SML-Z

pivot

SPEED METER Z

USER'S GUIDE

Thank you for purchasing our PIVOT SML-Z.
Please read these instructions carefully before installing or using this device.

CONTENTS

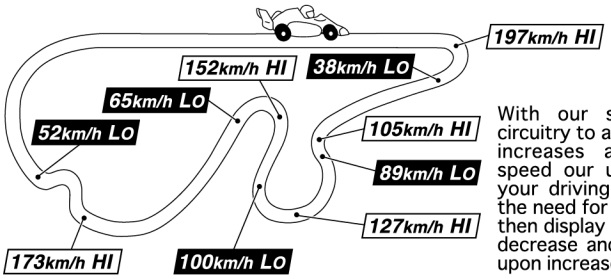
					
Main Unit	Double-sided Tape	Wire Connecters×3	Male Wire Crimps with Cover	Female Wire Crimps with Cover	Allen Wrench

・Speed Signal Wiring Table ・User's Guide

FEATURES

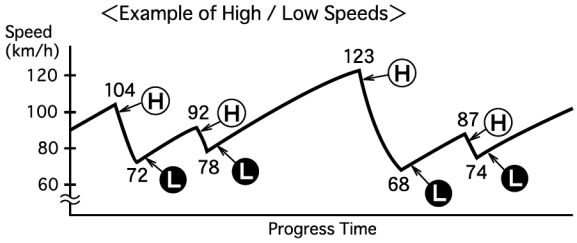
●Display Highest Speed entering a curve and Slowest Speed during cornering.

Our Speed Meter Z includes a revolutionary new function bringing you information never before attainable: the ability to check your top speed just before entering a curve and your lowest speed during cornering. As your speed drops to enter a curve, it will display for 5 seconds your top speed and as your speed increases out of the curve, it will display for 5 seconds your lowest speed while cornering. Complete with a handy alarm, which can be switched ON or OFF, to signal when the display starts.



With our specially designed circuitry to automatically detect increases and decreases in speed our unit can recognize your driving condition without the need for special sensors and then display the top speed upon decrease and the lowest speed upon increase.

<Example of High / Low Speeds>



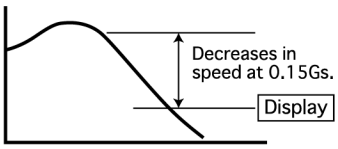
Ⓗ =Displays Highs
Ⓛ =Displays Lows

Each display is held for 5 seconds.

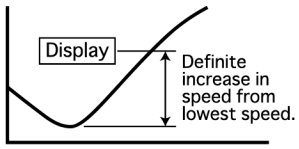
●High Precision Speed Meter with MAX400km/h.
●Speed Limiter Disabling Function. (Not for use on public roads.)
●Auto Display of Top and Low Speed for Each Curve.
In AUTO MODE, upon deceleration the unit automatically displays the top speed until that point and upon acceleration displays the lowest speed.
●REAL / AUTO Display Switching Function.
●High and Low Speed Display Hold Function.
●Compact, Easy-to-View, Adjustable Neck Design in a Titanium Case.
●Compatible with a Wide Range of Car Models.
●Opening Demo
By turning key switch ON, [PIVOT SPEED PIVOT] will scroll across the display.
●Automatic Speed Increase / Decrease Detection System. (Patent Pending.)
No special wiring for any sensors other than this speed sensor. This alone will automatically detect your increases and decreases in speed and display the appropriate highest and lowest speeds.

・Speed Decrease Detection = Decreases in speed at 0.15Gs or higher. (No response to any decreases and / or braking at less than 0.15 Gs.)
・Speed Increase Detection = Any definite increase that comes from a lowest speed after a displayed highest speed.

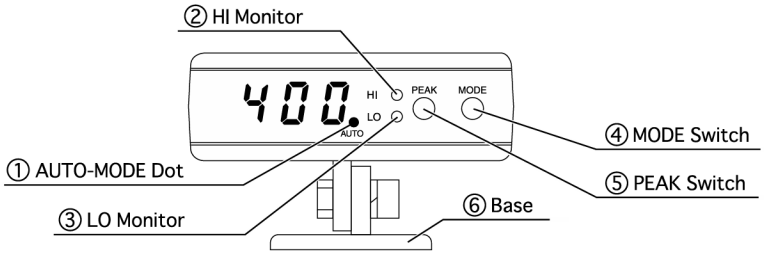
<Highest Speed Display>



<Lowest Speed Display>



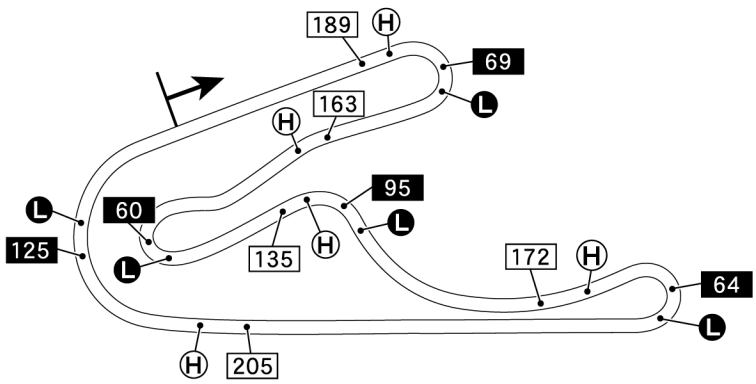
PART NAMES AND FUNCTIONS

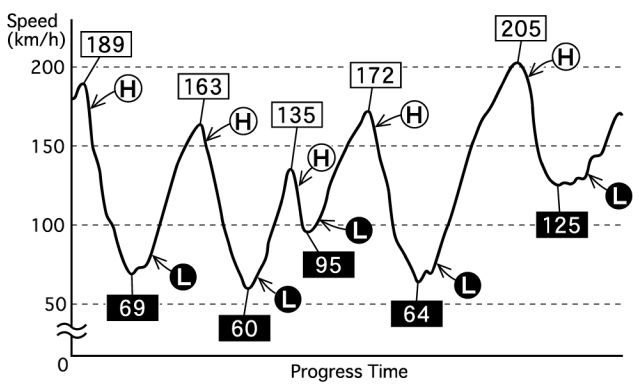


① In AUTO MODE = light on. In REAL MODE = light off.
② During Highest Speed Display = light on.
③ During Lowest Speed Display = light on.
④ REAL MODE / AUTO MODE Switch.
⑤ Peak Data Display / Reset.
⑥ Easy installation with Double-sided Tape. / Adjustable for best viewing position.

EXAMPLE OF HIGH / LOW SPEED AUTO DISPLAY

Below is an example of the display of highest and lowest speeds during circuit driving. When you slow down going into a corner, it displays your top speed and when your speed increases out of a curve it displays your lowest speed.

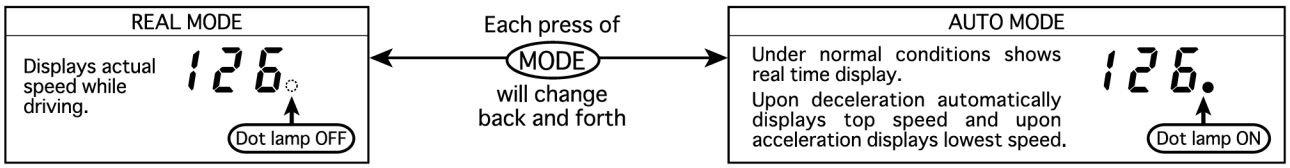




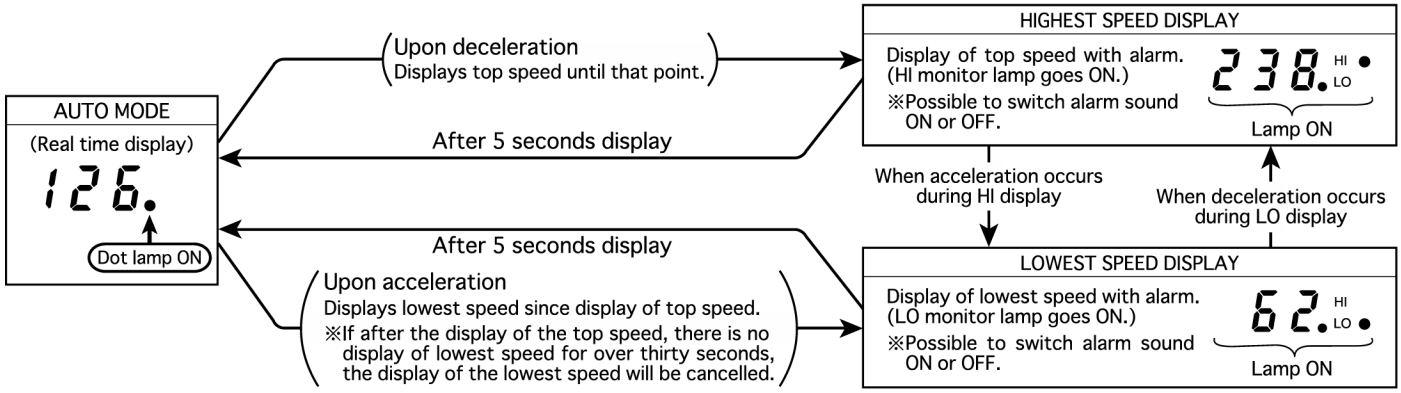
Numbers in □ = shows point of highest speed and speed Ⓗ = Displays Highs ／ Numbers in ■ = shows point of lowest speed and speed Ⓛ = Displays Lows

HOW TO OPERATE

■REAL / AUTO MODE



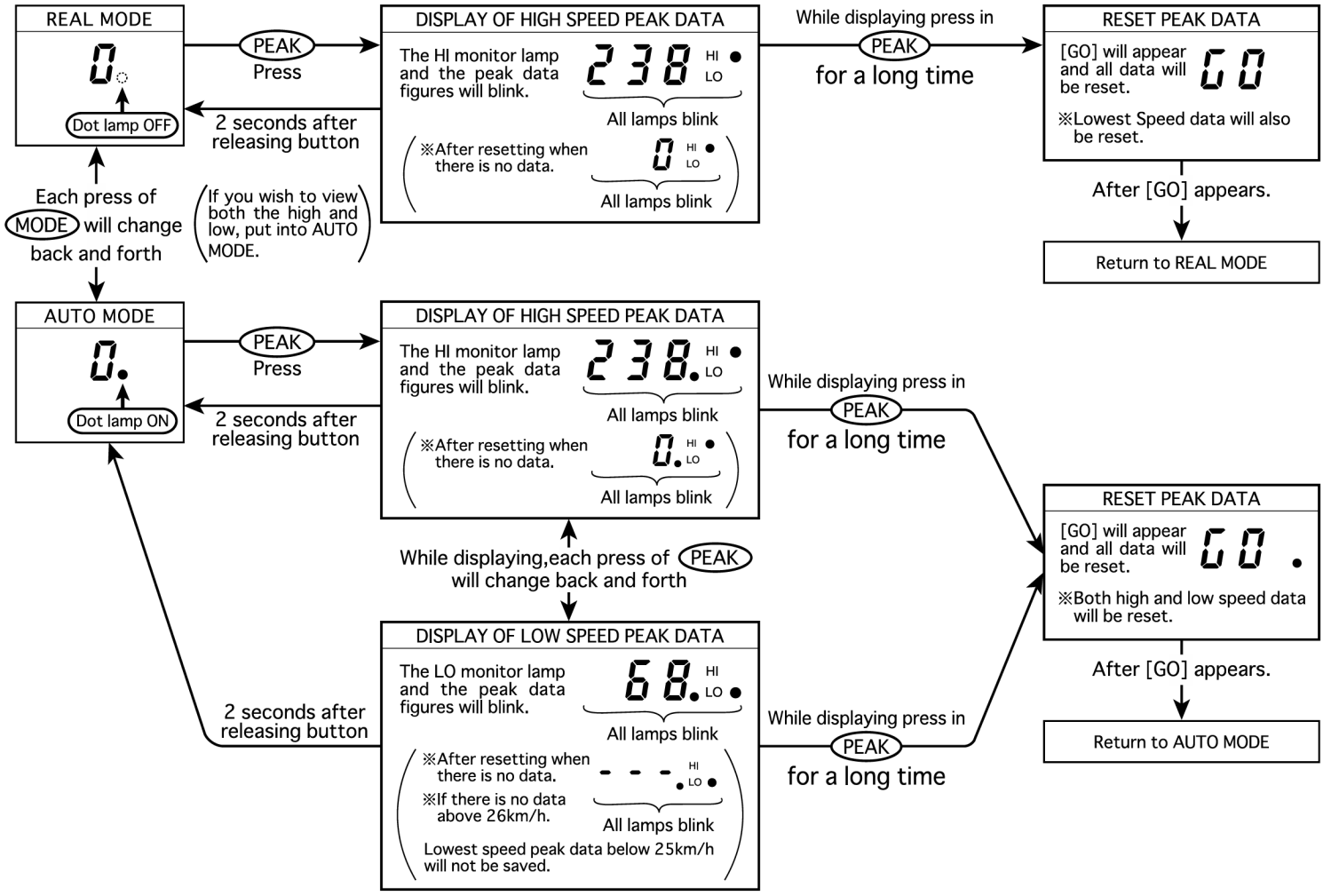
■HIGH / LOW AUTO DISPLAY



■ABOUT THE PEAK DATA DISPLAY AND HOW TO RESET

⚠ Please check the peak data display only after stopping your car in a safe place.

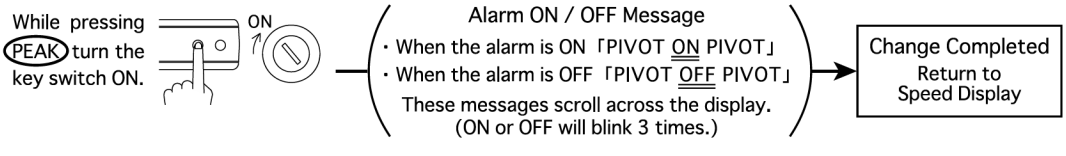
⚠ By turning the key OFF all peak data will be erased and reset.



■SWITCH ON / OFF AUTO DISPLAY ALARM

If you do not wish the alarm to be sounded when the AUTO display begins, it can be switched OFF.

※Switching OFF the alarm sound will not switch off the push button beeps.



CONNECTING THE WIRES

⚠ INSTALLATION WARNING

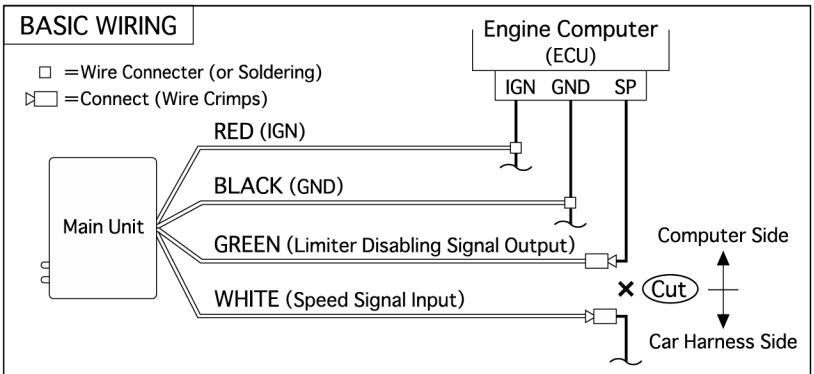
1. For safety purposes, when working on your car always disconnect the battery ⊖ terminal. (Re-connect to check for power.)
2. Make sure that all wires and snap connectors are firmly connected and insulated.
3. Be careful when laying wires not to cause any electrical shorts or wire breakage.

○ Connecting to Disable the Speed Limiter

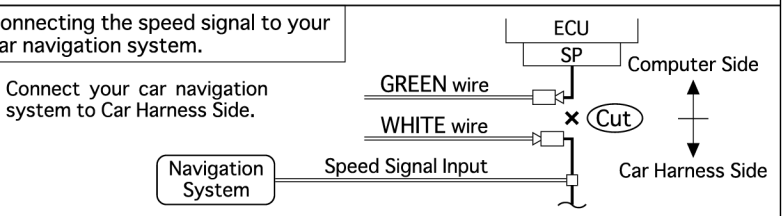
NOTE

1. Please connect the speed signal wires according to the specified layout for your car in [Speed Signal Wiring Table].
2. If you connect to the optional coupler for the car navigation system, the limiter will not be disabled.
3. If your car type is for installation only (△) in the [Speed Signal Wiring Table], do not connect wires in this way. It may cause damage to or malfunction in your car.

BASIC WIRING



Connecting the speed signal to your car navigation system.



■INSTALLATION ※Please refer to the attached ECU drawing for each connection.

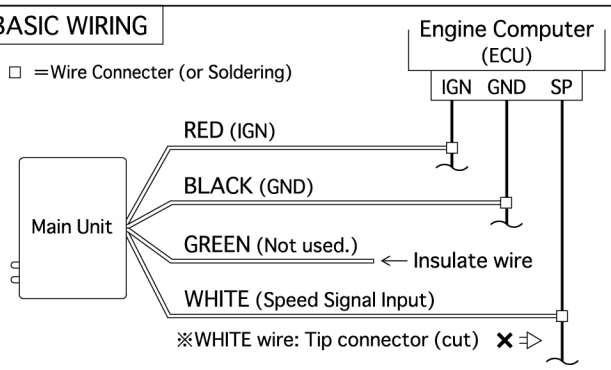
Wire Color	ECU Location	Signal	Connecting Method
RED	IGN	IGN	Connect the designated wire.
BLACK	GND	GND	Connect the designated wire
GREEN	SP	Limiter Disabling Signal Output	Cut the designated wire. → Connect to the Computer Side.
WHITE		Speed Signal Input	Cut the designated wire. → Connect to the Car Harness Side.

△ Connecting to NOT Disable the Speed Limiter

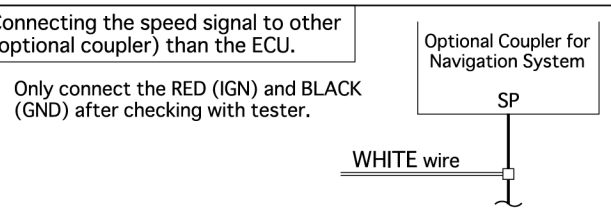
NOTE

1. If your car type is for installation only (△) in the [Speed Signal Wiring Table], please be sure to use this type of connection.
2. If your car type is listed as a type in which the speed limiter can be disabled, but problems persist when doing so, please use this type of connection.

BASIC WIRING



Connecting the speed signal to other (optional coupler) than the ECU.



■INSTALLATION ※Please refer to the attached ECU drawing for each connection.

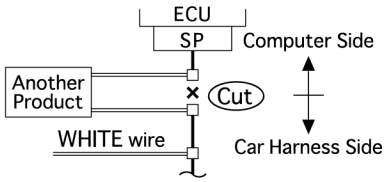
Cable Color	ECU Location	Signal	Connecting Method
RED	IGN	IGN	Connect the designated wire
BLACK	GND	GND	Connect the designated wire
GREEN	—	—	(Not used. Insulate the tip.)
WHITE	SP	Speed Signal Input	Connect the designated wire

⚠ If you are using another product to disable the speed limiter.

※Make sure you connect so as to not disable the speed limiter.

1. If it is being disabled by the computer itself = Connect the WHITE wire to the cars speed signal (SP).
2. If it is disabled by a connection that cuts the acceleration signal = Connect the WHITE wire on the Car Harness Side of the place where the signal is being cut. (See diagram.)

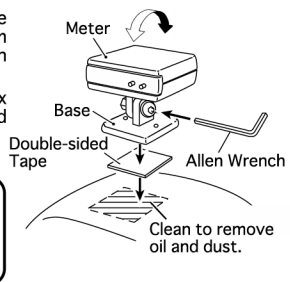
※Connecting to the Computer Side may cause trouble with the SML-Z display.



METER INSTALLATION

A When Affixing with the Double-sided Tape.

① Clean oil and dirt from the base of the unit and from the area where you wish to affix it.
② Make sure to securely affix it with the double-sided tape provided in the kit.

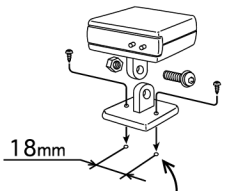


⚠
- Do not reuse the tape; it will lose adhesiveness.
- Adjust the meter to a suitable angle.

B When Affixing with Screws and Nuts or with Tap Screws.

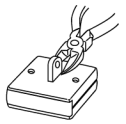
※There are two M3 sized holes in the base, so it is possible to fasten with an M3 sized screws and nuts or with a tap screws.
(Please provide your own screws.)

① Temporarily remove the meter from the base.
② Open two holes 18mm from each other in the place you wish to install. (See diagram.)
③ Install the base.
④ Connect the meter back onto the base and adjust angle to suit.



- Make a ϕ3 hole for M3 sized screws and nuts.
- Make a ϕ2 hole for tap screws.

⚠ If the base is unnecessary

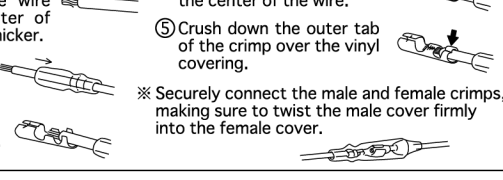


If you are installing without the base, remove the base from the unit using the allen wrench and using pinchers cut the neck section off from the bottom of the main unit.

HOW TO CONNECT FEMALE / MALE WIRE CRIMPS

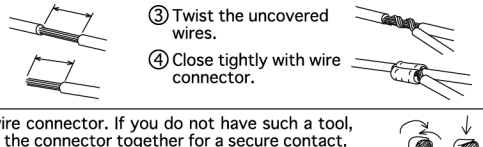
① Peel off about 8mm of vinyl covering from the tip of the wire and twist center of wire to make thicker.
② Pull the wire through the cover.
③ Place the wire onto the crimp.
④ Crush the center tabs of the crimp down to hold the center of the wire.
⑤ Crush down the outer tab of the crimp over the vinyl covering.

※ Securely connect the male and female crimps, making sure to twist the male cover firmly into the female cover.

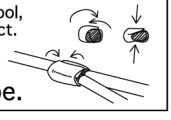


HOW TO USE THE WIRE CONNECTORS ※ If soldering is possible, please do so.

① Peel off about 10mm of the vinyl cover at connection point.
② Peel off about 10mm of the vinyl cover at the end of the wire to be connected.
③ Twist the uncovered wires.
④ Close tightly with wire connector.



※Use a crushing tool to press the wire connector. If you do not have such a tool, use pliers or such to fold and crush the connector together for a secure contact.
※Loose connections can cause wires to come apart, so please make sure the connection is secure.

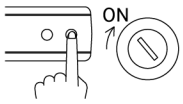


Be sure to insulate and secure with vinyl electrical tape.

PULSE SETTING CHART

※Make settings to match your car model. For the correct pulse setting, check the pulse section of the [Speed Signal Wiring Table].

While pressing MODE turn the key switch ON.



To Setting Mode
「PIVOT SET PIVOT」
This message scrolls across the display.
(SET will blink 3 times.)

SETTING MODE DISPLAY

n-2

Current setting will blink.
(ex:Normal Car 2 pulse)

MODE Press

PULSE SETTING

The setting changes with each pressing of the MODE button.
(After the Honda Adjust Mode, the setting will return to Normal Car 2 pulse.)

Setting	Display
Normal Car 2 pulse	n-2
Normal Car 4 pulse	n-4
Normal Car 8 pulse	n-8
Normal Car 16 pulse	n16
Kei cars (in Japan only) 2 pulse	L-2
Kei cars (in Japan only) 4 pulse	L-4
Honda Adjust Mode	Hnd

※Use the Honda Adjust Mode for car models listed in the table to the left.

2 seconds after releasing button → Setting Completed Return to Speed Display

2 seconds after without pressing switch → Setting Completed Return to Speed Display

If set using the Honda Adjust Mode →

PULSE ADJUST SETTING

The display will change to numerals. (blinking display.) Hnd → 106

※Make settings by car model as shown in table to the left.

Pressing the PEAK button will add 1.

Pressing the MODE button will subtract 1.

・Setting Range = 70～130% (units of 1%)
・Default Setting = 106

2 seconds after releasing button →

■Table of Pulse Adjustment Settings by Car Model

Car Name	Year	Model Code	Engine Code	Adjust Setting	Others
S2000	H11.4	AP1	F20C	106	

⚠ NOTE

① If you are installing into a car model listed above, make adjustment settings accordingly.
② Disabling of the speed limiter is unconfirmed. Please follow wiring procedures for [Connecting to NOT Disable the Speed Limiter].

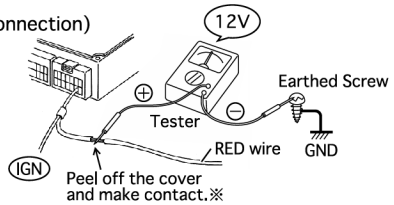
TROUBLESHOOTING

※Please make the following checks before seeking repair.

Trouble	Possible Causes	Check Point
I turned the key ON, but the opening demo did not start up.	Improper IGN wiring connection.	• Check the RED wire connections or conditions. • Check to make sure of a proper connection to the IGN. (See [REFERENCE 1].)
	Improper connection of GND.	• Check the BLACK wire connections or conditions. • Make sure that there is a connection to the designated earth or to a place that is earthed.
While driving, the speed is not displayed.	Improper SP wiring connection.	• Check the WHITE wire connections or conditions. • Check to make sure of a proper connection to the SP. • Make sure that the GREEN wire is not connected to the Car Harness Side. (Make sure there is no failure of the main unit by following directions in reference 2 below.
The displayed speed is very different from my regular speedometer. (2 times or half of the speed.)	The speed signal pulse setting is wrong.	• Make sure the pulse setting is according to the [PULSE SETTING CHART]. ※Many minor changes can cause the pulse to change; if necessary change the pulse setting so that the displayed speed matches your regular meter.
There is a small difference between the displayed speed and my regular meter.	It is a difference of precision between the two meters.	(Small variances may occur between your regular meter, but this is not a failure of the main unit. Moreover, to make the display easier to view, the deceleration display has been slowed down a little.)
The engine check lamp comes on.	There is a poor limiter disabling signal connection.	• Check the GREEN wire connections or conditions.
The SML-Z's speed display doesn't change during acceleration close to the limiter speed.	The WHITE wire was connected to the Computer Side of the place where the limiter was disabled by another product.	• Connect the WHITE wire closer to the Car Harness Side than the other product.
Another product's speed display doesn't change during acceleration close to the limiter speed.	There is a speed signal wire from another product connected closer to the Computer Side than the SML-Z's GREEN wire.	• Connect the other product's speed signal wire to the same side (Car Harness Side) as to which the SML-Z's WHITE wire is connected.
The alarm sound does not go off when in High / Low Auto Display.	The alarm switch is OFF.	• Turn the Alarm switch to ON. ※Even if the alarm sound is OFF the push button beeps will not be switched off.

(REFERENCE 1: Checking the RED wire connection)

① Using a tester, put into a range that can measure DC12V.
② Peel off the cover in the middle of the RED wire, and make contact with the ⊕ terminal of the tester.
③ Connect the ⊖ terminal of the tester to an earthed screw (body earth).
④ Turn ON the key switch.

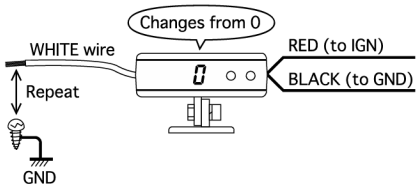


・Tester reads about 12V → The RED wire connection is fine.
・Tester does not read about 12V → The connection place is incorrect or the contact is poor.

※After checking, make sure to insulate the wire where you peeled off the cover.

(REFERENCE 2: Checking for changes in the speed display)

① Make sure that the RED and BLACK wires are properly connected and turn the key ON.
② Peel off the cover from the tip of the WHITE wire and repeatedly make and break contact of the lead wire (or the male connecter's metal part) to a body earth screw.

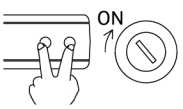


・If the SML-Z display changes from 0 it is OK. Check again all speed signal wiring connections.

■DEMONSTRATION MODE SETTING

This mode allows you to see a demonstration of the High / Low Auto Display without the need for actual speed pulses and can be used in demo cars and at stores.

While pressing PEAK and MODE at the same time, turn the key switch ON.



→ To Demonstration Mode after Opening Demo

※By repeating this operation you can change the setting as desired.

PIVOT CORPORATION 87-3 OKADA SHIMO-OKADA MATSUMOTO-SHI NAGANO 390-0313 TEL0263-46-5901