

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF GENERAL SERVICES
DIVISION OF PURCHASES AND SUPPLY
SPECIFICATIONS FOR
TIRE DEFLATION DEVICES

I. PURPOSE

The purpose of this specification is to establish a standard for tire deflation devices for use by Law Enforcement Authorities, Agencies and other Public Bodies of the Commonwealth of Virginia for the deflation of vehicle tires pursuant to Sections 18.2-324, 33.1-345 and 2.2-1112 of the Code of Virginia, as amended.

The following specifications are intended to define the level of quality and performance of the requested product and not to be restrictive by brand or manufacturer. The word "shall" indicates a mandatory requirement. Bidders/Vendors shall submit pertinent technical data and an itemized comparison with this specification documenting equivalence for dimensions, quality and performance. Such documentation shall parallel the following specifications and use the same reference numbers and letters as indicated in the subsequent paragraphs and subparagraphs. Bidders/Vendors shall indicate any deviations with appropriate reasons and documentation. All figures are approximate unless stated otherwise. The Commonwealth reserves the right to obtain technical data and to request clarifications when deemed necessary. **Failure on the part of the Bidder/Vendor to provide the aforementioned documentation may be cause to reject the bid/request as non-responsive.**

II. SCOPE

This specification covers deployable tire deflation devices designed to penetrate and deflate the tire(s) of a moving vehicle in a manner that shall avoid instantaneous failure of the penetrated tire(s) ensuring the safest possible means of impeding the mobility of the targeted vehicle.

III. APPLICABLE REFERENCE

A. None.

IV. TIRE DEFLATION DEVICE BID REQUIREMENTS

A. PRODUCT RELIABILITY

It is the intent of this specification to obtain tire deflation devices of high quality design and construction. The Officer serviceable deflation device shall be designed to have an average life expectancy of at least 8 years under normal use. **Bidders/Vendors shall submit adequate data to establish that their products can comply with this requirement.** Parts shall be available for at least 2 years following the discontinuance of the manufacturing of the deflation device.

B. PRODUCTION MODEL

The basic design of all equipment offered shall be in full commercial production. No prototype models will be considered. Any model offered shall have been successfully used by law enforcement agencies for at least six months prior to bid opening date.

C. REFERENCES AND RECORD OF SALES

Each Bidder/Vendor shall submit a list of three references, all located within the contiguous 48 states, and shall contain the following minimum information:

1. Complete name of agency and department to whom sold.
2. Quantity sold, delivery date, brand and model.
3. Full name and title of responsible persons.

4. Complete and accurate mailing addresses and telephone numbers.

NOTE: ALL REFERENCES GIVEN SHALL BE CURRENT SALES OF THE UNITS OFFERED WITHIN THE LAST 24 MONTHS.

D. PERFORMANCE TESTING AND PRODUCT EVALUATION

The tire deflation device may be field and laboratory tested by the Commonwealth of Virginia and its Agents to determine its acceptable level of performance and conformity to specifications. Emphasis will be placed on the unit's ease of deployment and overall tire deflation effectiveness.

The Commonwealth also reserves the right to have the deflation units examined by the Specifications and Quality Control Section of the Division of Purchases and Supply, the Virginia State Police or any other qualified agency for acceptable design, construction, fabrication and performance.

E. COMPANY BACKGROUND AND INFORMATION

Bidder/Vendor shall submit a current listing of the important "key" personnel involved with the tire deflation program, including such persons complete names, titles, phone numbers and years of experience.

F. DIAGRAMS

Bidder/Vendor shall submit a diagram that clearly shows and thoroughly explains the operation of all essential components, sub-assemblies and/or accessories of the complete tire deflation unit. This information shall be submitted for each type of tire deflation unit quoted on the bid sheet. If any data is proprietary information, Bidder/Vendor shall enclose such data in a separate envelope, and mark "Proprietary Data" on the envelope.

G. CERTIFICATION

All deflation units furnished under any resulting contract shall be factory certified as conforming to this specification. Certification affidavit shall be provided with each delivered deflation unit.

V. TIRE DEFLATION DEVICE SPECIFICATIONS

A. GENERAL DEVICE DESCRIPTION

1. The deflation unit shall be of the following types and capable of the following lane coverages:
 - a. Single lane (length of 9 - 11 ft.) (Non-Serviceable & Officer Serviceable Models)
 - b. Dual lane (length of 12 - 18 ft.) (Non-Serviceable & Officer Serviceable Models)
 - c. Multi-lane (length of 24 - 30 ft.) (Officer Serviceable Models Only)
 - d. Anti-pursuit (Compact) (length of 3 - 6 inches)
 - e. Anti-pursuit (length of 20 - 24 inches)
2. No deflation unit shall exceed 3.25 inches in height when deployed.
3. The deflation unit shall be bi-directional.
4. Penetrating spikes shall allow for the controlled deflation of the tire(s) in a manner that shall avoid instantaneous (catastrophic) failure of the penetrated tire(s).

5. The deflation unit **shall** be capable of being deployed without the use of any protective gear.
6. The deflation unit **shall** not require an Officer to enter the traffic lane to deploy or retrieve the unit.
7. The deflation unit **shall** be lightweight, highly portable and easily removed and deployed from vehicles by one Officer without the necessity of tools.
8. The deflation unit **shall** completely deflate the penetrated tire(s) within one minute. Test results **shall** be provided from the manufacturer that confirms this requirement.
9. The deflation unit **shall** be capable of deflating one or more tires on the target vehicle upon contact.
10. The deflation unit **shall** be designed to ensure maximum spike penetration.
11. The deflation unit **shall** be capable of immediate deployment upon receipt of the unit. The Officer **shall** not have to install the initial spikes.
12. The deflation unit **shall** be capable of being deployed against any tire diameter.

B. NON-SERVICEABLE MODELS

1. Non-serviceable models may be interconnected to accomplish the required single or dual lane length only.
2. Non-serviceable models **shall** bear the name of the ordering Agency on each tire deflation device.
3. Interconnected, Non-serviceable models **shall** be provided with a nylon deployment sleeve or cover that **shall** allow for the rapid removal of the deployed unit from traffic.
4. Non-serviceable models **shall** be available in a high or low visibility color.

C. OFFICER SERVICEABLE MODELS

1. Officer serviceable models **shall** be pre-assembled and be of one-piece construction.
2. Officer serviceable models **shall** be of the following types: A) Fixed Spike System or B) Retractable Spike System
3. Officer serviceable models **shall** work on any type road surface and in any weather condition.
4. Officer serviceable models **shall** be replaced, at no cost to the Agency, if breakage of the base occurs within the specified warranty period.
5. Single and/or dual lane Officer serviceable models **shall** be capable of upgrading to longer lane coverage models. This upgrade **shall** include a case for the new upgraded length.
6. Retractable Spike system **shall** be capable of either manual, electric or radio remote control operation. If the retractable spike system is being operated in the electrical remote control mode, the unit **shall** be capable of operating from a portable power supply or the unfiltered power supply (cigarette lighter) available in a standard automotive vehicle with 10.8 to 16.5 VDC, negative ground. Current drain on the vehicle's electrical system should not exceed 2.0 amperes.

D. ANTI-PURSUIT DEVICE MODELS

1. Section V. Items B. And C. of the Tire Deflation Device Specifications do not apply to this model.
2. The Anti-pursuit deflation device shall provide a means to penetrate and deflate the tire of a stationary target vehicle, if the target vehicle is moved.

E. DEFLATION UNIT ACCESSORIES

1. The Officer serviceable model shall be furnished with the following (Except Anti-pursuit models):
 - a. Fixed Spike System
 - 1) Carrying Case
 - 2) Spike replacement tool, if necessary
 - 3) Replacement cartridges or spikes with rubber inserts and caps
 - 4) Deployment rope/cord/cable (Minimum length 35 ft.)
 - b. Retractable Spike System
 - 1) Carrying Case
 - 2) Spike replacement tool, if necessary
 - 3) Replacement cartridges or spikes with rubber inserts and caps
 - 4) Deployment rope/cord/cable (Minimum length 35 ft.)
2. The Non-serviceable model shall be furnished with the following (Except Anti-pursuit models):
 - a. Mounting tray for trunk mounting (Interconnecting Models)
 - b. Deployment sleeve or cover
 - c. Deployment rope/cord/cable (Minimum length 35 ft.)
3. All accessories shall also be available for separate purchase.

F. MANUFACTURER'S QUALITY CONTROL AND TESTING

1. All components shall be a high reliability commercial grade part or better and be thoroughly tested for reliability before assembly.
2. Each individual component shall be subjected to a complete quality control inspection.

G. CARRYING CASE

Contractor shall furnish one carrying case for each Officer serviceable unit when requested by the ordering Agency or Public Body. The outer case shall bear the unit's model and serial number. The case shall also bear the name of the ordering Agency. The case shall be designed to keep dust and rain from entering the carrying case if unit is temporarily exposed to the weather. The carrying case shall have a carrying handle or slot, and smooth, rounded corners, and no sharp edges for safety. Deployment and maintenance instructions shall be affixed to the inside of the case and in non-obstructive view of the Officer when the case is opened.

H. MOUNTING TRAY

Contractor **shall** furnish a lightweight , trunk mountable tray that **shall** be capable of containing the individual pieces of a disposable, interconnecting deflation unit. The individual pieces **shall** be capable of being removed from the mounting tray without the use of tools. Mounting of the tray **shall** not require the drilling of holes in the trunk.

I. DEPLOYMENT SLEEVE/COVER

Contractor **shall** furnish a non-rip, reusable, nylon or approved equal material sleeve/cover, for the rapid deployment/removal of the interconnected, non-serviceable unit. The sleeve/cover **shall** allow for the quick connection of the nylon rope/cord.

VI. WARRANTY

The Contractor **shall** fully warrant the tire deflation device to be free of defects in materials and workmanship for a period of FIVE YEARS or first use, whichever occurs first, for the non-officer serviceable and anti-pursuit models. A FIVE-YEAR warranty **shall** be provided for Officer serviceable models from the date of delivery to the ordering Agency or Public Body. All shipping charges (both ways) **shall** be at the expense of the Contractor for the first 90 days after delivery of the deflation unit. Thereafter, shipping charges from the Agency to the Contractor **shall** be at the expense of the Agency. Return shipping charges from the Contractor to the Agency **shall** be at the sole expense of the Contractor.

VII. OPERATING INSTRUCTIONS AND FAMILIARIZATION/TRAINING VIDEO CASSETTE

A complete set of operating instructions and a copy of all warranties **shall** be furnished by the Contractor with each unit. When requested by the ordering Agency or the Division of Purchases and Supply, the Contractor **shall** furnish a videocassette (VHS format) that demonstrates the proper use of the deflation device, at no additional charge.

VIII. TRAINING OF USERS

At the Agency's request, the Contractor **shall** provide a familiarization-training course at the Ordering Agency's location. The Contractor **shall** use audio-visual and other appropriate aids for Officer training in the proper operation of the tire deflation device(s) purchased. The time and place of this training will be mutually agreed upon between the Contractor and the Ordering Agency. The familiarization-training course **shall** be at no additional charge to the Agency.