



2020 L Street  
P.O. Box 2815  
Sacramento, CA  
95812  
Tel: 1.800.922.7349  
Fax: 916.445.5023

# Off-Road Performance

Gasoline is the primary fuel for a wide variety of motorized equipment, including all-terrain vehicles, boats, snowmobiles, lawn mowers, leaf blowers, chainsaws and some off-road construction and farm equipment.

Cleaner-burning gasoline will reduce air pollution originating from those sources. At the same time, it is vital that off-road equipment perform well when using cleaner-burning gasoline.

This backgrounder presents information on the off-road test programs that found cleaner-burning gasoline to be compatible with off-road vehicles and equipment. A companion backgrounder contains information on a similar on-road test program involving the use of cleaner-burning gasoline in motor vehicles.

### **1995 Test Program**

Between February and August 1995, California Air Resources Board (ARB) staff worked with several other state agencies to test cleaner-burning gasoline in off-road equipment. Equipment operators used cleaner-burning gasoline under actual operating conditions for extended periods. They evaluated equipment performance and worked with ARB staff to determine the cause of any equipment failures. Tested equipment included:

- Utility, lawn and garden equipment — Maintenance staff at California State University, Fresno used cleaner-burning gasoline in lawn mowers, edgers, blowers, garden tractors and other equipment.
- Industrial/construction equipment — Caltrans and California State University, Fresno used cleaner-burning gasoline in generators, forklifts and other equipment.
- Farm equipment — Cleaner-burning gasoline was used in agricultural equipment at California State University, Fresno.

In addition, a number of equipment manufacturers worked cooperatively with ARB staff in conducting their own test programs. Tested equipment included:

- Marine engines — Mercury Marine, Cachuma Boat Rentals, and Paradise Watercraft Boat Rentals & South Shore Parasailing tested a variety of pleasure



Air  
Resources  
Board

California  
Environmental  
Protection  
Agency

craft, including outboard, inboard, and inboard-stern drive boats and personal watercraft.

- Snowmobiles — Lake Tahoe Winter Sports used cleaner-burning gasoline in its snowmobile fleets.
- Portable equipment — The Portable Power Equipment Manufacturers Association tested engines on chainsaws, trimmers and blowers for several engine manufacturers in Sweden, Germany, Japan and the United States.
- Utility, lawn and garden equipment — Briggs & Stratton Corporation and Tecumseh Products Company conducted laboratory and field testing of cleaner-burning gasoline in various equipment.

### **Test Results**

All the companies and agencies performing the tests reported that the equipment did not experience any unusual performance problems when using cleaner-burning gasoline. The number of mechanical and fuel-system problems did not exceed the amount that would be expected due to normal wear and tear.

The test results indicate that gasoline-powered equipment will be able to utilize cleaner-burning gasoline without a reduction in performance.

### **Additional Information for Equipment Owners**

Users of gasoline-powered equipment should not notice any difference in the performance of their equipment following the introduction of cleaner-burning gasoline. Equipment owners should remember that all mechanical parts have a finite lifetime, and that problems with the fuel system and other systems can develop in any piece of motorized equipment due to normal wear and tear and other reasons unrelated to fuel.

If you have any questions about the use of cleaner-burning gasoline in motorized equipment, please call the Air Resources Board toll-free at 1-800-922-7349. ARB representatives will be available during normal business hours to answer questions.