



THE MOTORCYCLE SAFETY FOUNDATION

# 3-WHEEL BASIC *RIDERCOURSE*<sup>SM</sup>



RIDER HANDBOOK



# 3-WHEEL BASIC *RIDERCOURSE*<sup>SM</sup>

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Portions of this book may be reproduced by the Motorcycle Safety Foundation certified RiderCoaches solely to facilitate their presenting this MSF Basic *RiderCourse*™. Under no circumstances may a RiderCoach reproduce this material in its entirety.

The MSF Basic *RiderCourse* is based on years of scientific research and field experience. This current edition has been field-tested and has proven to be successful in developing the entry-level skills for riding in traffic. Through its various iterations, over seven million riders have been trained since 1973.

The information contained in this publication is offered for the benefit of those who have an interest in riding motorcycles. In addition to the extensive research and field experience conducted by the MSF, the material has been supplemented with information from publications, interviews and observations of individuals and organizations familiar with the use of motorcycles and training. Because there are many differences in product design, riding styles, and 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 and all liability for the views expressed herein.

Since 1973, the Motorcycle Safety Foundation has set internationally recognized standards that promote the safety of motorcyclists with rider education courses, operator licensing tests, and public information programs. The MSF works with the federal government, state agencies, the military, and others to offer training for all skill levels so riders can enjoy a lifetime of safe, responsible riding. The MSF is a not-for-profit organization sponsored by BMW, BRP, Harley-Davidson, Honda, Indian Motorcycle, Kawasaki, KTM, Piaggio, Suzuki, Triumph, and Yamaha. For *RiderCourse*™ locations, call 800.446.9227 or visit [msf-usa.org](http://msf-usa.org).



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# WELCOME

Welcome to the world of three-wheel motorcycles (3WMC). The Motorcycle Safety Foundation® and your course sponsor want you to learn to be the wisest rider possible. We want motorcycling to be seriously fun for you. Serious because there is risk involved. Fun because riding a motorcycle is a joy.

If you are new to riding, welcome to the challenge. The 3-Wheel Basic *RiderCourse*™ will help you learn the physical and mental skills required to enjoy riding to the fullest as well as challenge you to be the best you can be as a lifelong learner.

If you are a returning rider who has not ridden for some time, welcome back. This course will help you renew skills that can improve your safety and risk management and make riding more fun.

If you are an experienced rider here to earn your license or endorsement, you will fine-tune your skills and learn new strategies for the road. Challenge yourself to master the basics. Be a good example for the new riders.

This is a basic course, so it only provides the basics. The classroom activities introduce the mental and perceptual processes needed to be a good rider and show you how to process information and make safe decisions. The riding sessions have you practice basic control that includes clutch and throttle coordination, straight-line riding, stopping, turning, and shifting. Also included are quicker stops, curves, and swerves. It is important not only to be healthy, but to have enough fitness, strength, and coordination to learn well and manage the physical demands of riding a three-wheel motorcycle (3WMC).

Your RiderCoaches are here to instruct and guide you. Ask a lot of questions and let them know how to help you. You will have your questions answered and your progress observed. In the classroom, there will be discussions supported by a variety of activities. On the range, the off-street riding area, you will work on skills to help you handle common riding tasks.

This course will provide a good start, but it is important for you to continue to practice the basics of riding on your own 3WMC. The MSF offers more advanced training as part of its complete Rider Education and Training System™. Most of these are based on operating a two-wheel motorcycle and may not be applicable to you. You want to keep your skills fresh. You want to be sharp. After you have successfully completed the 3WBRC, a good next step after getting licensed is to enroll in the MSF Street *RiderCourse*. Check with your RiderCoach about availability.

## COURSE REQUIREMENTS

Successful completion of the 3WBRC requires you to: (1) complete all course assignments, (2) attend all sessions, (3) pass a knowledge test, and (4) pass an on-motorcycle skill test that consists of exercises from the course. Note your course schedule and directions to the riding range here:

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Completing the 3WBRC does not guarantee you will be safe on the road. You are responsible for your own safety. This course provides the basics that allow you to continue to practice your skills and strategies on your motorcycle. Besides following legal requirements, safe riding is a matter of riding within your limits, and only you can choose to do that. You might even decide that riding a motorcycle on the street is not right for you.

## RISK AND RESPONSIBILITIES

Safety and learning are responsibilities shared by you, your RiderCoaches, and your classmates. You are not competing with anyone else in this course so you should focus on your own learning. Ultimately, you are responsible for your own safety and learning. You must let a RiderCoach know if you become uncomfortable or are thinking about leaving the course. There is nothing wrong with that choice. Choose safety first.

Managing a group of new motorcyclists in an environment of constant movement is a challenging task. Your safety is the highest priority in this course. RiderCoaches will continuously observe and evaluate your performance to ensure you meet minimum aptitude requirements for your safety and the safety of others on the range. Because learning a motor skill is an inherently risky activity, there may be instances when a participant loses control. RiderCoaches will help reduce the likelihood of this.

The 3WBRC is conducted at a pace that results in successful completion for most new riders. The RiderCoaches will help you learn to the best of your ability, but if you have a lot of difficulty or become a risk to yourself or others on the riding range as determined by you or your RiderCoaches, you will not be permitted to continue to ride. If this happens, your pursuit of learning to ride may not be over, as many students are successful on a second attempt. RiderCoaches will do their best to keep your experience positive.





## SECTION 2. MOTORCYCLE TYPES

**Introduction:** Generally, a motorcycle is a single-track, two-wheel vehicle designed to be straddled by its rider and having handlebars for control, but variations exist such as three-wheel designs. 3WMCs are wider than a two-wheel motorcycle and come in many different designs. Some have two wheels up front, and some have two wheels in the back. In this course, we will only be discussing and using 3WMCs based on a typical two-wheel motorcycle. The two wheels may be either in the front or rear, but they will leave three separate wheel tracks, unlike a two-track vehicle like a motorcycle with a sidecar that leaves two tracks. In addition, the 3WMCs for this course will use handlebars and controls similar to two-wheel motorcycles and will have a seat that is straddled. If equipped, a passenger sits behind the operator.

There are three basic motorcycle types: (1) street, (2) dual-purpose, and (3) off-highway. Street motorcycles are designed for use on public streets. Dual-purpose motorcycles can be used on the street or on off-highway trails. Off-highway motorcycles are not street-legal. Each type of motorcycle is available in a variety of styles and sizes. For example, street motorcycles include cruisers, sport bikes, touring bikes and 3WMCs. Shopping to find the right one for you can be a lot of fun.

### STREET MOTORCYCLES

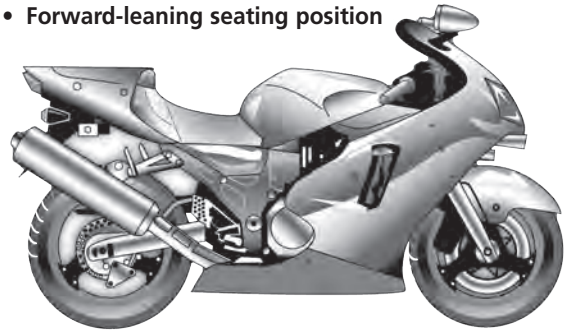
#### Standard

- All around capabilities
- Sometimes called a naked bike (minimum use of body panels)
- Straight-up seating position
- Various engine sizes



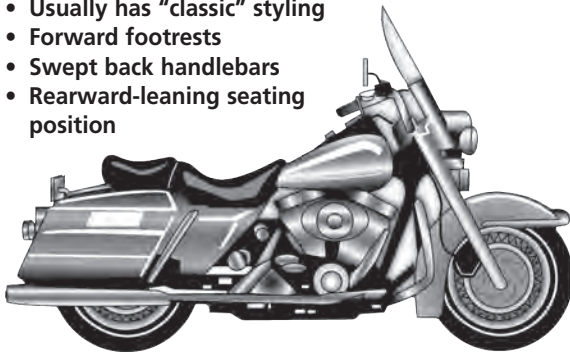
#### Sport

- Body panels and fairing for aerodynamics
- Rear-positioned footrests
- May have higher power-to-weight ratio
- Forward-leaning seating position



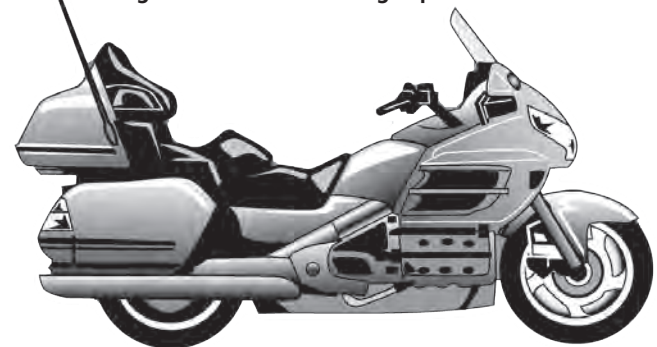
#### Cruiser

- Usually has "classic" styling
- Forward footrests
- Swept back handlebars
- Rearward-leaning seating position



#### Touring

- Designed for comfort and riding longer distances
- Large engine
- Large wind-deflecting fairing
- Heavier than most other motorcycle types
- Bags for additional storage space



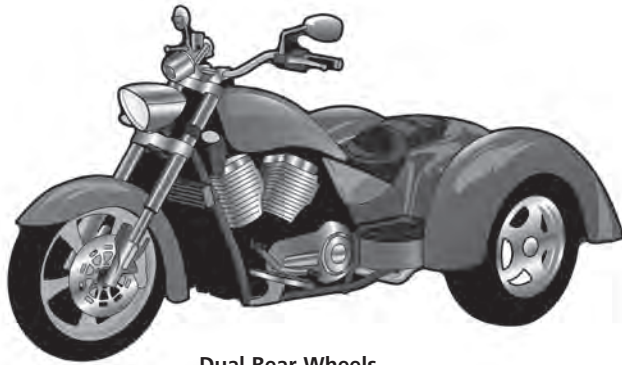
#### Scooter

- Step-through design, often with under-seat storage
- Usually has smaller wheels
- Most have automatic transmission

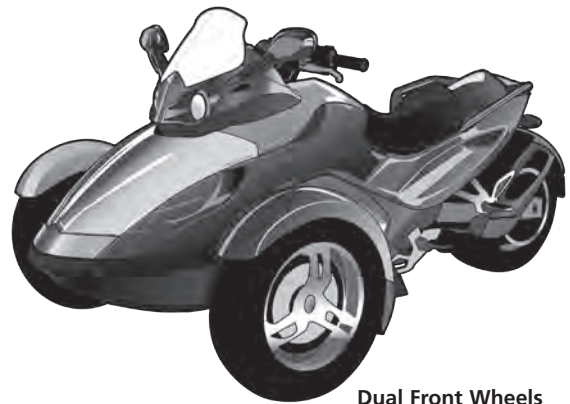


## SECTION 2. MOTORCYCLE TYPES

- Can be dual-front or dual-rear wheels
- May have seat(s) or saddle and steering wheel
- Usually large displacement engines
- Have three separate tracks (not two like a two-wheel motorcycle with a sidecar)



Dual Rear Wheels



Dual Front Wheels

### DUAL PURPOSE MOTORCYCLES

- Used for both street and off-highway riding
- Various engine sizes, up to large adventure-touring models
- Tall seating and straight-up seating position
- Special tires provide grip on pavement and dirt
- Extra ground clearance and long-travel suspension



### OFF-HIGHWAY MOTORCYCLES

#### Enduro

- Recreational riding in forests or deserts
- Some have a headlight and taillight



#### Motocross

- Closed course competition over bumps and jumps

#### Trials

- Low-speed competition over challenging obstacles

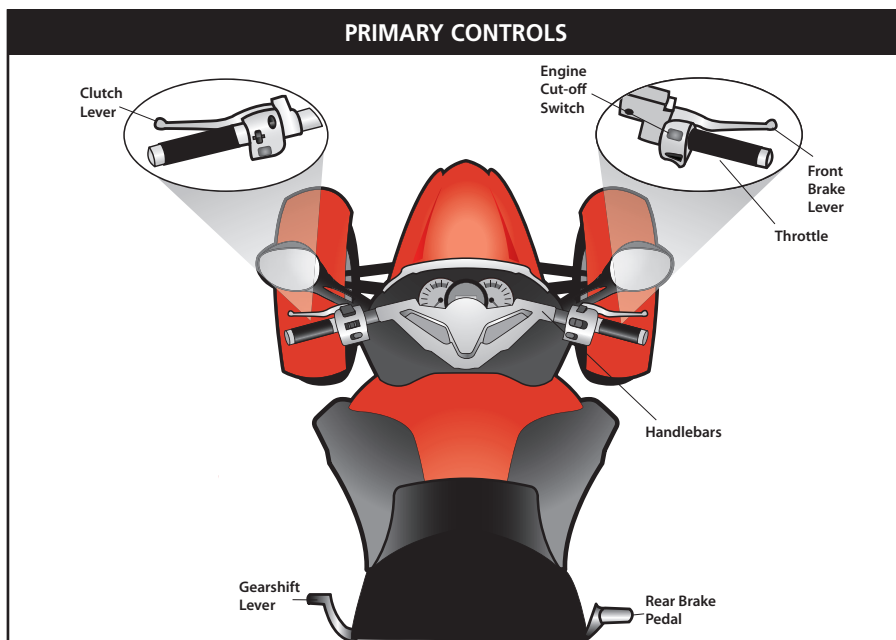


## SECTION 3. CONTROLS, INDICATORS AND EQUIPMENT

**Introduction:** Hands and feet are used to operate and control a typical 3WMC. You must know the location and operation of the primary controls and be smooth and precise when using them. The controls and equipment described here are for motorcycles with a gasoline-powered engine and a manual transmission. (Some motorcycles have an electric motor and/or automatic transmission.) Refer to your owner's manual for specific information on your motorcycle.

### PRIMARY CONTROLS

There are six primary controls. You should know the location and function of each control. You will practice using these on the range.



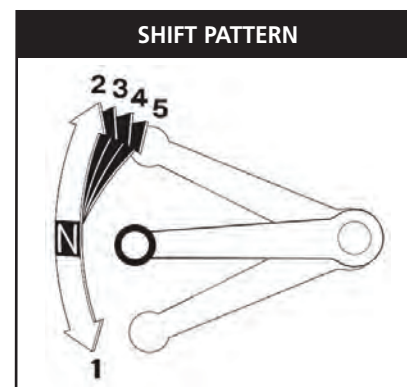
**Handlebars:** Used to control direction of the motorcycle. There is a handgrip on each end.

**Throttle:** The right handgrip, which rotates to control engine speed. To increase engine speed, twist it toward you (roll on). To decrease engine speed, twist it away from you (roll off). The throttle springs back to the idle position when released.

**Clutch Lever:** In front of the left handgrip. It is operated with the fingers of the left hand. The clutch mechanism connects power from the engine to the rear wheel. The lever is squeezed in to disconnect and eased out to connect. When the clutch lever is squeezed in, there is no engine power going to the rear wheel. Scooters and some motorcycles do not have a clutch lever because they have an automatic transmission.

**Gearshift Lever:** On the left side of the motorcycle in front of the left footrest. It is operated with the left foot. Lift up firmly and release to go to a higher gear; press down firmly and release to go to a lower gear. It shifts one gear with each lift or press, and only needs to move up or down an inch or so. When released, it returns to its center position for the next shift. Most motorcycles have five or six gears with 1st gear at the bottom. Neutral is between 1st and 2nd gear and is selected by either a half lift from 1st gear or a half press from 2nd gear. Most scooters and some motorcycles do not have a gearshift lever because they have an automatic transmission.

**Front Brake Lever:** In front of the right handgrip and operated with the fingers of the right hand. Squeeze it in to operate. It is used a bit differently than the clutch lever as it doesn't reach the handgrip, and the amount of squeeze must be adjusted for effective braking. While learning to ride, keep your fingers wrapped around the handgrip for throttle control and so you can learn to reach-and-squeeze the front brake lever when needed.





## SECTION 3. CONTROLS, INDICATORS AND EQUIPMENT

**Rear Brake Pedal:** In front of the right footrest and operated with the right foot. Press down to operate it. Some 3WMCs have all braking combined, and pressing on the rear brake pedal activates all the brakes at the same time.

### OTHER CONTROLS

The location and operation of other controls may vary. The best source of information is the owner's manual. Other controls include:

**Fuel Supply Valve:** Usually under the fuel tank. It controls the flow of gasoline to the engine. Common positions are: On, Reserve, and Prime or Off. Reserve allows access to a small amount of fuel after the main supply is depleted. Prime permits direct fuel flow, and the valve should not be left in this position after its use. Some motorcycles do not have this valve because the engine is fuel-injected, and gasoline only flows when the ignition switch is On and the engine is running.

**Ignition Switch:** Often located near the instrument cluster. Positions include On, Off, and Lock, and some include a Park position. The Lock and Park positions engage the steering lock and allow the key to be removed. The Park position turns on the taillight for better visibility when parked for a short time on the side of the road. The switch may also have an Accessory position.

**Choke Control:** Located on the handlebars or near the engine. It provides an enriched fuel mixture to help start a cold engine. It also raises the idle to permit the engine to warm quickly. It should be turned Off as soon it is no longer needed. Fuel-injected motorcycles do not have a choke control.

**Engine Cut-off Switch:** Near the right handgrip and operated with the thumb. It allows you to shut off the engine without removing your hand from the handgrip.

**Turn Signal Switch:** Usually located near the left handgrip and operated with the thumb. Some signals cancel automatically after a turn or lane change.

### INDICATORS AND EQUIPMENT

Motorcycles include indicators that display information. They also have equipment to aid in safe operation and to communicate with others.

**High/Low Beam Switch:** Near the left handgrip and operated with the thumb. It is used to select high or low beam for the headlight.

**Horn Button:** Located near the left handgrip and operated with the thumb.

**Engine Start Button:** Located near the right handgrip and operated with the thumb.

**Speedometer:** Part of the instrument cluster and shows road speed.

**Odometer:** Part of the instrument cluster and shows miles ridden. There may also be a re-settable trip meter, which can be used to display miles traveled since the last fill-up or the last stopping point.

**Tachometer:** Indicates engine speed in revolutions per minute (rpm). It has a red line for maximum engine speed that should never be exceeded.

**Indicator Lights:** May include neutral, high beam, turn signal, oil pressure, and more. Check the motorcycle owner's manual.

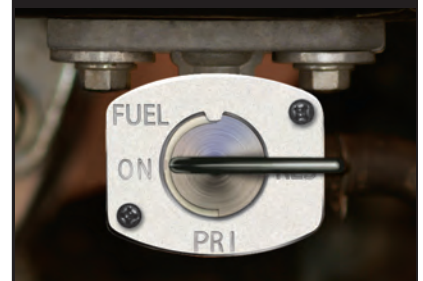
**Motorcycle Lights:** Includes headlight, turn signals, taillight, and brake light. Check for proper operation. Be sure that squeezing the front brake lever and pressing the rear brake pedal illuminate the brake light.

**Mirrors:** Help you see what is behind you. Motorcycles have convex mirrors that are curved to provide a wider view but make objects look farther away. Convex mirrors may reduce the size of blind spot areas, but they do not eliminate them.

FUEL SUPPLY VALVE IN OFF POSITION



FUEL SUPPLY VALVE WITH PRIME

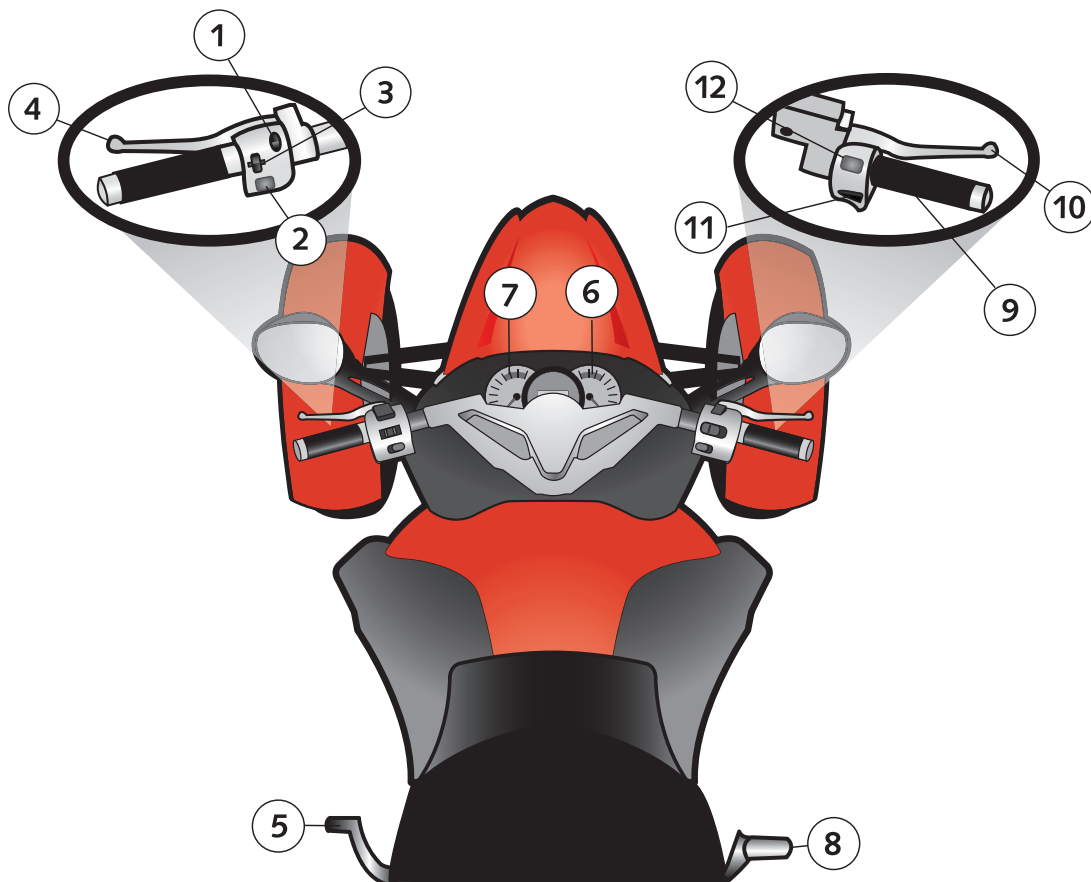


IGNITION SWITCH



## SECTION 3. CONTROLS, INDICATORS AND EQUIPMENT

### Controls Quiz



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_



## SECTION 4. ABOUT BASIC OPERATION

The complete MSF Basic*RiderCourse* Rider Handbook is available in Kindle format in the Amazon store. [Click here to purchase.](#)



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