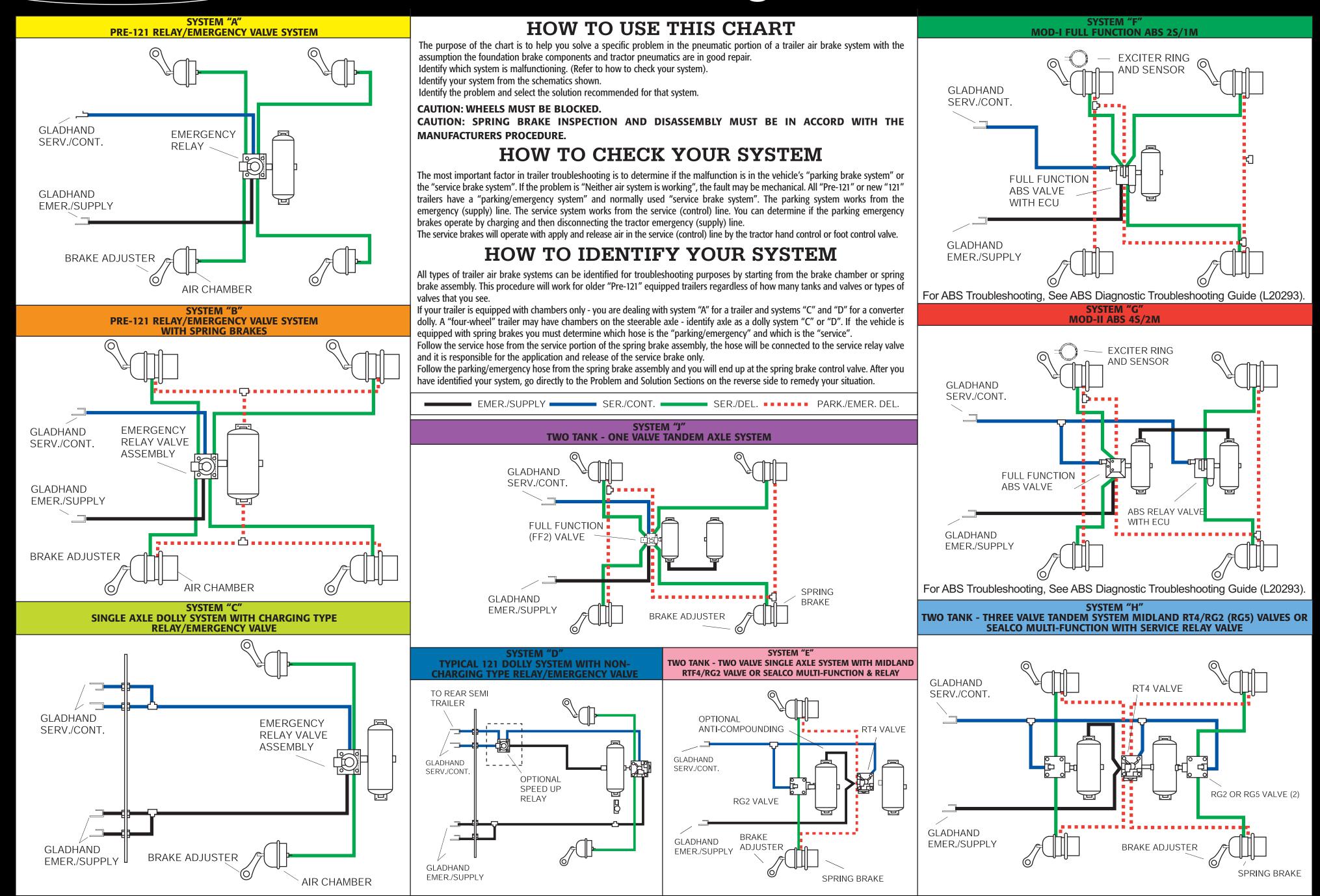


Trailer Systems Troubleshooting Guide



NOTE: Procedures suggested on this chart are merely suggested and should not be construed to be all inclusive nor should the schematics be regarded as typical of piping patterns on all vehicles.

SYSTEM LETTER AND SOLUTION NUMBER **SOLUTION PROBLEM** B 1. Check service chamber at clamp housing, push rod 27. Assure spring brake is fully released with supply air at **AIR LEAK AT** system pressure above 100 P.S.I. or emergency side of for damage. 2. Check service chamber diaphragm for rupture. Service Brake Chamber 1-2-34 1-2-34 1-2-34 28. Excessive volume imposed in supply/emergency lines -3. Check brake adjuster and chamber/spring brake ie: air pintle air chamber. Spring Brake with Service Brakes Released & Park Brake Applied 1-36-37 push rod alignment for interference. 29. On a pre-121 exempt trailer utilizing an emergency relay 6-11-36 6-11-36 6-11-36 4. Assure brake adjuster and chamber/spring brake valve, the spring brake emergency port should be Spring Brake with Service Brakes Released & Park Brake Released or 37 push rod angle 90° applied with proper adjustment. or 37 or 37 plumbed directly to the tank. 5. Check all lines, valves, reservoirs, actuators for 30. Observe and determine which specific device, fitting or Spring Brake with Service Brakes Applied & Spring Brake Released 6-25-36 6-25-36 6-25-36 6-25-36 6-25-36 hose is leaking and replace. 3-36-3 6. Check spring brake for damage or loose clamp. 42 Emergency Relay Valve with Service Brake Applied or Released 31. Assure a leak free system by applying service brake and or 42 inspecting. 7. Assure jumper hoses are not crossed. Emergency Relay Valve with Emergency Brake Applied 42 42 42 51 32. Note that some trailers may have the emergency/supply 8 Assure functional return spring in service chamber line piped to a single check valve at both tanks - one Service Relay Valve with Service Brake Released & Spring Brake Applied 38 54 54 38 53 or spring break. could be leaking. Service Relay Valve with Service Brake Released & Spring Brake Released 33-54 33-38 33-38 33-54 33-53 9. Assure air chamber size and brake adjuster arm 33. Check for failure in spring brake center seal. length to original spec. Service Relay Valve with Service Brake Applied & Spring Brake Released 38 54 38 53 54 A. Block wheels and release park brake. 10. Assure spring brake control port has exhausted. B. Check for air pressure leakage at service port of Spring Brake Control Valve with Spring Brake Applied or Released 40 54 40 53 each spring brake until the leaking assembly is 11. Check for ruptured spring brake diaphragm located. Replace leaking unit. Trailer Service Gladhand on Disconnect (with Trailer Supply Pressurized) 42 42 51 24-40 54 54 24-40 53 42 (furthest from brake adjuster). C. If no spring brake leakage is found see #41. Trailer Emergency Gladhand on Disconnect 42 42 12. Supply/emergency line must be at atmosphere. 42 1 or 52 34. Confirm and replace with Type 30 diaphragm, air chamber Type 30 13. Assure emergency line exceeds 100 P.S.I. pressure; 30 30 30 30 Trailer System Leakage Exceeds 2 P.S.I. per min. with Service Brakes Applied 30 30 30 30 check and maintain governor at max cut-in. 35. Confirm and replace/use rubber grommets with integral SERV Valve with Service Brake Released & Park Brake Applied 14. Assure air delivery to service gladhand. SERV Valve with Service Brake Released & Park Brake Released 36. Confirm and replace with appropriate spring brake 15. Assure air delivery to service relay valve control port. assembly; Type 30/30 or Type 24/30. Diaphragm Type SERV Valve with Service Brake Applied & Park Brake Released 16. Assure air delivery to air chamber or spring brake. 24/30 PiggyBack SYSTEM OR COMPONENT FAILURE 17. Assure air delivery to emergency gladhand 37. Confirm and replace with Type 30/30 PiggyBack or Type exceeds 100 P.S.I. 24/30 PiggyBack 3-4-22-3-4-22-3-4-22--4-22 3-4-22-3-4-22-3-4-22-3-4-22-3-4-22-**Trailer Brakes Slow and Sluggish** 44-45-44-45-44-45-44-45-44-45-44-45-44-45-44-45-44-45-18. Assure air delivery to emergency relay valve 38. Confirm and replace with service relay valve 1/2 Supply 46-47 46-47 46-47 46-47 46-47 46-47 46-47 46-47 46-47 or 3/8 Supply. 3-4-13-19. Assure air delivery to all reservoirs at system 3-4-13-**-4-1**3 3-4-13 3-4-13-Trailer Brakes Drag 39. Confirm and replace with task spring brake control 3-4-22-3-4-22-3-4-22-3-4-13working pressure. 22-23-22-23-22-23-22-23-22-23-<mark>22-23-42</mark> 23-27 23-42 23-51 27-37 27-37 27-37 27-37 20. Assure air delivery to spring brake control valve 40. Confirm and replace with RT-4 spring brake control control port. 3-4-14-3-4-14 3-4-14-3-4-14-3-4-14valve (replaces Sealco ratio valves). Trailer Brakes Won't Apply (Service) 3-4-14-3-4-14--4-14 3-4-14-16-18-19 16-18-1 16-18-19 4-18-19 15-16-19 5-16-19 15-16-19 15-16-19 21. Assure air delivery to control port on spring brake 41. Assure adequate trailer brake function. (port furthest from brake adjuster). **Trailer Emergency Application Too Slow** 42. Confirm and replace with emergency relay valve, 22-28 22-28 22-28 22-28 22-28 22-28 22-28 22-28 22-28 22. Assure open lines - no kinks, bends, closed shut-off 1/4 Delivery or 3/8 Delivery. cocks, restrictions, excessive elbows. 7-17-18--17-18 7-11-17 7-11-17 7-11-13 Park/Emergency Brakes Won't Release 7-11-1⁻ 43. Confirm and replace with FFV (Full Function Valve) 19-22-17-19-18-19 22 19-22-19-22-19-22-7-17-18-7-19-22 23. Check for trapped service air pressure at trailer service/delivery hoses. If air pressure is noted, check 19-22-42 42 42 51 40 40 40 53 44. Assure adequate tractor brake function. for full release of all application valves 3-4-36 3-4-36 3-4-36 oi 3-4-36-Park/Emergency Brakes Won't Hold (tractor/truck/trailer). -4-36 c 45. Assure adequate pressure and timing balance relative to 3-4-19 37 19-32 19- 32 or 37 37 or 37 tractor/trailer application. 24. Trailer brakes which have a spring brake control valve 4-10-12-4-10-12 4-10-12-10-12 4-12-19 Park/Emergency Brakes Won't Apply can be compounded by the tractor air brake system. 46. Consider addition of "FAB Valve" to accelerate trailer 4-12-19-I-12-19 36 or 37 36 or 37-36 or 37 36 or 3° 4-12-19-5 or 37 The compounding occurs when service air pressure is trapped in the trailer service line by the tractor 42 -42 53 protection valve when the supply line is released to 47. Consider use of "jumper hose analyzer" and duplex Air Reservoir Leaks or Loose Mounting atmosphere. Compounding is prevented by gauge to pin-point brake imbalance. 35 35 35 35 35 35 35 35 connecting the trailer service line to the appropriate 48. Assure full mechanical release - foundation brake. port of the trailer spring brake control valve through a **BRAKE BALANCE** tee. Early spring brake control valves are equipped 49. Assure "push-out" pressure or initial brake adjuster 4-22-45-4-22-45 4-22 46--22 46 4-22-45 -22-45 4-22-45-4-22-45 1-22-45with a shuttle valve between the supply and service Semi-Trailer "RUNS-UP" on Tractor motion at 3 to 7 P.S.I. - at all brakes. 46-47-49 46-47-49 46-47-49 47-49 47-49 46-47-49 46-47-49 connections at the cover. The RT-4 has a one- way check valve which prevents supply pressure from 50. Proceed per problem "trailer brakes drag." 3-4-22-3-4-22 3-4-22 3-4-22-3-4-22-3-4-22-**Uneven Brakes** entering the service lines; but will allow service 51. Confirm and replace with emergency relay valve 31-49 31-49 31-49 31-49 31-49 31-49 31-49 31-49 pressure to vent at trailer supply coupling. Systems A, B, C, D will not compound the trailer brake system if Trailer Brake Lining Wear Excessive connected as shown on this chart. 27-44-50 27-44-50 52. Confirm and replace with pressure protection valve with 48-50 44 27-44-50 **'-44-5** 27-44-50 44-50 27-44-50 one-way check, 50 P.S.I. or 75 P.S.I. 25. Check for ruptured service brake diaphragm in spring Trailer Brake Lining Wear Insufficient When Compared to Tractor 4-16-45-4-16-45-1-16-45 4-16-45-4-16-45- 4-16-45 4-16-45 4-16-45 brake (clamp nearest brake adjuster) after attention to 53. Confirm and replace with full function valve (FFV). FFV 46-47-49 46-47-49 46-47-49 46-47-49 46-47-49 6-47-49 46-47-49 46-47-49 damage or loose clamps. has built-in anti-compounding feature. Trailer Brakes Slow to Apply 54. Confirm and replace with spring brake priority or service brake priority (FFABS) ABS full function valve. 4-19-22-1-19-22 4-19-22-1-19-22 4-19-22 -19-22 4-19-22-19-22 4-19-22 26. Proceed same as for service relay valve. 46-47 46-47 46-47 46-47 46-47 46-47 46-47 46-47 **Trailer Brakes Slow to Release** 8-22-42-8-22-42 8-22-38-8-22-38-8-22-38 8-22-42 3-22-47 47-48 47-48 47-48 48-51 47-48 47-48 47-48 47-48 NOTE: FOR FURTHER TECHNICAL ASSISTANCE CONTACT YOUR HALDEX SERVICES DISTRIBUTOR, DISTRICT MANAGER, A TECHNICAL SERVICE REPRESENTATIVE OR Damaged Foundation Components Due to Brake Compounding 29 24 53 CALL (800) 643 -2374 AND ASK FOR A TECHNICAL ADVISOR.

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