

# MINI-MOTORCYCLES, MOTOR SCOOTERS, MOBILITY DEVICES AND MOTORIZED BICYCLES

*Dealing With Alternative Transportation In The 21<sup>ST</sup> Century*

by Nathan Nickolaus

Recently, numerous new personal transportation devices have been out on the market. Most of these were unheard of ten years ago. Such devices include Razors®, Pocket bikes, Segway® etc. Unfortunately, these devices are not generally listed by name in statutes and ordinances thus making it difficult to know exactly how to treat them. This is on top of a classification system already complicated by scooters, mobility scooters, motor scooters, motorized bicycles, mopeds and minibikes. Recently the Court of Appeals declared that a golf cart is a motor vehicle.<sup>1</sup>

## What Is A Motor Vehicle?

State statutes define a motorcycle as a two-wheeled motor vehicle

(§301.010(35) RSMo. also §302.010(9) RSMo.).<sup>2</sup> A motor vehicle is defined as a self propelled vehicle which is not either (1) on tracks or (2) a motorized bicycle (302.010(10) RSMo). A "vehicle" is defined as "any mechanical device on wheels, designed primarily for use or used on highways" but excluding motorized bicycles, vehicles propelled, drawn by horses or human power, trains, cotton trailers or motorized wheelchairs operated by handicapped persons.<sup>3</sup>

A motorized bicycle in turn is defined as a "device" (note not 'motor vehicle') with automatic transmission, cylinder capacity of less than 50 cubic centimeters (cc's), less than three "gross brake horsepower" and maximum speed of 30 mph.<sup>4</sup> The definition of gross horse

power is set out in the endnotes.<sup>5</sup>

It is important to note that when a manufacturer refers to brake horse power in advertisements today they are supposed to use SAE net brake horsepower. The statute refers to the older term "gross brake horsepower." The gross brake horsepower for the same engine will almost always be higher than the net brake horsepower.

## Mini-Motorcycles Or Pocket Bikes

The miniature motorcycles commonly called "pocket bikes" or "super pocket bikes" have presented particular concern due to their fast speeds (25-45 mph) and small size (generally about 40-50" in length, 25" in height). Many people purchase mini-motorcycles thinking that because they usually have engines smaller than 50 cc's they are exempt from the regulations of motorcycles. This assumption is mistaken. Pocket bikes, despite their small size, would be treated as motorcycles.

They do usually have engine sizes of only 47-49 cc's, so you might think they are motorized bicycles not motor cycles. However, these engines produce speeds and horsepower above the limit. Here is what one dealer has on his Web site:

"Pocketbikes shine best in competition. Depending on the model and horsepower (hp), performance varies: The smaller industrial-motored models used by Junior class racers are capable of speeds of over 35 mph, the average 4.2 hp and 6.2 hp racing models achieve about 40-45 mph, and open class machines can clock over 50 mph!" (<http://www.buyscooteronline.com>.)

So even the "cheap" models have too much horsepower and too much speed. They are, therefore, by definition, motorcycles. As motorcycles, they would

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need all of the standard safety equipment and the driver would have to be licensed to be on the street.

### Motorized Bicycle Or Mopeds

Devices which fall into this class are not, by definition, motor vehicles. This category also includes some devices referred to as scooters. As is surely already clear, names can be deceiving. Some vehicles called 'scooters' are actually motorcycles and some are Motorized Play Vehicles. Motorized bicycles (see definition above) do require an operator's license to be operated on all public streets (§307.195. 1 RSMo.). They are prohibited altogether on federal highways. Since they are not motor vehicles, an ordinance prohibiting motor vehicles on sidewalks would not apply to them.

### Motorized Play Vehicles

The biggest problem with existing laws (most patterned on the model traffic ordinance) is that they are limited only to those vehicles specifically defined. They define "motorized bicycles" as that term was understood in the 1970's. They

do not always define bicycles (but see § 307.180(1) RSMo.). They rarely state how to treat things that do not fit in one of these three pigeon holes. Devices with electric motors are not measured in cc's of power, thus do not fit into the definitions at all<sup>6</sup>. In certain instances these would be "motor vehicles" since they are wheeled and self propelled. A "catch all" provision is needed to fill in the gaps. An example would be:

"Motorized Play Vehicle means a coaster, scooter, any other motor vehicle capable of transporting a person or persons that is self propelled by a motor or engine and which is not otherwise de-

fined by Missouri Statutes or the City Code as a motorcycle, bicycle, or motorized bicycle."<sup>7</sup>

These vehicles were not intended for use in traffic. Because they fall below the standards of a motor vehicle, motorcycle and motorized bicycle, no license is required. Regulations should be created as to how each community wishes to deal with them. Regulations might

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include age of user, helmets, noise and riding behavior. Specific reference should be made to how they may be used on roadways.

## Segway®

The legislature has given considerable guidance in regards to the new device called the Segway®.<sup>8</sup> The legislature refers to these as an “electronic personal assistive mobility device” or EPAMD. (§307.205.1 RSMo. Supp. 2002.) It is defined as:

“A self- balancing, two non-tandem wheeled device, designed to transport only one person, with an electric propulsion system with an average power of seven hundred fifty watts (one horsepower), whose maximum speed on a paved level surface, when powered solely by such a propulsion system while ridden by an operator who weighs one hundred seventy pounds, is less than twenty miles per hour.”

Note that the device must be self-balancing, so this limits it pretty much to the Segway®. The statutes now allow an EPAMD on any sidewalk, trail or bicycle path. (§307.205.1 RSMo.) They have all the rights and responsibilities of pedestrians. They also have the right to use any street, provided that the speed limit is less than 46 mph. (§307.205.4 RSMo.) They can be driven by anyone over 16, unless the person under 16 has a mobility-related disability. (§307.205.3 RSMo.) They can be driven at night provided that they have a head lamp and a rear reflector similar

to a bike. (§307.207 RSMo.) Persons over 17 who violate the rules are subject to a ticket of not more than \$25.00 and persons under 17 can have their EPAMD taken away for up to five days. (§307.211 RSMo.) Such confiscation without a pre-deprivation hearing is obviously fraught with problems. Cities are authorized to pass ordinances with additional regulations. □

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## END NOTES

- <sup>1</sup> Covert v. Director of Revenue, 2004 WL 2339987
- <sup>2</sup> All references are to Missouri Revised Statutes 2000, except where noted.
- <sup>3</sup> § 302.010(64) RSMo)
- <sup>4</sup> cc or cubic centimeter is the measure of gasoline engine
- <sup>5</sup> Definition of Gross Brake Horsepower: SAE Gross Horsepower or Brake Horsepower (bhp) was the standard horsepower measurement by the automotive industry up until 1971. Brake Horsepower Power is measured at the flywheel with no load from a chassis or any accessories and with fuel and ignition operations under ideal conditions. An accessory is anything attached to the engine, by any means, which is not required for basic engine operation. By this definition, this would include a power steering pump, smog pump, air conditioning compressor and an alternator. Ideal conditions, often called laboratory conditions, are standardized settings for use during horsepower measurement. During the 1960s they consisted of a barometric pressure of 29.92 Hg and a temperature of 60 degrees F.

SAE Net Horsepower became the standard measurement in 1972, and is still used today. SAE Net horsepower is the horsepower generated by the engine at the flywheel with all accessories attached. This change was made to reflect the numerous energy sapping accessories that cars began to have, such as an A/C Compressor and alternator, and thus was a better representation of the actual power generated by the engine. This number is always lower than the SAE Gross horsepower. Therefore, the same engine could have been rated in 1971 as 360 SAE Gross Horsepower and in 1972 as 300 SAE Net horsepower without any reduction in “power.”

(“Common Engine Terms” © 2003 Musclicarclub.com, used with permission)

<sup>6</sup> However, electric voltage can be converted to horsepower equivalent, using the following formula: HORSEPOWER= (V x A x EFF)÷746 (V = volts, A = Amps, EFF = efficiency expressed as a decimal). One horsepower = 746 watts.

<sup>7</sup> Adapted from Code of Gilbert, Arizona, section 62-141 (1998).

<sup>8</sup> HB 1270, 2002



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