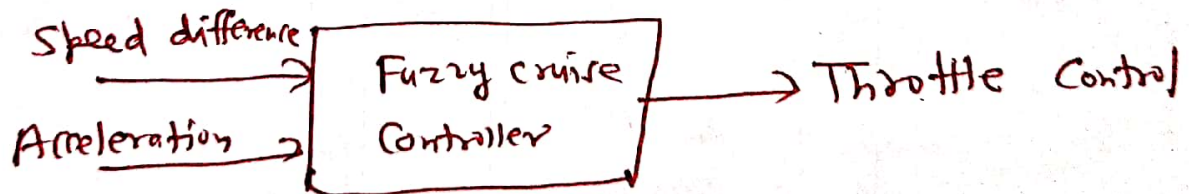


Greg Viot's Fuzzy Cruise Controller

①

- * Cruise Controller is designed to keep the vehicle's speed constant in the long run drive.
- * It will help driver to manage the vehicle speed where it will be automatically upheld.
- * By using cruise control buttons, the speed of the vehicle will be managed and automatically upheld based on the required speed without the application of the accelerator pedal.
- * This Greg Viot's fuzzy cruise controller is used to maintain a vehicle at a desired speed.
- * The system consists of two fuzzy inputs;
 - (i) speed difference
 - (ii) Accelerationand one fuzzy output
 - (i) throttle control



Greg Viot's Fuzzy cruise Controller

* Fuzzy Rule base:

A sample fuzzy rule base R governing the cruise control is as given:



Sample Fuzzy Cruise Control Rule base.

②

Rule-1	If (Speed ^{difference} is NL and acceleration is ZE) then (throttle control is PL)
Rule-2	If (Speed difference is ZE) and acceleration is NL) then (throttle control is PL)
Rule-3	If (Speed difference is NM) and acceleration is ZE) then (throttle control is PM)
Rule-4	If (Speed difference is NS) and acceleration is PS) then (throttle control is PS)
Rule-5	If (Speed difference is PS) and acceleration is NS) then (throttle control is NS)
Rule-6	If (Speed difference is PL) and acceleration is ZE) then (throttle control is NL)
Rule-7	If (Speed difference is ZE) and acceleration is NS) then (throttle control is PS)
Rule-8	If (Speed difference is ZE) and acceleration is NM) then (throttle control is PM)

NL → Negative Large

ZE → zero

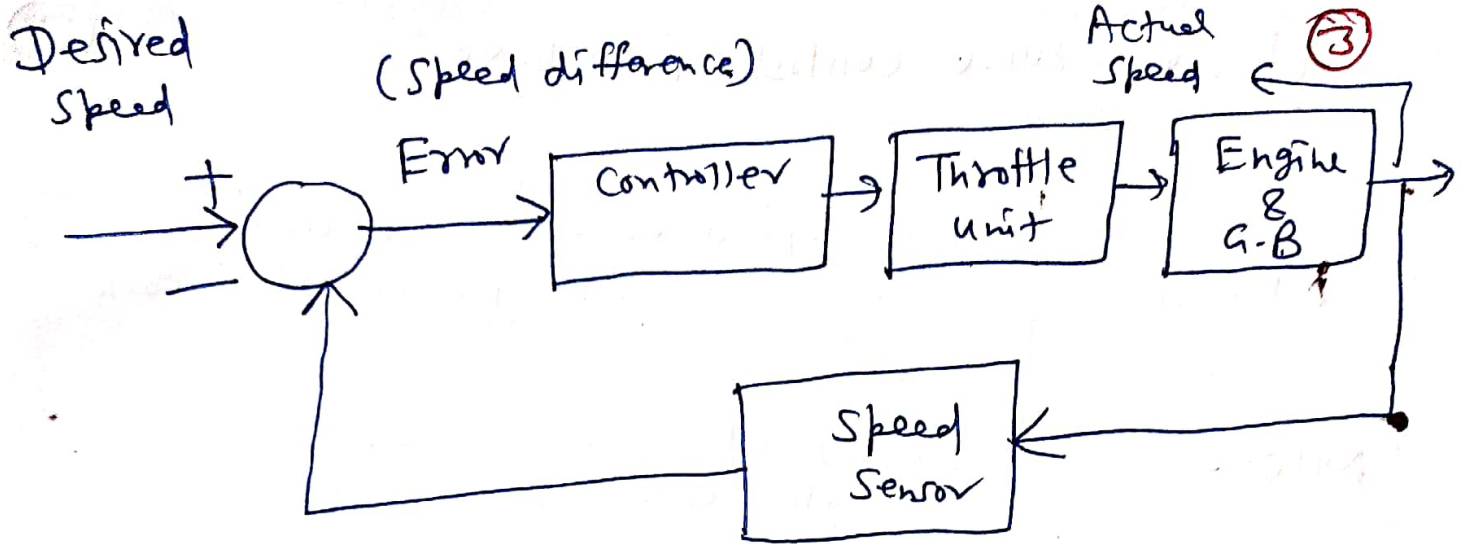
PM → Positive medium

NS → Negative Small

PL → Positive Large

PS → Positive Small

NM → Negative Medium



Block diagram of Greg Viot's Fuzzy ~~Control~~ Cruise Controller

The input signal to the Controller is the speed difference (error) between the desired speed and the actual speed. According to this error, the Controller will give throttle control signal that adjust the throttle angle. ~~The cruise~~ The opening range of the throttle changed by Controller will change the engine speed. The Cruise Controller regulates the vehicle speed based on desired speed and actual speed comes from the feedback speed sensor.