



Tech Tip

FILTERS 140

CABIN AIR FILTERS It May Be Time for a Ventilation System Clean-Up

With a customer complaint of reduced air flow from the A/C vents, the technician questioned the customer as to when the cabin air filter was last replaced. The response from the customer was typical — “What’s a cabin air filter?” Most vehicle owners are not aware that their vehicle is fitted with a cabin air filter. The mentioned vehicle had logged 60K miles, and it was still fitted with the original cabin air filter—and it was one cruddy filter (see Fig.1). The filter pleats were packed with pollen, leaves and all types of unrecognizable debris. Replacing the filter restored the air flow from the vents.



Fig. 1

When you have good airflow from the vents with the A/C controls in the Max (recycling inside air) position, but limited airflow from the vents when the controls are in the Normal (outside air in) position, a restricted cabin air filter should be your first check. Some vehicle manufacturers place the cabin air filter between the blower motor and the evaporator. In this case, a restricted cabin air filter will prevent good airflow in any mode of operation.

The introduction of cabin air filters to the automobile started in the 1980s, mainly in European cars. Today, they are common among the various vehicle

manufacturers. Over 90% of the vehicles in North America are equipped with cabin air filters. Cabin air filters should be replaced yearly or every 12–15K miles. In dusty environments, a more frequent replacement may be required. Cabin air filters are a part of NASCAR, protecting the drivers from dust, soot, rubber, fumes, gas and oil vapor, in addition to carbon monoxide.

HARMFUL CONTAMINANTS

The air inside your vehicle may contain more harmful contaminants/particles than the outside air. In fact, the occupants inside the car are exposed to pollution levels six times greater than that of a pedestrian.

Major highways and high traffic areas are major sources of air pollution that can pose serious health problems. Roadside air contains contaminants such as pollen, dust, diesel particulates and smog.

Two different types of cabin air filters are commonly used in automotive systems:

- 1) **Particulate filters:** this style filters out dust, bacteria, mold spores, pollens and other pollutants.
- 2) **Charcoal/Carbon:** the charcoal/carbon style filters remove the aforementioned pollutants in addition to harmful gases and odors.

Replacing the filters on a regular basis can provide relief for asthma, allergy and hay fever sufferers. The filter can trap airborne allergens, mold spores, pollen and dust, which can aggravate respiratory conditions. The cabin air filter can remove particulates that are microscopic in size.

KEEPING THE SYSTEM CLEAN

The cabin air filter prevents the evaporator and heater core vents from becoming clogged with debris such as dirt, leaves and bugs, which will result in poor airflow, affecting the system’s efficiency. Further, it prevents debris from collecting on the evaporator core where it can absorb moisture, promoting fungal growth

and foul odors. A clean filter prevents fogging of the windows, which can restrict visibility. Eliminating the accumulation of contaminants prevents corrosion of some expensive A/C components.

VENTILATION SYSTEM CLEAN-UP

If the ventilation system emits a musky odor, typically referred to as the refrigerator smell, the evaporator and related plenum should be cleaned.

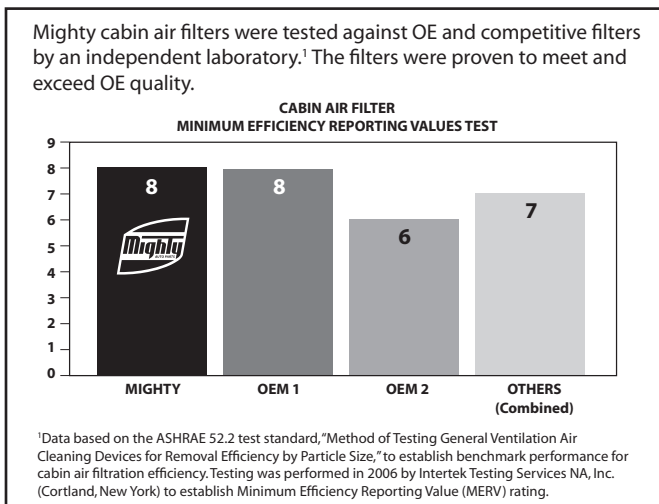
Mighty offers an A/C Refresher Kit, Part #CL101 (see Fig. 2), which incorporates a cleaner, in addition to an air intake refresher. The cleaner will remove the harmful mold and bacteria that lives and grows on the evaporator and in the air plenum. Removing these contaminants will eliminate the foul odor and will restore the system, providing an allergy-free environment.

The cleaning procedure involves injecting the cleaner into the evaporator housing via a delivery device attached to the evaporator drain tube. The cleaner involves a two-step cleaning procedure. Half of the chemical is released into the housing, followed by a ten minute wait period, which allows the cleaner sufficient time to liquefy and drain out, preferably in a drain pan. The same procedure is repeated, emptying the remaining contents of the cleaner, and allowing the same ten minute wait and drain time.

Once this cleaning procedure is completed, the A/C compressor should be disabled. The engine should be started and the A/C selector switch should be placed in the normal position and the blower selector placed on high. Run the engine until the evaporator housing is completely dry. Locate and spray the entire contents of the air intake refresher chemical into the ventilation system's air intake vent. The blower will circulate the chemical throughout the system. Run time on the engine during this process should be approximately five minutes. Don't forget to reconnect the A/C compressor, once the cleaning process and deodorizing procedure has been completed.

The services mentioned in this article are being neglected by vehicle owners due to their unawareness and the failure of the repair/lube shops to make the service recommendations. Servicing the cabin air filter every 12–15K miles can keep the ventilation system operating at maximum efficiency and the vehicle occupants in a clean environment. The evaporator clean-up will remove those unpleasant odors and the mold and bacteria that lurk within the system.

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Most vehicle owners are aware of the necessity to service oil, air, fuel and transmission filters, but they are not aware of the cabin air filter and the need to keep the ventilation system clean. Installing a cabin air filter is a quick and simple procedure, requiring an average of only five to ten minutes to complete, with the exception of a few select vehicles. We have installation guide charts that reflect the procedures and the amount of time required to replace the cabin air filter on given applications. If you are operating a fast lube service, there are a few vehicles on which you may not choose to offer the service, as the installation time may require 40 minutes. You need to be aware of those applications, as they can create a scheduling problem for fast in/out service shops.



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