RV Fuel Savings Guide

Helping RV & 5th Wheel Trailer Owners improve their gas mileage

Courtesy of

www.IconDirect.com

As fuel is the life blood of a **recreation vehicle**, it is also the life blood of an RV owner's lifestyle. With fuel prices already high and rising, RV owners are worried their lifestyles may end. To help keep you traveling, IconDirect.com is pleased to offer this fuel guide to help RV owners **improve their mileage**. By following the tips in this guide, owners of RV's and 5th wheel trailers can begin to see fuel savings **immediately**.

Table of Contents

1. Improving Aerodynamics

Aerodynamics of your tow vehicle and trailer make a huge impact on how effective you are in reducing your gas mileage.

1.a. Streamlining your 5th Wheel or Travel Trailer

Let's face it... Travel trailers and 5th wheels aren't the most aerodynamic things in the world to tow and buying an 'ultra-light' doesn't make sense for all of us. Luckily there are a few things you can do to make sure your trailer isn't creating any unnecessary wind drag and increase your mileage.

Fender Skirts shouldn't be tattered and falling off. They should be sealed against the side of the trailer with silicon so that wind does not catch them. Fenders play a role in making sure there is smooth and progressive airflow around the trailer.

Air Conditioning shrouds play a big part in keeping your A/C protected and free of debris, but they are also designed to direct the air around the big blocky unit. Plumbing and other vent covers also aerodynamically direct air over top of the trailer. These covers should be maintained and replaced when they are damaged.

Make sure your RV's Siding is secure, not only for safety, but to prevent wind drag. If there are any pieces that appear loose or appear to catch the wind see if you can secure it. If it is something you cannot fix you may want to see if a body shop can help.

Towing the trailer with the windows down basically makes it an air scoop, capturing the fast moving air as it attempts to pass by. It's only common sense to make sure all of your windows are closed tightly while traveling.

Before towing, it's a good idea to do a walk around of your trailer (and climb on top) to spot potential 'wind traps'. Here is a checklist with a few of the more common problem areas:

- Fenders skirts are secure & undamaged
- Siding and bodywork are undamaged
- A/C Shroud is secure/undamaged
- Awning is fully retracted and sealed
- Windows are closed
- Roof vents are closed
- Roof/Plumbing vents have shrouds & caps
- Propane tanks are covered

1.b. Tow Vehicle Aerodynamics

Tow vehicles are designed to be Aerodynamic from the start, so after selecting and purchasing a tow

vehicle there is generally very little you can do.

If you are towing a travel trailer with a pick up truck, a tonneau cover can reduce the amount of air captured in the bed of the truck.

One major aid to the aerodynamics of your entire towing set up is a wind deflector.

1.c. Wind Deflectors

What is almost an afterthought for many RV'ers looking to optimize their aerodynamics is the HUGE area between the tow vehicle and the trailer.

Almost all of the big semi-trucks that you see on our highways have a big ramp that sends the wind over and around their big, block-shaped trailers. Why would the rules of aerodynamics be any different for smaller vehicles pulling things like 5th wheel RV's & travel trailers? The area of a 5th wheel trailer that stands above the cab of the truck acts like a brick wall for air looking to travel past. Not only does air build up in front of the trailer, but the air also collects in the pocket between the trailer and the truck bed creating significant amounts of drag.

There are Wind Deflectors for tow vehicles that accomplish the same 'air-ramp' effect as the ones installed on the semi-trailers. These units are also known as air deflectors, truck wings, wind ramps, etc. Wind deflectors are designed to direct the air flow up and over the top part of the trailer eliminating the air block and the added drag. Wind Deflectors can improve mileage for 5th wheel units and tractor trailers by up to 3 – 5 mpg. Even small vehicles pulling small trailers will benefit from a wind deflector. If your trailer is higher than your tow vehicle, it will create wind drag.

The AeroShield is a unit designed specifically with RV towing in mind. It is a rooftop mounted unit, which means it doesn't have the problems that a stake pocket model does, and it doesn't require drilling. The AeroShield comes completely assembled, ready for quick installation on almost any vehicle using the appropriate installation kit (included in the box). It can be adjusted to virtually any angle, creating maximum aerodynamic efficiency by directing the air over the top and sides of the trailer. It quickly and easily folds flat when not in use. In the flat position, the AeroShield also reduces tailgate drag for pick-ups by deflecting the wind over the truck box. Wind deflectors have been proven to increase fuel mileage and improve stability and handling. They also reduce the amount of road debris and bugs on the

front of your trailer.

2. Proper Maintenance

Maintenance is important to keep your engine performing on all cylinders. Keeping the vehicle tuned up and in top running condition saves fuel. A poorly tuned engine can lower fuel economy by 10 to 20, so ensure your unit is in tip top shape. Here is a RV maintenance checklist compiled from many RV owners. Use it to double check your vehicle.

- A clean air filter allows more air in to burn the fuel, and clean injectors and carburetors control the flow of fuel into the combustion chamber.
- Many drivers have found an improvement by using synthetic oils.
- Be sure your tires are in good shape. Many tire manufacturers now offer a tire specially designed for RV's which improve ride, stability and MPG.
- Check your wheel bearings are properly lubricated to reduce drag.
- Drum brakes should be properly adjusted to reduce drag.
- Be sure your front end is properly aligned to reduce tire wear, and resistance against the forward motion of the RV.
- Your shocks have to be in good shape to keep the tires on the road and providing more traction, control and a better ride.
- Some RV owners recommend placing a bug screen in front of your radiator to keep bugs out of the radiator fins. This will keep the fins free, the engine running cooler, and therefore the clutch fan will stay off longer resulting in improved performance.
- Drain and back flush the cooling system annually will help the RV run cooler resulting in less clutch fan engagement time and thereby improved performance.
- Make sure the RV is running at peak efficiency, and tuned up. Be sure to double check all wires, such as the plug wires, all vacuum lines and gas lines free of cracks. Wires and lines often encounter wear and cracking due to the extreme heat they encounter.

2.a. Tire inflation

Worthy of specific note is the tire pressure of your tow vehicle and trailer. Keep tire air pressures at the levels recommended by your dealer. Tire pressure can severely affect fuel economy. Studies have shown that a single tire under inflated by 1 PSI can increase fuel consumption by 3%. This means that simply checking and adjusting your tire pressure to the proper pressure can increase fuel economy by 3%! If you have six tires on your RV, and they're under-inflated by five pounds, you're losing 12% of your fuel economy.

If the tires are low on air, the engine has to push harder to move the RV ahead. It is important to know that tires can look normal when they are seriously under inflated so use a quality air pressure gauge and check your tires only when they're cool. Checking them daily when on trips is recommended.

3. Premium Vs. Regular Fuel

One secret to lowering your overall fuel cost is to just use regular gas, unless your owner's manual

specifies a higher octane gas. Most RV's don't benefit from burning high octane fuel, and therefore you will pay at least $20 more per tank for no additional performance.

Check your manual for more information on which gas to buy.

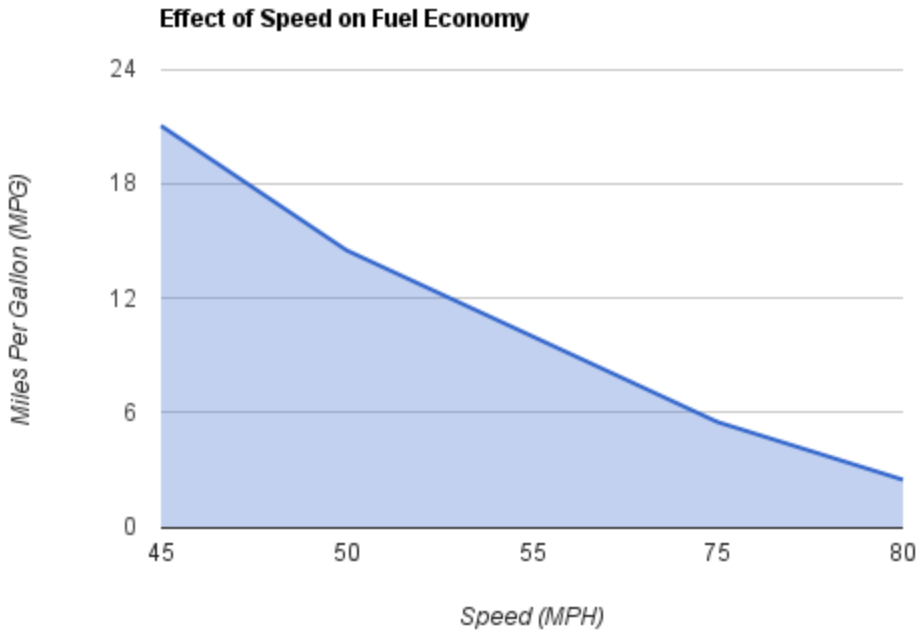
Some have even found that ‘fresher gas’ found at busier gas stations and truck stops can be better for mileage than the potentially ‘dirty gas’ found at smaller stations.

4. Driving Habits for fuel Savings

Many of us succumb to bad driving habits that cost us fuel savings, and that problem is exponential once you have a trailer behind you. Here are a few things to watch out for.

4.a. Speed

One of the greatest improvements in fuel economy can come from the speed we drive. Driving faster pushes more air ahead of the RV, which creates more resistance to forward movement.



Without getting into hard core physics lesson, increasing speed from 55mph to 75mph (or 90 km/hr to 120 km/hr) increased speed by 35% but increases wind load by 250%. Your RV has to work exponentially harder with every increase in speed above 55 mph. The average decline in gas usage from 55 - 75MPG is 40% - 50%. If you're getting 10 MPG at 55mph, then you will be getting 5.5-6 MPG at 75mph. Let's put that into monetary values. At a price of $3.00 per gallon, it costs $30 to drive 100 miles at 55 mph. If you drive faster at 75 mph, you’ll pay $54.50 to drive the same distance, almost an 80% increase.

Now, this isn’t 100% accurate, but the logic is there. Slowing down saves a LOT of money.

4.b. Aggressiveness

Hand in hand with speed is the level of aggression at which you drive. Here are some facts and tips on handling your driving aggression:

- Aggressive driving such as speeding, rapid acceleration and braking, can lower gas mileage by 33 percent at highway speeds and 5 percent around town.
- Use cruise control to help cut fuel consumption by maintaining a steady speed during highway driving on flat roads, down sloping roads, and on moderate hills.
- Some drivers constantly push and release the gas pedal after reaching cruising speed. Keeping steady pressure, pressing very gradually will improve MPG right away.
- Constant lane changing will force you to apply more gas and/or brakes to adjust to the speed of the new lane. Staying in one lane allows for more constant speed, thus improving MPG.

4.c. The Plan

Planning your trip economically can help reduce fuel consumption, time and stress. Tools of today can help you become aware of, and plan around, environmental factors on the road.

- Use map tools like www.mapquest.com and maps.google.com to research routes. They often have information including toll roads and topographical info.
- Having a GPS on hand can help you keep on track and quickly change routes when the need arises.
- Keep an eye on the weather forecast. Driving into a strong headwind will lower your mileage and driving with a strong tailwind will give you better mileage.
- Avoid hills and changes of elevation as much as possible.
- Avoid driving in stop-and-go traffic. If you arrive during a city rush hour, find a shopping center and have dinner. Ideally, miss the rush by arriving at your campground by 4 p.m. so you can relax.
- Avoid idling, which gets zero mpg. Cars & Trucks with larger engines typically waste even more gas while idling than cars with smaller engines.
- To the extent that nights are cooler and less windy, consider traveling then. Cooler, less wind means less AC needed and less resistance due to winds thus improved MPG.
- Make your plans flexible and adjust them when factors beyond your control change (weather, traffic, ect). Enjoy a longer stay if you must!

4.d. General Tips

- Drive behind a large semi tractor and trailer and follow them, without tailgating of course. The semi trailer will reduce the head wind and improve mileage. RVer's have also reported that driving behind semi trailers is more peaceful as the professional drivers stay at constant speeds, don't change lanes often, and their presence prevents cars from swerving in front.
- If available, use your vehicle's overdrive gear when appropriate to reduce engine speed, which will enable you to save gas and reduce engine wear.
- When on the road look well ahead for slower traffic or intersections. Start slowing

immediately, enough to keep the unit rolling nice and steady.

5.Weight and trailer load

Last, but certainly not least, is taking into consideration what your towing. Weight is very easily the most important factor in fuel economy. There are many factors you can

5.a. Water Load

Leaving on a trip with the water tanks full adds a significant amount of unnecessary weight. Fill only the amount of water needed to get to your destination. Drain down before resuming on the trip.

After your stay, traveling with your black/grey water tanks partially full has the same effect. Extra weight that takes extra gas to carry; and in an emergency stop it is a lot of extra weight to stop. Fully drain & rinse your waste tanks at a dump station before hitting the road.

5.b. Simplify your cargo

Adding extra weight in the form of additional 'stuff' that you don't need also reduces fuel economy. Pack lightly when traveling, and avoid carrying items on your vehicle's roof.

Pick out things that you only ‘may’ use and really make a decision on it. Cut back on grocery & personal items that you can pick up closer to your destination. An extra 100 pounds in the trunk cuts a typical car's fuel economy by up to 2 percent.

6. Conclusion

Following these simple tips will help you obtain the best fuel mileage possible, and enable you to keep travelling despite high gas prices that we see today.

We hope this guide on how to save fuel for RV’s has been informative and helpful. More information can be found by clicking the links below:

http://www.icondirect.com/categories/RV-Towing-Products/Wind-Deflectors/
http://www.icondirect.com/pages/Resources
http://fuelcostcalculator.aaa.com/