

TECHNICAL

RS250R carburetor setting

RS250R

Characteristics by year

| Model year | Features | Settings |
|------------|-------------------------------------|--|
| '97-'98 | Unleaded fuel / PJ carburetor | Peak power oriented settings (max speed of around 13000rpm) If detonation occurs frequently in winter, ignition timing is retarded. |
| '99-'00 | Fitted with Pwj carburetors | Settings reflecting engine revving characteristics after Pwj becomes ineffective. Maximum service speed of around 13750rpm. Middle range becomes stronger if mixture is made richer until hunting occurs during throttle on. |
| '01-'04 | Pwj carburetor Specification change | Peak power oriented settings. (max of around 13300rpm) Unlike '00 model, no revving characteristics after Pwj becomes ineffective. Earlier shift ups and aggressive use of peak speeds. |

2001 and 2002 year carburetor setting

▶ Engine characteristics and setting

As compared with the 2000 and earlier models, the 2001 and 2002 year model engines will provide more powerful low- and mid-speed range performance, placing emphasis on higher rising speeds at cornering.

Also, they feature higher top speeds resulting from making full use of higher rising speeds at cornering since changes have been made to the ECU ignition characteristics and the cambers in order to increase torque over the entire engine speed range.

For the 2001 and 2002 RS carburetor settings, care should be taken not to lose mid-speed range strength.

In particular, major changes in the power jet holder from the HRC recommended settings will lose mid-range strength.

First, only main jets should be made smaller at recommended settings.

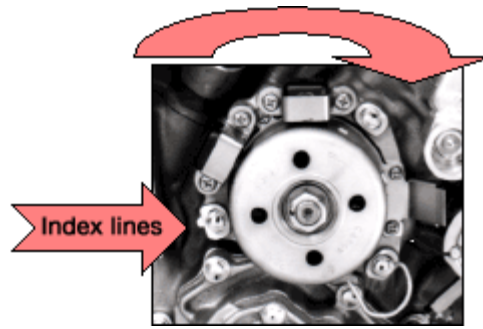
Dullness at slightly opening throttle should be solved by mainly changing jet needle straight and air screws, while dullness at mid-speed ranges by jet needle clip steps.

Settings at higher speed range should be made by taking into consideration piston burning and the count (2 to 4) of the detonation counter on the assumption of revving up to 13000 rpm at the third and higher gear. (The maximum count of the detonation counter is 10 times per kilometer at which detonation occurs on the piston head after about 30 minute operation)

▶ Ignition timing change

Turn clockwise the ACG

stator base by one scale (retarded by 1 degree).



▶ Carburetor setting

Recommended orders of power jet and main jet holders are not required to be changed throughout the year. Settings should be made by using jet needles and air screws depending upon throttle opening in order to give torqueful low-to-middle speed.

Setting at high engine speeds with wide throttle open is made using main jets. The 2001 year model has No.1 (front) and No.2 (back) main jets which are largely different in numbers (#15 to #20, frontal cylinder (No.1) becomes rich).

If main jets No.1 and No.2 are closely ordered, combustion will get worse, leading to unwillingness to rev higher than 13000 rpm and slight vibrations.

Also, if one of jets are extremely rich and therefore unwilling to rev, the other will be charged with much work. As a result, the side which is willing to rev may tend to exhibit detonation. No.1 and 2 should be so set up that they have the same piston burning and detonation counter number (2 to 3 times/km) in order to obtain smoothly revving engine (13500 rpm at 3rd gear, 13200 rpm at 5th gear).

Recommended Carburetor Setting

2000 model

| | under 1°C | 15-25°C | over 30°C |
|-----------------|-----------------------------|-----------------------------|-----------------------------|
| Main jet | #190/#185 | #185/#180 | #175/#170 |
| Slow jet | #45 | #45 | #42 |
| Jet needle | #1267-34 | #1268-34 | #1269-33 |
| Clip position | 4 | 4 | 3 |
| Power jet | #48 | #48 | #48 |
| Throttle valve | #5.5 | #5.5 | #5.5 |
| Air screw | 1 3/4 | 2 | 2 |
| Main jet holder | ø3.9 | ø3.7 | ø3.7 |
| Power jet cut | Accommodate to each circuit | Accommodate to each circuit | Accommodate to each circuit |

*Data above are given for informational purposes. Settings vary with weather conditions. Setting should be made while checking the state of the machine.

2001 model-

| | under 10°C | 15-25°C | over 30°C |
|----------|------------|-----------|-----------|
| Main jet | #205/#185 | #195/#180 | #185/#170 |
| Slow jet | #45 | #45 | #45 |

| | | | |
|----------------|----------|----------|----------|
| Jet needle | #1267-34 | #1268-34 | #1269-33 |
| Clip position | 4 | 4 | 3 |
| Power jet | #48 | #48 | #48 |
| Throttle valve | #5.5 | #5.5 | #5.5 |
| Air screw | 2 | 2 | 2 |
| connector | mode4 | mode4 | mode1 |
| Power jet cut | -1° | ±0° | ±0° |

*Data above are given for informational purposes. Settings vary with weather conditions. Setting should be made while checking the state of the machine.

The 2001 and later year RS250R has alteration to the power jet cut speed changes.

STD: 13000rpm, Mode 2: 12750rpm (mode 4: 13000rpm, unchanged from STD).

This is because the 2001 model more aggressively uses speeds around peak power, while the 2000 and earlier model uses engine over rev characteristics.

As a result, for the 2001 RS250R, map couplers can be used to change ECU ignition characteristics as well as control power jet cut speed.

While the STD mode 1 and mode 2 have the same ignition characteristics except a difference in Pwj cut, mode 4 provides retarded ignition timing at 12000 to 13000 rpm where detonation tends to occur.

| Map mode | PWJ CUT Ne | Ignition characteristics | Recommended conditions |
|----------|------------|---|--------------------------|
| 1 | 13000rpm | STD | Summer base |
| 2 | 12750rpm | STD | Summer, Low-speed course |
| 4 | 13000rpm | Retarded at peak range | Winter, low-speed course |
| 4-1° | 13000rpm | Retarded in all range and at peak range | Winter base |

As shown above, for the 2001 RS250R, setting should be changed depending upon seasons although there is no mode essential to particular courses.

In particular, when ambient temperatures go down in winter, the summer base mode 1 should be changed to the mode 4+ (stator base-1 degree) which gives retarded ignition timing.

Ignition characteristics will be selected which meet particular seasons for maximum potential.

Advanced ignition timing would cause more powerful feeling at low-to-middle speed ranges, but would lose high-end smoothness.

Shift up engine speed

For the RS250R, the 1999 and 2000 year models have different shift up speeds from the 2001 year model. For the 1999 and 2000 year models, it is recommended that shift up be made at around 13500 rpm by using top end smoothness, while for the 2001 year model, shift up be made at around 13200 rpm by making use of peak power regions.

