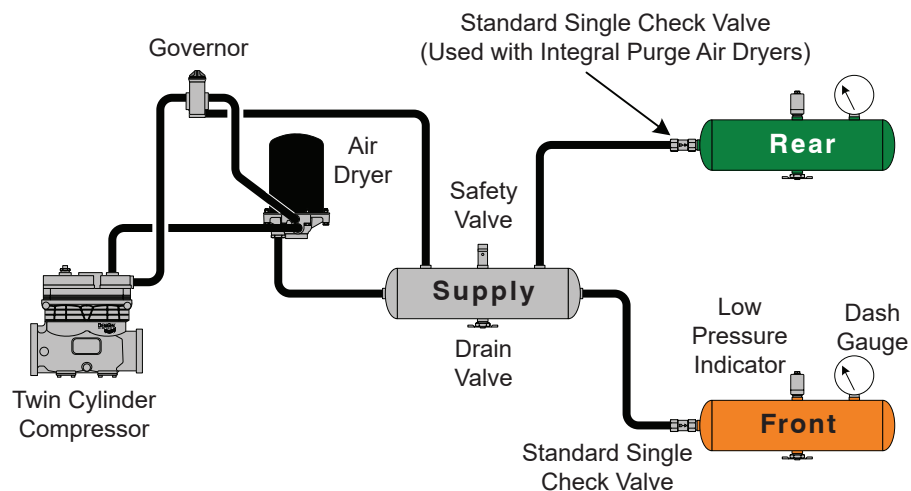
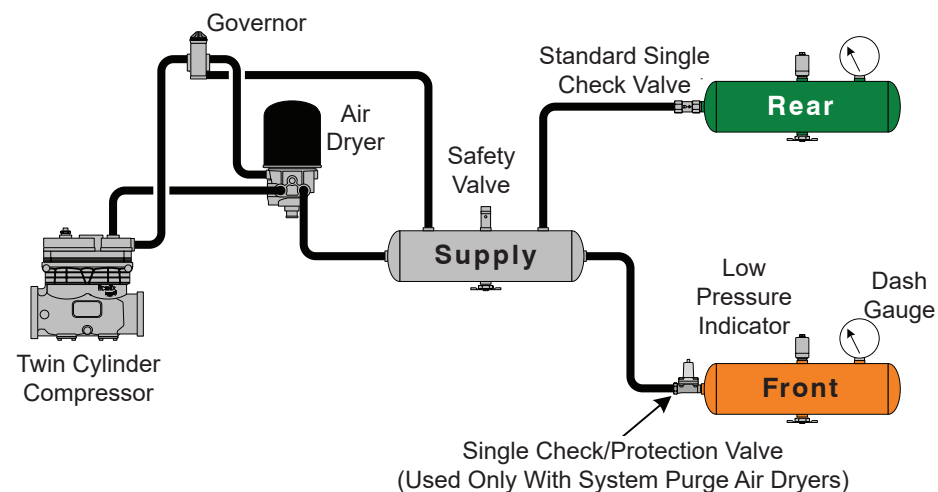




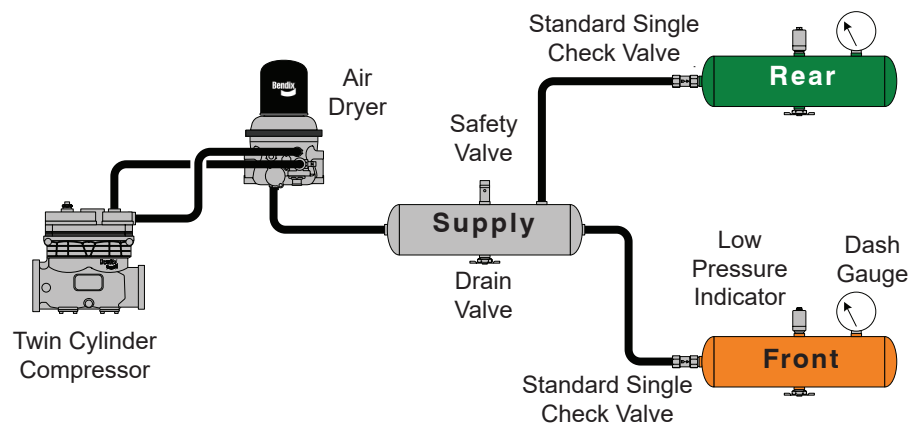
CHARGING, TREATMENT, AND STORAGE SYSTEMS TROUBLESHOOTING



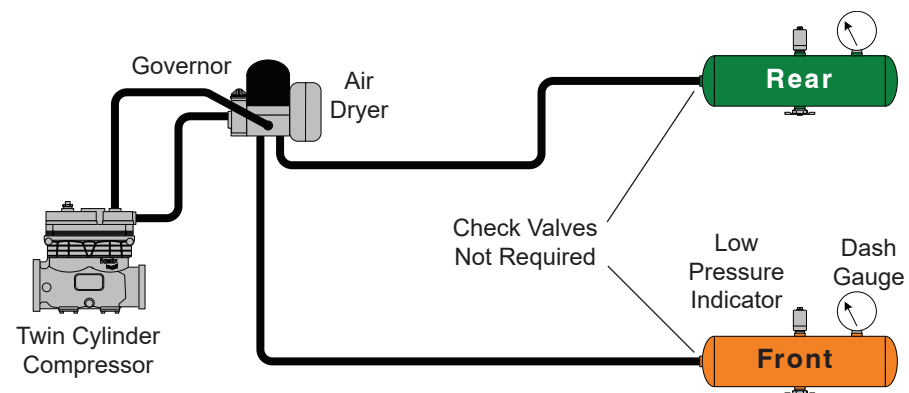
Conventional Supply System & Integral Purge Air Dryer



Conventional Supply System & System Purge Air Dryer



Conventional Supply System & Bendix® AD-9si® Air Dryer



Two Reservoir Supply System & Bendix® AD-IS® Air Dryer

Complaints Common to the Charging and Air Supply System

Complaint: Can Not Build System Pressure
Compressor head / discharge line leakage (See Common Test 2) Discharge line is plugged or restricted (See Common Test 3) Unloader piston leakage (See Common Test 4) Air pressure is trapped between the governor and the compressor unloaders (See Common Test 5) "Blow leakage" at the air dryer exhaust (See Common Test 6)
Complaint: Air System Builds Too Slow
Compressor head / discharge line leakage (See Common Test 2) Discharge line is restricted (See Common Test 2) Air is leaking at the air dryer exhaust (See Common Test 6) Compressor head gasket failure Apply a soap solution around the cylinder head. If air leakage between the head and block is noted, repair or replace compressor. Air pressure trapped between the governor and compressor unloaders (See Common Test 5) Air system leakage (See Common Test 1)
Complaint: Can Not Build System Pressure Above "X" psi.
"Blow leakage" at the compressor unloaders - Remove all hardware from the compressor inlet, then remove the governor. With 120 psi of shop air applied to the compressor unloader port, listen for air leakage at the inlet. If noted, repair the leak or replace the compressor. Caution! To prevent system damage, the ignition switch must be turned off manually if the system pressure reaches 130 psi. Incorrect setting on governor - Verify the safety valve operation. Drain air from the system, remove or disconnect the governor from the compressor and install a gauge in the governor unloader (UNL) port. Build system pressure and note when the pressure on the dash gauge and the test gauge are equal. They should be equal at the maximum setting of the governor. Discharge line leakage (See Common Test 2) <i>Note: The Bendix® AD-IS® air dryer must have pressure supplied from the compressor greater than its pressure protection setting to deliver air pressure to the system.</i> Air system leakage (See Common Test 1) Compressor head gasket failure - Apply a soap solution around the cylinder head. If air leakage between the head and the block is noted, repair or replace the compressor. "Blow leakage" at the air dryer exhaust during charge cycle (See Common Test 6)
Complaint: Air Dryer Cycles "ON & OFF" Constantly
This complaint is caused by leakage—either service system or supply system. Service system leakage is shown on dash gauges. Supply (wet tank) system leakage is not. <i>Note: System purge air dryers may purge more often than those with an integral purge volume.</i> Air system leakage (See Common Test 1)

Continued

Supply system component leakage Drain the system, install a gauge and a shop air hose in place of the drain cock in the supply reservoir. Fill the system to 120 psi, shut off the shop air and check for leakage on the following components in the order presented. Compressor unloader - Drain the system, remove the governor from the compressor, plug the governor UNL port and re-test. If the leakage is OK, repair compressor unloader mechanism or replace compressor. If the leakage is NOT OK, then continue. (See Common Test 4) Holset ECON valve (used with Holset Type "E & QE" compressors) - Check for missing, malfunctioning or leaking ECON valve. If a Bendix DI (Drop-In) with a soft seat purge valve air dryer is installed, the ECON valve is not required. - Is ECON valve required, but missing? If YES, install it and a special Holset check valve with choke. If NO, and ECON valve is present, replace the ECON valve and special check valve. If NO, and an ECON valve is not required, then continue. Air dryer - Check for leakage. - Remove the line from the air dryer inlet and—with 120 psi in the supply reservoir—soap the exhaust and inlet port of the air dryer. If the leakage is greater than one (1) inch bubble in one (1) second at the exhaust port, repair or replace the check valve (on dryers with integral purge volume) or replace the body assembly on system purge air dryers. If the compressor is a Holset type E or QE, verify the air dryer in use contains a soft seat purge valve. If the leakage is greater than one (1) inch bubble in one (1) second at the inlet port, repair or replace the purge valve assembly (on dryers with integral purge volume) or replace the turbo cut-off valve on system purge air dryers.
Complaint: System Pressure Goes to 150+ psi
Drain the air system to 0 psi; remove and disconnect the governor from the compressor. Start the engine and note the air pressure rise on dash gauges. Apply 120 psi shop air to compressor unloader port. If air pressure continues to rise, repair the compressor unloaders or replace the compressor. If the air pressure ceases to rise, repair or replace the governor.
Complaint: Low Pressure Warning After Only 1 or 2 Brake Applications
Brakes out of adjustment - Adjust the brakes. - Ensure proper operation of the tractor protection valve. Excessive system leakage on service (application) side of system - Build the system pressure to governor cut-out and shut off the engine. With the park brakes released, make a full service application and note the dash gauges for two (2) minutes. The pressure drop on either gauge should not exceed 4 psi. (2 psi per min.) If the pressure drop is excessive, find the leakage in the service system. If it's OK, then continue. Incorrect low pressure switch in use or setting incorrect - Build the system pressure to governor cut-out. With the engine OFF and ignition ON, slowly drain the air pressure from one service reservoir. The low pressure warning will come on at minimum 60 psi, the recommended maximum is 10-15 psi less than the governor cut-in pressure.

Common Tests

1. Air system leakage - Build system pressure to governor cut-out, wait two (2) minutes for the air dryer purge completion. Note the pressures on the dash gauges, then watch the dash gauges for two (2) minutes. Leakage is not to exceed 2 psi in two (2) minutes for truck, bus, tractor (no trailer). - If the leakage is NOT OK on the gauges, find and repair the leak(s) in the service and park system. Retest, and if a Bendix® AD-SP® system purge air dryer is in use and is still not OK, repair or replace the air dryer. - If the leakage is OK on the gauges, drain the air from the supply reservoir, remove the drain cock, and install an air gauge. Build the system air pressure in the supply reservoir and note and repair any leaks.
2. Compressor head / discharge line leakage (while system is charging) - Soap the cover on flex discharge line, if leakage is noted, replace the line. - Soap the fittings and the compressor head to check for leakage, tighten as needed.
3. Discharge plugged or restricted Connect temporary discharge line from compressor discharge port to supply reservoir & re-check the build-up. If the build-up is OK, replace the plugged discharge line.
4. Unloader piston leakage Disconnect the governor reservoir line and connect it to shop air pressure that is greater than the governor cut-out pressure. If there's noticeable leakage, replace the ESS piston(s).
5. Air pressure trapped between the governor and compressor - Verify safety valve operation then remove or disconnect the governor from compressor & check build-up. - If build-up is OK, repair or replace the governor or line between the governor and compressor. - If build-up is NOT OK, repair or replace the compressor.
6. "Blow leakage" at the air dryer exhaust - Drain all air from the supply reservoir then remove the control air line from air dryer, plug the line and plug the control port in the air dryer. Re-check the build-up. - If build-up is OK, repair or replace the governor or line between the governor and the air dryer. - If build-up is NOT OK, and below 32° F, turn the ignition ON and allow the heater to warm the air dryer then check build-up. If NOT OK, remove the wire (connector or terminal) from air dryer. Using a test light, check the wire end or terminal for battery voltage with the vehicle ignition ON. - If the voltage is OK, repair or replace the air dryer heater and thermostat. If the voltage is NOT OK, repair or replace the vehicle wire connected to the air dryer. Retest build-up. - If build-up is still NOT OK or temperature is above 32° F, replace the air dryer purge valve assembly.
<i>IMPORTANT: The complaints, causes and remedies presented here should not be considered as the only situations possible. They are only meant to represent the most commonly encountered. It may be necessary to perform additional troubleshooting using the more detailed information presented in the Bendix Service Data sheets for the specific components.</i>

Need additional help?
Contact the Bendix Tech Team at
1-800-AIR-BRAKE (1-800-247-2725), option 2
or visit b2bendix.com.