



SAN ANDREAS HIGHWAY PATROL
LIDAR SPEED ENFORCEMENT MANUAL

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Overview

100.1 Purpose

The purpose of this document is to provide Troopers with an understanding of the LIDAR System through a certification course.

100.2 Requirements

To become certified in LIDAR, you must hold the rank of Trooper or higher. All members of the San Andreas Highway Patrol Specialized Enforcement Program Crash Reconstruction and Safe Highways are automatically certified to use LIDAR as part of their training. To attend a LIDAR training class, applicants must complete the registration form [here](#). They must attend the entire class and pass a closed-book test. Certification is verified by a Chain of Command member.

100.3 What is LIDAR

Commonly referred to as a police laser, LIDAR (Light Detection And Ranging) is the most precise speed monitoring option available to traffic enforcement. LIDAR is becoming more widespread and affordable to departments throughout the country.

100.4 How Does LIDAR Work

LIDAR uses light to measure a vehicle's speed and provides the Trooper with the result almost instantaneously. Light travels over 186,000 miles per second, far exceeding the speed of sound, which is about 0.21 miles per second. Because of the laser light's extraordinary speed, a vehicle cannot brake quickly enough to avoid LIDAR unless equipped with laser jammers. LIDAR works by emitting a brief burst of infrared laser light that reflects off the vehicle and returns to the gun. The gun then calculates the vehicle's speed based on the quick "roundtrip" of the laser beam and reports it to the Trooper.

Operation & Device Specifications

200.1 Operation Parameters

As LIDAR enforcement is an extremely scientific and sensitive way to enforce speeds, it must be done properly and in accordance with the following section. LIDAR usage must be done while the Trooper is stationary. LIDAR cannot be used while moving; LIDAR may be used on foot or within a vehicle. The LIDAR gun is the most effective during the daytime. Because the device measures the return signal of a laser beam, LIDAR will not be effective in areas where there are not enough reflective surfaces. Examples of this case would include driving at night on poorly lit roads or in significant inclement weather.

200.2 Operation of a LIDAR Device

While stationary, switch on the device. From there, choose the direction of traffic to enforce speeds. To lock the speed of a vehicle, aim the device at a part of the vehicle, and press the lock key. The device will beep once and then display both the speed of the vehicle and the distance to the vehicle at the time the speed was locked. For additional and more complex use of the device, refer to the LIDAR Guide below.

Related Documentation: [Advanced LIDAR Usage Guide](#)

200.3 LIDAR Conditional Statements

- ❑ If an individual is cited for speeding, and LIDAR was used to clock the vehicle, the distance to the vehicle at the time the speed was captured, must be included in the citation to ensure that the device was operating properly should the driver appeal the citation in a court of law.
- ❑ LIDAR will never be used in an area where the Trooper, the Trooper's vehicle, or any item or process related to speed enforcement can cause harm or otherwise pose a significant risk to the Trooper or bystanders.
- ❑ The laser beam of a LIDAR device will never be pointed directly toward the driver of a motor vehicle.
- ❑ No Trooper below the rank of *Trooper First Class* may operate a LIDAR device without possessing a Specialized Enforcement Program certification.

200.4 Pinpointing a Vehicle

How can we use LIDAR to pinpoint one vehicle? Laser beams are narrow and very accurate, measuring roughly 18 – 36 inches in diameter at a distance of 1,000 feet. Think of a laser beam like a flashlight beam; if you face a wall with a flashlight from a few inches away, the beam is very small and concentrated. However, as you move away from the wall, the beam grows larger.