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**Bulletin No: SA010614**  
**Release Date: Jan 6, 2014**  
**Effective Date: Immediate**  
**Supercedes: N/A**  
**Completion Date: Prior To Operation**  
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# SAFETY ALERT

Manufacturer: A.R.M. (USA), Inc. / A.R.M. (UK) LTD.  
 Ride Name: Ali-Baba, Rainbow, 1001 Nachts  
 Typhoon, Rock Star, Sinbad  
 Magic Carpet, Flying Dutchman  
 Riptide, Full Tilt

Model(s): All  
 Affected Production Dates: All

## AFFECTED SERIAL NUMBERS

All Units  
 Once They Reach  
 Five Years Of Age

**EXCEPTION:**  
 Inverter Conversion  
 Serial Numbers  
 AB205 And Higher  
 (Ali-Baba)  
 As Well As  
 FT206 And Higher  
 (Full Tilt)  
 Are Considered  
 Exempt Until The Fifth  
 Anniversary Of The  
 Conversion Per Date  
 Of Manufacture Listed On  
 Ride Identification Plate.

## ABSTRACT OF ISSUE

A MANDATORY and IMMEDIATE inspection of certain components on rides ONCE THEY REACH FIVE YEARS OF AGE..  
 Follow-up inspections to be performed every month of operation and prior to extended periods of storage.  
**Rides older than five years to immediately cease operation until Safety Alert is complied with.**  
 Compliance to begin following the fifth calendar year of life of all rides initiating on the date of original manufacture.  
 All "Inverter" conversion rides are at least five years of age and must be immediately inspected except those listed AS EXEMPT under the "AFFECTED SERIAL NUMBERS".

## REASON FOR RELEASE

A.R.M. (USA), Inc. has been notified of severely worn components on at least one Ali-Baba ride. Complete failure of involved components would allow unsynchronized rotation of the carriage during operation resulting in severe damage and/or personal injury.

## ACTION TO BE TAKEN

Prior to continued operation of any listed ride, a visual inspection and wear check to be performed on the two upper and lower splined drive gears and splined output shafts on the reduction gearboxes of the carriage stabilizing systems. Initial inspection to be followed up with additional inspection every month of operation and prior to extended periods of storage. Inspection to be performed in accordance with the attached inspection procedures by qualified personnel familiar with the maintenance and operation of the ride. Inspections to be documented in the ride maintenance records and retained indefinitely.

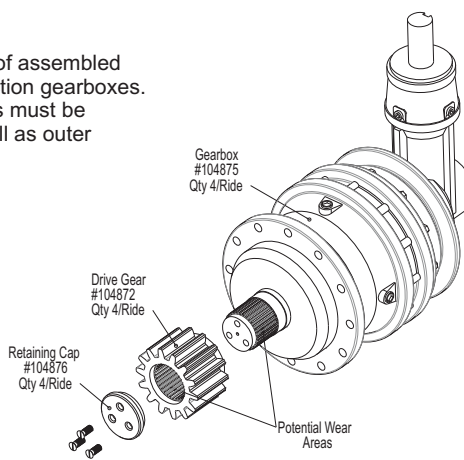
## DETAIL OF ISSUE

Immediate and ongoing inspections to consist of visual check of assembled upper and lower carriage stabilization drive gears on the reduction gearboxes.  
 If independent movement of the gear is noted, the components must be disassembled for inspection of inner splines on the gear as well as outer splines of the gearbox output shaft.

Wear, corrosion and/or pitting on either component requires replacement prior to continued operation.

If movement is noted, contact A.R.M. (USA), Inc. for further instructions.

Under no circumstance shall the ride be operated with any component(s) removed from either of the independent stabilization systems.



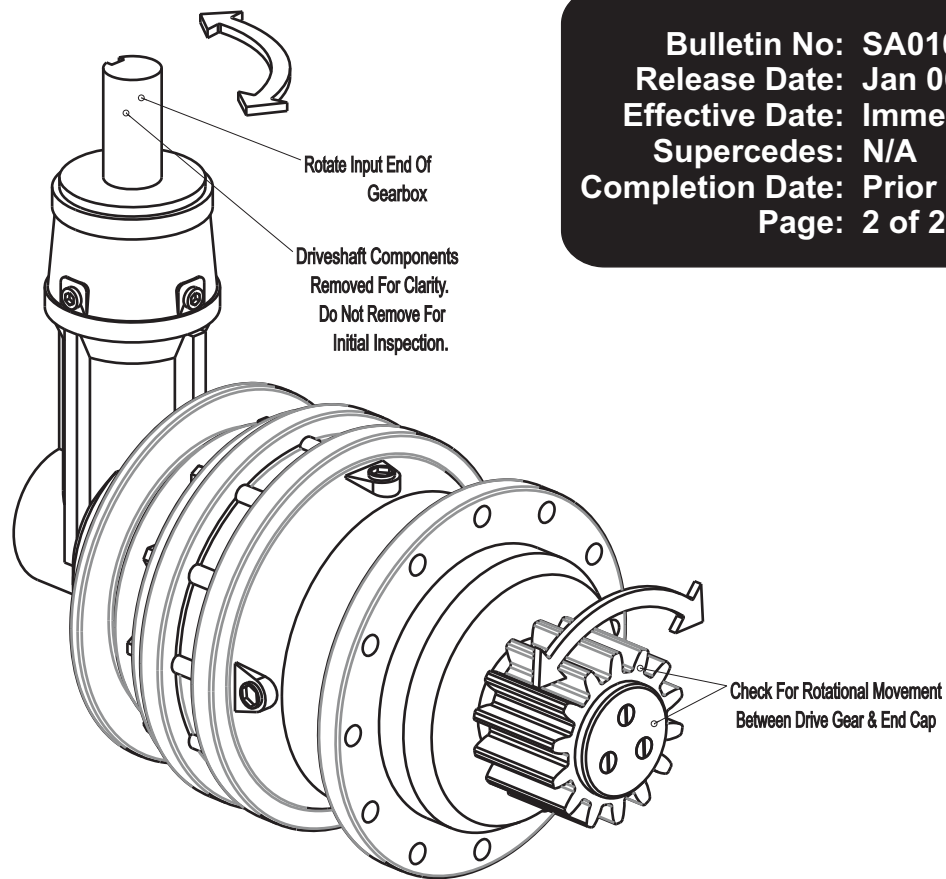
### NOTICE

ONLY COMPONENTS SPECIFIED, AUTHORIZED, OR PROVIDED BY A.R.M. (USA), INC. SHALL BE USED. A.R.M. (USA) INC. SPECIFICALLY DISCLAIMS ANY LIABILITY ASSOCIATED WITH THE USE OF UNAUTHORIZED COMPONENTS OR MODIFICATIONS AND/OR ALTERATIONS OF AUTHORIZED COMPONENTS.

### NOTICE

A.R.M. (USA), Inc. issues notifications for the benefit of owners of amusement rides manufactured by A.R.M. (USA), Inc. As a service to the industry, and in the interest of employee and public safety A.R.M. (USA), Inc., in its discretion, also issues notifications for the benefit of owners of amusement ride equipment manufactured by A.R.M. (UK) Ltd, which no longer exists, where such bulletins may be applicable. In doing so, A.R.M. (USA), Inc. does not assume liability for losses associated with any amusement ride equipment built other than by A.R.M. (USA), Inc.

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The purpose of this inspection is to detect wear or damage to the inner splines on the drive gears and/or wear of the outer splines on the output shaft of the reduction gearboxes within the carriage stabilization systems.

### Initial Wear Inspection

1. Remove excess lubricant from the drive gear and end cap for visual inspection.
2. Rotate the input shaft on the gearbox both directions until the drive gear engages the bearing teeth. Observe the end cap and note any additional rotation of the cap once the gear has stopped. Rotation of the end cap indicates the output shaft is rotating within the drive gear.
3. Repeat inspection of all four gearboxes and drive gears.
4. If movement was noted on any of the drive gears, the inspection must be expanded to include a visual inspection of the actual gear and output shaft splines (see **Spline Inspection**). If no movement was detected, the ride may be operated until the next scheduled inspection.

### Spline Inspection

1. Prior to removing any components, it is critical that every input shaft, adaptor hub and drive shaft are marked to ensure proper timing upon reassembly. Improper timing of any component will cause uneven load distribution, accelerated component wear, and possible failure and/or personal injury.
2. Remove the gearbox(s) with drive gears indicating wear. Remove and thoroughly clean the drive gear.
3. Visually inspect the gear and output shaft splines for wear, pitting, and/or damage. Missing, cracked or damaged splines are not repairable and must be replaced prior to continued operation.