

EXPLORING EQUIPMENT

Air Cleaner Maintenance: Minutes Pay Hours

Grounds care equipment generally operates close to the ground, exposing engines to dirt and debris. The air cleaner or filter is the engine's defense against exposure to harmful particles.

For each gallon of gasoline your equipment uses, the engine will take in about 10,000 gallons of air. Most of that air will pass through the air cleaner. Therefore, equipment operators and mechanics should pay close attention to regular air cleaner maintenance. The time spent cleaning and changing air cleaner elements can pay off in many hours of trouble-free operation.

There are two general types of air cleaner elements. Some engine manufacturers use paper air cleaner cartridges while others use oiled foam elements. Some use both. The type of air cleaner used will generally depend on the type of conditions the engine will face.

The following is a description of the different air cleaner types and maintenance information.

Foam Air Cleaners. Oiled foam elements operate efficiently when you keep them properly oiled and moist. When they dry out, they stop little dirt or debris, which allows abrasives to enter the inner part of the engine.

Regular maintenance is important for foam air cleaners. Briggs & Stratton recommends cleaning and re-oiling the air cleaner element every 25 hours under normal conditions. Do this more frequently under dirty conditions.

To maintain a foam cleaner, first remove it from the filter housing. Inspect the filter for tears. Replace the filter if it is torn because it is important for the filter to fit tightly in the filter housing.

Next, wash the filter in kerosene or liquid detergent and water. Wrap the foam in a cloth and squeeze dry. Saturate the foam with engine oil. Squeeze out excess oil and return to the engine.

Dry Element Filter. Paper air cleaner elements do a good job, but they tend to plug up when they become dirty. This will make the engine run poorly and ultimately choke it off. The one advantage to this is the operator will know when the filter must be changed. However, it is best to change paper filters before they become excessively dirty.

Check paper air filters regularly. Remove the filter from the housing and gently tap it on a flat surface to knock loose

collected dirt and debris. *Do not* use pressurized air to clean or dry the cartridge. If the filter is extremely dirty, replace it or use a non-sudsing detergent and a warm water solution. Never use petroleum solvents, such as kerosene, to clean the cartridge. Do not oil the paper filter.

Dual-Element Air Cleaners. Many engine manufacturers offer dual-element air cleaners. In dual systems, a foam pre-cleaner surrounds the paper element, helping to catch dirt and debris before it hits the paper filter. This double line of defense offers the engine additional protection.

Dual-element air cleaners often are requested because equipment will be operated under extremely dusty conditions. Therefore, check and clean the filters more frequently than normal. Follow the instructions listed previously for cleaning the foam and paper elements. Be sure each filter is thoroughly dry before you reassemble the filters and install.

Maintenance Tips

The operator's manual suggests when you should clean and change the air filter. Normally, this recommendation is listed in operating hours. A log book is a good way to track maintenance scheduling. However, during the busy season, you don't always have time to check a log book. Make regular air cleaner maintenance something you schedule, like refueling. You wouldn't think of starting the day without a full tank of gas. Make checking the air filter just as automatic.

Many landscape contractors have equipment operators check air cleaner elements in the morning before they begin work. This is not the time when you want to be cleaning and re-oiling a foam element. Invest in a few extra foam cleaners. Clean and lubricate them, and then place them in a resealable plastic bag. When it's time to change filters, just remove the dirty filter and pop in the clean one. However, someone will have to clean the dirty filter and place it in the bag so it is ready for the next change.

The conditions under which engines operate vary with a wide variety of applications and locations. However, you can minimize wear and tear with a strong maintenance program. This can be as simple as clean oil, clean air and fresh fuel. □

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May, 1992 31