

RADAR OPERATIONS MANUAL



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ANNEXES

CHAPTER 1

RADAR — INTRODUCTION

RADAR: A Tool of the Trade

The Department of Public Safety has long recognized the importance of training in all phases of a trooper's work. RADAR operation is only a part of the traffic officer's many skills and tools he utilizes in his duties. However, it is probably one of the most often used tools and one that is most misunderstood by the public.

You will note that the word "tool" has been applied to RADAR. A tool, by definition, is an instrument used in performing an operation in the practice of a vocation or profession. Tools have specific uses and limitations and we recognize that any instrument can be misused. Lack of training in the skills of tool use as well as misunderstanding their purposes and limitations can lead to improper or undesirable results. Police traffic RADAR is no exception. Misuse and misunderstanding of RADAR by the traffic officer has in the past led to some public doubt as to its accuracy. If there is one major point the student should get from this course of training, it is this—that RADAR is not designed or intended to detect violations of the speed law. The officer detects the violation, THEN uses his RADAR instrument as a measuring TOOL to confirm his observations. Again, for emphasis, the officer observes the speeder, then uses his RADAR to measure the speed.

As with all law violations, it is imperative that we get sufficient, accurate, admissible evidence to support convictions. To this end, it is essential that proper procedures are used in all instances. The use of the RADAR instrument for any purpose other than speed measurement for violation confirmation is in direct conflict with department regulations and policy.

SPEED IN SOCIETY

The user of this manual will normally be the Traffic Law Enforcement Trooper or Recruit-Trainee, both of whom have had intensive orientation in the problem of excessive speed on our streets and highways. Moreover, most troopers have witnessed first-hand the results of the speed problem—accidents. It is not necessary, therefore, that this manual provide an expansive treatise about the speed problem. However, training in the role of police RADAR does require that the student be reminded of one of the most basic problems of traffic law enforcement—Excessive Speed.

Since the early days of the automobile, speed has been its most controversial feature. The motoring public has through the years enjoyed a preoccupation with fast automobiles. People rush to work and rush to play, and for some, speed is play. Automobile manufacturers cater to our fascination with speed by producing faster cars. This is not to say that all drivers are obsessed with speed but we must remember that it is one of the most prevalent causative or contributive factors in traffic accidents.

High speed affects all three elements of driving:

1. THE OPERATOR - Increased speeds tax the driver's basic capabilities, such as reaction time and their perspective of speed relative to distance.
2. THE VEHICLE - Increased speeds also tax the automobile's capabilities (the brakes, steering, etc.).
3. THE ROADWAY - Increased speeds magnify potential hazards of any deficiencies in the road surface (potholes, construction, etc.) or situational conditions resulting from weather (ice, rain, snow).

The veteran trooper can cite many experiences in accident investigation where the interaction of speed with one or more of these elements has resulted in an accident. He also knows that speed is directly proportional to the severity of an accident.

The relationship between speed and safety was dramatically evidenced in 1974 when the 55 mph speed limit was enacted for the sole purpose of fuel conservation to help reduce our dependence on foreign fuel sources. Even the safety experts were startled to learn of the more important effect - that at the end of 1974 there were 8,856

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Police use of RADAR in speed measurement was at first generally well accepted by the public even though most officers had little or no training in RADAR theory or operation. In fact, the older stationary instruments were relatively simple and target identification was accurate. However, with the advent of the moving mode, the operation of RADAR became instantly more complex. The operator not only has to watch the traffic for violations and the RADAR set itself, but he also has to safely drive his patrol car in traffic. Improved range in the newer instruments further complicated target identification.

Public concern over police traffic RADAR crested in 1979 when a Florida judge refused to accept RADAR cases because of anti-RADAR publicity in that state. This publicity was occasioned when a TV reporter was invited to witness a RADAR demonstration by some individuals who would profit by eroding public confidence in traffic RADAR. A sensitive RADAR antenna was pointed at a house while the automobile fan motor was on. Since the house provided no movement, the RADAR antenna picked up the fan motor and displayed a reading. The antenna was then pointed at a row of trees while the operator whistled into a CB microphone. The RFI energy from the CB produced a reading on the RADAR as if it had clocked movement of the trees.

This critical publicity, however, had a long-term positive affect on the use of police traffic RADAR. Federal agencies, such as the National Highway Traffic Safety Administration and the Federal Bureau of Standards, examined and investigated police RADAR. Their findings, along with court decisions about that time (i.e., New Jersey vs. Wojtrowiak), declared RADAR to be an accurate way to measure speed. It also resulted in formal training programs and operator certification across the country.