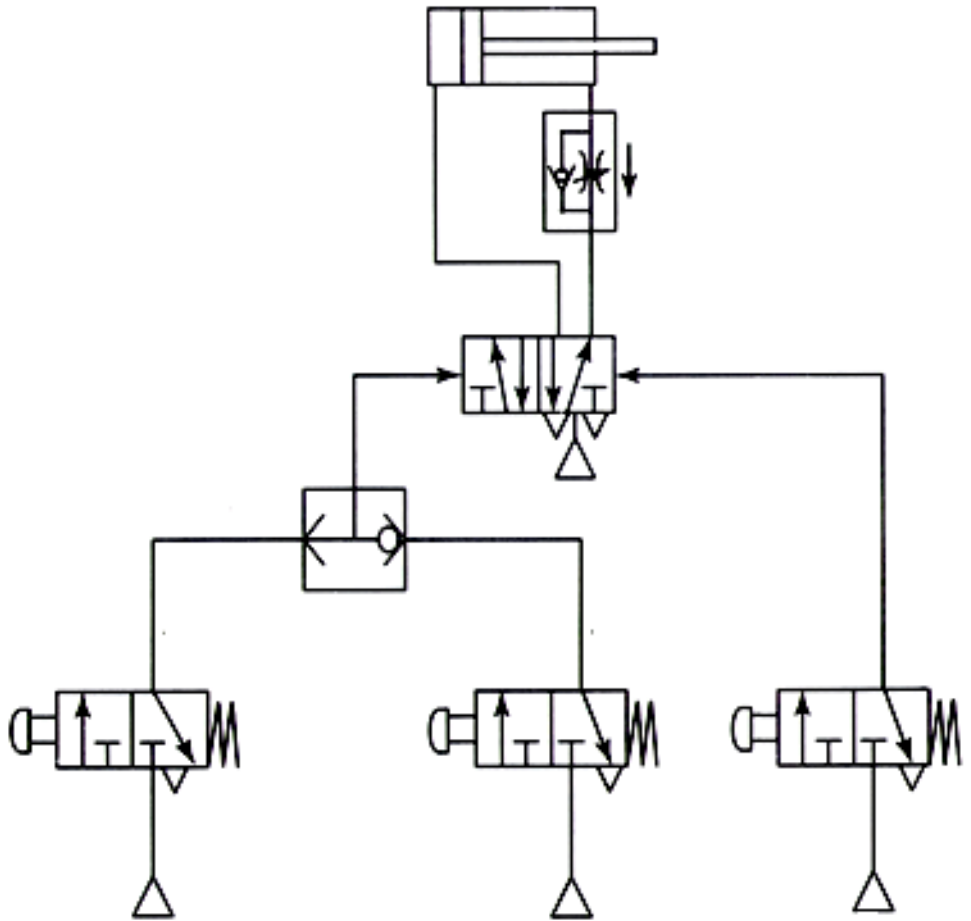
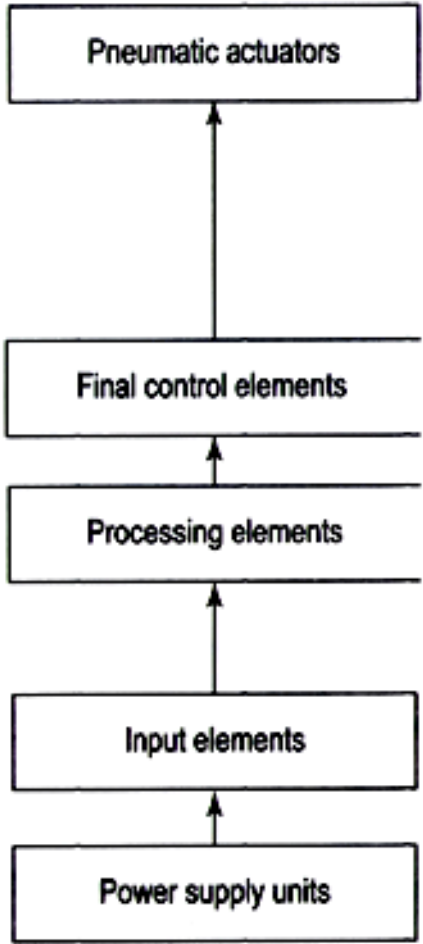
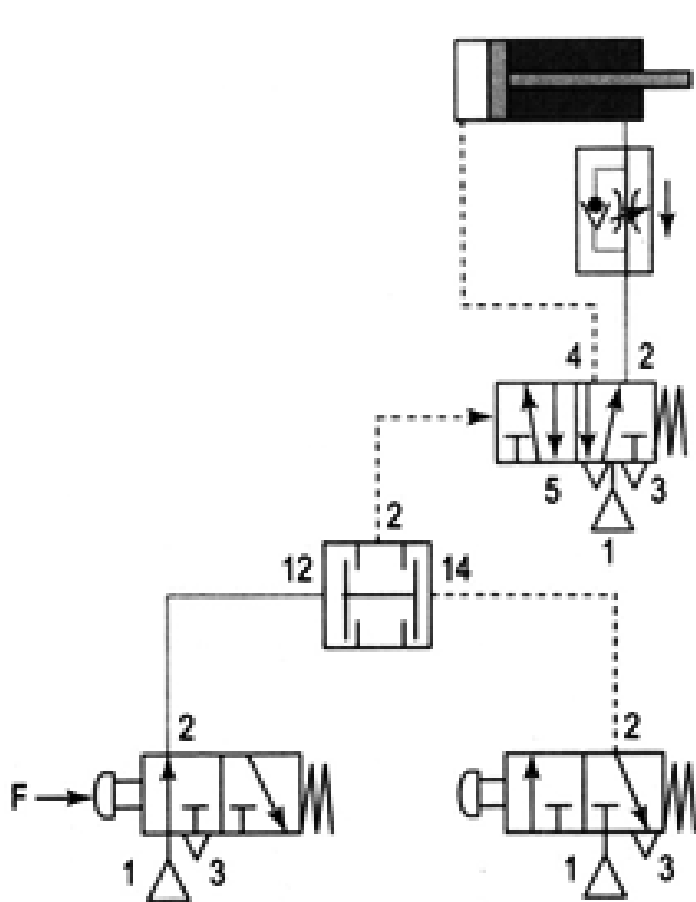


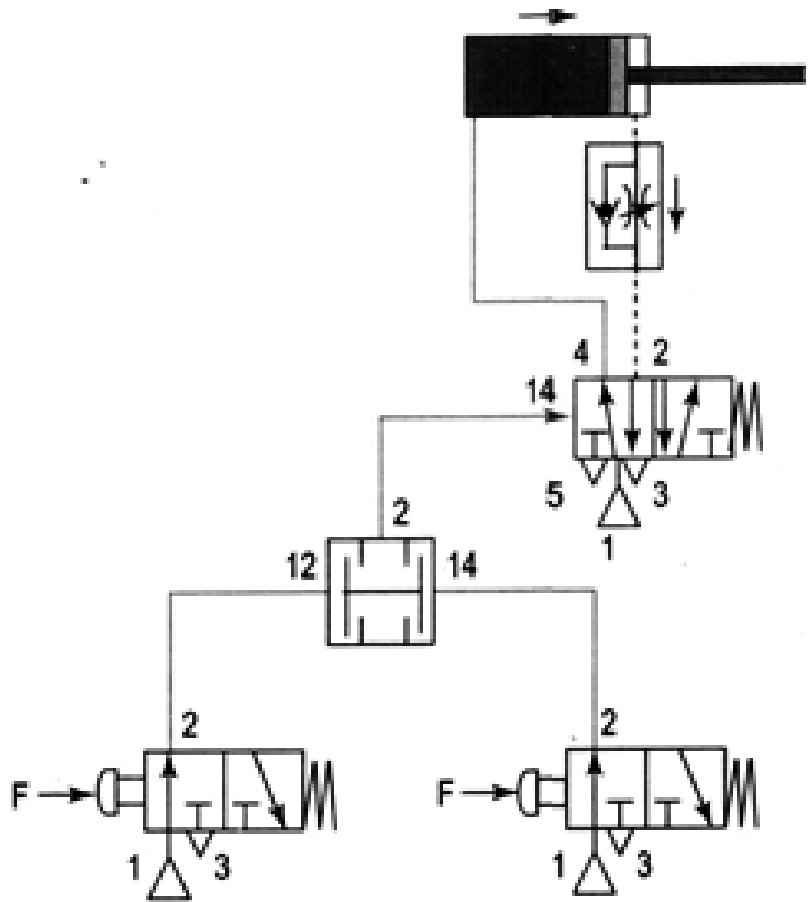
STRUCTURE OF A PNEUMATIC SYSTEM

PNEUMATIC AND HYDRAULIC SYSTEM



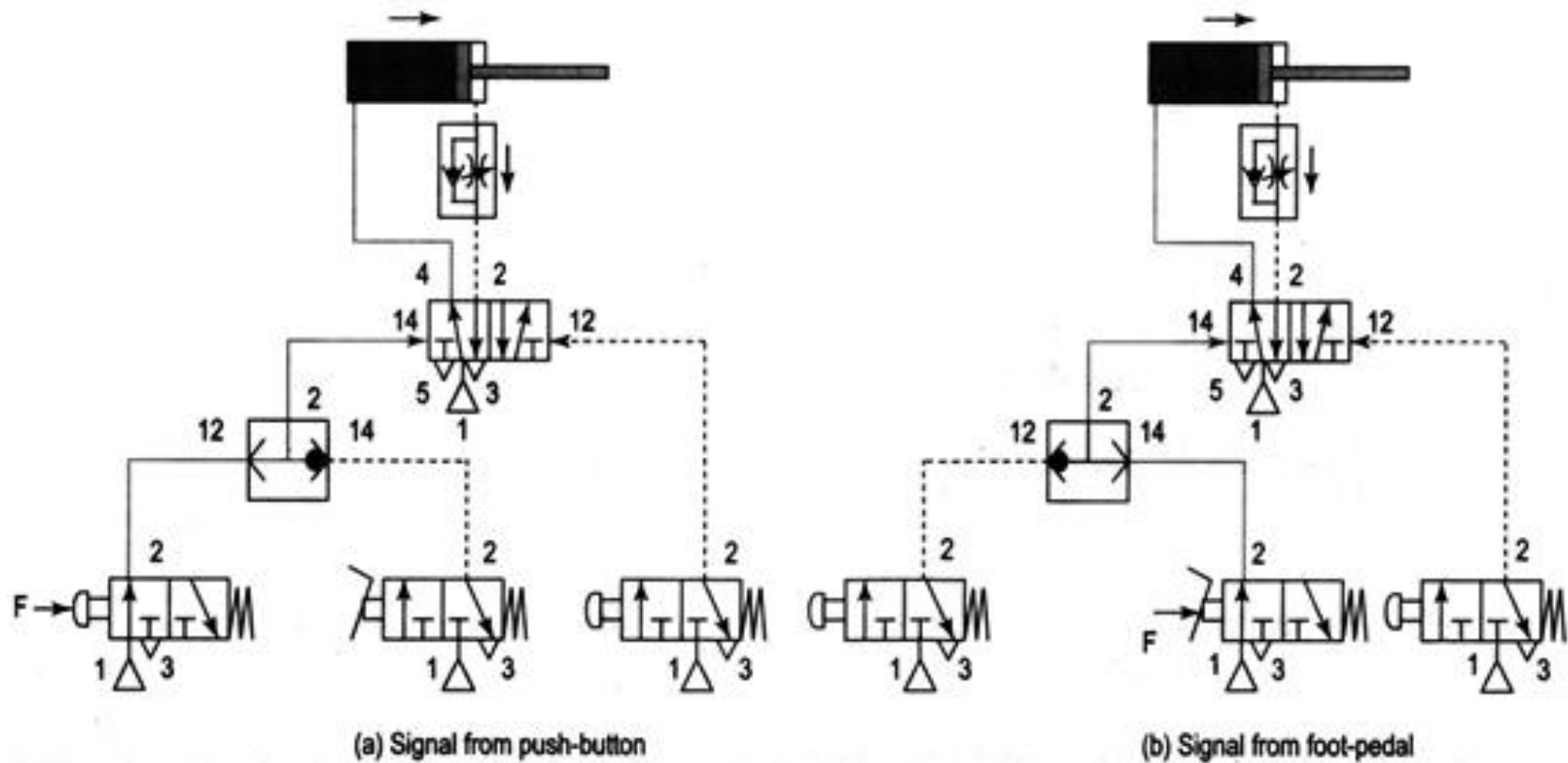


(a) Signal from one push-button



(b) Signal from two push-buttons

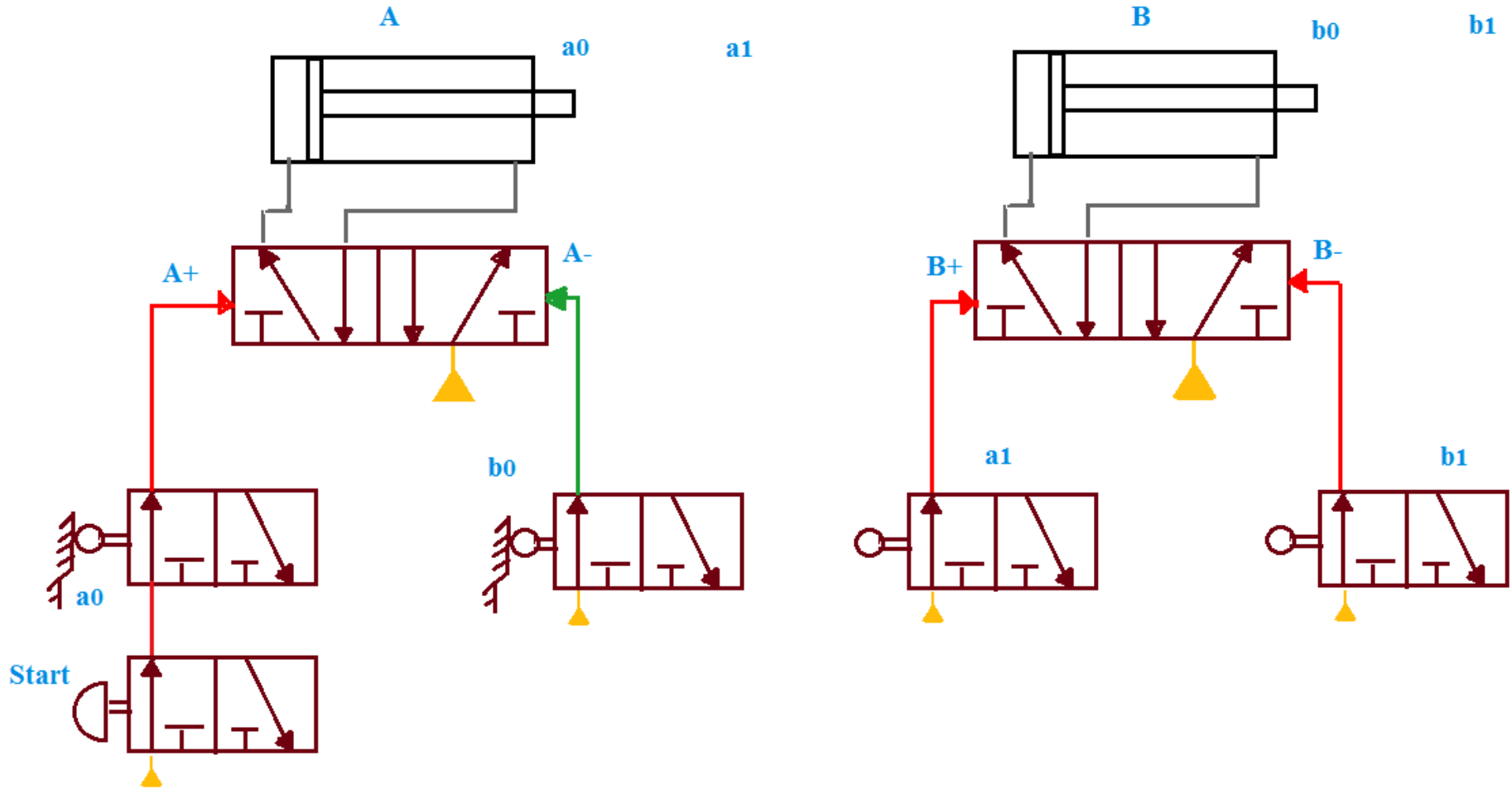
Two critical positions of a circuit for the AND control of a double-acting cylinder



Two critical positions of the circuit for the OR control of a double-acting cylinder

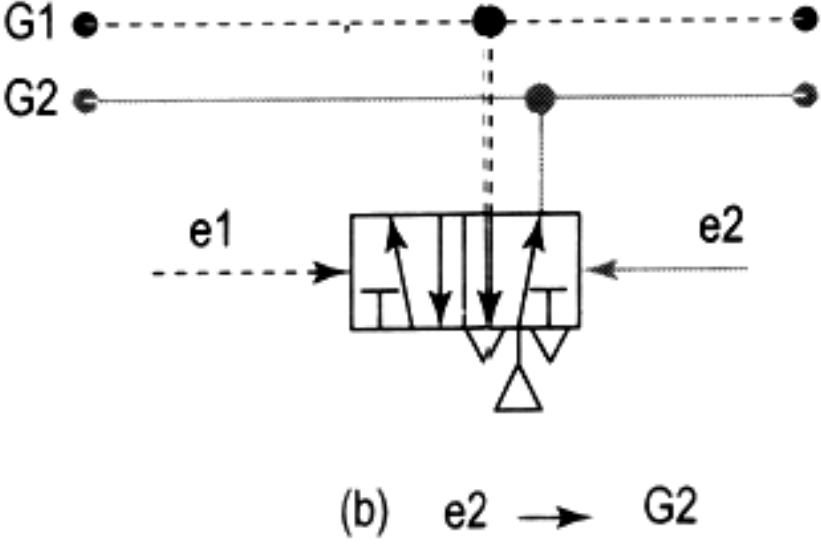
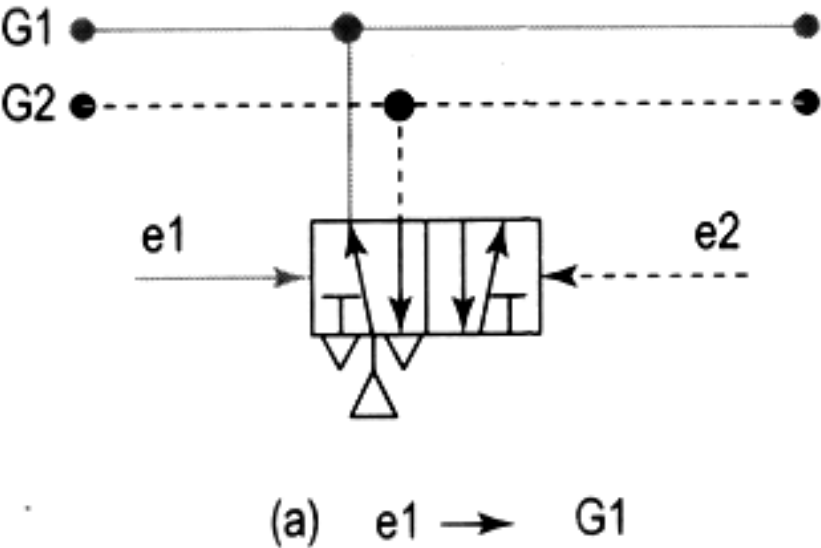
A+ B+ B- A-

PNEUMATIC AND HYDRAULIC SYSTEM



CASCADE METHOD

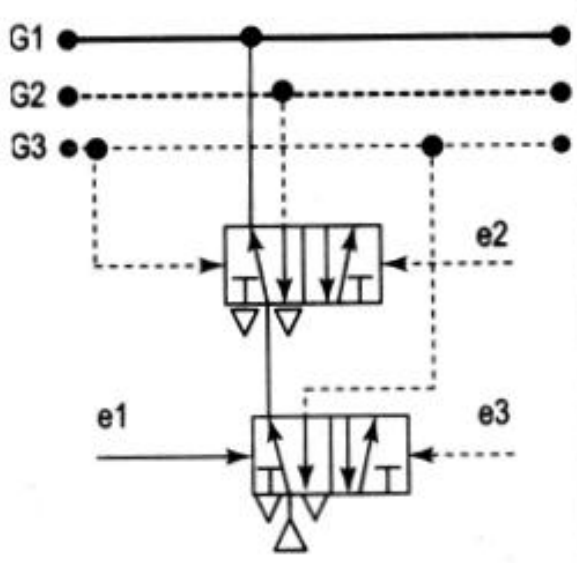
PNEUMATIC AND HYDRAULIC SYSTEM



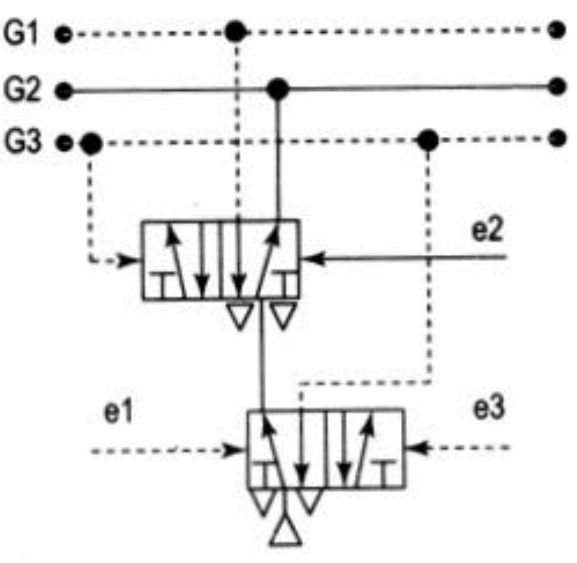
Different power supply position to two group circuit

CASCADE METHOD

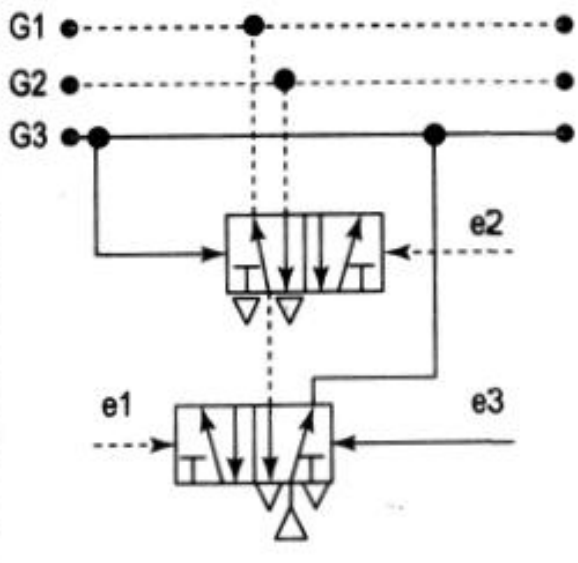
PNEUMATIC AND HYDRAULIC SYSTEM



(a) $e_1 \rightarrow G_1$



(b) $e_2 \rightarrow G_2$

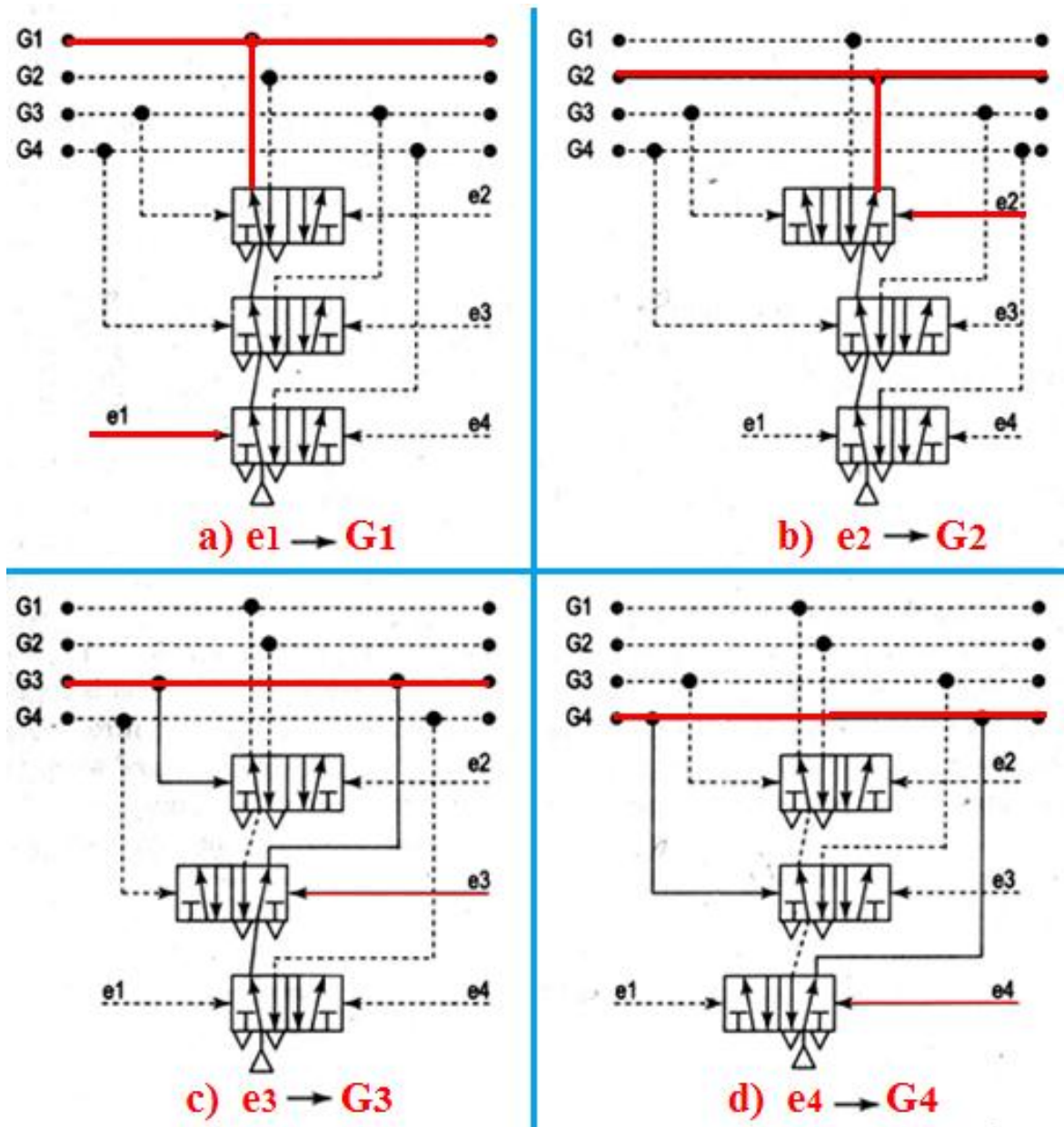


(c) $e_3 \rightarrow G_3$

Different power supply position to THREE group circuit

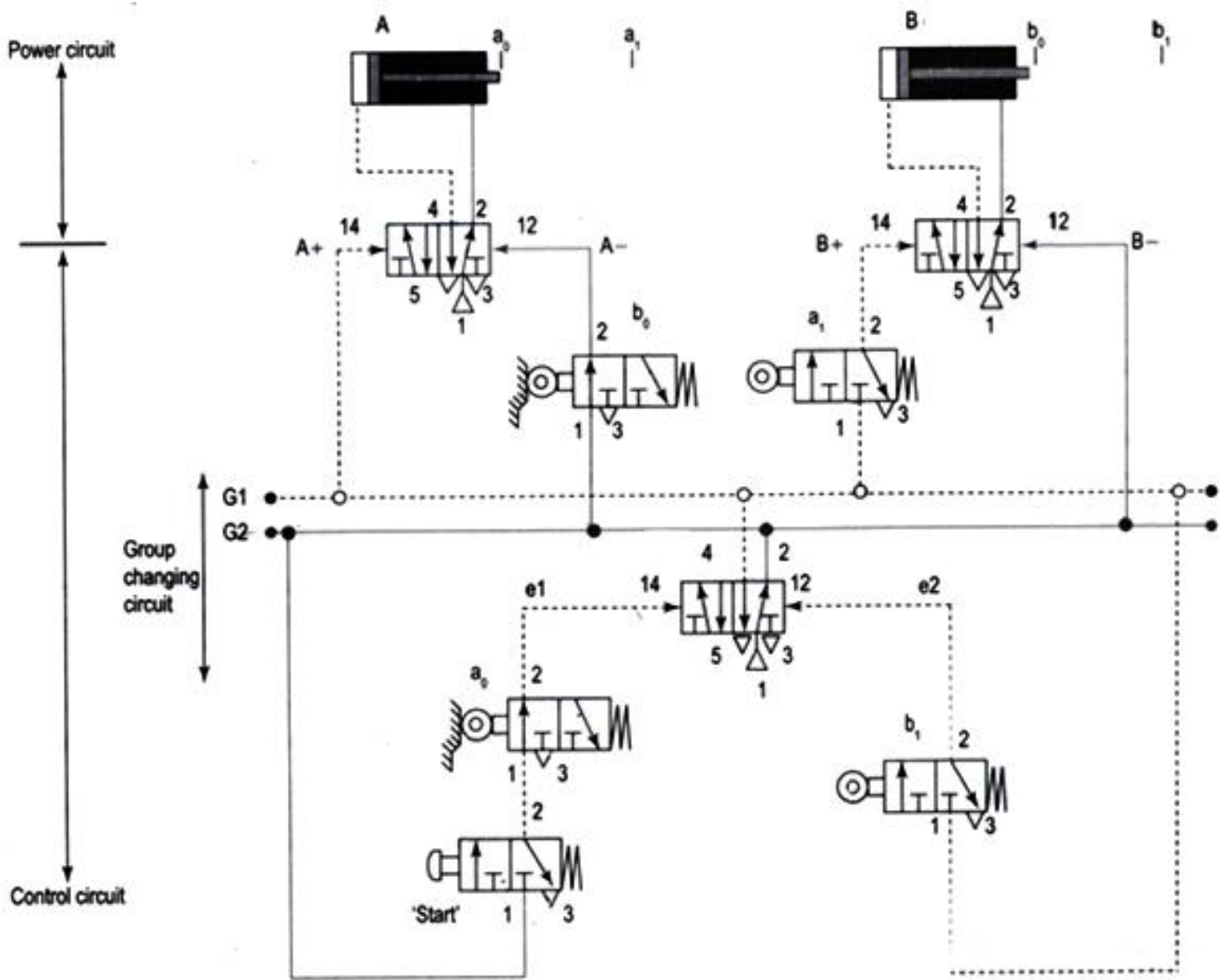
CASCADE METHOD

PNEUMATIC AND HYDRAULIC SYSTEM



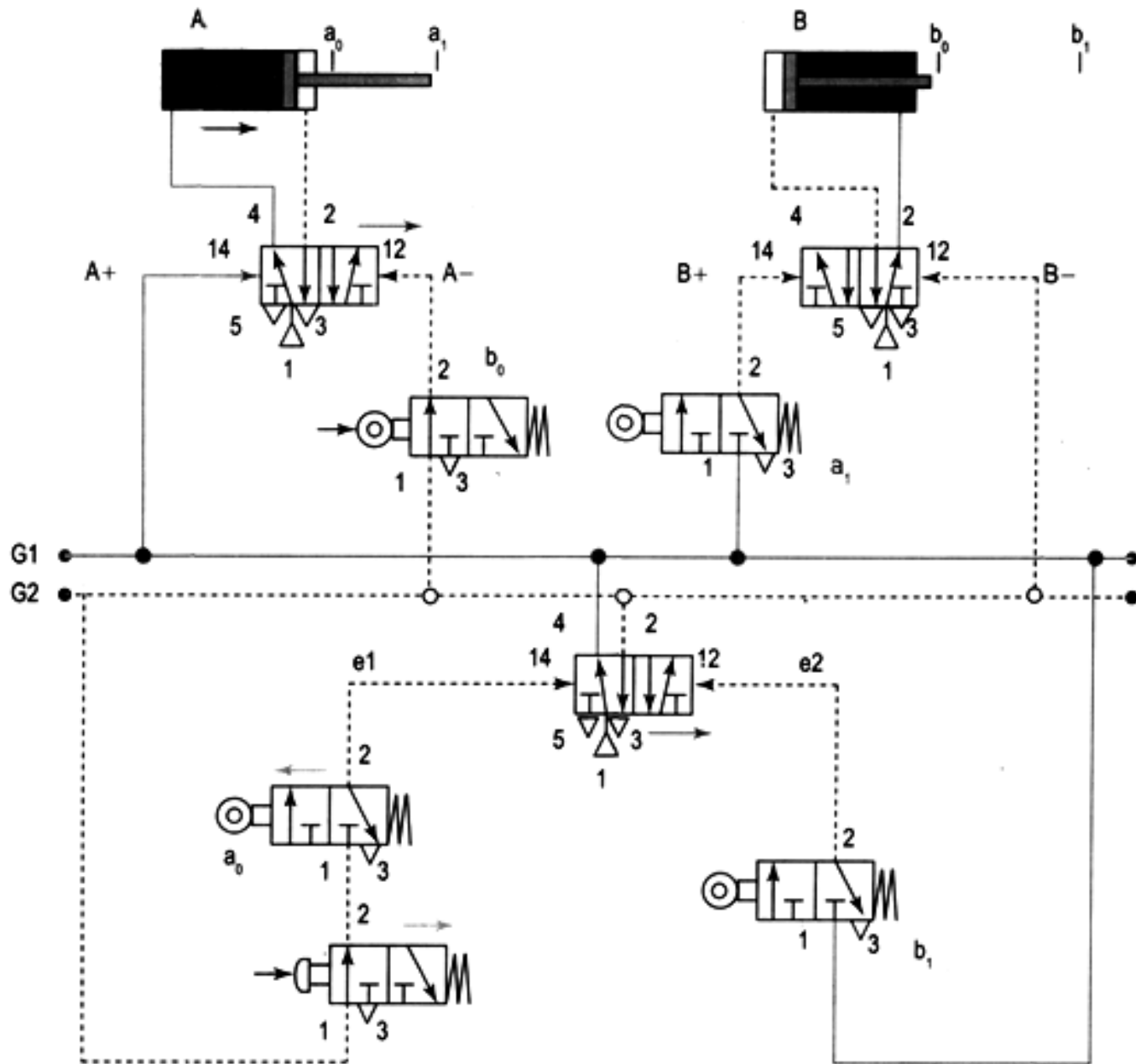
Different power supply position to FOUR group circuit

PNEUMATIC AND HYDRAULIC SYSTEM



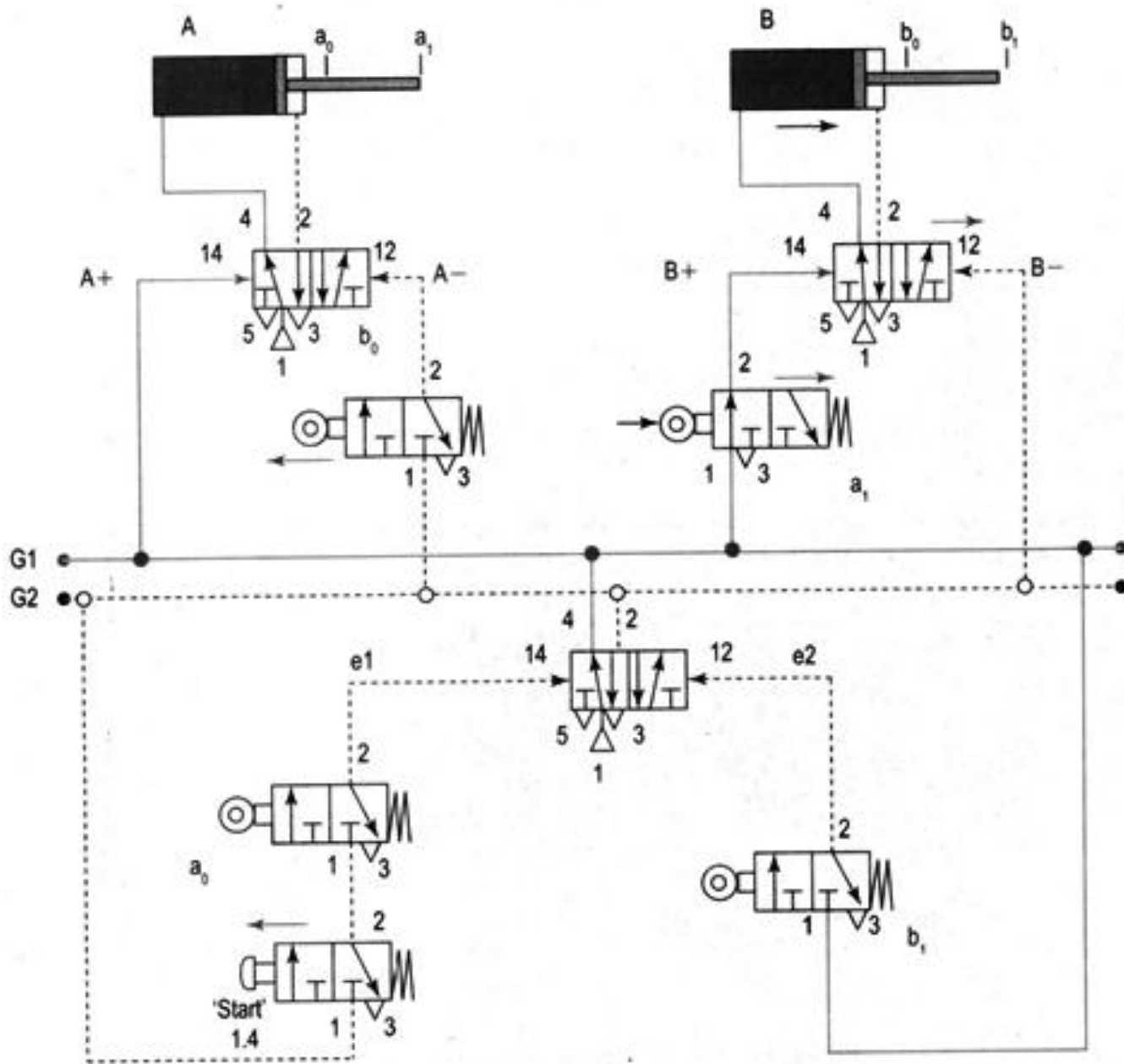
Circuit diagram using cascade method during A- action

PNEUMATIC AND HYDRAULIC SYSTEM



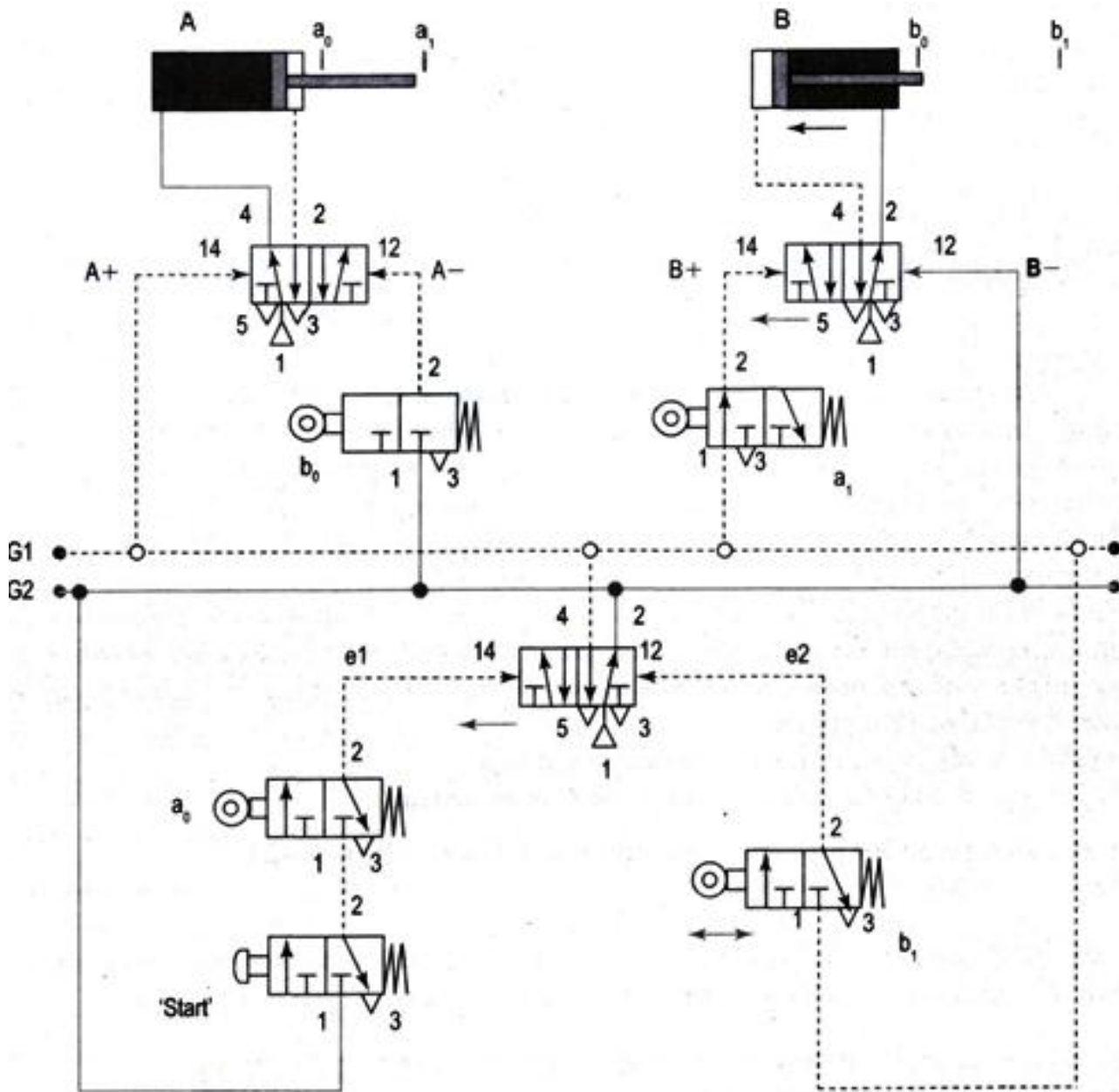
Circuit diagram using cascade method during A+ action

PNEUMATIC AND HYDRAULIC SYSTEM



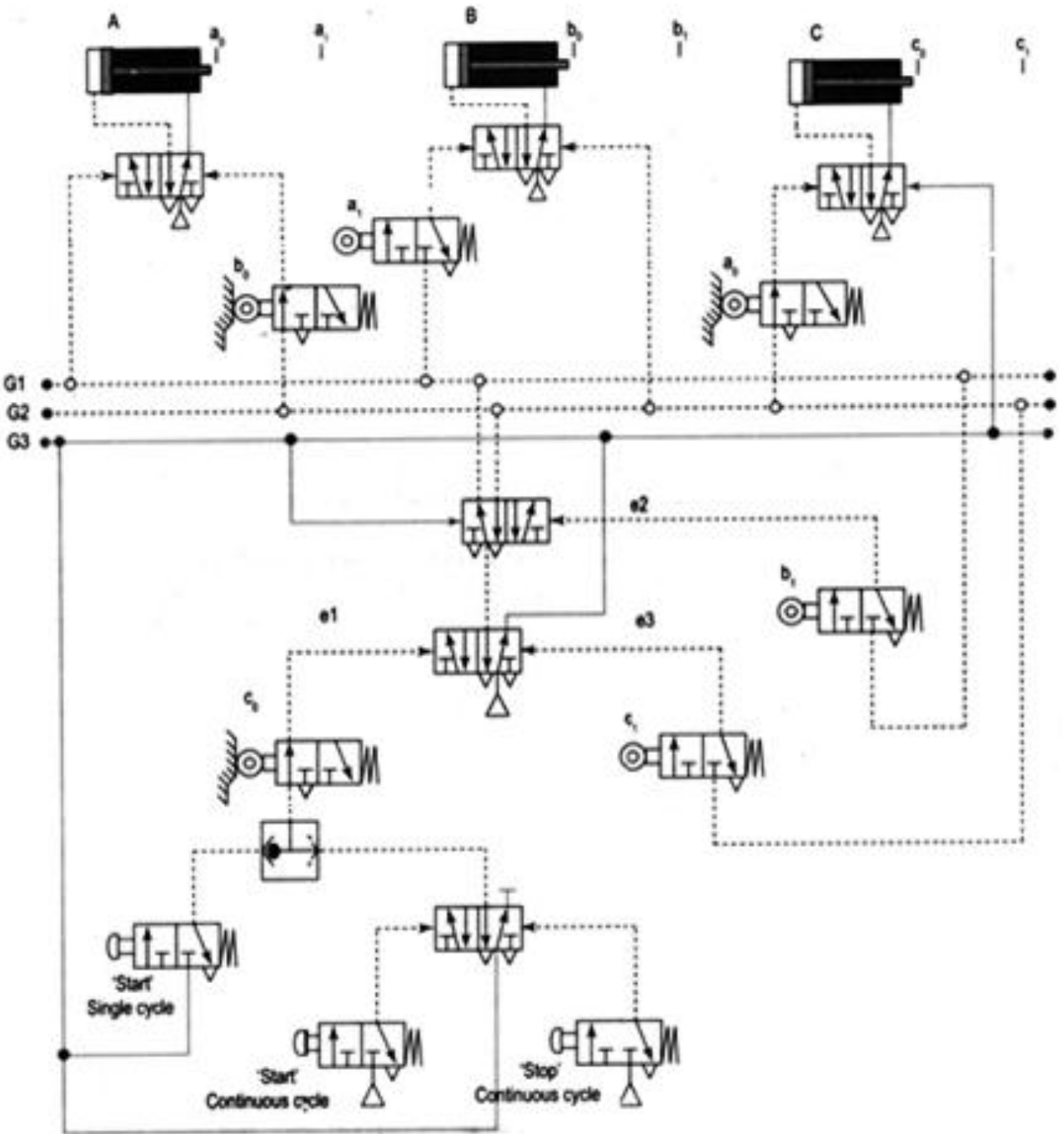
Circuit diagram using cascade method during B+ action

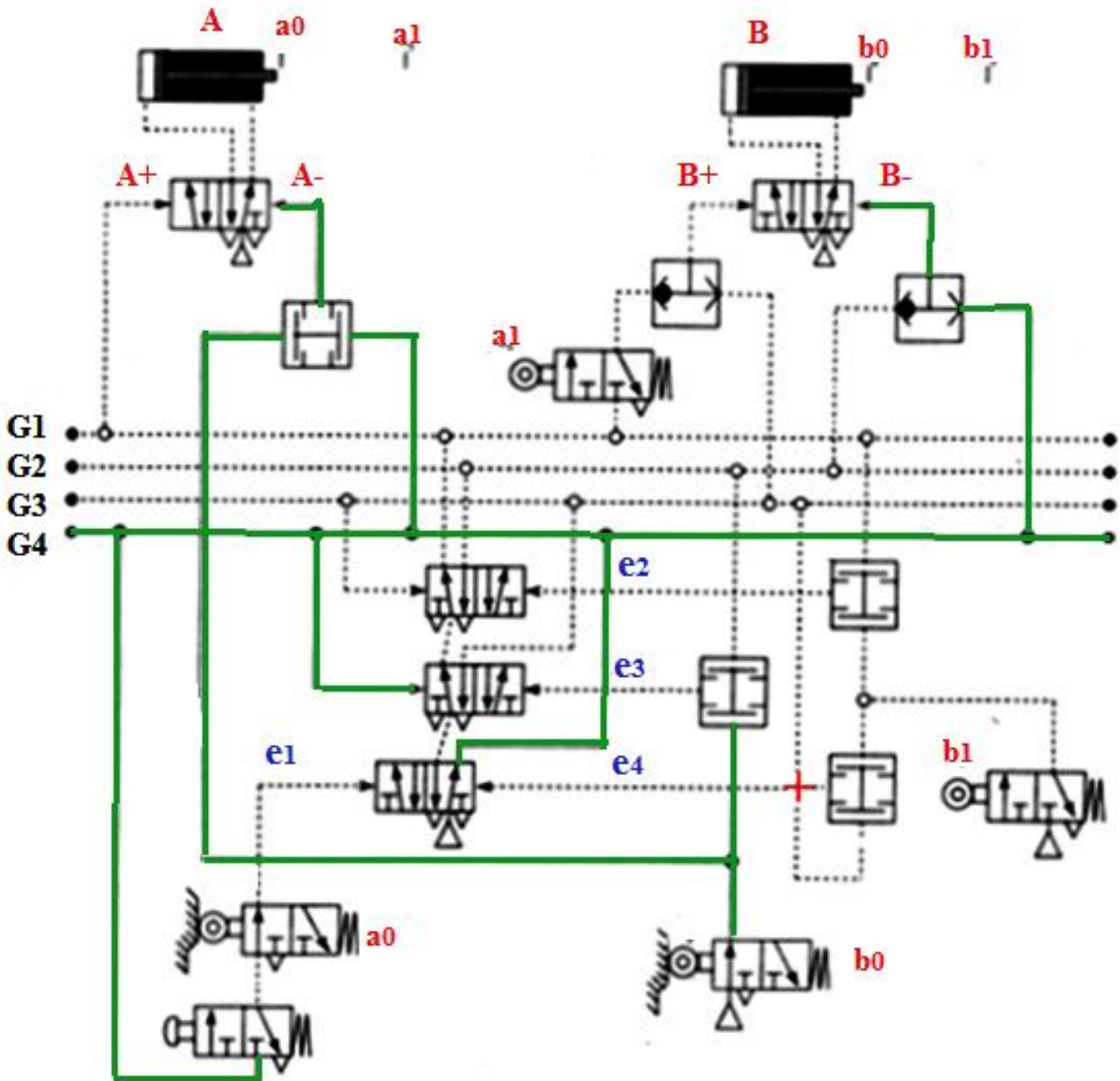
PNEUMATIC AND HYDRAULIC SYSTEM



Circuit diagram using cascade method during B- action

Circuit diagram using cascade method A+B+B-A-C+C-





Circuit diagram using cascade method A+B+B-B+B-B-A-