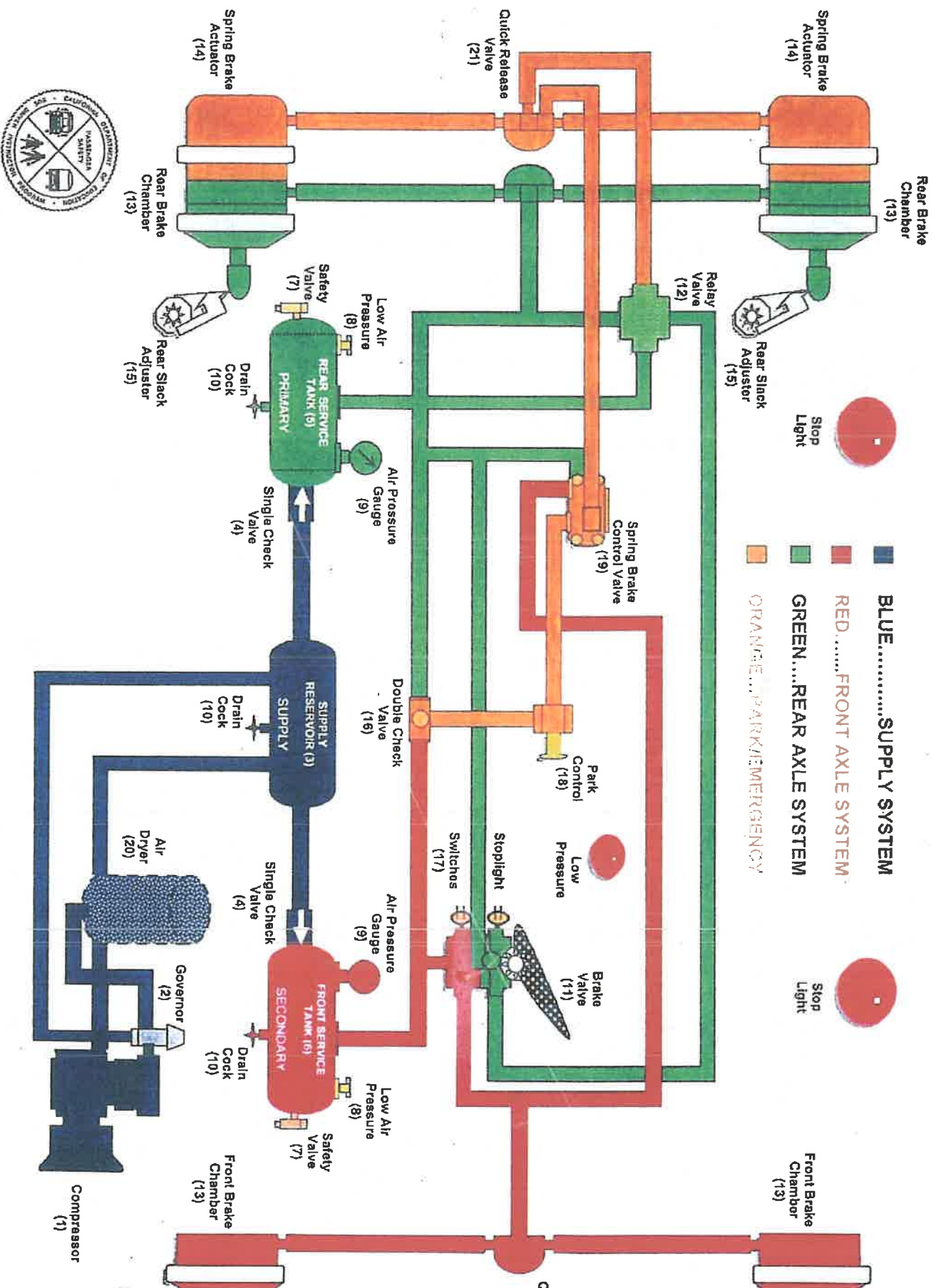


SCHOOL BUS AIR BRAKE SYSTEM - FMVSS 121



DEFINITIONS

1. **COMPRESSOR** – Compresses air and feeds it to the supply tank.
2. **GOVERNOR** – Controls the cut-in and cut out air pressure to the system. Minimum cut-in 85 p.s.i. Maximum cut-out 130 p.s.i.
3. **SUPPLY RESERVOIR** – Receives the air from the compressor and feeds it to the front tank (#6) and rear tank (#5).
4. **SINGLE / ONE WAY CHECK VALVE** – Allows air to flow in one direction only.
5. **REAR SERVICE TANK (PRIMARY)** – This tank feeds air to the rear brakes through the foot valve (#11).
6. **FRONT SERVICE TANK (SECONDARY)** – This tank feeds air to the front brakes through the foot valve (#11).
7. **SAFETY VALVE** – Protects air system against excessive pressure generally set to relieve pressure above 150 P.S.I.
8. **LOW AIR PRESSURE INDICATOR SWITCH** – Normally closed, air operated, electrical switch, activates visual warning device when air system pressure is reduced below a safe minimum (Generally 60 PSI) – required by regulation.
9. **AIR PRESSURE GAUGE** – Indicates to the driver the amount of air pressure in each service reservoirs. (Either one gauge with two needles or two gauges)
10. **DRAIN COCK / MANUAL DRAIN VALVE** – allows the driver to drain the tanks of water and oil-water mixture. Must drain tanks daily. (Each tank has a drain valve)
11. **DUAL FOOT / BRAKE VALVE** – Two separate valves in single housing, permits independent control of front and rear service brakes.
12. **RELAY VALVE** – Functions as a remote mounted, air controlled foot valve, provides faster application and release of the brakes (may see quick release valves as well).

13. **FRONT AND REAR BRAKE CHAMBER** – Converts air pressure to mechanical force which is applied to the push rod and forces the slack adjuster to apply the brakes.
14. **SPRING BRAKE** – Located on rear axle brakes, serves as three brakes in one. First, service section applies when driver makes a normal brake application. Second, parking brake applies when driver actuates the park control valve (#18). This allows a very powerful spring to apply the rear brakes. Third, emergency brake will apply in the event of system pressure loss. This will start at approximately 60 P.S.I. in the orange or emergency system.
15. **FRONT AND REAR AXLE SLACK ADJUSTER** – Rotates brake camshaft (S-CAM) in response to the push-rod being forced out of the service chamber, due to the air pressure application from the foot valve. Also the slack adjuster allows one to adjust the brakes to compensate for normal lining wear.
16. **DOUBLE CHECK VALVE** – Takes air from two sources and delivers the air from the side with the highest or maybe the only side with air pressure. (Two supplies one delivery).
17. **STOPLIGHT SWITCHES** – Activates stop lights when the air pressure in the service brake reaches 6 PSI max.
18. **PARK CONTROL BUTTON (OR LEVER)** – Actuates the spring brake park feature by exhausting the air pressure holding the springs off. ^{20 PSI}
19. **SPRING BRAKE CONTROL VALVE** – This valve makes the spring brake section work to replace the service brake section, in the unlikely event of loss of rear service air pressure. (System back-up to prevent front brake application only).
20. **AIR DRYER** – (OPTION) Removes moisture and contaminates from the entire air system. Keeps system clean & dry.
21. **QUICK RELEASE VALVE** – Exhausts brake chamber air pressure and speeds up brake release.