EVOC Training

Basic Motorcycle Training Class (80 Hour)

Purpose

This course prepares students to become qualified as a motorcycle officer by teaching basic riding skills, patrol procedures and safety practices. It will mentally and physically prepare officers to perform law enforcement duties while operating a motorcycle. Safe and effective operation of a motorcycle are emphasized by repetitive skill building during practical riding exercises with multiple patterns. This is a "no brake" course in that the use of brakes is restricted to specific exercises that are the subject of braking and exercises specifically authorizing the use of brakes. Emphasis is on clutch-throttle control.

I. Welcome

- **A.** Instructor Introductions
  - **1.** Officer Chad Hudson – Vacaville Police Department
  - **2.** Officer Seth Jamel – Vacaville Police Department
- **B.** Housekeeping

II. Introduction

- **A.** Uniform
  - **1.** BDU, class “D” uniform or equivalent
- **B.** Gloves
  - **1.** Leather
  - **2.** Appropriate for weather
  - **3.** Must not interfere with motorcycle controls
- **C.** Footwear
  - **1.** Leather boots which cover ankles
- **D.** Eyewear
  - **1.** Safety glass
  - **2.** Scratch free
  - **3.** No obstruction to peripheral vision
  - **4.** Appropriate to lighting conditions
- **E.** Helmet
  - **1.** D.O.T. Approved
  - **2.** Good condition
  - **3.** Properly fitted
  - **4.** Properly strapped

III. Maintenance/Components/Pre-ride checklist

- **A.** Controls
  - **1.** Cables/Hoses
    - **a)** Brakes, clutch & throttle
- **B.** Chain/Belt/Drive shaft
  - **1.** Lubricated/adjusted properly
- **C.** Safety equipment
  - **1.** All required lighting
    - **a)** Headlights
    - **b)** Tail & Brake lights
    - **c)** Turn signals
    - **d)** Auxiliary lights
    - **e)** Horn
    - **f)** Mirrors
    - **g)** Brakes
- **D.** Fluids
  - **1.** Oil
  - **2.** Antifreeze
  - **3.** Fuel
- **E.** Tires
  - **1.** Matching
    - **a)** Correct matching of front and rear tires is critical to obtaining optimum performance and handling.
    - **b)** Use the tires recommended by the motorcycle manufacture to reduce/negate the possibility of high speed wobble.
    - **c)** Ensure directional tires are mounted properly
    - **d)** By combining a new tire with a worn tire you may cause handling instability.
  - **2.** Air pressure: Tires
    - **a)** Check air pressures while tires are cold
  - **3.** Use pressures recommended by the motorcycle manufacturer and never exceed the maximum pressure stamped on the tire sidewall.
    - **a)** Front and rear tires will not necessarily have the same pressure.
    - **b)** Air pressure that is too low can build up excessive heat which may result in:
      - (1) Adversely affect cornering
      - (2) Reduction of the tire's life
      - (3) Result in premature sidewall fatigue cracks
  - **4.** Tread/depth
    - **a)** Tires with a tread depth of 1/32nd inch or less must be discarded and replaced immediately

5. Tire failure
- **a)** React quickly
  - **(1)** Maintain a firm grip on the handlebars. Relax your arms and body and maintain balance
  - **(2)** Steer as straight as possible
  - **(3)** Use only the brake on the tire that is not affected by the flat to slow motorcycle until slowly exiting the roadway.
  - **(4)** A front flat will cause the steering to feel “heavy” and sluggish
  - **(5)** A rear flat will make the motorcycle feel like the rear tire is swinging from side-to-side.

6. Shocks
- **a)** Seals intact
- **b)** No leaks
- **c)** Air pressure

IV. Pre-ride Instruction (POST 1.1.1, 1.1.2, 1.1.3, 1.1.4, 1.1.5)

A. The student will demonstrate the ability to put the motorcycle on and take it off the center stand and side stand.

B. With the engine not running, the student will upright a police motorcycle that is lying on the ground.

C. The student will demonstrate the ability to safely mount and dismount from both sides of the police motorcycle.

D. While standing next to and/or straddling a police motorcycle, the student will demonstrate the ability to push the motorcycle forward and backward

E. While straddling the motorcycle, the student will put the motorcycle backward against a minimum uphill grade of six percent. Time and distance may be considered.

F. Basic instruction of motorcycle operation

1. Understanding of clutch, throttle, braking, shifting, etc

2. Introduce the concept of “Head & Eyes” and the importance of looking ahead at the high horizon

3. Introduce the concept of “Grey Area/Friction Zone” and control of the motorcycle
- **a)** Demonstration of minimal movement of the clutch lever to set motorcycle in motion
- **b)** Four finger coverage of the clutch
- **c)** Power to rear wheel keeps motorcycle upright and in motion
- **d)** Explain the importance of avoiding the clutch all the way to the bar or all the way out during slow speed operation
- **e)** Explain “Combination Braking”

(1) Four finger braking
(2) 80-85% of braking force comes from front brake
(3) Threshold brake without locking up brakes
(4) Head & eyes straight forward
(5) Rear brake lock up leads to oversteer
(6) Front brake lock up leads to possible going down

f) Start/Stop exercise to show competency in using clutch, throttle, braking and shifting

g) Familiarization ride for students

(1) Slow speed led by instructor to evaluate roadway position, head and eye placement and braking skills

V. Surface Appraisal

A. Various surface concerns

1. Bumps, dips, crowns, steep slopes, etc.
2. Foreign objects
a) Mufflers, large rocks, lumber spills, etc.
3. Gravel, mud, sand, wet concrete, antifreeze, painted lines
4. Steel surfaces
a) Bridges, temporary metal covers, etc
5. Rain grooves
a) Relax, they are safe to ride over; the slight wobble motion of the motorcycle is normal
6. Railroad tracks
a) Cross with as much right angle as possible
7. Wet leaves
a) Can be very dangerous
(1) Commonly found on curving mountain roads
8. Dirt roads

B. Consider appropriate braking techniques for the above surfaces
C. Speed reduction might be necessary
D. Consider another route for
1. Extended construction zones, etc.

VI. Braking (POST 2.1.4)

A. The student will use a law enforcement motorcycle to successfully complete a series of exercise using the front bake controls only, the rear brake controls only, and the front and rear brake controls in combination.

1. 70%-80% of the motorcycle's stopping power comes from the front brake.
2. Use approximately 50% initial grab on the front brake to transfer weight onto the front tire, then continue to squeeze the front brake

3. Maintain high visual horizon.

VII. Basic Riding Techniques (POST 2.1.0, 2.1.1, 2.1.2, 2.1.3, 2.1.5, 2.1.6, 2.1.7, 2.1.8, 2.1.9)

A. All practical exercises will be practices on paved roadways. Many of the exercises will also be conducted in selected dirt areas, and other difficult terrain so as to acclimate the operator to proper surface appraisal and varying riding techniques.

B. All exercises shall be demonstrated by the instructor(s) prior to the student's demonstration of the exercise.

C. All exercises will require the operator to read each pattern and demonstrate proper wheel placement in order to attain an error free negotiation. While occasional errors are expected, the advanced operator is expected to demonstrate an increasing proficiency in each exercise.

D. All patterns are designed to reinforce the operator's ability to safely accelerate, turn, stop and shift (up and down) in extreme situations via proper applications.

E. The following standardized patterns will be utilized

1. Offset one weave/90 degree turns

a) The student will learn and maintain proper eye position by looking ahead at the high horizon

b) Ensures that the student "hinges" properly at waist during each weave transition

c) Identifies the student with eye positioning and improper hinge concerns

d) Teaches proper front wheel placement for turning movements

e) Identifies student ability to operate the motorcycle in the "Grey Area" for maximum control of motorcycle

2. Flat box exercise

a) Provides training for circles, U-turns and figure eights

(1) The student will learn & maintain proper eye position

(2) Identifies the student with eye positioning concerns and ensures immediate corrective action

b) Teaches proper front wheel placement for turning Movements

3. 90 degree pull-outs

a) The student will learn to make immediate right & left turns with forward movement limited to a fixed distance

(1) To be accomplished with free-space on either side of the student and with motorcycle on both sides of the student

b) The student will learn the proper transition of power to

vehicle movement via the proper use of clutch, throttle, accelerator and rear brake.

c) This exercise will incorporate incline and decline riding

d) The student will learn & maintain proper eye position

e) Incline/Decline exercises

- **(1)** Exercised to be determined by instructor based on the prevailing available terrain
- **(2)** Will acclimate the student to the severe handling characteristics of the motorcycle often associated with off-road riding
- **(3)** The student will learn to assess varying riding surfaces and situations

f) Keyhole

- **(1)** Prepare student for the Flat Pattern #3 Exercise
  - **(a)** Turn is greater than 180 degrees
- **(2)** Identifies student's tendency to favor either right turns over left turns, or vice versa
  - **(a)** Allows instructor to take immediate remedial action
  - **(b)** The student will learn & maintain proper eye position

g) **Flat pattern #3 exercise**

- **(1)** The student will learn & maintain proper eye position
- **(2)** Identifies student's tendency to favor either right turns over left turns or vice versa
  - **(a)** Allows instructor to take immediate remedial action
- **(3)** Teaches student to make quick, smooth turn transitions
- **(4)** Teaches proper front wheel placement for turning movements

h) 30mph Cone Weave exercise

- **(1)** The student will learn & maintain proper eye position
  - **(a)** Keeping eyes on high horizon
- **(2)** Teaches student to make quick, smooth turn transitions at higher rate of speed (30 mph)

i) 180-degree deceleration exercise

(1) The student will learn property braking and downshifting techniques from varying speeds

- **(a)** Proper application of front & rear brake without lock-up
- **(b)** Hazards associated with lock-up of front brake

(c) Hazards associated with releasing locked rear brake during rear end slide

(2) The student will learn & maintain proper eye position, coupled with maintaining a high horizon

(3) The student will learn proper wheel placement so as to effect maximum tight turns

j) 4-way Intersection Weave

(1) The student will learn & maintain proper eye position

(2) Identifies student's tendency to favor either right turns over left turns, or vice versa

(a) Allows instructor to take immediate remedial action

(3) Teaches student to make quick, smooth turn transitions

(4) Teaches proper front wheel placement so as to effect maximum tight turn movements

k) 40 mph deceleration exercise

(1) The student will learn to make emergency turns or stops to avoid hazards in the roadway

(2) The student will learn proper braking and downshifting techniques from varying speeds

(a) Proper application of front & rear brake without lock-up

(b) Hazards associated with lock-up of front brake

(c) Hazards associated with releasing locked rear brake during rear end slide

l) Formation riding (POST 2.1.9)

(1) The student will demonstrate the ability to safely ride in formation

(a) Single file, side-by-side, to include proper sudden braking techniques

m) Shooting off of motorcycle

(1) Familiarize each student with techniques of shooting off of motorcycle

(a) How to be stable while shooting from the motorcycle

(b) How to use the motorcycle as cover

(c) How to dismount the motorcycle safely and efficiently

n) Enforcement stops (POST 3.1.2)

(1) Using a police motorcycle on a selected roadway, the

student will utilize proper techniques when stopping simulated violators. The demonstration techniques should include proper speed, distance, placement, positioning and control of surrounding traffic

VIII. Assessment (POST 5.0)

A. Stretching
B. Warm-up
C. ABC Quick Checks

IX. Field Exercises - Riding Techniques

A. A proficiency test to measure the critical skills of basic riding techniques will be administered to each student. Patterns will be designed to challenge the capabilities of the rider and the motorcycle/

1. Testing exercises
- **a)** Emergency braking exercise
- **b)** Evasive maneuver exercise
- **c)** A collision avoidance exercise
- **d)** Tight, slow, multi-transitioning cone pattern exercise

2. Student should demonstrate a minimum of 70% performance score throughout the testing categories of motor operations. Students should display proficiency through consistent successful runs.

X. Riding the Public Roadways

1. Lane positions
- **a)** Be seen
  - **(1)** Use headlights
  - **(2)** Don't ride in blind spots
    - **(a)** Mirrors on large trucks, etc.
  - **(3)** Don't depend on eye contact with other drivers
    - **(a)** If a car wants to enter your part of the lane, it probably will
  - **(4)** Whenever possible, use lane position that will afford the best view of approaching traffic
  - **(5)** Be aware of the oily strip in the middle of the lane
    - **(a)** Not usually a concern unless wet
  - **(6)** Consider lane position at toll booths due to grease accumulation
  - **(7)** Avoid surface hazards
    - **(a)** After stopping behind traffic, and before starting again, consider anti-freeze spills, etc.

(i) Start slow until front vehicle provides sufficient surface view for objects

(8) Communicate your intentions

(a) Especially lane changes

(9) There is no best lane position (dictate by conditions)

(10) Always provide an escape route!

XI. Lane Sharing/Splitting

A. Legal in California (not all states)

B. Considerations

1. Riding between rows of stopped or moving cars leaves you vulnerable to drivers who want to

a) Change lanes or pass

b) Get angry at you and squeeze the lane

C. You can be cited for unsafe speed for conditions

1. Generally, don't split any faster than 10mph past any other vehicle

2. At no time should you split if vehicles are traveling 30mph or faster

XII. Night Riding

A. More difficult to see and be seen by others

1. Reduce your speed

2. Increase distance

a) Distances are harder to judge at night than during the day. Your eyes rely upon shadows and light contrasts to determine how far away an object is and how fast it is coming. These contrasts are missing or distorted under artificial lights at night

3. Open up a three-second following distance or more. Allow more distance to pass and be passed

4. Watch & use cars ahead

a) The headlights of the cars ahead can give you a beter view of the road than eve your high beam can

5. Use your high beam whenever possible

6. Consider lane position

a) Change to whatever portion of the lane is best able to help you see, be seen and keep an adequate space cushion

XIII. High Speed Operations (refer to handout)

XIV. Enforcement Stops

A. Techniques to gain other driver's attention

B. Safe traffic stops

- **C.** Radio procedures
- **D.** Discuss the following
  - **1.** Code 3 response
  - **2.** Pursuits
  - **3.** High risk/felony stops

XV. Graduation

- **A.** Present certificates
- **B.** Fill out evaluations