

TOWING AND TRAILERING BASICS



You've spent thousands of dollars and as many hours making your car virtually perfect, and now you're going to load it onto a trailer and go places. Although towing may look straightforward, like most things that look easy, it takes a lot of careful preparation to do it right.

WHAT WILL YOU TOW WITH?

Let's start with the tow vehicle. Every vehicle has a manufacturer's towing limit – which should be listed in the owner's manual or on the manufacturer's website. For some vehicles, that limit is zero – you simply shouldn't tow at all. You can damage the transmission, overtax the engine and brakes, and lose control. For other vehicles, the towing limit can range from approximately 1,500 pounds for cars and small SUVs to 7,500 pounds and more for trucks and full-size SUVs. And, if you've exceeded the weight limit, the manufacturer could deny a warranty repair or void your warranty altogether.

When towing a moderately heavy trailer, such as a fully enclosed unit, a full-size pickup truck is always a safe bet as a tow vehicle.

Photo: (cover and below) Courtesy of Featherlite Trailers, www.fibr.com



Just because your tow vehicle is rated to pull the load you have in mind doesn't mean it's ready to go. It needs the right equipment, which includes:

- hitches
- electric brake controllers
- wiring
- transmission oil coolers

Many manufacturers offer complete towing packages, which are added at the factory or by the dealer. If you have any questions about whether your vehicle is ready to tow, check with your dealer.

NETWORK KEY POINT 1

Never exceed your tow vehicle's manufacturer towing limit.

CAR TRAILERS

There are two basic types of car trailers: open and closed. Open trailers are basically flat platforms, or a pair of parallel tracks on which your car rides, and loading is via a pair of ramps. Lighter and less costly, an open trailer allows you to see your car most of the time, and it doesn't require as big or as powerful a tow vehicle as an enclosed trailer. However, loading with ramps takes extreme care, and your car will be exposed to the elements and road hazards such as flying stones, tar, debris and even falling branches. Open trailers are made of steel or aluminum. Steel trailers are sturdy and fairly heavy. Although, they hold up well, they require a more powerful tow vehicle and can rust. Open aluminum trailers can weigh from less than 1,000 pounds to approximately 1,300 pounds, although they tend to be more expensive. Aluminum trailers are significantly lighter, and therefore, cheaper to use because the lesser weight helps to save fuel.

There's a temptation to cover the car to keep it clean when using an open trailer. That's fine when the trailer and car are parked overnight on the way to an event, but in motion, the buffeting of the cover will wear right through the paint and cause severe damage to the finish. Several companies, including Tommy's Trailers,

An open trailer with an airdam – like this aluminum rig – provides some protection from flying debris, but is still much lighter than an enclosed trailer.

Photo: Courtesy of Tommy's Trailers, www.tommystailers.com



offer “trailer toppers,” which are canvas or vinyl covers stretched over bows for use with an open trailer. Because the canopy – which makes the trailer look like a covered wagon – never touches the car, it’s safe for the finish.

Another option to protect a car on an open trailer is to use a front air dam, which is a shield mounted on the front of the trailer. Objects flying in the air are blocked or deflected away from the car.

Closed trailers are excellent for keeping your car safe and clean while you’re transporting it. Another advantage is that loading is easy through a drop gate. It is also possible to carry tools and spare parts in the trailer. However, anything inside the trailer must be securely fastened to the walls or floor; otherwise your car will be damaged by shifting objects.

Although enclosed trailers are a safe way to transport your car, they can be quite heavy and require a large tow vehicle. Additionally, securing the car can be difficult because you must work in close quarters to tie it down.

NETWORK KEY POINT 2

Tools, spare tires or other objects must be secured to the deck or walls of your trailer, otherwise your car will be damaged.

Although it looks like an enclosed trailer, this is really an open aluminum trailer with a “trailer topper.” It provides much of the protection of an enclosed trailer, but without the weight penalty.

Photo: Courtesy of Tommy’s Trailers, www.tommystrailers.com



OPEN TRAILER

Pro

- Lightweight
- Less costly
- Smaller tow vehicle
- Easier to tie down

Con

- Car is unprotected
- Two-ramp loading

CLOSED TRAILER

Pro

- Car is well-protected
- Full, drop-down ramp
- Can be used for car storage
- Can be securely locked

Con

- Heavier
- Needs larger tow vehicle
- Harder to tie down
- Vehicle can't be seen

Whether you opt for an open or closed trailer, there are certain features that can ease loading and are essential to securing your vehicle. All trailers need jacks to support them when they’re not in use, and an electric or manual winch can be a great help when loading – especially when you’re alone. Some open trailers also have tilt decks, which reduce the angle for loading a car with limited ground clearance. Most trailers, enclosed or open, steel or aluminum, use “D-rings” in the trailer deck to which ratchet tie downs are hooked. A minimum of four D-rings (one for each corner of the car) is required, although sometimes more are needed for versatility and the use of wheel nets.

BRAKES AND LIGHTS

Car trailers need brakes. Some basic trailers are offered with braking on one axle only, but most people choose four-wheel brakes. Most car trailers use electric brakes and have a small battery to ensure braking power in case the trailer breaks away. A less common option is a surge brake system, which uses a master cylinder just like a car does. When your tow vehicle begins to slow, the trailer tongue pushes against the hitch and a plunger on the master cylinder is depressed, thus activating the brakes. Both systems are effective if kept in good condition, although electric brakes require less maintenance.

Surge brakes, on the other hand, don't require special wiring, an electric brake controller or a trailer battery. But they do have master cylinders, wheel cylinders and brake lines that require routine maintenance and periodic service or replacement. The neck of the trailer also tends to be a foot or more longer to accommodate the master cylinder.

To be legal, the trailer will also need brake lights, parking lights and turn signals on both sides. For safety, it should also be equipped with side reflectors or side lights. Amber side reflectors or lights should be positioned toward the front of the trailer, with red side lights or reflectors closer to the rear. Lighting and electric brakes are connected to the tow vehicle by plugging the wires of the trailer into a plug or receptacle on the tow vehicle.

NETWORK KEY POINT 3

With 2,000 to 5,000 pounds sitting on your trailer behind your tow vehicle, you need to make sure that the trailer's brakes work. If the trailer pushes your car or truck as you stop, be sure to have the trailer brakes checked immediately.

The master cylinder is proof that this trailer is equipped with surge brakes. The hitch is engaged, the chains are crossed, the safety wire is hooked, and the wires are connected – so this unit is ready to go. *Photo by Jay Texter*



TIRES

Tires fitted to a trailer must be properly rated for a trailer's load capacity. Your tire dealer can help you select the right rubber for your usage. Because trailers sit frequently – usually out in the sun – the tires are more likely to deteriorate from dry rot than from wear. It's important to check the tires regularly for wear and for cracking due to exposure to UV light. You should also have a good spare trailer tire, a jack capable of raising the trailer and a lug wrench that fits the bolts or nuts on the trailer's wheels for changing a tire.

You should also check the tire pressures for both your tow vehicle and trailer. The recommended pressure is stated on the tire, although the tow vehicle's owner's manual will also list the pressure recommendation. If you're not sure of how the trailer tire pressure should be set, check with a trailer dealer or mechanic. Tire pressure needs to be exact. Low tire pressure will overheat and wear the outside edges; high pressure will wear the inside tread. Either condition can cause tire failure or a blowout. Next, make sure that the lug nuts on each wheel are tight.

NETWORK KEY POINT 4

Because trailer tires sit for a long time and are exposed to the sun, they tend to dry out before they wear out. Check them often for cracking and the correct air pressure.

BEFORE EVERY TRIP

Every time you plan on using your trailer, take a few minutes to check these things carefully before loading:

- Lights
- Wiring
- Brakes
- Tires – for wear and air pressure
- Tightness of lug nuts
- Hitch
- Chains
- Breakaway wire

If you're using a particular tow vehicle or trailer for the first time, you'll need to make sure the tow ball (2 inch or 2 5/16 inch) is compatible with the trailer's coupler before you hook up. Then check to see that the ball is tightly attached to the draw bar and that the draw bar is securely pinned to the receiver. A little grease on the ball will help keep it and the hitch from grinding together and wearing out.

NETWORK KEY POINT 5

Before you hitch your trailer or load it, be sure to examine the lights, wiring, braking equipment, safety chains and breakaway wire.

Although many people hitch their trailers alone, it helps to have another person guide you when backing up to position the hitch ball under the coupler. The next step is to lower the jack so that the coupler lands right on top of the ball. Then lock the hitch.

After the trailer is securely hitched, it's time to crank the jack up all the way so that it can't drag. If the jack drags, it – and the entire hitch assembly – could be damaged.



Photo by Jay Texter

Next, connect the electrical wires between the trailer and the tow vehicle. In some cases, the trailer wires will insert right into a receptacle on the tow vehicle. More commonly, two sets of wires – each with its own plug – will

need to be connected. If the trailer plug and the plug on your tow vehicle aren't compatible, most auto parts stores or trailer dealers will have adapters. In addition to adapters, extensions for the wires are also readily available. These are often essential to make sure that the wires are long enough. If they're too short, they will pull out and damage the plug when you turn the tow vehicle and trailer. If too long, they can drag on the ground or get caught on something on the road. If the wires droop a little, be sure to secure them with a wire tie so they don't drag. Finally, connect the plugs and make sure they are secure.

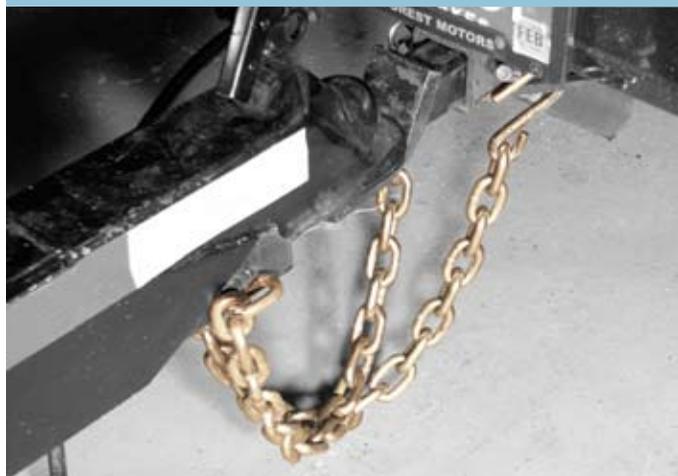
Now it's time to connect the safety chains. Some states require that the chains are crossed. Whether mandated by law or not, crossing the chains gives added stability should the hitch become disconnected while traveling. The final step is to connect your breakaway wire, leaving room to turn. If your ball or hitch breaks and the trailer disconnects, the wire will pull out and engage the trailer brakes – whether you have electric or surge (hydraulic) brakes. For trailers with electric brakes, you can check the 12-volt breakaway battery with a voltmeter. A voltage of 10 volts or more is fine. If the voltage is less than 10 volts, replace the battery. To prolong the life of the breakaway battery, compact chargers are available that work from the tow vehicle's electrical system.

NETWORK KEY POINT 6

Be sure to cross the safety chains when you connect them. Not only is it more secure if the coupler detaches, it's required by law in many states.

After the trailer is connected, check to see that the lights are working – both left and right turn signals, clearance (parking) lights and brake lights. If all the lights don't work, disconnect the plugs and clean the contacts. If that doesn't do the trick, you may need to change bulbs that have failed.

Many states require that trailer safety chains be crossed. If they aren't crossed, you can be stopped and ticketed.



Once the lights are working, slowly pull the trailer and engage the trailer brakes. You shouldn't feel the trailer pushing your vehicle. In the case of electric brakes, you can adjust the brake controller in your pulling vehicle.

Before you load the car, make a last check underneath the trailer to make sure no lighting wires are hanging down and nothing is broken under the trailer. All of the steps in hitching seem like a lot to do, but your safety and the safety of your car, tow vehicle and trailer are worth it.

LOADING TIME

When loading your car onto the trailer, make sure the trailer is parked on level ground. Even if your tow vehicle is in Park with the brake on, wheel chocks (blocks) add a degree of safety. If you're using an open trailer, put the ramps in place; on an enclosed trailer, open the rear loading gate. The easiest way to load your car is to use an electric winch connected to a "bridle" harness attached to the front live axle or suspension of the car. The bridle is a V-shaped harness that wraps around each side of the front suspension on the vehicle being winched (but never the steering gear) and has a ring to take the hook from the winch cable. Although a manual winch will work fine, if you're loading alone, an electric winch with a remote control will allow you to easily turn the steering wheel while controlling the movement of the car.

Whether you're driving onto the trailer or winching the car, the first step is to carefully position your car behind the trailer and align the ramps.

Next, hook up the winch and begin loading. Loading is pretty simple with an enclosed trailer's drop gate, but you'll have to keep a close watch on the relationship of the tires to the ramps on an open trailer.

If you're driving onto the trailer, you can look out your car window at the side rail of the trailer and drive right onto the trailer. As you're driving onto the trailer, the front of the trailer will rise up; and as you pull over the axles, the trailer will level out. Once you think you're

centered on the trailer, get out and check to see if the trailer is level. Make sure the tongue of the trailer is not too high or too low. When driving onto a trailer, it helps to have another person direct you and stop you at the right point.



Loading a trailer alone is a lot easier when using a bridle harness and a winch. The combination allows you to inch the car up the ramps while ensuring it's properly aligned. *Photo by Jay Texter*

NETWORK KEY POINT 7

When loading alone, using a winch is often safer. From outside the car, it's easier to ensure that the car is properly aligned on ramps and correctly positioned on the trailer with less risk of damage to the vehicle.

Tying Down

Once the car is properly positioned on the trailer, it's time to tie down your investment. Using four nylon ratchet straps and four nylon axle straps



Photo by Jay Texter

(or combination straps that combine the ratchet and axle strap) will make it simple. Always tie down the chassis or suspension, not the body. Tying down the body can damage the trailer's D-rings. Imagine the car compressing in the trailer on a bump. When it rises again, it can pull the D-rings out of the trailer.

By tying down the chassis, the car floats down the road as it is supposed to. You can cross the ratchet straps or keep them straight. Wrap the axle strap around the axle housing in the rear, and then use the ratchet straps to increase tension. Up front, wrap the axle strap around something that won't cut the strap – like an A-arm, chassis rail or solid front axle – and use the ratchet straps to finish tying the car down. Be careful not to secure the straps around the sway bars, steering arms or the steering rack. When positioning the straps, make sure that no brake or oil lines are crushed.

NETWORK KEY POINT 8

Never move a trailer unless a car is firmly secured by ratchet straps at all four corners. Moving an unsecured car even a few feet can result in personal injury and/or damage to the vehicle.

Many people favor crossing the ratchet straps to reduce the chance that the car will “walk” and move sideways on the trailer.

Photo by Jay Texter



Once you have finished loading your car and closed the ramp door or stowed the ramps away, check the brakes again and you're ready to go.

ON THE ROAD

If you've never towed before, it makes sense to take the trailer out before loading up just to get a feel for it. This is also an opportunity to make sure the brakes are working, to practice taking wide turns, and to learn the art of backing a trailer.

As you pull out for the first time with a full load, proceed slowly to make sure the trailer is tracking well and the car – if you can see it – appears secure. After traveling between 10 and 25 miles, it's an excellent idea to stop and check the tightness of your ratchets. New or wet ratchet straps are prone to stretching. Once you've made that initial stop, it's a good idea to check the straps every time you break for fuel or food and following any severe stops.

NETWORK KEY POINT 9

Always stop and adjust the tiedowns after the first 10-25 miles of any trip. After that, you should check them every time you stop for fuel or following any severe stops.

Gas Stop Check List

- Check ratchet straps for tightness
- Put your hand close to the wheel hub to feel excess heat – a sign of sticking brakes or a bad bearing
- Inspect hitch assembly
- Check safety chains and breakaway wire
- Ensure all wires are connected
- Inspect tires for any cuts or visibly low pressure
- Tighten lug nuts at least once per trip

With a new trailer or when you've had new tires or wheels, you should check the lug nuts for tightness every 100 miles up to 1,000 miles. In the case of aluminum wheels, that safety check should take place every 50 miles for the first 1,000 miles.

At first, your tow vehicle will feel heavy, but you'll soon get used to it. Towing isn't difficult, but you can't hurry and must allow plenty of distance for stopping – especially on wet surfaces – the last thing you want to do is slam on the brakes. When you make a turn, you'll want to take it as wide as you can to avoid jumping curbs and to keep from brushing anything with the trailer. The hardest part about trailering is backing up. Remember to turn the wheel in the opposite direction of where you want to put the trailer. Initially, backing up will seem difficult, but it gets easier with practice.

Because you won't be cornering hard or fast while towing the trailer, the only time that tire traction for your trailer is an issue is when you brake. Traction is always reduced in wet weather, meaning that you'll need to allow even more stopping distance than usual if you're towing in wet weather.

MAINTENANCE

Most trailers sit far more than they're used. As a result, corrosion can take place during long periods of inactivity. We recommend having the wheel bearings repacked and the brakes checked for wear and broken parts on a yearly basis. You should also pay close attention to the tires, because they're more likely to perish from dry rot or exposure to the sun than from wear. If your trailer sits outside, you may want to keep the wires and tires covered, as well as an exposed winch or the tongue mechanism and master cylinder (if the trailer has surge brakes).

NETWORK KEY POINT 10

If your trailer is unused and sitting out, be sure to keep the wires and coupler covered. Having the brakes and wheel bearings checked on a yearly basis will also help keep you and your collector car safe.

TRAILER REGISTRATION & INSURANCE

Just like cars, your trailer needs to be titled and registered (details vary by state). In some states it may even need to be inspected every year. When you're using it, you'll need to make sure the license plate is in place and that you have the registration with you. When you're towing the trailer, the auto liability policy of your tow vehicle extends to the trailer. However, unless you arrange with your regular or collector car insurance agency or company, you won't have physical damage coverage for the trailer.

Trailers are rated for the loads they can carry. If you have a trailer with a gross vehicle weight rating of 3,000 pounds, that's all it can carry – including the trailer weight. If your load exceeds that, you'll be taking a risk and breaking the law. When you buy a trailer, take into account the weight of the heaviest car you're likely to transport. If you have an Austin-Healey 3000 (weighing 2,400 pounds) and a 1959 Cadillac Eldorado Biarritz (weighing 5,100 pounds), make sure that your single-car trailer can safely carry the heavier vehicle.

NETWORK KEY POINT 11

Your trailer is automatically covered for liability when it is being pulled by a vehicle covered under your regular auto insurance policy. However, if you want physical damage coverage for the trailer, you must contact your insurance company.

Although we haven't attempted to cover all aspects of trailering your collector car, we have addressed basic safety issues with the help and advice of Rusty Hudson of Tommy's Trailers (www.tommytrailers.com). We hope that these suggestions will help you have many miles of safe and happy towing.

Hagerty is the premier source for safety and protection information about the collector car hobby. For more information on enhancing your collector car ownership experience, log on to **www.hagerty.com** or call **800-922-4050**.



Towing & Benefits Program

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