



## COMPARISON BETWEEN CARBURETOR AND PGM-FI SYSTEM

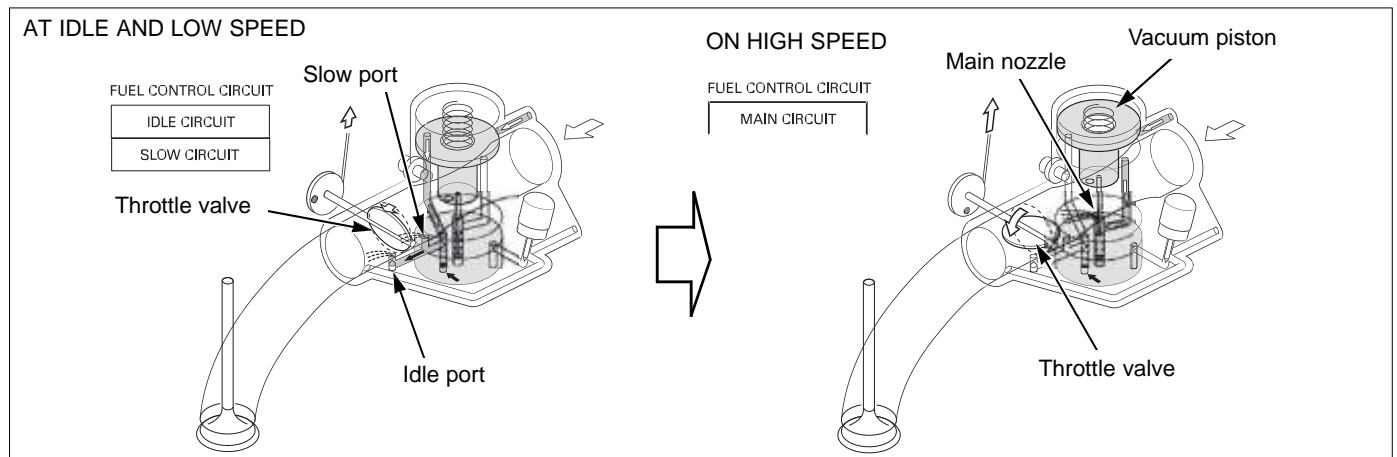
### BASIC OPERATION FROM IDLE TO HIGH SPEED

#### BASIC OPERATION:

Carburetor and PGM-FI system are important component of engine performance. They controls inhaled fuel and air into the engine by opening/closing the throttle valve. They both are designed to maintain the adequate fuel/air ratio depending on the volume of incoming air.

#### CARBURETOR BASIC OPERATION:

- At idle and low speed, throttle valve is slightly opened, fuel are absorbed from the pilot screw port (idle port) and slow port, then they are atomized with incoming air.
- In low to intermediate speed, vacuum piston rises in accordance with the throttle valve opening. venturi size also becomes larger as the piston lifts up. Then the volume of fuel absorbed from the main nozzle and intake air increase. The mixture of atomized fuel from the main nozzle/slow port and intake air is delivered to the engine.
- On high speed, the vacuum piston and throttle valve is fully opened, venturi size becomes largest. Thus maximum amount of fuel from the main nozzle and intake air is delivered to the engine.



#### PGM-FI BASIC OPERATION:

- Throughout idle to high speed, preset amount of fuel is discharged from the injector, in accordance with the volume of incoming air regulated by the throttle valve, controlled by the ECM which calculates the data from each sensor.
- The injector discharges proper amount of fuel into the intake manifold, from corrected fuel discharge to basic fuel discharge duration, depending on volume of intake air.
  - Basic fuel discharge duration: ECM determines basic fuel discharge duration by using data of engine revolution and volume of intake air (calculated by data from each sensor).
  - Corrected fuel discharge duration: ECM determines corrected fuel discharge duration by using data from each sensor and monitoring of the running condition of the engine.

