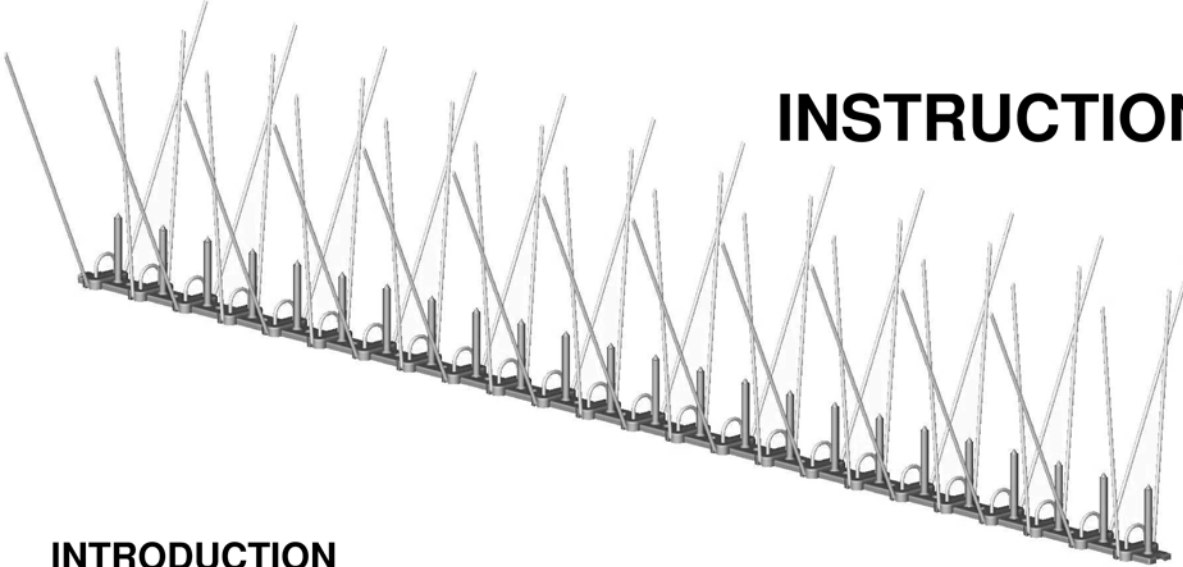


Stainless SPIKES® NEEDLE STRIPS

INSTRUCTION MANUAL



INTRODUCTION

Stainless SPIKES Needle Strips is the latest bird control product from Bird-X, recognized worldwide as the Bird Control "X-Perts" since 1964. We are the only company anywhere that sells a *complete* line of bird repelling products, including ultrasonic and sonic sound generators, visual scare devices, roosting inhibitors, netting and taste aversions. New product development is ongoing. Our sales consultants analyze problems and make recommendations based on each customer's specific needs.

DESCRIPTION OF PRODUCT AND HOW IT WORKS

Needle strips are a simple, humane, maintenance-free, long-term solution to pest bird problems, and have been used on buildings and structures worldwide to eliminate roosting and nesting surfaces and landing strips. Birds avoid alighting on the spikes as humans avoid walking on a bed of nails – the spikes are not lethal, just extremely uncomfortable.

Stainless SPIKES is a base mold of transparent polycarbonate, with two types of spiked projections: stainless steel projections protrude up and out (angled) to both sides; a central row of polycarbonate projections protrude straight up. There are three variations:

- **Regular** alternates *wide* stainless steel projections (4.5" spread) with *narrow* stainless steel projections (1.75" spread) and a central row of *straight-up polycarbonate* projections.

- **Slim** Stainless SPIKES has only the narrower stainless steel projections (1.75" spread) in order to cover ledges less than 2" wide, plus a central row of straight-up polycarbonate projections.

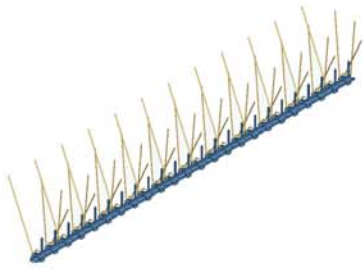
- **Extra-Wide** alternates *wide* stainless steel projections (4.5" spread) with *extra-wide* (7" spread) AND *narrower* (1.75" spread) stainless steel projections, plus a central row of straight-up polycarbonate projections.

PART NUMBER CHART		<u>24 foot kit</u>	<u>50 foot kit</u>	<u>100 foot kit</u>
	REGULAR (#STS)		#STS-24	#STS-50
SLIM (#SLS)		#SLS-24	#SLS-50	#SLS-100
EXTRA WIDE (#EWS)		#EWS-24	#EWS-50	#EWS-100

Designed and manufactured by:



**REGULAR,
full view**



**REGULAR,
end view
(4.5" spread)**



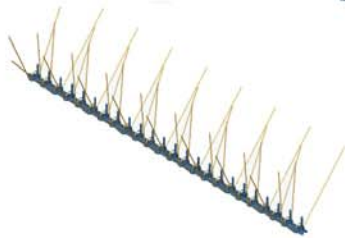
**SLIM,
full view**



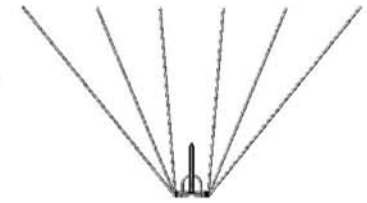
**SLIM,
end view
(1.75" spread)**



**EXTRA WIDE,
full view**



**EXTRA WIDE,
end view
(7" spread)**



SPECIFICATIONS – Stainless SPIKES

Dimensions: Height, Highest Point 4.3"

Width, Base 0.8"

Width, Widest Point (Regular) 4.5" (Slim) 1.75" (Extra Wide) 7"

Diameter of hole in base 0.156"

Diameter of polycarbonate center spike 0.125"

Net Weight: 16# per 100'

Packaging: Kits of 24', 50' and 100'

Material: Polycarbonate with UV Inhibitors, and ST302 Hard Surgical Grade Stainless; resistant to virtually all weather and harsh environments

SPECIFICATIONS - SPIKES Special Adhesive (MSDS available upon request) part#SSA from Bird-X.

High-performance elastomeric adhesive exhibits exceptional bonding to a broad range of materials including metal, glass, plastic, composite, tile, cement, rubber, leather, wood and vinyl.

Waterproof, Paintable, Flexible Bond

Non-Flammable when Dry

Color: Tan

Drying time 24-48 hours

Working Time 15 minutes

Durability: estimated to exceed 40 years

Shelf Life: 1 year unopened

Size: 10.5 oz. cartridge

Application: standard caulking gun

PRE-INSTALLATION

No two bird infestation problems are exactly the same. Begin with research. Information related to the bird problem will have bearing on the actual installation and its success:

Survey the birds. Type? Population? Patterns?

Survey your property. What do birds find attractive about your area? Can it be changed?

Remove all inducements. Eliminate nests, fledglings, droppings, dead birds, and the residual scent. Also remove food spillage, garbage, nesting material and other appealing items.

Maintain a clean, changing environment. Continue to clean nests, debris and droppings.

Install early. Install before "bird season" begins; it is easier to keep the birds away than to rout them out once they have already established a living pattern.

Use products synergistically. Different kinds of devices (add a visual device or a sound repeller) produce a synergistic effect -- in combination the products yield much greater effectiveness than Stainless SPIKES alone. You may find this necessary if there are certain areas where it is undesirable or impractical to install spikes. This will maximize effectiveness throughout the entire property.

Consider alternate locations. Apply to nearby locations where birds may go when they leave their current area.

Familiarize yourself with the legal and public relations environment. Are there related environmental laws?

Precaution: Although non-lethal, Stainless SPIKES' actual projections are quite sharp. Wear protective gloves, and be careful during installation and handling.

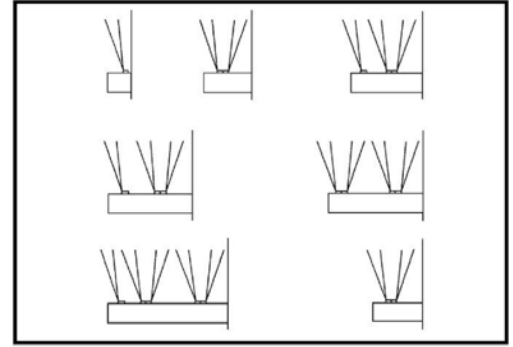
INSTALLATION

Stainless SPIKES can be mounted on any surface whether flat, curved or irregular, and on any material, whether masonry, metal, canvas, glass or wood. 24" units affix quickly with SPIKES Special Adhesive, screws, nails, wire ties, etc. Units may be "snapped" to fit lengths less than 24". Always firmly attach Stainless SPIKES - never balance sections precariously or wedge them.

COVERAGE

Stainless SPIKES is only effective where applied; nearby *unprotected* areas can encourage roosting. A working diagram while measuring will translate into a well-covered installation.

Spacing: Measure the *width* of each area to be covered. For every 5" of width, use one row of Stainless SPIKES; for fractions thereof, use one row of SLIM Stainless SPIKES. For widths of 7" or more, use one row of EXTRA WIDE Stainless SPIKES. The projections from Stainless SPIKES should extend at least 1/2" past the exposed edge or edges of the area.



Correctly spaced installations for various surface widths plus projections extending exposed edge

Calculation of Linear Feet Needed: Measure the *length* of each area to be covered, allowing for curves or bends in the surface - flexible Stainless SPIKES will follow easily. Based on length (multiply length by 2, 3, etc. if necessary for wider widths) order an appropriate amount of Stainless SPIKES.

AFFIXING Stainless SPIKES TO SURFACES

Stainless SPIKES is versatile, and easily attached to surfaces of every size, shape and material. Use any of the following methods, or devise your own.

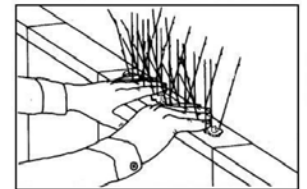
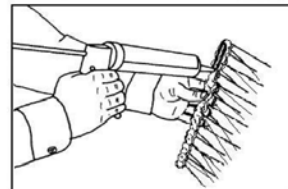
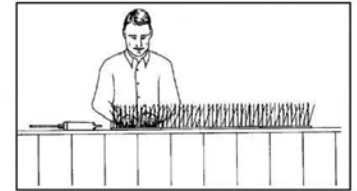
▪ **SPIKES Special Adhesive:** Bond only to dry, clean surfaces, when the temperature is between 32°F and 120°F. Apply a bead of adhesive to underside of base. Firmly press Stainless SPIKES onto surface so that it makes solid contact. Allow adhesive to dry and form a "rivet" through the holes in the base.) Part #SSA from Bird-X; one tube will affix approximately 20 feet of Stainless SPIKES.

▪ **Screws:** Use #12 flat Phillips-head screws and a screwdriver with a shaft of at least 4".

▪ **Nails:** Use 1/8" nails and a nail set.

▪ **Wire Ties:** Recommended for cabling, piping and thin railings.

▪ **Clamps or Velcro®:** Use for temporary installations.



GUIDE TO EFFECTIVE INSTALLATIONS (Reread PRE-INSTALLATION.) Thorough and proper planning, installation and follow-up maintenance are essential to bird control success.

Preparation: Clean, disinfect and repair surface if damaged. Wear protection to avoid health hazards. Remove overhanging branches or foliage above the surface to be protected so birds cannot land to drop nesting material into **Stainless SPIKES**.

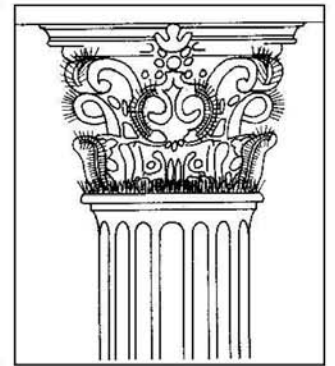
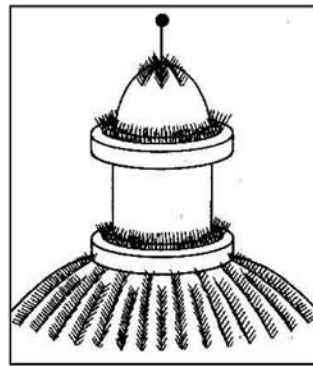
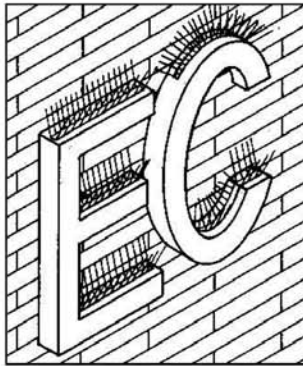
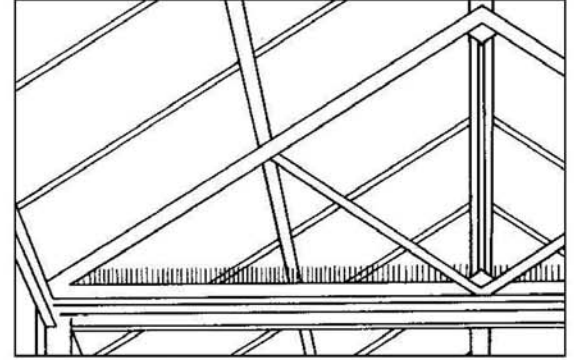
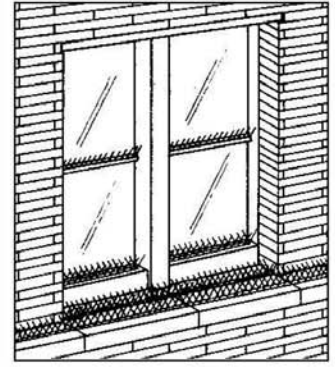
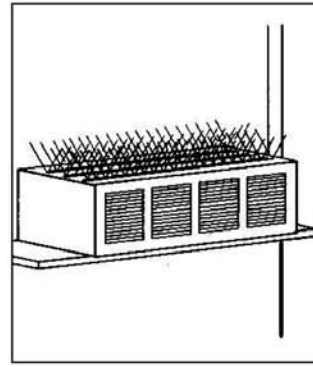
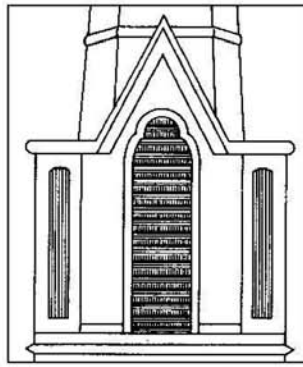
Thorough Coverage: Install on all existing and potential roosting areas, and as necessary to surfaces directly above the currently infested areas, so that birds cannot drop debris into the Stainless SPIKES from these higher surfaces.

Creative Coverage: Cover all exposed surfaces, inside corners and crevices. Because birds are stubborn, this may require vertical, sideways, diagonal or upside down mounting in addition to standard, right-side up mounting.

APPLICATIONS

Creativity and experimentation will govern, but these illustrations suggest a few of the possibilities.

- Louvers, Eaves
- Air conditioners — Use multiple strips to cover the entire depth.
- Ledges, Sills, Gutters and Pipes
- Beams, Trusses, Support Structures
- Signs, Letters, Church Crosses — Follow the shape on each letter or structure and cover every surface or crevice in which a bird can roost. Flexible Stainless SPIKES can make both concave and convex curves.
- Bell Towers or Domes — Cover the bell with multiple strips of Stainless SPIKES radiating outward and downward from the highest point of the dome.
- Statues, Columns, Cornices — Apply to base, and around head, arms, curves, crevices and openings.
- Roofs — Apply to roof perimeter, chimney antennae, and the ridge on a gabled roof. Apply to the inside of a chimney (projections facing inward) to keep animal out.
- Cables — Apply to any cable thick enough to support a bird (this is easy since base is 0.8" wide.)
- Trees — Apply to tops of branches to stop birds. Apply in horizontal rings around a tree trunk, starting 4' from the ground, then higher at 5" intervals to stop climbing animals (use a similar defense for Bird Baths and Bird Feeders.)



TROUBLE SHOOTING

Every bird infestation is a unique challenge, as numerous variables are involved. Besides obvious differences (bird type, infestation size, structure type and physical location...), environmental factors make it impossible to state installation "rules". Here are suggestions to maximize effectiveness, but experimentation is often required. Birds are creatures of habit, and they will try to reclaim their areas immediately after installation. While they will be quickly discouraged, they will seek alternate areas. Therefore, make sure you've...

- first read this manual and completely understand the installation procedure.
- installed sufficient linear *feet*, and sufficient *rows* on surfaces wider than 5"
- treated non-yet-infested areas. If birds are routed from their original location only to move to a nearby untreated area, all efforts will have been in vain.
- cleaned and disinfected the infested area of nests, debris, etc. See GUIDE TO EFFECTIVE INSTALLATIONS. Repeat as necessary.
- checked that no flaw exists in the application. If so, birds may find it and infest, and you may need to amend the application.

WARRANTY

Stainless SPIKES Needle Strips are warranted against defects in materials and workmanship for one year from the shipping date. Bird-X will either replace or repair the defective material.

SYNERGY

You may find certain areas where it is undesirable or impractical to install spikes. If this is the case, we suggest that you protect these untreated areas generally by using other products (visual repellents, sound repellents) in conjunction with the spikes. This will maximize effectiveness throughout the entire property. Call (312) 226-2473 or visit www.bird-x.com for information on companion products.