FILTER MAINTENANCE

It Can Prevent Some Expensive Repairs

Complaints of damaged air boxes, hold-down clamps and difficulty making an air filter installation have been reported on 2017–2019 Ford trucks equipped with the 6.7L Turbo-Diesel engine.

The difficulty stems from misalignment of the filter while installing it in the airbox housing. Some try to make the installation without first making certain the filter is in the proper position to receive the cover/lid. The bottom of the filter contains two alignment ports that must be positioned on the two pods/towers located in the base of the airbox housing (see illustration 1). These alignment points position the filter for proper alignment with the filter housing lid to ensure a complete filter seal, preventing filter bypass. Failure to properly align the filter with the lid can result in damage to the filter seal when the lid is pressed into position during the installation. Never attempt to pull a filter into position with the hold-down clamps, as damage to the clamps or housing is certain, requiring replacement of the housing assembly. Never allow the customer to leave with a broken or missing hold-down clamp on any vehicle, as engine damage is certain. Furthermore, never install a filter in a broken housing or one missing a hold-down clamp. Doing so can result in you being liable for a damaged engine or turbocharger.

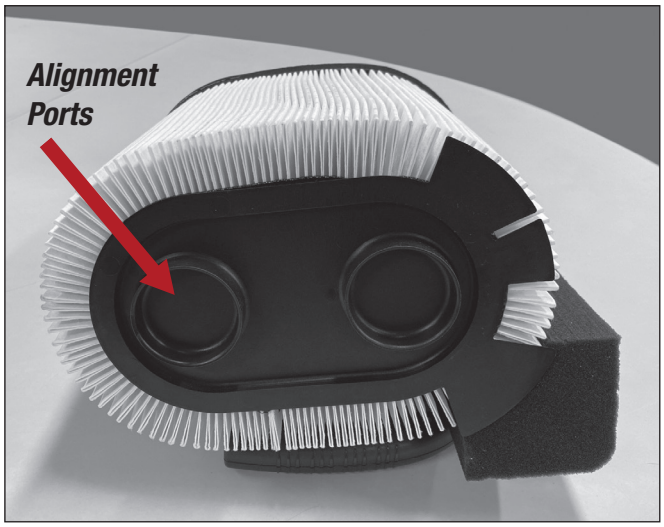

Illustration 1

When replacing the filter, perform a thorough inspection of the old filter to determine if it was properly sealed in the housing. Look for damaged urethane due to improper lid-to-filter seal contact. Examine the filter lid and the clean air side of the filter housing leading to the engine for any evidence of filter bypass, dust trails or streaks across the urethane filter seal, which would indicate filter bypass or dusting (see illustration 2). Dusting occurs when dirt or debris is pulled through the filter media. The presence of these deposits can result in major engine or turbocharger damage, as the debris functions like a sandblaster.

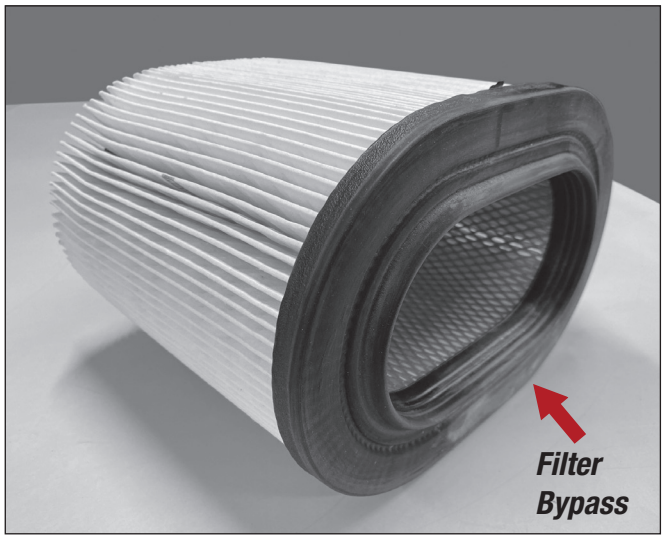

Illustration 2

Timely air filter service intervals are imperative when servicing diesel applications. There is more to consider than mileage or length of time in service. While a filter in a highway-driven vehicle may last for 15K miles, a

vehicle operated in a construction or farm environment may require replacement in 3K miles or less. The turbocharged diesel engine is likened to a huge vacuum cleaner that is pulling in every particulate in the surrounding area, all of which must pass through the air filter. Lack of service on these applications can result in some major expensive repairs and possibly require a turbocharger or engine replacement.

CABIN AIR FILTER

Out-of-sight and out-of-mind. Many vehicle owners are not aware that their vehicle is equipped with a cabin air filter. Those who are familiar with the filter do not fully appreciate the importance of the filter and the consequences of a contaminated filter. Unfortunately, many in the service industry either forget or do not give the filter the needed attention. The cabin air filter is a service item that should be replaced every 12 months or 15K miles.

It is not uncommon to remove a cabin air filter that is totally contaminated with debris, bugs and other decaying critters (see illustration 3). The result can be unpleasant odors and reduced air flow from the HVAC system (Heating Ventilation Air Conditioning System).

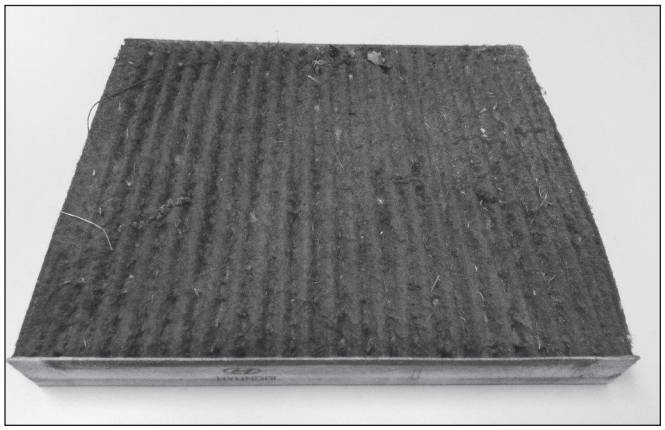

Illustration 3

The filter helps prevent the promotion of fungal growth and foul odors that can plague the ventilation system and passenger compartment. The cabin air filter protects the occupants from dust, bacteria, mold spores, pollens and other pollutants. Carbon impregnated filters remove harmful gases and odors. The removal of these particulates, often microscopic in size, is a must for those with respiratory conditions.

BLEND DOOR FAILURE

Blend doors are a part of the HVAC system plenum that directs air flow and temperature to the selected vents. They direct the air flow across the heater core or evaporator, or a combination of both, based on the temperature selection.

Blend door motors or actuators control these doors and levers, and they are constructed of plastic material. When the doors become obstructed with debris, the plastic components often break, rendering the ability of the ventilation system unable to control the temperature or vent selection. The motors or actuators are electric, or vacuum operated, and either can exert enough pressure to break the plastic levers and actuator cams. When these conditions occur, a labor-intensive repair will be necessary to restore the operation of the system, as the entire plenum may have to be removed to replace the damaged components. Five to six labor hours may be necessary to make the repairs.

Make the cabin air filter a part of your inspection process. The ventilation system and the occupants will appreciate the clean air.

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