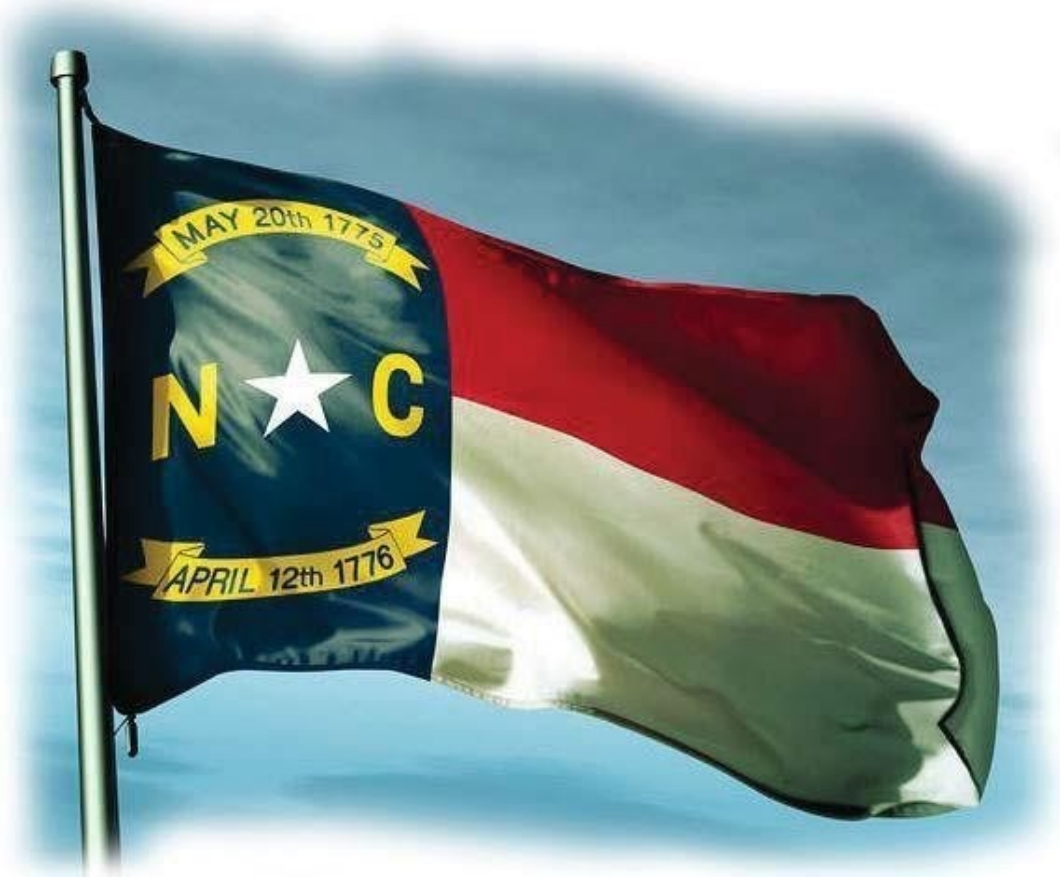
SUPPLEMENT FOR SPEED MEASURING INSTRUMENT TRAINING COURSES



Contains the following:

Appendix A **Approved List of Speed Measuring Instruments**
Appendix B **Annual Tests for Accuracy Requirements**
Appendix C **Daily Tests for Accuracy Requirements and Operating Procedures**

June 2025

NORTH CAROLINA JUSTICE ACADEMY

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ABOUT THE NORTH CAROLINA JUSTICE ACADEMY

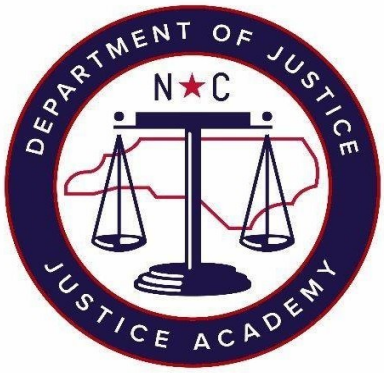
The North Carolina Justice Academy is a division of the North Carolina Department of Justice. Created in 1973, the Academy offers training programs to criminal justice personnel, provides technical assistance to criminal justice agencies upon request, and develops and distributes educational and training materials.

The Academy's Training Division has a team of experienced, dedicated instructors organized into five centers: Legal, Law Enforcement Leadership, Commission/In-Service, Tactical/Traffic, and Investigations. Working with the Training Division is a Support Division that operates a 20,000volume library, a video production unit, a full-service print shop, a graphic arts department, an institutional research team, and housekeeping and maintenance services. It also manages the Academy's online registration and course delivery system, Acadis (https://ncjaportal.acadisonline.com).

The Academy has two campuses. The original campus in Salemburg has a long educational history. Established in 1875 as Salem Academy, the campus later became Pineland School for Girls, Pineland Junior College, Edwards Military Institute, and Southwood College. There are eighteen classrooms, a 200,000-square-foot driving track, three outdoor firing ranges, a gymnasium, a cafeteria, three residence halls, the library, and other practical exercise areas.

In September 1998, the Academy's second campus opened in Edneyville, on the former Edneyville High School site. It was named the Larry T. Justus Western Justice Academy in 2004 in honor of Representative Larry T. Justus. The campus has nine classrooms, a gymnasium, a cafeteria, a residence hall, and a state-of-the-art indoor firing range.

In 2017, the Western Regional Crime Laboratory in Asheville moved into a new $15 million facility at the Edneyville campus. The crime lab performs blood-alcohol and toxicology tests, firearm analysis, DNA tests, and other services for western North Carolina law enforcement agencies.



North Carolina Justice Academy

Mission

To serve the citizens of North Carolina by enhancing the careers of criminal justice officers through research, education, and training.

Manual Development

This document was originally prepared due to a cooperative effort between the National Highway Traffic Safety Administration (NHTSA) and the International Association of Directors of Law Enforcement Standards and Training (IADLEST). The North Carolina Speed Measurement Instrument Advisory Committee has made minor changes throughout. These changes were made to meet the needs of North Carolina speed-measuring instrument operators.

The requirements remain at least as stringent as those established by the United States Department of Transportation, National Highway Safety Administration, National Institute of Standards and Technology, and the Federal Communications Commission as required by
G.S. 17C-6(d).

The manual is continuously revised as needed by the North Carolina Speed Measurement Instrument Advisory Committee, subject to approval by the North Carolina Criminal Justice Education and Training Standards Commission. The latest revision date can be found in the academic checklist. This manual contains information pertaining to the RADAR Instructor/Operator Training courses as well as the RADAR Instructor/Operator Re-Certification Training courses. A special thanks to all Committee members for the work and dedication they put into developing this manual.

Members of the SMI Advisory Group during the most recent revision were:

Anthony Wimberly
Mr. Wimberly is a Sargeant with the Raleigh Police Department. He is a certified RADAR and LIDAR Instructor.

Danny Leung
Mr. Leung is a Detective with the Major Crash Investigation Unit of the Charlotte-Mecklenburg Police Department. He is a certified RADAR and LIDAR Instructor.

Nekime Oxendine
Mr. Oxendine is a Sergeant and the SMI Coordinator for the North Carolina State Highway Patrol. He is a certified Radar and LIDAR Instructor.

Chris Gaddis
Mr. Gaddis held the rank of Assistant Chief with the Burlington Police Department before his retirement. He is a certified RADAR Instructor.

Anthony Locklear
Mr. Locklear is a Corporal with the Holly Springs Police Department. He is a certified RADAR and LIDAR Instructor.

Steve Parker
Mr. Parker is the SMI Program Administrator with the North Carolina Criminal Justice Standards Division. He is a certified RADAR and LIDAR Instructor.

Fred McQueen
Mr. McQueen held the rank of Lieutenant with the Laurinburg Police Department before his retirement. He is a certified RADAR and LIDAR Instructor.

Vanessa Smith
Mrs. Smith is a Lieutenant with the Jacksonville Police Department. She is a certified RADAR and LIDAR Instructor.

Curtis Dowdle
Mr. Dowdle is the Dean of Public Safety Training and the SMI School Director with the Southwestern Community College. He is a RADAR Instructor.

Jarod Ewers
Mr. Ewers is a Captain with the Gastonia Police Department. He is a certified RADAR and LIDAR Instructor.

Terry D. Miller
Mr. Miller is the SMI Advisory Group Chairman and School Director for the North Carolina SMI Training programs with the North Carolina Justice Academy. He is a certified RADAR and LIDAR Instructor.

North Carolina Justice Academy
Policy on Academic Integrity

The very nature of the Criminal Justice profession requires its members to possess and demonstrate accepted standards of integrity, including the area of academics. Therefore, the North Carolina Justice Academy has adopted a policy of academic integrity.

I. Definition

Violation of this policy is defined to include, but not limited to, the following activities:

A. Cheating.
B. Plagiarism.
C. Falsification and/or fabrication.
D. Abuse of academic materials.
E. Complicity in academic dishonesty and
F. Personal misrepresentation.

II. Punishment

Violation of this policy shall result in corrective action up to and including dismissal from the course in which the student is currently enrolled, denial of enrollment in future courses, and notification of the student's employing agency.

When in doubt about what would constitute a potential violation, students should always discuss the matter with their instructor or course coordinator.

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APPENDIX A

Approved List of Speed Measuring Instruments

June 2025

NORTH CAROLINA APPROVED SPEED MEASURING INSTRUMENT LIST

In addition to other restrictions listed in this document, all speed measuring instruments submitted for approval after 01 March 2025 are made subject to and restricted as follows:

Instruments must be constructed in a manner that is user-friendly and rugged enough to meet the rigors of law enforcement demands. Instruments with moving mode capabilities must be designed to offer minimal distraction to the operator while operating in a moving mode. (Examples of user-friendliness include but are not limited to a simplified menu [if necessary for operation], ease of tuning fork testing and obtaining the results, displays that the operator easily reads in both day and night conditions, etc.) Before submitting their device for evaluation, all vendors/manufacturers are encouraged to seek 'user-friendliness' clarification from the SMI Advisory Committee Chairman concerning their nomenclature.

All instrument light segment tests must display only "8" or "8." in each segment of each speed, distance, range, and time display window for a minimum of three seconds. Each segment of each window must be uniform with one another. (For example, an appropriate light test for three segment target, target lock, and patrol speed 'windows' is for all of them to show simultaneously "888" in each of the 'windows', or "8.8.8." in each of the 'windows' for the minimum required time of three seconds. Furthermore, if the instrument has four segments 'windows', the target, target lock, and patrol speed windows shall show "8888" or "8.8.8.8." across all windows simultaneously for the minimum required time of three seconds. The same methodology shall be applied to LIDAR instruments, with each window containing the same uniform manner of testing the segments for each window on the faceplate.) During the light segment test of "8" or "8." in each segment of all speed, distance, and range display windows, all fixed/permanent icons and indicators on the control box must also illuminate/display simultaneously with the light segment test for the minimum three second time period. All vendors/manufacturers are encouraged to seek 'light segment testing' clarification from the SMI Advisory Committee Chairman concerning their nomenclature before submission of their device for evaluation.

The instrument must test all light segments and internal circuitry during power-up (see b & e).

The instrument must have only one button/switch, allowing the operator to manually test all light segments and the internal circuitry during operation. This test must be an exact duplication of the power-up test (as specified in b and e).

An internal circuitry test must immediately and automatically follow all light segment tests. All instrument internal circuitry tests must only display "PAS" or "PASS" upon completion to indicate that the instrument passed the test. If the instrument does not pass the test, it must only display "FAIL" or "ERR" in the target display window(s). No other words, numbers, or indicators shall display or appear before, during, or upon completion of the internal circuitry test. All vendors/manufacturers are encouraged to seek 'internal circuitry testing' clarification from the SMI Advisory Committee Chairman concerning their nomenclature before submission of their device for evaluation.

The instrument must not be capable of clocking front and rear targets simultaneously, locking more than one speed at a time, or having more than three speed display windows. (For example, only one target speed window, one target lock speed window, and one patrol speed window are permitted on the display for the instrument.)

The instrument must not have a fastest vehicle mode feature or any indicator of the same on the instrument or remote.

RADAR and LIDAR instruments must not have a time-distance/stopwatch mode feature or any indicator of the same on the instrument or remote

The instrument must not have an automatic mode-switching feature.

The instrument must default to off if the power is lost during operation.

RADAR and LIDAR Instruments shall have a volume control that cannot be muted and has a volume loud enough to be heard easily during normal use by the operator.

If an instrument possesses a mode or feature that has not been previously reviewed and approved for use in North Carolina, such instrument is subject to be recommended for approval only after the mode or feature receives a favorable review by the SMI Advisory Committee. A "mode" or "feature" is defined as having any technology programmed into the software or operating system or built onto the instrument hardware that can be utilized during the operation of the instrument by the operator and/or instructor. A vendor/manufacturer must notify the Chairman of the SMI Advisory Committee to clarify if a "mode" or "feature" must first be tested and approved and shall arrange a testing session of the new "mode" or "feature" before submitting the instrument for evaluation and/or approval to the Program Administrator. Additionally, any instrument vendor/manufacturer that wishes to modify, revise, and/or add a "mode" or "feature" to an instrument already approved must first seek approval before marketing or selling any instrument as it changes the operation of the instrument initially tested and approved for use. The vendor/manufacturer may seek approval by contacting the Chairman of the SMI Advisory Committee and seeking further guidance.

Instruments approved for use after January 1, 2006, will be marked by an "*" on the approved list.

Instruments marked with double asterisks "**" indicate that the instrument is on the staggered deletion list. Refer to section 8 of this Appendix for the removal date of the instrument.

Instruments must have a feature to cut the instrument on and off as a button or function of the nomenclature.

Instruments approved for use after March 1, 2017, will be marked with triple asterisks "***" on the approved list.

All approved RADAR/LIDAR speed measuring instruments are made subject to and restricted as follows:

The instrument shall not have any automatic violation alarms (audio and/or visual) or automatic locking functions that occur before the operator manually locks the instrument. This does not include "auto-test" features.

The instrument shall not have a high-speed lock function.

The instrument shall not have an external control that would permit the adjustment or correction of the zero or calibration readings.

The instrument shall not have a feature and/or function that compensates for any angle (cosine effect) that may be present between the target vehicle and the RADAR antenna or LIDAR.

RADAR instruments shall be capable of being tested for accuracy by use of a tuning fork.

RADAR instruments shall have a squelch control.

RADAR instruments shall have a radio frequency interference feature that disables the instrument when radio frequency interference is present.

The instrument shall have a low-voltage feature/indicator.

The instrument shall be designed to be manually activated by the operator upon the presence of a violator vehicle.

All the following modes, functions, and/or configurations shall not be used on RADAR or LIDAR instruments unless the operator is certified in its use by the North Carolina Criminal Justice Education and Training Standards Commission: (Revised: June 1, 2025)

a. Single Antenna
b. Stationary Mode (RADAR and/or LIDAR)
c. Moving-Same Direction Mode
d. Dual Antennae
e. Moving-Opposite Direction Mode

The following modes/features/technology are NOT permissible for use on any instrument and may not have any indication of such features displayed on the faceplate or remote or have any function of such for an instrument approved for use after January 1, 2006; “Time-Distance and/or Stopwatch” features on RADAR, “Fastest Vehicle” mode, “Automatic Mode Switching” feature, “Safety Zone” feature, “Bluetooth” feature, “Chase” mode, “Following Too Close” feature, “Annual Test for Accuracy Reminder” feature, “Guided Tuning Fork Test” feature, and “Time Trak” feature on RADAR/LIDAR shall NOT be used; “Obstruction” mode, “Windshield” mode, “Anti-jamming” mode, and “Jammer Reject” mode on LIDAR instruments shall NOT be used. Speed measuring instruments shall NOT possess a feature that will allow the internal storing of a violator speed measurement, which allows for recall of the speed by the operator after it is cleared from the locked position; additionally, an instrument shall not possess a remote display(s) or control(s) which was not approved for use during the evaluation process as part of the instrument nomenclature. These features shall NOT be used on RADAR and/or LIDAR.

“Exclusive Quick Trak” feature, “POP” feature (where the displayed speeds are not lockable), “School Zone” mode, “Ranging” feature, and “Stats” mode (where the data is not recallable or displayable on the instrument itself) technology is approved for use on instruments approved on or after January 2006.

* “GPS Speed Module/Interface” accessories. Effective June 1, 2024, five GPS Speed Modules/Interfaces are approved for use with RADAR. The GPS Speed Module/Interfaces are manufacturer-specific. They are approved with the manufacturer's understanding that the addition of the modules/interfaces CAN NOT change any internal software or nomenclatures already approved for the units, and the modules /interface CAN NOT unlock any modes/features/functions/configurations that are not approved for use by the North Carolina Justice Education and Training Standards Commission.

Manufacturer	Model
01. Applied Concepts Inc.	200-1503-00 (W/O external antenna)
02. Applied Concepts Inc.	200-1503-01 (with external antenna)

03. MPH Industries Inc.	991262 (dual adapter for camera)
04. MPH Industries Inc.	991263 (single adapter W/O camera)
05. Kustom Signals Inc.	050-6300-00

Any mode/feature/function/configuration/accessory not listed above must be considered untested and subject to review before instrument application.

A "certified" patrol vehicle speedometer is not required for moving mode operations, effective June 1, 2012.

North Carolina Approved RADAR Speed Measuring Instruments (Revised: June 1, 2025)

(Note: See section 8 of this appendix.) The following RADAR instruments are approved for use provided they are operated in compliance with (1) and (2) above:

Manufacturer	Model	Mode
01. Applied Concepts, Inc.	Stalker DUAL DSR	M/S
02. Applied Concepts, Inc.	Stalker Dual DSR-E*	M/S
03. Applied Concepts, Inc.	Stalker II SDR*	S
04. Applied Concepts, Inc.	Stalker II MDR*	M/S
05. Applied Concepts, Inc.	Stalker Dual E*	M/S
06. Applied Concepts, Inc.	Stalker Patrol*	M/S
07. Applied Concepts, Inc.	Stalker DSR-EC***	M/S
08. Kustom Signals, Inc.	Eagle 3***	M/S
09. Kustom Signals, Inc.	Golden Eagle II*	M/S
10. Kustom Signals, Inc.	Directional Golden Eagle II*	M/S
11. Kustom Signals, Inc.	Raptor RP-1*	M/S
12. Kustom Signals, Inc.	Directional Talon*	M/S
13. Kustom Signals, Inc.	Talon II*	M/S
14. Kustom Signals, Inc.	Falcon HR*	M/S
15. MPH Industries, Inc.	BEE III	M/S
16. MPH Industries, Inc.	Enforcer	M/S
17. MPH Industries, Inc.	Python III*	M/S
18. MPH Industries, Inc.	Ranger EZ*	M/S
19. MPH Industries, Inc.	Speedgun Pro*	M/S

North Carolina Approved LIDAR Speed Measuring Instruments (Revised: June 1, 2025)
(Note: See section 8 of this appendix.) The following LIDAR instruments are approved for use, provided they are operated in compliance with (1) and (2) above:

Manufacturer	Model	Mode
01. Applied Concepts, Inc.	Stalker LIDAR XS*	S
02. Applied Concepts, Inc.	Stalker LIDAR XLR*	S
03. Applied Concepts, Inc.	Stalker LIDAR RLR***	S
04. DragonEye Technology, Inc.	Speed LIDAR*	S
05. DragonEye Technology, Inc.	Compact Speed*	S
06. Kustom Signals, Inc.	ProLaser III	S
07. Kustom Signals, Inc.	ProLaser 4	S
08. Laser Technology, Inc.	Ultralyte 200 LR*	S
09. Laser Technology, Inc.	Ultralyte LR B*	S
10. Laser Technology, Inc.	TruSpeed LR*	S
11. Laser Technology, Inc.	TruSpeed S*	S
12. MPH Industries, Inc.	Sure Shot***	S

North Carolina Approved Time-Distance Speed Measuring Instruments (Revised: June 1, 2025)

All Time/Distance programs were repealed, and there are NO approved units for use in North Carolina. The effective date is June 1, 2025.

North Carolina is committed to providing law enforcement agencies with standardized instrument choices available for repair and the latest cutting-edge technology proven reliable during testing. Due to this commitment, it requires us to revise the "Approved for Use" list as necessary on occasion to ensure the instruments meet our objective. (Revised: June 1, 2025)

The following speed-measuring instruments will be automatically removed from the "Approved for Use" list on the effective date shown for that instrument.

Manufacturer	Model	Mode	Date of removal

APPENDIX B

Annual Tests for Accuracy Requirements

June 2025

ANNUAL TEST FOR ACCURACY REQUIREMENTS

A. TESTING: ACCURACY

1. All radio microwave (radar) and lidar speed measuring instruments and tuning forks shall be tested for accuracy within a 12-month period prior to the alleged violation by a technician possessing at least a general radiotelephone operator license from the Federal Communications Commission or possessing a Certified Electronics Technician certificate issued by a Federal Communications Commission Commercial Operators License Examination Manager or by a laboratory established by the International Association of Chiefs of Police. These tests shall follow the requirements prescribed in G.S. 8-50.2. Every person testing speed measuring instruments and tuning forks shall test said equipment following G.S. 8-50.2, G.S. 17C-6(a)(13), and 12 NCAC 9C .0607. The results of the tests shall be recorded on forms provided by the Commission.

B. TESTING: RADAR

1. The minimum specific test for radar instruments shall include:

   a) The radar instrument shall meet the criteria listed on form SMI 9.

   b) The radar instrument shall meet the specifications listed under number one (1) and two (2) in Appendix "A" of this publication.

   c) The technician testing each radar instrument shall test each instrument against the instrument calibration and testing for accuracy procedures required by G.S. 17C-6(a)(13) and G.S. 8-50.2(b)(4) for each approved instrument. These requirements are listed in Appendix C of this publication.

2. Tuning Fork Accuracy Test:

   a) The vibration frequency shall read within plus-minus .75 mph of that speed stamped on the tuning fork.

   b) All tuning forks that are not stamped with a serial number for identification purposes shall be so impressed on the handle or heel, not on the tine portion, by the testing technician. The serial number is to be the same as the serial number on the RADAR amplifier, RADAR control cabinet, RADAR antenna, or other identifying number as assigned by the owning agency.

C. TESTING: LIDAR

The minimum specific test for lidar instruments shall include the following:

1. The lidar instrument shall meet the criteria listed on form SMI 12.

2. The lidar instrument shall meet the specifications listed under number one (1) and two (2) in Appendix "A" of this publication.

3. The technician testing each lidar instrument shall test each instrument against the instrument calibration and testing for accuracy procedures required by G.S. 17C-6(a)(13) and G.S. 8-50.2(b)(4) for each approved instrument. These requirements are listed in Appendix C of this publication.

D. TESTING FORMS:

The annual test for accuracy forms can be found on the following website.

https://ncdoj.gov/law-enforcement-training/criminal-justice/forms-and-publications/#91-105-wpfd-smi-p2

1. Form SMI 9 (Record of RADAR Instrument Calibration and Accuracy Tests)
2. Form SMI 12 (Record of LIDAR Calibration and Accuracy Tests)

APPENDIX C

Daily Tests for Accuracy Requirements

&

Operating Procedures

June 2025

CONTENTS OF APPENDIX C

RADAR INSTRUMENTS

*- Represents instruments approved after January 2006 (meets new standard).
**- Represents instruments currently on the staggered deletion plan. Refer to Appendix A for the removal date.
*** - Represents approved for use after 01 June 2017.

LIDAR Instruments

*- Represents instruments approved after January 2006 (meets new standard).
**- Represents instruments currently on the staggered deletion plan. Refer to Appendix A for the removal date.
*** - Represents approved for use after 01 June, 2017.

Time-Distance Instruments

Manufacturer	Model	Mode	Pages

All Time/Distance programs have been repealed. There are NO instruments approved for use in North Carolina. The effective date is June 1, 2025

*- Represents instruments approved after January 2006 (meets new standard).
**- Represents instruments currently on the staggered deletion plan. Refer to Appendix A for the removal date.
*** - Represents approved for use after 01 June 2017.

Date of Approval - 03/2003

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER DUAL DSR" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box.
   b. Connect the control box to the power source.
   c. Depress the PWR button to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions. The display indicates "888 888 188" or "888 888 888" during the test and all other indicators on the front of the instrument will illuminate. A 4-beep tone indicates the successful completion of this test. If a problem is detected, "FAIL" will be displayed along with a 15-beep tone and the instrument should be removed from service until properly repaired.
   e. With the instrument in the moving-opposite direction mode, perform a light and internal circuit test by pressing the TEST key on the remote control. The instrument will display "888 888 188" or "888 888 888" and all other indicators on the front of the instrument will illuminate, and speeds of 10, 35, and 65 will appear in both the target and patrol windows. After all the tests are successfully completed, "PASS" will be indicated on the display along with an audible 4-beep tone. If FAIL, or any other numbers are displayed, removed the instrument from service until properly repaired.
   f. At this point the "FORK" indicator will illuminate for approximately thirty (30) seconds. During the thirty seconds, the instrument will allow the operator to perform tuning fork accuracy tests. At the end of the thirty seconds, if the tuning fork tests are not completed, the "TEST" button will need to be pressed again in order to re-enter the tuning fork mode for another thirty seconds.
   g. The "TEST" button must be pressed prior to the operator performing any tuning fork accuracy test.
   h. Select the stationary mode by pressing the MOV/STA key on the remote control.
   i. To transmit, press the XMIT/HOLD key on the remote control. The XMIT icon should appear on the display.
   j. Aim the antenna away from traffic and possible interference.
   k. Adjust the audio volume control so the Doppler tone can be monitored.
   l. Select an appropriate tuning fork.
   m. Strike the tuning fork and hold it in front of antenna.
   n. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This insures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning of tour of duty, check.]
   o. Select the moving mode by pressing the MOV/STA key on the remote control. The patrol window will display [ ] indicating the instrument is in the moving mode, but has no tracking speed.
   p. Select appropriate tuning forks (e.g., 25 mph and 40 mph).
   q. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.
   r. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

s. Select the same direction mode by pressing the SAME/OPPOSITE key on the remote control. The instrument should already be in the moving mode.

t. Select appropriate tuning forks (e.g., 25 mph and 40 mph).

u. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

v. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate either the sum of the two tuning forks ± 1 mph OR the difference in speed of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items g, h, i, j, k, l, m and n under No. 1 using an appropriate tuning fork after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

3. Moving Use

a. Opposite Direction: Repeat Items g, i, j, o, p, q, and r under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

b. Same Direction: Repeat Items g, i, j, s, t, u, and v under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

Date of Approval - 03/2004

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

APPLIED CONCEPTS "STALKER DUAL DSR" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select a location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select a roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.

f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.

g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2011

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER DUAL DSR-E" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box.
   b. Connect the control box to the power source.
   c. Depress the PWR button to turn the power on.
   e. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument is functioning correctly. The test will begin with a light segment test where the instrument will display "888 888 888" in the speed windows while all other indicators on the faceplate of the instrument will backlight. It will then automatically conduct an internal circuitry test where a display of "Pass" should be observed on the display. If an internal problem is detected, "Fail" will be displayed.
   e. With the instrument in the moving-opposite direction mode, perform a light and internal circuit test by pressing the TEST key on the remote control. The instrument will display "888 888 888" in the speed windows while all other indicators on the faceplate of the instrument will backlight. It will then automatically conduct an internal circuitry test where a display of "Pass" should be observed on the display. If an internal problem is detected, "Fail" will be displayed. If "Fail" is displayed, the instrument shall be removed from service until properly repaired.
   f. At this point, the "FORK" indicator will illuminate for approximately sixty (60) seconds. During the sixty seconds, the instrument will allow the operator to perform tuning fork accuracy tests. At the end of the sixty seconds, if the tuning fork tests are not completed, the "TEST" button will need to be pressed again in order to re-enter the tuning fork mode for another sixty seconds.
   g. The "TEST" button must be pressed prior to the operator performing any subsequent tuning fork accuracy test.
   h. Select the stationary mode by pressing the MOV/STA key on the remote control.
   i. To transmit, press the XMIT/HOLD key on the remote control. The XMIT icon should appear on the display.
   j. Aim the antenna away from traffic and possible interference.
   k. Adjust the audio volume control so the Doppler tone can be monitored.
   l. Select an appropriate tuning fork.
   m. Strike the tuning fork and hold it in front of antenna.
   n. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat steps j through n. (This ensures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning of tour of duty check.]
   o. Select the Front antenna (upon completion of the rear antenna tuning fork test if applicable), and switch the counting unit to the moving mode by pressing the MOV/STA key on the remote control. The patrol window will display "[ ]" indicating the instrument is now in the moving mode, but has no patrol tracking speed.
   p. Select appropriate tuning forks (e.g., 25 mph and 40 mph).

q. Strike the lower value tuning fork and hold it in front of the antenna first. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

r. Next, strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

s. While remaining on the front antenna (when dual antennas are present), select the same direction mode by pressing the SAME/OPPOSITE key on the remote control. The instrument should already be in the moving mode at this point.

t. Select appropriate tuning forks (e.g., 25 mph and 40 mph).

u. Strike the higher value tuning fork and hold it in front of the antenna first. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

v. Next, strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate either the sum of the two tuning forks ± 1 mph OR the difference in speed of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items g, h, i, j, k, l, m and n under No. 1 using an appropriate tuning fork after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the tuning fork" mode.

3. Moving Use

a. Opposite Direction: Repeat Items g, i, j, o, p, q, and r under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

b. Same Direction: Repeat Items g, i, j, s, t, u, and v under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

Date of Approval - 06/2011

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

APPLIED CONCEPTS "STALKER DUAL DSR-E" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

   a. Select a roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.

g. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.

g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2011

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER II SDR" STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

    a. If a wired remote control is to be used, connect it to the control box. Wireless remote controls require no installation.
    b. Plug in the power cord.
    c. Press the power key.
    d. Once powered on, the unit will conduct an automatic self-test. The unit will display "888 888 888" in the speed windows and all of the indicators will illuminate for approximately 3 seconds. This will include the information screen on the bottom right of the display panel, which will illuminate an "asterisk enclosed in a box" so that a full test of the 16 segment screen can be tested. The instrument will then automatically conduct an internal circuitry test where "Pass" should be displayed across the target and lock windows. The operator will see "Fail" appear in the same windows if the instrument detects an internal error.
    e. Then, press the "Test" button to conduct a subsequent testing sequence for the light segment and stationary-only circuitry. The unit will display "888 888 888" in the speed windows and all of the indicators will illuminate for approximately 3 seconds. This will include the information screen on the bottom right of the display panel, which will illuminate an "asterisk enclosed in a box" so that a full test of the 16 segment screen can be tested. The instrument will then automatically conduct an internal circuitry test where "Pass" should be displayed across the target and lock windows. The operator will see "Fail" appear in the same windows if the instrument detects an internal error.
    f. The information screen will then begin to flash "FORK" and the current mode to notify the operator it is prepared for a tuning fork test.
    g. Adjust volume on the audio tone control so you can monitor the Doppler tone.
    h. Adjust range to an acceptable setting.
    i. Aim the unit away from traffic and possible interference.
    j. Select appropriate tuning fork.
    k. Strike the tuning fork and hold in front of antenna.
    l. The RADAR unit target display window must read within plus-minus one MPH of the certified value of the tuning fork to pass this accuracy test.

2. Stationary Use:

    a. Repeat Items "i" through "m" under No. 1 using an appropriate tuning fork after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

Date of Approval - 06/2011

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

APPLIED CONCEPTS "STALKER II SDR" STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

    a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
    b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
    c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
    d. Visually estimate the speed of vehicles as they travel in your line of vision.
    e. Corroborate your visual estimate of speed with the RADAR speed reading.
    f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2011

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER II MDR" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. If a wired remote control is to be used, connect it to the control box. Wireless remote controls require no installation.
   b. Plug in power cord.
   c. Press the power key.
   d. Once powered on, the unit will conduct an automatic self-test. The unit will display "888 888 888" in the speed windows and all of the indicators will illuminate for approximately 3 seconds. This will include the information screen on the bottom right of the display panel, which will illuminate an "asterisk enclosed in a box" so that a full test of the 16 segment screen can be tested. The instrument will then automatically conduct an internal circuitry test where "Pass" should be displayed across the target and lock windows. The operator will see "Fail" appear in the same windows if the instrument detects an internal error.
   e. Then, after ensuring the unit is in the moving-opposite direction mode, press the "Test" button to conduct a subsequent testing sequence. The unit will display "888 888 888" in the speed windows and all of the indicators will illuminate for approximately 3 seconds. This will include the information screen on the bottom right of the display panel, which will illuminate an "asterisk enclosed in a box" so that a full test of the 16 segment screen can be tested. The instrument will then automatically conduct an internal circuitry test where "Pass" should be displayed across the target and lock windows. The operator will see "Fail" appear in the same windows if the instrument detects an internal error.
   f. The information screen will then begin to flash "FORK" and the current mode to notify the operator it is prepared for a tuning fork test.
   g. Adjust volume on the audio tone control so you can monitor the Doppler tone.
   h. Adjust range to an acceptable setting.
   i. Aim the unit away from traffic and possible interference.
   j. Select Stationary mode (depress "Menu - Sta/Mov" button) on faceplate.
   k. Select appropriate tuning fork.
   l. Strike the tuning fork and hold in front of antenna.
   m. The RADAR unit target display window must read within plus-minus one MPH of the certified value of the tuning fork to pass this accuracy test.
   n. Next, select the moving mode (depress the "Menu - Sta/Mov" button) and ensure the unit is placed in Moving-Opposite Direction mode (depress the "Both – Direction" button) until the desired setting is reached.
   o. Select two appropriate tuning forks (example: 25 mph and 40 mph)
   p. First, strike the low value tuning fork and hold it in front of the antenna. The RADAR unit's patrol window must read within plus-minus one MPH of the certified value of the low MPH tuning fork.
   q. Next, strike the high value tuning fork and hold it in front of the antenna. The target window must read within plus-minus one MPH of the difference between the low and high certified MPH values

of the tuning forks to pass this accuracy test.

r. Next, select the Moving-Same Direction mode (depress the "Both – Direction" button) until desired setting is reached.

s. Select appropriate tuning forks (e.g., 25 mph and 40 mph).

t. Strike the higher value tuning fork and hold it in front of the antenna first. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

u. Next, strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate either the sum of the two tuning forks ± 1 mph OR the difference in speed of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use:

a. Repeat Items "i" through "m" under No. 1 using an appropriate tuning fork after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

3. Moving Use

a. Opposite Direction: Repeat Items "n" through "q" under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

b. Same Direction: Repeat Items "r" through "u" under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

Date of Approval - 06/2011

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

APPLIED CONCEPTS "STALKER II MDR" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.

e. Visually estimate the speed of vehicles as they travel in your line of vision.

h. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.

g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2013

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER DUAL-E" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box.
   b. Connect the control box to the power source.
   c. Depress the PWR button to turn the power on.
   f. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument is functioning correctly. The test will begin with a light segment test where the instrument will display "888 888 888" in the speed windows while all other indicators on the faceplate of the instrument will backlight. It will then automatically conduct an internal circuitry test where a display of "Pass" should be observed on the display. If an internal problem is detected, "Fail" will be displayed.
   e. With the instrument in the moving-opposite direction mode, perform a light and internal circuit test by pressing the TEST key on the remote control. The instrument will display "888 888 888" in the speed windows while all other indicators on the faceplate of the instrument will backlight. It will then automatically conduct an internal circuitry test where a display of "Pass" should be observed on the display. If an internal problem is detected, "Fail" will be displayed. If "Fail" is displayed, the instrument shall be removed from service until properly repaired.
   f. At this point, the "FORK" indicator will illuminate for approximately sixty (60) seconds. During the sixty seconds, the instrument will allow the operator to perform tuning fork accuracy tests. At the end of the sixty seconds, if the tuning fork tests are not completed, the "TEST" button will need to be pressed again in order to re-enter the tuning fork mode for another sixty seconds.
   g. The "TEST" button must be pressed prior to the operator performing any subsequent tuning fork accuracy test.
   h. Select the stationary mode by pressing the MOV/STA key on the remote control.
   i. To transmit, press the XMIT/HOLD key on the remote control. The XMIT icon should appear on the display.
   j. Aim the antenna away from traffic and possible interference.
   k. Adjust the audio volume control so the Doppler tone can be monitored.
   l. Select an appropriate tuning fork.
   m. Strike the tuning fork and hold it in front of antenna.
   n. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat steps j through n. (This insures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning of tour of duty check.]
   o. Select the Front antenna (upon completion of the rear antenna tuning fork test if applicable), and switch the counting unit to the moving mode by pressing the MOV/STA key on the remote control. The patrol window will display "[ ]" indicating the instrument is now in the moving mode, but has no patrol tracking speed.

p. Select appropriate tuning forks (e.g., 25 mph and 40 mph).

q. Strike the lower value tuning fork and hold it in front of the antenna first. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

r. Next, strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

s. Next, select the same direction mode by pressing the SAME/OPPOSITE key on the remote control. The instrument should already be in the moving mode at this point.

t. Select appropriate tuning forks (e.g., 25 mph and 40 mph).

u. Strike the higher value tuning fork and hold it in front of the antenna first. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

v. Next, strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate either the sum of the two tuning forks ± 1 mph OR the difference in speed of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items g, h, i, j, k, l, m and n under No. 1 using an appropriate tuning fork after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

3. Moving Use

a. Opposite Direction: Repeat Items g, i, j, o, p, q, and r under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

b. Same Direction: Repeat Items g, i, j, s, t, u, and v under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

Date of Approval - 06/2013

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

APPLIED CONCEPTS "STALKER DUAL-E" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

   a. Select a roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.

i. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.

g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2015

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER PATROL" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box.
   b. Connect the control box to the power source.
   c. Depress the PWR button to turn the power on.
   g. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument is functioning correctly. The test will begin with a light segment test where the instrument will display "888 888 888" in the speed windows while all other indicators in the display screen of the instrument will illuminate as well. It will then automatically conduct an internal circuitry test where a display of "PASS" will be observed on the display and "four happy tones" signaling successful completion of the self-test. If an internal problem is detected, "FAIL" will be displayed on the display screen and 15 beeps will be heard which indicates a failure of the self-test. If a failure is received, the instrument shall be removed from service until properly repaired.
   e. With the instrument in the moving-opposite direction mode, perform a light and internal circuit test by pressing the TEST key on the remote control. The instrument will display "888 888 888" in the speed windows while all other indicators in the display screen of the instrument will illuminate as well. It will then automatically conduct an internal circuitry test where a display of "PASS" will be observed on the display and "four happy tones" signaling successful completion of the self-test. If an internal problem is detected, "FAIL" will be displayed on the display screen and 15 beeps will be heard which indicates a failure of the self-test. If a failure is received, the instrument shall be removed from service until properly repaired.
   f. Select the stationary mode by pressing the MOV/STA/MENU key on the remote control.
   g. To transmit, press the XMIT/HOLD key on the remote control. The XMIT icon should appear on the display.
   h. Aim the antenna away from traffic and possible interference.
   i. Adjust the audio volume control so the Doppler tone can be monitored.
   j. Select an appropriate tuning fork.
   k. Strike the tuning fork and hold it in front of the front antenna.
   l. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat steps j through n. (This insures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning of tour of duty check.]
   m. Select the Front antenna (upon completion of the rear antenna tuning fork test if applicable), and switch the counting unit to the moving mode by pressing the MOV/STA/MENU key on the remote control. The patrol window will display "[ ]" indicating the instrument is now in the moving mode, but has no patrol tracking speed.
   n. Select appropriate tuning forks (e.g., 25 mph and 40 mph).

o. Strike the lower value tuning fork and hold it in front of the antenna first. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

p. Next, strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

q. Next, select the same direction mode by pressing the SAME/OPP key on the remote control. The instrument should already be in the moving mode at this point.

r. Select appropriate tuning forks (e.g., 25 mph and 40 mph).

s. Strike the higher value tuning fork and hold it in front of the antenna first. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

t. Next, strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate either the sum of the two tuning forks ± 1 mph OR the difference in speed of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items f, g, h, i, j, k, and l under No. 1 using an appropriate tuning fork after each enforcement action.

3. Moving Use

a. Opposite Direction: Repeat Items m, n, o, and p under No. 1 using the appropriate tuning forks after each enforcement action.

b. Same Direction: Repeat Items q, r, s, and t under No. 1 using the appropriate tuning forks after each enforcement action.

Date of Approval - 06/2015

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

APPLIED CONCEPTS "STALKER PATROL" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

   a. Select a roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.

j. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.

g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2019

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER DSR-EC" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box.
   b. Connect the control box to the power source.
   c. Depress the PWR button to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument is functioning correctly. The test will begin with a light segment test where the instrument will display "888 888 888" in the speed windows while all other indicators in the display screen of the instrument will illuminate as well. It will then automatically conduct an internal circuitry test where a display of "PASS" will be observed on the display and "four happy tones" signaling successful completion of the self-test. If an internal problem is detected, "FAIL" will be displayed on the display screen and 15 beeps will be heard which indicates a failure of the self-test. If a failure is received, the instrument shall be removed from service until properly repaired.
   e. With the instrument in the moving-opposite direction mode, perform a light and internal circuit test by pressing the SELF-TEST left soft button on the faceplate. The instrument will display "888 888 888" in the speed windows while all other indicators in the display screen of the instrument will illuminate as well. It will then automatically conduct an internal circuitry test where a display of "PASS" will be observed on the display signaling successful completion of the self-test. If an internal problem is detected, "FAIL" will be displayed on the display screen and 15 beeps will be heard which indicates a failure of the self-test. If a failure is received, the instrument shall be removed from service until properly repaired.
   f. Select the stationary mode by pressing the MOV/STA key on the remote control.
   g. To transmit, press the XMIT/HOLD key on the remote control. The "XMIT" icon should appear on the display.
   h. Aim the antenna away from traffic and possible interference.
   i. Adjust the audio volume control so the Doppler tone can be monitored.
   j. Select an appropriate tuning fork.
   k. Strike the tuning fork and hold it in front of the front antenna.
   l. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat steps j through n. (This ensures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode beginning tour of duty check.]
   m. Select the front antenna (upon completion of the rear antenna tuning fork test if applicable), and switch the counting unit to the moving mode by pressing the MOV/STA key on the remote control. The patrol window will display "[ ]" indicating the instrument is now in the moving mode, and the "OPP" should be illuminated on the display representing the opposite-direction mode.
   n. Select appropriate tuning forks (e.g., 25 mph and 40 mph).

o. Strike the lower value tuning fork and hold it in front of the antenna first. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

p. Next, strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

q. Next, select the same direction mode by pressing the SAME/OPP key on the remote control. The instrument should already be in the moving mode at this point. "SAME" should be illuminated on the display and replace the "OPP" icon.

r. Select appropriate tuning forks (e.g., 25 mph and 40 mph).

s. Strike the higher value tuning fork and hold it in front of the antenna first. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

t. Next, strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate either the sum of the two tuning forks ± 1 mph OR the difference in speed of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items f, g, h, i, j, k, and l under No. 1 using an appropriate tuning fork after each enforcement action.

3. Moving Use

a. Opposite Direction: Repeat Items m, n, o, and p under No. 1 using the appropriate tuning forks after each enforcement action.

b. Same Direction: Repeat Items q, r, s, and t under No. 1 using the appropriate tuning forks after each enforcement action.

Date of Approval - 06/2019

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

APPLIED CONCEPTS "STALKER DSR-EC" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

    a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
    b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
    c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
    d. Visually estimate the speed of vehicles as they travel in your line of vision.
    e. Corroborate your visual estimate of speed with the RADAR speed reading.
    f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

    a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
    b. Aim the antenna as close to "0" degrees as possible.
    c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
    d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
    e. Visually estimate the speed of vehicles as they travel in your line of vision.
    f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
    g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
    h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

    a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
    b. Aim the antenna as close to "0" degrees as possible.
    c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
    d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.

e. Visually estimate the speed of vehicles as they travel in your line of vision.
f. Gradually vary the patrol vehicle speed by a few miles per hour up-or-down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.
g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.
h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2013

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

KUSTOM "EAGLE 3" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box. Connect the remote to the control box.
   b. Connect the control box to the power source.
   c. Depress the PWR button to turn the power on. (Located on the bottom right of the control box)
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. The instrument will display all LED display segments, indicating "888 888 888". The instrument will perform an internal test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PAS" in the target window and "PAS" in the patrol window. If the internal test fails, "Err" will be displayed in the target window. If any other numbers are displayed or the internal test fails, remove the instrument from service until properly repaired.
   e. Select the moving-opposite direction mode using the MODE button on the remote or the touch control area to the right of the road graphic on the control box display. "OPP" will be displayed over the target window. (If "SAME" is displayed, use the SAME OPP button on the remote or the touch control area in the target area of the display to change it to "OPP").
   f. An internal circuit test is performed by pressing the TEST (✓) button on the control box. (Located on the top right of the control box) The instrument will display all LED display segments, indicating "888 888 888". The instrument will then display "PAS" in the target window and "PAS" in the patrol window, and the word "TEST" will flash at the bottom right corner of the display. If the internal test fails, "Err" will be displayed in the target window. If any other numbers are displayed or the internal test fails, remove the instrument from service until properly repaired.
   g. Select the stationary mode by pressing the MODE button on the remote or the touch control area to the right of the road graphic on the display. "StA" will appear in the middle of the road graphic area.
   h. Select the front antenna by pressing the FRNT HOLD button on the remote or the touch control on the upper portion of the road graphic area. To transmit, if the instrument is displaying "Hld" in the target window, press the FRNT HOLD switch on the remote or the touch control area on the upper portion of the road graphic of the control box.
   i. Aim the antenna away from traffic and possible interference.
   j. Adjust the audio volume control so the Doppler tone can be monitored.
   k. Select an appropriate tuning fork.
   l. Strike the tuning fork and hold it in front of the antenna.
   m. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test.
   n. Select the rear antenna by pressing the REAR HOLD button on the remote or the touch control on the lower portion of the road graphic area and repeat the test. (This ensures that the rear antenna is connected properly and working) This rear antenna check is only required during stationary mode at the beginning of the tour of duty check.
   o. Select the front antenna by pressing the FRNT HOLD button on the remote or the touch control on the upper portion of the road graphic area. To transmit, if the instrument is displaying "Hld" in the target window, press the FRNT HOLD switch on the remote or the touch control area on the upper portion of the road graphic of the control box.
   p. Select the moving opposite mode by pressing the MODE switch on the remote or the touch control area

to the right of the road graphic on the control box. "OPP" will be displayed over the target window. (If "SAME" is displayed, use the SAME OPP button on the remote or the touch control area in the target area of the display to change it to "OPP").

q. Select appropriate tuning forks (e.g., 30 mph and 55 mph).

r. Strike the lower-value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

s. Strike the higher-value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

t. Select the same direction mode by pressing the SAME OPP button on the remote control or the touch control area in the target window of the display. The instrument should already be in the moving mode.

u. Select appropriate tuning forks (e.g., 55 mph and 30 mph).

v. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

w. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate the sum of the two tuning forks, ± 1 mph.

2. Stationary Use

Repeat Items g, h, i, j, k, l, and m under No. 1 using an appropriate tuning fork after each enforcement action.

3. Moving Use

a. Opposite Direction: Repeat Items o, p, q, r, and s under No. 1 using the appropriate tuning forks after each enforcement action.

b. Same Direction: Repeat Items t, u, v, and w under No. 1 using the appropriate tuning forks after each enforcement action.

Date of Approval - 06/2024

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

KUSTOM "EAGLE 3" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select a location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected locations.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select a roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

   a. Select a roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.

e. Visually estimate the speed of vehicles as they travel in your line of vision.
f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.
g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.
h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2009

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

KUSTOM "GOLDEN EAGLE II" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box. Connect remote to the control box (unless cordless remote is to be used).
   b. Connect the control box to the power source.
   c. Depress the PWR button to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. The instrument will display all LED display segments, indicating "8.8.8. 8.8.8. 8.8.8.". The instrument will perform an internal test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PAS" in the target window (stationary mode) or "PAS" in the target window and "PAS" in the patrol window (moving mode). If any other numbers, "FAIL" or "ERR" is displayed, remove the instrument from service until properly repaired.
   e. Select the moving-opposite direction mode using the MODE switch.
   f. An internal circuit test is performed by pressing the TEST switch. The instrument will display all LED display segments, indicating "8.8.8. 8.8.8. 8.8.8.". The instrument will then display "PAS" in the target window and "PAS" in the patrol window. If any other numbers, "FAIL" or "Err" is displayed, remove the instrument from service until properly repaired. The instrument will also be placed into the tuning fork "TEST" mode at this time (indicated by the flashing "TEST" LED) and will remain in this mode for approximately 30 seconds. However, switching from one mode to the next will refresh the timeout to 30 seconds, allowing fork testing in different modes without leaving the "TEST" mode. Pressing the "TEST" switch again, while in the "TEST" mode, will exit the "TEST" mode immediately.
   g. Select the stationary mode by pressing the MODE switch.
   h. To transmit, if the instrument is displaying "Hld" in the target window, press the FRNT HOLD switch to activate the front antenna.
   i. Aim the antenna away from traffic and possible interference.
   j. Adjust the audio volume control so the Doppler tone can be monitored.
   k. Select an appropriate tuning fork.
   l. Strike the tuning fork and hold it in front of antenna.
   m. The target window must display within + 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna by pressing the REAR HOLD button and repeat test. (This ensures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, the beginning of the tour of duty, check.]
   n. Select the moving mode by pressing the MODE switch.
   o. Select appropriate tuning forks (e.g., 65 mph and 35 mph).

p. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicated ± 1 mph of the certified value of the tuning fork.

q. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

r. Select the same direction mode by pressing the OPP/SAME key on the remote control. The instrument should already be in the moving mode.

s. Select appropriate tuning forks (e.g., 65 mph and 35 mph).

t. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

u. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate the sum of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items g, h, i, j, k, l and m under No. 1 using an appropriate tuning fork after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the tuning fork "TEST" mode.

3. Moving Use

a. Opposite Direction: Repeat Items i, n, o, p and q under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the tuning fork "TEST" mode.

b. Same Direction: Repeat Items i, r, s, t and u under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the tuning fork "TEST" mode.

Date of Approval - 06/2009

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

KUSTOM "GOLDEN EAGLE II" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

   a. Select a roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.

f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.
g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.
h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2007

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

KUSTOM "DIRECTIONAL GOLDEN EAGLE II" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box. Connect remote to the control box (unless cordless remote is to be used).
   b. Connect the control box to the power source.
   c. Depress the PWR button to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. The instrument will display all LED display segments, indicating "8.8.8. 8.8.8. 8.8.8.". The instrument will perform an internal test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PAS" in the target window (stationary mode) or "PAS" in the target window and "PAS" in the patrol window (moving mode). If any other numbers, "FAIL" or "ERR" is displayed, remove the instrument from service until properly repaired.
   e. Select the moving-opposite direction mode using the MODE switch.
   f. An internal circuit test is performed by pressing the TEST switch. The instrument will display all LED display segments, indicating "8.8.8. 8.8.8. 8.8.8.". The instrument will then display "PAS" in the target window and "PAS" in the patrol window. If any other numbers, "FAIL" or "Err" is displayed, remove the instrument from service until properly repaired. The instrument will also be placed into the tuning fork "TEST" mode at this time (indicated by the flashing "STPW/TEST" LED) and will remain in this mode for approximately 30 seconds. However, switching from one mode to the next will refresh the timeout to 30 seconds, allowing fork testing in different modes without leaving the "TEST" mode. Pressing the "TEST" switch again, while in the "TEST" mode, will exit the "TEST" mode immediately.
   g. Select the stationary mode by pressing the MODE switch.
   h. To transmit, if the instrument is displaying "Hld" in the target window, press the HOLD switch.
   i. Aim the antenna away from traffic and possible interference.
   j. Adjust the audio volume control so the Doppler tone can be monitored.
   k. Select an appropriate tuning fork.
   l. Strike the tuning fork and hold it in front of antenna.
   m. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This ensures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, the beginning of the tour of duty, check.]
   n. Select the moving mode by pressing the MODE switch.
   o. Select appropriate tuning forks (e.g., 65 mph and 35 mph).
   p. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicated ± 1 mph of the certified value of the tuning fork.
   q. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

r. Select the same direction mode by pressing the OPP/SAME key on the remote control. The instrument should already be in the moving mode.
s. Select appropriate tuning forks (e.g., 65 mph and 35 mph).
t. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.
u. Strike the lower value tuning fork and hold it in front of the antenna. The target windowshould indicate the sum of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items g, h, i, j, k, l and m under No. 1 using an appropriate tuning fork after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the tuning fork "TEST" mode.

3. Moving Use

a. Opposite Direction: Repeat Items i, n, o, p and q under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the tuning fork "TEST" mode.

a. Same Direction: Repeat Items i, r, s, t and u under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the tuning fork "TEST" mode.

Date of Approval - 06/2007

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

KUSTOM "DIRECTIONAL GOLDEN EAGLE II" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees aspossible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the

target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the “Target Faster” and “Target Slower” modes.

g. Verify the patrol vehicle’s speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2011

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

KUSTOM "RAPTOR RP-1" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box. Connect remote to the control box (unless cordless remote is to be used).
   b. Connect the control box to the power source.
   c. Depress the power button (represented as a uniform red power indicator on button) to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. The instrument will begin with a 3 second light segment test where it will display "888" in all speed windows, and all other information screens displays a consecutive series of the number "8" to test each segment in that particular screen. The instrument will then perform an automatic internal circuitry test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PASS" in the target window only. If the circuitry test is unsuccessful, "FAIL" is displayed, remove the instrument from service until properly repaired.
   e. Select the moving-opposite direction mode by using either the MODE button on the remote, or changing the MODE setting under the "operations" option in the menu.
   f. You must now press the test button on the faceplate of the instrument (represented by a green checkmark) to conduct a test of your own. The instrument will begin with a 3 second light segment test where it will display "888" in all speed windows, and all other information screens displays a consecutive series of the number "8" to test each segment in that particular screen. The instrument will then perform an automatic internal circuitry test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PASS" in the target window only. If the circuitry test is unsuccessful, "FAIL" is displayed, remove the instrument from service until properly repaired. After completion of the manual test, the instrument will be placed into the tuning fork test mode (indicated by the flashing "FORK TEST" indicator) and will remain in this mode for approximately 30 seconds. However, switching from one mode to the next will refresh the timeout to 30 seconds, allowing for fork testing to be conducted in different modes without leaving the "TEST" mode. Pressing the test button again, while in the test mode, will exit the test mode immediately after cycling back through the manual testing sequence displays.
   g. Now, select the stationary mode- all lanes of travel by pressing the MODE switch until STA-ALL is displayed.
   h. To transmit (if the instrument is displaying "HOLD") press the FRNT-HOLD button on the remote.
   i. Aim the antenna away from traffic and possible interference.
   j. Adjust the audio volume control so the Doppler tone can be monitored.
   k. Select an appropriate tuning fork, and press the test button again on the faceplate if the "FORK TEST" indicator has stopped flashing.
   l. Strike the tuning fork and hold it in front of antenna.

m. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This insures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning of tour of duty, check.]

n. Next, select the moving mode by using either the MODE button on the remote, or changing the MODE setting under the "operations" option in the menu.

o. Select appropriate tuning forks (e.g., 65 mph and 35 mph), and press the test button on the faceplate if the "FORK TEST" indicator has stopped flashing.

p. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicated ± 1 mph of the certified value of the tuning fork.

q. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

r. Finally, select the same direction mode by pressing the OPP/SAME key on the remote control. The instrument should already be in the moving mode. (Some "RAPTOR RP-1" instruments will not have the "same-direction" mode capabilities.)

s. Select appropriate tuning forks (e.g., 65 mph and 35 mph), and press the test button on the faceplate if the "FORK TEST" indicator has stopped flashing.

t. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

u. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate the sum of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

v. If the "FORK TEST" light is continuing to flash, press the test button on the faceplate causing the unit to cycle through the testing sequence and shut off the "FORK TEST" mode.

2. Stationary Use

Repeat Items "g" through "m" under No. 1 using an appropriate tuning fork after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the tuning fork "TEST" mode.

3. Moving Use

a. Opposite Direction: Repeat Items "n" through "q" under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the tuning fork "TEST" mode.

b. Same Direction (If applicable): Repeat Items "r" through "u" under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the tuning fork "TEST" mode.

Date of Approval - 06/2011

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

KUSTOM "RAPTOR RP-1" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction (Note: Some versions of the "RAPTOR RP-1" may not have "same-direction" mode as an option. If so, omit this section on those instruments.)

   a. Select a roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.

f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.

g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2007

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

KUSTOM "DIRECTIONAL TALON" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. If remote control is to be used, connect it to the control box (unless cordless remote is used).
   b. Plug into power source.
   c. Depress the PWR button to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. The instrument will display all LED display segments, indicating "888" in the target window, "888" in the target lock window, and "888" in the patrol window. During the self-test, all displays/indicators are illuminated. The instrument will perform an internal test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PAS" in the target window (stationary mode) or "PAS" in the target window and "PAS" in the patrol window (moving mode). If any other numbers are displayed, "FAIL" or "ERR" is displayed, remove the instrument from service until properly repaired.
   e. Select the moving-opposite direction mode using the MODE switch.
   f. A light test and internal circuit test is performed by pressing the TEST switch. The instrument will display all LED display segments, indicating "888" in the target window, "888" in the target lock window, and "888" in the patrol window. During this test, all displays/indicators are illuminated The instrument will perform an internal test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PAS" in the target window and "PAS" in the patrol window. If any other numbers are displayed, "FAIL" or "ERR" is displayed, remove the instrument from service until properly repaired.
   g. Select the stationary mode by pressing the MODE switch.
   h. To transmit, if the instrument is displaying Hold in the target window, press the HOLD switch.
   i. Aim the antenna away from traffic and possible interference.
   j. Adjust the audio volume control so the Doppler tone can be monitored.
   k. Select an appropriate tuning fork.
   l. Strike the tuning fork and hold it in front of antenna.
   m. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This insures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning of tour of duty, check.]
   n. Select the moving mode by pressing the MODE switch. (Take note that some Directional Talon instruments may not be equipped with moving mode capabilities.)
   o. Select appropriate tuning forks (e.g., 65 mph and 35 mph).
   p. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicated ± 1 mph of the certified value of the tuning fork.
   q. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.
   r. Select the same direction mode by pressing the OPP/SAME key on the remote control. The

instrument should already be in the moving mode. (Take note that some Directional Talon instruments may not be equipped with moving mode or same direction capabilities.)

s. Select appropriate tuning forks (e.g., 65 mph and 35 mph).

t. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

u. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate the sum of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items g, h, i, j, k, l and m under No. 1 using an appropriate tuning fork after each enforcement action.

3. Moving Use (if applicable)

a. Opposite Direction (if applicable): Repeat Items i, n, o, p and q under No. 1 using the appropriate tuning forks after each enforcement action.

b. Same Direction (if applicable): Repeat Items i, r, s, t and u under No. 1 using the appropriate tuning forks after each enforcement action.

Note: When the speedometer pulse input is installed and synchronized, the operator must press the TEST button before repeating the moving mode tuning fork accuracy check. This will momentarily set the speedometer synchronization to “0" (no speedometer input) and allow the patrol display to ignore the speedometer input and display the tuning fork speed. Once the RADAR detects speedometer pulses again, it will automatically revert to the existing synchronization number.

Date of Approval - 06/2007

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

KUSTOM "DIRECTIONAL TALON" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

    a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
    b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
    c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
    d. Visually estimate the speed of vehicles as they travel in your line of vision.
    e. Corroborate your visual estimate of speed with the RADAR speed reading.
    f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction (if applicable)

    a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
    b. Aim the antenna as close to "0" degrees as possible.
    c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
    d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
    e. Visually estimate the speed of vehicles as they travel in your line of vision.
    f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
    g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
    h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction (if applicable)

    a. Select a roadway that allows the operator to observe vehicles to be monitored for speed.
    b. Aim the antenna as close to "0" degrees as possible.
    c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
    d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
    e. Visually estimate the speed of vehicles as they travel in your line of vision.
    f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the

target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the “Target Faster” and “Target Slower” modes.

g. Verify the patrol vehicle’s speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2007

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

KUSTOM "TALON II" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. If remote control is to be used, connect it to the control box (unless cordless remote is used).
   b. Plug into power source.
   c. Depress the PWR button to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. The instrument will display all LED display segments, indicating "888" in the target window, "888" in the target lock window, and "888" in the patrol window. During the self-test, all displays/indicators are illuminated. The instrument will perform an internal test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PAS" in the target window (stationary mode) or "PAS" in the target window and "PAS" in the patrol window (moving mode). If any other numbers are displayed, "FAIL" or "ERR" is displayed, remove the instrument from service until properly repaired.
   e. Select the moving-opposite direction mode using the MODE switch.
   f. A light test and internal circuit test is performed by pressing the TEST switch. The instrument will display all LED display segments, indicating "888" in the target window, "888" in the target lock window, and "888" in the patrol window. During this test, all displays/indicators are illuminated. The instrument will perform an internal test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PAS" in the target window and "PAS" in the patrol window. If any other numbers are displayed, "FAIL" or "ERR" is displayed, remove the instrument from service until properly repaired.
   g. Select the stationary mode by pressing the MODE switch.
   h. To transmit, if the instrument is displaying Hold in the target window, press the HOLD switch.
   i. Aim the antenna away from traffic and possible interference.
   j. Adjust the audio volume control so the Doppler tone can be monitored.
   k. Select an appropriate tuning fork.
   l. Strike the tuning fork and hold it in front of the antenna.
   m. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This insures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning of tour of duty, check.]
   n. Select the moving mode by pressing the MODE switch. (Take note that some Talon II instruments may not be equipped for moving mode operations.)
   o. Select appropriate tuning forks (e.g., 65 mph and 35 mph).
   p. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicated ± 1 mph of the certified value of the tuning fork.
   q. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.
   r. Select the same direction mode by pressing the OPP/SAME key on the remote control. The

instrument should already be in the moving mode. (Take note that some Talon II instruments may not be equipped with moving mode or same direction capability).

s. Select appropriate tuning forks (e.g., 65 mph and 35 mph).

t. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

u. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate the sum of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items g, h, i, j, k, l and m under No. 1 using an appropriate tuning fork after each enforcement action.

3. Moving Use (if applicable)

a. Opposite Direction (if applicable): Repeat Items i, n, o, p and q under No. 1 using the appropriate tuning forks after each enforcement action.

b. Same Direction (if applicable): Repeat Items i, r, s, t and u under No. 1 using the appropriate tuning forks after each enforcement action.

Note: When the speedometer pulse input is installed and synchronized, the operator must press the TEST button before repeating the moving mode tuning fork accuracy check. This will momentarily set the speedometer synchronization to “0" (no speedometer input) and allow the patrol display to ignore the speedometer input and display the tuning fork speed. Once the RADAR detects speedometer pulses again, it will automatically revert to the existing synchronization number.

Date of Approval - 06/2007

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

KUSTOM "TALON II" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction (if applicable)

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction (if applicable)

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the

target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the “Target Faster” and “Target Slower” modes.

g. Verify the patrol vehicle’s speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2009

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

KUSTOM "FALCON HR" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. If remote control is to be used, connect it to the control box (unless cordless remote is used).
   b. Plug into power source.
   c. Depress the PWR button to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. The instrument will display all LED display segments, indicating "888" in the target window, "888" in the target lock window, and "888" in the patrol window. During the self-test, all displays/indicators are illuminated. The instrument will perform an internal test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PAS" in the target window (stationary mode) or "PAS" in the target window and "PAS" in the patrol window (moving mode). If any other numbers are displayed, "FAIL" or "ERR" is displayed; remove the instrument from service until properly repaired.
   e. Select the moving-opposite direction mode using the MODE switch.
   f. A light test and internal circuit test is performed by pressing the TEST switch. The instrument will display all LED display segments, indicating "888" in the target window, "888" in the target lock window, and "888" in the patrol window. During this test, all displays/indicators are illuminated The instrument will perform an internal test to verify the accuracy of the processing circuitry. If the internal test is passed, the instrument will display "PAS" in the target window and "PAS" in the patrol window. If any other numbers are displayed, "FAIL" or "ERR" is displayed; remove the instrument from service until properly repaired.
   g. Select the stationary mode by pressing the MODE switch.
   h. To transmit, if the instrument is displaying Hold in the target window, press the HOLD switch.
   i. Aim the antenna away from traffic and possible interference.
   j. Adjust the audio volume control so the Doppler tone can be monitored.
   k. Select an appropriate tuning fork.
   l. Strike the tuning fork and hold it in front of antenna.
   m. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This insures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning of tour of duty, check.]
   n. Select the moving mode by pressing the MODE switch. (Take note that some Falcon HR instruments may not be equipped with moving mode capability.)
   o. Select appropriate tuning forks (e.g., 65 mph and 35 mph).
   p. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicated ± 1 mph of the certified value of the tuning fork.
   q. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.
   r. Select the same direction mode by pressing the OPP/SAME key on the remote control. The

instrument should already be in the moving mode. (Take note that some Falcon HR instruments may not be equipped with moving mode capability or same direction capability.)

s. Select appropriate tuning forks (e.g., 65 mph and 35 mph).

t. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

u. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate the sum of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items g, h, i, j, k, l and m under No. 1 using an appropriate tuning fork after each enforcement action.

3. Moving Use (if applicable)

a. Opposite Direction (if applicable): Repeat Items i, n, o, p and q under No. 1 using the appropriate tuning forks after each enforcement action.

b. Same Direction (if applicable): Repeat Items i, r, s, t and u under No. 1 using the appropriate tuning forks after each enforcement action.

Note: When the speedometer pulse input is installed and synchronized, the operator must press the TEST button before repeating the moving mode tuning fork accuracy check. This will momentarily set the speedometer synchronization to “0" (no speedometer input) and allow the patrol display to ignore the speedometer input and display the tuning fork speed. Once the RADAR detects speedometer pulses again, it will automatically revert to the existing synchronization number.

Date of Approval - 06/2009

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

KUSTOM "FALCON HR" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction (if applicable)

   a. Select a roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction (if applicable)

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the

target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the “Target Faster” and “Target Slower” modes.

g. Verify the patrol vehicle’s speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 03/2003

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

MPH "BEE III" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box. If "corded" remote control is to be used, connect it to the control box.
   b. Plug into power source.
   c. Depress the PWR key to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. The instrument will display all LED display segments, indicating "888" in the target window, "888" in the target lock window, and "888" in the patrol window. The instrument will display the software version in the three display windows, for example "BEE" "III" "020". The instrument will perform an internal test to verify the accuracy of the processing circuitry. The instrument will display "32" in the target window while the stationary mode indicator lights, and then "32" in the target window and "32" in the patrol window while the moving mode indicator lights. If the internal test is passed, "PAS" will appear in the target lock window. If "fail" or "Err" is displayed, remove the instrument from service until properly repaired.
   e. Select the moving-opposite direction mode using the Mov/Sta key.
   f. A light test and internal circuit test is performed by pressing the Test key. The instrument will display all LED display segments, indicating "888" in the target window, "888" in the target lock window, and "888" in the patrol window. The instrument will display the software version in the three display windows, for example "BEE" "III" "020". The instrument will perform an internal test to verify the accuracy of the processing circuitry. The instrument will display "32" in the target window while the stationary mode indicator lights, and then "32" in the target window and "32" in the patrol window while the moving mode indicator lights. If the internal test is passed, "PAS" will appear in the target lock window. If "fail" or "Err" is displayed, remove the instrument from service until properly repaired. The instrument will also be placed into the tuning fork" mode at this time and will remain in this mode for approximately 30 seconds. To place the instrument into the "tuning fork" mode for an extended period of time, press the "2nd" function key, followed by the "Test" key.
   g. Select the stationary mode by pressing the Mov/Sta key.
   h. To transmit, if the instrument is displaying "X" in the mode window, press the Front key to activate the front antenna.
   i. Aim the antenna away from traffic and possible interference.
   j. Adjust the audio volume control so the Doppler tone can be monitored.
   k. Select an appropriate tuning fork.
   l. Strike the tuning fork and hold it in front of antenna.
   m. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This ensures that the rear antenna is connected properly and working) This rear antenna

check is only required during the stationary mode, beginning of tour of duty, check.]

n. Select the moving mode by pressing the Mov/Sta key, select the opposite direction mode by pressing the Opp key.

o. Select appropriate tuning forks (e.g., 65 mph and 35 mph).

p. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicated ± 1 mph of the certified value of the tuning fork.

q. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

r. Select the same direction mode by pressing the Same key on the remote control. The instrument should already be in the moving mode.

s. Select appropriate tuning forks (e.g., 65 mph and 35 mph).

t. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

u. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate either the sum of the two tuning forks ± 1 mph OR the difference in speed of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items g, h, i, j, k, l and m under No. 1 using an appropriate tuning fork after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

3. Moving Use

a. Opposite Direction: Repeat Items i, n, o, p and q under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

b. Same Direction: Repeat Items i, r, s, t and u under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

Date of Approval - 03/2004

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

MPH "BEE III" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the

target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the “Target Faster” and “Target Slower” modes.

g. Verify the patrol vehicle’s speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.

h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.

i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 03/2003

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

MPH "ENFORCER" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box. If a "corded" remote control is to be used, connect it to the control box.
   b. Plug into power source.
   c. Depress the PWR key to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. The instrument will display all LED display segments, indicating "888" in the target window, "888" in the target lock window, and "888" in the patrol window. The instrument will display the software version in the three display windows, for example "EnF" "orc" "Er2". The instrument will perform an internal test to verify the accuracy of the processing circuitry. The instrument will display "32" in the target window while the stationary mode indicator lights, and then "32" in the target window and "32" in the patrol window while the moving mode indicator lights. If the internal test is passed, "PAS" will appear in the target lock window. If "fail" or "Err" is displayed, remove the instrument from service until properly repaired.
   e. Select the moving-opposite direction mode using the Mov/Sta key.
   f. A light test and internal circuit test is performed by pressing the Test key. The instrument will display all LED display segments, indicating "888" in the target window, "888" in the target lock window, and "888" in the patrol window. The instrument will display the software version in the three display windows, for example "EnF" "orc" "Er2". The instrument will perform an internal test to verify the accuracy of the processing circuitry. The instrument will display "32" in the target window while the stationary mode indicator lights, and then "32" in the target window and "32" in the patrol window while the moving mode indicator lights. If the internal test is passed, "PAS" will appear in the target lock window. If "fail" or "Err" is displayed, remove the instrument from service until properly repaired. The instrument will also be placed into the "tuning fork" mode at this time and will remain in this mode for approximately 30 seconds. To place the instrument into the "tuning fork" mode for an extended period of time, press the "2nd" function key, followed by the "Test"key.
   g. Select the stationary mode by pressing the Mov/Sta key.
   h. To transmit, if the instrument is displaying "X" in the mode window, press the Front key to activate the front antenna.
   i. Aim the antenna away from traffic and possible interference.
   j. Adjust the audio volume control so the Doppler tone can be monitored.
   k. Select an appropriate tuning fork.
   l. Strike the tuning fork and hold it in front of antenna.
   m. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This insures that the rear antenna is connected properly and working) This rear antenna

check is only required during the stationary mode, beginning of tour of duty, check.]

n. Select the moving mode by pressing the Mov/Sta key, select the opposite direction mode by pressing the Opp key.

o. Select appropriate tuning forks (e.g., 65 mph and 35 mph).

p. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicated ± 1 mph of the certified value of the tuning fork.

q. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

r. Select the same direction mode by pressing the Same key on the remote control. The instrument should already be in the moving mode.

s. Select appropriate tuning forks (e.g., 65 mph and 35 mph).

t. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

u. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate the sum of the two tuning forks ± 1 mph.

2. Stationary Use

Repeat Items g, h, i, j, k, l and m under No. 1 using an appropriate tuning fork after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

3. Moving Use

a. Opposite Direction/Opposite Direction: Repeat Items i, n, o, p and q under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

b. Same Direction: Repeat Items i, r, s, t and u under No. 1 using the appropriate tuning forks after each enforcement action. Press the "Test" button prior to conducting the tuning fork test. This places the instrument into the "tuning fork" mode.

Date of Approval - 03/2004

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

MPH "ENFORCER" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.

e. Visually estimate the speed of vehicles as they travel in your line of vision.
f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.
g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.
h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2010

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

MPH "PYTHON III" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box. Connect remote to the control box, if to be used.
   b. Connect the control box to the power source.
   c. Depress the power button to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. Testing will begin with the light segment test. During this test, the instrument will display "888" in the patrol speed window, the target window, and lock window. At the same time, the target lock, target faster/slower, harmonic, mode section, and "OK" indicator(s) will also light up. This tests all the segments, indicators and LED's on the unit's front panel for approximately 3 seconds. The internal circuit test, which follows after the light segment test, checks the internal speed processing circuitry. A reading of "PAS" is displayed in the target window. If "PAS" is not displayed, "ERR" will display to indicate a failure in the instrument circuitry. If this occurs, the instrument shall be taken out of service until properly repaired.
   e. With the instrument in the moving-opposite direction mode, you shall perform a manual light segment test and internal circuit test by pressing the test button on the faceplate. This test sequence is the same as described in (d) above.
   f. Select the stationary mode by pressing the MOV/STA key on the instrument faceplate.
   g. To transmit, use the "FRONT" antenna selection button on the remote control. The antenna and mode selection will be illuminated on the mode section on the faceplate to indicate what mode and antenna you have selected.
   h. Aim the antenna away from traffic and possible interference.
   i. Adjust the audio volume control so the Doppler tone can be monitored.
   j. Select an appropriate tuning fork.
   k. Strike the tuning fork and hold it in front of antenna.
   l. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This insures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning of tour of duty, check.]
   m. Select the moving mode-opposite direction by pressing the MOV/STA button on the display in conjunction with the "S/O" button on the remote. The direction switch should be in the "OPP" position. The "direction switch should be in the "OPP" position. You can switch between moving mode-opposite and moving mode-same direction by utilizing the "S/O" button on the remote. (Take note that some versions of the "Python III" will be moving-opposite direction only and thus, would not have same-direction as an option.)
   n. Select appropriate tuning forks (e.g., 35 mph and 65 mph).
   o. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

p. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.

q. Select the moving same-direction mode by pressing the "S/O" button on the remote switch in the "S" position. Instrument should already be in the moving mode. (Some "Python III" instruments will not have the "same-direction" mode as an option. If so, simply omit lines q-t.)

r. Select appropriate tuning forks (e.g., 35 mph and 65 mph).

s. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.

t. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate the sum of the two tuning forks, ± 1 mph.

2. Stationary Use

Repeat Items f, g, h, i, j, k and l under No. 1 using an appropriate tuning fork after each enforcement action.

3. Moving Use

a. Opposite Direction: Repeat Items h, m, n, o and p under No. 1 using the appropriate tuning forks after each enforcement action.

b. Same Direction (If applicable): Repeat Items h, q, r, s and t under No. 1 using the appropriate tuning forks after each enforcement action.

Date of Approval - 06/2010

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

MPH "PYTHON III" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction (if applicable)

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.

e. Visually estimate the speed of vehicles as they travel in your line of vision.
f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.
g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.
h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2013

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

MPH "RANGER EZ" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. Connect antenna(s) to the control box. Connect remote to the control box, if to be used.
   b. Connect the control box to the power source.
   c. Depress the power button to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. Testing will begin with the light segment test. During this test, the instrument will display "888." in the patrol speed window, the target window, and lock window. At the same time, the target lock, mode indicator, and the entire target and lock range bars will also light up. This tests all the segments, indicators and LED's on the unit's front panel for approximately 3 seconds. The internal circuit test, which automatically follows after the light segment test, checks the internal speed processing circuitry. A reading of "PAS" is displayed in the target lock window. If "PAS" is not displayed, "ERR" will display to indicate a failure in the instrument circuitry. If this occurs, the instrument shall be taken out of service until properly repaired. Once the automatic power up test is complete, the unit will then display the current patrol tracking speed setting in the patrol speed window, or, 3 dashes (---) in the patrol speed window if it is in stationary mode.
   e. With the instrument in the moving-opposite direction mode, you shall next perform a manual light segment test and internal circuit test by pressing the test button on the remote control. During this test, the instrument will display "888." in the patrol speed window, the target window, and lock window. At the same time, the target lock, mode indicator, and the entire target and lock range bar will also light up. This tests all the segments, indicators and LED's on the unit's front panel for approximately 3 seconds. The internal circuit test, which automatically follows after the light segment test, checks the internal speed processing circuitry. A reading of "PAS" is displayed in the target lock window. If "PAS" is not displayed, "ERR" will display to indicate a failure in the instrument circuitry. If this occurs, the instrument shall be taken out of service until properly repaired. Once the manual test is complete, the unit will then display an "F" in the target window indicating that it is prepared for tuning fork testing.
   f. You must first select the stationary mode for tuning fork testing by pressing the MOV/STA key on the instrument remote control. Since the Ranger EZ may be directional sensing depending upon the version you purchase, you may be required to specify that you wish to transmit for both directions (toward and away) for the tuning fork test(s) in stationary. The Ranger EZ will default to both directions of travel when you first enter stationary mode. The direction button on the remote control can be used to toggle between cars traveling toward the patrol car or away by switching between the "OPP" or "Same" position on the remote.
   g. To transmit, use the "FRONT" antenna selection button on the remote control. The antenna and mode selection will be illuminated on the mode section on the faceplate to indicate what mode and antenna you have selected.

h. Aim the antenna away from traffic and possible interference.
i. Adjust the audio volume control so the Doppler tone can be monitored.
j. Select an appropriate tuning fork.
k. Strike the tuning fork and hold it in front of antenna.
l. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This insures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning tour of duty check.]
m. Select the moving mode-opposite direction by pressing the MOV/STA button on the remote control in conjunction with the "Opp" button on the remote control.
n. Select appropriate tuning forks (e.g., 35 mph and 65 mph).
o. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.
p. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.
q. Select the moving same-direction mode by pressing the "Same" button on the remote control.
r. Select appropriate tuning forks (e.g., 35 mph and 65 mph).
s. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.
t. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate the difference of the two tuning forks, ± 1 mph. (Automatic same direction instruments may result in either a target faster or target slower computational check during tuning fork testing. Operators should be aware of the potential correct results for either of these computations.)

2. Stationary Use

Repeat Items f, g, h, i, j, k and l under No. 1 using an appropriate tuning fork after each enforcement action.

3. Moving Use

a. Opposite Direction: Repeat Items h, m, n, o and p under No. 1 using the appropriate tuning forks after each enforcement action.

b. Same Direction: Repeat Items h, q, r, s and t under No. 1 using the appropriate tuning forks after each enforcement action.

Date of Approval - 06/2013

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

MPH "RANGER EZ" MOVING/STATIONARY RADAR

Procedures to be followed by the RADAR Operator

1. Stationary Operation:

    a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
    b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
    c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
    d. Visually estimate the speed of vehicles as they travel in your line of vision.
    e. Corroborate your visual estimate of speed with the RADAR speed reading.
    f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction:

    a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
    b. Aim the antenna as close to "0" degrees as possible.
    c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
    d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
    e. Visually estimate the speed of vehicles as they travel in your line of vision.
    f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
    g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
    h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction:

    a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
    b. Aim the antenna as close to "0" degrees as possible.
    c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
    d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
    e. Visually estimate the speed of vehicles as they travel in your line of vision.

f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.
g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.
h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 06/2016

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following instrument calibration and testing for accuracy procedures for the following instrument:

MPH "SPEEDGUN PRO" MOVING/STATIONARY RADAR
(a handheld stationary only version or a mounted with moving modes version is available)

Procedures to be followed by the RADAR Operator

1. Daily, prior to use:

   a. The front antenna is pre-mounted to the counting unit. If used, connect the rear antenna to the control box. Connect remote to the control box, if to be used.
   b. Connect the control box to the power source.
   c. Depress the red power button on the faceplate to turn the power on.
   d. Each time the instrument is powered on, an automatic self-test is performed to verify that the instrument functions properly. Testing will begin with the light segment test. During this test, the instrument will display "888" in the target window and "888" target lock window if in the handheld version. If the Speedgun Pro is in the mounted moving version, the instrument will display "888" in the target window, "888" target lock window, and "888" in the patrol speed window. No other icons, messages, or indicators will appear during the light segment test. This light segment test will hold for approximately 3 seconds. The internal circuit test, which automatically follows after the light segment test, checks the internal speed processing circuitry. A reading of "PASS" is displayed in the target window if the circuitry tests correct. If "PASS" is not displayed, "fail" will display to indicate a failure in the instrument circuitry. If this occurs, the instrument shall be taken out of service until properly repaired. The expected internal circuitry test results will be the same whether the Speedgun Pro is in handheld or mounted moving versions. While undergoing the internal circuitry test, the instrument will also test the Doppler speaker by emitting two simulated speed tones followed with two quick tones representing a PASS of the internal circuitry.
   e. You shall immediately perform a manual light segment test and internal circuit test after the automatic power up test described above in (d). You will accomplish this by pressing the test button on the faceplate. This button is represented as having an illustration of an octagon on the face of the button. For the mounted moving version of the Speedgun Pro, you must place the instrument in the moving-opposite direction mode prior to pressing the test button. For the handheld stationary-only version, you may press the test button in the stationary mode. This test sequence should have the same results as described in(d) above.
   f. After the manual test sequence has completed, the Speedgun Pro will illustrate a tuning fork on the primary display. At that point, place the instrument into stationary mode. The handheld stationary-only version will default to stationary mode. But for the mounted moving version, you can utilize the handheld remote and press the MOV/STA key. An icon reading "STA" inside a stop-sign style octagon will appear on the bottom right portion of the display. (If the Speedgun Pro will be used in a moving mode at any point throughout the day for enforcement, the operator must complete all required testing in both stationary and moving modes.)
   g. To transmit, use the "FRONT" antenna selection button on the remote control. The antenna selection will be illuminated on the display above or below the tuning fork icon on the display.

h. Aim the antenna away from traffic and possible interference.
i. Adjust the audio volume control so the Doppler tone can be monitored.
j. Select an appropriate tuning fork.
k. Strike the tuning fork and hold it in front of antenna.
l. The target window must display within ± 1 MPH of the certified value of the tuning fork to pass this accuracy test. [If instrument has dual antenna capability, switch to rear antenna and repeat test. (This insures that the rear antenna is connected properly and working) This rear antenna check is only required during the stationary mode, beginning of tour of duty, check.]
m. If the Speedgun Pro is the handheld stationary-only version, you have completed the beginning tour of duty test for accuracy and may refer to section 2 for further daily testing requirements omitting lines m through t. However, if the Speedgun Pro is the mounted moving version, you must now select the moving mode-opposite direction by pressing the MOV/STA button on the remote to switch from stationary to moving mode, and then utilize either the faceplate button with twin opposite direction arrows or the OPP or SAME buttons on the remote to switch between moving modes of operation.
n. Select appropriate tuning forks (e.g., 35 mph and 65 mph).
o. Strike the lower value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.
p. Strike the higher value tuning fork and hold it in front of the antenna. The target window should indicate the difference in speed of the two tuning forks, ± 1 mph.
q. Finally, for mounted moving versions of the Speedgun Pro, select the moving same-direction mode by pressing the "SAME" button on the remote control as the instrument should already be in the moving mode.
r. Select appropriate tuning forks (e.g., 35 mph and 65 mph).
s. Strike the higher value tuning fork and hold it in front of the antenna. The patrol window should indicate ± 1 mph of the certified value of the tuning fork.
t. Strike the lower value tuning fork and hold it in front of the antenna. The target window should indicate the sum of the two tuning forks, ± 1 mph.

2. Stationary Use

Repeat Items f, g, h, i, j, k and l under No. 1 using an appropriate tuning fork after each enforcement action.

3. Moving Use

a. Opposite Direction: Repeat Items h, m, n, o and p under No. 1 using the appropriate tuning forks after each enforcement action.

b. Same Direction (If applicable): Repeat Items h, q, r, s and t under No. 1 using the appropriate tuning forks after each enforcement action.

Date of Approval - 06/2016

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission has established the following operating procedures for the following instrument:

MPH "SPEEDGUN PRO" MOVING/STATIONARY RADAR
(a handheld stationary only version or a mounted with moving modes version is available)

Procedures to be followed by the RADAR Operator

1. Stationary Operation

   a. Select location that allows the operator to observe vehicles being monitored for speed with no more than a "20" degree angle between the RADAR antenna aim and the target vehicle's path of travel.
   b. Aim the RADAR antenna toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the RADAR speed reading.
   f. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. Moving Operation - Opposite Direction (Not applicable to handheld stationary only version)

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.
   e. Visually estimate the speed of vehicles as they travel in your line of vision.
   f. Verify the patrol car speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol car's speedometer continuously during operation and prior to every enforcement action.
   g. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
   h. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

3. Moving Operation - Same Direction (Not applicable to handheld stationary only version)

   a. Select roadway that allows the operator to observe vehicles to be monitored for speed.
   b. Aim the antenna as close to "0" degrees as possible.
   c. Adjust volume on the audio tone control so you can monitor the Doppler tone throughout RADAR operations.
   d. Avoid sharp acceleration or deceleration of the patrol vehicle speed.

e. Visually estimate the speed of vehicles as they travel in your line of vision.
f. Gradually vary the patrol vehicle speed by a few miles per hour up or down to ensure that the target speed displayed is being correctly interpreted by the same-direction moving RADAR with respect to the "Target Faster" and "Target Slower" modes.
g. Verify the patrol vehicle's speed by comparing the MPH reading displayed in the RADAR patrol window with the patrol vehicle's speedometer during operation and prior to every enforcement action.
h. Corroborate your visual estimate of speed with the RADAR's target vehicle speed reading.
i. Manually lock the RADAR speed reading. This speed will be used to corroborate your opinion for law enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

4. The instrument calibration and testing for accuracy procedures for this RADAR requiring the use of tuning fork(s) must be complied with by the operator during RADAR operations.

Date of Approval - 03/2004

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

KUSTOM "PROLASER III" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:

   a. Turn power control off.
   b. Plug in power source, turn on power control.
   c. When the power button is depressed, the instrument performs a segment check and all pixels in the display window illuminate, then an internal circuit test is performed and the following will appear:
      Screen 1: "Self Test" - "Int RAM = PASS" which is an internal memory test.
      Screen 2: "Self Test" - "Ext RAM = PASS" which is an external memory test.
      Screen 3: "Self Test" - "EEPROM = PASS" which is a programmable options test.
      Screen 4: "Self Test" - "TIMER = PASS" which is an accuracy test of the timing circuits.
      Screen 5: "Self Test" - "Checksum = PASS" which is a program memory test.
      Screen 6: "End of Self Test" - "0000"
      In addition to the self-test, the instrument presents the unit of measure before entering the default operating mode and the following is displayed:
      Screen 1: "Units" - "Feet/MPH" which indicates English units, OR
      "Units" - "KPH" which indicates Metric units.
      Screen 2: "MODE: Speed" - "HUD: Speed" which indicates that the instrument is in the normal speed measuring operating mode and the HUD will display speed data.
      Screen 3: "Speed" - "Range" which indicates the default speed mode.
      If the instrument fails any part of this power on test, remove the instrument from service.
   d. Press the "TEST" button to perform a manual test. The instrument will perform a segment check and all pixels in the display window illuminate, then an internal circuit test is performed and the following will appear:
      Screen 1: "Self Test" - "Ext RAM = PASS" which is an external memory test.
      Screen 2: "Self Test" - "TIMER = PASS" which is an accuracy test of the timing circuits.
      Screen 3: "End of Self Test" - "0000"
      Screen 4: "Speed" - "Range" which indicates the default speed mode.
      If the instrument fails any part of this manual test, remove the instrument from service.
   e. Adjust the volume on the audio tone so you can monitor the tone.
   f. Sight Alignment Test: Set the instrument to range mode. The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Scan the instrument across the receiving point both horizontally and vertically to obtain an audible tone (and appropriate distance) indicating that the LIDAR sight is lined up with the beam.
   g. Range Accuracy Test: With the instrument in range mode. Aim the instrument at a pre-measured (known) 50 foot receiving point. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance in order for the instrument to pass this test. Repeat this range accuracy test using a pre-measured

100 foot and 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service.

2. Repeat Items e, f, and g under No. 1 at the end of your duty shift with LIDAR.

Date of Approval - 03/2004

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following operating procedures for the following instrument:

KUSTOM "PROLASER III" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

   a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
   b. Aim the LIDAR toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the tone throughout LIDAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
   f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval - 06/2006

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

LASER TECHNOLOGY, INC. "ULTRALYTE 200 LR" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:
   a. Insert power source and turn instrument on by pressing the trigger.
   b. When the trigger is depressed, the instrument powers on and performs a self test consisting of a light/segment test and an internal circuitry test.
   c. The light/segment test will illuminate all icons in the display window, "888.8" in the speed portion of the window and "88.88.8.8" in the survey/range portion of the window. If the instrument fails any part of this power on test, remove the instrument from service until properly repaired.
   d. The internal circuitry test will display "PASS" to indicate that the instrument is functioning properly. If the instrument fails any part of this internal circuitry test, remove the instrument from service until properly repaired.
   e. Press the "TEST" button to perform a manual test of the lights/segments. The instrument will illuminate all icons in the display window, "888.8" in the speed portion of the window and "88.88.8.8" in the survey/range portion of the window. If the instrument fails any part of this test, remove the instrument from service until properly repaired.
   f. Press the "TEST" button again to perform a manual internal circuitry test. The instrument will display "PASS" to indicate that the instrument is functioning properly. If the instrument fails any part of this internal circuitry test, remove the instrument from service until properly repaired.
   g. Adjust the volume on the audio tone so you can monitor the tone. (Audio tone on this model is pre-set by the manufacturer for optimum performance).
   h. Sight Alignment Test: Press the "TEST" button again to place the instrument in the "test tone" mode ("tt" will display to indicate the test tone mode). The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Press the trigger and scan the instrument across the receiving point both horizontally and vertically to obtain an audible tone indicating that the LIDAR sight is lined up with the beam. The tone's pitch is related to the strength of the laser pulse returned to the instrument. A high tone indicates a strong return and a low tone indicates a weak return. You should be able to clearly hear a change in the pitch of the tone when you scan the instrument over the edges of the receiving point, ensuring the sight alignment is accurate.
   i. Range Accuracy Test: Press the "SURVEY" button to place the instrument in the range/survey mode. Aim the instrument at a pre-measured (known) 50 foot receiving point. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance in order for the instrument to pass this test. Repeat this range accuracy test using a pre-measured 100 foot and 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service until properly repaired.

2. Repeat Items g, h, and i under No. 1 at the end of your duty shift with LIDAR.

Date of Approval - 06/2006

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following operating procedures for the following instrument:

LASER TECHNOLOGY, INC. "ULTRALYTE 200 LR" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

    a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
    b. Aim the LIDAR toward approaching or receding vehicles at selected location.
    c. Monitor the audio tone throughout LIDAR operations.
    d. Visually estimate the speed of vehicles as they travel in your line of vision.
    e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
    f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval - 06/2006

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

LASER TECHNOLOGY, INC. "ULTRALYTE LR B" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:
   a. Insert power source and turn instrument on by pressing the trigger.
   b. When the trigger is depressed, the instrument powers on and performs a self test consisting of a light/segment test and an internal circuitry test.
   c. The light/segment test will illuminate all icons in the display window, "888.8" in the speed portion of the window and "88.88.8.8" in the survey/range portion of the window. If the instrument fails any part of this power on test, remove the instrument from service until properly repaired.
   d. The internal circuitry test will display "PASS" to indicate that the instrument is functioning properly. If the instrument fails any part of this internal circuitry test, remove the instrument from service until properly repaired.
   e. Press the "TEST" button to perform a manual test of the lights/segments. The instrument will illuminate all icons in the display window, "888.8" in the speed portion of the window and "88.88.8.8" in the survey/range portion of the window. If the instrument fails any part of this test, remove the instrument from service until properly repaired.
   f. Press the "TEST" button again to perform a manual internal circuitry test. The instrument will display "PASS" to indicate that the instrument is functioning properly. If the instrument fails any part of this internal circuitry test, remove the instrument from service until properly repaired.
   g. Adjust the volume on the audio tone so you can monitor the tone. (Audio tone on this model is pre-set by the manufacturer for optimum performance).
   h. Sight Alignment Test: Press the "TEST" button again to place the instrument in the "test tone" mode ("tt" will display to indicate the test tone mode). The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Press the trigger and scan the instrument across the receiving point both horizontally and vertically to obtain an audible tone indicating that the LIDAR sight is lined up with the beam. The tone's pitch is related to the strength of the laser pulse returned to the instrument. A high tone indicates a strong return and a low tone indicates a weak return. You should be able to clearly hear a change in the pitch of the tone when you scan the instrument over the edges of the receiving point, ensuring the sight alignment is accurate.
   i. Range Accuracy Test: Press the "SURVEY" button to place the instrument in the range/survey mode. Aim the instrument at a pre-measured (known) 50 foot receiving point. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance in order for the instrument to pass this test. Repeat this range accuracy test using a pre-measured 100 foot and 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service until properly repaired.

2. Repeat Items g, h, and i under No. 1 at the end of your duty shift with LIDAR.

Date of Approval - 06/2006

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following operating procedures for the following instrument:

LASER TECHNOLOGY, INC. "ULTRALYTE LR B" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

   a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
   b. Aim the LIDAR toward approaching or receding vehicles at selected location.
   c. Monitor the audio tone throughout LIDAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
   f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval – 06/2012

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

KUSTOM "PROLASER 4" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:

   a. Plug in power source, as unit defaults to the "off" position.
   b. Depress power button. When the power button is depressed, the instrument performs a light segment test by displaying "888" in the speed (mph) window and "888.8" in the range (ft) window in addition to a series of icons and warning indicators at the same time for approximately 3 seconds. This light test will then be automatically followed by an Internal Circuitry Test where it should display "PASS" on the bottom line of the blank display and an audible solid tone will be heard to test the audio setting of the instrument.
      If the instrument does not display the aforementioned numbers/icons exactly, or if "Fail" appears in the display window followed by an automatic power off of the instrument during the Internal Circuitry Test, the operator must remove the instrument from service and have it repaired.
   c. You cannot accept this automatic test and must conduct a test of your own. You accomplish this by now pressing and holding the button on the faceplate with a "green checkmark" known as the "check button" to perform a manual test. The instrument will then automatically perform a light segment test by displaying "888" in the speed (mph) window and "888.8" in the range (ft) window in addition to a series of icons and warning indicators at the same time for approximately 3 seconds. This light test will then be automatically followed by an Internal Circuitry Test where it should display "PASS" on the bottom line of the blank display and an audible solid tone will be heard to test the audio setting of the instrument.
      If the instrument does not display the aforementioned numbers/icons exactly, or if "Fail" appears in the display window followed by an automatic power off of the instrument during the Internal Circuitry Test, the operator must remove the instrument from service and have it repaired.
   d. Adjust the volume on the audio tone so you can monitor the tone.
   e. Sight Alignment Test: Set the instrument to "range" mode by pressing the button on the faceplate with the symbol of a car and a triangle until only "Range" is on the display. The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Scan the instrument across the receiving point both horizontally and vertically to obtain an audible tone (and appropriate distance) indicating that the LIDAR sight is lined up with the beam.
   f. Range Accuracy Test: With the instrument in "range" mode. Aim the instrument at a pre-measured (known) 50 foot receiving point. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance in order for the instrument to pass this test. Repeat this range accuracy test using a pre-measured 100 foot and 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service.

2. Repeat items c, d, e, and f under No. 1 at the end of your duty shift with LIDAR.

Date of Approval – 06/2012

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

KUSTOM "PROLASER 4" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

   a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
   b. Aim the LIDAR toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the tone throughout LIDAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
   f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval – 06/2015

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER LIDAR XS" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:

   a. Plug in power source, as unit defaults to the "off" position.
   b. Depress the power button. The instrument will begin by performing a light segment test by displaying "8888" in the "Speed" window and "8888" in the "Range" window, in addition to a series of icons and warning indicators at the same time for approximately3 seconds. This light test will then be automatically followed by an Internal Circuitry Test where it should display "PASS" in the "Range" window and four "happy" tones should be audible from the speaker.
      If the instrument does not display the aforementioned numbers/icons exactly, or if the "Fail" icon appears on the screen followed by a repeating beep code consisting of one to eighteen beeps during the Internal Circuitry Test, the operator must remove the instrument from service until properly repaired.
   c. You cannot accept this automatic test and must conduct a test of your own. You accomplish this by now pressing the "TEST" button to perform a manual test. The instrument will begin by performing another light segment test by displaying "8888" in the "Speed" window and "8888" in the "Range" window, in addition to a series of icons and warning indicators at the same time for approximately 3 seconds. This light test will then be automatically followed by an Internal Circuitry Test where it should display "PASS" in the "Range" window and four "happy" tones should be audible from the speaker.
      If the instrument does not display the aforementioned numbers/icons exactly, or if "Fail" appears in the "range" display window followed by a repeating beep code consisting of one to eighteen beeps during the Internal Circuitry Test, the operator must remove the instrument from service.
   d. Adjust the volume of the audio tone so you can monitor the tone.
   e. Sight Alignment Test: Set the instrument to sight alignment test by pressing the trigger and then pressing the "test" button on the faceplate. The operator will see "SA" appear in the speed window. The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Scan the instrument across the receiving point both horizontally and vertically to obtain the audible tone (and/or appropriate distance) indicating that the LIDAR sight is lined up with the beam. (A tone will be heard when the laser pulses are being reflected by the target.) To exit the sight alignment test mode once complete, simply press the "Test" button on the faceplate.
   f. Range Accuracy Test: With the instrument in "range" mode, aim the instrument at a pre-measured (known) 50 foot receiving point. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance in order for the instrument to pass this test. Repeat this range accuracy test using a pre-measured 100 foot and 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service.

2. Repeat items c, d, e, and f under No. 1 at the end of your duty shift with LIDAR.

Date of Approval – 06/2015

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER LIDAR XS" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

   a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
   b. Aim the LIDAR toward approaching or receding vehicles at selected location.
   c. Adjust the volume on the audio tone control so you can monitor the tone throughout LIDAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
   f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval – 06/2015

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER LIDAR XLR" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:

   a. Plug in power source, as unit defaults to the "off" position.
   b. Depress the power button. The instrument will begin by performing a light segment test by displaying "8888" in the "Speed" window and "8888" in the "Range" window, in addition to a series of icons and warning indicators at the same time for approximately 3 seconds. This light test will then be automatically followed by an Internal Circuitry Test where it should display "PASS" in the "Range" window and four "happy" tones should be audible from the speaker.
      If the instrument does not display the aforementioned numbers/icons exactly, or if the "Fail" icon appears on the screen followed by a repeating beep code consisting of one to eighteen beeps during the Internal Circuitry Test, the operator must remove the instrument from service until properly repaired.
   c. You cannot accept this automatic test and must conduct a test of your own. You accomplish this by now pressing the "TEST" button to perform a manual test. The instrument will begin by performing another light segment test by displaying "8888" in the "Speed" window and "8888" in the "Range" window, in addition to a series of icons and warning indicators at the same time for approximately 3 seconds. This light test will then be automatically followed by an Internal Circuitry Test where it should display "PASS" in the "Range" window and four "happy" tones should be audible from the speaker.
      If the instrument does not display the aforementioned numbers/icons exactly, or if "Fail" appears in the "range" display window followed by a repeating beep code consisting of one to eighteen beeps during the Internal Circuitry Test, the operator must remove the instrument from service.
   d. Adjust the volume of the audio tone so you can monitor the tone.
   e. Sight Alignment Test: Set the instrument to sight alignment test by pressing the trigger and then pressing the "test" button on the faceplate. The operator will see "SA" appear in the speed window. The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Scan the instrument across the receiving point both horizontally and vertically to obtain the audible tone (and/or appropriate distance) indicating that the LIDAR sight is lined up with the beam. (A tone will be heard when the laser pulses are being reflected by the target.) To exit the sight alignment test mode once complete, simply press the "Test" button on the faceplate.
   f. Range Accuracy Test: With the instrument in "range" mode, aim the instrument at a pre-measured (known) 50 foot receiving point. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance in order for the instrument to pass this test. Repeat this range accuracy test using a pre-measured 100 foot and 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service.

2. Repeat items c, d, e, and f under No. 1 at the end of your duty shift with LIDAR.

Date of Approval – 06/2015

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER LIDAR XLR" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

    a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
    b. Aim the LIDAR toward approaching or receding vehicles at selected location.
    c. Adjust the volume on the audio tone control so you can monitor the tone throughout LIDAR operations.
    d. Visually estimate the speed of vehicles as they travel in your line of vision.
    e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
    f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval - 09/2015

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

LASER TECHNOLOGY, INC. "TRUSPEED LR" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:
   a. Insert power source and turn instrument on by pressing the trigger.
   b. When the trigger is depressed, the instrument powers on and performs a self-test consisting of a light/segment test and an internal circuitry test.
   c. The light/segment test will illuminate "8888" in the speed window and "88888" in the survey/range portion of the window. During this light test, all additional icons and indicators will illuminate as well. If the instrument fails any part of this power on light/segment test, remove the instrument from service until properly repaired. The internal circuitry test will automatically follow the light/segment test and should display "PASS" to indicate that the instrument is functioning properly. If the instrument fails any part of this internal circuitry test, the word "FAIL" will display, and the operator shall remove the instrument from service until properly repaired.
   d. Press the "CHECK" button to perform a manual test. The light/segment test will illuminate "8888" in the speed window and "88888" in the survey/range portion of the window. During this light test, all additional icons and indicators will illuminate as well. If the instrument fails any part of this power on light/segment test, remove the instrument from service until properly repaired. The internal circuitry test will automatically follow the light/segment test and should display "PASS" to indicate that the instrument is functioning properly. If the instrument fails any part of this internal circuitry test, the word "FAIL" will display and the operator shall remove the instrument from service until properly repaired.
   e. Sight Alignment Test: Press the "CHECK" button again (while PASS is displaying on the screen) to place the instrument in the "test tone" mode ("tt" will display to indicate the test tone mode). The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Press the trigger and scan the instrument across the receiving point both horizontally and vertically to obtain an audible tone indicating that the LIDAR sight is lined up with the beam. The tone's pitch is related to the strength of the laser pulse returned to the instrument. A high tone indicates a strong return and a low tone indicates a weak return. You should be able to clearly hear a change in the pitch of the tone when you scan the instrument over the edges of the receiving point, ensuring the sight alignment is accurate.
   f. Range Accuracy Test: Press the "CHECK" button again to place the instrument in the speed/range mode. Aim the instrument at a pre-measured (known) 50 foot receiving point. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance in order for the instrument to pass this test. While the instrument will indicate an error message for the speed reading (due to the receiving point not moving while the measurement is being made by the instrument), the TruSpeed LR will display the measured distance to the receiving point. Repeat this range accuracy test using a pre-measured 100 foot and 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service until properly repaired.

2. Repeat Items d, e, and f under No. 1 at the end of your duty shift with the LIDAR device.

Date of Approval - 09/2015

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following operating procedures for the following instrument:

LASER TECHNOLOGY, INC. "TRUSPEED LR" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

   a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
   b. Aim the LIDAR toward approaching or receding vehicles at selected location.
   c. Monitor the audio tone throughout LIDAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
   f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval - 06/2016

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

DRAGONEYE TECHNOLGY, LLC. "SPEED" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:
   a. Insert battery and turn instrument on by depressing the red fire trigger of the instrument.
   b. When the red fire trigger is depressed, the instrument powers on and performs a self-test consisting of a light/segment test automatically followed by an internal circuitry test which is viewable on the primary display panel located on the rear of the instrument.
   c. The light/segment test will illuminate "888" in the speed window and "88888" in the survey/range portion of the window. During this light test, all additional icons and indicators will illuminate as well. The light test will hold for a minimum of 3 seconds. If the instrument fails any part of this power on light/segment test, remove the instrument from service until properly repaired. The internal circuitry test will automatically follow the light/segment test and should display "PASS" for a few seconds to indicate that the instrument is functioning properly before moving to the speed measurement screen. If the instrument fails any part of the internal circuitry test, the word "fail" will display and the operator shall remove the instrument from service until properly repaired.
   d. Press and hold the "test" button, which is represented as a slanted reverse "S" on the rear panel at the top right of the panel for approximately two seconds to perform a manual test. The light/segment test will illuminate "888" in the speed window and "88888" in the survey/range portion of the window. During this light test, all additional icons and indicators will illuminate as well. This light test will hold for a minimum of 3 seconds. If the instrument fails any part of this power on light/segment test, remove the instrument from service until properly repaired. The internal circuitry test will automatically follow the light/segment test and should display and hold "PASS" on the screen to indicate that the instrument is functioning properly. If the instrument fails any part of this internal circuitry test, the word "fail" will display and the operator shall remove the instrument from service until properly repaired.
   e. Sight Alignment Test: The operator shall depress the "mode" button, which is represented by ared speedometer icon over a red measuring tape icon on the rear panel at the top left of the panel, to place the instrument into range only mode, as designated by the "FT" symbol on the primary display panel on the rear of the instrument. The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Press the red fire trigger and scan the instrument across the receiving point both horizontally and then vertically to obtain a constantly recalculating distance measurement indicating that the LIDAR sight is lined up with the beam. You should hear a corresponding tone with the transmission and reception of the light energy. You should also be able to clearly see a change in the displayed distance when you scan the instrument over the edges of the receiving point, ensuring the sight alignment is accurate.
   f. Range Accuracy Test: While remaining in the range only mode from the sight alignment test, aim the instrument at a pre-measured (known) 50 foot receiving point to complete the first step of the range accuracy test. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance in order for

the instrument to pass this test. While the instrument will indicate "0 mph" for the speed reading (due to the receiving point not moving while the measurement is being made by the instrument), the "Speed Compact" will still display the measured distance to the receiving point. Repeat this range accuracy test using a pre-measured 100 foot and then 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service until properly repaired.

2. Repeat Items d, e, and f under No. 1 at the end of your duty shift with the LIDAR device.

Date of Approval - 06/2016

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following operating procedures for the following instrument:

DRAGONEYE TECHNOLGY, LLC. "SPEED" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

    a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
    b. Aim the LIDAR toward approaching or receding vehicles at selected location.
    c. Monitor the audio tone throughout LIDAR operations.
    d. Visually estimate the speed of vehicles as they travel in your line of vision.
    e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
    f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval - 06/2016

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

DRAGONEYE TECHNOLGY, LLC. "COMPACT SPEED" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:
   a. Insert battery and turn instrument on by depressing the red fire button on top of the instrument.
   b. When the red fire button is depressed, the instrument powers on and performs a self-test consisting of a light/segment test automatically followed by an internal circuitry test which is viewable on the side panel display.
   c. The light/segment test will illuminate "888" in the speed window and "88888" in the survey/range portion of the window. During this light test, all additional icons and indicators will illuminate as well. The light test will hold for a minimum of 3 seconds. If the instrument fails any part of this power on light/segment test, remove the instrument from service until properly repaired. The internal circuitry test will automatically follow the light/segment test, and should display "PASS" for a few seconds to indicate that the instrument is functioning properly before moving to the speed measurement screen. If the instrument fails any part of the internal circuitry test, the word "fail" will display and the operator shall remove the instrument from service until properly repaired.
   d. Press the "MENU" button on the side panel of the instrument for approximately two seconds to perform a manual test. The light/segment test will illuminate "888" in the speed window and "88888" in the survey/range portion of the window. During this light test, all additional icons and indicators will illuminate as well. This light test will hold for a minimum of 3 seconds. If the instrument fails any part of this power on light/segment test, remove the instrument from service until properly repaired. The internal circuitry test will automatically follow the light/segment test, and should display and hold "PASS" on the screen to indicate that the instrument is functioning properly. If the instrument fails any part of this internal circuitry test, the word "fail" will display and the operator shall remove the instrument from service until properly repaired.
   e. Sight Alignment Test: The operator shall depress the "MODE/ENTER" button to place the instrument into range only mode, as designated by the "FT" symbol on the side panel. The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Press the red fire button and scan the instrument across the receiving point both horizontally and then vertically to obtain a constantly recalculating distance measurement indicating that the LIDAR sight is lined up with the beam. You should hear a corresponding tone with the transmission and reception of the light energy. You should also be able to clearly see a change in the displayed distance when you scan the instrument over the edges of the receiving point, ensuring the sight alignment is accurate.
   f. Range Accuracy Test: While remaining in the range mode from the sight alignment test, aim the instrument at a pre-measured (known) 50 foot receiving point to complete the first step of the range accuracy test. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance in order for the instrument to pass this test. While the instrument will indicate "0 mph" for the speed reading (due to the receiving point not moving while the measurement is being made by the instrument),

the "Speed Compact" will still display the measured distance to the receiving point. Repeat this range accuracy test using a pre-measured 100 foot and then 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service until properly repaired.

2. Repeat Items d, e, and f under No. 1 at the end of your duty shift with the LIDAR device.

Date of Approval - 06/2016

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following operating procedures for the following instrument:

DRAGONEYE TECHNOLGY, LLC. "COMPACT SPEED" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

   a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
   b. Aim the LIDAR toward approaching or receding vehicles at selected location.
   c. Monitor the audio tone throughout LIDAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
   f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval - 06/2016

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

LASER TECHNOLOGY, INC. "TRUSPEED S" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:
   a. Insert battery and turn instrument on by depressing the power/fire button on top of the instrument.
   b. When the power/fire button is depressed, the instrument powers on and performs a self-test consisting of a light/segment test automatically followed by an internal circuitry test which is viewable only through the monocle view piece. This monocle view piece has a 7x magnification scope that is adjustable for focus.
   c. The light/segment test will illuminate "8888" in the speed window and "88888" in the survey/range portion of the window. During this light test, all additional icons and indicators will illuminate as well. The light test will hold for a minimum of 3 seconds. If the instrument fails any part of this power on light/segment test, remove the instrument from service until properly repaired. The internal circuitry test will automatically follow the light/segment test, and should display "PASS" for a few seconds to indicate that the instrument is functioning properly before moving to the speed measurement screen. If the instrument fails any part of the internal circuitry test, the word "Err" will display and the operator shall remove the instrument from service until properly repaired.
   d. Press the "MODE" button on top of the instrument to perform a manual test. The light/segment test will illuminate "8888" in the speed window and "88888" in the survey/range portion of the window. During this light test, all additional icons and indicators will illuminate as well. This light test will hold for a minimum of 3 seconds. If the instrument fails any part of this power on light/segment test, remove the instrument from service until properly repaired. The internal circuitry test will automatically follow the light/segment test, and should display and hold "PASS" on the screen to indicate that the instrument is functioning properly. If the instrument fails any part of this internal circuitry test, the word "Err" will display and the operator shall remove the instrument from service until properly repaired.
   e. Sight Alignment Test: The internal circuitry test for the manual test will continue to hold "PASS" on the screen until the operator presses the "MODE" button again (while PASS is displaying on the screen) to place the instrument in the "test tone" mode ("tt" will display to indicate the test tone mode is active). The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Press the power/fire button and scan the instrument across the receiving point both horizontally and then vertically to obtain an audible tone indicating that the LIDAR sight is lined up with the beam. The tone's pitch is related to the strength of the laser pulse returned to the instrument. A high tone indicates a strong return and a low tone indicates a weak return. You should be able to clearly hear a change in the pitch of the tone when you scan the instrument over the edges of the receiving point, ensuring the sight alignment is accurate.
   f. Range Accuracy Test: Press the "MODE" button again to place the instrument in the speed/range mode. Aim the instrument at a pre-measured (known) 50 foot receiving point. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within

plus/minus one foot of the known distance in order for the instrument to pass this test. While the instrument will indicate "0 mph" for the speed reading (due to the receiving point not moving while the measurement is being made by the instrument), the "TruSpeed S" will still display the measured distance to the receiving point. Repeat this range accuracy test using a pre-measured 100 foot and then 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service until properly repaired.

2. Repeat Items d, e, and f under No. 1 at the end of your duty shift with the LIDAR device.

Date of Approval - 06/2016

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(2), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following operating procedures for the following instrument:

LASER TECHNOLOGY, INC. "TRUSPEED S" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

    a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
    b. Aim the LIDAR toward approaching or receding vehicles at selected location.
    c. Monitor the audio tone throughout LIDAR operations.
    d. Visually estimate the speed of vehicles as they travel in your line of vision.
    e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
    f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval – 06/2021

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER LIDAR RLR" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Daily, prior to use:

   a. Insert power source, as unit defaults to the "off" position.
   b. Depress the power button. The instrument will begin by performing a light segment test by displaying "888" in the "Speed" window and "8888" in the "Range" window, in addition to a series of icons and warning indicators at the same time for approximately 3 seconds. This light test will then be automatically followed by an Internal Circuitry Test where it should display "PASS" in the "Range" window and four "happy" tones should be audible from the speaker.
      If the instrument does not display the aforementioned numbers/icons exactly, or if the "Fail" icon appears on the screen followed by a repeating beep code consisting of one to eighteen beeps during the Internal Circuitry Test, the operator must remove the instrument from service until properly repaired.
   c. You cannot accept this automatic test and must conduct a test of your own. You accomplish this by now pressing the "TEST" button to perform a manual test. The instrument will begin by performing another light segment test by displaying "888" in the "Speed" window and "8888" in the "Range" window, in addition to a series of icons and warning indicators at the same time for approximately 3 seconds. This light test will then be automatically followed by an Internal Circuitry Test where it should display "PASS" in the "Range" window and four "happy" tones should be audible from the speaker.
      If the instrument does not display the aforementioned numbers/icons exactly, or if "Fail" appears in the "range" display window followed by a repeating beep code consisting of one to eighteen beeps during the Internal Circuitry Test, the operator must remove the instrument from service.
   d. Adjust the volume of the audio tone so you can monitor the tone.
   e. Sight Alignment Test: After self test is finished, the words "Sight Align" appear in the top left corner of the display. Press the button adjacent to the words "Sight Align" to enter sight alignment mode. (the words only stay for approximately three seconds and then default to Inclement weather. If you don't get into sight alignment mode before the words "Sight Align " disappear, press test button again) Once in sight alignment mode the words will change to "Exit Sight Align". The sighting element of the instrument must be checked by using a pre-measured 100 foot receiving point (pole or sign). Scan the instrument across the receiving point both horizontally and vertically to obtain the audible tone (and/or appropriate distance) indicating that the LIDAR sight is lined up with the beam. (A tone will be heard when the laser pulses are being reflected by the target.) To exit the sight alignment test mode once complete, simply press the button adjacent to the words "Exit Sight Align".
   f. Range Accuracy Test: With the instrument in "range" mode, aim the instrument at a pre-measured (known) 50 foot receiving point. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance in order for the instrument to pass this test. Repeat this range accuracy test using a pre-measured

100 foot and 150 foot receiving point. The distance error must be within plus/minus one foot of each known distance in order for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service.

2. Repeat items c, d, e, and f under No. 1 at the end of your duty shift with LIDAR.

Date of Approval – 06/2021

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

APPLIED CONCEPTS "STALKER LIDAR RLR" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

1. Stationary Operation

    a. Select location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
    b. Aim the LIDAR toward approaching or receding vehicles at selected location.
    c. Adjust the volume on the audio tone control so you can monitor the tone throughout LIDAR operations.
    d. Visually estimate the speed of vehicles as they travel in your line of vision.
    e. Corroborate your visual estimate of speed with the LIDAR speed reading on the primary display.
    f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

2. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

3. Speed measurements exceeding 1000 feet from the position of the operator are not recommended.

Date of Approval – 06/2025

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

MPH Industries "Sure Shot" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

3. Daily, prior to use:

   a. Insert batteries, and the unit defaults to the "off" position and the last operating mode used, "Range Only" or "Speed & Range".
   b. Depress the power button located on the left, below the display screen. The instrument will begin by performing a light segment test by displaying "888" in the "Speed" window and "8888 8" in the "Range" window, in addition to a series of icons and warning indicators at the same time for approximately 3 seconds. This light test will then be automatically followed by an Internal Circuitry Test, which should display "PASS" in the "Speed" window. Immediately after "PASS" is displayed, the unit will display the home screen with the word "READY" under the "Range" window.
      If the instrument does not display the numbers/icons exactly, or if the "Fail" icon appears on the screen, the operator must remove the instrument from service until properly repaired.
   c. You cannot accept this automatic test and must conduct your own manual test in the "Speed & Range" mode. If the unit was last used in the "Range Only" mode, the word "RANGE ONLY" will appear in the "Speed" window after the automatic start-up test. If this occurs, you must access the menu and change the operating mode to "Speed & Range. The menu button is located in the bottom left corner of the display. You now press the "TEST" button in the lower right corner of the display to perform a manual test. The instrument will begin by performing another light segment test by displaying "888" in the "Speed" window and "8888 8" in the "Range" window, in addition to a series of icons and warning indicators at the same time for approximately 3 seconds. This light test will then be automatically followed by an Internal Circuitry Test, which should display "PASS" in the "Speed" window. Immediately after "PASS" is displayed, the unit will display the home screen with the word "READY" under the "Range" window.
      If the instrument does not display the numbers/icons exactly, or if the "Fail" icon appears on the screen, the operator must remove the instrument from service until properly repaired.
   d. Adjust the volume of the audio tone so you can monitor the tone.
   e. Sight Alignment Test: After the manual self-test is finished, Access the menu button on the bottom left of the display and change the operating mode to "RANGE ONLY", and exit the menu. The word "RANGE ONLY" should be displayed in the "Speed" window. The instrument's sighting element must be checked using a pre-measured 100-foot receiving point (pole or sign). Scan the instrument across the receiving point both horizontally and vertically to obtain the audible tone (and/or appropriate distance), indicating that the LIDAR sight is lined up with the beam. (A tone will be heard when the target reflects the laser pulses.)
   f. Range Accuracy Test: With the instrument in "range" mode, aim the instrument at a pre-measured (known) 50-foot receiving point. The distance reading (displayed by the LIDAR) is compared to the known distance. The distance error must be within plus/minus one foot of the known distance for the instrument to pass this test. Repeat this range accuracy test using a pre-measured

100-foot and 150-foot receiving points. The distance error must be within plus/minus one foot of each known distance for the instrument to pass this test. If the instrument fails any part of this test, repeat the test. If the instrument fails again, remove the instrument from service.

When the Sight Alignment and Range Accuracy tests have been completed, the unit should be put in "Speed & Range" mode for speed enforcement.

4. Repeat items c, d, e, and f under No. 1 at the end of your duty shift with LIDAR.

Date of Approval – 06/2025

INSTRUMENT ACCURACY REQUIREMENTS

In accordance with G.S. 8-50.2 (b)(4),), G.S. 17C-6(a)(13), 12 NCAC 9C .0607, and the manufacturer's recommendations, the North Carolina Criminal Justice Education and Training Standards Commission, in conjunction with the Secretary of Public Safety, has established the following instrument calibration and testing for accuracy procedures for the following instrument:

MPH Industries "Sure Shot" STATIONARY LIDAR

Procedures to be followed by the LIDAR Operator

4. Stationary Operation

   a. Select a location that allows the LIDAR operator to observe vehicles to be monitored for speed with no more than a "20" degree angle between the LIDAR aim and the target vehicle's path of travel.
   b. Aim the LIDAR toward approaching or receding vehicles at selected locations.
   c. Adjust the audio tone control volume so you can monitor the tone throughout LIDAR operations.
   d. Visually estimate the speed of vehicles as they travel in your line of vision.
   e. Corroborate your visual speed estimate with the LIDAR speed reading on the primary display.
   f. Lock the LIDAR speed reading. This speed will be used to corroborate your opinion for enforcement action. This requirement does not require the operator to show the locked speed to the violator or citizen unless required by agency policy.

5. The instrument calibration and testing for accuracy procedures for this LIDAR must be complied with by the operator during LIDAR operations.

6. Speed measurements exceeding 1000 feet from the operator's position are not recommended.