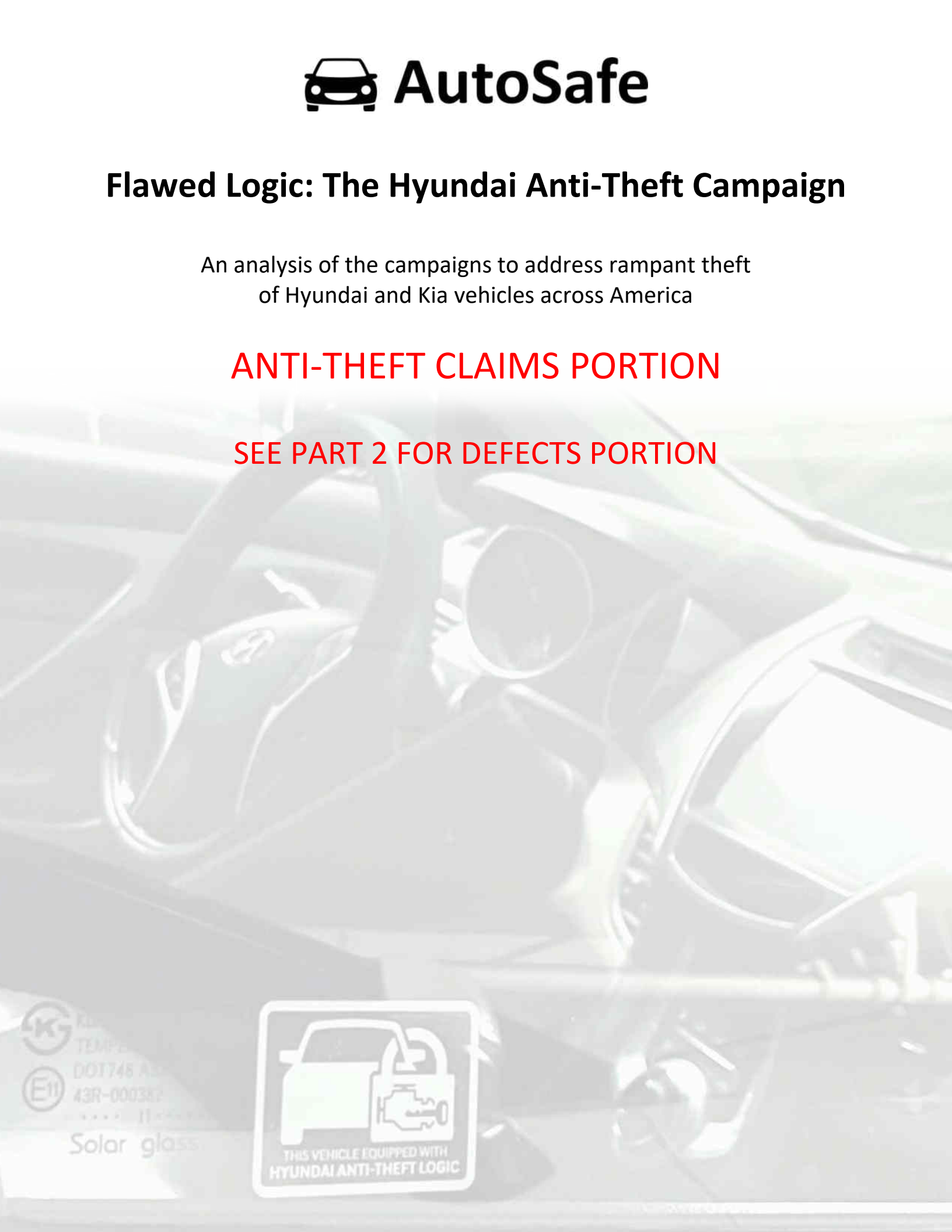
AutoSafe

Flawed Logic: The Hyundai Anti-Theft Campaign

An analysis of the campaigns to address rampant theft
of Hyundai and Kia vehicles across America

ANTI-THEFT CLAIMS PORTION

SEE PART 2 FOR DEFECTS PORTION



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AutoSafe

Flawed Logic: The Hyundai Anti-Theft Campaign

An analysis of the campaigns to address rampant theft of Hyundai and Kia vehicles across America

The staggering amount of theft involving Hyundai & Kia vehicles in the past 5 years has earned the automakers the top spots for "America's Most Stolen Vehicles". This report intends to investigate the results of the Hyundai/Kia anti-theft campaign and was initiated due to the continuing thefts of Hyundai and Kia vehicles after the "anti-theft logic" update was supposed to stem the nationwide surge.

Car theft has been a major issue worldwide that affects all makes of cars and has resulted in various countries mandating electronic anti-theft immobilizers as early as 1998. The immobilizer technology adds a layer of security by first validating the authenticity of a microchip embedded in the key to the car's computer (ECU) before it will start.

Although immobilizer technology was mandated across various European countries, Australia and Canada, it was not required by law in the US; however, as automakers complied with these global mandates, the technology also became largely industry-standardized in the US. As an example, Ford started to standardize the technology in the US by 1996 and had nearly their entire consumer-vehicle segment outfitted by 1999.

Before immobilizers were standard, the primary focus of a vehicle's security was on its mechanical ignition assembly. The assembly consists of an ignition lock cylinder, an ignition switch to start the car, and a steering-lock that prevents the steering-wheel from turning while engaged; these components are linked together by an internal tumbler-rod that is rotated by turning the ignition cylinder with its key.

The ignition assembly is subject to federal law in America through the rules and standards set forth under the Federal Motor Vehicle Safety Standards, specifically, "§ 571.114 Standard No. 114 (FMVSS 114); Theft protection and rollaway prevention."

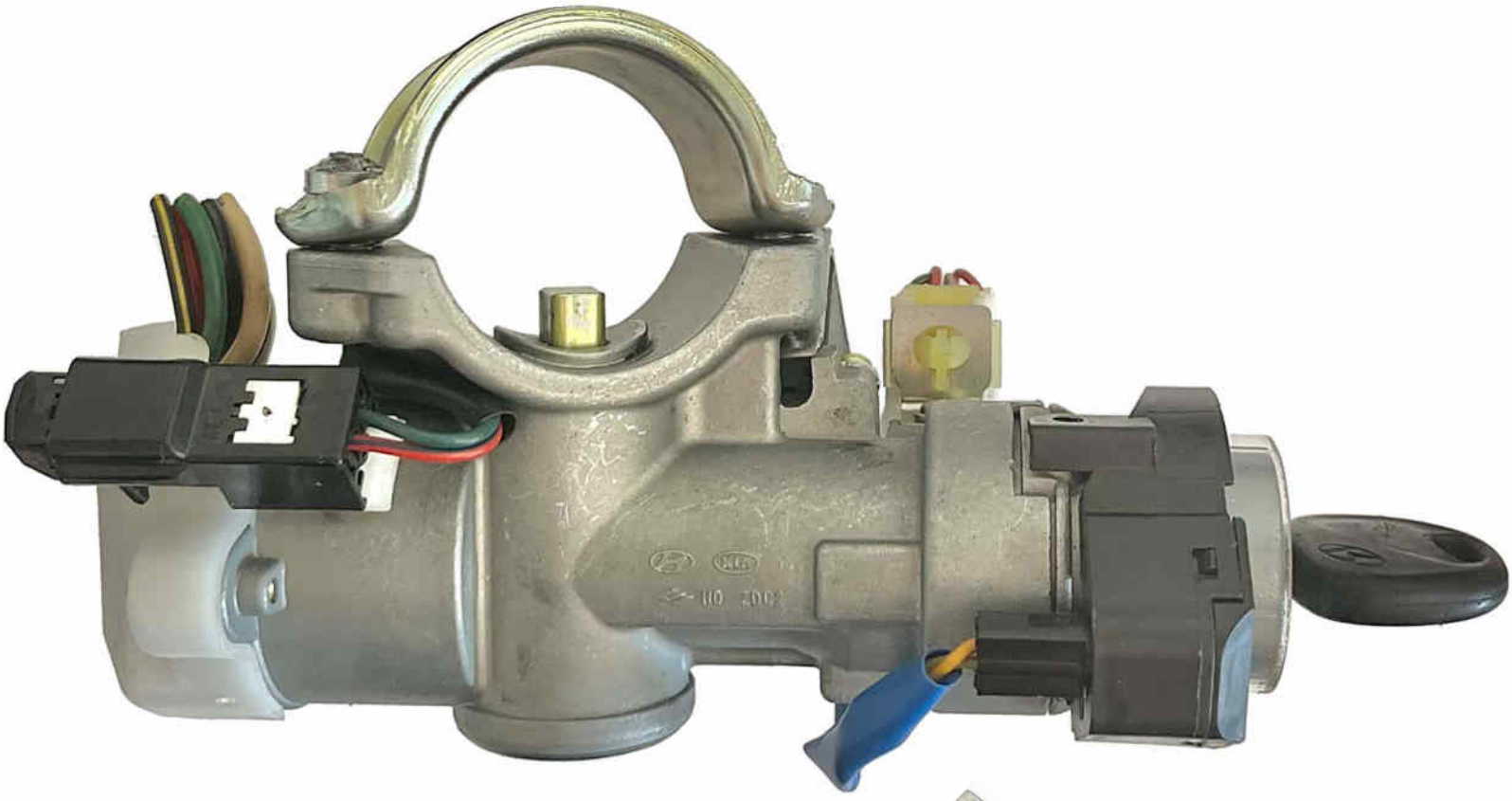
The NHTSA is the federal agency entrusted to enforce these laws and can issue a national recall if an automaker fails to meet the federal standards.
A recall can also be issued if a vehicle component is found to be either defective or substandard and, therefore, fails to uphold a federal standard or creates the potential to cause serious crashes.

§ 571.114 Standard No. 114; Theft protection and rollaway prevention.

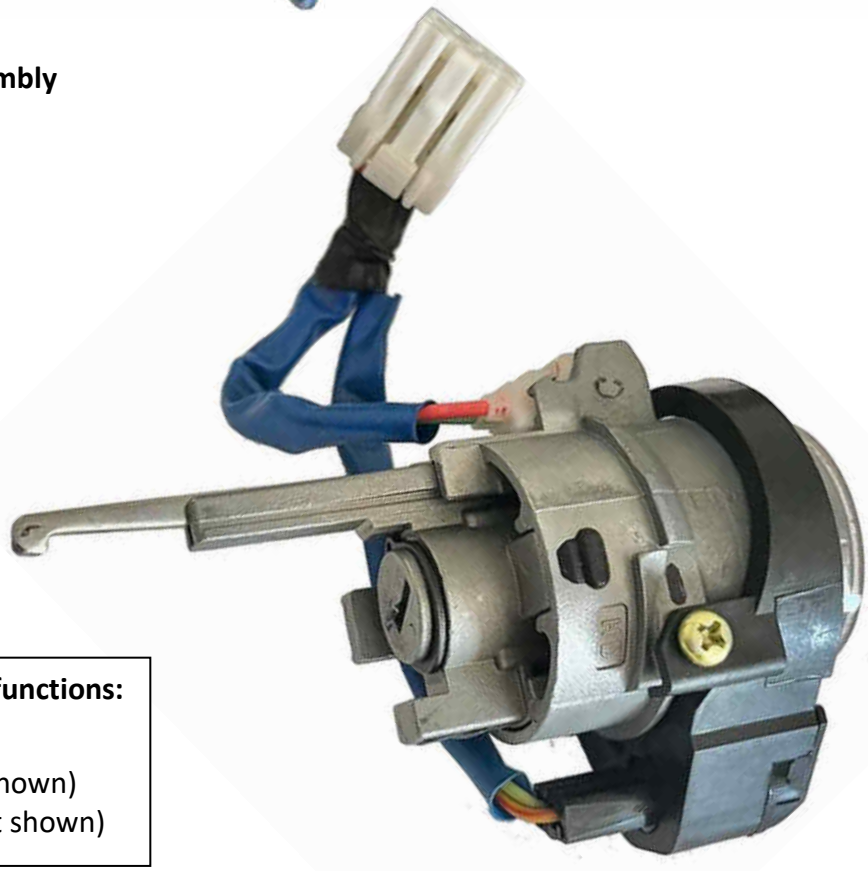
S1. Scope. This standard specifies vehicle performance requirements intended to reduce the incidence of crashes resulting from theft and accidental rollaway of motor vehicles.
S2. Purpose. The purpose of this standard is to decrease the likelihood that a vehicle is stolen, or accidentally set in motion.
S5.1 ***Theft protection.***
S5.1.1 Each vehicle must have a starting system which, whenever the key is removed from the starting system prevents:
(a) The normal activation of the vehicle's engine or motor; **and**
(b) Either steering, or forward self-mobility, of the vehicle, or both.

Metal Ignition Assembly

Until 2010, Hyundai's ignition assembly construction was of a solid metal shell (i.e., "housing") that was designed to resist tampering and brute force attacks.



2007-10 Hyundai Elantra ignition assembly



Cylinder connector (shown) has up to 3 functions:

1) Key detection switch (standard)
2) LED illumination ring (optional / shown)
3) Immobilizer RF coil (optional / not shown)

Plastic Ignition Assembly

Starting in models first introduced in 2011, Hyundai began replacing the metal ignition assemblies with hollow plastic that was designed to reduce their manufacturing costs.

2011-16 Hyundai Elantra Ignition Assembly

Cylinder connector (not shown) has up to 3 functions:

1) Key detection switch (standard)
2) LED illumination ring (optional)
3) Immobilizer RF coil (optional)

Plastic Ignition Assembly (Overview)

Design

Beginning with vehicle models introduced globally in 2011, Hyundai replaced the previously robust metal ignition assemblies with cheaper, fragile plastic assemblies. These plastic assemblies utilized thin-wall construction intended for portable electronics, and they failed to provide the security standards of the metal assemblies they replaced. From a logical and engineering standpoint, the new plastic assemblies had been designed for use in combination with immobilizer technology.

We contend that the metal housing and associated tamper-resistant security had become an expected quality standard. Any engineering shift to lower-security plastic construction would have required immobilizers to be included as standard equipment to maintain the expected level of vehicle security.

Hyundai failed to implement immobilizers as standard. As a result, it remained the only automaker in the United States selling vehicles with plastic ignition assemblies without immobilizers through the 2022 model year. This decision contributed to a national car theft epidemic and raises serious questions regarding whether Hyundai reasonably complied with the anti-theft requirements of the Federal Motor Vehicle Safety Standards (FMVSS 114).

Risks

The plastic ignition assembly has different physical properties than its metal predecessor, allowing the housing to flex, deform, and fracture more easily. Hyundai failed to make appropriate design changes to the plastic housing or its mechanisms to bolster their effectiveness and counteract the plastic's tendency to deform, which increases the likelihood of malfunctions.

By examining both new and used ignition assemblies, we were able to assess how the assemblies and their mechanisms function in the real world. We evaluated their mechanical design, construction, and operational effectiveness, and examined the adverse risks of converting the assemblies to plastic, including the resulting potential for malfunctions.

"Anti-Theft Logic" (Defective Alarm)

In addition to the decision to implement plastic ignition assemblies without the designed immobilizer system, Hyundai sold these vehicles with defective alarm systems through the 2022 model year.

Prior to the national attention on the Hyundai/Kia theft epidemic, many owners were unaware of the alarm defect. When owners tested the alarm while armed—by opening the door and attempting to start the vehicle—the alarm functioned as expected, preventing ignition. However, a programming defect caused the alarm to fail if the door had not been opened, allowing the ignition to start the vehicle.

This defect enabled thieves to gain entry by simply breaking a window and then prying the ignition cylinder from its plastic housing to start the car, often using only a USB cable. Local law enforcement agencies began to notice this method in **2020** as thefts of Hyundai and Kia vehicles increased, preceding a national surge in **2021**. The escalating theft crisis prompted numerous state attorneys general and municipalities to formally request assistance from Hyundai and Kia in **2021**.

Hyundai did not formally acknowledge the alarm defect until 2023, when it began rolling out the ECU software update known as the "Anti-Theft Logic" update, which applied to vehicles dating back to 2011.

In this report, we will examine the effectiveness of the updated alarm system, evaluate its ability to prevent theft, and explore flaws in the system's design and potential avenues for exploitation.

“Anti-Theft Protection” (Cylinder Sleeve)

As the software update campaign to address the defective alarm system was rolled out, certain vehicle models were found to be incompatible with the update. For these vehicles, Hyundai offered an alternative: a metal sleeve installation designed to reinforce the ignition cylinder and reduce the likelihood of it being pried from the plastic assembly housing.

In this report, we will examine the effectiveness of the ignition cylinder sleeve and assess whether it meaningfully improves the overall performance and robustness of the plastic ignition assembly.

Steering-Wheel Lock Campaign (“The Club”)

Because Hyundai and Kia delayed implementing a software update to correct the defective alarm, they offered a temporary, stopgap solution to vehicle owners by distributing imitation steering-wheel locks—off-branded clones of “The Club.” As of 2025, Hyundai continues to provide these steering-wheel locks for vehicles not eligible for the “Anti-Theft Logic” update (Campaign P32).

In this report, we will examine the effectiveness of the steering-wheel lock and evaluate the potential risks it poses, including damage to the plastic ignition assembly and its components from both attempted theft and routine use.

Objectives

A) Evaluate the plastic ignition assemblies and analyze their compliance with Federal Motor Vehicle Safety Standard No. 114, Theft Protection and Rollaway Prevention (49 CFR Part 571).

B) Assess the potential for malfunctions in the components of the plastic ignition assemblies.

C) Examine the effectiveness of the “Anti-Theft Logic” software update in mitigating vehicle theft.

D) Evaluate the effectiveness of the “Anti-Theft Protection” metal cylinder sleeve in reinforcing the ignition assembly.

E) Assess the results and potential consequences of distributing steering-wheel locks to customers with plastic ignition assemblies.

HYUNDAI MOTOR GROUP

HYUNDAI KIA

Hyundai Motor Group (“**HMG**”) of Korea owns **Hyundai Motor Co.** (“**HMC**”) of Korea & USA and **Kia Corporation** of Korea.
Hyundai Motor Co. (“**HMC**”) owns/operates **Hyundai Motors America** (“**HMA**”) and is also a parent company of **Kia America** (“**KA**”).
Kia Corporation owns **Kia America** (“**KA**”), formerly known as **Kia Motors America** (“**KMA**”).
All US subsidiaries are headquartered in Irvine, California.

Ignition Assembly (Explainer)

The ignition assembly consists of an ignition cylinder (with key), an ignition switch to start the car, and a steering-lock assembly that prevents the steering-wheel from turning while engaged.

These components are joined in a housing and linked by a tumbler-rod, which is rotated by the ignition cylinder.

IGNITION HOUSING

IGNITION SWITCH

STEERING-LOCK ASSEMBLY

TUMBLER ROD

IGNITION CYLINDER

<u>Ignition cylinder / switch positions:</u>

LOCK (OFF):
Ignition switch is OFF and no power is transferred to the car.
Tumbler-rod disengages steering-lock and allows the spring-loaded bolt to deploy (upon removal of key).

ACC (Accessory Mode):
Ignition switch enables power output to the vehicle's accessories and shuts-off the engine (if running).
Tumbler-rod engages steering-lock and retracts the spring-loaded bolt.

ON (Ignition ON):
Ignition switch enables power output to systems used while driving (power steering, ABS, airbags, etc.).
Tumbler-rod continues to engage steering-lock.

START (Start Engine):
Ignition switch enables power output to the engine starter motor. The ignition switch uses spring-tension to turn itself back to the ON position when the key is released.
Tumbler-rod continues to engage steering-lock.

Note: Some vehicles require the driver to "**PUSH**" the key in ACC position before turning to LOCK.

Steering Lock (Explainer)

When the key is turned to LOCK and removed from the ignition cylinder, a spring-loaded steering-lock bolt rises from the ignition assembly and engages a receiver port in the steering column, preventing the wheel from turning.

When the key is reinserted and turned, the tumbler-rod cam depresses the steering-lock assembly, retracting the bolt and restoring free movement of the steering column.

Steering Column

Steering Wheel Connection

Steering Lock Port

Steering Lock

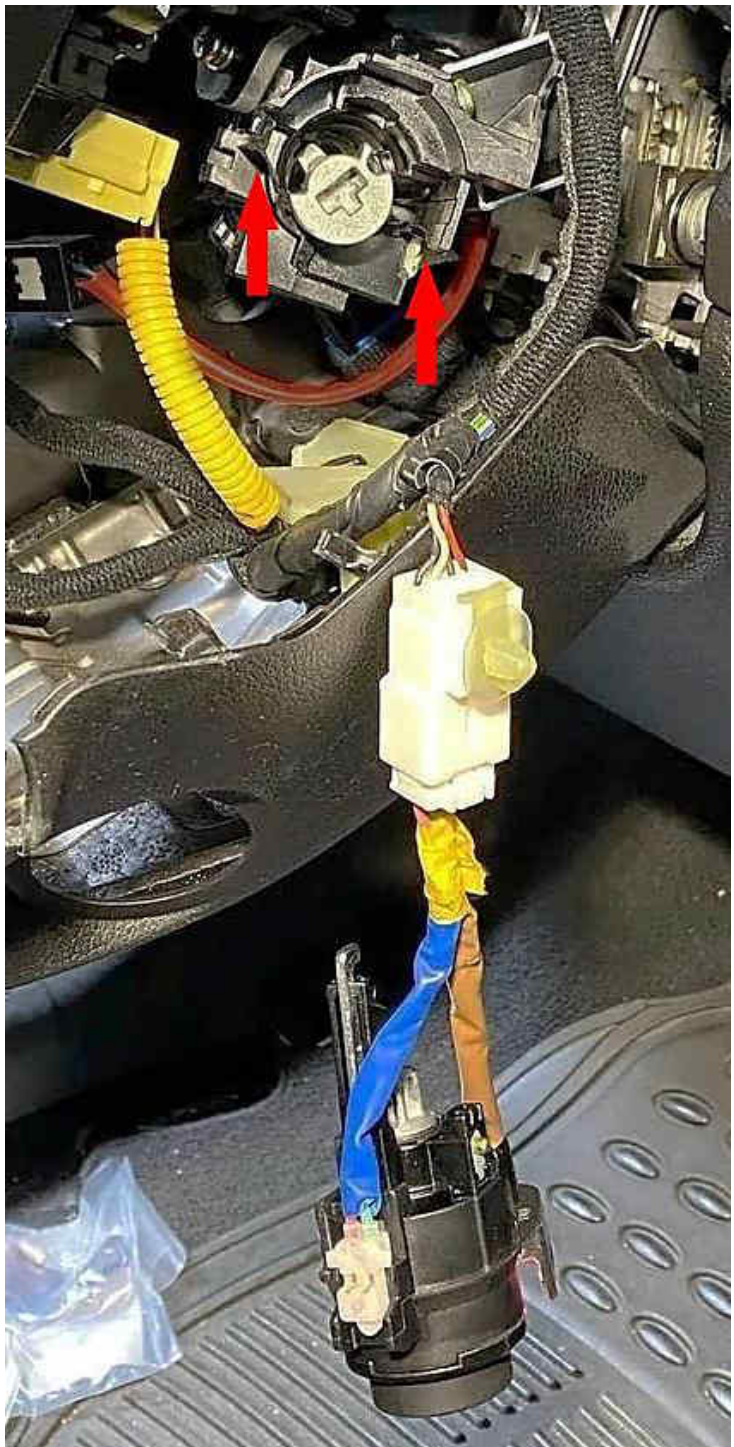
Ignition Assembly

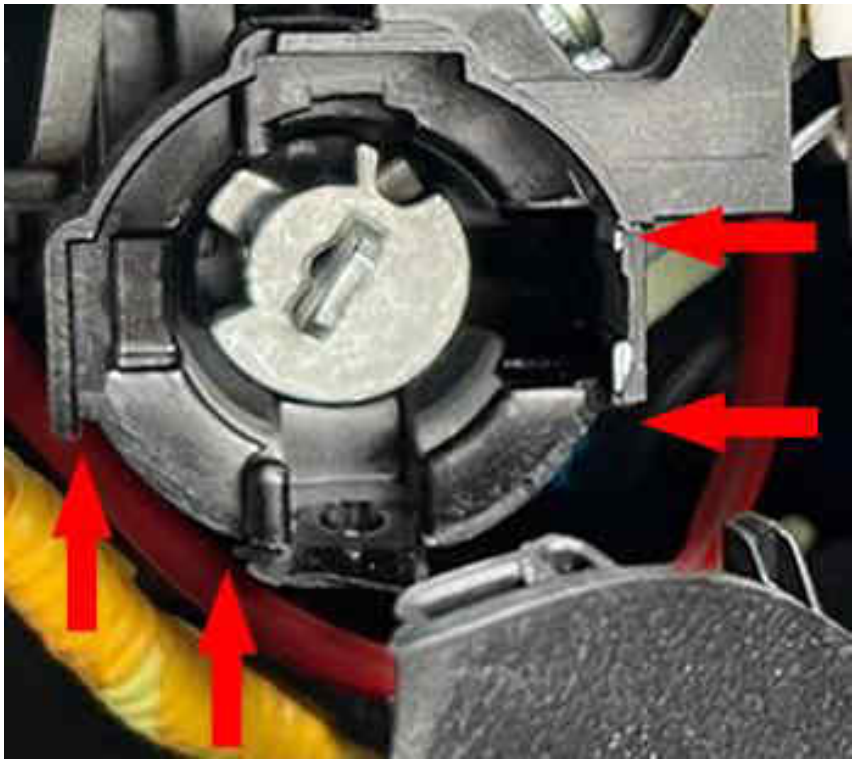
Theft Damage (RP)

Due to the widespread theft epidemic, millions of Hyundai and Kia vehicles may have compromised ignition assemblies that are at increased risk of malfunction. During an attempted theft, the ignition cylinder is often pried using a screwdriver, which introduces flexing and torsional stress throughout the ignition housing and its components. This stress causes the thin-walled (< 2mm) plastic housing to deform or fracture. Over time, even minor fractures can propagate and worsen due to the routine stresses of everyday use.

These deformations compromise the ignition assembly's safety mechanisms, which rely on substandard construction and tolerances as tight as 1 mm to function effectively. Once the assembly is compromised, there is a significantly higher risk of malfunctions that could result in a total loss of steering control. Because the tumbler-rod's cam is responsible for engaging and disengaging the steering-lock mechanism, preserving the integrity of the assembly requires the ignition housing to remain free from deformation or stress fractures.

Photo of ignition assembly housings documenting theft damage. Tumbler-rod in OFF/LOCK position.
Red arrows are noting areas of either cracked or missing plastic.





In 2023 alone, the NICB reported 174,421 Hyundai and Kia vehicles among the ten most stolen models. The actual number of stolen vehicles from these manufacturers is significantly higher when accounting for all models, and this figure does not include attempted thefts—which would further increase the number of vehicles with compromised ignition assemblies.

Assuming a conservative average of 350,000 affected vehicles per year (including attempted theft) over the past four years, there could be roughly 1.4 million Hyundai and Kia vehicles with compromised ignition assemblies on U.S. roads. These vehicles are more prone to catastrophic failure modes that could cause the steering wheel to lock suddenly while the vehicle is in motion.

Hyundai's business practices have maintained a high number of affected vehicles in operation, showing minimal concern for the risk to its customers and refusing to offer reasonable price concessions. The cost of an ignition assembly and cylinder set from a Hyundai dealership currently ranges from $700–$800, with total repair costs, including labor and taxes, likely exceeding $1,000. Many owners, guided by mechanics or online tutorials, have opted to simply reinsert the cylinder into the compromised housing or replace it with a low-cost aftermarket cylinder, leaving the compromised assembly in place. These drivers are likely unaware of the increased risk of a critical steering lock-up failure while driving.

We estimate that approximately 1,000,000 Hyundai and Kia vehicles with compromised ignition assemblies are currently on U.S. roads. Daily use continues to stress the existing fractures in the housing, which propagate over time, increasing the likelihood of a sudden catastrophic steering lock-up.

The potential consequences of such failures are severe and life-threatening. **We strongly encourage Hyundai to issue a recall for all vehicles that have experienced an attempted theft, replacing the ignition assembly entirely and publicly warning drivers about the increased risk.** We also advise that the public be informed about the dangers of stolen vehicles being driven with physically damaged ignition assemblies and removed cylinders, which significantly elevates the risk of a catastrophic failure. Such failures may partially explain the unusually high number of crashes associated with the Hyundai and Kia theft trend.

AutoSafe's security evaluation proposes issuing a recall of all **plastic** ignition assemblies without immobilizer systems due to **failing to meet a reasonable standard of quality (substandard)**, particularly due to the following reasons:

A) The plastic housing is of inadequate thickness and material strength to reliably secure the ignition lock cylinder via a single locking pin. Because this design cannot ensure long-term structural integrity under normal use and foreseeable misuse (such as theft attempts), it should not qualify as compliant with federal anti-theft protection requirements under FMVSS 114.

B) The ignition assembly housing is unsafe due to insufficient material thickness. The thinnest section of the housing is structurally vulnerable, making it possible for an initial fracture to form at this weak point. Once initiated, such a fracture can propagate through the plastic housing under normal operating stresses, thereby creating the potential for a catastrophic malfunction, including a sudden steering lock-up while the vehicle is in motion.

   - Fractures in the plastic housing may also allow the lock cylinder and **lever latch** mechanism to migrate a few millimeters away from the steering lock, disabling the innate safety requirement of FMVSS 114 S5.1.1.

C) The ignition assembly's 1.x mm thin-walled plastic housing was engineered with the assumption that an electronic immobilizer would serve as an integral security feature. In this configuration, the immobilizer—not the housing—would provide the primary theft deterrent.

   From a compliance standpoint, this raises serious concerns: if the assembly was designed to rely on the immobilizer for its security integrity, then vehicles without immobilizers cannot reasonably be considered compliant with federal anti-theft protection requirements.

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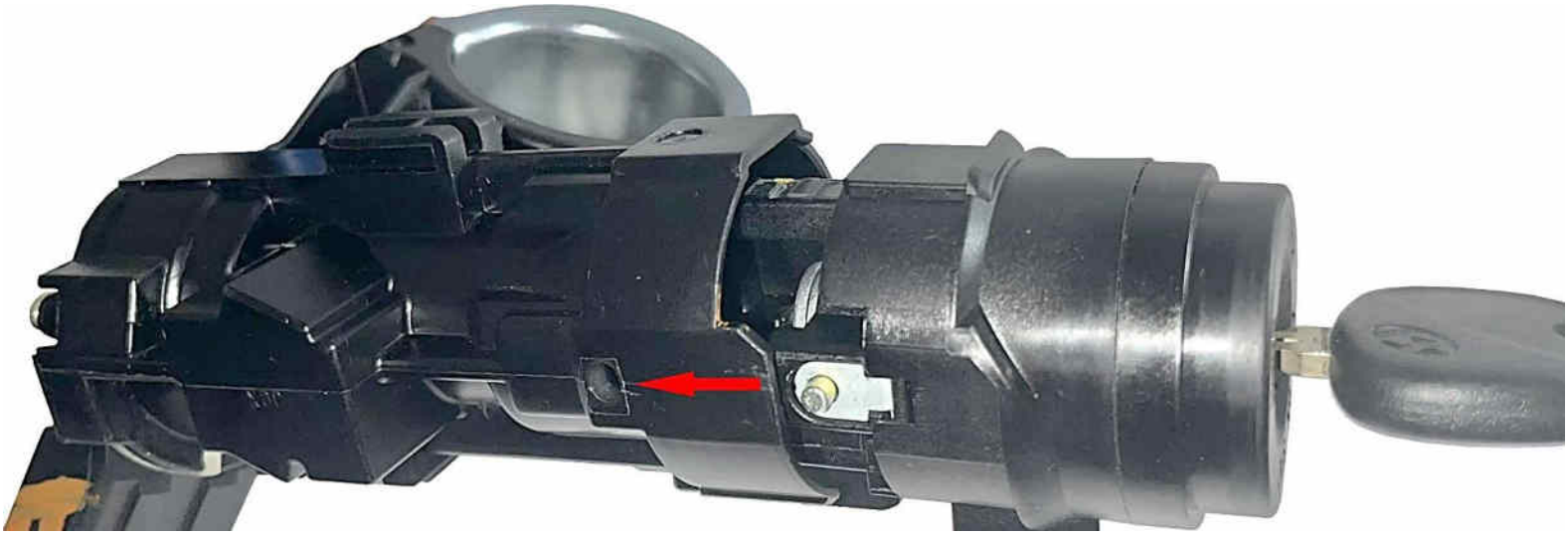

Comparison

Ford utilized plastic ignition assemblies that were reinforced with metal in a few select models starting in 2008. **These metal reinforced assemblies also included immobilizer technology as standard** (Ford standardized immobilizers by 1999) and should have served as an example to Hyundai as to the expected quality standards in the United States.

Hyundai Elantra (2015/2016) - $740.58

Ford Focus (2008) - $215.00

Conclusion

Instead of meeting U.S. quality expectations, the focus shifted to cutting costs and boosting profits with substandard parts. Competition should drive better products, but American companies shouldn't lose ground at home because newer players gain an advantage by cutting corners.

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A) The plastic housing is of inadequate thickness and material strength to reliably secure the ignition lock cylinder via a single locking pin. Because this design cannot ensure long-term structural integrity under normal use and foreseeable misuse (such as theft attempts), it should not qualify as compliant with federal anti-theft protection requirements under FMVSS 114.

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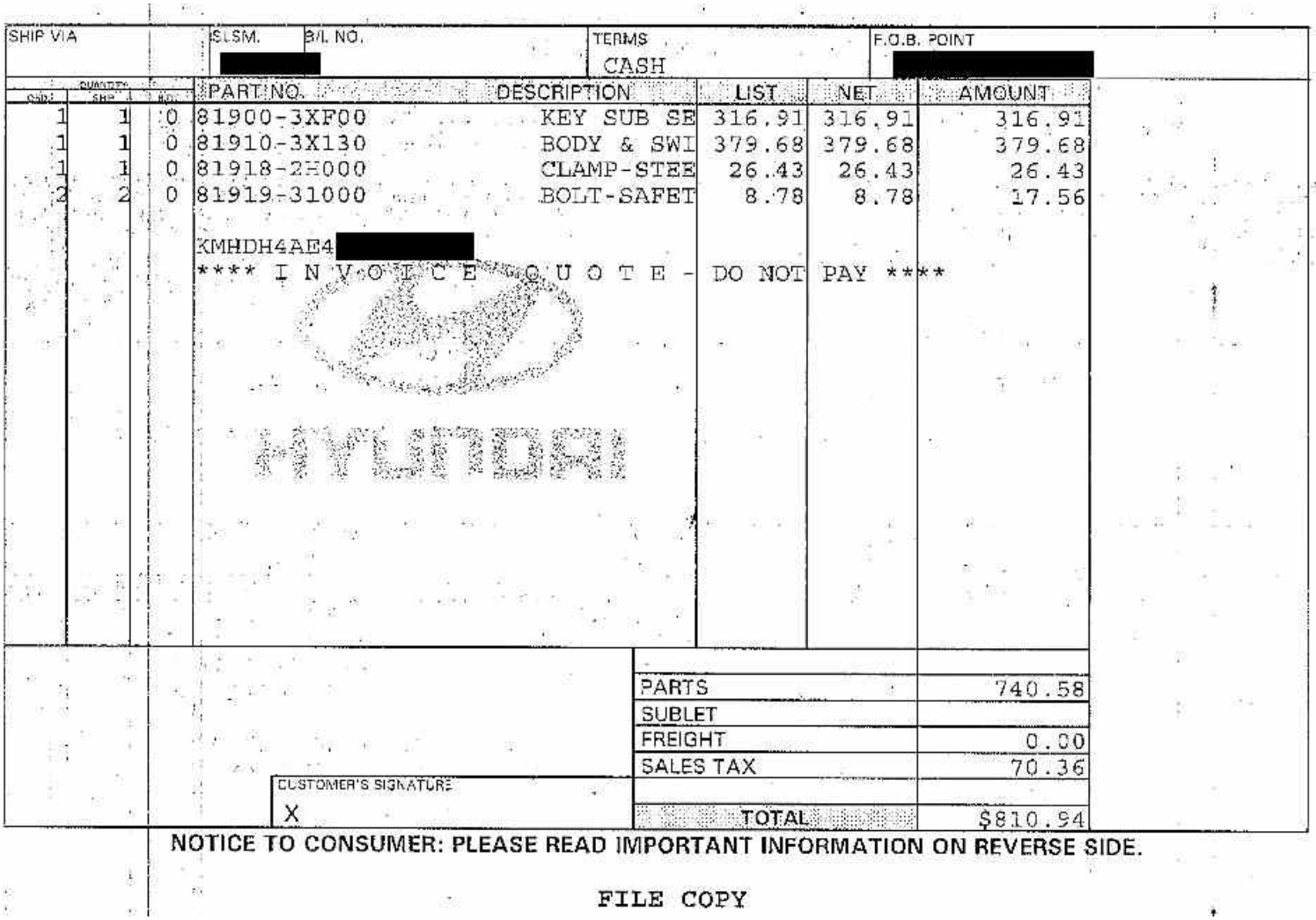
C) The ignition assembly's 1.x mm thin-walled plastic housing was engineered with the assumption that an electronic immobilizer would serve as an integral security feature. In this configuration, the immobilizer—not the housing—would provide the primary theft deterrent.

Price Quote for 2015 Hyundai Elantra Ignition Assembly

Price quote from Hyundai dealership in Los Angeles, CA



SHIP VIA | SLSM. [redacted] | B/L NO. | TERMS CASH | F.O.B. POINT [redacted]

CNCL.	QUANTITY SHP.	B/O	PART NO.	DESCRIPTION	LIST	NET	AMOUNT
1	1	0	81900-3XF00	KEY SUB SE	316.91	316.91	316.91
1	1	0	81910-3X130	BODY & SWI	379.68	379.68	379.68
1	1	0	81918-2H000	CLAMP-STEE	26.43	26.43	26.43
2	2	0	81919-31000	BOLT-SAFET	8.78	8.78	17.56

KMHDH4AE4[redacted]

**** I N V O I C E Q U O T E - DO NOT PAY ****

HYUNDAI

PARTS	740.58
SUBLET	
FREIGHT	0.00
SALES TAX	70.36
TOTAL	$810.94

CUSTOMER'S SIGNATURE

X

NOTICE TO CONSUMER: PLEASE READ IMPORTANT INFORMATION ON REVERSE SIDE.

FILE COPY

Note: Quote does <u>not</u> include the price of labor to install parts.

We believe there may be 1,000,000 vehicles with compromised ignition assemblies driving on America's roads today.

If every vehicle owner were to pay Hyundai's quoted price, Hyundai would stand to benefit by taking in over **1 Billion dollars** in additional revenue.

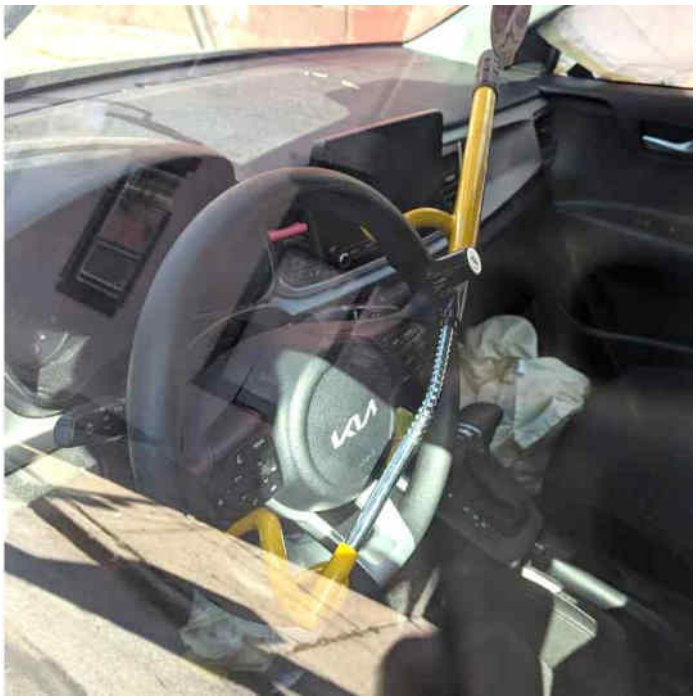
Steering-Wheel Lock Campaign (RP)

As Hyundai and Kia thefts surged across the United States, the automaker resorted to an unorthodox “band-aid” solution: distributing imitation steering-wheel locks (distinct from the ignition assembly’s steering-lock). As of 2025, Hyundai continues to provide these locks for affected vehicles not eligible for the “Anti-Theft Logic” update (Campaign P32).

The steering-wheel lock was designed to attach to the wheel and prevent maneuvering while in place. Unfortunately, the selected lock was already known to be easily defeated. Its design dates back to the 1980s and remained popular throughout the 1990s, but by the 2000s, its vulnerabilities were widely recognized, and it was no longer considered a viable security measure. Today, these locks are often seen as nostalgic relics of the 1990s, akin to cassettes or VHS tapes.

These locks could be bypassed by bending the bar with a stronger one or by quickly cutting through the steering wheel with a hacksaw. Once Hyundai and Kia began distributing these locks, a new generation of thieves rapidly rediscovered and exploited these well-known weaknesses.

Amazon reviews of similar steering-wheel locks:



★☆☆☆☆ Verified Purchase

They were able to just pry it off relatively easily, can not recommend

★☆☆☆☆ Verified Purchase

Car stolen easily

My car was stolen easily with this device installed... when it was recovered the device shown was in the back seat.

Anti-Theft Logic (RP)

Window Decals

Hyundai's defective "burglar alarm" system allowed for their cars to start even while the alarm was armed and active, as long as the alarm was not tripped by opening a door. The defective alarm system, combined with Hyundai's switch from robust metal to thin-walled plastic ignition assemblies starting in 2011, led to a theft epidemic across the United States.

Before the theft surge became a national concern, owners were often unaware of the defect. Testing the alarm by opening the door would function as expected, but if the door remained closed, a programming flaw allowed the ignition to start. Thieves exploited this by breaking windows and prying the ignition cylinder from its plastic housing to start the car, sometimes using just a USB cable.

This particular method began catching the attention of some local law enforcement agencies in **2020** after noticing an uptick in thefts of Hyundai and Kia vehicles, which preceded a national surge in 2021. The crisis of car theft led to numerous state attorney generals and municipalities formally requesting help from Hyundai and Kia in **2021**.

Hyundai did not acknowledge the defect or release a corrective ECU software update, known as the "Anti-Theft Logic" update, until 2023, covering vehicles back to 2011.

Despite Hyundai's opaque efforts to obscure details on the system, thieves quickly figured out how the system *actually* works and how to bypass it. Each day, more thieves learn the trivial methods that disable Hyundai's updated alarm and theft rates continue to rise, heading closer to the peak of the theft epidemic.

This report examines the alarm's working principles, the update's efficacy, and how criminals are currently circumventing the system.

How the "Anti-Theft Logic" (actually) works:

The alarm and its "Anti-Theft Logic" are enabled by either pressing the lock button on the wireless key fob or by mechanically locking the driver door lock with the key.

Once the alarm is active, the car will not start until the alarm is deactivated by pressing the unlock button on the wireless key fob or mechanically unlocking the driver door lock with the key.

Anti-Theft Logic Disabling Methods:

Method 1 – Brute Force

Method 2 – Remove Lock

Method 3 – Short Circuit

Vehicle List - HYUNDAI

HYUNDAI	US Model Years	Housing	Anti-Theft Logic Eligible	Alternative Offered?
Accent	2012-2017	Plastic	No	Sleeve
Accent	2018-2022	Plastic	Yes	/
Elantra	2011-2016	Plastic	Yes	/
Elantra	2017-2020	Plastic	Yes	/
Elantra	2021-2022	Plastic	Yes	/
Elantra Coupe	2013-2014	Plastic	No	Sleeve
Elantra GT (i30)	2013-2017	Plastic	Yes	/
Elantra GT (i30)	2018-2020	Plastic	Yes	/
Elantra Touring (i30cw)	2011-2012	Metal	No	Sleeve
Entourage	2011-2014	Metal	Yes	/
Genesis Coupe	2011-2012	Metal	No	Sleeve
Genesis Coupe	2013-2014	Metal	Yes	/
Kona	2018-2022	Plastic	Yes	/
Palisade (Santa Fe XL)	2020-2022	Plastic	Yes	/
Santa Fe	2011-2012	Metal	No	Sleeve
Santa Fe - SE/GLS/LTD (LWB)	2013-2016	Plastic	Yes	/
Santa Fe - Sport (SWB)	2013-2018	Plastic	Yes	/
Santa Fe - XL (LWB)	2018-2019	Plastic	Yes	/
Santa Fe (SWB)	2019-2022	Plastic	Yes	/
Sonata	2011-2014	Plastic	Yes	/
Sonata	2015-2019	Plastic	Yes	/
Sonata	2020-2022	Plastic	Yes	/
Tucson	2011-2015	Metal	Yes	/
Tucson	2016-2021	Plastic	Yes	/
Tucson	2022	Plastic	Yes	/
Veloster	2012-2017	Plastic	Yes	/
Veloster	2019-2021	Plastic	Yes	/
Venue	2020-2021	Plastic	Yes	/
Veracruz	2011-2012	Metal	No	Sleeve

Anti-Theft Logic Window Decal

Cylinder Sleeve Window Decal

Vehicle List - KIA

KIA	US Model Years	Housing	Anti-Theft Logic Eligible	Alternative Offered?
Forte	2010-2013	Metal	No	Sleeve
Forte	2014-2016	Plastic	No	Sleeve
Forte	2017-2018	Plastic	Yes	/
Forte	2019-2022	Plastic	Yes	/
K5 (LX)	2021-2022	Plastic	Yes	/
Optima	2011-2015	Plastic	Yes	/
Optima	2016-2020	Plastic	Yes	/
Rio	2010-2011	Metal	No	Sleeve
Rio	2012-2017	Plastic	Yes *	Sleeve
Rio	2018-2022	Plastic	Yes *	Sleeve
Sedona	2011-2014	Metal	Yes *	Sleeve
Sedona	2015-2021	Plastic	Yes	/
Seltos	2021-2022	Plastic	Yes	/
Sorento	2010-2015	Metal	Yes	/
Sorento	2016-2020	Plastic	Yes	/
Sorento	2021-2022	Plastic	Yes	/
Soul	2010-2013	Metal	No	Sleeve
Soul	2014-2019	Plastic	No	Sleeve
Soul	2020-2022	Plastic	Yes *	Sleeve
Sportage	2011-2016	Metal	Yes *	Sleeve
Sportage	2017-2022	Plastic	Yes	/

* Base model trims (e.g., “Rio LX”) may not be eligible for Anti-Theft Logic update and will be offered the cylinder sleeve alternative.

Anti-Theft Logic Window Decal

Cylinder Sleeve Window Decal

Anti-Theft Logic - Brute Force

The most common method for bypassing the “Anti-Theft Logic” alarm today involves using brute force on the door lock cylinder. This technique predates the anti-theft update and is preferred because it avoids breaking windows. Tutorial videos demonstrating this method can be found on social media under usernames or tags such as “KiaBoyz.”

Typically, thieves use a screwdriver and locking pliers (“vice grips”) to forcibly turn the lock cylinder. The cylinder’s pins either shear or carve into the soft pot-metal, allowing the lock to turn. In many cases, the weak material causes the cylinder to crumble or be pried out entirely.

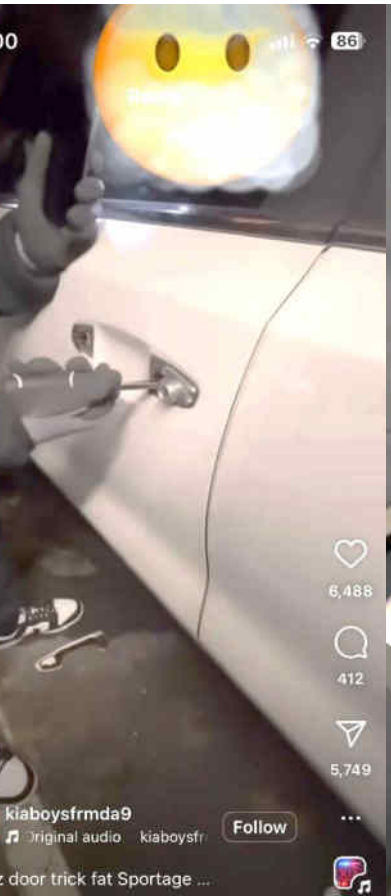
Once the cylinder turns, the door unlocks without triggering the alarm, allowing the thief to remove the ignition cylinder and start the car.

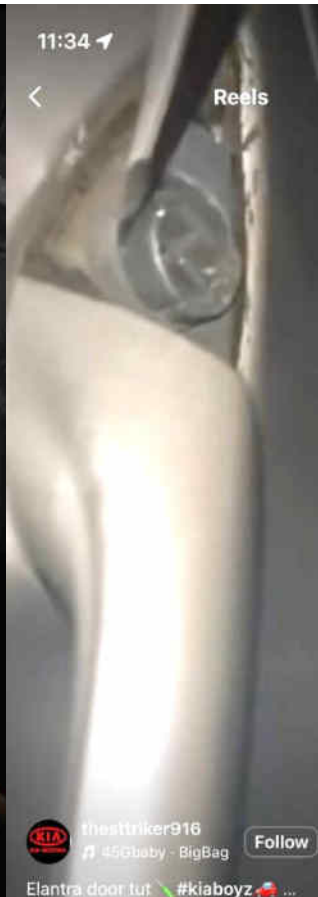
Theft attempt
Source: Reddit

1/4” Screwdriver

Locking Pliers

Social media (Instagram) videos demonstrating brute force break-ins:





Anti-Theft Logic – Remove Lock (RP)

Although brute-force attacks on the door lock have proven effective—and improvements in material and construction are clearly needed—the mechanical security has occasionally thwarted theft attempts. Unfortunately, oversight in the lock's design allows even arthritic seniors to disable the alarm in under a minute.

If a thief cannot turn the lock cylinder directly, they can break the window, unbolt the door lock, and then use a screwdriver to turn the door actuator. Hyundai and Kia door locks are secured with a standard 8 mm or 10 mm bolt across nearly the entire lineup. Turning the door actuator operates the lock in the same manner as the cylinder, unlocking the car and disengaging the "Anti-Theft Logic" protection.

AutoSafe's security evaluation proposes issuing a recall to change these standard bolts with security / shear bolts.

8mm/10mm Ratchet

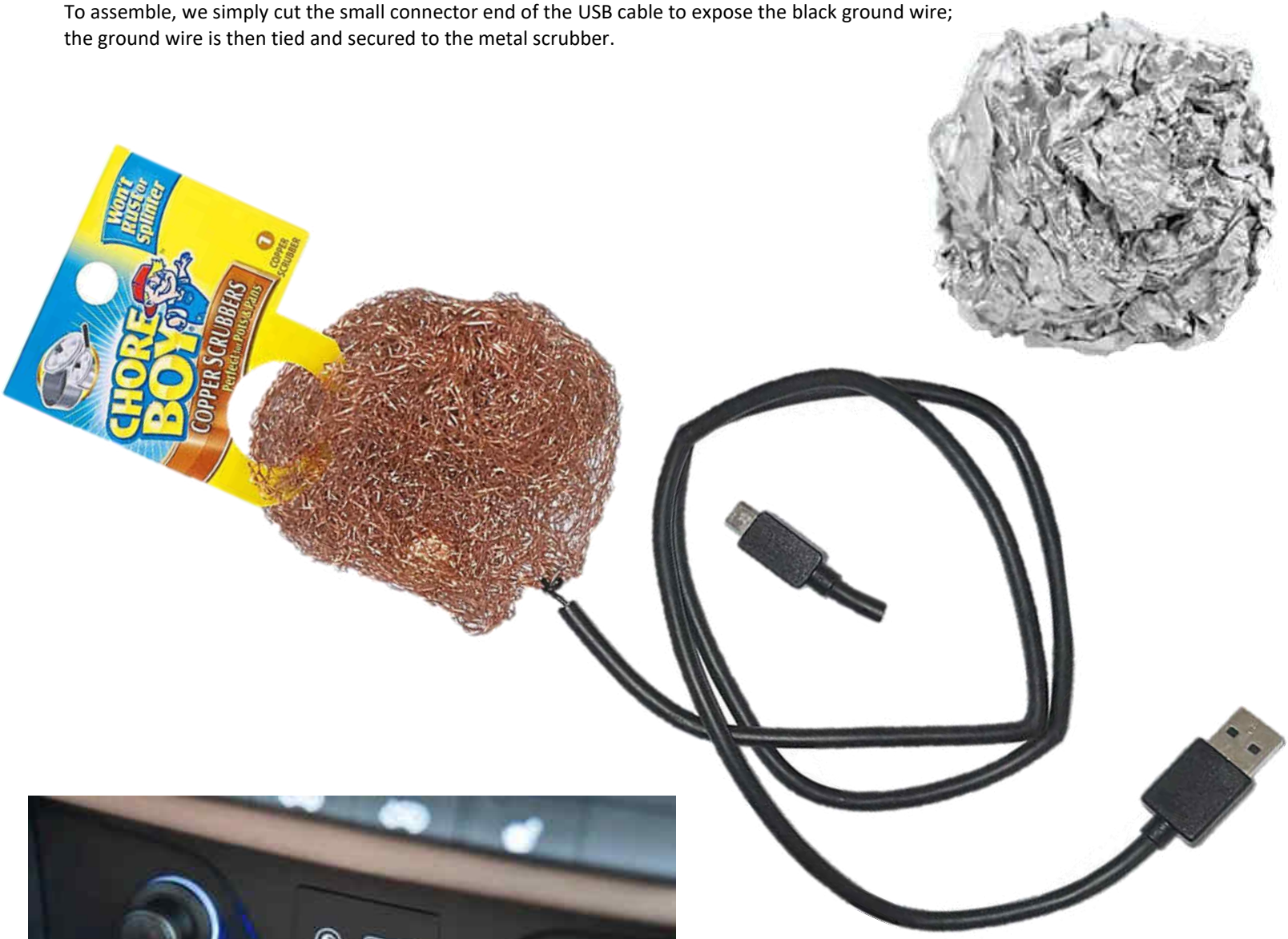
Door actuator

Anti-Theft Logic – Short Circuit

A third method for bypassing the Anti-Theft Logic highlights Hyundai's flawed wiring scheme. The door lock signal pins are held high by default and pulled low when the door is unlocked. This design allows someone to mass-short the connector pins and disable the alarm.

This can be demonstrated by pressing a ball of tinfoil into the door's wiring harness connector port, which shorts the pins and pulls them low, disabling the Anti-Theft Logic. Because this method can damage electrical components, we instead used a metal dishwashing scrubber (e.g., Scotch-Brite, Chore Boy) to short the pins to the car's USB port. Using this "USB-scrubber" method, we achieved near-instantaneous alarm deactivation on multiple Hyundai and Kia vehicles and presume it is universally effective on all models using the Anti-Theft Logic system.

To assemble, we simply cut the small connector end of the USB cable to expose the black ground wire; the ground wire is then tied and secured to the metal scrubber.



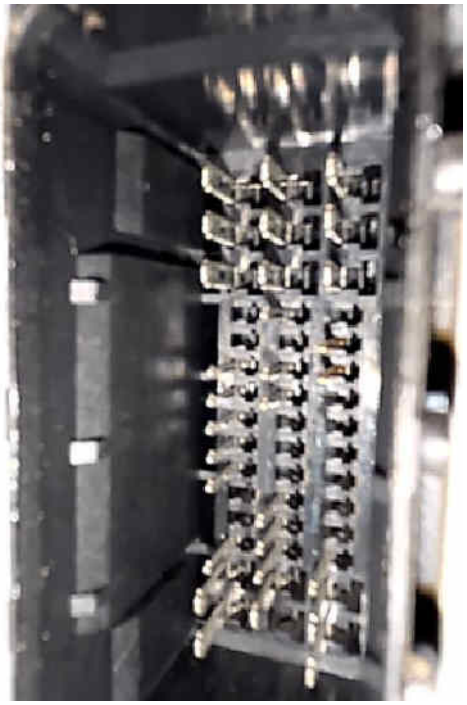
Note: USB adapter also works to ground scrubber.

Anti-Theft Logic – Short Circuit

The ball of tinfoil or metal scrubber is inserted into the driver door connector port to make contact with the pins within.
The active alarm should silence and the “Anti-Theft Logic” should now be disabled.

AutoSafe’s security evaluation proposes changes to the wiring scheme to prevent the mass shorting of pins disabling the alarm.

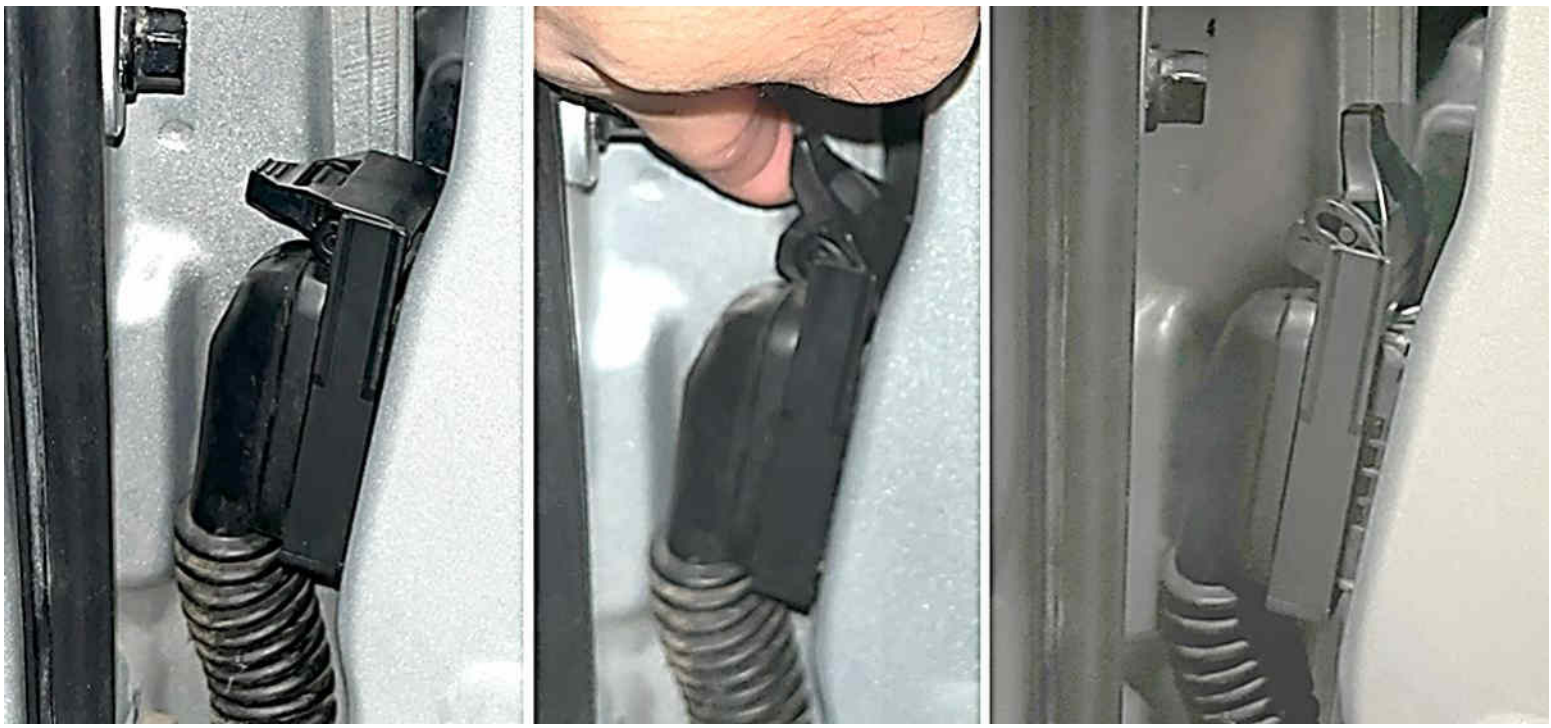
Inside door connector port



Anti-Theft Logic – Short Circuit

The door connector is disconnected from the port using a release tab.
The connectors we encountered came in 2 types of release tabs that are shown below.

Type 1 Connector (Soda Tab):
Using finger, lift tab up like a soda can tab. Continue to push tab towards door frame until connector partially pops out.



Type 2 Connector (Lift Tab):
Place a key under the tab and lift straight up. Continue lifting the tab until connector partially pops out.

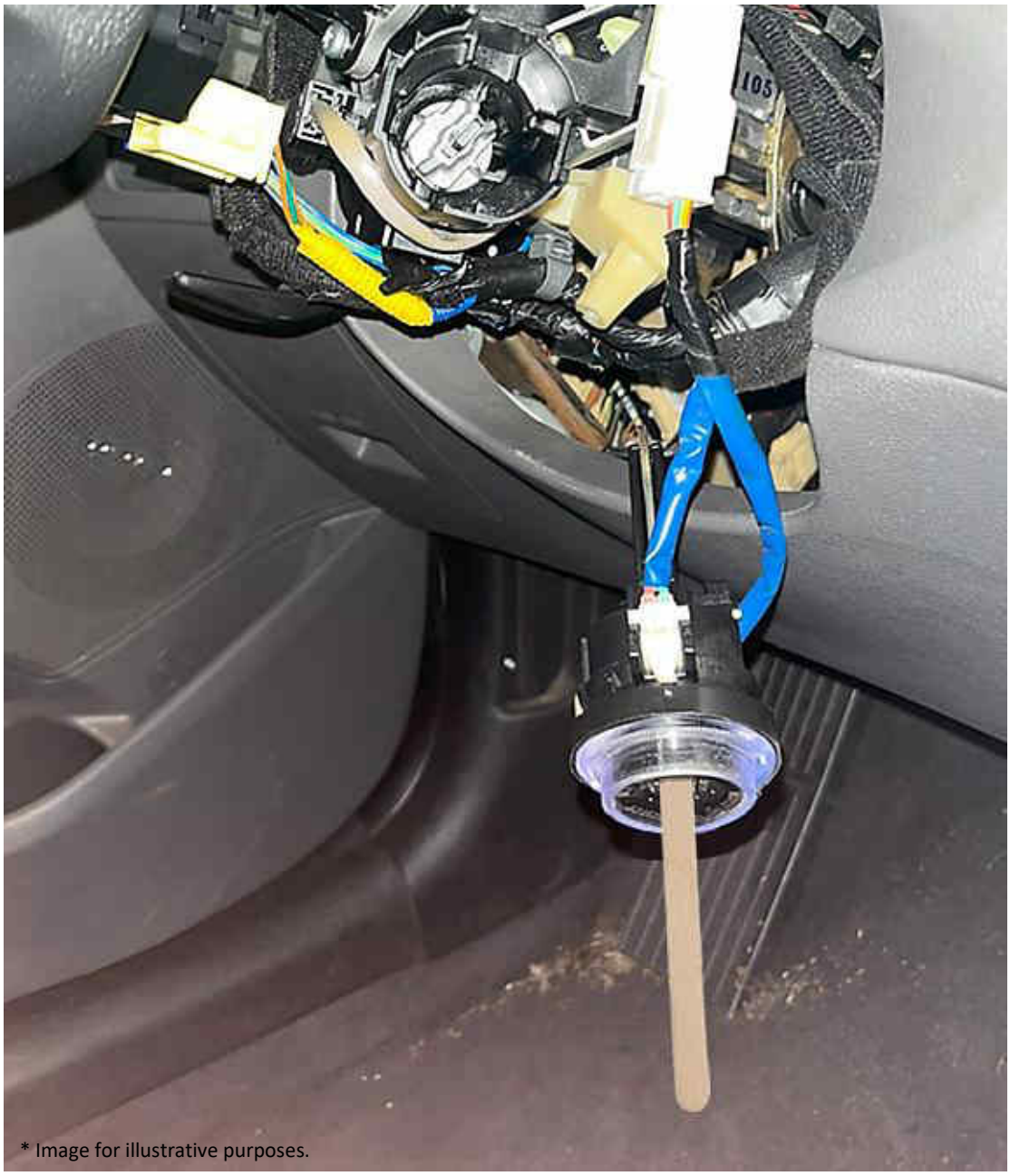
Anti-Theft Logic – Key-in-ignition requirement

We were informed by various Hyundai/Kia outlets and via a NHTSA PR statement that the Anti-Theft Logic system would require a key to be inserted into the ignition cylinder to allow the car to start.

Our testing on a 2011–2016 Hyundai Elantra revealed that a key was not required; the car could start even with the cylinder's wire connector completely disconnected. While the alarm would sound after approximately one minute, it did not affect the vehicle's operation and eventually shut itself off.

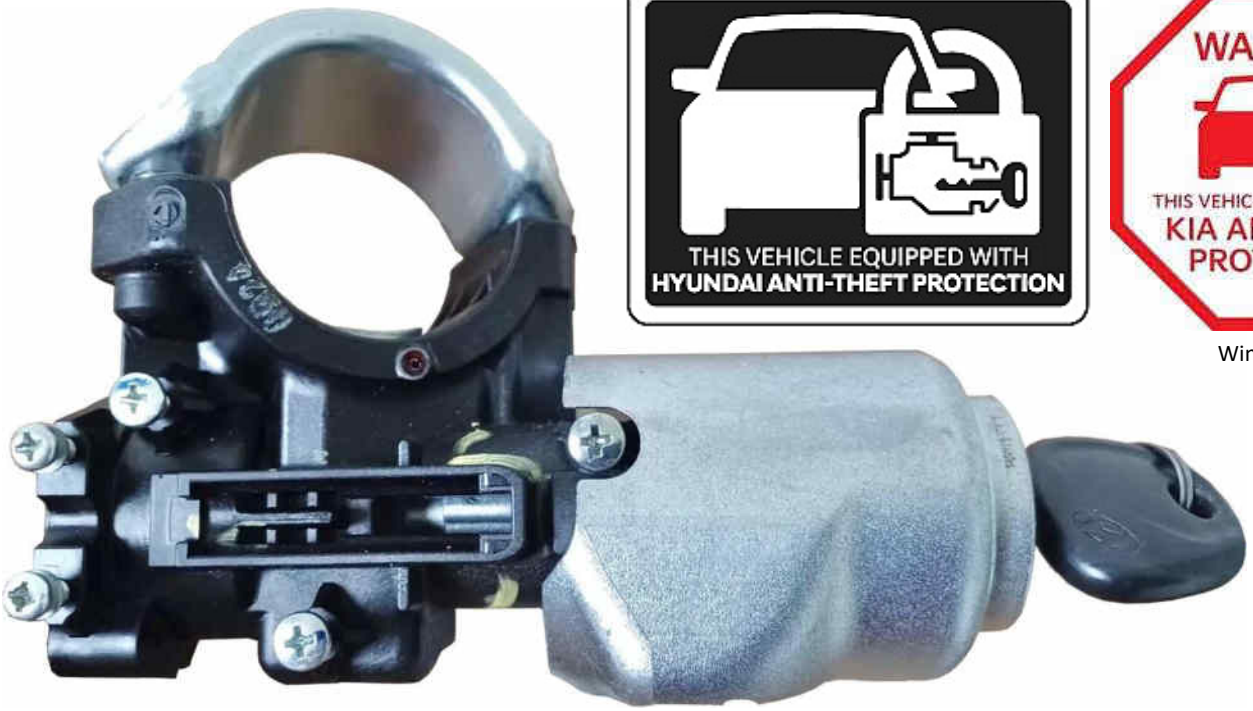
Even if this requirement were correctly implemented on other models, our testing shows it is largely ineffective. The ignition cylinder only uses a simple switch to signal the insertion of an object—presumably a key. It cannot verify whether the object is a genuine Hyundai/Kia key or even a key at all.

Defeating this "requirement" is trivial: any object that fits into the ignition cylinder is sufficient. Popsicle sticks proved ideal, fitting all Hyundai/Kia cylinders tested. The popsicle stick only needs be firmly inserted about 1/2" to actuate the switch.



* Image for illustrative purposes.

Anti-Theft Protection (RP)



Window Decals

Some vehicles were incompatible with the "Anti-Theft Logic" update, so Hyundai introduced a metal sleeve ("protector") for the ignition cylinder. Hyundai claims their cylinder sleeve has been independently tested and verified by a leading engineering and scientific consulting firm; one media outlet even describes it as a "bank vault."

Upon examination, we noted the following:

1) This supposed upgrade still uses the same substandard ignition cylinder without addressing its vulnerability to a brute force attack using a flathead screwdriver and vice grips (see "Anti-Theft Logic – Brute Force").
2) The remainder of the assembly is still composed of thin-walled plastic. Using a screwdriver to pry the cylinder sleeve would result in the entire housing cracking.
3) The assembly is secured to the steering column by plastic threads, which are inadequate. The entire ignition assembly can be pushed down far enough to free the steering lock by just kicking it or using a cigarette jet lighter to heat and free 1 of the bolts.

However, we wanted to test whether Hyundai's so-called "bank vault" could be defeated without causing significant damage. Using only readily available items from a convenience store, we were able to completely bypass the system in under a minute. Since the Anti-Theft Logic does not prevent this method, starting the car simply requires breaking the window to gain entry—without triggering the alarm.

Demo Materials:

Bubblegum
Popsicle
Hammer (or suitable rock)

Anti-Theft Protection

Demonstration Steps:

Step 1: After adjusting the steering wheel's position down and out, pop off the top plastic shroud.
*The top shroud is not screwed in and is just held in by some clips that easily release (we use the popsicle stick to pop it up).

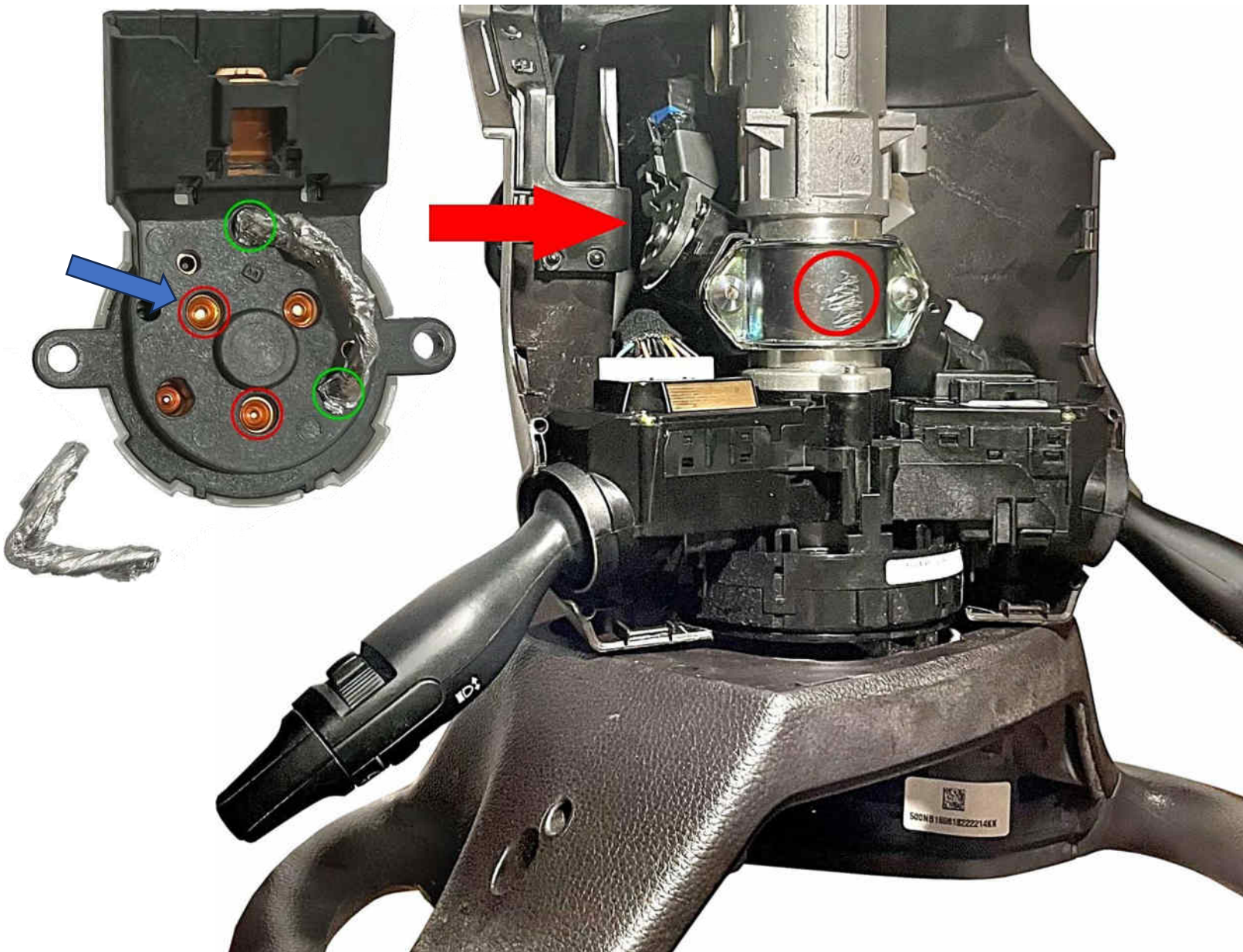
Step 2: Insert popsicle stick into the ignition cylinder.
*Popsicle stick only needs to be firmly inserted about 1/2" into the cylinder.

Step 3: Hammer hard a few times on top of ignition assembly's metal clamp (red circle).

Step 4: Disconnect the ignition switch connector and simply use your own replacement switch to start the car,
OR, Insert a bubblegum wrapper into the existing ignition switch's holes (red arrow) to start the car.

Shorting the B1 and Ignition-1 holes (circled green) will turn the car on. These holes are deeper and the bubblegum wrapper should secure itself when pushed into the holes (the bubblegum can also help secure the wrapper).

Shorting the B2 and Starter holes (blue arrow) will start the engine.



Anti-Theft Protection

Explanation:

When a popsicle stick—or any similarly sized item—is inserted into the ignition cylinder, it actuates the cylinder's lever latch just like a compatible key. Popsicle sticks are used in our demonstration because they are universally compatible across all Hyundai and Kia models.

When we hammer on top of the ignition assembly's metal clamp, the force is transferred to the free-floating steering lock and pushes it down so that the cylinder's lever latch can catch and secure it.

Alternatively, simply kicking or pushing down on the metal cylinder should free the steering column from the the steering lock. This is because the ignition housing is secured using plastic threads and is not reinforced with metal. **It can even be removed with just a cigarette jet lighter.**

Although it would be simple to just plug in another ignition switch to start the car, the ignition switches introduced in 2011 leave all their internal contacts conveniently exposed.

Ignition Starter Switch Compatible with Kia & Hyundai Vehicles - Forte Forte5 2014-2018, Forte Koup 2014-2016, Accent 2012-2017, Elantra GT 2017-2018 - 6 Blades, Replace 931101R000

$18.59

prime Tomorrow

FREE delivery **Tomorrow, August 19**. Order within 7 hrs 39 mins

	Model Years	Notes
HYUNDAI		
Accent	2012-2017	**New Switch**
Elantra Coupe	2013-2014	**New Switch**
Elantra Touring (i30cw)	2011-2012	**New Switch**
Genesis Coupe	2011-2012	**New Switch**
Santa Fe	2011-2012	**New Switch**
Veracruz	2007-2012	**Old switch**
KIA		
Forte	2010-2013	**Old switch**
Forte *	2014-2016	**New Switch**
Rio	2010-2011	**Old switch**
Rio *	2012-2017	**New Switch**
Rio *	2018-2022	**New Switch**
Sedona *	2011-2014	**Old switch**
Soul	2008-2013	**Old switch**
Soul	2014-2019	**New Switch**
Soul *	2020-2022	**New Switch**
Sportage *	2011-2016	**New Switch**

*** Only base models, higher trims are Anti-Theft Logic eligible**

Green holes = Ignition ON

Blue arrow = Starter

Conclusion:

We find it difficult to believe that Hyundai never bothered to test their ignition assembly to resist such a basic attack. Hyundai even spent a considerable sum to claim their ignition cylinder sleeve has been independently tested and verified by a leading engineering and scientific consulting firm.

Basic testing and attention to secure design should be expected from an established automaker. Even this upgraded ignition assembly should therefore be considered substandard and not meet the requirements of FMVSS 114.

NHTSA Complaint

The Hyundai "Anti-Theft Logic" software update was intended to address the wave of thefts that spread across the United States. These thefts stemmed from three primary causes:

First, Hyundai's lack of industry-standard immobilizers. By the time these thefts occurred, immobilizers were a basic and expected component in modern vehicles. They provide a critical layer of security that prevents vehicles from being stolen and misused in ways that endanger public safety.

Second, Hyundai's transition from durable metal ignition assemblies to thin-walled plastic housings. While thin-walled plastic is suitable for lightweight consumer electronics, it is inappropriate for critical vehicle security components. These flimsy plastic ignition assemblies failed to meet a reasonable expectation of quality (as demonstrated by the prior metal assemblies) and should be deemed "substandard."

These substandard ignition assemblies fall under the scope of NHTSA's oversight through the Federal Motor Vehicle Safety Standards, specifically FMVSS 114: Theft Protection and Rollaway Prevention (§ 571.114). Under this standard, NHTSA can issue a national recall if an automaker fails to comply with federal requirements, or if a component is found to be defective or substandard in a way that undermines theft prevention or creates the potential for serious crashes.

Third, Hyundai's defective alarm system. The alarm allowed vehicles to be started even while armed and active. This defect was widely exposed on social media, where videos showed thieves smashing windows, entering cars without opening the doors, and successfully starting the engines—while the alarms remained armed. In contrast, if an owner tested the alarm by unlocking the door and attempting to start the car, the system functioned as expected and prevented ignition. The Hyundai "Anti-Theft Logic" update was presented as a fix for this defect by reprogramming the alarm system through the ECU/BCM.

By the time Hyundai released this update, however, the damage had already escalated. Rising theft rates and the harm caused to life and property had drawn the attention of the public, law enforcement, state and local governments, and federal regulators. Calls mounted for a national recall of affected vehicles due to the absence of immobilizers and substandard ignition assemblies, and formal procedures were initiated in Congress to compel the NHTSA to act.

In response, Hyundai launched a national PR campaign to counter the growing pressure. We allege that Hyundai's campaign relied on misinformation, omissions, and obfuscation. The company framed the update as an "immobilizer," exaggerating its capabilities and effectiveness in order to silence recall efforts already in motion.

By withholding key details about how the update actually works and by providing misleading information about its efficacy, Hyundai curtailed efforts by government entities across the U.S. to compel a recall. A coalition of 23 state attorneys general, along with congressional members and committees, were prevented from advancing their efforts due to Hyundai's deceptive corporate messaging, which misled the media, the public, and policymakers alike.

Meanwhile, public safety remains at risk. These defective systems continue to be exploited. The NHTSA reported in February 2023 that the defect "has resulted in at least 14 reported crashes and eight fatalities." Many law enforcement leaders and state attorneys general would contest those figures. For example, in Minneapolis alone in 2022, thefts of Kia and Hyundai vehicles were tied to: 5 homicides, 13 shootings, 36 robberies, and 265 motor vehicle accidents.

This report has been prepared for the NHTSA to demonstrate that Hyundai misrepresented the methods, efficacy, and robustness of the "Anti-Theft Logic" update. Hyundai's deceptive actions thwarted government efforts to pursue a national recall, prevented public officials from addressing an ongoing public safety threat, and allowed the company to evade responsibility while the damage to communities continues.

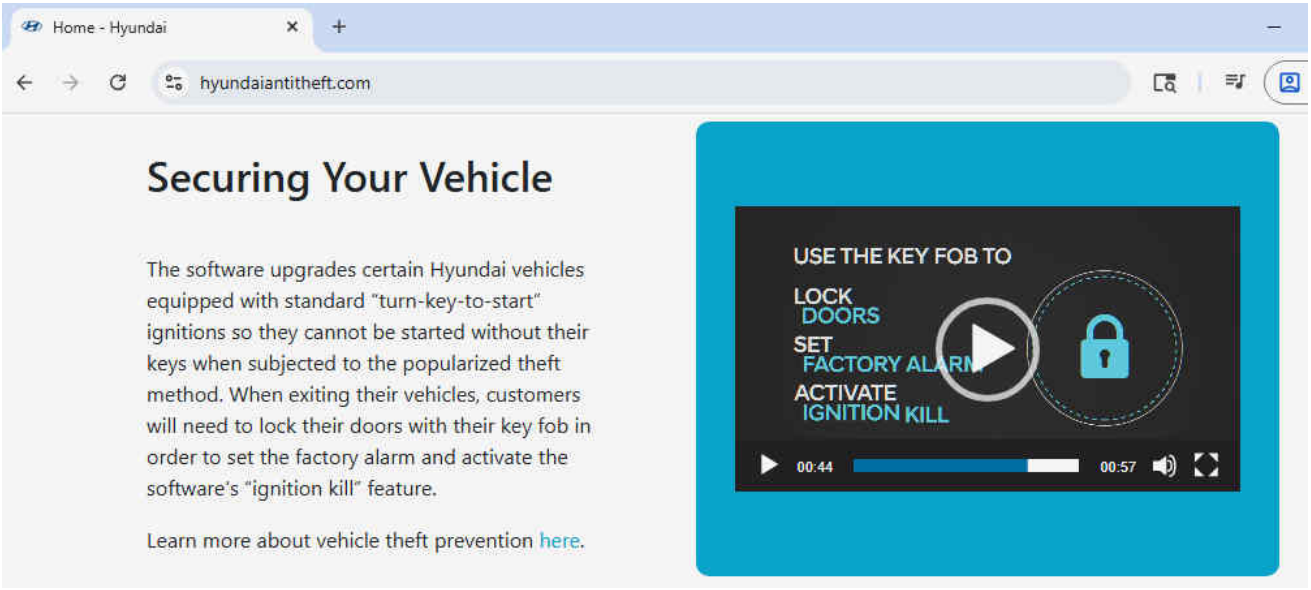
Claims (Playlist - Unlisted)

Claim 1

Hyundai made false or misleading claims about how the software update works regarding the requirement to arm/disarm the anti-theft logic using the key fob remote.
In reality, the system also arms and disarms when a key is used in the door lock cylinder, a flaw that quickly allowed thieves to bypass the update.

Example 1

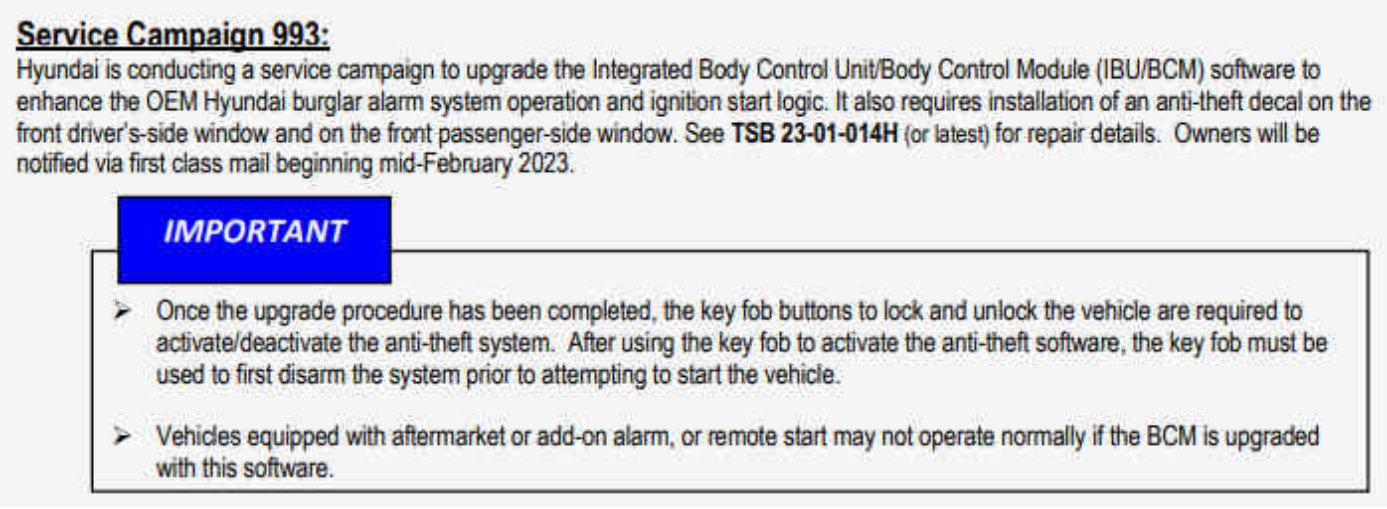
Hyundai USA:
“When exiting their vehicles, customers will need to lock their doors with their key fob in order to set the factory alarm and activate the software's ‘ignition kill’ feature.”



Example 2

Hyundai Service Campaign 993 (via NHTSA):

"Once the upgrade procedure has been completed, the key fob buttons to lock and unlock the vehicle are required to activate/deactivate the anti-theft system. After using the key fob to activate the anti-theft system, the key fob must be used to first disarm the system prior to attempting to start the vehicle."



Service Campaign 993:

Hyundai is conducting a service campaign to upgrade the Integrated Body Control Unit/Body Control Module (IBU/BCM) software to enhance the OEM Hyundai burglar alarm system operation and ignition start logic. It also requires installation of an anti-theft decal on the front driver's-side window and on the front passenger-side window. See **TSB 23-01-014H** (or latest) for repair details. Owners will be notified via first class mail beginning mid-February 2023.

IMPORTANT

- Once the upgrade procedure has been completed, the key fob buttons to lock and unlock the vehicle are required to activate/deactivate the anti-theft system. After using the key fob to activate the anti-theft software, the key fob must be used to first disarm the system prior to attempting to start the vehicle.
- Vehicles equipped with aftermarket or add-on alarm, or remote start may not operate normally if the BCM is upgraded with this software.

Example 3

Hyundai Spokesperson:

“For the anti-theft software to work, the vehicle must be locked using a button on the key fob — not by turning the metal key in the door lock.”

https://www.cnn.com/2024/08/07/business/thieves-hyundai-kia-new-security-software/index.html

Example 4

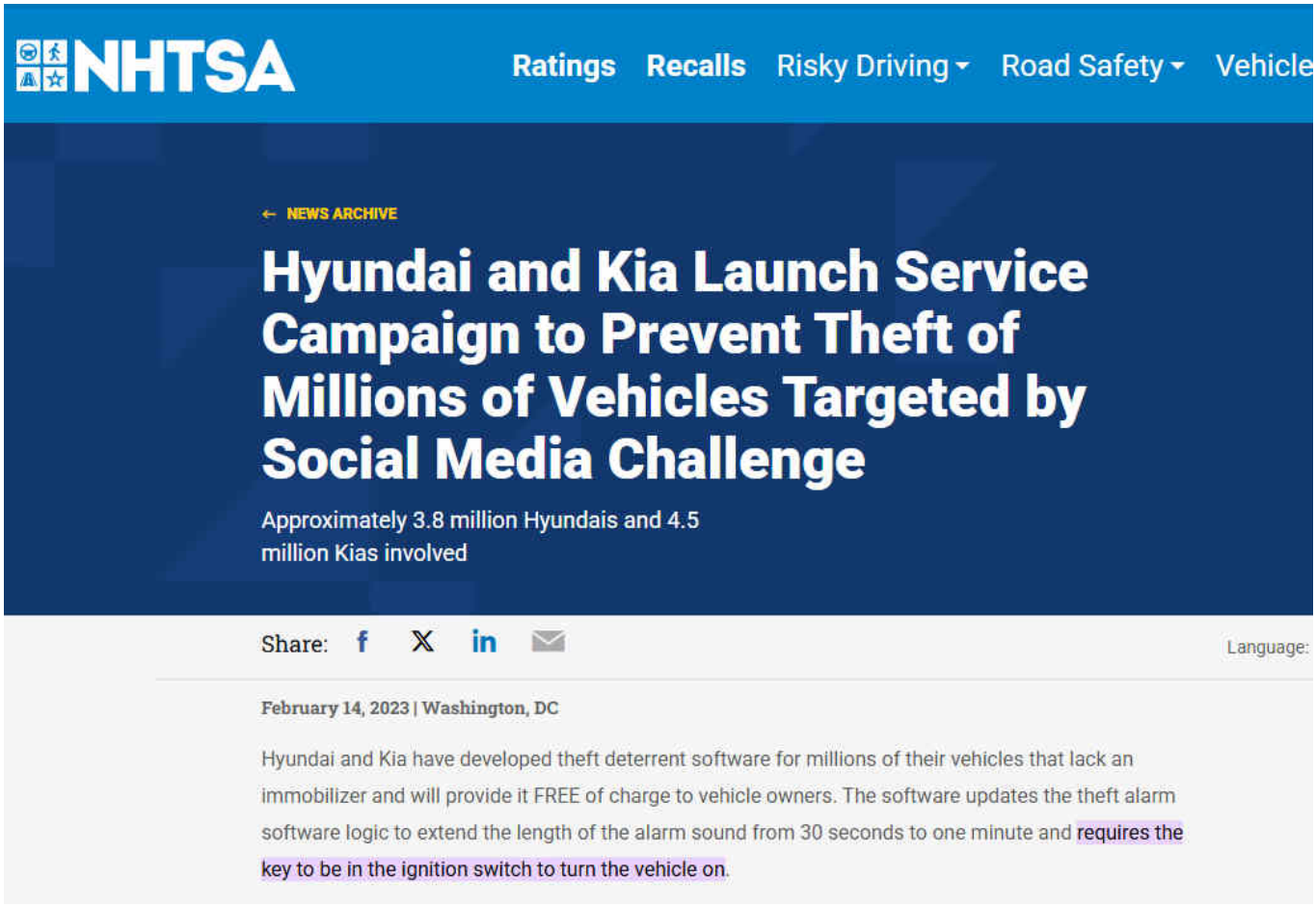
Kia reps making false statements to media and customers:

Archive: https://www.youtube.com/watch?v=u4QQvRoEm3M&t=23 (Original)

Claim 2

Hyundai made false or misleading claims to both the NHTSA and the public about the operation of its software update, specifically regarding the requirement that a key be in the ignition to start the vehicle. As detailed in the analysis report under the heading “Anti-Theft Logic – Key-in-ignition requirement,” this claim exaggerated the update’s security improvement and misrepresented the system’s operation and effectiveness.

NHTSA PR Statement (Direct Link)



News article explaining the key in ignition requirement:

Archive: https://www.youtube.com/watch?v=R1LvHsLiyu0 (Original)

Videos of the false or misleading claims regarding the key-in-ignition requirement:

A) Kia Service Manager explaining that the key will be required to start the car.
Archive: https://www.youtube.com/watch?v=CpJOSpiTM1c&t=110s (Original)

B) Kia representative claiming that the software update ensures that the car cannot be stolen without the key.
Archive: https://www.youtube.com/watch?v=-OWghGxkTZo&t=40s (Original)

C) "Technicians update cars so the key must be in the ignition switch to turn the vehicle on ..."
Archive: https://www.youtube.com/watch?v=t-IaWvnBnAw&t=25s (Original)

D) Kia Technician: "So whenever you go to start the car, it reads the key now and if it doesn't see a key in the vehicle, it won't start the vehicle."
Archive: https://www.youtube.com/watch?v=ihlMmrBi4dE&t=50s (Original)

E) Kia Service Manager: "The software is detecting if a key is actually installed in the lock cylinder. So, if the vehicle does not detect a key has been inserted into the lock cylinder, it will not start."
Archive: https://www.youtube.com/watch?v=1niotPJlqqc&t=70s (Original)

Claim 3

Hyundai made false and misleading claims about the nature of its software update. The company falsely characterized and promoted its "Anti-Theft Logic" update as an "immobilizer."

In the automotive industry, an immobilizer is a defined electronic security component of the ignition starting system that requires electronic data verification before the ignition can be enabled. This is the standard Hyundai and Kia promised to deliver to the government, law enforcement, and the public.

Our findings clearly demonstrate that Hyundai's software update does not meet this definition. The system can be disabled entirely through a simple mechanical action: turning the door lock cylinder. This disables the alarm and enables the ignition system, bypassing any electronic verification by the remote fob.

Hyundai and Kia's misrepresentation of this software update as an "immobilizer" was intended to mislead regulators and customers, and to avoid a recall that should have been triggered under federal safety standards.

Example 1:

"Dave VandeLinde, Hyundai Motor America's vice present for after-sales, said that the upgrades install a software-based immobilizer that is activated with the vehicles' remote key fobs."

"If the customer locks their vehicle with the lock button on their key fob, the vehicle has the immobilizer system armed."

https://www.mprnews.org/story/2023/11/09/police-urge-kia-hyundai-owners-to-get-antitheft-upgrades

Example 2:

2A:
[VIDEO 7:06] Dave VandeLinde: "To make sure we're available . . . to make sure they [Hyundai/Kia owners] can get the immobilizer solution that fits their vehicle."

Article: https://www.cbsnews.com/minnesota/news/hyundai-kia-holding-software-upgrade-clinics-in-minnesota-for-vehicles-targeted-by-thieves/

Video Archive: https://www.youtube.com/watch?v=exOZSD-TsHg

2B:
[1:53] VandeLinde: “First of all, the alarm will sound and the vehicle won’t start. That mimics an immobilizer factory solution in the vehicle, so that’s the key. They will not be able to drive away with the vehicle.”

Archive: https://www.youtube.com/watch?v=F1P1iCk-2YA (Original)

2C:
[3:03] Dave VandeLinde: "The software package, once it's on, won't allow the vehicle to start until it sees the immobilizer signal from the customer."

Archive: https://www.youtube.com/watch?v=-RWhEsdLtOc (Original)

Example 3:

3A:
[1:40] James Bell (Head of corporate communications for Kia America) claims the software solution mimics an immobilizer.

Archive: https://www.youtube.com/watch?v=YHnnaWM2Ruo&t=100s (Original)

[9:55-11:30] James Bell allows reporter to describe the software update as an immobilizer numerous times without correction.

Archive: https://www.youtube.com/watch?v=YHnnaWM2Ruo&t=595s (Original)

3B:
[1:24] Same journalist subsequently reporting that “immobilizers” are now available for Hyundai and Kia vehicles.

Archive: https://www.youtube.com/watch?v=dO4ltpWWPoc&t=84s (Original)

Example 4:

Emily Falecki, Project Manager with Kia's Anti-Theft Program:
"They can still break into your back window and attempt to steal your vehicle but **what the software update does, is that it doesn't disable that ignition immobilizer feature** and it will sound the factory alarm ..."

Archive: https://www.youtube.com/watch?v=fXwqb_7V1_0&t=90s (Original)

Example 5:

Dealerships making false statements:

https://www.worldkiajoliet.com/kia-models-eligible-for-software-update/
https://www.emichkia.com/understanding-the-kia-anti-theft-immobilizer-update-and-safety-recall/

A) Archive: https://www.youtube.com/watch?v=zGlwUXUKwdo&t=90s (Original)

B) Archive: https://www.youtube.com/watch?v=-kFxkY-BDqE&t=65s (Original)

C) Archive: https://www.youtube.com/watch?v=6SKtPNEvBX4 (Original)

[0:20] Media incorrectly reports that the update is an immobilizer due to misinformation from dealership.
[0:26] Shows the technician's computer screen showcasing the "ECU Upgrade" as "IMMOBILIZER (BCM) LOGIC IMPROVEMENT."

D) Archive: https://www.youtube.com/watch?v=E8dG5PHL_Y4 (Original)

[0:48] GM, Russ Darrow Kia: This now will immobilize the vehicle, if the key and [wireless remote] FOB – at the same time – are not detected in your current vehicle.

Example 6:

Media article examples resulting from the misinformation campaign:
https://www.kansascity.com/news/local/article273649755.html

https://www.fox5vegas.com/2023/04/18/how-see-if-your-kia-hyundai-vehicle-is-eligible-anti-theft-software-upgrade/

Claim 4

Hyundai has falsely represented the capabilities of its anti-theft software update and intentionally withheld knowledge of significant security flaws from the public—omissions that directly undermined efforts by government officials and the NHTSA to initiate a national recall.

Example 1:

James Bell (Head of corporate communications for Kia America) claiming that the anti-theft update makes it so the car can't be stolen:

Archive: https://www.youtube.com/watch?v=lDGojrSdo-I&t=45s (Original)

Example 2:

[10:00] James Bell claiming the software update will make the vehicle inoperable.

[11:30] Claiming that the software update is a “solution that is very robust.”

Archive: https://www.youtube.com/watch?v=71U7UJEoW7I (Original)

Example 3:

Keith Ellison (Minnesota Attorney General):
"Kia and Hyundai's software update is not a real solution to this problem. We are still hearing from consumers who have had their vehicles stolen after the update ..."

"After over a year of rampant thefts of Hyundai and Kia vehicles, Hyundai's decision to offer a four-day clinic does not come close to remedying the problems caused by their failure to equip their vehicles with industry standard engine immobilizers."

"Attorney General Ellison's investigation into the threat to public safety posed by Kia and Hyundai vehicles remains ongoing."

https://www.cbsnews.com/minnesota/news/hyundai-kia-holding-software-upgrade-clinics-in-minnesota-for-vehicles-targeted-by-thieves/

Example 4:

Media reports of ongoing thefts of cars that received the software update:

A) MN attorney general:
Archive: https://www.youtube.com/watch?v=2TKBZe-Ipzw (Original)

B) Syracuse police chief:
Archive: https://www.youtube.com/watch?v=ZJF3i50iyFE (Original)

Claim 5

In addition to Hyundai’s apparent motive to circumvent pressure for a national recall, the company’s suppression of critical information regarding the software update’s effectiveness served to protect corporate interests in a class action litigation. This deliberate withholding of information should not shield Hyundai from future liability for damages resulting from its efforts to obstruct recall actions through a calculated misinformation campaign.

Government Efforts

Bonta among 23 attorneys general blasting Kia, Hyundai over lack of anti-theft devices (Link)

In a letter Monday, Bonta was among 23 attorneys general urging the two automakers to take immediate action to address the thefts. The attorneys said Hyundai and Kia did not install engine immobilizers in many of its vehicles sold in the U.S. between 2011 and 2022.

"Hyundai and Kia made a decision to forgo a standard safety feature that would help protect owners' investments, and now their customers are paying the price," Bonta said in a statement Monday. "It's time for Hyundai and Kia to take responsibility for their poor decision which is hurting American families and putting public safety at risk. They must remedy this decision, now."

Attorney General Bonta Leads States Calling for Recall of Theft-Prone Hyundai and Kia Vehicles (Link)

California Attorney General Rob Bonta today led a coalition of 18 states calling for a federal recall of Hyundai and Kia vehicles following the companies' continued failure to take adequate steps to address the alarming rate of theft of their vehicles. The letter, sent to the National Highway Traffic Safety Administration (NHSTA), requests the NHTSA to institute a recall of unsafe Hyundai and Kia vehicles manufactured between 2011 and 2022 whose easily bypassed ignition switches and lack of engine immobilizers make them particularly vulnerable to theft.

National Recall of Kia/Hyundai models vulnerable to theft (RCA-2024-00161) (Link)

The automakers, Kia and Hyundai did not install industry-standard engine immobilizer technology on certain models between 2011 and 2022 resulting in millions of Kia and Hyundai vehicles being built without an anti-theft device to prevent the car from starting without the key or fob. Millions of Kia and Hyundai models with this defect are vulnerable to theft, and models without this defect are perceived to be vulnerable to theft.

This defect allows for theft of Kia and Hyundai vehicles and endangers public safety by enabling reckless driving and other crimes of opportunity. According to the Minneapolis Police Department, auto thefts were tied to five homicides, 13 shootings, 36 robberies, and 265 motor vehicle accidents in 2022.

CALLING FOR FEDERAL ACTION TO RECALL KIA AND HYUNDAI MODELS VULNERABLE TO THEFT (Link)

That the Mayor and City Council do hereby join a growing coalition of elected leaders representing municipalities across the country and at least 18 attorneys general in calling on the National Highway Traffic Safety Administration to initiate a national recall of Kia and Hyundai models that lack immobilizer technology and are vulnerable to theft due to their safety related defects and offer fair compensation or a fair trade for a safe and secure vehicle in exchange for financial loss for impacted individuals.
And be it further resolved, that a copy of this resolution be sent to the Administrator of the National Highway Traffic Safety Administration, the United States Secretary of Transportation, the President of the United States, the United States Congressional Delegation for Minnesota, the Minnesota Attorney General, the Minnesota Secretary of Transportation, the Administrator of the Minnesota Department of Transportation Motor Vehicle Administration, the Governor of Minnesota, Commissioner of the Minnesota Department of Public Safety.

Hyundai, Kia holding software-upgrade clinics in Minnesota for vehicles targeted by thieves (Link)

"On March 2, Attorney General Ellison called on Kia and Hyundai to recall all vehicles lacking industry-standard anti-theft engine immobilizers to correct this clear deficiency and stem the rising tide of auto thefts. That remains his position.

"Kia and Hyundai's software update is not a real solution to this problem. We are still hearing from consumers who have had their vehicles stolen after the update ..."

"After over a year of rampant thefts of Hyundai and Kia vehicles, Hyundai's decision to offer a four-day clinic does not come close to remedying the problems caused by their failure to equip their vehicles with industry standard engine immobilizers."

AutoSafe Solution

This report demonstrates that Hyundai made false and misleading representations regarding the functionality of their "Anti-Theft Logic" software update, and that the company's public claims were not fulfilled. AutoSafe, however, has developed a solution to ensure that Hyundai and Kia can meet the commitments they originally made.

AutoSafe has designed and developed a plug-in product compatible with Hyundai and Kia models affected by the theft crisis. Our solution ensures that the vehicle's fob remote is required to disable the vehicle's burglar alarm system—precisely what Hyundai and Kia originally promised the government, law enforcement agencies, and the American public.

The plug-in provides a seamless customer experience, is permanently installed in under five minutes, and represents the most cost-effective option for delivering a robust electronic security system that cannot be mechanically bypassed. AutoSafe was prepared to supply this solution for just $10 per vehicle.

Despite this, Hyundai has declined to proceed with our proposal. Instead, the company has chosen to allow vehicle thefts to continue while preparing yet another campaign of obfuscation and misinformation—actions that undermine public safety and burden law enforcement.

We urge the NHTSA to address this critical issue and hold Hyundai and Kia accountable for the misrepresentations made to the public, law enforcement, and the NHTSA.

Espionage-Related Concerns

AutoSafe has invested significant time and financial resources into this investigation, as well as the subsequent development of a drop-in solution designed to address the vulnerabilities in Hyundai and Kia vehicles.

AutoSafe engaged in discussions with Hyundai and Kia executives regarding the deficiencies in the anti-theft system and the potential risks posed by the plastic ignition assemblies. Our intention was to establish a partnership that would address the safety and security concerns outlined in this report.

Unfortunately, it became clear that Hyundai and Kia were primarily interested in having AutoSafe sign a non-disclosure agreement under the pretext of consultation, seemingly to suppress our findings in litigation, rather than to engage in a genuine effort to resolve these issues. As a result, we were unable to proceed with the consultation agreement and determined that this matter requires NHTSA involvement.

Additionally, we have concerns that Hyundai and Kia executives may have engaged private or law enforcement investigators to conduct surveillance on the company's system and communications (e.g., phone, internet). Such surveillance could potentially expose AutoSafe's product development and intellectual property, raising espionage-related concerns.

We have already requested that Hyundai and Kia notify both the Department of Justice (DOJ) and the Department of Homeland Security (DHS) should they claim to have independently developed a solution that addresses the anti-theft logic vulnerabilities. We further request that NHTSA inquire with Hyundai and Kia regarding this matter and ensure that they notify the DOJ and DHS using the provided email addresses. We also request confirmation that NHTSA has relayed this request to Hyundai and Kia and received acknowledgment of any communications with these agencies.

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DOJ (Civil Division)	Civil.Feedback@usdoj.gov