**Tires and Rim Thefts – Can Tire Pressure Monitoring Sensors**

**Assist Law Enforcement in Identifying and Recovering the Stolen Property?**

By: Chief Jim Hurley (retired), and

NESPIN Law Enforcement Coordinator

**Synopsis of the Problem**

Tire and rim thefts from vehicles appear to have become a lucrative way to make money for the individual thief and organized gangs. New England and central Massachusetts are not exempt from this criminal activity. As it attempts to bring this criminal activity under control, law enforcement is ramping up its response to, and the investigation of, these crimes. The police, however, face many hurdles as they seek to solve these crimes and recover the stolen tires and rims. [1]

On June 26th NESPIN held an information sharing meeting for agencies investigating or seeking information pertaining to tire and rim thefts. Approximately two dozen agencies attended the meeting and one frustration was universal amongst those in attendance. The frustration was an inability to positively identify and recover stolen rims during the course of an investigation.

**Victim & Police Frustration**

Officers/investigators frequently receive calls from the victims of tire and rim theft incidents, who are reporting that they have located their stolen tire and rims posted for sale on the internet. When the victims are pressed by the police to positively identify the stolen items as coming from their vehicles, the victims are unable to provide any identifiers that can positively link the tire and rims back to their vehicles. After all, most vehicle manufacturers produce hundreds of thousands of identical tires and rims for each model of vehicle they sell. The fact that the tires and rims cannot be identified leaves the victims and police officers frustrated as they are not only unable to criminally prosecute suspects but they are also unable to seize the tires and rims based on the lack of positive proof they are stolen. This permits the suspect to walk away free with the victim’s property.

**Could the Solution be in Your Tire Pressure?**

While most motorists dread when the “low tire pressure” warning light is illuminated on the “driver information center” (DIC) screen on their vehicle’s dash, this tire pressure monitoring system, under the correct circumstances, can increase law enforcement’s ability to identify stolen tires and rims. [2]

As the result of a massive tire recall, resulting from defective tires, whose tread was separating, President Clinton signed the “Tread Act” in 2000, which mandated that Tire Pressure Monitoring Sensors (TPMS) be included in all passenger vehicles and light trucks for manufacturer’s 2004 and later vehicle models. The Tread Act impacted the aforementioned vehicles with a gross vehicle weight rating (GVWR) of > 10,000 lbs. [3]

**How a Tire Pressure Monitoring System (TPMS) Works**

As a result of the Tread Act, vehicles are now equipped with one of two types of “Tire Pressure Monitoring Sensors.” Vehicles that are equipped with Direct Tire Pressure Monitoring Sensors have a sensor physically located in the vehicle’s four tires. These battery powered sensors are synced to the vehicle’s Electronic Control Unit (ECU), also referred to as the vehicle’s onboard computer system. When the TPMS are synced to the Electronic Control Unit (ECU), it records each sensors’ identification number and the tire position where each sensor is located on the vehicle. [4] [5]

Officers responding to car dealerships, where tires and rims are stolen, should request that the dealership download the TPMS identification numbers, so that in the event the tires are recovered, they can be positively linked back to the specific vehicle and theft. It is important to note that this download must be completed before replacement tires are put on the vehicle. Once the replacement tires are put on the vehicle, the new TPMS will sync with the vehicle’s engine control unit (ECU), which overrides the identification numbers of the TPMS from the stolen tires. [6]

**How Does This Help Law Enforcement?**

The investigation into the theft of the tires and rims leads the officer to a storage facility that is filled with tires and rims. There are approximately 20 that meet the description of the tires and rims stolen in the case the officer is investigating. By using a scan tool, which when placed in close proximity to the tire’s valve stem, the officer is able to detect and display the identification number for the TPMS for that tire and thus identify a stolen tire and rim. (Note: Sensors will not just respond to any scan tool. They respond to Low Frequency activations using unique protocols and there are hundreds of protocols which are determined by the vehicle make and model year.)

**Experienced Investigators Urge Caution On Using TPMS Identification Numbers**

During the course of developing this informational article the experienced investigator(s) I spoke with urged caution when using TPMS ID numbers to track stolen tires. Their caution is based on, but not limited to, the following information:

* While the aforementioned identification process sounds simple, in reality it is much more complicated as each “Original Equipment Manufacturer (OEM)” utilizes different TPMS protocols. Based upon this, in order to properly read a TPMS, the “Scan Tool” needs to be properly synced to the vehicle’s OEM. If the OEM for the vehicle from which the tire and rims were stolen is unknown, the task becomes more complex and requires a scan tool that can determine the vehicle’s OEM. Investigating officers may wish to seek assistance through NICM
* TPMS sensors can be cloned.

Officers should use caution when using TPMS sensors to establish probable cause, based upon the above information, and, like any investigative technique, investigators should use discretion pertaining to disclosing the use of TPMS ID numbers to track tires. [7]

**TPMS Technology Is Still Emerging**

TPMS technology is still emerging and its use in criminal prosecutions may face challenges. As time passes, tire pressure monitoring sensor technology and availability will improve. Much like the arrival of crash data recorders several decades ago, the data generated by new technology will evolve into data that is routinely sought as evidence in ongoing investigations.

**Additional Hurdles**

There are many variables that could interfere with law enforcement’s ability to use TPMS data to identify stolen tires and rims, including, but not limited to, the following:

* TPMS not functioning properly.
* TPMS not properly synced to the vehicle’s computer (ECU).
* TPMS unit(s) were replaced with traditional valve stems.
* Tires are not equipped with a “direct” tire pressure monitoring sensor.
* Along numerous other factors………………

Investigators are encouraged to consult with experienced individuals pertaining to TPMS ID number recovery.

**Is There A Database To List Stolen TPMS ID Numbers?**

NICB can be utilized to enter stolen TPMS numbers as stolen vehicle parts. NICB will also list the TPMS units within their system, which is available to law enforcement.

**National Insurance Crime Bureau (NICB)**

Officers responding to large scale tire and rim thefts should also consider contacting NICB, who can provide additional resources to assist in the investigation. They also have an extensive network of contacts throughout the auto industry, up to, and including the OEM’s.

**References**

1. <https://www.insurancejournal.com/news/national/2015/06/18/372212.htm>
2. <https://aviondemand.com/insider/gm-tpms-setup-relearn-procedures/>
3. <https://www.bartecusa.com/tpms-legislation>
4. <https://pmctire.com/en/info/tpms-valves/type-of-tpms-valves.tire>
5. <https://www.autel.com/u/cms/www/201310/TS501%20User%20Manual_V3.00.pdf> (section 2)
6. <http://www.buiclub.com/info-3264.html>
7. Experienced Investigator(s)

**Other**

1. Photos & photo use rights purchased from [www.istockphoto.com](http://www.istockphoto.com)