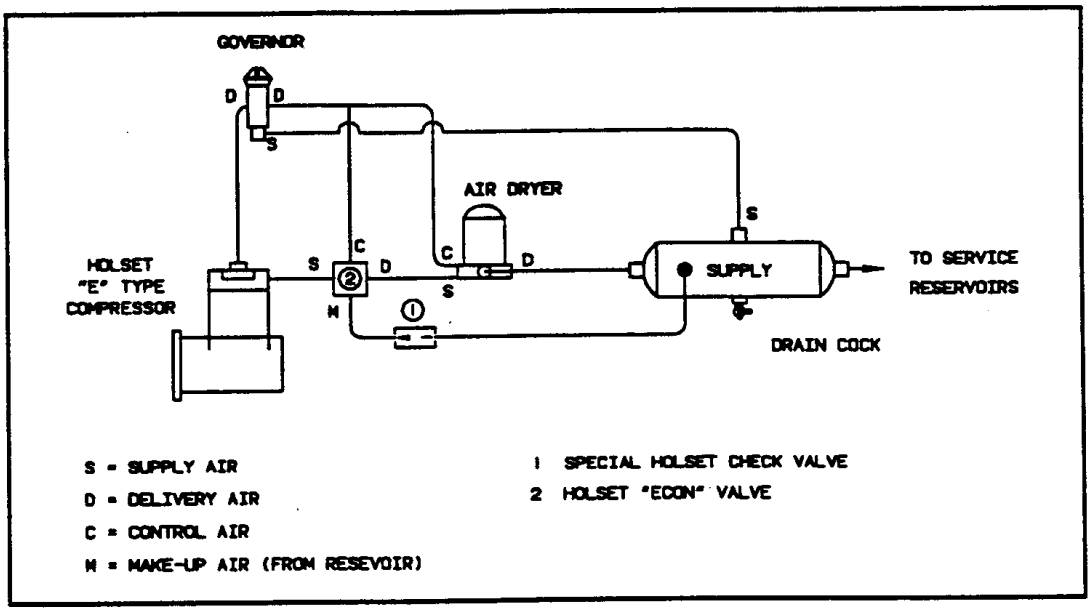
Technical *Bulletin*

Subject: **The Holset Type E & QE Compressor Air Supply System with Bendix Air Dryer & Holset ECON Valve**

There are now three options for dealing with the problem of frequent air dryer cycling in air supply systems that incorporate the Holset Type E and QE compressors and the Holset ECON valve and Special check valve.

A. Effectively troubleshooting the air system to determine the true cause of the cycling.
B. Simplify the air supply system by eliminating the ECON valve and special check valve by replacing the existing air dryer with the New Bendix AD-9 “Drop In” model Air Dryer.
C. Eliminate the ECON valve and special check valve by modifying an existing AD-9 Air Dryer using Modification Kit 265088.

A. Troubleshooting a Holset Type E & QE Compressor Air Supply System With Air Dryer, Holset ECON Valve, and Special Check Valve



IMPORTANT! PLEASE READ BEFORE PROCEEDING

1. When working on or around a vehicle, the following general precautions should be observed.
2. Stop the engine when working around the vehicle.

3. When working in the engine compartment the engine should be shut off. Where circumstances require that the engine be in operation, **EXTREME CAUTION** should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated, or electrically charged components.
4. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.
5. Never exceed recommended pressure and always wear safety glasses.
6. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
7. Use only genuine Bendix replacement parts, components, and kits when repairing a Bendix component. Replacement hardware, tubing, hose, fittings, etc. should be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
8. Components with stripped threads or damaged parts should be replaced rather than repaired. Repairs requiring machining or welding should not be attempted unless specifically approved and stated by the vehicle or component manufacturer.
9. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.

Vehicle Preparation

1. Park the vehicle on a level surface and chock or block the wheel to prevent movement.
2. Locate the air dryer and the vehicle's Supply ("wet tank") reservoir. Clean the exterior of the air dryer.

Testing

1. Determine the general area of leakage (trailer, tractor service, or tractor supply).
   A. TRAILER:
      1) Build air system pressure to governor cut-out and activate the tractor protection valve (shut off air to the trailer).
      2) With the engine idling, note if excessive cycling occurs. If excessive air dryer cycling stops, the leakage is in the trailer. Repair the leakage and retest. If cycling continues, go to Step B.
   B. TRACTOR SERVICE SYSTEM:
      1) Build tractor air system pressure to governor cut-out and turn off the engine. Open the drain cock on the Supply reservoir and drain ALL AIR PRESSURE.
      2) Using a watch, observe the dash air gauges for two minutes and note the drop in air pressure registered on each gauge. The air pressure loss should not exceed 4 psi in two minutes for a truck, bus, or tractor (no trailer connected). If air pressure loss EXCEEDS 4 psi locate and repair the leakage, then retest to determine if cycling is excessive. If the air pressure loss is within limits, proceed to Step 2 and continue testing.

2. Build the air system to governor cut-out noting the audible air exhaust at the air dryer. Begin timing immediately. With the engine at idle measure the time interval between purge cycles of the air dryer (audible air releases at the air dryer). Record the time.

3. Drain ALL AIR PRESSURE from the vehicle reservoirs and disconnect the “make-up” air line from the Holset ECON valve. Plug the “make-up” air line.

4. Repeat step 2 and once again note the time between purge cycles of the air dryer. If the time interval **INCREASES** to an acceptable level STOP TESTING and contact Holset for system recommendations. If the time interval remains unchanged, reconnect the “make up” air line to the Holset ECON valve and proceed to step 5.

5. Drain ALL AIR PRESSURE from the vehicle reservoirs and remove the drain cock from the supply reservoir. Install an air fitting in the Supply reservoir (where the drain cock was removed).

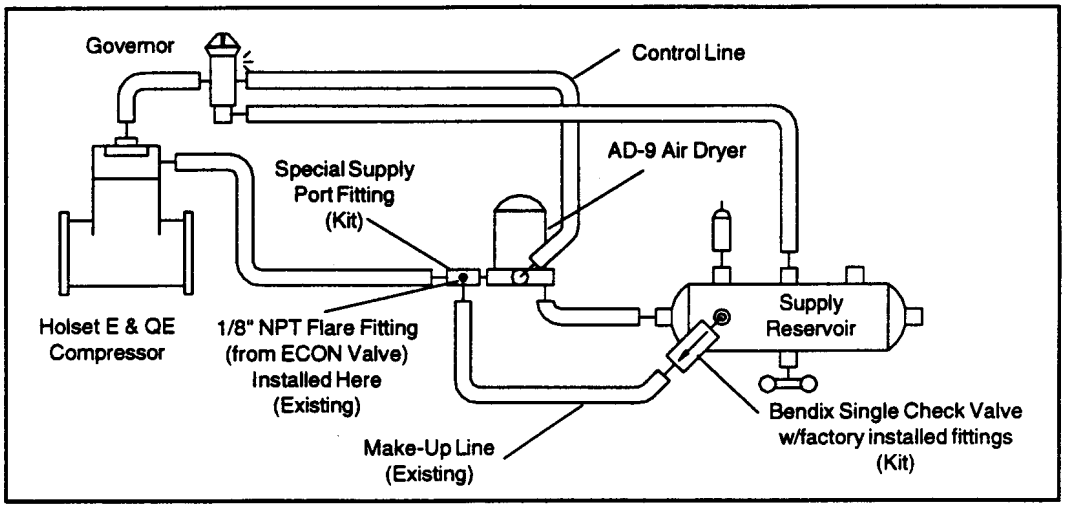
6. Proceed to the air dryer and remove the Supply air line (incoming air) from the end cover. Plug the air line using a pipe union with a pipe plug installed in one end. Remove the control air line from the end cover and plug the line as described above.

7. Apply shop air pressure (not to exceed 150 psi) to the air fitting installed in the Supply reservoir. Apply a soap solution to the open Supply port in the end cover and note that leakage does not exceed a 1 inch bubble in 5 seconds. If leakage is excessive, repair or replace the check valve in the outlet port of the end cover and retest from the beginning of Step 7.

8. Install an air fitting in the control port of the air dryer end cover and apply shop air pressure (not to exceed 150 psi) to the air fitting installed in the control port. Apply a soap solution to the open Supply port in the end cover and note that leakage does not exceed a 1 inch bubble in 5 seconds. If leakage is excessive, repair or replace the end cover and retest from the beginning of Step 8. If the leakage is within the limits specified then the cycling is being caused by either the governor, the Holset Type E compressor, its required components or associated fittings. Test these components per the manufacturer’s instructions.

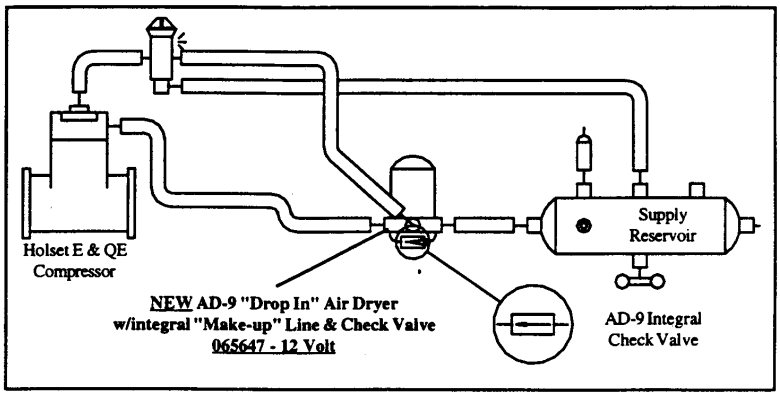
9. Turn off the shop air and drain ALL AIR PRESSURE from the vehicle air system. Remove the air fittings installed in Steps 5 & 8, then unplug the air lines and reconnect them to the end cover. Install the drain cock in the Supply reservoir.

10. Build the system to governor cut-out and test all air fittings that were reconnected for excessive leakage before proceeding with testing of the Holset system and components.

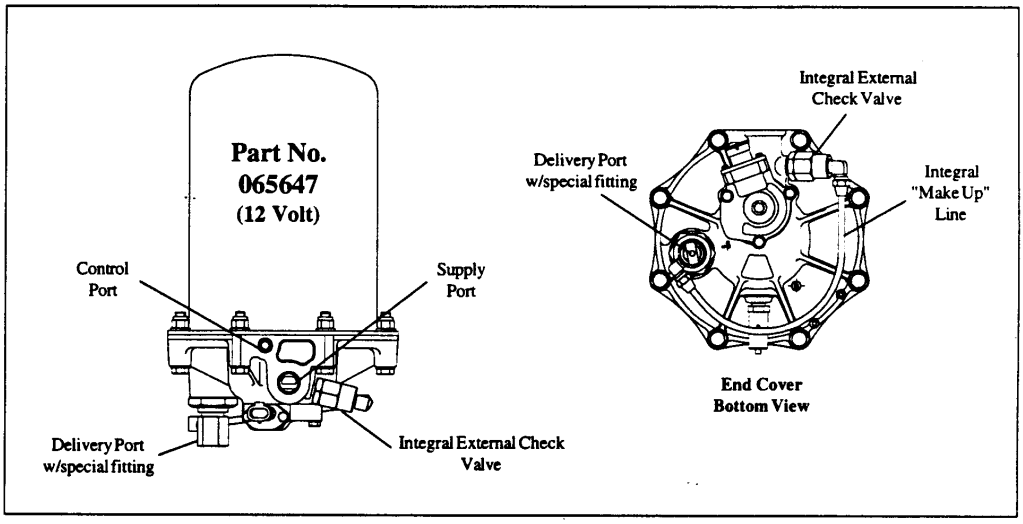


Typical Holset Air Supply System With Modification Kit 265088 Installed

B. Simplifying The Air Supply System With A Bendix AD-9 "Drop In" Model Air Dryer



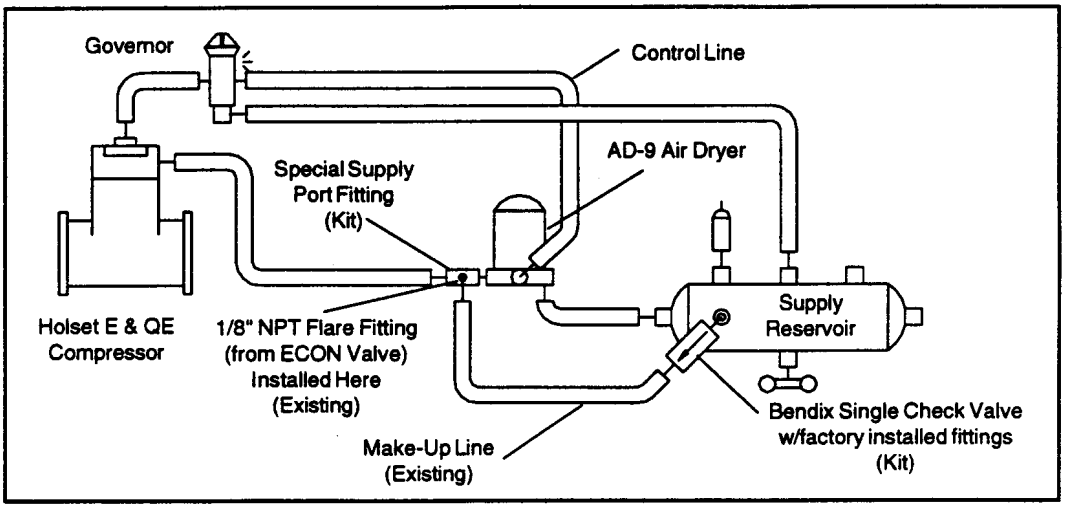
Typical Holset Air Supply System With New AD-9 Installed



NEW AD-9 "Drop In" Model Air Dryer w/integral "Make-up" Line & Check Valve
065647 - 12 Volt

C. Modifying Existing AD-9 & Holset Compressor Installations With Kit 265088

Modification Kit 265088 can be installed in existing Holset and AD-9 installations to eliminate the ECON valve and special Holset check valve. The kit (265088) contains a new style, soft seat purge valve assembly along with a variety supply port fittings, parts, and instructions required to complete the installation and eliminate the Holset ECON valve and special single check valve.



Typical Holset Air Supply System With Modification Kit 265088 Installed