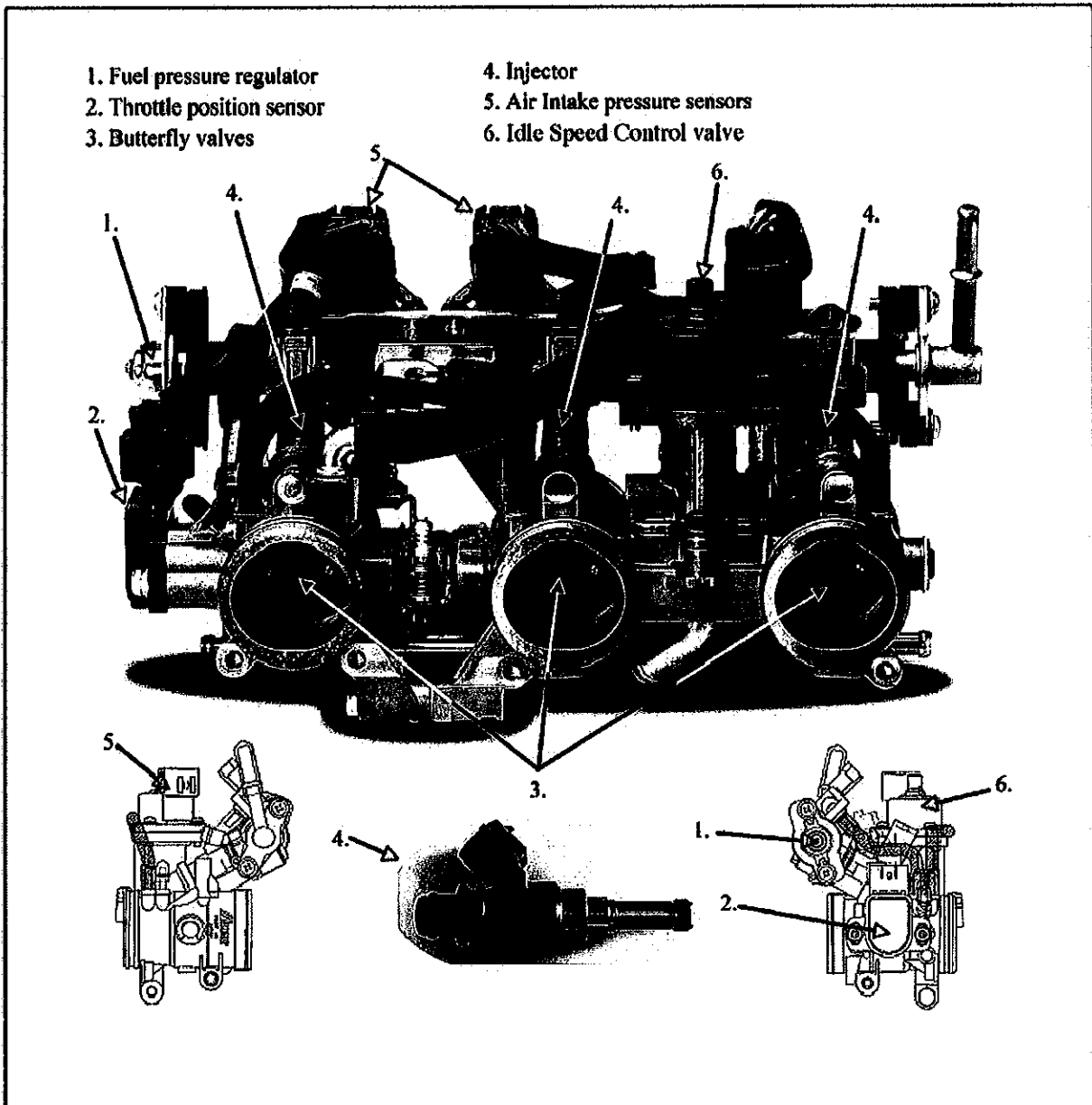


## THROTTLE BODY

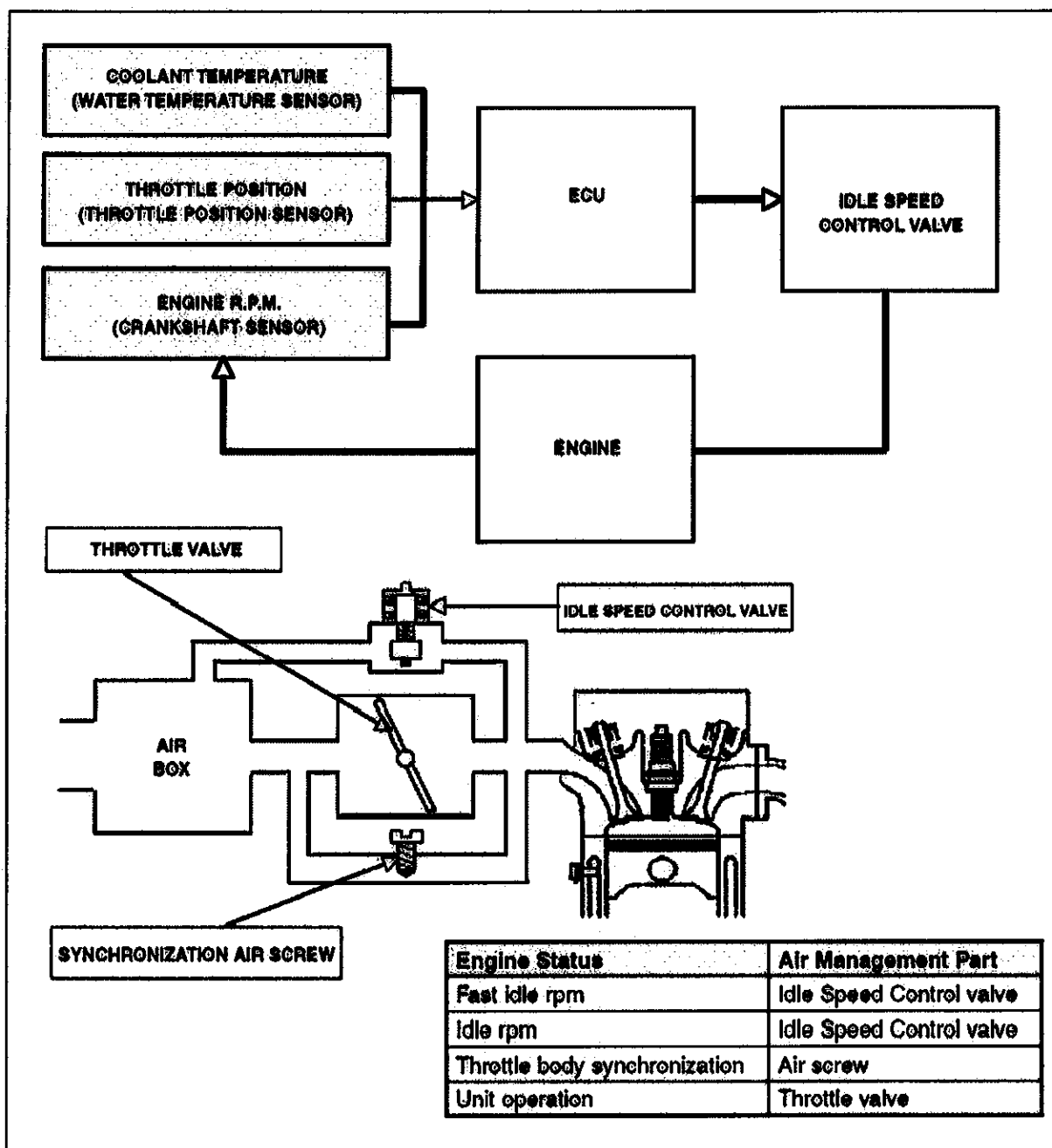
- Mikuni two piece throttle body assembly with 41mm bore throttle valves.
- No fuel return line, excess fuel is released at the fuel pump.
- Two intake pressure sensors. One of the sensors is used as a cylinder ID sensor and altitude sensor.



# 2008 Snowmobile Technical Update

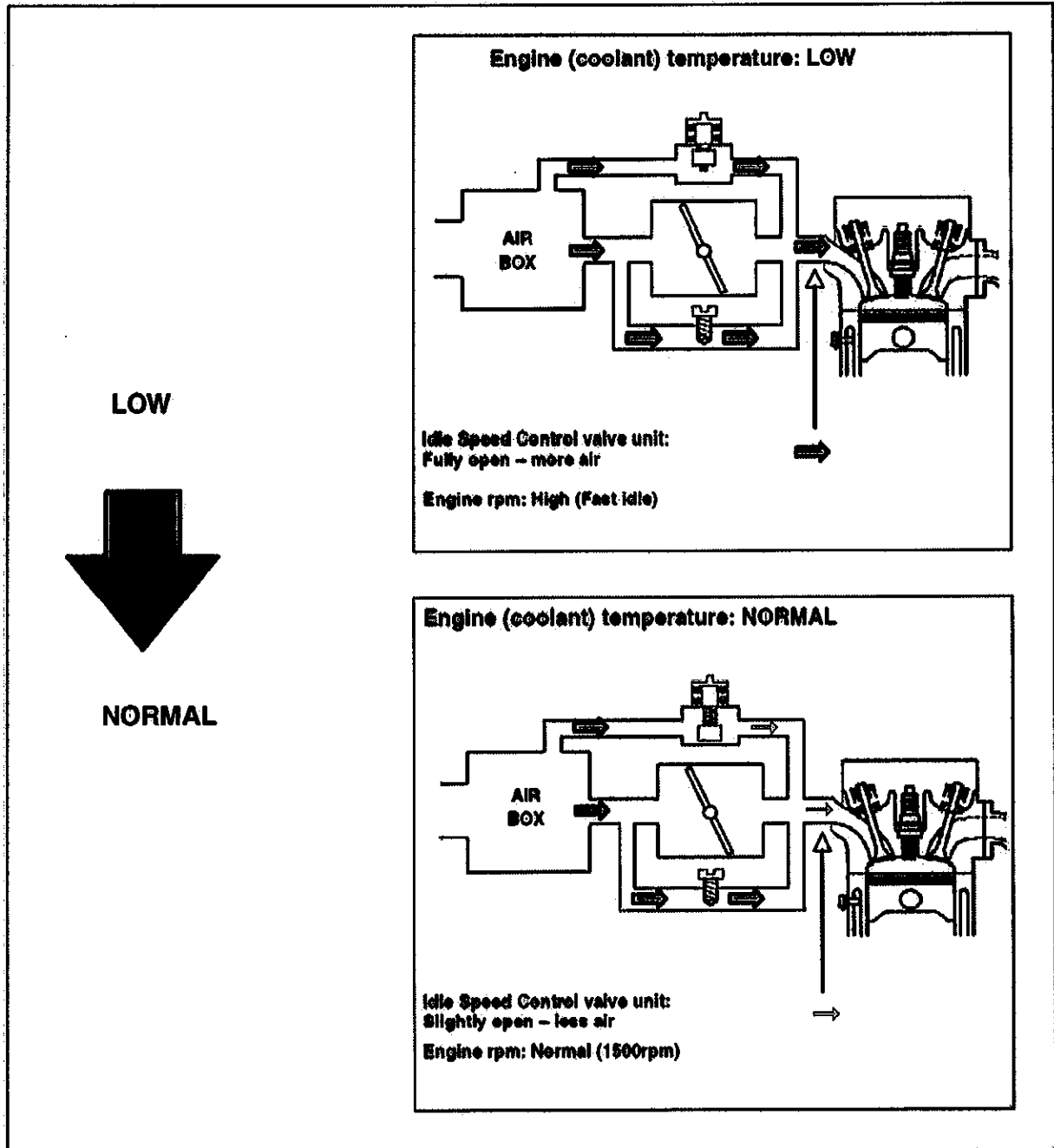
## IDLE SPEED CONTROL VALVE SYSTEM

- The Idle Speed Control valve controls the engine idle RPM from fully cold to normal operating temperature. The Idle Speed Control valve also controls the Engine Braking Reduction System.



### Idle Speed Control Valve (Fast Idle During Warm-up)

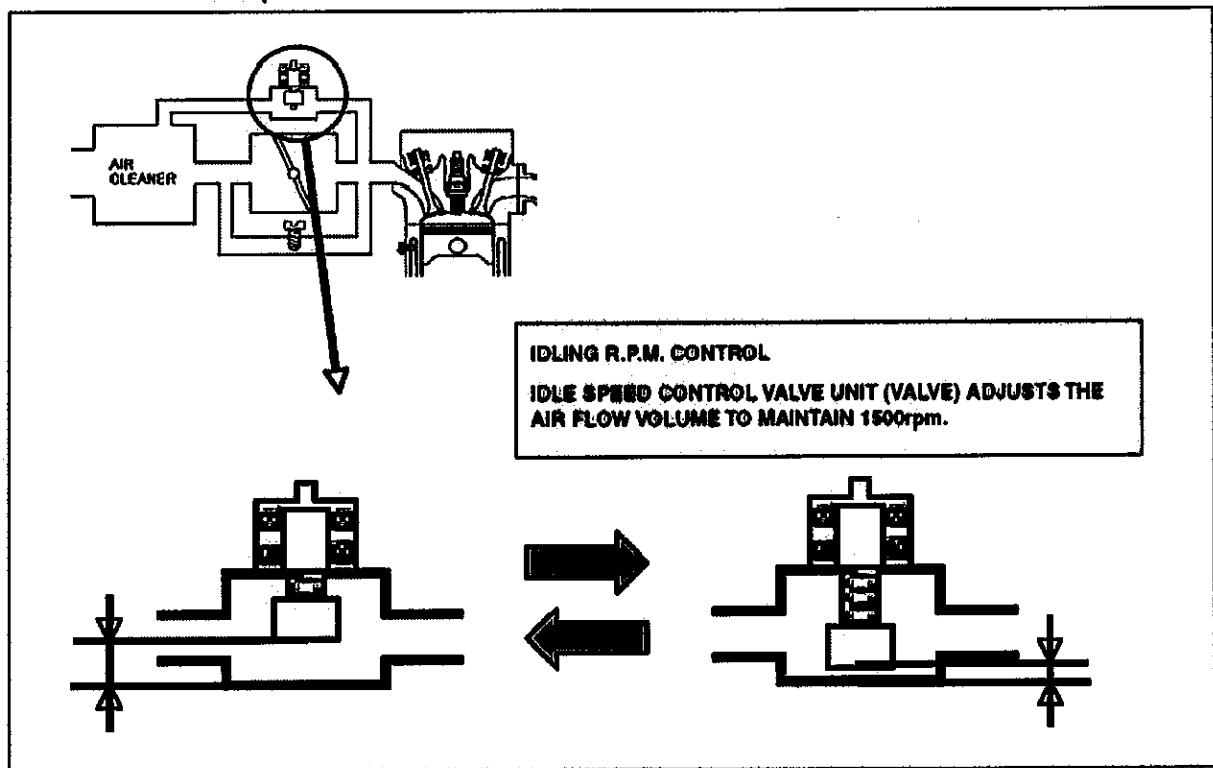
- During engine warm-up the coolant temperature sensor monitors the actual temperature of the coolant and sends a signal to the ECU. The ECU adjusts the Idle Speed Control valve for proper air flow to maintain fast idle RPM during engine warm-up.



# 2008 Snowmobile Technical Update

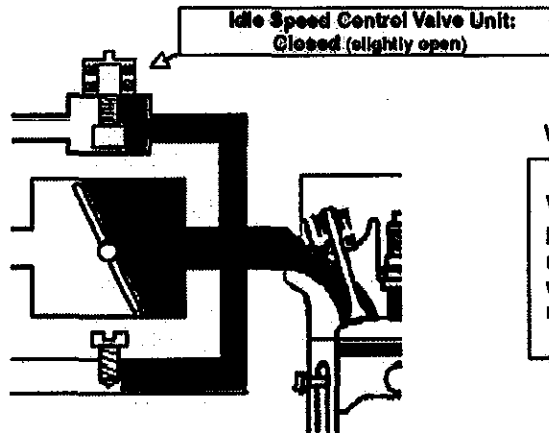
## Idle Speed Valve (Idling rpm Control)

- The Idle Speed Control valve adjust air flow volume to control idling rpm. The crankshaft sensor detects the idling rpm and signals the ECU. The ECU signals the Idle Speed Control valve to adjust the air flow to maintain 1500 rpm.



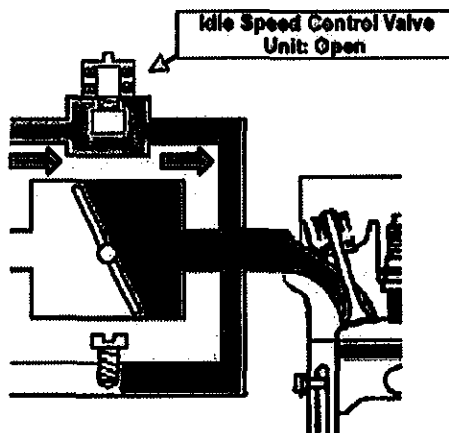
### Idle Speed Control Valve (Engine Braking Reduction)

- To reduce engine braking effect during deceleration, the Idle Speed Control valve opens when the throttle is released. This allows a small amount of air into the intake and reduces the negative pressure in the intake tract. The result is the rider will have more "coast" feeling when the throttle is closed.



#### WITHOUT ENGINE BRAKING REDUCTION

When the throttle valve is closed, negative pressure is created in the intake tract reducing the engine's pumping efficiency which slows the engine. This creates a noticeable "engine braking" effect.



#### WITH ENGINE BRAKING REDUCTION

When the throttle valve is closed with the Idle Speed Control valve open, negative pressure in the intake tract is reduced allowing the engine to rotate more freely. The driver will notice more "coast" feeling when releasing the throttle.

# 2008 Snowmobile Technical Update

## Idle Speed Control Valve (Image Graph)

- Graph below shows the different functions of the Idle Speed Control valve at different engine temperatures and throttle openings.
- When engine stops (ignition switch or stop switch off), Idle Speed Control valve closes then opens. This is to set the Idle Speed Control valve in the correct position (Initialization).

