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CANADIAN POLICE RESEARCH CENTRE

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CENTRE CANADIEN DE RECHERCHES POLICIERES

TM-22-95
EVALUATION OF AUTO-KILL SWITCH

By: Ms. Carol **Wagar, Edmonton Police Service**
Supt. G. Geldart, Fredericton Police Force
Captain A. Joly, Service de police de Hull

TECHNICAL MEMORANDUM

Submitted by
Canadian Police Research Centre

June, 1995

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

EXECUTIVE SUMMARY

The Auto-Kill Switch (Rushton Vehicle Anti-Theft Device) allows a police officer to leave the patrol car running while away from it. However, if someone attempts to drive off in the car, it will stall and will not restart. Edmonton Police Service, Fredericton Police Force and the Service de police de Hull tested the device, and this report contains the results of their evaluations.

SOMMAIRE

Le commutateur «Auto-Kill» (dispositif anti-vol de véhicules Rushton) permet à un agent de police de laisser son vehicule de patrouille en marche lorsqu'il s'en éloigne. Si toutefois quelqu'un tente de s'emparer de son véhicule, son moteur cesse de tourner et il est impossible de le faire redémarrer. Les services de police d'Edmonton, de Fredericton et de Hull ont fait l'essai de ce dispositif et ce rapport en contient les résultats.

INTRODUCTION

The CPRC was contacted by Mr. R. Kowalski, an Industrial Technology Advisor (ITA) from the Industrial Research Assistance Program (IRAP) of the National Research Council (NRC) in Fredericton, New Brunswick to ascertain if the CPRC, through its technology partner network, would evaluate a prototype "auto-kill switch". A request was sent out to the Technology Partner Associates (TPAs) in police services across Canada. Three agencies, Edmonton, Fredericton and Hull, agreed to participate. This product allows a police officer to leave the patrol car running, but if someone attempts to drive off in the car, it will stall and cannot be restarted.

EVALUATION

The evaluation results are summarized as follows:

1 . Installation

a. **All said the installation instructions are clear and easy to follow.**

b. **All said the material provided in the kit is satisfactory; one suggested that the module mount be improved; another suggested the addition of a warning light to indicate that the device was activated.**

c. **No problems were experienced installing the device.**

d. **The average time to install the device was approximately 45 minutes to 1.5 hours. It was suggested that it could take up to three hours, depending on the type of car.**

e. **General comments included:**

longer wires needed
should not be mounted near the brake pedal or emergency brake
should have a better mounting method

2. Operation

a. **All agreed that operation of the device was easy to understand.**

b. It took mere minutes to get accustomed to using the system but that it was “difficult”.

It took one week and was not difficult.

It took 2-3 weeks on average for members to become comfortable.

c. The car horn was used by two to “disarm” the device. One used a momentary button.

d. All said the device functioned properly at all times, except for one unit which had to be returned.

e. All said that the device did not cause any problems, mechanical or otherwise. However, concern was surfaced about potential high risk vehicle stops when the vehicle stalled thereby causing a safety concern.

f. All felt more confident and assured knowing their vehicle was protected while they were away from it while it was running.

g. There were no known attempts to steal any of the testing vehicles while the device was installed.

h. All feel this is an effective device. One felt it should not be standard police vehicle equipment.

i. General comments or recommendations:

Two suggested that a light or similar device should be installed to indicate whether or not the system is activated.

One said, due to safety concerns during high risk vehicle stops, they would not recommend its use.

The devices were mounted in a 1992 Ford Taurus, a 1993 Ford Explorer, several 1992 and 1994 Ford Crown Victorias and a 1990 Chevrolet Caprice.

There are two versions of the device described on the attached sheet.

The CPRC would like to thank and acknowledge the participation of:

Mr. Rick Kowalski, NRC IRAP, Fredericton
Mrs. Carol Wagar, Edmonton Police Service
Captain Andre Joly, Service de police de Hull
Superintendent Sheldon Geldart, Fredericton Police Force

For further information regarding the Auto-Kill Switch, please contact:

Mark Rushton,
Force 1 Automotive
Emergency Vehicles
1944 Lincoln Road,
Fredericton, NB E3B 4X2

Telephone: (506) 457-0899

ANTI-THEFT DEVICE

The operational basis of the device is as follows:

When the system is activated the vehicle continues to run. However, any attempt to put the vehicle in any drive gear (drive or reverse) the ignition power circuit will "open " causing the engine to stall immediately. This system functions on vehicles equipped with automa tic or manual transmissions.

How the System works:

1. **The System is an automatic one whereby it is engaged by the opening of the driver's door (the door switch initiates the System).**

2. **If someone attempts to drive off in the vehicle, it will stall.**

3. **The System is disengaged by pressing the vehicle's horn button once. In this scenario the horn will not sound on the first press, however, it will resume normal function thereafter.**

4. **If the horn button is not pressed the vehicle will not start.**

ANTI-THEFT DEVICE

The operational basis of the device is as follows:

Svstem No. 1

1. **The system is engaged by a toggle switch installed in the dash area of the vehicle. It may be hidden or blended in with other emergency switches.**

2. **The device controls the opening and closing of the vehicle's ignition power circuit. When the toggle switch is in the "off" position, the circuit and system of the vehicle function normally.**

3. **When the device is activated by switching the toggle switch to the "on" position, the vehicle's ignition power remains closed and the vehicle continues to run. However, any attempt to put the vehicle in any drive gear (drive or reverse) the ignition power circuit will "open" causing the engine to stall immediately. This system functions on vehicles equipped with automatic or manual transmissions.**

Svstem No. 2

1. **This system operates in the same fashion as System No. 1. However, System No. 2 is an automatic system whereby the system is engaged by the opening of the driver's door. The effect of opening the driver's door is the same as turning the toggle switch to the "on" position in System No. 1.**

2. **Deactivation of System No. 2 is accomplished by manually disengaging the system. There are two options in this regard; the first option involves the installation of a switch to the "off" position, the system is immediately disengaged. The second option disengages the device through a connection to the horn. The system is shut off by pressing the vehicle's horn button once. In this scenario the horn will not sound on the first press, however it will resume its normal function thereafter.**

3. **Please note, both systems (i.e. the shut off switch or the use of the horn) may be simultaneously installed.**