

MOTORCYCLE SAFETY AND ENFORCEMENT TRAINING

Instructor Training Manual

**INTERNATIONAL ASSOCIATION OF DIRECTORS OF LAW ENFORCEMENT
STANDARDS AND TRAINING (IADLEST) AND**

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA)



ACKNOWLEDGEMENTS

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Points of view or opinions contained within this document are those of the author and do not necessarily represent the official position or policies of the US DOT - NHTSA.



National Highway Traffic Safety Administration
Our Mission: Save lives, prevent injuries, reduce vehicle-related crashes

This training was developed by police officers for police officers. The information provided is meant to enhance officer knowledge and safety in the realm of motorcycle laws through enforcement and public education of those motor vehicle/motorcycle laws, and give officers the information to help reduce the number of motorcyclist killed or injured in traffic crashes.

The International Association of Directors of Law Enforcement Standards and Training (IADLEST) would like to thank the National Highway Traffic Safety Administration for their help in making this training possible. Particular thanks go to Earl Hardy and William Cosby of NHTSA for their on-going guidance. We also must extend our thanks to the following individuals who participated in the curriculum development. Their knowledge and experience helped to define the content of the materials for the lesson modules and critical information was covered for law enforcement. The individuals who helped make this training a reality include the following: Mr. Richard Davis, Arkansas State Police; Lt. Jim Halvorsen, New York State Police; Lt. Michael Turcott, Washington State Police; and Mr. John Young, Texas Department of Public Safety. Special thanks to Inspector Patrick McManamon, Vermont Department of Motor Vehicles and Mr. Albert Liebno, Maryland Police & Correctional Training Commissions for their feedback on improving the presentations.

The information contained in this program by no means reflects the opinions of all the individuals listed.
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Assistant Director, Vermont Police Academy

Instructor Manual - Table of Contents

Cover Page	i
Acknowledgements	ii
Table of Contents	3
Instructor Course Lesson Plan	5-6
Instructor course training schedule	7-9
Module 1 – Introduction – Lesson Plan	11
“The Motorcyclist” Exercise	12
Module 1 – Introduction	13
Module 2 – Lesson Plan - Motorcycle Types and Characteristics	19-20
Module 3 – Lesson Plan - Safety Laws - Equipment & Operation	27-28
Module 4 – Lesson Plan - Officer & Motorcyclist Safety	35-36
Module 5 – Lesson Plan - Crash Investigation	41-42
Module 6 – Lesson Plan - DUI Detection	51-52
Module 7 – Lesson Plan - Motorcycle Helmets	55-56
Module 8 – Lesson Plan - Public Education Efforts / Stakeholders	63-64
Follow-Up Information	68
Quarterly Report & Information	69-70
Appendix of Training Materials	
Appendix A – Acronyms / Glossary	71
Appendix B – Course Evaluation Form	73
Appendix C – NHTSA Traffic safety facts, 2008 data -handout	74
Appendix C – Is it a motorcycle?	75
Appendix D – Excerpts of FMVSS Related to Motorcycles	77
Appendix E– Helmet Inspection Information	81
Appendix F – Helmet Quiz	83
Appendix G – DUI Predictor Quiz	84
Appendix H – Examples of MTC Safety Inspection checklists	85-86
Appendix I – Presentation Evaluation & Feedback	87
Appendix J – MSET Instructor checklist	88
MSET Class End of Course Test Questions	89-92
References	93
Resources	95
Technical Assistance	98



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TITLE: **Motorcycle Safety and Enforcement Training for LE**

Lesson Purpose: To understand why the enforcement of motorcycle laws, support of national motorcycle safety enforcement efforts and best practices are critical to reduce motorcycle fatalities and injuries.

Training Objectives: At the end of this block of instruction, the student will be able to achieve the following objectives in accordance with the information received in class:

- Educate law enforcement officials about motorcycle safety issues and resources.
- **Understand that the enforcement of motorcycle laws has a direct correlation with reducing the number of motorcycle fatalities and injuries.**
- Understand the critical areas of enforcement of motorcycle laws.
 1. Statistical information on injuries and death. Why safety education and enforcement?
 2. Motorcycle Types and Characteristics
 3. Motorcycle Safety Laws Related to Equipment and Operation
 - a. Licensing – Motorcycle Endorsement
 - b. Speed Enforcement.
 4. Officer and Motorcyclist Safety
 - a. Explain and share strategies for stopping motorcycles
 - b. Strategies to avoid pursuits.
 5. Crash Investigation
 6. DUI Detection/Impairment – Educate law enforcement about alcohol-related behavior of motorcyclists.
 7. Motorcycle Helmets - DOT Standard - FMVSS 218
 8. Encourage Motorcycle Safety and Public Education Efforts

Hours: Train-the-Trainer: Sixteen (16) hours
Awareness Class: Eight (8) hours

Instructional Method: Presentation/Discussion/Practical Exercise

Materials Required: Outline
Handouts
Pen/Pencil

Training Aids: Flip Chart

LCD Projector/Lap top Computer
PowerPoint Slides
TV/DVD
Handouts
Student PowerPoint – presentation handouts

Recommended Minimum **Instructor** students: 6 / Maximum Instructor students: 24.

Recommended Awareness Class students: To be determined by training instructor.

Note: The maximum number of students is based on time to present in day two of training. Please consider adding a third day if student number exceeds 20 in one day, as this allows for student presentations along with a one hour evaluation and feedback period at the end of presentations.

Train-the-Trainer Grade (if applicable) on the following:

1. Class Participation
 - Participation in Class and Discussion,
 - Complete In-Class Assignments,
 - Complete Homework / State Law Assignments.
2. Research of Your State's Motorcycle Laws
 - Complete Pre-Class Research Assignment – Bring Copy of Your State's Motorcycle Laws,
 - Complete Homework / Prepare Presentation of Your State Motorcycle Laws.
3. Presentation of Train-the-Trainer Materials
4. Final Instructor Presentation Evaluation
5. Peer Evaluation & Feedback

References: See Reference Listing at end of materials.

Prepared by: June F. Kelly, Project Manager & Assistant Director
Vermont Criminal Justice Training / Vermont Police Academy
International Association of Directors of Law Enforcement
Standards and Training

Date Prepared: May 1, 2009

PURPOSE STATEMENT

This training manual developed by IADLEST is intended to assist law enforcement in the enforcement of motorcycle laws. Its purpose is to share existing motorcycle laws knowledge, discuss motorcycle safety issues, the scope of problems involving enforcement of motorcycle laws, and present best practices in the realm of enforcement of motorcycle laws, sharing of safety practices for law enforcement, the motorcyclist and the public, prevention of motorcycle accidents and fill an existing gap in law enforcement training. The goal of this training is to have all police officers trained through their Police Academies or POST¹ Programs.

We propose to act on the knowledge gained in this course to promote “enforcement of motorcycle laws” and reduce the problem of unlicensed motorcyclists, motorcycle DUI, non-compliant helmets, and speed related crashes.

¹ P.O.S.T. is the acronym for Police Officer Standards and Training

INSTRUCTOR TRAINING SCHEDULE

Motorcycle Safety and Enforcement for Law Enforcement

Day One

Class registration **0800-0830 hrs.**

INFORMATIONAL PAPERWORK

Sign-up Roster

“The Motorcyclist” Exercise

Module 1 – Introduction: Why?

Module 2 – Motorcycles Types and Characteristics

Module 3 – Safety Laws Related to Equipment & Operation

Module 4 – Officer & Motorcyclist Safety

Module 5 – Crash Investigation

Module 6 – DUI Detection

Module 7 – Motorcycle Helmets

Module 8 – Public Education Efforts / Stakeholders

MODULE 1 --- Introductions & Course Overview **0830-0840 hrs.**

The motorcyclist

National Statistics

Research and Information

0840-0900 hrs.

BREAK

0900-0905 hrs.

Motorcycle Risks - Motorist Awareness

Local Statistics

BREAK

1000-1005 hrs.

MODULE 2 --- Motorcycle Orientation – Types & Characteristics

Motorcycle Types & Characteristics

1005-1030 hrs.

- Introduction to Motorcycles

- Motorcycle Design

MODULE 3 --- Safety Laws Related to Equipment & Operation

Motorcycle Equipment

1030-1100 hrs

- Lighting

- Seats

- Exhaust
- Handlebars

BREAK

1100-1105 hrs.

MODULE 3 continued.

Motorcycle Laws

1105-1200 hrs.

- Federal Laws (FMVSS)
- Motorcycle Licensing
- Registration Trends
- State Laws

LUNCH BREAK

1200-1300 hrs.

MODULE 4 --- Officer & Motorcyclist Safety

1300-1400 hrs.

- Strategies for stopping motorcycles
- Strategies for avoiding pursuits
- Motorcycle gangs versus clubs

BREAK

1400-1405 hrs.

MODULE 5 --- Crash Investigation

1405-1500 hrs.

MODULE 6 --- DUI Detection training

1430-1500 hrs

- Impairment

BREAK

1500-1505 hrs.

MODULE 7 --- Helmets

1505-1530 hrs.

- Personal Protection Equipment - Helmets
- DOT Standards
- Snell Ratings

MODULE 8 --- Public Education & Stakeholders

1530-1600 hrs.

- National Agenda for Motorcycle Safety
- Motorcycle Safety Checkpoints
- Motorcycle Rider Education Programs
- Red, Yellow, Green campaign

One Day course ends here with EVALUATIONS

Course wrap-up / Attendance Certificates

1600-1630 hrs

Note:

Instructor (TTT) Course:

Make Instructor Assignments for Day Two

1600-1700 hrs.

Day Two

Research / Presentation Preparation

0800-0900 hrs.

Each instructor student will prepare and then present for 15 minutes. Presentation time will be dictated by the number of instructor students in the class. Each student will present on their state's motorcycle laws, if there are multiple students from the same state, collaboratively they will research their state laws and split the presentation deciding who will present their state laws and who will be assigned a course module.

STUDENT PRESENTATIONS

0900-1000 hrs.

BREAK

1000-1015 hrs.

STUDENT PRESENTATIONS

1015-1200 hrs.

LUNCH BREAK

1200-1300 hrs.

STUDENT PRESENTATIONS

1300-1500 hrs.

BREAK

1500-1515 hrs.

STUDENT PRESENTATIONS

1515-1600 hrs.

COURSE WRAP-UP & GRADUATION

1600-1700 hrs.

Closing Session

- Feedback Session
- Wrap Up
- Evaluation Forms
- Certificates

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COURSE TITLE: **Motorcycle Safety and Enforcement**

Lesson Title: Introduction

Suggested Time: 1 to 2 hours

Lesson Purpose: Welcome attendees, introduce staff/instructors, discuss administrative information, and provide course description. Review course description, goals, objectives and materials.

Training Objectives: At the end of this module of instruction, the student will be able to:

- Relate course description, goals and objectives to the modules in the course schedule; and
- Identify course materials and describe how they will be used.
- Understand statistical information on motorcycle injuries and death. Why safety education and enforcement?

Instructional Method: The course lead instructor will welcome the class and introduce other instructors, if applicable. The course instructor will cover necessary housekeeping, administrative details, obtain roster, and introduce the course goal, objectives, purpose, and schedule.

Set the tone of the course, so officers understand why the enforcement of motorcycle laws and support of national motorcycle safety enforcement efforts and best practices are critical to reduce motorcycle fatalities and injuries.

Materials Required: State Specific motorcycle statistics (updated)

Training Aids: Flip Chart
LCD Projector/Lap top Computer
PowerPoint Slides
TV/DVD
Handouts
Student PowerPoint note-takers.

Suggested Time Frames: Instructional times may be adjusted according to time available for each module of instruction. The suggested time frame is as follows:

Information paperwork, sign up roster, objective:	15-30 minutes;
Course modules/materials, introductions:	15-30 minutes;
The motorcyclist, national statistics, research	15-30 minutes;
<u>Motorcycle risks, State & local statistics</u>	<u>15-30 minutes</u>
Total	60 to 120 minutes

References: See Reference Listing at end of materials.

Start PowerPoint presentation

Instructor Notes: Introductory exercise – optional can start at beginning of class while roster circulates and/or while you are waiting for students to arrive.

Five (5) to ten (10) minutes to complete.

Title: THE MOTORCYCLIST – Instructor Notes

This block of instruction has one practical exercise entitled, “The Motorcyclist.”

1. Purpose of the Exercise - This exercise is intended to foster open-mindedness and to encourage students to think about who is a motorcyclist.
 2. Conditions of the Exercise
 - a) Students describe in their own words characteristics of a motorcyclist.
 - b) The exercise should take five to ten minutes to complete.
 - c) The exercise takes place in the academic classroom.
 - d) All students should participate.
 3. Personnel and Equipment Needed
 - a) The primary instructor can facilitate this exercise.
 - b) Equipment: Marker and flip chart
 4. Procedures for Conducting the Exercise
 - a) On the flip chart, the instructor will use an open forum to solicit comments and ideas. Write response on the flip chart.
 - b) Ask students to quietly describe in their own written words or draw the following:
“What are the characteristics of a motorcyclist?” What words describe a motorcyclist and motorcycle?
- NOTE: Use a flip chart and ask, “What are the characteristics of a motorcyclist?” List their comments and suggestions on flipchart.**
5. Directions for Feedback
 - a) Discuss the exercise and descriptions.
 - b) What are the impressions of students? Do they regularly stop motorcyclists if they see a violation?
 - c) Ask if there are students in the classroom who ride?

The instructor can choose characteristics that will be discussed during class.

Module

1

TITLE: Training for the Enforcement of Motorcycle Laws

I. Introduction (9 minutes)

NOTE: Greet class and provide instructor information. Students introduce themselves. Provide name, department and consider asking, what they hope to learn from the class?

Opening Statement

This training will look at situations unique to the enforcement of motorcycle laws such as the following:

- Why so many motorcycles injuries and fatalities and what can law enforcement do through public education and enforcement?
- Motorcycle Types and Characteristics
- Safety Laws Related to Equipment and Operation
- Motorcycle licensing and speeding issues
- Officer and Motorcyclist Safety
 - Consider “distracted driver” issues and how critical it is to operating a motorcycle.
 - Driver talking to passenger
 - Cell phone use (yes, in a car and even on a motorcycle)
 - Talking to another motorcyclist, riding two or three abreast
- Strategies for traffic stops
- Strategies to avoid pursuit situations
- Crash Investigation
- Detection of impaired motorcyclists
- Detection of non-compliant helmets
- Latest on enforcement & public relations campaigns

Specific course objectives.

1. Why this course? Explain national statistics bulleted on slide.
2. Review motorcycle laws related to critical areas.
 - Equipment
 - Licensing requirements
 - Alcohol-related/impaired behavior of motorcyclists
 - Speed Enforcement
 - Helmets - FMVSS 218 and what are the pending revisions

3. Officer Safety concerns
 - Explain and share strategies for stopping motorcycles and
 - Strategies to avoid pursuits.

4. Motorcycle Crash Investigation awareness
 - First Responder Safety and Motorcyclist First Aid Pointers
 - What are some motorcycle crash investigation pointers to consider for crash investigators?
 - Does your state have standardized data gathering and reporting for motorcycle crashes?

5. Encourage motorcycle safety and education.

NOTE: Show slide, “National Statistics” and ask for feedback...What is happening in their state?

WHAT IS THE SCOPE OF THE PROBLEM? - Give a brief history of the problem and why this class is important.

National Statistics²

Injuries & Fatalities

**According to US DOT, Motorcycle fatalities have more than doubled since 1998, increasing 130 percent over a ten year period.*

Registration trends

**Motorcycles account for 3 percent of all registered vehicles; however motorcycle fatalities represent 13 percent of traffic fatalities in the United States.*

Unlicensed motorcycle drivers

**1 out 4 motorcycle riders (25%) involved in fatal crashes in 2008 were not properly licensed.*

DUI is a factor in fatalities

**Alcohol is a significant factor in far too many motorcycle fatal crashes. In 2008, 29 percent of all fatally injured motorcycle operators had BAC levels of .08 or higher, and 43 percent of those killed in single-vehicle crashes were over .08 BAC, and that number jumps to 64 percent on weekend nights.*

² **National Highway Traffic Safety Administration.** (2008). *Traffic safety facts, 2008 data.* DOT HS 811159

Helmet Use Nationally - Helmet Laws from State to State

- 20 States, the District of Columbia, and Puerto Rico require helmet use by all;
- Other States have “partial helmet” laws based on age or no laws requiring helmet use.³

Enforcement Issues

- There is limited training on enforcement of motorcycle laws because most police academies across the country do not have courses on the topic or only provide brief coverage on motorcycle laws in their basic motor vehicle law classes.
- Training on motorcycle law enforcement is often specialized and appeals to those that ride.
- Most law enforcement officers do not ride motorcycles so they do not know what to look for regarding motorcycle equipment, helmets and the laws.

NOTE: Show slide, “National statistics” - What are the concerns?” Ask for feedback, what is being observed about motorcycling in their state?

[Optional - Use State Data here – for listing Risks]

Motorcycle Risks

Motorcyclists Are at Risk from Other Drivers.

- Drivers of passenger vehicles and all types of vehicles need to be alert of motorcycles.
- Motorcycles are small and may be difficult for drivers of other vehicles to see.
- Motorcycles have a much smaller profile than other vehicles.
- Due to the smaller profile it can be difficult to judge the speed and distance of an approaching motorcycle.
- After a crash, the drivers of other vehicles involved often say they never saw the motorcyclist and were unable to respond in time.
- In the event of a crash, a motorcyclist is much more vulnerable and in much greater danger physically than other vehicle occupants.
- In fact, “*Per vehicle mile traveled in 2007, motorcyclists are about 37 times more likely than passenger car occupants to die in a traffic crash and 9 times more likely to be injured.*”⁴

National Statistics

Motorcyclist Deaths are Rising.

- In 2008, motorcycle rider fatalities increased for the tenth straight year.
- During 2008, 5,290 motorcyclists lost their lives in fatal highway crashes, an increase of 2 percent over the 5,174 motorcyclists killed in 2007.
- Motorcycle riders were involved in more than one out of nine of all U.S. roadway fatalities.

³ National Highway Traffic Safety Administration. (2008). *Traffic safety facts, 2008 data*. DOT HS 811159

⁴ National Highway Traffic Safety Administration. (2008). *Traffic safety facts, 2008 data*. DOT HS 811159

- 47 percent of all fatalities in motorcycle crashes in 2008 involved another vehicle in addition to the motorcycle in the crash.
- 77 percent of all two-vehicle crashes involving a motorcycle were struck in the front with only 7 percent struck in the rear.
- In 41 percent of the crashes involving a motorcycle and another type of vehicle, the other vehicle was turning left when the motorcycle was going straight, passing, or overtaking the vehicle.
- In 2008, 35 percent of all motorcycle riders involved in fatal crashes were speeding.⁵

Your State's Statistics – What are Specific Statistics?

- Registrations
- Helmet Use estimate
- Unlicensed motorcycle drivers
- Fatalities
- DUI – Alcohol & Prescription drugs
- Offense statistics

Discuss: What are your state's motorcycle fatalities and injuries for recent years? What trends are you observing? Are motorcycle fatalities and injuries rising or falling?

How does your state compare to surrounding states' laws? Do you have to deal with other states laws to explain a varied level of enforcement?

Law Enforcement

Law enforcement has a special contribution to make in the prevention of motorcycle crashes. Some of these contributions are simple and some are very difficult: dirt bikes in traffic are an obvious hazard; unlicensed motorcyclists are difficult to detect, and according to the Hurt study impaired motorcycle riders are far more difficult to detect than impaired automobile drivers. The increases involvement of the unlicensed rider in all crashes, and the impaired rider in fatal crashes, demands enforcement action, but legal requirements of due cause for a traffic stop may limit this action.⁶

These edited comments are a part of the Hurt Study released in 1981, which tried to research motorcycle crash cause factors and identify countermeasures to use in the idea of providing the basis of "due cause" for preliminary enforcement action and screening of traffic for unlicensed riders. One fundamental rider communication measure suggested in the study was enforcement action by ticketing for a for a traffic violation.

⁵ **National Highway Traffic Safety Administration.** (2008). *Traffic safety facts, 2008 data.* DOT HS 811159

⁶ **Hurt, H.H. Jr., Ouellet, J.V. & Thom D.V.** (1981). *Motorcycle Accident Cause Factors and Identification of Countermeasures, Volume I: technical report.* Los Angeles, CA: University of Southern California, and Washington, DC: National Highway Traffic Safety Administration.

The data of this research shows...that driver improvement is vital to those motorcycle riders who have had traffic violations or crashes, and experience has shown that a special motorcycle "traffic school" is an effective alternative to the payment of a fine for a citation. Advantage should be made of this contact opportunity to require a special motorcycle traffic school for motorcycle riders with traffic citations so that critical information can be given to these likely crash candidates.⁷

The Hurt study was cited in many references about motorcycle crash cause studies and countermeasures over the years. This study is now 30 years old. A new study is currently under commission through the Motorcycle Safety Foundation to the Oklahoma Transportation Center for the "new Motorcycle Crash Causation Study". The hope is that this study will shed new light on the causes of crashes and update the old data.



HURT STUDY – Highlights - Key Points Learned⁸

- 75% M/C crashes involve another vehicle
- 2/3 of those crashes other vehicle failed to yield right of way to M/C
- Failure of motorist to recognize M/C is predominate cause of crash
- Crash configuration—M/C traveling straight other vehicle turning maneuver
- Riders 16 and 24 of age are over-represented in these crashes (96% male)
- 92% of the riders we self taught without any "formal" training
- 50% of fatal M/C riders had alcohol usage
- Motorcyclist had significant collision avoidance problems, i.e., over/under braking, poor ability to counter steer and swerve, etc.
- Typically less than 2 seconds for motorcyclist to react
- Motorcycles equipped with fairings and windshields low crash involvement – maybe related to conspicuity (more frontal surface)
- High number of M/C riders had no M/C license , no license of any type or were suspended/revoked
- <10% had insurance of any kind
- Likelihood of injury—98% multiple vehicle, 96% single vehicle—45% more than minor injury
- Crash bars are not an effective injury countermeasure
- Most Serious injuries--to the chest and head
- 60% were not wearing safety helmets -- 26% did not wear helmets because they were uncomfortable and inconvenient -- 53% no expectation of accident involvement
- Injury severity increases with speed, alcohol involvement and motorcycle size

⁷ *Ibid.*,

⁸ **Hurt, H.H. Jr., Ouellet, J.V. & Thom D.V.** (1981). *Motorcycle Accident Cause Factors and Identification of Countermeasures, Volume I: technical report*. Los Angeles, CA: University of Southern California, and Washington, DC: National Highway Traffic Safety Administration.

COURSE TITLE: Motorcycle Safety and Enforcement

Lesson Title: Introduction

Sample End of Module Questions

1. What is the goal of this course?
 - a. Teach officers on how to be experts on motorcycle equipment
 - b. Train officers on motorcycle safety and enforcement issues
 - c. Provide officers with information on what kind of motorcycle and helmet to buy
 - d. Instruct on how to investigate motorcycle crashes and crash dynamics.

2. Which of the following topics will be presented in this course?
 - a. Safety Laws, Officer and motorcyclist safety, and helmets
 - b. Motorcycle DUI detection and public education efforts
 - c. Motorcycle orientation and types
 - d. All of the above

Answer Key:

1. b

2. d

COURSE TITLE:	Motorcycle Safety and Enforcement
Lesson Title:	Motorcycle Orientation – Types & Characteristics
Suggested Time:	15 to 30 minutes
Lesson Purpose:	Definition of different types of motorcycles and knowledge of their characteristics.
Training Objectives:	At the end of this module of instruction, the student will be able to: <ul style="list-style-type: none"> ▪ Understand common types and definitions of motorcycles; ▪ Describe the different types of motorcycles; and ▪ Understand how motorcycle design affects operation; and ▪ Understand common controls on a motorcycle.
Instructional Method:	The instructor will provide students with the basic definitions of types of motorcycles. This orientation is general in content and provides students with the foundational types and characteristics to enhance their knowledge for safety and enforcement efforts.
Materials Required:	State Specific motorcycle statistics (updated)
Materials Suggested:	Static display of a motorcycle to review controls.
Training Aids:	Flip Chart LCD Projector/Lap top Computer PowerPoint Slides TV/DVD Handouts Student PowerPoint note-takers.
Suggested Time Frames:	Instructional times may be adjusted according to time available for each module of instruction. The suggested time frame is as follows: <p>Types & Characteristics, motorcycles and design 15 to 30 minutes</p>
References:	See Reference Listing at end of materials.

Module

2

INTRODUCTION TO MOTORCYCLES

Background: Motorcycle Types & Characteristics

Until the 1950s, there was just one kind of motorcycle available. This all-purpose type of machine was designed for street use and was modified for more specialized applications. As motorcycles became more popular, new configurations were created to address certain interests and needs. Initially, special models were designed for off-highway riding. However, the range and variety of models have grown as manufacturers identified and addressed new market niches. By the 1980s, several distinct types of street-legal motorcycles had emerged. The characteristics and capabilities of current street motorcycles vary with their style. Different categories have different strengths and weaknesses, which may be helpful to recognize. Although some machines blur the distinctions, in general, current street-legal motorcycles fit into the following categories:⁹

Traditional

Traditional motorcycles designed as practical transportation, with few styling frills or amenities. This category falls in the middle of the spectrum in most areas of ergonomics and performance, including power, handling response, and braking. Although they were once almost universal, traditional-style motorcycles have declined in popularity as more specialized types have become available.¹⁰



Cruiser

Currently the most popular category of the market, centered on traditional or classic American styling. Once dominated almost exclusively by Harley-Davidson, the cruiser category has attracted competition from all major manufacturers and is the entry category for new American manufacturers. The profile is long with a low saddle height. The emphasis in the cruiser category is on appearance, style, and sound, with less emphasis on performance. Owners frequently customize these machines.¹¹

⁹ Motorcycle Safety Foundation and National Highway Traffic Safety Administration. (2000). *National agenda for motorcycle safety*, page 39

¹⁰ Ibid., 39.

¹¹ Ibid., 39.

Sport bike

Styled and constructed in the manner of road-racing motorcycles with streamlined bodywork, front-end weight bias, and forward-leaning riding positions, the emphasis is on handling, acceleration, top speed, braking, and cornering prowess. Performance handling and braking systems are the rule on sport bikes, which tend to be lighter and more technologically advanced than other types of motorcycles. Often less comfortable than other types, they are favored for riding on twisting roads.¹²



Touring

Large motorcycles with luggage, wind protection and other amenities (stereo, two-way communication, cruise control, etc.) designed to transport rider and passenger in comfort. Touring bikes are heavy with moderate power outputs. Their intended purpose is comfortable, long-distance travel.¹³

Sport-Touring

These motorcycles combine the comfort and some of the luggage capacity of touring motorcycles with the responsive handling of sport bikes. Usually powerful with relatively responsive handling, and high-performance brakes, sport-touring motorcycles offer fewer amenities than touring bikes. The ideal mission of a sport-touring machine is medium- and long-distance travel via curving roads.¹⁴



¹² Ibid., 40.

¹³ Ibid., 40.

¹⁴ Ibid., 40.

Dual-Purpose

Machines designed to be used both on- and off-road. They are typically lightweight, tall and narrow with single-cylinder engines, long suspension travel and tires suitable for on- and off-highway use.¹⁵



Dirt Bike

Machines designed to be used off-road. They are typically lightweight, tall and narrow with single-cylinder engines, long suspension travel and tires suitable for off-highway use. They are not street legal as they are missing lighting, signals, and road worthy equipment.

Scoters

These two-wheeled vehicles are small, mostly low-power designs with small-diameter wheels suitable primarily for use at low and medium speeds on surface streets in urban environments. Their appearance differs significantly from motorcycles' because of their bodywork and the “step-through” frame design. Most are not suitable or legal for use on high-speed or controlled-access roadways, though some do have sufficient power and other capabilities to allow such use.¹⁶



Mopeds

Lightweight, very low-powered two-wheelers designed for cheap urban transportation. Their bicycle-like design, slow acceleration, and limited top speed (30 miles per hour) make them unsuitable for use on high-speed roadways and create unique traffic issues for their users.¹⁷

¹⁵ Ibid., 40.

¹⁶ Ibid., 41.

¹⁷ Ibid., 41.

Sidecars

A third wheel can be added to the side of a motorcycle to create a motorcycle/sidecar combination. These devices attach to the frame of the host motorcycle and provide additional passenger or cargo capacity. These accessories strongly affect all aspects of handling and control by essentially creating an entirely different kind of vehicle, which in some ways is more like an automobile than a motorcycle.¹⁸



Trike

These machines are created by either grafting the front of a motorcycle to the back of an automobile or adding an automobile-type rear axle to the rear of a motorcycle to create a three-wheeled vehicle. Although they are usually licensed as motorcycles, these vehicles are dramatically different in many ways and do not handle or steer like motorcycles.¹⁹



¹⁸ Ibid., 41.

¹⁹ Ibid., 41.

Motorcycles vs. Mopeds

DEFINITIONS (Add you state definitions, many states are different.)

- Motorcycle - shall mean any motor-driven vehicle having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground.
- Scooter – falls under the definition of motor vehicle and motorcycle. (T. 23 § VSA Section 4)
- Moped – means a motor driven cycle equipped with 2 or 3 wheels, foot pedals to permit muscular propulsion, max motor size 50 cc, max speed 30 mph, and automatic, no clutch or shifter. (T. 23 § VSA Section 4)

Classes of Street Motorcycles officers may encounter:

- Sport Bikes - factory built motorcycles that resemble professional racing motorcycles. This style of motorcycle generally attracts younger riders.
- Street Bikes - regular motorcycles that range from 250cc to 1100cc engines. The riders of these bikes are in all age groups.
- Cruiser Class - “Top End” motorcycles that average 1100cc to 1800cc in size and usually are equipped with windshields, saddlebags and accessories. Due to their price, their riders are usually older.²⁰



Motorcycle Static Display

NB: Consider having an actual motorcycle to go over the location of the engine cut off switch, shift lever (gear sequencing) and other motorcycle controls with police officers not familiar with them.

²⁰Texas Commission on Law Enforcement Officer Standards and Education. (2008) Training on the operation of motorcycles; Motorcycle operator profiling awareness; Differences between a motorcycle club and a criminal street gang. Austin, TX: TCLEOSE

COURSE TITLE: Motorcycle Safety and Enforcement

Lesson Title: Motorcycle Orientation – Types & Characteristics

Sample End of Module Questions

1. What motorcycle type is the currently the most popular category?

- a. Scooter
- b. Moped
- c. Cruiser
- d. Dual Purpose

2. What type of two wheel powered transportation has foot pedals to permit muscular propulsion?

- a. Trike
- b. Touring
- c. Sport Bike
- d. Moped

3. What types of motorcycles do police officers generally encounter?

- a. moped, cruiser, sidecar, and scooter
- b. touring, trike, dual purpose, and moped
- c. sport bike, cruiser, street bike aka traditional
- d. moped, scooter, dirt bike and touring

Answer Key:

1. c

2. d

3. c

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COURSE TITLE: **Motorcycle Safety and Enforcement**

Lesson Title: Safety Laws Related to Equipment and Operation

Suggested Time: 1 to 2 hours

Lesson Purpose: Active motorcycle enforcement is relatively new for all law enforcement officers to embrace. Similar to commercial vehicle enforcement or working a specialized traffic enforcement details officers often overlook or do not get involved in motorcycle enforcement due to lack of knowledge and awareness related to motorcycle laws and public safety issues. This module is designed to give all law enforcement officers a knowledgeable role in motorcycle safety and enforcement in hopes to prevent injuries and fatalities in their respective communities. Federal and state specific laws and resources will be presented.

Training Objectives: At the end of this module of instruction, the student will be able to:

- Understand their state's motorcycle equipment laws covering lighting, seats, exhaust, handlebars, and other applicable equipment.
- Understand their state's safety laws related to operation of a motorcycle.
- Understand the federal laws (FMVSS)
- Understand the motorcycle licensing issues and registration trends.

Instructional Method: The instructor will provide students with the knowledge and awareness level of motorcycle laws related to equipment and operation. This module will provide an understanding of the motorcycle laws and the need for all officers to contribute to the safety and enforcement of such motorcycle laws.

Materials Required: State Specific motor vehicle/motorcycle law book

Materials Suggested: Static display of a motorcycle to review equipment.

Training Aids: Flip Chart
LCD Projector/Lap top Computer - PowerPoint Slides
TV/DVD
Handouts & Student PowerPoint note-takers.

Suggested Time Frames: Instructional times may be adjusted according to time available for each module of instruction. The suggested time frame is as follows:

Motorcycle Laws - Equipment	30 to 60 minutes
<u>Motorcycle Laws – Operation</u>	<u>30 to 60 minutes</u>
Total	60 to 120 minutes

References: See Reference Listing at end of materials.

Module

3

MOTORCYCLE SAFETY LAWS RELATED TO EQUIPMENT & OPERATION

This segment of training is on motorcycle equipment safety guidelines & regulations. What should you check/inspect?

In this module we will cover the enforcement of motorcycle equipment laws. Our goal is to have a direct impact on motorcyclist safety through education of police officers so they have the knowledge to participate in education, enforcement and ultimately crash prevention efforts.

Motorcycle safety enforcement efforts and safety inspections are one way law enforcement can help to reduce motorcycle fatalities and injuries.

This module covers an outline of major equipment and operational laws related to motorcycles. It is in no way meant to cover all laws as every state is different, but there are many similarities related to safety issues and enforcement. We hope to be able to highlight those and ask that you consult your motor vehicle law instructor, motor vehicle law book or code book from your state for specific laws and requirements.

In the appendix, there are additional tools and resources listed to aid you; there is a handout that covers relevant Federal Motor Vehicle Safety Standards and examples of motorcycle safety inspection check sheets that you can use as a template to make your own for conducting safety inspections in your state. Now let's cover what needs to be checked for safety, we'll address the major items related motorcycle laws and discuss where the equipment is located as needed.

Make certain as you inspect a motorcycle that you always remain aware of your safety, along with fellow officers and the motorcyclist.

Licensing

One out of four motorcycle operators (25%) involved in fatal crashes in 2008 were operating their vehicles with an invalid licenses at the time of the collision, while only 12 percent of drivers of passenger vehicle in fatal crashes did not have a valid license. Motorcycle riders involved in fatal traffic crashes were 1.4 times more likely than passenger vehicle drivers to have a previous license suspension or revocation (18% and 13%, respectively).²¹ All 50 states require a proper license and/or endorsement to operate a motorcycle.

²¹ NHTSA Traffic Safety Facts 2008 Data, Motorcycles DOT 811159

CHECK OPERATOR'S LICENSE FOR PROPER ENDORSEMENT

- *1 out 4 motorcycle operators involved in fatal crashed are not properly licensed.
- **Motorcyclists are required to have proper license and motorcycle endorsement to operate. (examples - T. 23 VSA § 615. Endorsement & DMV Rule 9)**

CHECK REGISTRATION

- **All motorcycles operated on a public highway must be properly registered and insured. Some states also require annual inspection certificate (sticker).**
- **Numbers on registration plate must match the registration certificate.**

CHECK INSPECTION CERTIFICATE ATTACHED

Inspection of registered vehicles, (examples - T. 23 VSA § 1222).

INSPECTION STICKER – MAKE SURE IT IS VALID AND NOT OVERDUE.

- Note inspection sticker number
- This will determine which inspection station conducted the inspection if needed.

WHERE IS THE INSPECTION STICKER LOCATED?

Is it attached to a structural member of the left from side of the motorcycle?

For example,

- ☒ Left outer side front lower windshield so it does not interfere with the vision of the operator.
- ☒ Front left fork leg/tube so it is easily visible.
- ☒ Metal tag securely attached to the left front frame / structural member of motorcycle.
- ☒ What does your state have for an **Inspection Manual? Does it spell out the placement of the inspection sticker?**

CHECK INSURANCE CARD FOR PROOF OF INSURANCE

- Maintenance of financial responsibility (Title 23 VSA § 800)**
 - ☒ Insurance required - establishes state insurance limits.
 - ☒ Must proof of insurance be produce before MV inspections

CHECK VEHICLE IDENTIFICATION NUMBER (VIN) PLATE TO MAKE SURE NOT DAMAGED AND MATCHES REGISTRATION

A great resource for checking vehicle identification number (VIN) structure is with a National Insurance Crime Bureau, 2009 Passenger Vehicle Identification Manual. The manual contains a section at the back on motorcycles and checking motorcycle VIN structure by each (resource for ordering ID Manuals on their web site) – www.nicb.org

CHECK CONDITION OF WHEELS, TIRES AND RIMS FOR CONDITION

- Check for any unsafe conditions
- Check tires for tread

- Tie tread must be at least 2/32 of an inch, check your particular state requirements as some states require 1/32 of an inch minimum.

CHECK BODY ITEMS OF MOTORCYCLE

- Check for any defective part or unsafe parts projecting from the motorcycle.

FENDERS AND MUDGUARDS MUST BE EQUIVALENT TO MANUFACTURER'S ORIGINAL SPECIFICATIONS.

CHECK FOOT RESTS TO MAKE SURE THEY ARE SECURELY FASTENED IN PROPER LOCATION. (What does your state require if at all?)

CHECK IF EQUIPPED FOR PASSENGERS

Motorcycles designed to carry more than one person must in most states be equipped with handgrips and footrests for passengers.

CHECK HANDLEBARS HEIGHT

- Many states have a maximum height requirement
- A good gauge is no higher than the operator's shoulders. (NY)
- No higher than 15 inches above the operator's seat height. (VT - T. 23 VSA § 1117 - Footrests and handlebars)

DISPLAY OF REGISTRATION PLATE

- Check registration plate is secure and how does your state allow display?
- Is the plate secure and mounted horizontally or vertically?
- Some states only allow the registration plate to be mounted horizontally. (VT)
- The registration plate must be clean and clearly visible in required position in order to be illuminated by the plate light.
- Does your state require the plate to be illuminated?
- A white plate light is required and visible at night fifty (50) feet to the rear. (VT)

CHECK LIGHTS

- Check front light
- Signal lights
- Rear tail light
- Illumination required on motorcycles – Some states mention distance light must light up an area in front of the motorcycle.

Ex. The light from the front lamp of a motorcycle shall render any substantial object on the ground clearly visible at least 100 feet ahead of such motorcycle. (VT)

HEADLAMP / FRONT LIGHT

- Motorcycle Modulating Headlights
- Modulating headlamps are permitted by FMVSS
 - Vermont State Inspection Manual was updated in 2004 covering modulating headlights.
 - Motorcycle headlamp modulation systems are allowed under FMVSS 108.

- An awareness issue for law enforcement officers because some were giving motorcycle rider tickets for this. Please no ticket to be issued for modulating headlight as allowed by law.

CHECK WINDSHIELD/WINDSCREEN

- If equipped, check windscreen/windshield and make sure it does not obstruct the driver's line of vision.
- Is the windshield secure?

CHECK FOR REAR VIEW MIRROR(S)

- **Many State's require both mirrors, so check your state's requirements (i.e. REQUIRED IN VT & NY)**
- Are one or two mirrors, required and does the mirror permit a clear view to the rear of the vehicle?

CHECK EXHAUST SYSTEM

- Exhaust in many State's must be original equipment manufacturer (OEM) or equivalent. (NY & VT),
- Many states restrict altered or what is called "straight" pipes in which the baffles are removed or the exhaust is an after market exhaust manufactured without baffles.
- Some States also have noise restrictions on exhaust pipes.

CHECK OPERATION OF HORN,

- The horn button is located on the left handlebar.
- It must work and be audible under normal conditions.

What are some laws pertaining to the motorcyclist...

Remember to CHECK THE HELMET!

- **What is your State's law?**
- Motorcycle helmets that meet DOT Standard FMVSS No. 218.
- Compliant versus non-compliant.
- We'll cover helmets more in detail in Module 7.

Show video: "Wear it every time you ride!"

Check for required eye protection

- **Is eye protection of some kind required?**
- Does your state law, require a windshield or screen, or if not, does the operator need to wear either eye glasses, goggles, or a protective face shield?
- Is there a requirement that the glasses, goggles, or face shield shall have colorless lenses when operated at dusk to dawn or any other time when due to insufficient light.

What are some laws pertaining to safe operation...

SEAT POSITION OF OPERATOR AND/OR RIDER

- **Most states address seating position stating the rider must be seated astride the seat.**
- Some laws spell out additional requirements, such as...
 - The seat must be attached and if carrying a passenger it must be designed to carry more than one person, and must be a permanent and regular seat designed for two persons, or attached at the rear or side of the operator.
 - Operator must sit astride the seat, facing forward, with one leg on each side of the motorcycle or moped.
 - Do not carry any package, bundle, or other article which prevents operator from keeping both hands on the handlebars.
 - Do not carry any person, nor shall any person ride, in a position that will interfere with the operation or control of the motorcycle or moped or the view of the operator.

LANE SPLITTING – What does your State permit when it comes to lane use?

Operation of motorcycles and mopeds on roadways laned for traffic

- Entitled to full use of an entire lane.
- Can not overtake and pass in the same lane occupied by the vehicle being overtaken.
- No person shall operate between lanes of traffic or between adjacent lines or rows of vehicles.
- May not be operated in the same lane with, and along side of or closer than ten feet ahead of, or ten feet behind another motorcycle, moped, or other motor vehicle.
- This section shall not apply to police officers in the performance of their official duties.

Motorists must realize that lane position for a motorcyclist is constantly changing (in their lane) so they can make themselves more conspicuous to other motorists.

DOES YOUR STATE ALLOW CLINGING TO VEHICLES?

Clinging to other vehicles states that no person riding a motorcycle or moped shall attach himself or herself or the motorcycle or moped to any other vehicle on a roadway.

Now that you're familiar with what to look for on the motorcycle...What are some safety concerns and strategies for stopping motorcycles?

OPTIONAL VIDEO –Motorcycle Awareness (Texas PSA)



COURSE TITLE: Motorcycle Safety and Enforcement

Lesson Title: Safety Laws Related to Equipment and Operation

Sample End of Module Questions

1. True or False (circle one): One out of four motorcycle riders involved in fatal crashes were operating without a proper license or motorcycle endorsement.

2. How many states have a helmet law requiring wearing a helmet while a motorcycle rider or passenger?

- a. 27
- b. 3
- c. 30
- d. 20

3. Where is the motorcycle vehicle identification number (VIN) usually located?

- a. on the top half of the crankcase.
- b. on the frame behind the headlight
- c. on the frame between the front forks
- d. both b and c.

4. Motorcycle tire tread depth must be at least what?

- a. 2/16 of an inch deep
- b. 2/32 of an inch deep
- c. 1/8 of an inch deep
- d. No requirement

5. Does your state require annual inspection of a motorcycle? Yes or No (circle one)
What is the statute, section or code? _____

6. Where does your state permit the inspection sticker to be displayed and/or affixed to the motorcycle?

7. Does your state require proof of insurance? Yes or No (circle one)
What is the statute, section or code? _____

Answer Key:

- 1. True; 2. d; 3. d; 4. b;
- 5. _____
- 6. _____
- 7. _____

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COURSE TITLE:	Motorcycle Safety and Enforcement	
Lesson Title:	Officer and Motorcyclist Safety	
Suggested Time:	30 to 60 minutes	
Lesson Purpose:	This module discusses officer and motorcyclist safety issues such as strategies for stopping motorcycles and avoiding pursuits along with understanding the differences between motorcycle gangs and motorcycle clubs. The focus is on safety and what to do. Officers have an opportunity to share resources, department policy information, and best practices.	
Training Objectives:	<p>At the end of this module of instruction, the student will be able to:</p> <ul style="list-style-type: none"> ▪ Understand and discuss strategies for stopping motorcycles for officer and motorcyclist safety; ▪ Identify and share techniques that increase safety and minimize risk when stopping a motorcycle. ▪ Review and discuss strategies for avoiding pursuits; and ▪ Understand the characteristics of a motorcycle gang versus a motorcycle club. 	
Instructional Method:	The instructor will provide students with an understanding of suggested strategies for stopping motorcycles and discuss strategies for avoiding pursuits, and awareness of motorcycle gangs versus clubs.	
Materials Suggested:	Department specific motor vehicle (motorcycle) pursuit policies	
Training Aids:	Flip Chart LCD Projector/Lap top Computer PowerPoint Slides TV/DVD Handouts Student PowerPoint note-takers.	
Suggested Time Frames:	Instructional times may be adjusted according to time available for each module of instruction. The suggested time frame is as follows:	
	Safety strategies, gangs vs. clubs minutes	30 to 60
References:	See Reference Listing at end of materials.	

Module

4

OFFICER SAFETY / MOTORCYCLIST SAFETY

- Motorcycle Gangs Versus Clubs
- Strategies for Stopping Motorcycles
- Strategies for Avoiding Pursuits

Motorcycle Clubs vs. Gangs

•Motorcycle Clubs

A **motorcycle club** (MC) is a group of people that ride motorcycles in organized activities. They may wear distinctive clothing to identify their club. Their primary activities involve the sport of motorcycling.²² Many motorcycle clubs are organized, have dues, and enjoy the camaraderie, education, rider training and socialization.

Motorcycle Clubs vs. Gangs

Outlaw Motorcycle Gangs (OMGs) in the U.S.

- OMGs are organizations whose members use their motorcycle clubs as conduits for criminal enterprises.
- There are more than 300 active OMGs in the United States (U.S.)
- They range in size from single chapters with 5 or 6 members to hundreds of chapters with thousands of members worldwide.
- The Hells Angels Motorcycle Club, the Bandidos Motorcycle Club and the Outlaws Motorcycle Club are involved in the majority of criminal activity linked to OMGs, i.e. especially activity relating to drug-trafficking and cross-border drug smuggling.
- Global scope²³

Motorcycle Operator Profiling Awareness:

The popularity of the motorcycle as a primary means of transportation has grown in the past decade. More and more people are buying and riding motorcycles and they represent all facets of society. All races, genders and occupations are represented in this area. There is no such thing as “the typical biker” no more so than trying to describe “the typical criminal type” or “the typical Texan”. As an officer, remember that, “Violators” are defined by their actions not how they look.

²² **Texas Commission on Law Enforcement Officer Standards and Education.** (2008) Training on the operation of motorcycles; Motorcycle operator profiling awareness; Differences between a motorcycle club and a criminal street gang. Austin, TX: TCLEOSE

²³ <http://www.usdoj.gov/criminal/gangunit/about/omgangs.html> , retrieved 1/13/09.

Differences Between a Motorcycle Club and a Criminal Street Gang:

As mentioned, a motorcycle club is a group of people that ride motorcycles in organized activities. They may wear distinctive clothing to identify their club. Their primary activities involve the experience of motorcycling.

Criminal Street Gang (PC 71.01(d)): Three or more persons having a common identifying sign or symbol or an identifiable leadership who continuously or regularly participate in the commission of criminal activities.

Common misconceptions and beliefs associated with various motorcyclists:

- Sport Bike riders are speeders that ride dangerously.
- Bikers (general term) use narcotics, drink, raise hell and probably have outstanding warrants.
- Cruiser Class riders are the “station wagon” set of the motorcycle world. These “mom & pop” riders generally pose no threat.
- Motorcycle Clubs that “fly their colors” (wear their club jackets) are “outlaw bikers” are disrespecting law enforcement and are in effect “claiming new turf” by showing the colors.
- Depending on your state’s laws, “Any biker not wearing a helmet is breaking the law.”
- Bikers are generally lower income to middle class laborers, juvenile delinquents and troublemakers.²⁴

Strategies for stopping motorcycles

Before engaging in the stop...

- **Obtain registration plate number and run the plate to see if it matches motorcycle description**
- **Check registered owner**
- **Call in full description of motorcycle, i.e. make, model, color, etc.**
- **Call in description of motorcyclist**
- **Utilize your in vehicle camera**
- **Be aware that motorcyclists keep their registration and insurance certification paperwork stored sometimes under their seat, in a saddlebag or in a side compartment panel.**

Concepts for stopping Motorcycle Operators:

- Be sure that the reason for the stop is an identified violation of the law and not due to stereotype.
- Follow your departments established or trained standardized procedure for making a traffic stop.

²⁴ **Texas Commission on Law Enforcement Officer Standards and Education.** (2008) Training on the operation of motorcycles; Motorcycle operator profiling awareness; Differences between a motorcycle club and a criminal street gang. Austin, TX: TCLEOSE

- Some officers prefer that the side stand be down and the rider is off the bike stepping to the right side of the motorcycle away from traffic.
- Some police agencies have the rider remain astride the motorcycle with the kickstand up (this keeps the operator occupied with balancing the motorcycle and reduces the possibility of attempting anything with the officer).
- Remain professional and deal with the violation and not the appearance of the operator or perceived prejudices or attitudes.²⁵

SHOW PSA VIDEO “DISTRACTED” from AMA

Stopping motorcycles for a traffic violation – points to consider

What’s your Department Policy?

- **What’s your discretion?**
- **Why let them get away?**
- **When can you let them go?**
- **What ifs?**
 - **Bald tire**
 - **No helmet**
 - **What is evidentiary?**
 - **Does your department police tell you that anytime you can legally tow it for safety then tow it?**

Lead a class DISCUSSION on PURSUIT

Discuss concerns of motorcycle pursuits. Write comments on flip chart.

- ☒ Motorcycle performance compared to police cruiser
- ☒ Some sport bikes sold right off the show room floor can do 170 miles per hour.
- ☒ Motorcycle Safety Checkpoints
- ☒ The use of aerial speed enforcement is used to discourage pursuits and attempting to elude police.
- ☒ Does your department have a helicopter or fixed wing aircraft to aid in speed enforcement?

SHOW VIDEO ON SPORT BIKE AND SPEED

²⁵ **Texas Commission on Law Enforcement Officer Standards and Education.** (2008) Training on the operation of motorcycles; Motorcycle operator profiling awareness; Differences between a motorcycle club and a criminal street gang. Austin, TX: TCLEOSE

SPEED

Note: According to NHTSA, in 2008, 35 percent of all motorcycle crash fatalities cited speeding as a factor.²⁶

Recent Safety Issues:

Modulating Headlamps & HOV Lanes

The two motorcycle-related issues that have recent motorcyclist and law enforcement concern are compliant modulating headlamps and HOV (High Occupancy Vehicle) lane access. While they are not large problems in the day to day law enforcement community, let's discuss them to avoid an unnecessary traffic stop, an inconvenience to officer and rider, and sometimes dangerous situation to a motorcyclist and the law enforcement officer.

With regard to compliant modulating headlamps on motorcycles, the Federal Motor Vehicle Safety Standards (FMVSS) provide for their use. The particular FMVSS cite is referenced as 49CFR571.108; compliant headlamp modulators. Headlamp modulators are provided for in S7.9.4 *Motorcycle headlamp modulation system*, beginning on page 263 in the standard.

According to the Office of Chief Counsel at NHTSA, regarding the use of compliant motorcycle headlamp modulators are permissible in all fifty states. [States may not preempt their use.]

There are guidance letters from the Office of Chief Counsel at NHTSA available online at <http://isearch.nhtsa.gov>, home of the NHTSA's Interpretation Files.

Finally, HOV lane use has become a bigger issue for motorcyclists, following the New York City episode in which a motorcyclist was issued a citation for riding her motorcycle in an HOV lane. An administrative law judge found her guilty, despite evidence the rider provided during her hearing. The rider appealed her conviction to the state of New York and eighteen months later, her conviction was overturned. While Karen Perrine vindicated herself and all motorcyclists using HOV lanes in New York City, it came at a significant cost. You can read more about Ms. Perrine's case in the appendix article dated March 24, 2008 from the *New York Daily News*.

Authorization for motorcyclists to use HOV lanes comes from 23USC166; see http://www4.law.cornell.edu/uscode/html/uscode23/usc_sec_23_00000166----000-.html.

Further supporting the use by motorcycles of all lanes on roadways planned, designed, constructed or maintained using federal funds can be found in 23UCS102; see http://www4.law.cornell.edu/uscode/html/uscode23/usc_sec_23_00000102----000-.html.

²⁶ NHTSA Traffic Safety Facts 2008 Data, Motorcycles DOT 811159

COURSE TITLE: Motorcycle Safety and Enforcement

Lesson Title: Officer and Motorcyclist Safety

Sample End of Module Questions

1. True or False (circle one): Motorcycle gangs are organizations whose members use their motorcycle clubs as conduits for criminal enterprises.

2. Does your department permit motorcycle pursuits? Yes or No (circle one)
What is your department policy regarding motorcycle pursuits?

3. What is your department's policy for stopping a motorcycle?

4. What is your preferred method for stopping a motorcycle?

5. What safety issues to you have to take into consideration when chasing a motorcycle?

What is the policy? _____

Answer Key:

- 1. True;
- 2 – 5 individual and class specific responses based on policy and/or practice.

COURSE TITLE:	Motorcycle Safety and Enforcement		
Lesson Title:	Motorcycle Crash Investigation		
Suggested Time:	30 to 60 minutes		
Lesson Purpose:	This module discusses motorcycle crash investigations with an understanding of safety concerns, fundamental initial response investigation considerations, motorcycle specific crash dynamics, what data to collect on-scene, and roadway improvement recommendations. The focus is on awareness and sharing best practices on such investigations.		
Training Objectives:	At the end of this module of instruction, the student will be able to: <ul style="list-style-type: none"> ▪ Understand motorcycle involvement in crashes; ▪ Review and discuss statistics and research related to motorcycle crashes; ▪ Understand the law enforcement's response to crashes; and ▪ Review motorcycle crash investigation pointers. 		
Instructional Method:	The instructor will provide students with motorcycle crash investigation information.		
Materials Suggested:	State crash reporting requirements (policies or guidelines)		
Training Aids:	Flip Chart LCD Projector/Lap top Computer PowerPoint Slides TV/DVD Handouts Student PowerPoint note-takers.		
Suggested Time Frames:	Instructional times may be adjusted according to time available for each module of instruction. The suggested time frame is as follows: <table style="margin-left: 200px;"> <tr> <td>Motorcycle Crash Investigation</td> <td>30 to 60 minutes</td> </tr> </table>	Motorcycle Crash Investigation	30 to 60 minutes
Motorcycle Crash Investigation	30 to 60 minutes		
References:	See Reference Listing at end of materials.		

Module

5

MOTORCYCLE CRASH INVESTIGATION

- ⊗ Initial Response - Safety Assessment
- ⊗ First Aid Pointers
- ⊗ What to look for?
- ⊗ Check the helmet for compliant types.
- ⊗ Crash Dynamics
- ⊗ FARS (Fatal Accident Reporting System)
- ⊗ Data collected on-scene
- ⊗ Roadway improvement recommendations

“Per vehicle mile traveled, motorcyclists are about 37 times more likely than passenger car occupants to die in a traffic crash.”

Motorcycle Involvement in Crashes

According to NHTSA, the number of motorcyclists injured in crashes have increased each year since 1998, representing a 110 % increase from 1998 to 2007. In 2008, 5,290 motorcyclists were killed – an increase of 2 percent over the 5,174 motorcyclists killed in 2007. There were 96,000 motorcyclists injured during 2008.

The same year (2008), 2,554 (47%) of all motorcycles involved in fatal crashes collided with another type of motor vehicle in transport. In two-vehicle crashes, 77 percent of the motorcycles involved were impacted in the front. Only 7 percent were struck in the rear. Motorcycles are more likely to be involved in a fatal collision with a fixed object than are other vehicles.

In 2008, Motorcycles in fatal crashes had the highest proportion of collisions with fixed objects at 25 percent, compared to 19 percent for passenger cars, 14 percent for light trucks, and large trucks in fatal crashes had the lowest proportion, 4 percent.

In 2008, there were 2,387 two-vehicle fatal crashes involving a motorcycle and another type of vehicle. In 41 percent (985) of these crashes the other vehicle was turning left while the motorcycle was going straight, passing, or overtaking the vehicle. Both vehicles were going straight in 666 crashes (28%).

NHTSA considers a crash to be speeding-related if the driver was charged with a speeding-related offense or if an officer indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in the crash.

In 2008, 35 percent of all motorcyclists involved in fatal crashes were speeding, compared to 23 percent for passenger car drivers, 19 percent for light-truck drivers, and 8 percent for large-truck drivers.²⁷

Law Enforcement's Response during Crash Investigation

One impression developed during...[the HURT Study]...research, and encountered in many motorcycle accident investigations throughout the various states, was the lack of punitive action for the culpable driver of the other vehicle involved in the accident with the motorcycle. The outward appearance is that the offending driver is rarely faced with effective prosecution of right-of-way violation, negligent or reckless driving causing injury, or even vehicular manslaughter. Often there is the incorrect impression of excess speed or recklessness of the motorcycle rider. In most cases there is not an adequate collection of evidence and accurate reconstruction of the accident because of the police traffic accident investigator's unfamiliarity with motorcycle accident analysis. Many times there is simply the impression that "this was just another motorcycle accident." This lack of effective punitive action needs research for a more precise definition of the problem and evaluation for accident countermeasures.²⁸

Currently this study is being redone by NHTSA and the University of Oklahoma. There is the MAIDS In-depth Investigation of Accidents Involving Powered Two Wheelers Report, which is a motorcycle crash causation study during the period of 1999-2000, similar to the Hurt study conducted by the Association of European Motorcycle Manufacturers and other partners which replicated the Hurt Study methodology in Europe looking at over 900 motorcycle accidents and their cause(s). According to the MAIDS report, the most frequent cause of a crash was human error and that being failure to see the powered two wheeler (PTW) due to traffic environment, temporary view obstructions or the low conspicuity of the PTW. Remember a thorough crash investigation results in swift enforcement against the causing driver.

Based on the research, some of the top causes of crashes are as follows:

- Human error - Perception Failure on the part of the Other Vehicle
- Failing to negotiate a corner
- Inattentiveness
- Riding under the influence
- Inexperience (unlicensed or no endorsement)

²⁷ NHTSA Traffic Safety Facts 2008 Data, Motorcycles DOT 811159

²⁸ **Hurt, H.H. Jr., Ouellet, J.V. & Thom D.V.** (1981). *Motorcycle Accident Cause Factors and Identification of Countermeasures, Volume I: technical report*. Los Angeles, CA: University of Southern California, and Washington, DC: National Highway Traffic Safety Administration.

Crash Investigations pointers: Motorcycle Specific Awareness

DISCUSSION:

1. Response scene safety
 1. Treatment of victims (rider, passenger, and/or other motorists)
 2. Thorough search of area (head injury concerns and passengers)
2. What are some motorcycle crash investigation procedures and unique motorcycle operational considerations for crash investigators?

Handling and maneuverability issues unique to motorcycles

- √ Counter Steering - Understanding the concept of “counter steering”. Definition-- **Counter steering** is the technique used by [single-track vehicle](#) operators, [cyclists](#) and [motorcyclists](#), to initiate a turn toward a given direction by first steering counter to the desired direction ("steer left to turn right"). In order to negotiate a turn successfully, the combined [center of mass](#) of the rider and the single-track [vehicle](#) must first be leaned in the direction of the turn, and steering momentarily in the opposite direction causes that lean.
- √ Turns/Cornering - Failure to negotiate a curve is a common cause of crashes, and not easily or always understood by the crash investigator.
- √ Following Distance – motorcycles stopping distance – motorcycles can stop much faster than a automobile, so allow greater distance.
- √ Braking Ability – can down shift to slow, plus brake application(s)
- √ Lane Position –Dynamic changes allow more visibility / 3 portions of the lane
- √ Blind Spots – due to size – many more than a automobile or truck.
- √ Passing and Being Passed
- √ Intersections – right of way incursions

DISCUSSION:

1. What are some specific investigation procedures to consider for motorcycle crashes?
2. How do motorcyclists’ attitudes and behavior affect crash involvement?
3. What can police do with information gained in this course about safety issues to create programs that reduce dangerous behavior and reinforce safe behavior?
4. How important is the data collected by law enforcement personnel in a uniform traffic crash report? Does your state have standardized data gathering and reporting for motorcycle crashes?

Motorcycle Investigation Tips

- Document/photograph erasure marks and/or flat spots on the tires in an effort to determine front, rear or full braking.
- If sprockets are involved, need to count teeth on both front and rear to determine speed based on gear ratios.
- Compare the type of gouge marks on ground to wear on pegs/panels for determining how motorcycle landed and/or lost control.
- High speed wobble – be careful not to misinterpret tire scuff marks made by the front wheel as it skids. Clues for high speed wobble are alternating “eyebrow” like tire marks

that generally last for 10 to 15 feet before the bike goes down. Supporting physical evidence on the motorcycle itself would be damage by the violent flopping, or wobbling of the handle bars back and forth. This usually occurs at speeds in excess of 80 mph.

- Conspicuity is always a concern with motorcycles.
- Filament lamp exam – the very nature of motorcycle design and its construction generally causes premature age sag downward of the light filaments. This is most prevalent in the brake and tail lights. When an examination is done, special note must be taken of the bulb position to determine if the stretching of the filament is in the direction of the force, or the result of age sag.
- New motorcycles sold in the USA since 1978 have the headlamps on automatically when running. There are studies that show a motorcycle with its headlamp on during the day is twice as likely to be noticed.
- Headlamps must be examined in every case to determine if it was working. They are always supposed to be turned “ON” feature and some have an automatic feature. Don’t make an assumption.
- It is important to note what gear the motorcycle was in during the impact and the radius of the bike’s rear wheel. Calculate speeds from the gear-ratio information and the ranges of RPM (revolutions per minute) values for each gear. You will find this information from the manufacturer’s data.²⁹

What research exists about motorcyclists’ attitudes and behavior and how they affect crash involvement?

- Rider training
- Rider experience
- Motorcycle size

What can police do with information gained in this course about safety issues to create programs that reduce dangerous behavior and reinforce safe behavior?

- How important is the data collected by law enforcement personnel in a uniform traffic crash report. How does this crash information permit meaningful comparisons among jurisdictions? How is/can this resulting information be shared? Does your state have standardized data gathering and reporting for motorcycle crashes?
- Are there appropriate sanctions that should be applied to those found guilty of contributing to motorcycle crashes? Are there suggested sanctions, such as mandatory attendance at a motorcycle awareness course? Can an awareness class be designed to expand knowledge of motorcycle issues?

Examine Crash motions

- **Pre-Crash**
 - Motorcycle pre-crash motions vs. Other vehicle pre-crash motions

²⁹ Motorcycle Investigations Tips are courtesy of the New York State Police Crash Response Unit, dated 1/30/09.

- **Crash**
 - Motorcycle crash motions
 - Skid marks in motorcycle crashes tend to be more visible and distinct because the lack of anti-lock brakes on most models.
 - Skid marks allow the investigator to determine the speed and direction of the motorcycle more easily.

- **Post-Crash**
 - Associate vehicle injury sources
 - Contribution of design or maintenance defects to crash or injury causation
 - Vehicle speed for motorcycle and other vehicle
 - Motorcycle lighting; headlamps, running lights, etc.
 - Crash fire causes and burn injuries

Data Collected On-Scene:

There are three areas of information to consider. They are as follows:

- Vehicle Data
- Crash scene, environment
- Human factors

Vehicle data

- Vehicle Identification Number (VIN), manufacturer, model, and cubic displacement
- Mechanical factors data, motorcycle and other vehicles
 - Is the motorcycle mechanically sound? Does the motorcycle have the required safety features, mirrors, turn signals, reflectors, etc?
 - Check the tires – Did the motorcycle have under-inflated tires that could have caused the accident?
 - Determine if the tires were deflated before or after the crash.
 - Check to make sure they have proper tread.
 - Are the tires the proper tire for the motorcycle?
 - What is the condition of other vehicles involved?
- Crash or injury related cause factors
 - Protection
 - Vulnerability
 - The body of the person riding the motorcycle gives many clues.
 - The type of markings on the individual can help determine speed, if the rider went airborne and the direction the person traveled during the crash.
- Associated vehicle injury sources

- Design or maintenance defects as contributing factors to crash or injury causation
- Vehicle speed for motorcycle or other vehicle
- Motorcycle lighting; headlamps, running lights, etc.
 - Lights
 - Signals
- Crash fire causes and burn injuries

Crash scene, environment

- Crash scene data
 - Legal Responsibility
 - Motorcycle crashes tend to cover a larger area.
 - Debris and evidence are usually spread over a larger area.
 - The investigator must expand the scope of the investigation.
- Roadway motorcycle was traveling
 - Check the road conditions leading to the crash site.
 - How could the road conditions affect motorcycle operator/operation?
 - What road hazards exist if any?
- Roadway other vehicle was traveling
- Traffic and controls
- Crash cause factors – there are two week courses offered in motorcycle crash investigations. These courses delve into a much more extensive investigation covering topics such as the following:
 - Evidence from the Roadway
 - Evidence from the Motorcycle
 - Motorcycle Formulas
 - Crash Configuration
 - Tire Performance
 - Equipment Regulations
 - Causation Analysis
- Collision contribution of weather, view obstructions
- Collision contribution of roadway conditions and defects

Human factors, injury causation

- Rider background data
 - Rider experience
 - Rider experience would be important if it can be determined.
 - Rider motorcycle experience, street and off-highway
 - Did the driver have an endorsement?
 - Have they completed a rider education class?

- Rider training and licensing
 - Motorcycle Orientation
 - Types and Operation of Motorcycles
 - Motorcycle Dynamics

- Collision avoidance performance
 - Turning Movements and Crashes
 - Braking Abilities and Performance
 - Obstacle or Hazard Avoidance
 - Drag Factor Considerations

- Other vehicle driver background data
 - Sharing the Road

- What was the motorcycle carrying?
- Carrying Passenger or cargo
 - Were they contributing factors to crash causation?
 - Weight distribution
 - Was the cargo secure?
 - Touring Bags

- Alcohol or other drug involvement

- Detailed helmet analysis
 - Motorcycle Helmet Inspections
 - Check to make sure that the helmet is a compliant helmet.
 - Note is it a full face, three quarter style or half helmet.
 - Check the helmet for damage, contact markings that can aide in the investigation. The helmet should be transported with the rider and/or passenger.
 - In the event of a fatality, some medical examiners want to see the helmet with the transported with the body(s). Some states are starting to require this.

- Witnesses
 - Witness statements are important
 - Fewer motorcycles compared to cars so hopefully they stand out on the road, thus catching the witness' eye.
 - The hope is that such witnesses may be able to provide a good description of the crash.
 - Witnesses disappear if asked to reconstruct crash scene so get contact information and scene description upon initial response/investigation.

COURSE TITLE: Motorcycle Safety and Enforcement

Lesson Title: Motorcycle Crash Investigation

Suggested Time: 30 to 60 minutes

Sample End of Module Questions

1. True or False (circle one): Per vehicle mile traveled, motorcyclists are about 7 times more likely than passenger car occupants to die in a traffic crash.

2. FARS stands for what?

3. Speeding (related crashes) played a factor in what percentage of all motorcyclists involved fatal crashes?

- a. over half of the crashes
- b. less than 10 %
- c. 25 % of the fatal crashes
- d. 35 % of the fatal crashes

4. What percentage of two-vehicle fatal motorcycle crashes occurred while the other vehicle was turning left while the motorcycle was going straight, passing or overtaking the vehicle?

- a. over half of the crashes
- b. less than 10 %
- c. 41 % of the fatal crashes
- d. 30 % of the fatal crashes

Answer Key:

- 1. False – it is about 37 times more likely (2008 NHTSA statistics);
- 2. FARS = Fatal Accident Reporting System
- 3. 35 % (2008 NHTSA statistics);
- 4. 41 % (2008 NHTSA statistics);

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COURSE TITLE:	Motorcycle Safety and Enforcement		
Lesson Title:	Motorcycle DUI Detection		
Suggested Time:	20 to 30 minutes		
Lesson Purpose:	This module discusses DUI Detection of motorcyclists with an understanding of rider impairment cues and their unique alcohol related behavior. The issues are covered related alcohol involvement with motorcycle operation and motorcycle crash data along with discussion of the statistics related to alcohol and safety concerns.		
Training Objectives:	At the end of this module of instruction, the student will be able to: <ul style="list-style-type: none"> ▪ Understand Motorcycle DUI Detection predictors and what are excellent and good cues; and ▪ Review and discuss statistics and research related to motorcycle alcohol involved crashes; 		
Instructional Method:	The instructor will provide information concerning detection of DUI motorcyclists.		
Materials Suggested:	Fatal Vision Goggles		
Training Aids:	Flip Chart LCD Projector/Lap top Computer PowerPoint Slides TV/DVD Handouts Student PowerPoint note-takers.		
Suggested Time Frames:	Instructional times may be adjusted according to time available for each module of instruction. The suggested time frame is as follows: <table style="margin-left: 20px;"> <tr> <td>Detection of DUI Motorcyclists</td> <td>20 to 30 minutes</td> </tr> </table>	Detection of DUI Motorcyclists	20 to 30 minutes
Detection of DUI Motorcyclists	20 to 30 minutes		
References:	See Reference Listing at end of materials.		

Module

6

DUI DETECTION OF MOTORCYCLISTS

More skill is required to safely operate a motorcycle than a car. What are examples of *unique* alcohol-related behavior of motorcyclists? There is a belief among people who drink and ride that law enforcement could not tell if a motorcyclist has been drinking. How do we identify and stop impaired motorcycle operation?

Alcohol

In fatal crashes in 2008 a higher percentage of motorcycle riders had blood alcohol concentrations (BAC) of .08 grams per deciliter (g/dL) or higher than any other type of motor vehicle driver. The percentages for vehicle riders involved in fatal crashes were 29 percent for motorcycles, 23 percent for passenger cars, 23 percent for light trucks, and 2 percent for large trucks.

In 2008, 30 percent of all fatally injured motorcycle riders had BAC levels of .08 g/dL or higher. An additional 7 percent had lower alcohol levels (BAC .01 to .07 g/dL).

The percentage with BAC .08 g/dL or above was highest for fatally injured motorcycle riders among two age groups, 45-49 (41%) and 40-44 (41%) followed by ages 35-39 (36%).

[Why are we seeing the older age groups involved in fatalities? The suggested reasoning is that we are seeing a person getting into motorcycling later in life and the fatality rate was mirroring this trend along with the baby-boomer population age spike.]

Forty-three percent of the 2,291 motorcycle riders who died in single-vehicle crashes in 2008 had BAC levels of .08 g/dL or higher. Sixty-four percent of those killed in single-vehicle crashes on weekend nights had BACs of .08 g/dL or higher.

Motorcycle riders killed in traffic crashes at night were nearly 4 times more likely to have BAC levels of .08 g/dL or higher than those killed during the day (48 % and 13 % respectively).³⁰

DUI PREDICTOR QUIZ - Handout quiz and instruct each student to complete.

Review DUI Predictor Quiz

³⁰ NHTSA Traffic Safety Facts 2008 Data, Motorcycles DOT 811159

How did you do?

HANDOUT Pamphlet - The Detection of DUI Motorcyclists

The Detection of DWI/ DUI Motorcyclists

NHTSA Order #2P0008 - This brochure provides law enforcement officers information on identifying behavioral cues to detecting impaired motorcycle operators. The brochure discusses 14 rider behaviors found to best distinguish between impaired and unimpaired motorcyclists. These behaviors are then grouped into two categories: Excellent Predictors (a 50 percent or more probability of DWI) and Good Predictors (a 30 to 49 percent probability of DWI). In addition to a training video available for roll-call settings, a pocket detection guide accompanies the brochure (DOT HS 807 856; Order #2P0905). A technical report, The Detection of DWI Motorcyclists (DOT HS 807 839; Order #6P0026), that provides additional details of the research is available.

Show VIDEO - Detection of DUI Motorcyclists

Motorcycle DUI Detection Guide

NHTSA has found that the following cues predicted impaired motorcycle operation.

▪Excellent Cues (50% or greater probability)

- Drifting during turn or curve
- Trouble with dismount
- Trouble with balance at a stop
- Turning problems, unsteady, sudden corrections, late braking, and improper lean angle
- Inattentive to surroundings (i.e. forgetting to go on light change to green)
- Inappropriate or unusual behavior, (i.e. carrying or dropping object, urinating at roadside, disorderly conduct, etc.)
- Weaving

•Good Cues (30 to 50% probability)

- Erratic movements while going straight
- Operating without lights at night
- Recklessness
- Following too closely
- Running stop light or sign
- Evasion
- Wrong way

Now, what do we specifically look for to determine a compliant helmet?

COURSE TITLE: Motorcycle Safety and Enforcement

Lesson Title: Motorcycle DUI Detection

Suggested Time: 20 to 30 minutes

Sample End of Module Questions

1. True or False (circle one): In fatal crashes, a higher percentage of motorcycle riders had blood alcohol concentrations higher than .08 BAC or higher than any other type of motor vehicle driver.
2. True or False (circle one): Forty-three percent of the motorcycle riders who died in single vehicle crashes had BAC over the legal limit (.08 BAC) or higher.
3. True or False (circle one): Sixty-four percent of those motorcycle riders killed in single vehicle crashes on weekend nights had BAC over the legal limit (.08 BAC) or higher.
4. Excellent Cues for the detection of a DUI motorcycle rider represents what percentage of probability to predict impaired motorcycle operation?
 - a. 75 % or greater probability
 - b. less than 49 % probability
 - c. 50 % or greater probability
 - d. 30 % or more probability
5. True or False (circle one): Speed is an excellent predictor of a motorcycle rider impairment.

Answer Key:

1. True (2008 NHTSA statistics);
2. True (2008 NHTSA statistics);
3. True (2008 NHTSA statistics);
4. c.
5. False

Module

7

MOTORCYCLE HELMETS

Next, we will cover the specific of Federal Motor Vehicle Safety Standard 49 CFR 571.218, also known as FMVSS 218 on helmets... What do you look for to determine the difference between a non-compliant helmet and a compliant helmet?

Handout the HELMET QUIZ

•Instruct students to complete handout before starting this module.

•Review with students, give answers and have students mark what they got correct or incorrect. Ask students: How did you do?

Helmet Use and Effectiveness

All motorcycle helmets sold in the United States are required to meet Federal Motor Vehicle Safety Standard (FMVSS) 218, the performance standard which establishes the minimum level of protection helmets must afford each user. Some motorcycle riders use “novelty” helmets to circumvent FMVSS 218’s requirements.

The 2006 National Occupant Protection Use Survey (NOPUS) survey, a probability-based observational survey of motorcycle helmet use in the United States, found that 14 percent of motorcycle riders use helmets that do not comply with Federal Motor Vehicle Safety Standard (FMVSS) No. 218, *Motorcycle Helmets*.³¹

The concern is that noncompliant helmets provide little or no protection. Motorcyclists should know the facts about noncompliant helmets and be able to determine if a helmet is compliant or not. Many States have laws which require helmets that comply with FMVSS 218.

As law enforcement officers we need to be able to detect and identify noncompliant helmets and cite noncompliant helmet wearers in States requiring FMVSS 218-compliant helmets. If we know what to look for we can communicate to motorcyclists the benefits of a compliant helmet and that unsafe helmets need to be taken out of service and destroyed.

³¹NHTSA Traffic Safety Facts April 2007, Summary of novelty helmet performance testing. DOT HS810752

Even with scientific evidence that wearing compliant helmets prevent death and injuries some will wear noncompliant helmets in an attempt to circumvent the law. They assume that the odds are that most officers do not know what to look for.

Helmet Use and Effectiveness statistics

NHTSA estimates that helmets saved the lives of 1,829 motorcyclists in 2008. If all motorcyclists had worn helmets, an additional 823 lives could have been saved.

Helmets are estimated to be 37 percent effective in preventing fatal injuries to motorcyclists. This means for every 100 motorcyclists killed in crashes while not wearing a helmet, 37 of them could have been saved had all 100 worn helmets.

According to NHTSA's National Occupant Protection Use Survey (NOPUS), helmet use declined from 71 percent in 2000 to 63 percent in 2008. This drop is statistically significant and corresponds to a striking increase in nonuse.

Reported helmet use rates for fatally injured motorcyclists in 2008 indicated 59 percent for riders and 49 percent for passengers, compared with 59 percent and 47 percent, respectively, in 2007.

In 2008, 20 states, the District of Columbia, and Puerto Rico required helmet use by all motorcycle operators and passengers. In other states, only persons under a specific age, usually 18, were required to wear helmets or had no laws requiring helmet use.³² **The states without helmet laws are New Hampshire, Illinois, and Iowa.*

NHTSA is amending FMVSS 218 to make it easier to confirm that a helmet complies with the standard by making "DOT" stickers more difficult to counterfeit. The new stickers will be required to be clear coated into the paint of the helmet.

FMVSS No. 218 – SHOW NHTSA HELMET VIDEO

NHTSA now has a video available to assist consumers on how to determine whether a motorcycle helmet fits them properly and how to identify whether a motorcycle helmet is compliant with FMVSS 218.

³² NHTSA Traffic Safety Facts 2008 Data, Motorcycles DOT 811159

Motorcycle rider & passenger personal protective gear:

Motorcycle safety organizations recommend minimum equipment to keep riders and passengers safer while riding. While protective gear, other than a helmet, is recommended in many states it is not required by law. The recommended personal protection gear is as follows:

- A Motorcycle helmet that meets DOT Standard FMVSS No. 218
- Full fingered gloves
- Over the ankle boots
- Long pants
- A durable long-sleeved jacket
- Eye or face protection

For those having investigated a crash where a motorcyclist is only wearing shorts and a t-shirt, it is not a welcome experience to witness the injuries that result even at low speeds.

FMVSS No. 218 – Helmet Inspection Information – See Appendix

NHTSA provides a brochure for the public on identifying noncompliant helmets (www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle/UnsafeHelmetID/images/UnsafeHelmet.s.pdf) and a brochure and video for law enforcement (www.nhtsa.dot.gov/people/outreach/safesobr/21qp/html/program_pubs/moto_safety.html).

The FMVSS No. 218 requirements are based on manufacturer compliance. They also include testing the following based on federal specifications and requirements:

- Impact Attenuation
- Penetration Resistance
- Retention
- Labeling
- Projections
- Peripheral vision

FMVSS 218

- What are recent proposed Rule changes to preventing counterfeit DOT stickers?
- What are the issues for law enforcement officers?
 - Fake DOT stickers = “*Doing our thing*”
 - Eliminate counterfeit stickers on non-compliant helmets
- What can you do?
- What do you look for?

FMVSS No. 218 requires specific HELMET LABELING

Helmet interior should be labeled with the following:

- (a) Manufacturer's name or identification.
- (b) Precise model designation.
- (c) Size.
- (d) Month and year of manufacture. This may be spelled out or abbreviated.
– June 2008 or 6/08
- (e) The symbol DOT sticker displayed on exterior rear of helmet.
And a label with Instructions to the purchaser

FMVSS No. 218 – HELMET LABELING – PowerPoint pictures - DISCUSSION:

- What are some of the issues regarding helmet use you are you experiencing in your state?
- What can we as law enforcement do?

Compliant and Non-Complaint Helmets

How do you make sure a motorcycle helmet meets the safety standard?

- Determine if non-compliant helmet
- Check for counterfeit DOT symbols affixed to them.
- DOT standard - sticker/symbol details size, location, and contrasting color, the sticker can easily be made by anyone.
- Does the motorcycle rider know the difference between compliant and non-compliant head protection?
- Importance of wearing a compliant helmet and other protective gear.



SNELL STANDARDS – HEADGEAR

The **Snell Memorial Foundation** (SMF) was founded in 1957, is a not-for-profit organization that has been dedicated to research, education, testing and development of helmet safety standards. The “SNELL” helmet safety sticker is seen on helmets in addition to the “DOT” sticker representing SMF testing for helmet safety in the United States.

What is the SNELL rating currently?

You’ll still see the M2005 stickers along with the newer M2010 stickers on helmets.

Snell Memorial Foundation (SMF) has its own extensive testing program which is illustrated in their video. SHOW VIDEO for Train-the-Trainer for awareness as a resource.

Snell emphasizes the following pointers:

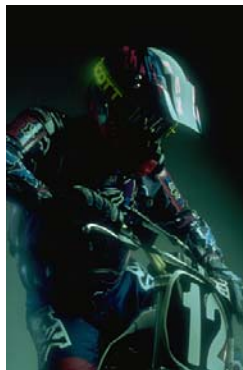
- “The proper use of protective helmets can minimize the risk of death or permanent impairment...”
- Take care in the selection and fitting of your helmet

Snell looks at four of the most critical elements affecting a helmet's protective properties which are:

- Impact management
- Helmet positional stability – depends on fit.
- Retention system strength
- Extent of Protection

Snell Memorial Foundation information is located at web site link: (<http://www.smf.org/>)

How do you set up the safety checkpoint and what are some guidelines to consider for working at a motorcycle safety checkpoint?



COURSE TITLE: Motorcycle Safety and Enforcement

Lesson Title: Motorcycle Helmets

Suggested Time: 20 to 30 minutes

Sample End of Module Questions

1. True or False (circle one): All motorcycle helmets sold in the U.S. are required to meet Federal Motor Vehicle Safety Standard (FMVSS) 218.
2. True or False (circle one): Twenty states require all motorcycle riders and passengers to wear a helmet when riding regardless of age.
3. True or False (circle one): Helmets are estimated to be 37 percent effective in preventing fatal injuries in a crash.
4. Recommended personal protective gear for the motorcycle riders is as follows:
 - a. gloves, helmet, eye protection, windshield, long pants and a jacket.
 - b. helmet, full-fingered gloves, boots, long pants, long sleeved jacket, eye or face protection
 - c. long sleeved jacket, over the ankle boots, pants and a helmet
 - d. eye protection, helmet, long pants, jacket, gloves, and a t-shirt
5. True or False (circle one): Some riders put fake "DOT" stickers on their non-compliant helmets.

Answer Key:

1. True (2008 NHTSA statistics);
2. True (2008 NHTSA statistics);
3. True (2008 NHTSA statistics);
4. b.
5. True

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COURSE TITLE:	Motorcycle Safety and Enforcement	
Lesson Title:	Public Education and Stakeholders	
Suggested Time:	20 to 30 minutes	
Lesson Purpose:	This training module discusses motorcycle safety public education efforts and best practices. Covered will be specific information related to motorcycle safety checkpoints, the National Agenda for Motorcycle Safety and resources, motorcycle rider education programs, the “Red, Yellow, Green campaign” and an opportunity to share what you are doing on behalf of motorcycle safety in your community.	
Training Objectives:	<p>At the end of this module of instruction, the student will be able to:</p> <ul style="list-style-type: none"> ▪ Encourage motorcycle safety, education and enforcement in their communities; ▪ Discuss motorcycle safety programs; ▪ Identify law enforcement activities related to motorcycle safety; ▪ Review motorcycle safety checks and checkpoint initiatives; and ▪ Provide resources. 	
Instructional Method:	The instructor will provide information concerning motorcycle helmets.	
Materials Suggested:	Motorcycle safety checkpoint policy	
Training Aids:	Flip Chart LCD Projector/Lap top Computer PowerPoint Slides TV/DVD Handouts Student PowerPoint note-takers.	
Suggested Time Frames:	Instructional times may be adjusted according to time available for each module of instruction. The suggested time frame is as follows:	
	Public education efforts / stakeholders	20 to 30 minutes
References:	See Reference Listing at end of materials.	

Module

8

PUBLIC EDUCATION – WHAT CAN WE DO?

Encourage motorcycle safety, education and enforcement.

Motorcycle & Rider – Concept of Conspicuity

- Conspicuity is defined as the quality of being conspicuous; obviousness.³³
- Encouraging riders and passengers to wear bright and visible clothing.
- Compliant modulating headlamps and daytime running lights
- Motorist awareness

Motorcycle Training

- Rider Education programs
- What motorcycle safety programs exist for those who need or are seeking training?
- What are some ways states are merging rider education, training and licensing?
- Enforcement Awareness Education

Law Enforcement activities which help to ensure...

- **DUI Enforcement**
- **Motorcyclist properly licensed**
 - Enforce penalties for operating a motorcycle without a proper endorsement.
- **Helmet Use**
 - Increased helmet usage
 - No tolerance for non-compliant or “novelty” helmets
 - Counterfeit DOT sticker enforcement
- **Speed enforcement**
- **Motorcycle Operation**
 - Prohibit lane splitting or not?
 - Motorist awareness campaigns – encourage motorists to check before changing lanes or turning.
 - Encourage motorcyclists to enhance their conspicuity.
 - Suggestions for motorcycle lighting that includes safe modification to lighting systems.
- **Motorcycle Crash Investigation awareness**
 - What are some motorcycle crash investigation procedures to consider for crash investigators? We’ve covered a list and are there others?

³³ <http://www.thefreedictionary.com/conspicuity>, retrieved 4/7/09.

- Road improvements recommendations
 - Identify and prioritize roadway hazards to motorcycle operation as a part of a law enforcement focus.
 - Crash investigation prevention recommendations that identify the needs of motorcyclists needs and/or encourage motorcycle-friendly design, construction, and maintenance procedures.
 - What factors affect and shape motorcyclists' attitudes and behavior and how they affect crash involvement?
 - Using the information about how motorcyclists form attitudes about safety issues, create programs that reduce dangerous behavior and reinforce safe behavior. (i.e., Green, Yellow, Red campaign)
- To better utilize data collected by law enforcement personnel, a uniform traffic crash report for police officers should be developed and deployed.
 - This will permit meaningful comparisons among jurisdictions.
 - All concerned parties should share the resulting information.
 - Does your state have standardized data gathering and reporting for motorcycle crashes?
- Are there appropriate sanctions that should be applied to those found guilty of contributing to motorcycle crashes? Suggested sanctions, such as mandatory attendance at a motorcycle awareness course, would be designed to expand knowledge of motorcycle issues.

Sharing Safety messages to motorists and motorcyclists on...

- Encourage motorcycle safety and education.
- Motorcyclist visibility
- Motorcyclist Personal Protection Equipment
- Motorist developing motorcyclist awareness
- Motorcyclist awareness education to encourage motorist to see motorcyclists.
- Encourage motorcyclists to enhance their conspicuity.
- Suggestions for motorcycle lighting that includes safe modification to lighting systems.
- Prohibit or educate about lane splitting.
- Post specific warnings for motorcyclists where unavoidable hazards exist.

What every officer should know about the *National Agenda for Motorcycle Safety & NAMS Implementation Guide* recommendations? They include:

- Resources and suggestions on rider education programs;
- Campaigns to increase the proportion of motorcyclists who are properly licensed;
 - Expand motorcycle safety programs to accommodate all who need or seek training.
 - Merge rider education and training and licensing functions to form one-stop operations.
 - Do licensing tests measure skill required for size of motorcycle purchased?
 - Do motorcyclists test on the motorcycle they will be riding?
 - How do rider skills and experience effect motorcycle operation and hazard avoidance?
 - Identify and remove barriers to obtaining a motorcycle endorsement.

- Does your state allow your state's motorcycle safety program to issue motorcycle endorsements immediately upon successful completion of rider training courses.
- Partnerships and Stakeholder campaigns to reduce the number of motorcyclists riding while impaired;
- Campaigns and strategies to increase motorcyclists' visibility;
- Enforcement and education efforts to increase helmet usage; and
- Education to increase other motorists' awareness of motorcyclists.

MOTORCYCLE SAFETY CHECKS / CHECKPOINTS

- Does your state permit the use of Motorcycle Safety Checkpoints?
 - New York State Police Safety Checkpoint initiative
 - Vermont State Police & Governor's Highway Safety Checkpoint
- If so, what is the purpose of a motorcycle safety checkpoint
 - What are we looking for?
 - Enforcement or Education efforts?
- There are examples of a couple checklist forms in appendix you can edit for your own department's use.
- Guidelines to operate a safety checkpoint.
- What are states doing?
- Conducting Motorcycle Safety Checkpoints and Programs
 - Michigan State Police
 - New York State Police
 - Washington State Police
 - Wisconsin Law Enforcement
 - Vermont Governor's Highway Safety
 - Other Examples



QUESTIONS?

WRAP UP

What have we covered?

- ☒ **National Trends and Statistics**
 - National Statistics
 - State Statistics
- ☒ **Motorcycle Types and Definitions**
- ☒ **Motorcycle Laws & Equipment Requirements**
- ☒ **Federal Motorcycle Laws**
 - Pulsing headlights – FMVSS 108
 - High Occupancy Vehicle (HOV) Lanes
- ☒ **Officer, motorcyclist & public safety**
 - Stopping Motorcycles
 - Pursuit Discussion
 - Motorcycle gangs
- ☒ **DWI/DUI Detection/Recognition**
- ☒ **Crash Investigation**
- ☒ **Compliant Helmets**
 - DOT Standard
 - SNELL Rating
- ☒ **Public Education**
 - Educational programs
 - Safety Checkpoints
 - National Agenda for Motorcycle Safety



PLEASE COMPLETE COURSE EVALUATIONS

COURSE TITLE: Motorcycle Safety and Enforcement Training (MSET)

Follow-Up Information

Thank you for attending and participating in this Motorcycle Safety and Enforcement Train-the-Trainer Class. The intent of this class as stated earlier is to assist law enforcement in the enforcement of motorcycle laws. Its purpose is to share existing motorcycle laws knowledge, discuss motorcycle safety issues, the scope of problems involving enforcement of motorcycle laws, and present best practices in the realm of enforcement of motorcycle laws, sharing of safety practices for law enforcement, the motorcyclist and the public, prevention of motorcycle accidents and fill an existing gap in law enforcement training. With your help we would like to have all police officers attend this training through their Police Academies or POST Programs.

We ask for you to act on the knowledge gained in this course to promote motorcycle safety education, "enforcement of motorcycle laws" and reduce the problem of unlicensed motorcyclists, motorcycle DUI, non-compliant helmets, and speed related crashes.

To receive updates and keep track of officers trained statistics for the grant, please forward the MSET Quarterly Report to the curriculum author on the following form via mail, fax or email.

June Kelly, Project Manager
VCJTC/IADLEST Motorcycle Grant
317 Academy Road
Pittsford, VT 05763
Ofc: 802-483-2733
Fax: 802-483-2343
Email: June.Kelly@state.vt.us

IADLEST is working on a central repository of instructor materials where you can download update materials. Once this becomes available you will be instructed on how you can sign on and receive information. The web site link for training academy information is www.nlearn.org

Instructions for Completing the Enforcement of Motorcycle Laws Grant Motorcycle Safety and Enforcement Training Quarterly Report

1. **Quarter and Year:** Use January-March, April-June, July-September, and October-December as the quarters. Indicate both the quarter and the year on the line provided.
2. **Agency Providing Training:** Indicate the agency providing or delivering the training (e.g., state police training academy, regional training academy, or individual department training unit). Please include a reference to the state as well (e.g., Dutchess County, NY, Sheriff's Department or Police Training Academy).
3. **Reporting Trainer:** List the name of the person completing the report (a trainer who has participated in a Motorcycle Safety and Enforcement Train-the-Trainer Workshop). Please list telephone number for trainer to be contacted at in case of questions on report.
4. **Date of Report:** List the month, day, and year the report is completed. This report should be completed and returned 30 days after the close of the quarter that it covers (e.g., July 31, 2009, for April – June 2009).
5. **Training Dates:** Enter when (month, day, and year) the training was delivered.
6. **Training Location:** Enter where (city and state) the training was delivered.
7. **Length (hours):** Round to the nearest whole hour, except for roll call training. For roll call, indicate the number of roll calls at which the training was delivered, rather than listing the length of time (which will typically be no more than 15 minutes) of the training delivery.
8. **Training Type:** Identify one type of training (roll call, recruit, in-service, or advanced/specialized). Do not report more than one type of training on the same line.
9. **Number and Type of Personnel Trained:** Indicate the total number of each type of personnel trained (patrol officers, investigators, supervisory/command personnel, and other).
10. **Send form to:** June Kelly, Grant Manager, via email: June.Kelly@state.vt.us or mail to:
IADLEST Enforcement of Motorcycle Laws Grant
C/O VT Police Academy
317 Academy Road
Pittsford, VT 05763

Appendix A – Acronyms / Glossary

AMA – American Motorcyclist Association - <http://www.ama-cycle.org/>

DOT – Department of Transportation

FARS – Fatal Accident Reporting System

FMVSS – Federal Motor Vehicle Safety Standard

IADLEST – International Association of Directors of Law Enforcement Standards and Training
– <http://www.iadlest.org>

MTC – Motorcycle

NHTSA – National Highway Traffic Safety Administration – <http://www.nhtsa.gov>

GLOSSARY - courtesy of *National Agenda for Motorcycle Safety (NAMS)* * footnote

Antilock braking system (ABS): A braking system that prevents wheels from locking during braking.

Armor: Padding, hard-shelled material or other impact-absorbing material fitted to a motorcyclist's apparel. Performance standards exist in Europe for such materials.

Asphalt sealer: Material used to fill and repair cracks in asphalt paving. Materials currently used often create a slick surface that can cause a motorcycle to lose traction.

Automatic-on headlamp: A motorcycle headlamp that is automatically illuminated when the engine is started—also known as daytime running lamp. Required by regulation in many states since 1973 and consequently installed on virtually all street bikes sold in the U.S.

Brake: To stop or slow a motorcycle using the brakes. See also Panic-brake.

Café-racer: Customized motorcycle built in the style currently categorized as a sport bike; popular in the 1970s and early 1980s.

Corner (or cornering): To negotiate a turn in the road. A motorcycle must lean to do so.

Daytime running lamps (DRL): Frontal lighting used to enhance daytime conspicuity of motor vehicles including motorcycles.

DOT: U.S. Department of Transportation

Fairing: Frontal bodywork on a motorcycle intended to make the vehicle more aerodynamic and/or reduce wind pressure on the rider.

FMVSS 218: U.S. Department of Transportation Federal Motor Vehicle Safety Standard No. 218 *Motorcycle Helmets*.

FMVSS 218 compliant helmet: A motorcycle helmet that complies with U.S. Department of Transportation Federal Motor Vehicle Safety Standard No. 218 (FMVSS 218) for motorcycle helmets.

Front suspension: Often called the “fork” or “forks” because most motorcycles use designs with two parallel legs.

Hurt Report: A study of 900 motorcycle crashes titled *Motorcycle Accident Cause Factors and Identification of Countermeasures*, authored by H.H. Hurt et al., in 1981. Conducted in the late 1970s, it is considered the most comprehensive study of motorcycle crash causation to date.

Lane splitting: Passing between lanes of stopped or slower-moving vehicles on a motorcycle. Not permitted in most of the U.S., it is allowed in many other countries and may provide a safety benefit. Also called “lane sharing.”

Linked braking: Motorcycle braking systems that use a single control to operate both front and rear brakes.

Manual on Uniform Traffic Control Devices (MUTCD): Contains all national design, application, and placement standards for traffic control devices, including signs, signals, and pavement markings. The MUTCD is published by the Federal Highway Administration (FHWA) under 23 Code of Federal Regulations (CFR), Part 655, Subpart F.

Motorcycle safety: Reducing motorcycling crashes, injuries and fatalities through risk management and countermeasures.

Over-brake: Applying too much force to a brake during a stop, this causes a wheel to stop turning. This can result in loss of directional control (particularly if the rear wheel stops rolling) or upset the motorcycle and cause a crash (a common result of over braking the front wheel).

Panic-brake: An emergency stop, requiring hard, effective controlled brake application, so called because it is often conducted during a moment of panic.

Position lamps: Additional filaments in a motorcycle’s front turn-signal assemblies that act as full-time running lights to increase conspicuity, distance perception by other drivers, and awareness.

Risk management: The practice of planning for and reducing risk.

Semi-chopper: A motorcycle customized in the style currently categorized as cruiser. In the 1970s, such machines frequently included lengthened front suspension.

Stoppie: A dangerous stunt that involves the motorcyclist using the front brake to make the motorcycle balance on its front wheel when coming to a stop.

Swerve (or swerving): To rapidly change direction, normally employed to avoid an obstacle.

Tiered licensing [or Graduated licensing]: A licensing system that provides for operating restrictions based upon motorcycle engine displacement [or driver age or experience].

Tubeless tire: A tire that retains air without an inner tube. An inner tube (used on a tube-type tire) is necessary to retain air pressure when the wheel design or the tire cannot do so. However, an inner tube typically deflates rapidly when punctured, and this sudden deflation can cause a quick reduction of control on a motorcycle. A tubeless tire typically deflates much more slowly, providing a motorcyclist with warning before control is reduced significantly. Whether a tube-type or tubeless tire is chosen normally depends on the kind of wheel to which it is fitted.

Tube-type tire: See Tubeless tire.

Under-brake: Failure to apply the brakes to their full capability, resulting in a longer than needed stopping distance. This is usually caused by fear of the results of over-braking.

Appendix B – Course Evaluation Form



Course Evaluation for:

Motorcycle Safety & Enforcement Training

Date: _____ **Location:** _____

We would be grateful if you would take some time to complete this evaluation in order to help us improve the course you have just attended. Your honest and **constructive** comments on the course and/or instructor(s) will enable us to continually work towards improvement of our training programs.

Please grade the following as:

- 1- Strongly agree 2- Somewhat agree 3- Somewhat disagree 4 – Strongly disagree

Course Material:

- Course objectives were clearly explained----- 1 – 2 – 3 – 4
- Course requirements were clearly explained ----- 1 – 2 – 3 – 4
- Important concepts were presented in a clear sequence----- 1 – 2 – 3 – 4
- Importance of class material to policing was clearly explained ----- 1 – 2 – 3 – 4
- Course materials were helpful to your understanding the subject ----- 1 – 2 – 3 – 4
- Course materials were applicable to your understanding the subject --- 1 – 2 – 3 – 4
- Students were encouraged to participate and ask questions ----- 1 – 2 – 3 – 4
- There was adequate time for note taking----- 1 – 2 – 3 – 4

If given/assigned:

- Tests or quizzes were pertinent to the material presented ----- 1 – 2 – 3 – 4
- Homework assignments were relevant to the class----- 1 – 2 – 3 – 4

Did we make good use of your time? _____

What were the strong points of the class? _____

What were the weak points of the class? _____

What topics do you think should be added to the program, deleted or expanded to improve the training experience? _____

Was there too little, about enough, or too much time devoted to this class? _____

Instructor(s) Name(s): _____, _____, _____

Please rate your instructor(s) overall presentation by answering the following questions:

1- Strongly agree 2- Somewhat agree 3- Somewhat disagree 4 – Strongly disagree

Instructor possesses knowledge of subject----- 1 – 2 – 3 – 4
Instructor was always organized ----- 1 – 2 – 3 – 4
Instructor was always prepared ----- 1 – 2 – 3 – 4
I felt the style of instruction helped me to learn ----- 1 – 2 – 3 – 4
The instructor was responsive to participants' questions ----- 1 – 2 – 3 – 4
The instructor created a learning environment for adults----- 1 – 2 – 3 – 4
The instructor encouraged participation by all members of class----- 1 – 2 – 3 – 4
The instructor provided good feedback ----- 1 – 2 – 3 – 4
Learning points were clearly presented ----- 1 – 2 – 3 – 4
The instructor was enthusiastic about the class ----- 1 – 2 – 3 – 4
I was able to keep up with the pace of the material ----- 1 – 2 – 3 – 4
I was able to absorb the amount of material presented----- 1 – 2 – 3 – 4
The instructor took time to answer all questions----- 1 – 2 – 3 – 4
The instructor did not let interruptions bother him/her----- 1 – 2 – 3 – 4

Please rate the following areas as to their *QUANTITY*:

1- Strongly agree 2- Somewhat agree 3- Somewhat disagree 4 – Strongly disagree

There was the right amount of lecture time----- 1 – 2 – 3 – 4
There was the right amount of video presentation----- 1 – 2 – 3 – 4
There was the right amount group discussion----- 1 – 2 – 3 – 4
There was the right amount of class exercises ----- 1 – 2 – 3 – 4

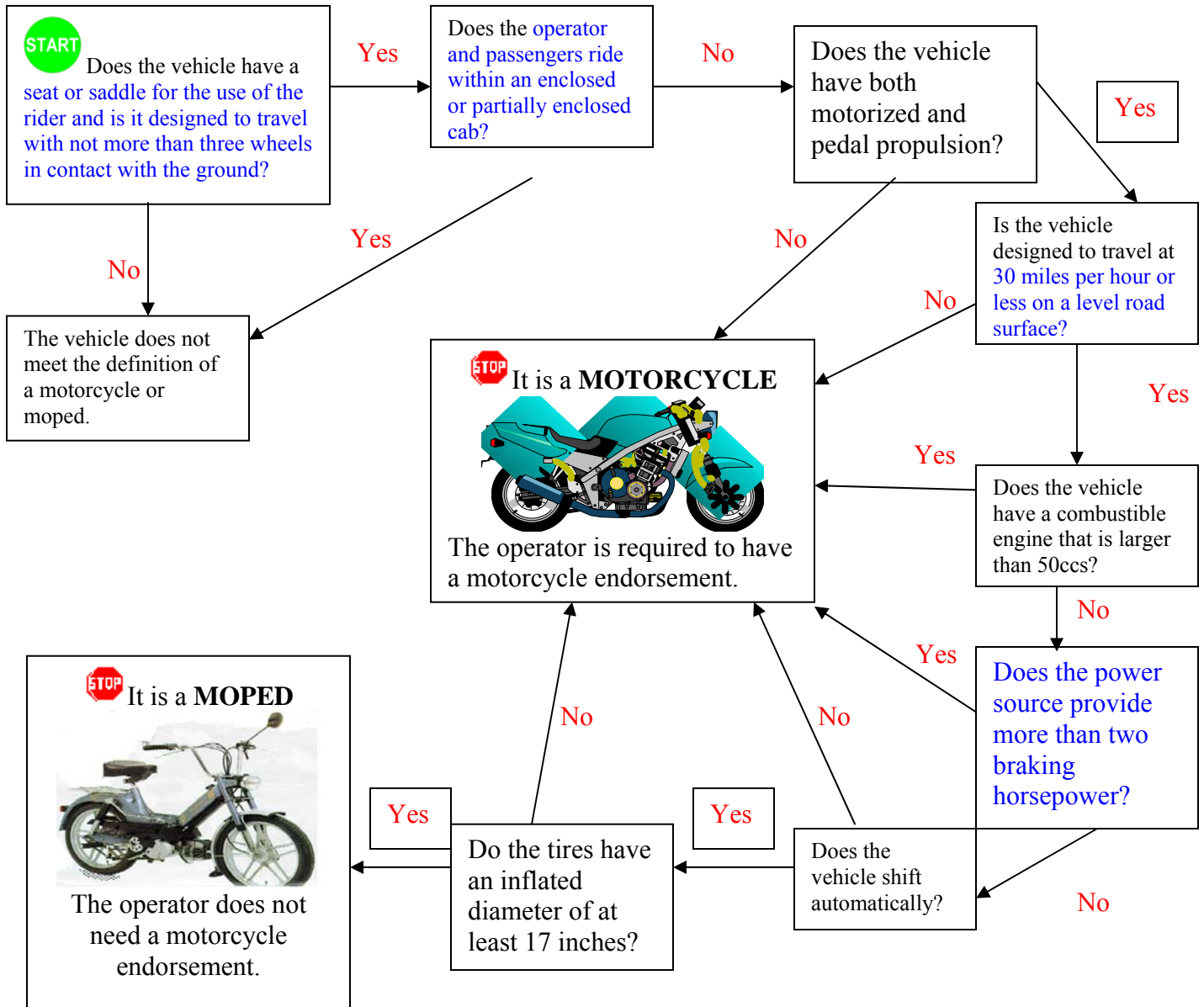
Appendix C – NHTSA Traffic Safety Facts, Motorcycles – Hand out updated annual data sheets, 2008 data, Motorcycle Rider Fatalities by State, Helmet Use, and BAC, 2008

State	Total Motorcycle Riders Killed Number	Helmeted Percent	Not Helmeted Percent	Impaired Motorcycle Riders Killed (BAC=.08+) Percent	BAC=.01+ Percent
Alabama	95	85%	15%	20%	27%
Alaska	8	50%	50%	35%	36%
Arizona	133	49%	51%	23%	32%
Arkansas	59	42%	58%	21%	37%
California	537	88%	12%	26%	30%
Colorado	88	33%	67%	30%	32%
Connecticut	50	37%	63%	34%	37%
Delaware	16	50%	50%	55%	63%
Dist of Columbia	7	86%	14%	29%	50%
Florida	523	52%	48%	33%	41%
Georgia	166	93%	7%	21%	25%
Hawaii	25	28%	72%	40%	49%
Idaho	29	62%	38%	22%	32%
Illinois	121	26%	74%	35%	47%
Indiana	119	24%	76%	28%	35%
Iowa	48	15%	85%	17%	22%
Kansas	43	26%	74%	43%	49%
Kentucky	93	40%	60%	24%	28%
Louisiana	76	59%	41%	29%	36%
Maine	18	24%	76%	17%	17%
Maryland	84	88%	12%	27%	31%
Massachusetts	41	97%	3%	22%	40%
Michigan	121	88%	12%	28%	35%
Minnesota	64	19%	81%	38%	44%
Mississippi	39	79%	21%	26%	32%
Missouri	102	77%	23%	31%	36%
Montana	32	40%	60%	31%	31%
Nebraska	19	84%	16%	39%	39%
Nevada	59	75%	25%	36%	42%
New Hampshire	29	38%	62%	22%	40%
New Jersey	78	87%	13%	21%	37%
New Mexico	45	4%	96%	31%	38%
New York	177	81%	19%	24%	30%
North Carolina	159	91%	9%	28%	38%
North Dakota	12	25%	75%	51%	51%
Ohio	194	30%	70%	32%	36%
Oklahoma	80	25%	75%	30%	32%
Oregon	43	98%	2%	30%	35%
Pennsylvania	227	49%	51%	32%	40%
Rhode Island	7	71%	29%	30%	30%
South Carolina	115	26%	74%	42%	53%
South Dakota	14	29%	71%	14%	21%
Tennessee	134	89%	11%	26%	31%
Texas	480	38%	62%	38%	46%
Utah	34	32%	68%	13%	15%
Vermont	7	100%	0%	1%	16%
Virginia	82	93%	7%	37%	46%
Washington	78	95%	5%	31%	43%
West Virginia	49	77%	23%	30%	31%
Wisconsin	79	23%	77%	47%	54%
Wyoming	17	41%	59%	22%	23%
United States	4,955	59%	41%	30%	37%
Puerto Rico	74	35%	65%	39%	52%

Note: Percent Helmeted based on fatalities with known helmet use.

Appendix D – Is it a motorcycle?

Operators of mopeds and motorcycles must have a valid driver's license. Use the chart below to determine if the operator must also have a motorcycle endorsement.



Appendix E – Excerpts of FMVSS related to Motorcycles

Why does FMVSS exist?

The National Highway Traffic Safety Administration (NHTSA) has a legislative mandate under Title 49 of the United States Code, Chapter 301, Motor Vehicle Safety, to issue Federal Motor Vehicle Safety Standards (FMVSS) and Regulations to which manufacturers of motor vehicles and items of motor vehicle equipment must conform and certify compliance. FMVSS 209, Seat Belt Assemblies, was the first standard to become effective on March 1, 1967. A number of FMVSS became effective for vehicles manufactured on and after January 1, 1968. Subsequently, other FMVSS have been issued. New standards and amendments to existing standards are published in the Federal Register. These Federal safety standards are regulations written in terms of minimum safety performance requirements for motor vehicles or items of motor vehicle equipment. These requirements are specified in such a manner that the public is protected against unreasonable risk of crashes occurring as a result of the design, construction, or performance of motor vehicles and is also protected against unreasonable risk of death or injury in the event crashes do occur.

Each State must abide by the FMVSS and may implement provisions, regulations and laws pertaining to motor vehicle equipment that give further details on their particular equipment requirements. Everyone should check their particular states equipment and inspection requirements to be in compliance.

MOTORCYCLE EQUIPMENT A GLIMPSE OF RELEVANT FMVSS SECTIONS:

Standard No. 108: Lamps, Reflective Devices, and Associated Equipment

Scope and Purpose: This standard specifies requirements for required original and replacement lamps, reflective devices, and associated equipment and their installation. The purpose is to reduce traffic crashes, deaths and injuries resulting from crashes by providing adequate illumination of the roadway, and enhancing the conspicuity of motor vehicles on the public roads so that their presence is perceived and their signals understood, both in daylight and in darkness or other conditions of reduced visibility.

Application: Passenger cars, multipurpose passenger vehicles, trucks, buses, trailers, (except pole trailers and trailer converter dollies), and motorcycles

Note: This sections allows modulating headlights for motorcycle during the day for additional visibility.

Standard No. 111: Rearview Mirrors

Scope and Purpose: This standard specifies requirements for the performance and location of inside and outside rearview mirrors on motor vehicles. The purpose of this standard is to reduce the number of deaths and injuries that occur when the driver of a motor vehicle does not have a clear and reasonably unobstructed view to the rear. The requirements for school buses were revised for driver visibility in front of and along both sides of school buses.

Application: Passenger cars, multipurpose passenger vehicles, trucks, buses, school buses, and motorcycles

Standard No. 116: Motor Vehicle Brake Fluids

Scope and Purpose: This standard specifies requirements for fluids for use in hydraulic brake systems of motor vehicles, containers for these fluids, and labeling of the containers to reduce failures in the hydraulic braking systems of motor vehicles that may occur because of the manufacture or use of improper or contaminated fluid.

Application: All fluids for use in hydraulic brake systems of motor vehicles; Passenger cars, multipurpose passenger vehicles, trucks, buses, trailers, and motorcycles

Standard No. 119: New Pneumatic Tires For Vehicles Other Than Passenger Cars

Scope and Purpose: This standard establishes performance and marking requirements for new pneumatic tires. The purpose of this standard is to provide safe operational performance levels for these tires and to place sufficient information on the tires to permit their proper selection and use.

Application: New pneumatic tires for use on motor vehicles with a GVWR of more than 4,536 kg (10,000 lb), trailers, and motorcycles manufactured after 1948

Standard No. 120: Tire Selection and Rims

Scope and Purpose: This standard specifies tire and rim selection requirements and rim marking requirements. The purpose of this standard is to provide safe operational performance by ensuring that vehicles to which it applies are equipped with tires of adequate size and load rating and with rims of appropriate size and type designation.

Application: Motor vehicles with a GVWR of more than 4,536 kg (10,000 lb) and motorcycles, rims for use on those vehicles, and non-pneumatic spare tire assemblies for use on those vehicles

Standard No. 122: Motorcycle Brake Systems

Scope and Purpose: This standard specifies equipment and performance requirements for the brake systems of two-wheeled and three-wheeled motorcycles. The purpose of this standard is to ensure safe motorcycle braking performance under normal and emergency conditions.

Application: Motorcycles: two-wheeled and three-wheeled

Standard No. 123: Motorcycle Controls and Displays

Scope and Purpose: This standard specifies requirements for the location, operation, identification and illumination of motorcycle controls and displays, and for motorcycle stands and footrests in order to minimize accidents caused by operator error in responding to the motoring environment, by standardizing certain motorcycle controls and displays.

Application: Motorcycles equipped with handlebars, except for motorcycles that are designed, and sold exclusively for use by law enforcement agencies

Standard No. 205: Glazing Materials

Scope and Purpose: This standard specifies requirements for glazing materials for use in motor vehicles and motor vehicle equipment. The purpose of this standard is to reduce injuries resulting from impact to glazing surfaces, to ensure a necessary degree of transparency in motor vehicle windows for driver visibility and to minimize the possibility of occupants being thrown through the vehicle windows in collisions.

Application: Passenger cars, multipurpose passenger vehicles, trucks, buses, motorcycles, slide-in campers, and pickup covers [designed to carry persons while in motion]

Standard No. 218: Motorcycle Helmet

Scope and Purpose: This standard establishes performance requirements for helmets designed for use by motorcyclists and other motor vehicle users. The purpose of this standard is to reduce deaths and injuries to motorcyclists and other motor vehicle users resulting from head impacts.

Application: All helmets designed for use by motorcyclists and other motor vehicle users

Part 557: Petitions for Hearings on Notification and Remedy of Defects

Scope and Purpose: This part establishes procedures for the submission and disposition of petitions for hearings on whether a manufacturer has reasonably met its obligation to notify owners, purchasers, and dealers of a safety-related defect or failure to comply with safety standards or to remedy such defect or noncompliance. This part also establishes procedures for holding such a hearing.

Application: Any interested person

Part 565: Vehicle Identification Number Requirements

Scope and Purpose: This part specifies the format, content, and physical requirements for a vehicle identification number system to simplify vehicle identification information retrieval and increase the accuracy and efficiency of vehicle defect recall campaigns.

Application: Passenger cars, multipurpose passenger vehicles, trucks, buses, trailers (including trailer kits), incomplete vehicles, and motorcycles

Part 566: Manufacturer Identification

Scope and Purpose: This part requires manufacturers of motor vehicles and motor vehicle equipment items to which a motor vehicle safety standard applies, to submit identifying information and descriptions of the items they produce to the Department of Transportation. Revised information is also required when necessary to keep the entry current. The purpose of this part is to facilitate the regulation of manufacturers under the National Traffic and Motor

Vehicle Safety Act, and to aid in establishing a code numbering system for all regulate manufacturers.

Application: All manufacturers of motor vehicles and manufacturers of motor vehicle equipment, other than tires

Part 567: Certification

Scope and Purpose: This part specifies the content and location of, and other requirements for the certification label or tag to be affixed to motor vehicles and motor vehicle equipment manufactured after 8-31-69. This certificate will provide the consumer with information to assist him or her in determining which of the Federal Motor Vehicle Safety Standards are applicable to the vehicle or equipment, and its date of manufacture.

Application: Manufacturers and distributors of motor vehicles to which one or more standards are applicable, and registered importers of vehicles admitted to the United States under 49 CFR 591.5(f) to which the required label or tag is not affixed

Part 568: Vehicles Manufactured In Two or More Stages

Scope and Purpose: This part requires the furnishing of information relative to a vehicle's conformity to motor vehicle safety standards. It requires manufacturers of incomplete vehicles to list each standard applicable to the types of vehicles into which the incomplete vehicle may be manufactured that is in effect at the time of manufacture of the incomplete vehicle.

Application: Incomplete vehicle manufacturers, intermediate manufacturers, and final-stage manufacturers of vehicles manufactured in two or more stages

Part 572: Anthropomorphic Test Devices

Scope and Purpose: This part describes the anthropomorphic test devices that are to be used for motor vehicle safety standard compliance testing of motor vehicles and motor vehicle equipment. *This part outlines standards for all anthropomorphic test dummies from infant to adult size.

Part 577: Defect and Noncompliance Notification

Scope and Purpose: This part establishes requirements for the format and contents of manufacturer notification to the person who is the registered owner or to first purchasers of motor vehicles and motor vehicle equipment of a defect relating to motor vehicle safety or a noncompliance with a Federal motor vehicle safety standard.

Application: Automotive vehicle and equipment manufacturers

Part 579: Defect and Noncompliance Responsibility

Scope and Purpose: This part allocates the responsibilities under the 1974 Motor Vehicle and School Bus Safety Amendments for recalling and remedying defective motor vehicles and equipment or motor vehicles and equipment not built in compliance with the law between motor vehicle and equipment manufacturers.

Application: Motor vehicle and equipment manufacturers

Part 580: Odometer Disclosure Requirements

Scope and Purpose: The part requires a person who transfers ownership of a motor vehicle to give the transferee a written disclosure of the mileage the vehicle has traveled and prescribes the way the information is disclosed and retained. The purpose of this part is to provide purchasers of motor vehicles with odometer information to assist them in determining a vehicle's condition and value by making the disclosure of a vehicle's mileage, and to preserve records that are needed for the proper investigation of possible violations of the Motor Vehicle Information and Cost Savings Act and any subsequent prosecutorial, adjudicative or other action.

Application: Person who transfers ownership of a motor vehicle

How to Obtain Copies of the Federal Motor Vehicle Safety Standards and Regulations

The "Federal Motor Vehicle Safety Standards and Regulations" Booklet, HS 808 878, is available through the following NHTSA office:

U. S. Department of Transportation / National Highway Traffic Safety Administration
Office of Communications and Consumer Information (NPO-502)
400 Seventh Street, SW, Washington, DC 20590

Internet: www.nhtsa.dot.gov/cars/ **or call:**

U. S. Department of Transportation / DOT Auto Safety Hotline
1-888-DASH-2-DOT (1-888-327-4236)

The complete text of all Federal Motor Vehicle Safety Standards and other NHTSA Regulations can be found in Title 49 of the Code of Federal Regulations (CFR) Parts 400 to 999.

Copies of this volume can be obtained for a cost from:

Superintendent of Documents
U. S. Government Printing Office
Mail: Stop SSOP
Washington, DC 20402-0001

A link to the online text for each of the safety standards can be found at:

http: www.access.gpo.gov/nara/cfr/waisidx-02/49cfr571-02.html

Internet: bookstore.gpo.gov

Fax: (202) 512-2250

Phone: toll free (866) 512-1800

DC Area: (202) 512-1800

Source: <http://www.safercar.gov/vgn-ext-templating/safercar/docs/FMVSS.pdf> - retrieved November 21, 2008.

Appendix F – Helmet Inspection Information

Unsafe Motorcycle Helmets & the Law

It's clear ... Motorcycle helmets save lives. To help protect the lives of motorcycle riders, the U.S. Department of Transportation (DOT) requires that all motorcycle helmets sold in the United States meet Federal Motor Vehicle Safety Standard (FMVSS) 218. This standard defines minimum levels of performance that helmets must meet to protect the head and brain in the event of a crash. Each year, DOT conducts compliance testing of a variety of motorcycle helmets to determine whether helmets being sold in the United States meet the Federal safety standard. Because helmets add such a critical margin of safety for motorcycle riders, many States now have laws requiring use of helmets that meet FMVSS 218 requirements. Some motorcycle riders are violating these State laws by wearing unsafe helmets that do not meet FMVSS 218. Most of these helmets are sold as novelty items and circumvent FMVSS 218's requirements. In some cases, some motorcyclists purchase these helmets in the mistaken belief that they offer protection. However, many people who wear these novelty helmets know that they are unsafe – but wear them anyway. This brochure explains how to identify unsafe novelty helmets as well as how to distinguish unsafe helmets from those that meet the Federal safety standard.

Here is what to check for:

Thick Inner Liner

Helmets meeting the minimum Federal safety standard have an inner liner usually about one-inch thick of firm polystyrene foam. Sometimes the inner liner will not be visible, but you should still be able to feel its thickness. Unsafe helmets normally contain only soft foam padding or a bare plastic shell with no padding at all.

Sturdy Chin Strap and Rivets

Helmets meeting the DOT safety standard have sturdy chinstraps with solid rivets.

Weight of Helmet

Depending on design, unsafe helmets weigh only one pound or less. Helmets meeting FMVSS 218 generally weigh about three pounds. Become familiar with the weight of helmets that comply with the Federal safety standard. These helmets provide a more substantial feel.

Design/Style of Helmet

The DOT safety standard does not allow anything to extend further than two-tenths of an inch from the surface of a helmet. For example, while visor fasteners are allowed, a spike or other protruding decorations indicate an unsafe helmet.

A design such as the German Army style or skullcap style may be a clue to an unsafe helmet. Unsafe helmets are noticeably smaller in diameter and thinner than ones meeting the DOT standard. However, some German Army style helmet may meet Federal requirements.

You'll need to check for weight, thickness, sturdy chinstraps, as well as the "DOT" and manufacturer's labels to make sure the helmet meets the Federal safety standard. Familiarize

yourself with brand names and designs of helmets that comply with DOT requirements. For example, a full-face design is a good indicator of a safe helmet. To date, we have never seen a full-face design novelty helmet.

DOT Sticker

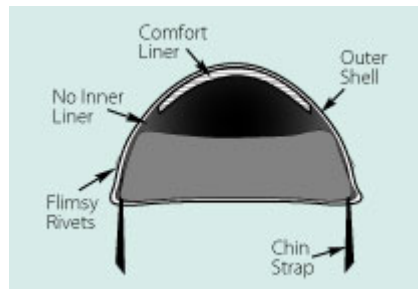
Helmets that meet FMVSS 218 must have a sticker on the outside back of the helmet with the letters “DOT,” which certifies that the helmet meets or exceeds FMVSS 218. It is important to note that some novelty helmet sellers provide DOT stickers separately for motorcyclists to place on non-complying helmets. In this case, the DOT sticker is invalid and does not certify compliance.

In addition to the DOT sticker, labels located inside the helmet showing that a helmet meets the standards of private, non-profit organizations such as Snell or the American National Standards Institute (ANSI) are good indicators that the helmet also meets the Federal safety standard. To date, we have never seen a novelty helmet that has a phony DOT sticker in addition to a phony Snell or ANSI label.

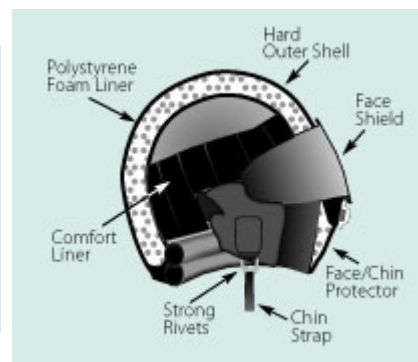
Manufacturers are required under FMVSS 218 to place a label on or inside the helmet stating the manufacturer’s name, model, size, month and year of manufacture, construction materials, and owner’s information. A helmet that does not meet the Federal safety standard usually does not have such labeling.

Remember a DOT sticker on the back of the helmet and proper inside labeling do not necessarily indicate that a helmet meets all DOT requirements. Many helmets have counterfeit DOT stickers and a limited few also have manufacturer’s labeling. But the design and weight of a helmet, thickness of the inner liner, and the quality of the chin strap and rivets are extra clues to help distinguish safe helmets from non-complying ones.

Unsafe Helmet Interior



Safe Helmet Interior



Appendix G – Helmet Quiz

HELMET QUIZ

True or False

Please indicate after each statement whether it is true or false information.

- 1). Fake or novelty helmets weigh about 1 lb. _____
- 2). FMVSS 218 is the federal standard relating to novelty helmets. _____
- 3). Novelty helmets come in full face and $\frac{3}{4}$ quarter styles. _____
- 4). To meet FMVSS for helmets a sturdy chin strap and solid rivets are required. _____
- 5). A DOT or Snell certified helmet will always be sold with an interior label indicating the manufacturers name, model, size, month and year of manufacture. _____
- 6). A helmet that carries a DOT sticker will always meet DOT standards. _____
- 7). A shock absorbing inner liner of polystyrene foam usually about 1” thick is required for a helmet to meet the FMVSS. _____
- 8). Novelty helmets have a hard outer shell that protects the head from a penetrating object. _____
- 9). DOT, Snell and ANSI are all labels that may indicate they meet the FMVSS. _____
- 10). A DOT or Snell approved helmet may weigh about 3 lbs. depending on the style. _____
- 11). To meet the FMVSS for helmets, no helmet may have a protrusion of more than two-tenths of an inch. _____
- 12). To meet the FMVSS a manufacturers label must indicate the material that a helmet is constructed of. _____
- 13). All DOT and Snell certified helmets have a soft comfort liner in the helmet. _____
- 14). A DOT sticker and proper interior labeling will always indicate that a helmet meets all DOT requirements. _____
- 15). DOT or Snell certified helmets have at least four major components?
Part II. If true, what are they? _____

1. _____ 2. _____ 3. _____ 4. _____

Appendix H – DWI/DUI Predictor Quiz

DWI/DUI PREDICTOR QUIZ

True or False

Please indicate after each statement whether it is true or false information.

- 1). It is common for motorcycles to drift wide in turns. _____
- 2). A motorcycle operator exceeding the speed limit is an excellent predictor of alcohol Involvement. _____
- 3). Large motorcycles may be top heavy causing the rider to have difficulty balancing at a stop. _____
- 4). A rider that appears to be inattentive to their surroundings has an excellent chance of being impaired. _____
- 5). An operator that shows erratic operation while going straight is likely to be under the influence. _____
- 6). Turning the wrong way onto a one way street may be an excellent indicator of alcohol or drug impairment. _____
- 7). A motorcycle rider that has difficulty putting down the side stand or dismounting the motorcycle may be under the influence of alcohol or drugs. _____
- 8). Taking a turn in an unsteady manner or making sudden corrections in the turn is an excellent indicator of alcohol impairment. _____
- 9). Operating a motorcycle too close to the vehicle ahead may be a good indicator of alcohol or drug impairment. _____
- 10). A motorcyclist that attempts to evade a police officer is probably under the influence. _____
- 11). Running a red light or stop sign is a good indicator of alcohol impairment. _____
- 12). A sport bike rider that pops a wheelie or does a stoppie is probably under the influence. _____
- 13). Riding too fast for conditions is an excellent indicator of alcohol impairment. _____
- 14). Incorrect lean angle while turning is an excellent indicator of alcohol impairment. _____
- 15). A motorcyclist who brakes late going into a turn may be under the influence. _____

Appendix I – MTC Safety Inspection Checklist Examples

New York State Police

Plate, State & Make _____

- 306(b) - Inspection stickers
Overdue _____ or
- attached to “a structural member of the left front side of the motorcycle
- Operating w/o insurance
- 375 (35c) Unsafe tires – at least 2/32”
- 381 (1a) Front headlamp not displayed.
- Rear plate must be illuminated.
- 381(3) – Lights. Only white or yellow to the front
- 381(4) – Approved red reflector to the rear. Can be part of the tail lamp and must be visible for 200 feet.
- 381(5) – Handlebars no higher than the operator’s shoulder’s.
- 381(6) - Unapproved or no helmet.
- 381(10) Rear view mirror required (if registered in NYS).
- 381(11) Exhausts
no altered /no “straight pipes” _____
- 402 (1a) Plates are to be secure and mounted between 12 and 48 inches on the rear of the vehicle – not at the rear axle.
- 402 (1b) Plates must be clean, easily readable (no artificial or synthetic material coverings) an unobstructed
- 410 (1) Unregistered motorcycle
- 411 (1) Plates are required to be “conspicuously displayed on the rear of such motorcycle” – not at the rear axle.
- 411(3) Switched plates
- 509 (2) Operating out of class
- 511 Suspended or Revoked
- 1192 – DWI
- Other V&T _____
- Criminal charges – Describe on back

Inspector _____

Registration/Make/Model: _____ **Date:** _____

___ **CHECK REGISTRATION - NUMBERS ON PLATE MATCH CERTIFICATE.**

___ CHECK INSPECTION STICKER - T. 23 VSA § 1222. – INSPECTION STICKER # _____ /

WHERE IS THE INSPECTION STICKER LOCATED?

___ **CHECK INSURANCE CARD FOR PROOF OF INSURANCE Title 23 VSA § 800.**

___ CHECK LICENSE FOR MTC ENDORSEMENT T. 23 VSA § 615. Endorsement / Rule 9.

___ **CHECK VIN PLATE TO MAKE SURE NOT TAMPERED WITH, ETC.**

___ CHECK WHEELS, TIRES AND RIMS FOR ANY UNSAFE CONDITIONS

___ **CHECK TIRES FOR TREAD WHICH MUST BE AT LEAST 2/32”**

___ CHECK BODY ITEMS OF MTC FOR ANY DEF. PART OR PARTS PROJECTING.

___ **FENDERS AND MUDGUARDS MUST BE EQUIVALENT TO OEM SPECS.**

___ FOOT RESTS– securely fastened/proper location T. 23 VSA § 1117. –Footrests/handlebar, MOTORCYCLES designed to carry more than one person must be equipped with handgrips and footrests for passengers.

___ **HANDLEBARS – NO HIGHER THAN 15 INCHES (VT) ABOVE THE OPERATOR’S SEAT HEIGHT, T. 23 VSA § 1117. –Footrests/handlebars**

___ REGISTRATION PLATES MUST BE SECURE & MOUNTED HORIZONTALLY (Display of Plate)

•The plate must be clean and clearly visible in required position in order to be illuminated by the plate light. A white plate light is required and visible at night fifty (50) feet to the rear.

___ **CHECK LIGHTS - T. 23 VSA § 1243. Lights, and § 1245. -Illumination required on motorcycles –**

•The light from the front lamp of a motorcycle shall render any substantial object on the ground clearly visible at least 100 feet ahead of such motorcycle.

•**Must have front headlamp, lights must be white or yellow to the front, rear plate must be illuminated**

•**Approved red reflector to the rear and can be part of the tail lamp.**

•**FMVSS No. 108** - Motorcycle Modulating Headlights - are permitted by FMVSS.

___ **REAR VIEW MIRROR(S) REQUIRED – It must permit a clear view of the rear of vehicle.**

___ EXHAUST must be OEM or equivalent, no altered/no straight pipes without baffles. (Inspection requirement)

___ CHECK HORN – horn button - left handlebar - Horn must work and be audible under normal conditions.

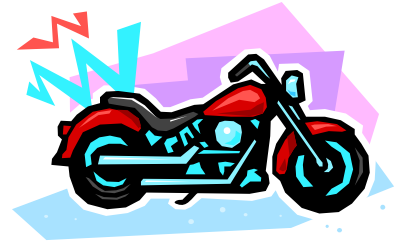
___ **CHECK THE HELMET! T. 23 VSA § 1256. Motorcycles-Headgear**

- **must meet DOT Standard;**
- **Make sure not a fake DOT sticker,**
- **Check labeling FMVSS No. 218 requires specific HELMET LABELING**

___ **CHECK FACE PROTECTION - Eye glasses or windshield - Title 23 VSA § 1257. –Face protection – If no windshield or screen, the operator shall wear either eye glasses, goggles, or a protective face shield.**

___ **IF EQUIPPED, CHECK WINDSCREEN/WINDSHIELD – Make sure it does not obstruct or obscure the driver’s side line of vision.**

Appendix K – Presentation Evaluation & Feedback



Score Sheet for Educational Presentation

NAME(S) _____

INSTRUCTIONAL TOPIC / TITLE _____

INSTRUCTOR LEVEL: BASIC / INTERMEDIATE / ADVANCED / REQUESTED EVALUATION

TIME OBSERVED: Starting Time: _____ Finish Time _____ Elapsed Time _____

TYPE OF PRESENTATION: _____

Scoring presentation is optional. If scoring presentation, it is important that each item be scored and totals be checked for accuracy. The peer group or evaluation team should compare scores and arrive at a combined score for each instructor/presenter.

JUDGES' COMMENTS FACTORS FOR SCORING POINTS & COMMENTS:

I. The individual instructor (20 points)

How was their appearance, voice, poise, grammar?

II. Presentation (35 points)

Introduction –

Did the speaker identify her/his topic and purpose of the training? (5 pts)

Method –

Were the main points previewed? (5 pts)

Verbal Presentation –

Did the instructor adequately explain all main points? (5 pts)

Teaching Aids –

Was the use of video, slides and training aids effective? (5 pts)

Organization –

Was the presentation organized? (5 pts)

Audience Appeal / Effectiveness of reaching various learners –

Did the instructor maintain audience interest? (5 pts)

Summary –

Did the instructor review the main points? (5 pts)

III. Knowledge of Subject Matter (45 points)

Coverage of Subject (15 points)

All Information Presented (20 points)

- Accurate (5 pts)
- Up-to-Date (5 pts)
- Complete (5 pts)
- Appropriate for Experience & Level of Learners (5 pts)

Knowledge of Subject (10 points)

- Principles/Credibility (3 pts)
- Application of Subject (2 pts)
- Handling Questions (5 pts)

FINAL SCORE _____

COMMENTS:

Appendix L – Motorcycle Safety and Enforcement Training – RECOMMENDED CHECKLIST

PowerPoint presentation

EQUIPMENT

Laptop computer with speakers

LCD Projector

Portable Projection Screen / Classroom screen

Extension Cord with plug outlet

Student handouts / PowerPoint – note takers
Specific state handout of motorcycle laws listed

Clip Board and student roster forms

Flip Chart(s) and markers

Law books – Motor Vehicle Laws

NICB Passenger Vehicle Identification Manual – Motorcycle VIN resource

FORMS & HANDOUTS

Course Evaluation Form

Roster Forms

DUI Detection Quiz

Motorcycle Helmet Quiz

End of Course Test

Motorcycle Laws Handout – specific state handout

Additional Information – laws handout

PowerPoint Note takers

Name tents

Highlighters, pens & paper (paper for copies as needed.)

Static Display of Motorcycle to review motorcycle controls (optional – if available)

MSET Class End of Course Test Questions

Name: _____

Date: _____

1. What is the goal of this course?
 - a. Teach officers on how to be experts on motorcycle equipment
 - b. Train officers on motorcycle safety and enforcement issues
 - c. Provide officers with information on what kind of motorcycle and helmet to buy
 - d. Instruct on how to investigate motorcycle crashes and crash dynamics.

2. Which of the following topics will be presented in this course?
 - a. Safety Laws, Officer and motorcyclist safety, and helmets
 - b. Motorcycle DUI detection and public education efforts
 - c. Motorcycle orientation and types
 - d. All of the above

3. What motorcycle type is the currently the most popular category?
 - a. Scooter
 - b. Moped
 - c. Cruiser
 - d. Dual Purpose

4. What type of two wheel powered transportation has foot pedals to permit muscular propulsion?
 - a. Trike
 - b. Touring
 - c. Sport Bike
 - d. Moped

5. What types of motorcycles do police officers generally encounter?
 - a. moped, cruiser, sidecar, and scooter
 - b. touring, trike, dual purpose, and moped
 - c. sport bike, cruiser, street bike aka traditional
 - d. moped, scooter, dirt bike and touring

6. True or False (circle one): One out of four motorcycle riders involved in fatal crashes were operating without a proper license or motorcycle endorsement.

7. How many states have a helmet law requiring wearing a helmet while a motorcycle rider or passenger?
 - a. 27
 - b. 3
 - c. 30
 - d. 20

8. Where is the motorcycle vehicle identification number (VIN) usually located?

- a. on the top half of the crankcase.
- b. on the frame behind the headlight
- c. on the frame between the front forks
- d. both b and c.

9. Motorcycle tire tread depth must be at least what?

- a. 2/16 of an inch deep
- b. 2/32 of an inch deep
- c. 1/8 of an inch deep
- d. No requirement

10. Does your state require annual inspection of a motorcycle? Yes or No (circle one)
What is the statute, section or code? _____

11. Where does your state permit the inspection sticker to be displayed and/or affixed to the motorcycle?

12. Does your state require proof of insurance? Yes or No (circle one)
What is the statute, section or code? _____

13. True or False (circle one): Motorcycle gangs are organizations whose members use their motorcycle clubs as conduits for criminal enterprises.

14. Does your department permit motorcycle pursuits? Yes or No (circle one)
What is your department policy regarding motorcycle pursuits?

15. What is your department's policy for stopping a motorcycle?

16. What is your preferred method for stopping a motorcycle?

17. What safety issues to you have to take into consideration when chasing a motorcycle?

18. True or False (circle one): Per vehicle mile traveled, motorcyclists are about 37 times more likely than passenger car occupants to die in a traffic crash.

19. Speeding (related crashes) played a factor in what percentage of all motorcyclists involved fatal crashes?

- a. over half of the crashes
- b. less than 10 %
- c. 25 % of the fatal crashes
- d. 37 % of the fatal crashes

20. What percentage of two-vehicle fatal motorcycle crashes occurred while the other vehicle was turning left while the motorcycle was going straight, passing or overtaking the vehicle?

- a. over half of the crashes
- b. less than 10 %
- c. 41 % of the fatal crashes
- d. 30 % of the fatal crashes

21. True or False (circle one): In fatal crashes, a higher percentage of motorcycle riders had blood alcohol concentrations higher than .08 BAC or higher than any other type of motor vehicle driver.

22. True or False (circle one): Forty-one percent of the motorcycle riders who died in single vehicle crashes had BAC over the legal limit (.08 BAC) or higher.

23. True or False (circle one): Sixty-five percent of those motorcycle riders killed in single vehicle crashes on weekend nights had BAC over the legal limit (.08 BAC) or higher.

24. Excellent Cues for the detection of a DUI motorcycle rider represents what percentage of probability to predict impaired motorcycle operation?

- a. 75 % or greater probability
- b. less than 50 % probability
- c. 50 % or greater probability
- d. 30 % or more probability

25. True or False (circle one): Speed is an excellent predictor of a motorcycle rider impairment.

26. True or False (circle one): All motorcycle helmets sold in the U.S. are required to meet Federal Motor Vehicle Safety Standard (FMVSS) 218.

27. True or False (circle one): Twenty states require all motorcycle riders and passengers to wear a helmet when riding regardless of age.

28. True or False (circle one): Helmets are estimated to be 37 percent effective in preventing fatal injuries in a crash.

29. Recommended personal protective gear for the motorcycle riders is as follows:

- a. gloves, helmet, eye protection, windshield, long pants and a jacket.
- b. helmet, full-fingered gloves, boots, long pants, long sleeved jacket, eye or face protection
- c. long sleeved jacket, over the ankle boots, pants and a helmet
- d. eye protection, helmet, long pants, jacket, gloves, and a t-shirt

30. True or False (circle one): Some riders put fake "DOT" stickers on their non-compliant helmets.

References

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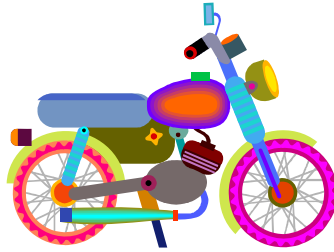
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US Department of Transportation. (2007) *Action plan to reduce motorcycle fatalities*, October 2007.



The following resources may be useful for researching motorcycle safety and training.

- Advocates for Highway and Auto Safety: <http://www.saferoads.org>
- A.L.E.R.T. International – <http://www.alertinternational.com/>
- American Motorcyclist Association - <http://www.ama-cycle.org/>
- American Motorcyclist Association, state by state listing of motorcycle laws - <http://www.amadirectlink.com/legisltn/laws.asp>
- Blue Knights, The **BLUE KNIGHTS®** is a non-profit fraternal organization consisting of active and retired law enforcement men & women who enjoy riding motorcycles. <http://www.blueknights.org/>
- Fatality Analysis Reporting System (FARS) – The Fatality Analysis Reporting System (FARS) contains data on all vehicle crashes in the United States that occur on a public roadway and involve a fatality; <http://www-fars.nhtsa.dot.gov/Main/index.aspx>
- Florida Department of Highway Safety and Motor Vehicles - Motorcycle Safety Awareness safety tips and resource information - <http://www.flhsmv.gov/safetytips/Motorcycle.htm>
- Green, Yellow, Red Campaign to Reduce Impaired Motorcycling, a motorcycle safety program that works directly with motorcycle dealers and taverns that cater to motorcyclists to provide alternatives to riding impaired. The colors Green, Yellow, Red represent the three decisions that riders can make when it comes to drinking and riding and options associated with each decision. Those decisions are: **GREEN**: Ride alcohol free; **YELLOW**: Drink at least one alcoholic drink and ride; **RED**: Drink to a level of impairment that significantly increases the risk of death or injury. - http://www.safercommunity.net/trafficsafety/nhtsa_projects/g_y_red.html
- HELMET CHECK – a resource for motorcycle helmet information - <https://online2.mic.org/helmetcheck/>
- HOV Lanes: Authorization for motorcyclists to use HOV lanes comes from 23USC166; see http://www4.law.cornell.edu/uscode/html/uscode23/usc_sec_23_00000166----000-.html.
- HOV Lanes & Roadway use: Further supporting the use by motorcycles of all lanes on roadways planned, designed, constructed or maintained using federal funds can be found in 23UCS102; see http://www4.law.cornell.edu/uscode/html/uscode23/usc_sec_23_00000102----000-.html.
- Insurance Institute for Highway Safety: <http://www.highwaysafety.org>
- Insurance Institute for Highway Safety , - <http://www.iihs.org/research/topics/motorcycles.html>
This link contains their motorcycle topic page on their website contains a fact sheet summarizing the fatality data, titled “Fatality Facts 2007, Motorcycles”, three Q&As on motorcycles, a summary of helmet use laws, and some additional documents previously released.
- International Association of Chiefs of Police – <http://www.iacp.org>

- IACP Resolution HSC.013.a07, “Support of Motorcycle Safety Enforcement Initiative” submitted to the Highway Safety Committee at the 114th IACP Conference (2007), retrieved 10/28/08 from <http://www.theiacp.org/resolutions/2007Resolutions.pdf> p. 30.
- Institute for Transportation Research and Education – <http://itre.ncsu.edu/>
- Environmental Protection Agency - <http://www.epa.gov/OMS/roadbike.htm> EPA Emission Standards for New Highway Motorcycles
- Look Learn Live** is a State of Texas motorcycle safety and awareness campaign developed by the Texas Department of Transportation, Texas Department of Public Safety, and the Texas Transportation Institute to address an alarming upward trend in motorcycling injuries and fatalities - <http://www.looklearnlive.org/>
- MAIDS** : Motorcycle Accidents In Depth Study; MAIDS is the most comprehensive in-depth data currently available for Powered Two-Wheelers (PTWs) accidents in Europe. The investigation was conducted during 3 years on 921 accidents from 5 countries using a common research methodology. - <http://www.maids-study.eu/>
- Motorcycle Accident Scene Training, Kathy Mellembakken MDA, MAST Director, MAST P.O. Box 42, Franklin, AR 72536; phone: (501) 940 -9785; email: MASTclasses@gmail.com - Website: www.MASTCLASSES.ORG
- Motorcycle Safety Foundation – <http://www.msf-usa.org/>
- National Agenda for Motorcycle Safety (NAMS) - http://www.msf-usa.org/Downloads/NAMS_print.pdf
- National Highway Traffic Safety Administration – <http://www.nhtsa.dot.gov>
- National Highway Traffic Safety Administration, National Center for Statistics and Analysis (NCSA) - <http://www.nhtsa.dot.gov/PEOPLE/ncsa/>
- The National Highway Traffic Safety Administration - Safety Countermeasures Division, NTS-23, 400 Seventh Street, SW, Washington, DC 20590; telephone: 202-366-1739
- NHTSA - Quick Reference Guide to Federal Motor Vehicle Safety Standard - <http://www.safercar.gov/vgn-ext-templating/safercar/docs/FMVSS.pdf>
- National Insurance Crime Bureau, 2009 Passenger Vehicle Identification Manual, contains section on checking motorcycle VIN structure (resource for ordering ID Manuals on their web site) – www.nicb.org
- National Law Enforcement Officers Memorial Fund – <http://www.nleomf.com>
- National Transportation Safety Board – <http://www.nts.gov>
- Outlaw Motorcycle Gangs in the United States - <http://www.usdoj.gov/criminal/gangunit/about/omgangs.html>
- Roadway Safety Foundation – <http://roadwaysafety.org>
- Snell Memorial Foundation – www.smf.org

- State Motorcycle Safety Administrators - <http://www.smsa.org>
- Texas Department of Public Safety Motorcycle Safety Unit - <http://www.txdps.state.tx.us/msb/>
- Texas Transportation Institute – www.LookLearnLive.org
- The Motorcycle Industry Council: <http://www.mic.org>
- The Motorcycle Safety Foundation: <http://www.msf-usa.org>
- U.S. Department of Transportation, National Highway Traffic Safety Administration: <http://www.nhtsa.dot.gov>
- Vermont Rider Education Program – <http://www.aot.state.vt.us/DMV/VREP/VREP.htm>

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