IMPROVE YOUR COACH'S AIRWORTHINESS

A motorhome — particularly a Type A coach — pushes the air in front of it rather than slipping through it like a more aerodynamically designed Corvette. This column of air com-presses and becomes more difficult to push as the speed of the vehicle increases. In addition to pushing air, a motorhome also pulls along a column of air that has less pressure than the ambient pressure on each side or above the coach. This column of air acts like an anchor, requiring additional power to "pull the air along. Since more power requires more fuel, finding a way to eliminate this "drag' effect can reduce fuel consumption.

When installed on the rear edges of the author's motorhome, Airtabs helped to reduce drag and increase fuel mileage.

PHOTO BY AUTHOR

This column of air also is responsible for another problem motorhome drivers experience when being passed on the highway by a large vehicle such as a tractor trailer. When an 18-wheeler is about to pass a motorhome, it "pushes" against the trailing column of air with a slight sidewise shove. As this occurs the RV driver feels the front of the coach pulled toward the lane in which the truck is traveling, causing the driver to instinctively steer away from the truck. However, as the driver is making that correction, the front wind wave from the truck pushes the front of the coach away at the same time. The simultaneous wheel turn and push means the driver has to immediately correct the steering wheel again, this time back toward the lane the truck is in.

To help eliminate this anchor of air — and the problems it causes —I've found a device called an Airtab. A group of these small deflectors aligned along the rear edges of the motorhome break up the rear column of air with hundreds of little eddies, so there's no "solid" air column being dragged along by the motorhome. There also is no air column for passing 18-wheelers to push against; therefore, the coach is much more stable around larger vehicles. Drivers will still experience being pushed

away from the passing vehicle as it draws alongside, but this is easily countered. What you won't have, however, is the multiplication of motion.

Since there's no longer a low pressure area to pull on the motor-home, and the coach is more stable in traffic, a motorhome equipped with Airtabs should attain improved fuel mileage.

For more information about Airtabs, visit www.airtab.com or call (866) 758-4100. The product can be purchased from the company via the Web site or by calling (877) 604-2105. It also is available through Henderson's Line-Up, Brake, and RV by calling (800) 245-8309. Prior to installing the Airtabs, my motorhome's engine would have to turn 2,000 rpm to reach 55 mph. With the Airtabs in place, 55 mph was achieved at just above 1,900 rpm.

SLOW DOWN!

The idea for this article came to me while on the way to a family funeral being held several hundred miles from my house. The distance was too great for the family to caravan and there were too many of us to fit into any one of our cars, so we decided to take the motorhome. One of my sons volunteered to drive. Not being accustomed to operating a motorhome, he drove it pretty much in the same manner as his six-cylinder pickup —foot to the floor when the light turned green, passing slower vehicles, and maintaining the speed limit, whether it was 65 mph or 75 mph.

Driving Loop Results

Speed	MPG
75 mpg	7.89 mpg
65 mpg	9.86 mpg
55mpg (without Airtabs	11.50 mpg
55 mpg (with Airtabs)	12.03 mpg

I know this is obvious, but some-times it takes a while for a driver to realize that a motorhome must be driven differently. Over hills and dales, around curves *and through swales, motorhome movement must be managed and controlled more carefully than a car — no racing starts or abrupt stops. Maneuvers must be planned and then performed slowly. If not, safety can be compromised, fuel mileage will deteriorate, and the lifetimes of tires and chassis components will be reduced.

Driving more slowly makes sense for several reasons, but for this article we're most concerned about fuel mileage. So, can you get significantly better mileage by reducing your high-way speed? Good question, and since most folks probably do not have the time or patience to do multiple long-distance-driving test loops to deter-mine at what speed optimum mileage is achieved, I've done it for you. While each motorhome and driver combination is unique, you can still use my figures as a gauge to help determine your own mileages at the different speeds, as the percentages should be pretty close and applicable to other motorhomes.

The test involved running a loop four times at three different speeds: 55 mph, 65 mph, and 75 mph. I drove the loop at 55 mph twice — the first without the Airtabs and the second with the devices installed to deter-mine whether they helped improve fuel mileage. The test was performed on a 94.5-mile closed loop on Interstate 40 (other than a block traveled from the fuel stop to the on-ramp and the turn-around ramps) so that

any traffic changes would not have to be considered.

The coach used for this mileage test was a 1999 Tiffin Allegro Type A gas-powered motorhome on a P-Series chassis with a 15,000-pound GVWR. It has a 454-cid (7.4-liter) V-8 engine that is capable of 290 horsepower at 4,000 rpm and 410 pound-feet of torque at 3,200 rpm. It also is equipped with a four-speed automatic transmission, and it has approximately 23,000 miles on the odometer. The front and rear end caps measure 75.21 square feet each (the height from the ground times the width — not including the mirrors).

I weighed the coach before each test loop. Onboard we had approximately 550 pounds of passengers (people and dogs), almost a full water tank, and empty holding tanks. The motorhome tipped the Cat scales at 13,500 pounds, leaving the coach with another 1,500 pounds of carrying capacity.

Once I was on the freeway, I set the cruise control to the speed for that particular loop (to assure consistency) and I verified the coach's speedometer readings with my GPS readout. The cruise control on my motorhome can be precisely adjusted up or down, one mile per hour at a time with its coast (slower) and resume (faster) buttons. The dash air-conditioning was not used. This loop started at 3,500 feet and climbed to a maximum height of 5,200 feet (a normally aspirated gasoline engine loses effectiveness at approximately 3 percent per 1,000 feet in altitude, so you can use this altitude in your own comparisons).

Living in the desert, I've had to learn to deal with the wind, because, other than heat, it's really the only weather change we go through. So I had to wait for calm days to do the test. This resulted in the runs taking place weeks apart (our first two loops were on January 2; our last loop was in March). When we finally looked out to see the flags hanging on their poles like limp laundry, we made our first two runs. With XM on the radio; a travel mug of fresh, hot Pilot Rain Forest blend in the cup holder; and a Kit Kat on my lips, we headed east out of Kingman, Arizona, on our 75-mph loop.

While I knew beforehand that there would be differences in the miles-per-gallon results from the three different speeds, I had no idea that the differences would be as great as they proved to be. At 75 mph, the Allegro achieved 7.89 mpg. The 65-mph loop produced 9.86 mpg, and the first 55-mph circle gave us 11.50 mpg. After installing the Airtabs, the Allegro produced its best mileage, topping out at 12.03 mpg at 55 mph.

As you can see, driving 55 mph provides the best fuel economy. And with the addition of the Airtabs, the numbers are even better. Now let's put these results into a real-world situation. Driving 55 mph with Airtabs installed, I could expect to travel 1,203 miles on 100 gallons of fuel. The same 100 gallons would take me only 789 miles were Ito travel the entire time at 75 mph. By slowing down and adding the aerodynamic helpers, the fuel mileage increased significantly.