Instruction Manual

## NANO II GEAR Gear Position Indicator

PRODUCT FEATURES

- Small ABS housing 40×60×17.5mm
- Beautiful white LED display at night
- Display range: N, 1, 2 ～ 8
- Selectable top gear 4/5/6/7/8
- Shift up warning with bar graph, RPM amount for shift up warning is adjustable.
- Handle clamp (for 7/8" or 1") included
- Power DC10-16 (regular 12V), 9V with PP3 battery available
- Setting & operation can be simply done by one button.
- Accurate & reliable
- Waterproof

⚠ CAUTION

- Read all instructions before use.
- May need to purchase optional parts for some vehicles. (See the optional parts section in this manual.)
- Designed to be used on 12V system vehicle. (NANO-II Gear Position Indicator does NOT work with a 6V system or battery-less system.)
- NANO-II Gear Position Indicator might not work normally when used together with other device that emits much noise.
- Use NANO-II Gear Position Indicator for the intended purpose of use.
- NANO-II Gear Position Indicator is for universal use, so it needs wiring for installation. (If you are not sure about installation, consult an experienced dealer.)
- Do the wiring referring to the vehicle owner's manual.
- Do NOT disassemble NANO-II Gear Position Indicator. It may be damaged and water may come in.
- Do NOT leave NANO-II Gear Position Indicator in high heat when not used for a long time.
- Do NOT hit, drop and/or give a shock on NANO-II Gear Position Indicator. It may be damaged.
- Avoid contact with gasoline, brake fluid or other chemicals. It may be damaged.
- After installation, check to see if all the parts are correctly installed, and to see if all the screws are properly tightened.
- Inspect all installed parts after 100km driving. Periodical inspection is required every 500km(300mile). If anything unusual found while driving, pull over at a safe place to check.
- Because of the nature of LCD, display might be less-visible in some angle. Modify the mounting angle to have better view. Do not be all eyes on the less-visible display during driving, might cause serious accident.

COMPONENTS

NO.	DESCRIPTION	REMARKS	Q'TY
①	Gauge Unit (GEAR)		1
②	Power-Supply Wire	L=1200	1
③	Joint Wire,Speed Sensor	L=500	1
④	RPM-ECU,Wire	L=700	1
⑤	Neutral-Input,Wire	L=700	1
⑥	Mounting Bracket(Upper)		1
⑦	Mounting Bracket(lower)		1
⑧	Hex Head Screw	M5X15	2
⑨	Spring Washer	M5	2
⑩	Rubber Band	70X12X2t	1
⑪	Double-sided Tape	25X25X0.5t	1
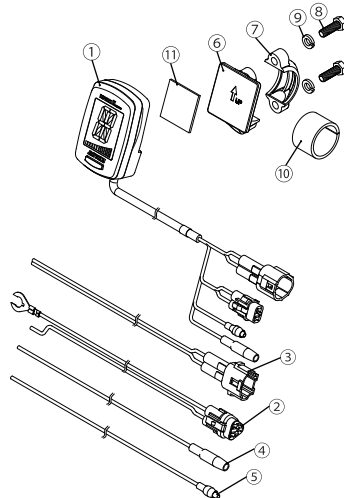
WIRING
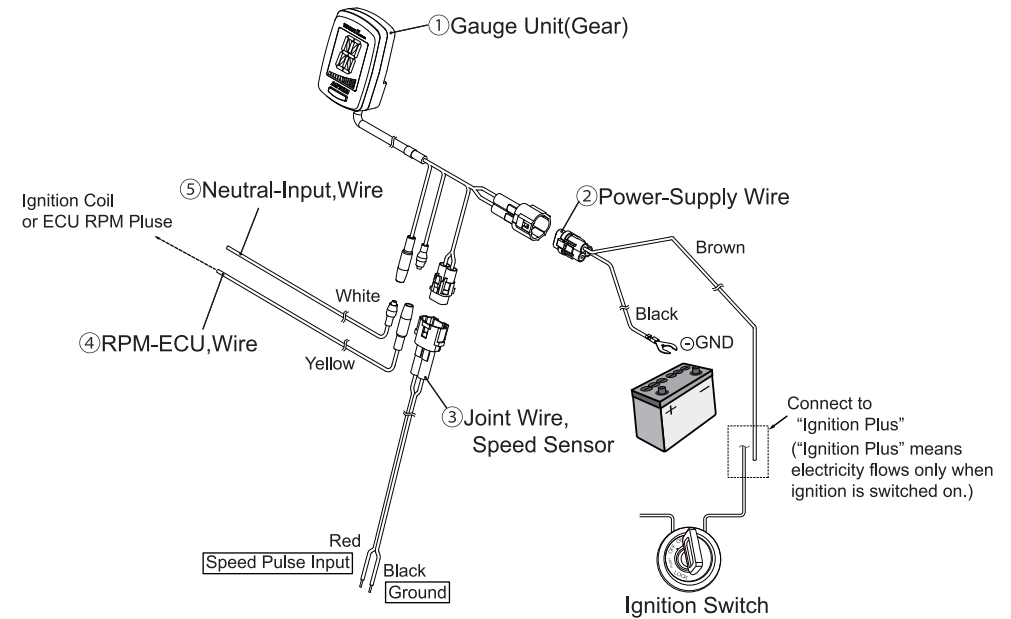
OEM Wiring Color List

	BROWN	BLACK	WHITE	RED	YELLOW
	IGNITION PLUS⊕	GND⊖	NEUTRAL INPUT	SPEED PULSE	RPM INPUT
HONDA	black/brown or pink/blue	green	light green/red	pink/green	yellow/green or yellow/blue
YAMAHA	red/white or light brown	black or black/white	light blue or light blue/white	white/yellow or pink	orange/green or yellow/black
SUZUKI	orange/green	black/white	blue/black	pink	yellow/blue or black/yellow
KAWASAKI	brown/white	black/yellow	light green	pink or pink/blue	red/yellow or blue/white

※OEM Wiring Color List is only for your reference. Wiring color might be different between the model, country, or model year. Please check with the vehicle owner's manual or voltmeter.
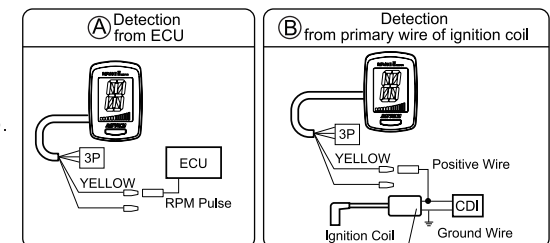
HOW TO INSTALL

⚠ Disconnect the ground wire from the negative post of vehicle's battery before installation.
1. Install ⑥Mounting Bracket(Upper) & ⑦Mounting Bracket(Lower) onto the handlebar using ⑧Hex Head Screw & ⑨Spring Washer. ※For 7/8" handlebars, use ⑩Rubber Band.
2. Mount ①Gauge Unit on the installed ⑥Mounting Bracket(Upper) using ⑪Double-Sided Tape.
   ⚠ Degrease and clean the surface of handlebar where ⑪Double-Sided Tape is put.
3. Refer to the **WIRING** & the vehicle owner's manual and connect each wire.
   ※OEM Wiring Color List is only for your reference. Wiring color might be different between the model, country, or model year. Please check with the vehicle owner's manual or voltmeter.

RPM PULSE DETECTION
You have two choices to detect the pulse Ⓐ or Ⓑ.
⚠ DO NOT detect two or more different pulses.

4. After the wiring, refer **HOW TO SET** and do the setting.
5. After the setting, check it works, if no problem, finish the installation.

HOW TO SET

Button Icon's Definition

⬭ = Press button

2sec ⬭ = Hold down button for 2sec.

⚠ **Read all instructions of HOW TO SET before setting.**

⚠ **For gear setting, both Speed pulse & RPM pulse must be detected.**
May need to purchase optional parts for some vehicles.

type of vehicle		necessary optional part
equipped with an electrical speed sensor	sensor on rear wheel	nothing needed
	sensor on engine	
	sensor on front wheel	need proximity sensor
NOT equipped with an electrical speed sensor	with mechanical speed cable	need proximity sensor or speed pulse converter
	without any speed sensor/cable	need proximity sensor

⚠ **Place the vehicle firmly with center stand or racing stand, rear wheel must rotate for setting to detect Speed pulse.**

⚠ **Keep 2,500〜3,500rpm for setting of earh gear.**

⚠ **While setting, keep engaging the clutch except you are in need of gear changing.**

⚠ **For resetting of each gear, turn the main key off and try again from the start.**

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to enter

Shift in neutral gear and start the engine, "N" appears.

Hold down button for 2 seconds to enter gear setup mode.

2sec →

gear setup

"G" appears and flashes.

Hold down button for 2 seconds to go to the TOP GEAR setting.

2sec ↓

"6"(factory default) appears and flashes.

Press button to select the number of TOP GEAR (4/5/6/7/8).

⬭ ↓

For example, if the top gear of your bike is 7, you need to select "7".

Hold down button for 2 seconds to fix.

2sec ↓

Then EACH GEAR setting can be made.
The digit "1" flashes.
Shift in 1st gear and keep 2,500〜3,500rpm.

(※Steady rpm amount makes quick/correct setting.)

↓

When 1st gear is recognized, "--" flashes shortly then move to next digit "2" automatically.

↓

Shift in 2nd gear and keep 2,500〜3,500rpm until "–" flashes then move to next digit "3" automatically. Continue this operation until the last digit (top gear) is set.
⋮
When the last digit is set and "–" flashes shortly, then the display automatically goes back to normal operation mode.

shift up warning setup

"F" appears and flashes.

Hold down button for 2 seconds to go to the shift up warning setup mode.
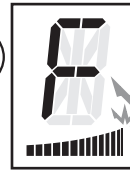
2sec ↓

Bar-graph blinks.

Keep any rpm amount to be set as shift up warning and then press button, bar-graph "rapidly" blinks.

For example, if you want to set shift up warning 3,500rpm, you need to keep 3,500rpm.
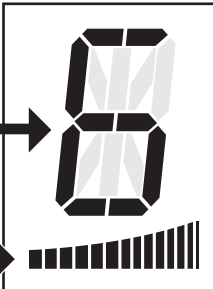
Hold down button for 2 seconds to jump to normal operation mode.

2sec ↓

NORMAL OPERATION

current gear position

RPM bar-graph
※Max. RPM amount will be according to your setting.
(For example, if you set shifp up warning 3,500rpm, Max. RPM of the bar-graph means 3,500rpm.)

TROUBLESHOOTING

NANO-Ⅱ is NOT turned on
Check each wiring & each connector.
Check if 12V battery flows.

"—" is displayed when normally operated
Neutral signal or RPM pulse seems not to be detected correctly.
Check the wiring of neutral/RPM input and each connector.

Only "1" is displayed even when actually in 2nd (or upper) gear
Speed pulse seems not to be detected correctly.
Check the wiring of speed pulse input and each connector.
※By detaching the vehicle's original speedometer, the power-supply to the speed sensor may be cut-off on some vehicles. In that case, the BROWN wire from the ②power-supply wire is to be connected with the positive(+) wire of the speed sensor in order to activate it.

Incorrect gear number displayed when clutch is held
This is because of the calculating structure of this gauge, and is NOT a defect.

LCD display is Black
The LCD display becomes black when exposed to direct sunlight while not riding. This is because of the nature of LCD, and is NOT a defect.Avoid the exposure of the main unit to direct sunlight when not riding.

Frozen Display
In case the display is frozen, disconnect the 3-P connector of the main unit for a few seconds and connect it again to restart. Or disconnect the negative wire of the battery to cut the power supply for a seconds, and the connect it again to restart.

OPTIONAL PARTS

If the vehicle is NOT equipped with electrical speed sensor, and if the supplied Magnetic Speed Sensor could NOT be installed on the vehicle for some reason, use the Proximity Speed Sensor. The Proximity Speed Sensor works with any kind of metal and DOES NOT require mounting a magnet on the vehicle. It sends electrical pulse as a metal comes close and goes away.

PROXIMITY SPEED SENSOR
<PART#85005>
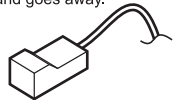
If the vehicle is equipped with mechanical speedometer cable, use a speed pulse converter from the following options. The converter turns mechanical movement to electrical pulse.

SPEED PULSE CONVERTER

A1 type <#61118> M11 Female Thread	
B1 type <#61120> M12 Female Thread	
G2 type <#61122> Φ15 Insert	
A2 type <#61124> M12 Female Thread	
H type <#61130> Φ10 Insert	
X1 type <#61128> Speedometer cable mount	