SmartWeigh
ESCAPEESRVClub™
www.escapees.com/smartweigh

Now that You Have Been Weighed

Escape With Peace of Mind.

If your RV has just been completely and carefully weighed and a quick look at the numbers reveals that everything it is not perfect, do not panic or despair. There are things that you can do to help yourself in this situation. The following discussion provides a good starting place to, first, understand the problem and, second, to help you make the corrections necessary to assure continued safe travel in your RV. Keep in mind that there are at least three aspects of being overloaded that you need to consider.

The first aspect is that the reliability and durability of your RV will be diminished. In effect, you are asking your RV, or at least some of its components, to do too much work, certainly more than it was designed for. This could adversely impact your RVing and leave you stranded beside the road due to breakdown or component failure. Without question, overloading a vehicle can void any warranty present on your RV because you have exceeded the manufacturer's operational limitations, as well as the multitude of laws limiting vehicle weights.

The second aspect of being overloaded is that your personal safety may be jeopardized. A failure of even the smallest component on an RV may put you at risk. The dangerous potential resulting from a blown tire is obvious, but the failure of even the smallest component on your rig could leave you stranded beside the highway with traffic whizzing by at 70 mph or more, definitely a potentially dangerous situation.

The third aspect of your RV being overweight that you now need to consider is the legal aspect. Most of the weight limits on your RV are legally enforceable. Even if RVs do not (currently) have to go through the highway weight scales, law enforcement agencies could choose at any time to enforce the limits. Consider also that any overweight condition in your RV could result in a negative verdict in the event of an accident in which you are involved. Even if you did not cause the incident or were not cited for being overweight, it still may be viewed as a contributing factor in any lawsuit resulting from the incident.

Your first moves to resolve these potentialities should begin immediately. Use the corner weights furnished (data) to determine your total axle weights, gross vehicle weight, tongue load, GCWR, etc. for your motorhome or truck and trailer. Compare those numbers to the actual ratings contained on the dataplates or individual components of your RV. All of this information is now on your copy of the Escapees SmartWeigh weight information sheet, including the corner weights, so this step is easy.

IF YOU EXCEED THE GVWR (GROSS VEHICLE WEIGHT RATING)

Get started by reviewing your total personal load (food, books, tools, clothes, etc.) to see what you do not require. Do just like wagon train families did when they moved west; they disposed of all but the necessities as the going got rougher. You need to be "brutal" with yourself during this assessment; it is important that you shed the excess weight from your RV.

Note: Many RVs are built with much more storage space than the ability to carry the weight that might be contained in those storage areas.

- As soon as possible, dump your gray- and black-water tanks (properly, of course). No RVer should ever travel with gray or black water. Note that any liquid dumped in this manner will reduce your RV's weight by 8.3 pounds per gallon.

- Dump most of the fresh water that is onboard the RV. It is recommended that you should carry no more than a quarter tank of fresh water (enough for your immediate needs, to repair a broken radiator hose, or for an unplanned overnight stay).

- Consider moving what items you can from your motorhome into your tow car or from your trailer RV to the tow vehicle (vice versa if the tow vehicle is beyond its GVWR). Remember, when towing an automobile, it is not a car; it is a trailer, and it can legally and properly carry as much as 800-1,000 pounds of load from your motorhome. If you follow this procedure, verify that the tire pressure of your tow car is at the maximum on the tire sidewall or as indicated on the data plate or operator's manual.

IF YOU EXCEED EITHER AXLE RATING, GAWR: (GROSS AXLE WEIGHT RATING)

Begin by following the recommendations noted above in the "If You Exceed the GVWR" section. In this instance, you can move weight from one end of the RV to the other, as required, or, if your RV is a truck/trailer combination, you can shift weight from the trailer to the truck or vice versa, as the axle loading dictates.

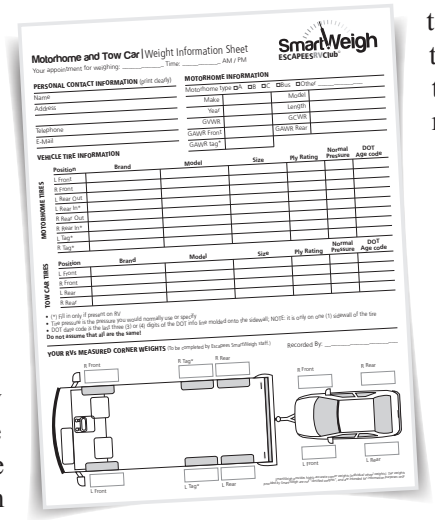
Note that the same total weight is still present (GVWR and GCWR), but you may be able to minimize the magnitude of any individual axle overload by redistributing the load within the RV. Very few RVs are overloaded in all rated areas (front and rear).

When you dump your tanks, consider where they are located in the RV. If your tanks are physically located where the overload exists (generally front or rear), this may be adequate to resolve the problem.

IF YOU EXCEED YOUR TOW VEHICLE GCWR: (GROSS COMBINED WEIGHT RATING)

Since the GCWR is defined as the maximum weight the combined units (motorhome/tow car or truck/trailer) may operate with, your choices are limited. You must eliminate weight, change to a tow vehicle with more GCWR capability, or tow a lighter tow car or trailer. All are tough choices.

Begin by following all of the recommendations previously discussed, especially those that reduce the weight carried. An additional weigh reduction may be possible if the water tanks are completely emptied, and you might even think about purchasing fuel only one-half (½) tank at a time. These are certainly severe measures and very difficult to live with, but there are few other options; you are just trying to take too much "stuff" with you.


Motorhome and Tow Car | Weight Information Sheet

SmartWeigh ESCAPEES RV Club

Your appointment for weighing _____ Time: _____ AM / PM

PERSONAL CONTACT INFORMATION (print clearly)

Name

Address

Telephone

E-Mail

MOTORHOME INFORMATION

Motorhome Type ☐ ☐ ☐ ☐ ☐ Other

Make / Model

Year / Length

GVWR / GCWR

GAWR Front / GAWR Rear

GAWR Tag*

VEHICLE TIRE INFORMATION

MOTORHOME TIRES

Position*	Brand	Model	Size	Ply Rating	Normal Pressure	DOT Age code
L Front						
R Front						
L Rear Dual						
L Rear In*						
R Rear Dual						
R Rear In*						
L Tag*						
R Tag*						

TOW CAR TIRES

Position	Brand	Model	Size	Ply Rating	Normal Pressure	DOT Age code
L Front						
R Front						
L Rear						
R Rear						

(*) Fill in only if present on RV.
Tire pressure is the pressure you would normally use or specify.
DOT age code is the last three (3) or (4) digits of the DOT info (can molded onto the sidewall). NOTE: it is only on one (1) sidewall of the tire.
Do not assume that all are the same!

YOUR RVs MEASURED CORNER WEIGHTS (To be completed by Escapees SmartWeigh staff.) Recorded By: _____

R Front | R Tag* | R Rear | L Front | L Tag* | L Rear

IF YOU EXCEED A MAXIMUM TIRE RATING

The next step in the process is to determine if your RV exceeds the maximum tire-load rating that is identified on the sidewall of your tires. If it does and will not be corrected by the previously described weight-reduction procedures, you should take immediate action to alleviate the situation. Tire overload is very dangerous! Proceed as follows:

- Immediately reduce all possible weight.
- Inflate your tires to the maximum sidewall pressure rating plus 10 percent. The Tire and Rim Association allows up to 10 percent extra pressure to provide added safety for operators. It will not increase the tires rated load but will allow the tire to better tolerate that overload until it can be rectified. Note that this is an interim solution only.
- Drive slowly! The slower you drive below the tires' rated speed, the higher the tires' load rating. Do not carry this to an extreme! However, driving 45-55 MPH (only where it can be done safely) may make the difference between a successful trip and one plagued with tire failures.
- As soon as possible, you should complete a long-term solution to your RV's tire overload problem. The best solution is to reduce weight to the degree that the current tire can safely carry the load. Of course, there are cases where this cannot reasonably be done. In these extreme cases, you need to consider physical changes to your RV that will allow it to safely carry the extra load. For instance, it may be possible to upgrade to a higher load range (LR) tire with a greater carrying capacity. Note that there will be no gain from this unless the higher load range tire is inflated to a higher tire pressure. Higher tire pressures can exceed the maximum pressure rating of your wheels. Some wheels are stamped with the maximum load and pressure; others are not. If you can find no marking on the wheel, it will be necessary to contact the vehicle manufacturer to determine the actual rating of the wheel they provided. If not adequate to meet the pressure requirement of the higher load range (load range) tire, the wheels will also have to be replaced for safe operation.

  Another possible solution is to fit larger tires for a higher carrying capacity without higher pressure. Once again, you will have to verify that the wheel is adequate for the (larger) tire; this time we are interested in the "width between the flanges." This information (rim width and dual tire spacing requirements) can be garnered from the tire manufacturer's data book or from a tire dealer willing to help you. Note that the larger tire size will be physically larger in cross section and height; thus, you need to verify that it will still fit within the wheel well and will not interfere with the fender or suspension components, even under full extremes of turning right, left, and at full-suspension travel. Larger tires will also have the effect of modestly decreasing the speed observed on the speedometer while you drive.

Note: Re-engineering your vehicle should be one of the last resorts in solving your overload problem.

Before making extensive and/or expensive changes to your vehicle, you should contact the RV manufacturer for advice. The manufacturer may already have investigated changes that will benefit your overload situation. You may also come to the conclusion that there is no way your present RV will meet your personal weight requirements and desired lifestyle. Under these extreme circumstances, the purchase of a new (or different) RV may be the only practical solution.

ADDITIONAL POINTS TO CONSIDER

- If you make significant changes in your RV's weight, weight distribution, or hitch adjustments, you may wish to get re-weighed to verify the effectiveness of your changes. We offer a discount weighing fee if you reweigh within 180 days.
- When moving weight, work methodically; if possible, use a bathroom scale to keep track of the process.
- While not totally accurate, you can assume that weight in each quadrant of your RV will affect that quadrant primarily. In other words, 50 lbs. moved from the right front corner to the left rear corner will generally affect those specific corner weights by almost that exact amount.
- It is not necessary to obtain perfect side-to-side balance, but the closer you come, the better your vehicle will handle and the more satisfied you will be.
- The old RVer's adage that if you don't use it in six months, you really don't need it still works and should become the RVer's mantra.
- Similarly, if you get rid of something old for every new item you bring aboard, you will prevent "weight gain," which is very common in RVs.
- Note that while it may be possible to beef up or bolster the suspension and tires on your RV to carry a greater load, those changes will not change the legally enforceable weight limits on your vehicle. Only the vehicle manufacturer can change the dataplates, which dictate those legally enforceable limitations.

My RVs Load Status At The Time of Weighing

Weight Stats	Comments
Date	
Location	
RV	
Number of Passengers	
Quantity of Fuel @ 6.1/gal (gas), 7.1/gal (diesel)	
Quantity of Propane @ 4.24/gal	
Quantity of Fresh Water @ 8.3/gal	
Quantity of Grey Water @ 8.3/gal	
Quantity of Black Water @ 8.3/gal	
Any Unusual Weight?	

NOTES:

*This document has been prepared for the express purpose of providing guidance for RV owners when their RV is found overloaded in some fashion after being properly weighed. The recommendations are not intended to be applicable in all cases, nor is it the final word or even the legal authority to utilize any of the thoughts offered owners for their consideration. The RV owner is fully responsible for operating a legal vehicle and for complying with all requirements placed on him or her by legal authorities and the vehicle and product manufacturers involved.

HOW ARE WE DOING?

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QUESTIONS?

Email us at smartweigh@escapees.com

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Hitch Analysis for Truck/Trailer RVs

One of the most important benefits of your precision wheel-by-wheel Escapees SmartWeigh weighing is that the details collected present an opportunity to review (in quantifiable terms) the hitch adjustments for your truck/trailer, whether it is a 5th-wheel or conventional tongue trailer. When your hitch was initially installed and adjusted, it was probably done by a "rule of thumb;" that is, it was adjusted until the trailer appeared approximately level to the eye. This may or may not be correct. The real purpose of the hitch adjustments is to establish proper weight distribution between all components of the two vehicles. For the two possible adjustments, consider:

Hitch height adjustments affect weight distribution between the axles (2 or 3) of the trailer. The resultant individual trailer axle loads should be very close. A difference of more than 100-200 pounds calls for a hitch height adjustment of 1-2 inches or possibly more; **the higher the hitch, the more the load is shifted to the rear axle. By contrast, the lower the hitch, the more the load is shifted to the front axle.** This is somewhat arbitrary, but it works well and can eliminate or minimize trailer axle or tire overloads in many cases. The only caution is that for 5th-wheel trailers you must be careful not to lower the front of the trailer too far, cutting clearance to the truck bed excessively (risking contact). If further adjustment is required, it is necessary to raise the trailer on its axles as a possible solution; this is not uncommon for 4x4 tow trucks that sit high or when larger tires or wheels are utilized on the tow vehicle.

For 5th-wheel trailers, hitch location in the bed of the truck is an adjustment. The general rule of thumb is to place the vertical centerline of the hitch 1-2 inches forward of the axle centerline. The purpose of this is to assure that weight is not removed from the front axle of the tow truck when the trailer is attached. Weighing the tow truck twice (with and without the trailer) to verify that a small amount of weight is added to the front axle of the truck as a result of attaching the trailer provides the required information. The actual value is small; 50-75 pounds is adequate. What is important is that weight is not removed from the front axle; that would adversely affect handling, tire wear, headlight alignment, etc.

On very large trucks (medium-duty), this fore/aft hitch adjustment may or may not be essential, as the truck will handle the abnormal condition without difficulty; however, it is still the correct procedure. If weight is removed from the front end of the tow truck, move the hitch forward. The only limitation to this occurs on short-bed trucks where contact between the cab and the trailer during sharp turns may result. In this case, there may be no practical option except for utilizing a special hitch, made for this purpose, designed to move rearward when maneuvering sharply such as during parking, etc.

For conventional (tongue-type) trailers, the transfer of weight to the front axle of the tow vehicle is controlled by selection and adjustment of the torsion bars. If a small amount of weight (50-75 pounds) is not added to the front axle of the tow vehicle, the bars should be tightened until a positive weight gain is noted. It is not always possible to predict the total effect of this change; thus, it may be necessary to reweigh the truck/trailer to determine the effect of torsion bar adjustment. Heavier torsion bars may be required in extreme cases.

Note that, if both (multiple) adjustments are required, one adjustment may affect the other; for instance, tightening torsion bars will raise the rear of the tow truck and will affect trailer axle weight distribution. Reweighing after adjustments are complete is recommended.

Above all, consider as a "rule of thumb" for conventional trailers that they should carry approximately 10-15 percent of their total weight on the hitch as tongue weight. For 5th-wheel trailers, that value is approximately 25 percent of total weight on the hitch. If your trailer exceeds or falls short of this value, redistribution of trailer weight should be undertaken.