NIGHT HAWK™

STOP STICK® Inside

Remote Tire Deflation Device

USER MANUAL

PACIFIC SCIENTIFIC
ENERGETIC MATERIALS COMPANY
www.psemc.com

StopTech Ltd.
http://www.stopstick.com/

Legal & Warranty Information

It is the policy of Pacific Scientific Energetic Materials Company LLC. to warrant its hardware products, manufactured at its production facilities at no additional cost to the BUYER for a period of 12 months starting from the date of shipment from the FOB point identified in the contract. This is a twelve month limited warranty only that at the time of shipment the product is to be of merchantable quality, and free of defects in materials and workmanship that would cause the product to fail to conform to the performance requirements as may be identified in the contract document.

This warranty will not extend to services (engineering or other), nor data, either or both of which may be covered under other terms of the contract document. Nor is this warranty to cover fitness for a particular process, nor results obtained by the use of product(s) either singly or in combination with other products, including other SELLER products. SELLER's sole liability under this warranty shall be limited to replacement or repair of the product(s), or refund of the purchase price thereof, at SELLER option. All transportation charges for warranty returns and re-shipment of repaired or replaced goods shall be borne by the SELLER.

This warranty will be in lieu of, and excluded all other warranties express or implied, as to merchantability, fitness for a particular purpose, or arising by operation or law or otherwise, and in no event is SELLER to be liable for incidental or other consequential damages. Any claim by the BUYER under this warranty must be asserted within the aforesaid 12-month period, and will be subject to verification by SELLER examination of the product(s) in question. All returns are to be received and handled in accordance with the SELLER approved Government/Customer Owned material procedures.

StopTech, Ltd.

WARRANTY POLICY

The STOP STICK® is warranted to be free from defects in design, material and workmanship, for a period of twelve months after the date of shipment to the purchaser or FIRST USER. If any STOP STICK® is determined to be defective, StopTech, Ltd. will replace the item at no charge under the following conditions:

1. The user must notify StopTech, Ltd. of the defect in writing.

2. The STOP STICK® and any related equipment were properly installed and/or deployed. And, the defect was not in any way caused by operator negligence, accident or wear and tear under normal use.

3. When requested, the STOP STICK® must be returned to StopTech, Ltd. for inspection.

4. This warranty is void if the product has been dismantled or altered in any way.

5. No one may change or extend this warranty unless both StopTech, Ltd. and the user otherwise agree in writing.

6. Neither StopTech, Ltd. nor its marketing affiliates shall be responsible for the use of the information contained herein, and you must make your determination as to the suitability for your own use, for the safety of your Department, and the general public.

7. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS. THIS WARRANTY SUPERSEDES ANY OTHER COMMUNICATION BETWEEN THE PARTIES, INCLUDING ANY WARRANTY INFORMATION OR DISCLAIMERS AS CONTAINED IN STOPTECH, LTD.'S OR THE USER's INVOICES.

8. StopTech, Ltd. and its marketing affiliates shall not be liable for any consequential loss or damages resulting directly or indirectly from the use of the STOP STICK®, including, but not limited to, damages to property or injury to persons.

FCC ID: RSJNIGHTHAWK

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

SAFETY INFORMATION

The NightHawk™ Remote Tire Deflation Device should only be used in strict compliance with your department's policies and regulations.

The NightHawk™ device should only be used by fully trained personnel. Failure to use the device as designed can result in damage to property and potential injury or death to users and/or bystanders.

Personnel using the NightHawk™ should be fully trained in the proper use of the device, and have a complete understanding of the correct tactical uses of the device.

The NightHawk™ uses Stop Stick® tire deflation modules. Stop Sticks® contain very sharp metal spikes. Do not attempt to repair or dismantle individual Stop Stick® modules.

Unexpected sudden deflation of tires can result in loss of vehicle control and serious accidents. Do not use the NightHawk™ device in situations where bystanders could be injured as a result of suspect vehicles losing control

Never use the NightHawk™ device on motorcycles or other vehicles with less than four wheels.

The NightHawk™ device should only be used when the operator has a clear, unobstructed view of the roadway and oncoming vehicles.

Always make sure that other law enforcement personnel involved in a pursuit are aware of the potential deployment of the NightHawk™ device. Never deploy the device if there is the potential to deflate the tires of law enforcement agency vehicles. Always communicate potential deployment to appropriate individuals.

The NightHawk™ device uses a gas generator cartridge in a launch tube assembly to propel the Stop Stick® sleeve across the roadway. Never activate the device in close proximity to people, vehicles, or structures to avoid damage due to the launching of the sleeve.

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1 INTRODUCTION

This product has been designed and manufactured to exact specifications. Modification of this product in any respect can be dangerous.

The NightHawk™ Remote Tire Deflation Device has been designed and manufactured to be used only by law enforcement, security, and military personnel that are trained in the proper handling, storage, use, application, and maintenance of this product. This product may cause unintended damage to property and serious injuries, including death, to the user and those in the vicinity of the product. Pacific Scientific EMC disclaims liability for any personal injury or property damage that results from operation of a product which has been modified from the original design, or for use of the product that is not consistent with the manufacturer's written instructions. Carefully read the instructions in this manual. Dispose of the product in accordance with applicable law. For further information please contact Pacific Scientific EMC at 480-763-3000.

1-1. Description

The NightHawk™ Remote Tire Deflation Device is a self-contained device that enables law enforcement officers to deploy a Stop Stick® tire deflation strip using a hand-held remote control. The ability to deploy the Stop Stick® remotely provides additional security and safety for the law enforcement officer. The NightHawk™ unit is positioned beside the roadway ahead of the suspect vehicle. When the vehicle approaches, the officer activates the unit using a trigger on the hand-held remote, launching the Stop Sticks® across the roadway. Once the suspect vehicle has passed, the officer uses the trigger a second time to retract the Stop Sticks®, allowing pursuit vehicles to pass safely.

1-2. How It Works

NightHawk™ utilizes a gas generator cartridge similar to the ones used to quickly inflate automotive airbags. The gas generator cartridge is contained in the launch tube assembly. The launch tube assembly propels a weighted sack (called a drogue) across the roadway. As the drogue is launched, it pulls a nylon sleeve containing 10 Stop Sticks® with it. The entire action is accomplished in less than two seconds. After the suspect vehicle has passed, the hand-held remote trigger activates a small electrically-powered winch that pulls the Stop Sticks® out of the roadway permitting pursuit vehicles and other traffic to pass without tire deflation.

1-3. Controls and Indicators

Figure 1 shows the primary user controls and indicators.

Figure 1. Controls and Indicators

2 PRE-DEPLOYMENT

The NightHawk™ Remote Tire Deflation Device should ONLY be used by authorized personnel who have been properly trained in its use. Improper use of the NightHawk™ can result in damage to property and/or serious injury or death.

2-1. Proper Use of the Device

The NightHawk™ device should only be used under conditions that present the least possible risk to law enforcement officers, the general public, and suspects. Officers should be fully trained in the correct operation of the device. Deployment of the NightHawk™ should only be executed in accordance with the policies and procedures of your agency.

2-2. Situation Considerations

There are other factors besides location that should be considered before deploying the NightHawk™. One key factor is speed. When placing the device be mindful of surroundings especially near an active roadway. The user should look for forward markers to determine where the position of the target vehicle will pass to properly time deployment of the Stop Sticks, allowing for the 2 second deploy. The table below shows the approximate lead distance required for various vehicle speeds.

Speed (mph)	Deployment Lead Distance (ft.)
30	90
40	120
50	150
60	180
70	210
80	240
90	270
100	300
110	330
120	360

2-3. Location Considerations

There are a number of factors that should be considered before using the NightHawk™. The location selected for deployment plays a key role in the success or failure of the operation. The following factors should be considered:

- **Traffic Control:** The NightHawk™ should only be deployed in locations where traffic is controlled, and access is limited to the suspect vehicle and pursuit vehicles. Avoid deploying the device in locations where normal public traffic might interfere with the operation.
- **Road Surface:** The Stop Stick® tire deflation sticks work in a variety of terrain.
- **Visibility:** The NightHawk™ should be located such that officers can clearly observe the roadway a considerable distance before and after the deployment zone.
- **Potential Avoidance:** The Stop Sticks® should be deployed in a location that will make it difficult for the suspect vehicle to avoid the device. Officers should try to position the device where the vehicle cannot easily drive off the roadway or turn onto another roadway to avoid the Stop Sticks®.
- **Safety of the General Public:** For maximum safety, it is recommended that officers deploy NightHawk™ away from the general public to minimize the risk to bystanders.
- **Obstructions:** Avoid deploying the device in locations where the suspect vehicle could lose con- trol and crash into buildings or structures.

2-4. Placement on the Roadway

Figure 2A illustrates the proper placement of the NightHawk™ unit beside the roadway. The important factor is the distance from the edge of the roadway. The unit should be 12 feet from the edge of the target lane. The tether for the nylon sleeve is 12 feet long (null zone). There are no Stop Sticks® in the 12 foot null zone.

NOTE: The Null Zone provides an additional safe distance for the Officer and the NightHawk™ from oncoming traffic.

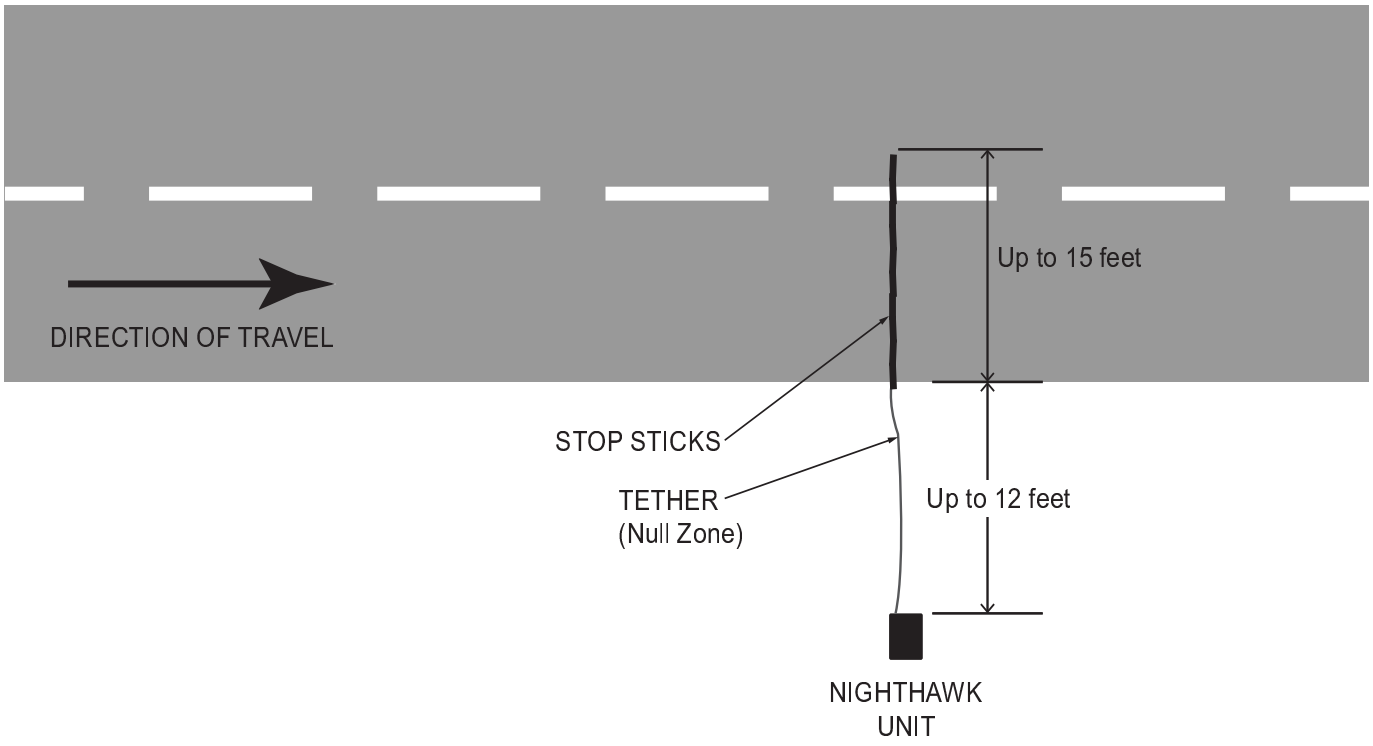

Figure 2A. Placement of NightHawk™

2-5. Battery and System Status Check

2-5.1. Battery Check

The NightHawk™ battery should be checked to verify it has sufficient charge to operate the unit. The external battery check button and indicator located near the carrying handle (fig. 2B-1) are used to check battery status.

- STEADY **GREEN**: Battery level is good
- BLINKING **RED**: Battery level is marginal; should be charged at the earliest opportunity
- STEADY **RED**: Battery is **NOT** sufficient to operate.

NOTE: The battery indicator does not indicate the status of the controller or the launch tube. Refer to *System Status Check*.

2-5.2. System Status Check

Inside the case, when the power switch is turned on a system status indicator will indicate the battery's charge (fig. 2B-2). The status LED will indicate as follows for different states:

- STEADY **GREEN**: Battery level is good; system is ready to go
- BLINKING **RED**, FOLLOWED BY STEADY **GREEN**: Battery level is low, but system will still function properly
- STEADY **RED**: System is **NOT** ready to go. Either the battery charge is too low to operate the unit, or the system controller has not been reset following launch.

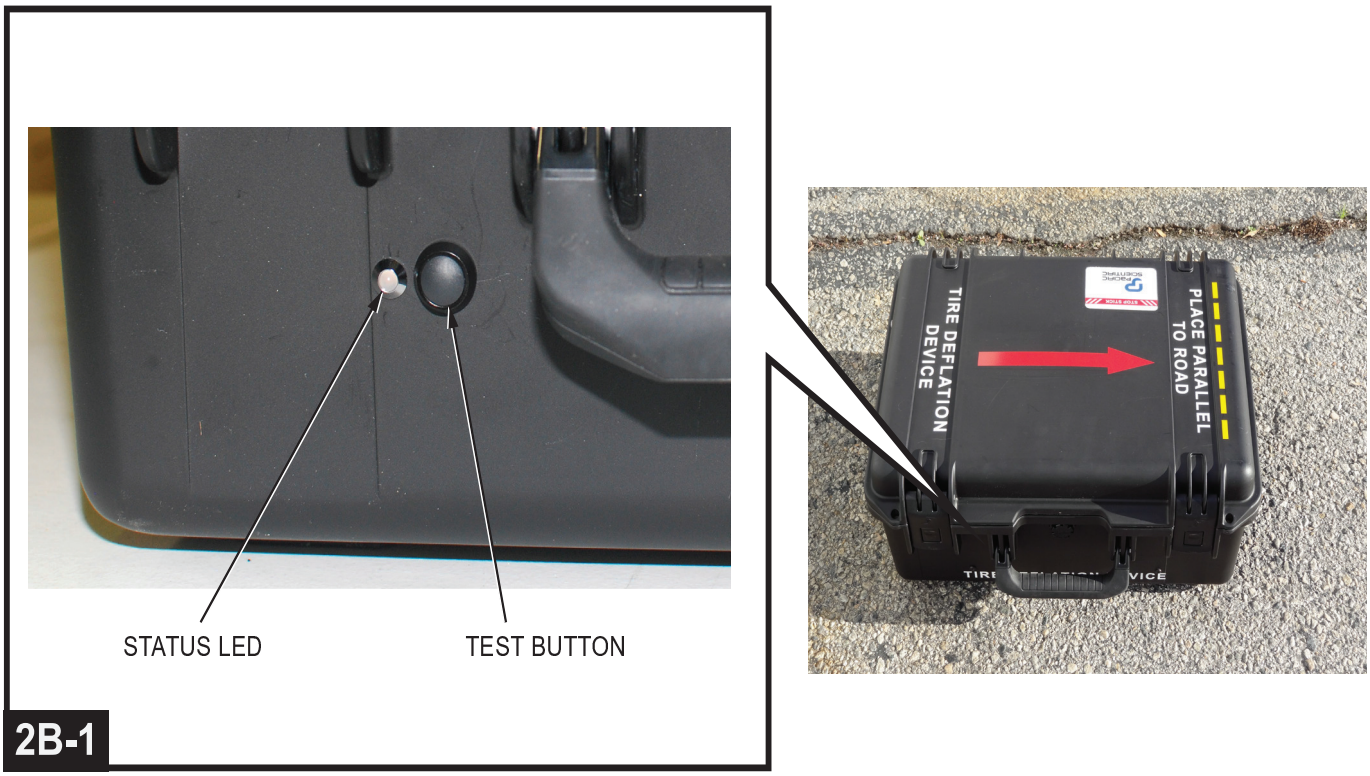

Figure 2B. Battery and Status Check