   4. Sensor   3. Clip I (Model F3A)

2. Cable

5. Rubber Sheet

6. Tape   7. Magnet   8. Battery (CR2032)   9. Clip II (Model F4A)

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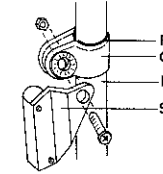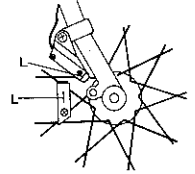
3 INSTALLATION

1. Clamp Magnet (M) on spoke of any side of the front wheel (Fig.1).

2. Install the sensor (S) on front fork (F) at same side of the magnet. A rubber sheet (R) of 1-2 mm thick may be put between front fork (F) and sensor clip (C) in accordance with the diameter of the bicycle tube (Fig. 2).
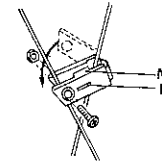
(F.1)   (F.2)   (F.3)

3. Adjust relative position of magnet and sensor so that a circle is formed by the marking lines (L) of them when the wheel turns. A clearance of 2-5 mm may be kept. Tighten up all screws in the magnet and sensor (Fig. 3 & Fig. 4).

4. Install bracket (B) near axle of steering handle (H), and depending on the diameter of the steering handle (H), put a rubber sheet (R) with 1-2 mm thickness between them (Fig. 5). Tighten up the screw so that the bracket is not allowed to turn (Fig. 6).

M ─ ─ S

2-5 mm

(F.4)　　　(F.5)　　　　　　(F.6)
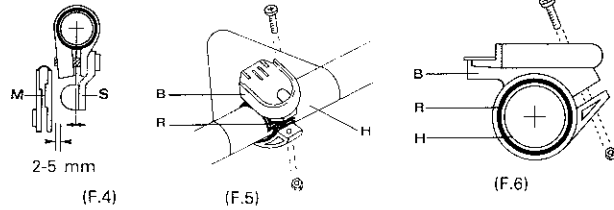
5. Clamp cable with cable tapes (T) along the length (Fig. 7), but the section shown by the arrow must be loosened so as not to restrict the turning of steering handle (Fig. 8). Fold up the surplus cable and tie it by a cable tape (Fig. 9). Tighten up the cable tape (Fig. 10).

(F.7)　　　(F.8)　　　(F.9)　　　(F.10)
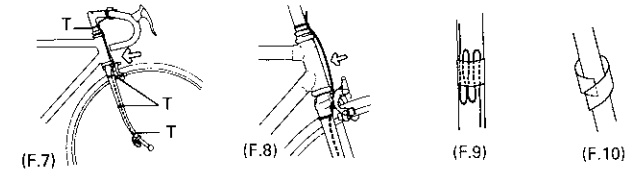
6. Unscrew the battery case cover on the speedometer back (Fig. 11) and fit a 3V. CR-2032 battery, then tighten up the cover.

7. When installing bracket on the steering handle, install with its gap towards inside and inclined down a little, then tighten up the screw (Fig. 12). The speedometer's curved projecting back should be directed at the bracket gap and drove into it towards outside and inclined up, so as to ensure good linking. In this way circuit will be connected automatically (Fig. 13).
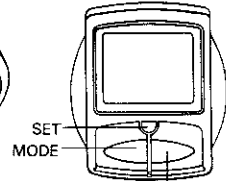
8. Lift front wheel from ground and turn it to check whether sensor signal indicator in the speedometer flickers or not. If no flickering, adjust again the position of sensor and magnet until flickering occurs.

SET
MODE
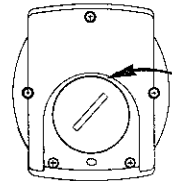
START/STOP

− 9 −   (F.11)   (F.12)   (F.13)
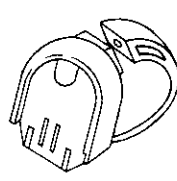
4 KEY FUNCTION

S/S (START / STOP) -   Use for stop watch as well as for setting data. The flickering digit is increased by 1 every time of pressing. The required number can be obtained by repeated pressing of this key.

M (MODE) -   Use to change function or shift flickering digit. The flickering digit will be shifted one place to the left every time of pressing. The required number can be obtained with co-ordination of the S/S key.

S (SET) -   Use to switch to/from data setting operation. After data setting has been completed, pressing this key once will switch back to normal operation.

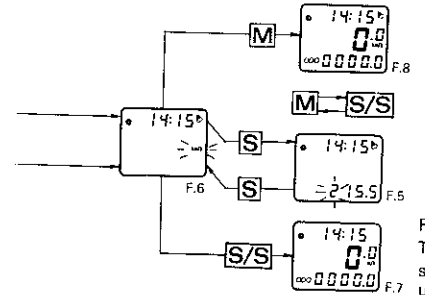# 5 SETTING SECTION

F.3

F.1   F.2
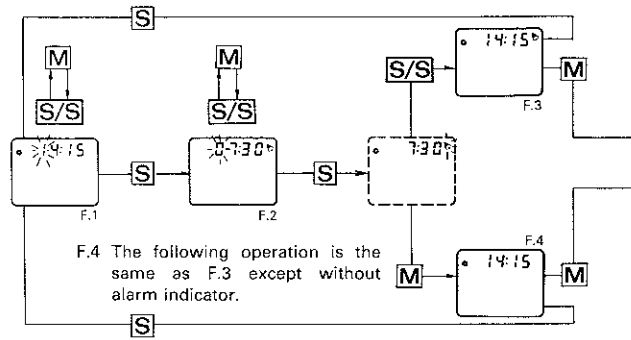
F.4 The following operation is the same as F.3 except without alarm indicator.

Operation Flow Chart of the 3 in 1 Cycle Computer
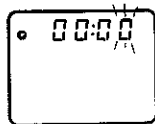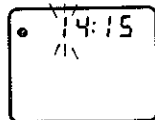## (Bicycle Speedometer)   Model BC12

F.8

F.6

F.5

F.7
The following operation is the same as F.8 except British unit used.

SETTING SECTION - setting time and alarm (24 hr. clock), setting wheel circumference, and selection of Metric or British Unit.
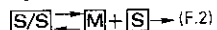
⊙ SETTING TIME

F.1

F.1A

The speedometer will display F.1 as soon as a battery is fitted. If the current time is 2:15 p.m. the adjustment is as follows:

(1) Press **S/S** key for 5 times to set figure "5".
(2) Press **M** key once to shift left one digit, then Press **S/S** key once to set figure "1".
(3) Press **M** key once to shift left one digit, then Press **S/S** key 4 times to set figure "4".
(4) Press **M** key once to shift left one digit, then Press **S/S** key once to set figure "1" (F.1A).
(5) Press **S** key to terminate and arrive at (F.2).

The following is a graphical representation of the process: S/S ⇄ M + S → (F.2)

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▷ SETTING ALARM

F.2

F.2A

To set the alarm at 7:30 every morning, refer to aforesaid steps from (1) to (5).

The following is a graphical representation of the process:

S/S ⇄ M + S → 🔔 → + S/S → (F.3)
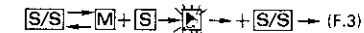
(The alarm will sound when the time comes if the alarm indicator is retained.)

Note: If it is unnecessary for alarm, erase the alarm indicator by means of **M** key while it is flickering (F.4). The alarm time of 7:30 is still kept in memory and could be enabled again if the alarm indicator is selected.

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ALARM CLOCK AND CLOCK MODES
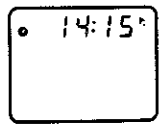
F.3
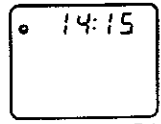
F.4

Alarm Clock Mode is shown in (F.3).The alarm indicator signifies that the alarm will sound for 15 seconds everyday in accordance with the alarm time. This alarm time is not displayed but can be inspected by pressing S key twice in mode (F.3). Clock mode is shown in (F.4). The correct time in the locality is displayed equally. If no key is pressed or no signal input for 5 minutes, the speedometer will return to alarm clock mode (F.3) or clock mode (F.4).

WHEEL CIRCUMFERENCE

F.5

F.6

In the mode of (F.3) or (F.4), press M key to display (F.6), then press S key to display (F.5).
As indicated here, 2150 is approximately the circumference of 27" bicycle wheel in mm. Using the foregoing procedure, input suitable figures according to the size of your bicycle wheel (see following table). Then press S key to return to (F.6).

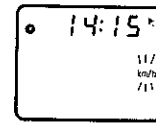The following is a graphical representation of the process:

S/S ⇄ M + S → (F.6)
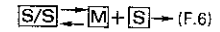
	Size of wheels	Circumference
ATB	24 x 1.75 in. 26 x 1.40 in. 26 x 1.50 in. 26 x 1.75 in. 26 x 2.00 in.	1888 mm 1995 mm 2030 mm 2045 mm 2099 mm
Other wheels	20 in. 22 in. 24 in. 26 in. 27 in. 28 in.	1596 mm 1759 mm 1916 mm 2073 mm 2155 mm 2237 mm

METRIC SYSTEM / BRITISH SYSTEM

F.7
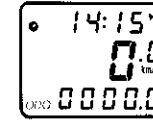
F.8

Select British System - press **S/S** key
Select Metric System - press **M** key

(F.7) or (F.8) is the mode of current speed.

When bicycle is in motion, the selected system will be used for calculation of speed.

Note: If wrong data was inputed during data setting, press the **S/S** , **M** and **S** keys simultaneously and the speedometer screen can be returned to clock mode as in (F.3) or (F.4). If the **S** key is pressed now, it will return to (F.1) mode and new data can be inputed again.

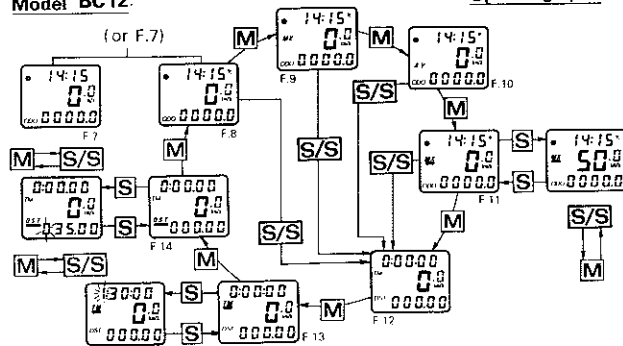Operation Flow Chart of the 3 in 1 Cycle Computer
Model BC12.

Operating cycle

(or F.7)

– 19 –   F.7 The following operation is the same as F.8 except British unit used.

6 FUNCTIONAL SECTION - operating cycle

From the mode of (F.7) or (F.8), press the M key 6 times and the various operating functions of this speedometer may be seen. Pressing M key once more will return it to the originial mode of (F.7) or (F.8). This will complete the testing cycle.

F.9
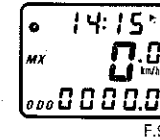
SPD   Current Speed
(F.7) or (F.8) displays current speed (0.0 - 199.9km/h), and also displays both total distance and normal time.
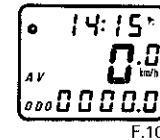
MX   Maximum Speed
(F.9) displays max. speed (0.0 - 199.9 km/h).

F.10
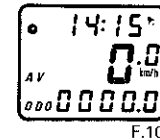
AV   Average Speed
(F.10) displays average speed (0.0 - 199.9 km/h); must display (F.12), (F.13) or (F.14) first, press S/S key to start the stop watch, then press M key to start this function.

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MX Set Maximum Speed With Alarm

(F.11) If data has been set (0.0 - 199.9 km/h) and speed has attained this figure, alarm will sound for 15 seconds.

F.11

3 Elements for Sport

(F.12) displays trip time, trip distance and current speed.

F.12

TM Set Trip Time With Alarm

(F.13) (0-9:59:59) is the trip time alarm mode for backward counting as well as trip distance and current speed.

F.13

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DST Set Trip Distance With Alarm

(F.14) If data has been set (0 - 999.99 km) and trip distance reaches this figure, the alarm will sound for 15 seconds.

F.14

Stop Watch

(0-9:59:59) operates at increasement of 0.1 sec. in the mode of (F.12), (F.13) and (F.14), pressing the S/S key will start the stop watch, pressing this key again will stop it.

Note:
- In the modes of (F.7), (F.8), (F.9), (F.10) and (F.11), the mode (F.12) will be displayed directly by Pressing S/S key.
- In the modes of (F.12), (F.13) and (F.14), the set figures for TM and DST will be reset to zero if S/S key and M key are pressed simultaneously.
- When the voltage of the battery lower than 2.4V, the BATT indicator will appear in the screen. It is needed to replace one new battery in case the speedometer can not work accurately.

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7 SET SPECIAL FUNCTIONS

MX SET MAXIMUM SPEED ALARM

If the max. speed alarm is to be set at 50.0km/h; press the M key first to display (F.11), then press the S key. The last digit will flicker, press the S/S key and M key again to set figures at the flickering digit, pressing the S key to exit will hide the figures. The graphical representation is as follows:
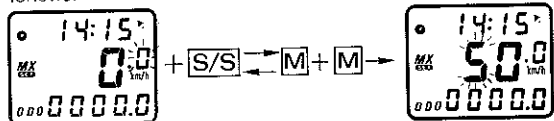
Pressing the M key again will switch to (F.12)

TM SET TRIP TIME ALARM

If the trip time alarm is to be set at 1:30:00; press the M key first to display (F.13), then press the S key. The last digit will flicker. Press appropriate keys again in accordance with the following procedure to set number, change digit and exit. The graphical representation is as follows:

Pressing the M key again will switch to (F.14)

DST SET TRIP DISTANCE ALARM
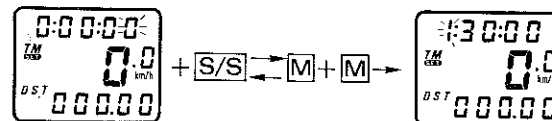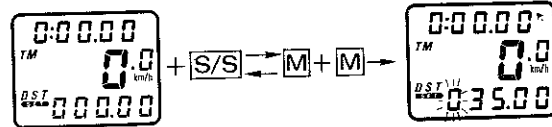
If the trip distance alarm is to be set at 35.0 km; press the M key first to display (F.14), then press the S key. The last digit will flicker. Press appropriate keys again in accordance with the following procedure to set number, change digit and exit. The graphical representation is as follows:

Pressing the M key again will switch to (F.7) or (F.8)

Note:
- Usually, some set data such as alarm time, circumference of wheel and max. speed alarm, etc., cannot be seen directly on the speedometer. This can be checked up or changed at the time of setting.
- Current speed, max. speed and average speed are actual records and cannot be set or assumed.
- After setting data for trip time alarm (TM) and trip distance alarm (DST), this figure will change in the course of moving. By pressing the S/S key and M key simultaneously, this data can be set again to the original value.

AS AUTO START

Press M key to display (F.12), then press S/S key and M key simultaneously for 3 seconds, the command gun indicator will be displayed (F.12). The calculating function of 3 elements for sport will be started as soon as the wheel turns.

CAR PARKING METER (STOP TIME ALARM)

Suppose the stop time is 2 hours, and alarm must be set at 10 minutes earlier, so set time is 1:50:00. Press **M** key first to display (F.13). Then press **S** key and the last digit will flicker. Press appropriate keys in accordance with the following procedure to set number, shift digit and exit. Then press **S/S** key to start calculating time, and the alarm will sound after one hour and fifty minutes to remind that the stop time will come soon.

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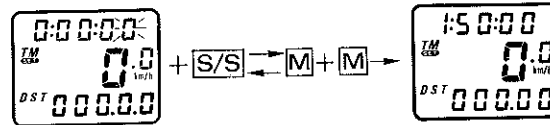
8 DATA RE-SETTING

Time: 2:15 p.m.
Alarm time: 7:30 a.m.
Wheel circumference: 215.5 mm
Calculating unit: Metric system
Max. speed alarm: 50.0km/h
Trip time alarm:1:30:00
Trip distance alarm: 35 km
Operating procedure for setting above data:
(1) As soon as the battery is installed, (F.1) will be displayed and a flickering digit seen. Press **S/S** key for 5 times to set number "5". Press **M** key to shift digit and press **S/S** key 1 time to set number "1". Press **M** key. Press **S/S** key 4 times to set number "4". Press **M** key. Press **S/S** key 1 time to set number "1". Press **S** key to freeze and mode (F.2) is reached.

(2) No number setting is required for the last digit of 7:30. Press **M** key, then use **S/S** key to set number "3". Press **M** key again and use **S/S** key to set number "7". Press **S** key to freeze. The alarm indicator will flicker. Press **S/S** key to retain this indicator and alarm clock mode (F.3) is reached.

(3) Press **M** key and **S** key. Due to the wheel circumference is 215.5 mm., so set number "5" at the last digit of 2150 by using **S/S** key. Then press **S** key to display (F.6). Press **M** key to select the Metric system and mode (F.8) is reached.

(4) Press **M** key for 3 times to display (F.11). Press **S** key and **M** key to change to ten's digit and set number "5" in accordance with the above mentioned procedure. Press **S** key to exit.

(5) Press **M** key to display (F.13). Press **S** key and the last digit will flicker. Set figure of 1:30:00 for trip time alarm by means of **S/S** key and **M** key. Press **S** key to exit.

(6) Press **M** key to display (F.14). Press **S** key to start flickering at the last digit. Set figure of 35.0 km for trip distance alarm by means of **S/S** key and **M** key. Press **S** key to exit.

9 CAUTION / MAINTENANCE

1. Don't leave the computer exposed to direct sunlight when it is not in use.
2. The unit of the wheel-circumference is milimeter (mm).
3. Check the position of the sensor and wheel magnet periodically, especially when speed does not display or displays inaccurately.
4. It is advisable to take the battery out if you want to leave your computer idle for a long time and do not want to keep the "ODO" record. When using it again, preparation must be done as the Computer Preparation described.
5. Do not pay too much attention to your computer while riding. Keep your eyes on the road and give due consideration to traffic safety.
6. Do not keep the sensor close to the magnet for a long time when the computer is not in use.
7. Keep the computer and accessories clean, wipe first with a cloth and a neutral detergent. Then, wipe with a dry cloth. Do not use thinner, alcohol, or benzine.

ORBYX ELECTRONICS WARRANTY

ORBYX Electronics warrants that this product will be free from defects in materials and workmanship for a period of one (1) year from the date of purchase. Within this period, simply take the product and your proof of purchase to any ORBYX Electronics store or dealer and the product will be repaired without charge for parts and labour. ORBYX Electronics reserves the right to charge for transportation. Any product which has been subject to misuse or accidental damage is excluded from this warranty.

This warranty is only applicable to a product purchased through ORBYX Electronics' company owned stores and dealers and to a product that is presented for repair in a country where ORBYX Electronics offers the product for sale. While this warranty does not confer any legal rights other than those set out above, you may have additional statutory rights which will vary under the laws of the various countries, states, province and other governmental entities in which ORBYX Electronics operates. This warranty is subject to all statutory rights you may have in the country of purchase.

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