

Chek-Chart Automatic Transmission

Chapter 3 Review Questions. -Basic Hydraulics-

1. If a force of 210 pounds is applied to a 3-in² input piston, the resulting system pressure is:
 - A. 90 psi
 - B. 80 psi
 - C. 70 psi
 - D. 60 psi
2. If a hydraulic pressure of 70 psi is applied to a 4-in² output piston, the resulting output force is:
 - A. 2800 lb.
 - B. 280 lb.
 - C. 17.5 lb
 - D. 35 lb.
3. Technician A says the output force of a hydraulic system is dependent on surface area only. Technician B says the output force can be changed by modifying the applied hydraulic pressure. Who is right?
 - A. Technician A only
 - B. Technician B only
 - C. Both A and B are correct.
 - D. Neither A nor B are correct.
4. Two technicians are discussing output force from a hydraulic system that has a constant 60 psi. Technician A says the output piston surface area will determine the output force. Technician B says the type of hydraulic fluid will determine the output force. Who is right?
 - A. Technician A only
 - B. Technician B only
 - C. Both A and B are correct.
 - D. Neither A nor B are correct.
5. In an automatic transmission hydraulic system, resistance to fluid flow will cause:
 - A. a drop in fluid pressure
 - B. a rise in fluid pressure
 - C. no change in fluid pressure
 - D. pump failure
6. The pressure regulator valve(s):
 - A. balances spring pressure against fluid pressure
 - B. control hydraulic fluid pressure
 - C. use a controlled system leak to maintain proper pressure.
 - D. All of these answers are correct.
7. The poppet valve:
 - A. is used to prevent too much system pressure.
 - B. is used to maintain the proper system main line pressure.
 - C. balances system pressure against spring pressure.
 - D. is only used with electronic pressure regulation.
8. Technician A says a spool valve is used to maintain system line pressure. Technician B says a spool valve is used to control the direction of fluid flow. Who is right?
 - A. Technician A only
 - B. Technician B only
 - C. Both A and B are correct.
 - D. Neither A nor B are correct.

9. Automatic transmission hydraulic oil pumps:
- are always mounted directly behind the torque converter.
 - are always two gears and a crescent.
 - are rated in Pounds per Square Inch (PSI)
 - are driven at engine speed by the torque converter.
10. Technician A says spool valve position can be determined by spring force. Technician B says hydraulic force can determine spool valve position. Who is right?
- Technician A only
 - Technician B only
 - Both A and B are correct.
 - Neither A nor B are correct.
11. A flow control or directing valve:
- can be a check ball design.
 - might be a one way check ball.
 - can be spool in design.
 - All of the above can be correct.
12. Technician A says the throttle valve is a pressure valve that modifies line pressure in relationship to the vehicle road speed. Technician B says the governor valve is a transmission pressure valve that limits the vehicle to a maximum road speed. Who is right?
- Technician A only
 - Technician B only
 - Both A and B are correct.
 - Neither A nor B are correct.
13. The governor pressure and the throttle pressure:
- work together on the shift valve to overcome spring force. This causes up and down shifts.
 - work against each other on the shift valve. When governor overcomes throttle the transmission down shifts.
 - supply pressure to the main system pressure regulator to control up and down shifts.
 - work on opposite sides of the shift valve. When governor pressure force is greater than throttle pressure plus spring force the vehicle will up shift.
14. Hydraulic output devices are sometimes known as actuators.
- True
 - False
15. Two technicians are discussing actuators. Technician A says that actuators that are described as a piston often refers to mechanism that applies a clutch. Technician B says that actuators that are described as a servo often refers to a mechanism that applies a band. Who is right?
- Technician A only
 - Technician B only
 - Both A and B are correct.
 - Neither A nor B are correct.