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# CPRC



# CCRP

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## TM-08-97

# WARTHOG EVALUATION - STOP A HIGH SPEED PURSUIT BEFORE IT BEGINS

By: Staff Sergeant Fenrich

### TECHNICAL MEMORANDUM

Submitted by  
Staff Sergeant Fenrich  
Edmonton Police Service

April, 1997

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

## **EXECUTIVE SUMMARY**

In 1992 Sgt. D. Jones, Edmonton Police Service began experimenting with different methods of disabling vehicles. By 1994 he had developed a small pocket size device which has become known as the "Warthog". In 1995 Ms. C. Wagar, contacted the Canadian Police Research Centre who assisted in the further development and exposure to the Canadian police community. This report describes what the "Warthog" is and how it can be deployed to reduce the number of high speed chases.

## **SOMMAIRE**

C'est en 1992 que le serg. D. Jones, du service de police d'Edmonton, a commence a mettre a l'essai differentes methodes pour neutraliser les vehicules. Il lui a fallu jusqu'en 1994 pour mettre au point un petit appareil portatif desormais connu sous le nom de «Warthog». En 1995, a la demande de Mme C. Wagar, le Centre canadien de recherches policieres a aide le serg. Jones a perfectionner son produit et a le soumettre a la communaute policiere canadienne. Le present rapport decrit le «Warthog» et comment il peut être utilisé pour réduire les poursuites a haute vitesse.

## **INTRODUCTION**

In 1992, Sgt. Dan JONES of the downtown patrol division of Edmonton, began experimenting with different methods of disabling motor vehicles that had been placed under surveillance. The original tire deflation device consisted of a bent coat hanger with sharpened ends. The problem encountered with this design was the lack of air escaping. To correct this the coat hangers had hollow spikes welded to them to assist with tire deflation. This also proved unacceptable as the coat hangers could become projectiles flying off the tires at high speeds.

Over the next two years the design was altered and 1/4 inch rubber pad was glued onto a small aluminium plate. The rubber pad had two holes drilled at 70 degrees where the spikes could be mounted. These proto-types prevented any projectiles from attaching themselves to the tires as the base remained at the point of origin. Several units were handmade and given to Auto Theft members to try out during a "HOT WHEELS" operation. The "WARTHOGs" worked four out of five times they were used. The one time they did not work was on a truck tire that had large knobby treads. The spikes penetrated on an angle and never punctured the tire.

## **CPRC CONTACTED**

In 1995 Sgt. JONES contacted Ms. Carol WAGAR and requested her assistance in the development of the "WARTHOG". Ms WAGAR, the Edmonton Police Services CPRC Technology Partner Associate contacted Mr. John ARNOLD at the CPRC. Misters Arnold and Cartwright of CPRC met with Ms. WAGAR and Sgt. JONES to see if they could help. The CPRC assisted the developer with exposure to the Canadian policing community. CPRC arranged to have 100 "WARTHOGs" manufactured in Ontario and handed them out to police Chiefs at the 1995 annual Chiefs of Police Conference in Regina Saskatchewan. Approximately 40 inquiries on the "WARTHOG" were received and this assisted in the development of a distribution network that is in place today. The name "WARTHOG" was suggested by CPRC and adopted by the developer.

## **OPERATIONAL TRIALS**

During the 1995 "HOT WHEELS" Operation it was found that the aluminium backing scratched easily and dented when vehicles drove over it. It was also noted that the spikes stability could be in question as the spikes had little support. A design change incorporated a "hump" on the Warthog to assist with spike stability. The aluminium backing was also removed in favour of a small metal plate inserted into an all rubber base. This new design greatly increased the durability of the "WARTHOG" and to date no units have worn out through normal use. To date, spike stability is not a problem and the entire unit is more effective. The following is an account of several field trials of the "WARTHOG" during the 1995 Hot Wheels Operation run by Det. Warren OTTENBREIT of the auto theft unit.

In April, surveillance was set up on a stolen 1993 Pontiac Sunbird at a local shopping mall. A "WARTHOG" was set up under the front passengers tire. Two suspects returned to the vehicle and drove off. The spikes punctured the tires and a slow controlled deflation began. Approximately 90 seconds later the tire was completely flat and the driver pulled over to check the tire. At this point the auto theft members moved in and arrested them without incident. The "WARTHOG" base was recovered where the vehicle was originally parked and the spikes were removed from the tire and were reusable.

On May 4th, 1995 surveillance was set up on a stolen 1994 GMC Jimmy that had been laid down on a residential street. Two suspects returned and drove off engaging the spikes which were positioned under the front right tire. These tires were brand new with thick treads. The tire began a slow deflation and became completely flat after several blocks however the vehicle continued driving. The vehicle stopped several blocks later and the driver was arrested. The driver had a history of pursuits in stolen vehicles and was impaired when arrested this time.

On July 28th, 1995 surveillance was set up on a stolen 1981 Ford Thunderbird at a private residence. A "WARTHOG" was set up under the front left tire. A suspect returned to the vehicle and drove off. The spikes were engaged and the tire was flat within a block. The driver pulled over to check on his tire and was arrested without incident.

A failure was also recorded during the 1995 Hot Wheels Operation while assisting patrol units.

A "WARTHOG" was set up under the front tire. The accused returned and drove off. The spikes had not engaged at all and were in the same position when they are retrieved. Upon discussing the incident with the member that positioned the "WARTHOGS" it was learned that the Camaro had it's front wheels cranked fully to the right. When the suspect returned he cranked the wheels to the left and drove off effectively turning out of the "WARTHOGS" and avoiding all contact. A "WARTHOG" may have been effective in this situation had it been placed under the rear wheel or attached to the top of the front tire. **Every situation should be studied prior to installing the "WARTHOG".**

Another unsuccessful attempt was documented when the "WARTHOG" was placed under a large knobby truck tire. The spikes were not aligned to the truck tire grooves and the spikes dug into the knobs at an angle and did not penetrate the tire. Again it may have been beneficial to attach the "WARTHOG" to the top of the tire and stick the spikes into the tire grooves for the best penetration possible.

in 1996, several "HOT WHEELS" operations, headed up by Det. Guy KINNEY, of the Auto Theft Unit using the "WARTHOG" were documented.

On April 13th surveillance was set up on a \$35,000 stolen Jeep at an apartment complex. A "WARTHOG" was placed under the front tire. No suspect returns and a tow truck was called. The tow truck pulled the Jeep out of the stall and the spikes engaged flattening the tire in 90 seconds. The "WARTHOG" had been inadvertently left in place.

On May 7th, surveillance was set up on a \$37,000 stolen Dodge Ram Diesel 4x4 truck behind an apartment complex. The right front tire had a "WARTHOG" put in place and surveillance was set up. Two suspects returned to the vehicle and backed it up engaging the spikes. The tire immediately began a slow controlled deflation. Approximately 90 seconds later the tire was completely flat. The suspect drove a short distance further and pulled over where they were arrested. The only damage was a flat tire.

On May 10th uniform patrol officers sat up on a \$16,000 stolen Nissan car. They did not have "WARTHOGS" with them. A suspect returned to the vehicle and drove off. An attempt to stop him resulted in a horrendous pursuit at 3 o'clock in the afternoon through residential areas. The pursuit had to be terminated whereby the suspect and vehicle were lost.

Several hours later the same suspect vehicle was again located. This time the auto theft "HOT WHEELS" team was called in and the front tire had a "WARTHOG" placed under it. Surveillance was set up and the suspect returned and drove off. The spikes engaged and a controlled deflation began. The suspect pulled over with a flat tire and was arrested without incident. The suspect had an extensive history of high speed pursuits in stolen vehicles and was charged with the pursuit from earlier in the day.

On May 27th, surveillance was set up on an \$18,000 stolen Jeep. Three "WARTHOGS" were placed under the tires and surveillance was set up. After a lengthy surveillance the suspect returned and drove away. The suspect parked and left and the tires were not flattened. Investigations revealed that a young girl had been playing in the area and saw the "WARTHOGS". She picked them up gave them to her father who turned them into the police.

Because a "WARTHOG" is inexpensive it was not a major concern that three units had gone missing. Depending on the location and situation involved a "WARTHOG" may have been more useful being planted on top of the tire where it could not have been seen.

On June 14th surveillance was set up on \$9,000 stolen 1990 Olds Cutlass. The right rear tire had a "WARTHOG" positioned under it. The suspect returned and drove off

however he pulled over a short distance later with a flat tire and was arrested without incident. The suspect had a history of pursuits in stolen vehicles with police.

On July 9<sup>th</sup> surveillance was set up on a \$16,000 stolen 1991 Sierra truck. The right front tire had a "WARTHOG" placed under it. A suspect returned and drove off. The tire engaged the spikes and deflation began flattening the tire. The suspect pulled over and exited the vehicle and was arrested after a foot chase. The suspect had a Canada-wide warrant out for being a parole violator and investigations revealed he was headed to a "Chop Shop" with the stolen truck where it would have been sold and dismantled.

On August 16<sup>th</sup> surveillance was set up on an \$8,000 stolen 1990 Plymouth car. Both front and rear passenger side tires had "WARTHOGS" placed under them. Three suspects walked past the stolen vehicle several times looking all around prior to entering the vehicle and driving off. Both tires were punctured and flattened within 90 seconds. The suspects pulled over and were arrested without incident. All three suspects had just arrived in Edmonton from British Columbia the night before and had stolen the vehicle. All three had records for armed robbery.

## **CURRENT SITUATION**

There were some initial concerns that the continued application of the "WARTHOG" would become known to the street level car thief, either by word of mouth or from testimony of its use in court proceedings. This has not been the case, as there has not been a single case of suspects looking for or finding one of these devices. It is apparent that the use of this disabling device is not yet known to the criminal element.

The continued success of the "WARTHOG" device is extremely encouraging, particularly in the preserving of the safety of the public, the police and the accused. We are confident that the application of this device has caused **a decrease in police pursuits** and we are continuing to encourage its use.

The "WARTHOGS" have proven to be a very effective tool in the fight to reduce police pursuits. Due to their success they were made available to operational personnel for street use in 1996. The "WARTHOG" is considered one of the factors identified in reducing police pursuits in Edmonton between 1992 and June 1996 by 40%.

In 1996 the "WARTHOG" was implemented into the Edmonton Police Policy and Procedure Manual and is carried and available to police personnel through their Quartermaster Stores. Several articles have been published in Police Magazines including an article penned by Det. Darren EASTCOTT of the E.P.S. Auto Theft Detail. This article was published in the International Auto Theft Investigators Association's official publication in July of 1996.

A videotape of the "WARTHOG" has been developed by the Edmonton Police Service. The videotape shows the proper positioning of the "WARTHOGS". It also shows a slow controlled deflation.

For further information on the "WARTHOG" contact:

**Impact Police Technologies Incorporated**

Tel/Fax: (403) 458-7944

On the Web at [www.compusmart.ab.ca/ipt](http://www.compusmart.ab.ca/ipt)

E-mail: [ipt@compusmart.ab.ca](mailto:ipt@compusmart.ab.ca)

*THE* **WARTHOG**



**PREVENT HIGH SPEED PURSUITS  
FROM BEGINNING**

When law enforcement officers find parked stolen vehicles or vehicles used in a crime, place the WARTHOG under a tire of the vehicle. When the suspect gets in the vehicle and drives off (with officers in surveillance) the result is a flat tire within 1 to 3 blocks, making apprehension possible without a dangerous high speed pursuit.

- Device is virtually impossible to see when in place under a tire.
- Compact & light weight (3 1/2" x 1 1/4" x 1/2", weighs a few ounces).
- Can be carried in officer's vest pocket.
- Low cost.
- Prevents high speed pursuits from even beginning.
- Proven successful by a number of police services in North America.

**IMPACT POLICE TECHNOLOGIES, INC.**

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