## Quandt, Jeff (NHTSA)

**From:** [redacted]
**Sent:** Friday, February 21, 2020 5:54 PM
**To:** Wells, LeErnest (NHTSA)
**Cc:** Quandt, Jeff (NHTSA)
**Subject:** Re: DP20-001 Acknowledgement Letter
**Attachments:** Response.pdf; My Experiences with Tesla Model 3.pdf; Letter from TeslaDeidentified.pdf; Tesla Model 3 download results_DeIdentitified.pdf

Please find my response attached.

Thank you,

[redacted]

On Fri, Feb 7, 2020 at 8:25 AM Wells, LeErnest (NHTSA) <LeErnest.Wells@dot.gov> wrote:

> Good morning Mr. [redacted]
>
> Attached please find a Defect Petition acknowledgment letter related to investigation #[redacted].
>
> Thank you
>
> **LeErnest Wells**
>
> Office of Defects Investigation
>
> National Highway Traffic Safety Administration (NHTSA)
>
> 1200 New Jersey Avenue, S.E., Room W43-483
>
> Washington, D.C. 20590
>
> (202)366-9717

U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

1200 New Jersey Avenue SE.
Washington, DC 20590

FEB 06 2020

[redacted]

[redacted]

Berkeley, CA [redacted]

Dear Mr. [redacted]

This letter acknowledges receipt of your petition, received by the National Highway Traffic Safety Administration's Office of Defects Investigation (ODI) on December 19, 2019, requesting a recall of "Tesla vehicles due to Sudden Unintended Acceleration." Your petition has been assigned the identification number [redacted] A copy of the opening resume denoting receipt of the petition is attached for your information.

In support of your petition, you submitted an attachment with the file name "Analysis of EDR Data_Tesla_RonBelt." You described this attachment as: "Results of Dr. Ronald Belt's Analysis of Vehicle Data from a SUA crash (NHTSA Complaint #11206155), in which he concludes the driver's foot was not on the accelerator during the SUA event." To assist us in our evaluation of your petition, please provide the following additional information regarding this document and the referenced crash incident if available: 1) a complete copy of the EDR report for the crash; 2) copies of all other evidence related to the crash, including driver statements, police reports, photographs, vehicle diagnostic and/or inspection reports; and 3) all evidence supporting the referenced conclusion regarding the placement of the driver's foot during the event.

In accordance with Title 49 CFR Part 552, "Petitions for Rulemaking, Defects, and Noncompliance Orders," the National Highway Traffic Safety Administration will conduct a review of the petition and other pertinent information and will notify you further upon completion.

Sincerely,

Stephen A. Ridella

Stephen A. Ridella, PhD
Director
Office of Defects Investigation

Enclosure:
[redacted] Opening Resume

NHTSA
www.nhtsa.gov

U.S. Department of Transportation

**National Highway Traffic Safety Administration**

# ODI RESUME

OFFICE OF DEFECTS INVESTIGATION
NHTSA
Authentic US Government Information

**Investigation:** [redacted]
**Prompted by:** Defect Petition
**Date Opened:** 01/13/2020
**Investigator:** Ajit Alkondon **Reviewer:** Jeff Quandt
**Approver:** Stephen Ridella
**Subject:** Sudden Unintended Acceleration

## MANUFACTURER & PRODUCT INFORMATION

| | |
|---|---|
| **Manufacturer:** | Tesla, Inc. |
| **Products:** | MY2013-2019 Tesla Model 3, Model S and Model X |
| **Population:** | 500,000 (Estimated) |
| **Problem Description:** | The petition alleges that the subject vehicles contain a defect that can cause sudden unintended acceleration, which may result in crash and injury. |

## FAILURE REPORT SUMMARY

| | ODI | Manufacturer | Total |
|---|---|---|---|
| **Complaints:** | 0 | TBD | TBD |
| **Crashes/Fires:** | 0 | TBD | TBD |
| **Injury Incidents:** | 0 | TBD | TBD |
| **Number of Injuries:** | 0 | TBD | TBD |
| **Fatality Incidents:** | 0 | TBD | TBD |
| **Number of Fatalities:** | 0 | TBD | TBD |
| **Other*:** | 123 | TBD | TBD |

***Description of Other:** Complaints identified in the defect petition.

## ACTION / SUMMARY INFORMATION

**Action:** Open this Defect Petition for a grant or deny decision.

**Summary:**

On December 19, 2019, the Office of Defects Investigation (ODI) received a defect petition by email requesting a defect investigation of alleged sudden unintended acceleration in model year (MY) 2012 through 2019 Tesla Model S, MY 2016 through 2019 Tesla Model X, and MY 2018 through 2019 Tesla Model 3 vehicles. In support of his request, the petitioner cited 127 consumer complaints to NHTSA involving 123 unique vehicles. The reports include 110 crashes and 52 injuries.

A copy of the petition will be added to the public file for this defect petition and ODI will evaluate the petitioner's allegations to determine if the petition should be granted or denied. If the petition is granted, ODI will open a defect investigation; if the petition is denied, ODI will publish a notice in the Federal Register.

The following VOQ numbers were referenced in the defect petition:

11291423, 11289172, 11289019, 11282993, 11280962, 11279755, 11278322, 11278152, 11269912, 11268280, 11267131, 11266551, 11265452, 11257753, 11241215, 11231846, 11229124, 11228597, 11220202, 11209483, 11209238, 11207877, 11206931, 11206155, 11202909, 11196764, 11189710, 11183545, 11183334, 11180431, 11174732, 11171052, 11165284, 11164094, 11162968, 11156706, 11155579, 11154380, 11154132, 11142282, 11139174, 11133222, 11132177, 11132094, 11128789, 11124067, 11121147, 11119991, 11118541, 11118315, 11113560, 11112860, 11111431, 11102931, 11102347, 11100721, 11100216, 11098517, 11097159, 11096621, 11093835, 11092830, 11092528, 11091970, 11089262, 11083755, 11083342, 11082114, 11081382, 11079500,

11078571, 11076619, 11075212, 11074547, 11073274, 11066047, 11065563, 11065308, 11064628, 11054973, 11048161, 11042211, 11021371, 11015893, 11003716, 11000077, 10995447, 10995382, 10982961, 10979378, 10970822, 10968322, 10958834, 10957394, 10953656, 10949955, 10939234, 10935272, 10915633, 10910108, 10910065, 10909588, 10908051, 10898260, 10893066, 10875699, 10874744, 10873117, 10864353, 10864163, 10862194, 10846206, 10845619, 10839579, 10810457, 10764853, 10758893, 10749575, 10723925, 10639849, 10562266, 10545488, 10545230

The following VOQ's were cited in the petition and are related to complaints referenced above as noted in parentheses: 11282996 (11282993), 10758908 (10758893), 10725634 (10545230), 10639935 (10639849)

DP20-001

ODI

MEMO

2-21-202O

WITH ACKNOWLEDGEMENT

2020-02-21 Petitioner email #1 attachment - Letter from Tesla Deidentified 7-11-2019

July 11, 2019

We are responding to your inquiry regarding an incident involving your Tesla vehicle on May 6, 2019. Tesla reviewed the vehicle's diagnostic log from the time of the incident, the results of which we discussed with you. As we discussed, based on this review, Tesla determined that the vehicle operated without fault and that the accelerator pedal was manually pressed by the driver immediately prior to the incident.

Your Tesla vehicle contains two independent sensors in the accelerator pedal that monitor the physical position of the pedal. None of the vehicle's controls (e.g., Autopilot, Traffic Aware Cruise Control, etc.) have the ability to physically move this pedal. If the pedal moves, as confirmed by these sensors, the movement is caused by an external source such as the driver's foot.

According to the vehicle's diagnostic log, immediately prior to the incident, the accelerator pedal was released, regenerative braking was engaged and slowing the vehicle, and the steering wheel was turned to the right. Then, while the vehicle was traveling at approximately 5 miles per hour and the steering wheel was turned sharply to the right, the accelerator pedal was manually pressed and over about one second, increased from approximately 0% to as high as 88%. During this time, the vehicle speed appropriately increased in response to the driver's manual accelerator pedal input. In the next two seconds, the accelerator pedal was released, the brake pedal was manually pressed, which also engaged the Anti-Lock Braking System, multiple crash-related alerts and signals were triggered, and the vehicle came to a stop.

Please note that the brakes in your vehicle are hydraulic and are completely distinct from the motor control, and there is no common fault that would cause a simultaneous failure of both the braking system and motor control. In other words, manually pressing the brake pedal does not cause the vehicle to accelerate and, irrespective of the accelerator input, sustained application of the brake pedal will slow or stop the vehicle; in some cases, manually pressing the brake pedal will override the accelerator pedal input and cut motor torque. You should also note that brake pedal application is monitored using completely distinct sensors from the accelerator pedal sensors, providing another independent signal recording the driver's actions.

Safety is of paramount importance to Tesla. We design our vehicles with particular attention to motor control safety and diligently investigate all complaints of vehicle malfunction. In addition to redundant accelerator pedal sensors, your Tesla vehicle also contains an independent monitor that continuously compares the readings from both of these sensors, and both sensor readings must remain consistent in order for the vehicle to provide full acceleration. Should an anomaly be detected in either sensor, a fault code would be set and the vehicle would enter a fail-safe mode. No such fault code was set in your vehicle and the vehicle responded properly and as designed in response to the accelerator pedal being pressed.

Regardless of the results of our investigation, we recognize how upsetting an incident like this can be. We hope that the above information is helpful for your understanding of what happened at the time of the incident.

Thank you very much for giving us the opportunity to investigate this incident.

Sincerely,

Associate Service Manager, North America Service

DP20-001

ODI

MEMO

2-21-202O

WITH ACKNOWLEDGEMENT

2020-02-21 Petitioner email #1 attachment - My Experiences with Tesla Model 3

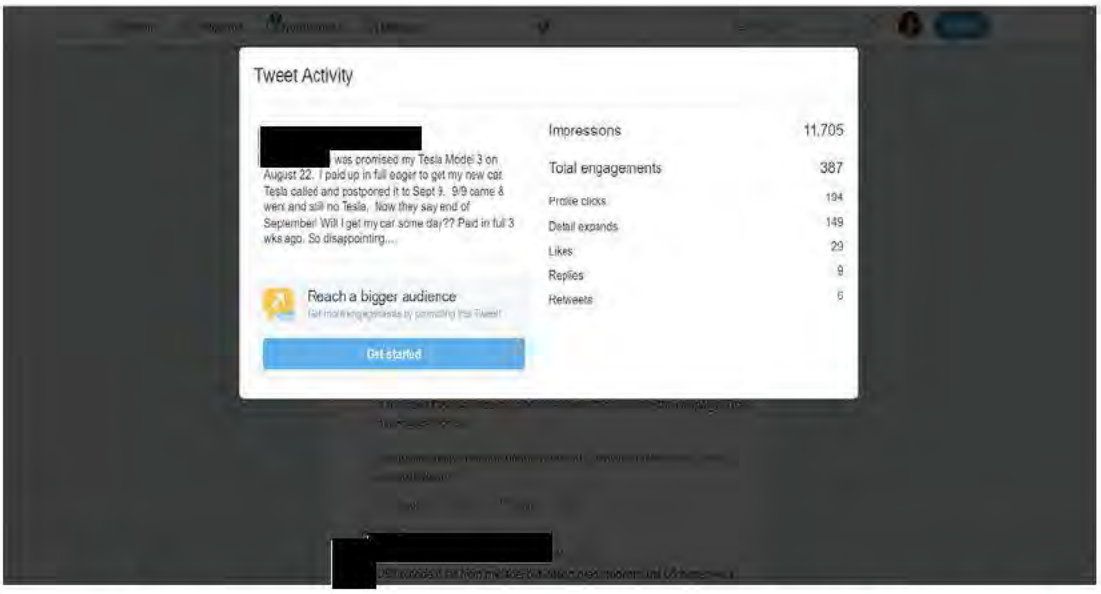
# My Experiences with Tesla Model 3

## Part 1: Getting the Car

I am a professor of Information Systems and Digital Commerce at Emory's Goizueta Business School. I am a tech enthusiast and an early adopter of many consumer technology products. When the Tesla Model 3 car was announced, I eagerly put down a deposit of $1000 and waited my turn. On August 22, 2018, I was excited to receive a call from Tesla promising delivery of my car on Sept 9th. However, on Sept. 9th, 2018 they called and told me not to show up because my car (yes, they had already matched me to a specific car in the supply chain with its own VIN which I could see on my Tesla account) had not yet reached the delivery center. They said it was stuck somewhere in their supply chain and they did not have any more information for me.

I was disappointed about the turn of events and tweeted about my experience with Tesla on September 10th as shown below.

The next thing, I know, the tweet gained steam and by end of the day, many people had engaged with the tweet, including several others also complaining about Tesla's lack of service




Mr. [redacted], a reporter for the *LA TIMES*, contacted me and asked if I'd be willing to be interviewed for a story he was doing about Tesla's supply chain woes.

[redacted] Sep 10
Replying to [redacted]
Another frustrating day with @Tesla
Being jerked around between Las Vegas (central) and local delivery (Decatur, GA).
Meanwhile, my lease @Lexus expires in 2 days and they give me free grace period! What a difference in customer service between @Lexus and @Tesla
1

[redacted] Sep 10
Replying to [redacted]
Now this from @Tesla after promised (& failed) deliveries on 8/22 & 9/9:
"Estimated delivery by late September
We will reach out to you to schedule your delivery date. Delivery time frame will be based on reservation date, order date, delivery location and vehicle config."

[redacted] Sep 10
Replying to [redacted]
I'm interested in hearing your [redacted]
2 1 22

[redacted] Sep 10
Thanks for asking me to share my experience with @Tesla
Was excited to get this car, but the poor customer service and delivery delays has really soured my view of the company and the car!
1 1

I accepted his interview request and provided all the details regarding my phone conversations and follow up with Tesla up to that point. Two subsequent stories were published in the *LA Times* based, in part, on my experience – see links below:

[redacted]

Within 10 minutes of my interview with Mr. [redacted] (the reporter from the *LA Times*), the Tesla dealership in Alpharetta (outskirts of Atlanta) and not the one closer to my home in Decatur with whom I had been interacting, contacted me and told me that my Tesla was ready for pick up. The specifications were the same as my order (black exterior and interior with 18 inch Aero wheels) although this was a different VIN from the car I had been originally matched with. Regardless, I was excited to get the car and received delivery of the car on Sept 12, 2018. There were a few, relatively minor issues with the car including a slight tear in the rear seat, but Tesla promised they would switch out the seat for me later, which they did!

## Part 2: Learning to Drive the Tesla

As I gained experience with the car, I fell in love with it: the way it drove, its intuitive sense of the driver's patterns of braking and acceleration, the smooth pick up, the large context sensitive displays, the signals for blind spot corrections, and context sensitive lighting. I loved it all! Fortunately, I don't have to drive a long distance to work and my commute to work and back is under 10 miles. On weekends, my husband would drive the car when we both went out together and he too thought it was such a great car (he drives a Prius and so he especially appreciated Tesla's quick acceleration!).

In short, our initial disappointment with the service was all but forgotten and we became Tesla enthusiasts, singing its praises to anyone who cared to listen. Although we had full self-driving

capability installed in the car, the two features we never used were Auto Park and Self Drive. I told myself that one of these days, I would get up early when the Atlanta freeways were empty and try out the car's self-driving capability, but had not done so, yet!

## Part 3: The fateful day in May

So it had been about nine months since I got the Tesla and I had driven fewer than 4000 miles. We wanted to take it on a longer drive and I told myself that I would do so in the summer months when I got some free time. Then the following happened on May 6, 2019!

I describe below what happened with my Tesla Model 3 (2018 car) and the ***UNINTENDED ACCELERATION*** (UA) situation I faced on that day. A quick summary and timeline is as follows:

1. On May 6th, sometime between 8:20 and 8:30 pm, I pulled into the driveway of my home and slowed to a halt to park my Tesla. I was returning from work after stopping to see a friend on the way.
2. As I was waiting for the garage door to fully open, the car suddenly and violently accelerated and lurched forward.
3. I immediately jammed the brakes but could not stop before the car hit the stone wall (separating our two car garages is a stone pillar) -- mine was on the right side garage. My husband's Prius was parked in the left garage which was closed at that time.
4. I have attached pictures of the broken wall and my car. You will see the damages to the car are on the right side of the car which are on the opposite side from the center stone wall. Even if I had pressed the gas pedal (as tesla will most likely claim!) there is no way that I could have hit the right side of my car.
5. I called Tesla that very night (probably around 9 pm or shortly after) and registered the accident with Tesla Engineering Services. I also filed a complaint that night in the NHTSA (National Highway Transportation Safety Authority) that same evening. Link here [Complaint #[redacted]
6. I have tried to follow up with Tesla but have not received any response from them as I am unable to get past their front office people [see separate section on follow-up and response history from Tesla] [redacted]

[redacted]

[redacted]

[redacted]

Pictures of the damage to the stone wall, garage, and structural damage to the house can be seen at

[redacted]

---

## Part 4: Am I alone or are there many such cases of #Unintended Acceleration with Tesla?

The surreal experience with Tesla left me bewildered, sad, and angry! How could a car just take off on its own like that? Were there other Tesla drivers that had experienced anything similar to my experience? Naturally, these questions were at the top of my mind when I sat down to investigate further…

First, there are several cases similar to mine that are in the public record already. These are all instances of where drivers describe the car suddenly and violently accelerating forward. I have compiled these through a careful search of the NHTSA database where drivers have filed a report. Naturally, I do not expect that this is a complete record of all such cases. I have only compiled cases where the acceleration occurred unexpectedly at the time of parking. There are other Tesla crashes due to Autopilot feature and others that are not reported here.

1. I noticed that the unintended acceleration issue has been reported across all Tesla models (Model S, Model X and Model 3).

2. The cases I was able to collect from NHTSA database are recorded here. I screened only for cases where this occurred during parking and not all unintended acceleration cases recorded.
    a. [Complaint# [redacted]
    b. [Complaint# [redacted]
    c. [Complaint# [redacted]
3. There have also been several cases that have received considerable media exposure, especially in cases involving public spaces such as nail salons, restaurants, and dry cleaners. I have logged some of these high profile cases here:

    a. https://docs.google.com/document/d/1FT76rzNPTWWWdC8mntER5cR-MRx-9r8wIqwNZWBIzXc/edit
    b. https://docs.google.com/document/d/10A_fS58gCRbUYLMqKkgqwPHH7NR6NmLb/edit
    c. https://docs.google.com/document/d/1ohc-HXorfqzgRNqQf1uXOrWATK84WSDPeztOBN1awU8/edit
    d. https://docs.google.com/document/d/1__Sh9y06pPTMLHunTdI1h10bvN3JvQN9D0DtKkGYLow/edit
    e. https://teslamotorsclub.com/tmc/threads/alleged-unintended-acceleration-and-brake-failure.124391/
    f. https://losangeles.cbslocal.com/2018/07/23/tesla-crashes-into-newport-beach-beauty-supply-shop/
    g. https://sanfrancisco.cbslocal.com/2019/05/08/tesla-crashes-into-lafayette-dry-cleaner/
    h. https://abc7news.com/tesla-crashes-into-danville-sushi-restaurant/5188908/
    i. https://www.thedrive.com/tech/8932/tesla-faces-unintended-acceleration-lawsuit-says-software-cant-prevent-it
    j. h s:// ww d cu tcl d.o /do ents/[redacted]-T lare nse h l
    k. And most recently, this from another woman trying to park her brand new Tesla in her garage https://sanfrancisco.cbslocal.com/2019/06/10/san-jose-woman-new-tesla-auto-accelerate-crash/

## Part 5: Tesla's Lack of Response and Possible Causes

When the accident happened on May 6th, Tesla told me that it would take about three weeks for them to get a response from their engineering division. After three weeks, I followed up with our local service center. I said I would like to receive the logged data from my car and they said they will let me know what they hear back from engineering.

Tesla's standard response to drivers in similar predicament has been something along these lines…

"We take the safety of our customers very seriously and we're glad our customer is safe. We investigate the vehicle diagnostic logs in every accident in which a driver claims their car "suddenly" and "unexpectedly" accelerated, and in every case the vehicle's diagnostic logs confirm that the vehicle operated as designed. Accidents involving "pedal misapplication," in which a driver presses the accelerator pedal by mistake, occur in all types of vehicles, not just Teslas. The accelerator pedals in Tesla vehicles have two redundant sensors that clearly show us when the pedal is physically pressed down, such as by the driver's foot." [ Ronald A Belt]

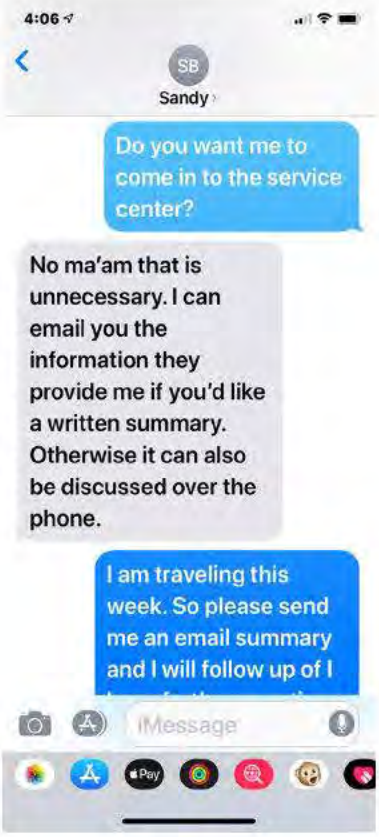
In every case, Tesla has responded with these standard statements which I think, based on my experience, is totally incorrect (I am aware of what happened to my car and it was *not* due to me pressing the gas pedal by mistake).

Since then, I have contacted Tesla Service center several times but am yet to get the response regarding what happened that evening? I produce below screenshots of the interactions with Tesla's service center manager that shows the delay and run around that I have received from Tesla.

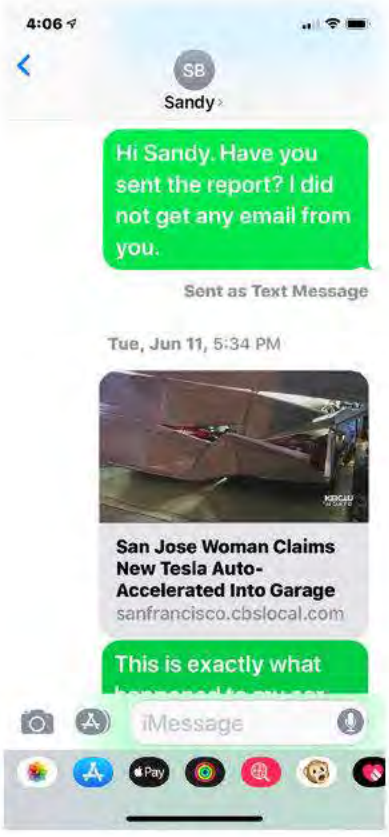

4:06
SB
Sandy
iMessage
Sat, Jun 1, 2:43 PM
TESLA
Sandy Baker | ASM Card
clickmy.site
Sandy Baker,
Associate Service Manager
Tesla Service Center - Decatur
Sat, Jun 1, 3:46 PM
iMessage


4:06
SB
Sandy
Sat, Jun 1, 3:46 PM
Thank you Sandy! Appreciate your prompt follow up with Tesla Engineering.
Thanks for your patience. I will let you know once I find out more information.
Fri, Jun 7, 2:19 PM
Hi there! It's another week gone by! Just checking to see if the engineering services got back on the car.
iMessage

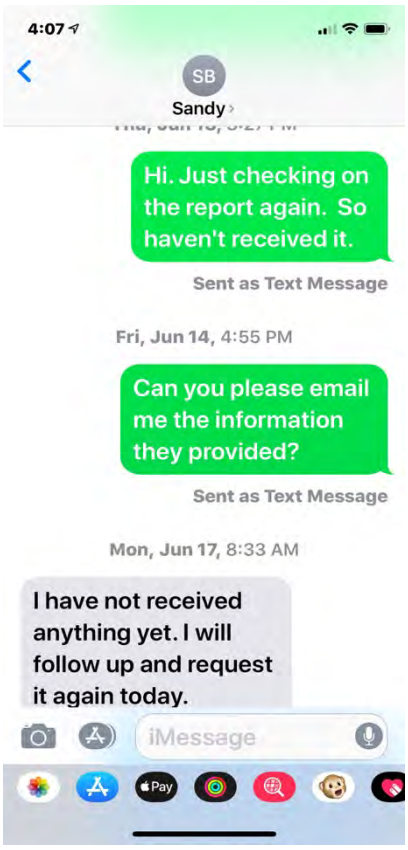

4:06
SB
Sandy
Fri, Jun 7, 2:19 PM
Hi there! It's another week gone by! Just checking to see if the engineering services got back on the car.
Volume
Mon, Jun 10, 8:23 AM
Hi, yes I received a response the other day. I will see what kind of written summary I can get for you.
Do you want me to come in to the service
iMessage

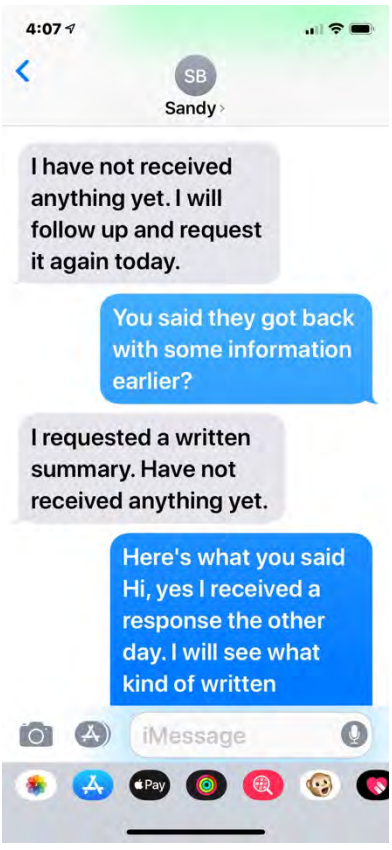

4:06
SB
Sandy
Do you want me to come in to the service center?
No ma'am that is unnecessary. I can email you the information they provide me if you'd like a written summary. Otherwise it can also be discussed over the phone.
I am traveling this week. So please send me an email summary and I will follow up of I
iMessage

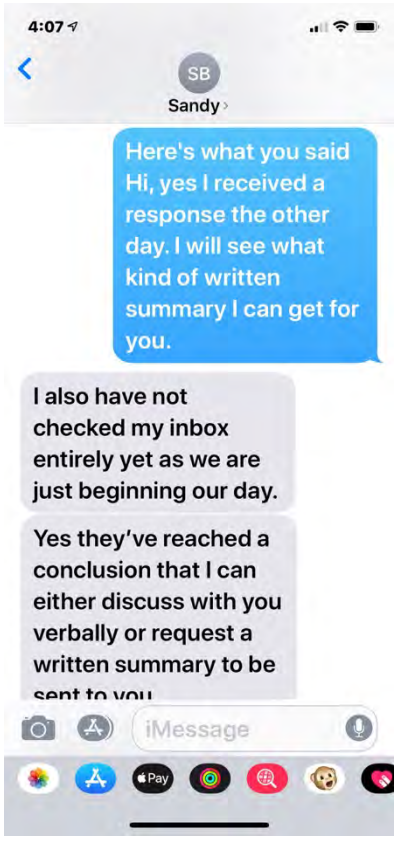

4:06
SB
Sandy
I am traveling this week. So please send me an email summary and I will follow up of I have further questions.
Sure. What is your email?
[redacted]
Tue, Jun 11, 10:35 AM
Hi Sandy. Have you sent the report? I did not get any email from you.
Sent as Text Message
iMessage

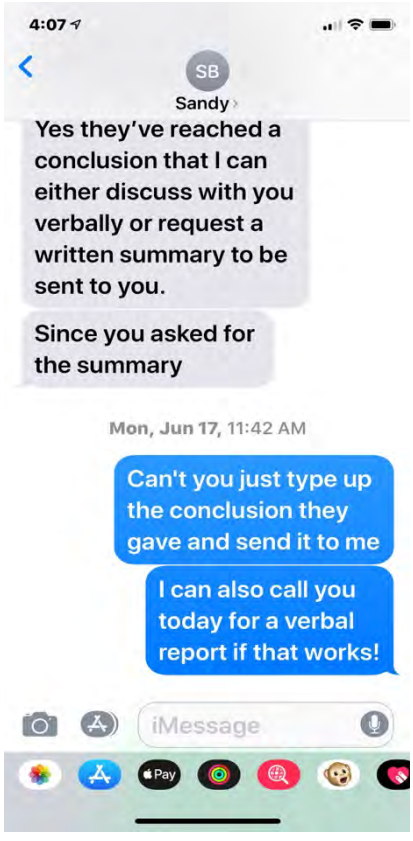

4:06
SB
Sandy
Hi Sandy. Have you sent the report? I did not get any email from you.
Sent as Text Message
Tue, Jun 11, 5:34 PM
San Jose Woman Claims New Tesla Auto-Accelerated Into Garage
sanfrancisco.cbslocal.com
This is exactly what
iMessage

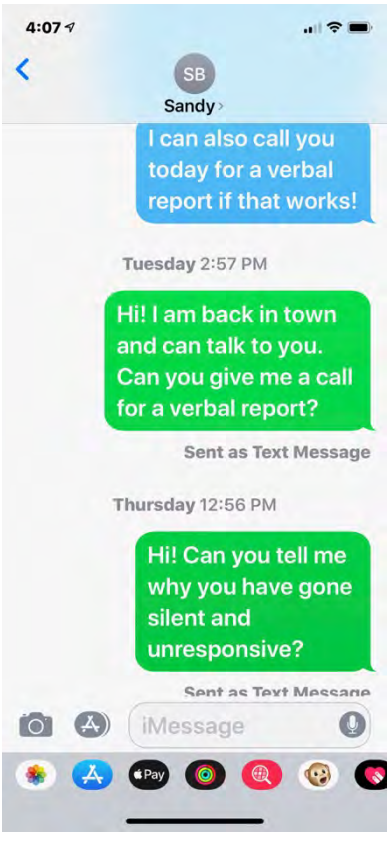

4:07
SB
Sandy
San Jose Woman Claims New Tesla Auto-Accelerated Into Garage
sanfrancisco.cbslocal.com
This is exactly what happened to my car too! The number of instances are piling up for Tesla to ignore!!
Sent as Text Message
Thu, Jun 13, 3:27 PM
Hi. Just checking on the report again. So haven't received it.
Sent as Text Message
iMessage

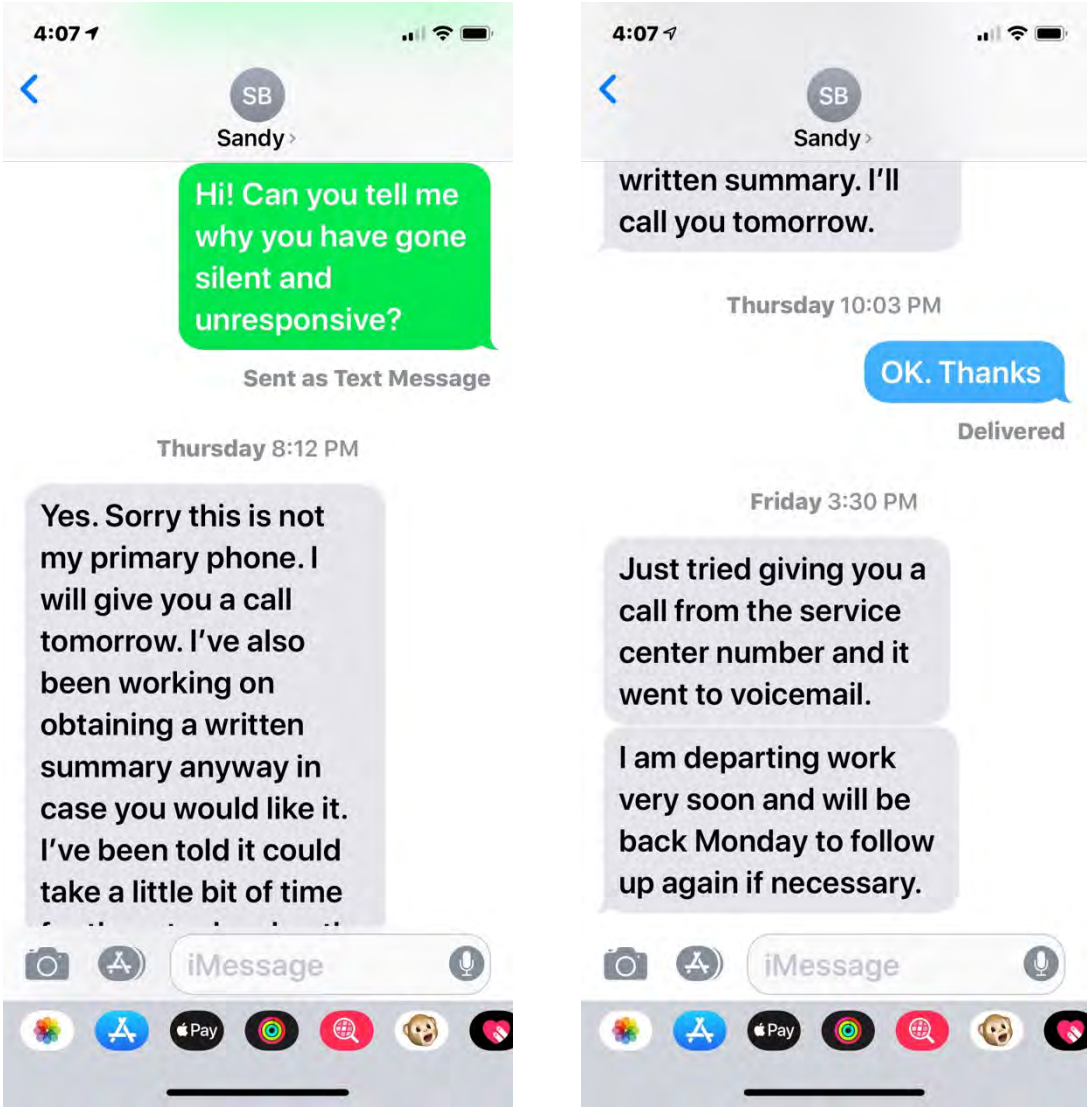

4:07
SB
Sandy
Hi. Just checking on the report again. So haven't received it.
Sent as Text Message
Fri, Jun 14, 4:55 PM
Can you please email me the information they provided?
Sent as Text Message
Mon, Jun 17, 8:33 AM
I have not received anything yet. I will follow up and request it again today.
iMessage


4:07
SB
Sandy
I have not received anything yet. I will follow up and request it again today.
You said they got back with some information earlier?
I requested a written summary. Have not received anything yet.
Here's what you said Hi, yes I received a response the other day. I will see what kind of written
iMessage


4:07
SB
Sandy
Here's what you said Hi, yes I received a response the other day. I will see what kind of written summary I can get for you.
I also have not checked my inbox entirely yet as we are just beginning our day.
Yes they've reached a conclusion that I can either discuss with you verbally or request a written summary to be
iMessage


4:07
SB
Sandy
Yes they've reached a conclusion that I can either discuss with you verbally or request a written summary to be sent to you.
Since you asked for the summary
Mon, Jun 17, 11:42 AM
Can't you just type up the conclusion they gave and send it to me
I can also call you today for a verbal report if that works!
iMessage


4:07
SB
Sandy
I can also call you today for a verbal report if that works!
Tuesday 2:57 PM
Hi! I am back in town and can talk to you. Can you give me a call for a verbal report?
Sent as Text Message
Thursday 12:56 PM
Hi! Can you tell me why you have gone silent and unresponsive?
iMessage




As of today (June 24, 2019), I am still awaiting their response!

**Is Unintended Acceleration a new problem or only new to Tesla?: Research from AutoSafety.Org**

My further research into this issue reveals that Unintended Acceleration is not entirely a new problem and other Auto Manufacturers have faced similar issues in the past. However, Tesla is stonewalling and refusing to acknowledge that there might be a lurking negligence issue and product liability issue for them here. There is good bit of research into this issue, most notably, by retired Honeywell Physicist, Mr. Ron A Belt. Please see his stack of research papers on this subject here.

https://www.autosafety.org/dr-ronald-a-belts-sudden-acceleration-papers/

Most interestingly, Mr. Ron Belt has been able to obtain the data logs from Tesla in a single auto acceleration incident and he analyzes the data in this paper https://www.autosafety.org/wp-content/uploads/2015/03/Teslas-Sudden-Acceleration-Log-Data-What-It-Shows.pdf

In this paper, Mr. Belt states that *"In this paper, the author has obtained the complete accelerator pedal sensor log data for a sudden acceleration incident from a driver who got the log data from Tesla during a telephone conversation. The Tesla engineer gave a detailed description of the log data to the driver, who then provided it to the author. The author then plotted this data to create the figure used in this study. We will now take a look at this log data"*

In section 2 of the paper, reproduced below, the author goes on to show why the peak accelerations reached by the Tesla during the period of unintended acceleration produces a pattern that cannot be initiated by humans. Please refer to the full paper. I've reproduced the relevant section below for easy reference.

*Figure 1 shows the accelerator pedal sensor data logged during a Tesla S sudden unintended acceleration incident. The driver maintained that her foot was not on the accelerator pedal at any time during the incident. Above each peak and valley are the amounts that the accelerator pedal is being pressed in percent of maximum travel, where maximum travel means pedal floored. The durations of the pressing are shown in seconds. Beneath the peaks the vehicle speed is shown in red in miles per hour. At t = 3.5 seconds when the crash occurred, the power to the drive motor was turned off as the vehicle was going at 15 miles per hour. It can be inferred from the data that the inverter logic and sensors continue to operate as before the crash. Amplitude data was not provided for the two peaks after the crash. After the crash the vehicle was stationary for five seconds before the brake pedal was applied. Figure 1. Accelerator pedal sensor data for a sudden unintended acceleration incident Tesla engineers interpreted the peaks in the data as the driver causing the sudden acceleration incident by pressing on the accelerator pedal. But this does not explain the zero-amplitude periods of one second duration between the periods of higher amplitude. These zero-amplitude periods were explained by Tesla engineers as the driver alternately pressing on the accelerator pedal and releasing the accelerator pedal; i.e., "stabbing" at the accelerator pedal. Note that the time periods of the peaks and valleys are accurate to 0.1 second. There is no way that a human driver can produce four time periods of exactly one second duration accurate to 0.1 second by alternately pressing and releasing the accelerator pedal. Therefore, the author began to look for an alternative way to explain these periods of zero amplitude by some malfunction of the electronic circuitry. One suspicion was that the four time periods of zero amplitude are caused by some integrated circuit component going into reset.*

I am not a physicist and unable to independently verify Mr. Belt's theory but his claims seem plausible. This also suggests that it is not an easy software fix for Tesla – otherwise they might have fixed this issue over the air! I suspect that Tesla will have to recall a whole lot of cars if they want to address this issue in earnest. In the meanwhile, we can be assured that we will continue to hear of more cases of Unintended Acceleration while parking.

DP20-001

ODI

MEMO

2-21-202O

WITH ACKNOWLEDGEMENT

2020-02-21 Petitioner email #1 attachment - PETITIONER 2-21-2020 LETTER Response to NHTSA Acknowledgement Letter

Dr. Stephen Ridella
Director, Office of Defects Investigation
400 Seventh Street, S.W.,
Washington, DC 20590

February 21, 2020

Dear Dr. Ridella,

This letter responds to your letter dated February 6, 2020 in which you acknowledged receipt of the petition and requested additional information. I am including as attachments the information that was sent to me from the Tesla owner who experienced the SUA incident in question. Their report to NHTSA is #11206155 dated May 7, 2019 from Atlanta, GA involving a 2018 Tesla Model 3. The person in question is in possession of additional information. They are represented by David Wright of McCune Wright Arevalo LLP. Mr. Wright can be contacted at (909) 345-8110 or dcw@mccunewright.com.

The attached information is provided as sent to me.

Thank you,

[redacted]

[redacted]

DP20-001

ODI

MEMO

2-21-202O

WITH ACKNOWLEDGEMENT

2020-02-21 Petitioner email #1 attachment - Tesla Model 3 download results_DeIdentitified

# EDR Report

| File Information | Value |
| --- | --- |
| VIN | |
| Retrieval Date | |
| Retrieval User Comments | |
| | |
| Retrieval Program Information | |
| EDR Report Information | |
| Report Date | |
| Number Of Events | |
| Time From Event 1 To 2 (seconds) | |
| Ignition Cycle At Retrieval | |

# Model 3 Data Limitations

## General Data Limitations

This report represents data from a Tesla Event Data Recorder (EDR). The report was generated using EDR data that was uploaded to the Tesla EDR Report Service at https://edr.tesla.com. This service is periodically updated using the most current vehicle information available and report users should always ensure that the report was generated by the most recent version of the Report Service.

The Tesla EDR Retrieval Program and Tesla EDR Report Service are designed for vehicles configured for the North American market region only. Report elements found in this report may not have not been validated for vehicles configured for regions outside of North America.

The EDR is part of the vehicle's Restraints Control Module (RCM). When the EDR senses a crash or crash-like event, it may record a short period of data related to vehicle dynamics and safety systems. This recorded data may assist in understanding the crash or crash-like event. EDR data will only be recorded by a Tesla vehicle if the EDR senses a crash or crash-like event; no data is recorded by the EDR under normal driving conditions.

EDR data should only be used as part of a thorough and competent review of the human, vehicle, and environmental information associated with an event. The data recorded by the EDR has limitations including the number of items recorded, the time period of the recording, the data sampling interval, and the data range and resolution. Additionally, EDR data may be limited by sensor capabilities or the availability of 12 V DC power at the RCM. For these and other potential reasons, the EDR data may not capture an entire event, and the data elements captured may not fully represent all aspects of a given event.

Tesla has made all reasonable efforts to include sufficient information in this report's Data Limitations section to clarify terminology and data elements found in this document to assist the end user in understanding the recorded data. Tesla reserves the right to update, change or modify this information.

Event Data Recorder
: An Event Data Recorder is defined as a device or function in a vehicle that records the vehicle's dynamic time-series data during the time period just prior to a crash event (e.g., vehicle speed vs. time) or during a crash event (e.g., delta–V vs. time), intended for retrieval after the crash event. For the purposes of this definition, the event data do not include audio and video data (49 CFR Part 563).

Data Synchronization
: Pre-crash and crash data are recorded in discrete intervals and may be asynchronous.

Events
: The Model 3 RCM can store up to two events: Event 1 and Event 2. The conditions for triggering the recording of an event differs depending on event type.

Time Zero
: Time Zero, as indicated throughout the event record, is the point where the restraint control algorithm is activated in any sensing direction.

Recording duration
: The end of an event is typically the moment at which the cumulative delta-V within a 20ms time period does not change by more than 0.8 km/h or the moment at which the crash detection algorithm of the RCM resets. Some events may lead to the recording of different duration data as provided for by 49 CFR Part 563.

Deployment events
: A deployment event may be recorded when the RCM commands the deployment of a device (e.g. airbag, pretensioner, or High Voltage (HV) battery disconnect). Airbag deployment events are always locked in memory and are never overwritten. Pretensioner/HV disconnect only deployments may not be locked and may be overwritten.

Non-deployment events
: A non-deployment event may be recorded when the RCM senses a physical occurrence triggering the recording of an event but does not command the deployment of a device (e.g. airbag, pretensioner, High Voltage (HV) battery disconnect). A non-deployment event is recorded if one of the two event memory locations is available (not locked). Non-deployment events are not locked in memory. A non-deployment event is overwritten by another non-deployment event or a deployment event.

Data polarity
: Where applicable, the data in this report follows the polarity conventions found in SAE J1733 and J211. For example, forward longitudinal acceleration and resultant delta-V are positive and left-to-right lateral acceleration and resultant delta-V are positive. Positive roll angle is rotation about the vehicle's longitudinal axis using the right hand rule (clockwise vehicle roll when viewed from the rear of the vehicle). Positive steering wheel angle is clockwise rotation of the steering wheel (steering to the right from straight).

Signal Not Available (SNA)
: Signal Not Available (SNA) indicates a data element which is not available due to a fault or network communication disruption with the sensor that supplies the data to the EDR.

## Data Element Definitions

Vehicle Identification Number (VIN)
: The Vehicle Identification Number (VIN) is stored in the RCM when it is installed at the Tesla Fremont Factory or by Tesla Service. The last 6 digits of the VIN can be anonymized by selecting the "Save without VIN sequence number" option in the Tesla EDR Retrieval Program.

Retrieval Date
The Retrieval Date is the calendar date and time when the data was retrieved from the RCM. This date and time is sourced from the computer that was used to retrieve the data. This is not the date and time of an event.

Retrieval User Comments
The Retrieval User Comments is an open field that can be used by the Tesla EDR Retrieval operator to record text comments at the time of retrieval.

Retrieval Program Information
The Retrieval Program Information is the version number of the Tesla EDR Retrieval Program that was used to retrieve the EDR data from the RCM.

EDR Report Information
The EDR Report Information identifies the version of the Tesla EDR Report Service.

Report Date
Report Date is the calendar date when the online Tesla EDR Report Service was used to generate the report. The source of this data element is the Tesla server.

Number Of Events
The Number Of Events represents the total number of events that are stored in the RCM memory. The maximum number of events that can be recorded is two.

Time From Event 1 to 2 (seconds)
The Time From Event 1 to 2 is the amount of time elapsed between the Time Zero of two linked events (if applicable). Linked events must occur within 5 seconds and in the same ignition cycle. Non-linked events will report "N/A" in the Time From Event 1 to 2 value. The value is reported to the nearest 0.5 seconds.

Ignition Cycle At Retrieval
The Ignition Cycle At Retrieval is the number of times that the RCM had been powered on as reported at the time that the Tesla EDR Retrieval Program was used to retrieve the data from the RCM. The maximum value for ignition cycles is over 4 billion.

Maximum Delta-V, Longitudinal/Lateral (km/h)
The Maximum Delta-V, Longitudinal/Lateral is the maximum magnitude of the recorded delta-V during the event. The value is reported to the nearest kilometer per hour. The range for Maximum Delta-V is -100 km/h to +100 km/h. The source of the data is the internal calculation (integration) of the sensor data inside of the RCM.

Time to Maximum Delta-V, Longitudinal/Lateral (ms)
The Time to Maximum Delta-V, Longitudinal/Lateral is the time from Time Zero to the maximum magnitude of the recorded delta-V during the event. The maximum value is 300 ms and the value is reported to the nearest millisecond.

Time to Maximum Delta-V, Resultant (ms)
The Time to Maximum Delta-V, Resultant is the time from Time Zero to the calculated maximum resultant of the longitudinal and lateral delta-V components. The maximum value is 300 ms and the value is reported to the nearest millisecond.

Ignition Cycle At Event
The Ignition Cycle At Event is the number of times that the RCM had been powered on as reported at Time Zero. The maximum value for ignition cycles is over 4 billion.

Ignition Cycle Runtime
Ignition Cycle Runtime is the total cumulated time from when the RCM was powered on to Time Zero for a given event. The maximum value of Ignition Cycle Runtime is over 70 million minutes and the resolution is 0.1 minutes.

Odometer At Event Time Zero
Odometer At Event Time Zero is the value of the vehicle's lifetime mileage accumulation at Time Zero. The maximum value for this data element is over 1 million kilometers and the resolution is 0.1 kilometers.

Airbag Warning Lamp Status
Airbag Warning Lamp Status indicates the commanded state of the warning lamp as "on" or "off" within approximately the last second before Time Zero.

ABS Warning Indicator Status
ABS Warning Indicator Status indicates the commanded state of the warning lamp as "on" or "off" within approximately the last second before Time Zero.

Vehicle Drive Mode
Vehicle Drive Mode is the status of the vehicle's powertrain setting within approximately the last second before Time Zero . Possible values for this data element include Park, Reverse, Neutral and Drive.

Driver/Passenger Safety Belt Status
The Driver/Passenger Safety Belt Status is the recorded status of the safety belt at the time of the event. This data element is recorded one second before Time Zero.

Occupant Classification In Front Passenger Seat

The Occupant Classification data element indicates the detected occupant type in the front passenger seat. Values include: Empty, Child, Small Adult, Large Adult.

Driver Seat Position

Driver Seat Position indicates the recorded seat track position of the driver seat. The possible values are Rearward and Forward.

Rear occupant seat status

The Model 3 may record data associated with the second row seat occupancy and seat belt status. The possible values for occupancy status include: Not Occupied or Occupied, or Not Available. The possible values for rear occupant seat belt status are Buckled, Not Buckled, or Not Available.

Driver Airbag Deployment 2nd Stage Disposal

This data element indicates if the driver airbag second stage was commanded to deploy (either for occupant restraint or propellant disposal purposes).

Right Front Passenger Airbag Deployment 2nd Stage Disposal

This data element indicates if the passenger airbag second stage was commanded to deploy (either for occupant restraint or propellant disposal purposes).

Complete File Recorded

Complete File Recorded indicates whether or not the complete data set available to the EDR was successfully recorded.

Deployment Summary

The Deployment Summary table indicates which of the deployable safety devices (if any) were commanded to deploy and at what time (relative to the event Time Zero). The possible values for the status of each device is “Deployment Commanded” or “Deployment Not Commanded”. The deployment commanded time is to the nearest millisecond.

Time Series Data

All time references are based on the event definition of Time Zero.

Vehicle Speed

Vehicle Speed is calculated using the four wheel speed signals as well as inertial acceleration measurements. This speed will be reported either in kilometers per hour or miles per hour, depending on vehicle configuration. The minimum value for vehicle speed is 0 and the maximum value is greater than 200 km/h (124 mph). The resolution of Vehicle Speed is to the nearest kilometer per hour or mile per hour, depending on vehicle configuration.

Accelerator Pedal (%)

Accelerator Pedal (%) is the percent of full application of the accelerator pedal. The resolution of Accelerator Pedal (%) is to the nearest percent.

Rear Motor Speed (rpm)

Rear Motor Speed is the rate of rotation of the rear drive motor. The maximum value for Rear Motor Speed is 17,900 rpm (revolutions per minute). The resolution of Rear Motor Speed is to the nearest 1 rpm. Positive RPM values indicate that the vehicle motor is rotating negatively about the vehicle's lateral (y) axis, which provides forward motive force.

Service Brake

Service Brake indicates the status of the driver's application of the brake pedal as reported by the brake booster. The possible values for Service Brake are “On” (pedal being applied by driver) and “Off” (pedal not being applied by driver).

Stability Control

Stability Control is the status of the Electronic Stability Control system (ESC). The possible values are “On” (meaning the ESC was enabled but not active), “Off” (meaning the ESC was turned off), and “Engaged” (meaning that the ESC was active).

ABS Activity

ABS Activity is the status of the Anti-lock Braking System (ABS). The possible values are “On” (meaning the ABS was active) and “Off” (meaning the ABS was not active). Active ABS status does not necessarily indicate that the ABS control unit was actively modulating braking at one or more wheels.

Steering Wheel Angle (deg)

Steering Wheel Angle represents the measured rotational angle of the steering wheel. The range of Steering Wheel Angle data is -819 deg to +819 deg. The resolution of steering wheel angle is to the nearest degree. Data is recorded for 5 seconds prior to Time Zero every 0.1 seconds.

Lateral/Longitudinal Pre-Crash Acceleration

Lateral and Longitudinal Pre-Crash Acceleration data is the measured physical acceleration of the vehicle as measured at the RCM during the 5 seconds prior to (and including) Time Zero.

Roll/Yaw Rate Pre-Crash Data

Roll and Yaw Rate Pre-Crash data is the measured angular velocity of the RCM for the 5 seconds prior to (and including) Time Zero. The resolution of this data element is to the nearest 0.1 degrees/second and the samples are recorded every 0.1 seconds.

Longitudinal/Lateral Delta-V data

Longitudinal and Lateral Time Series Delta-V Data indicates the change in velocity of the vehicle. The source of the data is the internal calculation (integration) of the sensor data inside of the RCM. The resolution of Delta-V data is to the nearest kilometer per hour and the data is reported every 10 ms after Time Zero (until the end of the event). The range for delta-V data is -100 km/h to +100 km/h.

Longitudinal/Lateral/Normal Time Series Acceleration data

Longitudinal and Lateral Time Series Acceleration Data indicates the measured physical acceleration of the vehicle. The source of the data is the accelerometers located inside the RCM. The resolution of acceleration data is 0.8 g and the data is reported every 0.5 ms after Time Zero (until the end of the event). The range of acceleration data is -96 g to +96 g.

Serial Numbers

Serial numbers are the sensor identification numbers that are stored in the RCM. These values are stored when the RCM is powered up (each ignition cycle).

Hexadecimal Data

The Hexadecimal Data found in this report represents the original, raw data and identifying information retrieved from the RCM accessed to ultimately generate this report. The binary data is represented in hexadecimal format as a matter of convenience. While it represents all the raw data retrieved from the subject RCM not all of that raw data may be used in a given report or application.

# Event 1 Data Record

| Data Element | Value |
|---|---|
| Maximum Delta-V, Longitudinal (km/h) | -11 |
| Time To Maximum Delta-V, Longitudinal (ms) | 90.0 |
| Maximum Delta-V, Lateral (km/h) | -2 |
| Time To Maximum Delta-V, Lateral (ms) | 185.0 |
| Time To Maximum Delta-V, Resultant (ms) | 90.0 |
| Ignition Cycle At Event | 1099 |
| Ignition Cycle Runtime (minutes) | 6.4 |
| Odometer At Event Time Zero (km) | 6028.9 |
| Airbag Warning Lamp Status | Off |
| ABS Warning Indicator Status | Off |
| Vehicle Drive Mode | Drive |
| Driver Safety Belt Status | Buckled |
| Passenger Safety Belt Status | Not Buckled |
| Occupant Classification Status In Front Passenger Seat | Empty |
| Driver Seat Track Position | Rearward |
| 2nd Row Left Safety Belt Status | Not Buckled |
| 2nd Row Left Seat Occupant | Not Occupied |
| 2nd Row Center Safety Belt Status | Not Buckled |
| 2nd Row Center Seat Occupant | Not Occupied |
| 2nd Row Right Safety Belt Status | Not Buckled |
| 2nd Row Right Seat Occupant | Not Occupied |
| Driver Airbag Deployment 2nd Stage Disposal | No |
| Right Front Passenger Airbag Deployment 2nd Stage Disposal | No |
| Complete File Recorded | Yes |

## Deployment Summary (Event 1)

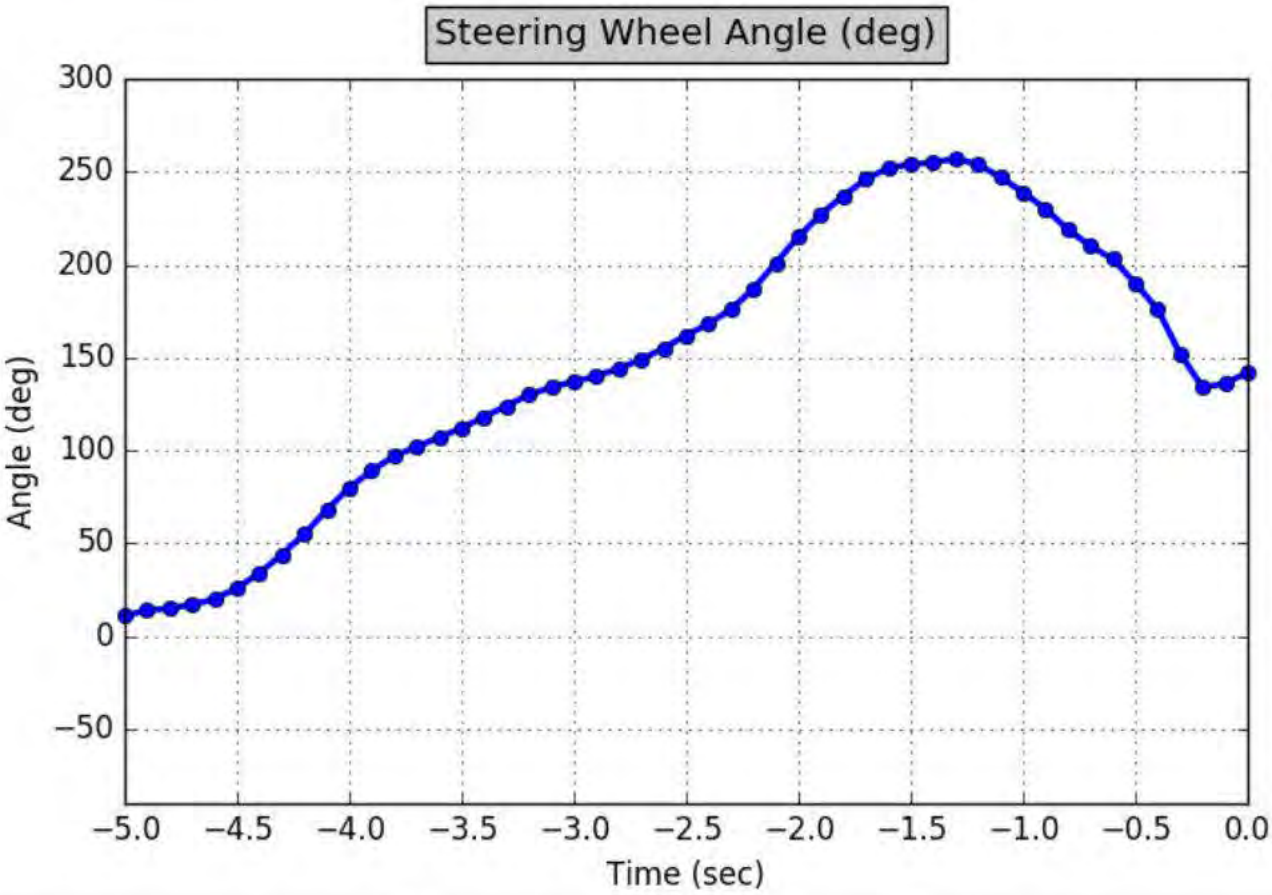
| Device | Status | Deployment Command Time (ms) |
|---|---|---|
| Driver Front Airbag Stage 1 | Deployment Not Commanded | |
| Driver Front Airbag Stage 2 | Deployment Not Commanded | |
| Driver Front Airbag Active Vent | Deployment Not Commanded | |
| Driver Knee Airbag | Deployment Not Commanded | |
| Driver Retractor Pretensioner | Deployment Not Commanded | |
| Driver Lap Pretensioner | Deployment Not Commanded | |
| Driver Switchable Load Limiter | Deployment Not Commanded | |
| Driver Side Seat Airbag | Deployment Not Commanded | |
| Passenger Front Airbag Stage 1 | Deployment Not Commanded | |
| Passenger Front Airbag Stage 2 | Deployment Not Commanded | |
| Passenger Active Vent | Deployment Not Commanded | |
| Passenger Knee Airbag | Deployment Not Commanded | |
| Passenger Retractor Pretensioner | Deployment Not Commanded | |
| Passenger Lap Pretensioner | Deployment Not Commanded | |
| Passenger Switchable Load Limiter | Deployment Not Commanded | |
| Passenger Side Seat Airbag | Deployment Not Commanded | |
| Inflatable Curtain Airbag Left | Deployment Not Commanded | |
| Inflatable Curtain Airbag Right | Deployment Not Commanded | |
| Second Row Retractor Pretensioner Left | Deployment Not Commanded | |
| Second Row Retractor Pretensioner Right | Deployment Not Commanded | |

## Event Data (Event 1)

| Time (sec) | Service Brake | Stability Control | ABS Activity |
|---|---|---|---|
| -5.0 | Off | Off | Off |
| -4.5 | Off | Off | Off |
| -4.0 | Off | Off | Off |
| -3.5 | Off | Off | Off |
| -3.0 | Off | Off | Off |
| -2.5 | Off | Off | Off |
| -2.0 | Off | Off | Off |
| -1.5 | Off | Off | Off |
| -1.0 | Off | Off | Off |
| -0.5 | Off | Off | Off |
| 0.0 | Off | Off | Off |

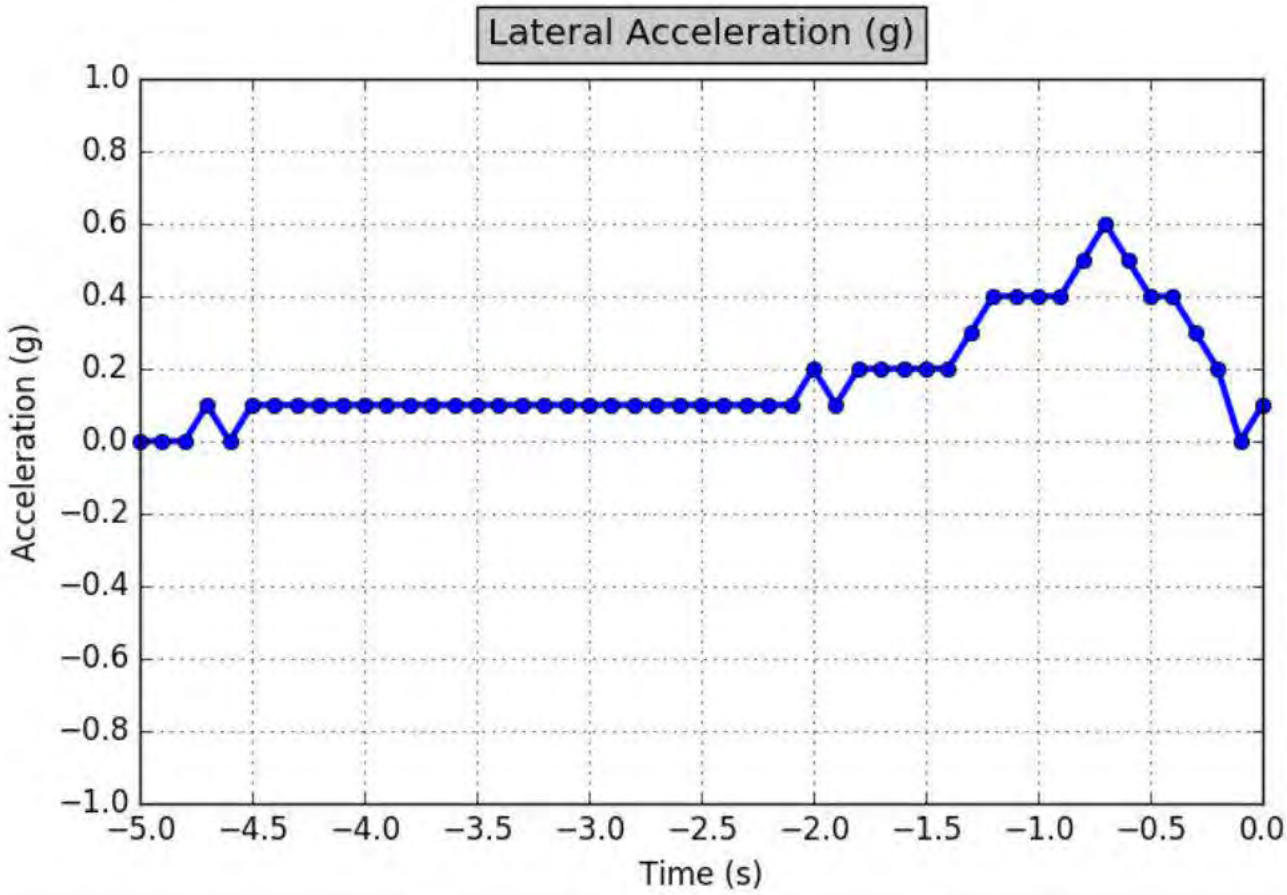
| Time (sec) | Vehicle Speed (mi/h) | Accelerator Pedal (%) | Rear Motor Speed (rpm) |
|---|---|---|---|
| -5.0 | 7.0 | 0.0 | 785 |
| -4.8 | 7.0 | 0.0 | 768 |
| -4.6 | 7.0 | 0.0 | 716 |
| -4.4 | 6.0 | 0.0 | 697 |
| -4.2 | 6.0 | 0.0 | 686 |
| -4.0 | 6.0 | 0.0 | 664 |
| -3.8 | 6.0 | 0.0 | 662 |
| -3.6 | 6.0 | 0.0 | 642 |
| -3.4 | 6.0 | 0.0 | 649 |
| -3.2 | 6.0 | 0.0 | 628 |
| -3.0 | 6.0 | 0.0 | 632 |
| -2.8 | 6.0 | 0.0 | 609 |
| -2.6 | 6.0 | 0.0 | 614 |
| -2.4 | 6.0 | 0.0 | 604 |
| -2.2 | 6.0 | 0.0 | 606 |
| -2.0 | 6.0 | 4.8 | 635 |
| -1.8 | 6.0 | 11.6 | 682 |
| -1.6 | 6.0 | 17.2 | 700 |
| -1.4 | 6.0 | 26.0 | 807 |
| -1.2 | 8.0 | 59.6 | 1036 |
| -1.0 | 10.0 | 78.8 | 1432 |
| -0.8 | 12.0 | 69.2 | 1732 |
| -0.6 | 14.0 | 0.0 | 1498 |
| -0.4 | 14.0 | 0.0 | 1536 |
| -0.2 | 14.0 | 0.0 | 1476 |
| 0.0 | 11.0 | 0.0 | 682 |

## Steering Wheel Angle (Event 1)



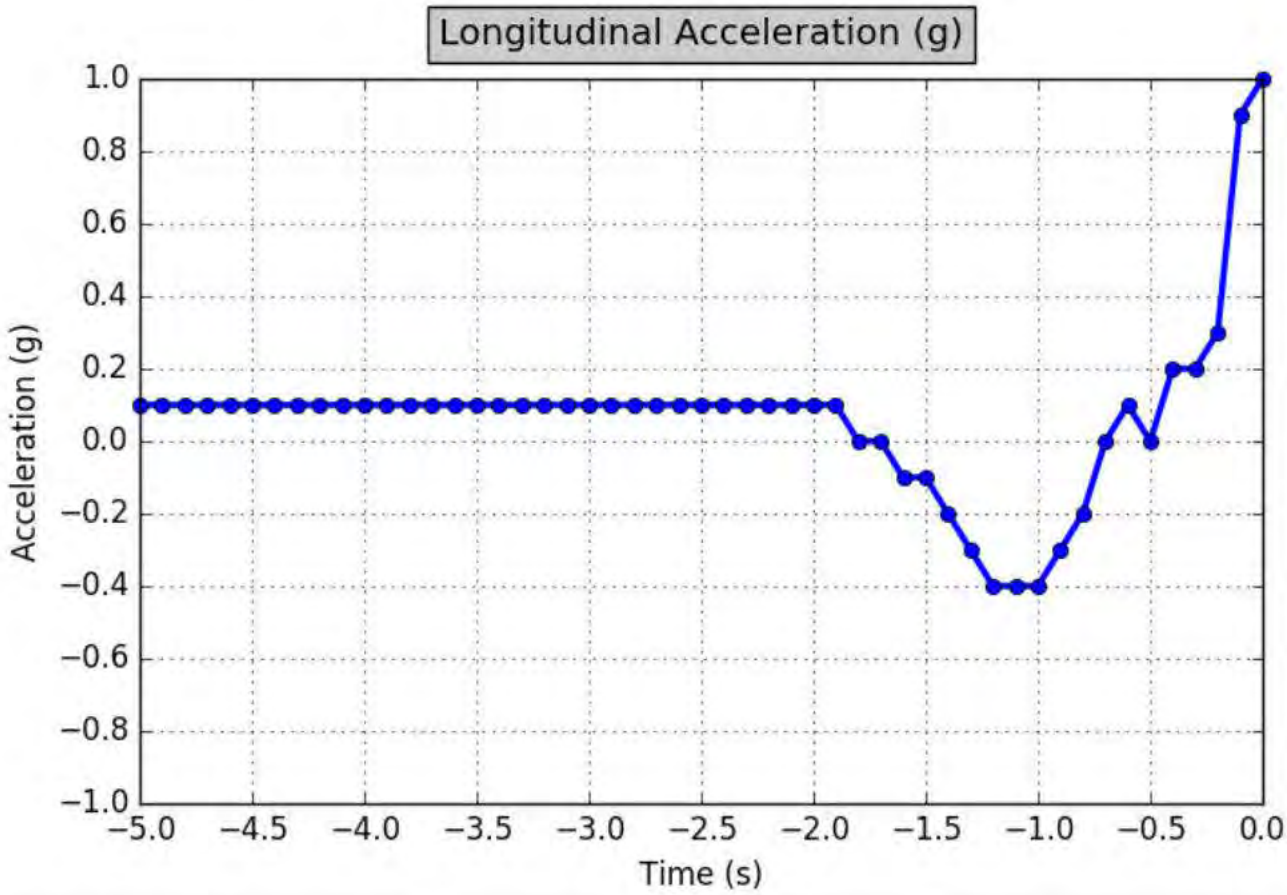

| Time (sec) | Angle (deg) | Time (sec) | Angle (deg) | Time (sec) | Angle (deg) |
|---|---|---|---|---|---|
| -5.0 | 11 | -3.2 | 130 | -1.4 | 255 |
| -4.9 | 14 | -3.1 | 134 | -1.3 | 257 |
| -4.8 | 15 | -3.0 | 137 | -1.2 | 254 |
| -4.7 | 17 | -2.9 | 140 | -1.1 | 247 |
| -4.6 | 20 | -2.8 | 144 | -1.0 | 239 |
| -4.5 | 26 | -2.7 | 149 | -0.9 | 230 |
| -4.4 | 34 | -2.6 | 155 | -0.8 | 219 |
| -4.3 | 44 | -2.5 | 162 | -0.7 | 210 |
| -4.2 | 55 | -2.4 | 168 | -0.6 | 203 |
| -4.1 | 68 | -2.3 | 176 | -0.5 | 190 |
| -4.0 | 80 | -2.2 | 187 | -0.4 | 176 |
| -3.9 | 89 | -2.1 | 201 | -0.3 | 152 |
| -3.8 | 97 | -2.0 | 215 | -0.2 | 134 |
| -3.7 | 102 | -1.9 | 227 | -0.1 | 136 |
| -3.6 | 107 | -1.8 | 237 | 0.0 | 142 |
| -3.5 | 112 | -1.7 | 246 | | |
| -3.4 | 118 | -1.6 | 252 | | |
| -3.3 | 124 | -1.5 | 254 | | |

## Lateral Pre-Crash Acceleration (Event 1)



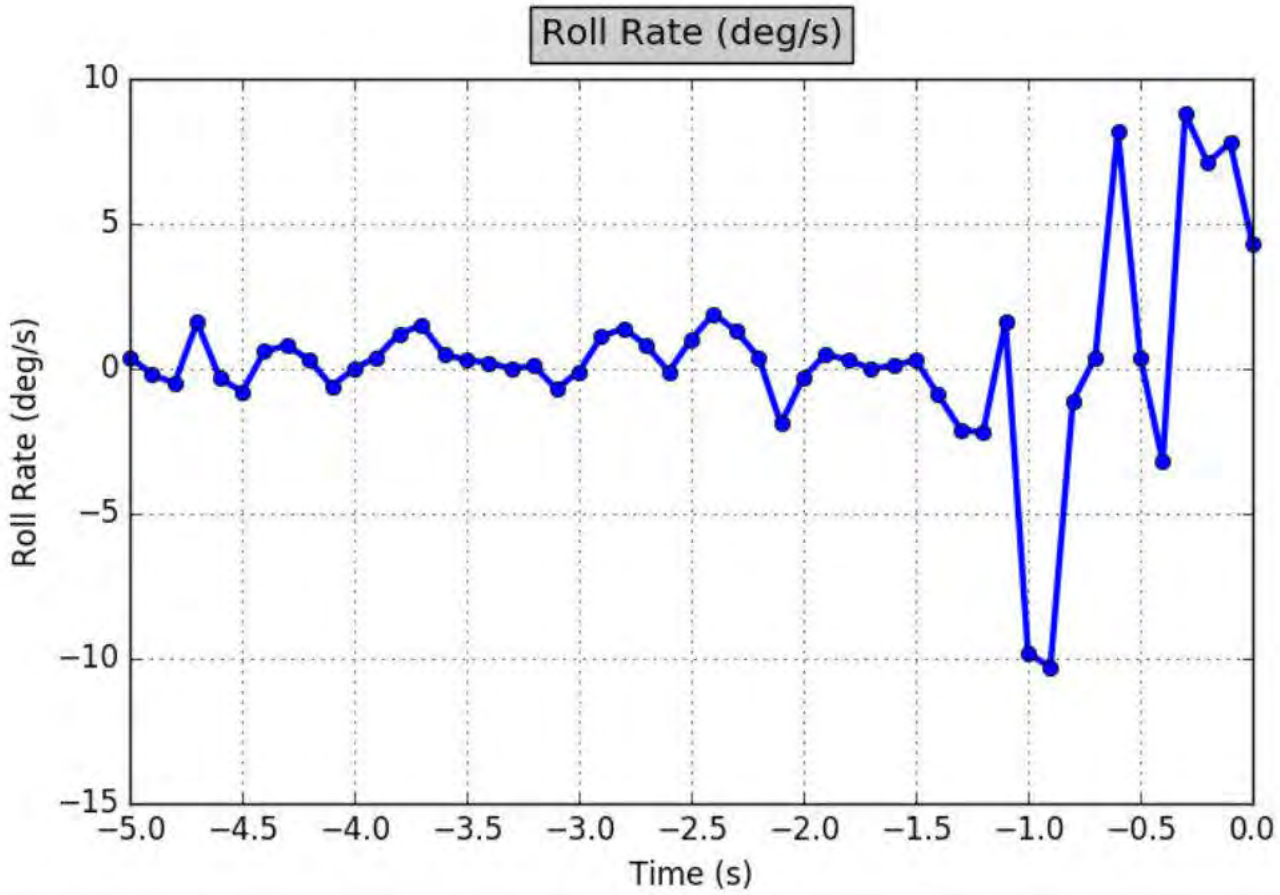

| Time (s) | Acceleration (g) | Time (s) | Acceleration (g) | Time (s) | Acceleration (g) |
|---|---|---|---|---|---|
| -5.0 | 0.0 | -3.2 | 0.1 | -1.4 | 0.2 |
| -4.9 | 0.0 | -3.1 | 0.1 | -1.3 | 0.3 |
| -4.8 | 0.0 | -3.0 | 0.1 | -1.2 | 0.4 |
| -4.7 | 0.1 | -2.9 | 0.1 | -1.1 | 0.4 |
| -4.6 | 0.0 | -2.8 | 0.1 | -1.0 | 0.4 |
| -4.5 | 0.1 | -2.7 | 0.1 | -0.9 | 0.4 |
| -4.4 | 0.1 | -2.6 | 0.1 | -0.8 | 0.5 |
| -4.3 | 0.1 | -2.5 | 0.1 | -0.7 | 0.6 |
| -4.2 | 0.1 | -2.4 | 0.1 | -0.6 | 0.5 |
| -4.1 | 0.1 | -2.3 | 0.1 | -0.5 | 0.4 |
| -4.0 | 0.1 | -2.2 | 0.1 | -0.4 | 0.4 |
| -3.9 | 0.1 | -2.1 | 0.1 | -0.3 | 0.3 |
| -3.8 | 0.1 | -2.0 | 0.2 | -0.2 | 0.2 |
| -3.7 | 0.1 | -1.9 | 0.1 | -0.1 | 0.0 |
| -3.6 | 0.1 | -1.8 | 0.2 | 0.0 | 0.1 |
| -3.5 | 0.1 | -1.7 | 0.2 | | |
| -3.4 | 0.1 | -1.6 | 0.2 | | |
| -3.3 | 0.1 | -1.5 | 0.2 | | |

## Longitudinal Pre-Crash Acceleration (Event 1)



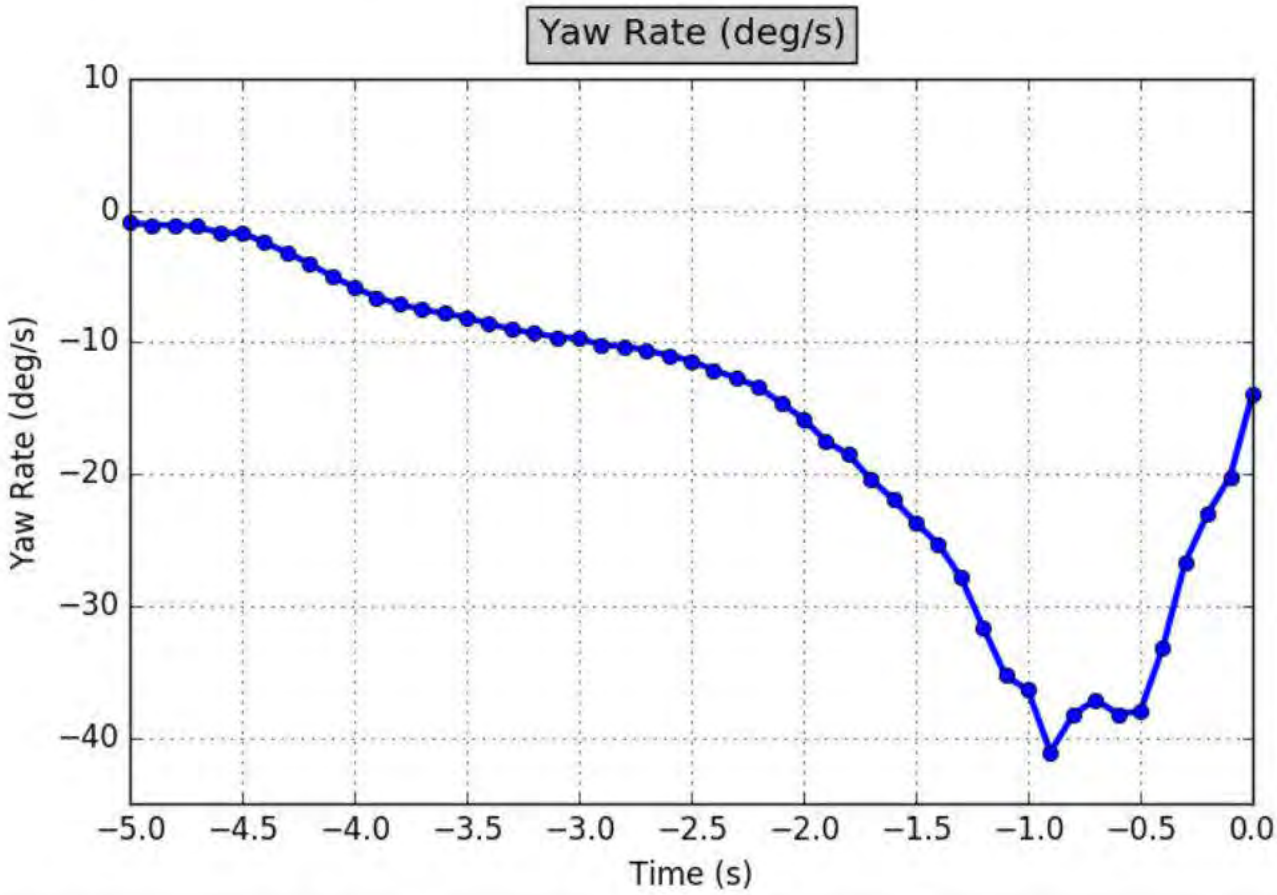

| Time (s) | Acceleration (g) | Time (s) | Acceleration (g) | Time (s) | Acceleration (g) |
|---|---|---|---|---|---|
| -5.0 | 0.1 | -3.2 | 0.1 | -1.4 | -0.2 |
| -4.9 | 0.1 | -3.1 | 0.1 | -1.3 | -0.3 |
| -4.8 | 0.1 | -3.0 | 0.1 | -1.2 | -0.4 |
| -4.7 | 0.1 | -2.9 | 0.1 | -1.1 | -0.4 |
| -4.6 | 0.1 | -2.8 | 0.1 | -1.0 | -0.4 |
| -4.5 | 0.1 | -2.7 | 0.1 | -0.9 | -0.3 |
| -4.4 | 0.1 | -2.6 | 0.1 | -0.8 | -0.2 |
| -4.3 | 0.1 | -2.5 | 0.1 | -0.7 | 0.0 |
| -4.2 | 0.1 | -2.4 | 0.1 | -0.6 | 0.1 |
| -4.1 | 0.1 | -2.3 | 0.1 | -0.5 | 0.0 |
| -4.0 | 0.1 | -2.2 | 0.1 | -0.4 | 0.2 |
| -3.9 | 0.1 | -2.1 | 0.1 | -0.3 | 0.2 |
| -3.8 | 0.1 | -2.0 | 0.1 | -0.2 | 0.3 |
| -3.7 | 0.1 | -1.9 | 0.1 | -0.1 | 0.9 |
| -3.6 | 0.1 | -1.8 | 0.0 | 0.0 | 1.0 |
| -3.5 | 0.1 | -1.7 | 0.0 | | |
| -3.4 | 0.1 | -1.6 | -0.1 | | |
| -3.3 | 0.1 | -1.5 | -0.1 | | |

## Roll Rate Pre-Crash Data (Event 1)



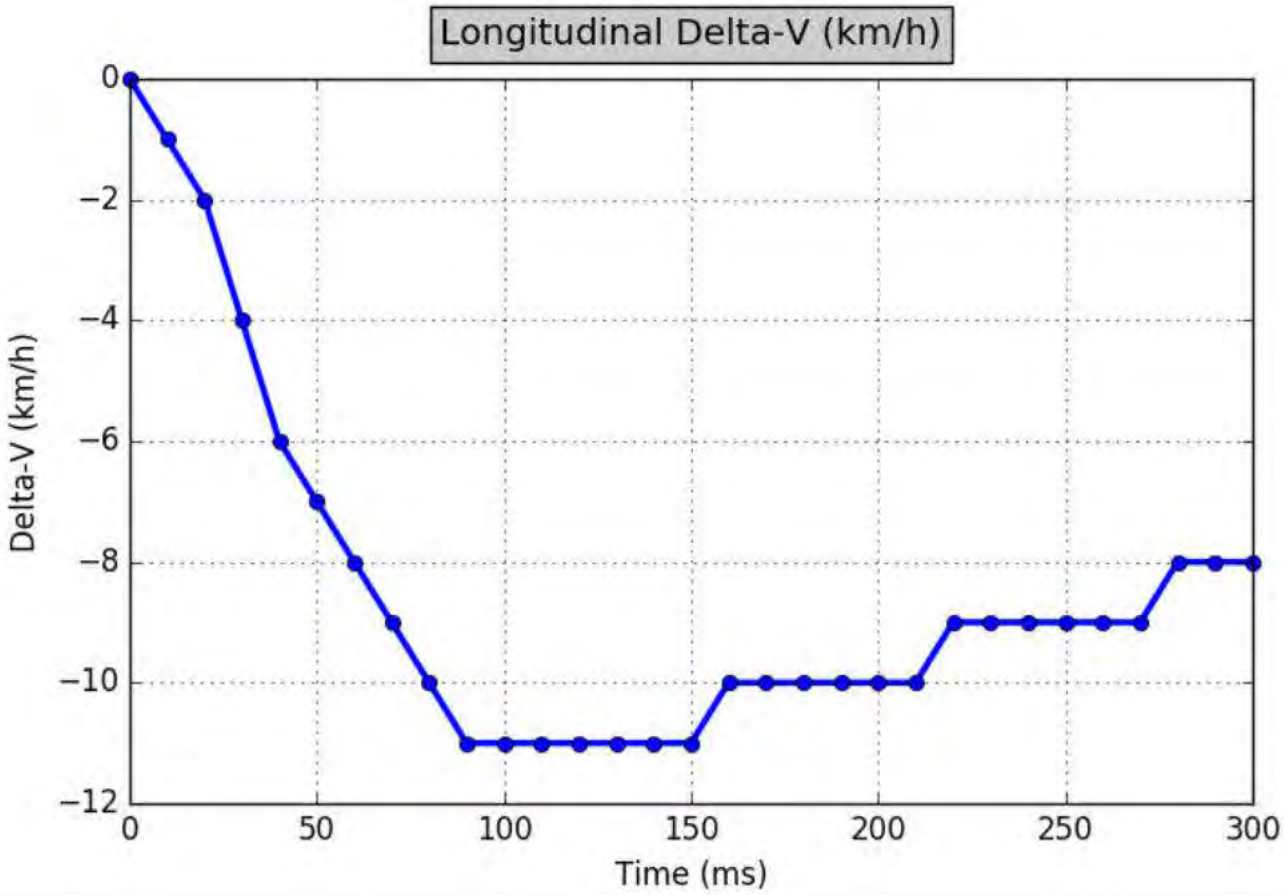

| Time (s) | Roll Rate (deg/s) | Time (s) | Roll Rate (deg/s) | Time (s) | Roll Rate (deg/s) |
|---|---|---|---|---|---|
| -5.0 | 0.4 | -3.2 | 0.1 | -1.4 | -0.9 |
| -4.9 | -0.2 | -3.1 | -0.7 | -1.3 | -2.1 |
| -4.8 | -0.5 | -3.0 | -0.1 | -1.2 | -2.2 |
| -4.7 | 1.6 | -2.9 | 1.1 | -1.1 | 1.6 |
| -4.6 | -0.3 | -2.8 | 1.4 | -1.0 | -9.8 |
| -4.5 | -0.8 | -2.7 | 0.8 | -0.9 | -10.3 |
| -4.4 | 0.6 | -2.6 | -0.1 | -0.8 | -1.1 |
| -4.3 | 0.8 | -2.5 | 1.0 | -0.7 | 0.4 |
| -4.2 | 0.3 | -2.4 | 1.9 | -0.6 | 8.2 |
| -4.1 | -0.6 | -2.3 | 1.3 | -0.5 | 0.4 |
| -4.0 | 0.0 | -2.2 | 0.4 | -0.4 | -3.2 |
| -3.9 | 0.4 | -2.1 | -1.9 | -0.3 | 8.8 |
| -3.8 | 1.2 | -2.0 | -0.3 | -0.2 | 7.1 |
| -3.7 | 1.5 | -1.9 | 0.5 | -0.1 | 7.8 |
| -3.6 | 0.5 | -1.8 | 0.3 | 0.0 | 4.3 |
| -3.5 | 0.3 | -1.7 | 0.0 | | |
| -3.4 | 0.2 | -1.6 | 0.1 | | |
| -3.3 | 0.0 | -1.5 | 0.3 | | |

## Yaw Rate Pre-Crash Data (Event 1)



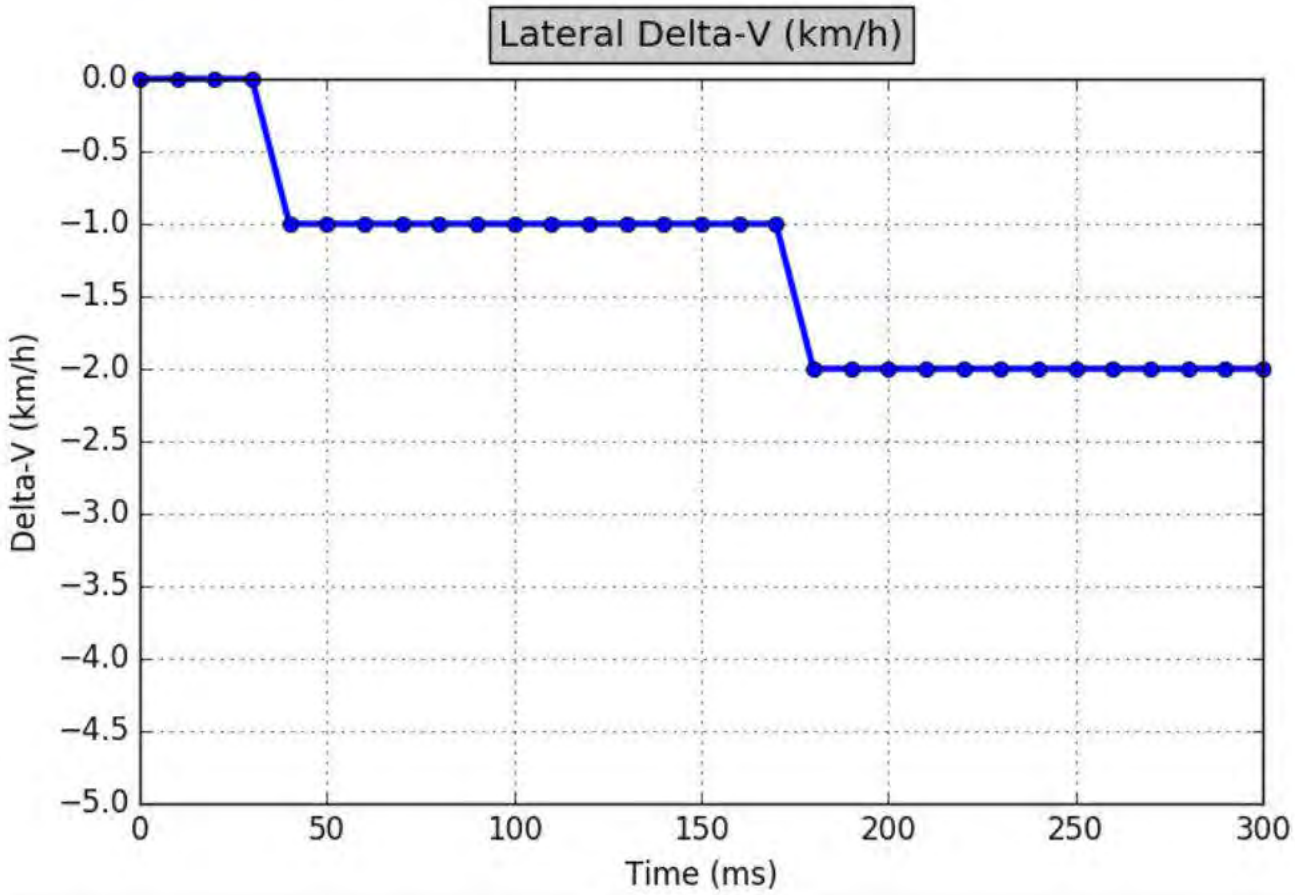

| Time (s) | Yaw Rate (deg/s) | Time (s) | Yaw Rate (deg/s) | Time (s) | Yaw Rate (deg/s) |
|---|---|---|---|---|---|
| -5.0 | -0.9 | -3.2 | -9.3 | -1.4 | -25.3 |
| -4.9 | -1.1 | -3.1 | -9.6 | -1.3 | -27.8 |
| -4.8 | -1.1 | -3.0 | -9.7 | -1.2 | -31.6 |
| -4.7 | -1.2 | -2.9 | -10.2 | -1.1 | -35.3 |
| -4.6 | -1.7 | -2.8 | -10.3 | -1.0 | -36.4 |
| -4.5 | -1.7 | -2.7 | -10.6 | -0.9 | -41.1 |
| -4.4 | -2.4 | -2.6 | -11.0 | -0.8 | -38.3 |
| -4.3 | -3.2 | -2.5 | -11.4 | -0.7 | -37.1 |
| -4.2 | -4.0 | -2.4 | -12.1 | -0.6 | -38.2 |
| -4.1 | -5.0 | -2.3 | -12.7 | -0.5 | -38.0 |
| -4.0 | -5.8 | -2.2 | -13.4 | -0.4 | -33.2 |
| -3.9 | -6.6 | -2.1 | -14.6 | -0.3 | -26.7 |
| -3.8 | -7.1 | -2.0 | -15.8 | -0.2 | -23.0 |
| -3.7 | -7.5 | -1.9 | -17.5 | -0.1 | -20.2 |
| -3.6 | -7.8 | -1.8 | -18.5 | 0.0 | -13.9 |
| -3.5 | -8.1 | -1.7 | -20.4 | | |
| -3.4 | -8.6 | -1.6 | -21.9 | | |
| -3.3 | -9.0 | -1.5 | -23.7 | | |

## Longitudinal Delta-V (Event 1)



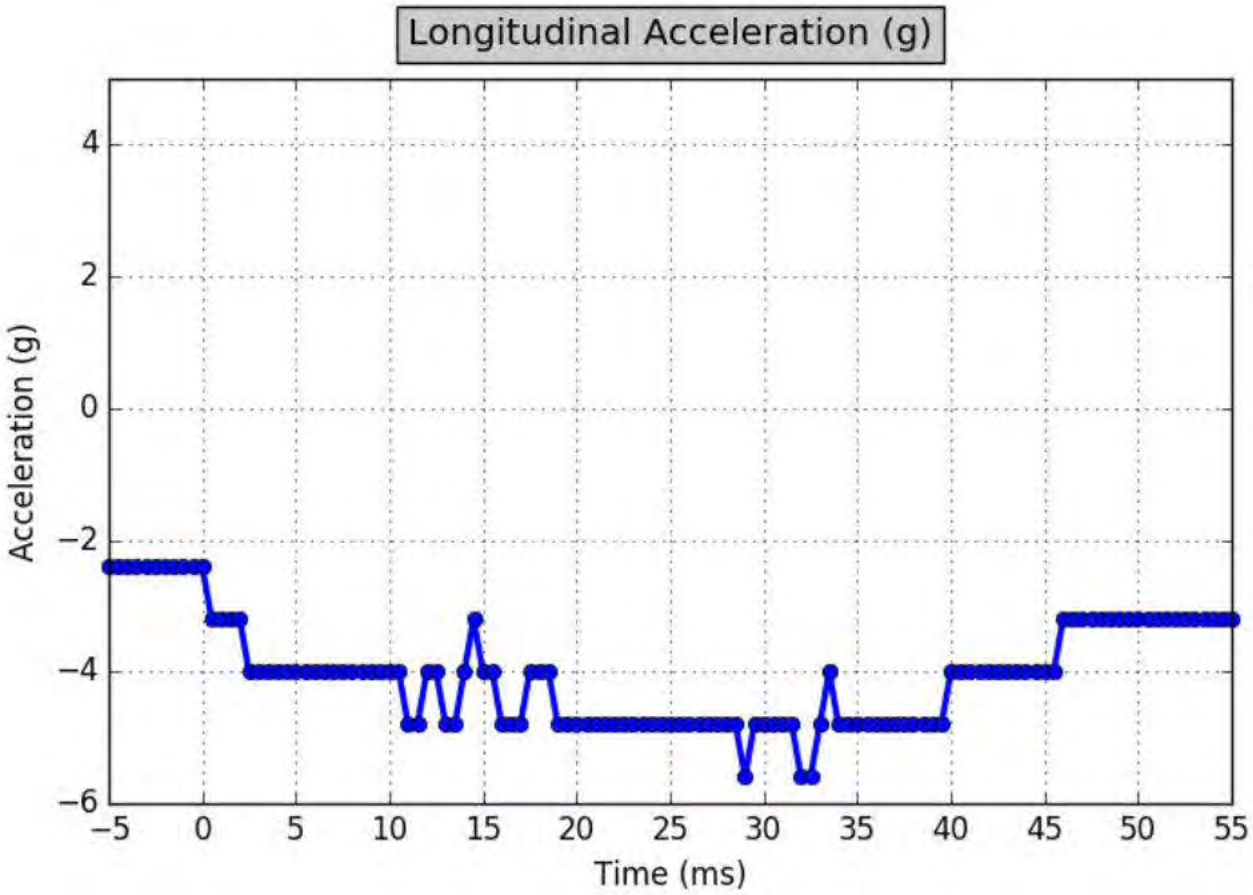

| Time (ms) | Delta-V (km/h) | Time (ms) | Delta-V (km/h) |
|---|---|---|---|
| 0 | 0 | 160 | -10 |
| 10 | -1 | 170 | -10 |
| 20 | -2 | 180 | -10 |
| 30 | -4 | 190 | -10 |
| 40 | -6 | 200 | -10 |
| 50 | -7 | 210 | -10 |
| 60 | -8 | 220 | -9 |
| 70 | -9 | 230 | -9 |
| 80 | -10 | 240 | -9 |
| 90 | -11 | 250 | -9 |
| 100 | -11 | 260 | -9 |
| 110 | -11 | 270 | -9 |
| 120 | -11 | 280 | -8 |
| 130 | -11 | 290 | -8 |
| 140 | -11 | 300 | -8 |
| 150 | -11 | | |

## Lateral Delta-V (Event 1)




| Time (ms) | Delta-V (km/h) | Time (ms) | Delta-V (km/h) |
|---|---|---|---|
| 0 | 0 | 160 | -1 |
| 10 | 0 | 170 | -1 |
| 20 | 0 | 180 | -2 |
| 30 | 0 | 190 | -2 |
| 40 | -1 | 200 | -2 |
| 50 | -1 | 210 | -2 |
| 60 | -1 | 220 | -2 |
| 70 | -1 | 230 | -2 |
| 80 | -1 | 240 | -2 |
| 90 | -1 | 250 | -2 |
| 100 | -1 | 260 | -2 |
| 110 | -1 | 270 | -2 |
| 120 | -1 | 280 | -2 |
| 130 | -1 | 290 | -2 |
| 140 | -1 | 300 | -2 |
| 150 | -1 | | |

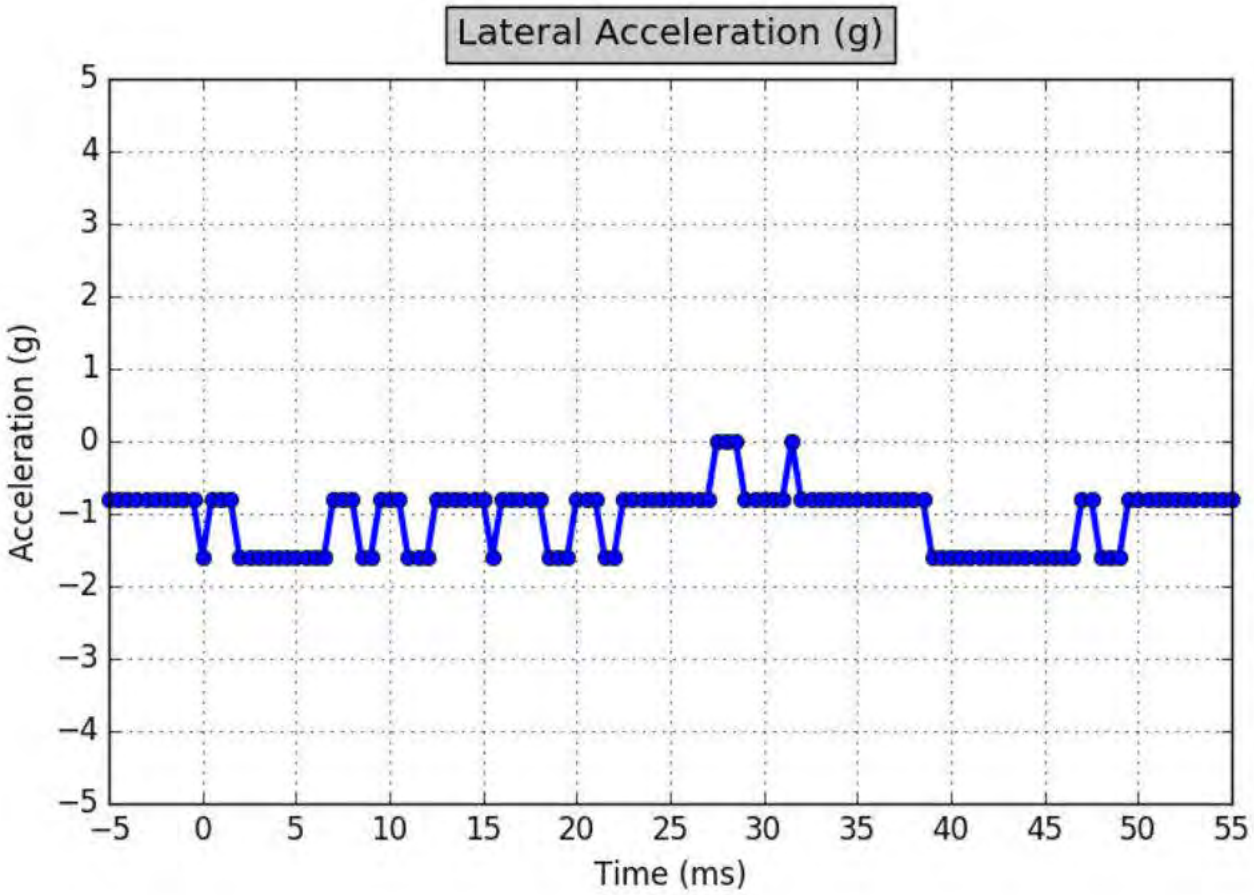
Longitudinal Acceleration (Event 1)



Longitudinal Acceleration Values (Event 1)

| Time (ms) | Acceleration (g) | Time (ms) | Acceleration (g) |
|---|---|---|---|
| -5.0 | -2.4 | 25.5 | -4.8 |
| -4.5 | -2.4 | 26.0 | -4.8 |
| -4.0 | -2.4 | 26.5 | -4.8 |
| -3.5 | -2.4 | 27.0 | -4.8 |
| -3.0 | -2.4 | 27.5 | -4.8 |
| -2.5 | -2.4 | 28.0 | -4.8 |
| -2.0 | -2.4 | 28.5 | -4.8 |
| -1.5 | -2.4 | 29.0 | -5.6 |
| -1.0 | -2.4 | 29.5 | -4.8 |
| -0.5 | -2.4 | 30.0 | -4.8 |
| 0.0 | -2.4 | 30.5 | -4.8 |
| 0.5 | -3.2 | 31.0 | -4.8 |
| 1.0 | -3.2 | 31.5 | -4.8 |
| 1.5 | -3.2 | 32.0 | -5.6 |
| 2.0 | -3.2 | 32.5 | -5.6 |
| 2.5 | -4.0 | 33.0 | -4.8 |
| 3.0 | -4.0 | 33.5 | -4.0 |
| 3.5 | -4.0 | 34.0 | -4.8 |
| 4.0 | -4.0 | 34.5 | -4.8 |
| 4.5 | -4.0 | 35.0 | -4.8 |
| 5.0 | -4.0 | 35.5 | -4.8 |
| 5.5 | -4.0 | 36.0 | -4.8 |
| 6.0 | -4.0 | 36.5 | -4.8 |
| 6.5 | -4.0 | 37.0 | -4.8 |
| 7.0 | -4.0 | 37.5 | -4.8 |
| 7.5 | -4.0 | 38.0 | -4.8 |
| 8.0 | -4.0 | 38.5 | -4.8 |
| 8.5 | -4.0 | 39.0 | -4.8 |
| 9.0 | -4.0 | 39.5 | -4.8 |
| 9.5 | -4.0 | 40.0 | -4.0 |
| 10.0 | -4.0 | 40.5 | -4.0 |
| 10.5 | -4.0 | 41.0 | -4.0 |
| 11.0 | -4.8 | 41.5 | -4.0 |
| 11.5 | -4.8 | 42.0 | -4.0 |
| 12.0 | -4.0 | 42.5 | -4.0 |
| 12.5 | -4.0 | 43.0 | -4.0 |
| 13.0 | -4.8 | 43.5 | -4.0 |
| 13.5 | -4.8 | 44.0 | -4.0 |
| 14.0 | -4.0 | 44.5 | -4.0 |
| 14.5 | -3.2 | 45.0 | -4.0 |
| 15.0 | -4.0 | 45.5 | -4.0 |
| 15.5 | -4.0 | 46.0 | -3.2 |
| 16.0 | -4.8 | 46.5 | -3.2 |
| 16.5 | -4.8 | 47.0 | -3.2 |
| 17.0 | -4.8 | 47.5 | -3.2 |
| 17.5 | -4.0 | 48.0 | -3.2 |
| 18.0 | -4.0 | 48.5 | -3.2 |
| 18.5 | -4.0 | 49.0 | -3.2 |
| 19.0 | -4.8 | 49.5 | -3.2 |
| 19.5 | -4.8 | 50.0 | -3.2 |
| 20.0 | -4.8 | 50.5 | -3.2 |
| 20.5 | -4.8 | 51.0 | -3.2 |
| 21.0 | -4.8 | 51.5 | -3.2 |
| 21.5 | -4.8 | 52.0 | -3.2 |
| 22.0 | -4.8 | 52.5 | -3.2 |
| 22.5 | -4.8 | 53.0 | -3.2 |
| 23.0 | -4.8 | 53.5 | -3.2 |
| 23.5 | -4.8 | 54.0 | -3.2 |
| 24.0 | -4.8 | 54.5 | -3.2 |
| 24.5 | -4.8 | 55.0 | -3.2 |
| 25.0 | -4.8 | | |

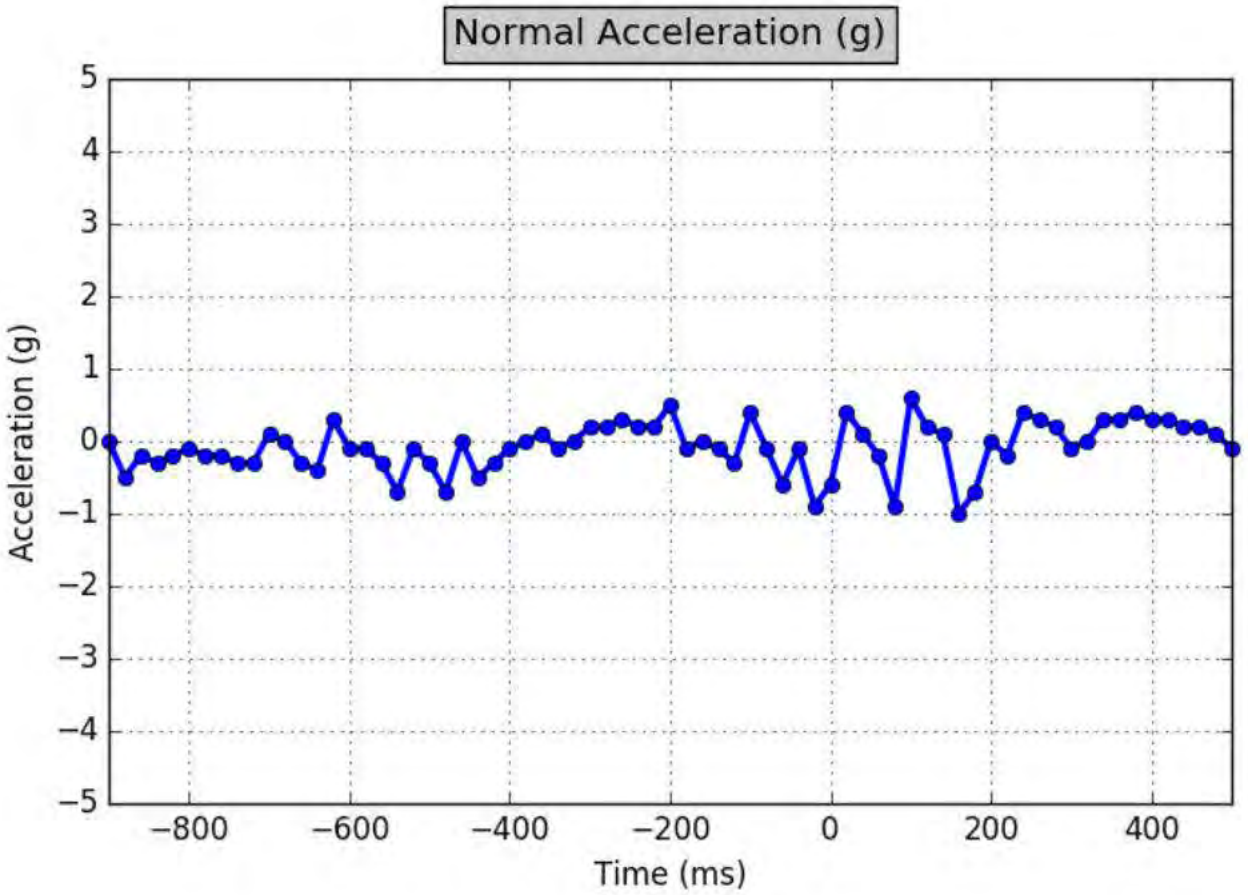
Lateral Acceleration (Event 1)



Lateral Acceleration Values (Event 1)

| Time (ms) | Acceleration (g) | Time (ms) | Acceleration (g) |
|---|---|---|---|
| -5.0 | -0.8 | 25.5 | -0.8 |
| -4.5 | -0.8 | 26.0 | -0.8 |
| -4.0 | -0.8 | 26.5 | -0.8 |
| -3.5 | -0.8 | 27.0 | -0.8 |
| -3.0 | -0.8 | 27.5 | 0.0 |
| -2.5 | -0.8 | 28.0 | 0.0 |
| -2.0 | -0.8 | 28.5 | 0.0 |
| -1.5 | -0.8 | 29.0 | -0.8 |
| -1.0 | -0.8 | 29.5 | -0.8 |
| -0.5 | -0.8 | 30.0 | -0.8 |
| 0.0 | -1.6 | 30.5 | -0.8 |
| 0.5 | -0.8 | 31.0 | -0.8 |
| 1.0 | -0.8 | 31.5 | 0.0 |
| 1.5 | -0.8 | 32.0 | -0.8 |
| 2.0 | -1.6 | 32.5 | -0.8 |
| 2.5 | -1.6 | 33.0 | -0.8 |
| 3.0 | -1.6 | 33.5 | -0.8 |
| 3.5 | -1.6 | 34.0 | -0.8 |
| 4.0 | -1.6 | 34.5 | -0.8 |
| 4.5 | -1.6 | 35.0 | -0.8 |
| 5.0 | -1.6 | 35.5 | -0.8 |
| 5.5 | -1.6 | 36.0 | -0.8 |
| 6.0 | -1.6 | 36.5 | -0.8 |
| 6.5 | -1.6 | 37.0 | -0.8 |
| 7.0 | -0.8 | 37.5 | -0.8 |
| 7.5 | -0.8 | 38.0 | -0.8 |
| 8.0 | -0.8 | 38.5 | -0.8 |
| 8.5 | -1.6 | 39.0 | -1.6 |
| 9.0 | -1.6 | 39.5 | -1.6 |
| 9.5 | -0.8 | 40.0 | -1.6 |
| 10.0 | -0.8 | 40.5 | -1.6 |
| 10.5 | -0.8 | 41.0 | -1.6 |
| 11.0 | -1.6 | 41.5 | -1.6 |
| 11.5 | -1.6 | 42.0 | -1.6 |
| 12.0 | -1.6 | 42.5 | -1.6 |
| 12.5 | -0.8 | 43.0 | -1.6 |
| 13.0 | -0.8 | 43.5 | -1.6 |
| 13.5 | -0.8 | 44.0 | -1.6 |
| 14.0 | -0.8 | 44.5 | -1.6 |
| 14.5 | -0.8 | 45.0 | -1.6 |
| 15.0 | -0.8 | 45.5 | -1.6 |
| 15.5 | -1.6 | 46.0 | -1.6 |
| 16.0 | -0.8 | 46.5 | -1.6 |
| 16.5 | -0.8 | 47.0 | -0.8 |
| 17.0 | -0.8 | 47.5 | -0.8 |
| 17.5 | -0.8 | 48.0 | -1.6 |
| 18.0 | -0.8 | 48.5 | -1.6 |
| 18.5 | -1.6 | 49.0 | -1.6 |
| 19.0 | -1.6 | 49.5 | -0.8 |
| 19.5 | -1.6 | 50.0 | -0.8 |
| 20.0 | -0.8 | 50.5 | -0.8 |
| 20.5 | -0.8 | 51.0 | -0.8 |
| 21.0 | -0.8 | 51.5 | -0.8 |
| 21.5 | -1.6 | 52.0 | -0.8 |
| 22.0 | -1.6 | 52.5 | -0.8 |
| 22.5 | -0.8 | 53.0 | -0.8 |
| 23.0 | -0.8 | 53.5 | -0.8 |
| 23.5 | -0.8 | 54.0 | -0.8 |
| 24.0 | -0.8 | 54.5 | -0.8 |
| 24.5 | -0.8 | 55.0 | -0.8 |
| 25.0 | -0.8 | | |

Normal Acceleration (Event 1)



Normal Acceleration Values (Event 1)

| Time (ms) | Acceleration (g) | Time (ms) | Acceleration (g) |
|---|---|---|---|
| -900 | 0.0 | -180 | -0.1 |
| -880 | -0.5 | -160 | 0.0 |
| -860 | -0.2 | -140 | -0.1 |
| -840 | -0.3 | -120 | -0.3 |
| -820 | -0.2 | -100 | 0.4 |
| -800 | -0.1 | -80 | -0.1 |
| -780 | -0.2 | -60 | -0.6 |
| -760 | -0.2 | -40 | -0.1 |
| -740 | -0.3 | -20 | -0.9 |
| -720 | -0.3 | 0 | -0.6 |
| -700 | 0.1 | 20 | 0.4 |
| -680 | 0.0 | 40 | 0.1 |
| -660 | -0.3 | 60 | -0.2 |
| -640 | -0.4 | 80 | -0.9 |
| -620 | 0.3 | 100 | 0.6 |
| -600 | -0.1 | 120 | 0.2 |
| -580 | -0.1 | 140 | 0.1 |
| -560 | -0.3 | 160 | -1.0 |
| -540 | -0.7 | 180 | -0.7 |
| -520 | -0.1 | 200 | 0.0 |
| -500 | -0.3 | 220 | -0.2 |
| -480 | -0.7 | 240 | 0.4 |
| -460 | 0.0 | 260 | 0.3 |
| -440 | -0.5 | 280 | 0.2 |
| -420 | -0.3 | 300 | -0.1 |
| -400 | -0.1 | 320 | 0.0 |
| -380 | 0.0 | 340 | 0.3 |
| -360 | 0.1 | 360 | 0.3 |
| -340 | -0.1 | 380 | 0.4 |
| -320 | 0.0 | 400 | 0.3 |
| -300 | 0.2 | 420 | 0.3 |
| -280 | 0.2 | 440 | 0.2 |
| -260 | 0.3 | 460 | 0.2 |
| -240 | 0.2 | 480 | 0.1 |
| -220 | 0.2 | 500 | -0.1 |
| -200 | 0.5 | | |

## Serial Numbers

Not Available

## Hexadecimal Data

FD68

00 00 00 00 00 00 00 00 12 8A 02 A7 26 AD CD 27 52

FD69

00 00 00 00 00 00 00 00 12 8A 02 99 28 D6 16 3C 48

0F00

B7 11 04 3A

F190

35 59 4A 33 45 31 45 41 37 4A 46 30 33 33 30 32 32

0F07

E6 EC A3 44

0F04

1F D2 CA F3

FD60

00 00 00 00 00 00 00 00 17 8A 02 A3 2A FF F3 45 18

FD61

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FD62

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FD63

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FD64

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FD00

32 38 35 2E 30 31 34 2E 31 37 36 00 00 00

FD65

00 00 00 00 00 00 00 00 19 8A 02 BF 29 2F 3E 6F 2E

5818

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0028 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0056 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 04 | 5C | FF | FF | FF | FF | FF | FF | FF |
| 0084 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0112 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0140 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
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| 0224 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0252 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0280 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0308 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0336 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0364 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0392 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0420 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0448 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0476 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0504 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0532 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0560 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0588 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0616 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0644 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0672 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0700 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |

5818 Continued

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0728 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0756 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0784 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0812 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0840 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0868 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0896 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0924 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0952 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0980 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1008 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1036 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1064 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1092 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1120 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1148 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1176 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1204 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1232 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1260 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1288 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1316 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1344 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1372 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1400 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1428 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1456 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1484 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1512 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1540 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1568 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1596 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1624 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1652 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1680 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1708 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1736 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1764 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1792 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1820 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1848 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1876 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1904 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1932 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1960 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1988 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2016 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2044 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2072 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2100 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2128 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2156 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2184 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2212 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2240 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2268 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2296 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2324 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2352 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2380 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2408 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2436 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2464 | FF | FF | FF | FF | FF | FF | FF | B7 | 11 | 04 | 3A | 1F | D2 | CA | F3 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2492 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2520 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2548 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2576 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2604 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2632 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2660 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2688 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2716 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2744 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2772 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2800 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2828 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2856 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2884 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2912 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2940 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2968 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 2996 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3024 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3052 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3080 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3108 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3136 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3164 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3192 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3220 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3248 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3276 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3304 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3332 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3360 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3388 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3416 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3444 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3472 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3500 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3528 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3556 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3584 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3612 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3640 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3668 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3696 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3724 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3752 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3780 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3808 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3836 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3864 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3892 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3920 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3948 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 3976 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 4004 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 4032 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 4060 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | |
| 4088 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | | | | | | | | | | | | | | | | | |

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| 32 | 41 | 32 | 30 | 30 | 32 | 34 | 33 | 36 | 38 | 41 | 41 | 31 | 31 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 30 | 39 | 35 | 37 | 35 | 37 | 2D | 30 | 30 | 2D | 43 | FF | FF | FF | FF | FF | FF | FF | FF |

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| 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 17 | 8A | 02 | A1 | 2A | FF | F3 | 50 | 13 |

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| 0000 | 00 | 26 | FF | FE | FF | FF | FF | FE | FF | FE | FF | FE | FF | FE | FF | FF | FF | FE | FF | FE | FF | FF | FF | FF | 0A | 08 | 00 | 00 |
| 0028 | EB | 81 | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | 00 | 00 | 00 | 01 | 01 | 01 | F5 | FE | 24 | 4A | 24 | 00 | 5A | 00 | 00 | 04 | 4B |
| 0056 | 00 | 0B | D8 | DB | 00 | 00 | 01 | 82 | 02 | DB | 26 | A7 | 00 | 00 | 02 | FC | 00 | 00 | 04 | 5C | 56 | 07 | 87 | 04 | C9 | 5A | 87 | 04 |
| 0084 | CD | 56 | 87 | 04 | CC | 5D | 87 | 04 | C6 | 57 | 87 | 04 | C0 | 02 | 87 | 04 | C5 | 56 | 87 | 04 | C0 | 07 | 87 | 26 | C4 | 55 | 93 | 20 |
| 0112 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 0140 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 05 | C1 | 0C | CF | 07 | C0 | 63 | C0 | 00 | 0F | 62 | E4 | 5E | 1B | 00 | 00 | FF | 7F | 3E | F0 |
| 0168 | 4F | E2 | 00 | FF | 11 | 00 | 80 | 00 | 00 | 00 | 00 | FF | FF | FF | FF | FF | 05 | A5 | 0C | CF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0196 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0224 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0252 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0280 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0308 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 0336 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 | FF | FE | FC | FA | F9 | F8 | F7 |
| 0364 | F6 | F5 | F5 | F5 | F5 | F5 | F5 | F5 | F6 | F6 | F6 | F6 | F6 | F6 | F7 | F7 | F7 | F7 | F7 | F7 | F8 | F8 | F8 | 00 | 00 | 00 | 00 | FF |
| 0392 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FD | FD |
| 0420 | FD | FD | FD | FD | FD | FD | FD | FD | FD | FC | FC | FC | FC | FB | FB | FB | FB | FB | FB | FB | FB | FB | FB | FB | FB | FB | FB | FB |
| 0448 | FB | FB | FA | FA | FB | FB | FA | FA | FB | FC | FB | FB | FA | FA | FA | FB | FB | FB | FA | FA | FA | FA | FA | FA | FA | FA | FA | FA |
| 0476 | FA | FA | FA | FA | FA | FA | FA | FA | FA | FA | F9 | FA | FA | FA | FA | FA | F9 | F9 | FA | FB | FA | FA | FA | FA | FA | FA | FA | FA |
| 0504 | FA | FA | FA | FA | FB | FB | FB | FB | FB | FB | FB | FB | FB | FB | FB | FB | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC |
| 0532 | FC | FC | FC | FC | FC | FC | FC | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FE | FF | FF | FF | FE | FE | FE | FE | FE | FE | FE |
| 0560 | FE | FE | FE | FF | FF | FF | FE | FE | FF | FF | FF | FE | FE | FE | FF | FF | FF | FF | FF | FF | FE | FF | FF | FF | FF | FF | FE | FE |
| 0588 | FE | FF | FF | FF | FE | FE | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | FF | FF | FF | FF | FF | 00 | FF | FF | FF |
| 0616 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FE | FF |
| 0644 | FF | FE | FE | FE | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 01 | 00 | 00 | 00 | 00 | FE | 00 | 01 | FF | FF | FE | F8 |
| 0672 | F0 | F7 | 04 | 0A | 00 | F4 | E2 | CC | DB | B7 | 0F | 37 | 78 | 5C | F8 | C1 | E0 | 21 | 26 | FD | E9 | F1 | 06 | 05 | 04 | 03 | 02 | 01 |
| 0700 | F7 | F0 | BD | 10 | 5B | 2A | E5 | D5 | F6 | 1A | 0E | FB | F9 | 06 | 08 | FA | F5 | FF | 09 | 07 | 01 | FB | F9 | 02 | 05 | 01 | FE | 04 |
| 0728 | F1 | D7 | 1D | 32 | 0B | E9 | F0 | 08 | 0D | 00 | F9 | FF | 07 | 05 | FE | FE | 01 | 03 | 00 | FE | 01 | 04 | 03 | FF | FE | FF | 01 | 01 |
| 0756 | FF | 00 | 02 | 01 | 00 | FF | FF | 01 | 02 | 01 | FF | FF | 02 | 01 | FE | FE | 01 | 03 | 00 | FE | FF | 01 | 02 | 00 | FF | 01 | 00 | FF |
| 0784 | 00 | 01 | 03 | 05 | 06 | 0B | 11 | 16 | 0F | 02 | F7 | FF | F9 | 0A | F9 | 10 | FC | 13 | 0B | 0D | F7 | EC | D3 | F2 | 07 | 19 | 07 | F4 |
| 0812 | EE | 02 | 0A | 07 | F7 | FA | F4 | 04 | 12 | 02 | FA | FE | FA | FB | F5 | FA | FF | 0A | 08 | F5 | F0 | FA | 14 | 04 | FE | F7 | FD | 04 |
| 0840 | 07 | 01 | 02 | FF | 01 | FB | 00 | 09 | FC | 01 | 02 | FE | F6 | FB | 00 | 05 | 04 | FD | F7 | FC | 06 | 03 | FB | FB | 00 | 02 | 03 | 01 |
| 0868 | FD | FD | FF | 01 | 00 | FF | FF | 01 | 01 | 00 | FE | FE | 01 | 02 | 01 | 00 | 01 | 02 | 01 | 00 | 01 | 03 | 03 | 02 | 01 | 01 | 02 | 02 |
| 0896 | 01 | 00 | 00 | 00 | 00 | 00 | 01 | 01 | FF | FE | 00 | 00 | FB | F9 | F9 | F0 | E1 | E6 | FB | 07 | 09 | 0C | FF | F9 | FA | FE | 01 | 0B |
| 0924 | 01 | 01 | E5 | E6 | 05 | 18 | 2F | 10 | F0 | D0 | 01 | 20 | 0A | 0E | 03 | D7 | D1 | 2E | 4B | 08 | DD | E5 | 00 | F2 | DE | 30 | 44 | FF |
| 0952 | DC | E9 | FB | FE | 1C | 17 | FB | F0 | F7 | D8 | F2 | 45 | 2F | EA | E0 | F5 | 01 | 0D | 11 | 03 | FB | 00 | 03 | 02 | 04 | 04 | 02 | 02 |
| 0980 | 02 | 03 | 05 | 04 | 00 | FF | FF | 00 | 02 | 04 | 02 | 01 | 02 | 03 | 02 | 02 | 02 | 01 | 01 | 03 | 02 | 00 | 00 | 01 | 00 | FF | 01 | 02 |
| 1008 | 02 | 00 | FE | FE | 00 | 01 | 00 | 00 | 00 | 00 | 00 | 00 | 01 | 01 | 00 | 00 | FB | FE | FD | FE | FF | FE | FE | FD | FD | 01 | 00 | FD |
| 1036 | FC | 03 | FF | FF | FD | F9 | FF | FD | F9 | 00 | FB | FD | FF | 00 | 01 | FF | 00 | 02 | 02 | 03 | 02 | 02 | 05 | FF | 00 | FF | FD | 04 |
| 1064 | FF | FA | FF | F7 | FA | 04 | 01 | FE | F7 | 06 | 02 | 01 | F6 | F9 | 00 | FE | 04 | 03 | 02 | FF | 00 | 03 | 03 | 04 | 03 | 03 | 02 | 02 |
| 1092 | 01 | FF | 04 | 04 | 04 | 04 | 04 | 04 | 04 | 04 | 04 | 04 | 04 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 00 | 00 | 00 | 00 |
| 1120 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | 02 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 1148 | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 1176 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 1204 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 1232 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 1260 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 1288 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 1316 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 1344 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 1372 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 1400 | 00 | 00 | 00 | 00 | 00 | FD | 37 | FD | 77 | FC | A5 | FD | 8A | FD | 53 | FD | 25 | FD | 33 | FD | BB | FD | 81 | FD | 87 | FD | 84 | FD |
| 1428 | 8C | FD | 87 | FD | 70 | FD | A8 | FD | 8F | FD | 95 | FD | 8F | FD | DC | FD | 9D | FD | AF | FD | D2 | FD | A0 | FD | D0 | FD | A5 | FD |

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| 1456 | A7 | FD | C0 | FD | 9F | FD | 96 | FE | 31 | FE | 53 | FE | B2 | FF | E2 | 00 | 48 | 01 | 69 | 02 | 5F | 04 | 5E | 07 | FA | 0A | 69 | 0B |
| 1484 | 77 | 09 | BF | 07 | AB | 03 | F4 | FF | D9 | FE | 65 | FE | D6 | FA | 3A | FA | 7F | F8 | 7B | E8 | 8B | E7 | 0A | 00 | BE | 00 | BE | 01 |
| 1512 | 21 | 01 | 51 | 00 | 29 | 01 | A3 | 01 | 82 | 01 | 92 | 01 | A7 | 01 | A0 | 02 | 6A | 01 | 94 | 02 | 2A | 01 | 8C | 01 | 8D | 01 | C3 | 01 |
| 1540 | E9 | 01 | BC | 02 | 0C | 01 | A0 | 02 | 67 | 01 | EA | 02 | 10 | 01 | A9 | 02 | 38 | 02 | 78 | 02 | 6C | 02 | 1E | 02 | 9D | 02 | B6 | 04 |
| 1568 | 68 | 03 | C4 | 03 | F3 | 04 | 9E | 05 | 05 | 05 | 6D | 05 | DB | 07 | D2 | 09 | 4A | 09 | BB | 0A | B9 | 0A | 09 | 0B | BB | 0F | 62 | 0C |
| 1596 | DE | 09 | 5E | 09 | 84 | 07 | CE | 04 | 4C | 00 | 4B | 01 | A1 | 00 | 37 | FF | E8 | FF | C4 | 00 | CF | FF | D7 | FF | 93 | 00 | 56 | 00 |
| 1624 | 6E | 00 | 23 | FF | B3 | FF | FC | 00 | 3B | 00 | 9C | 00 | CB | 00 | 45 | 00 | 2E | 00 | 14 | 00 | 00 | 00 | 11 | FF | A2 | FF | F9 | 00 |
| 1652 | 96 | 00 | B6 | 00 | 66 | FF | EF | 00 | 8A | 01 | 03 | 00 | AD | 00 | 30 | FE | FD | FF | D3 | 00 | 3E | 00 | 26 | FF | FD | 00 | 0D | 00 |
| 1680 | 23 | FF | 85 | FE | EB | FE | D9 | 00 | D2 | FA | E4 | FA | A3 | FF | 69 | 00 | 35 | 04 | 48 | 00 | 36 | FE | 5A | 04 | 93 | 03 | AE | 04 |
| 1708 | 0E | 02 | 36 | FF | 5D | FF | 3D | FF | 45 | FF | 29 | FE | DC | FE | D2 | FE | 55 | FD | D4 | FD | 3C | FC | 96 | FC | 0F | FB | 82 | FB |
| 1736 | 21 | FA | E7 | FA | AD | FA | 6E | FA | 19 | F9 | E0 | F9 | A8 | F9 | 68 | F9 | 57 | F9 | 0E | F8 | F6 | F8 | C0 | F8 | 81 | F8 | 2B | F7 |
| 1764 | B6 | F7 | 51 | F6 | CE | F5 | FF | F5 | 30 | F4 | 0A | F3 | 58 | F2 | 0E | F1 | 0B | EF | C7 | EE | B2 | EC | FA | EA | 65 | E7 | D8 | E7 |
| 1792 | 1D | E3 | E6 | E5 | CD | E6 | 9F | E5 | DA | E5 | FF | E9 | 46 | ED | BF | F0 | 47 | F2 | 28 | F6 | 7B | 20 | 71 | 20 | 88 | 20 | 9A | 20 |
| 1820 | AD | 20 | CC | 21 | 02 | 21 | 52 | 21 | B4 | 22 | 2A | 22 | A6 | 23 | 1B | 23 | 7C | 23 | C7 | 23 | FB | 24 | 2C | 24 | 65 | 24 | A1 | 24 |
| 1848 | DB | 25 | 14 | 25 | 3A | 25 | 5D | 25 | 7D | 25 | A1 | 25 | CE | 26 | 0D | 26 | 50 | 26 | 93 | 26 | DF | 27 | 4C | 27 | D6 | 28 | 68 | 28 |
| 1876 | DF | 29 | 44 | 29 | A0 | 29 | DC | 29 | EB | 29 | F2 | 2A | 0D | 29 | EF | 29 | A4 | 29 | 59 | 29 | 00 | 28 | 8B | 28 | 37 | 27 | EC | 27 |
| 1904 | 71 | 26 | E4 | 25 | F5 | 25 | 41 | 25 | 53 | 25 | 8F | 03 | 65 | 03 | 52 | 03 | 18 | 03 | 03 | 02 | F7 | 02 | DF | 02 | DD | 02 | C6 | 02 |
| 1932 | CE | 02 | B7 | 02 | BB | 02 | A2 | 02 | A8 | 02 | 9C | 02 | 9F | 02 | BF | 02 | F3 | 03 | 07 | 03 | 7D | 04 | 7A | 06 | 31 | 07 | 7D | 06 |
| 1960 | 7A | 06 | A4 | 06 | 61 | 02 | F3 | 00 | 07 | 00 | 07 | 00 | 07 | 00 | 06 | 00 | 06 | 00 | 06 | 00 | 06 | 00 | 06 | 00 | 06 | 00 | 06 | 00 |
| 1988 | 06 | 00 | 06 | 00 | 06 | 00 | 06 | 00 | 06 | 00 | 06 | 00 | 06 | 00 | 06 | 00 | 06 | 00 | 08 | 00 | 0A | 00 | 0C | 00 | 0E | 00 | 0E | 00 |
| 2016 | 0E | 00 | 0B | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0C | 1D | 2B | 41 | 95 | C5 | AD | 00 | 00 | 00 |
| 2044 | 00 | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F |
| 2072 | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | 0F | FF | FF | FF |
| 2100 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 74 | 03 | 00 | 00 | 74 |
| 2128 | 03 | 00 | 00 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | A0 |
| 2156 | 0D | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 16 | 00 | 16 | 00 | 18 | FC | E8 | 03 | 00 | 00 | 00 | 00 | F0 | 00 | 79 |
| 2184 | 00 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 2D | 00 | 2D |
| 2212 | 00 | 00 | 00 | 00 | 00 | 01 | 00 | FF | FF | FF | FF | FF | FF | FD | 00 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2240 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 | 00 | 1A | FF | FF | FF | FF | FF | FF | 0D | FF | FF | FF | FF | FF | FF | FF |
| 2268 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2296 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2324 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2352 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2380 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2408 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF |
| 2436 | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | FF | 00 |
| 2464 | 00 | 00 | 06 | FF | FF | FF | FF | B7 | 11 | 04 | 3A | 1F | D2 | CA | F3 | 00 | 00 | 02 | 00 | FF | FF | FF | FF | B4 | 05 | 00 | 00 | 06 |
| 2492 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 01 | FF | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2520 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2548 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2576 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2604 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2632 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2660 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2688 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2716 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2744 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2772 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2800 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2828 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2856 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2884 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2912 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2940 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2968 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 2996 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3024 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3052 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3080 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3108 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3136 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3164 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3192 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3220 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3248 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3276 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3304 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3332 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3360 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3388 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3416 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3444 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3472 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3500 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3528 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3556 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3584 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3612 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3640 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3668 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3696 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3724 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3752 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3780 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3808 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3836 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3864 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3892 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3920 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3948 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3976 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 4004 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 4032 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 4060 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 4088 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | | | | | | | | | | | | | | | | | |

4E AF 80 92 86 52 F2 33 86 FA 9C C2 B0 BF 85 4F 95 2C 87 62 E6 58 EC 91 C4 31 59 5F 4D 80 7D E7

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