

Laser

Laser and radar serve the same purpose but they are really different entities, which are achieving a common goal. Radar uses a radio beam and measures at the speed of sound while laser uses a light beam and takes measurement based on the speed of light. A typical radar beam is between 15 and 18 degrees wide. Laser is considerably more precise with a beam width of one sixth of one degree. At a distance of 1 mile a radar beam can expand to over 500 feet wide. A laser beam will only expand to 19 feet wide. At a more common distance of 1000 feet radar will expand to over 100 feet wide, while laser expands to only 3 feet wide. Despite its accuracy, laser is not unbeatable. It is affected by weather conditions. Fog, clouds and rain can significantly reduce the operating range. You may not use it through a windshield, and it must be used as a stationary set up. Calibration and maintenance may only be done by a factory trained specialist at an authorized repair facility. Laser beams usually target a vehicles license plate. In order to work properly, light must reflect off the surface of the vehicle and the license plate is designed to be highly reflective for that purpose. If you have a low vehicle with little or no chrome, it is difficult for a laser to detect you. In order to avoid a laser, you should coat your license plate with a high gloss clear coat so as to deflect the beam.

Before using a laser beam, it should be calibrated by using all three of the following methods:

- The self test button should be used and the resultant should be 8.8.8.8
- Pointing the unit at a stationery target should result in a reading of 0 mph. The audio and sight tones should be tested by sweeping across a telephone pole

In this country, the most commonly used laser detector is the Marksman LTI 20.20. The manufacturer says that they will have a beam width of two feet at a distance of 1300 feet. The accuracy is claimed to be precise within 1 mph up to 60 mph and within 3 % for speeds over 60 mph. This unit does have some downfalls. The Marksman has an unusual distribution of beam intensity which gives you changes in the aiming point. The Marksman can actually detect another vehicle within five feet of the target vehicle. In order to prepare against a laser defense you have to know what the jurisdiction for laser cases is in the area that your citation was issued. There are only a few states that have given laser judicial notice, which basically is a legal ruling that establishes specific evidence as beyond dispute. Radar has judicial notice in every state. If there is no judicial notice entered in the state in which you are appealing your ticket, the prosecutor needs to have an expert witness testifying to the accuracy and reliability of the unit. If that witness is the manufacturers representative you can have him disqualified since his company has a financial interest of that particular case, and he may be impartial. New Jersey Superior Court Judge Reginald Stanton stated in his June 13, 1996 ruling that he was not convinced of the accuracy of the LTI Marksman. He ruled that any readings taken with that unit would not be accepted as evidence in any pending or speeding ticket cases. If the state in which you are appealing your ticket has been awarded judicial notice you might want to review the New Jersey case when you prepare. The rest of the case is very similar in how you would handle a radar defense. Concentrate on the training of the officer, the self test methods and the calibrations of the unit, what the weather conditions were, and the amount of traffic that was traveling at the time the citation was issued. Your best bet still is that the officer does not show up in court. You should however, be properly prepared in case he does.

Visual estimate, airplane radar and VASCAR

VASCAR is an acronym for Visual Average Speed Computer & Recorder. This is simply a small computer that will compute the vehicles speed based on the time it takes to travel a specific distance. Basically it's distance divided by time equals speed. It's usually hooked into the patrol car's speedometer. One of the more devious applications of VASCAR is when an officer passes you on the highway at a significantly higher rate than you are traveling, it gives you a

false sense of security. A few miles down the road, you will find the police officer waiting for you, since he knows the exact distance he has traveled, and the exact distance that you have traveled, he can compute your speed and issue you a speeding ticket. This is considered a speed trap in Washington and California and as such is illegal in those states.

Plane speed detection - This is very similar to VASCAR as the officer in the airplane measures the amount of time it takes a vehicle to cover a certain distance. The officer then computes the speed of the vehicle and radios it to a patrol officer on the ground who stops the car and writes a ticket. Having marks on the ground or highway are considered illegal in California as they are considered a speed trap. There are a few disadvantages to airplane speed detection which can work to your benefit in court. Usually the officer uses the airplane to pace the vehicle on the ground and get their speed. You must explain to the courts that the airplane speeds are measured in air speed which is relative to the surrounding air. If the airplane is traveling into the wind, the speed is slower than if the aircraft was producing the same amount of power with a tailwind. Also, it may be difficult to determine whether it was actually your vehicle that was spotted from the air, since many cars look alike from such a great distance. This could be the basis for a sound defense in court. A most advantageous problem is that this system relies on two different officers. Consequently, both officers need to be in court for a conviction. It's difficult enough to get one officer there at a specific time and the odds of bringing both into court at the same time are slim. If both officers do happen to attend your trial, request of the court that one officer be removed from the courtroom so that each may be interrogated individually, and possibly contradict each other which would give you the basis for a defense of reasonable doubt.

Visual Estimate - Basically this is another term for guessing. The officer is relying on his training as a police officer in order to convict you. It can be extremely easy to defeat this type of ticket. It is very rare that you are going to encounter this type of citation because the officer and the court know they have only a minimal chance of defeating you if you challenge his ability to visually estimate speed. If you do have to counter his abilities to visually estimate speed, take any object and hold it straight out from you at arms length from your shoulder. Drop the object from that point, and ask the officer to tell you how fast the object was traveling before it hit the ground. To make it harder, use two different items, a heavy one and a light one and repeat the test. If you receive two different answers, you know he is guessing because all items will fall at the same rate of 32 feet per second squared, regardless of their weight. Make sure you have that data available to you so that you will remember it. If you measure the distance from the floor to your outstretched arm, the following table will give you a listing of the actual mph that that particular object was traveling just prior to it hitting the ground.

If the distance traveled is: The speed would be:

3.5 feet - 10.2 mph
4.0 feet - 10.9 mph
4.5 feet - 11.6 mph
5.0 feet - 12.2 mph
5.5 feet - 12.8 mph
6.0 feet - 13.4 mph

Let us presume that you received a ticket for going 65 mph in a 55 mph zone. If you drop the item from a height of five feet, and the officer estimates that the item was traveling at a speed of 15 mph, you can see from the chart above that he was off by 2.8 mph. Before you enter into court, figure out the ratio factor between the speed that you were alleged to have traveled, which would be 65 mph, and divide that by the actual speed of the item that you had dropped from 5 feet which is 12.2 mph. This gives you a ratio factor of 5.3. Since the officer estimated that the object dropped was traveling at 15 mph he was off by 2.8 mph. Multiply 2.8 times the 5.3 ratio factor and you will find that the officer was off by as much as 14.9 mph

in his visual estimate. At this point, the officer will know he is defeated and the judge will just wait for your motion to dismiss.

Pacing with another vehicle

Pacing simply means that the officer followed you with another vehicle, attempting to maintain a constant distance and referring to his speedometer to gauge your speed. In this case, the calibration of the police car is critical to your defense. The defense strategies that we outlined earlier may not all apply since the officer does not have to be specifically trained in reading a speedometer, and it is unlikely he was following the wrong vehicle. Your best bet is that the officer does not appear in court and that the prosecution fails to prove all the points in the specific section of the vehicle code. Review the cross examination sections that we have discussed earlier and also the radar ticket cross examinations. These questions should get your thinking on the right track in order to prepare the questions for the motor pacing case. Some of the more important items for you to remember are the following:

Make sure the officer is giving recollection of the incident and not reading directly from the back of the citation.

Make sure that the officer testifies that the unit was calibrated at a certain date, and that the calibration certificate is present in court. Also, the qualifications of the technician that calibrated the unit should be available. Review the officers testimony carefully and also the prosecutors line of questioning. If they leave out any of the points covered in the vehicle code, you have grounds for motion to dismiss. Don't expect that this will automatically happen, because the judge may allow the prosecution to reopen their case if they do omit something. Ask the officer a series of questions concerning the other traffic on the road. Ask him if during the time he was pacing you, he passed any other vehicles. If not, that would indicate that you were traveling at the same speed as the other vehicles at that time of day on that section of road.

Ask the officer as to the exact distances covered from the time the officer began to pace the speed of your vehicle until you were stopped. You would also want to know the estimated distance between the two vehicles at all times. Review the math and see if the officer actually had to speed up in order to close the distance between your vehicles before he pulled you over. It's possible he could have used the accelerated speed and used that speed as the basis for the ticket.

Be sure to check your citation to determine which method was used to determine your speed. That's why it's always a good idea to save your citation. You never know if they failed to time you for a required distance (3/10 of a mile) or calculated your speed wrong.