SpanSet

Training Manual

STINGER SPIKE SYSTEM

Tyre Deflation Devices
2000 Series
3000 Series
Rat Trap II

CAUTION - SPANSET STRONGLY RECOMMENDS

1. TRAINING

   Any officer deploying Stinger must have received appropriate training from a competent Trainer.

2. RISK ASSESSMENT

   Deploying Officer to ensure that he/she is following force policy and procedure on Stinger deployment. If in doubt - ask.

3. PERSONAL SAFETY

   Under no circumstances should the deploying officer place himself at an unacceptable level of risk to his own safety, nor that of any member of the public.

4. MAINTENANCE LOG

   Maintenance Log to be kept up to date and signed off by inspecting authority.

5. ADVICE

   SpanSet Ltd is available for consultation and advice in care and maintenance of these units. Please request support or advice deemed necessary.

USER AGENCY ACCEPTS LIABILITY

Persons or agencies deploying this device must carefully consider the circumstances, alternatives and consequences for each individual situation. This device is designed to stop or slow fleeing vehicles by deflating the tyres. Its use can possibly cause accident, serious injury or death. Because the manufacturer cannot guarantee the physical or mental condition of the driver, the condition of the road, the vehicle, the tyres on the fleeing vehicle, the traffic congestion and other variables, the USER AGENCY must accept ALL liability and consequences resulting from the use of this product.

CONTENTS

These instructions do not supersede any policy or procedure of your department.

DESCRIPTION

The Stinger Spike System is a tyre deflation device for police use. It is used in stopping high speed pursuits, and is available in 5 models. Each unit comes with a case, 45 foot rope and spool, safety glasses, spike replacement tool, 1 package of 10 replacement spikes and compression sleeves, and 10 tip guards.

It was designed to be compact, lightweight, and yet be able to withstand multiple high speed impacts without damage. It was also designed to be officer serviceable. It can be deployed in seconds by one officer without crossing the lanes of traffic. The Stinger Spike System has a rocking arm action that tilts the spikes into the tyres at the correct angle for maximum penetration. This feature allows the unit to be effective in either direction and at all speeds.

MATERIAL: The base material is an elastomeric nylon alloy. All of the hardware is stainless steel with the exception of the swivel which is nickel plated zinc alloy. The screws are Phillips head screws so that the officer can replace a section if it should get damaged. The spikes are hardened stainless steel, tumbled to reduce light reflection and ground to ensure that they cut cleanly and do not plug up with a core of rubber from the tyre.

SAFETY

If you are using a patrol vehicle as part of a roadblock, the unit could be slid under the vehicle until it is deployed.

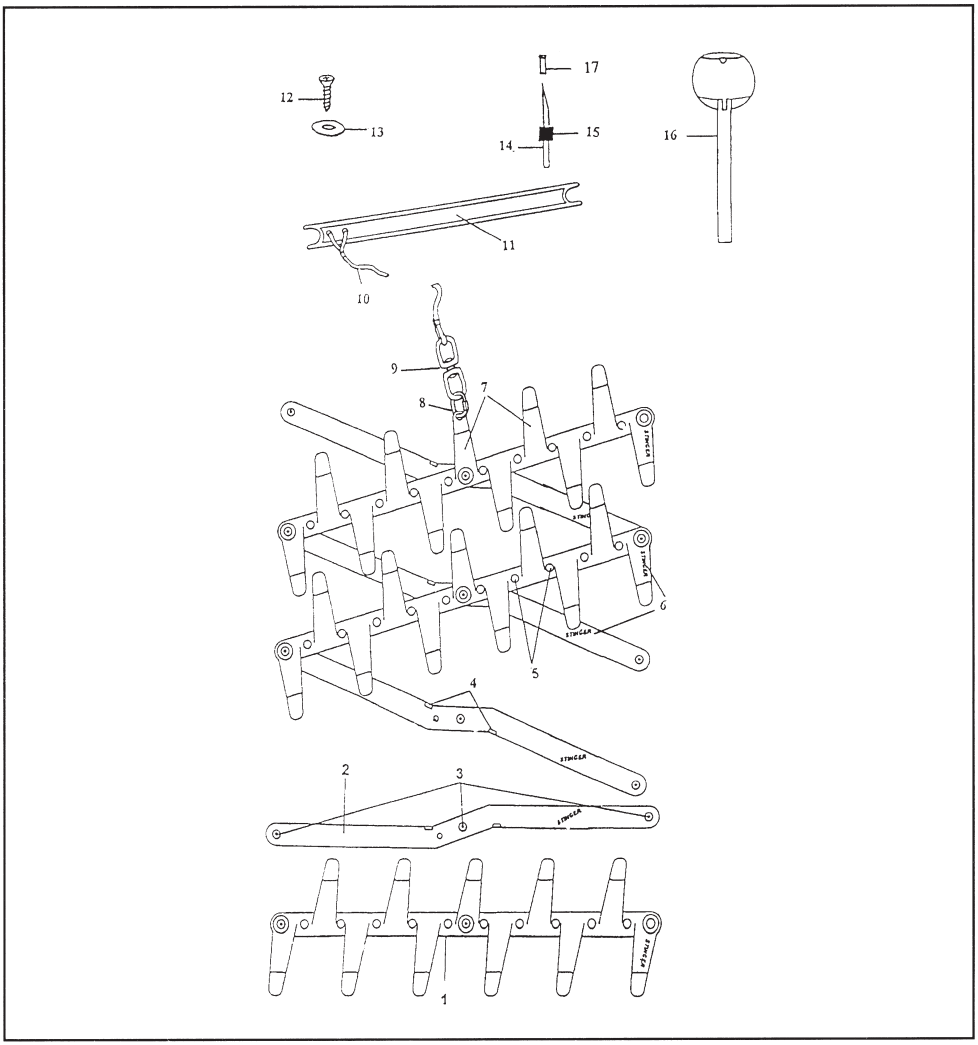
When deploying the unit **DO NOT** wrap the rope around your hand or wrist. Also keep from entangling your feet or legs in the rope. The provided safety glasses are to protect the officers eyes from road debris thrown up by passing vehicles.

When pulling the unit off the roadway, it should be pulled so that it does not slide into your feet and legs.

Use the spike hole in the handle of the tool to place the rubber compression sleeve on the replacement spikes.

This unit must be regularly inspected and maintained to ensure it is safe to use, e.g. all parts replaced and any screws, nuts, bolts etc fully tightened. Also that the rope is functioning properly.

TECHNICAL DATA



1 SPIKE BASE
2 SWIVEL BASE
3 SCREW BOSS
4 SWIVEL STOPS
5 SPIKE BOSS
6 STINGER LOGO
7 ROCKER ARMS
8 QUICK LINK
9 SWIVEL
10 ROPE
11 ROPE SPOOL
12 SCREW
(⅝-8 ovalhead Phillips SMS, S.S.)
13 WASHER
14 SPIKE
15 COMPRESSION SLEEVE
16 TOOL
17- TIP GUARD

DEPLOYMENT

First remove the unit from the case; the unit should be picked up by the rocker arms and not the sides. Use your dominant hand to pick up the rope with spool and the middle rocker arm (the one that the rope is attached to at the hinged side of the case). Your weak hand should pick up the rocker arms at the front of the case.

The Stinger Spike System can be deployed by one of three methods.

Method 1 - Deployment by throwing

Release the rope and spool from your fingers and let them fall to the ground, while still holding the unit by the rocker arms. Bend over holding the unit about a foot off the pavement and with a shovelling motion throw the unit out, letting go of the unit with your weak hand and pushing it with your dominant hand, continuing to hold on to the middle rocker arm. As the unit settles to the pavement and slides outward, pull the middle rocker arm back towards you and release. Some practice of this method is required.

Method 2 - Deployment by pushing

Place the unit on the pavement and grasp the rocker arm which the rope is attached to. Then with a strong quick push, slide the unit out across the roadway. While the unit is sliding across the pavement, pull back slightly on the rocker arm.

This method also requires practice.

Method 3 - Deployment by the use of the rope

This method requires very little practice if any. However, it does require the officer to cross the lanes of traffic. Place the unit on the ground or pavement beside the roadway with the rope side of the unit facing the roadway. Caution should be used to keep from stepping on the unit either by the deploying officer, other assisting officers, or bystanders. One way to do this is by placing the unit under the patrol car. Unwrap several turns of rope from the spool. Grasp the rope in your hand between the spool and the unit, drop the spool and start walking across the roadway letting the rope slide through your hand as you walk. Generally the rope will unwind off the spool as it falls. If it should stop unwinding, slide your hand to the spool, grasp the rope and with your free hand turn the spool to unwind the rope. When it is again free, drop the spool and continue walking while letting the rope slide through your hand. If the rope was wound loosely on the spool with no tangles, it should unwind quite rapidly using this method.

When across the roadway, the rope should be pulled taut enough to lie flat on the roadway. The unit slides very easily and could have been pulled out somewhat just by letting the rope slide through your hand. When pulling the rope taut, do not pull hard enough to start sliding the unit towards you. Let the rope lie on the pavement. Do not hold the rope in your hands if other traffic is to cross over the rope while waiting for the suspect vehicle. When traffic is clear and before the suspect

vehicle arrives, pull the unit across the roadway with a rapid overhand-pulling motion. When the unit is in position, drop the rope. Do not hold the rope in your hand or wrap it around your hand or wrist. Also be careful not to entangle the rope around your feet or legs. You should be safety conscious at all times with a wary eye on traffic and an escape route planned.

The unit does not need to be tethered. Upon being run over, the air currents created by the vehicle will pick it up and move it 10 to 15 feet down the roadway and move the ends in. It will be in a horseshoe shape tipped up on the rocker arms. When run over by a vehicle travelling at very high speeds, the unit could be turned upside down.

RECOVERY

If the unit is up on the rocker arms, a jerk on the rope should straighten it out and turn it upright. If it is upside down and time and traffic allow, it should be turned right-side up then pulled off the roadway. If pulled off the roadway upside down, all of the spikes could be dulled or bent. Should this occur, all of the damaged spikes should be replaced before re-using.

If hit at very high speed, the unit could be stretched beyond the swivel limiting stops on the Spike Base and the Swivel Base. (This can also be caused by the screws being loose.) When this happens, the end rocker arms of each section will interlock with the end rocker arm of the adjoining section preventing the unit from folding back together. When this occurs, check for interlocked rocker arms along the length of the unit. To unlock, use your thumb and fingers to lift one arm while pushing down the other so they can clear each other when being folded back together.

When folding the unit, rocks, grass, and other road debris could prevent the unit from folding completely closed. Shaking it a little when picking it up will usually dislodge this debris. If the rope is unwound from the spool, hold the spool in one hand and wind the rope with the other allowing the rope to untwist at the swivel clip attached to the unit. The rope should be wound loosely, lengthwise, through the notches at each end of the spool. Place the unit in the case with the rope and spool being held in the rope slot, at the rear of the case near the hinge, under the rocker arms. Do not lie the rope and spool on top of the spikes. The lid of the case has three bars designed to lie across the rocker arms, holding the spike unit down to prevent the spikes from contacting the top of the case and possibly penetrating the lid. If the rope is not stored in its proper recess, the case lid could be sprung so that it would not close tightly against the unit. This is also true for the other accessories included with each unit. They should be stored in the recesses provided for them in the case.

SPIKE REPLACEMENT

After the unit has been used, it should be carefully inspected for loose screws and damaged or missing spikes. The unit will have to be extended to check for loose screws. Tighten screws just enough to prevent the washer from turning. Return the unit to the case and replace the missing and/or damaged spikes.

Each spike system comes with a spike replacement tool, a package of 10 replacement spikes and compression sleeves. The vial of replacement spikes is located under the tool in the case.

Use one of the replacement spikes or something similar to pry the used compression sleeve from the spike base. If you use one of the new replacement spikes, be careful not to bend the tip. Place the tip into the hole in the compression sleeve and gently pry it out, then discard it.

Place a spike point down in the hole on the top of the tool (Fig. 1), place a compression sleeve over the spike and slide it down to the tool (Fig. 2). Remove the spike from the handle and place it in a spike hole in the spike base. In the bottom of each spike hole, there is a smaller hole that the spike should be placed in. Be sure that the spike is seated in this smaller hole (Fig. 3).

Place the stem of the tool over the spike and push the compression sleeve down. Then, with a side-to-side rocking motion or a circular motion of the tool, push the compression sleeve all the way down into the spike hole so that it is seated flush with the top of the spike boss (Fig. 4). The side-to-side rocking motion or circular motion of the tool allows trapped air to escape from under the compression sleeve, making it easier to push it down between the spike and the spike boss. When all of the missing spikes are replaced, carefully slide the tip guard over the spikes. Use caution because too much force will cause the spike to penetrate the tip guard (Fig. 5). The unit is again ready for use.

DO NOT use any petroleum based lubricants on the spike system or case as this will cause the plastic based material to deteriorate.

On completion of a Stinger returns form, spikes, compression sleeves and tipguards will be sent free of charge by return of post.

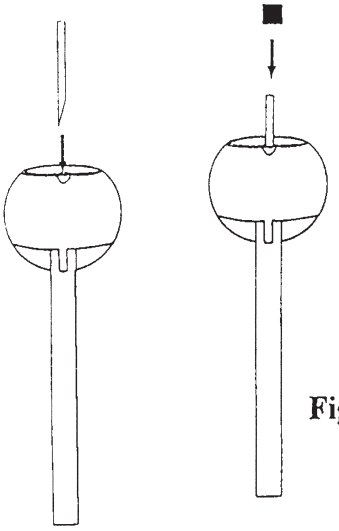


Fig. 1

Fig. 2

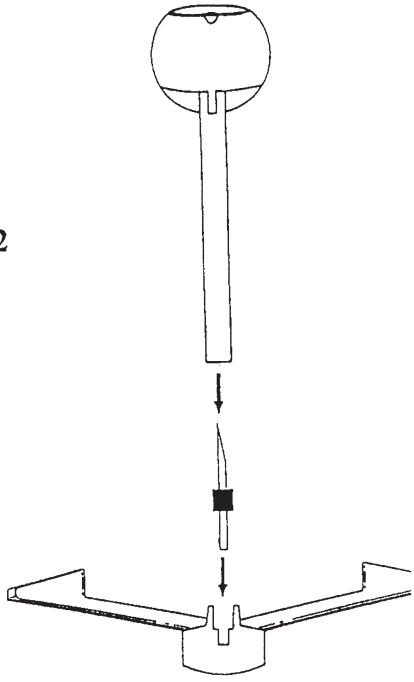


Fig. 3

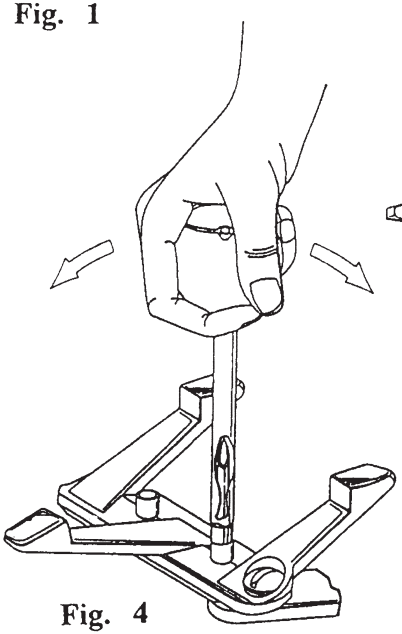


Fig. 4

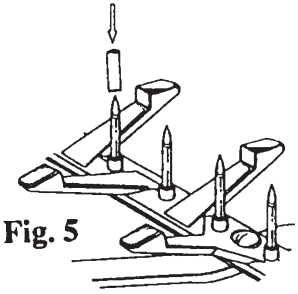


Fig. 5

REPAIR

The Stinger Spike System was designed to withstand multiple high speed impacts. However, things do break and wear out. The elastomeric nylon base is unconditionally guaranteed for a period of THREE (3) years from the date of purchase.

If the unit is damaged so it can not be folded, straighten the pieces out the best you can and try to get it back in the case for protection from the spikes. Later, the unit can be stretched out to assess the damage. If it is just bent out of shape, usually over a period of time it will return somewhat to its original shape. Damage such as a broken swivel base or spike base does not mean the unit is ruined. Damage usually consists of a screw being pulled from a screw boss on the swivel base or the rim of a swivel hole in the spike base being broken. Once in a while a rocker arm gets broken off, and sometimes the unit is run over while upside down, forcing the spikes through the back of the spike base. These do not incapacitate the whole unit. The damaged sections can be removed and then the unit can be screwed back together and remain in service although it is one or two sections short. If a broken rocker arm is the only damage sustained, the section does not need to be replaced. If a screw is pulled from the screw boss it will not hold another screw, therefore the section should be replaced. During the warranty period, send the broken section back to the manufacturer and a replacement section, without spikes, will be promptly returned to you free of charge. The replacement section can then be attached to the end of the spike unit.

When replacing a section, proper alignment of the swivel base to the spike base can be obtained by making sure that the STINGER name on the swivel base is on the same end as the STINGER name on the spike base. The angle of the two pieces in relation to each other is represented in Fig. 6. The new section will come with the swivel and spike base already put together. Extra screws and washers for attaching it to the unit are included.

Care should be taken not to over-tighten the screws. They should just be tight enough to prevent the washer from turning. If you over-tighten the screws, the screw hole will be stripped out and will not hold a screw. The section will then have to be replaced.

Check lanyard cord for fraying. Ensure lanyard functions properly and that connectors are functioning and fully tightened.

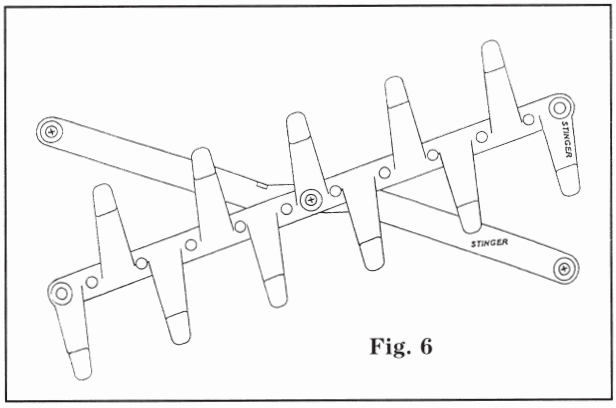


Fig. 6

Manufacturer's Guarantee

The Stinger Spike System was designed to be run over at high speeds at various types of vehicles utilising fully pneumatic tyres of various sizes and designs. We are so confident of the durability of this unit that we guarantee each individual section of the elastomeric nylon base against breakage for a period of three years. If a section of the spike unit should become damaged beyond use within two years from the date of purchase, the section will be replaced by the manufacturer. Training Units are not covered under the guarantee.

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