

AUTOMATIC FLIGHT CONTROL SYSTEMS

INTRODUCTION TO CONTROL SYSTEMS

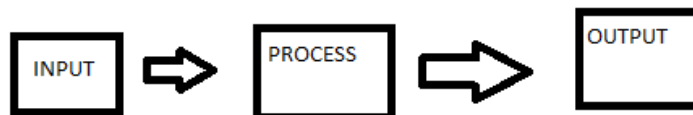
CONTROL SYSTEMS: Control systems are the system which instruct ,guide ,regulate our machines and tools. Common control systems include mechanical, electronic, pneumatic and computer aided systems. Control systems contain three main parts i.e. input, process and output.

TYPES OF CONTROL SYSTEMS : Control system are:-

- open loop control systems
- closed loop control systems

OPEN LOOP CONTROL SYSTEMS: Open loop control systems is very simple ,when an input signal directs the control element to respond ,an output will produced. Block diagram of open loop control system is given below.

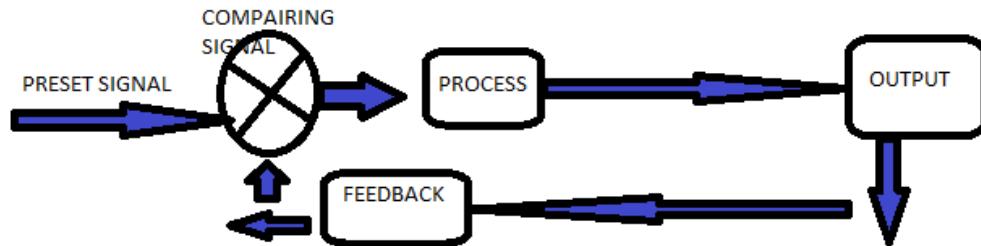
Example of open loop control systems are washing machine ,light switches, gas ovens etc.



:-BLOCK DIAGRAM OF OPEN LOOP SYSTEM

CLOSED LOOP CONTROL SYSTEMS: Closed loop control systems are also known as feedback control systems. Closed loop control system compares the output with the expected result or command status, then it takes the appropriate control actions to adjust the input signal. Therefore closed loop control systems are equipped with the sensors, which is used to monitor the

output and compare it with the expected result. That's why it is also known as feedback control type systems. Feedback control systems is described below in block diagram.



:- BLOCK DIAGRAM OF CLOSED LOOP CONTROL SYSTEM

TYPES OF FEEDBACK CONTROL SYSTEMS: Feedback control systems are :

- Positive feedback control systems
- Negative feedback control systems

POSITIVE FEEDBACK CONTROL SYSTEMS: Control systems which process to positive growth and increment. For example amplifier increase the low input sound.

NEGATIVE FEEDBACK CONTROL SYSTEMS: Negative feed back control systems which process to stable the whole instrument system. Negative feedback control systems deflects from their performance for stabilizing the whole systems. For example when driver drives the car ,car speed increases and decreases according to the going on need.