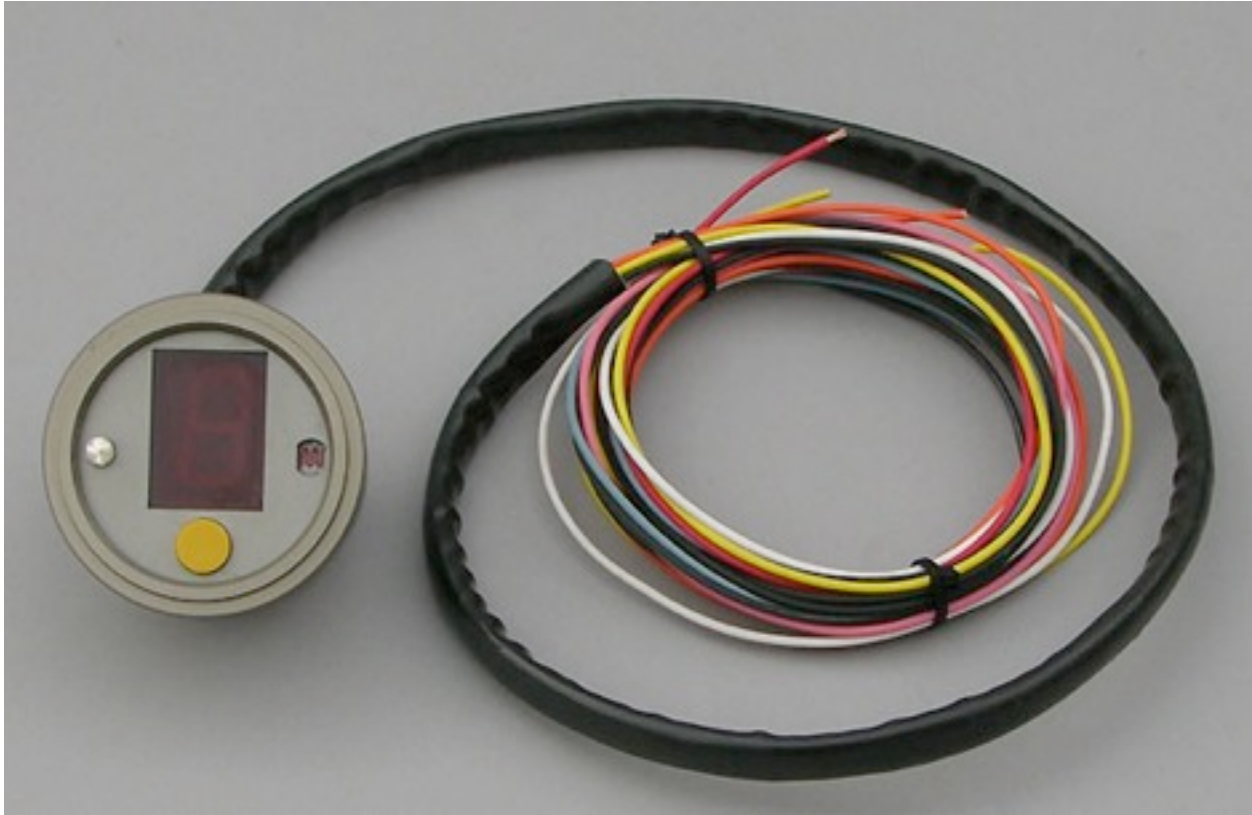


Installation Instructions RSR Bonneville Gear Indicator



First step is to mount the gauge where you can easily see it in normal vehicle operation. A gear position indicator is meant to be used, not just because it is a neat accessory that looks cool. Part # 06-1028. 1.0" or 1.25" cnc machined handlebar clamps are standard.

Mount it where you can keep your eye on the road, generally near or next to your tachometer. Being able to "read" what gear you are in in noisy or stressful situations will make your ride safer and faster.

Display

Your RSR Bonneville Gear Indicator has a large, bright, single digit, red l.e.d. that displays neutral as "0", the individual gears as "1", "2", "3", "4", "5", or "6", and "C" if the clutch is pulled in.

The display will be blank if the rear wheel stops rotating and the clutch microswitch is not activated. It will also "blank" if speeds and rpm are too slow as with idle speeds in 1st gear.

"L" will be displayed if you wish to reprogram the indicator. Simply hold down the button on the display before you "key on" and continue to hold the button down until "L" is displayed. Release the button and the unit can be programmed.

Installation Instructions RSR Bonneville Gear Indicator

Mounting



The gauge is cnc machined billet enclosure with a center back mount 5/16" x 18 buttonhead cap screw. A total of eight wires are used to hook up the RSR Bonneville Gear Indicator.

Wiring Fuel Injected Models...Eight Wires

1. Two Black Wires: Battery negative. Main ground system and separate ground for optically isolated input signals. Use eyelet provided. Crimp both black wires to eyelet and attach to battery negative terminal.
2. Orange Wire : "Green" l.e.d. light. +12V Dc signal. Light will activate on +12V event. This is optional and does not need to be hooked up.
3. ECU Connections on EFI Models:
 - a. Light Blue Wire: Scotchlock to White/Green Stripe speed signal from transmission speed sensor leading to ECU. Split covering ECU harness to access the wire. Use non-adhesive harness wrap provided to cover Scotchlock on ecu harness. Wrap from "top" down and secure bottom of wrap with a plastic wire tie.
 - b. Pink Wire: Engine Speed signal. Scotchlock Pink wire to ECM Red Wire (Crank Sensor) and use harness wrap to cover. Secure wrap with a plastic wire tie.
 - c. Red Wire: +12V Dc switched power. When ignition or key "on" gauge is powered up. Typically this is Scotchlocked to the main power relay (Yellow Green Stripe). Use harness wrap to cover. Wrap from "top" down and secure bottom of wrap with a plastic wire tie.

Installation Instructions RSR Bonneville Gear Indicator



d. White Wire: “Neutral” signal. Signal is a ground event i.e. neutral switch on transmissions “ground” to activate neutral indicator lights. Neutral Switch is Tan wire on most later model bikes located in fairing or front instrument wiring. Scotchlock White wire to Tan Wire.

e. Yellow Wire : “Clutch” activation signal. Signal is a ground event i.e. when clutch is pulled in a microswitch grounds the signal. Scotchlock Yellow Wire to Clutch grounding wire (Black/Red Stripe) in wire bundle leading from clutch lever.

Installation Instructions RSR Bonneville Gear Indicator

Wiring Carburetted Models...Eight Wires

Carburetted Models Twin Cam and Evo with transmission speed sensor. These models require a RSR Bonneville Gear Indicator with different coding in the unit's microprocessor. Hook up wires as follows on these models.

- a. Light Blue Wire: Scotchlock to White/Green Stripe speed signal from transmission speed sensor leading to ECU.
- b. Pink Wire: Engine Speed signal. Scotchlock Pink wire to Ignition Pink Wire (Tach Signal)
- c. Two Black Wires: Battery negative. Main ground system and separate ground for optically isolated input signals. Use eyelet provided. Crimp both black wires to eyelet and attach to battery negative terminal.
- d. Orange Wire : "Green" I.e.d. light. +12V Dc signal. Light will activate on +12V event. This is optional and does not need to be hooked up.
- e. Yellow Wire : "Clutch" activation signal. Signal is a ground event i.e. when clutch is pulled in a microswitch grounds the signal. Scotchlock Yellow Wire to Clutch grounding wire (Black/Red Stripe) in wire bundle leading from clutch lever.

On vehicles without a switch RB Racing offers an an optional microswitch. For Harleys it is bolted below the clutch lever.

You do not have to hook up the Yellow wire if your bike does not already have a clutch switch

- f. White Wire: "Neutral" signal. Signal is a ground event i.e. neutral switch on transmissions "ground" to activate neutral indicator lights. Neutral Switch is Tan wire on most later model bikes located in fairing or front instrument wiring. Scotchlock White wire to Tan Wire.
- g. Red Wire: +12V Dc switched power. When ignition or key "on" gauge is powered up. Typically this is Scotchlocked to the main power relay (Yellow Green Stripe). Use harness wrap to cover. Wrap from "top" down and secure bottom of wrap with a plastic wire tie.

Installation Instructions RSR Bonneville Gear Indicator

Rear Wheel Speed Sensor



Rear wheel speed sensor for earlier bikes that do not have a transmission speed sensor. These earlier models usually had a mechanical drive speedometer cable off of the front wheel. Part # 06-1027. For these applications we provide a machined mount that clamps the the rear axle spacer and “reads” the five passing bolt heads on the rear wheel pulley.



Three Speed Sensor Wires: Blue (chassis ground). Brown (+12VDC Switched). Black (signal output) connects with the light blue wire on the RSR Bonneville Gear Indicator.

Installation Instructions RSR Bonneville Gear Indicator

Clutch Switch



Two wires: Black to ground and Yellow to “Yellow” wire of gear indicator. Part # 06-1026.
Mounts beneath lever housing.

Installation Instructions RSR Bonneville Gear Indicator

Programming the RSR Bonneville Gear Indicator

The vehicle will have to be placed in neutral, started, and allowed to reach a stable operating temperature. The programming sequence requires that the vehicle be run through each gear. If you can securely place the motorcycle on a center stand where the vehicle can be shifted into all gears this is the best method. It can be programmed in actual on-road operation but this is not suggested.

On initial +12V activation the Gear Indicator will be ready to “learn”. The display will alternately slowly flash a “5” then “6”. You need to tell the display whether you have a five or six speed transmission.

Simply push and hold the button “down” when the number matching your transmission appears. The number will stop flashing as you hold down the button. When the number you chose (“5” or “6”) begins flashing quickly, release the button and the number “1” will slowly flash.

The RSR Bonneville Gear Indicator now knows whether your transmission has five or six gears. With the “1” slowly flashing, you are ready to program first gear.

The following sequence will be repeated for each of the five or six gears:

1. Put the motorcycle in 1st gear and release the clutch.
2. Wait for the wheel to begin rotating and insure the vehicle is a safe and stable.
3. Press and hold the button “down”. Do not release the button.
4. The number of the gear you are programming will stop flashing as you hold down the button.
5. When the display begins to quickly flash again it has learned that gear. Now release the button.
6. The display will now begin slowly flashing the next “gear number”...in the case “2”.
7. Put the motorcycle into second gear and repeat the process above i.e. hold the button down, the number “2” will stop flashing and release the button when “2” begins quickly flashing.
8. When the last gear (5th or 6th) has been programmed the process is finished.
9. If you make a mistake before you finish the last gear you can simply turn the engine off and start the process over.

Installation Instructions RSR Bonneville Gear Indicator

Setting Automatic Display Night Dimming



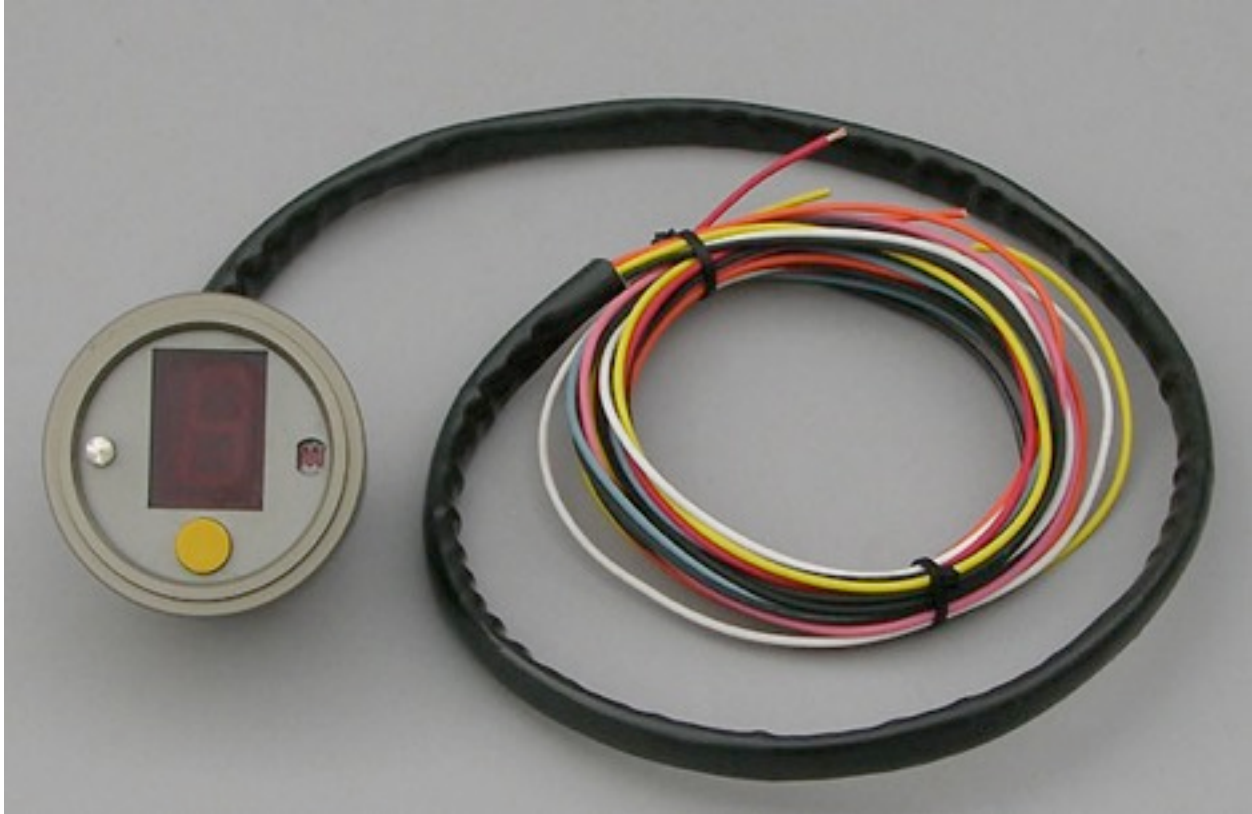
During daylight operation the display needs to be at full brightness. At night the display needs to be dimmed to avoid a blinding distraction.

You set the point at which the display dims from full brightness in the following steps:

1. In light conditions where it is not yet completely dark but is in transition such as at dawn, nightfall, or in a dimly lit situation, turn on the ignition and place the transmission in neutral. The display will show a "0" indicating the bike is in neutral.
2. Press and hold down the programming button for one second until the display begins to flash. Be careful not to cover the photo cell window (wavy lines). Release the button.
3. Now the display will switch to dim whenever these or "darker" conditions are present.

Installation Instructions RSR Bonneville Gear Indicator

Reprogramming/ Resetting the RSR Bonneville Gear Indicator



To force a new learning situation for whatever reason or perhaps when you move the gear indicator to another bike, simply hold the button down before you power up the display.

Continue to hold the button down until “L” is displayed, then release the button. You may now follow the normal steps listed on page 5 to program the RSR Bonneville Gear Indicator.

It is wise to check the wiring diagram for your bike before you connect the Gear Indicator. The tach signal is compatible with most OEM and aftermarket ECM/ECU or ignition systems.

Wiring diagrams for some model Touting bikes are available from RB Racing’s Bonneville Gear Indicator Web Page.

<http://www.rbracing-rsr.com/gears.htm>