

# MYTHS OF TRAILERING

• Bill Brobst

Did you pile your bags high on the back of your motorcycle again last summer? Curse the limited stowage of your saddlebags and top case? Leave behind an extra change of clothing in order to bring the tent? Is cycle camping really not much fun? Well, there's a better way. Several ways, actually. One is to quit camping. Another is to send the equipment on ahead in a van with your non-cycling spouse and avoid hauling it around on your bike. You could join a few of my more sedentary friends (and sometimes me) and sleep in hotels. Or move all the gear into a trailer.

Dragging a set of training wheels behind your scooter doesn't mean you're a madman. Trailers give you an option similar to the trunk of an auto—space, security and weather protection. They give you more room on your bike, better dynamic stability (sometimes), reduction of rear-wheel load and more convenient packing. You can even pack in some extra food and fuel for that long trip into the boondocks.

Now comes the other shoe. You better believe that dragging a trailer isn't all peaches and cream. There are some drawbacks to trailering as well as good points. You'll hear all sorts of war stories and warnings about pulling trailers. Are they true, or just old wives' tales?

Have you read your motorcycle owner's manual lately? It probably says, "Don't pull a trailer with this cycle." Most auto makers put the same disclaimer in their manuals, especially for small cars. This is not because trailering is dangerous, but only because the makers don't want to incur any liability. Riders might misuse a trailer, or pull an untested homemade rig whose instabilities might cause an accident.

Pulling a trailer gives a new meaning to the term, "My tail is draggin'." Without question, there's a lot of black art to selecting and pulling a trailer, and the art is practiced as a personal sport by many artisans. But there's a certain science to it, as well. We'll try to pull apart the science from the art and let you make up your own mind as to whether the myths are real. Is it fun or a real *draaaaag*?

## Trailers are Dangerous

**False.** This is the first thing we hear from most non-tuggers, and from some of the experienced trailer pullers as well. You'll hear it from me. But what you'll also hear is that motorcycling is dangerous. So is bicycling, skiing, swimming and climbing stepladders. We all choose our risks. Pulling trailers is more dangerous than sleeping through a movie, but not as dangerous as stacking your gear up on the luggage rack and rear seat of the motorcycle.

I say trailers are not dangerous. Motorlists and motorcyclists

are dangerous. Most accidents are pilot error, not equipment failure. Watch out for the trailer tugger who says, "I never even know it's there!" True, when you're cruising at speed on a good road with little crosswind, and if you're not looking in your rearview mirrors (a bad habit, by the way), you don't sense the presence of the boogie box behind you. But when the traffic gets thick, or the road gets rough, or you cut too close to a curb, you'll remember. All of that is true whether you pull that trailer with a cycle or a car.

## Design Doesn't Matter; Function Is All That Counts

**False.** Some say that quality means more than shape. Some would sacrifice design for function. Some say "more is better." Some say "smaller is safer." Long and low, or short and narrow? Who's right? There's truth in it all.

Poor trailer design and construction will lead to lots of operating problems. A good rig is a joy to tow. Selection criteria are all-important, right from the beginning. And remember, a cheap bargain is no bargain at all if it isn't what you really want, and isn't well designed and made.

Short and narrow means you can wheel that rascal right into the motel room with you (provided you're on the first floor and the manager isn't looking). Like the cat's whiskers, if the front-end can get through an opening, you know the rear-end can, too. Short and narrow also means less stability; easier to flip over and easier to put into a sway mode. A wide wheelbase (or wheelspan—the distance between the wheels) and a low center of gravity means more stability, other things being equal. Without this kind of stability, you can flip a trailer on its back by either swerving suddenly or hitting a big bump with just one trailer wheel. A lot of my friends have done it. Tall trailers make for some tall tales.

Short tongues make for jerky rides and swaying trailers. Ideally, the tongue length (distance between the axle and the hitch point) should be at least twice the wheelbase width. But a short tongue is easier to maneuver into and out of a parking place. For myself, performance on the road is more important than parking performance.

Who needs good aerodynamics? It's easier to store the cargo in a rectangular box. Milk cartons and boxes fit more easily in a box than in the angled and sloping models. But box shapes and sharp edges and corners produce the worst possible aerodynamics. To me, design matters a lot—shape, size, quality.

A good aerodynamic design produces less engine wear, less trailer sway, less exhaust-fume backup into the driver/passenger area and much better fuel consumption. Buy the design, not the cute paint job. Large box-shaped trailers will

cause more air turbulence, trailer sway, aerodynamic drag, crosswind buffeting and exhaust curl-back.

The bigger the box, the better the bed. Sure you can carry a great bed in a big trailer. But you'll pay for it in brake and clutch wear, and your bike brakes may just not be up to the job of stopping that big rig. You want to avoid having to use a runaway truck ramp because your old drum brakes faded heading down Donner Pass. Being able to carry the kitchen sink doesn't mean you ought to try it. More volume in the trailer doesn't mean that more weight is okay. By the way, if you do pull a trailer, be sure to pull the heavy stuff out of your saddlebags and top case and put it in the trailer.

#### Just Toss It All In

**False.** How many times have you heard that all this careful packing is for the birds—just toss it in and take off. Freedom is what counts. For me, freedom from a shifting load counts more. I pack the same way every time. The cargo is carefully spaced out for proper tongue weight and equal wheel load.

Proper loading techniques make the difference between a safe, stable load and one which feels like a cross between a load of mad pit bulls or hula dancers. Ever see a bike trailer beboppin' down the road with one side bouncing higher than the other? That's due to too many heavy items on one side. Keep the heavy items equally spaced from side to side, and as low as possible, to lower the center of gravity. You can weigh each wheel with a bathroom scale to check it.

Use a consistent loading pattern, then memorize it or jot it down and repeat it each time. Keep the load snug in the trailer so it doesn't shift while underway. Your pillow and sleeping bag make good padding. Keep the excess gear off the top of the trailer—it ruins the aerodynamics and lightens the tongue weight too much when you're rolling along. Never overload the trailer beyond its gross weight rating. Be sure to load it with something—an empty trailer bounces like a kangaroo and wobbles like a duck.

#### Trailers Wear Out Your Cycle

**True.** It's true that brakes and clutches will wear out faster. Driving techniques can do a lot to ease that pain. That's also true when pulling a trailer with a car, too. If you start slowing down a bit earlier for an intersection, and avoid dragging the clutch starting out, you may never wear out either one.

What the trailer will do is wear out your billfold at the gas pump. With the reduced mpg, your fuel stops will come along more frequently. Depending on how heavy and how aerodynamic your trailer is, and how sensibly you operate it, you'll see mileage reductions from 15 to 35 percent. And don't believe for a minute the biker who claims that he gets just as good gas mileage with the trailer as without it. He probably doesn't understand traffic laws any better than he does the laws of physics. Work is work, and it's gasoline that provides the extra energy to pull a trailer.

If your cycle already has a small tank, you may find some real inconvenience, especially in the boonies. You could carry a can of gas in or on the trailer (a practice fraught with its own problems), but I don't recommend it.

#### The Lighter the Tongue Weight, the Better

**False.** You even see this in some ads for trailer makers. They dare to brag about it. Yet a light tongue weight is probably the most serious contributor to trailer sway. With a few notable exceptions (like the Escapade and the Startlight), the faster you drive, the lower the tongue. As the wind pushes on the front of the trailer, it tries to rotate the trailer rearward, lifting the tongue. So your nice, careful 30-pound static weight, measured on your bathroom scale in your driveway, becomes only five pounds, or even a negative weight, with your big boxy trailer. And then it'll swing and sway.

Keep the tongue weight up. More (up to a point) is better than less. You'll need 10 to 15 percent of the total trailer weight on the hitch. If you're pulling a box-shaped trailer rather than

an aerodynamic one, add another few pounds to that. After all, 45 pounds of tongue weight isn't as much of a strain as a 150-pound passenger.

#### A Swaying Trailer Is Certain Death

**False.** Actually, a swaying trailer is more of a nuisance and a distraction than a serious hazard. It'll sure get the attention of other drivers, and so there's a conspicuity advantage. As long as the sway isn't violent, it won't put you down. But if it chew up the tires on both the cycle and the trailer. Yes, the cycle tires as well, since any movement in the trailer induces a compensating movement in the cycle. And if you really want to have fun, just try pulling your swaying tail in rain grooves or over a metal bridge grate in a crosswind. Wow, man; that's a thrill. Next trip, you'll add some tongue length and weight.

#### A Swivel Coupler Will Flip the Trailer

**False.** I've heard this from people who actually believe that a rigid coupler will allow the mass of the cycle to hold back a trailer that's trying to rotate onto its back after hitting a big bump with one wheel. That scares me. If there's so much rotational force in that trailer that it's on its way to being inverted, then without a swivel coupler the rotational force is likely to put the cycle down as well. Dragging an inverted trailer is noisy and scratchy, but it's never been fatal, to the best of my knowledge. The rigid coupler causes many more problems than it solves.

A fully swiveling coupler avoids damage to both the bike and the trailer when the bike goes down. With a standard rigid ball coupler, a dropped bike will bend some metal. And I don't want any bent structural members on my rig. As many times as my bike has fallen over in a parking lot or campground, my swivel couplers have paid for themselves many times over. The full swivel also prevents hitch binding on deep turns, a negative force I don't need when I'm leaning over hard.

#### Gotta Have Shock Absorbers

**Depends.** Very few trailers have them, usually only the very heavy ones. Cycle trailers just don't have enough mass to keep bouncing up and down after hitting a bump. With a just-right suspension, shock absorbers may not do much good. They probably don't hurt much, as long as they're specifically designed to handle a load of only a couple hundred pounds each. And in those rare cases where a trailer is fitted with coil springs, proper-size shock absorbers are a real plus in controlling bounce.

Certainly a rigid axle bolted to the cargo box or frame transmits a fantastic amount of stress and vibration into the trailer and its contents. I tried one once, and it beat my equipment to death. Leaf springs, coil springs plus shock absorbers, or torsion bars are all quite acceptable. The trailer should bounce a little, but not a lot. Art, not science? Yep.

#### A Trailer Screws Up My Maneuverability

**Sure does.** Or at least it changes it. After all, a bike piled high with bags on the rear end is not very maneuverable at all, especially if you get back onto some soft surfaces, like sand. Moving slowly through a rough campground with a trailer takes some practice; it feels like there's a hula dancer on your rear seat, with the trailer tongue wobbling back and forth. An aerodynamically designed trailer is actually stabilizing in a crosswind, though, much like a sea anchor. You can prove to yourself that it's not all that bad by taking the MOST (Motorcycle Operator's Skills Test) with your trailer attached. I've done it, and scored almost as high (just barely passing) as I did without the trailer.

#### I Want Big Wheels on My Trailer

**Me, too.** No question but that the larger the wheel diameter,

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the smoother the ride. On the other hand, there's nothing quite as much un-fun as trying to find an off-size tire or wheel early on a Sunday morning out in the boonies. The standard little boat trailer wheel works quite well and is easily replaceable.

### Don't Ever Use Safety Chains

*False.* Someday you'll forget to lock the coupler in place. The safety chains keep your trailer from self-destructing when it comes loose. Lucy Anne and I have both been favored by our fervent use of safety chains, all due to my oversight when hitching up. Twice I forgot to secure the ball coupler! Once was in a campground and once on the roadway. Don't laugh; it could happen to you.

The chains need to be strong, especially the hook. Avoid the cheap, lightweight spring clips; they'll snap if the tongue drops onto the chains. There are lots of myths about safety chains being dangerous but, as far as I've been able to tell, they're all smoke. Tongues really don't creep up into wheel wells. In any case, we have a responsibility to other drivers not to fling our trailers in their faces just because we messed up in some way.

Cross the chains under the trailer tongue

so the right chain hooks onto the left side and vice versa. Slack in the chains should be equal on both sides and long enough not to hinder the turning of the rig, while short enough to prevent the trailer tongue from hitting the ground when suspended only by the chains and keep the coupler from popping out over the ball. No long swinging loops! Keep them just snug enough to be able to turn the trailer 90 degrees to the bike without binding. Somewhere there's a happy medium for your own rig. However you may feel about them, use them. A loose trailer can cause terrible pains. And then your tail will really be dragging! Besides, it's illegal not to use them.

### You Don't Need Lights; Reflectors Will Do

*False.* Every state requires lights; don't skimp on them. The trailer sits very low as it is, giving an unusual perspective to a following driver. The more you can light up your home on wheels, the less likely that another driver will park his bumper on it. You'll need running lights, stop (cycle brake) lights, turn signals, a license plate lamp and some amber clearance lights on the front edges.

By the way, reflective tape is a great attention getter, and gives other drivers a better sense of the size and dimensions of your trailer. Besides, it'll help you find

your campsite in the dark.

### The Bottom Line

When it comes right down to it, most trailer pullers are convinced that putting the load in a trailer is safer, easier and more fun than putting a big load on and around the rear wheel. Although some of this article might sound negative, the art of pulling a trailer with your bike isn't much different than pulling it with a car. The basic principles apply to both. The trailer is a good way to avoid the bungee-pack rear-end load. It's also easier to get into the trailer for a candy bar or a cool drink than digging into a tied-down pack. It makes camping and traveling by bike more pleasant.

You'll even have room to bring home that ugly souvenir you found at the local tourist trap. [ ]

About the author: Bill Benist is a well-used cyclist from North Carolina. He's pulled trailers for most of his 20 years on bikes, and has written a book on the subject, *Pulling Your Tail*, available for \$5.95 from TTE, 6073 Currituck Road, Kitty Hawk, North Carolina 27949.