

Filter Information and Analysis

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Why you should get your air filters cleaned professionally.

Hello my name is Daniel Leach and I've been in the Air filter industry for 20 years with Brisbane Air Cleaners. The business has been washing air filters for over 30 years which has saved our customers thousands of dollars in service and repair costs over those years. Not to mention saving thousands of tones of land fill sites by reusing air elements that were designed to be reused. Most industrial, truck and earthmoving air filters can be professionally cleaned and reused successfully because they are made out of a high resin content paper media. Some of the edging air filter housing manufactures like Donaldson and Toyota used to put their washing instructions on each filter end cap. Donaldson even sold the cleaning powder to do the filter cleaning but loss of air filter sales forced them to stop selling the product. You normally would wash your clothes, shirts or jeans not just throw them away after one use. Remember an air element usually costs a lot more than clothes.

Risk with air filters

The highest risk you could take with air filters which protect a piston engine is the practice of taking the air element out and blowing it out with a compressor then refitting it. Why is this so. When Air cleaner elements are put in service they are exposed to so many harsh conditions such as heat, dust, water, vibration and insects eating them. We have found about 10 percent of air filters that have been in service for one life has a leak of some kind by some reason. So giving a blow out without leak testing and just refit, gives you a 10 percent chance of causing long term damage to your engine by leakage of dust through it, so 1 in 10 filters can leak and this is not good. Dust is a very silent killer of engines when dust enters into the air intake manifold by going through or around the air filter in some way. When dust is ingesting into your engine it does not change rpm or engine noise or miss fires so you are none the wiser. Now many hours after the fact the dust has ground the cylinder rings and bore to belong wear limits causing loss of power and excessive oil consumption leaves you thinking, what went wrong with it and a costly rebuild and down time you didn't budget for.

Cleaning air element

Cleaning of an air element is best achieved by a wet washing process using water with special detergents. This requires a special filter washing machine with jets to wash inside and outside at the same time. This helps in removing the dust and grime from within the three different layers of paper media without leaving any traces of contaminate inside the element. Our cleaning process restores the filter to around 95 percent of its new service life element. This is a great cost saving to the customer and also a great saving in our landfill sites and import costs.

Testing air filter

In the manufacturing process the air filters are only tested one in many hundreds or in some cases one in a thousand. After each service life the air filter must be checked and re-tested because of wear, before any reuse at all. Obviously it can't be checked right after blowing the filter out so you take a big risk. There is only one successful way of testing an air filter and that's an under water pressure test. This will find down to a pin prick hole size of

leakage. Leaks are caused by many different factors, a big percent are from manufacturing glue faults from new. A number of leading machine manufactures have used our testing facility to independently test and report on filters involved in a Warranty Claim or disputes on dusted engines.

Removing and refitting air elements.

You would think this would be a simple task but there are steps often missed which result in failing to prevent engine damage. I will explain the steps all so important and so simple. Removing the old air element must be done with total care as to stop any loose dust entering the engine air in take pipe from old element being bumped etc. The old filter must be checked over for any traces of dust leaks inside and around gaskets and that has been sealing properly. Also an inspection of air intake tube into engine for traces of dust (some dust sticks inside pipe and bends). If this is all clear the housing should checked for damage and water drain working etc. You must compare the dimension of old element to new to ensure right filter is supplied. Refit the new element may help on round elements to rotate to help in gasket in seating home.

We recommend that air filters elements are serviced and replaced on restriction gauges not so much hours or Klms as each day brings your a different dust conditions in our hot dry country . How ever should have an inspection every oil change if restriction gauge reads fine.

I hope this explains a little about air filter cleaning.

Daniel Leach