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Mechanical Engineering  
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JAGI

A Compare Flywheel and governor

A ① Influence on speed

Flywheel controls the variation of speed in each cycle of ~~open~~ operating engine while governor controls the mean speed only when load varies or when required by controlling the fuel supply to the engine

② Weight

Flywheel is a heavy machine component, though it cannot change the speed of the crankshaft while a governor is relatively light machine component used to limit engine speed

③ Moment of inertia

Flywheel has large moments of inertia because of the heavy mass of the rotating wheel. The wheel is usually made up of high density cast iron. The governor has relatively less moment of inertia when compared to flywheel

B Which type of control the governor system is?

Mechanical Feed back control system

⑥ Compare centrifugal governor with inertia governor

- ① The inertia of the inertia governor is greater than that of the centrifugal.
- ② The response of the centrifugal governor is slower than that of the inertia governor
- ③ The revolving parts of the centrifugal governor are heavier to balance than that of the inertia governor

SAQ 2

Why is the Watt governor rarely used?

It is because it is limited to only vertical position applications and its sensitivity decreases with speed increase.

SAQ 3

In which respect is the Porter governor better than the Watt governor?

The Porter governor is more sensitive to higher speeds than the Watt governor and the Porter can carry large dead weights unlike the Watt governor.

FAQ

For IC engines, what type of governor will you prefer? Dead weight or spring controlled type? Give reasons.

A dead weight type because in IC engines the basic principle of engine operation is centrifugation.