

Ted's Toolbox Tips # 1

I recently read where one of our Tiffin coach owners had a coach air pressure problem so I thought I would try to address the issue. Freightliner and the other RV chassis builders install an air dryer just after the engine air compressor. On the Freightliner RV XC chassis the air dryer is installed on the driver's side frame rail beside the drive shaft.

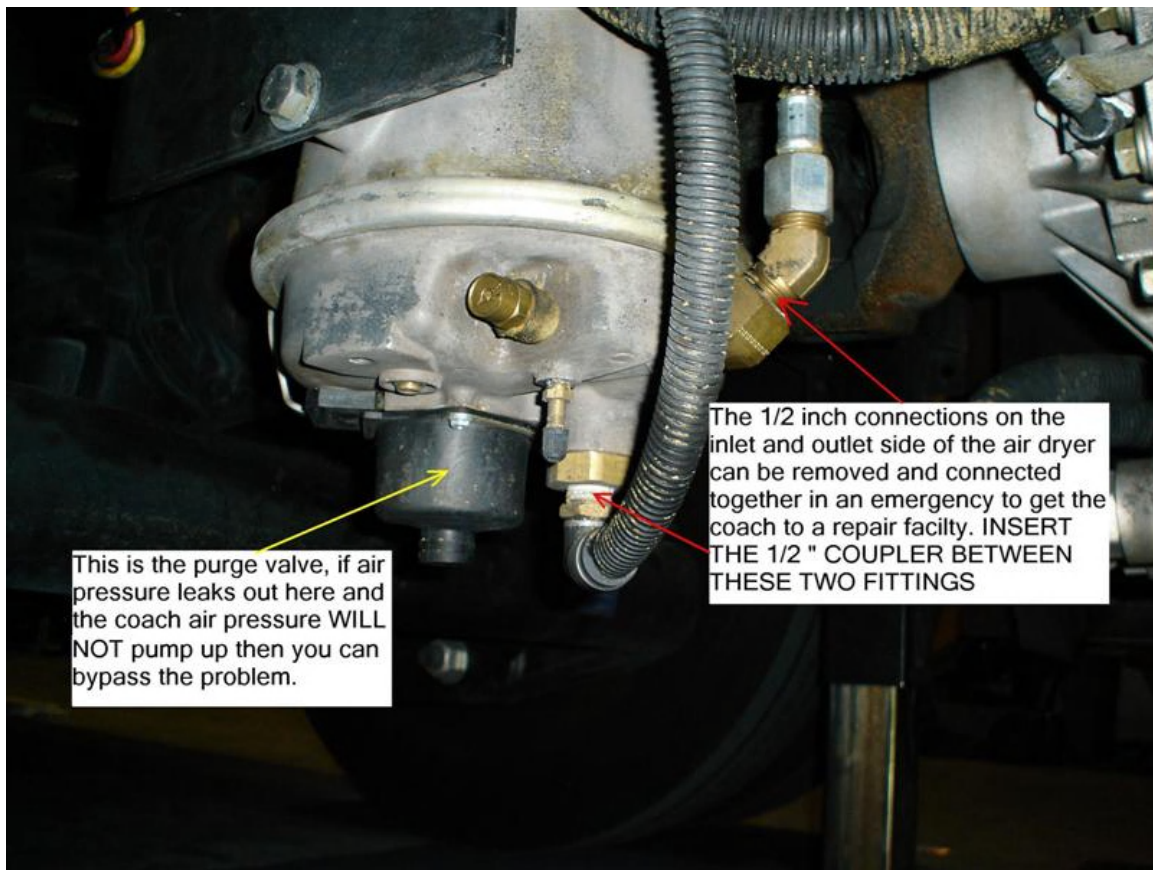
The air dryer's purpose is to take the compressed air, remove the water and take any oils or other contaminants out before sending the compressed air into the various coach air systems. One way to get rid of the accumulated water in the air dryer is to eject a shot of air from the purge valve. The purge valve is controlled by the air governor. When the air governor reaches its programmed pressure the air governor turns off the flow of air to the system and at the same time sends a signal to the purge valve to spit. If the purge valve has accumulated water then the water will be spit out with the signal from the air governor. When the coach air pressure drops to the low pressure setting usually around 90 PSI, the air governor cuts back on and the air compressor again pumps air pressure into the air system until the high pressure point is again achieved. At the high pressure point the air governor cuts off and the signal is again sent to the purge valve to spit. This cycle is repeated as the coach uses the air pressure in the system.

What can you do IF the purge valve will not seal and continues to spit or release air pressure? When the purge valve will not seal the coach cannot build air pressure. When the coach cannot build air pressure the parking brake springs cannot be released. It takes a minimum of 40 PSI to hold the parking brake springs retracted in the brake chamber. The parking brakes are spring applied and air released. No air pressure means No parking brake release. You have already seen this if you have ever tried to depress the parking brake yellow knob while the coach had less than 40 pounds of air pressure. The parking brake knob POPPED back out and would not stay depressed.

There is a very low cost way to fix your air system in an emergency if the purge valve is not sealing. All it takes is a 1/2 inch pipe coupling usually about \$ 1.00 in most Lowe's or Home Depot stores.

With the engine shut down the air should drain from the air system leaving no air pressure at the inlet or outlet side of the air dryer. The inlet side will have a flexible steel line attached to a couple of brass fittings. The outlet side will have a brass fitting attachment to a 90 degree plastic fitting. Carefully

take the fittings apart and then attach them to the 1/2 inch coupler using Teflon tape to insure a good air tight connection.



In an emergency you or someone you have hired can make the above connections. This will get your coach to a repair facility WITHOUT being towed or having to sale your first born child to pay for the towing bill. After making the connections the coach air pressure should build to the air governor cutoff. You will not necessarily hear the purge valve spit at the air governor cutoff because the air dryer will not have any air pressure for you to hear exhaust. In most cases the purge valve kit will be between \$ 50.00 and \$ 100.00 dollars. The labor should not be more than an hour ANYWHERE. The purge valve can be replaced without having to remove the air dryer from the frame. The older air dryers on Freightliner coaches required replacing the two cartridges on an 18 month cycle. The newer Freightliner air dryers are on a 36 month cycle. One possible reason for the purge valve to NOT SEAL is no air dryer maintenance or improper maintenance. There are other reasons for a non sealing purge valve but in my opinion in most cases the purge valve problem is service related.