

# SPEEDOMETER CORRECTION UNIT 3

Honda

## INSTRUCTIONS FOR USE

**NOTE: This unit will work when the displayed speed is higher or lower than the actual speed, or when the final drive ratio has been changed to a higher numerical value (geared lower), or to a lower numerical value (geared higher).**

### DISCLAIMER

"Seller warrants that the product is as described, but that no other express warranty is made in respect to the product. This product is purchased by the buyer "as is" and the seller does not warrant that it is of merchantable quality or that it can be used for any particular purpose."

### WARRANTY INFORMATION

The product is warranted to be free of all defects in material and workmanship for a period of one (1) year from the date of purchase. This warranty does not apply to any defects caused by negligence, misuse, accidents, or modifications performed by the end user. Within the period of the warranty, the manufacturer will repair or replace any part proving defective in material or workmanship. The buyer shall be responsible for the cost of shipping the product back to the manufacturer for purposes of repair or replacement of any part covered under this warranty. The manufacturer reserves the right to make changes or improvements in the product without incurring any obligation to similarly alter products previously purchased.

### Determine your speedometers error

There are several ways to determine the error present in your motorcycles speedometer: You can use a hand held GPS unit to measure your actual speed (this is the best method), you can use a RADAR gun, or you can measure the circumference of your rear wheel and calculate your speed (this is probably the least accurate). If you make this measurement you can use this formula to get your speed.

$$\frac{RPM \times RWC}{Pr \times Gr \times FDr \times 88} = MPH$$

Where:

RPM = Engine RPM.

Pr = Primary drive ratio.

Gr = Gear ratio 1<sup>st</sup>, 2<sup>nd</sup>, etc.

FDr = Final drive ratio

RWC = Circumference of the rear tire in feet

Now go and ride your bike being sure to ride in a safe manner with as little traffic as possible, preferably on a stretch of highway with no turns. Once you are at the desired engine speed make note of the displayed speed. Do this several times to get an accurate number. Now use the following formula to calculate the percentage error. The calculated value for speed will be used as the actual value in equation in this equation.

$$\%error = \left( \frac{Displayed\_Speed}{Actual\_Speed} - 1 \right) \times 100$$

**This value will be used in the following section to set the correction value.**

## Install the Recal Unit

THE INSTALLATION FOR SOME MODELS ARE SHOWN IN MORE DETAIL ON THE WEBSITE: [www.jahlmandesign.com](http://www.jahlmandesign.com)

1. On the **RC51** the connector is located under the seat between the sub-frame and the bodywork on the right side of the bike. The connector has a green, brown, and a pink wire in it.
2. On the **CBR1000RR**, **CBR929/954** and **F4i** the connector is underneath the tank. The connector has green, brown, and pink wires and comes from the top of the transmission.
3. On the **VFR** the sensor is mounted on the countershaft sprocket cover, and the connector is just inside the left frame rail and has green, brown, and pink wires.

**WARNING: CHECK THE WIRING BEFORE APPLYING POWER. MAKE SURE THAT THE UNIT IS CONNECTED TO THE PROPER CONNECTORS ON THE BIKE.**

4. Place the correction unit in a convenient place and secure. Try to isolate the unit from engine heat as much as possible. Be sure that no wires are pinched.
5. Replace the seat/bodywork and go riding.

If you encounter any problems you can contact me at [support@jahlmandesign.com](mailto:support@jahlmandesign.com)

**NOTE: YOU CAN REMOVE THE CONNECTOR FROM THE BOARD BY PRESSING THE SMALL TAB ON THE PLUG BODY AND GENTLY PULL THE PLUG FROM THE RECEPTACLE.**

## Setting up the Recal unit

There are several things that must be accomplished in order to set up the Speedo Recal unit. You must set the switches for the desired correction factor. Then turn the ignition ON. Then select for gearing DOWN or UP and if you want to convert what the speedometer displays, NORMAL, MPH to KPH, or KPH to MPH.

**The unit must be installed in the bike, and the power must be off.**

1. Select the desired correction value from table 2. Set switches 1 through 7 according to the values in table 2. For example, let's say your correction value is 10.00%, the switches would look like picture 1. Set switch 8 to OFF, and set switch 9 to ON.



picture 1.

2. Turn the ignition key to the **ON** position. The correction value will be saved to memory. Leave the ignition switch ON.
3. Leave switch 9 in the ON position and select the settings for switches 1 through 8 from table 1. Switches 1 and 2 are for setting what units are displayed on the speedometer. For example, if your speedometer only displays MPH you can set the Recal unit to show what your speed is in KPH. Switch 3 is for UP or DOWN correction. If your displayed speed is higher than your actual speed for the stock setup, or you have lowered the gearing (numerically higher) you should set switch 3 to the OFF position. If the speedometer reads lower than the actual speed for the stock setup, or you have raised the gearing (numerically lower) you should set switch 3 to the ON position. Switches 4 through 8 are not used.

Refer to table 1 for the switch settings.

1 = ON, 0 = OFF

#		Switch	Switch	Switch	Switches
		1	2	3	4,5,6,7,8
1	Normal, Gearing down	0	0	0	0
2	Normal, Gearing up	0	0	1	0
3	MPH to KPH, Gearing down	0	1	0	0
4	MPH to KPH, Gearing up	0	1	1	0
5	KPH to MPH, Gearing down	1	0	0	0
6	KPH to MPH, Gearing up	1	0	1	0

Table 1

**NOTE: NUMBERS 3, 4, 5, and 6 MUST BE USED WITH CAUTION. IF, FOR EXAMPLE, YOU USE #3 THE DISPLAYED SPEED WILL BE IN KPH, BUT THE SPEEDOMETER WILL STILL SHOW THE UNITS AS MPH. MOST PEOPLE WILL LEAVE SWITCHES 1 AND 2 IN THE OFF POSITION.**

4. Once switches 1, 2, and 3 are set simply place switch 9 in the OFF position. This will save the setting in memory. Now turn the ignition switch off. Set all the switches to the OFF position.
- 5. If you want to change any of the stored settings you must repeat steps 1 through 4.**

1 = ON, 0 = OFF

Table 2.

Percent Correction	Switch number							Percent Correction	Switch Number						
	1	2	3	4	5	6	7		1	2	3	4	5	6	7
1.00	1	0	0	0	0	0	0	15.75	0	0	1	1	1	1	0
1.25	0	1	0	0	0	0	0	16.00	1	0	1	1	1	1	0
1.50	1	1	0	0	0	0	0	16.25	0	1	1	1	1	1	0
1.75	0	0	1	0	0	0	0	16.50	1	1	1	1	1	1	0
2.00	1	0	1	0	0	0	0	16.75	0	0	0	0	0	0	1
2.25	0	1	1	0	0	0	0	17.00	1	0	0	0	0	0	1
2.50	1	1	1	0	0	0	0	17.25	0	1	0	0	0	0	1
2.75	0	0	0	1	0	0	0	17.50	1	1	0	0	0	0	1
3.00	1	0	0	1	0	0	0	17.75	0	0	1	0	0	0	1
3.25	0	1	0	1	0	0	0	18.00	1	0	1	0	0	0	1
3.50	1	1	0	1	0	0	0	18.25	0	1	1	0	0	0	1
3.75	0	0	1	1	0	0	0	18.50	1	1	1	0	0	0	1
4.00	1	0	1	1	0	0	0	18.75	0	0	0	1	0	0	1
4.25	0	1	1	1	0	0	0	19.00	1	0	0	1	0	0	1
4.50	1	1	1	1	0	0	0	19.25	0	1	0	1	0	0	1
4.75	0	0	0	0	1	0	0	19.50	1	1	0	1	0	0	1
5.00	1	0	0	0	1	0	0	19.75	0	0	1	1	0	0	1
5.25	0	1	0	0	1	0	0	20.00	1	0	1	1	0	0	1
5.50	1	1	0	0	1	0	0	20.25	0	1	1	1	0	0	1
5.75	0	0	1	0	1	0	0	20.50	1	1	1	1	0	0	1
6.00	1	0	1	0	1	0	0	20.75	0	0	0	0	1	0	1
6.25	0	1	1	0	1	0	0	21.00	1	0	0	0	1	0	1
6.50	1	1	1	0	1	0	0	21.25	0	1	0	0	1	0	1
6.75	0	0	0	1	1	0	0	21.50	1	1	0	0	1	0	1
7.00	1	0	0	1	1	0	0	21.75	0	0	1	0	1	0	1
7.25	0	1	0	1	1	0	0	22.00	1	0	1	0	1	0	1
7.50	1	1	0	1	1	0	0	22.25	0	1	1	0	1	0	1
7.75	0	0	1	1	1	0	0	22.50	1	1	1	0	1	0	1
8.00	1	0	1	1	1	0	0	22.75	0	0	0	1	1	0	1
8.25	0	1	1	1	1	0	0	23.00	1	0	0	1	1	0	1
8.50	1	1	1	1	1	0	0	23.25	0	1	0	1	1	0	1
8.75	0	0	0	0	0	1	0	23.50	1	1	0	1	1	0	1

