COMPARISON BETWEEN CARBURETOR AND PGM-FI SYSTEM
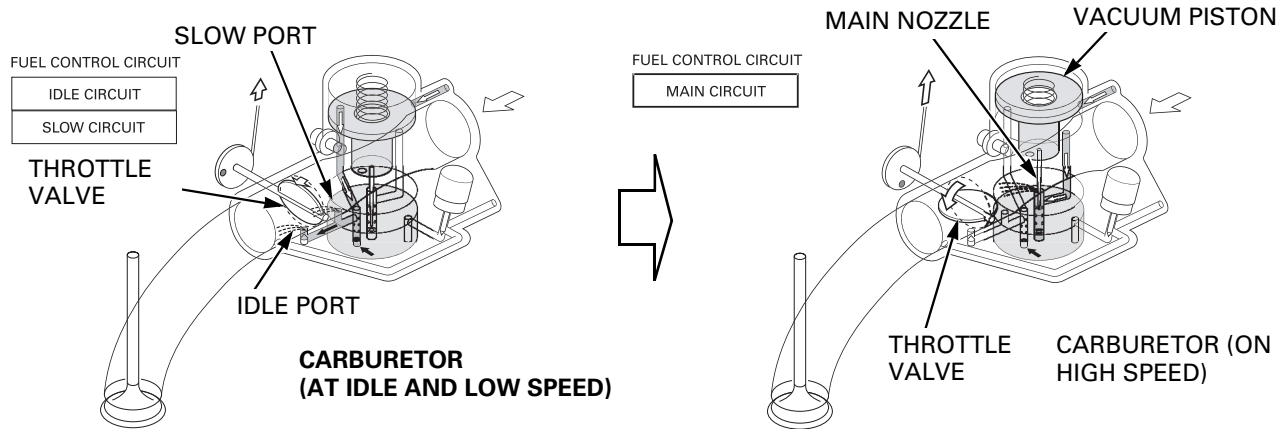## BASIC OPERATION FROM IDLE TO HIGH SPEED

BASIC OPERATION:
Carburetor and PGM-FI system controls the power output of engine by regulating the volume of fuel/air mixture introduced into engine by means of opening/closing the throttle valve. They both are designed to provide an ideal air-fuel ratio depending on the volume of incoming air.

CARBURETOR BASIC OPERATION:
• At idle and low speed, with throttle valve in slightly opened position, fuel drawn from pilot screw port (idle port) and slow port becomes atomized while being mixed with incoming air. The mixture is delivered to the engine.
• In low to intermediate range, vacuum piston rises in accordance with the throttle valve position. Larger the venturi becomes as the piston lifts up, larger the volume of fuel drawn from the main nozzle and intake air become. The mixture of atomized fuel from the main nozzle/slow port and intake air is delivered to the engine.
• On high speed, with the vacuum piston and throttle valve in fully opened position, venturi size becomes the largest. Thus maximum amount of fuel drawn from the main nozzle becomes atomized while being mixed with intake air. The mixture is delivered to the engine.

**CARBURETOR
(AT IDLE AND LOW SPEED)**

CARBURETOR (ON HIGH SPEED)

PGM-FI BASIC OPERATION:
• Throughout idle to high speed, preset amount of fuel is discharged from the injector, controlled by ECM which collects output voltage signals from each sensor, in accordance with the volume of incoming air regulated by the throttle valve.
• The injector discharges proper amount of fuel into the intake manifold, depending on volume of intake air, by adding corrected fuel discharge duration (※ 2) to basic fuel discharge duration (※ 1).
※ 1 Basic fuel discharge duration is determined by 2 kinds of Map (page 2-8) memorized in the ECM which looks at engine revs and volume of intake air (calculated by a preset formula which applies the following: output voltage from MAP, CKP and TP sensor).
※ 2 Corrected fuel discharge duration is determined by ECM which looks at output voltage from each sensor and measures the running condition of the engine.

**PGM-FI THROTTLE
BODY (AT IDLE)**

**PGM-FI THROTTLE BODY
(ON HIGH SPEED)**