

# Idaho *STAR* Intermediate Rider Training





# Idaho ***STAR*** Intermediate Rider Training Student Handbook



Idaho ***STAR*** Intermediate Rider Training (IRT)  
February 2021

# Welcome to Idaho **STAR** Intermediate Rider Training!

We are excited to have you join us! Our mission is to share knowledge and skills to make motorcycling safer. By taking this course, you have the opportunity to ask questions, practice skills, and learn from some of the best Motorcycle Safety Instructors in the country.

Please take every opportunity to participate in the classroom discussions and challenge yourself on the riding range. In this class, the only competition is with yourself and your current level of knowledge and skill. We hope to take that up a couple notches while you are here and give you some tools to continuously grow and develop as a motorcycle rider. Thank you for being here. Thank you for trusting us.

*-The STAR Team*

Idaho **STAR** Motorcycle Safety Program



# TABLE OF CONTENTS

<b>Unit 1 - Why Crashes Happen -</b>	<b>Page 6</b>
Overview	
Objectives/Expectations	
Risk vs Reward	
<b>Unit 2 - Preparing to Ride -</b>	<b>Page 10</b>
Preparing your Motorcycle	
Preparing your Gear	
Preparing Yourself	
<b>Unit 3 - Street Strategies-</b>	<b>Page 25</b>
Perception	
See-Think-Do	
Lane Placement Strategy	
<b>Unit 4 - Crucial Street Skills -</b>	<b>Page 29</b>
Braking	
Swerving	
Cornering	
<b>Unit 5 - Unique Riding Situations/ Skills -</b>	<b>Page 40</b>
Common Surface Conditions	
Group Riding Considerations	
Carrying Passengers	
<b>Additional Resources &amp; Information -</b>	
Smart Rider Commitments	Page 50
Endorsement Information	Page 52
Pre-Ride Inspection Checklist	Page 53
Braking Scenarios for Discussion	Page 54
Zoom Classroom Tutorial	Page 55

# ***Unit 1 – Why Crashes Happen***



Welcome to the Idaho **STAR** Intermediate Course. Continuing education and training is one of the best ways to prepare yourself to make good decisions on the road and in traffic. Thank you for joining us and we look forward to sharing our knowledge and skills with you.

Throughout this course, professional **STAR** Instructors will help guide you through a number of discussions and coach you during the range sessions. Their goal is to help you discover key areas that will make you safer out on the road.

This class will cover a number of different topics including:

- Risk awareness and risk management
- Preparation and planning
- Impairments to skill and good judgment
- Street strategies and early identification of hazards
- Riding skills and adapting to changing conditions
- Special situations

## **Our Objectives:**

- Develop the mental skills needed for early risk identification, predicting behaviors and outcomes, and decision making for a safer motorcycling experience.
- Develop the physical skills that are found lacking in crash-involved riders including braking, swerving, and cornering.

Most students have additional expectations for what they will learn in class. What expectations do you have? What goals will you set for yourself today?

1.
2.
3.

To complete this course, you must meet all of the requirements for participation:

- Attendance and participation are mandatory for ALL sessions in the classroom and on the range
- Follow along with the Rider's Guide and take part in classroom discussions
- Pass both a written multiple choice test as well as a skills evaluation
- Wear required riding gear on the range
- Your personal motorcycle must pass a pre-ride inspection to ride on the range

## Crashes Happen...

We know crashes are a possibility when we take off on a motorcycle trip. It does not matter if it's around the corner or across the country. The likelihood of a crash is higher than that of car drivers. The risk of injury is much more significant as well. So, why do people ride motorcycles? Is the risk worth the reward?

Please take a few moments and fill in the chart below. What are some risks of riding a motorcycle on the road and in traffic? What are some rewards that motorcycling gives you?

Risks of Riding Motorcycles	Rewards of Riding Motorcycles
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

We often hear riders talk about what drivers could do to prevent accidents, but there is little riders can do to change the behavior of other road users. What we can do is better prepare ourselves to respond to challenging and ever-changing situations.

Research also suggests a large percentage of crashes and fatalities are the result of **RIDER** error. Knowing that crashing can lead to injury, financial loss, potential legal hassles, and trauma to our friends and loved ones, it is our responsibility to develop good skills and habits.

Most crashes are **PREVENTABLE!**

Is it possible to prevent every crash? Probably not. There are always going to be situations that develop which are beyond our control. However, the vast majority of crashes are the result of choices made by riders and other road users. Poor choices lead to poor outcomes, while smart choices about how to ride, when to ride, and what to wear can make a huge difference for your safety.

**Three of the biggest causes of motorcycle crashes and fatalities are the direct result of choices riders make:**

- **Excessive speed**
- **Impaired riding**
- **Poor judgment**

Often, riders blame the other driver when there is a collision: “They didn’t even look!” or “They pulled right in front of me!” Though that may be true at times, often it is the rider who failed to command attention or communicate their intentions with other traffic. Hiding behind large vehicles, failing to use signals, or other lapses in judgment can put riders in harm’s way.

All of these are **PREVENTABLE** if you make safety your number one priority. Lack of skill could be added to the list as well, but with good judgment, riders will stay well within their abilities to mitigate that as a factor. The importance of good preparation, planning, and practice cannot be overstated.

**What are three things you can do to prevent a crash?**

1.
2.
3.

## ***Unit 2 – Preparing to Ride***



How you prepare for a ride has a big impact on the way the ride goes. As we look at preparing for your ride, we want to look at three specific areas of preparation:

- Preparing your motorcycle
- Preparing your gear
- Preparing yourself for anything that could happen

### **YOUR MOTORCYCLE**

You can't go for a ride without it! Ensuring your motorcycle is ready to take you where you want to go is as important as your desire to take it there. Along with routine maintenance, periodically evaluating your bike will help make sure it is in proper working order, so it doesn't cause you harm.

Before every ride, a pre-ride inspection of your motorcycle will help you identify issues that may occur. The specifics of a pre-ride inspection can vary depending on mechanical aptitude, but in the most basic sense, a pre-ride inspection is an opportunity to make sure everything is in good working order before you head out onto the road.

At a minimum, we suggest you look at the following:

- Controls
- Electronics
- Fluids
- Tires
- Final Drive
- Cargo

If you find problems with any of these, get them fixed before your ride.

An experienced rider with even the most minimal mechanical ability should be able to do a thorough inspection in under five minutes. Identifying a slow leak in a tire can prevent a wobble/weave as you go down the road. Identifying a frayed cable may keep you from losing the use of your clutch. Identifying an oil leak could prevent your engine from failing.

Any of these could lead to a crash if unnoticed. If you do your due diligence and inspect your bike, a crash could be prevented. Five minutes' worth of inspecting your bike may save your life.

**NOTE:** Instructors will do a Pre-Ride Check on all student motorcycles before we begin on the range. At a minimum, we will check for tire tread, tire pressure, leaking fluids, smooth control operation, and fuel/oil. Motorcycles must be in safe working order to participate. **For your safety and that of others, the Instructor's determination is final.**

In addition to the items above, it is always a good idea to know some basic specs of your bike. Along with the pre-ride inspection checklist, there is also a chart in the back of your book so you can record some of the important info about your motorcycle, including specifications like:

- Recommended Tire Pressure
- Service Intervals
- Weight Limits
- Recommended Oil
- Etc.

Category	Specific Areas to Inspect	What to Look For	
Controls	Throttle, Levers, Hoses, Cables, etc.	Condition	<input checked="" type="checkbox"/>
		Position	<input type="checkbox"/>
		Smooth Operation	<input type="checkbox"/>
		Routing of Hoses/Cables	<input type="checkbox"/>
Electronics	Headlights, Brake Lights, Turn Signals, Horn, etc.	Condition	<input type="checkbox"/>
		Proper Adjustment	<input type="checkbox"/>
		Proper Operation	<input type="checkbox"/>
Fluids	Fuel, Oil, Brake, Coolant, etc.	Properly Filled	<input type="checkbox"/>
		Any Leaks?	<input type="checkbox"/>
Tires	Tires, Rims, Wheels, etc.	Condition	<input type="checkbox"/>
		Proper Air Pressure	<input type="checkbox"/>
		Proper Tread Depth	<input type="checkbox"/>
Final Drive	Chain, Belt, or Shaft	Condition	<input type="checkbox"/>
		Properly Adjusted	<input type="checkbox"/>
Cargo	Saddlebags, Panniers, Luggage, etc.	Condition	<input type="checkbox"/>
		Properly Secured	<input type="checkbox"/>
		Does Not Exceed Weight Limits	<input type="checkbox"/>
Other	Add Any Other Considerations Specific to Your Motorcycle:		

NOTES ON AREAS OF CONCERN:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

www IdahoSTLR.org                      1-888-280-7827                      info@IdahoSTLR.org

## **Additional Considerations:**

If you are carrying additional loads, your bike will handle differently and you need to consider the weight, location, and security:

**WEIGHT:** Check your owner's manual for the maximum load limits for your motorcycle, saddlebags, tank bags, tail bags, and luggage racks. Don't exceed those limits and check your owner's manual for recommendations on adjusting the suspension and tire pressure to accommodate the added weight. This includes your weight, the weight of your passenger, and cargo.

**LOCATION:** Balance is important in riding, and equally important in loading a motorcycle. Keep additional weight low, concentrate it toward the center of the motorcycle, and equally distribute it side-to-side. Try to place heavier items ahead of the rear axle and use the luggage rack, tail bag or trunk for lightweight baggage. Make sure that nothing interferes with the movement of the handlebars or access to the controls.

**SECURITY:** When attaching loads, use motorcycle cargo nets or web straps so the load can't shift while you're riding. Take care that your load does not block the lights or your view in the mirrors and that it doesn't interfere with the steering or suspension. Tuck in anything that could get caught in the wheels and 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. It will require additional stamina to balance your bike during the ride. Because of the added weight, you'll need more distance to slow or stop the motorcycle. Additional weight on the motorcycle will also cause the steering to feel "heavier" and 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.

## **YOUR GEAR:**

Name of someone who cares about you or relies on you being healthy:

Without all of the safety features of modern cars/trucks, the only thing you have to protect you from the elements and injury is the gear you choose to wear on each ride.

Football players should not wear a bicycle helmet in a game and baseball players do not wear ski gloves to catch a line drive. Motorcyclists should wear gear designed to meet their unique needs and concerns.

Quality motorcycle apparel is designed specifically to meet the needs of riders. It is designed to help improve your comfort, concentration, and safety. As you prepare to ride, making smart choices about your gear can make all the difference on the road and in the event of a crash.

## Let's Look at the Basics:

**HELMETS:** Protect your head and brain from injury and come in a number of different styles, shapes, and sizes. At a minimum, helmets should be DOT-compliant and fit properly.

There are three types of compliance/safety certifications for helmets: DOT, Snell and ECE.



**EYE PROTECTION:** Face shields, goggles, or glasses can prevent damage to your vision caused by wind, rain, dust, and debris.

**FULL-FINGERED GLOVES:** Protect your fingers and hands from fatigue, debris, and the elements. They can improve your grip and protect your hands in the event of a fall.



**OVER-THE-ANKLE FOOTWEAR:** Protects your feet from hot or moving parts, gives you good grip on the ground at stops, and can protect your ankle/foot in the event of a crash.

**JACKETS, PANTS, AND/OR RIDING SUITS:** Are designed to be worn while seated on a motorcycle and are shaped differently than ordinary outerwear. Waterproof layers, retro-reflective materials, and protective armor are often added to make them more comfortable, visible, and protective. Quality materials like leather, Cordura®, or Kevlar also stand up to abrasion better than other materials in the case of a crash.

**NOTE:** While in this course, you are required to wear a three quarter or full face, DOT-compliant helmet, full-fingered gloves, over-the-ankle boots or shoes, long sleeve shirt or jacket, long pants, and eye protection. Without proper gear, you **will NOT** be allowed to take part in the range activities.

The gear you wear is a choice you make before you ever leave the house. Choosing quality gear appropriate for the season and weather is crucial to your comfort and concentration on the motorcycle. Proper gear can make the ride more comfortable by helping to moderate your body temperature, keep you dry, and reduce stress that can accelerate fatigue. Wearing gear with protective armor and abrasion resistant materials can help prevent severe injuries in the event of a crash. Even when everything is going well, proper gear can increase your concentration and focus by limiting distractions.

## **Other Considerations:**

**FIT:** Motorcycle gear is designed to fit comfortably while seated on a motorcycle. Gloves are designed with seams sewn to prevent blisters and the fingers come pre-curved to keep them from bunching up while holding on to the handgrips. Jackets are cut longer in the back and the sleeves and longer in the arms to prevent riding up while going down the road.

Most gear is supposed to fit snugly so it doesn't flap in the wind or cause a distraction. Many jackets have adjustment straps on the waist and arms for that reason, as well as to keep armor in place. Proper fit is key to preventing it from causing discomfort or distraction.

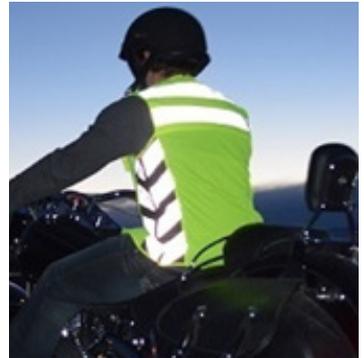
**PROTECTION:** Motorcycle gear is not only designed to fit comfortably, but it is also designed to protect you in case of a crash. Quality motorcycle gear is made from durable materials such as leather, Cordura, Kevlar, or other ballistic nylon. Many jackets and pants come with additional armor or pockets for it. Gloves often have reinforced sections to protect your hands and fingers. Boots not only come with sturdy soles to help you with grip on the pavement, but over-the-ankle riding boots safeguard you from hot or moving parts as well as environmental concerns.

Helmets and durable, shatter-resistant eye protection also help shield you from the elements as well as cushion your head in the case of a fall. Like any sport, having the right gear can protect you from injury and extend your riding career.

## Helmet Law:

Idaho law requires all riders and passengers under age 18 to wear a protective helmet while riding on or operating a motorcycle or scooter. Helmets must have a label certifying that they meet U.S. Department of Transportation (DOT) standards.

**VISIBILITY:** Many drivers aren't on the lookout for motorcyclists, so wearing clothing that blends in doesn't help our cause. Wearing bright colored clothing helps you be seen more readily. Gear that has retro-reflective materials make the wearer easier to see at night. The more you can do to be seen, the less likely you are to be overlooked by other drivers who aren't looking for you.



## Riding in the Cold - The Importance of Warmth\*

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.



### **COLD = BAD**

In cold weather, that means staying warm. A cold body is a distraction to your alertness, and it lowers your ability to respond. Cold slows your mental processes, and your muscles don't react as quickly, either. 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 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.

## **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 better prepared to meet the demands of the road.

*\*Our thanks to Gerbings Heated Clothing for assistance with this section ([www.gerbing.com](http://www.gerbing.com)).*



# Riding in the Heat - The Importance of Staying Cool

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).

## BUT 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. Tanktops and t-shirts offer no protection against the asphalt.

## BUT 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. If you have ever experienced dehydration while exercising or playing sports, you know how devastating it can be to your performance.



## BUT 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



According to Medline Plus, a service of the US National Library of Medicine, National Institutes of Health; [www.nlm.nih.gov](http://www.nlm.nih.gov), 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” are designed to be worn under your riding jacket. There are a variety of 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 is good). 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.

### **REFLECTIONS:**

Think back to the person named at the beginning of this section. What gear would you want them to wear to stay comfortable and protected?

--

### **Personal Reflection Activity:**

What gear do you currently wear to protect:	Is this the best choice for me: Yes or No?	What would I change about my current choice of gear?
Head and Eyes?		
Upper body and arms?		
Lower body and legs?		
Hands and feet?		

## Mental and Physical Preparedness:



These are essential to having a fun, safe ride. There are a few things you will want to do prior to heading out onto the street:

**CLEAR YOUR HEAD:** Motorcycling takes a lot of mental concentration. If you are not 100% focused on the task at hand, things can get ugly. Make sure that when you are on two wheels, your focus is on riding and not something else that can cause a dangerous distraction.

**PLAN YOUR RIDE:** Even if you have made the trip many times before, make sure you know your route, where you will stop, and how long you will be on the road. Going over your plan will help keep you from getting lost, making unplanned stops, running out of gas, or other things that can ruin a fun ride. Sharing your plan with others can also ease their minds when you're out on a ride.

**WATCH THE WEATHER:** Knowing what to expect out on the road can help you plan more effectively. Taking a look at the weather report and packing the right gear for the conditions can help ensure a comfortable and safe ride. If the weather report appears to be threatening bad weather, consider your options and make a choice that is safe for you... even if the smart choice means changing your route or not riding.

**WATCH THE ROAD CONDITIONS OR TRAFFIC REPORT:** Knowing how long you are going to be on the bike and what to expect along the route can help you make better decisions about when to ride, what route to take, and give you a warning about possible hazards along the way. A quick check can help you navigate more effectively and avoid some potential issues.

**MAKE SURE YOU ARE WELL RESTED:** Before you jump on the bike, make sure you are well rested and ready to take on the stresses of riding in traffic. A well-rested rider is more alert and focused on the task at hand. Tired riders are already impaired and should take steps to correct the issue. Research shows that a drowsy driver is as impaired as an intoxicated driver.

**GET SOME FOOD AND WATER:** Hunger and dehydration can cause problems as well. Make sure you have enough fuel in your body as well as in the motorcycle. Make sure you are properly hydrated and ready for the physical activities before leaving home. Planning your food or drink stops can also help ensure you get the proper nutrition and hydration throughout the day.

Once you are prepared to ride, make sure you keep an eye on your physical and mental readiness throughout the day. Over a period of time, we all face diminishing physical skills and mental alertness. By being observant and cautious, we can mitigate many of the factors that lead to impairment, but only if we notice the warning signs.

## **Impairment:**

Responsible riders are alert, aware, skilled and savvy. They know 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 is a safety impairment. For a motorcyclist, riding when physically and/or mentally impaired for any reason is courting disaster.

<b>IMPAIRMENT</b>	<b>SOLUTION</b>
1) Alcohol	Don't mix drinking and riding
2)	
3)	
4)	
5)	

## **Statistically, alcohol is the leading problem!**

Drinking alcohol can have a number of effects on the human body. The big ones are the effects upon your vision and judgment. Clear vision becomes impaired. Your ability to detect moving objects and see clearly at night diminish as well. Critical information can be missed due to the fact alcohol makes it harder for your eyes to focus, adjust to light changes, and scan for hazards.



Alcohol also affects judgment. Many fail to recognize this behavior. Impairment is evidenced by a willingness to take greater chances or thinking they can ride better after a few drinks.

Beyond your vision and judgment, alcohol also affects your short term memory, reaction time, coordination, balance and your ability to multitask. Successful perception requires riders to remember what hazards are out in the distance. Riders under the influence often forget hazards identified just a few seconds before. Physical skills are also affected by alcohol.

When your reaction time increases and your coordination and balance decrease, the ability to divide your attention and multitask is hampered by the consumption of alcohol. As a result, the ability to react properly and precisely is affected. Riders also need to be able to divide their attention and be aware of a number of factors. Riders who are impaired tend to only focus on a couple aspects of riding while disregarding others. An example would be ignoring traffic signals to focus on speed control.

Alcohol and/or drugs is a factor in over one-third of all fatal motorcycle crashes.

Those are **PREVENTABLE!**

**NOTE:** Impairment due to alcohol and/or drugs begins with the first drink or the first dose. Each individual is different, but even a little impairment can have big effects down the road. Please ride responsibly!

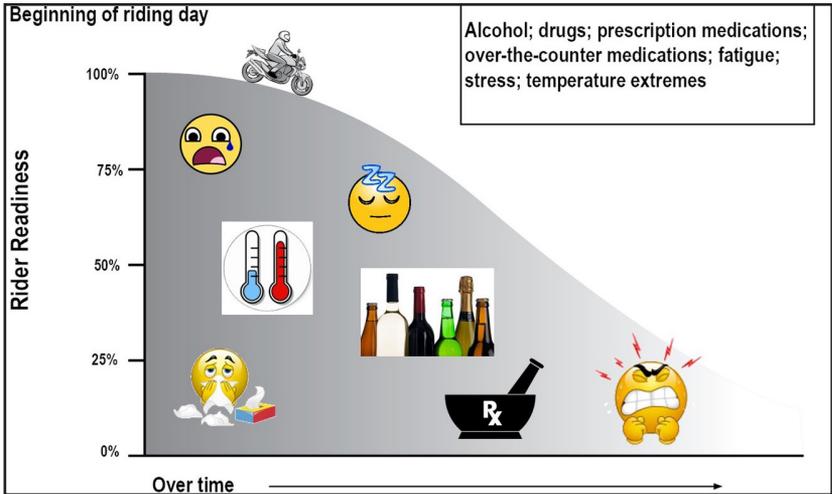
## **Pathway to Impairment:**

Regardless of your situation, eventually we all become impaired. Our mental and physical skills deteriorate over time. Many different factors such as age, experience, and training come into play. They may speed this process up or slow it down. Being aware of the problem is one of the first things all riders need to do in order to make good choices out on the road.

As you prepare to go out riding on your motorcycle, you have to make the right decision for you and your circumstances. Make sure you are in the right frame of mind to make good decisions. Your choices can have lasting effects on you, others, and your motorcycle. Riding impaired by alcohol, fatigue, or distractions can have devastating effects. When you saddle up to ride, make sure you bring your A-game!

Once you identify that you are impaired, take appropriate actions to compensate. Some strategies include:

- Slow down
- Stop riding for the day
- Rest
- Eat or Drink
- Sleep



## Indicators of Impairment:

Since judgment is affected first, how can you tell whether or not you are impaired? There are a couple ways:

**INCREASED NUMBER AND FREQUENCY OF SURPRISES:** If you find yourself being surprised by more hazards than usual, or if other road users seem more dangerous than usual, it may be that your ability to scan and detect hazards is impaired. Please heed this warning sign!

**LOSS OF SMOOTH CONTROL OPERATION:** If you find yourself missing shifts, your braking is jerky, or your corners are sloppy, it may be that your physical skills are impaired. Please heed this warning sign!

Specific causes of impairment can include, but are not limited to:

- Alcohol and Other Drugs
- Fatigue/Drowsiness
- Temperature Extremes
- Overriding Your Abilities
- Mental/Emotional Stress or Distractions
- Age/Health Concerns
- Peer Pressure

**Rider error is involved in nearly two-thirds of all crashes.**

These crashes are **PREVENTABLE!**

As you prepare to go out riding on your motorcycle, you have to make the right decisions for you and for your circumstances. Make sure that you are in the right frame of mind to make sound decisions. Your choices can have a lasting effect on you, others, and your motorcycle. Riding impaired by alcohol, fatigue, or distractions can have devastating consequences. When you saddle up to ride, make sure you bring your A-game.

## **REVIEW QUESTIONS:**

1. What are some of the causes of impairment?
2. Since judgment is the first thing affected, how would you recognize that you are impaired?
3. What are three things that motorcycle-specific gear can do for you?
4. How can motorcycle-specific gear reduce impairment?
5. What other questions do you have about preparing to ride?

## ***Unit 3 – Street Strategies***



It takes a considerable amount of mental and physical stamina to stay focused and engaged in the task at hand. Having an ever-evolving plan to deal with hazards is of the utmost importance. In this unit, we are going to look at strategies you can use to find your best position on the road and to identify and avoid hazards in or near your path of travel.

Your goal is to use mental strategies to avoid the need for emergency maneuvers. If you can identify hazards early and take simple steps to avoid trouble, you can avoid the need for aggressive accident avoidance maneuvers. Having a solid strategy can help you avoid problems and allow you to enjoy the ride even more!

Our brains are interesting. They can find patterns where there are none. They can miss things that are right in front of them. Some things just don't register in our brains unless we actively focus on them.

When riding a motorcycle, missing information can mean the difference between a smooth ride on two wheels and an uncomfortable ride in an ambulance. Being able to properly perceive the hazards around you or at least be aware of their possibility is a necessity.

### **Perception:**

Perception is the ability to become aware of things through the senses. It is essential for understanding what is going on in your environment. Perception can be shaped by the rider's experience and expectations, but can cause a form of mental blindness. **Accurate** perception is the difference between identifying and avoiding critical items and having them cause unexpected problems.

Research indicates the average time from hazard detection to crash can be as little as two seconds. Normal reaction time can take two seconds or longer, depending on your physical and mental preparedness. Many riders who find themselves in a crash do not attempt to avoid it.

## Target Fixation:

Target fixation is a phenomenon observed in humans in which an individual becomes so focused on an observed object (be it a target or hazard) they inadvertently increase their risk of colliding with the object.

This is also a panic reflex, which forces us to focus on a perceived danger.

One of the problems many riders face is they do not know how to look away. All too often, riders see a hazard and focus on the problem. Because of this, they cannot see the solution or a way out.

Good riders have good strategies in place and are able to look beyond the hazard and find their way out. Even better riders see the hazard and react before it becomes an immediate threat.

## See – Think – Do:

How do we identify hazards and make smart choices to avoid them? There are any number of processes that you can use. Regardless of what system you use, the strategies that seem to work the best have at least three distinct steps: a visual scan of the environment, a mental process to decide which hazards are the most critical, and a physical component to avoid the hazards. We suggest using the simple, easy-to-remember See – Think – Do strategy.

**SEE:** Using your eyes, make an aggressive and purposeful search of the environment. Look for things like road signs or traffic markings, surface features and conditions, animals, and other highway users. Riders who are good with scanning are often looking 20 seconds ahead, at their intended path of travel. As you scan, you need to be able to identify what could become a hazard for you and your bike. Only once you have identified a potential issue can you make a plan to avoid it.

**THINK:** This is where you play a game in your mind: **WHAT IF?** What if the truck ahead of me brakes abruptly? What if those kids run out into the street? What if that puddle isn't just water, but oil or something slick? What if that car doesn't see me? Being able to predict outcomes to questions like these can help you prepare for what may happen before it does. Once you have predicted some possible outcomes, you must make a choice and decide how to handle the given situation. Doing so will help you prioritize the hazards and make an appropriate plan to deal with them.

**DO:** Once you have made your decisions, you then follow through. Adjust your speed by rolling on or off the throttle or applying the brakes. Adjust your position by pressing on the handlebars. Communicate with traffic around you by flashing your brake light or using your turn signals. This is the step in which you put your plan into action.

By having a strategy to deal with potential hazards, you can more easily avoid them without panicking or needing to take evasive action. This helps keep your motorcycle rides fun and relaxing.

To identify and avoid hazards, using a strategy can be very helpful. As you go down the road, you must keep using that strategy to constantly monitor the situation and adjust as necessary. As you do, strive to find the best place for you and your bike in complex traffic environments. There are a number of additional considerations that will help you find the safest location on the road to ride and give you the best chances to avoid issues.

## Lane Placement Strategy:

It is important to choose a lane position that is appropriate to the conditions. Your lane position can help you communicate with other traffic, see and avoid roadway hazards, create space between yourself and other vehicles, and provide you with an escape route, if needed. When choosing the best lane position for yourself, make sure you position yourself where others can see you and where you have the greatest margin of safety.



1 2 3 4 5



1 2 3 4 5



1 2 3 4 5

**On a scale of 1-5, how would you rate these lane positions?**

**SEE AND BE SEEN:** Your lane position should provide you with the best position to see and be seen by other traffic. This allows you to communicate with the traffic ahead, behind, and to the sides. Don't hide in traffic. If you can't see others, they can't see you!

**MAINTAIN A SPACE CUSHION:** Make sure you have adequate distance to the front, rear, and sides of you. Your space cushion is the area immediately around you in traffic and the only space you have to move if needed. Give yourself enough space to feel comfortable and in control of your situation. If you don't have space to maneuver or feel safe, find a new place to ride in the flow of traffic.

**MAINTAIN AN ESCAPE ROUTE:** This is your "out" if it's needed. Make sure you always have at least one alternative path of travel if a hazard develops in your path. Without it, you are at the mercy of the road and the cars around you.

**PROTECT YOUR LANE:** Avoid sharing your lane with other vehicles. Lane sharing violates the principles of space cushioning and compromises your ability to maintain an escape route. Command attention and protect your space within your lane.

**AVOID SURFACE HAZARDS:** Potholes, gravel, ruts, oil, or any number of other hazards can be found on American roads. Riding in a position that allows you to see hazards and avoid them while also maintaining your space cushion and escape route is a necessity. Make sure where you ride gives you a clear field of vision to scan and identify those hazards.

Having a strategy to deal with traffic and hazards is something all riders need and they need to use it regularly. Positioning yourself in your lane is one of the most important steps that will help you be able to use your strategy more efficiently. You can practice effective strategies in your car as easily as you can on your motorcycle.

## Reflections: Street Strategies

Which strategies discussed in this chapter are unique to riding a motorcycle?

Which strategies could you use when driving a car and how?

## REVIEW QUESTIONS:

1. Why is accurate perception vital to riding a motorcycle?
2. What is the importance of utilizing a mental strategy while riding your motorcycle?
3. What should riders consider when choosing their position in the lane?
4. What other questions do you have about street riding strategies?

## ***Unit 4 – Crucial Street Skills***



Having a reliable strategy to identify and avoid hazards is helpful when you have enough time and space to react ahead of time. Astute riders use those strategies regularly and make sound decisions about their behavior in traffic.

Having proper skills to escape danger is also important for the hazards that you may have missed seeing 20 seconds down the road. Good riders practice their skills so they are able to brake quickly or swerve to avoid hazards. Practicing these skills will help you feel more confident when they are needed.

### **Braking:**

When riding on the street, you should be in the habit of using both the front and the rear brake when coming to a stop. This builds muscle memory that you need to activate when in an emergency braking situation. When the adrenaline is pumping and a quick reaction is critical, people tend to do what they have practiced. If you use both brakes every time you come to a stop, the likelihood that you will use both brakes in an emergency increases significantly. Practicing maximum braking stops on a regular basis will build confidence, skill, and muscle-memory.

### **Maximum Braking:**

The front brake provides most of the total stopping power on your motorcycle, so it is critical that you use it for stopping quickly and apply it properly. Steadily increase your squeeze on the front brake as you come to a stop. It is important to use it smoothly without grabbing the brake or applying too much, too soon. This can cause a skid if the weight of the motorcycle has not transferred to the front wheel to provide needed traction. Remember to keep your head and eyes up and forward all the way to the stop.

When braking in an emergency, you want to utilize all available stopping power, so be sure to use your rear brake, too. Apply light-to-lighter pressure to the rear brake pedal as you come to a stop. The weight of the motorcycle and its rider is transferred to the front wheel under braking pressure. As a result, there will be less weight on the rear tire near the end of the stop, and too much rear brake can lead to a skid.

## Handling Skids:

The solution to a skid on either wheel is similar. If the front tire skids during braking, immediately release the front brake and reapply more smoothly. If the rear tire skids, also immediately release and reapply as long as both tires are in alignment.

If the rear tire is out of alignment with the front, keep the wheel locked and ride out the skid.

## Braking in a Lean:

Braking in a lean has its own unique issues. Traction is shared between cornering forces and braking forces. Over-application of the brakes in a lean can cause an immediate loss of traction and result in abrupt skids or crashes. It is important to practice your technique so you are ready if/when you need to use it!

The best method for coming to a quick stop in a corner, if needed, is to straighten the bike before applying the brakes. This allows the braking forces to have as much traction available as possible.

The method of increasing brake pressure as you straighten the bike is also effective, but requires more space to complete and smooth manipulation of the controls to utilize the available traction.

## Accidents Happen:

Many are **PREVENTABLE!**

Good hazard avoidance strategies will minimize need for maximum braking.

ABS and other rider aids help manage traction for you.



# ABS & Other Technologies

Advanced technologies are emerging and evolving in great strides for motorcycles, giving riders many advantages in keeping the shiny side up. Motorcycle safety systems are intended to work in the background, and engage only when an un-safe event is identified. The goal is to preserve traction, stability, and balance to reduce the likelihood of a crash.

**ANTI-LOCK BRAKING SYSTEMS (ABS):** Are designed to minimize wheel lock-up in over-braking situations. Wheel speed sensors detect a rotational “lock-up” and modulate brake pressure to prevent skidding. The rider remains responsible for riding at the right speed and braking well, but ABS compensates for lapses in braking technique to help a rider maintain control, stability, and balance while stopping in the shortest distance possible.

If you have a motorcycle with ABS, it is important to take it out to a safe area and practice braking with it. Deliberately over-brake with the front and the rear to activate the system in each. A rider should know what it feels like and how it makes the motorcycle behave. Ideally, this practice should be done on both pavement and gravel or dirt.

Recent research indicates that bikes equipped with ABS are less likely to be involved in a fatal crash. Here’s why:

## **PERFORMANCE:**

Maximum braking is needed when something suddenly goes wrong, your adrenaline is pumping, and the need for action is immediate. In instances like this, rider performance drops. It’s just a fact of human nature. When we need maximum braking, ABS delivers. It performs anytime, every time. Most riders can’t beat it.

## **CHANGING SURFACE CONDITIONS:**

ABS instantly adapts to the surface and can keep you at maximum braking as you transition from the pavement to other surfaces like gravel, dirt, or grass.

**MOTORCYCLE STABILITY CONTROL:** Analyzes acceleration, deceleration, roll, pitch, yaw, and wheel rotation at several hundred times per second. It takes into account available traction, lean angle, and acceleration/deceleration. As it does, the computer modulates the amount of brake pressure and/or torque as appropriate to prevent stoppies, roll-over crashes, and low-side or high-side crashes in a curve. Though the system cannot prevent everything, it can make a huge difference and often react much faster than the rider.

**TRACTION CONTROL:** Is designed to minimize/prevent the rear wheel from spinning out of control if throttling too much. The system analyzes maximum engine torque in comparison to driving force and traction.

## 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. **COUNTERSTEERING** is the process of applying forward pressure to the handgrip in the direction you want to go. This forward pressure on the grip is what initiates the lean.

Hold the first press long enough to clear the obstacle, then press on the opposite handgrip to regain a straight path after clearing the obstacle.

Smooth, firm, and constant pressure is required to make the motorcycle lean quickly and precisely. Here is how it's done:

- Look to your escape path (not at the obstacle you are trying to avoid!)
- Firmly press forward on the handgrip to initiate the swerve (press right-go right; press left-go left)
- Hold the press until the motorcycle has cleared the hazard
- Firmly press forward on the opposite grip to straighten the motorcycle
- Keep your body upright and allow the motorcycle to move independently of you. The motorcycle will react more quickly that way

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

## Controlling a Swerve:

Hazards of different shapes, sizes, and locations will require different swerves – bigger, smaller, quicker, etc. How hard you press will determine how quickly the motorcycle begins to swerve. Pressing harder (but still smoothly) will result in the motorcycle leaning more quickly.

How long you hold the press will determine how far the motorcycle swerves. You may need to hold the press longer to avoid a car than you would to avoid a pothole.

## Additional Considerations:

**ALWAYS SEPARATE BRAKING FROM SWERVING:** Practice the technique of braking first and then swerving, as well as swerving first and then braking. You do not have enough traction to do both at the same time.

**“BODY ENGLISH”:** All of the power for swerving is in the arms. Practice keeping your upper body perpendicular to the ground as the bike leans and avoid leaning out, throwing your knees out, or moving your weight around. This will only upset the suspension and consume more traction.

**POSTURE:** Part of good riding posture is to keep the arms bent. When pressing, concentrate on straightening your arm by moving your hand forward and keeping your shoulder firmly in place.

## Cornering:

When asked to describe a perfect motorcycle road, most riders describe one with lots of curves. Unfortunately, the enjoyment of cornering snares numerous riders. Every year too many riders suffer self-inflicted injury from failure to negotiate curves. Rider error is clearly the cause in these single vehicle crashes. In many scenarios, riders either run off the road while cornering or drift into the opposite lane and collide head-on with approaching vehicles. Neither scenario is appealing. Both are completely avoidable.

While excessive speed is often listed on the crash report, the real cause of these crashes is not so simplistic. These riders have failed to complete one or more of three essential cornering skills: setting an appropriate entry speed; looking to the exit; or properly steering their motorcycle. Most often, riders override their sight distance by failing to look through the curve.



## Skillful Cornering Strategy:

Skilled riders are deliberate and have a consistent cornering strategy that enables them to corner efficiently, maintain control, and have fun. Riders who work on precision and technique before speed are smoother **and** faster in the corners.

Master a cornering strategy and you will be able to handle all types of curves with confidence.

- **Slow early** and set an appropriate entry speed for what you can see, keeping in mind what you cannot see
- **Look through the turn** - as far ahead as you can
- **Countersteer** by pressing on the handgrip in the direction you want to lean
- **Keep a steady throttle** or accelerate slightly for stability
- **See the exit** - continue to look through the turn to the exit
- **Reduce lean angle and stabilize**, accelerating smoothly as you straighten



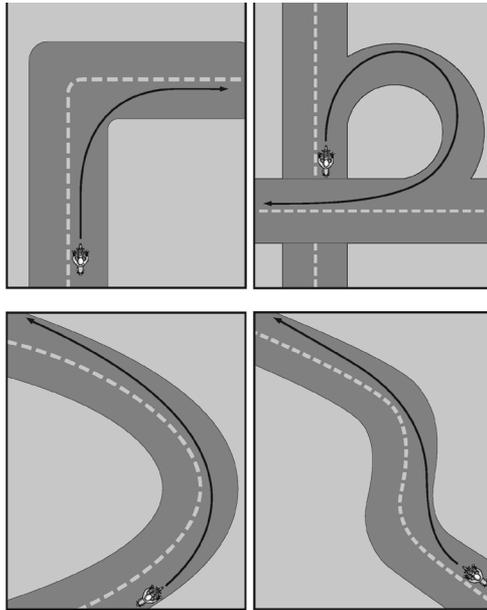
**CHOOSING A GOOD LINE:** Smooth and skillful cornering requires selecting the best line, or path through corners. The best line often does not match the curve of the road.

Start in the outside portion of your lane, then steer toward the inside, and then exit toward the outside. Outside-Inside-Outside. Of course you will keep your bike and your body safely within your lane and adjust this line as needed to avoid roadway debris.

There are numerous advantages to this method:

- Improves visibility to traffic ahead and behind you
- Improves your line-of-sight; your ability to see through the turn
- Conserves traction (turn is less sharp, less lean required)
- Preserves ground clearance

**Can you  
identify  
the apex?**



**SELECTING AN APEX:** When you can see the exit of your turn, steer to the inside of the turn, toward the apex. The apex is the point at which your path is closest to the inside of the curve, keeping in mind the apex may or may not be in the center of the curve. You choose the apex; the road does not choose it for you.

After passing the apex, your exit should be clearly in view and steering the motorcycle should be a matter of releasing the handlebar pressure and accelerating up to straight line speed.

**LINKING CURVES:** For linking turns, maintain an outside line until you can see the exit and the entry to the next turn. Committing to an inside line too early may put you out of position for the next turn. Strive to make the exit line of the first curve match the entry line for the following curve. Minimize mid-turn corrections.

**DECREASING RADIUS CURVES:** For turns that bend out of sight or tighten, maintain a steady speed and hold a line to the outside of your lane until you can see the turn exit. When you have the critical information about radius, slope, path, etc. and you can see the exit, you can steer to the inside and apex. Finish the turn back to the outside. This is called a late apex line.

This strategy for decreasing radius turns allows you a better line-of-sight through the turn and leaves you prepared in the event that the turn gets tighter. It also reduces your chances of running wide at the end of the turn and drifting into another lane or off the road because of turning in too early.

**BODY POSITIONING:** Another element of cornering strategy is body positioning. To minimize lean and maximize traction, keep your body in alignment with the motorcycle or lean slightly to the inside of the turn. You may have seen racers or track riders with extreme body positioning to the inside, maybe even dragging a knee. While this is not necessary or appropriate for everyday street riding, there is a purpose for this technique.

Riders do this on a track to conserve traction and ground clearance. As the weight is moved low and inside, the motorcycle requires less lean to make the turn. Less lean means more traction and more ground clearance, which means the rider can take the corner faster, which is the objective on a track.

If you ride a motorcycle with low clearance and/or you find yourself dragging parts in your turns, try leaning into the turn slightly. It does not require an exaggerated lean. Simply shift your upper body so that your breastbone is a couple inches off center, in the direction of the turn.

## **Strategies for Handling Other Potential Problems:**

As you have learned, a strategy is critical for safe cornering. Aggressive scanning - looking as far as possible through the curve - helps you assess how tight the curve is and at what speed it can be ridden safely. Here are some other suggestions:

- Avoid abrupt inputs. Stay smooth on the controls.
- Limit your speed in turns. If you can't see the exit, slow more before the turn.
- 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.
- Look as far through the turn as possible. Ride at a speed that gives you distance to stop or swerve within your line of sight.
- 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, you go where you look! Turn your head to face through the turn.
- Avoid excessive lean angles. All motorcycles have ground clearance and traction limits.
- 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. Don't corner with the motorcycle in your lane and your head in the opposing lane. Keep your entire body and motorcycle in your lane.

# Techniques to Help Make Cornering More Comfortable:

- Keep your head and eyes level with the horizon
- Lean into the corner with your motorcycle
- Relax your shoulders and bend your elbows
- Hold your weight with your legs against the tank
- Rolling on the throttle can help balance the weight of the motorcycle, optimize traction and ground clearance, and enhance the ease of steering

## Potential Problems – FEAR:

Crash data indicates that running off the road in a corner is one of the most common scenarios for fatal motorcycle crashes in Idaho. This Rider's Guide has already covered the importance of head turns 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. Fear can take control of your arms, your body, and your brain.

**FEAR IN CORNERS – 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. When the arms lock straight, the shoulders often pull back. All of this severely reduces the ability to steer. As a result, the motorcycle leans less and is 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.

**FEAR 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 means leaning the body up and away. 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 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).

**FEAR IN CORNERS – 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” 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. Keep pressing on the handgrip and keep your head turned and your eyes looking where you want to go. Thinking “I'm going to crash!” or looking at the curb or a tree can lead you toward trouble.

## Stopping Quickly in a Curve:

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 by the traction that is being used to grip the corner. There are two main techniques to stop quickly and safely in a corner.

**STRAIGHTEN THEN BRAKE:** With this method, straighten the motorcycle first by pressing firmly on the outside handgrip. The more firmly you press, the more quickly the motorcycle will straighten. Once the motorcycle is upright, you can apply maximum straight-line braking. Because more traction is available when the motorcycle is upright, you are able to use all of your available braking power quickly. Make sure your handlebars are square and your head and eyes are forward, facing your immediate path of travel, not at the hazard you are attempting to avoid.

Circumstances may not permit you to straighten first and then brake. Using this method in right-hand turns with oncoming traffic or left-hand turns on roads with minimal or obstructed run-out (such as a guard-rail or drop-off shoulder) could be dangerous. In these situations, the braking-in-a-lean technique is more appropriate.



**BRAKE AS YOU STRAIGHTEN:** If road or traffic conditions do not allow you to straighten your path of travel, use your brakes smoothly and gradually. As you straighten the motorcycle, 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 handle-bars and increase brake pressure until the motorcycle stops.

This method may require more stopping distance but allows you to remain in your lane. Keep your eyes on your intended path, not on the obstacle.

## **REVIEW QUESTIONS:**

1. What is the benefit of regularly practicing maximum braking skills?
2. What is the consequence if you don't practice regularly?
3. What is countersteering?
4. Why do we separate swerving and braking?
5. What are the 3 most essential aspects of safely navigating curved roads?
6. What does it mean to "link turns"?
7. What are the consequences if you fail to do any one of the above?
8. What can happen when fear takes over while cornering? How do you overcome it?
9. What other questions do you have about crucial street skills?

## **Unit 5 - Unique Riding Situations/Skills**



**RAIN-SOAKED SURFACES:** Oil, dirt and other debris accumulate in and upon the road surface, especially in the center of the lane. Rain mixes with that composition and creates a slippery film, but with time this film washes away and traction improves. Avoid riding during the first part of a rainstorm when conditions are the most slippery. Any time conditions seem unsafe, find a safe place to stop away from the roadway.

When riding in the rain or on wet surfaces, you'll need more distance to properly stop the motorcycle without losing traction. To accomplish this, slow down and be sure to 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, if conditions permit, 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
  - Cattleguards

**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.

**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.



**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.

**CRACK SEALANT:** Cracks in highway road surfaces are usually sealed with a black, tar-like substance. In warm 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, reduce speed and minimize lean.

**STEEL PLATES:** Steel plates are often used to cover excavations. These plates are very slippery, especially when wet. Ride straight across them, avoiding abrupt maneuvers and lean angle.

**CROWNED ROADS:** Road surfaces are often crowned to improve water run-off. Use a strategy for an early warning that cornering clearance is reduced. Limit your lean angle when turning left.

**RAILROAD AND TROLLEY TRACKS, PAVEMENT SEAMS, CATTLE GUARDS:** Railroad tracks usually pose no problem if you ride straight across them. If the tracks cross your path at a diagonal, try to approach them at a 45-degree angle, but be careful to stay in your lane.

To cross trolley tracks, pavement seams and cattle guards that run parallel to your path of travel, swing away from the tracks or seams to square your approach to at least 45 degrees. Do not cross at a shallow angle. Otherwise the tracks or seams can catch your front tire and cause a crash.



**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.

**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 the onset of bad weather at higher elevations, areas prone to mudslides, and damp, shady patches of road that can have black ice, moss or algae.

Having a good strategy will keep you from being surprised by such hazards. If you must ride through them, use the throttle smoothly and carefully. Squeeze the clutch to eliminate the possibility of engine braking. Make no sudden or abrupt moves. Ride straight up and in the tracks of other vehicles. Be especially careful around other vehicles. The roads are slick for them, too. Remember, the key to handling poor traction situations is smooth control inputs.

**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. Many traffic signals have yellow squares on the pavement to help you know where the sensors are located. If that doesn't work, contact the agency responsible for the intersection. Explain the situation and ask for the sensor to be adjusted.

**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 a strategy 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 and elk create a real hazard. They are unpredictable and hitting one is like colliding with a truck. Use your strategy aggressively in areas where deer or elk 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 - deer and elk are unpredictable and live all over Idaho.

**PARKING:** Parking a motorcycle can include unique considerations in comparison to other vehicles.

**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. Center your motorcycle in the space to discourage space sharing.



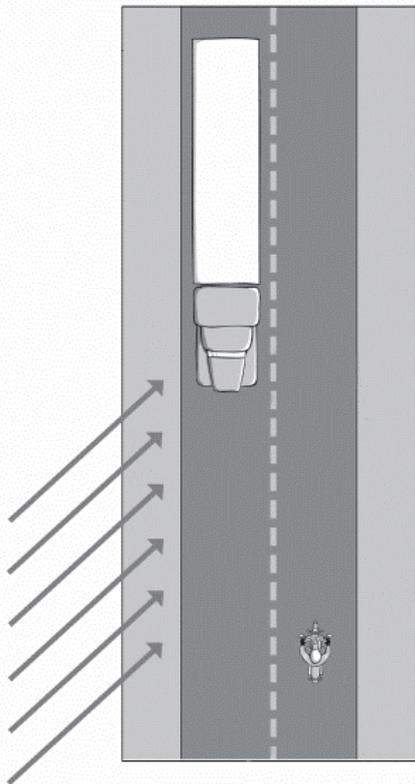
**Security:** Secure the motorcycle with the handlebars turned toward the sidestand. For greater stability and security, lock the forks. Leave the motorcycle in first gear to prevent rolling. Caution: When asphalt is hot, a motorcycle sidestand can sink into it. To prevent sinking, place a rigid object like a flattened soda can under the sidestand.

**WIND:** An unexpected blast of wind can make for a festive riding experience. It's important to understand where gusts can occur and be prepared to counteract the wind with proper riding technique.

**Other Vehicles:** 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.

**Side Winds:** While riding, you might encounter steady winds or strong and irregular gusts. Lean into the wind by applying forward pressure on the handgrip. The stronger the side wind, the more forward pressure must be applied. 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.

**Strategy:** Use a strategy to identify places where the wind may be blocked, such as road cuts and freeway underpasses. As the wind is blocked, you'll need to lighten the pressure on the handgrip. Also use a strategy 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.



## Group Riding Considerations:

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:** 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:** 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 to four to six riders. Split into multiple groups if necessary.

**SIGNAL EARLY AND OFTEN:** Communication and planning are important factors in keeping a group together. 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. 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 1.5 to 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 safe 3 - 4 second following distance whenever you:

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

**PASSING IN FORMATION:** Riders in staggered formation should pass one at a time. Pass only when it is safe to do so. When passing in formation, 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.

**RIDE IN STAGGERED FORMATION:** 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. Each rider then has the full width of the lane to avoid surface hazards as well.

## Carrying Passengers:

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



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

- 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.
- Adjust the suspension and tire pressure according to the manufacturer's recommendations found in your owner's manual.
- Never carry a passenger in front of you. This is dangerous and is illegal in many jurisdictions.
- Your passenger must be able to reach the footrests and should be able to look over your shoulder.
- Be sure your passenger is wearing proper protective gear and that shoe laces are tucked in.
- Show your passenger how to mount so that 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 grip the front brake. This stabilizes the motorcycle for the passenger to mount and dismount.

## Slow Speed Control:

At higher speeds, inertia and gyroscopic forces help balance the bike. At slower speeds, these disappear. This is why many low-speed crashes occur when a rider is trying to turn at slower speeds. This is easy to manage once you realize you must control the steering and center of gravity with a different turning method.

At speeds around 10 mph and slower, two-wheel motorcycles turn by direct steering. The easiest method to do this is:

- Adjust your turn speed
- Turn your head -look to where you want to go
- Turn your handlebars -the bike will likely begin to lean in
- Balance by counterweighting, if needed

### TIPS TO CONSIDER:

- Remain upright with straight posture
- Remain upright with straight posture
- Possibly use the rear brake – this may help to stabilize and balance your bike smoothly
- Possibly use some “friction zone” – with a little throttle, ease your clutch out to control the power as needed
- Use all of the available space
- Keep adequate speed to balance the motorcycle and enough to speed hold the lean

**NOTE:** Counterweight is shifting the balance point of the motorcycle to the outside (via body positioning or weight on outside footpeg) to allow the motorcycle to lean in a slow speed turn.

## REVIEW QUESTIONS:

1. Which group riding formation offers the riders the best margin for safety and why?
2. How can carrying a passenger affect your ability to ride safely?
3. How much speed is required to control the motorcycle in slow speed maneuvers?
4. What can indicate a change in traction on the road?
5. What is the key to handling situations with reduced or bad traction?
6. What other questions do you have about unique riding situations?

# **Additional Resources and Information**

# SMART RIDER COMMITMENTS

At Idaho **STAR**, our goal is to prepare riders at every level of experience with the skills and knowledge for safe riding. These are 13 commitments we encourage all riders to make to themselves, and they cover the most important choices we make: when, where, and how we ride.

## SMART RIDER COMMITMENT #1:

\_\_\_\_\_ (initial) “I acknowledge that part of being a responsible rider is knowing and following the ‘rules of the road.’ I accept this fact and commit to learning and complying with state laws, rules, regulations and equipment requirements.”

## SMART RIDER COMMITMENT #2:

\_\_\_\_\_ (initial) “I acknowledge that riding a motorcycle in a complex traffic and roadway environment is an activity involving risk and danger. I accept this fact and commit to managing those risks.”

## SMART RIDER COMMITMENT #3:

\_\_\_\_\_ (initial) “I acknowledge that when riding a motorcycle, the only thing between me and the elements (hot, cold, rain, hail, bugs, the asphalt, other vehicles, etc.) is the gear I am wearing. I accept this fact and commit to getting and wearing riding gear that is right for me and my family.”

## SMART RIDER COMMITMENT #4:

\_\_\_\_\_ (initial) “I acknowledge that a motorcycle requires more frequent inspection and maintenance than a car. I accept this fact and commit to learning how and when to perform a pre-ride check on my motorcycle.”

## SMART RIDER COMMITMENT #5:

\_\_\_\_\_ (initial) “I acknowledge that an expert rider is one who uses expert judgment to avoid having to use expert skills. I accept this fact and commit to becoming an expert rider by practicing SIPDE skills, keeping my eyes up and scanning 20 seconds ahead.”

## SMART RIDER COMMITMENT #6:

\_\_\_\_\_ (initial) “I acknowledge that motorcyclists running wide in turns is the most common fatal crash situation. I accept this fact and commit to practicing the READY-AIM-FIRE process for cornering, and in particular LOOKING through the turn and PRESSING forward on the handgrip to cause the bike to lean/turn.”

**SMART RIDER COMMITMENT #7:**

\_\_\_\_\_ (initial) “I acknowledge that braking errors are very common in crash situations. I accept this fact and 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.”

**SMART RIDER COMMITMENT #8:**

\_\_\_\_\_ (initial) “I acknowledge that many fatal motorcycle crashes involve riders who had been drinking. I accept this fact and commit to separate the use of alcohol (and other drugs) from riding a motorcycle. I commit to riding sober.”

**SMART RIDER COMMITMENT #9:**

\_\_\_\_\_ (initial) “I acknowledge that an impaired rider in the group puts me at risk. I accept this fact and commit to avoiding riding with others who are impaired.”

**SMART RIDER COMMITMENT #10:**

\_\_\_\_\_ (initial) “I acknowledge that there are a wide variety of factors that can impair my ability to ride safely. I accept this fact and commit to minimizing factors that can negatively affect my riding ability and performance.”

**SMART RIDER COMMITMENT #11:**

\_\_\_\_\_ (initial) “I acknowledge that when I carry a passenger, I am responsible for their safety and comfort. I accept this fact and commit to waiting to carry passengers until I have well developed skills and significant experience as a solo rider.”

**SMART RIDER COMMITMENT #12:**

\_\_\_\_\_ (initial) “I acknowledge that group riding demands more skill and attention than riding solo. I accept this fact and commit to waiting to ride with a group until I have well developed skills and significant experience riding by myself or with just one other (and more experienced) rider.”

**SMART RIDER COMMITMENT #13:**

\_\_\_\_\_ (initial) “I acknowledge that touring and long-distance riding demand physical endurance, mental stamina and preparation. I accept this fact and commit to building up slowly to longer distances and to being prepared for the challenges of long-distance riding.”

# Motorcycle Endorsements

If you operate a motorcycle on public roadways, you need to add a motorcycle endorsement to your Idaho driver's license. In order to obtain your "M" endorsement you need to pass a written knowledge test and a motorcycle skills test.

The skills test portion can be waived upon successful completion of a qualifying **STAR** course. After passing a qualifying course, your **STAR** completion card will be printed and mailed to you within 5-10 business days after your class. Your completion card is needed to obtain your "M" endorsement on your license.

## DMV WRITTEN TEST

Everyone seeking an endorsement on their Idaho driver's license must take the motorcycle written test (\$3.00) at any driver licensing office. The test consists of 25 multiple choice questions and you may not miss more than five questions. Test results are valid for one year. You may review for the test by studying the Idaho Motorcycle Operator's Manual. A free copy of the manual is also available at any driver licensing office.

## SKILLS TEST

**If you are under 21:** You are required to take and pass, a motorcycle training course. The **STAR** Basic Rider Training, Basic II, or Intermediate Rider Training Course will meet this requirement if the endorsement is added within two years of passing the course. If you are under 17, you must have successfully completed an approved driver education course before enrolling in a motorcycle training course.

**If you are over 21:** You may take a **STAR** Basic Rider Training, Basic II, or Intermediate Course. Successful completion of any of these courses will waive the skills test requirement if the endorsement is added within two years of passing the course.

**-OR-**

You may take a skills test (\$25.00) by a third party skills tester. Information on skills testers can be obtained when you take the written test or by visiting ITD's Skills Testers interactive map. The written test must be taken before the skills test. You may review a practice guide that covers the skills required for the test by visiting the Practice Guide on this site.

## DMV INFORMATION

Please visit the DMV website for details about location of driver licensing offices, and additional information about written and skills tests, motorcycle endorsement fees, and other motorcycle-related information.



# Pre-Ride Inspection Checklist



Category	Specific Areas to Inspect	What to Look For	<input checked="" type="checkbox"/>
Controls	Throttle, Levers, Hoses, Cables, etc.	Condition	
		Position	
		Smooth Operation	
		Routing of Hoses/Cables	
Electronics	Headlights, Brake Lights, Turn Signals, Horn, etc.	Condition	
		Proper Adjustment	
		Proper Operation	
Fluids	Fuel, Oil, Brake, Coolant, etc.	Properly Filled	
		Any Leaks?	
Tires	Tires, Rims, Wheels, etc.	Condition	
		Proper Air Pressure	
		Proper Tread Depth	
Final Drive	Chain, Belt, or Shaft	Condition	
		Properly Adjusted	
Cargo	Saddlebags, Panniers, Luggage, etc.	Condition	
		Properly Secured	
		Does Not Exceed Weight Limits	
Other	Add Any Other Considerations Specific to Your Motorcycle:		

NOTES ON AREAS OF CONCERN:

---



---



---



---

www.IdahoSTAR.org

1-888-280-7827

Info@IdahoSTAR.org

## Braking Scenario - 1

A rider follows a truck through a corner:

- The truck jack-knifes and slides to a stop in the middle of the road
- Escape routes are now non-existent
- The rider brakes hard
- The rider “had to lay it down”



What was the rider's error?

What is the best way to avoid this situation altogether?



## Braking Scenario - 2

A rider is approaching an intersection behind a station wagon:

- A truck in the center lane turns left in front of the rider
- The rider hammers the rear brake
- The bike skids to a stop, hitting the rear fender of the truck
- The rider suffers injuries to their right leg and arm



What was the rider's error?

What is the best way to avoid this situation altogether?



## Braking Scenario - 3

A rider is searching for a friend's cabin:

- An deer jumps onto the road 40 feet ahead
- The rider grabs the front brake
- The front wheel skid causes the motorcycle fall over and the rider slides on the pavement



What was the rider's error?

What is the best way to avoid this situation altogether?



# Student Basics For Zoom

**Audio Switch:** click to mute/unmute. When muted, a red line shows thru the mic and it says "Unmute" under the mic.

**Keep muted except when you are asking/answering a question.**

**Video Switch:** click to start/stop. When camera is off a red line shows thru the camera and it says "Start Video" under the camera.

**Keep your video off.**

**Chat/Dialogue:** enter questions or provide answers to instructor questions (entry shows when Enter key is pressed; at times instructor may request you wait to press enter so all answers show simultaneously).

**Always use To: Everyone**

**Interaction Functions:** click to start/stop. These activate the **participant** and **chat** windows shown to the right.

**Keep participant and chat window open.**

**Leave/End/Exit Meeting:** at end of meeting, click to exit meeting.

**B**

# Student Basics For Zoom

**Interfering Images:** if an image (such as the instructor) is in the way of your screen view, "click & drag" it out of the way and/or press on the narrow line to minimize the size of the image

**B**



Idaho***STAR***.org

Updated 03/2021