



U.S. CONSUMER PRODUCT SAFETY COMMISSION  
5 RESEARCH PLACE  
ROCKVILLE, MD 20850

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September 25, 2017

Mr. Benjamin L. Sheldon  
Chairman  
ASTM F24 Committee on Amusement Rides and Devices  
ASTM International  
100 Barr Harbor Dr.  
West Conshohocken, PA 19428-2959

**Re:** Ohio State Fair Fatal Ride Incident

Dear Mr. Sheldon:

On July 26, 2017, an amusement ride called the Fire Ball was involved in a fatal incident at the Ohio State Fair.<sup>1</sup> The incident resulted in the death of an 18-year-old man and injuries to seven other riders. Attachment 1 is the CPSC's In-Depth Investigation (IDI) of this incident. Attachment 2 is the Safety Alert (Bulletin No FRB24-SB008<sup>2</sup>) from *The National Association of Amusement Ride Safety Officials (NAARSO)*. The safety bulletin states:

*“excessive corrosion inside the gondola support beam . . . can lead to a hazardous wall thickness reduction of the beam and its adjacent joint, causing the beam to fail under normal operation.”*

The safety alert references sand blast cleaning and full interior inspection by endoscope or video scope for assessment of corrosion.

Staff is concerned that in the interior surfaces of certain amusement rides, when fully assembled, water could pool inside the beam or condensation could form, resulting in potentially severe corrosion of the interior surfaces. For rides where there are no means to see inside the beam

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<sup>1</sup> The comments in this letter are those of CPSC staff and have not been approved or reviewed by, and may not necessarily reflect the views of, the Commission.

<sup>2</sup> <http://www.naarso.com/KMG-SafetyAlertFRB24SB008%20Final.pdf>.

when the ride is fully assembled, a visual inspection after the ride is in place would not detect corrosion thinning of internal walls.

**Request:** CPSC staff requests that ASTM F-24 committee review IDI 170727CFE0001 and the Safety Bulletin No FRB24-SB008. Staff requests that ASTM F-24 develop performance requirements that would address the incident in IDI 170727CFE0001 such as:

1. Requirements to prevent water pooling or condensation in critical components that could result in corrosion
2. Means to facilitate visual inspection of the interior of structural beams
3. Criteria to assess corrosion and actions to be taken based on the condition of the material.

Thank you for considering CPSC's staff request. Staff will attend the October meeting in Scottsdale, AZ, and would like to discuss this matter with the committee.

Sincerely

Mark Kumagai

Enclosure: IDI 170727CFE0001

cc:

Patricia Edwards, Voluntary Standards Coordinator, EXHR

Richard McCallion, Product Area Risk Manager, EXHR

Katerina Koperna, Staff Manager, ASTM F-24

Attachment – IDI 170727CFE0001

1. Task Number 170727CFE0001		2. Investigator's ID 10837		<b>EPIDEMIOLOGIC INVESTIGATION REPORT</b>
3. Office Code 800	4. Date of Accident YR MO DAY 2017 07 26	5. Date Initiated YR MO DAY 2017 07 27		
6. Synopsis of Accident or Complaint UPC The 18 year old victim was riding a high G-force pendulum swing amusement park ride when one of the 4 person gondolas suddenly detached from the main part of the ride, went airborne and finally landed on the ground approximately one foot from the base of the ride. The victim died at the scene and seven other riders were transported to the hospital.				
7. Location (Home, School, etc) 9 - SPORTS OR RECREATION PLACE		8. City ██████████	9. State ██	
10A. First Product 1293 - AMUSEMENT ATTRACTIC	10B. Trade/Brand Name ██████████		10C. Model Number ██████████	
10D. Manufacturer Name and Address ██████████				
11A. Second Product 0	11B. Trade/Brand Name NONE		11C. Model Number NONE	
11D. Manufacturer Name and Address NONE				
12A. Hispanic or Latino 2 - No	12B. Race 1 - White Other:		12C. Race Source 3 - Official Document	
13. Age of Victim 18	14. Sex 1 - Male	15. Disposition 8 - Death	16. Injury Diagnosis 71 - Other/NS/No inj	
17. Body Part(s) Involved 85 - ALL OF BODY	18. Respondent 3 - 2nd Hand Info Only	19. Type of Investigation 1 - On-Site	20. Time Spent (Operational / Travel) 56.00 / 10.00	
21. Attachment(s) 9 - Multiple Attachments	22. Case Source 05 - Newspaper		23. Sample Collection Number	
24. Permission to Disclose Name (Non NEISS Cases Only) <input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Yes for Manuf. Only <input type="radio"/> Verbal <input type="radio"/> Written				
25. Review Date 08/08/2017	26. Reviewed By 9071		27. Regional Office Director Dennis R. Blasius	
28. Distribution Blake G. Rose; Joseph Williams; Mark E. Kumagai			29. Source Document Number X1771211A	

The victim was riding an amusement park high [REDACTED] ride when one of the four person gondolas suddenly detached from the main part of the ride, went airborne and landed on the ground approximately one foot from the base of the ride. One of the riders, an 18 year old male, that had been seated in the detached gondola died at the scene; seven other riders were transported to the hospital.

The following information was obtained through review of records from the responding law enforcement officials, daily inspection logs, state inspection logs and interviews with the amusement ride owner and amusement ride safety director.

The involved product is a portable amusement ride. This investigation was initiated by the Commission based on news reports.

The incident involves a 24 passenger portable amusement ride designed for individuals at or over 50 inches in height. The ride did not have signs identifying weight parameters. The amusement ride is a high [REDACTED] ride. A large boom with a claw looking wheel at the bottom hangs from the main point of suspension of the ride. The claw has six arms with a gondola attached to the ends of the arm; each gondola contains four passenger seats. The 24 passengers are secured in their respective seats by an over-the-shoulder restraint bar; no seatbelts are available. As the ride starts to swing, each four person gondola also spins as it reaches its highest swing level. The ride then gradually slows down to a full stop and the passengers are released from the ride.

The ride is operated utilizing a Programmable Logic Controller (PLC) system, described as using auto controls to operate the ride. The rider operator cannot manipulate the speed or length of the ride. All controls are set by the manufacturer. The ride also has a safety back up that allows the ride to start only after each shoulder restraint bar has been locked into place and a green indication light is illuminated above the rider's head. When all 24 passenger lights have illuminated, the ride operator may then start the ride by placing his foot on the pedal (Exhibit M, Photo 26) and pressing the button on the control panel (Exhibit M, Photo 25).

On July 27, July 28, July 30 and August 1, 2017, this investigator visited the incident location and met with investigating law enforcement officials, ride owners and the ride owners' attorney to gather information.

This ride was manufactured in January 1999 (Exhibit M, Photo 27). The current owner purchased the ride from the first owner approximately one year after it was manufactured. The current owner was unable to provide any literature, receipts or service records from the previous owner.

The ride is operated by a ride foreman who has worked on the incident ride for approximately thirteen years. The foreman is assisted by two additional ride operators. The ride owner stated that all ride operators and employees (Exhibit D) receive on-the-job training by ride staff who meet the requirements of ASTM F24 Committee standards. A Training Record Certificate, issued by the company, is presented to employees to document certification. Copies of training certificates for the incident ride operators are attached (Exhibit E, Pages 29, 30 & 31).

The incident ride had been utilized in [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] and [REDACTED] prior to the incident location in [REDACTED] Inspection, Maintenance and Lubrication Reports, Daily Inspection and Maintenance Reports and Certificates for Operator Training for the above referenced locations are attached (Exhibit E). State inspection reports for [REDACTED] [REDACTED] (Exhibit F) and two locations in [REDACTED] (Exhibits G & H) are also attached. Ride owners stated that not all states provide a written report after an inspection is completed; however, an inspection sticker would typically be presented after it passed inspection. Inspection stickers visible on the incident ride include [REDACTED] (Exhibit M, Photos 29 & 30), [REDACTED] (Exhibit M, Photo 28) and [REDACTED] (Exhibit M, Photo 31).

The [REDACTED] Department of Agriculture, Amusement Ride Safety Division, inspected the incident ride prior to the fair starting and the Standard Inspection report dated July 26, 2017 is attached (Exhibit I). Questions directed at inspectors were denied and this investigator was referred to their counsel. No further information obtained.

The current ride owner was unable to provide any additional inspection reports or maintenance receipts and/or logs for the incident ride. The ride owner did provide one related news article dated 2011 (Exhibit J) and two service bulletins dated 2007 (Exhibit K) and 2017 (Exhibit L) that he felt were relative to this investigation. No further information obtained. The ride owner's attorney instructed all further inquiries to be officially requested to include additional requests to interview ride owners and ride operators.

All interviews completed with the ride owner and operators prior to CPSC involvement will be available in the responding department's official investigative report that will be available after the investigation is complete and a determination is made regarding prosecution. Review of the information contained in these reports did not provide any additional relevant information.

On July 26, 2017, the fair opened rides at 10:00 AM. The incident ride had passed inspection and was in full operation. At approximately 7:20 PM emergency personnel arrived on scene after having received calls reporting that there were unresponsive individuals at the incident ride location. Law enforcement officials arrived to find one gondola had separated from the base of the ride and landed outside of the ride trailer. Two passengers were still in the gondola and two

passengers were thrown from the gondola, one being the victim. The victim was pronounced dead at the scene and seven additional individuals were transported to the local hospitals. The lead investigative authority secured the ride and the detached gondola was transported to a secure evidence facility.

On July 27, 2017, this investigator responded to the incident site and met with lead investigative officials who provided this investigator with photographs taken after the incident. After viewing the photographs, this investigator visually inspected the ride and observed rust on the entire inside of the supporting sweep arm (Exhibit M, Photos 8, 21 & 23) that the gondola detached from. All four sides of the break area connecting the supporting sweep arm and gondola appeared to be covered in rust. Inspection of the incident ride on July 27, 2017 was non-destructive and completed utilizing photography and visual observation.

On July 28, 2017, this investigator and additional personnel from CPSC inspected the incident ride and the detached gondola. Rust was noted on the entire inside of the supporting sweep arm (Exhibit M, Photos 8, 21 & 23) that the gondola had detached from. All four sides of the break area connecting the supporting sweep arm and gondola appeared to be covered in rust. After inspection of the ride, CPSC staff went to a secure evidence facility where the detached gondola was being stored and inspected those components. We observed rust inside (Exhibit M, Photo 14) and around all four break sides (Exhibit M, Photos 16 & 19) of the gondola where it was detached from the supporting sweep arm. This inspection of the incident ride and detached gondola on July 28, 2017 was non-destructive and completed utilizing photography and visual observation.

On July 30, 2017, this investigator and associates of the manufacturer of the incident ride inspected the ride and the detached gondola. Again, this inspection of the incident ride and detached gondola on July 30, 2017 was non-destructive and completed utilizing photography and visual observation. No further information was obtained from the manufacturer or the manufacturer's attorney.

During this investigation, lead investigative officials stated interviews with victims or victims' families were unobtainable due to all parties obtaining legal counsel. Additionally, hospital officials stopped providing updated medical status information due to victims obtaining counsel. Interviews conducted with witnesses by lead investigative officials did not provide any additional investigative leads. The ride owner later obtained legal counsel and all requests for information must be officially requested through counsel. Investigative reports prepared by the lead investigative officials are not yet available due to the ongoing investigation and possible state prosecution. The medical examiner's report is not available at this time.

A release of name authorization was not completed as the victims' family were unable to be interviewed.

**PRODUCT IDENTIFICATION:**

The first product is a [REDACTED] [REDACTED]. Machine Number: [REDACTED]  
Manufacture [REDACTED].

Prior owner: [REDACTED]

Current Owner since 1999: [REDACTED]

It should be noted that this ride is also known and sold as [REDACTED]

Manufacturer:

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED] – Product Manager  
[REDACTED].

**EXHIBITS:**

- A. Respondent’s List (1 Page)
- B. Contact Business Cards (1 Page) Gzenwf gf +
- C. [REDACTED] (4 Pages) "Gzenwf gf +
- D. [REDACTED] [REDACTED] (6 Pages) "Gzenwf gf +
- E. [REDACTED] (31 Pages) "Gzenwf gf +
- F. [REDACTED] (42 Pages) "Gzenwf gf +
- G. [REDACTED] (24 Pages) "Gzenwf gf +
- H. [REDACTED] (42 Pages) "Gzenwf gf +
- I. [REDACTED] (11 Pages) "Gzenwf gf +
- J. [REDACTED] News Article (3 Pages) "Gzenwf gf +
- K. [REDACTED] 4 Pages) "Gzenwf gf +



- L. 2017 [REDACTED] Safety Bulletin (5 Pages) \*Gzerwf gf +
- M. Photographs (34 Photos, 34 Pages)
- N. Notice of Inspection (1 Page)
- O. Missing Documents (1 Page)



**VICTIM:**

[REDACTED]  
DOB [REDACTED]  
[REDACTED]

**RESPONDENT LIST**

1. [REDACTED] - Cell
2. [REDACTED] - Cell
3. [REDACTED] - Cell
4. [REDACTED]
5. [REDACTED]

- 6. [REDACTED]
- 7. [REDACTED]
- 8. [REDACTED]
- 9. [REDACTED]
- 10. [REDACTED]
- 11. [REDACTED]



Photo #1 – Overall picture of the incident ride and surrounding area. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.

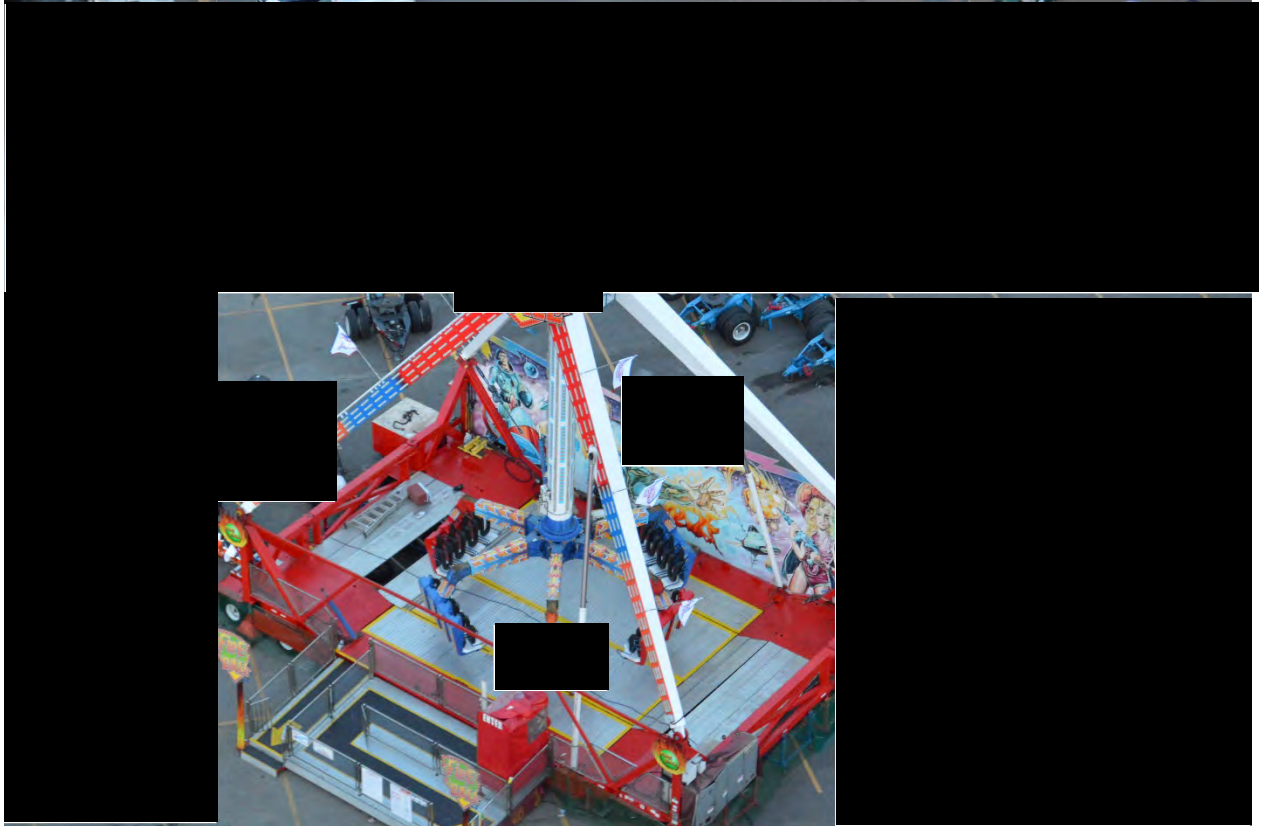


Photo #2 – Additional overall picture of the incident ride and surrounding area. Photograph taken by the [redacted] State Highway Patrol on July 26, 2017 after the incident.



Photo #3 – Additional overall picture of the incident ride and surrounding area. Photo identifies victim location after incident. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.

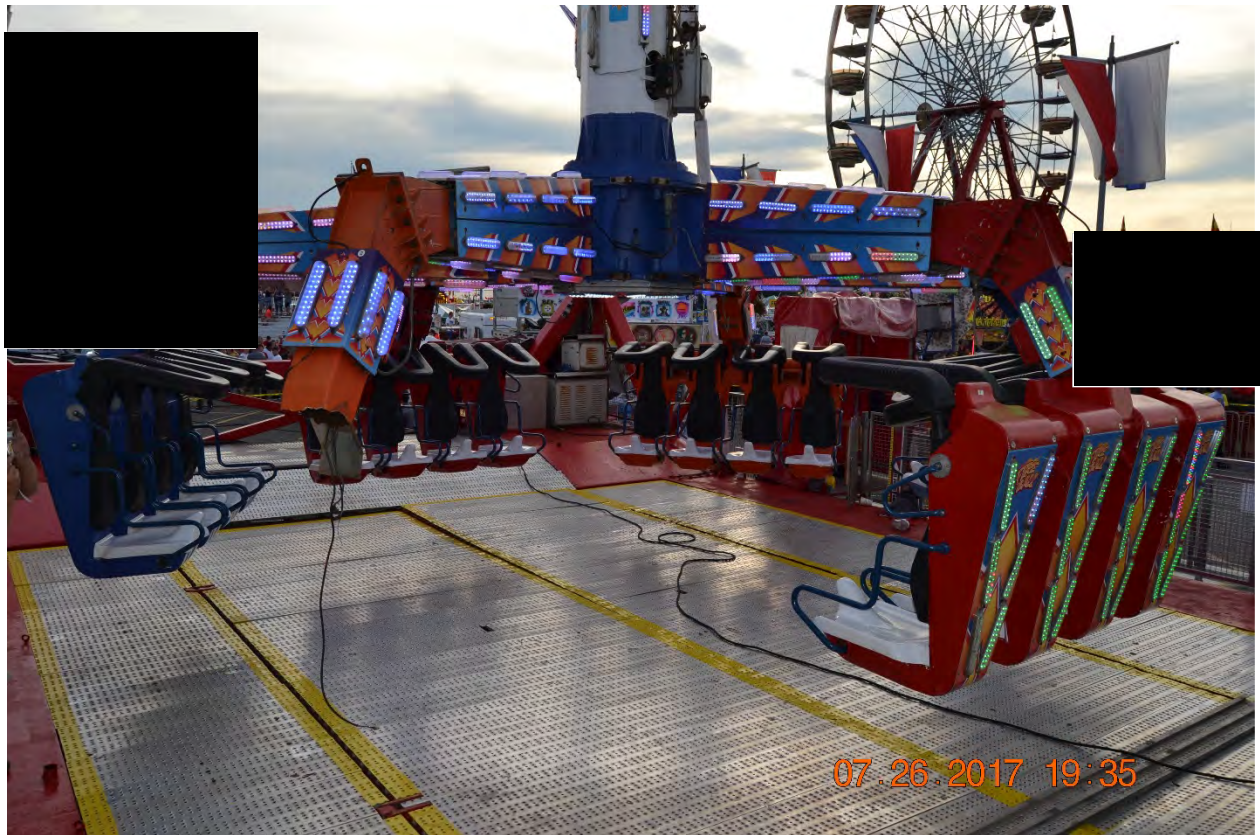


Photo #4 – Additional overall picture of the incident ride. Photo identifies broke arm and missing gondola. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.





Photo #5 – Close up picture of the incident ride. Photo identifies broke arm and missing gondola. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



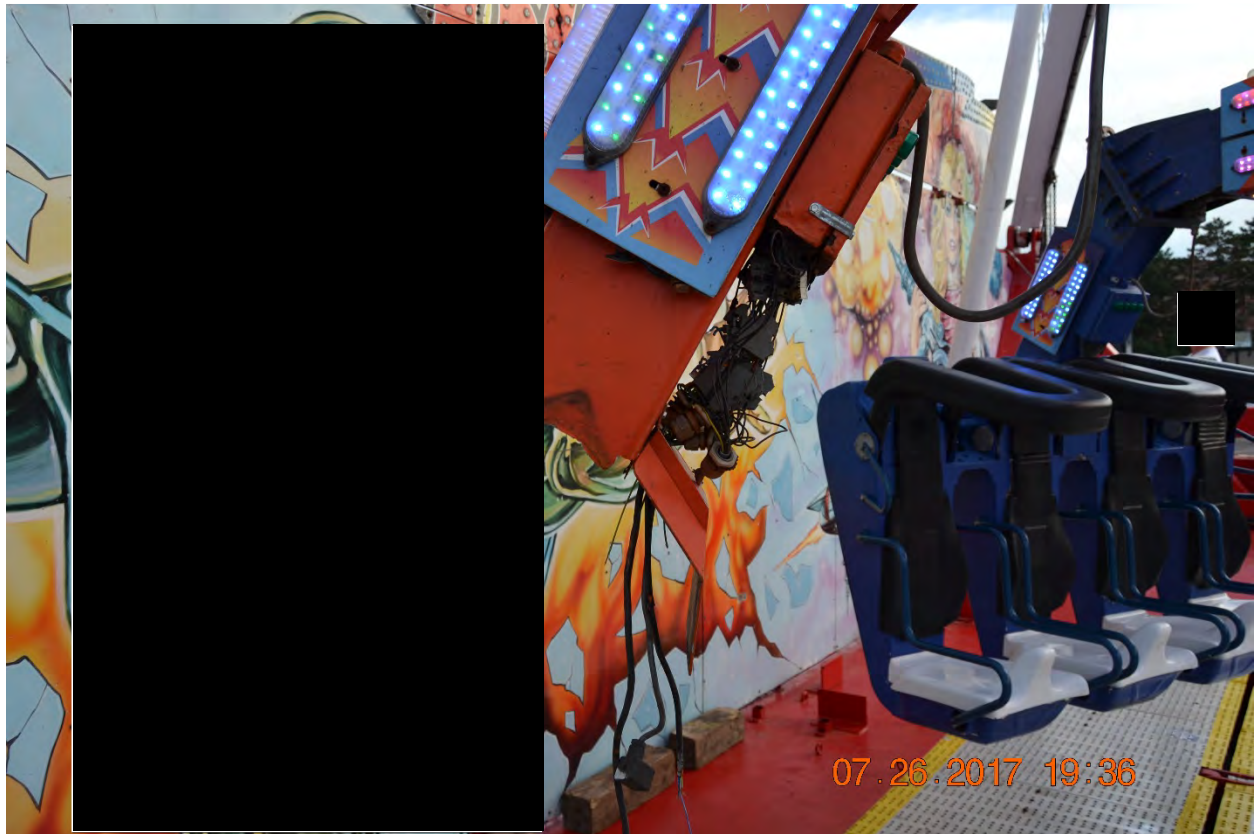


Photo #6 – Additional close up picture of the incident ride. Photo identifies broke arm and missing gondola. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #7 – Additional close up picture of the incident ride. Photo identifies broke arm and missing gondola. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #8 – Additional close up picture of the incident ride. Photo identifies the inside of the broken arm. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.





Photo #9 – Additional close up picture of the incident ride. Photo identifies the wires hanging off the broken arm. Photograph taken by the [redacted] State Highway Patrol on July 26, 2017 after the incident.



Photo #10 – Additional close up picture of the incident ride. Photo identifies the wires hanging off the broken arm. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #11 – Additional close up picture of the incident ride. Photo identifies the gondola that separated from the ride. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.





Photo #12 – Additional close up picture of the incident ride. Photo identifies the gondola that separated from the ride. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #13 – Additional close up picture of the incident ride. Photo identifies the gondola that separated from the ride. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.





Photo #14 – Additional close up picture of the incident ride. Photo identifies the inside of the arm on the gondola that separated from the ride. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #15 – Additional close up picture of the incident ride. Photo identifies the inside of the arm on the gondola that separated from the ride. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.





Photo #16 – Additional close up picture of the incident ride. Photo identifies the inside of the arm on the gondola that separated from the ride. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #17 – Additional close up picture of the incident ride. Photo identifies the name plate on the ride trailer. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #18 – Additional close up picture of the incident ride. Photo identifies the trailer inspection sticker on the ride trailer. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #19 – Additional close up picture of the incident ride. Photo identifies the wall of metal around the arm of the broken gondola. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.





Photo #20 – Additional close up picture of the incident ride. Photo identifies the wall of metal around the arm of the broken gondola. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #21 – Additional close up picture of the incident ride. Photo identifies the inside of the wall of metal around the arm of the broken gondola. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.





Photo #22 – Additional close up picture of the incident ride. Photo identifies the inside of the wall of metal around the arm of the broken gondola. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #23 – Additional close up picture of the incident ride. Photo identifies the inside of the wall of metal around the arm of the broken gondola. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.



Photo #24 – Additional close up picture of the incident ride. Photo identifies the ride control booth. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.





Photo #25 – Additional close up picture of the incident ride. Photo identifies the ride control panel located inside the ride control booth. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.

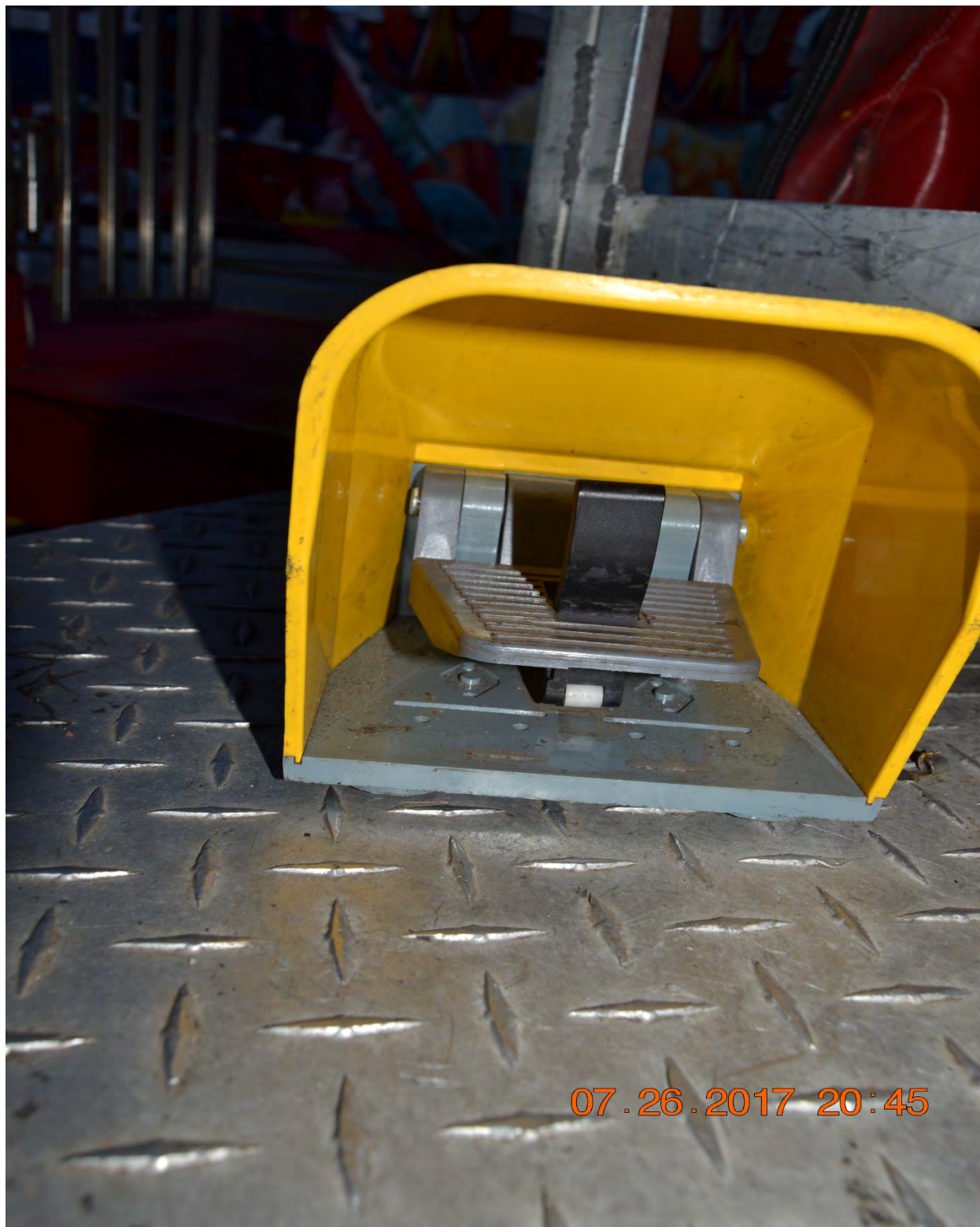


Photo #26 – Additional close up picture of the incident ride. Photo identifies the foot pedal located inside the ride control booth. Photograph taken by the [REDACTED] State Highway Patrol on July 26, 2017 after the incident.

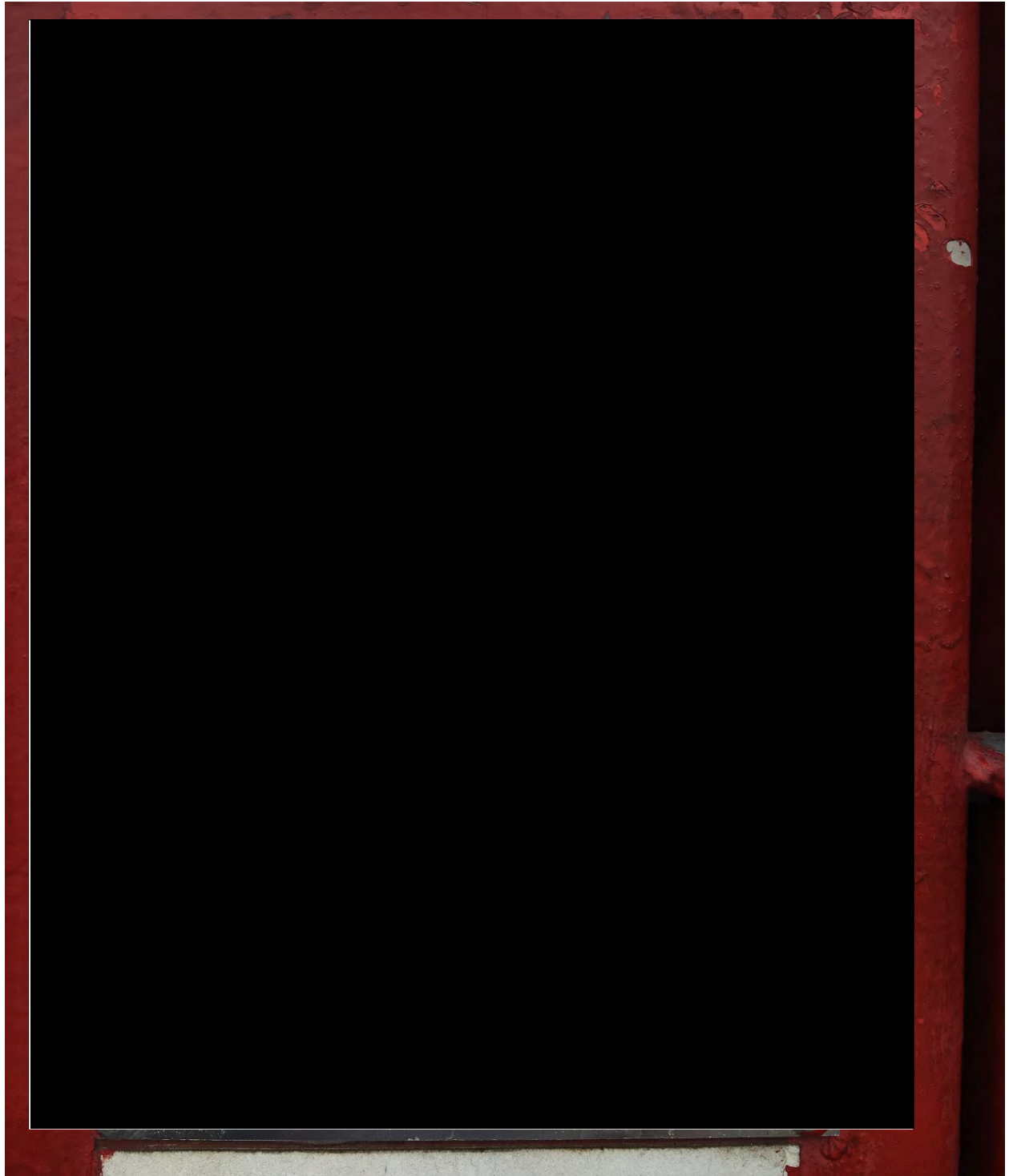


Photo #27 –Photo identifies the data plate on the ride. Photograph taken by this investigator on July 27, 2017.



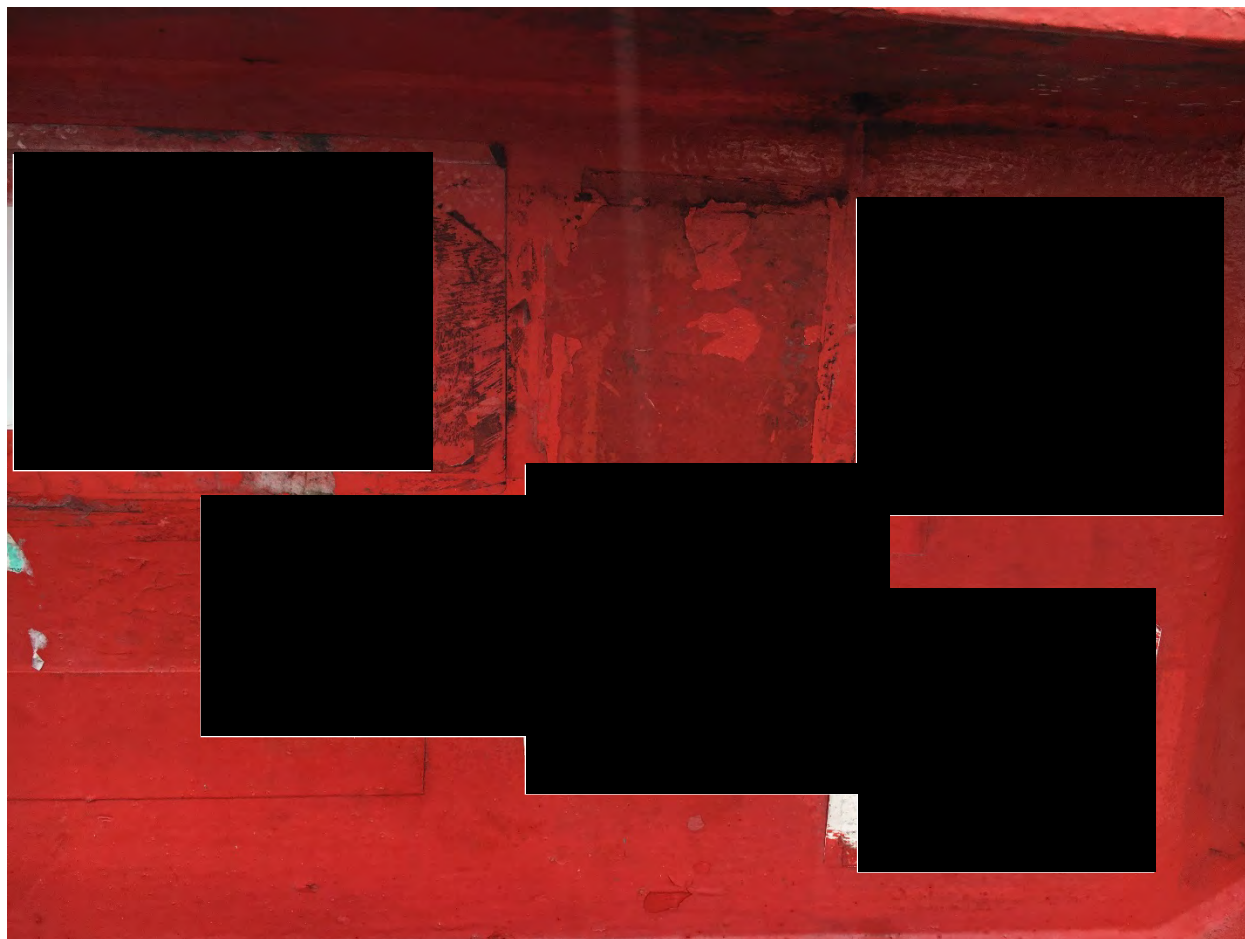


Photo #28 –Photo identifies [REDACTED] permit sticker for 2017. Photograph taken by this investigator on July 27, 2017.



Photo #29 –Photo identifies [redacted] permit sticker for 2017. Photograph taken by this investigator on July 27, 2017.



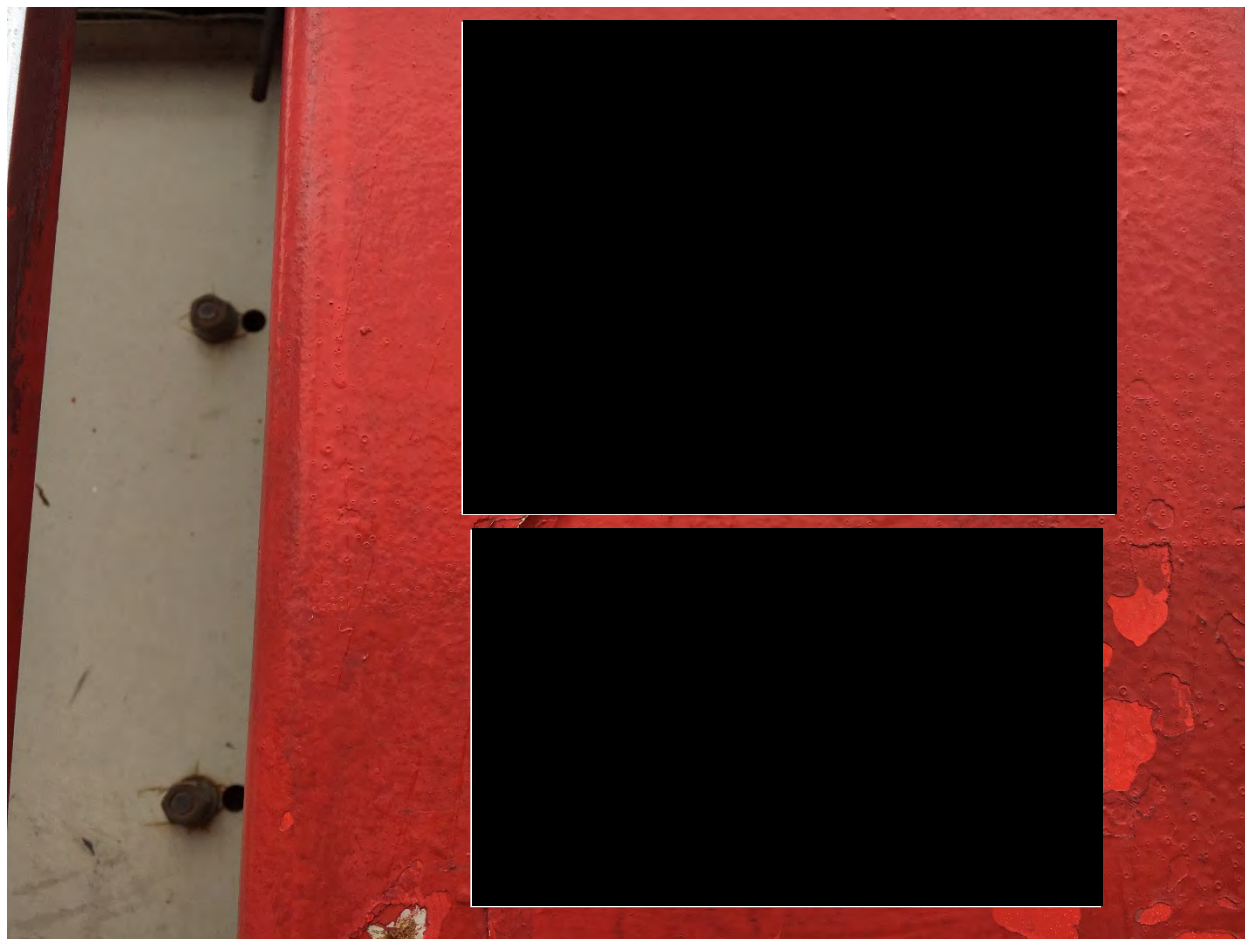


Photo #30 –Photo identifies secondary [REDACTED] permit sticker for 2017. Photograph taken by this investigator on July 27, 2017.



Photo #31 –Photo identifies [REDACTED] permit sticker for 2017. Photograph taken by this investigator on July 27, 2017.



Photo #32 –Photo identifies inside of the gondola arm. Photograph taken by this investigator at the secure evidence facility on July 28, 2017.





Photo #33 –Photo identifies inside of the gondola arm. Photograph taken by this investigator at the secure evidence facility on July 28, 2017.

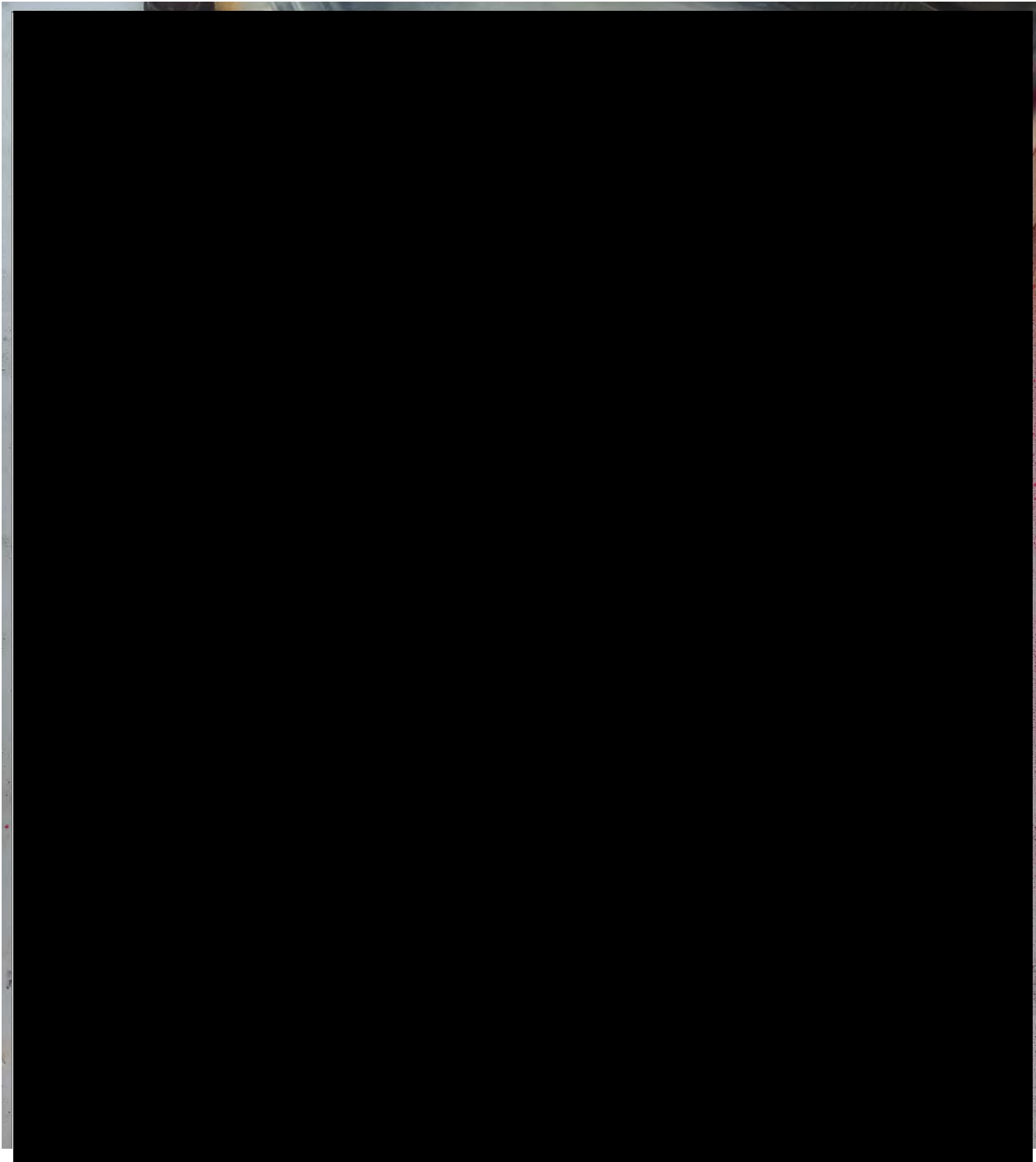


Photo #34 –Photo identifies the [REDACTED] Inspection Sticker. Photograph taken by this investigator at the incident site on July 28, 2017.



U.S. CONSUMER PRODUCT SAFETY COMMISSION	
NOTICE OF INSPECTION	
<b>1. DATE</b> <p style="text-align: center; font-size: 1.2em;">7/28/17</p>	<b>3. FROM (Area Office and Address)</b> <div style="background-color: black; width: 100%; height: 40px;"></div>
<b>2. TIME</b> <p style="text-align: center; font-size: 1.2em;">11:30</p> <p style="text-align: center;">A.M. _____ P.M.</p>	
<b>4. TO</b>	<b>A. NAME AND TITLE OF INDIVIDUAL</b> <div style="background-color: black; width: 100%; height: 15px;"></div> - Owner
	<b>B. FIRM NAME</b> <div style="background-color: black; width: 100%; height: 20px;"></div>
	<div style="background-color: black; width: 100%; height: 40px;"></div>
<p><b>Notice of Inspection is hereby given pursuant to:</b></p> <ul style="list-style-type: none"> <li>• Section 5(a) of the Flammable Fabrics Act (15 U.S.C. § 1194(a));</li> <li>• Sections 6(a), 9, and 10 of the Federal Trade Commission Act (15 U.S.C. §§ 46(a), 49, and 50);</li> <li>• Sections 16, 19, and 27 of the Consumer Product Safety Act (15 U.S.C. §§ 2065, 2068, and 2076)</li> <li>• Sections 301(e) and (f) and Section 704(a) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. §§ 331(e) and (f) and 374(a)) [Authority for inspections in connection with the Poison Prevention Packaging Act of 1970 (15 U.S.C. § 1471 <i>et seq.</i>); and/or</li> <li>• Sections 4(e), 11(b), and 12 of the Federal Hazardous Substances Act as Amended (15 U.S.C. §§ 1263(e), 1270(b), and 1271).</li> </ul> <p>Refer to the back of this form for pertinent statutory language.</p>	
<p><b>5. PURPOSES OF INSPECTION AND NATURE OF INFORMATION TO BE OBTAINED AND/OR COPIED</b></p> <p>The purpose of this inspection is to obtain information; to review and obtain copies of items including, but not limited to, records (including electronic records), reports, books, documents, and labeling; and to obtain samples, in order to enforce or determine compliance with the Acts administered by the Consumer Product Safety Commission.</p>	
<p><b>6. FREEDOM OF INFORMATION REQUIREMENTS</b></p> <p>Those from whom information is requested should state whether any of the information submitted is believed to contain or relate to a trade secret or other matter which should be considered by the Commission to be confidential and whether any of the information is believed to be entitled to exemption from disclosure by the Commission under the provisions of the Freedom of Information Act (5 U.S.C. § 552). Any statement asserting this claim of confidentiality must be in writing, and any request for exemption of the information from disclosure must be made in accordance with the Commission's Freedom of Information Act regulations, 16 CFR Part 1015.</p>	
<p><b>7. SIGNATURE (Authorized CPSC Official)</b></p> <div style="text-align: center;"> <div style="background-color: black; width: 100%; height: 30px;"></div> </div>	



# U.S. Consumer Product Safety Commission

Task Number: 170727CFE0001

Date: August 3, 2017

## Status of Missing Document(s)

The official records below were requested for this investigation report, but could not be obtained:

1. [REDACTED] State Highway Patrol Investigative Report\_\_\_\_\_
2. \_\_\_\_\_ **Medical Examiners Report**\_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

07/09/2013