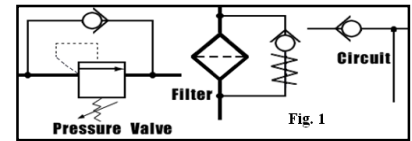


Self-Study Sheet-8 Part-2, on Chapter-8: Check or Non-return Valves

1- For fig.1, discuss function, importance & type of the in-line Check Valve used in the shown hydraulic circuit parts.



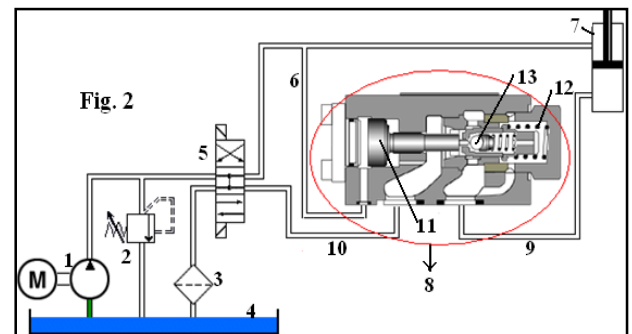
2- Select True (✓) or False (x) for each statement:

#	True	False	statement
1			Check valves are zero leakage devices used to maintain flow in one direction in the system and prevent backward flow.
2			Check valves can not be used to lock hydraulic fluid from the hydraulic cylinders.
3			In-line check valve is classified as directional control valve used to bypass pressure relief valve during a return flow or as bypass around filter if it becomes clogged or to keep flow from entering portion of a circuit at an undesirable time.

3- Write the name, function & short description of each part of the hydraulic circuit on fig.2. You may select from the list below:

Small check ball valve, Unidirectional fixed flow pump, Main adjustable spring, Pressure relief valve, Pilot piston, Return filter, Valve inlet line to extend the cylinder, Hydraulic oil, Valve outlet line to extend the cylinder, Directional control valve, Pilot operated check valve, Pilot oil line, Double acting cylinder

#	Part name	#	Part name	#	Part name	#	Part name	#	Part name
1		2		3		4		5	
6		7		8		9		10	
11		12		13					

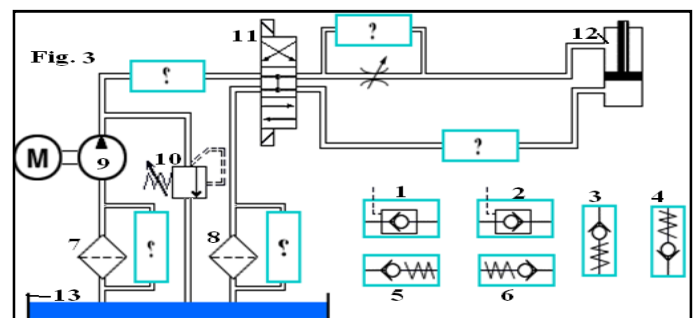


4- Discuss (with help of sketches & symbols) the main characteristics, and usage of the **In-line Check Valves**. State the advantages & disadvantages of the In-line Check Valves.

5- Discuss (with help of sketches & symbols) the main characteristics, and usage of the **Pilot Operated Check Valves**. State the advantages & disadvantages of the Pilot Operated Check Valves.

6- State true or false and why? "A pilot operated check valve with a pilot ratio of 10:1 would open with 200 psi pilot pressure even if there was 2000 psi back pressure on the valve".

7- On Fig.3, Choose a check valve & put it in its proper place. Also write name, function & short description of each part on Fig. 3.



***** End of Check or return Valves *****