Emergency Assistance
1-800-525-5555 or cellular *55

Road Conditions
1-888-275-6636

Published By:
Missouri State Highway Patrol
P.O. Box 568
Jefferson City, MO 65102-0568
(573) 751-3313
V/TDD (573) 751-3313

An Internationally Accredited Agency

SHP-445 D 1/2018

Motorcycle Safety

Motorcycle Safety

There are over 153,213 motorcycles registered and over 369,214 qualified motorcycle operators licensed in Missouri. The popularity of this mode of transportation is attributed to the low initial cost of a motorcycle, its use as a pleasure vehicle, and its fuel efficiency. Motorcycle fatalities represent approximately 10 percent of all Missouri highway fatalities each year, yet motorcycles represent approximately 2.7 percent of all registered vehicles in Missouri. One of the main reasons motorcyclists are killed in crashes is because the motorcycle itself provides no protection in a crash.

An automobile has more weight and bulk than a motorcycle. It has door beams and a roof to provide some measure of protection from impact or rollover. It has cushioning and airbags to soften impact and safety belts to hold passengers in their seats. Automobiles have windshield washers and wipers to increase visibility in the rain and snow. An automobile has more stability because it's on four wheels, and, because of its size, it is easier to see. A motorcycle suffers in comparison when considering vehicle characteristics that directly contribute to occupant safety. What a motorcycle sacrifices in weight, bulk, and other crashworthiness characteristics is somewhat offset by its agility, maneuverability, ability to stop quickly, and ability to swerve quickly when necessary.

Always Ride Safely!

Motor Scooter/ Mini Cycles

- Scooters and motorized bicycles have been advertised as toys, but unless you have a driver's license, they are illegal to operate on public streets and highways.
- Many of today's trendy scooters—gas or electric—qualify as motorized bicycles, and Missouri law explicitly prohibits the operation of a motorized bicycle on a public street unless the driver holds a valid license to operate a motor vehicle. (Section 307.195.1 RSMo.) Operating motorized bicycles on interstate highways is prohibited, also. (Section 307.195.2 RSMo.)
- No helmet is required for the operator of the motorized bicycle, but it is recommended, and the motorized bicycle is not required to have a motorcycle endorsement.
- A motorized bicycle is, "Any two-wheeled or three-wheeled device having an automatic transmission and a motor with a cylinder capacity of not more than 50 cubic centimeters, which produces less than three gross brake horsepower, and is capable of propelling the device at a maximum speed of not more than 30 miles per hour on level ground." (Sections 301.130 and 307.180.2 RSMo.)
- The electric equivalency to 50cc is 2237.1 watts of power. Therefore, any motorized bicycle or scooter (gas or electric), which does not meet the specifications above, is classified as a motorcycle, and the rider and motorcycle must be licensed as such.
- Recreational off-highway (utility) vehicles (four or six wheels) may be operated within three miles of the operator's primary residence. Cities and counties may issue special permits to licensed drivers for special uses of recreational off-highway vehicles. A valid operator's or chauffer's license is required to operate a recreational off-highway vehicle on the highways. The driver of the vehicle must wear a seat belt. A recreational off-highway vehicle being operated on the highway must display a lighted headlamp and a lighted tail lamp, and must be equipped with a roll bar or roll cage construction. (Section 304.033 RSMo.)
- All-terrain vehicles may operate upon streets and highways only when being operated for agricultural purposes or industrial on-premises purposes between the official sunrise and sunset on the day of operation. (Section 300.348 RSMo. See MSHP brochure ATVs: Safety Comes First for more information.)

Training

A motorcyclist should attend an approved motorcycle rider training course to learn how to operate a motorcycle safely and skillfully. A motorcyclist has to be more careful and aware at intersections, where most motorcycle–vehicle collisions occur.

Motorcycle Safety

- Motorcyclists must remain visible to other motorists at all times. Don't ride in a car's "No Zone" (blind spot).
- Learn to anticipate the actions and movements of the other drivers. For example, anticipate that drivers backing their cars out of driveways may not see you: Place greater emphasis on defensive driving.
- Motorcyclists also must be more cautious when riding in inclement weather, on slippery surfaces, or when encountering obstacles on the roadway.
- Place greater reliance on their helmet, eye protection, and clothing to increase riding comfort and to reduce the severity of injury should they become involved in a crash.
- Approximately 17.6 percent of all fatal motorcycle crashes involve alcohol. A motorcycle requires more skill and coordination to operate than a car. Riding a motorcycle while under the influence of any amount of alcohol significantly decreases an operator's ability to operate the motorcycle safely.
- Most traffic crashes involving motorcycles occur within the urban regions of our state; however, in fatal crashes, the majority occurs in the rural areas.
- By not obtaining a motorcycle operator license/endorsement, riders are bypassing the only method they and the Missouri Department of Revenue have to ensure they have the knowledge and skill needed to be a safe and skilled motorcycle operator.

Motorcycle Safety

Select a motorcycle that fits. A motorcyclist should be able to touch the ground with both feet when astride the vehicle.

If you will be carrying a passenger, make sure the motorcycle you select has a passenger seat as well as footrests (foot pegs) for the passenger.

Check the location of the controls. Make sure you can reach and operate them easily and comfortably.

Buy the power you need, but only as much as you can handle safely. Large motorcycles are heavy, and you must be strong enough to push it, or pick it up if it falls over. But, smaller bikes (e.g., a 125cc machine) may not have the speed, performance, and ride you'll need if you plan to travel long distances.

Consider the primary use of your bike. Don't buy a "trail" bike for highway use. Similarly, don't buy a "highway" bike if most of your riding will be off the road. Some motorcycles are built especially for trail use, with special tires and suspension. Other motorcycles have special characteristics for highway use, such as tires designed to grip pavement, and more powerful braking systems. If you have dual requirements, combination motorcycles are available that compromise between road and trail riding.

Never ride without a certified motorcycle helmet and eye protection. Section 302.020 RSMo. requires every person operating or riding as a passenger on any motorcycle or motortricycle, as defined in Section 301.010 RSMo., upon any highway of this state shall wear protective headgear at all times the vehicle is in motion. The protective headgear shall meet reasonable standards and specifications established by the director. Those standards and specifications are those required by Federal Motor Vehicle Safety Standard (FMVSS) 218.

The National Highway Traffic Safety Administration (NHTSA) established standards for motorcycle helmets to ensure a certain degree of protection in a crash in Federal Motor Vehicle Safety Standard 218 (Code of Federal Register, Title 49, Volume 5, Part 571, Section 218, October 2003). DOT-compliant helmets are helmets that meet this safety standard, while noncompliant helmets are helmets that do not. FMVSS 218 and compliance test results for motorcycle helmets can be viewed on NHTSA's web site www.nhtsa.gov.

Sharing The Road

So, how do drivers of other vehicles share the road with motorcycles in a safe, responsible manner?

Respect the motorcyclist: Remember the motorcycle is a vehicle with all of the privileges of any vehicle on the roadway. Give the motorcyclist a full lane of travel.

Look out: Look for the motorcyclist at intersections, when a motorcyclist may be making a left turn, and on the highway, when a motorcyclist may be changing lanes. Clearly signal your intentions.

Natural blind spot: Avoid your own natural blind spot by always turning your head to check all directions, and doing so more than once. Your eye has a blind spot in its field of vision. Your brain adds substantially to the report it gets from your eye, so that a lot of what you see is actually "made up" by the brain.

Try the following:

Close your left eye. Stare at the motorcycle in the diagram with your right eye. Off to the right, you should be able to see the spot. Don't look at it, just notice it is there, off to the right. Slowly move this page closer to your face. Keep looking at the motorcycle while you move. At a particular distance (about a foot) the spot will disappear. The spot reappears as you move the paper even closer. The spot disappears because it falls on the optic nerve head where there's a "hole" in the photoreceptor area [*Source: http://serendip.brynmawr.edu/bb/blind-spot1.html]. It's important to be aware of this physiological occurance.

Anticipate a motorcyclist's maneuver: Obstructions that you do not notice may be deadly for a motorcyclist. Predict evasive actions.

Allow plenty of space: Don't follow a motorcycle too closely. Allow enough room for the motorcyclist to take evasive actions.

Potentially Dangerous Situations

Car making a left turn: You are attempting a left turn in front of a motorcycle operator.

Riding in your blind spot: A motorcyclist is riding in your blind spot and you may not see the motorcycle. Additionally, you may fail to adequately check blind spots before changing lanes or making a turn.

Hazardous road conditions: Potholes, wet leaves, railroad tracks, and other road obstructions may dictate that a motorcyclist takes an action that you may or may not.

Obstructed line of sight: Large vehicles, such as sport utility vehicles, delivery vans, and large trucks may block a motorcycle from your view, in which case, the motorcyclist may seem to appear suddenly.

DOT-compliant helmets are identified by a sticker inside the helmet. For the purposes of the National Occupant Protection Use Survey's (NOPUS) non-intrusive observation, NOPUS data collectors categorize noncompliant helmets as helmets that have a small coverage area (such as a "beanie helmet") or some protrusion (such as a spike).

Safety helmets save lives by reducing the extent of head injuries in the event of a crash. Many good helmets are available. Make sure it fits comfortably and snugly, and is fastened for the ride. In choosing a helmet, look for the DOT label on the helmet. The DOT label on helmets constitutes the manufacturer's certification that the helmet conforms to the federal standard. In many states, use of a helmet is required by law. Passengers are also required to wear a helmet.

Wear the right shoes, gloves, and clothing. Thick, protective garb not only provides comfort against the elements, but also may be all there is between you and the pavement in a crash.

Wear Proper Safety Gear

What follows are general recommendations and guidelines. For specific information you should refer to your owner's manual, or ask your dealer or qualified mechanic.

- Make sure your headlights, taillights, turn signals, horn, and brake lights are working properly.

- Check all fluid levels (fuel, oil, hydraulic, coolant, etc.) and make sure they are at the proper levels or adequate for the ride.
- Inspect for loose spokes, if applicable, wheel alignment, and your tires for wear and proper inflation.
- If your bike is chain driven, check it for proper tension. Rule of thumb is about 3/4 inch of "play".
- Make sure your kickstand and center stand will remain in the up position while riding.
- Periodically inspect your engine area and frame for loose bolts and fasteners. Remember to tighten to manufacturer specifications.
- Check your throttle for smooth travel and no sticking. Refer to your owner's manual if lubrication is required.
- Check your clutch and brake levers for smooth operation. Lubricate and adjust according to owner's manual specifications.
- Check your clutch, throttle, and brake cables (if applicable). Lubricate or replace as recommended.
- Check your front and rear brakes for proper operation, brake pads, and shoes for proper thickness, and rotors and drums for smooth surfaces.
- Don't forget to check your battery for proper fluid levels and the terminals for corrosion.

The Top Five

Listed below are the top five contributing circumstances for fatal motorcycle crashes in Missouri:

- Too Fast For Conditions
- Exceeding The Speed Limit
- Failed To Yield
- Improper Lane Usage/Lane Change
- Alcohol/Drinking

Remember that a motorcyclist must abide by the same traffic rules and regulations as other motorists. Before taking your motorcycle on a public road, become familiar with traffic rules and regulations and any special requirements for motorcycles. These can be found in the Department of Revenue's Motorcycle Operator's Guide.

Be aware that riding with a passenger requires even more skill than riding alone. Riding with a passenger should be delayed until you have considerable solo riding time and are ready to take on the responsibility of carrying a passenger.

Obtain your learner's permit or motorcycle endorsement on your driver's license before you venture onto the streets. You will be required to display the knowledge and skill needed to operate a motorcycle safely before being issued a motorcycle operator's license. Never drink and ride. Alcohol slows reflexes and greatly limits your ability to operate a motorcycle. Even a very small amount of alcohol can reduce your ability to operate a motorcycle safely.

Drivers Of Other Motor Vehicles

The majority of car-motorcycle crashes are caused by the car/truck drivers, not by motorcyclists. The driver either does not see the oncoming motorcyclist or does not see the motorcyclist in time to avoid a crash.

Why Didn't I See That Motorcycle?

- Drivers tend to look for other cars, not motorcycles.
- Because of its smaller profile, a motorcycle is harder to see and you may find it more difficult to estimate the motorcycle's speed.
- The motorcyclist's riding pattern is different from your driving pattern.
- Different actions may be needed for the same driving or highway situation. For example, you may ignore a piece of road debris as a driver; however, that same piece of road debris may be deadly for a motorcyclist.
- Traffic, weather, and road conditions require a motorcyclist to react differently than a driver, thus it is more difficult for you to judge and to predict cues that may require the motorcyclist to take an evasive action.