

# Use of Motorcycles, Scooters, Mopeds, Electric Bicycles, and Similar Devices on Public Roadways.

Motor Officer C. Ivans/ #1515

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# What is a Vehicle?

- CVC 670 - A “vehicle” is a device by which any person or property may be propelled, moved, or drawn upon a highway, excepting a device moved exclusively by human power or used exclusively upon stationary rails or tracks.
- CVC 415 - (a) A “motor vehicle” is a vehicle that is self-propelled.
  - (b) “Motor vehicle” does not include a self-propelled wheelchair, motorized tricycle, or motorized quadricycle, if operated by a person who, by reason of physical disability, is otherwise unable to move about as a pedestrian.
  - (c) For purposes of Chapter 6 (commencing with Section 3000) of Division 2, “motor vehicle” includes a recreational vehicle as that term is defined in subdivision (a) of Section 18010 of the Health and Safety Code, but does not include a truck camper.

# What is an Electric Vehicle?

- CVC ???
- There is no CVC definition of “Electric Vehicle” which means it falls under the same definition as “Vehicle” under CVC 670.

# What is an Electric Vehicle?

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# Spot the difference.

## Zero SR/S

Acceleration: 0-60mph less than 3.5 seconds

Top speed: 124 mph



## **Tesla Model 3**

Acceleration: 0-60mph 4.2 seconds

Top speed: 145 mph



# Spot the difference.

## Zero SR/S

Acceleration: 0-60 mph less than 3.5 seconds

Top speed: 124 mph



## Sur-Ron X

Acceleration: 0-60 mph approx. 6.8 seconds

Top Speed: 47 – 75 mph



# Spot the difference.

## Sur-Ron X

Acceleration: 0-60 mph approx. 6.8 seconds

Top Speed: 47 – 75 mph



## KTM 150 SX

Acceleration: 0-60 mph approx. 8.9 seconds

Top Speed: 73 mph



# 5 Classes of “Cycle’s”

1.) Motorcycle

6.) Motorized Scooters

2.) Motor-Driven Cycle

3.) Moped/ Motorized Bicycle

4.) Bicycle

5.) Electric Bicycle



# 5 Classes of “Cycle’s”

1.) Motorcycle

2.) Motor-Driven Cycle

3.) Moped/ Motorized Bicycle

4.) Bicycle

5.) Electric Bicycle

6.) Motorized Scooters

- NOT a “Cycle” but  
equally important...

# WHAT IS A MOTORCYCLE?

**CVC section 400** defines a motorcycle as:

- A vehicle whose motor displaces 150 cubic centimeters (*CC's*) *or more*
  - Has a seat or saddle for the use of the rider
  - Is designed to travel on not more than three wheels in contact with the ground.
- 
- **NOTE:** Can be powered by electric motor, *speed* is the most important factor to determine class. Watts (POWER) comes in close second.

# WHAT IS A MOTOR-DRIVEN CYCLE?

**CVC section 405** defines a motor-driven cycle as:

- Any motorcycle with a motor that displaces *less than* 150cc.
- A motor-driven cycle does not include a motorized bicycle as defined in section 406.
- **NOTE:** Most 150 cc engines can reach speeds of **40 to 70** mph.
- **NOTE:** Can be powered by electric motor.
- **CVC is *same* as Motorcycle** including license, registration, insurance, and rules of the road requirements.

# WHAT IS A POCKET BIKE?

- Is considered a motor-driven cycle, but is not permitted on public roadways, bicycle paths, sidewalks, bikeways or recreational trails. **CVC 21720.**
- It is designed and built for use on paved close circuit track for racing competitions.
- **CVC 24002** – Unlawful to operate any vehicle which is in an unsafe condition which presents an immediate safety hazard.

# WHAT IS A MOPED/MOTORIZED BYCICLE?

CVC section 406(a) define a moped or motorized bicycle as:

- “Motorized Bicycle” or “Moped” is any two or three wheeled device having fully operative petals for propulsion by human power, or **having no petals** if powered solely by electrical energy, has an automatic transmission, a motor that produces less than 4 HP, and is capable of propelling the device at a maximum speed of not more than 30 mph.

# WHAT IS A BICYCLE?

**CVC sections 231 and 39000** defines a bicycle as:

- Any device upon which a person may ride, which is propelled by human power
- Through a system of belts, chains or gears
- Having either two or three wheels (one of which is at least 20 inches in diameter), or having four or more wheels.

# WHAT IS AN ELECTRIC BICYCLE?

- CVC section 312.5 defines an electric bicycle:
- “Electric bicycle” is a bicycle equipped with fully operative pedals and an electric motor of less than 750 watts.
- Class 1: “low-speed pedal-assisted electric bicycle” max speed **20** mph.
- Class 2: “low-speed throttle-assisted electric bicycle” max speed **20** mph.
- Class 3: “speed pedal-assisted electric bicycle” max speed **28** mph. *Must* be equipped with a speedometer. *Must* be 16 year of age or older to operate.

# WHAT IS A MOTORIZED SCOOTER?

**CVC section 407.5** defines a motorized scooter as:

- A two wheeled device that has handlebars
- Is designed to be **stood upon** by operator, can have seat.
- Is powered by *either* electric or gas motor



	Motorcycle	Motor-Driven Cycle	Moped/ Motorized Bicycle	Electric Bicycle	Bicycle	Motorized Scooter
<b>Speed Limitations</b>	None.	40-70 mph	30 mph	Class 1: 20 mph Class 2: 20 mph Class 3: 28 mph	None.	15 mph
<b>CC or Watt Limitations</b>	<150 CC Engine Unl. Watts	>150 CC Engine <750 Watts	-- >60 CC Engine <750 Watts	750 Watts	N/A	Not Specified
<b>Engine/ Motor Type</b>	Gas or Electric	Gas or Electric	Gas or Electric	Electric and Human Powered	Human Powered	Gas or Electric
<b>Registration/ License plate required</b>	Yes	Yes	Yes	No*	No*	No
<b>VIN or S/N</b>	VIN	VIN	VIN	S/N	S/N	S/N
<b>Minimum License Requirements</b>	CM1	CM1	CM2	None	None	C
<b>CVC Sections</b>	Same as Vehicle	Same as Vehicle	Same as Vehicle	Same as Bicycle	Specific Bicycle Sections	Specific Scooter Sections

# Off Road Use

**CVC section 38012(b)(1)** defines “off highway motor vehicles” to include, but is not limited to:

- A motorcycle, or motor-driven cycle.

**NOTE:** For registration requirements and license plates. What is the rider’s intention? Does the vehicle have proper lighting equipment to operate on a public roadway?

- **CVC 38026.5(b)** – Operate off-highway vehicle on public roadway.
- **OMC 12.48.070(A)** - No Motor vehicles or Motorized Bicycles on Bike Trail.



**QUESTIONS?**

# How to make a dirt bike California Street Legal

- MUST meet California emissions standards: EPA Sticker from manufacturer or CARB permit.
- MUST have following Equipment:
  - Headlight(s) (CVC 25650.5)
  - Tail lights/ Stop lamps (CVC 24600/ 24603)
  - Blinkers (CVC 24951)
  - Mirrors (CVC 26709)
  - Reflectors (CVC 24607, 24608, 24609)
  - Horn (CVC 27000)
  - License plate mount/ light (CVC 24601)
  - Speedometer
  - DOT approved tires (CVC 27451)
  - DOT approved exhaust (CVC 27150)
  - License plate (CVC 5200)



# What are Electric Bicycles?



Motor Officer C. Ivans  
Orange Police Department

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# What is a Bicycle?

- CVC sections 231 and 39000 defines a bicycle as:
- Any device upon which a person may ride, which is propelled by human power
- Through a system of belts, chains or gears
- Having either two or three wheels (one of which is at least 20 inches in diameter), or having four or more wheels.



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# Rules of The Road: Commencing 21200 CVC

- **CVC 21212** – A person under 18 year old shall not ride or ride as a passenger without a helmet.
- **CVC 21200** – Subject to rules of the road.
- **CVC 21200.5** – DUI Bike (Misd.) required during darkness.
- **CVC 21650.1** - Drive Same direction as
- **CVC 21201(d)** - Lighting equipment Traffic, right hand edge of road.
- **CVC 21204** – No person shall ride as passenger, unless has own seat.
  
- **NOTE:** Bicycles *can* be ridden on sidewalk, as Orange does not have a municipal code against this.

# What is an Electric Bicycle?

- CVC section 312.5 defines an electric bicycle:
- “Electric bicycle” is a bicycle equipped with fully operative pedals and an electric motor of less than 750 watts.





# But there is more...

- Class 1: “low-speed petal-assisted electric bicycle” max speed **20** mph.
- Class 2: “low-speed throttle-assisted electric bicycle” max speed **20** mph.
- Class 3: “speed pedal-assisted electric bicycle” max speed **28** mph. *Must* be equipped with a speedometer. *Must* be 16 year of age or older to operate. CVC 21213(a)
- A person riding an “electric bicycle” is subject to the same provisions as a person riding a bicycle, as described in Chapter 1 of Division 11, commencing with Section CVC 21200. **\*CITE BYCICLE SECTIONS\***
- *Exempt* from insurance requirements, driver license, and special plates.

# Knowledge Test

## 2022 SWAGTRON EB-6



### Specs.

- Type: Electric Hybrid Bicycle
- Tires: 20" front/rear air-filled,
- Motor: 350W,
- Mile Range: 20 mi / 32 km (varies with individual use),
- Max. Speed: 18.6 MPH / 30 km/h (throttle only), Climbing Capacity: 25° (throttle only)

# Knowledge Test

## HMJ Toury High-Step Electric Bike



## Specs.

- Motor: 750W
- Three Riding Modes
- Mile Range: 40-65 mi
- Full Color LCD Display (Speedometer)
- Max. Speed: 25, 28 mph “Maybe up to 30”

# Knowledge Test

## 2022 iZip Zuma Luxe Electric Bike



### Specs.

- The Zuma Luxe is powered by a Bosch Active Line Plus mid-drive motor that can reach top pedal assist speeds of 20 mph.
- 400Wh integrated battery.
- Venture 20 – 53 mile range.
- The Zuma Luxe also features a wide range cassette with 12×32t range and a 38t chaining, which means your gearing is super sufficient to assist you in going quickly uphill, downhill, and anywhere across town.

# CALIFORNIA ELECTRIC BICYCLE POLICY



VEHICLE TYPE	VEHICLE		USER				BIKEWAY ACCESS			
	PEDAL OPERATED	MAXIMUM MOTOR-ASSISTED SPEED (MPH)	MINIMUM AGE (YEARS)	DRIVER'S LICENSE	LICENSE PLATE	HELMET	CLASS I BIKE PATH	CLASS II BIKE LANE	CLASS III BIKE ROUTE	CLASS IV PROTECTED LANE
BICYCLE 	YES	N/A	N/A	NO	NO	17 AND UNDER	YES	YES	YES	YES
TYPE 1 E-BIKE* 	YES	20	N/A	NO	NO	17 AND UNDER	YES	YES	YES	YES
TYPE 2 E-BIKE* 	NO	20	N/A	NO	NO	17 AND UNDER	YES	YES	YES	YES
TYPE 3 E-BIKE* 	YES	28	16	NO	NO	YES	NO	YES	YES	YES
MOPED 	NO	N/A	16	YES	YES	YES	NO	YES	YES	NO

\*YES/NO AS OF 10/16



peopleforbikes







QUESTIONS?