Technical Bulletin

Bulletin No: TCH-008-042 Effective Date: 5-3-2007 Cancels: N/A

Subject: **Alcohol in the Air Brake System**

Bendix Commercial Vehicle Systems LLC discourages the use of alcohol in the air brake system as a means of preventing system freeze-up in cold temperatures. Studies indicate that using alcohol and alcohol based products sold for this purpose removes the lubrication from the components of the air braking system. In addition, the materials used for the internal seals of the air system components may be adversely impacted by the residue that some anti-freeze additives leave behind. Both are detrimental to air system component life expectancy, causing premature wear. Because of this, Bendix® air system components **warranty will be void** if analysis shows that alcohol was added to the air brake system.

As stated in Bendix Application Specification BW-110-A, alcohol is not an acceptable substitute for having adequate air drying capacity. If the air dryer is maintained in accordance with the manufacturer's recommended practices and moisture is found to be present in the system reservoirs, more drying capacity is required. Bendix has several viable options including extended purge air dryers, extended purge tandem dryers in parallel with common control, and air dryers arranged to provide continuous flow as with the Bendix® EverFlow™ continuous flow air dryer module. See page 2 for system schematics.

To address concerns with contaminants in trailer air brake systems, the Bendix® Cyclone DuraDrain™ water separator and the Bendix® System-Guard® trailer air dryer are available. Refer to Bendix service data sheet SD-08-2402 and SD-08-2416 respectively for details.

Bendix has also found some alcohol evaporators, which may be placed in series with a single air dryer, can be restrictive to the output of the compressor. This restriction can cause excessive compressor discharge pressures at the head of the compressor. This is especially true when the air induction to the compressor is pressurized (turbocharged). High head pressures can shorten the life of the internal components of the compressor and cause higher head temperatures which may lead to carbonization of the compressor discharge and discharge line.

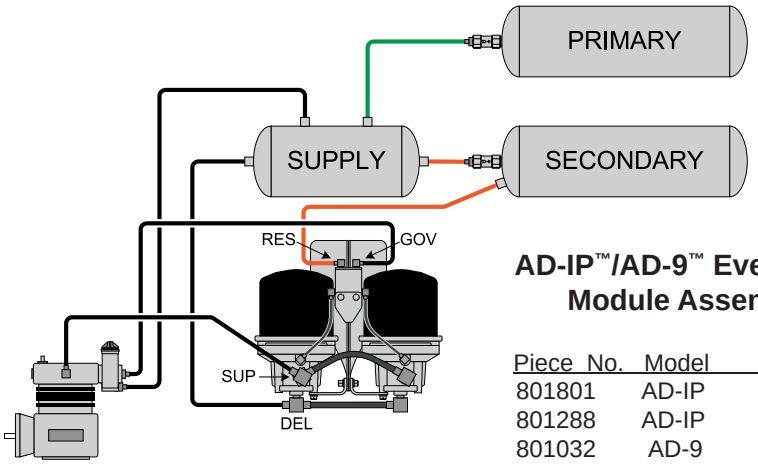
In order to protect the compressor from these high head pressures, an ST-4™ safety valve is installed in most Bendix compressors. If a high head pressure event occurs, the safety valve will open, thereby relieving the compressor and discharge line of these high air pressures.

As always, follow all recommended safety procedures when performing any service on your vehicle. **Caution:** never apply an open flame to frozen air lines and valves; instead move the vehicle to a warm building. Additionally, before removing contaminants refer to RP617A procedure for contaminant removal in the Technology & Maintenance Council (TMC) Recommended Maintenance Practices Manual.

See attachment.

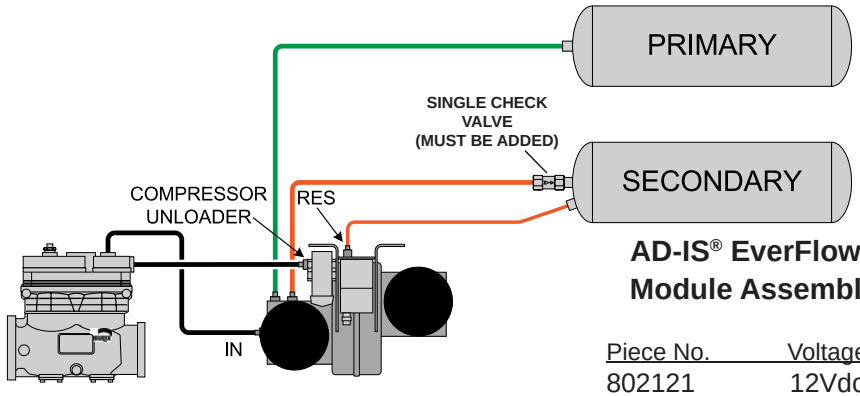
High Air Usage Drying Options

Bendix® EverFlow™ Continuous Flow Dryer Modules



AD-IP™/AD-9™ EverFlow™ Module Assembly

Piece No.	Model	Voltage
801801	AD-IP	12Vdc
801288	AD-IP	24Vdc
801032	AD-9	12Vdc
801788	AD-9	24Vdc

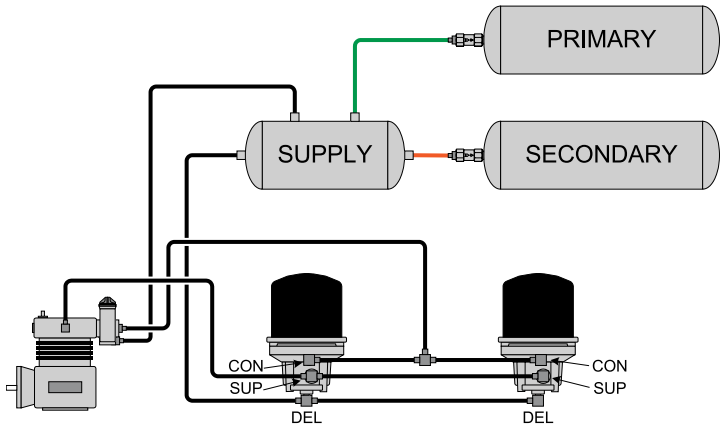


AD-IS® EverFlow™ Module Assembly

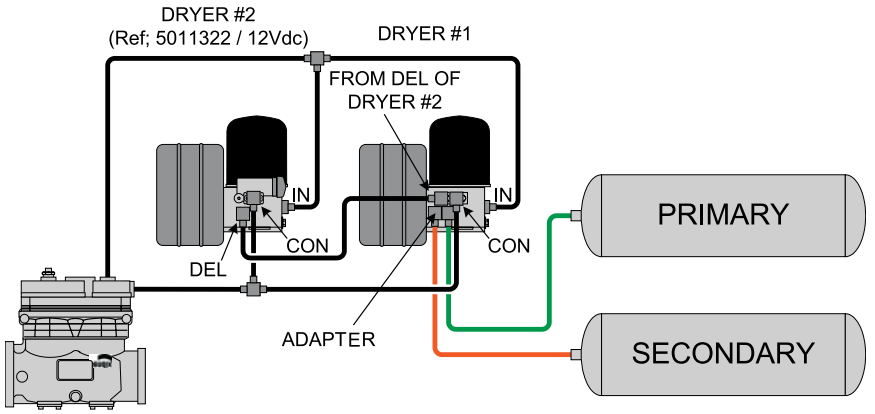
Piece No.	Voltage
802121	12Vdc
802698	24Vdc

Parallel Drying

Bendix® AD-IP™/AD- 9™ Air Dryer



Bendix® AD-IS® Air Dryer Modules



Refer to air dryer application guideline BW-110-A for additional details and details for bulk unloading applications. Compressor duty cycle must not exceed the manufacturers criteria. For Bendix® compressors the duty cycle must not exceed 25%. For details refer to Bendix® compressor application guidelines. For additional information contact the Bendix Tech Team at 1-800-AIR-BRAKE (1-800-247-2725) or visit www.bendix.com