

Tips for Two Up Riding

Most motorcyclists ride “solo” most of the time. Sure, there are couples who ride two-up on every trip, but most riders seldom carry a passenger. So when we do ask someone to share the ride, we may forget to explain what they need to know, or not remember that the additional load will require different riding tactics. Below are some of the basic concerns for carrying passengers.

The Safety Briefing

When you have a passenger lined up to ride on the back of your saddle, it’s part of your job to describe or provide the necessary riding gear, and explain how to climb aboard, what to do when the bike leans, and how to communicate at speed. After a few rides, passengers will know what’s expected.

For a novice passenger, you should explain the need for riding gear that is warm and durable, including boots to prevent burns on hot exhaust pipes, gloves to protect the hands, a helmet to protect the brain, and eye protection. You should discourage any potentially harmful clothing, such as a long, floppy scarf that could wrap around your helmet in a cross-wind, a long drover coat which could snag its tails in the drive chain, boots with dangley things which could catch on a foot peg, or spike heels which will melt onto your mufflers.

For first-timers, it’s also helpful to explain that you will saddle up first and get the bike balanced, and then the passenger can stand up on the passenger peg and swing onto the saddle. Mention that motorcycles lean into corners, that leaning over is normal, and that the passenger should lean the same as the rider. There are a number of other little points you could cover, such as the passenger keeping feet on the pegs when stopping, and that you will do the traffic signals, thank you. New passengers want to do the right thing, and will probably appreciate some coaching.

Handling Changes

What’s most important for the rider is that a second person on the bike changes the total mass and the loading, and that changes how you control the bike. Acceleration, braking, and cornering tactics all change, not just because of the additional mass and where the weight is loaded on the bike, but also because the second rider’s weight can shift around.

Quick Stops

Consider what happens during hard braking. There is more total mass to stop, so you can expect a somewhat longer stopping distance. But, with more weight on the rear wheel, more rear braking can be used in a quick stop, or on slick pavement. On a machine with integrated brakes, you won’t notice much difference, except that it takes harder braking and more distance to stop quickly. More weight means increased traction, so you might think the limiting factor would be brake efficiency. But what you will discover when you try a quick stop, is that the passenger slams forward during hard braking, limiting how

much brake effort you're willing to apply.

In a quick stop, the passenger pitches forward

Passengers don't expect sudden stops. But when it becomes necessary to immediately apply the brakes, the passenger will slam into your back, pushing you forward onto the tank. You will need to modulate the brakes well short of maximum, just to keep from being pushed into the handlebars. The lesson is that you must always allow more stopping distance when carrying a passenger. Remember, the passenger can't see ahead as well as you can, doesn't know when you are going to suddenly squeeze the lever, and during a stop doesn't have much to brace against, except you.

If you carry a regular passenger, you might consider practicing quick stops with the passenger aboard. Some training sites allow passengers to be carried during the practice exercises. The typical drill is for the rider to take the course with no passenger, and then repeat the same exercises with a passenger the next day. Passengers may find it helpful to listen to the classroom presentations, too. It helps them to understand why you're doing what you're doing, and why you must concentrate so much on traffic and surface hazards.

Acceleration

When accelerating, you have more control over the situation, because you can roll on the gas smoothly to help the passenger stay put. Heavyweight touring machines with top boxes and passenger backrests provide a relatively secure perch for the second rider, but many machines don't offer much in the way of passenger hand holds. Those silly straps that manufacturers used to stretch across the middle of the saddle were supposed to be grab handles for passengers, but only lawyers could figure out how a Homo Sapien might have braced against a quick stop with their hands between their knees. Some machines provide solid grab handles around the rear of the saddle, but it is still difficult to hold on if the bike is accelerating quickly.

Just remember that your passenger doesn't have much except you to hold onto. You can suggest that they grasp you lightly around your waist. If your passenger gives you a little squeeze while riding along in a beautiful sunset, the message is probably "Gee, Honey, I'm glad you brought me along." But if your passenger suddenly strangles you in a bear hug as you roll on the gas, it's probably a sign you are getting a little too aggressive with the throttle. If you want to enjoy the company of a second rider, you've got to make them comfortable, which really means riding conservatively.

Cornering

When you are carrying a passenger with little motorcycle experience, you shouldn't be surprised when they panic as you lean the bike over into the first sharp turn. Of course it will be your turn to panic if the passenger manages to lean outward while you're trying to get the bike leaned over. The wise rider takes

corners sedately for the first hour or so, to allow the novice passenger some time to adapt to this leaning business, and also for you to adapt to cornering with the additional mass.

If your bike already has limited lean over clearance, don't be surprised when the bike starts making sparks while cornering with a passenger. That's because the additional weight of the second rider compresses the suspension more, reducing lean over clearance. You can reduce the "touchdown" problem by following a larger-radius cornering line, by reducing entry speed more than for "solo" riding, and by rolling on the throttle more as the bike is leaned over. But if your machine makes sparks too easily, that's a message to get the bike jacked up off the pavement a little more.

First of all, check your tire pressures. When carrying extra weight, your tires need extra pressure. Typically, the tire chart for your bike will suggest 3 to 6 p.s.i more pressure in the rear tire. If you've already been lazy about checking your rear tire pressure, you could easily be 10 pounds less than "passenger" specs.

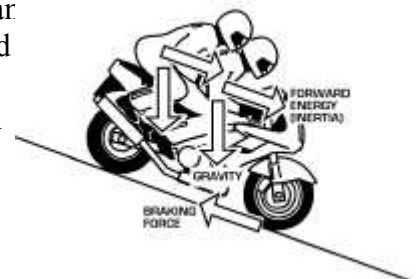
While you're checking the bike, take a close look at the rear suspension. The springs on your shocks may have been on the weak side right off the showroom floor, and most springs sag even more with some mileage. If you have an agile and cooperative passenger, you can check the shock preload by measuring the travel with a tape measure. With the bike unladen, measure the spring length. Then measure again with both rider and passenger weight on the machine. Ideally, the springs should only compress about halfway to the limit with the full load supported on the wheels.

If the shocks are close to bottoming out just sitting there, jack the spring preload to maximum, and check again. If that doesn't get the preload back into an acceptable range, it's time for stronger shock springs. Shock suppliers can usually provide similar-looking but stronger springs, or dual rate springs. There are also specialty shocks with multiple springs for a wider range of preload adjustment, and spring spacers for front forks. The suspension specialists are always willing to offer advice. Talk to your parts man, or call the suspension people directly. Be prepared with the model number and year of your bike, and the weight you intend to carry, including rider, passenger, and typical baggage.

Hills

Hills can provide some surprises, too. Consider where a passenger's weight is positioned on the bike. Typically, the passenger is sitting directly over the rear axle. On level pavement that means the rider's weight isn't applying any load on the front wheel. But when the front end is pointed downhill, more of the passenger's weight is transferred to the front wheel.

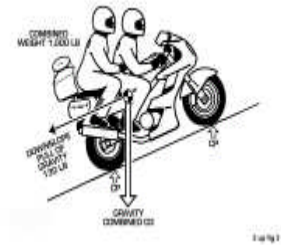
When you are braking on a downhill section, the weight shift forward will increase front wheel traction. Obviously, the brakes have to overcome the forward energy of the riders as obvious is that when pointed downhill, the riders' weights are being pulled downhill by both forward energy and by gravity. And [kinetic energy](#) increases dramatically with increased speed. When braking on a downhill section, the brakes have to overcome both forward energy and the downhill pull of gravity.



If you're approaching a steep downhill turn, you don't want to delay braking until the last second, and then find you can't get the bike slowed to an acceptable entry speed for the corner. More than a few riders of heavy touring machines have made sight-seeing excursions into the weeds when they discovered they couldn't get the overloaded bike down to speed on the available pavement.

When pointed uphill, it's a different ball game. Remember, if the passenger is perched over the rear axle on the level, then on an uphill slant the passenger's weight will be behind the axle. And the rider's weight will also be shifted towards the rear wheel. That's why a bike with a passenger aboard wants to do a wheelie when you're trying to get started uphill.

With a passenger aboard, the bike may do a wheelie when you're trying to get started uphill.



The wheelie problem can be even worse when there is a heavy load carried behind the passenger. If you find yourself in a situation where the front wheel starts to float as you ease out the clutch, try to get some weight shifted forward.

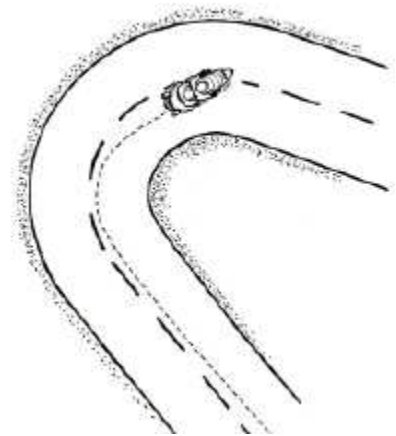
You can try standing on the pegs and leaning up over the tank, but that's not easy when balancing the bike with a passenger. If you encounter this situation more than occasionally, you should take steps to unload the rear of the bike, one way or the other.

For instance, consider what you're carrying in the top box or saddlebags. Perhaps heavier objects could be moved to the front of the saddlebags, or to a tank bag. Maybe you don't really need to carry that set of 1/2-inch drive sockets strapped over the tail light. Or maybe it's time for a bike with a longer wheelbase.

Even if the bike doesn't show any air under the front wheel when the bike is climbing uphill, be aware that the weight shift rearward unloads the front tire, and that decreases traction. In an uphill turn, that means the front wheel can drift wide.

Remember, the front end gets lighter heading uphill, which means the front tire has reduced traction.

You can help maintain front tire traction in uphill corners by entering at a slightly higher speed than in a comparable level corner, so that the machine's forward energy continues to pull it uphill. Remember, rolling on the gas tends to lift the front end, so you don't want to roll on just where you're also leaned over. If the machine's inertia can carry it uphill, you won't have to roll on the gas in mid-turn. That's a good tactic when riding by yourself, but when carrying a passenger it is much more important.



Carrying Children

If you're suddenly faced with the dilemma of making a choice between children and a motorcycle, the obvious win/win situation is to take the kid along on the ride. The problem for the kid is that children younger than perhaps 9 or 10 years old tend to be not equipped physically or mentally to stay put on the back of a motorcycle at speed. The problem for the adult rider is that even a minor injury to a child from

motorcycling will probably spell the end of the ride for another 16 years or so. Statistically speaking, very few children under age 12 are injured in motorcycle accidents, but if you're the unfortunate parent or grandparent holding onto the handlebars when the kid got hurt, you're going to receive more trouble than you bargained for.

A variety of imaginative approaches have been invented for carrying children on the back of a motorcycle, but none of them are foolproof. The most obvious hazard is that the child can fall off. So, there are belts with passenger handles for the child to hold onto, and belts which strap the child to the rider. The bottom line is that whether the child falls off or gets dragged off during a slide out, it's going to be ugly.

The safer approach to carrying children is to go for a sidecar outfit. Not only is it unlikely a child will fall out of a sidecar after they fall asleep, but in the event of an accident, the child has some protection by the sidecar body and chassis. Most importantly, a three-wheeler is much less likely to slide out on loose gravel, or take a tumble when crossing an edge trap, grated bridge deck, or railroad track.

If you aren't quite willing to risk carrying a child on your two-wheeler, but you're willing to learn how to drive a three-wheeled motorcycle, maybe it's time to look into a sidecar.

Be aware that driving a three-wheeler is an entirely different experience, but fun in it's own way. There are no statistics available from the [insurance industry](#), the federal government, or the motorcycle industry in the USA that give us any conclusions about the lowered risk of sidecars, but veteran sidecarists believe that outfits are inherently less risky than two-wheelers. If you're a parent facing the motorcycling vs. child dilemma, you'll have to make up your own mind.

If you would like additional information about sidecars, go to www.sidecar.com . For information about sidecar training courses and sidecar/trike instructor certification, contact the Evergreen Safety Council, dave@esc.org.

Whether you're intending to carry an occasional passenger, or your significant other wants to go along on every ride, the experience is bound to be more fun if everyone understands what's needed, and there aren't any hazardous surprises. If your life has been getting a little boring recently, it is highly recommend to take a ride on the back of someone else's saddle. After that, you'll probably appreciate a conservative rider who takes off gradually, stops smoothly, and corners uphill or down without any unplanned sight-seeing excursions off the road.