Motorcycle Ohio Rider Enhancement

Rider's Guide

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FORWARD

It's about the journey, not the destination.

The basic courses offered by the Motorcycle Ohio Rider Enhancement (MORE) Program are designed to address the needs and interests of beginning riders. The goal is to help you build a strong foundation of awareness and safety in what may develop into a lifelong activity. Because motorcycling requires mental and physical skills, we will focus on both throughout the courses. You will learn techniques to help sharpen your judgment and perception and learn and improve the physical skills required for riding.

Learning is an ongoing process and doesn't end when you finish a course. The basic courses are intended as starting points from which to build lifelong skills. Becoming an experienced, skillful rider takes time and practice. That, of course, means riding MORE and practicing the techniques presented in these courses. As you gain experience and confidence, we encourage you to continue your formal training. MORE courses are also available for experienced riders (you can find MORE course offerings at http://www.motorcycle.ohio.gov/). In addition to helping riders step up to the next level, these courses are a great way to meet other riders and form lasting friendships.

So, welcome to the world of motorcycling! We're glad to have you along.

Acknowledgments

The Motorcycle Ohio Rider Enhancement (MORE) Program would like to recognize the Idaho STAR Program, TEAM OREGON Motorcycle Safety Program, and the 2011 National Highway Traffic Safety Administration (NHTSA) publication "Model National Standards for Entry-Level Motorcycle Rider Training" for assistance in the development of this Rider's Guide.

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Unit 1 Welcome to the World of Motorcycling

There is a thrill and a sense of freedom that comes with riding a motorcycle. It is the rhythm of the ride, the road and surroundings, your motorcycle, and you. Your senses delight with every passing sight, smell, and sound. To achieve this level of motorcycling magic, you need to be sharp. Motorcycling demands attention and skill. It challenges you to be physically and mentally prepared to handle anything that comes your way. This course is your door to the world of motorcycling. Get ready for the first few miles of your motorcycling career. This is your opportunity to Be MORE!

COURSE OBJECTIVES

The MORE Basic Riding Skills (BRS) course is intended to help you acquire the basic knowledge and skills needed for safe and responsible motorcycle operation. The course will help you:

- Learn the mental skills for safe motorcycling:
  - Understand the risks associated with motorcycling
  - Identify and develop strategies to manage risk
  - Understand how your decisions affect your ability to ride MORE safely
- Gain the physical skills for safe motorcycling:
  - Develop the basic skills needed to ride in a straight line, shift, turn, and stop the motorcycle
  - Improve basic cornering and braking skills
  - Practice braking and swerving skills needed for emergency situations

The goal is to help you be successful and safe. Ask lots of questions. MORE instructors will help you discover the answers. Concentrate on developing your skills and your strategies – the first steps to Riding MORE Safely!

COURSE REQUIREMENTS

To successfully complete this course, you must:

- Attend all sessions. Be on time! Classes start promptly. Late-arriving students risk losing their reserved place in the class and tuition.
- Participate in class activities. Students engaged in class activities learn and remember the material best.
- Successfully complete a course review activity on the material covered in class and this Rider's Guide.
- Successfully complete a riding skills test. The skills test consists of exercises practiced in the course, including basic motorcycle control skills, stopping quickly, swerving, and cornering.

SCHEDULE

Note your course schedule here:

Day	Time	Classroom	Range

REQUIRED RIDING GEAR

1. DOT-approved helmet
   - Loan helmets are available. You may bring your own helmet; it will be subject to inspection and approval by the instructors.
2. Eye protection
   - Helmet face shield or goggles. Glasses and sunglasses are okay for the basic course but are not recommended for regular street riding.
3. Sturdy, over-the-ankle footwear
   - Ankles must be covered. Low heels are preferred.
4. Full-finger gloves
   - Avoid bulky gloves. Jersey (soft knitted cotton or poly-cotton fabric) gloves are okay for the basic course but are not recommended for regular street riding.
5. Long pants (no holes)
   - Sturdy material, such as denim; should reach past the tops of your footwear when seated.
6. Long-sleeved shirt or jacket
   - Sleeves should reach the tops of your gloves with your arms stretched in front of you.

Optional – rain gear, extra clothing and footwear. (We ride in the rain!)

Notes:

Come to sessions rested and ready to ride.

Bring snacks and water.

KEEPING THE LEARNING SAFE AND FUN

The MORE Basic Riding Skills course is designed for beginning riders. The course starts with the very basics, and riding exercises progress from easy to more challenging. We want you to be successful!

Your instructors will assist your learning with classroom activities and hands-on practice in a secure riding area (range). In the classroom, you'll discuss the risks of motorcycling and identify ways to manage those risks. You will learn strategies to become more alert and

perceptive, identify features and benefits of riding gear, explore some handling dynamics of motorcycles, and obtain additional knowledge to continue developing your mental and physical skills.

On the range, your instructors will provide feedback and guidance to help increase your skills and confidence. The course is not competitive, and riders of all skill levels can learn in a safe environment. Relax and enjoy the experience.

You will be given many opportunities to develop essential skills and strategies in a way that ensures your safety and the safety of those around you. However, not everyone who enrolls in a motorcycle rider course is ready to ride. If you feel uncomfortable or feel you are falling behind, be sure to talk to your instructors about your concerns.

If at any time during the course your instructors determine your or others' safety and security is at risk, immediate action will be taken. It could be from nervousness, lack of concentration or coordination, balance difficulties, or repeated failure to respond to instructor feedback and guidance. Unsafe conditions are not permitted, and instructors must dismiss any student who fails to demonstrate the ability to practice safely, regardless of the reason. Students are always welcome to take a course again.

UNDERSTANDING EXPECTATIONS

Your expectation may be to learn to ride, to improve your knowledge and skill, or to earn your motorcycle endorsement. MORE Instructors expect to help you learn to the best of your ability and help you safely start and continue your motorcycling adventures.

While there is no guarantee that everyone will successfully complete this course, most students are successful and head for the open road. But know that successful completion of the course does not guarantee your safety. Your motorcycling journey may start with MORE courses, but it is up to you to use sound judgment, make wise decisions, and keep your mental and physical skills sharp through continual practice. You are the one responsible for your safety.

GENERAL CONSIDERATIONS

When travelling on public roadways, you are expected to comply with state laws, rules, regulations, and equipment requirements so everyone on the roads has a safe and enjoyable ride. A summary of select Ohio Motorcycle Laws and Regulations is in Appendix C. The Motorcycle Ohio home page at http://www.motorcycle.ohio.gov/ has links to the related Ohio Administrative Code and Ohio Revised Code sections.

Ride SMART – Ride MORE Safely

Ride SMART is an Ohio campaign aimed at educating and encouraging riders to Ride:

Sober,
Motorcycle-Endorsed,
Alert, with the
Right Gear, and
Trained

Throughout this Rider's Guide are "Ride SMART – Ride MORE Safely Recommendations." Students are encouraged to Ride SMART and commit to following the recommendations to have MORE fun while riding MORE safely.

Ride SMART – Ride MORE Safely Recommendation # 1:

Acknowledge that part of being a responsible rider is knowing and following the 'rules of the road.'

Commit to learning and complying with state laws, rules, regulations, and equipment requirements.

Motorcycles have been around for over a century, and motorcycling today is enjoyed by millions of Americans. A universal truth of motorcycling, however, is that riding a motorcycle involves more risk and potential danger than driving an automobile.

THE RISK OF RIDING

Motorcyclists are much more at risk than drivers because motorcycles lack a car or truck's protective cocoon of steel roll cages, crumple zones, safety belts, and airbags. Routine maneuvers or roadway conditions that don't affect other vehicles can be hazardous on a motorcycle. Cars and trucks don't have to be balanced at a stop like motorcycles; the weather stays outside a vehicle's windows, and car drivers generally look for other cars or trucks, not for motorcycles. Motorcyclists must be aware of the risks that come with the fun of riding.

STABILITY

Having only two wheels in contact with the ground presents risk. Vehicles with more wheels balance on their own while motorcycles need the rider's help to stay upright at stops. Riders must be much MORE aware of roadway surfaces and other conditions that can affect a motorcycle's balance and stability.

VULNERABILITY

As a motorcyclist, you are vulnerable. The protective gear you choose to wear is the only thing between you and the weather, rocks and debris thrown up from the roadway, or other vehicles and objects in a crash. The National Highway and Traffic Safety Administration's (NHTSA) *Traffic Safety Facts 2012 Data* sheet reported: "Per vehicle mile traveled in 2012, motorcyclists were more than 26 times likely than passenger car occupants to die in motor vehicle traffic crashes and 5 times more likely to be injured." (http://www.nhtsa.gov/Safety/Motorcycles)

In Ohio, about 75% of motorcycle crashes result in injury compared to about a 25% injury rate for car crashes. (http://ohiohighwaysafetyoffice.ohio.gov/otso_annual_crash_facts.stm) Because motorcyclists are so vulnerable, riders must be MORE aware of their surroundings and always be prepared to respond to changing situations.

VISIBILITY

Visibility is a critical issue for motorcyclists. Because motorcycles are much smaller than cars, they are more difficult to see in traffic. Motorists often fail to notice motorcycles, and even when they do, they often misjudge a motorcycle's approach speed and distance. "Invisible" motorcyclists are vulnerable to vehicles violating their right of way. Don't let yourself be hidden in traffic. Be MORE visible.

OTHER SOURCES OF RISK

Other sources of risk include: 1) the rider (are you mentally and physically prepared to ride?); 2) the motorcycle (is the machine designed for the riding you want to do? and is it in good operating condition?), and 3) the environment (including the weather, roadways, traffic, and all other conditions). As motorcyclists, it is critical to be aware of the many factors that can combine to raise the risk of motorcycling.

ACCEPTING THE RISKS

Riding a motorcycle involves more risk than driving most other motor vehicles. By choosing to ride, you are accepting an elevated level of risk. No sane motorcyclist intends to crash, but crashes do happen – over 3,700 motorcycle crashes occur in Ohio every year. Recognizing and accepting the risks of motorcycling are the first steps in developing strategies to manage it. As a rider, you must be aware of your personal risk acceptance – how many risks you take and how much risk you are willing to accept – and choose to Ride SMART and MORE Safely.

UNDERSTANDING AND STAYING WITHIN LIMITS

It is important to know, and not exceed, your abilities. Riders get into trouble when they think they can do something they really can't. Continue to improve your skills and keep practicing and learning. No one becomes an expert rider overnight.

Not all motorcycles are created equal. Some are better for riding on dirt or gravel roads; some will quite comfortably carry you longer distances; and others work well in a variety of riding situations. Know and stay within the design limits of the motorcycle you are riding.

The riding environment also imposes limits, and the weather, roadway surfaces, and traffic are always changing. Adjust your riding to adapt to those limitations, such as reduced visibility and traction in the rain.

Ride within the limits of:

1. **Your personal abilities**
2. **Motorcycle's capabilities**
3. **Environmental conditions**

Ride SMART and Ride MORE Safely by maintaining safety margins in each of those areas. You want to keep some personal skill and motorcycle capability in reserve if an emergency arises or environmental conditions deteriorate.

MANAGING THE RISKS

Once you are prepared, know your abilities, and understand your machine's capabilities and

the riding environment, it is up to you to take responsibility for riding within those limits every time you ride to help minimize the risks associated with motorcycling.

Good skills alone will not keep you from crashing, but good judgment can. It's up to you to make good decisions. It's up to you to minimize risk. This is your ride. Manage the risks by thinking ahead – way ahead. Choose wisely – by making decisions to Ride MORE Safely.

Ride SMART – Ride MORE Safely Recommendation # 2:
Acknowledge and accept that riding a motorcycle in a complex traffic and roadway environment is an activity involving risk and danger. Commit to riding aware and managing and minimizing those risks.

The Ready Rider is prepared to manage the risks of motorcycling. That preparation includes ensuring the motorcycle is right for you and is ready for the road, which is detailed in Unit 10, Your Motorcycle; wearing proper protective gear, and being physically and mentally ready for the ride.

PROTECTIVE RIDING GEAR

Proper protective riding gear is a motorcyclist's best friend. If a crash does occur, what the rider is wearing can make a dramatic difference in the degree of injury experienced. In addition, by protecting you from the elements, good riding gear keeps you more comfortable, more relaxed, and more focused on the task of riding. It can also help you be more visible to other motorists. Appropriate gear can greatly improve your comfort, concentration, and safety.

Good motorcycle riding gear should:

- Have protective pads or armor and resist abrasion to reduce the chance of injury
- Be brightly colored and have retro reflective materials to catch the attention of others
- Be designed to weather all kinds of riding conditions, from rain and wind to flying debris

Your gear is designed to protect you, provide comfort and cover, and improve your control. Remember your passenger needs the same level of protection and comfort!

HELMETS

Protect your head! The most important piece of safety equipment you can wear is a good quality helmet that, at a minimum, bears US Department of Transportation (DOT) approval. There is no substitute. Look for labeling on the outside of the helmet and also on the inside of the helmet. While DOT does not make helmets, it sets performance standards with which manufacturers must comply. Other indicators of well-made helmets include a Snell Memorial Foundation sticker or ECE (Economic Community of Europe) approval, which show the helmet has passed other safety tests as well as complying with DOT standards.

Choose a helmet that is DOT-compliant and fits comfortably.

Wear and securely fasten the helmet every time you ride.

You never know when you may need it.

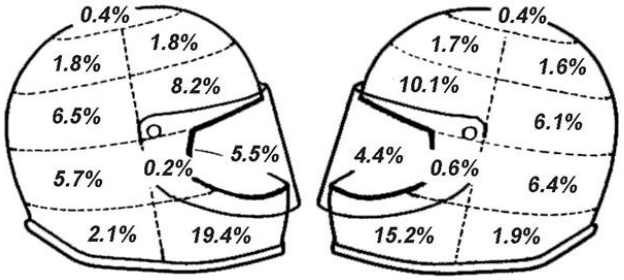
Even though helmets are a great way to enhance rider safety, some myths about helmets persist. You should know that helmets do not block vision, impair hearing, or cause head or neck injuries. Further, studies have repeatedly shown that helmets protect against head and brain injuries. Wear a high-quality motorcycle helmet every time you ride.

CHOOSING A HELMET

Fit, price, color, style, and ventilation are all important considerations when choosing a helmet, but protection should be your first consideration. From NHTSA's *Traffic Safety Facts 2012 Data* sheet: "Helmets are estimated to be 37-percent effective in preventing fatal injuries to motorcycle riders and 41 percent for motorcycle passengers. In other words, for every 100 motorcycle riders killed in crashes while not wearing helmets, 37 of them could have been saved had all 100 worn helmets." (http://www.nhtsa.gov/Safety/Motorcycles)

PROTECTION

When choosing a helmet type, give serious consideration to what areas of your head and face are protected. Research indicates a large percentage of impacts to the head in crashes occur in the jaw and face area.



Distribution of Impact Locations on Motorcycle Helmets; All Collisions
Source: Dietmar Otte, Hannover Medical University, Dept. of Traffic Accident Research, Germany.

FULL-FACE HELMETS

Full-face models provide the most protection by covering the face and jaw. They also offer the greatest comfort and protection from the elements.

MODULAR OR "FLIP-UP" HELMETS

Modular helmets (often called "flip-up" or "flip-face" helmets) are increasingly popular. They are designed to allow the rider to flip the chin-bar up when stopped for talking, eating, drinking, etc. NOTE: This type of helmet is not designed to be used in motion with the chin-bar in the up position. If you choose this type of helmet, read your owner's manual carefully, and remember to ride with it in the down and latched position.

THREE-QUARTER HELMETS

The three-quarter or open-face style of helmet is used by some riders who prefer the wind in their faces. Of course, the wind can carry rain, bugs, sand, and road debris that can be painful and distracting. There is also no protection from the continued exposure of sun and wind on your face. A three-quarter helmet affords riders head protection but lacks the face protection of a full-face helmet.

HALF HELMETS

Half-helmets provide the least protection. If this is your style, make sure you get one that's designed for motorcycling so you have the most protection afforded by this minimal helmet.

Look for the DOT labeling and the impact-absorbing liner. For a helmet to protect your head, it has to stay on your head. If you are considering a half-helmet, you should know that research has shown they are ejected (come off) more often than full-face helmets. (http://www.nhtsa.gov/Safety/Motorcycles)

Some "beanie" style helmets may look like half-helmets, but they lack the impact- absorbing liner and are not designed for motorcycle use. They provide no protection in the event of a crash.

HELMET FIT

A helmet should fit snugly but comfortably. A helmet that is too loose can lift in the wind or come off your head in a fall. One that is too tight can create sores or cause headaches. When choosing a helmet, try several brands, models, and sizes to find the best combination of fit and comfort.

Check for the right fit by doing the "roll-off test." The roll-off test applies to all helmets, but is more critical for three-quarter and half-helmets. Here's how to do the test:

- Put the helmet on and adjust the chinstrap.
- Reach both hands behind your head and try to rotate the helmet forward and down over your face.
- If the helmet comes off or even comes close to coming off, it does not pass the roll-off test. Get a different helmet size or model that does pass the roll-off test.

For full-face helmets, in addition to trying to rotate the helmet forward and back, also check fit by trying to rotate the helmet sideways across your face. If it moves very far, get a different size or model.

HOW HELMETS WORK

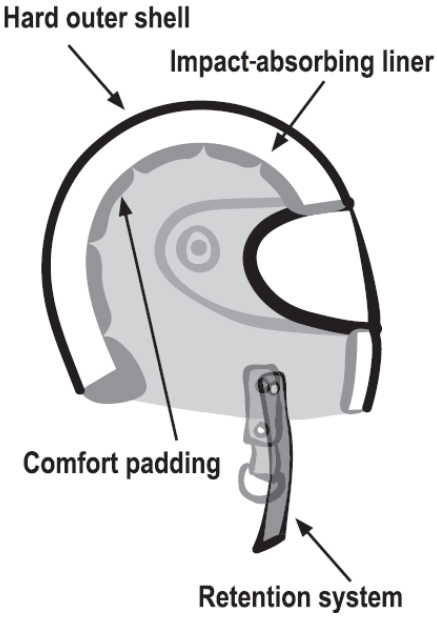
Motorcycle helmets are designed to protect your head in case of a collision or fall and to provide comfort from the elements. A full-face helmet with a shield also incorporates excellent face and eye protection.

OUTER SHELL

Helmet shells are typically made from fiberglass, polycarbonate, or composite materials. They protect wearers by dispersing energy away from the head. They also resist penetration by objects that might come in contact with the helmet. However, not all helmet damage is always visible to the eye. It is important to replace any helmet that has taken an impact.

IMPACT-ABSORBING LINER

The impact-absorbing liner is usually made of expanded polystyrene. This is a dense layer that cushions and absorbs shock by spreading the impact forces throughout the helmet. Think about it: the more impact energy that is absorbed by the helmet, the less that's left to reach your head and brain.



COMFORT PADDING

The padding within the helmet helps to increase helmet comfort and maintain fit. Some helmet padding may even be removable for cleaning purposes.

RETENTION SYSTEM

The retention system is the chinstrap with D-rings or clips that secures the helmet in place. If properly used, the chinstrap keeps the helmet on your head in the event of a collision. Helmets that come off your head in a collision or fall can't protect you at the time when they are most needed. Tighten the chinstrap until it is snug.

HELMET CARE

Helmets are designed to absorb energy that would otherwise be transmitted directly to your head. Treat your helmet with care. Don't jam it on a mirror or carry a spare on a backrest, as that compresses the inner liner, reducing its protective ability. Likewise, use caution when resting the helmet on the seat of your motorcycle. A small gust of wind can knock it to the ground and damage it.

Follow the manufacturer's directions for cleaning and caring for your helmet.

Helmets will show signs of wear over time. Helmets with obvious signs of wear may have defects that can compromise the helmet's integrity and jeopardize your safety. Inspect your helmet periodically. Look for cracks or dings in the outer shell. Check for loose or worn out comfort padding. Check the chin strap, looking for any sign of frayed material. If your helmet

has a visor or a face shield, check for loose or broken hinges. Inspect the face shield itself for scratches, and any cracks or chips and replace it when necessary.

EYE (and face) PROTECTION

Protect your face! Once upon a time you could identify happy motorcyclists by the bugs in their teeth. While a mouth full of dead insects may appeal to some, no one wants to lose their vision due to a fly in the eye at 50 mph – not to mention road dust, pebbles, wind, and rain. Protect your vision! Windshields and eyeglasses do not provide adequate eye protection. Debris can swirl behind the windshield or glasses and still get in your eyes, and most glasses and sunglasses are not shatter resistant.

FACE SHIELDS

Helmets with full-face coverage provide the best protection, and the face shield can be raised for convenience. A three-quarter helmet with a snap-on face shield also provides some protection. Helmet face shields are available in an increasing range of styles and tints. Riders should make sure the face shield is designed specifically for the helmet they are using, is impact resistant, and is fastened securely to the helmet. Face shields should accommodate eyeglasses or sunglasses worn while riding and should be optically clear and free from scratches that might impair vision. Use a clear (untinted) shield at night or in low-light conditions.

GOGGLES

Goggles are designed to be worn over a helmet and should seal snugly against your face to help prevent debris from getting in your eyes. As with face shields, goggles should be optically clear and free from scratches. Clear (untinted) goggles should be used at night or in low-light conditions. Be aware that some goggles and safety glasses may impair peripheral vision.

CARE

Clean your shield or goggles with a mild solution of soap and water and use a soft cloth for washing and drying. Don’t use paper products because they can scratch the plastic. When your shield becomes scratched, replace it.

Whatever you choose for eye and face protection, watch for signs of wear over time. Look for scratches, cracks, frayed straps, and loose or broken face shield hinges or connection plates. Watch for potential defects that may compromise the effectiveness of your eye and face protection, and replace the face shield or goggles as needed.

HEARING PROTECTION

Protect your hearing! The roar of engines and the rushing wind is exhilarating, but sustained exposure, even in a well-fitting helmet, can result in hearing loss. Tests show earplugs can prevent hearing loss by reducing sound levels by 30 decibels. There are inexpensive disposable earplugs, or you can have a set custom molded to fit more comfortably. As you travel, be aware of state laws that may prohibit wearing earplugs in both ears. For Ohio, see Ohio Revised Code 4511.84.

OTHER PROTECTIVE GEAR

In crashes, riders wearing motorcycle jackets, pants, and gloves with armor (extra padding) were less likely to have any injuries or open wounds to those parts of the body compared to riders not wearing that type of gear. In addition, riders wearing motorcycle boots (or any sort of over-the-ankle boot) were less likely to have any injuries to their feet or ankles compared to people wearing other kinds of shoes. (http://www.ncbi.nlm.nih.gov/pubmed/)

Select riding gear with three things in mind:

1. **Protection**
2. **Comfort**
3. **Visibility**

Safety in style and motion!

GLOVES

Protect your hands! Gloves provide comfort from the elements, improve your grip on the controls, and reduce hand fatigue. They also protect your hands from abrasion and injury in a crash. Gloves specifically designed for motorcycling are best. They are curved to provide a natural grip and have seams on the outside to prevent irritation. Gauntlet gloves fit over the cuff of your jacket to keep cold air from rushing up your sleeves. There are also lighter gloves designed specifically for warmer weather, as well as heavier, insulated gloves that are ideal for winter riding. Adjustable retention straps help keep gloves snug.

BOOTS

Protect your ankles and feet! Sturdy over-the-ankle boots are recommended for motorcycling. They protect you from the elements and from hot or sharp motorcycle parts. Boots with rubber soles and low heels are best. They provide a secure grip on the pavement when stopped and provide a good grip on the footrests. In the event of a collision, sturdy boots protect you from foot and ankle injuries. If your boots have laces, be sure to tuck them in so they don't get caught in moving parts of the motorcycle.

JACKETS, PANTS, RIDING SUITS

Protect your body! Motorcycle jackets, pants and riding suits provide comfort in just about all conditions as well as protection in case of a collision. This gear is specifically designed for

riding. Riding jackets, pants and suits are made to allow a comfortable riding position. Sleeves and legs are cut longer. Extra material and armor (heavier padding) are often installed at the knees, back, shoulders, and elbows to provide lasting comfort and protection. Zippers and flaps that seal out the wind can be opened for ventilation.

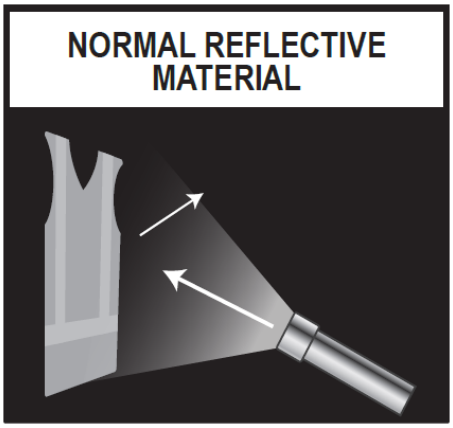
Good quality gear helps insulate you from inclement conditions, allowing you to concentrate on riding rather than battling the elements. Even a collar that flaps against your helmet or your skin can be irritating and distracting. Avoid these distractions by choosing quality riding gear.

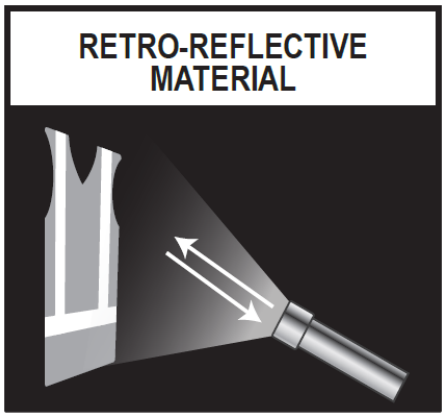
Leather has always been a popular choice because it is durable and provides protection from injury and wind. Another option is durable, abrasion-resistant textile outerwear designed specifically for motorcycling (using sturdy material such as Cordura nylon, Kevlar, etc.). Note that denim (jeans material) is not considered “abrasion-resistant” and will offer very little protection against injury.

One- or two-piece riding suits made of water-resistant materials are good choices and can often be worn year-round. Some riding gear is also specifically made for hot- or cold-weather riding

COMFORT AND VISIBILITY

Choose gear for protection, comfort, and visibility. Black is hard to see in daytime and invisible at night. Select gear with retro-reflective striping or patches. Retro-reflective material reflects light back to the source.





There may be times when visibility becomes limited due to nighttime, fog, heavy rainfall, or wind in a dusty area. Remember that if you're having trouble seeing, so are the drivers who share the road with you. Wear bright and reflective gear to make yourself more visible. Retro-reflective tape, piping, or a retro-reflective vest provide additional visual cues to others and are far more effective than just bright clothing alone. Bright colors and retro-reflective materials are the best choices for keeping you visible to surrounding traffic both day and night.

INCLEMENT WEATHER

Protect yourself in all kinds of weather. Constant exposure to the elements is both physically and mentally hazardous. Dehydration, overheating, and hypothermia can compromise your judgment and cause decreased vision, light-headedness, and impaired coordination. Be prepared by choosing proper riding gear.

Riding in the rain is not a problem if you are prepared for it. A warm and dry rider is much more attentive and comfortable than a cold, wet one. Choose a rain suit specifically designed for motorcycling. It will keep the water out, provide comfort and visibility, and stand up to the wind. Don't forget waterproof gloves and boot covers. Be prepared – always carry rain gear!

In hot weather, wear gear with adequate ventilation. Properly ventilated riding gear promotes cooling, which results in less dehydration and overheating. Also, riding in hot weather can cause you to lose a surprising amount of fluid through perspiration – drink plenty of water to keep yourself hydrated.

When riding in cooler weather, wind chill can cool the body quickly and can cause hypothermia, a dangerous lowering of body temperature. Insulated and windproof gear will help keep you warmer, and some electrically heated gear is also available.

Dress in layers to stay comfortable as conditions change. Remember, proper protective gear is essential for safety. Don't allow your senses to become so dulled that you fail to recognize changing traffic conditions. More information on hot and cold weather riding is in Unit 14.

Ride SMART – Ride MORE Safely Recommendation # 3:
Acknowledge that the only thing between you, the elements, and vehicles or other objects in a crash is the gear you wear. Commit to wearing proper protective riding gear.

RIDER READINESS

Rider Readiness is accepting the risks involved and being completely prepared for riding your motorcycle.

PHYSICAL READINESS

In addition to using good protective gear, physical readiness includes being rested and stress-free. Avoid riding when fatigued, stressed or preoccupied, and definitely do not ride if you are under the influence of alcohol or other drugs. Any of those conditions can impair your judgment and focus – an invitation to disaster!

MENTAL READINESS

Your mental readiness is very important. Motorcycling requires focused attention to the many riding tasks and challenges you'll face. Your mind must be attentive to these tasks and not consumed with other issues. You need to be aware of likely roadway, weather, and traffic conditions and be prepared to deal with a constantly changing riding environment. It is especially important to avoid anything that dulls your judgment and coordination, including alcohol and other drugs.

JUDGMENT IS CRITICAL

Single-vehicle crashes involving motorcycles are over-represented in crash data. The cause is almost always rider error. Rider errors are typically in judgment first, including a lack of situational awareness, then in skill.

Strive to achieve a constant state of Rider Readiness.

Be prepared for the challenges of motorcycling and ride within limits.

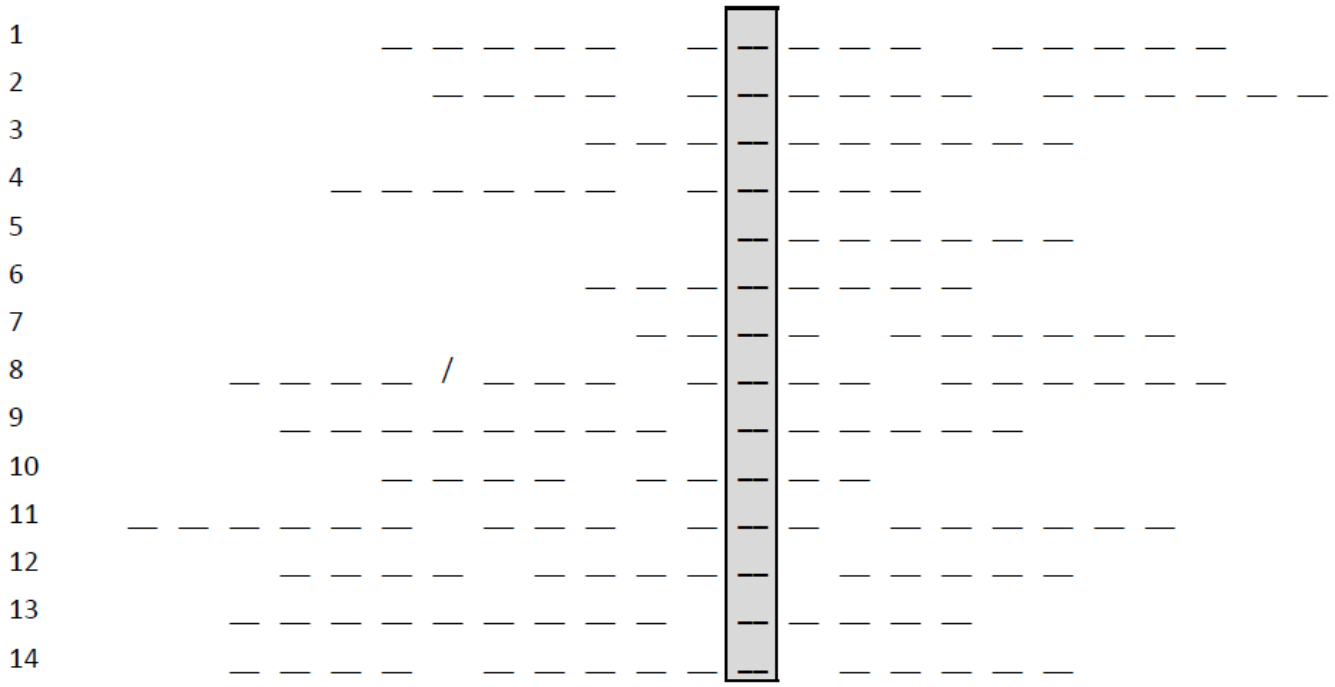
Learn the location and operation of your motorcycle's controls. Using these controls should become second nature, a comfortable extension of your hands and feet. This unit addresses the basics of motorcycle control and operation.

Use the images below to identify the typical location of motorcycle controls.

_____ Clutch Lever	_____ Throttle	_____ Engine Cut-off Switch
_____ Ignition Switch	_____ Front Brake Lever	_____ High / Low Beam
_____ Gearshift Lever	_____ Rear Brake Pedal	_____ Foot Pegs
_____ Horn	_____ Starter	_____ Turn Signal Switch

Motorcycle Controls Use / Operation Activity

A goal of a responsible motorcyclist will be in the shaded box when the blanks are filled in.



1. Squeeze smoothly and progressively
2. Move sideways to turn on; press in or move back to turn off
3. Press (or turn) to adjust lean and direction
4. Squeeze in and ease out; ease out partway to use the friction zone
5. Check occasionally
6. Roll on toward you; roll off away from you
7. Press to communicate with other motorists
8. Toggle between High and Low
9. May have on / run, off, park, & / or lock positions
10. Supports the motorcycle
11. Use to stop electrical power to the mc without taking your hands off the handgrips
12. Use light to lighter pressure
13. Lift or press & release pressure to reset
14. If exists, turn to on, off, reserve, or prime

Clutch lever	Horn button
Engine cut-off switch	Ignition switch
Front brake lever	Mirrors
Fuel supply valve	Rear brake pedal
Gearshift lever	Side stand
Handlebars	Throttle
High / low beam switch	Turn signal switch

PRIMARY CONTROLS

Six primary controls make the motorcycle go and stop. These controls are in the same location on all motorcycles commercially manufactured after 1968. You will find it takes both hands and both feet to operate the primary controls.

HANDLEBARS

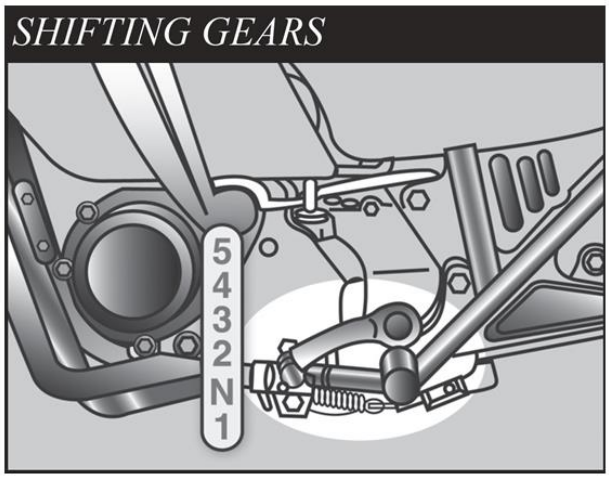
Have a handgrip on either end and are used to control the motorcycle's direction and lean by pressing the handgrip in the direction you want to go – press the right handgrip to go right or press the left handgrip to go left. (At very slow speeds, however, the handlebars must be turned in the direction you want to go.)

CLUTCH LEVER

The clutch lever is located in front of the left handgrip. Operate the clutch lever by squeezing it in toward the left handgrip, which disconnects power from the rear wheel. To re-engage power, slowly release the clutch lever (ease out) while gently applying throttle.

GEARSHIFT LEVER

The gearshift lever, located on the left side of the motorcycle in front of the footrest, is operated by the left foot. To shift to a higher gear (upshift), squeeze the clutch and then lift the gearshift lever. To shift to a lower gear (downshift), squeeze the clutch then press the gearshift lever. Remember that motorcycle transmissions shift only one gear per each lift or press – the gearshift lever must be released before you can shift again.



The shift pattern is 1-N-2-3-4(-5-6). Not all motorcycles will have 5th or 6th gears. Neutral (N) is typically a half-shift up from first or a half-shift down from second; a full upshift or downshift will bypass neutral. A green instrument light may indicate neutral, but do not rely on the light.

THROTTLE

The throttle is the right handgrip and is operated by rolling the handgrip toward you (roll on) to increase speed and away from you (roll off) to decrease speed. When released, the throttle snaps back to an "idle" position. To use the throttle safely and comfortably when learning to ride, keep all fingers around the throttle / handgrip and the wrist in a flat position.

FRONT BRAKE LEVER

The front brake lever is located in front of the right handgrip and controls braking for the front wheel. When learning to ride, use all fingers to squeeze the lever smoothly and progressively.

REAR BRAKE PEDAL

The rear brake pedal controls braking on the rear wheel and is located in front of the right footrest. Press down with your right foot, using light to lighter pressure to operate it.

OTHER CONTROLS AND EQUIPMENT

The location and operation of some other controls and equipment may vary from model to model. Consult your motorcycle owner's manual.

ENGINE CUT-OFF SWITCH

Located on the right handgrip and operated by the right thumb. It allows you to shut off the engine without removing your hands from the controls.

FUEL SUPPLY VALVE

The fuel supply valve controls the fuel going to the engine.

Newer motorcycles with fuel injection systems do not have a fuel supply valve. If your bike does have one, it is most likely located under the tank on the left side of the motorcycle. Turn to ON to run. It also may include OFF, RESERVE, and PRIME positions.

IGNITION

Usually located near the instrument cluster and activated with a key. Positions include OFF and ON (Run) and possibly LOCK and PARK. The LOCK position allows the key to be removed and engages a steering-lock mechanism. PARK activates the taillight for increased visibility if you park alongside a roadway at night.

CHOKE

The choke provides an enriched fuel mixture to assist in cold engine starts. Newer motorcycles with fuel injection systems do not have a choke. If your bike does have one, it might be near the fuel-supply valve or near the left handgrip; locations vary, so check your motorcycle owner's manual. Turn the choke off when engine is warmed and before riding.

TURN SIGNAL SWITCH

Usually located on the left handgrip and operated by the left thumb. Most models do not self-cancel. Check your owner's manual.

HIGH / LOW BEAM

Located on the left handgrip and usually operated with the left thumb. On most motorcycles, the headlight activates when the ignition is on.

HORN

Located on the left handgrip. Press with your left thumb.

STARTER

Located on the right handgrip. Press with your right thumb.

SPEEDOMETER / ODOMETER

Located in the instrument cluster, the speedometer indicates motorcycle road speed. The odometer shows miles ridden, and there may be a re-settable trip meter that can be used to show trip miles or miles since the last gas stop.

TACHOMETER

Located in the instrument cluster. Indicates motorcycle engine speed in revolutions per minute (RPM). The red line indicates the engine speed that should not be exceeded.

INDICATOR LIGHTS

Located in the instrument cluster. Typically includes lights for neutral, turn signals, oil pressure, and high beam, and possibly other actions or warnings, such as side-stand down.

SIDE AND CENTER STANDS

Stands support the motorcycle when parked. Always raise the side stand before riding; it will

usually have a spring that will help raise it and hold it in place. Some models have center stands to help with maintenance tasks.

MIRRORS

Every motorcycle should have both a left and right mirror for safety, although Ohio law requires only one mirror. Most mirrors are convex. Convex mirrors provide a wider view than flat mirrors but make vehicles seem further away than they really are. (Objects in the mirror are closer than they appear.) Get familiar with your motorcycle's mirrors. Adjust them so your shoulder and upper arm are just visible to give you the maximum view to the rear and the side.

MOUNTING AND DISMOUNTING

Let's get ready to ride! Stand on the left side of the motorcycle. Grasp the handgrips, squeeze the front brake to keep the motorcycle from rolling, keep your head and eyes up, and swing your right leg over the seat. Sit down and straighten the bike, then raise the side stand with your foot. Now is a good time to adjust the mirrors so you can just see the edge of your shoulders in the mirrors.

To dismount, put the side stand down. Lean the motorcycle onto the side stand, squeeze the front brake, and swing your right leg over. Turn the handlebars fully toward the side stand (left) for stability.

STARTING AND STOPPING THE MOTORCYCLE

TO START THE ENGINE

To start the motorcycle, use the ONE-C pre-start routine:

Turn **O**N the fuel valve and ignition switch.

Shift the transmission to **N**EUTRAL. Do not rely on the indicator light. Rock the motorcycle back and forth with the clutch lever out before starting the engine. If it rolls freely and the neutral light is on, it's in neutral.

Move the **E**NGINE cut-off switch to Run or On.

Many motorcycles require squeezing the **C**LUTCH before the starter will operate. Even if this is not required, it is a good precaution against accidentally starting the bike in gear. Turn the **C**HOKE on for cold starts or as needed; turn it off when the engine is warmed and before riding.

ONE-C

- **O** On
- **N** Neutral
- **E** Engine Cut-off Switch
- **C** Clutch/Choke

START IT UP!

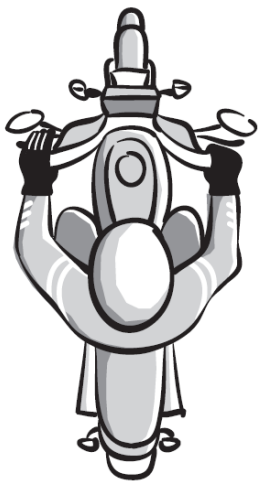
Press the starter button. Avoid using the throttle; the motorcycle should start without it. Many motorcycles have a safety mechanism that cuts power to the engine if the bike is placed in gear with the side stand down; if the side stand is not up, raise it now. If the motorcycle doesn't start in the first 5 to 8 seconds, stop and repeat ONE-C. After starting the engine, remember to turn off the choke when the engine is warmed up.

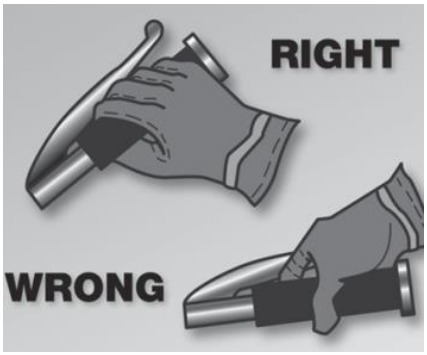
TO STOP THE ENGINE

Turn the engine cut-off switch to OFF. Do this every time so you will automatically reach for the switch in an emergency. Turn the ignition OFF. Turn the fuel valve OFF if your motorcycle has one.

ASSUME GOOD RIDING POSTURE

Good riding posture enhances your comfort and control, and makes you look good, too! Straighten your back, keep your head and eyes up, and look where you want to go. Place your feet on the footrests near the controls, knees against the tank. Relax your arms and bend your elbows slightly. Hands should comfortably reach the controls without straining.





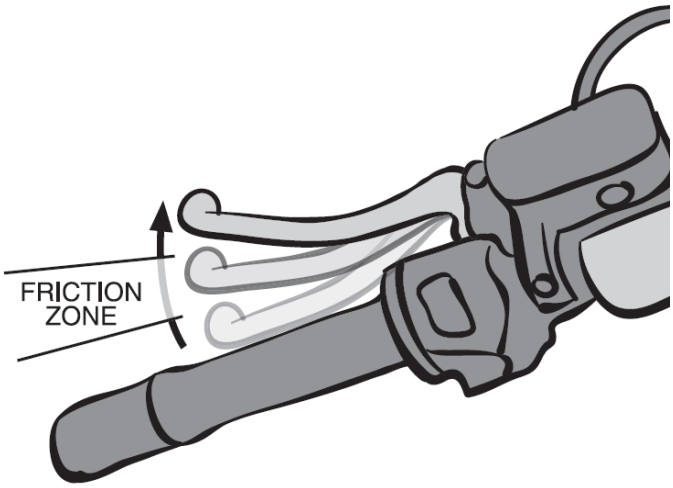
During this course, you will be coached to cover the clutch with all fingers and keep your right wrist in a flat position on the throttle. Keep all fingers curled around the throttle – do not cover the front brake when you are learning to ride. Learn to roll off the throttle as you reach for the front brake lever with all fingers. Reach and squeeze, and then return all fingers to the throttle.

GETTING UNDERWAY

With the motorcycle started and your head and eyes up looking where you want to go, you are now ready to start moving. Some throttle is required, but it's most important to coordinate use of both the throttle and the clutch (friction zone) to smoothly get underway.

USE THE FRICTION ZONE

Squeeze the clutch and shift into first gear. Because a motorcycle has a manual transmission, it takes a little "clutch slip" to get underway. Use the friction zone – the area of clutch travel where the engine's power begins to transmit to the rear wheel. This partial engagement allows you to smoothly and precisely control engine power to the rear wheel. Don't be in a hurry. Take your time easing out the clutch. Let the motorcycle get underway before fully releasing the clutch.



TURNING

One of the keys to smooth and successful cornering lies in keeping your eyes up for good visual directional control. Look where you want to go, and follow through with the appropriate pressure on the handgrip to maintain your desired path of travel. Look ahead to identify the information essential to negotiate the turns safely and skillfully.

FOUR BASIC STEPS FOR TURNING A MOTORCYCLE

SLOW

Reduce speed before the turn. Roll off the throttle and/or apply the brakes as necessary. Downshifting can also help reduce speed if necessary. Slow enough before beginning the turn to allow smooth and constant (or increasing) throttle application throughout the turn.

LOOK

Turn your head and look as far as possible through the turn. Keep your eyes level with the horizon. Use your peripheral vision to search the immediate area. Continually scan so your eyes don't fixate on one spot.

4 Steps in Basic Cornering:
Slow
Look
Roll
Press

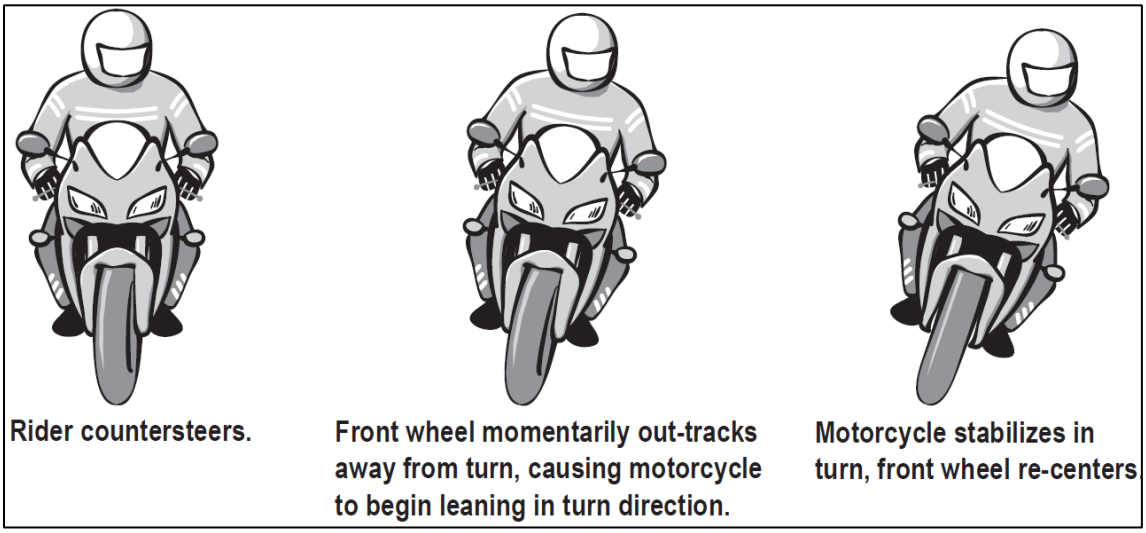
ROLL

As you approach the entrance to the curve and before you lean, gradually roll on the throttle. Maintaining a steady speed or gentle acceleration stabilizes the suspension and improves overall control. Avoid abrupt acceleration (or deceleration) while turning.

PRESS

Lean the motorcycle into the turn by applying forward pressure to the handgrip in the direction of the turn. To turn right, press on the right handgrip. To turn left, press on the left handgrip. While this may sound backward, the technique – known as countersteering – really works. A motorcycle must lean in order to turn. The pressure on the handgrip (countersteering) causes it to lean in the direction of the turn. (This is also how your bicycle turns at speed.)

Pressing left to go left:



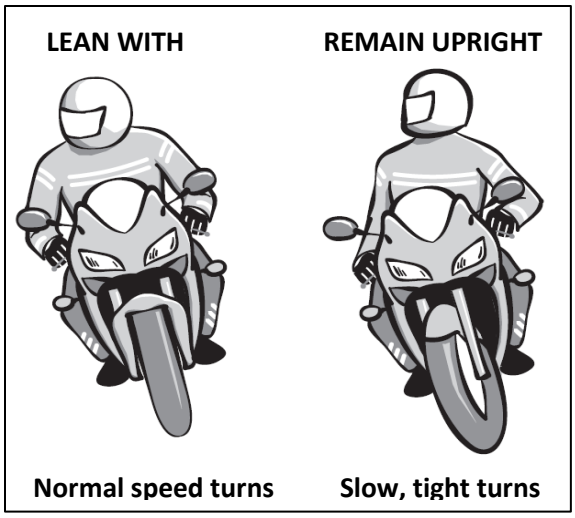
Rider countersteers.

Front wheel momentarily out-tracks away from turn, causing motorcycle to begin leaning in turn direction.

Motorcycle stabilizes in turn, front wheel re-centers

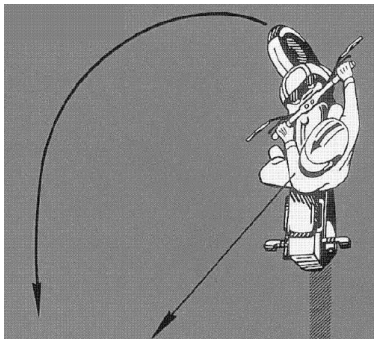
POSTURE IN TURNS

In most turns, you and your motorcycle lean together. However, for slow, tight turns you may find it useful to counterweight, which is putting your weight toward the outside of the turn. This can be done by weighting the outside foot peg or shifting your body toward the outside (away from the turn). This allows the motorcycle to lean while you remain upright to balance the motorcycle. Remember to turn your head and look where you want to go.



TIGHT TURNS

For tight turns, the cornering procedure is normally the same – slow, look, roll, press. However, at slow speeds, you must turn the handlebars to steer the motorcycle. Depending on the sharpness of the turn, you may want to use the friction zone to help control your speed and path. Counterweight to the outside, and look over your shoulder in the direction of the turn to help control your path.



SHIFTING

You must change gears to keep the engine within its best operating range at all speeds. You want to match engine speed to road speed and avoid over-revving or lugging the engine. Remember that motorcycle transmissions shift only one gear per each lift or press – the gearshift lever must be released before you can shift again.

SHIFTING TO A HIGHER GEAR

As engine speed increases, upshift to a higher gear. You'll soon find shifting routine and enjoyable. Use this five-step process to upshift to a higher gear:

1. Roll off the throttle.
2. Squeeze the clutch.
3. Lift the gearshift lever with firm pressure. Release the gearshift lever after the shift.
4. Ease the clutch out.
5. Roll on the throttle.

SHIFTING TO A LOWER GEAR

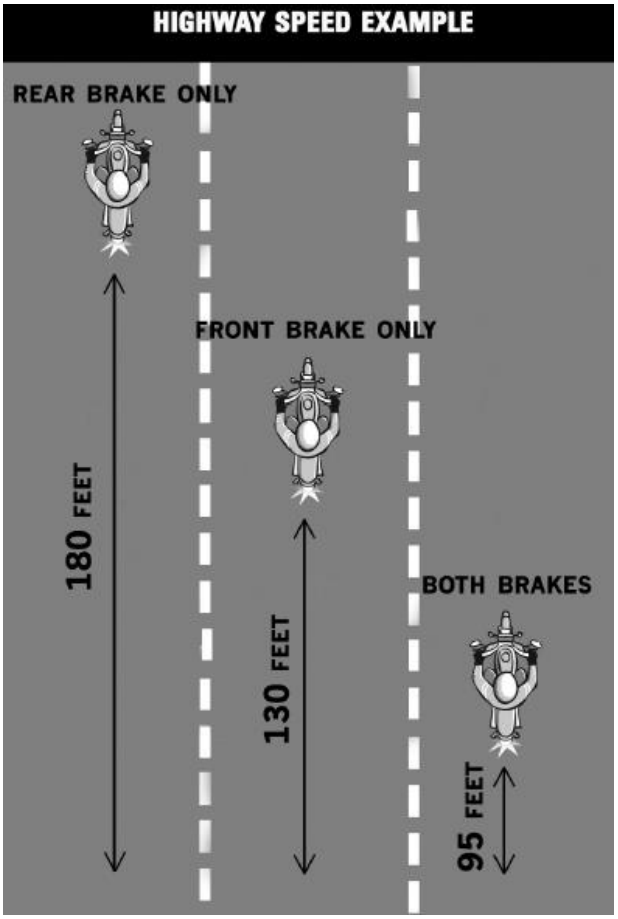
Downshift to match engine speed with road speed, provide more acceleration, or to use engine compression to slow the motorcycle. Use this four-step process when downshifting:

1. Roll off the throttle.
2. Squeeze the clutch.
3. Press down firmly (but don't stomp) on the gearshift lever. Release the gearshift lever after the shift.
4. Ease the clutch out. Engine braking is at work here, and that can have the effect of stepping hard on the rear brake – eeeease out the clutch to avoid skidding the rear tire.

It is possible to downshift several gears in succession. Hold the clutch in and press the gearshift lever firmly down once for each gear. Remember to release the gearshift lever after each press so it can return to the center position and be ready for the next press. When you can't downshift anymore, you're in first gear.

STOPPING

Your hands and feet must work together to bring the motorcycle to a smooth and coordinated stop. All the braking controls are on the right side – right hand and right foot – and all shifting controls are on the left side. When stopping, keep your head and eyes up, looking ahead. Begin braking first, then squeeze the clutch and downshift to first gear before the motorcycle stops completely. With practice, using both brakes and downshifting become almost simultaneous. Remember to keep the clutch squeezed as you complete your downshifts to first gear.



Using both front and rear brakes shortens stopping distance.

To maintain balance and control, keep your head and eyes up and square the handlebars (straighten them out) as you stop. As you come

to a stop, put your left foot down first so you can continue to apply the rear brake with your right foot. Once stopped, put your right foot down if necessary.

The front brake provides at least 70% of the motorcycle's total stopping power. Always use both brakes, even for routine stops. Habits formed now will become automatic actions later.

STOPPING IN A CURVE

There will be times when you will need to slow and come to a stop in a curve. It is important to remember that when braking in a turn, traction (your tire's grip on the road) is being shared. Traction is being used for cornering and for braking at the same time. This means the amount of traction available for each is limited.

To slow and stop safely in a curve, brake smoothly and gently. You'll also need to be able to identify important roadway information that could affect your available traction. Look through the turn to gather this important information. Looking well ahead will help you identify the tightness of the turn and allow you to determine your stopping point. While looking through the turn, you can also check for any slope in the road and see whether the road surface is free of hazards and debris. Make sure you keep your eyes up and square the handlebars as you come to a stop.

Once you have the basic physical skills of motorcycling, you're ready to hit the streets, right? Wrong. Controlling a motorcycle is only one part of safe and successful riding. Even more critical is developing street riding strategies that are the core of what is called "mental motorcycling." This is a constant game of "what if?" What if that car turns left? What if the bicyclist crosses in front of me? What if that's oil on the street, not water? As a street rider, your success and survival depend on how well you develop the fundamental skills of mental motorcycling.

Responsible riders think ahead to stay safe. This is Mental Motorcycling – the Art of the Ride!

The first step of mental motorcycling is assessment – finding the critical information needed for success and safety – and then making good decisions to ride MORE safely.

THE SIPDE PROCESS

Good riders know what's going on around them and act early. A key to successful street riding is searching out potential hazards and anticipating their actions and consequences. Become an excellent rider by developing excellent judgment. An acronym for a mental strategy for making sound judgments and helping reduce risks is SIPDE. It stands for:

SCAN

Scanning is an aggressive, purposeful search for information. Scan for potential hazards, escape routes, and route and traffic information. Search for other roadway users, and make sure they can see you. Search for escape paths – where you can go if everything else goes wrong. Search for traffic signs, signals, and roadway markings that warn you of upcoming hazards or situations. Scanning for potential hazards includes more than just looking in front of you. Always be aware of what is to either side and behind by turning your head and checking your mirrors. Periodically glance at your motorcycle's instruments to monitor your speed and check for warning lights, but remember: your priority is out in front of you. Scan continuously and aggressively.

Keep your eyes moving in a purposeful search for information.

IDENTIFY

An aggressive search will allow you to identify hazards, potential conflicts, and escape routes early. Hazards fall into the following three categories:

1. Other vehicles – traffic sharing the road with you. Your responses to other vehicles are critical.
2. Pedestrians and animals – they move unpredictably and, depending upon their size, can create an imposing hazard.

3. Fixed hazards – stationary objects near and alongside the roadway, surface hazards, signs and signals, guardrails, bridges, etc. They don't move but can affect your escape paths, and failing to recognize them can be hazardous.

PREDICT

Once you've identified the hazard, the next step is to quickly predict what it will do. How critical is the situation? What are your options? What are the consequences? Will the hazards separate or is action required? Is a collision likely? This is the "what if" phase of SIPDE, and it depends upon your knowledge, experience, and skill. An aggressive search has presented you with critical information – be prepared to act on it!

DECIDE

Decide what to do, based on your predictions. Complete the "what if" phrase to estimate results. What are you going to do, and how are you going to do it?

In any situation, you have three options:

1. Adjust speed – speed up, slow down, or stop
2. Adjust position – move left or move right
3. Communicate – sound your horn, flash your brake light or headlight, and/or use your signals

Adjusting your speed as necessary gives you time and space to react. Never hurry into danger. Slowing down is often the best way to decrease risk, but there are times when acceleration is a better choice.

Adjusting your lane position, changing lanes, or even turning away from a hazard are also valuable tactics. Slowing down and moving away from danger gives you time and space to maneuver while the situation unfolds.

You may be able to separate the hazards by adjusting your speed and / or lane position, and then you can deal with each hazard on its own. Many times, however, you will need to compromise and choose a path and speed that offers the most time and space between two or more hazards. Scanning well ahead and using the SIPDE process will help you decide on the best option under the circumstances.

EXECUTE

Act on your decision. This is the physical part of the SIPDE process. Now is the time to apply your skills:

- Adjust speed – roll on or off throttle, brake, downshift for greater acceleration
- Adjust position – press left or right
- Communicate – use the horn, flash the lights, etc.

Your safety and success on the street requires effective use of SIPDE and other mental strategies. Riders with superb physical skills and poor SIPDE skills and judgment ride into trouble much more often than riders with poor physical skills and excellent SIPDE skills. Become an excellent rider by applying good judgment and riding responsibly.

ADDITIONAL INFORMATION – SCAN

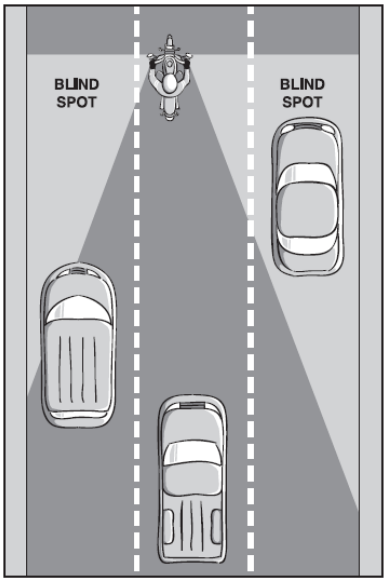
AVOID TARGET FIXATION

Keep your eyes moving, and do not let them settle on any one hazard. Target fixation happens when the eyes and brain are focused so intently on a particular object that awareness of other obstacles or hazards can diminish. It may also cause you to run into the object you are fixated on, despite your best intentions to avoid it. Keep scanning for hazards.

CHECK TRAFFIC TO YOUR SIDES

Avoid lingering in another vehicle's blind spot. If you can't see the driver in their mirror, the driver can't see you. And if the driver can't see you, expect that vehicle to move into your lane at any time.

Check your blind spots



CHECK MIRRORS BUT RELY ON HEAD CHECKS

Mirrors are an important safety tool, but riders are encouraged not to rely on them exclusively to know what's taking place behind them. As with automobile mirrors, motorcycle mirrors have "blind spots" that require riders to turn their heads to see what the mirrors may have missed. Use of mirrors and head checks is essential when changing lanes, merging, turning, and stopping.

LINE-OF-SIGHT

Select a path of travel that gives you the best line-of-sight, that is, lets you see as far as possible ahead of you. This can help keep you on target, alert, and aware of changing conditions. It also helps prevent overriding your sight distance, which is when you ride at a speed that does not allow time or distance to stop or swerve should a hazard enter your path or if the road takes an unexpected bend.

CHART A 20-SECOND COURSE OR AS FAR AS YOU CAN SEE

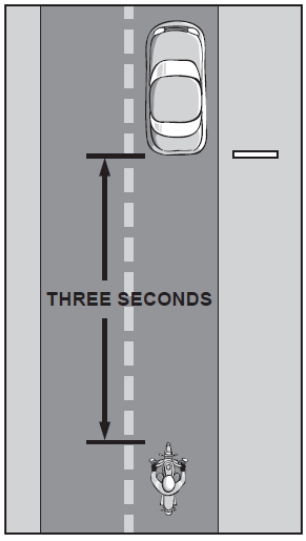
Look ahead as far as you can to scan a 20-second path of travel. That means looking ahead to an area it will take you 20 seconds to reach. This gives you time to prepare for a hazard before it is in your immediate path. Looking far ahead for hazards and potential issues helps you develop situational awareness – what is happening ahead and all around you? What might happen if? Where can you go if? What can you do if?

AGGRESSIVELY SCAN A 10-SECOND IMMEDIATE PATH OF TRAVEL

The area 10 seconds ahead is your immediate path of travel. Situations developing within this area require your immediate response. Scan ahead, to the roadsides, and to your mirrors. Look for movement – any movement that could potentially intersect your path or create risk. Whether it's a vehicle, a pedestrian, or an animal, things that move can be hazardous. Be especially careful as you approach intersections, as that is where most multi-vehicle collisions occur.

3-SECOND MINIMUM FOLLOWING DISTANCE

Three seconds is the minimum following distance at low speeds when conditions are ideal. Anything less than ideal – such as higher speeds, heavy traffic, reduced visibility, bad weather, unfamiliar environments, fatigue or reduced Rider Readiness – demands a minimum of four or more seconds of following distance.



Here's how to determine your following distance:

1. Pick out a fixed object ahead, like a sign, pavement marking or shadow.
2. As the vehicle ahead passes the object, count off: "one-one-thousand, two-one- thousand, three-one-thousand."
3. If you reach the fixed object before reaching three seconds, you are following too closely. Give yourself more space and try again.

Remember, three seconds is the minimum room to maneuver. It is not enough distance to stop. The greater the following distance, the greater the margin of safety, especially when conditions are less than ideal.

RIDE SMART – RIDE MORE SAFELY BY USING ADDITIONAL SAFETY STRATEGIES

VISIBILITY – BEING SEEN – COMMUNICATING YOUR PRESENCE AND INTENTIONS

One of the most important strategies motorcyclists must develop is to see and be seen in traffic. In multi-vehicle crashes involving motorcycles, the driver often doesn't see the rider until it's too late to avoid a collision. Some factors contributing to that scenario include:

- Drivers fail to actively scan for traffic or confirm that it is safe to enter an intersection.
- Riders fail to command attention and communicate their presence and intentions.
- Riders are often hidden from view by other traffic.
- Riders fail to anticipate that a motorist will violate their right-of-way.

Visibility is a crucial component of mental motorcycling. Try to always communicate your presence and intentions to other highway users. Ride with your headlight on during daytime for visibility. When changing lanes and passing, signal well in advance and use hand signals whenever possible to help attract attention. Even so, you must be ready to take evasive action at any time, especially if you doubt that you've been seen.

Being seen can reduce the risk of a crash. There are several ways to communicate your presence to other motorists.

CLOTHING

Brightly colored clothing and a light-colored helmet will help make you more visible to other road users. Also, retro-reflective material on your helmet, clothing, and motorcycle will help you stand out in traffic.

HEADLIGHT

Ride with your headlight on at all times. Be aware that flashing your high beam can be interpreted by other drivers as you giving up your right of way.

SIGNALS

Communicate your intentions. Use your turn signals to let others know your intentions. Don't forget to cancel your turn signal. Use hand signals along with electric signals to help alert

traffic around you. Never assume that drivers see you or anticipate your moves. Clear communication is your responsibility.

BRAKE LIGHT

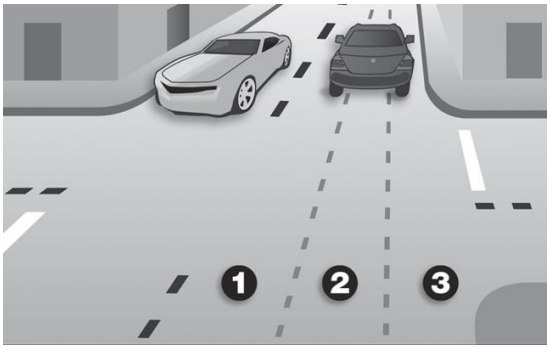
When stopping in traffic, flash your brake light to alert traffic approaching from the rear. The motorcycle's brake light can blend in with other lights, especially at night. A flashing light attracts more attention.

HORN

Drivers accustomed to relying on horns to alert others should be aware: most motorcycle horns are not loud enough to do the job reliably, especially with modern cars' quiet cabins and good sound systems, so do not count on it to make others aware of your presence.

USING THE ROAD TO SEE AND BE SEEN

It is important to choose a lane and a position within the lane that is appropriate for conditions. Your lane choice and lane position can help you see and communicate with other traffic, see and avoid roadway hazards, create space between yourself and other vehicles (margin of safety), and provide an escape route.



On multi-lane roadways, choose a lane that provides the most visibility, largest space cushion, most escape routes, and keeps you away from merging traffic.

LANE POSITION

Your lane can be divided into three portions – middle, left, and right. Use the portion of the lane that is best and appropriate for conditions.

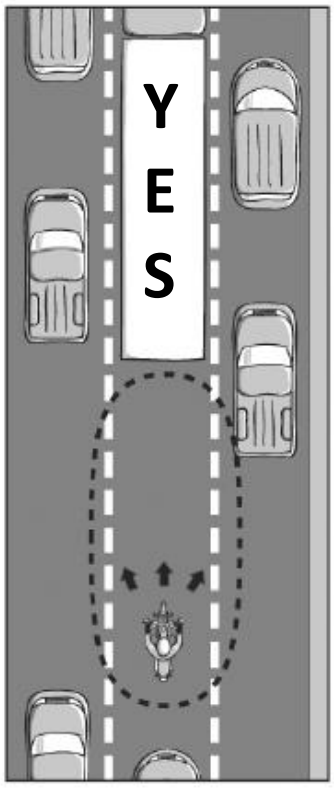
If you are hidden behind a larger vehicle, traffic to the front can't see you and may turn left immediately after the vehicle you are following clears the intersection. If you can't see the drivers around you, they can't see you. Don't hide in traffic.

Choose a lane position where you can best see ahead, behind, and to the sides. Your lane position should also allow you to be seen and communicate your intentions to others. Change your position as needed to be where other motorists are expecting to see traffic and where you have the greatest margin of safety. Be MORE visible!

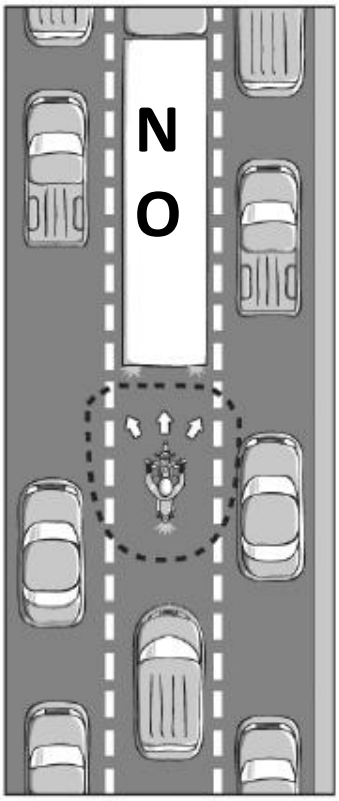
A good lane and lane position provides optimal visibility, space cushioning, and escape routes.

ESCAPE ROUTES

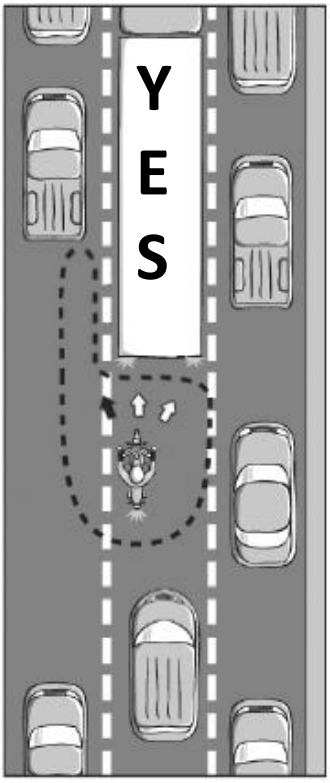
An escape route is an alternate path of travel that you can take if a hazard develops in your path. No matter the conditions, always maintain an escape route – your way out.



Bumper-to-bumper traffic.
Cushion preserved.
Three escape routes open.



Truck ahead stops.
Vehicle behind still approaching.
All escape routes closed.



Truck ahead stops.
Vehicle behind still approaching.
Left-side escape route still open.

PROTECT YOUR LANE

Avoid sharing your lane with other vehicles. Lane sharing violates your space cushion and compromises your ability to maintain an escape route. Command attention and protect your space within the lane.

SPACE CUSHION

A space cushion is the area surrounding you in the traffic flow. Allow adequate distance to the front, rear, and sides. Maintain a space cushion whether you are moving or at a stop in traffic.

USING SIPDE AND OTHER SAFETY STRATEGIES

INTERSECTION SITUATIONS

Most multi-vehicle collisions occur at intersections. Often, the driver violates the motorcyclist's right of way. The driver's most common response is "I didn't see the motorcyclist." Active use of SIPDE and proper lane positioning will make you more visible and better prepared to deal with hazards at intersections.

Anywhere another vehicle can enter traffic is considered an intersection. This includes driveways, merge lanes, alleys, and parking lots. Plan ahead before reaching an intersection. Be especially careful when your visibility is blocked. If you can't see an intersection, the drivers at that intersection can't see you.

BE ALERT AND READY

Be alert and ready when approaching intersections. Maintain a space cushion and always have an escape route. Cover the clutch and brakes for a quicker response. Downshift if necessary so you are ready to accelerate away from a hazard. Adjust your lane position to create space and increase visibility. Be aware of hazards approaching from the sides.

HAZARDS TO THE FRONT

First priority is the traffic ahead, where most collisions occur. Be ready to take evasive action if an oncoming car waiting to turn left doesn't wait for you. Your SIPDE process should have identified this hazard and predicted that the motorist might turn, so be ready if your prediction comes true.

TRAFFIC TO THE REAR

Don't forget to check behind you. When stopped, waiting to turn, or waiting for a light to change, check behind you and flash your brake light to gain attention. Always keep your bike in first gear at stops. Set up to one side of the lane and give yourself at least two bike lengths from the vehicle in front, so you have an escape path in an emergency. Be ready to move if the vehicle behind you fails to stop or yield.

"BUT THE DRIVER LOOKED RIGHT AT ME…"

Even after you apply all known street strategies, there is no guarantee that others will see you. Never count on eye contact to ensure that you have been seen. Too often, drivers look right at motorcyclists and still fail to see them. The only eyes that count are your own. If a car can enter your path, predict that it will. It's that simple!

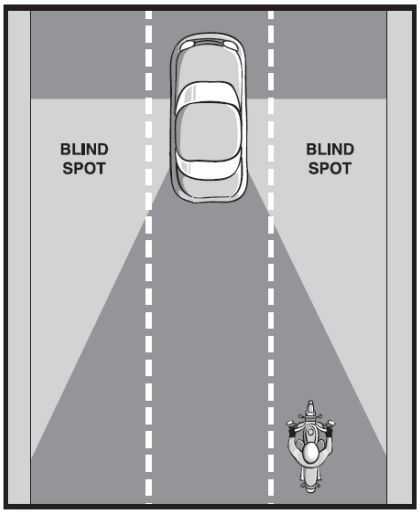
NON-INTERSECTION SITUATIONS

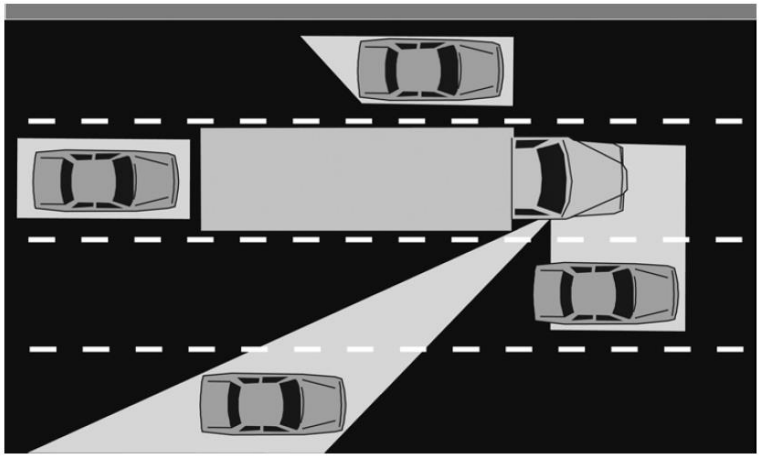
Areas between intersections hold plenty of hazards. Cars parked along the roadside can move without notice. Doors may open unexpectedly into traffic. Pedestrians can enter your path. Maintain a space cushion, and expect these situations to occur.

When turning, changing lanes, passing, or merging, signal in advance, have enough space for the maneuver, position yourself carefully, and manage your speed wisely.

BLIND SPOTS

Avoid riding in other vehicles' blind spots. Some drivers will turn their heads to check mirrors before changing lanes – that's a clue – but some will just change lanes. Remember, if you can't see the driver in their mirror, the driver can't see you. Communicate!





This diagram shows the various blind spots for a tractor-trailer

http://www.massrmv.com/rmv/dmanual/chapter_4.pdf

DRIVERS WHO TAILGATE

Drivers who tailgate may not be able to stop as quickly as you can, and their presence is distracting. Don't become emotionally engaged with a tailgating driver; continue to use good judgment. The distraction can affect your safety (don't forget what's going on ahead of you). Some options for dealing with tailgaters include:

- Increase the space cushion in front of you in case you have to stop quickly.
- Make your traffic stops smooth and gradual. No surprises.
- Communicate with the tailgater by flashing your brake light.
- Hold your position, and don't allow lane sharing.
- Turn or yield at the first opportunity to let the tailgater pass.
- Do NOT speed up – this often results in being tailgated at a higher speed.
- Do NOT throw anything at the vehicle to "teach them a lesson." The driver is most likely

not tailgating you on purpose, and throwing objects may start a fight that you are unlikely to win.

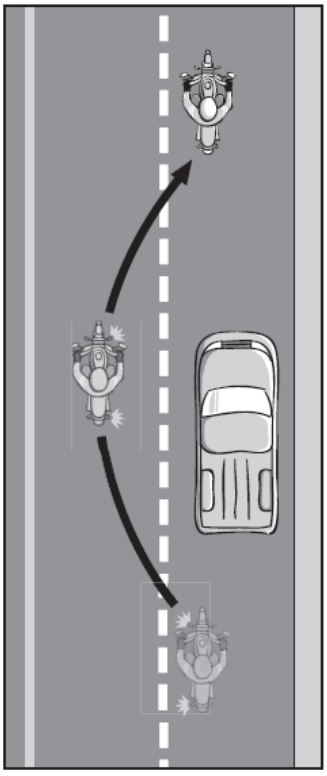
CHANGING LANES

The risk associated with changing lanes generally comes from failure to check your mirrors and blind spots. Here is the best way to change lanes:

- Plan ahead, and move to the side of your lane to increase your line-of-sight.
- Check your mirror in the direction you will change lanes.
- Turn your signal on.
- Make a quick head check in the same direction to see what is in your blind spot.
- When you are certain it is safe, change lanes.
- Cancel your signal.

PASSING

Passing other vehicles is like changing lanes, with one major exception: you will be riding in the opposing lane. Apply SIPDE. Ask yourself why the vehicle you are following is driving so slowly? Is the driver searching for a house address? Will they make a sudden left turn? Check for driveways and intersections. Check thoroughly for approaching traffic. Determine if you have the space to safely pass. If you aren't sure, wait.

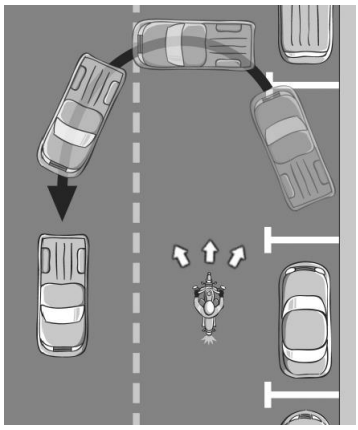


Check for oncoming traffic. Signal and check your mirrors and blind spot. Make no move unless it is legal and safe to do so. When it is safe to pass, move into the left lane and accelerate. Don't linger in the opposing lane. Avoid crowding the vehicle you're passing. This minimizes the time you are in the driver's blind spot and provides space to avoid possible surface hazards in the passing lane.

After you are far enough ahead of the vehicle you passed, return to your lane, using the lane change procedure. Don't forget to cancel your signal.

Remember that passes must be completed within posted speed limits and only where permitted.

U-TURNING CARS



Cars making U-turns are extremely dangerous. They can cut you off by blocking the entire roadway, leaving you with no escape route. Since you can't tell what the driver will do, slow down and get the driver's attention. Sound your horn if needed. Proceed with caution.

Ride SMART – Ride MORE Safely Recommendation # 4

Acknowledge that an excellent rider is one who uses good judgment and mental strategies to avoid having to use superb physical skills. Commit to becoming an excellent rider by using mental strategies like SIPDE, scanning for hazards 20 seconds ahead, and choosing to make safety-oriented decisions.

When asked to describe a perfect motorcycle road, most riders describe one with lots of curves. Unfortunately, the enjoyment of cornering snares many riders. Every year countless riders suffer self-inflicted injury from failure to negotiate curves – single vehicle crashes in which the rider is clearly at fault. In typical scenarios, riders either run off the road while cornering or drift into the opposing lane and collide head-on with approaching vehicles. Neither scenario is appealing, and both are completely avoidable.

SKILLFUL CORNERING

The basic turning procedure – slow, look, roll, press – applies to all curves. The key to this process is slowing before the curve. Complete all braking and downshifting before the curve. Enter the curve at a speed that permits safe cornering and allows constant (or gradually increasing) throttle application through the curve.

Many crashes involve riders who enter curves too fast and are unable to complete the curve. This error applies to riders of all ages and riding styles. While excessive speed is usually listed on the crash report, the real cause of these crashes is poor judgment and riding beyond their abilities. Essentially, these riders did not slow enough before the curve or rolled on the throttle before they knew where the road led or what hazards it contained. Another major factor in riders running wide in curves is the failure to effectively countersteer (press forward on the handgrip in the direction of the curve – press the right handgrip to go right; press the left handgrip to go left).

An effective strategy for successful cornering is a “Ready, Set, Go” sequence of cornering

READY

Scan ahead to gather as much information about a curve before you get there. Evaluate the tightness of the curve, slope of the road, surface conditions, and whether or not you can see all the way through to the exit of the curve. As you approach, apply both brakes to slow (and downshift, if appropriate) to an entry speed that allows you to smoothly apply the throttle throughout the curve. If you cannot determine the tightness of the curve or see the exit before you enter, reduce your entry speed more, and be prepared for the curve to tighten.

SET

Turn your head and set your planned path of travel. Looking through the curve provides information such as how sharp the curve is, where the exit is, the slope (if any) and any surface hazards. This is all important information for safe cornering. Your mind will calculate the required lean angle, speed, and lane position, but ONLY if you feed it good information.

GO

Begin rolling on the throttle smoothly and precisely before you lean into the curve. A steady throttle application maintained throughout the curve will help your cornering be smooth and comfortable, and keep your motorcycle's suspension stabilized. It is not necessary to accelerate through your curves – a steady throttle is okay. Adjust handgrip pressure to maintain your path. Less pressure, less lean. More pressure, more lean.

WHAT'S YOUR LINE?

Smooth and skillful cornering requires selecting the best line or path through corners. The best line may not match the curve of the road. A good line allows you to:

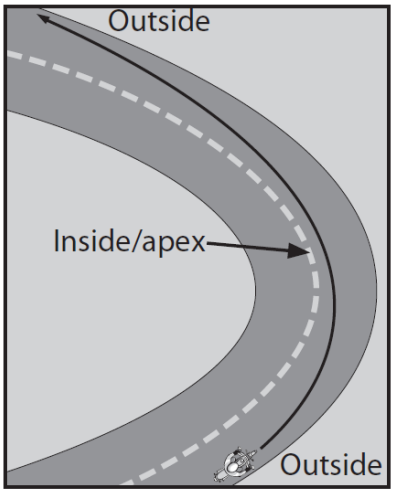
- Maximize visibility by positioning yourself in clear view of traffic ahead and behind
- Maximize your line-of-sight by positioning toward the outside of the curve where you can see the farthest
- Select a safe path to avoid approaching traffic and roadway debris (maintain safety cushions)
- Minimize traction required
- Maximize cornering clearance
- Do all of the above safely and skillfully, while remaining in your lane at all times

CORNERING LINES – THE BASICS

For most curves, an outside-inside-outside strategy is a good place to start and will serve you well in most situations as long as you manage your speed. In reality, a center-center-center line can get you through a curve just fine and will allow a greater safety margin on both sides.

An outside-inside-outside path increases your line-of-sight and creates a curve that is less sharp, thereby limiting cornering forces and preserving your ground clearance. Here's how to use that path:

- Outside – Enter the curve with your motorcycle in the "outside" portion of your lane (if it's a right-hand curve, you will be in the left part of the lane; if it's a left-hand curve, you will be in the right part of the lane). If conditions allow, stay in this lane position until the curve starts.

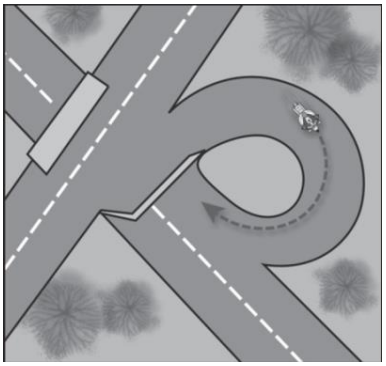


- Inside – As you lean into the curve, move from the outside part of your lane toward the inside part of the lane (toward the centerline in a left-hand curve; toward the fog line in a right-hand curve). Press more on the handgrip to increase your lean and move toward the inside.

  Note: You want to maintain a space cushion and escape routes, so don't ride ON the centerline or fog line – leave yourself some space. Remember you will be leaning, so if your tires are ON the centerline, your head and body are hanging into the lane of oncoming traffic! Avoid this situation by moving toward the inside, and leave yourself some space between your head and the centerline.

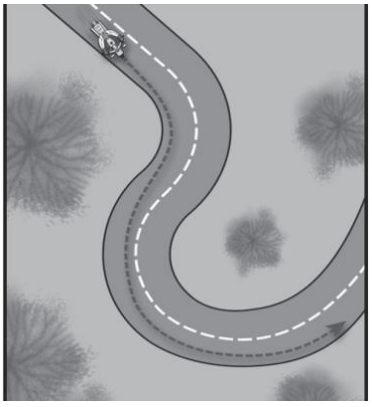
- Outside – After reaching the apex of your curve (the point at which you are the closest to the inside), allow the motorcycle to move back toward the outside portion of the lane. Press less on the handgrip to decrease your lean and move back toward the outside. This completes the outside-inside-outside path of travel.

DECREASING RADIUS CURVES



For turns that get tighter or when you can't see through to the exit, use a slower entry speed and stay in the outside part of your lane until you can see all the way through the curve to the exit. Once you can see the exit and know exactly how tight the curve is, you can move toward the inside. This is known as a late, or delayed, apex line.

LINKED CURVES



For curves that flow from one right into another, use the late apex line as described above. Strive to make the exit line of the first curve match the entry line for the next curve. This technique helps you minimize mid-turn corrections in speed or path.

Once you have some experience with outside-inside-outside (or center-center-center) and are comfortable adjusting your line in curves, you can start to go "beyond the basics." There is additional information in Appendix A, Cornering with Confidence – Expanded Content.

INCREASE YOUR CORNERING SKILLS

There are a number of options to gain more confidence in cornering, all of which include

MORE practice. Advanced training is available through the MORE program or you can take courses offered by other entities, such as the Motorcycle Safety Foundation or Total Control. There are courses offered on race tracks in Ohio, such as the California Superbike School, CLASS Motorcycle School, and Moto Series Riding School. Stayin' Safe offers on-street training and has training routes though southeastern Ohio. Ride MORE Safely – take additional training and refresh your skills often.

MANAGING POTENTIAL CORNERING PROBLEMS

SIPDE is critical for safe cornering. Aggressive scanning – looking as far as possible through the curve – helps you assess how tight the curve is and how much you need to slow to be able to corner safely. Here are some other suggestions:

- Enter corners conservatively. If you cannot see the exit, slow more before the curve.
- Ride within your personal ability and the limits of your motorcycle. Don't attempt to keep up with other, more experienced (or more foolish) riders.
- Discipline yourself to look as far through the curve as possible. Ride at a speed that gives you enough sight distance to stop or swerve.
- Always leave yourself an out if something unexpected obstructs your path, like gravel spills or debris.
- Listen to your body. If your heart is racing because you are scaring yourself, slow down!
- Don't stare at the roadside or at approaching vehicles. Remember to look where you want to go! Turn your head to face through the curve.
- Avoid excessive lean angles. All motorcycles have ground clearance and traction limits. Dragging parts of your motorcycle can reduce traction and cause a crash.
- Anticipate surface hazards – reduce your speed and lean angle on slippery, loose surfaces.
- Avoid lane positions close to oncoming traffic and be aware of your lean angle. Keep your entire body and motorcycle in your lane.

Ride SMART – Ride MORE Safely Recommendation # 5

Acknowledge that running wide in curves is a common fatal crash situation.

Commit to using a READY-SET-GO strategy for cornering, and in particular SLOWING before curves and PRESSING on the handgrip to cause the bike to lean / turn.

Stopping a motorcycle quickly and safely is a skill that takes time to develop and continual practice to keep sharp. Failure to apply the brakes properly is a leading cause of motorcycle crashes.

BRAKING SYSTEMS

Modern motorcycles are equipped with excellent braking systems and can stop very quickly with a skilled rider at the controls. Some motorcycles are equipped with an antilock braking system (ABS) that prevents wheel lock-up during overly aggressive stops. Some motorcycles are equipped with linked, integrated, or combined braking systems which means the brakes are connected in some way – for example, pressing the rear brake pedal also applies some front brake. There are a variety of braking systems on today's motorcycles, so be sure to know what is on your motorcycle and how it works. Check your owner's manual or talk to your dealer for information about your motorcycle's braking system.

ANTILOCK BRAKING SYSTEMS (ABS)

The benefit of ABS cannot be overstated in preventing wheel lock-ups in emergency situations. Most motorcycle ABS systems are effective only for straight-line stops, but some newer systems also work while stopping in a curve. Be sure you know what type of system your motorcycle has. If your ABS activates, you may feel vibration or other feedback through the brake controls but continue to keep as much pressure as possible on both brakes. It is best, however, to practice your maximum braking skills and use SIPDE to avoid emergency situations.

MAXIMUM STRAIGHT-LINE BRAKING

Maximum straight-line braking is accomplished by fully applying front and rear brakes without locking either wheel. To do this:

- Squeeze the front brake smoothly, firmly, and with increasing pressure. Do not grab the brake lever or use abrupt pressure.
- As the motorcycle's weight transfers forward, more traction becomes available at the front wheel, so the front brake can be applied harder after braking begins.
- Keep your knees against the tank and your eyes up, looking well ahead. This helps you stop the motorcycle in a straight line.
- Apply light-to-lighter pressure to the rear brake pedal. As weight transfers forward, less traction is available at the rear. Use less rear brake pressure to prevent a skid.

HANDLING SKIDS

The best way to handle a skid is to avoid causing one in the first place. But because everyone makes mistakes, here's what to do:

FRONT WHEEL SKIDS

When braking, a motorcycle's weight transfers forward, providing more traction available for braking on the front wheel. However, applying the front brake too fast (before the weight transfer occurs) or too much (grabbing the lever) can result in a front-wheel skid. Front-wheel skids result in immediate loss of steering control and balance. If the front wheel locks, release the front brake immediately, and then reapply the brake smoothly and properly.

REAR WHEEL SKIDS

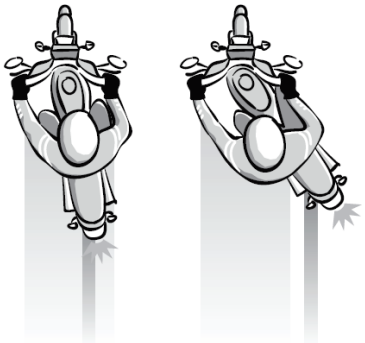
As a motorcycle's weight transfers forward during a stop, there is less weight on the rear wheel, making it more likely to skid if pressure is not adjusted.

If the rear wheel locks AND the front and rear wheels are aligned, release the rear brake and reapply with less pressure. If the rear wheel skids and the wheels are NOT aligned, maintain pressure on the rear brake until stopped or the wheels are aligned.

If the rear wheel skids out of alignment with the front, there is a risk of a high-side crash. This occurs when the wheels are out of alignment and a locked rear wheel is released. The motorcycle can violently and abruptly snap upright and tumble, throwing the rider into the air ahead of the motorcycle's path. Even a slight misalignment can result in a high-side crash. The farther out of alignment the rear wheel goes, the greater the risk of a high-side.

Practice quick stops often without locking either brake. Keep your skills sharp for the unexpected.

Proper braking. Neither wheel is locked and motorcycle is in alignment.



Excessive rear brake pressure locks rear wheel. Motorcycle is out of alignment and control.

STOPPING QUICKLY IN CURVES

Traction is the friction between the tires and the road surface. Like money, traction is a limited resource, and you always need some in reserve. During straight-line braking, most of your motorcycle's traction is available for braking. In corners, some of the available traction holds the bike in the turn and is not available for braking. The greater the lean, the more traction is used for cornering. When stopping quickly in a turn, remember that the amount of traction available for braking is limited because some traction is used for cornering.

Use the following techniques to stop quickly and safely in a corner:

STRAIGHTEN THEN BRAKE

The fastest way to stop a motorcycle in a curve is to straighten then brake:

- Straighten the motorcycle first by pressing the "outside" handgrip.
- Once the motorcycle is upright, apply maximum straight-line braking.
- Square the handlebars before coming to a stop. This centers the steering and helps you achieve a balanced stop. Leaning motorcycles become very heavy at stops. Square the bars!

Note: Circumstances may not permit you to straighten first and then brake. If you would run into traffic or there is not enough space to safely go off the road (like if there is a guide rail or drop-off shoulder), using the braking while leaning technique may be better.

BRAKING WHILE LEANING

If conditions do not allow you to straighten then brake, apply your brakes gradually and increase pressure as you straighten the motorcycle.

- As the motorcycle straightens, more traction is available for braking. This is a delicate balance – the more upright the bike is, the more braking force is available.
- Gradually square the handlebars and increase brake pressure until the motorcycle stops. This method may require more stopping distance but allows you to remain in your lane.

With either technique, keep your eyes on your intended path, not on any obstacles.

Ride SMART – Ride MORE Safely Recommendation # 6

Acknowledge that braking errors are very common in crash situations. Commit to regularly practicing quick stops, with an emphasis on smooth, increasing pressure on the front brake and a light to lighter application of the rear brake.

SWERVING

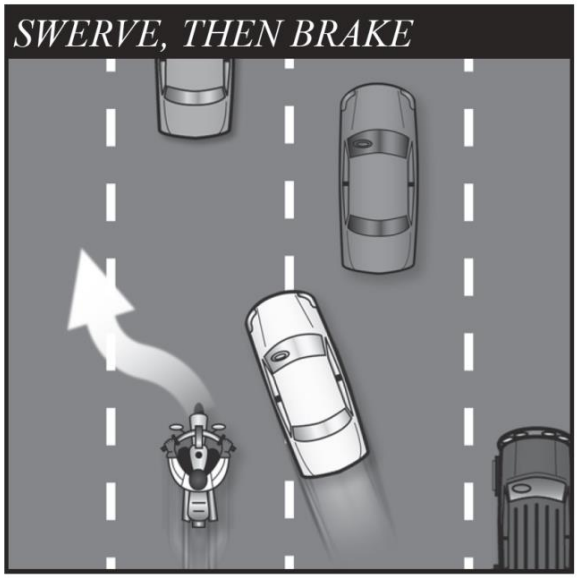
Skilled motorcyclists can swerve away from danger in less space than it takes to stop. It is critical to develop good swerving skills and practice these skills to keep them sharp.

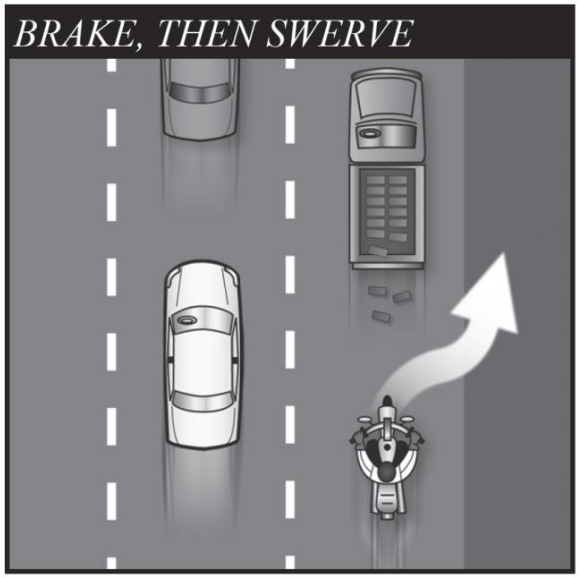
A swerve is two consecutive countersteers – one forward press on the grip to avoid the obstacle, held long enough to clear the obstacle, followed by a forward press on the opposite grip to regain a straight path after the obstacle is cleared. Smooth, firm and constant pressure is required to make the motorcycle lean quickly and precisely.

Here's how a swerve is accomplished:

1. Look to your escape path and press forward firmly on the handgrip to initiate the swerve. Remember: press right, go right; press left, go left.
2. Hold the press until the motorcycle has cleared the hazard.
3. Press firmly on the opposite grip to straighten the motorcycle.
4. Keep your body upright and allow the motorcycle to move independently underneath you. The motorcycle will react more quickly that way.
5. Keep your eyes on your escape path (not the obstacle) and your knees against the tank.

Caution: Swerving consumes a lot of traction, leaving little in reserve for braking. Therefore, never attempt to brake during a swerve. Even a slight braking force can induce an immediate and forceful crash. Hold a steady throttle while swerving to avoid engine braking. If braking is required, brake before or after swerving, never during!





Practice swerving often where it is safe to do so. Hone this skill until you make the correct moves automatically – every time.

This section examines some special situations that motorcyclists face and provides information to help you make good decisions.

OBSTACLE SURMOUNTING

A good SIPDE process and maintaining line of sight and space cushions will do more to avoid obstacles than anything else. However, there are occasions when obstacles such as potholes, speed bumps, or highway debris cannot be avoided and must be surmounted. By following the steps below, you can safely surmount many obstacles.

1. Consider whether it's possible to surmount the object and forecast your path of travel. Will crossing or avoiding the obstacle place you in greater danger?
2. Approach the object as close to a 90-degree angle as possible.
3. Slow down as you approach, and rise off the seat, keeping your knees bent and against the fuel tank.
4. Grip the handlebars firmly and look ahead.
5. Just prior to contact, slightly roll on the throttle. This extends the front suspension and shifts your weight back.
6. Upon front tire contact, immediately roll off the throttle. This prevents the rear tire from spinning on the obstacle.
7. Remain standing throughout the maneuver.

ROADWAY CONDITIONS

Changes in roadway conditions are part of the challenge of motorcycling. You have to be ready for anything. Use SIPDE to identify roadway problems early, giving you time to plan for success and avoid surface hazards. Be especially vigilant for changes in color and texture – your clues that traction may change.

REDUCED TRACTION ROADWAY CONDITIONS

Use the SIPDE process to manage roadway conditions with reduced traction. If you must ride across or through them, use the throttle smoothly and carefully. Make no sudden or abrupt moves. Avoid leaning, and ride in the tracks of other vehicles. If necessary, squeeze the clutch to eliminate the possibility of engine braking when riding through short but extremely slippery sections. Be especially careful around other vehicles. The roads are slick for them, too. Remember, the key to handling poor traction situations is reduced lean angle and smooth control inputs.

RAIN-SOAKED SURFACES

If conditions are unsafe, find a safe place to stop away from the roadway. Roadways are most slippery at the beginning of a rainstorm, especially in the center of the lane where oily residues tend to build up most. If the rain is just beginning, consider waiting a while before starting your ride.

Oil, dirt, and other debris accumulate in and upon the road surface. Rain mixes with that composition and creates a slippery film; with time, this film washes away and traction improves. Avoid riding during the first part of a rainstorm when conditions are most slippery. When riding in the rain or on wet surfaces, you'll need more distance to stop the motorcycle without losing traction. To accomplish this, slow down and make your space cushion larger by allowing more space between you and other vehicles both in front of and behind you. Here are some other tips for riding on rain-soaked surfaces:

- Ride in the tracks of other vehicles to help avoid hydroplaning.
- Reduce speed and lean angle in corners and on especially slippery surfaces.
- Conserve your traction.
- Increase your following distance.
- Avoid pooled water and highway ruts caused by excessive pavement wear. Motorcycles can lose traction due to hydroplaning (water build-up under the tread). Ride where traction is best.
- Avoid riding during an electrical storm. Why take the chance?
- Watch for shiny surfaces. They can be very slick. Examples are:
  - Metal covers and plates
  - Painted or plastic roadway markings
  - Bridge gratings
  - Railroad tracks and rubberized crossings
  - Wet leaves
- Limit your lean angle when turning left on crowned roads!

RAIN GROOVES

Rain grooves are cut into the pavement parallel to the path of travel. They channel water away from the surface but do not affect traction. However, rain grooves can cause the motorcycle to wiggle. Do not fight the wiggle; instead, keep a firm but relaxed grip on the handgrips. Maintain a steady speed, and keep your eyes up.

LOOSE SURFACES AND DEBRIS

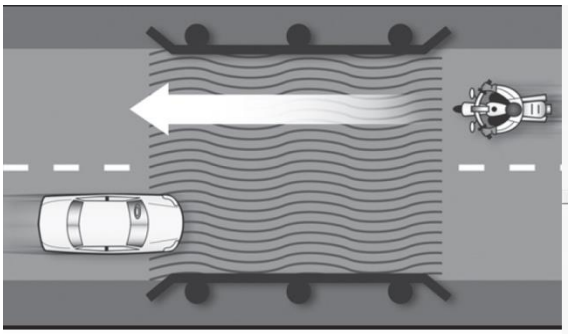
Paved surfaces may be littered with sand, gravel, cinders, rocks and leaves, as well as fuel, oil, and coolant. Watch for telltale changes in road surface color or texture. Traction is

compromised in these situations, so avoid abrupt acceleration or braking, and minimize lean. Ride straight across, keeping a steady throttle.

GRAVEL ROADS

Gravel roads decrease traction. Ride where the traction is best, usually in the ruts created by other vehicles. Don't change your direction or speed abruptly, and limit your lean angle. Keep your eyes up, looking where you want to go. Roads that have been "chip sealed" often have loose gravel and can be much like a gravel road.

BRIDGE GRATINGS



Bridge gratings are slippery steel grid surfaces that cause the motorcycle to weave or wander. This situation is not a hazard when handled properly. Slow down before reaching the grating, then maintain a steady speed. Keep your eyes up, looking where you want to go. Again, keep a firm but relaxed grip on the handgrips and avoid abrupt maneuvers. Ride evenly and smoothly.

CRACK SEALANT

Cracks in highway road surfaces are usually sealed with a black, tar-like substance (tar strips). In warm or wet weather, this material becomes gummy and slick, causing motorcycles to slip and wiggle when leaning. Recognize this change in pavement color and avoid it if possible. If you can't avoid tar strips, reduce speed and minimize lean.

CROWNED ROADS

Road surfaces are often crowned to improve water run-off. Use SIPDE for early warning that cornering clearance is reduced. Limit your lean angle when turning left.

STEEL PLATES

Steel plates are often used to cover excavations. These plates are very slippery, especially when wet. Ride straight across them, avoid abrupt maneuvers, and minimize lean angle.

EXTREMELY SLIPPERY SURFACES

Ice, snow, mud, and moss can make road surfaces extremely slippery. Even road markings can be slippery. Be alert to the possibility of these hazards, such as damp, shady patches of road that can have black ice, moss, or algae.

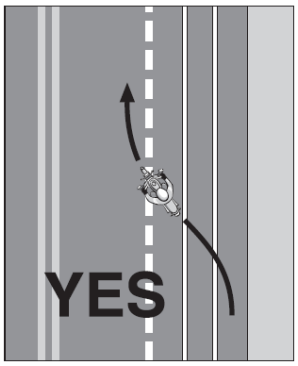
OTHER ROADWAY CONDITIONS

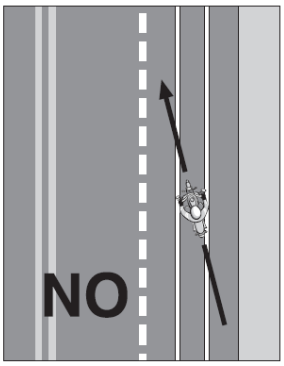
POTHOLES, BUMPS, AND CRACKS

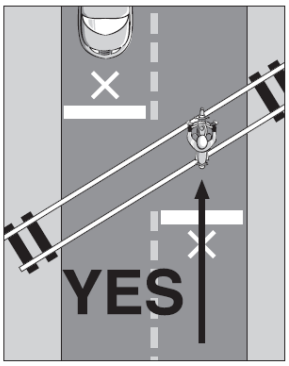
Treat potholes, bumps, and cracks as you would any other obstacle. If you can't go around them, cross at a 90-degree angle, maintain a steady speed, and rise off the seat as you cross.

RAILROAD AND TROLLEY TRACKS, PAVEMENT SEAMS, CATTLE GUARDS

Railroad tracks and cattle guards usually pose no problem if you ride straight across them. If railroad or trolley tracks cross your path at a diagonal, try to approach them at a 90-degree angle, but be careful to stay in your lane. To cross trolley tracks or pavement seams running parallel to your path of travel, swing away from the tracks or seams to adjust your approach to at least 45 degrees. Do not cross at a shallow angle as the tracks or seams can catch your front tire and cause a crash.







ANIMALS

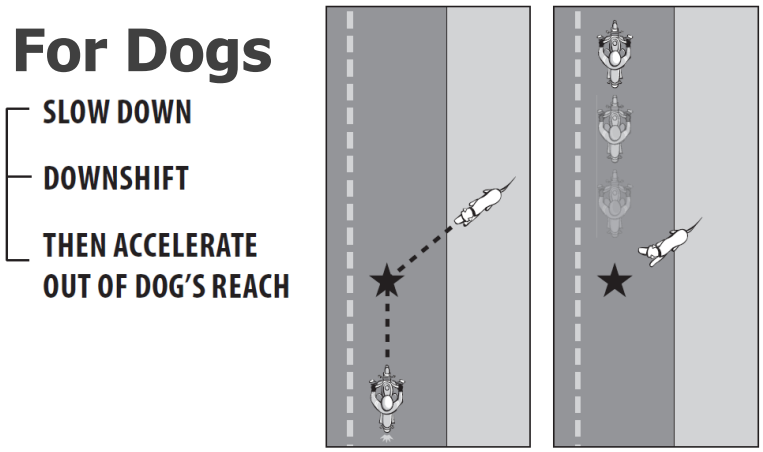
Animals on and alongside the roadway can pose a serious hazard to motorcyclists. How you deal with them depends on road conditions and the animal's size.

SMALL ANIMALS

Animals like squirrels and rabbits may dart into your path. Don't increase your risk by attempting to avoid a collision. If it's unsafe for you to swerve or brake, prepare to surmount the obstacle.

ANIMALS THAT CHASE

Some dogs chase vehicles, and motorcycles are no exception. Dogs use SIPDE to pick a point of interception. Defeat that strategy by slowing, downshifting, and then accelerating out of the dog's reach. Don't kick at the dog. Keep your eyes up.



ANIMALS THAT ROAM

Larger animals like deer create a real hazard. They are unpredictable and hitting one is like colliding with a truck. Use SIPDE aggressively in areas where deer may be present. Remember, these are herd animals. If you see one, expect more. If you come upon one of these animals, slow down as much as you can. The safest passing speed is walking speed. Expect such animals to dart into your path. Be prepared!

WIND

An unexpected blast of wind can push a motorcycle off the road. It's important to understand where wind gusts can occur and be prepared to counteract the wind with proper riding technique.

Trucks, motor homes and other large vehicles push a lot of air ahead and to the sides. Avoid the windblast of these vehicles by moving away from them as they approach. When passing a large vehicle, stay far from its side to avoid the draft effect that may pull you toward it.

While riding, you might encounter steady winds or strong and irregular gusts. The strategy is the same: Lean into the wind by applying forward pressure on the handgrip.

The stronger the side wind, the more forward pressure must be applied. Use SIPDE to identify places where the wind may be blocked, such as road cuts and freeway underpasses. When the wind is blocked, you'll need to lighten the pressure on the handgrip. Also use SIPDE to identify bridges and overpasses where you'll be exposed to the full force of the wind – in other words, be prepared. Adjust your lane position to allow for space to move side-to-side within your lane to compensate for wind gusts.

For strong and irregular blasts, be ready! Maximize the space cushion around you. Be prepared to take immediate action to counter the blast. If the wind becomes too erratic and dangerous, find a safe place to park until conditions improve.

NIGHT RIDING

Night riding carries special challenges; visibility is reduced, and sight distance is much more limited than during the day. You can greatly enhance your visibility and safety through use of bright reflective and retro-reflective materials, including the use of retro-reflective vests. Wear untinted eye protection that is free of scratches and smudges, reduce speed, and increase the distance at which you follow other vehicles. Signal your intentions early, and flash the brake light when stopping or waiting at intersections to help keep you from blending in with other vehicles.

Remember: Your headlight only shines a certain number of feet in front of you. This means that at higher speeds, you have less time to respond to what you see. In conditions of darkness, slow down to avoid "overriding" your headlight. Use the headlights of other vehicles to see farther ahead and their taillights for clues about curves, bumps, or maneuvers.

Make yourself even more visible to others by using your high-beam headlights when allowed. High beams should be used wisely, taking care not to blind other road users.

TRAFFIC-ACTUATED SIGNAL LIGHTS

Most traffic-actuated signals are triggered by vehicle magnetic mass, and because motorcycles lack mass, these sensors don't always detect them. Position your motorcycle directly over a sensor strip. Some roadways may have painted bicycles or other markings on the pavement to help you know where the sensors are located. If that doesn't work, contact the local agency responsible for the intersection. Explain the situation and ask for the sensor to be adjusted. In Ohio, you can email bike.report@dot.state.oh.us or call (614) 387-0722 (https://www.dot.state.oh.us/Divisions/Operations/Traffic/Pages/OTEHomePage.aspx)

Ride SMART – Ride MORE Safely Recommendation 7

Acknowledge that motorcycles are affected much more by roadway and environmental conditions.

Commit to being aware of your surroundings and maintaining a safety margin, particularly with traction, in managing special situations.

Responsible riders are alert, aware, skilled, and savvy because they know that motorcycling requires keen attention and constant readiness. Any physical or mental condition that reduces your attentiveness, fogs your judgment, or interferes with your riding abilities impairs your safety. For a motorcyclist, riding when physically or mentally impaired for any reason is courting disaster.

While most riders understand that alcohol and other drug use is hazardous, it is also important to recognize that fatigue, hunger, exposure to the elements, and everyday worries can crowd your thinking and distract your attention from the safety of the ride. Evaluating your personal state of readiness is the first step in reducing the risk of riding.

ALCOHOL AND MOTORCYCLING – A LETHAL MIX

Alcohol is a leading factor in deaths among motorcyclists. Every year, 35 - 40% of the riders killed in Ohio motorcycle crashes had been drinking. Many of these riders' blood alcohol concentration (BAC) levels are below legal limits, but obviously their judgment and abilities were impaired. Impairment begins with the first drink. It is critical to separate drinking from riding. It's that simple!

EFFECTS OF ALCOHOL

Alcohol is a depressant – it slows your bodily functions. Because it is absorbed into the bloodstream quickly, effects begin to appear almost immediately in the form of errors in judgment, impaired vision, slowed reactions, and reduced coordination.

The alcohol content of a can of beer, glass of wine, and a shot of whiskey are about the same.

BLOOD ALCOHOL CONCENTRATION

Many factors must be considered when determining BAC, including physical size, gender, the amount of alcohol consumed and the number of hours spent drinking. In most states, a person with a BAC of .08% is considered legally intoxicated. Breath, blood and/or urine tests confirm BAC. Under Ohio law you are considered to be operating a vehicle while under the influence (OVI) if your BAC is .02 or more if you are under 21 years of age; .08 or more if you are 21 or older.

EFFECTS OF IMPAIRMENT

If you are impaired, no vehicle is safer to drive than any other. In addition to the risk of causing injury (or death) to yourself or others, consider the probable economic impact to you, your motorcycle and others around you if you attempt to operate your motorcycle (or any other vehicle) while under the influence of drugs or alcohol.

IMPAIRED JUDGMENT

Impaired judgment is evidenced by a willingness to take risks. Impaired riders typically fail to recognize this behavior. They may think they ride better after a few drinks.

IMPAIRED VISION

Use of alcohol and other drugs impair a rider's ability to focus and adjust to changing light conditions

DIVIDED ATTENTION

The ability to divide attention is impaired in riders under the influence of alcohol and/or other drugs. As a result, they tend to focus on only a few aspects of riding and disregard others. For example, they may ignore a traffic signal and focus instead on speed control.

HOW IMPAIRMENTS AFFECT THE SIPDE PROCESS

SCAN

Clear vision is impaired. Your ability to detect moving objects and to see clearly at night is impaired. Critical information may be missed. Your ability to divide attention between scanning and operating the motorcycle is affected.

IDENTIFY

As impairment increases, more attention is diverted to operating the controls. Key visual clues are missed. Hazards aren't identified.

PREDICT

Judgment and the ability to process information are impaired. Short-term memory is impaired.

DECIDE

The ability to divide attention, analyze risk, and make decisions is flawed.

EXECUTE

The ability to react properly and precisely is affected. Your reaction time, coordination, and balance are compromised.

ADDING DRUGS MAKES IT WORSE

It's important to remember that prescription drugs and many over-the-counter drugs, like cough and allergy medicines, can also impair your riding skills. They can be just as dangerous as alcohol and other drugs in reducing your ability to perceive and react to hazards. Even worse, combining alcohol with other drugs can often drastically increase the negative effect they have on your mental and physical abilities.

Riding impaired has the effect of lowering a shade between your eyes and your brain. Critical information is missed, skills and judgment are dulled, but your confidence is high. Mixing other drugs, controlled substances or inhalants makes it worse – a deadly combination!

THERE IS A CURE

Impairment begins with the first drink, so exercise good judgment before you drink. Learn from the mistakes of others and plan ahead:

- Separate drinking (and other drug use) from riding. If you intend to drink alcohol or even suspect that it will be served, don't ride. Make it your standard procedure to separate the use of drugs and alcohol from operating a motorcycle and stick with it every time you ride.
- If you're using drugs or alcohol, the only reasonable strategy is not to ride at all.
- Have an alternate plan for getting home in case you decide to drink or use other drugs when you have your motorcycle.
- Time is the major factor that will cleanse your system of drugs and alcohol. If you are impaired, do not ride your motorcycle again until you have allowed enough time for the drugs or alcohol to leave your system and you have regained your ability to ride safely. This may mean waiting overnight.
    - For alcohol, allow at least one hour for each drink consumed to clear from your system.
    - The time required for other drugs to be removed from your system will vary, and the effects may suddenly wear off.

Ride SMART – Ride MORE Safely Recommendation # 8

Acknowledge that many fatal motorcycle crashes involve riders who had been drinking.

Commit to separating the use of alcohol (and other drugs) from riding a motorcycle.

Commit to riding sober.

HELP YOUR FRIENDS

The last thing anyone wants is to see a friend crash. Intervene when you suspect one of your friends is too impaired to ride but has the intention of doing so anyway.

- Arrange a safe ride home.
- Secure the motorcycle. Riders are often unwilling to leave their motorcycle. Find a secure location for your friend's bike.
- Get others to help. The more support you have, the better your chances of success.
- Stop serving if you are the host.
- Use any excuse to keep your friend from getting on the motorcycle. Serve food or non-alcoholic drinks to pass the time. Let your friend sleep over at your place.
- If all else fails, hide the keys.

Do something! Just don't let your friend ride away!

IMPAIRED RIDER IN YOUR GROUP

If another rider or passenger in your group appears impaired or intoxicated, it's important that you and others in your party intervene and convince them (him/her) to refrain from riding for their own safety and the safety of the rest of the group. Riding with others who are impaired is risky business. Since the chances of a crash greatly increase when a rider is impaired, the risk to others around an impaired rider will greatly increase as well. Even those who are not impaired may wind up as part of a serious – or even fatal – crash situation.

If others in your group are determined to ride impaired, it is in the best interest of your own safety not to ride with them. Group riding can be a lot of fun on a social level, but once drugs and alcohol enter the picture the fun is over if there's still riding to be done. You may find yourself in a situation where the best thing to do is leave the group and continue on alone. If that happens, you've made the best choice.

Ride SMART – Ride MORE Safely Recommendation # 9
Acknowledge that an impaired rider in the group puts you at risk. Commit to not riding with others who are impaired.

OTHER IMPAIRMENTS

Alcohol and other drugs are not the only things that impair your mental and physical abilities. There are numerous factors that can lead to fatigue and drowsiness or otherwise affect your ability to ride safely.

DISTURBING DISTRACTIONS

Riding a motorcycle requires your complete attention. Anger, stress, trouble and/or pain are just a few disturbing distractions. While you can't avoid these troubles in day-to-day activities, you must put them aside when you swing your leg over a motorcycle. Motorcycling is a wonderful antidote for the common day. Leave your troubles behind!

Weather is a common distraction. Wind, rain, cold, heat, dust storms and other weather conditions can all produce fatigue and cause a rider to become tired and lose focus. Long miles on the bike in a single day can cause fatigue and drowsiness as well. Riding while tired or sleepy can also impair your ability to ride safely.

A hard day of work, or even a heavy meal, can affect your ability to stay focused. If you're feeling fatigued or drowsy, it's time to pull over and take a break until you regain your ability to ride safely. In cold, rainy, or hot weather, it may be necessary to take breaks more often than usual to maintain your focus and manage your body's core temperature safely.

FATIGUE / DROWSINESS

Recognize your state of Rider Readiness. When you are tired, or if battling the elements has diminished your energy reserves and attention, take a break or stop for the day. Don't ride when your body and mind are so dulled that it is difficult to process information and respond to hazards.

TEMPERATURE EXTREMES

Exposure to prolonged and/or extreme heat or cold saps your energy and dulls your attention. Rain, gusting winds, and other adverse conditions also increase stress and fatigue. Riding safely means enjoying the journey. Don't let pursuit of your destination prevent you from stopping whenever you need to rest and recover.

OVERRIDING YOUR ABILITIES

Don't let ego and emotion impair your judgment and safety. The street is no place for competition, showing off or aggressive riding. If that type of riding interests you, head for the racetrack.

AGGRESSION AND EMOTION

Having a bad day? If your emotions are highly charged in a negative way from a recent argument, it's not a good time to ride because your focus isn't where it needs to be to safely operate a vehicle. Wait until you've given yourself some time to calm down and regain your composure before you ride the bike again.

OVERCONFIDENCE AND "UNDERCONFIDENCE"

Having a great day? When you are feeling bold or overconfident, you may find yourself riding faster and more aggressively than you normally would. It may be time to re-adjust your speed so you can allow more time to react to the road ahead. Similarly, if you are nervous, or feeling especially "un-confident," you may need to slow down to a speed that allows you to relax or even stay off the motorcycle.

COMMUNICATION DEVICES

The use of cell phones, intercoms, CB radios, GPS and other communications devices, group riding, or even carrying a passenger while riding can lead to inattention and impair your ability to stay focused on the ride. Riders need to recognize that each of these factors can add to rider distraction and make choices accordingly.

AGING AND HEALTH PROBLEMS

As people get older, their reaction times get slower. It will take longer to identify when it's time to brake, avoid an obstacle, or slow. Weaker vision, slower motor skills, and health problems such as arthritis can also enter the picture as drivers age.

Temporary health problems can also affect rider performance. Approach riding the motorcycle only after you've evaluated your current state of readiness. You may need to ride slower to allow for more reaction time. A nagging injury, aches or pains can make your concentration suffer. If you're using intoxicating prescription drugs to treat your condition, refrain from riding all together.

Ultimately, it's up to you, the rider, to make choices that will help you minimize factors that affect your performance and safety.

WHAT ABOUT THE OTHER PERSON?

Other roadway users may also be distracted or impaired by any of the factors above or other situations, such as passengers. As a rider, you must be able to compensate for other drivers' inattention, and you can't do that if you are distracted or impaired yourself.

Ride SMART – Ride MORE Safely Recommendation # 10

Acknowledge there are a wide variety of factors that can impair your ability to ride safely.

Commit to minimizing factors that can negatively affect your riding ability and performance.

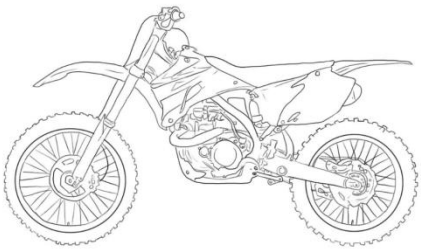
WHAT MOTORCYCLE FOR YOU?

Motorcycle riding is much more physically demanding than driving a car. You must be in good physical condition to handle the rigors associated with riding a motorcycle. You will need both upper and lower body strength to move your motorcycle around – for routine inspections, maintenance, and parking. If you plan on carrying passengers, you will need the strength to hold the bike up (with a passenger) when stopped in traffic and every time your passenger mounts and dismounts. You may also need to be able to stand your bike back up if it should fall over. The effects of wind, sun, heat, cold, rain and exposure to weather in general will cause you to tire more quickly.

All those things should be considered when deciding whether or not you have the endurance, strength, and physical capability to ride a motorcycle, and if so, which motorcycle is right for you.

AN ARRAY OF MOTORCYCLES

It's important for you to know what you want your motorcycle to do. Do you want to commute and run errands? Take road trips? Explore forest roads? Cruise with friends? Play in the dirt? Different types of motorcycles are better suited for one pursuit or another.



There are three general categories of motorcycles. Off-road motorcycles are designed for riding on dirt tracks or off-road courses and cannot be legally ridden on public roads. Street motorcycles have all the equipment required to be legally ridden on public roads. Dual-purpose ("Adventure") motorcycles are also legal on public roads but have other design elements that allow them to be ridden off-road.

Each category of motorcycle has many related types. For example, street motorcycles include cruisers, standards, sport bikes, scooters, and touring bikes along with three-wheel motorcycles. The types generally differ from one another by seating position, body style, and riding style / purpose. Deciding what type of motorcycle you want can be a lot of fun.

MOTORCYCLE FIT

Motorcycles come in a variety of shapes and sizes, and some will fit you better than others. Seat height, reach to the handlebars, and foot position are different on most motorcycles and can affect the comfort and safety of your ride. Choose a motorcycle that fits your physical dimensions. A proper fit will allow you to easily reach and operate all the controls. You want to be able to touch the ground with both feet so you can hold the bike up at a stop.

Many motorcycles have controls that are adjustable, including the handlebars, brakes, clutch lever, and gearshift lever. Some even have adjustable seat heights. On your motorcycle, take time to adjust the controls so they are a natural extension of your hands and feet. You should not have to strain to reach or maintain comfortable contact with any of the controls.

If you're uncomfortable with the motorcycle because you're afraid of dropping it or you don't think you can lift it, then it's too big. Your motorcycle dealer can help you select the motorcycle and accessories that suit you best.

Just as important as physical fit is choosing a motorcycle that fits your skill level. Buying the fastest, shiniest, or most powerful motorcycle as your first bike may not be the wisest decision. You want to be comfortable and confident on your motorcycle. If you are comfortable with the machine, you may ride it more often, and riding more often can help improve your skill and confidence levels.

As your skill and confidence increase, you can always purchase another motorcycle. You may find that your riding interests change, and another type of motorcycle may be more suitable for your interests, skills, or the type of riding you want to do. It is up to you to understand the design limitations of your motorcycle and keep safely within its designed operating range.

MOTORCYCLE READINESS – INSPECTION AND MAINTENANCE

Once your motorcycle fits you, you want to be certain it is road-worthy. Keep your motorcycle well-maintained and in good operating condition through regular inspections and preventative maintenance. "An ounce of prevention is worth a pound of cure" is especially true with motorcycles. It is always better to deal with a mechanical problem before the ride than suffer a breakdown during the ride.

To help ensure your motorcycle is ready, take a few moments before every ride to inspect your motorcycle.

- ✓ Fluids — Check the fuel and oil levels. Always be on the lookout for weeps and leaks that indicate fluid loss.
- ✓ Tires — Check for wear and damage. Make sure tires are inflated to the proper pressure.

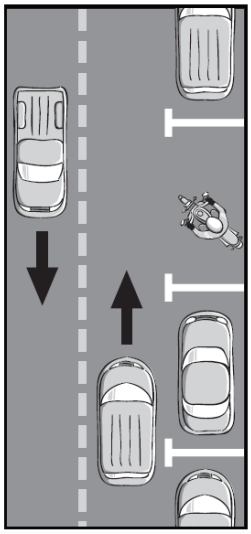
- ✓ Controls — Controls should operate smoothly and be properly adjusted.
- ✓ Electrics — Check the headlight, high beam, brake light, signals, and horn.
- ✓ Final Drive — Chain drives should be properly adjusted and lubricated. Belt drives should be inspected for wear or damage. Shaft drives should be checked for leaks.

Regular maintenance will also help keep your motorcycle ready and is the best way to avoid expensive emergency repairs. Your motorcycle owner's manual (MOM) is the best source of information for operating and maintaining your motorcycle. If you don't have one for your motorcycle, you can purchase a replacement from your dealer. Some manufacturers offer owner's manuals as a free download on their websites.
Follow the recommended maintenance schedule prescribed in the MOM. Plan ahead – don't risk mechanical failures.

Ride SMART – Ride MORE Safely Recommendation # 11
Acknowledge that a motorcycle requires more frequent inspection and maintenance than a car.
Commit to doing a pre-ride check before every ride and keeping your motorcycle well-maintained.

PARKING

PARALLEL PARKING SPACES



Back into the space at an adequate angle to keep the motorcycle out of the traffic flow. Place the rear tire against the curb. Ensure this maneuver is legal where you park.

PULL-IN SPACES

The space is yours. Park near the front of the space so other vehicles can see the space is occupied. Center your motorcycle in the space to discourage space sharing.

SECURITY

Secure the motorcycle with the handlebars turned toward the side stand. For greater stability and security, lock the forks. Leave the motorcycle in first gear to prevent rolling. Caution: When asphalt is hot, a motorcycle side stand can sink into it. To prevent sinking, place a rigid object like a flattened soda can under the side stand. For longer-term parking, you can also use a non-branded motorcycle cover, park under lights, and even use an alarm.

Adding passengers and cargo opens up a whole new dimension of your motorcycling experience, but remember the motorcycle's handling will be affected. The bike will feel heavier at all speeds. Acceleration will be reduced and stopping distances may lengthen. Stability and cornering clearance may be affected in turns.

CARRYING PASSENGERS

Here are some tips to make the trip safe and enjoyable when carrying passengers:

1. It's a good idea not to take passengers on your motorcycle until you have significant experience and are very comfortable managing the bike with just you. The added weight of a passenger will create an entirely new sense of balance that will have to be learned. And remember that the added weight of a passenger will require firmer braking than when riding alone.
2. Adjust the suspension and tire pressure according to the manufacturer's recommendations found in your owner's manual.
3. Never carry a passenger in front of you. This is dangerous and is illegal in many jurisdictions.
4. Your passenger must be able to reach the footrests and should be able to look over your shoulder.
5. Be sure your passenger is wearing proper protective gear and that shoe laces are tucked in.
6. Show your passenger how to mount so he or she can avoid the hot exhaust pipes. Have the bike started and ready to go before the passenger mounts. Place both feet on the ground and squeeze the front brake to stabilize the motorcycle while the passenger mounts or dismounts.

Ride SMART – Ride MORE Safely Recommendation # 12

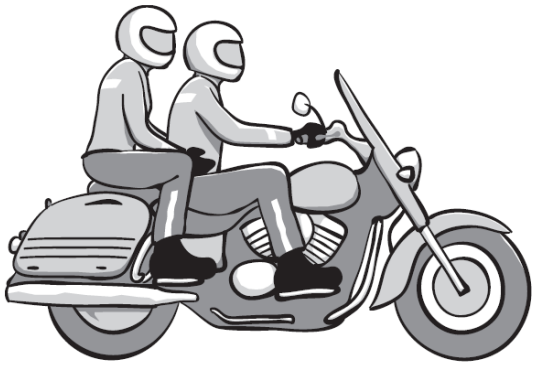
Acknowledge that when carrying a passenger, you are responsible for their safety and comfort.

Commit to having well-developed skills and significant experience as a solo rider before carrying a passenger.

PASSENGER RULES FOR SAFETY

Brief your passenger before the first ride. Ask your passenger to follow these rules for safety:

- Notify the operator when you are ready to mount or dismount and wait for approval. This prevents surprise shifts of balance.



- Hold the operator's waist or hips. This braces the passenger for acceleration or braking. Keep both feet on the footrests at all times.
- Keep hands and feet away from moving and hot parts. Look over the rider's shoulder in the direction of the turn. Avoid sudden moves that might affect stability.
- If the rider rises off the seat, you should, too. Enjoy the ride!

CARRYING CARGO

When carrying cargo, consider its weight, location, and security.

WEIGHT

Check your owner's manual for the maximum load limits for your motorcycle. Do not exceed the total weight limitation. Saddlebags, tank bags, tail bags, and luggage racks have individual weight limitations, too. Check for those weight limits in the owner's manual, the accessory literature, or inside the accessory itself, and don't exceed those limits. Check your owner's manual for recommendations on adjusting the suspension and tire pressure to accommodate the added weight.

LOCATION

Balance is important in riding, and equally important in loading a motorcycle. Keep the load low and concentrate it toward the center of the motorcycle. If you are using saddlebags, keep the weight equally distributed side-to-side. Try to place heavier items ahead of the rear axle. Use the luggage rack, tail bag, or trunk for lightweight baggage. Too much weight mounted high and behind the rear axle can drastically affect steering and stability. Never use the front forks, fenders, or handlebars for carrying loads as it can obstruct steering and cause instability. Make sure that tank bags don't interfere with the movement of the handlebars or access to the controls.

SECURITY

Make sure the load can't shift while you're riding. Purchase accessory racks and luggage that are designed for your motorcycle. When attaching loads, use motorcycle cargo nets or web straps with multiple mounting points. Make sure each strap is secured across the load. Take care that nothing blocks the lights, or interferes with the steering or suspension, or restricts your view in the mirrors. Tuck in all loose ends and anything that could get caught in the

wheels. Keep cargo away from the mufflers. Check the load every time you stop to make sure it hasn't come loose or shifted.

DIFFERENCES IN HANDLING

Whether it's cargo or passengers (or both), adding additional weight to your motorcycle will change the way your motorcycle handles in several ways.

The first is balance. You will require additional stamina to balance your bike during the ride, most particularly during times of slowing down, stopping and getting back up to speed.

Because of the added weight, you'll need more distance to slow or stop the motorcycle. And this demands a larger space cushion behind and ahead of you for braking so you can safely slow or bring the motorcycle to a stop without losing traction.

Additional weight on the motorcycle will cause the steering to feel "heavier." This means it will require more force to make the bike go where you want it to go, particularly at slow speeds and when coming to a stop.

Adjusting your tire pressure and suspension for added weight will allow your bike to handle better on all types of surfaces. Your bike will grip corners better and handle bumps more smoothly. Check your owner's manual for more information on making these adjustments.

Riding with friends is an enjoyable way to share the journey. If you choose to ride with others, do so in a way that is safe for everyone. Follow these simple rules:

WAIT TO RIDE WITH THE GROUP

New riders often feel it will be best if they begin by riding with a group. But in reality, it's best to start out taking solo rides or just riding with one other rider who is more experienced. Group riding requires additional skills, and it takes more mental energy to keep track of your placement in the group, spacing, and location of others around you. Wait until you've built up your skills and confidence to safely operate your bike on solo rides before building the additional skills you'll need to ride safely within a group.

KEEP THE GROUP SMALL

Limit your group to four to six riders. If you have more riders, split into smaller groups. Riders at the rear of large groups can get separated from the main group by traffic or lights and feel an urgency to catch up. Eliminate this potential by limiting your group size.

SIGNAL EARLY AND OFTEN

Communication and planning are important factors in keeping a group together. There are more than a dozen hand signals you can use to communicate during a group ride. For the safety of everyone, the group should know and use these signals. Before starting out, the leader should show the group the signals they will use to communicate. The leader should scan ahead for changes and signal early so that everyone has advance warning. Everyone should follow suit by signaling to the following riders. Consider the safety of the entire group when making lane changes or passing.

PUT BEGINNERS UP FRONT

Put newer riders right behind the leader. If you put new riders in the rear, they may feel pressured to exceed their abilities and comfort level in an effort to keep up. Encourage everyone to ride within their limits.

KNOW THE ROUTE

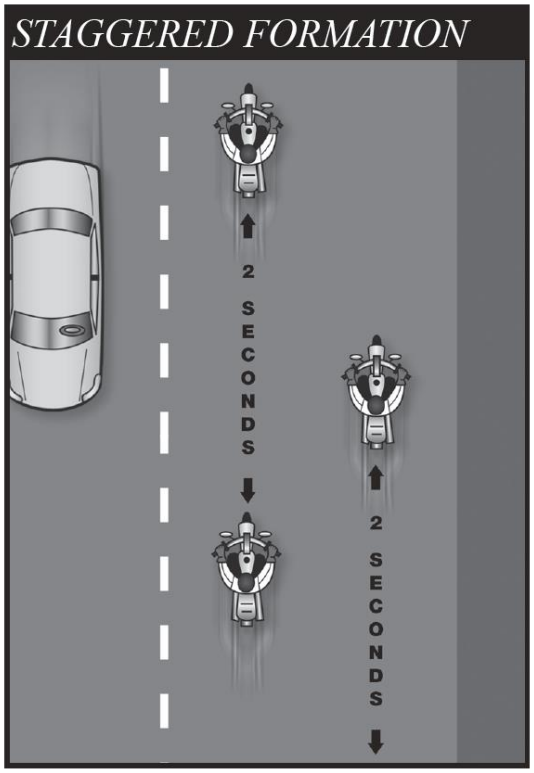
Everyone should know the route. Make multiple maps or route sheets in case the group gets separated.

DON'T LOSE THE TAIL

Be responsible for the rider directly behind you. When making a turn, passing through a signal or changing lanes, check to make sure that riders following are still with you. If not, slow down

and wait. Also, the rider ahead should notice that you are missing and wait. This strategy helps keep the group together.

KEEP YOUR DISTANCE



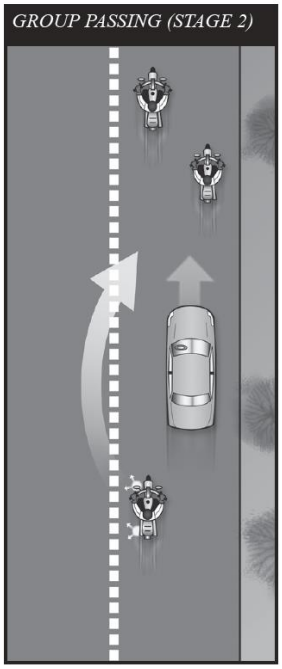
When riding in a group, it's best to ride in a staggered formation with at least 2 seconds of space between each rider. The first rider should ride in the left portion of the lane, with the rider behind them riding in the right portion and so on. Large groups should break into smaller groups of no more than four to six riders with six to eight seconds between the smaller groups. This allows faster traffic to pass more safely.

WHEN TO BREAK STAGGERED FORMATION

The lead rider should take responsibility for signaling changes in formation. Ride in single file and keep a minimum 3 - 4 second following distance whenever you:

- Pass other vehicles
- Enter or exit a highway
- Approach a corner
- Encounter limited visibility

PASSING FROM STAGGERED FORMATION



Riders in staggered formation should pass one at a time. Pass only when it is safe to do so.

- The lead passes when a safe opening exists. The lead pulls back into correct formation position to open up space for rider number two.
- The second rider moves from the right position to the left (lead) position and completes their pass, pulling into staggered formation behind the lead.
- The rest of the group follows this routine. Pass from the left position and return to the

proper formation.

- The lead rider returns to cruising speed when the last rider has completed the pass.
- Always preserve a safe following distance. Never compromise safety by passing from a position that doesn't afford the best line-of-sight. Take your time.
- Avoid riding side-by-side. Riding side-by-side leaves both riders with poor space cushions and very limited escape routes.
- Continually check to be sure you're maintaining a safe margin of space between you and the rider in front of you. Also check your mirrors often to be sure the rider behind you is leaving plenty of room between you and them. If not, signal them to back off.

TARGET FIXATION AND GROUP-RIDING

Let's consider target fixation in the group riding scenario. In a group ride, it is common for riders to target-fixate on the rider or riders directly in front of them. If you notice this happening to you, it's a sign you're not scanning enough elsewhere and you need to re-focus your attention and get back to scanning the entire area of your ride and 20 seconds ahead.

Scanning is critical for determining everything occurring around you (not just your fellow riders) during your group ride. Many group riding crashes occur because of inattention. By placing a larger space cushion between you and other riders in your group, everyone will be able to scan the road better and will be less likely to get caught up in target fixation.

PEER PRESSURE AND GROUP RIDING

There may be times during a group ride when members of the group may make choices about speed, riding gear, alcohol, etc. that you are not comfortable with. History tells us that these choices can result in serious injuries and sometimes death. When you see such behavior and choices being made by others, resist the temptation to join in – make the choices that are right for YOU.

Ride SMART – Ride MORE Safely Recommendation # 13

Acknowledge that group riding demands more skill and attention than riding solo.

Commit to having well developed skills and significant experience riding by myself or with just one other (and more experienced) rider before riding in a group.

Mechanical failures often result in emergencies. Quickly assessing the problem will help you respond properly.

TIRE FAILURE

Modern tubeless tires rarely blow out, but it does happen. A common cause of tire failure is under-inflation. Check your tires frequently and keep them inflated to the manufacturer's specifications.

As soon as you detect an unfamiliar handling characteristic, slow down. The bike will wobble and/or wander. If the flat is on the front, the steering will feel heavy. If on the back, the entire bike will weave and feel unstable. Keep your eyes on the road and use these techniques:

1. Hold the grips firmly and ease off the throttle. Don't fight the wobble.
2. Avoid applying the brakes unless you have to. If you have to brake, use the brakes on the wheel with the good tire. If your braking system will not allow this, use the brakes gently.
3. Avoid downshifting, and do not abruptly close (roll off) the throttle.
4. Squeeze the clutch and keep it in.
5. Shift your weight away from the affected area. If the front tire is flat, move back. If the rear is flat, move forward.
6. Keep your eyes up and find a safe place to pull over.

WOBBLE / WEAVE

A weave or wobble is your motorcycle's way of telling you something's wrong. A wobble is felt in the handlebars as a possibly strong and rapid shaking. A weave, on the other hand, is a slow oscillation in the rear of the motorcycle. In either case, you may have a serious problem. Slow down immediately and follow these tips:

- Keep a firm grip on the handlebars and don't fight the wobble.
- Eeeease off the throttle.
- Move your weight forward and as low as possible over the tank.
- Avoid applying the brakes unless you have to. Braking can amplify the wobble or weave.
- Do not accelerate to try and stop the wobble. This will only make it worse, and you'll need to slow down through that speed again in order to stop.

Worn or improperly inflated tires, loose or worn bearings, and/or too much weight in the wrong location can cause a wobble or weave. Identify the problem, and bring the motorcycle to a

qualified technician for repairs. Once you experience a wobble or weave, it can occur again at any time until you make the necessary repairs.

BROKEN CLUTCH CABLE

Some bikes have cables linking the clutch lever to the clutch, and occasionally these cables break or hydraulic clutches fail. If this occurs, the clutch will remain completely engaged. It is possible to shift without the clutch. Just match engine speed to road speed and complete the shift quickly. Ride to a place where assistance is available. Remember that once you stop, it is very difficult to get going again. When coming to a stop, try to find neutral. Shut off the motorcycle with the engine cut-off switch.

Take care of your motorcycle, and it will take care of you!

The time-honored tradition of touring by motorcycle is almost as old as the invention of the motorcycle itself. What better way to move from place to place than on two wheels? But long-distance rides require additional mental and physical stamina, as well as additional preparation. Physical fatigue, mental fatigue, and "highway hypnosis" can set in on a long ride – and the consequences can be very severe.

BUILD UP SLOWLY

Riding long distances is a dream for many new riders. But don't just jump right into riding 500 or 600 mile days. Begin with shorter trips and build yourself up to longer distances over the course of numerous rides. It's just like training for a marathon – you need to build up your strength, skills, experience, and endurance to do it safely.

WEATHER CONDITIONS, COMFORT, AND FATIGUE

The more you ride, the greater the chance that you will encounter bad weather. That may come in the form of rain, hail, or possibly snow. Or it may come in the form of high winds or severe heat. Be sure you carry layers of clothing to keep warm when it's cold, dry when it's wet, and cool when it's hot.

Riding long distances or through inclement conditions will cause you to tire sooner, so be sure to take breaks often. According to the AAA Foundation (www.AAAfoundation.org), staying awake for more than 20 hours can impair your driving skills as much as having a .08 blood alcohol concentration – and that is for driving a car. As motorcycling is more mentally and physically taxing than driving a car, the effects of fatigue are worse for riders. Long periods of riding are discouraged – even for experienced riders.

BE PREPARED

When riding into remote areas, keep in mind there may be little or no cell phone coverage. Add to that the lack of emergency medical services and roadside assistance. When riding with a group, create a buddy plan in advance that ensures one or two riders are prepared to seek out help while the other members of the party stay behind. It's advisable that each member of the group carry several snacks and water in case there's no other food available for a period of time during an unplanned situation.

Always have someone in the group carry a medium-size first aid kit.

Most motorcycles have a shorter fuel range than a car. Fill up frequently and don't wait until you hit the reserve to start looking for the next gas station. There may not be one for a while.

Before leaving for a long trip, inspect your tires for wear. If you suspect you may need new

tires during the trip, call ahead to a shop to arrange replacement, or simply replace them before you leave. Be sure you take care of all major service needs before the long ride, or plan in advance to have them done at suitable shops along the way.

In addition to bringing layers of clothing, always be sure to pack rain gear. While it's good for keeping you dry during rainy times, it can also add a layer of warmth and help you maintain your body's core temperature if the weather turns cold.

When considering tools to carry for a long ride, choose tools you would need to perform maintenance and repair. Your owner's manual can advise you of what those tools are, or you can consult your local dealer. You should also carry spare parts such as a headlight and tail light bulb and any parts that are known to fail often for your make and model of bike.

In addition, it's a good idea to have a tire repair kit and inflation device on board in the event that you or someone else in your party gets a flat tire. The inflation kit should be able to repair both tube and tubeless tires and your inflation device should be able to provide a steady flow of air long enough to bring the tire back to the manufacturer's specified air pressure levels.

YOU DESERVE A BREAK TODAY (OR SEVERAL)

Riding can be a lot of fun, but it does drain your mental and physical energy (reducing your Rider Readiness). Taking frequent breaks will allow your mind and body to rest between stretches, making your ride more enjoyable. During breaks, be sure to eat and drink. You can also stretch and do light exercise to keep your joints fluid and functioning comfortably.

If you put your motorcycle away in the colder months, make the first rides of the new season short, and gradually build up to longer distances.

Ride SMART – Ride MORE Safely Recommendation # 14

Acknowledge that touring and long-distance riding demand physical endurance, mental stamina and preparation.
Commit to building up slowly to longer distances and to being prepared for the challenges of touring and long-distance riding.

As you've learned, being aware and alert for other vehicles and road conditions is important to helping you ride as safely as possible. Another important aspect of maintaining a high level of alertness is to be comfortable.

RIDING IN THE HEAT – THE IMPORTANCE OF STAYING COOL (AND HYDRATED!)

When the temperature goes up, riders take gear off in an attempt to stay cool. Perhaps they believe that more airflow and less clothing is the best way to deal with the heat. It's not that simple – read on!

HOW DOES THE BODY COOL ITSELF?

Let's get back to basics here: the human body cools by sweating. When the moisture on the skin evaporates, it takes some of the body's heat with it, thus cooling the body. Some airflow can help with this evaporation (and it feels cooler, too).

WHAT ABOUT PROTECTION?

In an effort to maximize airflow, many riders give up protection. A high-quality, armored jacket won't do the rider any good in a crash if it is folded up in the saddle bag. Tank- tops and t-shirts offer no protection against the asphalt.

WHAT ABOUT OVERHEATING?

In an effort to maximize protection, some riders might wear gear that gives them the crash protection they need, but is not "weather appropriate." The risks of overheating and heat-related emergencies can range from heat cramps to heat exhaustion to heat stroke. Heat-related emergencies can result in:

- Fatigue
- Muscle cramps
- Headache
- Dizziness/lightheadedness
- Weakness
- Nausea
- And eventually seizures or even loss of consciousness

WHAT ABOUT DEHYDRATION?

When riding with little or no gear, the wind is blowing across the skin and instantly dries up the sweat as it tries to cool you. The body tries to sweat more; the wind dries it up more – you get the idea. You become dehydrated much faster this way than if you had some protection

between your skin and the wind. Dehydration can be devastating to your performance.

Dehydration slows your mental and physical abilities, impairs your smooth and coordinated operation of the motorcycle, and can result in:

- Extreme fatigue
- Muscle cramps
- Headaches
- Nausea
- Tingling of the limbs
- Dim vision
- Confusion
- And eventually seizures or even loss of consciousness

PROTECTION FROM THE HEAT AND FROM THE ASPHALT

So, how do you stay cool AND stay protected? Here are a few simple options. Cooling vests or neckties are designed to be worn under your riding jacket. There are a variety of makes, models, styles and price ranges. Just search online for "motorcycle cooling vest" and you'll find many to choose from.

Another way to go is to make your own "motorcycle swamp-cooler." Take a long sleeve t-shirt; soak it in water, then put it on (or put it on and then soak it – either way works). Put your vented or mesh riding jacket on over the t-shirt. As you ride, the wet t-shirt and the moving air work together to keep you cool. When the t-shirt dries out, pull over and re-wet it. You can get a good quality vented or mesh riding jacket in the $75–$200 range. Try it – you'll be amazed at how staying covered can keep you cooler than riding without protection.

BE COOL AND WISE

Don't let heat and dehydration impair your riding ability. Ride protected from the heat AND the asphalt even in temperatures that you thought would make you choose one over the other. Gear up. Stay cool.

RIDING IN THE COLD – THE IMPORTANCE OF WARMTH

COLD = BAD

In cold weather, that means staying warm. Being cold distracts you from staying alert, and it lowers your ability to respond. Cold slows your mental processes, and your muscles don't react as quickly. Staying warm helps keep you prepared to react, both mentally and physically.

WARMTH = GOOD

Much of today's motorcycle gear is well designed and will help keep you warm on cool days. The insulation and wind-blocking materials used in most motorcycle-specific gear will serve you well when things cool off. Don't forget that you'll be traveling through the air, so it's not just the temperature; the wind chill factor determines how much warmth you'll need.

HEAT = BETTER

When the wind chill gets below 55 degrees, you may want to add the advantage of heated clothing. Several manufacturers offer heated jacket and pant liners that are designed to fit under your motorcycle gear. Powered by a single wire from the motorcycle's battery, these interconnected systems deliver warm, soothing heat to your body. With heated gloves, socks, and insoles also available, you can stay warm all the way down to your toes.

OUTERWEAR, TOO

For those who ride in the cold frequently, or who perhaps commute to and from work in the chill, there is actual riding gear available (outer jackets and pants) that has the heat built in. This gear is designed to go over your street clothes, which makes it ideal for commuters or those who will be socializing with friends upon arrival.

BE WARM AND WISE

Don't let shivering shake your confidence. Enjoy your motorcycle even on days you thought you wouldn't. Gear up. Heat up. And ride MORE prepared to meet the demands of the road.

WIND CHILL

Wind chill is a measure of the cooling effect of wind. Wind increases the rate at which a body loses heat, so the air on a windy day feels cooler than a thermometer will show. While wind chill is most commonly a concern on cold days, riding on very warm days can result in feeling warmer than the actual air temperature.

The charts on the following page show the temperature that it will seem to be while you are riding. Note that the chart does not take humidity into consideration on warm (80 deg F and above) days. Higher humidity can make the air feel warmer, too.

Riding Speed (mph)	Air Temperature (degrees F)														
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
5	25	31	36	42	48	54	60	66	71	78	83	89	95	101	107
10	21	27	34	40	46	52	58	64	71	77	83	89	96	102	108
15	19	25	32	38	45	51	57	64	70	77	83	89	96	102	109
20	17	24	30	37	44	50	57	63	70	76	83	90	96	103	109
25	16	23	29	36	43	49	56	63	70	76	83	90	96	103	110
30	15	22	28	35	42	49	56	62	69	76	83	90	97	103	110
35	14	21	28	34	41	48	55	62	69	76	83	90	96	103	110
40	13	20	27	34	41	48	55	62	69	76	83	90	97	104	111
45	12	19	26	33	40	47	54	62	69	76	83	90	97	104	111
50	12	19	26	33	40	47	54	61	68	75	83	90	97	104	111
55	11	18	25	32	40	47	54	61	68	75	83	90	97	104	111
60	10	17	25	32	39	46	54	61	68	75	82	90	97	104	111
65	10	17	24	32	39	46	53	61	68	75	82	90	97	104	112
70	9	16	24	31	38	46	53	60	68	75	82	90	97	104	112

Conversions calculated with: http://www.onlineconversion.com/windchill.htm

Wind Chill Chart

Wind (mph) \ Temperature (°F)	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Calm																		
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times 30 minutes 10 minutes 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph) *Effective 11/01/01*

An outside-inside-outside strategy is a good place to start and will serve you well in most situations as long as you manage your speed. In reality, a center-center-center line can get you through a curve just fine and will allow a greater safety margin on both sides. There are many riding schools and many books that spend a lot of time on cornering lines and go into great detail. This Rider's Guide Appendix will explore two fairly common scenarios (decreasing radius curves and linked curves) and suggest a strategy for managing them.

DECREASING RADIUS CURVES AND LINKED CURVES

A decreasing radius turn is simply a turn that gets tighter. These turns can be challenging for riders who are unprepared because, to stay on the road, the rider has to increase their lean as they go deeper into the turn. If the rider begins the turn at the maximum lean angle they can handle, they run into trouble when the curve of the roadway demands more lean. Linked curves are those where one curve leads directly into another curve (and perhaps several in a row). The Ready-Set-Go strategy is the same for both.

ON THE APPROACH (READY)

If you can't see through to the exit of the turn, enter as if it is a decreasing radius turn, linked turn, or there is some obstacle in the road just out of sight – that is, slow down. This way, you will be prepared to respond. Put your motorcycle in the "outside" part of the lane. This helps you see the exit of the turn sooner rather than later.

WAIT FOR IT (SET)

Hold your lane position as you enter the turn. Many riders have a tendency to "dive in" toward the inside too early. This can cause problems later in the turn, so discipline yourself to hold your lane position until you can see all the way through to the exit. Once you can see the exit, then move toward the inside. This late (delayed) apex cornering line will initially require more press and a greater lean angle than a more conservative center-center-center path. Regardless of the path selected, it is critical to slow sufficiently before the curve to maintain your safety margins.

WHAT'S NEXT? (GO)

From the apex of the turn (the inside), you have the exit of the turn and the road ahead in sight. What lane position do you want to be in for the road ahead? Are there pot holes to avoid? Is there another turn ahead? If so, is it a right-hand turn or a left-hand turn? Consider the road ahead and determine what lane position you want. Now, go from the apex to that lane position as you exit the turn. This might result in an outside-inside-outside line, or it might result in an outside-inside-inside line, or it might even result in an outside-inside-center line. In

each of those cases, what you have is an outside-inside-what's next? line.

BODY POSITION

A general recommendation regarding body position in a curve for street riding is to lean with the motorcycle. Body position has a direct impact on motorcycle lean angle and ground clearance. This can become very important in corners – especially for riders on motorcycles with limited ground clearance (primarily cruisers and some touring bikes).

LEANING WITH THE MOTORCYCLE

This keeps you in the best position to remain relaxed, operate all of the motorcycle's controls, and doesn't require unnecessary motorcycle lean.

LEANING OUT

This technique is frequently used for low-speed, tight turns like U-turns. Counterweighting, or moving your body weight toward the outside of a turn (leaning left for a tight right turn; leaning right for tight left turn) helps with balance and allows the motorcycle to lean more without becoming unstable. By leaning the motorcycle more, ground clearance is reduced. In a slow- speed, tight turn, reduced ground clearance is not a problem. However, in a normal speed turn on the road, it can be a serious problem. Leaning out when cornering at speed can result in dragging parts and risking loss of traction and possibly running wide or off the road.

Pay attention to your body position, stay relaxed and avoid leaning out when cornering.

LEANING IN

When you see pictures or videos of motorcycle racers hanging off their bikes with their knees and elbows on the ground, that is an example of the "leaning in" technique taken to the extreme. Why do they do it? To increase ground clearance and traction so they can go faster (they are racing, after all).

For riders on the street, a modified leaning in technique is only recommended if you find yourself dragging footpegs or floorboards in a corner or are otherwise running out of ground clearance. Leaning your upper body to the inside and forward can give you the extra ground clearance and traction you need to get through the turn. (Next time enter that turn slower and use less roll on!)

POTENTIAL PROBLEM – FEAR IN CORNERS

Crash data indicates that running off the road in a corner is the most common scenario for fatal single vehicle motorcycle crashes in Ohio. This Rider's Guide has already covered the importance of slowing before corners and looking all the way to the exit, but there is another factor at work here – FEAR. When things start to go wrong in a corner, human nature is to experience fear. When riders lack the knowledge and skills for cornering and how to increase lean when needed, fear can take hold. Most riders have experienced some level of fear in a corner at one time or another. This fear can show up in your arms, your body, and your brain.

ARMS

Proper riding posture includes arms relaxed and elbows bent. Pressing forward on the handgrip is what causes the motorcycle to lean and stay in the turn. Fear can lead to tension in the arms and shoulders causing the arms to lock straight and even press on both handgrips at the same time. This results in not effectively pressing on the handgrip, causing the motorcycle to lean less and be more likely to run wide in the corner or off the road. Strategy: Keep your arms and shoulders relaxed and your elbows bent. Practice pressing and leaning to increase your comfort level in corners.

BODY

Human nature is to move away from perceived danger – sometimes it's an automatic response. When leaned over in a corner, that perceived danger is often the ground. In a turn, moving away from the danger is leaning the body up. As a result of this improper body position, the motorcycle leans less and is likely to run wide in the corner or off the road. Strategy: Practice pressing and leaning with the motorcycle to increase your comfort level in corners. Keep your motorcycle and your body well within your lane when cornering (seeing yourself close to oncoming traffic can trigger a fear response).

BRAIN

Have you ever heard someone say "I was so scared I couldn't think!"? There is some truth there. Fear can induce panic, and when the body experiences panic, it goes into "fight or flight" (or freeze) mode. When this happens, the part of the brain that does the thinking and planning doesn't work as well. As a result, riders might react inappropriately (such as grabbing the brakes or leaning out of the turn) or not at all (doing nothing and running off the road). Strategy: Keep your mind thinking about what you CAN do to keep the motorcycle in the turn and on the road – you know what to do, so focus on doing it. Thinking "I'm going to crash!" or target-fixating on the curb or a tree can lead to trouble. Keep pressing on the handgrip, looking where you want to go, and allow your arms and body to follow through.

Antilock Braking System: Braking system that prevents skids during straight-line braking.

Apex: Point in a rider's path of travel closest to the inside edge of a curve.

BAC: Blood alcohol concentration. Percentage of alcohol in a person's blood.

Blind Spot: Areas behind and beside a vehicle not visible in the mirrors.

Conspicuity: The quality of being conspicuous; highly visible, easily seen.

Convex Mirror: Mirror having a surface that curves outward. They show more area but objects appear farther away than they actually are. (Objects in the mirror are closer than they appear.)

Collision: A crash or conflict.

Crash: To fall or collide with something; to undergo sudden damage or destruction on impact.

Counterweight: Shifting weight to the outside of the turn. Used to provide better balance in low-speed turns.

Countersteer: Initiate lean by applying forward pressure to the hand grip in the direction of the turn: press right, go right; press left, go left. The front wheel out-tracks initially as lean is initiated, then re-centers and points into the turn.

Crowned Road: A road that is higher in the middle to promote drainage.

Divided Attention: Concentration on both mental and physical tasks at the same time or any simultaneous multiple tasks.

DOT: Department of Transportation.

Engine Braking: Slowing by using engine compression; shifting down and easing out the clutch or rolling off the throttle.

Entry Speed: Speed at the entry to a turn. A proper entry speed allows you to maintain a steady speed or accelerate gently throughout the entire turn.

Escape Route: An alternative route to avoid hazards in your immediate path of travel.

Exceeding Sight Distance: Riding at a speed that does not allow time to recognize and avoid hazards in your path.

Friction Zone: Area of clutch lever travel where the clutch begins to engage and transfer

power from the engine to the rear wheel. Used in getting underway, shifting, and in slow-speed maneuvers.

Gauntlet: The flared cuff of a glove that is designed to prevent wind from going up the sleeve.

Heat Exhaustion: A condition caused by exposure to heat, resulting in the depletion of body fluids that causes weakness, dizziness, nausea, and often collapse.

High-Side Crash: Crash in which the motorcycle snaps violently upright and throws the rider in front of the tumbling motorcycle. Often the result of releasing the rear brake when a skidding rear tire is not in alignment with the front.

Hydroplane: Water buildup under tread. Hydroplaning causes tires to lift from the roadway surface. Can cause loss of control.

Hypothermia: A clinical state of sub-normal body temperature when the body is unable to generate sufficient heat to efficiently maintain functions. Warning signs include uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and exhaustion.

Immediate Path of Travel: 10 seconds ahead, where developing situations need an immediate response.

Integrated Braking System: Braking system that applies partial front braking when rear brake is applied.

Impairment: Diminished judgment and ability.

Linked Braking System: System that engages both front and rear brakes when either is applied.

Low-Side Crash: Crash where the rider makes contact with the ground behind the sliding motorcycle.

Minimum Following Distance: 3 seconds at low speeds when conditions are ideal.

ONE-C: Engine pre-start routine — Fuel valve/key ON, Transmission in NEUTRAL, Switch ENGINE to run or on, engage CLUTCH and use CHOKE as needed.

Overriding the Headlight: Riding at a speed at night or in low light conditions that does not allow you to avoid hazards or stop within the path illuminated by the headlight.

Overriding Sight Distance: Riding at a speed that does not allow time or distance to stop or swerve if something unexpected enters your path or the roadway takes an unexpected bend.

OVI: Operating a Vehicle Impaired. Offenses involving the operation of vehicles while under the influence of alcohol and/or other drugs.

Retro-reflective: Material that reflects light back to the light source.

Rider Readiness: Being completely prepared for riding. This includes being mentally prepared and attentive, physically rested and unimpaired, having your motorcycle in good condition, wearing appropriate riding gear, and being aware of and prepared for upcoming weather, roadway, and traffic conditions.

Sight Distance: How far ahead a rider can see at any given moment.

SIPDE: Acronym to describe a defensive riding strategy: Scan, Identify, Predict, Decide, Execute.

Space Cushion: Zone of space surrounding rider. Maintained to provide space and time to react to hazards.

Square the Handlebars: Getting the steering centered and the motorcycle upright and traveling in a straight path. Helps to preserve balance at stops.

Target Fixation: When the eyes and brain are focused so intently on a particular object that awareness of other obstacles or hazards is diminished and the rider tends to veer toward that object.

Tailgating: Following too closely.

Traction: Friction between the tires and the roadway. Traction is used for cornering, braking, and acceleration, and all available traction can be used up by any one of those components. Your traction is limited and shared between those components, so traction must be managed in order to keep some in reserve for a safety margin.

Visual Directional Control: Guiding your motorcycle by turning your head and using your eyes to scan the desired path of travel. Looking where you want to go.

Visual Lead: Space allowed to identify and manage risks. Scanning 20 seconds ahead provides the visual lead.

Wind Chill: The apparent temperature felt by the body due to the combination of temperature and wind speed.

Appendix C Summary of Select Ohio Motorcycle Laws and Regulations

The Ohio Revised Code (ORC) and Ohio Administrative Code (OAC) set forth laws and regulations affecting motorcycle operators, motorcycle operation, and motorcycle equipment requirements.

A summary of select laws and regulations is provided here. For detailed information, see ORC 4503.11, 4507.21(F), 4509.101, 4510.12, 4511.19, 4511.53, 4511.55(B), 4513.04, 4513.05, 4513.017, 4513.20, 4513.21, 4513.22, 4513.23, 4513.261, and OAC 4501-17-04.

MOTORCYCLE RULES

- The operator may ride only on a permanent, regular seat.
- Passengers must ride upon a firmly attached seat or saddle.
- Operators and passengers must face forward with one leg on either side of the motorcycle.
- Not more than two motorcycles may ride side-by-side in one lane.
- Motorcycle operators are entitled to full use of the traffic lane and have all the rights and responsibilities of any driver.
- All aspects of the law pertaining to driving under the influence of drugs and/or alcohol apply to motorcycle operators.

MOTORCYCLE OPERATORS

- Must wear a helmet first year of endorsement or if under age 18.
- Must have a valid Temporary Instruction Permit Identification Card (TIPIC) or a motorcycle endorsement on the driver license.
- Must register their vehicles and have a valid license plate.
- Must have and carry proof of insurance liability coverage for injury and property damage.
- Must wear eye protection (eye glasses, goggles, or face shield on helmet).
- May use a windscreen or windshield, permanently attached to the motorcycle forward of the operator and of such height, construction, and durability as to actually protect the operator, as the eye protection required.
- Must comply with all permit restrictions, if riding with a TIPIC, including:
    - No passengers
    - Daylight hours only
    - Not valid on congested roads and interstate highways
    - Helmet and eye protection required
    - Permit is valid one year from date of issue
- Must comply with certain safety requirements, if under age 18, including:

- Taking an approved motorcycle basic rider training program
- Wearing approved protective headgear (helmet)

MOTORCYCLE EQUIPMENT

- Handlebars not higher than 15" from the seat or saddle (becoming effective 01/01/2017: handlebars that do not rise higher than the shoulders of the operator when seated on the operator's seat or saddle).
- A rearview mirror, horn, and muffler
- At least one and not more than two headlights with high and low beams
- One red tail light, including brake or stop lamp
- At least one brake, front or rear, which may be operated by hand or foot
- Must have turn signals on motorcycles manufactured after 01/01/1968

MOTORCYCLE LICENSE OR ENDORSEMENT

Any person operating a motorcycle on public roadways in Ohio must hold a valid motorcycle license or endorsement. A rider may apply for a motorcycle-only license or a motorcycle endorsement for his or her driver license.

- A motorcycle license is issued if the rider does not have a valid driver license.
- A motorcycle endorsement is displayed on an individual's driver license.
- A rider is considered a motorcycle novice for one year. The license will indicate the date the novice status expires.

Two or Three Wheels

- If a rider has a two-wheeled motorcycle endorsement or license, he or she may operate a two- or three-wheeled motorcycle.
- If a rider has a three-wheeled motorcycle endorsement or license, he or she may only operate a three-wheeled motorcycle.

- <u>Operating a Motorcycle Without a Permit or Endorsement</u>
- First Offense (Unclassified Misdemeanor)
  - Maximum $1,000.00 fine and/or community service
- Second Offense (Misdemeanor 1)
  - Maximum $1,000.00 fine and/or maximum 6 months in jail

MANDATORY INSURANCE / PROOF OF FINANCIAL RESPONSIBILITY

In Ohio, it is illegal to drive any motor vehicle without insurance or other financial

responsibility coverage. Insurance coverage must show liability insurance of at least:

- $25,000 bodily injury per person;
- $50,000 injury two or more persons; and
- $25,000 property damage.

When you apply for a driver's license or permit or registering a motor vehicle, you must sign a statement affirming you have insurance or financial responsibility coverage and will not operate or permit operation of the motor vehicle without financial responsibility coverage.

HELMET LAW

US DOT approved helmets must be worn by novice riders (first year after obtaining a motorcycle license or endorsement), riders and passengers under the age of 18, and for any passenger (regardless of age) when the operator is required to wear a helmet.

The Motorcycle Ohio Rider Enhancement program strongly encourages riders to commit to the following safer riding practices to help everyone have a MORE safe and enjoyable ride.

Ride SMART – Ride MORE Safely

1. *Acknowledge that part of being a responsible rider is knowing and following the 'rules of the road.' Commit to learning and complying with state laws, rules, regulations, and equipment requirements*.

2. *Acknowledge and accept that riding a motorcycle in a complex traffic and roadway environment is an activity involving risk and danger. Commit to riding aware and managing and minimizing those risks.*

3. *Acknowledge that the only thing between you, the elements, and vehicles or other objects in a crash is the gear you wear. Commit to wearing proper protective riding gear.*

4. *Acknowledge that an excellent rider is one who uses good judgment and mental strategies to avoid having to use superb physical skills. Commit to becoming an excellent rider by using mental strategies like SIPDE, scanning for hazards 20 seconds ahead, and choosing to make safety-oriented decisions.*

5. *Acknowledge that running wide in curves is a common fatal crash situation*. *Commit to using a READY-SET-GO strategy for cornering, and in particular SLOWING before curves and PRESSING on the handgrip to cause the bike to lean/ turn.*

6. *Acknowledge that braking errors are very common in crash situations*. *Commit to regularly practicing quick stops, with an emphasis on smooth increasing pressure on the front brake and a light to lighter application of the rear brake*.

7. *Acknowledge that motorcycles are affected much more by roadway and environmental conditions. Commit to being aware of your surroundings and maintaining a safety margin, particularly with traction, in managing special situations.*

8. *Acknowledge that many fatal motorcycle crashes involve riders who had been drinking. Commit to separating the use of alcohol (and other drugs) from riding a motorcycle. Commit to riding sober.*

9. *Acknowledge that an impaired rider in the group puts you at risk. Commit to not riding with others who are impaired*.

10. *Acknowledge there are a wide variety of factors that can impair your ability to ride safely*. *Commit to minimizing factors that can negatively affect your riding ability and performance.*

11. *Acknowledge that a motorcycle requires more frequent inspection and maintenance than a car. Commit to doing a pre-ride check before every ride and keeping your motorcycle well-maintained.*

12. *Acknowledge that when carrying a passenger, you are responsible for their safety and comfort. Commit to having well-developed skills and significant experience as a solo rider before carrying a passenger.*

13. *Acknowledge that group riding demands more skill and attention than riding solo. Commit to having well developed skills and significant experience riding by myself or with just one other (and more experienced) rider before riding in a group.*

14. *Acknowledge that touring and long-distance riding demand physical endurance, mental stamina and preparation*. *Commit to building up slowly to longer distances and to being prepared for the challenges of touring and long-distance riding*.

Range rules are designed to maintain safety for all riders and apply to everyone. They are used for all riding exercises, no exceptions. Range rules are as follows:

1. Don't practice without an instructor's permission. Stay with each exercise as it is being practiced.

2. Wear all protective gear when seated on the motorcycle.

3. Cover the clutch lever with all fingers when learning to ride – this enables you to immediately disengage power from the rear wheel if necessary.

4. Keep your throttle hand in a wrist-flat position.

5. Do not "cover" the front brake while riding. Keep all fingers around the throttle.

6. Always check around you – front, sides, and behind – before moving.

7. Keep good safety margins – leave plenty of space between you and others.

8. Do not pass other riders unless specifically directed to do so.

9. Always use the engine cut-off switch to stop the engine, then turn off the ignition.

10. If you have a problem, move out of the way and signal an instructor.

11. If you hear a referee-style whistle, stop smoothly and immediately and wait for further directions.

12. If you don't understand an exercise, ask an instructor for clarification.

13. Notify an instructor if you are too uncomfortable to ride safely.

Please familiarize yourself with the range hand signals on the next page!

Your instructors will use these hand signals (and others) to communicate with you on the range.

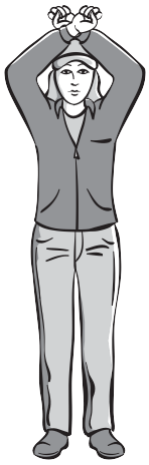
Start engine

Stop engine

Motorcycle in neutral

Cover clutch

Eyes up



Return to staging

Uncover front brake

Stop

Speed up

Slow down

Select Additional Resources to Ride SMART – Ride MORE Safely

American Motorcyclist Association (Pickerington, Ohio)
americanmotorcyclist.com

Code, Keith
A Twist of the Wrist (Volumes 1, 2, 3)

Condon, Ken
Motorcycling the Right Way: Do This, Not That: Lessons From Behind the Handlebars, 2015
Riding in the Zone, 2009

Ienatsch, Nick
Sport Riding Techniques: How to Develop Real World Skills for Speed, Safety, and Confidence on the Street and Track, 2003

Hahn, Pat
Maximum Control: Mastering Your Heavyweight Bike, 2010
Ride Hard, Ride Smart: Ultimate Street Strategies for Advanced Motorcyclists, 2004
How to Ride a Motorcycle: A Rider's Guide to Strategy, Safety and Skill Development, 2005

Hough, David L.
Proficient Motorcycling: The Ultimate Guide to Riding Well, 2000
Mastering the Ride: More Proficient Motorcycling, 2nd Edition, 2012
Street Rider's Guide: Street Strategies for Motorcyclists, 2014

Motorcycle Ohio website – motorcycle.ohio.gov
Includes .pdfs of materials referenced throughout this Rider's Guide and links to other sources of information

Motorcycle Safety Foundation
http://www.msf-usa.org/library.aspx (downloadable resources)
http://www.msf-usa.org/digital.aspx (digital resources)
Motorcycling Excellence, 2nd Edition

Spiegel, Bernt
The Upper Half of the Motorcycle: On the Unity of Rider and Machine, 2010