



Responsible Recreation: Spark Arresters – What are they and do I have one?

New Mexico is in the grips of a tremendous heat wave with very little rain. While that's not unusual for summertime in our state, this year many people are also turning to outdoor recreation using off-highway vehicles (OHVs) as a release from COVID-19 lockdown. To minimize the chance of catastrophic wildfire, all OHV users need to recreate responsibly. That includes making sure each OHV has an approved spark arrester in good working order. On public lands, like national forests or Bureau of Land Management properties, it's required by state and federal law. On private lands it's just courtesy and common sense.

What is a spark arrester? It's a component of the exhaust system of an internal combustion engine, such as used in OHVs, chain saws and generators, intended to slow and trap hot carbon particles in the engine's exhaust so they can't start a fire. A spark arrester is usually engineered as a part of the muffler on machines intended for use on public lands. Other vehicles such as racing OHVs may not come with spark arresters, so responsible owners will need to add one to be legal when operating on public lands.

There are four basic types of spark arresters certified by the US Forest Service.

- A centrifugal arrester has internal vanes that circulate exhaust gas inside the muffler and deposit carbon particles in a trap.
- A "Supertrapp" type has diffuser discs and an end cap that divert all exhaust gas across a particle trap.
- A "Krizman" type has a perforated steel tube inside the muffler that diverts all exhaust gas through the particle trap.
- A screen type arrester has wire mesh completely covering the outlet of the exhaust system – the mesh must be fine enough to trap particles larger than 0.023", and have an area at least 200% of the engine's smallest exhaust port area.



Screen type spark arrester/muffler on Polaris ATV

Machines such as motocross motorcycles or ATVs normally intended for closed-course competition will require 'add-on' spark arresters, such as an end cap with a wire mesh screen attached to the outlet of the exhaust system.

Each type must have a way to clean out the particle trap, such as a screw or bolt that allows emptying or disassembling the spark arrester. Cleaning out the particle trap is an occasional maintenance task just like cleaning or replacing an OHV's air filter. Wire mesh end caps on two-stroke machines such as dirt bikes or chain saws can become fouled with oil, and require cleaning regularly.



Add-on (red) spark arrester on Beta trials motorcycle

