

Engine oil. Check with each use, and change oil (and filter, if so equipped) every 25 hours of engine use. The environmental factors and heavy use that commercial engines are subjected to can break down engine oil quickly. Adhering to a strict oil change schedule will help maximize the life of the engine. Always use the recommended oil for your engine.

- 2. Air cleaner. Air cleaners should be checked and serviced (or replaced, depending on type) every 25 hours. Make sure the filter is re-installed properly so that dirt and debris can not bypass the filter. Commercial engines are constantly faced with dirty, dusty conditions so proper air filter maintenance is critical. A dirty, clogged air filter not only lowers the performance of any engine, it also increases the chances of dirt being sucked into the engine, which is one of the quickest ways to make a new engine old.
- **3. Cooling fins.** The engines on the majority of equipment are air-cooled, meaning that cool air must pass over the fin of the engine to cool the engine. Unfortunately, the same dirty, dusty conditions that make air filter service so critical can also lower the efficiency of the cooling system. This increases engine heat, which lowers performance and accelerates engine oil breakdown, ultimately leading to compromised engine life. Compressed air is the best way to remove debris from the cooling system. Be sure to wear eye protection anytime compressed air is being used.
- **4. Spark plugs.** Inspect and/or replace after 100 hours of use. Spark plugs become less efficient with age, so by replacing them regularly, you help to ensure

quick starts, and maximize fuel economy and performance. As always, make sure you use the correct plug per the manufacturer's specs.



March 2004

5. Engine speed. Check and reset engine top no load speed at least once per season. This will ensure that the engine is operating safely, and at optimum efficiency. Some applications, such as a reel mower, depend on proper engine speed for a clean cut. Adjust or replace governor parts as necessary to ensure that the

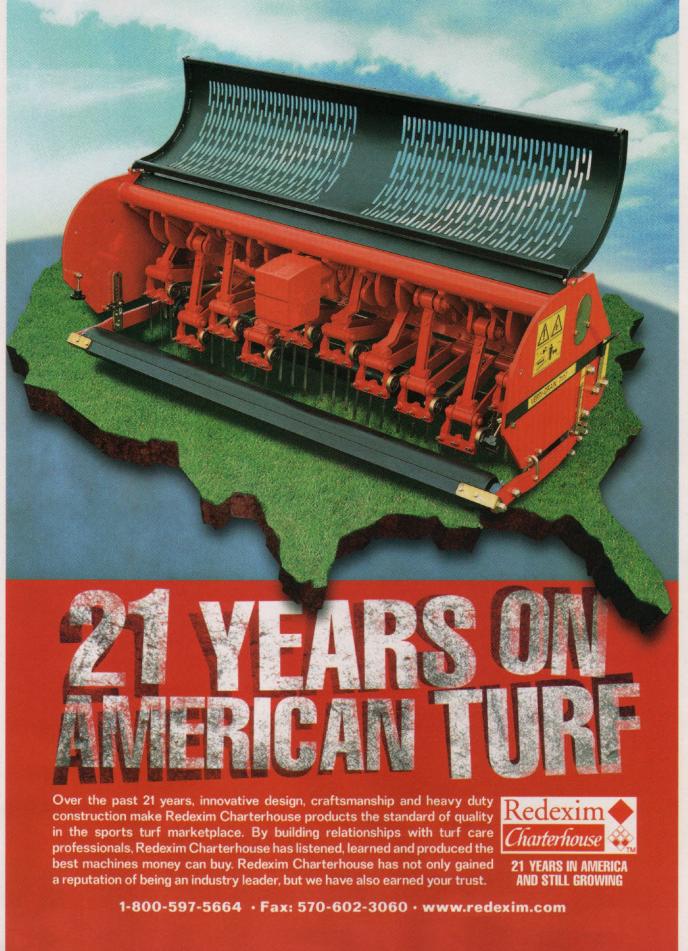
engine maintains a consistent operating speed that is consistent with manufacturer guidelines.

- 6. Fuel/fuel system. Verify that the proper fuel has been used in the engine (accidentally using diesel in a gasoline engine, for example). If the fuel used is questionable, drain and flush the entire fuel system and refuel. Inspect the fuel cap, tank, hoses, clamps, filter, and carburetor visually for leaks after each use. Replace the fuel filter annually.
- 7. Clean the engine/equipment. Clean dirt and debris from the engine and equipment after each use. This helps you to visually inspect the engine and equipment for any damage that occurred in use, and can help in locating leaks, missing safety warnings, or other issues that may be hidden by debris. Clean equipment promotes increased efficiency by lowering engine/equipment-operating temperatures.
- 8. Starting system. Inspect the manual starter, including the rope, grip and starter operation. Replace parts as necessary if wear is evident. On electric start engines, check the battery (for charge and/or leaks), battery/cable connections, and interlock switches (for proper operation).
- 9. Valve adjustments. Check annually, or every 300 hours, whichever comes first. Properly adjusted valves are a critical determiner of engine performance, startability, and fuel efficiency.
- 10. Exhaust system. Visually inspect the muffler body, deflector and spark arrestor (if equipped) for damage, proper fit and/or leaks. An improperly functioning exhaust system not only lowers engine performance and fuel economy, it can also be a serious safety issue in some situations

Always use proper safety equipment, including gloves, ear protection, eye protection, hard hat, long pants and heavy shoes or work boots. Also ensure that all safety

guards and mechanisms are in-place on each engine or piece of equipment.

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