



<b>Elevating and Amusement Devices Safety Program</b>	Ref. No.: 534/18	Rev. No.: 1
<b>Director's Order</b>	Date: April 27, 2018	Date: March 21, 2022

IN THE MATTER OF:

Technical Standards and Safety Act 2000, S.O. 2000, c. 16

- and -

Ontario Regulation 221/01 (Amusement Devices)

**Subject:** Additional Inspection Requirements for Corrosion of Aging Rides (updated)  
**Distribution:** Posted on TSSA Web site, AD Council

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Applicable to: All license holders (owners/operators) of Amusement Devices classified as Amusement Rides, Water slides, Zip Lines and Go-Kart tracks that are structurally supported

*Under the authority of s. 31 of the Technical Standards and Safety Act, 2000, the Director under O.Reg. 221/01 (Amusement Devices) hereby orders that:*

**1. Order**

**1.1.** All license holders (owners/operators) of amusement rides/devices from the following manufacturers:

- a) Chance Rides
  - Chance Rides, Inc.
  - Chance Rides Manufacturing, Inc.
  - Chance Morgan, Inc
- b) A.R.M (USA) Inc.
- c) Battech Enterprises LLC (or manufacturers covered by their bulletin)
  - Dartron Industries, Inc and Dartron Parts & Services Inc
- d) Larson International, Inc. (or manufacturers covered by their bulletin)
  - dba Larson International, Inc.
  - W.F. Larson, Inc
  - LMC, Inc
  - J&S Rides, Inc
  - Sellner Manufacturing, Inc.
  - Hi-Ro Co, Inc.

shall comply with the manufacturer issued service bulletins regarding general inspection for corrosion/rust (see Appendix A1-A4) as required by Ontario Regulation 221/01 (Amusement Devices), section 14(1).

**1.2.** For devices other than those manufactured by the companies listed in **1.1**, all license holders (owners/operators) of amusement rides/devices including water slides, zip lines and Go-Kart tracks that are structurally supported, that are 10 years of age or older or have an unknown age, and where the manufacturer is still in business, shall:

- a) contact the manufacturer of their amusement ride(s) and/or device(s) and/or track(s) to check for new bulletins related to and concerning inspecting for corrosion and rust; and

- b) if the manufacturer has issued a related bulletin, the license holder shall comply with the manufacturer issued service bulletin pursuant to Ontario Regulation 221/01 section 14. (1); or
- c) if the manufacturer does not have a new bulletin related to and concerning inspecting for corrosion and rust, the license holders shall comply to the requirement of **1.3**.

**1.3.** For devices other than those manufactured by the companies listed in **1.1**, or where the manufacturer did not provide a bulletin related to and concerning the inspection for corrosion or rust (see 1.2c), or where the manufacturer is no longer in business, then all license holders (owners/operators) of amusement rides/devices including water slides, *engineered zip lines*, and Go-Kart tracks that are structurally supported, that are 10 years of age or older or have an unknown age, shall:

- a) conduct an additional inspection of the rides/devices/tracks for environmental effects such as snow, ice, rain, UV, temperature, humidity, salt, dust etc. that could cause corrosion and deterioration of safety-related structural components,
- b) thereafter, conduct these inspections annually, prior to requesting an inspection.

*Note 1: 1.2 and 1.3 are not applicable for Go-Kart vehicles or Inflatable Devices unless otherwise noted by the manufacturer.*

*Note 2: engineered ziplines refers to ziplines with structural elements subject to corrosion.*

**1.4.** Upon completion of the steps required by sections **1.1**, **1.2** or **1.3**, the license holder (owner/operator) shall:

- a) Document the findings or results in accordance with the guideline provided in Appendix A5;
- b) notify the manufacturer if still in business if indications of corrosion and rust are found; and
- c) make repairs as determined by the manufacturer or in accordance with an engineering designed repair procedure.

**1.5.** Amusement rides/devices subject to **1.1** shall not be permitted to operate unless:

- a) they have been inspected as required,
- b) the requirements of section **1.1** have been completed, and  
the records of **1.4** (see Appendix A5) have been completed and recorded in the logbook.

**1.6.** Amusement rides/devices subject to **1.2** and **1.3** shall not be permitted to operate unless:

- a) they have been inspected as required,
- b) the requirements of **1.2**, **1.3** and **1.4** (see Appendix A5) have been completed, and
- c) the records of **1.4** (see Appendix A5) have been completed and recorded in the logbook


**1.7.** This updated order is effective March 21, 2022.

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**Roger Neate**

Director, O. Reg. 221/01 (Amusement Devices) appointed under the *Technical Standards and Safety Act, 2000*

**Appendix A1:**  
Chance Rides Manufacturing Inc. Service Bulletin No. B090CRM204-0

	<b>CHANCE RIDES MANUFACTURING, INC.</b> 4200 Walker Wichita, KS 67277-2328 U.S.A. Phone: 1-316-942-7411 • FAX: 1-316-942-7416 Website: www.chancerides.com E-mail: rides@chancerides.com	Bulletin No: B090CRM204-0 Release Date: December 22, 2017 Effective Date: December 22, 2017 Supersedes: N / A Completion Date: March 22, 2018 Page: 1 of 2
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# SERVICE BULLETIN

Ride Manufacturer:	CHANCE RIDES, INC. CHANCE RIDES MANUFACTURING, INC. CHANCE MORGAN, INC.	Affected Production Dates:	See Text
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Ride Name:	All Rides	Affected Serial Nos.:	All
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Model No.	All
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Abstract of Issue: **General Inspection for Corrosion/Rust**

**Reason For Release:**  
Corrosion/rust can cause structural degradation which could result in catastrophic failure of structural members. Serious personal injury can result from structural failure.  
This bulletin provides general information on detection of indications of corrosion/rust.


**Action to be Taken:**  
All owners of the above noted amusement rides are required to perform the overall ride inspection detailed on the following pages within 90 days of the release date of this bulletin.  
These inspections are required on all rides which are at least 5 years of age or older, and again when the ride is 10 years of age. Thereafter, the inspections are required annually. Shorten the intervals as deemed appropriate due to corrosive environments such as coastal regions.  
These inspections are in addition to all existing maintenance and inspection requirements. Ride owners and operators are reminded to comply with the ASTM F-24 Standards, including F-770: Practice for Ownership, Operation, Maintenance, and Inspection of Amusement Rides and Devices. These are available from ASTM International: www.astm.org.

*Reference Standards:*  
ASTM F770 7.4 Inspection Documents - Inspection documents deemed appropriate by the owner/operator to be maintained in the amusement ride or device file shall be filed in accordance with the procedures outlined in this practice and Practice F1193.  
ASTM F770 7.5 Notification of Manufacturer - The owner/operator of an amusement ride or device shall promptly notify the manufacturer of an incident, failure, or malfunction which, in the owner/operator's judgment, affects the continued proper operation of the amusement ride or device and is information of which the manufacturer should be aware.

All work must be performed by competent personnel, capable of understanding the function of the parts and their proper installation. Use only those components authorized, specified or provided by Chance Rides Manufacturing, Inc. All applicable OSHA safety standards and safe industry practices must be observed.

Observe all safety information contained in the manufacturer's manuals and bulletins. Make available this bulletin and all related technical information to personnel using the equipment.

Chance Rides Manufacturing, Inc. issues notifications for the benefit of owners of amusement rides manufactured by Chance Rides Manufacturing, Inc. As a service to the industry, and in the interest of employee and public safety, Chance Rides Manufacturing, Inc. also issues notifications for the benefit of owners of amusement ride equipment for which the manufacturer no longer exists, such as the Allan Herschell Company, Chance Manufacturing Co., Inc., pre-2002 Chance Rides, Inc., D.H. Morgan Manufacturing, Inc., etc. In doing so, Chance Rides Manufacturing, Inc. does not assume liability for losses associated with amusement ride equipment built by manufacturers other than Chance Rides Manufacturing, Inc.

	<b>CHANCE RIDES MANUFACTURING, INC.</b> 4200 Walker Wichita, KS 67277-2328 U.S.A. Phone: 1-316-942-7411 • FAX: 1-316-942-7416 Website: www.chancerides.com E-mail: rides@chancerides.com	Bulletin No: B090CRM204-0
		Release Date: December 22, 2017
		Effective Date: December 22, 2017
		Supersedes: N / A
		Completion Date: March 22, 2018
		Page: 2 of 2
Ride Manufacturer: CHANCE RIDES, INC. CHANCE RIDES MANUFACTURING, INC. CHANCE MORGAN, INC.		Affected Production Dates: See Text
Ride Name: All Rides		Affected Serial Nos.: All
Model No. All		
Detail of Issue		
<p><b><u>Inspection Procedure</u></b></p> <p>The inspections defined in this bulletin are intended to obtain indications of corrosion/rust. Remove cover panels, scenery, etc. to gain access to structures for inspection. Signs of corrosion/rust may lead to further disassembly of the ride. Use one or more of the following methods:</p> <p><b>IMPORTANT:</b> <i>Comprehensive inspection records must be maintained. Record details on which areas were inspected, date of inspection, who performed inspection, type of inspection, and specific observations.</i></p> <ol style="list-style-type: none"> <li>1. Visually check structural members for visible signs of corrosion/rust. Pay close attention to areas where moisture may collect, both internally and externally. Examples include the lowest portion of tubing in a structure (in both transport and operating positions), under upholstery or padding, and under diamond plate or sheet metal. Visual indications of corrosion/rust include, but are not limited to:                     <ul style="list-style-type: none"> <li>• Rust stains, bubbling or cracking of paint</li> <li>• Loss of material, including flaking, pitting or holes in the structure.</li> <li>• Deformation of tubes where water has collected and frozen.</li> </ul> </li> <li>2. Use a hammer to tap on and around questionable areas. Material loss can often be detected by a difference in the sound when compared to good solid material.</li> <li>3. Use a sharp pick to probe questionable areas. Look for discoloration, soft areas, pitting and scaling. If the pick penetrates the surface, significant rust is indicated.</li> <li>4. A borescope can provide visual access to enclosed and hard-to-reach areas if an existing hole or opening allows its use. Do not drill any structure without consulting with the manufacturer.</li> <li>5. Test equipment such as an ultrasonic corrosion gauge can be used by competent owner/operators to perform additional testing.</li> </ol> <p>While these inspection guidelines are not a substitute for inspection by qualified NDT personnel, they can help identify areas of inconsistent thickness, indicating corrosion/rust.</p> <p>If indications of corrosion/rust are found, contact Chance Rides Manufacturing, Inc. for further instructions.</p> <p><b>IMPORTANT:</b> <i>The purpose of initial testing is to identify indications of corrosion/rust. If found, additional inspection by qualified NDT personnel may be required to determine the actual extent of material loss.</i></p>		

**Appendix A2:**  
A.R.M. (USA) Inc. Service Bulletin No. SB20171226



**A.R.M. (USA) INC.**  
1506 Fernwood Rd.  
Wintersville, OH 43953  
740.264.6599  
740.266.2953 Fax

**Bulletin No:** SB20171226  
**Release Date:** January 3, 2018  
**Effective Date:** January 3, 2018  
**Supersedes:** N/A  
**Completion Date:** Immediately  
**Page:** 1 of 2

# SERVICE BULLETIN

<p>Manufacturer: <b>A.R.M. (USA), Inc.</b> Ride Name: <b>All Rides</b></p>	<p align="center"><b>AFFECTED SERIAL NUMBERS</b></p>
<p><b>Model(s): All Models</b> <b>Affected Production Dates: All Dates</b></p> <p><b>ABSTRACT OF ISSUE</b></p> <p>General Inspection for Corrosion/Rust</p>	<p align="center">All Serial Numbers</p>
<p><b>REASON FOR RELEASE</b></p> <p>Corrosion/rust can cause structure degradation which could result in catastrophic failure of structural members and personal injury.</p> <p>This bulletin provides general information on detection of indications of corrosion/rust.</p>	
<p><b>ACTION TO BE TAKEN</b></p> <p>All owners of the above noted amusement rides are required to perform the overall ride inspection detailed on the following pages of this bulletin.</p> <p>These inspections are required on all rides which are 5 years of age or older, and again when the ride is 10 years of age. Thereafter, the inspections are required annually. Shorten the intervals as deemed appropriate due to corrosive environments such as coastal regions.</p> <p>These inspections are in addition to all existing maintenance and inspection requirements.</p> <p><i>Reference Standards:</i></p> <p><i>ATSM F770 7.4 Inspection Documents - Inspection documents deemed appropriate by the owner/operator to be maintained in the amusement ride or device file shall be filed in accordance with the procedures outlined in this practice and Practice F1193.*</i></p> <p><i>ATSM F770 7.5 Notification of Manufacturer - The owner/operator of an amusement ride shall promptly notify the manufacturer of an incident, failure, or malfunction which, in the owner/operator's judgment, affects the continued proper operation of the amusement ride or device and is information of which the manufacturer should be aware.*</i></p> <p align="center"><i>*Reproduced with permission of ASTM International</i></p> <p>All work must be performed by competent personnel, capable of understanding the function of the parts and their proper installation. All applicable OSHA safety standards and safe industry practices must be observed.</p> <p>Observe all safety information contained in the manufacturer's manuals and bulletins. Make available this bulletin and all related technical information to personnel using the equipment.</p>	



**A.R.M. (USA) INC.**  
1506 Fernwood Rd.  
Wintersville, OH 43953  
740.264.6599  
740.266.2953 Fax

**Bulletin No:** SB20171226  
**Release Date:** January 3, 2018  
**Effective Date:** January 3, 2018  
**Supersedes:** N/A  
**Completion Date:** Immediately  
**Page:** 2 of 2

Manufacturer: A.R.M. (USA), Inc.  
Ride Name: All Rides

Model(s): All Models  
Affected Production Dates: All Dates

**AFFECTED  
SERIAL  
NUMBERS**

**DETAIL OF ISSUE**

**Inspection Procedure**

The inspections defined in this bulletin are intended to obtain indications of corrosion/rust. Remove cover panels, scenery, etc., to gain access to structures for inspection. Signs of corrosion/rust may lead to further disassembly of ride. Use one or more of the following methods:

**IMPORTANT:** *Comprehensive inspection records must be maintained. Include details on which areas have been inspected, type of inspection, when inspection was performed, specific observations during inspection, and by whom inspection was conducted.*

1. Visually check structural members for visible signs of corrosion/rust. Pay close attention to areas where moisture may collect, both internally and externally. Examples include the lowest portion of tubing in a structure, under upholstery or padding, and under diamond plate or sheet metal. Consideration for a structural members position during transportation, operation and storage, should be considered. Visual indications of corrosion/rust include, but are not limited to:
  - Rust stains, bubbling or cracking of paint
  - Loss of material, including flaking, pitting, or holes in the structure
  - Deformation of tubes where water has collected internally and froze due to cold temperatures.
2. Use a hammer to tap on and around questionable areas. Material loss can often be detected by a difference in the sound when compared to good, solid material.
3. Use a sharp pick to probe questionable areas. Look for discoloration, soft areas, pitting and scaling. If the pick penetrates the surface, significant rust is indicated.
4. A borescope can provide visual access to enclosed and hard-to-reach areas if an existing hole or opening allows its use. Do not drill any structure.
5. Test equipment such as an ultrasonic corrosion gauge/thickness gauge can be used by competent owner/operators to perform additional testing.


While this is not a substitute for inspection by qualified NDT personnel, the above mentioned methods can help identify areas of inconsistent thickness, indication corrosion/rust.

**IMPORTANT:** The purpose of initial testing is to identify indications of corrosion/rust. If found or suspected, additional inspection by qualified NDT personnel is required to determine the actual extent of material loss.

**All Serial Numbers**

**Appendix A3:**  
**Battech Enterprises, LLC Bulletin No. SR-5K-1801-01**

*Battech Enterprises LLC issues notifications for the benefit of owners of amusement rides manufactured by Battech Enterprises LLC. As a service to the industry, and in the interest of employee and public safety, Battech Enterprises LLC also may issue notifications for the benefit of owners of amusement ride equipment for which the manufacturer no longer exists, such as Dartron Parts and Services Inc. and Dartron Industries Inc. In doing so, Battech Enterprises LLC does not assume liability for losses associated with amusement ride equipment built by manufacturers other than Battech Enterprises LLC.*

	<b>Issuing Entity:</b>  Battech Enterprises, LLC  P. O. Box 13114 Salem, Oregon 97309 Phone: 503-362-2341 Fax: 503-362-2536 www.battechrides.com	<b>Bulletin #</b> <u>SR-5K-1801-01</u> <b>Release Date:</b> <u>February 15, 2018</u> <b>Effective Date:</b> <u>February 15, 2018</u> <b>Supersedes:</b> <u>N/A</u> <b>Completion Date:</b> <u>May 15, 2018</u>
	Page 1 of 2	

**SERVICE BULLETIN**

<u>Ride Manufacturer:</u> Battech Enterprises LLC	<u>Affected Production Dates:</u> All Dates
<u>Ride Name:</u> All rides produced by Battech Enterprises LLC, Dartron Industries, Inc., Dartron Parts & Services, Inc.,	<u>Affected Serial #'s:</u> All Units
<u>Model #:</u> All	

**Abstract of Issue:** General Inspection for Corrosion/Rust

**Reason for release:** Corrosion/Rust can cause structural degradation which could potentially result in catastrophic failure of structural members resulting in personal injury.

This bulletin provides general information on detection of indications of corrosion/rust

**Action to be taken:**

All owners of the above noted amusement are required to perform the overall ride inspection detailed on the following pages within 90 days of the release date of this bulletin.

These inspections are required on all rides which are at least 5 years of age or older, and again when the ride is 10 years of age. Thereafter the inspections are required annually. Shorten the intervals as deemed appropriate due to corrosive environments such as coastal regions.

These inspections are in addition to all existing maintenance and inspection requirements.

Ride Owners and Operators are reminded to comply with the ASTM F-24 Standards, including F-770; Practice for Ownership, Operation, Maintenance and Inspection of Amusement Rides and Devices. These are available from ASTM international: [www.astm.org](http://www.astm.org).

**Reference Standards:**

ASTM F770 7.4 Inspection Documents – Inspection documents deemed appropriate by the owner/operator to be maintained in the amusement ride or device file shall be filed in accordance with the procedures outlined in this practice and Practice F1193. \*

ASTM F770 7.5 Notification of Manufacturer – The owner/operator of an amusement ride shall promptly notify the manufacturer of an incident, failure, or malfunction which, in the owner/operator’s judgement, affects the continued proper operation of the amusement ride or device and is information of which the manufacturer should be aware. \*

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**Bulletin:** SR-5K-1801-01  
**Release Date:** February 15, 2018  
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**Action to be taken (continued from page 1 of 2):**

All work must be performed by competent personnel, capable of understanding the function of the parts and their proper installation. Use only those components authorized, specified or provided by Battech Enterprises LLC. All applicable OSHA safety standards and safe industry practices must be observed.

Observe all safety information contained in the manufacturer's manuals and bulletins. Make available this bulletin and all related technical information to personnel using the equipment.

**Detail of issue:**

**Inspection Procedure:**

The inspections defined in this bulletin are intended to obtain indications of corrosion/rust. Remove cover panels, scenery, etc. to gain access to structures for inspection. Sign of corrosion/rust may lead to further disassembly of the ride.

Use one or more of the following methods:

**IMPORTANT:** Comprehensive inspection records must be maintained. Include details on which areas have been inspected, type of inspection, when inspection was performed, by whom the inspection was conducted and specific observations during the inspection.

1. Visually check structural members for visible signs of corrosion/rust. Pay close attention to areas where moisture may collect, both internally and externally. Examples include, but are not limited to, the lowest portion of tubing in a structure (in both transport and operating positions), under upholstery or padding and under decking and sheeting. Visual indications of corrosion/rust include, but are limited to:
  - Rust stains, bubbling or cracking of paint
  - Loss of material, including flaking, pitting or holes in the structure
  - Deformation of tubes where water has collected internally and frozen
2. Use a hammer to tap on or around questionable areas. Material loss can often be detected by a difference in the sound when compared to good solid material.
3. Use a sharp pick, awl or pick hammer to probe questionable areas. Look for discoloration, soft areas, pitting and scaling. If the surface is penetrated, significant rust is indicated.
4. A borescope can provide visual access to enclosed and hard to reach areas if an existing hole or opening allows its use. **DO NOT DRILL ANY STRUCTURE.**
5. Test Equipment such as an ultrasonic corrosion gauge can be used by competent owners/operators to perform additional testing.

While these inspections guidelines are not a substitute for inspection by qualified/certified NDT personnel, they can help identify areas of inconsistent thickness and indications of corrosion/rust.

**IMPORTANT:** The purpose of initial testing is to identify indications of corrosion/rust. If found, or suspected, additional inspection by qualified NDT personnel may be required to determine the actual extent of material loss.



### Appendix A4:

## J&S Rides, Inc. dba, Larson International Inc. Service Bulletin No. L18-001

	Issuing Entity: J&S Rides, Inc. dba Larson International Inc. P.O. Box 638 Plainview, TX 79073-0638 U.S.A. Phone 806-293-1353 Fax 806-293-5215 www.larsonintl.com	<u>Bulletin No.:</u> L18-001 <u>Release Date:</u> January 22, 2018 <u>Effective Date:</u> Immediately  <u>Supersedes:</u> N/A <u>Completion Date:</u> 4/21/18  <u>Page:</u> 1 of 2

# SERVICE BULLETIN

Ride Manufacturer: J&S Rides, Inc. dba Larson International, Inc.

Affected Production Dates: All Dates

Ride Name:

All rides produced by J&S Rides, Inc. dba Larson International, Inc., Larson International, Inc. Sellner Manufacturing, Inc., Hi-Ro Co, Inc., W.F. Larson, Inc. and LMC, Inc.

Affected Serial Nos.: All units

Abstract Of Issue: General Inspection for Corrosion/Rust

Reason for Release:

This bulletin provides general information on detection of indications of corrosion/rust.

Action To Be Taken:

All owners of the above noted amusement rides are required to perform the overall ride inspection detailed on the following pages within 90 days of the release date of this bulletin.

These inspections are required on all rides which are at least 5 years of age or older, and again when the ride is 10 years of age. Thereafter, the inspections are required annually. Shorten the intervals as deemed appropriate due to corrosive environments such as coastal regions.

These inspections are in addition to all existing maintenance and inspection requirements. Ride owners and operators are reminded to comply with the ASTM F-24 Standards, including F-770: Practice for Ownership, Operation, Maintenance, and Inspection of Amusement Rides and Devices.

These are available from ASTM International: [www.astm.org](http://www.astm.org).

*Reference Standards:*

*ASTM F770 7.4 Inspection Documents - Inspection documents deemed appropriate by the owner/operator to be maintained in the amusement ride or device file shall be filed in accordance with the procedures outlined in this practice and Practice F1193.\**

*ASTM F770 7.5 Notification of Manufacturer - The owner/operator of an amusement ride or device shall promptly notify the manufacturer of an incident, failure, or malfunction which, in the owner/operator's judgment, affects the continued proper operation of the amusement ride or device and is information of which the manufacturer should be aware.\**

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J&S Rides, Inc. dba Larson International Inc. issues notifications for the benefit of owners of amusement rides manufactured by J&S Rides, Inc. dba Larson International, Inc. As a service to the industry, and in the interest of employee and public safety, J&S Rides, Inc. dba Larson International, Inc. also issues notifications for the benefit of owners of amusement ride equipment for which the manufacturer no longer exists such as LMC, Inc., W.F. Larson, Inc., Sellner Manufacturing, Inc., Larson International, Inc. and Hi-Ro Co, Inc. In doing so, J&S Rides, Inc. dba Larson International, Inc. does not assume liability for losses associated with amusement ride equipment built by manufacturers other than J&S Rides, Inc. dba Larson International, Inc.

All work must be performed by competent personnel, capable of understanding the function of the parts and their proper installation. Use only those components authorized, specified or provided by J&S Parts Sales, Inc. All applicable OSHA safety standards and safe industry practices must be observed.

Observe all safety information contained in the manufacturer's manuals and bulletins. Make available this bulletin and all related technical information to personnel using the equipment.

### **Inspection Procedure**

The inspections defined in this bulletin are intended to obtain indications of corrosion/rust. Remove cover panels, upholstery, etc. to gain access to structures for inspection. Signs of corrosion/rust may lead to further disassembly of the ride. Use one or more of the following methods:

**IMPORTANT:** *Comprehensive inspection records must be maintained. Record details on which areas were inspected, date of inspection, who performed inspection, type of inspection, and specific observations.*

1. Visually check structural members for visible signs of corrosion/rust. Pay close attention to areas where moisture may collect, both internally and externally. Examples include the lowest portion of tubing in a structure (in both transport and operating positions), under upholstery or padding, and under diamond plate or sheet metal. Visual indications of corrosion/rust include, but are not limited to:
  - Rust stains, bubbling or cracking of paint
  - Loss of material, including flaking, pitting or holes in the structure.
  - Deformation of tubes where water has collected and frozen.
2. Use a hammer to tap on and around questionable areas. Material loss can often be detected by a difference in the sound when compared to good solid material.
3. Use a sharp pick to probe questionable areas. Look for discoloration, soft areas, pitting and scaling. If the pick penetrates the surface, significant rust is indicated.
4. A borescope can provide visual access to enclosed and hard-to-reach areas if an existing hole or opening allows its use. Do not drill any structure without consulting with the manufacturer.
5. Test equipment such as an ultrasonic corrosion gauge can be used by competent owner/operators to perform additional testing.

While these inspection guidelines are not a substitute for inspection by qualified NDT personnel, they can help identify areas of inconsistent thickness, indicating corrosion/rust.

**If indications of corrosion/rust are found then a determination of the potential effects of the structural degradation must be completed before operating the ride. If there is any question about the continued safe operation of the ride please contact J&S Rides, Inc. dba Larson International, Inc. for additional information.**

**IMPORTANT:** *The purpose of initial testing is to identify indications of corrosion/rust. If found, additional inspection by qualified NDT personnel may be required to determine the actual extent of material loss*

**Appendix A5:**  
Guideline – Corrosion of Aging Rides

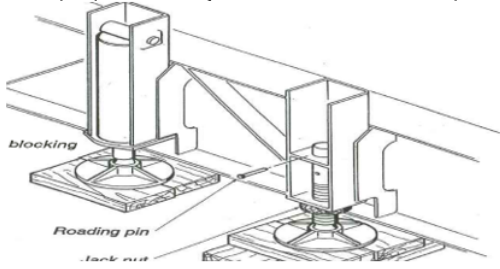
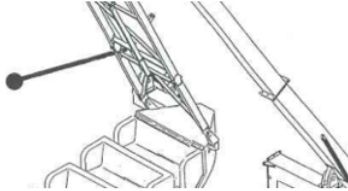
1. The record of “areas inspected” and “inspection findings”, as related to ride/device inspection for corrosion & rust (that may detrimentally impact safe operation of the ride or device) shall be documented as follows:
  - 1.1. The records shall be stored as part of the ride/device log book or as a supplementary document added into the log book per O. Reg 221/01 s14.(3);
  - 1.2. The log book records shall include the following ride details:
    - a) Ride name
    - b) Manufacturer
    - c) Installation No. (TSSA issued AD No.)
    - d) Serial No.
    - e) Model No.
    - f) Year of Manufacture
    - g) Bulletin No. (if applicable)
  - 1.3. The log book records shall include the following inspection details to sufficiently capture the area(s) inspected and the condition(s) of findings:
    - a) Date of inspection
    - b) List of areas inspected including pictures or drawings where applicable
    - c) Name of person who did the inspection including qualifications (ADM designation and certificate no.)
    - d) Type of inspection conducted (visual, ultrasound, etc.)
    - e) Findings from inspection and specific observations
    - f) NDT Reports from qualified NDT personnel where applicable
  - 1.4. The Inspection frequency at which the above checks are required.

**Sample log book entry:**

**Ride Name:** Pharaoh's Fury  
**Installation no.** AD 12345  
**Bulletin No.** B090CRM204-0

**Manufacturer:** Chance  
**Serial No.** 0123456-789

**Manufacture Year:** 1988  
**Model No.** 407  
**Date completed** \_\_\_\_\_

	<b>Inspection Item</b>	<b>Comments/ notes (Type of inspection and findings)</b>	<b>Mechanic name/ Designation/ Certificate No./ Signature</b>	<b>Date</b>
1	Visually inspect the main under carriage of the ride, use a wire brush and sharp pick to clean and probe questionable areas. (remove under belly pan to access the lower sections)			
2	Visually inspect 16 tower jacks for corrosion, Remove any debris from inside channels 			
3	Visually inspect front and rear towers legs, and test for material thickness where water accumulates at lower end of the towers			
4	Visually inspect sweeps for any signs of corrosion. (use a hammer on all tubular enclosed members of steel to detect a difference in sound) 			
5	Visually Inspect steel structure under the ships floor. (remove panels <u>in order to</u> gain access to tubular steel).			

**Sample inspection schedule:**

**Ride Name:** Pharaoh's Fury  
**Installation no.** AD 12345  
**Bulletin no.** B090CRM204-0

**Manufacturer:** Chance  
**Serial No.** 0123456-789

**Manufacture Year:** 1988  
**Model No.** 407

**Inspection frequency:**

1. First inspection by March 22, 2018
2. Second inspection by 2019
3. Subsequent inspections at every interval of 1 year.