

Vehicle theft: driven by technology



According to the U.S. Dept. of Justice, vehicle thefts were up 11.8% from 2019 to 2020¹ and the trend appears to have continued during 2021. The Global Pandemic may be contributing to the increase in thefts. In a recent interview² David Glawe, President and CEO of the National Insurance Crime Bureau stated, “You have a high demand for used vehicles, and a low supply, and what that makes is a “perfect storm” for increased crime”.

Late in 2020 the NYPD and New York Attorney General announced a successful conclusion to their investigation dubbed “Operation Master Key”. An auto theft ring responsible for over 225 vehicle thefts was “taken down” and 10 suspects charged with multiple crimes. The Commissioner of the NYPD was quoted³ as saying “This was a complex, high-tech operation that sought to weaponize every hidden vulnerability in the automotive industry from creating keys based on bootleg code lists to altering computer settings to creating a mill that furnished false registrations for altered VIN numbers. Being an operation that never missed a chance to exploit vulnerability, it also turned up the volume of thefts during the pandemic, knowing that people were homebound or sick.”

Technology Giveth, Technology Taketh Away

Technology has been a boon to automakers and consumers. Everything from anti-lock brakes and adaptive cruise control to automated emergency braking and forward collision warning systems have made the driving experience better, and safer. Vehicles are now, quite literally, computers on wheels.

However, advancements in technology can have a downside. Keyless entry and ignitions are very convenient for drivers, and equally convenient for thieves - in many cases extremely easy. If the driver inadvertently leaves the key fob inside the car, someone can just walk right up, open the door, and drive off. In other cases, the thieves must be clever and well equipped.

High Tech Theft

Today’s car thieves need help to overcome and defeat vehicle security systems. “Relay attacks” take advantage of vulnerabilities in keyless entry systems. Two thieves work in tandem using devices that pick up the key fob signal from inside a building, and then amplify it. One person stands next to a building (make ready or detail shop for example) and their device picks up a key fob signal from inside. That signal is amplified and then relayed to the second individual who’s standing by the vehicle’s car door with another device. The vehicle thinks the key fob is there, so the door can be opened, and the ignition activated.

A second high-tech method is gaining in popularity as a result of improved vehicle security systems – it is much more difficult to steal a car without a key/fob. OBD (On-Board Diagnostics) ports are being exploited by thieves to access vehicle ignition systems. They use force to break windows and enter the vehicle, so they can link up with the OBD port. The crooks connect a professional grade programming tool to the port and “program” a new key fob.

Both the tools and key fobs are readily available on the Internet or can be stolen from legitimate users like locksmiths or auto service facilities. Once the new fob is programmed, thieves can fire up the engine and drive off with their prize.



An Ounce of Prevention

So, what can dealerships and consumers do to protect their investments? “Layered Security” is the best option for auto dealers. Seal the lot perimeter as well as possible using fencing, gates, blockers and natural terrain features like ditches and trees. Installing “active video monitoring systems” that include motion-activated cameras and are monitored 24/7 offer excellent protection. High valued, and oft-stolen inventory should be stored inside or in other protected areas. Other security options include:

- First, something simple; lock the doors and take the keys
- Equip all buildings with burglar alarm systems that are monitored by a central station
- Install an OBD Lock to prevent thieves from accessing the port
- Use a steering wheel lock as a mechanical deterrent to high-tech theft
- Install an immobilizer or other aftermarket anti-theft system
- Aftermarket alarm systems in addition to the OEM product may help deter theft
- GPS asset tracking systems can alert dealership personnel whenever the vehicle moves, geo-fencing features are helpful as well
- Store keys in “Faraday Bags” or sealed metal containers to block key fobs from transmitting codes outside the building where thieves can intercept and use them



Final Thoughts

Eventually manufacturers will need to address vulnerabilities in keyless systems and come up with solutions to protect vehicle owners. Dealers should consult with local law enforcement to determine which vehicles (or manufacturer) are being targeted in their region. If specific vehicles are being stolen, add an extra layer or two of security to those vehicles. Many cities have vehicle anti-theft task forces or similar units that can be a good source of information and can offer additional prevention strategies.

¹ Source: U.S. Department of Justice, Federal Bureau of Investigation, Uniform Crime Reports.

² NICB interview, October 2021 (Car shortage causes major increase in auto theft - Bing video)

³ Auto Theft Ring, Linked To Theft Of Over 225 Vehicles, Taken Down | The Bronx Daily | Bronx.com

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