Can I Tow That as a Dinghy?

Disclaimer

This is another in the series of articles I wrote to help newbies (new to RVing) with questions around popular questions. I am an avid and experienced RVer but am not a professional engineer or professional anything else for that matter. What follows are my opinions and are worth what you paid for them. They are based on my 50 years of RVing. I believe them to be factual. If you disagree, do your own research and act accordingly. Here we go.

There are only two main pieces to this puzzle – your motorhome limits and your toad (towed or dinghy) drivetrain. Motorhome limits are determined by the manufacturer and cannot be changed even with a stronger hitch, air bags, or more springs, or anything else. Period. These limits cannot be exceeded without significant risk to your liability and the safety of your family and the general public. More about this later.

Step 1 - Is My Vehicle Towable?

After deciding you want to take a toad, you need to find out if your current vehicle can be towed either 4 wheels down or 2 wheels down (on a dolly). Of course, you can tow anything with all 4 wheels up on a trailer.

Only a relatively few vehicles are OK to tow with all 4 wheels on the ground. Almost all front wheel drive vehicles can be towed with the front wheels on a dolly. No AWD (all wheel drive) vehicles can be towed on a dolly. And finally, most 4x4 vehicles that allow the transfer case to be placed in neutral can be towed either way.

Toad Drive Line	Toad Transmission	Dolly	Flat (4 down)
Front wheel drive	Auto or Dual Clutch	yes	maybe
Front Wheel Drive	Standard	yes	probably
All Wheel Drive	Auto or Dual Clutch	no	maybe
All Wheel Drive	Standard	no	Maybe
4x4 with neutral on transfer case	any	yes	Yes
4x4 with auto transfer case	auto	no	maybe

The only source of accurate information about flat towing your particular vehicle is its owners manual. There will be a section about towing your vehicle. Generally, the same rules apply whether it is being towed by a tow truck or by a motorhome.

I have towed using a dolly and using a tow bar to flat tow. I prefer flat towing for the quick and easy connection and drop off times. It takes me less than 5 minutes to connect and about 2 minutes to

drop my toad. The dolly took at least twice that long plus I had the issue of what to do with the dolly at the campground so it didn't get stolen.

Surprisingly, the total cost of all new components, professionally installed is similar for each system. To tow with a dolly, you just need to buy the dolly and perhaps a different height hitch ball for your motorhome. The dolly will come with a braking system and the necessary straps and chains to make sure your car stays put. For the motorhome, you will need a brake controller. Every motorhome I have seen is already pre-wired for a controller and already has the trailer connector properly wired for running, brake, and turn signals.

If your owner's manual says your vehicle is not towable, you'll need to consider buying something that is towable or renting, taxi, or ride sharing at your destination. If you absolutely want to take your non-towable vehicle with you, then a car carrier is the way to go. You can rent one from U-Haul for a reasonable price to see if it is worth the hassle of finding a place to store and secure the trailer at your destination. Or perhaps your spouse can drive the toad and you can both enjoy a quiet drive!

If you choose to purchase another vehicle, there are several regularly updated guidelines, including Family Motor Coach Association https://www.fmca.com/towing-guides-towing-four-wheels-down or:

www.rvibrake.com (they also have a YouTube channel)

www.blueox.com (they also have a YouTube channel)

www.demco-products.com (they also have a YouTube channel)

www.roadmaster.com

In case of disagreement between your owners manual and somebody trying to sell you something, the correct answer is always in the owners manual.

There may be suppliers I am not aware of, but these are the big four. All these suppliers make quality base plates, tow bars and braking system. It is best to select a single supplier to avoid any incompatibilities between components.

I use the Demco tow bar and braking system. The tow bar is bolted to the motorhome and attaches to the toad with two pins, two safety cables, and a round 7 pin electrical connection. I am not recommending any one manufacturer over the others as I have never done a comparison.

You need to know exactly what your toad weighs, Fill up the gas tank, add anything you would carry when going camping, like lawn chairs, the toad braking system, firewood, etc. Next head to a highway or CAT scale and weigh it. You don't need to include the weight of the driver or passengers as thy will not be travelling in the toad when it is behind your motorhome. You can either step off the scale when weighing it or get on your bathroom scale at home and subtract your weight from the toad's.

The resulting number is your toad's actual weight which you need for Step 2.

Step 2 – Can My Motorhome Tow That?

Once you have determined your vehicle is suitable as a toad, you need to determine of your motorhome is suitable to tow it.

There are many combinations of motorhomes and toads. Can you tow an F350 dually behind a 24' Class C motorhome? No. How about behind a 45' class A diesel pusher? Yes. Can you tow a Suzuki Samurai 4x4 behind a 24' Class C? Yes, I did just that for years. Motorhome size does not determine its towing capacity. My 36' Class A is rated to tow only 4,000lbs! It all comes down to weights.

Your motorhome's towing weight limit is determined by the manufacturer. In these times of so-called half ton trucks able to tow 12,000lbs or more, why are gasoline powered class C and class A motorhomes limited to just 5,000lbs or less? The limits are not there because of lack of engine power or even brake performance since towed loads have their own brakes.

The limits are there because of other factors like the cooling capacity of the engine, transmission, and differential and the strength of the welded on frame extensions installed by the RV manufacturer (not the chassis manufacturer) and the distance between the rear axle and the hitch ball

There is nothing the consumer can do to increase the hitch capacity or the motorhome towing capacity. Even so, determining your actual towing capacity is a little cumbersome. The actual weight your particular motorhome can tow is the lesser of the maximum rated capacity of your hitch (usually 5,000lbs with 500lbs tongue weight) or the GCVWR minus actual fully loaded weight of your motorhome.

The GCVWR is the gross combined vehicle weight rating and the number is on the plaque installed by the manufacturer somewhere in your rig. Sorry I can't be more specific about the location. Mine is on the wall behind the driver's chair. Yours might be in a door opening on a class C, or in a cupboard on a class A. Find it and heed it.

You need one more piece of information to calculate your actual towing capacity – your motorhome's fully loaded weight. This includes full fuel, propane, and water tanks, full load of firewood, food, beer, the tow bar, BBQ, kids, pets you, and your significant other. It also includes the weight of the tow bar you will connect to your toad. Knowing this weight serves two purposes: determining how much weight you can tow, and lets you look up how much tire pressure you need to support that weight.

OK, enough talk. Here's actual examples from my own rig, a 2004 Fleetwood Bounder 35E on a Workhorse chassis:

1. GAWR front (gross axle weight rating) is 8,000lbs
2. GAWR rear (gross axle weight rating) is 14,500lbs
3. GVWR (gross vehicle weight rating) is 22,000lbs (not 22,500lbs from combined front and rear maximums)
4. GCVWR (gross combined vehicle weight rating) is 26,000lbs (so, 4,000lbs if at max GVWR)
5. my actual fully loaded weight front axle 7,040lbs
6. my actual fully loaded weight rear axle 14,080
7. my additional carry capacity 22,000 – 21,120 = 980lbs
8. my actual towing capacity 26,000 – 21,120 = 4,980lbs
9. my toad's actual weight 3,670lbs so I am well under every weight's maximum.

Based on the above, my insurance company is happy, the local constabulary is happy and the highways people are happy.

If you are going to use a dolly, you need to weigh it too and add its 450 – 700lb weight to toad's to get an accurate weight. If the total weight is too much, you'll need to rethink your plans.

If your motorhome cannot handle the weight of your toad, you have to change your toad or change your motorhome.

Step 3 - Attaching The Toad

4 Wheels Down Towing

With the base plate installed on the toad and the tow bar attached to the motorhome, connection is quick and easy. The tow bar extends and you place a couple of pins into the appropriate slots, add the pin locks, connect the safety chains or cables and plug in the lights and breakaway cable. Finally, set up your toad braking system and you are good to go. When you pull the motorhome forward the tow bar arms lock into place.

There may be a procedure to follow before your toad can safely be moved. For example, my 2010 Honda CR-V must be running then the transmission goes into R, then 1, 2, D, for 5 seconds each and finally back to N. The engine must idle for 3 minutes in N then it is ready to go for up to 8 hours. The heater is set to off. The key is turned off but not locked to allow the steering wheel to rotate. Parking brake is off. My last step is to disconnect the toad's battery so it doesn't go dead. I use a disconnect knob. It all takes no more than 5 minutes.

2 Wheels Down (Dolly) Towing

If you are using a dolly, attach the dolly to your motorhome, install the safety chains or cables, and plug in the lights and the breakaway switch cord. Drop the ramps and drive toad up onto the dolly. Put toad in gear or Park but do not set the parking brake. Now tie toad's front tires tightly down to

the dolly and attach the safety chains or cables to the frame. You will need to stop and tighten the wheel straps after 20 minutes or so because they stretch or loosen up with vibration.

Be Safe

Safety is critical, of course. You need to do your safety walk around to ensure everything is connected and tight, the toad lights work, the toad is properly prepared (transfer case, fuses, etc) to be towed before pulling onto a public road. In the first few moments of your trip, apply the motorhome brakes to make sure you can feel the toad brakes helping the coach slow down.

Toad Preparations - Lights

The toad lights must mirror the motorhome's lights. Traffic laws vary greatly between jurisdictions and I prefer to err on the side of safety. I strongly recommend proper lighting on the toad even if using a dolly.

There are a couple of different ways to do this, one is cheap and easy, the other is more complicated but looks better. The cheap and easy method is to buy magnetic mount lights and stick them on the back of your toad. There are wired versions and wireless versions. Wired are cheaper and more reliable but do the job by running the feeder wire from the front of your toad through the interior, or underneath the car, to the trunk or hatch. Or you can just run them along the outside of toad but you'll risk damaging the paint from the 4 wire ribbon cable.

The wireless ones use a small transmitter to tell the lights when and how to come on. They either have their own batteries that must be replaced or recharged or have to be plugged into a 12V power source which many SUVs have near the hatch door.

I have used the wired ones in the past with no problems.

Wired Magnetic Toad Lights

Wireless Magnetic Toad Lights

The other method is to connect directly to the toad's lights. This maintains the original appearance and eliminates the chance of magnetic lights scratching the paint. Installation is significantly more involved and could even involve partially disassembling the toad's interior panelling and carpeting. Again, labour costs are going to be significant. This is the method I am using but I am handy enough to do the wiring myself.

Toad Preparations – Base Plate

To tow with a tow bar involves more than just a tow bar. You must purchase a "base plate" that is permanently installed on your car. It bolts to the front sub-frame of the car meaning the plastic or sheet metal on the front of the car will have to be removed, perhaps modified, and re-installed. Count on several hours of labour to install this piece.

There are tabs, slots or pieces of steel that extend out to the edge of toad's bumper or even a little farther depending on your toad's design. These tabs marry to the tabs or slots on the tow bar arms and are held together with pins. A base plate from one manufacturer may not have the same type of connection as the tow bar from another manufacturer which is why I recommend buying the complete system from one manufacturer.

Cautions

- You cannot back up with a toad. Well, you may be able to back up a few feet if you are exactly straight and don't try to turn. You have two pivot points that work against each other – the tow bar where it attaches to your motorhome, and the front tires of your toad. Backing up won't hurt your toad but it will severely damage your base plate and/or your tow bar. The forces involved in shoving a 3,500lb vehicle sideways with a 22,000lb vehicle are dramatically higher than this towing equipment is designed for.

- Emergency stopping distances with a toad are longer than without one, even with a supplemental toad based braking system. Plan ahead.

- Fuel mileage will suffer with a toad. My personal experience is an additional 10% compared to driving solo. Yes, that's less than 1MPG but still adds up.

- Oversize tires on your toad can significantly contribute to a "death wobble" which can shake the front end of your toad to pieces. This seems to affect Jeeps most often.

- It is a good idea to keep your motorhome's backup camera turned on while towing. Checking the screen every time you sweep your gauges makes it easier to spot a toad problem such as a flat tire, you forgot to leave the parking brake off (and are leaving skid marks on the road and flat spotting your tires) or it has become disconnected.

Our Motorhome & Toad