Volusia Motorcycle Training

(386) 756-4733

# MSF – Motorcycle Safety Foundation

## Basic Rider Course Study Questions & Answers

Fifth Edition, 2003 Rider Handbook

* The numbered list of questions below correspond to those found in the back of the MSF Basic Riders Course Manual (Fifth Edition). The appropriate page that each answer can be found is in parenthesis following each question. The number in the parenthesis match the page number and the letter corresponds with the answers placement on the page. "A" refers to top of the page, "B" refers to the middle of the page and "C" refers to the bottom of the page. For example, (page 36-B) means that the answer can be found on page 36 in the middle of the page. The answers are summarized under each question and set apart by bullets.

UNIT II

1. List the 3 types of motorcycles and the primary use for each. (page 3-A)
   - Street
   - Dual purpose
   - Off-highway

2. Name the distinguishing characteristics of each of the 3 types. (page 3-A)
   - Street – use on public streets and highways – equipped for street use
   - Dual purpose – used on both street and off-highway –
   - Off-highway – not street legal for competitive and recreational use

3. What is Basic Rider School and what is its number?
   - A hands on training school(386) 756-4733

**4. Name 2 primary differences between cars/trucks and motorcycles. (page 5-A)**
   - **Motorcycles don't have stability of cars and must be balanced**
   - **Motorcycles leave you more vulnerable in crash because of less protection**
   - **Motorcycles are not as visible as cars and trucks because of size**

**5. What are the problems that these differences cause? (page 5-A)**
   - **Motorcycles must be balanced**
   - **Motorcycles leave you more vulnerable less protection**
   - **Motorcycles are less visible**

6. Describe one crash from your group's experience (or that you are aware of), and briefly describe the circumstances. What would some preventive measures be?

7. Who is responsible for safety? (page 5-B)
   - Everyone is responsible for safety

8. How can someone tell if they would likely be dangerous on a motorcycle? (page 6-A)
   - If they have several close calls or near misses driving a car

9. What is the significance of the ladder of risk/crash chain? (page 6-B)
   - It helps you to be more aware of how factors contributing to a crash and avoid them.

10. What must happen before risks can be managed? (page 6-B)
    - Be aware of the risks and accept them

**11. Part of being responsible means to give a lot of thought to what? (page 6-B)**

- **Think about the consequences of your riding behavior in traffic and accept personal responsibility.**

**12. What is the primary cause of motorcycle crashes? (page 7-A)**

- **An interaction of factors that accumulate (speeding, inattention, distraction, drinking or carelessness)**

13. What leads up to most crashes? (page 7-B)

- Accumulating factors lead to a hazardous situation or crash

14. In a crash chain, most of the attention needs to be focused where? (page 8-A)

- At the bottom (factors) because that is where all action begins and where you can minimize the interaction of factors by using strategy and good judgment.

**15. How does the Handbook define a "good motorcyclist? (page 8-B)**

- **Good motorcyclist reduce factors that lead to problems by applying strategy.**

**16. How does a rider reduce factors that lead to crashes? (page 8-B)**

- **Good riders reduce factors that lead to problems by applying a strategy.**

**17. What does it mean to have a margin of safety? (page 8-C)**

- **"Margin of error" is how much extra time and space you need given your skill level.**

**18. What is SEE, and what does each letter stand for? (page 9-A)**

- **SEE is a strategy to help you identify present conditions and implement a plan of action.**
- **S = See (search for factors that might lead to trouble)**
- **E = Evaluate (how the factors might interact to create risk)**
- **E = Execute (take action to maintain a margin of safety)**

UNIT III

**19. Name several purposes of protective riding gear. (page 10-A)**

- **Providing comfort**
- **Increasing visibility**
- **Offering protection**

20. List the 6 items names as proper, protective gear.( page 10-A)

- Over-the-ankle footwear with non-slip soles
- Long pants
- A good jacket
- Full-fingered gloves
- Helmet that meets DOT standards
- Eye protection

21. What is the function of a helmet? (page 10-B)

- To protect the head and brain from injury

22. List the 4 basic components of a helmet named on page 10. (page 10-B)
- Outer shell
- Impact absorbing liner
- Comfort padding
- Retention system

23. What is the purpose of each of these 4 components? (page 10-C)
- Outer shell – to keep sharp objects from penetrating into head and absorb impact
- Impact absorbing liner – cushion and absorb shock by spreading force of impact
- Comfort padding – maintain comfort and fit
- Retention system – chin strap with D-rings to keep helmet on head in crash

**24. What's the difference between a full-faced and three-quarter-coverage helmet? (page 11-A)**
- **Full-face covers the whole head**
- **Three-quarter does not offer face and chin protection**

**25. Why aren't ordinary glasses or sunglasses sufficient eye protection? (page 11-B)**
- **They can shatter or fly off and allow wind and airborne objects to reach the eyes.**

**26. What stickers are likely to indicate a well-made helmet? (page 11-C)**
- **DOT – Department of Transportation safety tests and standards**
- **SNELL – Snell Memorial Foundation passed safety standards**

**27. What type of injury accounts for the majority of motorcycle deaths? (page 11-C)**
- **Head injuries account for the majority of motorcycle fatalities.**

28. Name 2 types of motorcyclist eye protection. (page 12-B)
- Face shields
- Goggles

**29. What is the value of appropriate footwear? (page 12-C)**
- **Protects you from stones thrown up in roadway**
- **Prevent burns from hot exhaust pipes**
- **Rubber-soles give strong grip on pavement**
- **Provide valuable protection to foot and ankles in crash**

30. Name at least 3 considerations in choosing gloves. (page 12-C)
- Full fingered (to protect hands from wind, sun, heat and cold)
- Snug fit (to improve grip and hand fatigue)
- Reinforced (to protect hands in event of fall)
- Seams on outside (to prevent irritation)
- Curved (to provide natural grip when around handlebars)
- Gauntlets (to keep air and debris out of sleeves and protect wrists in fall)
- Light material in summer and thick in winter

**31. What is the value of motorcycle specific clothing? (page 13-A)**

- **Provides the best combination of fit and protection**
- **They are designed to fit while in a ridding position.**
- **Cut longer in sleeves and legs and fuller in shoulders.**
- **Flaps and fasteners seal out wind**
- **Extra padding provides protection.**

32. What are some considerations for choosing proper clothing? (page 13-B)

- Leather or other durable and resistant material
- It should fit comfortably without binding
- Zippers are better than snaps
- Flaps over zippers
- Snug cuffs and waist keep wind from blowing.

**33. Define "hypothermia" and provide an example. (page 13-C)**

- **A condition of subnormal body temperature causing loss of concentration, slow reactions, and loss of precise muscle movement**
- **On a chilly day of 50 degrees Fahrenheit riding at 30 mph gives chill effect of 42 degrees**

**34. What is the value of dressing in layers? (page 14-A)**

- **Extra layers can be taken off as the weather and temperature changes.**

35. How can clothing make you more visible to others in traffic? (page 14-A)

- Bright colors make you more viable to others.

36. What are some considerations in choosing a rain suit? (page 14-B)

- One that is designed specifically for motorcycling is best.
- High visibility orange or yellow color.
- Elastic in the waist, pant legs and sleeves keeps water out.
- High collar on the jacket
- Zip up with flaps across the opening.
- Waterproof gloves and boot covers.

37. What is the value of pre-ride inspections? (page 14-C)

- Pre-ride inspections find trouble beforehand and give the rider confidence.

**38. What is T-CLOCS and what does each letter stand for? (page 15-A)**

- **T – Tires & Wheels (pressure, tread, cracks, loose spokes, bearings, brakes)**
- **C – Controls (levers, switches, cables, hoses and throttle)**
- **L – Lights & Electrics (working condition)**
- **O – Oil & Other Fluids (levels and leaks)**
- **C – Chassis (suspension, drive components, belt and driveshaft)**
- **S - Sidestand**

39. Where can you find information about routine maintenance? (page 15-C)

- The motorcycle's owners manual

40. What is the value of routine maintenance? (page 15-C)
- Routine maintenance helps prevent more costly corrective maintenance that occurs from wear and tear.

**41. What are the primary motorcycle controls? (page 17-A-C)**
- **Throttle**
- **Clutch lever**
- **Gearshift lever**
- **Front break**
- **Rear break**
- **Electric starter**
- **Turn signal switch**
- **Engine cut off switch**
- **Speedometer and odometer**
- **Horn button**
- **Tachometer**
- **High/low beam switch**

**42. What is the most common way to initiate and control motorcycle lean (for turns)? (page 16-A)**
- **The handlebars are the most common way to control lean.**

43. How does a rider operate the throttle? (page 16-A)
- Roll it towards you to increase engine speed and roll it back to decrease engine speed

44. What does the clutch lever do? (page 16-B)
- Connects power from the engine to the rear wheel.

45. What does lifting or pressing on the shift lever accomplish? (page 16-B)
- Lifting the lever shifts the bike to a higher gear
- Pressing the lever shifts the bike to a lower gear.

**46. What is meant by shift pattern? (page 16-B)**
- **A shift or gear pattern is the order of gears from bottom to top (1, N, 2,3,4,5)**

**47. Where are the brake controls found? (page 16-C)**
- **Front brake is on right hand grip**
- **Back brake is in front of right footrest**

48. What is the best source of information about your motorcycle? (page 18-A)
- The motorcycles owner's manual

**49. What does the fuel valve do? (page 18-A)**
- **It controls the flow of gas to the engine.**

50. What are the positions on the fuel valve? (page 18-A)
- On, off and reserve

51. What does the choke control do? (page 18-B)
- Provides and enriched fuel mixture to assist in starting a cold engine
- Provides a fast idle to permit engine to warm quickly

52. Where is the engine cut-off switch located? (page 18-B)
- Near the right handgrip.

**53. What is the function of the tachometer? (page 18-C)**
- **Indicates engine speed.**

**54. What are some common indicator lights? (page 18-C)**
- **Neutral**
- **High beam**
- **Turn signal**
- **Oil pressure**
- **Side stand down**

**55. What are the steps in starting the engine? (page 19-A)**
- **F – Fuel - supply turn on**
- **I – Ignition - switch turned to "on" position.**
- **N- Neutral - shift to neutral**
- **E – Engine Cut off Switch – put the switch in the run position**
- **C – Choke/Clutch – set choke if needed or pull clutch**

**56. What is the friction zone? (page 20-A)**
- **The area in the clutch movement that begins where the clutch starts to transmit power to the rear wheel and ends just before the clutch becomes fully engaged.**

**57. Describe good riding posture. (page 20-B)**
- **Back straight**
- **Head and eyes up**
- **Both feet on the footrest and near controls**
- **Knees and elbows in**
- **Arms relaxed and bent**
- **Wrist positioned low on the throttle**

**58. List the 4 steps in turning. (page 21-A)**
- **Slow – reduce speed before a turn by rolling down throttle and applying brakes**
- **Look – Turn you head and look where you want the motorcycle to go.**
- **Press – initiate lean & press forward on the handgrip in desired direction.**
- **Roll – roll the throttle throughout the turn slightly increasing speed.**

59. What is the value of the 'look" step? (page 21-A)
- Helps you maintain a smooth path of travel.

60. What is the value of the "roll" step? (page 21-B)
- Stabilizes the suspension and improves overall control.

**61. When is the counterweight technique used? (page 21-B)**
- **In slow, tight turns (U-turn) the counterweight is needed.**

**62. Why do you change gears? (page 22-A)**
- **To match the engine speed with the road speed**

**63. What is the 3-part shift process? (page 22-A)**
- **Roll off the throttle as the clutch is squeezed**
- **Lift the shift lever firmly as far as it will go**
- **Smoothly ease out the clutch and adjust the throttle**

**64. What is engine breaking? (page 22-B)**
- **Downshifting to slow down the bike by using the engine.**

**65. How much of a motorcycle's stopping power is available from the front break? (page 23-A)**
- **Front brake provides 70% of the stopping power.**

**66. Why should both breaks be used simultaneously? (page 23-B)**
- **You can stop faster**
- **Habit of using both brakes will train your reflexes will be ready to respond quickly in emergency situation**

**67. What's the purpose of the range safety rules? (page 24-A)**
- **To provide a low risk and positive learning environment.**

68. Name 3 of the more important Range Safety Rules? (page 24-A)
- Do not practice without Rider permission of Coach
- Wear protective gear when riding
- Know where engine cut off switch is and how to use it
- Keep clutch covered during early skill development
- Keep wrist down position on throttle
- Keep margin of safety and check all sides before moving
- Do not pass other riders unless directed to do so
- If you have problem, move out of the path of travel
- Stop smoothly when you hear the group stop signal
- Ask for assistance if you do not understand or become uncomfortable

**69. How will the RiderCoaches communicate with you on the range? (page 24-B)**
- **Use of hand signal during riding exercises**
- **Verbal communication**

UNIT IV

**70. What does it mean to have a space cushion? (page 25-A)**
- **Space between your motorcycle and traffic**

**71. How does a motorcycle utilize lane positions? (page 26-A)**
- **Position yourself to see potential problems ahead and so others can see you.**

**72. Name some ways to be more visible to others in traffic. (page 26-B)**

- **Clothing – wear bright colored clothing and light colored helmet or reflective material.**
- **Headlight – ride with the headlight on during daytime.**
- **Signals – communicate by signaling your intentions to other drivers.**
- **Brake light – flash break lights before and during stops**
- **Horn – use the horn to gain attention**

**73. What are the 3 "lead times" (Rider Radar)? (page 27-A)**

- **2-second following distance "one-motorcycle-one, two-motorcycle-two"**
- **4-second immediate path**
- **12-second anticipated path**

**74. Why is the 2-second following distance considered minimum? (page 27-B)**

- **Because less than ideal condition require increasing available time and space**

75. Why is the 4-second lead-time called "immediate?" (page 28-A)

- Because anything within 4-seconds of your path will require an immediate or quick response.
- 4 seconds provides time and space to swerve and or brake for a hazard.

76. What advantage is gained by using a 12-second anticipated path? (page 28-B)

- Looking ahead to an area 12 seconds in front of you gives time to prepare for a situation before it becomes immediate.

**77. Name the 3 components of total stopping distance. (page 27-C)**

- **Perception distance – distance traveled from the time something is present until you notice it.**
- **Reaction distance – distance traveled from the time something is seen to starting the to break.**
- **Braking distance- distance traveled from the time the brakes have been applied until stopped.**

78. Safe riding is a skill of what kind? (page 28-B)

- Safe riding is more a skill of the eyes and mind than the hands and feet.

**79. What does it mean to Search? (page 28-C)**

- **To scan aggressively for potential factors and hazards in front, behind and on your sides.**

**80. What is the characteristic of a convex mirror? (page 28-C)**

- **Allows the rider to see farther to the sides**
- **Distorts the depth perception (objects appear farther away than they actually are)**

81. What are the 3 general Search categories? (page 29-A)

- Road and surface conditions
- Traffic control devises, markings and signs
- Other highway users

82. What does Evaluate mean? (page 29-A)

- To anticipate potential problems and how they may effect you

83. What are the 3 action steps of Execute? (page 30-A)
- Adjust speed
- Adjust position
- Communicate your intentions

84. What 3 things in the Oval of Safety affect your margin of safety? (page 29-B)
- The capabilities and limitations of your motorcycle
- Your capabilities and limitations
- Roadway/traffic conditions

**85. Where is the greatest potential for conflict? (page 30-B)**
- **Intersections present the greatest potential for conflict**

**86. What 4 steps should you follow when around an intersection? (page 30-B)**
- **Check traffic behind you**
- **Check oncoming traffic**
- **Check traffic to the left**
- **Check traffic to the right**

87. What is significant about a traffic-actuated signal? (page 30-C)
- Sensors in the road detect the presence of a vehicle and make the light change

**88. What are some hazards between intersections? (page 31-A)**
- **Maintain a space cushion**
- **Riding in blind spots**
- **Varying speeds of traffic**
- **Vehicles pulling away from parked positions**
- **Pedestrians**
- **Drivers that tailgate**

**89. What is the No-Zone? (page 31-C)**
- **Area around a truck or vehicle that is in their blind spot.**

**90. How should you respond to a tailgating driver? (page 32-A)**
- **Increase your own following distance to encourage them to pass**
- **Flash break lights**
- **Keep lane position that discourages lane sharing**
- **Pull over to let them pass**

**91. What are some factors to search for when approaching a curve? (page 32-B)**
- **Areas of reduced visibility**

**92. How can an outside-inside-outside path of travel help you in curves?**
-

93. Name a couple of tips for parking your motorcycle? (page 33-A&B)
- Position the motorcycle at an angle with the rear tire to the curb
- When using the sidestand turn the handlebars to the left for added stability
- Lock the forks
- Use a flattened aluminum can to put under the sidestand
- Park the motorcycle in first gear for extra stability

**94. Why rise off the seat when crossing an obstacle? (page 34-A)**
- **The seat may jerk up and throw you off the bike**

95. How is the throttle used when crossing an obstacle? (34-B)
- Roll on the throttle just before the front wheel makes contact
- Roll off the throttle immediately upon contact with the obstacle
- Resume throttle after you go over the obstacle

**96. Why make a head check before changing lanes? (page 35-A)**
- **So you can see if there is anything in your blind spots**
- **To see if an impatient driver is trying to pass you**

97. Is there a unique procedure when passing another vehicle on your motorcycle? (page 35-A&B)
- Only try to pass one vehicle at a time
- Keep appropriate following distance
- Check mirror and blind spots for passing vehicles
- Accelerate and change lanes with lane position that allows maneuvering
- Pass the vehicle and signal to go back into lane
- Check spacing

**98. What makes starting out on a hill (upgrade) more difficult? (page 36-A)**
- **The motorcycle has a tendency to roll back making starting difficult.**

**99. What is "overriding the headlights" and what is the solution? (page 36-C)**
- **The total stopping distance exceeds the sight distance.**

**100. Name and explain the 3 variations to standard braking systems? (page 37-A)**
- **Integrated brakes: applying rear brake results in pressure to front brake as well**
- **Linked brakes: application of either brake results in pressure to the other break**
- **Anti-lock brakes: prevents or minimizes skidding in maximum-braking straight line stop.**

**101. What is the best way to achieve maximum braking? (page 37-B)**
- **To apply both breaks fully without locking either wheel.**

**102. What complicates braking in a curve? (page 37-B)**
- **The motorcycles lean results in the amount of traction on the tire available for braking is reduced.**

**103. What is the key to stopping quickly in a curve? (page 37-B)**
- **Apply the breaks smoothly and gradually**
- **Get the motorcycle straight up as soon as possible to get the maximum amount of traction for stopping.**

**104. What should you do if the front tire skids because of too much braking pressure? (page 38-A)**

- **Immediately release the front brake to allow the wheel to roll freely and then reapply the brake properly**

**105. What is the danger of a rear-tire-skid? (page 38-A)**

- **The ability to turn is lost**

106. What is a "high-side"? (page 38-B)

- When the rear tire comes out of a skid and is OUT OF ALLIGNMENT with the front wheel. The motorcycle jerks to straiten itself and you can be thrown off the bike.
- Low side is when the rider hits the ground behind the sliding motorcycle resulting from a front tire skid.

**107. In a swerve, how should you lean? (page 39-A)**

- **Keep the motorcycle lean independent of body lean or keep your upper torso upright while the motorcycle leans.**

**108. What action should be avoided when swerving? (page 39-A)**

- **No not break while swerving. (it will result in a skid or loss of control)**

**109. Why is a surface most slippery as it begins to rain? (page 39-B)**

- **The oil and dirt combine with water to make a slippery surface.**

**110. What is hydroplaning? (page 39-B)**

- **Water builds up under the tire tread.**

**111. How can a crowned road affect riding? (page 40-A)**

- **Reduces ground clearance around curves making a less available lean angle.**

**112. How does carrying a passenger affect the operation of a motorcycle? (page 40-B)**

- **Added weight makes starting out more difficult**
- **Added weight reduces acceleration capability.**
- **More time and space is needed for passing**
- **Increase needed stopping distance**
- **Stability is affected in turns and curves**

**113. What are a few tips for carrying passengers? (page 40-B)**

- **Adjust suspension and tire pressure for added passenger**
- **Make sure passenger has riding gear**
- **Have engine started, transmission in neutral and both feet on the ground and brakes applied while passenger is mounting**
- **Avoid abrupt accelerations and decelerations and go easy on lean angles**
- **Have the passenger hold the drivers waist, keep feet on pegs, hands and feet in, look over the riders shoulder in the directions of turns, avoid leaning, turning around or sudden moves.**

**114. What 3 points should be considered when carrying loads? (page 40-C)**
- **Weight: motorcycle has maximum load capacity.**
- **Location: keep weight low and in the "load triangle"**
- **Security: be sure the load is secure and will not fall off.**

115. What is the "load triangle"? (page 41-A)
- The space formed with the top of your head and the two axles.

**116. How should you respond to a dog that approaches from the side? (page 42-A)**
- **Slow, downshift and accelerate past the point of interception.**

117. What is the primary cause of tire failure? (page 42-B)
- Riding with the tire pressure low.

118. What is made more difficult by a broken clutch cable? (page 43-A)
- Shifting gears

119. What is the solution for wobble or weave? (page 43-B)
- Keep firm hold of handlebars and smoothly ease off the throttle to slow gradually.

**120. What are the 2 primary effects of alcohol? (page 43-B)**
- **Diminished visual capacity**
- **Diminished ability to think and evaluate factors leading to a crisis**
- **It reduces your ability for coordinated movement.**

**121. How fast is alcohol eliminated from the bloodstream? (page 44-A)**
- **One drink per hour for an adult male**
- **¾ drink per hour for an adult female**

**122. How much beverage alcohol equals one drink? (page 44-B)**
- **One-half ounce of pure alcohol.**

123. What are some other drugs that effect SEE? (page 45-A)
- Prescription drugs and illegal drugs

**124. What is the best way to approach intervention? (page 45-C)**
- **Enlist others to help you keep the rider off the road**

**125. What are some ways to intervene when someone has had too much to drink? (page 45-C)**
- **Enlist others to help you keep the rider off the road**
- **Arrange for an alternative ride home**
- **Slow the pace of the person's drinking (divert them to other things)**
- **Delay departure (give them other food and time to burn off alcohol)**
- **Deep the bike parked by hiding the keys.**

126. What besides alcohol/other drugs can produce impairment? (page 46-A)
- Fatigue and drowsiness
- Emotions (anger, stress, troubled)
- Riding to the limit (aggressive riding, racing, showing off)