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# CPRC

CANADIAN POLICE RESEARCH CENTRE



# CCRP

CENTRE CANADIEN DE RECHERCHES POLICIERES

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## TM-01-95 VELOHORN

By: Sgt. Ken Beiko

TECHNICAL MEMORANDUM

Submitted by  
Canadian Police Research Centre

July, 1994

NOTE: Further information about this report can be obtained by calling the CPRC information number (613) 998-6343

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## EXECUTIVE SUMMARY

A number of Velohorns were purchased and distributed across Canada to those police agencies with bicycle patrols. The Velohorn is a cylindrical warning device that fits into the end of a bicycle handle bar. It's placement is well thought out, and convenient. The activation switch lies along the handle bar end so that the rider need not move hands from the normal steering/holding position to sound the horn. The warning sound is considerably different from the conventional bell sound associated with bicycles.

## Résumé

Des avertisseurs Velohorn ont été achetés puis distribués aux polices canadiennes dotées de patrouilles cyclistes. Commode et bien pensé, cet avertisseur cylindrique s'insère dans le bout du guidon, et le bouton qui sert à l'actionner est si facilement accessible que le cycliste n'a pas à déplacer sa main pour klaxonner. Notons enfin que le bruit de l'avertisseur diffère considérablement de celui des timbres habituellement associés aux vélos.

The following field test comments were received from various Canadian police agency Bicycle Patrol Units:

#### SOUND LEVEL

- piercing sound
  - sound is harsh
  - authoritative sound
  - performs adequately
  - pedestrians alerted easily
  - horn is adequate in enclosed areas
  - good loud and piercing warning sound
  - sound loud enough to get people's attention
- 
- insufficient volume
  - horn not loud enough
  - noise drowned out by normal traffic
  - horn cannot be heard in open spaces
  - sound emitted not loud enough in traffic
  - sound level should be increased for the urban environment
- 
- sound emitted to side when it should be forward
  - people associate a bell with the bicycle, consequently, the sound startled most

#### FIT

- convenient fit
- 
- barely fit into handle bar
  - not compatible with some bicycle handle bars
  - does not fit well into handle bar and protrudes

#### LOCATION

- easy to reach
- excellent location

## **USE**

- easy to use
- simple to use/activate
- good access to activation bar
  
- should have longer activation bar
- activation bar/switch hit often accidentally
  
- incorporate a remote horn button
- have activation button instead of bar

## **DESIGN**

- unique design
- well designed

## **INSTALLATION/REMOVABILITY**

- easy to install
- easily removable

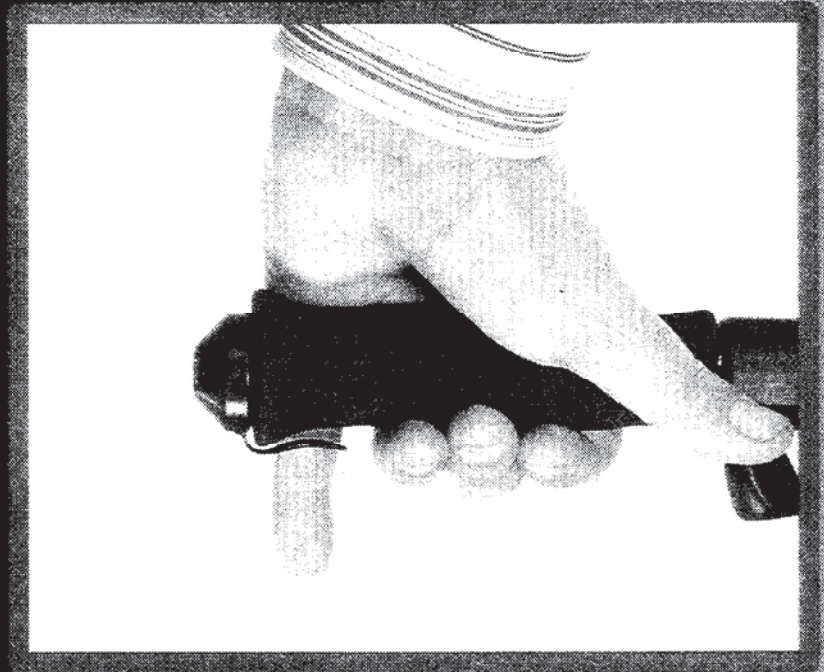
## **SAFETY**

- safer to use than bell; hands stay on handle bar
- does not interfere with hand placement or bicycle operation

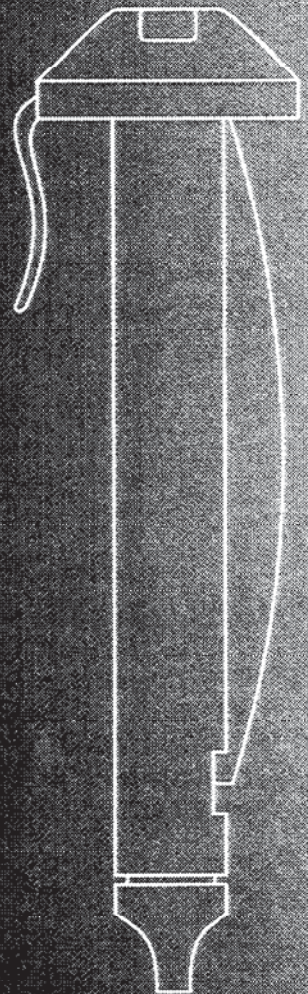
## **OTHER**

- useful,
- compact
- weather proof
- battery seems unaffected by cold weather
- would damage easily when bicycle dropped
- would be useful for joggers

*Velohorn™*



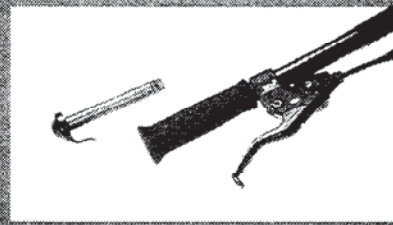
**NOW**  
a  
**BICYCLE HORN**  
at  
your  
*fingertip*



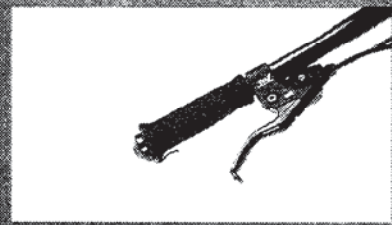
Actual Size

# Velohorn™

## NO CLUTTER



Before Installation

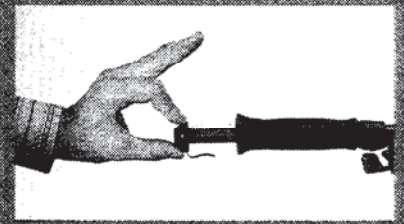


After Installation

## EASY TO INSTALL



Cut Handlebar Cap



Insert Velohorn

Velohorn is a new and innovative bicycle horn using piezoelectric technology to provide cyclists with "sound protection".

Velohorn is unique because it fits **inside the handlebar**, and won't sacrifice valuable space.

Velohorn uses a newly designed tension spring to hold it in place, and requires no special tools or skills for installation.

Velohorn has been receiving much attention for its innovation and design, including being voted one of the **Best New Sporting Goods Products** for 1991.

### SPECIFICATIONS

SOUND: Piezo Warning Signal - 110dB.  
POWER: (1) A23 12v Battery - 10,000 Activations  
WEIGHT: 1 oz.  
MATERIAL: Durable Nylon - Weatherproof  
INSTALLATION: Insert In Handlebar - No Tools  
ACTIVATION: Baby Finger Button Control  
WARRANTY: 1 Year

Printed on  
recycled paper



Imprimé sur du  
papier recyclé

Another Product By:

International Ventures & Innovations Group Inc.  
61 Melrose Ave.  
Ottawa, Ontario,  
Canada K1Y 1T8

**INVENT**™

Tel. (613) 722-0847

Fax. (613) 722-4205





**A Bicycle Horn for  
"sound protection".**

**Purpose**

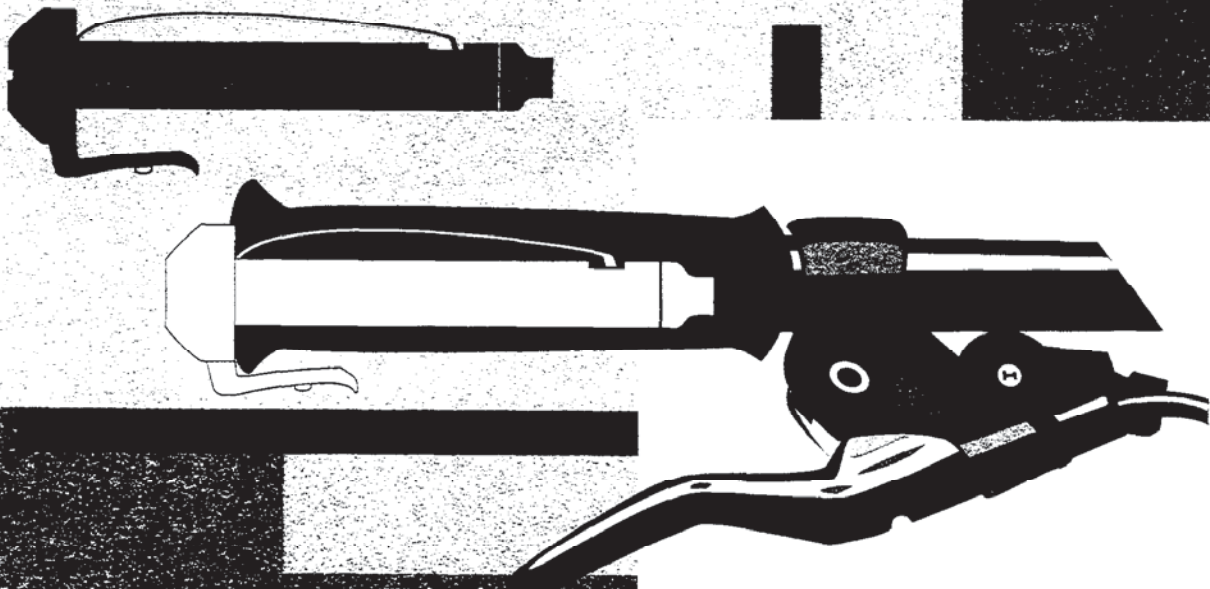
VeloHorn was primarily designed to warn fellow cyclists, hikers, joggers etc. to let them know a cyclist is approaching.

**Safety**

The unique design allows the user to keep full control of the brake lever while activating the horn.

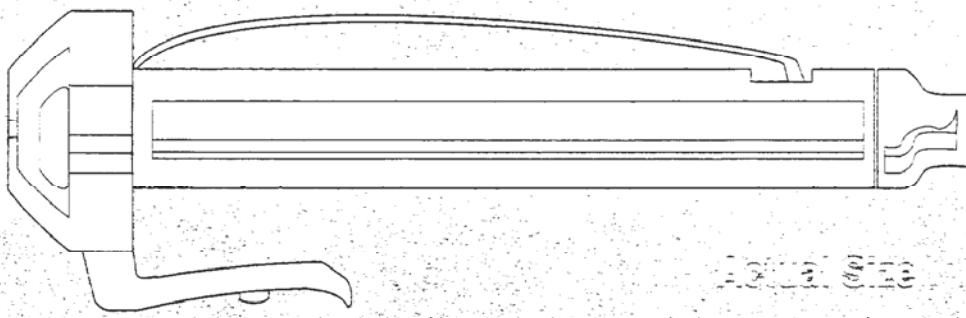
**LAW ENFORCEMENT**

The truth is, some form of a warning device is mandatory in several states. With the increasing number of bicycling commuters, the law enforcement of lights, horns and helmets is becoming a fact of life.

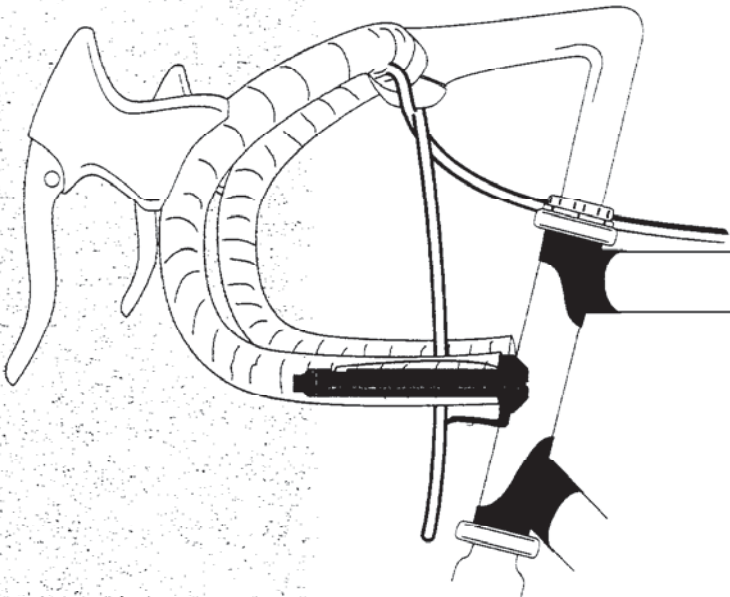


**A Bicycle Horn** that fits inside the handlebar.





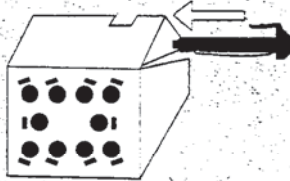
Actual Size



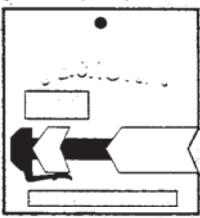
**fits inside handlebar**

**is easy to install**

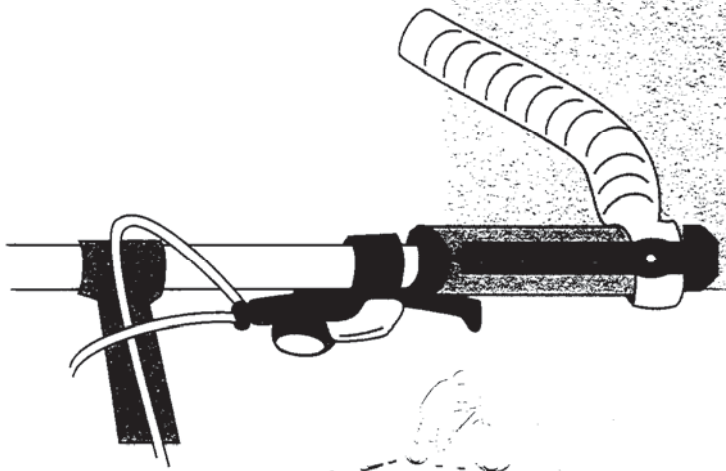
**no clutter**



**POP Display**  
 - A stylish, compact display box that houses 10 units and allows your customer to get that "hands on feeling".



**Hanger Card**  
 - A 6x10 hanger card that is functional and eliminates all plastic waste.



U.S. Patent Number 5,083,108 International Patents Applied For

**SPECIFICATIONS**  
 SOUND: Piezo Warning Signal - 100dB.  
 POWER: (1) A23 12v Battery - 10,000 Activations  
 WEIGHT: 1 oz.  
 MATERIAL: Durable Nylon - Weatherproof  
 FIT: Handlebar inside diameter 11/16" - 1"



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**AVAILABLE THROUGH DISTRIBUTORS**





International Ventures and Innovations Group Inc  
61 Melrose Ave Ottawa Ontario K1Y 1T8  
tel: 613/722-0847 fax: 613/722-4205

To: Ken Beiko

Company: CPRC

August 4 /94

Dear Mr. Beiko;

Thank you for your letter regarding police evaluation of the VeloHorn bicycle warning device.

We would like to take the opportunity and discuss some of your listed comments.

- insufficient volume or warning noise!

First and foremost VeloHorn was not designed to fight multi lane traffic. in these extreme conditions a cyclist can not safely rely on any warning device, no matter how loud the warning noise. Car drivers tend to expose thmsel to a lot of cabin noise, like radios,soundsystems and so on. On your bicycle you can never be sure of the noise level a car driver is exposed to. For this reason it would in our opinion be safer not to rely on the noise of any warning device, but to make every effort to stay out of the way of motor vehicles, who is stronger either way.

VeloHorn was designed mainly to warn other cyclists, pedestrians, roiierbiaders etc. They more often then not, share the same specially designated drive space, but due to the different nature of activity move at different speeds. A quick sharp warning signal, easily heard and recognized.. but not totally annoying, is in our opinion the best way to prevent unnecessary accident. it is here, where VeloHorn excels, be it on bike paths.. downtown areas, out in the suburbs, or off road trails. ( The police departements own view on this matter would be highly appreciated )

- Sound direction & does not fit bared type handlebars!.

Both issues are somewhat related. The horn has two holes that project sound both forward and backward The reason for the two holes is that normally the horn is installed with the switch facing downside over the grip. If a user has barends the switch has to face upward over the barend and will then be activated with the palm of a hand instead of the baby finger.

- The placement!

This may create a problem due to the continued dropping the police bicycles. Generally the horn is designed to withstand droppings even on pavement but continued dropping may create a problem.

- Remote button activation

In fact this feature is planned for a future model line.

VeloHorn is available at most specialty bicycle stores across Canada, as well as some EATON stores. Other major chain stores may be added in the future.

We would like to take this opportunity and thank the research center for this invaluable evaluation opportunity. 'You have been a good sounding board opportunity to eventually apply similar applications in an international market place.

We will gladly keep you informed on any further product improvements.

Sincerely;

Juergen Schlaepfer

A handwritten signature in black ink, appearing to read 'Juergen Schlaepfer', with a long horizontal stroke extending to the right.