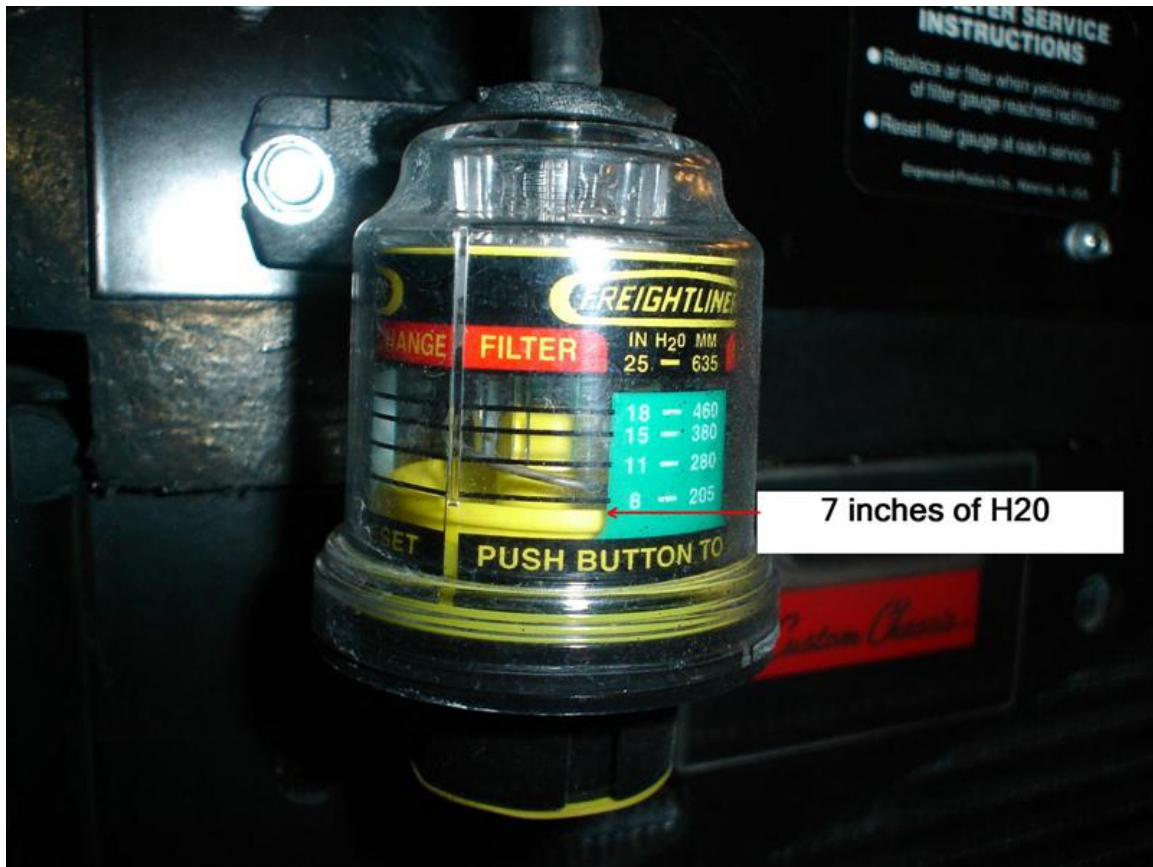


Air Filter Restriction Indicator

>> A Crusingator Document <<

Most if not all diesel powered motorhomes have what is known as an air restriction indicator or air filter minder connected into the turbo inlet tubing. This air filter minder is used to display when an air filter is restricted and needs replacing. I believe the three chassis that Tiffin uses, Freightliner, Spartan and Powerglide all use the same device.

Below is a picture of the air minder on my 2007 Phaeton with the Mercedes-Benz 926 engine. As you can see the indicator is displaying about 7 inches.

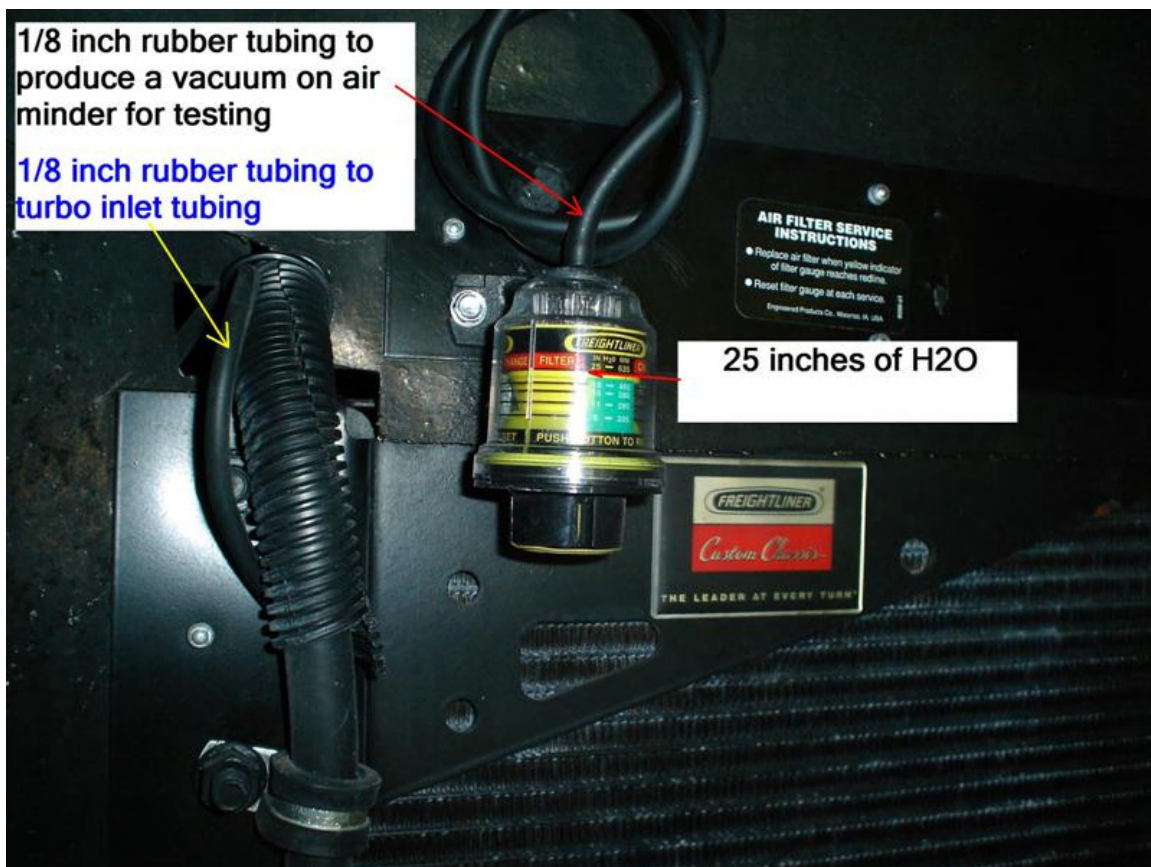


This coach is our third Freightliner chassis, we have had one each Caterpillar, Cummins and now Mercedes Benz powered coaches. The air restriction indicator on the Cummins ISB started at 11 to 12 inches of H2O. The Caterpillar 3126E started around 8 inches and the Mercedes Benz

started at 7 inches. The different engines and the diameter and length of the air inlet tube have a bearing on the base restriction on the indicator.

It is my belief when the air restriction indicator rises about 10 inches (above the starting base line) it is time to replace the air filter. Freightliner has placed a time limit on its chassis regarding the time limit for air filter life and that is 24 months. The reasoning behind the time limit, the air filter is made of paper and is held together by glue at some point the paper and or glue will break down and will then be ingested by the turbo. At that point the engine dies. Having a turbo ingest the air filter paper is **USUALLY NOT A COVERED WARRANTY CLAIM.**

In this picture, I connected a short piece of 1/8 inch rubber tubing to the air minder. Connecting the tubing this way I can suck on the end of the tubing and create a vacuum which is displayed on the indicator. As you can see I created enough vacuum to pull 25 inches of H2O. By doing this simple test I know the air restriction indicator is operating correctly.



By pushing up on the bottom of the indicator you can reset the diaphragm to the bottom on the indicator. The bottom is usually around 6 or 7 inches of H2O.

After testing the indicator to make sure it is operating properly I reconnected the 1/8 inch rubber tubing which is itself connected to the turbo inlet tube just prior to the Turbo charger and the engine.

Here the air restriction indicator is ready to perform its job keeping a display for the operator to watch. The indicator cannot reset itself it requires manual resetting by the operator.



If the engine is operated in a wet or dusty environment it is possible for the air restriction indicator to read HIGH. When the air is wet the filter will cause the filter minder to display a higher restriction than it will when the air filter is dry. If in that type of environment when the filter has time to dry out, just reset the air restriction indicator. The air restriction indicator will again display properly after the first heavy load is applied to the engine. If operating the engine in a dusty, dirty or ash environment the filter will become restricted and the ONLY PROPER cure is to replace the engine's air filter. After replacing the air filter reset the air restriction indicator. As noted in the picture above. **RESET THE GAUGE AT EACH SERVICE.**

I have never needed to replace an air filter due to a high air restriction. My coach air filters get replaced every 24 months during the chassis M2 service.