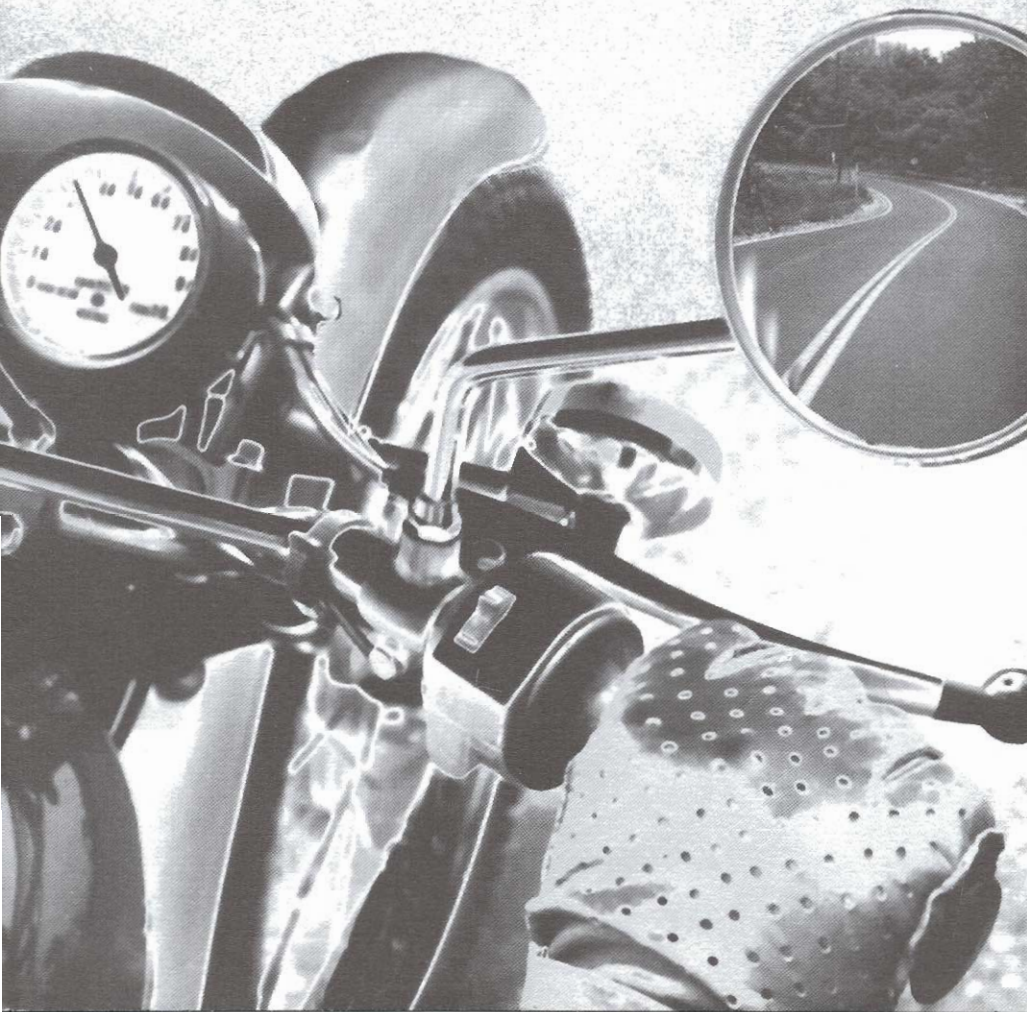
Motorcycle Operator Manual



STATE OF TENNESSEE

PHIL BREDESEN
GOVERNOR

Dear Motorcyclist:

We're asking you to help make the highways in our state the safest in the nation. This Tennessee Motorcycle Operator Manual has been developed to help you become a better motorcycle rider. It supplements the ***Tennessee Driver Handbook*** *and* ***Tennessee Driver Study Guide****, which can be found at any Department of Safety Driver Service Center located throughout the state.*

When you apply for a motorcycle license, you must take a knowledge test based-upon the information covered in this manual. If you don't already have a valid driver license, you must also take a knowledge test based on the Tennessee Driver Study Guide. This will test your knowledge of Tennessee's traffic laws that apply to all motorists. After you pass the knowledge and vision tests, you can take the on-cycle skills test.

The Department of Safety will waive the motorcycle knowledge and on-cycle skills test if you have completed an approved ***Tennessee Motorcycle Rider Education Program*** *at one ofour state certified motorcycle training centers.*

Motorcycling is a wonderful way to enjoy our beautiful Tennessee highways and byways. Just remember, take responsibility for your own safety...and help us save lives.

Phil Bredesen
Governor

STATE CAPITAL, NASHVILLE, TENNESSEE 37243-0001
TELEPHONE NO. (615) 741-2001

PREFACE

Operating a motorcycle safely in traffic requires special skills and knowledge. The Motorcycle Safety Foundation (MSF) has made this manual available to help novice motorcyclists reduce their risk of having a crash. The manual conveys essential safe riding information and has been designed for use in licensing programs. While designed for the novice, all motorcyclists can benefit from the information this manual contains.

The original Motorcycle Operator Manual was developed by the National Public Services Research Institute (NPSRI) under contract to the National Highway Traffic Safety Administration (NHTSA) and within the terms of a cooperative agreement between NHTSA and the MSF. The manual and related tests were used in a multi-year study of improved motorcycle operator licensing procedures, conducted by the California Department of Motor Vehicles under contract to NHTSA.

The purpose of this manual is to educate the reader to help avoid crashes while safely operating a motorcycle. For this edition, the MSF has updated and expanded the content of the original manual.

These revisions reflect:

- The latest finding of motorcyclesafety research.
- Comments and guidance provided by the motorcycling, licensing and traffic safety communities.
- Expanded alcohol and drug information.

In promoting improved licensing programs, the MSF works closely with state licensing agencies. The Foundation has helped more than half the states in the nation adopt the Motorcycle Operator Manual for use in their licensing systems. Improved licensing, along with highquality motorcycle rider education and increased public awareness, has the potential to reduce crashes. Staff at the Foundation are available to assist state, private and governmental agencies in efforts to improve motorcycle safety.

Tim Buche
President,
Motorcycle Safety Foundation

MSF
MOTORCYCLE SAFETY FOUNDATION®

2 Jenner, Suite 150
Irvine, CA 92618-3806
www.msf-usa.org

IMPORTANT INFORMATION ABOUT THIS MANUAL

This **Motorcycle Operator Manual** has been developed to assist you in becoming a better motorcycle rider. This manual does not give a complete statement of all Tennessee traffic laws and may not reflect the most recent changes in state law and regulations. It supplements the **Tennessee Driver Handbook** and **Tennessee Driver Study Guide** which can be obtained at any Department of Safety Driver Service Center located throughout the state of Tennessee. For exact locations, days and hours of operation of the driver service centers, visit our website at: http://tn.gov/safety/driverlicense/dllocationmain.htm

For additional and the most current information in state law, you should review Tennessee Code Annotated, Title 55.

MOTORCYCLE LICENSE REQUIREMENTS

MOTORCYCLE ONLY: (Class-M) (126 cc or more). Any two or three-wheel vehicle of more than 125 cubic centimeters (125 cc). A motorcycle license allows the holder 16 years of age or older the privilege of operating a motorcycle. The driver examination will include a vision test, knowledge test and an on-cycle ability skills test. (See Identification and Application Requirements for additional details). Note: if the applicant does not already have a valid driver license for a passenger vehicle, the knowledge test for Class D is also required.

MOTORCYCLE-SECONDARY: (Class-M) Motorcycle is added in the secondary position on a valid type or class of license. The addition of a motorcycle license allows the holder the privilege of operating a motorcycle in addition to the other vehicles. The driver examination will include a vision test, written test and an on-cycle ability skills test. The motorcycle license expires when the primary license expires.

MOTOR-DRIVEN CYCLE (SCOOTER): (Class M-Limited) (from 51-125cc). Any two or three wheel vehicle of no more than 125 cubic centimeters. The license issued to a person 15 years of age will be valid only between the hours of 4:00 a.m. and 8:00 p.m. and within a seven (7) mile radius of the motor-driven cycle driver's home. The license issued to a person over 16 will only be restricted as deemed necessary by the Department of Safety.

MOTORIZED BICYCLE: (under 50 cc) The motorized bicycle does not have to be registered, nor does a certificate of title need to be obtained. An owner may register the vehicle under regulations issued by the Commissioner of Revenue.

No endorsement is required on a driver license in order to operate a motorized bicycle; thus the motorized bicycle may be operated by anyone with a valid driver license.

Goggles, windshields and other special equipment required for motorcycles and motor-driven cycles are not required for operation of a motorized bicycle. However, crash helmets are required regardless of the operator's age.

Minors between the ages of 15 and 16 may apply for a restricted license to operate a motorized bicycle, just as they would to operate a motor-driven cycle. For instance, the applicant must take a written test, vision test and demonstrate the ability to operate the motorized bicycle. The license issued will be restricted to a motorized bicycle only. The license will be valid only

between the hours of 4:00 a.m. and 8:00 p.m. and within a seven (7) mile radius of the motor-driven cycle driver's home.

Applicants less than eighteen (18) along with the parent or legal guardian must complete a Minor/Teenage Affidavit and Cancellation form making the parent or legal guardian financially liable for the applicant's action.

MOTORCYCLE LEARNER PERMIT: (Class P-M) A special permit allowing minors fifteen (15) years of age to operate a motorcycle after completing the requirement established for a motorcycle license with the following restrictions:

1. Must complete a Minor/Teenage Affidavit and Cancellation Form.
2. Must be limited to a motorcycle with a maximum cylinder size of 650 cubic centimeters (650cc).
3. Must not carry passengers.
4. Must be restricted from use on interstate highways or roadways otherwise marked.
5. Operation during daylight hours only.
6. Must be limited to a twenty (20) mile radius of the driver's home.
7. At the age of sixteen (16), the holder of a motorcycle learner permit (Class P-M) may return to a Driver Service Center and exchange their permit for a motorcycle license to retain the privilege to operate a motorcycle. Note: No tests are required for exchange. After exchange all restriction and size limits are removed.
8. Permits are valid for one (1) year from date of issuance.

SPECIAL BENEFITS: All applicants who hold a valid Tennessee driver license that bring a certificate of completion from a Tennessee Certified Motorcycle Rider Education Program (MREP) shall be exempt from taking the motorcycle knowledge and ability skills test at the Driver Service Center.

If applicants do not currently hold a valid Tennessee driver license, they must also take a knowledge test based on the **Tennessee Driver Study Guide**. Applicants who have completed a Motorcycle Safety Foundation (MSF) course in any state may present the certificate of completion or MSF wallet card and have the ability skills test waived. The course must have been completed within three (3) years of the application date. MSF course completion does NOT waive the knowledge test(s).

All qualified applicants who have successfully completed a state Certified Motorcycle Rider Education Course, and successfully complete the vision test, by law will be granted a ten percent (10%) discount on liability insurance for motorcycles.[1]

The premium reduction shall remain in effect for the qualifying insured persons for a period of three (3) years from the date of successful completion of an approved course, except that the insurer may elect to apply the premium reduction beginning at the next renewal date of the policy and continuing for a period of three (3) years. Applicants should contact their insurance company for more information about this program.

---

[1]Tenn. Code Ann. § 55-51-106

IDENTIFICATION AND APPLICATION REQUIREMENTS

Examinations are administered by the Department of Safety at Driver Service Centers in locations throughout the state of Tennessee. Pick up a regular **Driver Handbook** and **Driver Study Guide** at these locations. For exact locations, days and hours of operation, visit our website at: http://tn.gov/safety/driverlicense/dllocationmain.htm.

You must provide positive proof of your full name and date of birth. Such positive proof of identity may be a certified birth certificate and a social security card. Acceptable documents must be an original or a certified copy. No photocopies can be accepted. If you do not already have a Tennessee Driver License or learner permit, you will also be required to provide two documents with your Tennessee residence address as proof of residency. A Post Office box or mail drop address is not acceptable as proof of residency.

These documents include: Current utility bill including telephone, electric, water, gas, cable, etc. An initial deposit receipt is NOT acceptable.

Additional documents include:

- Current bank statement (home computer generated bank statements or checks are not acceptable)
- Current rental/mortgage contract fully signed and executed, or receipt including deed of sale for property.
- Current employer verification including paycheck/check stub, work ID or badge, etc.
- Current automobile, life or health insurance policy (not wallet cards)
- Current driver license or ID issued by the State of Tennessee to a parent, legal guardian or spouse of applicant (proof of relationship required)
- Current Tennessee motor vehicle registration
- Current Tennessee voter registration
- Current IRS tax reporting W-2 Form
- Receipt for personal property or real estate taxes paid within the last year
- In case of a student enrolled in public or private school in this state, student may provide a photo student ID and acceptable documentation that student lives on campus of the educational institution.

If this is your first Tennessee license or if you are exchanging a license from another state you are required to provide proof of U.S. citizenship or lawful permanent residence. Acceptable documents proving an applicant is a U.S. citizen or a lawful permanent resident include, but are not limited to the following:

- Official Birth Certificate issued by a U.S. state, jurisdiction or territory (Puerto Rico, U.S. Virgin Islands, Northern Mariana Islands, American Samoa, Swain's Island, Guam;
- U.S. Government-issued Certified Birth Certificate;
- U.S. Certificate of Birth Abroad (DS-1350 or FS-545);
- Report of Birth Abroad of a Citizen of the U.S. (FS-240);
- Valid or expired U.S. Passport;
- Certificate of Citizenship (N560 or N561);
- Certificate of Naturalization (N550, N570 or N578);
- Unexpired U.S. Active Duty/Retiree/Reservist Military ID Card (DOD DD-2)
- U.S. Citizen Identification Card (I-197, I-179)
- INS I-551 Permanent Resident Alien Card
- Foreign passport stamped by the U.S. Government indicating that the holder has been "Processed for I-551"

- Permanent resident Re-entry Permit (I-327);
- Temporary I-551 stamp on Form I-94 Arrival/Departure Record, with photograph of the applicant;
- U.S. Department of Receptions and Placement Program Assurance Form (Refugee) and I-94 stamped refugee;
- Form I-94 Record of Arrival and Departure stamped Asylee, Parolee, refugee, asylum HP (humanitarian parolee or PIP (public interest parolee).

You may be eligible to obtain a Temporary Driver License for the operation of a motorcycle, motor scooter or motor driven cycle (Class XM). The Temporary Driver License is issued to persons whose presence in the United States has been authorized by the federal government for a specific purpose and for a specific period of time. Qualifying applicants who obtain a Temporary Driver License for the operation of a motorcycle, motor scooter or motor driven cycle (Class XM) will be issued a photo license document valid for both driving and identification purposes.

In order to qualify for the Temporary Driver License, the applicant will be required to provide the department with proof of temporary legal presence and authorized stay in the United States. Such proof must indicate the applicant's length of authorized stay in the United States.

Applicants will also need to provide the department with:

- Two (2) acceptable identification documents.
- Legal proof of name change (i.e. certified marriage certificate, certified final divorce decree, etc.) will be required if the name on the identification documents does not match the federal document used for proof of temporary legal presence.
- If the applicant wishes to have the Temporary Driver License issued in a name different that what appears on the federal documents, proof will need to be provided confirming that the name change has already been submitted to the federal agency will also be required.
- Two (2) proofs of Tennessee residency. Proof of social security number (or sworn affidavit if no SSN has been issued).

The applicant will also have to successfully pass the required vision, knowledge test(s) and skills tests where applicable.

Minor/Teenage Affidavit

Applicants under eighteen (18) years of age must complete a Minor/Teenage Affidavit and Cancellation Form available at all driver license service centers. This form confirms that the adult signing the form joins in the application for the license and will be responsible for the actions of the minor driver. This includes assuming financial responsibility for the actions of the minor driver. It must be signed by a parent, step-parent living at the same address as the applicant, legal guardian, or a grandparent authorized by the parent, step-parent or guardian.
If adults cannot accompany the minor to the driver license station to sign the form, it may be completed ahead of time and signed before a notary public.

If a grandparent is assuming financial responsibility for the youth, the grandparent must bring a notarized statement authorizing this, signed by the parent, a step-parent, custodian or guardian, as appropriate.

Additionally, if applicants under 18 do not already have a Class D or PD license, they will be required to provide proof of school attendance as detailed in the regular driver handbook on our website at tn.gov/safety.

If you already have a valid Class D or PD license, your motorcycle examination will consist of:

- Vision screening
- Motorcycle rules of the road knowledge test
- Motorcycle pre-trip inspection
- Motorcycle skills/road test

If you do NOT already have a Class D or PD license, your examination will also include:

Regular rules of the road knowledge test. (You will need to study the regular **Tennessee Driver Study Guide**, if this test is required.)

Motorcycle licenses are issued under the same 5-year renewal cycle as regular drive licenses. The first issuance can range between 3 to 7 years in order to synchronize the expiration date with your next major birthdate evenly divisible by five (ie. 25, 30, 35, 40, etc.) Exception: Class M-Limited issued to applicants age 15 will be calculated to expire on the 16th birthday.

IMPORTANT INFORMATION ABOUT DRUGS AND ALCOHOL

PLEASE NOTE: Tennessee is serious about educating the public on the tragedies of driving under the influence of drugs or alcohol. To underscore this, the law requires at least 25% of the knowledge test to consist of questions dealing with this topic. The main points of Tennessee's DUI laws are summarized below. However, to be fully prepared for your motorcycle knowledge test you must also study **Chapter 6-Alcohol, Other Drugs and Driving** in the regular **Tennessee Driver Study Guide**. You may pick up a copy of this study guide at any Driver Service Center throughout Tennessee or you can review the handbook online at http://state.tn.us/safety/dlhandbook/menu.htm.

.08% BLOOD ALCOHOL CONTENT IS THE LEVEL OF INTOXICATION

CONSEQUENCES OF DUI ARREST

First Conviction: Minimum Jail Time: 48 Hours
Minimum Fines/Revocation Period: $350/One Year
Vehicle Seizure: Does not apply

Second Conviction: Minimum Jail Time: 45 Days
Minimum Fines/Revocation Period: $600/Two Years
Vehicle Seizure: NOTE: Your vehicle is subject to seizure and forfeiture if your second offense occurs within Five (5) years of the first offense.

Third Conviction: Minimum Jail Time: 120 Days
Minimum Fines/Revocation Period: $1,100/Three to Ten Years

Subsequent Convictions: Class E Felony Minimum Jail Time 150 Consecutive Days

Minimum Fines/Revocation Period: $3,000/Five Years

Vehicle Seizure: Vehicle is subject to seizure and forfeiture

Child Endangerment: Known as the Drunk Driving Child Protection Act, there are added penalties for persons who violate DUI laws when accompanied by a child under 18 years old. There is a mandatory minimum jail sentence of 30 days, and a mandatory minimum fine of $1,000. Both of these child-related penalties are added onto any other periods of incarceration, penalties and fines. If the child suffers serious bodily injury, the violation is a Class D felony, and if the child dies, it is a Class C felony of especially aggravated child endangerment.

Juvenile Offenders - If you are between the ages of 13 and 17 and are found to have possessed, consumed or sold either alcohol or drugs, your driving privilege will be suspended for one year or until you are age 17, whichever is longer.

Under 21 Blood Alcohol Content - A person age sixteen (16) or over but under the age of eighteen (18), who is found driving with a blood alcohol content of .02% or under the influence of alcohol or any other intoxicant, marijuana, narcotic drugs or drug producing stimulating effects on the central nervous system, commits the act of driving while impaired.

CONSEQUENCES OF DRIVING WHILE IMPAIRED

The delinquent act of underage driving while impaired for a person age sixteen (16) or over but under the age of eighteen (18) is punishable by a driver license suspension of one (1) year and a fine of two hundred fifty dollars ($250). As additional punishment, the court may impose public service work.

EQUIPMENT REQUIREMENTS

Tennessee law requires you to have the following safety equipment on your motorcycle. Exceptions to the law are noted.

Motorcycle operators and passengers must ride only on permanent seats attached for that purpose. You are not allowed to carry a person on a motorcycle not built to carry passengers.

You must ride astride your motorcycle, facing forward with one leg on each side of the motorcycle.

It is against the law to carry a package or other articles that prevent you from keeping both hands on the handlebars.

HEADLIGHT

The headlights of a motorcycle must be on at all times during operation.

CRASH HELMETS

A person riding a motorcycle will be required to wear a crash helmet meeting federal standard **49 CFR 571.218**. A driver or passenger who is twenty one (21) years of age or older may wear

a helmet that meets federal safety standard 218, but does not have to meet the helmet penetration standards, the continuous contour standard and the labeling standard of **49 CFR571.218**. Helmets that are exempt from these standards need to have a label affixed to the helmet signifying that it complies with the American Society for Testing Materials (ASTM), the Consumer Product Safety Commission (CSPM) or the Snell Foundation.

The helmet must be either DOT, ASTM, CSPM or Snell labeled before the examiner can administer the road test.

Any person under twenty one (21) years of age, must wear a DOT approved helmet while operating a motorcycle or motor-driven cycle.

Any person eighteen (18) years of age or older is exempt from wearing a helmet on a motorcycle if it is being ridden in a parade at a speed not exceeding thirty (30) miles per hour. (effective date: July 1, 2005).

WINDSHIELD OR SAFETY GOGGLES

Every motorcycle or motor-driven cycle operated on a public road must be equipped with a windshield that meets U.S. Department of Transportation requirements, or as an alternative, operators and passengers must wear safety goggles or glasses containing impact resistant lenses or a helmet with a face shield.

REARVIEW MIRRORS AND FOOTRESTS

All motorcycles or motor-driving cycles must be equipped with a rearview mirror, mounted on the left handlebar in an upright position. They must also be equipped with footrests for the driver and passenger.

TAIL LIGHTS

Motorcycles and motor-driven cycles must have at least one red tail light and one red stop light. When the service or foot brakes are applied, the light should be visible and distinguishable from a distance of one hundred feet (100'). The stop light may be incorporated in the tail light.

Continuous flashing brake light systems for motorcycles are permissible where the brake lamp pulses rapidly for no more than five (5) seconds when the brake is applied and then converts to a continuous light as a normal brake lamp until such time as the brake is released.

MUFFLERS

It is illegal for you to operate your motorcycle on any road unless it is equipped with a muffler in good working order and in constant operation to prevent excessive noise or annoying smoke. "Straight pipes" are illegal in Tennessee.

VIOLATING THE LAW

Parents and guardians who knowingly permits a minor to operate a motorcycle or a motor-driven cycle in violation of the law can be convicted of a misdemeanor and could be fined up to $100 for each violation.

OPERATION IN ROADWAY LANES

A. All motorcycles are entitled to the full use of a lane and no motor vehicle shall be driven in such a way as to deprive a motorcycle such use.

B. The operator of a motorcycle shall not overtake and pass in the same lane occupied by the vehicle being overtaken.

C. No person shall operate a motorcycle between lanes of traffic or between adjacent lanes or rows of vehicles.

D. Motorcycles shall not be operated more than two (2) side by side in a single lane.

E. Motorcycles may be operated in designated high occupancy vehicle (H.O.V.) lanes.

Section B and C shall not apply to police officers in the performance of official duties.

SHARING THE ROAD

Among all motor vehicles, motorcycles are the most vulnerable on the road. Because motorcycles do not have seat belts, you can be thrown off your seat in a crash, which can result in serious injury or even death. Imagine your chance for survival if a truck strikes you, or if you strike it. Hitting a truck is like hitting a steel wall. However, your chance for survival will be increased if you wear a helmet and follow the safety tips below when riding your motorcycle.

WATCH THE NO-ZONES

Never hang out in a truck's blind spot or "No-Zone." Trucks have large No-Zones on both sides, the front and behind the truck. Truck drivers cannot see you when you ride in these blind spots, which allows for a greater chance of a crash. The front blind spot is particularly dangerous if you need to stop quickly. Because of their lightweight and braking system, motorcycles can stop much faster than trucks. A truck may not be able to stop as quickly as you do, so you need to take special precautions to avoid crashes before they happen.

ALWAYS WEAR A HELMET

Make sure to always wear a helmet. Beware of helmets that do not meet U.S. Department of Transportation (DOT) standards. Check for the DOT label inside your helmet. Helmets are the most important piece of equipment you can wear when riding your motorcycle. A helmet could be your only source of protection in a serious crash.

DRIVE TO SURVIVE

Motorcycles are the smallest vehicles on the road. Unfortunately they provide virtually no protection in a crash. Other drivers may not see you on your motorcycle, so you must be aware of everything on the road. Be extra cautious, paying attention to the signals and brake lights of other vehicles, especially trucks. However, you still need to be prepared in the event their signals or lights don't work. Ride with caution and drive defensively. Even though your motorcycle may be small, you must adhere to the laws of the road. Never ride in between lanes in traffic or share a lane with another vehicle. Don't instigate aggressive driving with other motorists; you will only increase your chance of a crash.

CHECK YOURSELF AND YOUR BIKE

Conduct a safety inspection of your motorcycle before each ride, and wear protective clothing including gloves, boots and a jacket. Proper maintenance and protective clothing will help reduce your chance of an crash or the severity of injury if you are involved in a crash, especially with a large truck or bus.

WATCH YOUR SPEED

Of all vehicles, motorcycles accelerate the fastest, while trucks and buses are the slowest. Please watch your speed around trucks, especially in bad weather or at night. Colliding with the back of a truck will end your riding days.

SHARING THE ROAD WITH LARGE TRUCKS AND BUSES

You will always be sharing the road with trucks because they haul more freight more miles than any other form of transportation. Trucks are the sole method of delivery and pickup for approximately seventy-seven percent (77%) of America's communities.

A typical tractor-trailer combination, a power unit pulling a loaded semi-trailer hinged to its rear end, may weigh up to 80,000 pounds. Depending on the trailer length, the total length of the combination may exceed 70 feet. On the busiest intercity routes, a driver may encounter double or even triple-trailer combinations sometimes exceeding 100 feet in length.

The number of trucks that were involved in fatal accidents nationally has increased by 3.2% percent from 2002 to 2006. When driving on a highway you are at a serious disadvantage if involved with a larger vehicle. In crashes involving large trucks, the occupants of a car, usually the driver, sustain 78% the fatalities.

Many truck-car crashes could be avoided if drivers know about truck (and bus) limitations and how to steer clear of unsafe situations involving large vehicles. Seems obvious, doesn't it? But the fact is that while most people realize it is more difficult to drive a truck than a car, many don't know exactly what a truck's limitations are in terms of maneuverability, stopping distances, and blind-spots. Remember: Large trucks, recreational vehicles and buses are not simply big cars. The bigger they are:

1. The bigger their blind spots. Trucks have deep blind spots in front, behind and on both sides. Make sure you position your motorcycle so that the driver of the truck can see you in the side mirrors of his truck.

2. The longer it takes trucks to stop. A car traveling at 55 MPH can stop in 240 feet however a truck traveling at the same speed of 55 MPH, takes about 450+ feet to stop.

3. The more room they need to maneuver, such as making right turns. Trucks must swing wide to the left to safely negotiate a right turn. They cannot see motorcycles or cars behind or beside them.

4. The longer it takes an automobile or motorcycle to pass them.

5. As stated above, the more likely you are to be the "loser" in a collision.

- Truck drivers are always watching for smaller vehicles and motorcycles and working to avoid collisions. There are some techniques that you can use to help them and yourself share the road safely and reduce the likelihood of a collision with a large vehicle.
- Do NOT enter a roadway in front of a large vehicle. A truck or bus cannot slow down or stop as quickly as an automobile. By pulling out in front of these vehicles, you could easily cause a rear-end collision.

- Do NOT drive directly behind a truck or bus. Keep a reasonable distance between your motorcycle and the large vehicle ahead. This gives you a better view of the road to anticipate problems, and you will give yourself room for an emergency "out".

- Do NOT cut abruptly in front of a large vehicle. If you are exiting, it will only take a few extra seconds to slow down and exit behind the truck. Cutting off a large vehicle on the interstate is particularly dangerous because of the high speeds being traveled.

- When passing a large vehicle, do NOT pull back over into the lane in front of the truck unless you can see the whole front of the vehicle in your rearview mirror. Complete your pass as quickly as possible and don't stay along side the truck. Do NOT slow down once you are in front of the truck.

- Position your vehicle so you are outside the truck driver's "blind spots", and be sure the truck driver can see YOU in the side rearview mirror. **If you can't see the truck's mirror, the driver cannot see YOU**. A truck's blind spots are immediate in front, on either side of the care and up to 200 feet in the rear. A trucker may not be able to see the road directly in front of the cab. If the tractor has a long hood, the trucker may not be able to see the first 10-20 feet in front of the bumper-plenty of room for a motorcycle or car to slip unnoticed into a dangerous position.

- If you are stopped behind a truck on an uphill grade, stay to the left in your lane so the driver can see you. When stopped in a traffic lane, leave extra space in front of your car in case the truck rolls back when it starts to move.

- Pay close attention to the large vehicle's turn signals. Trucks make wide right turns that require them to swing to the left before turning right. Always make sure you know which way the vehicle is turning before trying to pass.

- Do not linger beside a large vehicle because you may not be visible to the driver in the wide area the truck needs for maneuvering a turn.

- When you are near a Commercial Vehicle Weigh Station, avoid driving in the right lane so slow-moving trucks can easily merge back onto the roadway.

- Dim your lights at night. Bright lights reflected in the mirrors can blind the driver.

- Never underestimate the size and speed of approaching trucks and buses.

Because of their large size they often appear to be traveling more slowly than their actual speed.

Risky Situations with Large Vehicles

Passing a Large Vehicle: A tractor-trailer or other combination vehicles take a longer time and requires more space to get around than a car.

- On a two-way road, leave yourself more time and space when passing these large vehicles. Check to your front and rear and move into the passing lane only if it is clear and you are in a legal passing zone.
- If the truck or bus driver blink their vehicle headlights after you pass, it's a signal that you are cleared to pull back in front of their vehicle. Move back only when you can see the front of the truck in your rearview mirror.
- Remember that on an upgrade or steep hill, a large vehicle usually loses speed.
- Because of their weight, trucks travel faster downhill and you may have to increase your speed to pass a truck on a downhill grade. Complete your pass as quickly as possible and don't stay alongside the truck. After you pass, maintain your speed. Don't pass a truck, then slow down, making the truck driver brake while traveling downhill.
- When a truck passes you, you can help the driver by keeping to the far side of your lane and reducing your speed slightly. NEVER SPEED UP AS A TRUCK OR BUS IS PASSING.
- When you meet a truck/bus coming from the opposite direction, keep as far as possible to the right of the road to avoid being sideswiped and to reduce wind turbulence between vehicles. The turbulence PUSHES vehicles APART. It does NOT suck them together.

The "Right Turn Squeeze": Trucks make wide right turns and often must leave an open space on the right side. Do NOT move into that space or try to pass a truck if it might be making a right turn. If you are between the truck and the curb, the driver may not be able to see you and your car can be crunched or sideswiped by the truck's trailer.

A Truck Backing Up: When a truck is trying to back into a loading dock, there may be no choice except to block the roadway for a short time. Never try to cross behind a truck when it is preparing to back up. This is a high-collision situation because you will be in the driver's blind spots. Give the driver plenty of room and wait patiently for the few minutes it takes to complete the maneuver.

Maintaining a Safety Cushion with Large Vehicles: As stated previously, trucks and buses need more maneuvering room and stopping distance than small vehicles. A good safety strategy is to leave plenty of space between your motorcycle and the larger vehicle, especially in these situations:

If you are driving in front of a truck, keep your speed up so you maintain a safe distance in front of the truck. Always indicate your intention to turn or change lanes early enough for

the driver of the truck or bust to prepare for your maneuver. Avoid sudden moves, slow downs or stops.

Don't cut in front of a truck or bus, or you remove the driver's cushion of safety.

When following a truck or bus, it is a good idea to add more following distance.

If rain or water is standing on the road, spray from a truck passing you, or the truck you are trying to pass, will seriously reduce your vision. You should move as far away from the truck as you can, while staying in your lane.

Don't drive too close to trucks that are transporting hazardous materials, since they make frequent stops, such as railroad crossings.

Hills or Mountain Roads: Beware of dangers caused by slower moving trucks or buses on steep hills, inclines, or mountain roads. Watch for slow moving trucks or buses going both up and down hills. Heavy vehicles cannot maintain speed when climbing hills and must go slowly down hills to stay under control.

Watch for trucks or buses that may be in trouble. Smoking wheels or a high speed can be a sign of brake loss. If you encounter this situation, fall back and DO NOT pass.

Runaway Truck Ramps: These ramps are designed to stop out-of-control trucks or buses going down step downgrades. Vehicles should never stop or park in these areas.

Learn the "NO-ZONES" for large vehicles:

Many motorists falsely assume that trucks and buses can see the road better because they sit twice as high as the driver of a small vehicle. While trucks and buses do enjoy a better forward view and have bigger mirrors, they have serious blind spots into which a small vehicle can disappear from view.

The NO-ZONE represents danger areas around trucks and buses where crashes are more likely to occur.

1. The area approximately up to 20 feet directly in front of a large vehicle is considered a NO-ZONE. When small vehicles cut in too soon after passing or changing lanes, then abruptly slow down, trucks and buses are forced to compensate with very little room or time to spare.

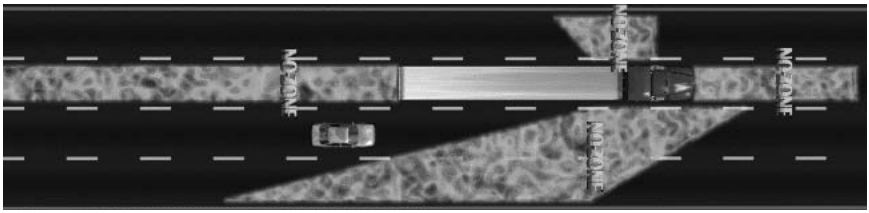
2. Unlike small vehicles, trucks and buses have deep blind spots directly behind them. Avoid following too closely in this NO-ZONE. If you stay in the rear blind spot of a large vehicle, you increase the possibility of a traffic crash. The driver of the bus or truck cannot see your motorcycle or car and your view of the traffic ahead will be severely reduced.

3. Large vehicles have much larger blind spots on both sides than cars do. When you drive in these blind spots for any length of time, the vehicle's driver cannot see you. When passing, even if the vehicle's driver knows you are there, remaining alongside a large vehicle too long makes it impossible for the driver to take evasive action if an

obstacle appears in the roadway ahead.

4. Truck and bus drivers often cannot see vehicles directly behind or beside them when they are attempting to safely negotiate a right turn. If you cut in between the truck or bus and the curb or shoulder to the right, it greatly increases the possibility of a crash in this "right turn squeeze'.

OVERHEAD VIEW OF "NO-ZONE" AREAS



For more information and details on operating commercial vehicles, trucks or buses, pick up a copy of the Tennessee Commercial Driver License Manual at any Department of Safety Driver License Service Center located throughout the state. Also, more safety information is available through the Federal Motor Carrier Safety Administration at the following web sites:

www.sharetheroadsafely.org

www.nozone.org

www.fmcsa.dot.gov

- OR –

Tennessee Trucking Association
4531 Trousdale Drive
Nashville, TN 37204
615-777-2882
Fax: 615-777-2024

SHARING THE ROAD WITH SLOW MOVING VEHICLES AND EQUIPMENT

Certain slow-moving farm vehicles, construction equipment and vehicles drawn by animals may share our roadways. Use caution and prepare to slow down when approaching and passing slow-moving vehicles from the rear.

Closing Speeds

Normal speeds for slow-moving vehicles may range from 5 to 20 mph. When a vehicle traveling at normal highway speed approaches a slow-moving vehicle from the rear, the speed deferential will dramatically shorten the time it takes to reach the slow-moving vehicle.

Turns and Passing

Slow-moving vehicles may make wide turns and may turn right or left at any time into unmarked entrances. When approaching from the rear, stay a safe distance behind the vehicle until it is safe to pass, then be certain the driver has seen you and is aware of your intent to pass before you begin.

When lights are required for these slow moving vehicles, a self-luminous red lamp on the rear of the vehicle is normally visible for 500 feet to the rear. Other devices to identify slow-moving vehicles may include slow moving emblem reflectors, as well as rotating or oscillating red or amber lights. You may see this on slow-moving vehicles such as farm tractors, machinery, construction equipment or horse-drawn vehicles.

Lane Usage

Slower traffic must drive in the right-hand lane. The left lane is for passing and turning. Slow-moving vehicles may be wider than the lane width. It may be necessary for these wide vehicles to temporarily move into an adjoining lane to avoid roadside obstructions.

SHARING THE ROAD WITH BICYCLES

On most roadways, bicyclists have the same rights and responsibilities as other roadway users. Bicyclists are prohibited on limited-access highways, expressways and certain other marked roadways.

Information and safety tips motorcyclists should know about sharing the road with bicyclists:

- Bicyclists are required to travel in the same direction as vehicles.
- Bicyclists should travel just to the right of faster moving traffic. However, certain hazards, such as rough surfaces, debris, drainage grates or a narrow traffic lane, may require bike riders to move toward the center of the lane.
- Drivers must yield the right-of-way to a bicyclist just as they would to another vehicle.
- When passing a bicyclist do so slowly and leave at least 3 feet of passing space.
- A motorcycle should not park or drive in marked bike lanes.
- When following bicyclists, give them plenty of room and be prepared to stop quickly.

Use extra caution during rainy and icy weather. At night do not use high beams when you see an oncoming bicycle rider.

- When you are turning left on your motorcycle and there is a bicyclist entering the intersection from the opposite direction, the motorcyclist should wait for the bicyclist to pass before making the turn. Also, if your motorcycle is sharing the left turn lane with a bicyclist, stay behind them until they have safely completed their turn.
- If you are turning right on your motorcycle and a bicyclist is approaching on the right, let the bicyclist go through the intersection first before making a right turn. Remember to always signal your turns.

SHARING THE ROAD WITH PEDESTRIANS

Without a vehicle or protective equipment, pedestrians are most at risk in traffic. Drivers and pedestrians are both responsible for traffic safety. A simple rule is that motorcyclists and drivers should always be prepared to yield the right-of way to pedestrians.

Crossing a Road

When traffic-control signals are not in place or in operation, motorcyclists shall yield the right-of-way, slowing down or stopping if need be, to yield to a pedestrian crossing the roadway within a crosswalk when the pedestrian is upon the half of roadway upon which the vehicle is traveling, or when the pedestrian is approaching so closely as to be in danger.

Roadways

Motorcyclists should exercise due to care to avoid colliding with any pedestrian, jogger or runner. Motorcyclist should give warning by sounding the horn when necessary and shall exercise precaution upon observing any child or any confused or incapacitated person upon a roadway. Pedestrians must not walk on a roadway unless there is no sidewalk or shoulder next to it. Under these conditions, pedestrians should always walk as close to the outside edge of the road as possible. In two-way traffic, pedestrians should walk facing oncoming traffic. If a highway does not have a sidewalk but has a shoulder, pedestrians should always walk on the shoulder as far from the roadway as possible. Pedestrians should not walk on a highway when under the influence of alcohol or other drugs.

Help Promote WRECK Less Driving

The Key to Safer Highways: Know the No-Zone

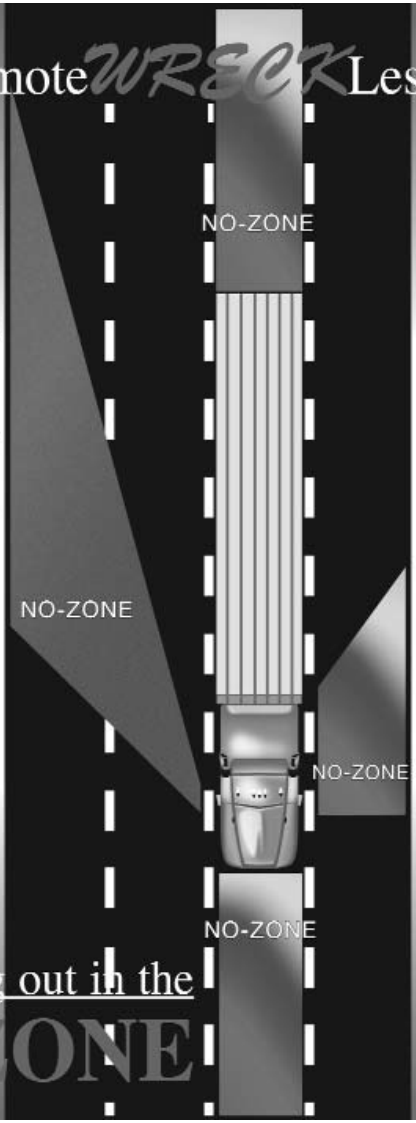
The No-Zone represents danger areas around trucks where crashes are more likely to occur.

Passing

When cars cut in too soon after passing, then abruptly slow down, truck drivers are forced to compensate with little time or room to spare. Because it takes longer to pass a large vehicle, you should maintain a consistent speed when passing and be sure you can see the cab of the truck in your rear-view mirror before pulling in front.

Backing Up

When a truck is backing up, it sometimes must temporarily block the street to maneuver its trailer accurately. Never pass close behind a truck that is preparing to back up or is in the process of backing up. Remember, most trailers are 8 1/2 feet wide and can completely hide objects that suddenly come between them and a loading area. So if you try to pass behind the truck, you enter a (No-Zone) blindspot or **NO-ZONE** for you and the truck driver.



Rear Blindspots

Unlike cars, trucks have deep blindspots directly behind them. Avoid tailgating in this **NO-ZONE**. The truck driver can't see your car in this position and your own view of traffic flow is severely reduced. Following too closely greatly increases your chance of a rear-end collision with a truck.

Side Blindspots

Trucks have much larger blindspots on both sides of their vehicles than passenger vehicles (cars). When you drive in these blindspots (**NO-ZONES**) for any length of time, you can't be seen by truck drivers. If a commercial driver needs to change lanes quickly for any reason, a serious crash could occur with the vehicle in the **NO-ZONE**.

Wide Turns

Truck drivers sometimes need to swing wide to the left in order to safely negotiate a right turn. They cannot see cars directly behind or beside them. Cutting in between the commercial vehicle and the curb or shoulder to the right increases the possibility of an crash.

Don't hang out in the NO-ZONE

Tennessee Department of Safety. Authorization No. 349234, 70,000 copies, September 2008. This public document was promulgated at a cost of $.33 per copy.

CONTENTS

PREPARING TO RIDE

Wear the Right Gear 4
Helmet Use 4
Helmet Selection 4
Eye and Face Protection 5
Clothing 6

Know Your Motorcycle 6
The Right Motorcycle for You 6
Borrowing and Lending 7
Get Familiar with the Motorcycle Controls 7
Check Your Motorcycle 8

Know Your Responsibilities 9

RIDE WITHIN YOUR ABILITIES

Basic Vehicle Control 10
Body Position 10
Shifting Gears 10
Braking 11
Turning 11

Keeping Your Distance 12
Lane Positions 12
Following Another Vehicle 13
Being Followed 14
Passing and Being Passed 14
Lane Sharing 16
Merging Cars 16
Cars Alongside 16

SEE 17

Intersections 18
Blind Intersections 19
Passing Parked Cars 20
Parking at the Roadside 20

Increasing Conspicuity 21
Clothing 21
Headlight 21
Signals 21
Brake Light.....22
Using Your Mirrors 22
Head Checks 23
Horn 23
Riding at Night 24

Crash Avoidance 24
Quick Stops 24
Swerving or Turning Quickly 25
Cornering 26

Handling Dangerous Surfaces 27
Uneven Surfaces and Obstacles 27
Slippery Surfaces 28
Railroad Tracks, Trolley Tracks and Pavement Seams 29
Grooves and Gratings 29

Mechanical Problems 30
Tire Failure 30
Stuck Throttle 30
Wobble 30
Drive Train Problems 31
Engine Seizure 31

Animals 31

Flying Objects 32

Getting Off the Road 32

Carrying Passengers and Cargo 32
Equipment 32
Instructing Passengers 33
Riding With Passengers 33
Carrying Loads 33

Group Riding 34
Keep the Group Small 34
Keep the Group Together 34
Keep Your Distance 34

BEING IN SHAPE TO RIDE

Why This Information Is Important 36

Alcohol and Other Drugs in Motorcycle Operation 36

Alcohol in the Body 37
Blood Alcohol Concentration 37

Alcohol and the Law 38
Consequences of Conviction 38

Minimize the Risks 38

Step in to Protect Friends 39

Fatigue 39

EARNING YOUR LICENSE

Knowledge Test 40
On-Motorcycle Skill Test 41

What you do before you start a trip goes a long way toward determining whether or not you'll get where you want to go safely. Before taking off on any trip, a safe rider makes a point to:

1. **Wear the right gear.**
2. **Become familiar with the motorcycle.**
3. **Check the motorcycle equipment.**
4. **Be a responsible rider.**

WEAR THE RIGHT GEAR

When you ride, your gear is "right" if it protects you. In any crash, you have a far better chance of avoiding serious injury if you wear:

- **An approved helmet.**
- **Face or eye protection.**
- **Protective clothing.**

Helmet Use

Crashes can occur — particularly among untrained, beginning riders. And one out of every five motorcycle crashes results in head or neck injuries. Head injuries are just as severe as neck injuries — and far more common. Crash analyses show that head and neck injuries account for a majority of serious and fatal injuries to motorcyclists. Research also shows that, with few exceptions, head and neck injuries are reduced by properly wearing an approved helmet.

Some riders don't wear helmets because they think helmets will limit their view to the sides. Others wear helmets only on long trips or when riding at high speeds. Here are some facts to consider:

- **An approved helmet** lets you see as far to the sides as necessary. A study of more than 900 motorcycle crashes, where 40% of the riders wore helmets, did not find even one case in which a helmet kept a rider from spotting danger.
- **Most crashes happen** on short trips (less than five miles long), just a few minutes after starting out.
- **Most riders** are riding slower than 30 mph when a crash occurs. At these speeds, helmets can cut both the number and the severity of head injuries by half.

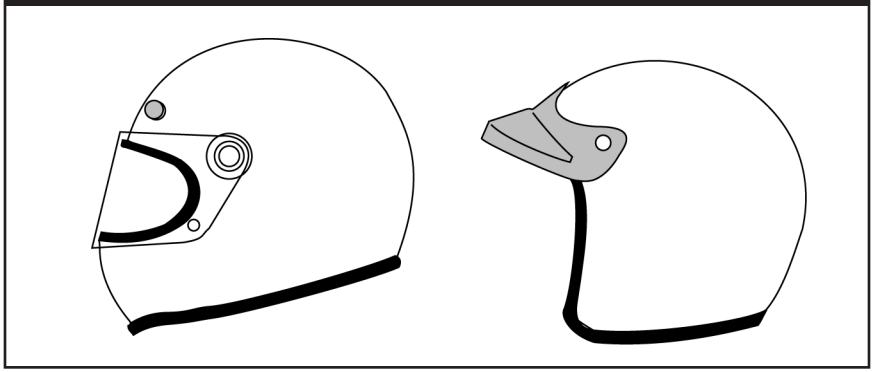
No matter what the speed, helmeted riders are three times more likely to survive head injuries than those not wearing helmets at the time of the crash.

Helmet Selection

There are two primary types of helmets, providing two different levels of coverage: three-quarter and full face.

Whichever style you choose, you can get the most protection by making sure that the helmet:

HELMETS



- **Is designed to meet U.S.** Department of Transportation (DOT) and state standards. Helmets with a label from the Snell Memorial Foundation give you an added assurance of quality.
- **Fits snugly,** all the way around.
- **Has no obvious defects** such as cracks, loose padding or frayed straps.

Whatever helmet you decide on, keep it securely fastened on your head when you ride. Otherwise, if you are involved in a crash, it's likely to fly off your head before it gets a chance to protect you.

Eye and Face Protection

A plastic shatter-resistant faceshield can help protect your whole face in a crash. It also protects you from wind, dust, dirt, rain, insects and pebbles thrown up from cars ahead. These problems are distracting and can be painful. If you have to deal with them, you can't devote your full attention to the road.

Goggles protect your eyes, though they won't protect the rest of your face like a faceshield does. A windshield is not a substitute for a faceshield or goggles. Most windshields will not protect your eyes from the wind. Neither will eyeglasses or sunglasses. Glasses won't keep your eyes from watering, and they might blow off when you turn your head while riding.

To be effective, eye or faceshield protection must:

- **Be free** of scratches.
- **Be resistant** to penetration.
- **Give a clear view** to either side.
- **Fasten securely,** so it does not blow off.
- **Permit air** to pass through, to reduce fogging.
- **Permit enough room** for eyeglasses or sunglasses, if needed.

Tinted eye protection should not be worn at night or any other time when little light is available.

Clothing

The right clothing protects you in a collision. It also provides comfort, as well as protection from heat, cold, debris and hot and moving parts of the motorcycle. It can also make you more visible to others.

- **Jacket and pants** should cover arms and legs completely. They should fit snugly enough to keep from flapping in the wind, yet loosely enough to move freely. Leather offers the most protection. Sturdy synthetic material provides a lot of protection as well. Wear a jacket even in warm weather to prevent dehydration. Many are designed to protect without getting you overheated, even on summer days.
- **Boots or shoes** should be high and sturdy enough to cover your ankles and give them support. Soles should be made of hard, durable, slip-resistant material. Keep heels short so they do not catch on rough surfaces. Tuck in laces so they won't catch on your motorcycle.
- **Gloves** allow a better grip and help protect your hands in a crash. Your gloves should be made of leather or similar durable material.

In cold or wet weather, your clothes should keep you warm and dry, as well as protect you from injury. You cannot control a motorcycle well if you are numb. Riding for long periods in cold weather can cause severe chill and fatigue. A winter jacket should resist wind and fit snugly at the neck, wrists and waist. Good-quality rainsuits designed for motorcycle riding resist tearing apart or ballooning up at high speeds.

KNOW YOUR MOTORCYCLE

There are plenty of things on the highway that can cause you trouble. Your motorcycle should not be one of them. To make sure that your motorcycle won't let you down:

- **Read** the owner's manual first.
- **Start** with the right motorcycle for you.
- **Be familiar** with the motorcycle controls.
- **Check** the motorcycle before every ride.
- **Keep** it in safe riding condition between rides.
- **Avoid** add-ons and modifications that make your motorcycle harder to handle.

The Right Motorcycle For You

First, make sure your motorcycle is right for you. It should "fit" you. Your feet should reach the ground while you are seated on the motorcycle, and the controls should be easy to operate. Smaller motorcycles are usually easier for beginners to operate.

TEST YOURSELF 1

A plastic shatter-resistant face shield:

A. Is not necessary if you have a windshield.

B. Only protects your eyes.

C. Helps protect your whole face.

D. Does not protect your face as well as goggles.

Answer - page 41

At minimum, your street-legal motorcycle should have:

- **Headlight, taillight and brakelight.**
- **Front and rear brakes.**
- **Turn signals.**
- **Horn.**
- **Two mirrors.**

Borrowing and Lending

Borrowers and lenders of motorcycles, beware. Crashes are fairly common among beginning riders — especially in the first months of riding. Riding an unfamiliar motorcycle adds to the problem. If you borrow a motorcycle, get familiar with it in a controlled area. And if you lend your motorcycle to friends, make sure they are licensed and know how to ride before allowing them out into traffic.

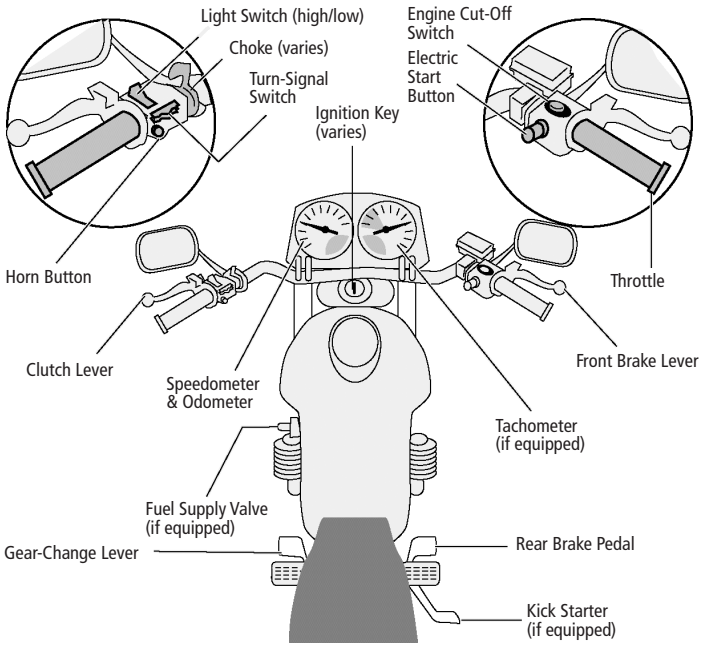
No matter how experienced you may be, ride extra carefully on any motorcycle that's new or unfamiliar to you. More than half of all crashes involve riders with less than five months of experience on their motorcycle.

Get Familiar with the Motorcycle Controls

Make sure you are completely familiar with the motorcycle before you take it out on the street. Be sure to review the owner's manual. This is particularly important if you are riding a borrowed motorcycle.

If you are going to use an unfamiliar motorcycle:

MOTORCYCLE CONTROLS



- **Make all the checks** you would on your own motorcycle.
- **Find out where everything is,** particularly the turn signals, horn, headlight switch, fuel-supply valve and engine cut-off switch. Find and operate these items without having to look for them.
- **Know the gear pattern.** Work the throttle, clutch and brakes a few times before you start riding. All controls react a little differently.
- **Ride very cautiously** and be aware of surroundings. Accelerate gently, take turns more slowly and leave extra room for stopping.

Check Your Motorcycle

A motorcycle needs more frequent attention than a car. A minor technical failure in a car seldom leads to anything more than an inconvenience for the driver.

If something's wrong with the motorcycle, you'll want to find out about it before you get in traffic. Make a complete check of your motorcycle before every ride.

Before mounting the motorcycle, make the following checks:

- **Tires** — Check the air pressure, general wear and tread.
- **Fluids** — Oil and fluid levels. At a minimum, check hydraulic fluids and coolants weekly. Look under the motorcycle for signs of an oil or gas leak.
- **Headlights and Taillight** — Check them both. Test your switch to make sure both high and low beams are working.
- **Turn Signals** — Turn on both right and left turn signals. Make sure all lights are working properly.
- **Brake Light** — Try both brake controls, and make sure each one turns on the brake light.

Once you have mounted the motorcycle, complete the following checks before starting out:

- **Clutch and Throttle** — Make sure they work smoothly. The throttle should snap back when you let go. The clutch should feel tight and smooth.
- **Mirrors** — Clean and adjust both mirrors before starting. It's difficult to ride with one hand while you try to adjust a mirror. Adjust each mirror so you can see the lane behind and as much as possible of the lane next to you. When properly adjusted, a mirror may show the edge of your arm or shoulder—but it's the road behind and to the side that's most important.
- **Brakes** — Try the front and rear brake levers one at a time. Make sure each one feels firm and holds the motorcycle when the brake is fully applied.
- **Horn** — Try the horn. Make sure it works.

In addition to the checks you should make before every trip, check the following items at least once a week: Wheels, cables, fasteners and fluid levels. Follow your owner's manual to get recommendations.

TEST YOURSELF 2

More than half of all crashes:

A. Occur at speeds greater than 35 mph.

B. Happen at night.

C. Are caused by worn tires.

D. Involve riders who have less than five months of experience on their motorcycle.

Answer - page 41

KNOW YOUR RESPONSIBILITIES

"Accident" implies an unforeseen event that occurs without anyone's fault or negligence. Most often in traffic, that is not the case. In fact, most people involved in a crash can usually claim some responsibility for what takes place.

Consider a situation where someone decides to try to squeeze through an intersection on a yellow light turning red. Your light turns green. You pull into the intersection without checking for possible latecomers. That is all it takes for the two of you to tangle. It was the driver's responsibility to stop. And it was your responsibility to look before pulling out. Neither of you held up your end of the deal. Just because someone else is the first to start the chain of events leading to a crash, it doesn't leave any of us free of responsibility.

As a rider you can't be sure that other operators will see you or yield the right of way. To lessen your chances of a crash occurring:

- **Be visible** — wear proper clothing, use your headlight, ride in the best lane position to see and be seen.
- **Communicate your intentions** — use the proper signals, brake light and lane position.
- **Maintain an adequate space cushion** — following, being followed, lane sharing, passing and being passed.
- **Search your path** of travel 12 seconds ahead.
- **Identify and separate** multiple hazards.
- **Be prepared to act** — remain alert and know how to carry out proper crash-avoidance skills.

Blame doesn't matter when someone is injured in a crash. There is rarely a single cause of any crash. The ability to ride aware, make critical decisions and carry them out separates responsible riders from all the rest. Remember, it is up to you to keep from being the cause of, or an unprepared participant in, any crash.

This manual cannot teach you how to control direction, speed or balance. That's something you can learn only through practice, preferably in a formal course of instruction like an MSF *RiderCourse*. But control begins with knowing your abilities and riding within them, along with knowing and obeying the rules of the road.

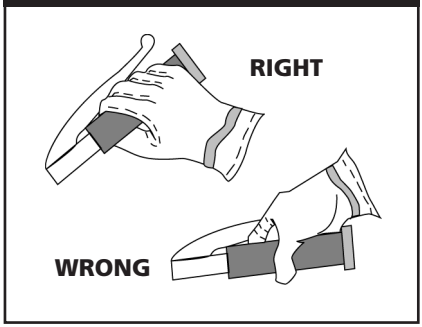
BASIC VEHICLE CONTROL

Body Position

To control a motorcycle well:

- **Posture** — Sit so you can use your arms to steer the motorcycle rather than to hold yourself up.
- **Seat** — Sit far enough forward so that arms are slightly bent when you hold the handlegrips. Bending your arms permits you to press on the handlebars without having to stretch.
- **Hands** — Hold the handgrips firmly to keep your grip over rough surfaces. Start with your right wrist flat. This will help you keep from accidentally using too much throttle. Also, adjust the handlebars so your hands are even with or below your elbows. This permits you to use the proper muscles for precision steering.

HOLDING HANDGRIPS



- **Knees** — Keep your knees against the gas tank to help you keep your balance as the motorcycle turns.
- **Feet** — Keep your feet firmly on the footrests to maintain balance. Don't drag your feet. If your foot catches on something, you could be injured and it could affect your control of the motorcycle. Keep your feet near the controls so you can get to them fast if needed. Also, don't let your toes point downward — they may get caught between the road and the footrests.

Shifting Gears

There is more to shifting gears than simply getting the motorcycle to pick up speed smoothly. Learning to use the gears when downshifting, turning or starting on hills is important for safe motorcycle operation.

Shift down through the gears with the clutch as you slow or stop. Remain in first gear while you are stopped so that you can move out quickly if you need to.

Make certain you are riding slowly enough when you shift into a lower gear. If not, the motorcycle will lurch, and the rear wheel may skid. When riding downhill or shifting into first gear you may need to use the brakes to slow enough before downshifting safely. Work toward a smooth, even clutch release, especially when downshifting.

It is best to change gears before entering a turn. However, sometimes shifting while in the turn is necessary. If so, remember to do so smoothly. A sudden change in power to the rear wheel can cause a skid.

Braking

Your motorcycle has two brakes: one each for the front and rear wheel. Use both of them at the same time. The front brake is more powerful and can provide **at least three-quarters** of your total stopping power. The front brake is safe to use if you use it properly.

Remember:

- **Use both brakes** every time you slow or stop. Using both brakes for even "normal" stops will permit you to develop the proper habit or skill of using both brakes properly in an emergency. Squeeze the front brake and press down on the rear. Grabbing at the front brake or jamming down on the rear can cause the brakes to lock, resulting in control problems.
- **If you know the technique,** using both brakes in a turn is possible, although it should be done very carefully. When leaning the motorcycle some of the traction is used for cornering. Less traction is available for stopping. A skid can occur if you apply too much brake. Also, using the front brake incorrectly on a slippery surface may be hazardous. Use caution and **squeeze** the brake lever, never grab.
- **Some motorcycles** have integrated braking systems that activate the front and rear brakes together when applying the rear brake pedal. (Consult the owner's manual for a detailed explanation on the operation and effective use of these systems.)

Turning

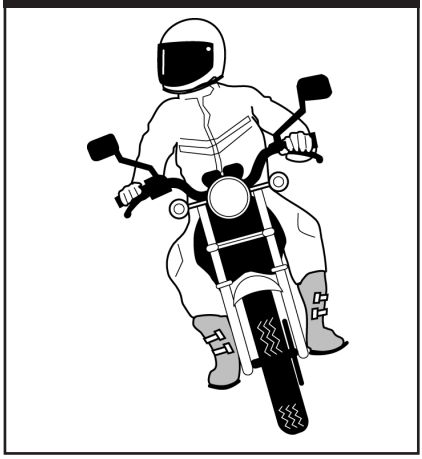
Riders often try to take curves or turns too fast. When they can't hold the turn, they end up crossing into another lane of traffic or going off the road. Or, they overreact and brake too hard, causing a skid and loss of control. Approach turns and curves with caution.

Use four steps for better control:

- **SLOW** — Reduce speed before the turn by closing the throttle and, if necessary, applying both brakes.
- **LOOK** — Look through the turn to where you want to go. Turn just your head, not your shoulders, and keep your eyes level with the horizon.
- **PRESS** — To turn, the motorcycle must lean. To lean the motorcycle, press on the handgrip in the direction of the turn. Press left handgrip — lean left — go left. Press right handgrip — lean right — go right. The higher the speed in a turn, the greater the lean angle.
- **ROLL** — Roll on the throttle to maintain or slightly increase speed. This helps stabilize the motorcycle.

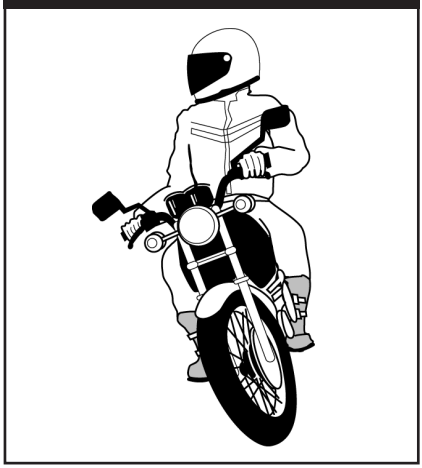
In normal turns, the rider and the motorcycle should lean together at the same angle.

NORMAL TURNS



In slow, tight turns, counterbalance by leaning the motorcycle only and keeping your body straight.

SLOW, TIGHT TURNS



TEST YOURSELF 3

When riding, you should:

A. Turn your head and shoulders to look through turns.

B. Keep your arms straight.

C. Keep your knees away from the gas tank.

D. Turn just your head and eyes to look where you are going.

Answer - page 41

KEEPING YOUR DISTANCE

The best protection you can have is distance — a "cushion of space" — all around your motorcycle. If someone else makes a mistake, distance permits you:

- **Time to react.**
- **Space to maneuver.**

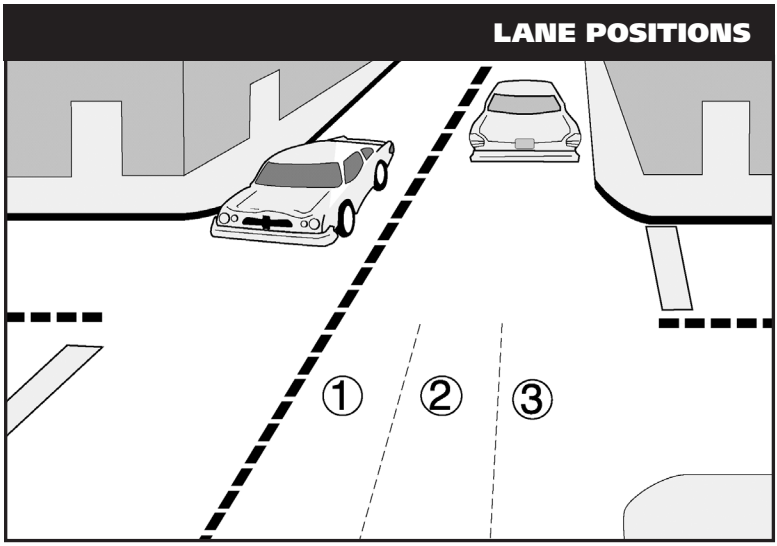
Lane Positions

In some ways the size of the motorcycle can work to your advantage. Each traffic lane gives a motorcycle three paths of travel, as indicated in the illustration.

Your lane position should:

- **Increase** your ability to see and be seen.
- **Avoid** others' blind spots.
- **Avoid** surface hazards.
- **Protect** your lane from other drivers.
- **Communicate** your intentions.
- **Avoid** wind blast from other vehicles.
- **Provide** an escape route.

Select the appropriate path to maximize your space cushion and make yourself more easily seen by others on the road.



In general, there is no single best position for riders to be seen and to maintain a space cushion around the motorcycle. No portion of the lane need be avoided — including the center.

Position yourself in the portion of the lane where you are most likely to be seen and you can maintain a space cushion around you. Change position as traffic situations change. Ride in path 2 or 3 if vehicles and other potential problems are on your left only. Remain in path 1 or 2 if hazards are on your right only. If vehicles are being operated on both sides of you, the center of the lane, path 2, is usually your best option.

The oily strip in the center portion that collects drippings from cars is usually no more than two feet wide. Unless the road is wet, the average center strip permits adequate traction to ride on safely. You can operate to the left or right of the grease strip and still be within the center portion of the traffic lane. Avoid riding on big buildups of oil and grease usually found at busy intersections or toll booths.

Following Another Vehicle

"Following too closely" could be a factor in crashes involving motorcyclists. In traffic, motorcycles need as much distance to stop as cars. Normally, **a minimum of two seconds** distance should be maintained behind the vehicle ahead.

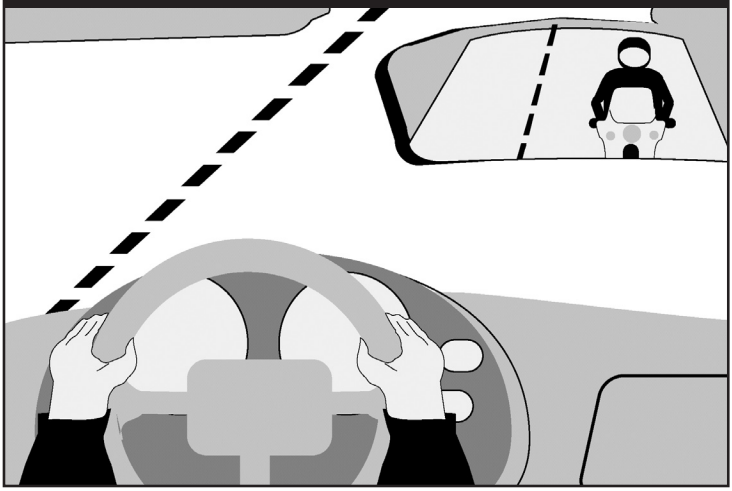
To gauge your following distance:

- **Pick out a marker,** such as a pavement marking or lamppost, on or near the road ahead.
- **When the rear bumper** of the vehicle ahead passes the marker, count off the seconds: "one-thousand-one, one-thousand-two."
- **If you reach the marker** before you reach "two," you are following too closely.

A two-second following distance leaves a minimum amount of space to stop or swerve if the driver ahead stops suddenly. It also permits a better view of potholes and other hazards in the road.

A larger cushion of space is needed if your motorcycle will take longer

FOLLOWING



than normal to stop. If the pavement is slippery, if you cannot see through the vehicle ahead, or if traffic is heavy and someone may squeeze in front of you, open up a three-second or more following distance.

Keep well behind the vehicle ahead even when you are stopped. This will make it easier to get out of the way if someone bears down on you from behind. It will also give you a cushion of space if the vehicle ahead starts to back up for some reason.

When behind a car, ride where the driver can see you in the rearview mirror. Riding in the center portion of the lane should put your image in the middle of the rearview mirror — where a driver is most likely to see you.

Riding at the far side of a lane may permit a driver to see you in a sideview mirror. But remember that most drivers don't look at their sideview mirrors nearly as often as they check the rearview mirror. If the traffic situation allows, the center portion of the lane is usually the best place for you to be seen by the drivers ahead and to prevent lane sharing by others.

Being Followed

Speeding up to lose someone following too closely only ends up with someone tailgating you at a higher speed.

A better way to handle tailgaters is to get them in front of you. When someone is following too closely, change lanes and let them pass. If you can't do this, slow down and open up extra space ahead of you to allow room for both you and the tailgater to stop. This will also encourage them to pass. If they don't pass, you will have given yourself and the tailgater more time and space to react in case an emergency does develop ahead.

Passing and Being Passed

Passing and being passed by another vehicle is not much different than with a car. However, visibility is more critical. Be sure other drivers see you, and that you see potential hazards.

Passing

1. **Ride in the left portion** of the lane at a safe following distance to increase your line of sight and make you more visible. Signal and check for oncoming traffic. Use your mirrors and turn your head to look for traffic behind.
2. **When safe,** move into the left lane and accelerate. Select a lane position that doesn't crowd the car you are passing and provides space to avoid hazards in your lane.
3. **Ride through the blind spot** as quickly as possible.
4. **Signal again,** and complete mirror and headchecks before returning to your original lane and then cancel the signal.

Remember, passes must be completed within posted speed limits, and only where permitted. Know your signs and road markings!

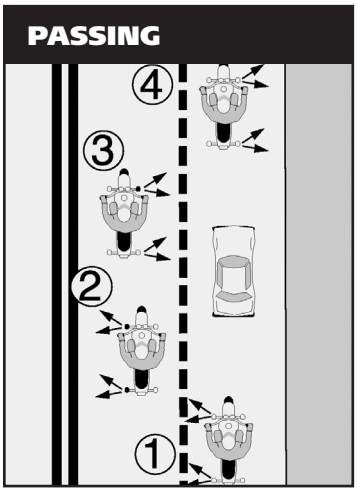
Being Passed

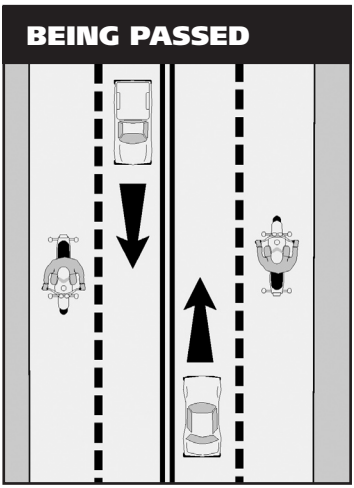
When you are being passed from behind or by an oncoming vehicle, stay in the center portion of your lane. Riding any closer to them could put you in a hazardous situation.

Avoid being hit by:

- **The other vehicle** — A slight mistake by you or the passing driver could cause a sideswipe.
- **Extended mirrors** — Some drivers forget that their mirrors hang out farther than their fenders.
- **Objects thrown from windows** — Even if the driver knows you're there, a passenger may not see you and might toss something on you or the road ahead of you.
- **Blasts of wind from larger vehicles** — They can affect your control. You have more room for error if you are in the middle portion when hit by this blast than if you are on either side ofthe lane.

Do not move into the portion of the lane farthest from the passing vehicle. It might invite the other driver to cut back into your lane too early.





Lane Sharing

Cars and motorcycles need a full lane to operate safely. Lane sharing is usually prohibited.

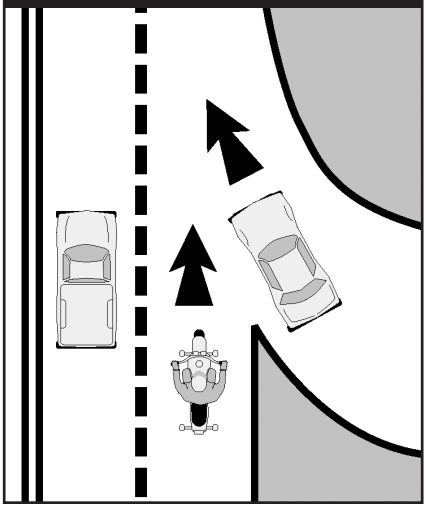
Riding between rows of stopped or moving cars in the same lane can leave you vulnerable to the unexpected. A hand could come out of a window; a door could open; a car could turn suddenly. Discourage lane sharing by others. Keep a center-portion position whenever drivers might be tempted to squeeze by you. Drivers are most tempted to do this:

- **In heavy,** bumper-to-bumper traffic.
- **When they** want to pass you.
- **When you** are preparing to turn at an intersection.
- **When you** are moving into an exit lane or leaving a highway.

Merging Cars

Drivers on an entrance ramp may not see you on the highway. Give them plenty of room. Change to another lane if one is open. If there is no room for a lane change, adjust speed to open up space for the merging driver.

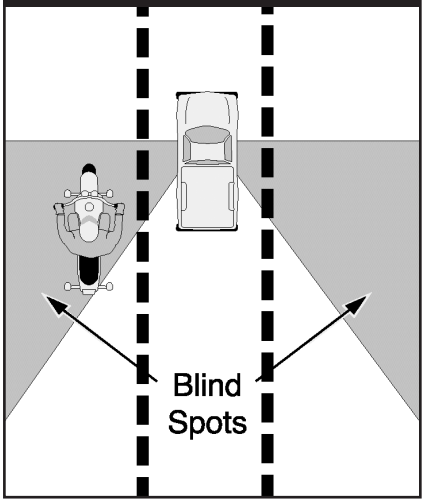
MERGING



Cars Alongside

Do not ride next to cars or trucks in other lanes if you do not have to. You might be in the blind spot of a car in the next lane, which could switch into your lane without warning. Cars in the next lane also block your escape if you come upon danger in your own lane. Speed up or drop back to find a place clear of traffic on both sides.

BLIND SPOTS



TEST YOURSELF 4

Usually, a good way to handle tailgaters is to:

A. Change lanes and let them pass.

B. Use your horn and make obscene gestures.

C. Speed up to put distance between you and the tailgater.

D. Ignore them.

Answer - page 41

SEE

Good experienced riders remain aware of what is going on around them. They improve their riding strategy by using MSF's SEE℠ strategy, a three-step process used to make appropriate judgments, and apply them correctly in different traffic situations:

- **S**earch
- **E**valuate
- **E**xecute

Let's examine each of these steps.

Search

Search aggressively ahead, to the sides and behind to avoid potential hazards even before they arise. How assertively you search, and how much time and space you have, can eliminate or reduce harm. Focus even more on finding potential escape routes in or around intersections, shopping areas and school and construction zones.

Search for factors such as:

- **Oncoming traffic** that may turn left in front of you.
- **Traffic** coming from the left and right.
- **Traffic** approaching from behind.
- **Hazardous** road conditions.

Be especially alert in areas with limited visibility. Visually "busy" surroundings could hide you and your motorcycle from others.

Evaluate

Think about how hazards can interact to create risks for you. Anticipate potential problems and have a plan to reduce risks.

- **Road and surface characteristics** — Potholes, guardrails, bridges, telephone poles and trees won't move into your path but may influence your riding strategy.
- **Traffic control devices** — Look for traffic signals, including regulatory signs, warning signs, and pavement markings, to help you evaluate circumstances ahead.
- **Vehicles and other traffic** — May move into your path and increase the likelihood of a crash.

Think about your time and space requirements in order to maintain a margin of safety. You must leave yourself time to react if an emergency arises.

Execute

Carry out your decision.

To create more space and minimize harm from any hazard:

- **Communicate** your presence with lights and/or horn.
- **Adjust your speed** by accelerating, stopping or slowing.
- **Adjust your position** and/or direction.

Apply the old adage "one step at a time" to handle two or more hazards. Adjust speed to permit two hazards to separate. Then deal with them one at a time as single hazards. Decision-making becomes more complex with three or more hazards. Evaluate the consequences of each and give equal distance to the hazards.

In potential high-risk areas, such as intersections, shopping areas and school and construction zones, cover the clutch and both brakes to reduce the time you need to react.

TEST YOURSELF 5

To reduce your reaction time, you should:

A. Ride slower than the speed limit.

B. Cover the clutch and the brakes.

C. Shift into neutral when slowing.

D. Pull in the clutch when turning.

Answer - page 41

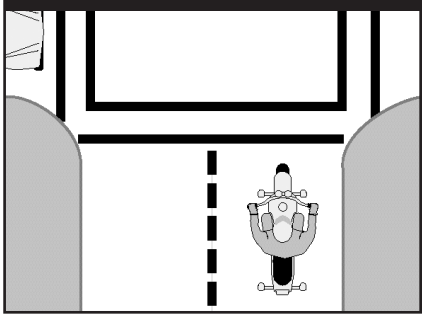
INTERSECTIONS

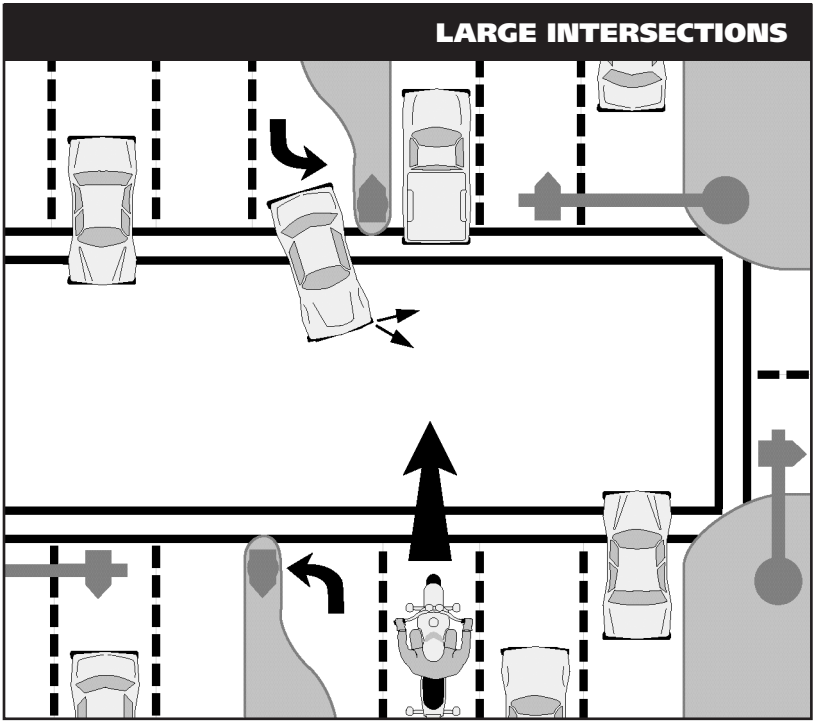
The greatest potential for conflict between you and other traffic is at intersections. An intersection can be in the middle of an urban area or at a driveway on a residential street — anywhere traffic may cross your path of travel. Over one-half of motorcycle/car crashes are caused by drivers entering a rider's right-of-way. Cars that turn left in front of you, including cars turning left from the lane to your right, and cars on side streets that pull into your lane, are the biggest dangers. Your use of SEE [p. 17] at intersections is critical.

There are no guarantees that others see you. Never count on "eye contact" as a sign that a driver will yield. Too often, a driver looks right at a motorcyclist and still fails to "see" him or her. The only eyes that you can count on are your own. If a car can enter your path, assume that it will. Good riders are always "looking for trouble" — not to get into it, but to stay out of it.

Increase your chances of being seen at intersections. Ride with your headlight on and in a lane position that provides the best view of oncoming traffic. Provide a space cushion around the motorcycle that permits you to take evasive action.

SMALL INTERSECTIONS





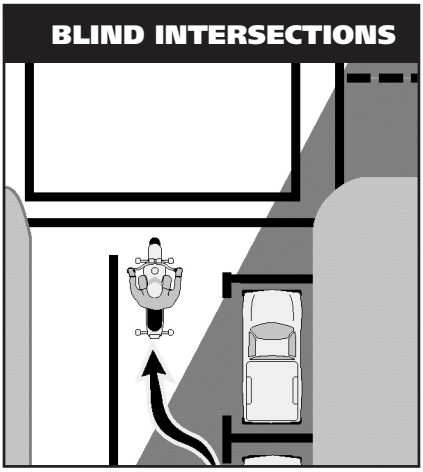
As you approach the intersection, select a lane position that increases your visibility to the driver. Cover the clutch lever and both brakes to reduce reaction time.

Reduce your speed as you approach an intersection. After entering the intersection, move away from vehicles preparing to turn. Do not change speed or position radically. The driver might think that you are preparing to turn.

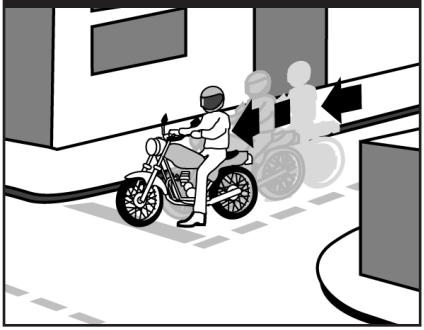
Blind Intersections

If you approach a blind intersection, move to the portion of the lane that will bring you into another driver's field of vision at the earliest possible moment. In this picture, the rider has moved to the left portion of the lane — away from the parked car — so the driver on the cross street can see him as soon as possible.

Remember, the key is to see as much as possible and remain visible to others while protecting your space.



STOP SIGNS



If you have a stop sign or stop line, stop there first. Then edge forward and stop again, just short of where the cross-traffic lane meets your lane. From that position, lean your body forward and look around buildings, parked cars or bushes to see if anything is coming. Just make sure your front wheel stays out of the cross lane of travel while you're looking.

Passing Parked Cars

When passing parked cars, stay toward the left of your lane. You can avoid problems caused by doors opening, drivers getting out of cars or people stepping from between cars. If oncoming traffic is present, it is usually best to remain in the center-lane position to maximize your space cushion.

A bigger problem can occur if the driver pulls away from the curb without checking for traffic behind. Even if he does look, he may fail to see you.

In either event, the driver might cut into your path. Slow down or change lanes to make room for someone cutting in.

Cars making a sudden U-turn are the most dangerous. They may cut you off entirely, blocking the whole roadway and leaving you with no place to go. Since you can't tell what a driver will do, slow down and get the driver's attention. Sound your horn and continue with caution.

TEST YOURSELF 6

Making eye contact with other drivers:

A. Is a good sign they see you.

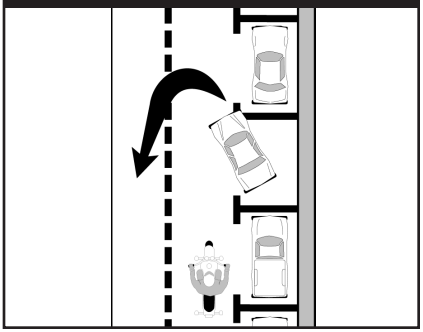
B. Is not worth the effort it takes.

C. Doesn't mean that the driver will yield.

D. Guarantees that the other driver will yield to you.

Answer - page 41

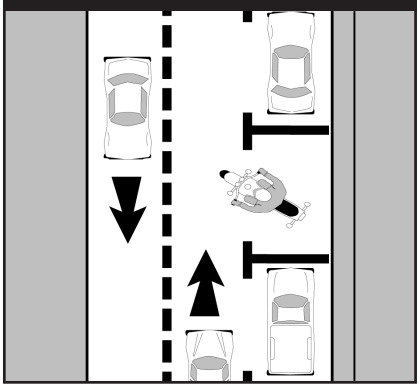
PARKED CARS



Parking at the Roadside

Park at a 90˚ angle to the curb with your rear wheel touching the curb.

PARKING AT CURBS



INCREASING CONSPICUITY

In crashes with motorcyclists, drivers often say that they never saw the motorcycle. From ahead or behind, a motorcycle's outline is much smaller than a car's. Also, it's hard to see something you are not looking for, and most drivers are not looking for motorcycles. More likely, they are looking through the skinny, two-wheeled silhouette in search of cars that may pose a problem to them.

Even if a driver does see you coming, you aren't necessarily safe. Smaller vehicles appear farther away and seem to be traveling slower than they actually are. It is common for drivers to pull out in front of motorcyclists, thinking they have plenty of time. Too often, they are wrong.

However, you can do many things to make it easier for others to recognize you and your motorcycle.

Clothing

Most crashes occur in broad daylight. Wear bright-colored clothing to increase your chances of being seen. Remember, your body is half of the visible surface area of the rider/motorcycle unit.

Bright orange, red, yellow or green jackets or vests are your best bets for being seen. Your helmet can do more than protect you in a crash. Brightly colored helmets can also help others see you.

Any bright color is better than drab or dark colors. Reflective, bright-colored clothing (helmet and jacket or vest) is best.

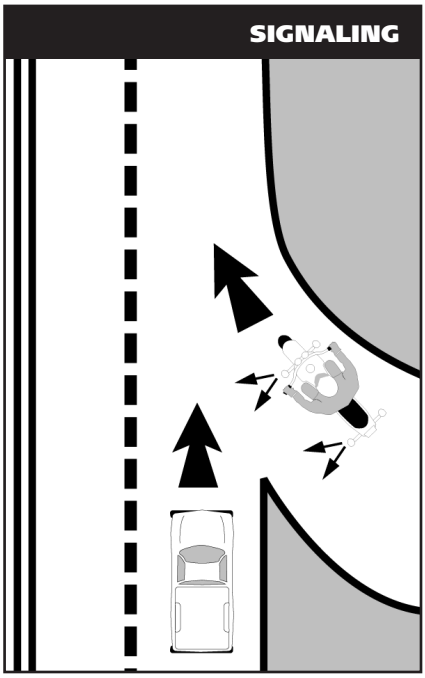
Reflective material on a vest and on the sides of the helmet will help drivers coming from the side to spot you. Reflective material can also be a big help for drivers coming toward you or from behind.

Headlight

The best way to help others see your motorcycle is to keep the headlight on — **at all times** (new motorcycles sold in the USA since 1978 automatically have the headlights on when running). Studies show that, during the day, a motorcycle with its light on is twice as likely to be noticed. Use low beam at night and in fog.

Signals

The signals on a motorcycle are similar to those on a car. They tell others what you plan to do.



However, due to a rider's added vulnerability, signals are even more important. Use them anytime you plan to change lanes or turn. Use them even when you think no one else is around. It's the car you don't see that's going to give you the most trouble. Your signal lights also make you easier to spot. That's why it's a good idea to use your turn signals even when what you plan to do is obvious.

When you enter a freeway, drivers approaching from behind are more likely to see your signal blinking and make room for you.

Turning your signal light on before each turn reduces confusion and frustration for the traffic around you. Once you turn, make sure your signal is off or a driver may pull directly into your path, thinking you plan to turn again. Use your signals at every turn so drivers can react accordingly. Don't make them guess what you intend to do.

Brake Light

Your motorcycle's brake light is usually not as noticeable as the brake lights on a car — particularly when your taillight is on. (It goes on with the headlight.) If the situation will permit, help others notice you by flashing your brake light before you slow down. It is especially important to flash your brake light before:

- **You slow more quickly** than others might expect (turning off a high-speed highway).
- **You slow where** others may not expect it (in the middle of a block or at an alley).

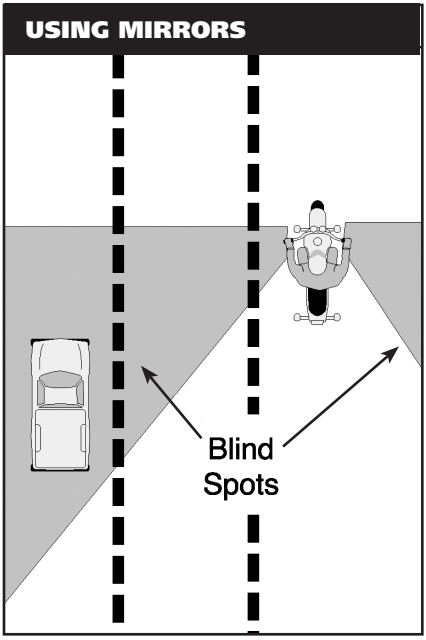
If you are being followed closely, it's a good idea to flash your brake light before you slow. The tailgater may be watching you and not see something ahead that will make you slow down. This will hopefully discourage them from tailgating and warn them of hazards ahead they may not see.

Using Your Mirrors

While it's most important to keep track of what's happening ahead, you can't afford to ignore situations behind. Traffic conditions change quickly. Knowing what's going on behind is essential for you to make a safe decision about how to handle trouble ahead.

Frequent mirror checks should be part of your normal searching routine. Make a special point of using your mirrors:

- **When you are stopped** at an intersection. Watch cars coming up from behind. If the drivers aren't paying attention, they could be on top of you before they see you.
- **Before you change lanes.** Make sure no one is about to pass you.
- **Before you slow down.** The driver behind may not expect you to slow, or may be unsure about where you will slow. For example, you signal a turn and the driver thinks you plan to turn at a distant intersection, rather than at a nearer driveway.



Some motorcycles have rounded (convex) mirrors. These provide a wider view of the road behind than do flat mirrors. They also make cars seem farther away than they really are. If you are not used to convex mirrors, get familiar with them. *(While you are stopped, pick out a parked car in your mirror. Form a mental image of how far away it is. Then, turn around and look at it to see how close you came.)* Practice with your mirrors until you become a good judge of distance. Even then, allow extra distance before you change lanes.

Head Checks

Checking your mirrors is not enough. Motorcycles have "blind spots" like cars. Before you change lanes, turn your head, and look to the side for other vehicles.

On a road with several lanes, check the far lane and the one next to you. A driver in the distant lane may head for the same space you plan to take.

Frequent head checks should be your normal scanning routine, also. Only by knowing what is happening **all around** you are you fully prepared to deal with it.

Horn

Be ready to use your horn to get someone's attention quickly.

It is a good idea to give a quick beep before passing anyone that may move into your lane.

Here are some situations:

- **A driver** in the lane next to you is driving too closely to the vehicle ahead and may want to pass.
- **A parked car** has someone in the driver's seat.
- **Someone is in the street,** riding a bicycle or walking.

In an emergency, press the horn button loud and long. Be ready to stop or swerve away from the danger.

Keep in mind that a motorcycle's horn isn't as loud as a car's — therefore, use it, but don't rely on it. Other strategies, like having time and space to maneuver, may be appropriate along with the horn.

Riding at Night

At night it is harder for you to see and be seen. Picking your headlight or taillight out of the car lights around you is not easy for other drivers. To compensate, you should:

- **Reduce Your Speed** — Ride even slower than you would during the day — particularly on roads you don't know well. This will increase your chances of avoiding a hazard.
- **Increase Distance** — Distances are harder to judge at night than during the day. Your eyes rely upon shadows and light contrasts to determine how far away an object is and how fast it is coming. These contrasts are missing or distorted under artificial lights at night. Open up a three-second following distance or more. And allow more distance to pass and be passed.
- **Use the Car Ahead** — The headlights of the car ahead can give you a better view of the road than even your high beam can. Taillights bouncing up and down can alert you to bumps or rough pavement.
- **Use Your High Beam** — Get all the light you can. Use your high beam whenever you are not following or meeting a car. Be visible: Wear reflective materials when riding at night.
- **Be Flexible About Lane Position.** Change to whatever portion of the lane is best able to help you see, be seen and keep an adequate space cushion.

TEST YOURSELF 7

Reflective clothing should:

A. Be worn at night.

B. Be worn during the day.

C. Not be worn.

D. Be worn day and night

Answer - page 41

CRASH AVOIDANCE

No matter how careful you are, there will be times when you find yourself in a tight spot. Your chances of getting out safely depend on your ability to react quickly and properly. Often, a crash occurs because a rider is not prepared or skilled in crash-avoidance maneuvers.

Know when and how to stop or swerve, two skills critical in avoiding a crash. It is not always desirable or possible to stop quickly to avoid an obstacle. Riders must also be able to swerve around an obstacle. Determining which skill is necessary for the situation is important as well.

Studies show that most crash-involved riders:

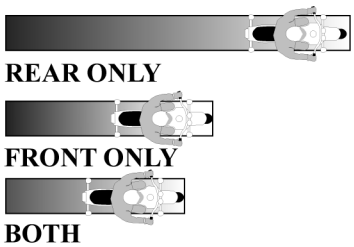
- **Underbrake** the front tire and overbrake the rear.
- **Did not** separate braking from swerving or did not choose swerving when it was appropriate.

The following information offers some good advice.

Quick Stops

To stop quickly, apply both brakes at the same time. Don't be shy about using the front brake, but don't "grab" it, either. Squeeze the brake lever firmly and progressively. If the front wheel locks, release the front brake immediately then reapply it firmly. At the same time, press down on the rear brake. If you accidentally lock the rear brake on a good traction surface, you can keep it locked until you have completely stopped; but, even with a locked rear wheel, you can control the motorcycle on a straightaway if it is upright and going in a straight line.

STOPPING DISTANCE



Always use both brakes at the same time to stop. The front brake can provide 70% or more of the potential stopping power.

If you must stop quickly while turning or riding a curve, the best technique is to straighten the bike upright first and then brake. However, it may not always be possible to straighten the motorcycle and then stop. If you must brake while leaning, apply light brakes and reduce the throttle. As you slow, you can reduce your lean angle and apply more brake pressure until the motorcycle is straight and maximum brake pressure is possible. You should "straighten" the handlebars in the last few feet of stopping. The motorcycle should then be straight up and in balance.

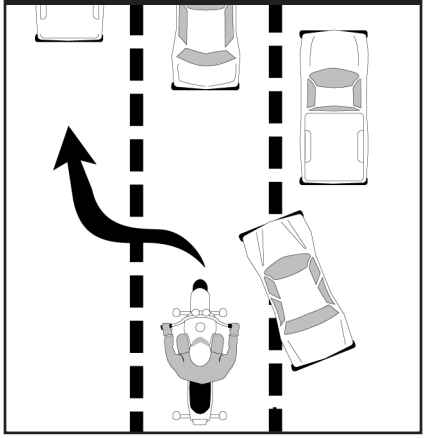
Swerving or Turning Quickly

Sometimes you may not have enough room to stop, even if you use both brakes properly. An object might appear suddenly in your path. Or the car ahead might squeal to a stop. The only way to avoid a crash may be to turn quickly, or swerve around it.

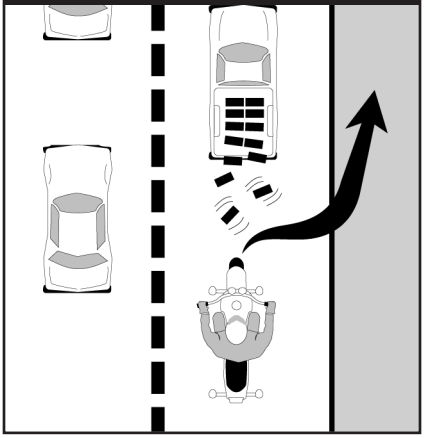
A swerve is any sudden change in direction. It can be two quick turns, or a rapid shift to the side. Apply a small amount of pressure to the handgrip located on the side of your intended direction of escape. This will cause the motorcycle to lean quickly. The sharper the turn(s), the more the motorcycle must lean.

Keep your body upright and allow the motorcycle to lean in the direction of the turn while keeping your knees

SWERVE, THEN BRAKE



BRAKE, THEN SWERVE



against the tank and your feet solidly on the footrests. Let the motorcycle move underneath you. Make your escape route the target of your vision. Press on the opposite handgrip once you clear the obstacle to return you to your original direction of travel. To swerve to the left, press the left handgrip, then press the right to recover. To swerve to the right, press right, then left.

IF BRAKING IS REQUIRED, SEPARATE IT FROM SWERVING. Brake before or after — never while swerving.

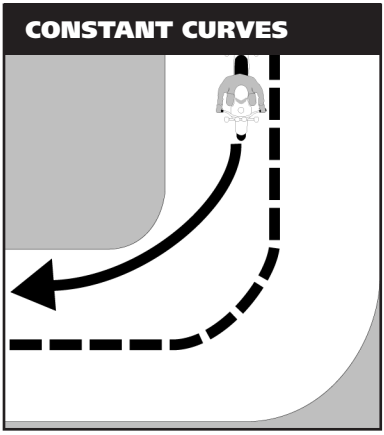
Cornering

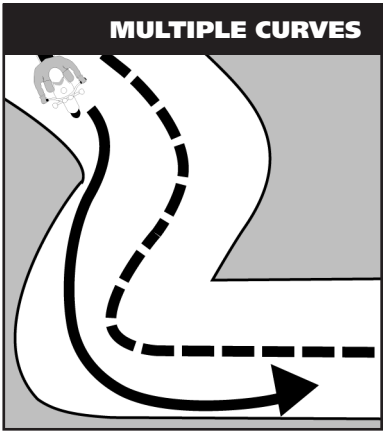
A primary cause of single-vehicle crashes is motorcyclists running wide in a curve or turn and colliding with the roadway or a fixed object.

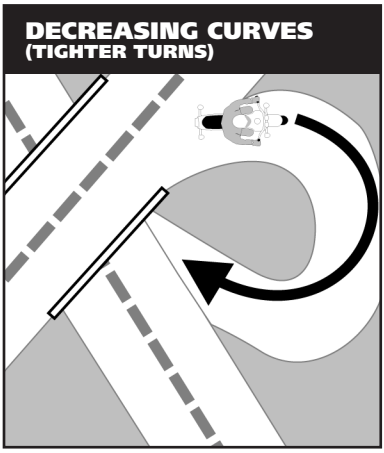
Every curve is different. Be alert to whether a curve remains constant, gradually widens, gets tighter or involves multiple turns.

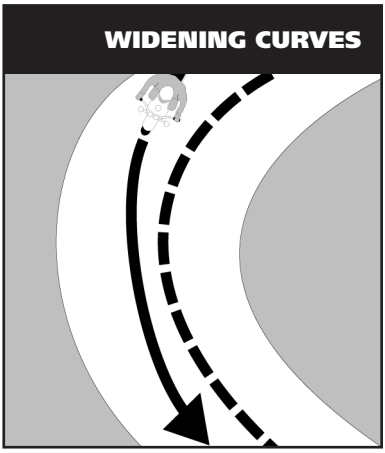
Ride within your skill level and posted speed limits.

Your best path may not always follow the curve of the road.









Change lane position depending on traffic, road conditions and curve of the road. If no traffic is present, start at the outside of a curve to increase your line of sight and the effective radius of the turn. As you turn, move toward the inside of the curve, and as you pass the center, move to the outside to exit.

Another alternative is to move to the center of your lane before entering a curve — and stay there until you exit. This permits you to spot approaching traffic as soon as possible. You can also adjust for traffic "crowding" the center line, or debris blocking part of your lane.

TEST YOURSELF 8

The best way to stop quickly is to:

A. Use the front brake only.

B. Use the rear brake first.

C. Throttle down and use the front brake.

D. Use both brakes at the same time.

Answer - page 41

HANDLING DANGEROUS SURFACES

Your chance of falling or being involved in a crash increases whenever you ride across:

- **Uneven surfaces or obstacles.**
- **Slippery surfaces.**
- **Railroad tracks.**
- **Grooves and gratings.**

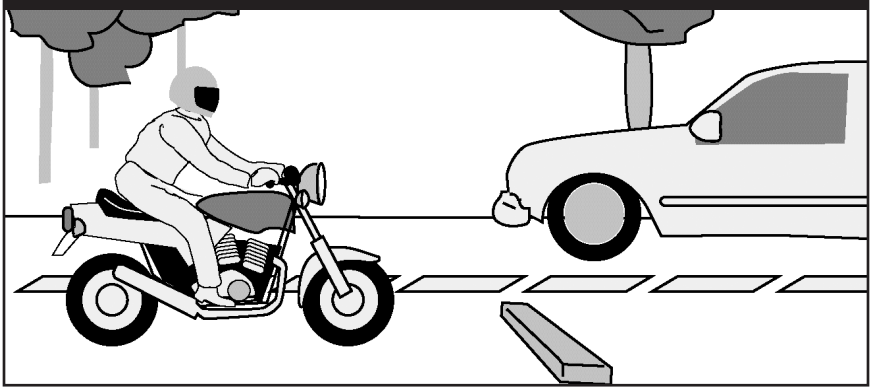
Uneven Surfaces and Obstacles

Watch for uneven surfaces such as bumps, broken pavement, potholes or small pieces of highway trash.

Try to avoid obstacles by slowing or going around them. If you must go over the obstacle, first determine if it is possible. Approach it at as close to a 90˚ angle as possible. Look where you want to go to control your path of travel. If you have to ride over the obstacle, you should:

- **Slow down** as much as possible before contact.
- **Make sure** the motorcycle is straight.

OBSTACLES



- **Rise slightly** off the seat with your weight on the footrests to absorb the shock with your knees and elbows, and avoid being thrown off the motorcycle.
- **Just before contact,** roll on the throttle slightly to lighten the front end.

If you ride over an object on the street, pull off the road and check your tires and rims for damage before riding any farther.

Slippery Surfaces

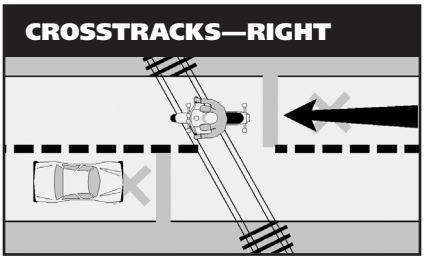
Motorcycles handle better when ridden on surfaces that permit good traction. Surfaces that provide poor traction include:

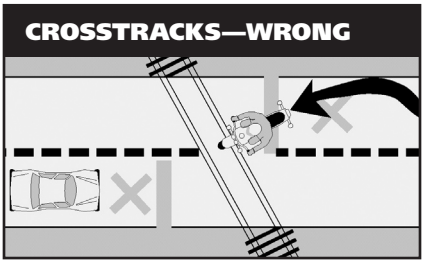
- **Wet pavement,** particularly just after it starts to rain and before surface oil washes to the side of the road.
- **Gravel roads,** or where sand and gravel collect.
- **Mud, snow, and ice.**
- **Lane markings (painted lines),** steel plates and manhole covers, especially when wet.

To ride safely on slippery surfaces:

- **Reduce Speed** — Slow down before you get to a slippery surface to lessen your chances of skidding. Your motorcycle needs more distance to stop. And it is particularly important to reduce speed before entering wet curves.
- **Avoid Sudden Moves** — Any sudden change in speed or direction can cause a skid. Be as smooth as possible when you speed up, shift gears, turn or brake.
- **Use Both Brakes** — The front brake is still effective, even on a slippery surface. Squeeze the brake lever gradually to avoid locking the front wheel. Remember, gentle pressure on the rear brake.
- **The center of a lane** can be hazardous when wet. When it starts to rain, ride in the tire tracks left by cars. Often, the left tire track will be the best position, depending on traffic and other road conditions as well.
- **Watch for oil spots** when you put your foot down to stop or park. You may slip and fall.
- **Dirt and gravel** collect along the sides of the road — especially on curves and ramps leading to and from highways. Be aware of what's on the edge of the road, particularly when making sharp turns and getting on or off freeways at high speeds.
- **Rain dries and snow melts faster** on some sections of a road than on others. Patches of ice tend to develop in low or shaded areas and on bridges and overpasses. Wet surfaces or wet leaves are just as slippery. Ride on the least slippery portion of the lane and reduce speed.

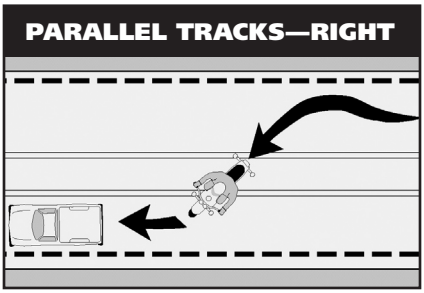
Cautious riders steer clear of roads covered with ice or snow. If you can't avoid a slippery surface, keep your motorcycle straight up and proceed as *slowly* as possible. If you encounter a large surface so slippery that you must coast, or travel at a walking pace, consider letting your feet skim along the surface. If the motorcycle starts to fall, you can catch yourself. Be sure to keep off the brakes. If possible, squeeze the clutch and coast. Attempting this maneuver at anything other than the slowest of speeds could prove hazardous.

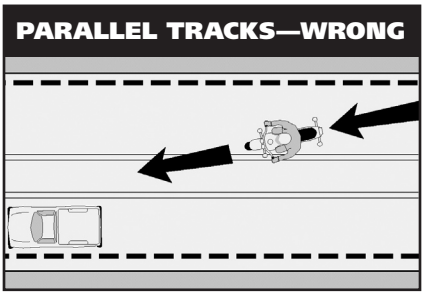




Railroad Tracks, Trolley Tracks and Pavement Seams

Usually it is safer to ride straight within your lane to cross tracks. Turning to take tracks head-on (at a 90˚ angle) can be more dangerous — your path may carry you into another lane of traffic.

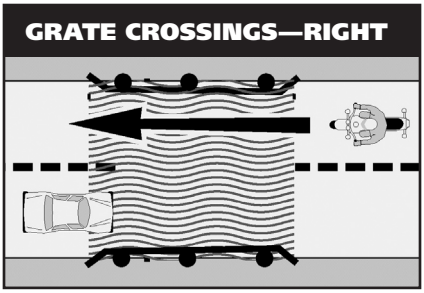


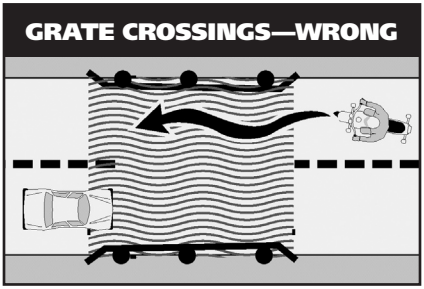


For track and road seams that run parallel to your course, move far enough away from tracks, ruts, or pavement seams to cross at an angle of at least 45˚. Then, make a deliberate turn. Edging across could catch your tires and throw you off balance.

Grooves and Gratings

Riding over rain grooves or bridge gratings may cause a motorcycle to weave. The uneasy, wandering feeling is generally not hazardous. Relax, maintain a steady speed and ride straight across. Crossing at an angle forces riders to zigzag to stay in the lane. The zigzag is far more hazardous than the wandering feeling.





TEST YOURSELF 9

When it starts to rain it is usually best to:

A. Ride in the center of the lane.

B. Pull off to the side until the rain stops.

C. Ride in the tire tracks left by cars.

D. Increase your speed.

Answer - page 41

MECHANICAL PROBLEMS

You can find yourself in an emergency the moment something goes wrong with your motorcycle. In dealing with any mechanical problem, take into account the road and traffic conditions you face. Here are some guidelines that can help you handle mechanical problems safely.

Tire Failure

You will seldom hear a tire go flat. If the motorcycle starts handling differently, it may be a tire failure. This can be dangerous. You must be able to tell from the way the motorcycle reacts. If one of your tires suddenly loses air, react quickly to keep your balance. Pull off and check the tires.

If the front tire goes flat, the steering will feel "heavy." A front-wheel flat is particularly hazardous because it affects your steering. You have to steer well to keep your balance.

If the rear tire goes flat, the back of the motorcycle may jerk or sway from side to side.

If either tire goes flat while riding:

- **Hold handgrips** firmly, ease off the throttle, and keep a straight course.
- **If braking is required,** however, gradually apply the brake of the tire that isn't flat, if you are sure which one it is.
- **When the motorcycle slows,** edge to the side of the road, squeeze the clutch and stop.

Stuck Throttle

Twist the throttle back and forth several times. If the throttle cable is stuck, this may free it. If the throttle stays stuck, immediately operate the engine cut-off switch and pull in the clutch at the same time. This will remove power from the rear wheel, though engine sound may not immediately decline. Once the motorcycle is "under control," pull off and stop.

After you have stopped, check the throttle cable carefully to find the source of the trouble. Make certain the throttle works freely before you start to ride again.

Wobble

A "wobble" occurs when the front wheel and handlebars suddenly start to shake from side to side at any speed. Most wobbles can be traced to improper loading, unsuitable accessories or incorrect tire pressure. If you are carrying a heavy load, lighten it. If you can't, shift it. Center the weight lower and farther forward on the motorcycle. Make sure tire pressure, spring pre-load, air shocks and dampers are at the settings recommended for that much weight. Make sure windshields and fairings are mounted properly.

Check for poorly adjusted steering; worn steering parts; a front wheel that is bent, misaligned, or out of balance; loose wheel bearings or spokes; and worn swingarm bearings. If none of these is determined to be the cause, have the motorcycle checked out thoroughly by a qualified professional.

Trying to "accelerate out of a wobble" will only make the motorcycle more unstable. Instead:

- **Grip the handlebars firmly,** but don't fight the wobble.
- **Close the throttle gradually** to slow down. Do not apply the brakes; braking could make the wobble worse.
- **Move your weight** as far forward and down as possible.
- **Pull off the road** as soon as you can to fix the problem.

TEST YOURSELF 10

If your motorcycle starts to wobble:

A. Accelerate out of the wobble.

B. Use the brakes gradually.

C. Grip the handlebars firmly and close the throttle gradually.

D. Downshift.

Answer - page 41

Drive Train Problems

The drive train for a motorcycle uses either a chain, belt, or drive shaft to transfer power from the engine to the rear wheel. Routine inspection, adjustment, and maintenance makes failure a rare occurrence. A chain or belt that slips or breaks while you're riding could lock the rear wheel and cause your motorcycle to skid.

If the chain or belt breaks, you'll notice an instant loss of power to the rear wheel. Close the throttle and brake to a stop in a safe area.

On models with a drive shaft, loss of oil in the rear differential can cause the rear wheel to lock, and you may not be able to prevent a skid.

Engine Seizure

When the engine "locks" or "freezes" it is usually low on oil. The engine's moving parts can't move smoothly against each other, and the engine overheats. The first sign may be a loss of engine power or a change in the engine's sound. Squeeze the clutch lever to disengage the engine from the rear wheel. Pull off the road and stop. Check the oil. If needed, oil should be added as soon as possible or the engine will seize. When this happens, the effect is the same as a locked rear wheel. Let the engine cool before restarting.

ANIMALS

Naturally, you should do everything you safely can to avoid hitting an animal. If you are in traffic, however, remain in your lane. Hitting something small is less dangerous to you than hitting something big — like a car.

Motorcycles seem to attract dogs. If you are chased, downshift and approach the animal slowly. As you approach it, accelerate away and leave the animal behind. Don't kick at an animal. Keep control of your motorcycle and look to where you want to go.

For larger animals (deer, elk, cattle) brake and prepare to stop — they are unpredictable.

TEST YOURSELF 11

If you are chased by a dog:

A. Kick it away.

B. Stop until the animal loses interest.

C. Swerve around the animal.

D. Approach the animal slowly, then speed up.

Answer - page 41

FLYING OBJECTS

From time to time riders are struck by insects, cigarettes thrown from cars or pebbles kicked up by the tires of the vehicle ahead. If you are wearing face protection, it might get smeared or cracked, making it difficult to see. Without face protection, an object could hit you in the eye, face or mouth. Whatever happens, keep your eyes on the road and your hands on the handlebars. When safe, pull off the road and repair the damage.

GETTING OFF THE ROAD

If you need to leave the road to check the motorcycle (or just to rest for a while), be sure you:

- **Check the roadside** — Make sure the surface of the roadside is firm enough to ride on. If it is soft grass, loose sand or if you're just not sure about it, slow way down before you turn onto it.
- **Signal** — Drivers behind might not expect you to slow down. Give a clear signal that you will be slowing down and changing direction. Check your mirror and make a head check before you take any action.
- **Pull off the road** — Get as far off the road as you can. It can be very hard to spot a motorcycle by the side of the road. You don't want someone else pulling off at the same place you are.
- **Park carefully** — Loose and sloped shoulders can make setting the side or center stand difficult.

CARRYING PASSENGERS AND CARGO

Only experienced riders should carry passengers or large loads. The extra weight changes the way the motorcycle handles, balances, speeds up and slows down. Before taking a passenger or a heavy load on the street, practice away from traffic.

Equipment

To carry passengers safely:

- **Equip and adjust** your motorcycle to carry passengers.
- **Instruct the passenger** before you start.
- **Adjust your riding** technique for the added weight.

Equipment should include:

- **A proper seat** — large enough to hold both of you without crowding. You should not sit any farther forward than you usually do.
- **Footrests** — for the passenger. Firm footing prevents your passenger from falling off and pulling you off, too.
- **Protective equipment** — the same protective gear recommended for operators.

Adjust the suspension to handle the additional weight. You will probably need to add a few pounds of pressure to the tires if you carry a passenger. (Check your owner's manual for appropriate settings.) While your passenger sits on the seat with you, adjust the mirrors and headlight according to the change in the motorcycle's angle.

Instructing Passengers

Even if your passenger is a motorcycle rider, provide complete instructions before you start. Tell your passenger to:

- **Get on** the motorcycle only after you have started the engine.
- **Sit as far forward** as possible without crowding you.
- **Hold firmly** to your waist, hips, belt, or to the bike's passenger handholds.
- **Keep both feet** on the footrests, even when stopped.
- **Keep legs away** from the muffler(s), chains or moving parts.
- **Stay directly behind you,** leaning as you lean.
- **Avoid unnecessary** talk or motion.

Also, tell your passenger to tighten his or her hold when you:

- **Approach** surface problems.
- **Are about to start** from a stop.
- **Warn that you** will make a sudden move.

Riding With Passengers

Your motorcycle will respond more slowly with a passenger on board. The heavier your passenger, the longer it may take to slow down and speed up — especially on a light motorcycle.

TEST YOURSELF 12

Passengers should:

A. Lean as you lean.

B. Hold on to the motorcycle seat.

C. Sit as far back as possible.

D. Never hold onto you.

Answer - page 41

- **Ride a little slower,** especially when taking curves, corners or bumps.
- **Start slowing earlier** as you approach a stop.
- **Open up a larger cushion** of space ahead and to the sides.
- **Wait for larger gaps** to cross, enter or merge in traffic.

Warn your passenger of special conditions — when you will pull out, stop quickly, turn sharply or ride over a bump. Turn your head slightly to make yourself understood, but keep your eyes on the road ahead.

Carrying Loads

Most motorcycles are not designed to carry much cargo. Small loads can be carried safely if positioned and fastened properly.

- **Keep the Load Low** — Fasten loads securely, or put them in saddlebags. Piling loads against a sissybar or frame on the back of the seat raises the motorcycle's center of gravity and disturbs its balance.
- **Keep the Load Forward** — Place the load over, or in front of, the rear axle. Tankbags keep loads forward, but use caution when loading hard or sharp objects. Make sure the tankbag does not interfere with handlebars or controls. Mounting loads behind the rear axle can affect how the motorcycle turns and brakes. It can also cause a wobble.
- **Distribute the Load Evenly** — Load saddlebags with about the same weight. An uneven load can cause the motorcycle to drift to one side.

- **Secure the Load** — Fasten the load securely with elastic cords (bungee cords or nets). Elastic cords with more than one attachment point per side are more secure. A tight load won't catch in the wheel or chain, causing it to lock up and skid. Rope tends to stretch and knots come loose, permitting the load to shift or fall.
- **Check the Load** — Stop and check the load every so often to make sure it has not worked loose or moved.

GROUP RIDING

If you ride with others, do it in a way that promotes safety and doesn't interfere with the flow of traffic.

Keep the Group Small

Small groups make it easier and safer for car drivers who need to get around them. A small number isn't separated as easily by traffic or red lights. Riders won't always be hurrying to catch up. If your group is larger than four or five riders, divide it up into two or more smaller groups.

Keep the Group Together

- **Plan** — The leader should look ahead for changes and signal early so "the word gets back" in plenty of time. Start lane changes early to permit everyone to complete the change.
- **Put Beginners Up Front** — Place inexperienced riders just behind the leader. That way the more experienced riders can watch them from the back.
- **Follow Those Behind** — Let the tailender set the pace. Use your mirrors to keep an eye on the person behind. If a rider falls behind, everyone should slow down a little to stay with the tailender.
- **Know the Route** — Make sure everyone knows the route. Then, if someone is separated they won't have to hurry to keep from getting lost or taking a wrong turn. Plan frequent stops on long rides.

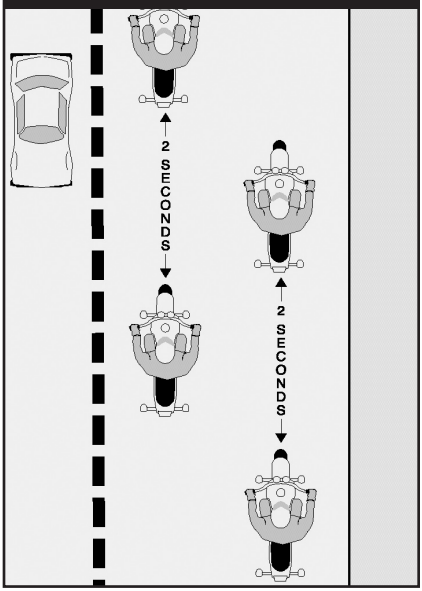
Keep Your Distance

Maintain close ranks but at the same time keep a safe distance to allow each rider in the group time and space to react to hazards. A close group takes up less space on the highway, is easier to see and is less likely to be separated. However, it must be done properly.

Don't Pair Up — Never operate directly alongside another rider. There is no place to go if you have to avoid a car or something on the road. To talk, wait until you are both stopped.

Staggered Formation — This is the best way to keep ranks close yet maintain an adequate space cushion. The leader rides in the left side of the lane, while the second rider stays one second behind in the right side of the lane.

STAGGERED FORMATION



A third rider maintains in the left position, two seconds behind the first rider. The fourth rider would keep a two-second distance behind the second rider. This formation keeps the group close and permits each rider a safe distance from others ahead, behind and to the sides.

- **Passing in Formation** — Riders in a staggered formation should pass one at a time.
- **First, the lead rider should pull out** and pass when it is safe. After passing, the leader should return to the left position and continue riding at passing speed to open room for the next rider.
- **After the first rider passes safely,** the second rider should move up to the left position and watch for a safe chance to pass. After passing, this rider should return to the right position and open up room for the next rider.

Some people suggest that the leader should move to the right side after passing a vehicle. This is not a good idea. It encourages the second rider to pass and cut back in before there is a large enough space cushion in front of the passed vehicle. It's simpler and safer to wait until there is enough room ahead of the passed vehicle to allow each rider to move into the same position held before the pass.

Single-File Formation — It is best to move into a single-file formation when riding curves, turning, entering or leaving a highway.

TEST YOURSELF 13

When riding in a group, inexperienced riders should position themselves:

A. Just behind the leader.

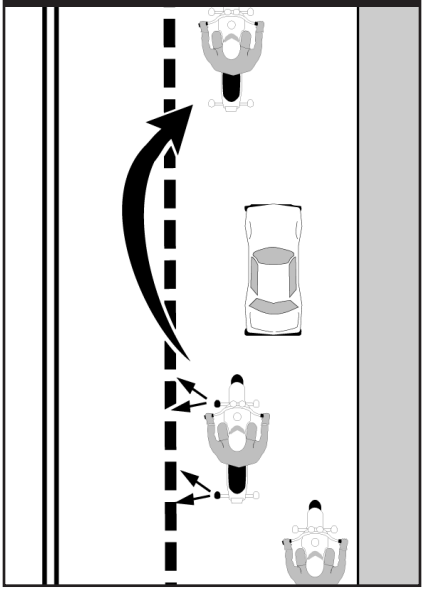
B. In front of the group.

C. At the tail end of the group.

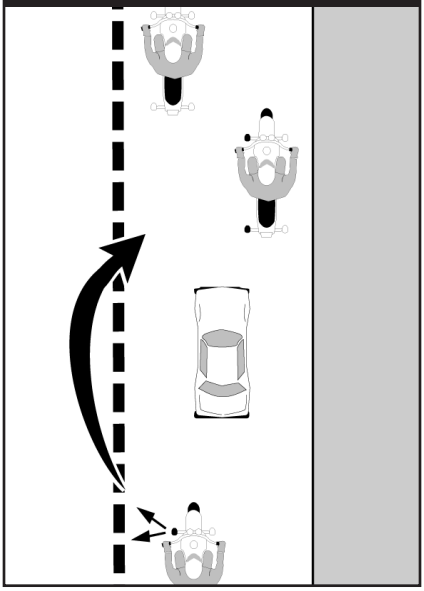
D. Beside the leader.

Answer - page 41

GROUP PASSING (STAGE 1)



GROUP PASSING (STAGE 2)



Riding a motorcycle is a demanding and complex task. Skilled riders pay attention to the riding environment and to operating the motorcycle, identifying potential hazards, making good judgments and executing decisions quickly and skillfully. Your ability to perform and respond to changing road and traffic conditions is influenced by how fit and alert you are. Alcohol and other drugs, more than any other factor, degrade your ability to think clearly and to ride safely. As little as one drink can have a significant effect on your performance.

Let's look at the risks involved in riding after drinking or using drugs. What to do to protect yourself and your fellow riders is also examined.

WHY THIS INFORMATION IS IMPORTANT

Alcohol is a major contributor to motorcycle crashes, particularly fatal crashes. Studies show that 40% to 45% of all riders killed in motorcycle crashes had been drinking. Only one-third of those riders had a blood alcohol concentration above legal limits. The rest had only a few drinks in their systems — enough to impair riding skills. In the past, drug levels have been harder to distinguish or have not been separated from drinking violations for the traffic records. But riding "under the influence" of either alcohol or drugs poses physical and legal hazards for every rider.

Drinking and drug use is as big a problem among motorcyclists as it is among automobile drivers. Motorcyclists, however, are more likely to be killed or severely injured in a crash. Injuries occur in 90% of motorcycle crashes and 33% of automobile crashes that involve abuse of substances. On a yearly basis, 2,100 motorcyclists are killed and about 50,000 seriously injured in this same type of crash. These statistics are too overwhelming to ignore.

By becoming knowledgeable about the effects of alcohol and other drugs you will see that riding and substance abuse don't mix. Take positive steps to protect yourself and prevent others from injuring themselves.

ALCOHOL AND OTHER DRUGS IN MOTORCYCLE OPERATION

No one is immune to the effects of alcohol or drugs. Friends may brag about their ability to hold their liquor or perform better on drugs, but alcohol or drugs make them less able to think clearly and perform physical tasks skillfully. Judgment and the decision-making processes needed for vehicle operation are affected long before legal limitations are reached.

Many over-the-counter, prescription and illegal drugs have side effects that increase the risk of riding. It is difficult to accurately measure the involvement of particular drugs in motorcycle crashes. But we do know what effects various drugs have on the processes involved in riding a motorcycle. We also know that the combined effects of alcohol and other drugs are more dangerous than either is alone.

ALCOHOL IN THE BODY

Alcohol enters the bloodstream quickly. Unlike most foods and beverages, it does not need to be digested. Within minutes after being consumed, it reaches the brain and begins to affect the drinker. The major effect alcohol has is to slow down and impair bodily functions — both mental and physical. Whatever you do, you do less well after consuming alcohol.

Blood Alcohol Concentration

Blood Alcohol Concentration or BAC is the amount of alcohol in relation to blood in the body. Generally, alcohol can be eliminated in the body at the rate of almost one drink per hour. But a variety of other factors may also influence the level of alcohol retained. The more alcohol in your blood, the greater the degree of impairment.

Three factors play a major part in determining BAC:

- **The amount** of alcohol you consume.
- **How fast** you drink.
- **Your body** weight.

Other factors also contribute to the way alcohol affects your system.

Your sex, physical condition and food intake are just a few that may cause your BAC level to be even higher. But the full effects of these are not completely known. **Alcohol may still accumulate in your body even if you are drinking at a rate of one drink per hour.** Abilities and judgment can be affected by that one drink.

A 12-ounce can of beer, a mixed drink with one shot of liquor, and a 5-ounce glass of wine all contain the same amount of alcohol.

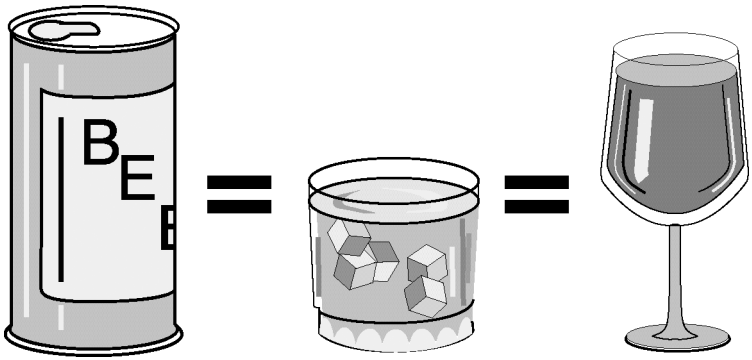
The faster you drink, the more alcohol accumulates in your body. If you drink two drinks in an hour, at the end of that hour, at least one drink will remain in your bloodstream.

Without taking into account any other factors, these examples illustrate why time is a critical factor when a rider decides to drink.

A person drinking:

– Seven drinks over the span of three hours would have at least four (7 – 3 = 4) drinks remaining in their system at the end of the three hours. They would need at least another four hours to eliminate the four remaining drinks before they consider riding.

ALCOHOL CONTENT



– Four drinks over the span of two hours would have at least two (4 – 2 = 2) drinks remaining in their system at the end of the two hours. They would need at least another two hours to eliminate the two remaining drinks before they consider riding.

There are times when a larger person may not accumulate as high a concentration of alcohol for each drink consumed. They have more blood and other bodily fluids. But because of individual differences it is better not to take the chance that abilities and judgment have not been affected. Whether or not you are legally intoxicated is not the real issue. Impairment of judgment and skills begins well below the legal limit.

ALCOHOL AND THE LAW

In all states, an adult with a BAC of 0.08% or above is considered intoxicated. For operators under the age of 21, lower BAC limits (0.00 to 0.02%, depending on state) apply. It doesn't matter how sober you may look or act. The breath or urine test is what usually determines whether you are riding legally or illegally.

Your chances of being stopped for riding under the influence of alcohol are increasing. Law enforcement is being stepped up across the country in response to the senseless deaths and injuries caused by drinking drivers and riders.

Consequences of Conviction

Years ago, first offenders had a good chance of getting off with a small fine and participation in alcohol-abuse classes. Today the laws of most states impose stiff penalties on drinking operators. And those penalties are mandatory, meaning that judges must impose them.

If you are convicted of riding under the influence of alcohol or drugs, you may receive any of the following penalties:

- **License Suspension** — Mandatory suspension for conviction, arrest or refusal to submit to a breath test.
- **Fines** — Severe fines are another aspect of a conviction, usually levied with a license suspension.
- **Community Service** — Performing tasks such as picking up litter along the highway, washing cars in the motor-vehicle pool or working at an emergency ward.
- **Costs** — Additional lawyer's fees to pay, lost work time spent in court or alcohol-education programs, public transportation costs (while your license is suspended) and the added psychological costs of being tagged a "drunk driver."

MINIMIZE THE RISKS

Your ability to judge how well you are riding is affected first. Although you may be performing more and more poorly, you think you are doing better and better. The result is that you ride confidently, taking greater and greater risks. Minimize the risks of drinking and riding by taking steps before you drink. Control your drinking or control your riding.

Make an Intelligent Choice

Don't Drink — Once you start, your resistance becomes weaker.

Setting a limit or pacing yourself are poor alternatives at best. Your ability to exercise good judgment is one of the first things affected by alcohol. Even if you have tried to drink in moderation, you may not realize to what extent your skills have suffered from alcohol's fatiguing effects.

Or Don't Ride — If you haven't controlled your drinking, you must control your riding.

- **Leave the motorcycle** — so you won't be tempted to ride. Arrange another way to get home.
- **Wait** — If you exceed your limit, wait until your system eliminates the alcohol and its fatiguing effects.

STEP IN TO PROTECT FRIENDS

People who have had too much to drink are unable to make a responsible decision. It is up to others to step in and keep them from taking too great a risk. No one wants to do this — it's uncomfortable, embarrassing and thankless. You are rarely thanked for your efforts at the time. But the alternatives are often worse.

There are several ways to keep friends from hurting themselves:

- **Arrange a safe ride** — Provide alternative ways for them to get home.
- **Slow the pace of drinking** — Involve them in other activities.
- **Keep them there** — Use any excuse to keep them from getting on their motorcycle. Serve them food and coffee to pass the time. Explain your concerns for their risks of getting arrested or hurt or hurting someone else. Take their key, if you can.
- **Get friends involved** — Use peer pressure from a group of friends to intervene.

It helps to enlist support from others when you decide to step in. The more people on your side, the easier it is to be firm and the harder it is for the rider to resist. While you may not be thanked at the time, you will never have to say, "If only I had ..."

FATIGUE

Riding a motorcycle is more tiring than driving a car. On a long trip, you'll tire sooner than you would in a car. Avoid riding when tired. Fatigue can affect your control of the motorcycle.

- **Protect yourself** from the elements — Wind, cold, and rain make you tire quickly. Dress warmly. A windshield is worth its cost if you plan to ride long distances.
- **Limit your distance** — Experienced riders seldom try to ride more than about six hours a day.
- **Take frequent rest breaks** — Stop and get off the motorcycle at least every two hours.
- **Don't drink or use drugs** — Artificial stimulants often result in extreme fatigue or depression when they start to wear off. Riders are unable to concentrate on the task at hand.

TEST YOURSELF 14

If you wait one hour per drink for the alcohol to be eliminated from your body before riding:

A. You cannot be arrested for drinking and riding.

B. Your riding skills will not be affected.

C. Side effects from the drinking may still remain.

D. You will be okay as long as you ride slowly.

Answer - page 41

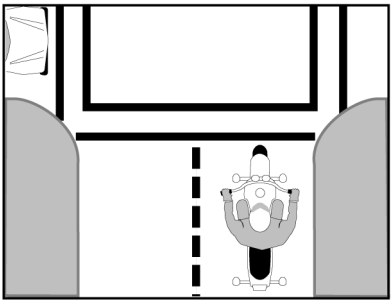
Safe riding requires knowledge and skill. Licensing tests are the best measurement of the skills necessary to operate safely in traffic. Assessing your own skills is not enough. People often overestimate their own abilities. It's even harder for friends and relatives to be totally honest about your skills. Licensing exams are designed to be scored more objectively.

To earn your license, you must pass a knowledge test and an on-cycle skill test. Knowledge test questions are based on information, practices and ideas from this manual. They require that you know and understand road rules and safe riding practices. An on-cycle skill test will either be conducted in an actual traffic environment or in a controlled, off-street area.

Knowledge Test

(Sample Questions)

1. ***It is MOST important to flash your brake light when:***
   A. Someone is following too closely.
   B. You will be slowing suddenly.
   C. There is a stop sign ahead.
   D. Your signals are not working.
2. ***The FRONT brake supplies how much of the potential stopping power?***
   A. About one-quarter.
   B. About one-half.
   C. About three-quarters.
   D. All of the stopping power.
3. ***To swerve correctly:***
   A. Shift your weight quickly.
   B. Turn the handlebars quickly.
   C. Press the handgrip in the direction of the turn.
   D. Press the handgrip in the opposite direction of the turn.
4. ***If a tire goes flat while riding and you must stop, it is usually best to:***
   A. Relax on the handgrips.
   B. Shift your weight toward the good tire.
   C. Brake on the good tire and steer to the side of the road.
   D. Use both brakes and stop quickly.
5. ***The car below is waiting to enter the intersection. It is best to:***
   A. Make eye contact with the driver.
   B. Reduce speed and be ready to react.
   C. Maintain speed and position.
   D. Maintain speed and move right.



On-Motorcycle Skill Test

Basic vehicle control and crash-avoidance skills are included in on-motorcycle tests to determine your ability to handle normal and hazardous traffic situations.

You may be tested for your ability to:

- **Know your motorcycle** and your riding limits.
- **Accelerate, brake and turn safely.**
- **See, be seen** and communicate with others.
- **Adjust speed** and position to the traffic situation.
- **Stop, turn and swerve quickly.**
- **Make critical decisions** and carry them out.

Examiners may score on factors related to safety such as:

- **Selecting** safe speeds to perform maneuvers.
- **Choosing** the correct path and staying within boundaries.
- **Completing** normal and quick stops.
- **Completing** normal and quick turns or swerves.

To receive a motorcycle license with full privileges, most states require that maneuvers be performed as designed for single-track, two-wheeled motorcycles.

On-motorcycle skill tests are not designed for sidecars or three-wheeled vehicles. Those vehicles maneuver differently than a two-wheeled motorcycle. Depending on the state, an examiner may follow you on a car test-route. Restrictions (sidecar, three-wheeled vehicle) may be added until completion of a two-wheeled motorcycle test.

Answers to Test Yourself (previous pages)

1-C, 2-D, 3-D, 4-A, 5-B,
6-C, 7-D 8-D, 9-C, 10-C,
11-D, 12-A, 13-A, 14-C

Answers to Knowledge Test (left):

1-B, 2-C, 3-C, 4-C, 5-B

Diagrams and drawings used in this manual are for reference only and are not to correct scale for size of vehicles and distances.

MOTORCYCLES MAKE SENSE – SO DOES PROFESSIONAL TRAINING

Motorcycles are inexpensive to operate, fun to ride and easy to park. Unfortunately, many riders never learn critical skills needed to ride safely.

Professional training for beginning and experienced riders prepares them for real-world traffic situations. Motorcycle Safety Foundation *RiderCourses*SM teach and improve such skills as:

- Effective turning
- Braking maneuvers
- Protective apparel selection
- Obstacle avoidance
- Traffic strategies
- Maintenance

For the basic or experienced *RiderCourse* nearest you, call toll free: 800.446.9227 or visit www.msf-usa.org

The Motorcycle Safety Foundation's (MSF) purpose is to improve the safety of motorcyclists on the nation's streets and highways. In an attempt to reduce motorcycle crashes and injuries, the Foundation has programs in rider education, licensing improvement, public information and statistics. These programs are designed for both motorcyclists and motorists. A national not-for-profit organization, the MSF is sponsored by BMW, BRP, Ducati, Harley-Davidson, Honda, Kawasaki, KTM, Piaggio/Vespa, Suzuki, Triumph, Victory and Yamaha.

The information contained in this publication is offered for the benefit of those who have an interest in riding motorcycles. The information has been compiled from publications, interviews and observations of individuals and organizations familiar with the use of motorcycles, accessories, and training. Because there are many differences in product design, riding styles, federal, state and local laws, there may be organizations and individuals who hold differing opinions. Consult your local regulatory agencies for information concerning the operation of motorcycles in your area. Although the MSF will continue to research, field test and publish responsible viewpoints on the subject, it disclaims any liability for the views expressed herein.

MSF MOTORCYCLE SAFETY FOUNDATION®

Printing and distribution courtesy of
Motorcycle Safety Foundation
2 Jenner, Suite 150, Irvine, CA 92618-3806
www.msf-usa.org

Second Revision ..... December 1978
Third Revision .....February 1981
Fourth Revision ..... .January 1983
Fifth Revision ..... October 1987
Sixth Revision..... April 1991
Seventh Revision ..... September 1992
Eighth Revision ..... .January 1999
Ninth Revision ..... March 2000
Tenth Revision ..... January 2002
Eleventh Revision..... July 2002
Twelfth Revision ..... May 2004
Thirteenth Revision.....June 2007
Fourteenth Revision..... March 2008

Printed in USA 000254