



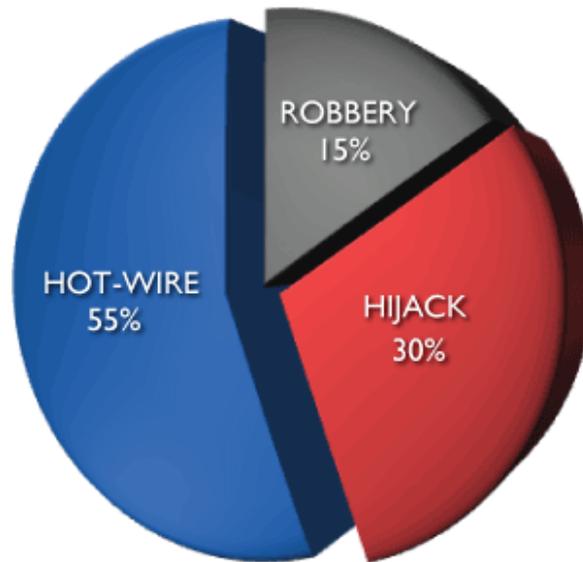
Review of car security systems to reduce risks of car theft in Malaysia

Update (26 Feb. 2013): My two blog articles on [car security](#) and [car theft statistics](#) in Malaysia were used in ntv7's The Breakfast Show today (Episode 41). Go to [tonton](#) (search for the show — free registration and free viewing) to view the show's segment on car security (at about 42:20 minutes).

One of the most harrowing experience for any car driver is to walk to your parked car, only to find an empty lot where your car used to be. One of your first thoughts must be, "I parked my car here, right? ... *Right?*" Then it quickly dawns on you that your car has been stolen.

I had previously written in [one of my blog entries about car theft in Malaysia](#). My simple analysis showed that a private car is stolen every 24 minutes in Malaysia and that the chance of recovery is a mere 10% on average.

Furthermore, 55% of car theft in Malaysia is by hot-wiring (that is, the thieves break into your car and somehow drive off your car without requiring your car keys). [Carjacking \(hijacking cars\)](#) is the next most common manner at 30% by which your car is stolen. Your car can also be the "lucky bonus" when your house, for example, is broken in by thieves, and they find your car keys. Taking advantage of their lucky find, the thieves take off with your car, perhaps even using your car to help to carry out your home possessions. This last manner by which your car is stolen forms 15% of car theft in Malaysia.



Various ways car are stolen in Malaysia (photo from www.netstar.com.my)

Car theft crime rate rises about 6% every year in Malaysia, and local cars, Proton and Perodua, continue to be the two most stolen cars in Malaysia. This is followed by Toyota (especially the Hilux model) and Honda (especially the Civic model) cars.



Top 10 most stolen cars in Malaysia in 2012 (photo from www.thestar.com.my)

I did some research via the web and even in car forums about car security. There is an adage in car forums that goes something like this: “If the thieves want our car that badly, they will get it whatever car security system we have, no matter how expensive or sophisticated the system may be.”

There is some truth in this adage, but before we feel helpless, I offer my own adage:

“The point of choosing a car security system is *not to eliminate, but to reduce* the risks of car theft. The better the system, the lower the risks.”

In other words, it is all about lowering (not eliminating) the chances of our cars being stolen. Let’s us now examine some car security features, starting with the most basic and common.

Window etching

This is where our car license plate number (some owners prefer engine chassis number) is etched onto a car window. The more windows that have this etching, the better. This is because if your car is to be re-sold, the thief would have to replace all the windows that have the etched identity numbers. This is an additional cost that may deter a thief. This method, however, does not help if the thief wants your car only for its spare parts.



Sandblasting to etch the car registration number onto the car windows (photo from www.thestar.com.my)

Car security window tint

Car windows are the weakest link in the car security system because they can be easily smashed. To make it more difficult to smash and break the windows, car security window tint ought to be installed. The security tint come in various thickness (measured in unit mil where 1 mil = 0.001 inch), and the thicker the tint, the stronger the protection the tint gives to the glass. Security tint 4 mil are usually installed for cars. You can opt for a thicker (which would also be more expensive) tint for higher protection. However, tints thicker than 8 mil for cars are rarely needed (as a side note, security tint 15 mil is installed for increased resistance against bomb blasts and earthquake).



Install a security tint to make it harder to smash your car windows (photo from ilovedeals.my)

Car security window tints are particularly resistant against blunt blows such as someone using a motorcycle helmet, baseball bat, or rock to smash the window. But these tints are instead vulnerable to blows from *sharp* objects such as from a screwdriver, ice pick, or any strong and sharp objects. Witnesses have reported car thieves have successfully smashed a car window fitted with security tint by using only the sharp point of an object. The thieves only took only a few seconds to compromise the security tint.

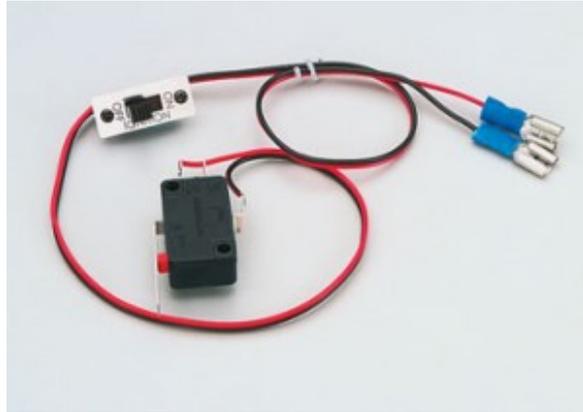
That said, security tint are useful in particular in protecting us and our belongings against smash-and-grab. See the video below for one example where a security tint could have been proven useful.



Drive-by smash-and-grab. A security window tint may have prevented the robbery.

Hidden ignition switch (or kill switch)

This is a very cheap and yet effective way to deter car theft. A switch is fitted to the car ignition and the switch hidden somewhere in the car. To start your car, you need both car key and to turn on the hidden switch. Without the two, your car won't start.



Installing a kill switch is cheap and effective against car theft (photo from www.car-theft.org)

Some creativity is needed to hide the switch or even fool the thief. The switch can be hidden under the dashboard or in some crevice in the car. Some people have made dummy switches or even requiring toggling on two switches (instead of one) before the car can be started.

Most hidden ignition switches are DIY (do-it-yourself), but many car accessory shops can do this for you for a small charge. The drawback is the accessory shop people would know where the switch is hidden in your car.

Steering wheel lock

This kind of lock is perhaps the most commonly found. What it does is it fits on your steering wheel, locking it, and making it very difficult to steer the car while the lock is still fitted.

Steering wheel locks may not considerably slow down a car thief from stealing your car, but its greatest strength is it is a visual deterrent. A thief who sees your wheel lock would stop and consider if it is worth the additional time and effort to

break your lock and steal your car. A car with a steering wheel lock makes it more attractive for the thief to steal *another car* that doesn't have the wheel lock. Of course, if a thief wants your car that badly, your steering wheel lock would only be a mild irritant to him.

That said, however, not all steering wheel locks are alike. Most locks are near worthless, but there are two locks in particular that give considerably better protection.

The problem with nearly all steering wheel locks are that they allow the thief to cut one or two places in the steering wheel to disengage the lock. So, you may have a lock that can withstand a meteorite impact, but the thief can still easily disengage the lock by merely attacking or cutting the steering wheel to which the lock is attached.

You need a lock that prevents the steering hub (center) and the wheel from being tampered by the thief. A good lock is one that physically covers the hub and the surrounding wheel, so that the thief cannot remove the whole steering wheel or cut any part of the wheel.

And forget about those steering wheel locks that can emit an alarm. The sound would be too faint to be heard by other people. At most, it would make the thief slightly deaf for a few seconds before he promptly disengages the lock and throws out the blaring wheel lock out of the window as he drives off your car.

As far as I know, only two steering wheel locks offer the kind of complete physical protection to both steering hub and wheel: Stoplock Ultima and [Disklok](#), where the latter lock can be found in some car accessories shops in Malaysia. These two locks are not perfect, of course. They can still be compromised but only with a lot of noise and effort on the part of the thief. A well known UK security expert, Giles Verdon, [took nearly two minutes to compromise both these locks](#). That he took two minutes might not seem long, but compare this period to 20 seconds or less Giles took to compromise other steering wheel locks.



Stoplock Ultima covers the hub and cannot be removed even if the steering wheel is cut, provided the lock is installed correctly. Disadvantages: heavy and expensive and does not fit all wheels. No longer sold in Malaysia. (photo from www.cartuningparts.co.uk)



Disklok covers the steering hub and wheel completely. Disadvantages: expensive and heavy. However, it comes in three sizes to fit different steering wheel sizes. (photo from

Pedal lock

Pedal locks work similarly to steering wheel locks in that the former locks the brake and gas pedals, preventing the thief from using the pedals to drive off your car. Unlike steering wheel locks, pedal locks are harder to compromise because it is more difficult to cut the pedals than the steering wheel. The pedals are made from much stronger steel (to withstand all that feet stomping forces on them), so they are very difficult to bend or cut. Moreover, the thief has a smaller space to work on the pedals than on the steering wheel. This smaller space translates to more effort and more time needed to compromise the pedal lock.

There are several pedal lock brands in Malaysia. Some well known brands are Locktech and Locktat, where the latter is a local copycat version of the former lock from Thailand. Both these locks not only lock the car pedals, they also prevent the car from starting should you forget to unlock the pedals first. This is a safety feature particularly for automatic cars to prevent you driving while both car pedals are still immobilized. Another common pedal lock is Autolock.



Locktech pedal lock (photo from static.lowyat.net)

Nonetheless, these pedal locks have been compromised rather commonly. I have read from the internet about more than one car owner sharing that, despite these pedal locks, their cars were still stolen. The Autolock pedal lock also has a rather well known weakness that enables the thief to twist and turn the lock in such a

way to disengage the lock from the pedals, without needing to cut anything.



Solex pedal lock. Ugly but effective.
(photo from
[img384.imageshack.us/img384/5918/
solexnw1.jpg](http://img384.imageshack.us/img384/5918/solexnw1.jpg))

Gear lock

Gear locks prevent the thief from shifting gears; thereby, preventing your car from being driven off. Unlike steering wheel and pedal locks, gear locks are much less common. Perhaps they are much less common that I have not come across any stories from car owners reporting that their cars were still stolen despite having their gear locks. Could it be that gear locks are the best alternative to steering wheel and pedal locks?

I only know of two gear lock brands sold in Malaysia: [Construct](#) (from Czech Republic) and [Yuubi](#) (a local brand). Purely from my observation, Yuubi appears physically more convoluted and poorer in quality than Construct. Moreover, Yuubi lock is about RM200 more expensive than Construct lock.



The elegant gear lock by Construct
(photo from
[i767.photobucket.com/albums/xx316/
nathan_low/construct.jpg](http://i767.photobucket.com/albums/xx316/nathan_low/construct.jpg))

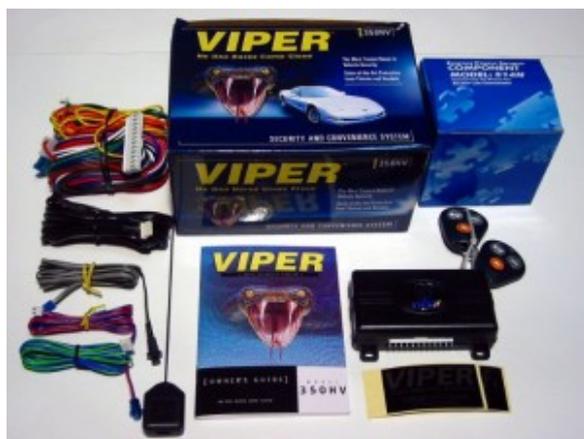
The Construct gear lock only works using their proprietary key, which means it is nearly impossible to duplicate the key anywhere else except by them. Moreover, unlike steering wheel and pedal locks, Construct gear lock is fitted inside the gear construction box, so the only visual sign of its existence is a small keyhole beside the gear. This might be an important issue to some luxury car owners who would not like to “spoil” their luxury car look by fitting an ugly steering wheel or pedal lock.

Car alarm system

Car alarm system comes by default in all cars nowadays. However, there are many third party car alarm systems out there, ranging from a few hundred to few thousand ringgit, depending on the brand and what the system additionally provides in terms of security features.

The car alarm system at the most basic level should raise the alarm (by sounding the car horn) whenever a door, trunk, or hood is opened. Car alarm systems typically add other security levels such as engine immobilizer (to prevent hot wiring because they key must be present to start the car), vibration or shock alarm (for example, when a car window is being smashed), and car tilt alarm (to prevent the car from being jacked up to have your car towed away or your car sports rim stolen). Some alarm systems can also warn you if you have forgotten to turn on the alarm.

As stated earlier, there are many car alarm brands out there. The more expensive ones are such as Viper, Clifford, Python, and Steelmate brands. Car alarm systems are particularly vulnerable to having their power source cut off (*i.e.*, car battery) or the car horn disabled. Because of this possibility, some car alarm brands like Viper has its own battery and horn backup which would kick in and sound the alarm if the car battery is cut off.



Viper car alarm system (photo from www.kklau.com.my)

So what about the OEM car alarm system that came with our cars? This is an issue for new car owners because replacing their OEM alarm system nullifies the car warranty without a doubt. My recommendation is if you are going to replace your OEM alarm system, do it only by installing an alarm system that has more security features than your current OEM one.

If you can afford it, don't save a few ringgit. For a peace of mind, go for the full range of security features: those that can sense forceful movement, breaking glass, and car being towed or jacked up.

However, bear in mind that even the most expensive car alarm system can be compromised as revealed by several car owners. One car owner revealed to me recently that his RM2,000 car alarm system was compromised. The would-be car thief was only defeated by his humble pedal lock.

Hood lock

Car hood (bonnet) locks are fitted to lock the car hood; thereby, preventing car

thieves from accessing your car battery and car horn (to disable the car alarm, for example). Some car models (like Perodua's Myvi model) have hoods that are quite easy to open from the outside (that is, without requiring to pop the hood from inside the car).



Hood locks such as these can be found in Malaysia but would require some search in car forums for the right contact person (photo www.zerotohundred.com)

For some reason, however, hood locks are no longer popular in Malaysia. Consequently, it can be difficult to find anyone who both sells and installs hood locks here. It is a case of buying a hood lock from someone and giving it to someone else to install it for you. Finding a seller and an installer can be a challenge as they do not advertise themselves or have a permanent shop.

Some car accessory shops I have been to have not even heard of hood locks! See the video below on how one thief managed to open a car hood by pulling the hatch release cable via one of the front wheel chambers. It took him less than two minutes.



Car battery thieves took less than a minute to open the car bonnet.

Car tracking system

A car tracking system helps to locate the whereabouts of your car after it has been stolen. This system doesn't prevent theft but helps you find your car should it be stolen. No other car security system does this.

Car tracking systems use GSM and GPS to determine the location of your car. GSM is a mobile telephone network system. A tracking system communicates with the nearest GSM telephone tower to obtain the car's location. Consequently, the location relayed back is not the car's true position but rather the position of the tower that is closest to your car. GPS, on the other hand, provides more accurate location because it uses at least three satellites to triangulate your car's true position. GPS, however, relies on GSM network for tracking purposes.



Car tracking systems help to track the location of stolen car (photo from www.i2ko.com)

Unfortunately, GSM is vulnerable to frequency jamming (yes, such jamming devices do exist, and they are easier to obtain than we think). This means car

thieves can jam the GPS/GSM system, rendering it useless and giving time for the thieves to locate and remove the GPS/GSM tracking box from your car. GPS/GSM system would also often fail if your car is parked underground (like in shopping basement car parks), or if the car thieves drive your car into a shipping container or road tunnel.

Car tracking systems are maintained by two groups of people: 1) the car owners themselves, and 2) companies. There are several advantages and disadvantages of having to either maintain the tracking system yourself or having someone else (companies) to do it for you.

[Captor](#) and [Cobra Connex](#) are the two most well known companies in Malaysia that offer car tracking systems as well as car recovery. One advantage of having these companies maintain the tracking system for you is these companies have experienced people and, most importantly, the resources to help track your stolen car. They also work closely with the police to track and apprehend the perpetrators. By golly, these companies even have a helicopter to help track your car, although I doubt they use their copter unless you own a Bentley or Lamborghini that has been just stolen.

Going solo, however, means you have to track your stolen car yourself and then work to convince the skeptical police when you have actually found your car. Captor's experience, in contrast, has meant that 80-90% of cars stolen are recovered by them within an average of four days.

Nonetheless, going solo has one advantage: privacy. If the tracking system is maintained by a company, they would know your whereabouts at all times. However, unless you are some secret agent, criminal, or celebrity, this loss of privacy is a minor issue to most normal people.

One disadvantage of Captor or Cobra is although they can remotely disable your stolen car, they would often only do so when their recovery team has a sighting of your car and decide it is safe to disable the car. I can understand this protocol because remotely disabling a car may cause traffic accidents. Imagine a stalled car (your car) that has been remotely disabled while on the fast lane of the highway. Good for you because the thieves are prevented from continuing their journey in your car, but bad for the car driver behind your stolen car who is driving at 120 km per hour.

Comparing between Captor and Cobra is difficult. It would be nice to compare their recovery effectiveness. Cobra offers compensation for unrecovered stolen cars by as much as RM10,000, whereas Captor has no such compensation service. Nonetheless, Captor offers RF (Radio Frequency) tracking capability in addition to GPS/GSM network. RF is much harder to jam, unlike GPS/GSM, and RF works regardless if your car is inside a shipping container, a road tunnel, or parked in a parking basement. RF, however, works slower than GPS/GSM. The recovery team also has to work slowly to sweep the area and to zoom in into your car's exact location.

Miscellaneous

There are other ways to secure your car. The following are some ways you can secure your especially if you are leaving your car for long periods:

1. Tire lock. These are locks for one of your tires, very similar to those used on illegally parked cars. However, portable and good ones are hard to find in Malaysia and most probably have to be bought from overseas via online. There are China-brands sold in Malaysia, but they appear flimsy.



Tire clamp/lock is a good way to prevent towing of your car. If the front tire is locked, ensure you park your car facing towards a wall or obstacle. If the rear tire is locked, then park so that your car rear faces the wall or obstacle. (photo from www.easybizchina.com)

2. Removing the ignition or starter fuse. The fuse for the car ignition can be removed which would prevent the car from starting.
3. Like above, but this time, the car spark plugs are removed. Do not remove just one plug because a car can still move without one plug, albeit very clumsily. All spark plugs must be removed and kept hidden somewhere (not in the car).
4. To protect your sports rim, you could install wheel lock nuts. They look like regular wheel nuts, but they require a special key to unlock them. However, they can be comprised quite easily because they can be removed using a universal socket called [Gator Grip](#). A much better wheel lock nuts are from [McGard](#), which are unfortunately not sold in Malaysia (but can be bought from overseas via online). However, if your car has a tilt alarm, installing wheel lock nuts are unnecessary because jacking up your car to steal the sports rim would trigger the car alarm.



Wheel lock nuts to prevent theft of your sports rim (photo from [lagisenang.com](#))



Gator Grip which are

available in Malaysia can be used to remove wheel lock nuts commonly sold in Malaysia (photo from www.jennyreviews.com)

Other approaches to reduce car theft that does not require any equipment are as follows:

1. Park in well-lit areas. Better still, park in direct line of sight of any security camera.
2. As you walk to your car, observe your surroundings. Any suspicious people hanging around, looking at you, or following you? They could be car jackers.
3. Car jackers also try to lure you out of your car. Methods they have used before are such as putting a note on your rear window or tying some cans under your car. As you reverse or move your car, the note or sounds draws your attention. So, you exit your car to determine the problem. As you move to your car rear, the car jackers enter your car and drive off. Other methods include puncturing one of your tires to force you change your tire in the parking lot. Once you have changed your tire, the car jackers (who have been observing all this while) move in and drive off your car.

Best car security system?

As a minimum (or for the budget conscious), a car should have:

1. Car alarm
2. Window etching of your car registration number
3. Kill switch (hidden)
4. Steering wheel lock (any model — as a visual deterrent)

But the best:

1. Car alarm (with all its bells and whistles such as shock sensor and tilt alarm)

2. Window etching of your car registration number
3. Kill switch (hidden)
4. Gear lock
5. Car security window tint
6. GPS car tracking system (with car recovery service)
7. Steering wheel lock (optional, but if you are seriously looking for the best, go for Disklok)

So, there. This has been my take on car security features and what I think is best.