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**MAINTENANCE MATTERS – Care and feeding of the Haldex air
dryer**

Starting with VIN#62098, most MCI® E4500 and J4500 coaches have used Haldex brand air dryers as standard equipment. There are several related changes that you need to be aware of in your day-to-day work with these newer Haldex-equipped coaches.

These systems incorporate the "Blow Through" method of unloading the compressor. The way this works is that the air brake compressor never unloads; it pumps constantly, as long as the engine is running. When the air system has attained full pressure, the governor signals the dryer to "purge" as usual, but after purging, air from the compressor continues to bleed off through the purge valve. (Remember: There is no longer any way to control the compressor, because the unloaders have been removed.)

What's new

On the Haldex system, the governor, which is adjustable, is now built into the dryer. The governor sensing point remains the same; it still senses pressure from the accessory branch of the air system. (See [service bulletin 2974](#) for correct PSI settings.)

An oil separator was added downstream of the dryer, and it does need a minimal amount of attention, but it has no direct effect on the operation of the dryer.

Testing, testing

So how do you test these newer systems? The truth is that the air system in the coach itself hasn't changed much, other than the new method of unloading the compressor. Here is what Haldex says about testing the blow-through systems:

"Build up system air pressure to governor cut out, and note that the air dryer purges with an audible exhaust of air; the purge will be followed by a steady pulsating flow of air, indicating that the system is 'Unloaded' and is venting to the atmosphere."

Next: "Actuate (pump or fan) the service brakes to reduce system air pressure to governor cut in. Note that the system once again builds to full pressure and is followed by a purge."

If you're not expecting it, you might be surprised by the new pulsating purge sound heard with a system running unloaded at first. However, it is not loud, and you probably will not even notice it unless you are working close to a running bus.

Maintenance Intervals

How to maintain these new systems? We recommend going by the book. The maintenance manual calls for the dryer to be disassembled, inspected, and a new desiccant cartridge installed at 25,000 miles — in addition to several other functional tests at various intervals. Section 10 of the MCI maintenance manual calls out these requirements in great detail. As of the November 2006 E- and J-Series maintenance manuals, the Haldex dryers are included in both Section 4 (Unit Overhaul and Repair) and Section 10 (Preventative Maintenance Schedules).

The recommendations are based on the manufacturer's best information available to date. However, depending on your operating environment and conditions, you may need to service your air dryer more frequently. In any case, the best time of year to do any dryer work is before the cold winter weather sets in. Spending a little money now on a desiccant cartridge could end up saving you a lot of cash and grief later, should your air system freeze up at some remote ski lodge.

Some MCI Service Bulletins on this topic:

[Service Bulletin 2902C](#). E4500, J4500 and D-Series models. Tells all about what air dryer is on what bus, as well as parts information and other vital information so you don't put the right parts into the wrong bus or vice versa.

[Service Bulletin 2974](#). Tells how to set the governor on the Haldex Dryer, complete with some very informative pictures. Did you know that the governor on some newer E4500s and J4500s should be set between 135 to 139 PSI? Read this to find out if you own one of them.

[Service Bulletin 2811](#). MCI D-Series models. Tells how to make operational checks to confirm correct air brake function. This is a great one to keep onboard for inspectors to peruse when the "mushroom" doesn't pop up the way they expect.

[Service Bulletin 2812](#). MCI E4500s and J4500s. Similar to 2811 above. These two bulletins will help you avoid fixing things that aren't broken.

MCI part numbers for Haldex Air Dryers

04-10-1001	Haldex Air Dryer assembly
04-10-6021	Desiccant Cartridge kit
04-10-6022	Safety Valve
04-10-1011	Check Valve
04-10-1012	Valve Pack kit (governor)
04-10-1013	Regeneration Valve kit
04-10-1014	Turbo Protection Valve kit
04-10-6023	24 volt Heater kit

Troubleshooting

SYMPTOM	PROBABLE CAUSE	REMEDY
Water in air system	A. Excessive contaminants in desiccant cartridge assembly B. Excessive air system leakage	a. Replace desiccant cartridge; Check air compressor for excessive oil passage b. Tighten air connections and bubble check
Constant exhaust of air at dryer	A. Defective dryer outlet check valve B. Dryer unloading valve not closing	a. Clean valve seat and replace check valve b. Replace valve pack assembly
Excessive compressor cycling	A. Excessive air system leakage B. Defective dryer outlet check valve C. Over demand on the air system	a. Tighten air connections, and bubble check b. Clean valve seat and replace check valve c. Reduce demand
Safety valve is opening	A. Desiccant cartridge is plugged B. Ice block in dryer C. Excessive system pressure	a. Replace desiccant cartridge, check air compressor for excessive oil passage b. Test heater function. Repair or replace c. Repair or replace governor
Unsatisfactory dryer and / or desiccant life	A. Air temperature exceeds 170°F at inlet port B. Duty cycle of compressor does not allow sufficient time for desiccant regeneration	a. Extend discharge line to dryer b. Reduce demand and duty cycle. Compressor must remain unloaded for at least 30 seconds
Poor drying efficiency	A. Air temperature exceeds 170°F at inlet port	a. Extend discharge line to dryer

Please [click here](#) for printable version of troubleshooting chart.

Whenever you are working on your coach, always consult your owner's and / or maintenance manual for full instructions and follow all safety precautions. If you have additional questions that are not addressed in your maintenance manual, consult your nearest [MCI service center](#) or call [MCI's technical call center](#).

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