



**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

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

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

**AFFECTED  
 SERIAL  
 NUMBERS**

## ABSTRACT OF ISSUE

General Inspection for Corrosion/Rust

**All Serial Numbers**

## REASON FOR RELEASE

Corrosion/rust can cause structure degradation which could result in catastrophic failure of structural members and 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 rides are required to perform the overall ride inspection detailed on the following pages of this bulletin.

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.

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

### *Reference Standards:*

*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.\**

*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.\**

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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.

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.



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

Model(s): **All Models**  
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## 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**