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MotorVac:
The Inside Story



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March 1998

What other people are saying
about **MotorVac** ...

Like a professional teeth cleaning, it's the kind of thing that should be done every year or so... the bottomline is, it works.

- Tim Considine on The Auto Channel

My gas mileage increased 20% and overall performance is as good as new.

- Owner of a 1994 Honda Civic with 40,000 miles

I am convinced that MotorVac works as advertised...MotorVac CarbonCleaning is something I can honestly recommend to virtually any motorist.

- by John Dinkel, in European Car magazine, July 1997

...It has increased my gas mileage noticeably and, has added about 50 percent more pep to the vehicle...I am recommending your service to all of my motoring friends.

- Owner of a Cadillac Seville

It corrected the loss of power my car had every time I turned my air conditioning on.

- Owner of a 1992 Honda Accord with 45,000 miles

AND NOW,
THE INSIDE
STORY

As spiffy as your engine looks when it's spic and span on the outside, being clean inside is much more critical to its health and performance. We've recently had the opportunity to try two types of engine cleaning services, both of which complement the other in keeping your engine clean where it really counts.

The MotorVac CarbonClean Service is designed to thoroughly cleanse the fuel system and combustion chambers of dirt, gum, varnish, and soft carbon deposits. These elements conspire to reduce the efficiency of an engine, compromising its power, fuel mileage, and emissions, often so slowly that the driver doesn't notice it until the condition causes serious driveability problems. The CarbonClean treatment, in fact, has been shown in an independent test to cut hydrocarbons by an average of 16.8 percent, while reducing carbon monoxide emissions by 14.5 percent. As a result, this system is often a recommended first step for vehicles that fail a state emissions test.

The CarbonClean system is a closed-loop process in which a specially formulated detergent solution is pumped through an engine's under-hood fuel delivery system to dissolve buildup deposits. Due to its concentration, it's quicker and more effective than a typical bottled fuel additive. The solution is also sprayed into the air intake track, and because the engine is running while the cleaning is taking place, the combustion chambers and exhaust system also benefit from the treatment.

We had the service performed on three vehicles: a '96 Chrysler minivan, with 3.8-liter V-6 and 19,616 miles on the odometer, a '91 Isuzu Rodeo, with 3.1-liter V-6 and 87,153 miles, and an '87 Ford Bronco II, with 2.9-liter V-6 and 75,406 miles. An emissions test and engine vacuum check were performed on each before and after the service. The treatment took about an hour per vehicle, and the Chevron station where our testing was done charged about \$100 each.

The Chrysler, with relatively low

mileage, was already fairly clean running. The main improvement we saw was an increase in engine idling vacuum from 18 inches of mercury to 21, indicating freer breathing and better overall efficiency. The Rodeo showed a similar increase in vacuum, as well as a significant drop in hydrocarbon and nitrous oxides emissions. Beyond the measurements, though, the Rodeo also displayed a subtle but noticeable improvement in seat-of-the-pants driveability, exhibiting a stronger, less labored power delivery.

The most dramatic improvement came in the oldest vehicle, the Bronco II, in which we also did before-and-after 0-60-mph acceleration tests. Not only did the Ford's V-6 show the now familiar vacuum increase and a healthy emissions drop, but 0-60 times dropped over a second from 11.4 to 10.2. This was verifiable proof of the difference fuel system deposits can have on performance.

The CarbonClean process also includes several diagnostic tests to ensure the fuel system is in good mechanical operation, which is valuable insurance in itself. There are about 6000 shops across the country offering the CarbonClean service, and the manufacturer recommends it be performed about once a year or every 15,000 miles, to maintain the fuel system in peak condition. Contact MotorVac Technologies, Dept. MT, 1431 South Village Way, Santa Ana, CA 92705; 800/841-8810; www.motorvac.com.

The other engine-cleaning service we checked out is the Bilstein R-2000 Engine Flush System, which targets an engine's lubrication system. A detergent solution is pumped by a machine through all of an engine's oil passages



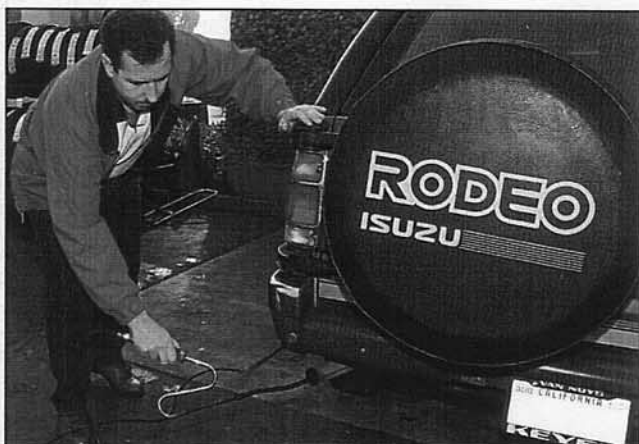
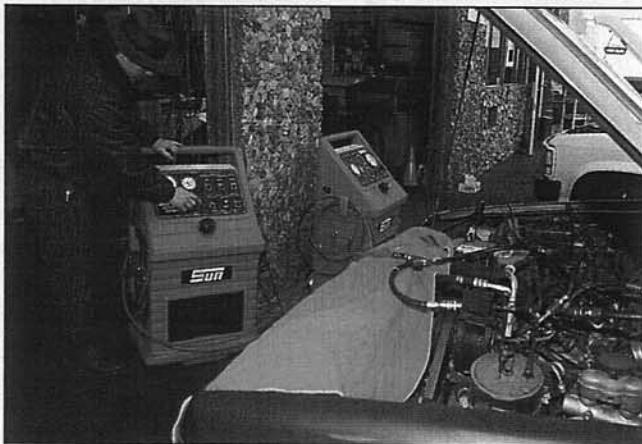
The Bilstein R-2000 Engine Flush System circulates a detergent through an engine's oil passages and lubricated internals to clean out the built-up sludge and other contaminants that remain in the engine even after an oil change.

to remove built-up sludge and contaminants and, in turn, help keep such critical areas as rocker arms, cam bearings, and crank bearings clean and well lubricated. The machine includes separate 5- and 3-micron oil filters to remove the small particles that the engine's normal oil filter (usually about 25 microns) can't catch.

At Galpin Ford, the country's largest Ford dealership, we witnessed the process performed on a '97 Ford F-150 with 15,169 miles. The dealership charges \$105 (\$129.95 with oil and filter change) and the treatment takes 15 to 20 minutes. It's the quickest and most thorough method we've seen yet for cleaning out

the built-up sludge from an engine's insides.

Again, the company recommends the typical owner should have the treatment done once a year or every 15,000 miles, although admitting that for the late-model owner who changes his oil religiously every 3000 miles, an engine flush isn't as valuable as for those who tend to let it go. A spokesman also indicated that it's the only way to change the oil completely in some engines, notably in Porsches and Cadillac's Northstar V-8s. For information, contact Bilstein, Dept. MT, 8845 Rehco Road., San Diego, CA 92121; 800/655-0090; www.motorlife.com.



MotorVac's CleanCarbon Service cleanses an engine's fuel system of dirt, gum, and carbon deposits that slowly deteriorate its performance, economy, and emissions. Its effectiveness was measured with emissions testing, and on a stopwatch as well.