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Bulletin No:	FRB16-SB002
Release Date:	October 21st ,2020
Effective Date:	October 21st ,2020
Supersedes:	none
Completion Date:	See text
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SAFETY ALERT

Ride Mfg:	KMG International BV	**Affected Production Dates:**	All
Ride Name:	Freak-Out	**Affected Serial Numbers:**	01 through 51
Model Number:	FRB16		
Abstract of Issue:	Immediate NDT inspection on gondola sweep hub		

Reason for release:

KMG International BV has become aware on a sweep hub failure on a KMG Freak Out (FRB16), which is 16-passenger transportable ride. The FRB16 sweep hub has 16 lug ears where each of the four gondola arms connect to the sweep hub by two shafts (one permanently installed, and one removable for transporting the ride).

After investigation it was determined that the following series of events lead to the failure of the lug ear:

- The lug ear of the hinge sleeve was not adequately greased, causing one of the hinge shafts to get seized in the lug ear.
- Severe play between the lug ears, shafts and gondola arm sleeves caused excessive movement in the full gondola arm assembly when the amusement ride was operated.
- Excessive movement in the gondola arm assembly during operation created a high stress point in the lug ear with seized shaft, finally overloading and failing the lug ear.

KMG considers this to be a singular incident resulting from above series of events. The Freak Out is a time proven structure that will operate with little or no issues if properly maintained. KMG has therefore issued this bulletin to provide a detailed and immediate inspection of the sweep hub to ensure the safety of the Freak Out rides. This inspection was already part of the annual structural inspection of the Freak Out ride.

All above mentioned Freak Out rides are not to be operated until all inspections and procedures described in this bulletin are satisfactorily completed.

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Action to be taken:

All owners of the above mentioned Freak Out rides are required to cease operation until all procedures in this bulletin are completed.

- **If any rejected result is found in procedure A OR B:** Contact KMG International BV immediately. Do **NOT** operate the ride.
- **If both procedures A and B have an accepted result:** The ride can be taken into normal operation.

Detail of issue

Procedure A

Requirements

Inspection is to be carried out on the Gondola hub of the Freak out ride. All results shall be documented to the manufacturer. Inspections are to be carried out by KMG approved inspectors or inspection companies, certified in the field of testing materials.

A level 2 inspector acc. ISO 9712 is required. Inspector shall have knowledge about the parts to inspect. All tests shall be performed under the responsibility of one company. All reports have to be send to KMG to validate or a level 3 inspector shall validate the results and proper procedure.

Procedure

1. The sweep arm hub is to be cleaned and all loose parts are to be removed, until the exterior surface of sweep hub can be inspected.
2. Visually inspect the weld and especially the corners of the sweep hub where the support plate joins the round tube (Areas A), looking for visible cracks. The sweep hub has 8 of these areas, inspect both sides of the areas.
3. Visually inspect the round thickening plates of the sweep hub where it joins to the support plate (Areas B), looking for visible cracks. The sweep hub has 16 of these areas, inspect both sides of the areas.

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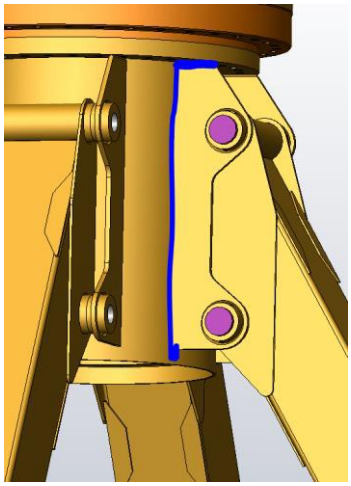
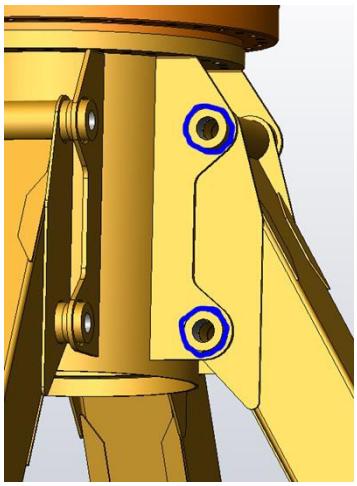
Detail of issue (continued)

Areas A:



Areas B:



Accepted: No cracks or indications are visible under normal vision. Repeat the visual inspections on a weekly basis, until Procedure B has been completed.

Rejected: Cracks or indications are visible under normal vision.
Do not attempt to repair. **Do NOT operate the ride.**
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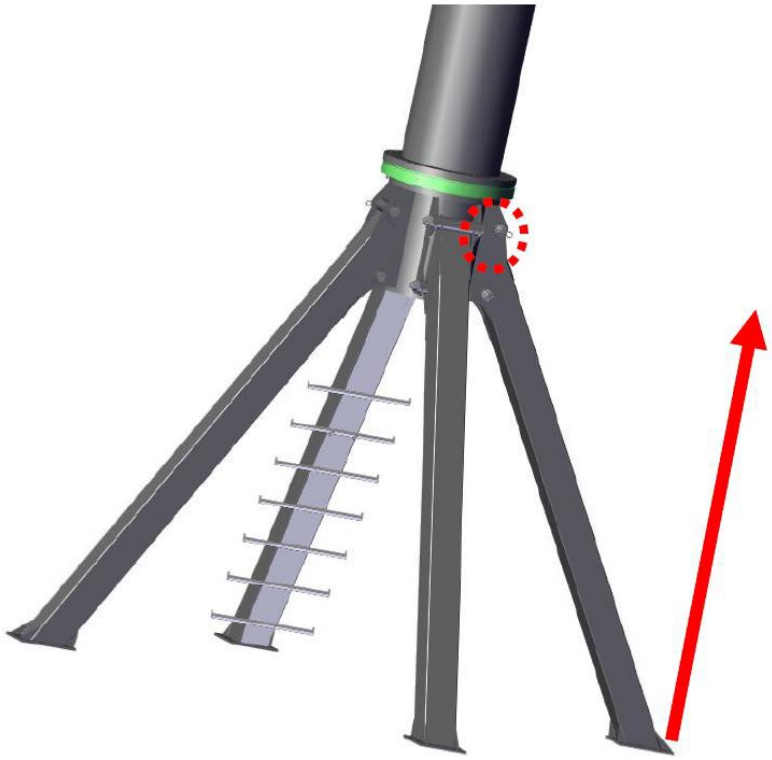
Detail of issue (continued)

Procedure B

Required tools:
- Dial Indicator (i.e. Mitutoyo 1003B)
- Chain hoist 500kg

This procedure is used to determine the play between sweep hub and gondola arms using a chain hoist and dial indicator. The procedure must be carried out with the ride being buildup and gondolas and gondola connection bars removed.

1. Use chain hoist or ride winch to lift the gondola arm.



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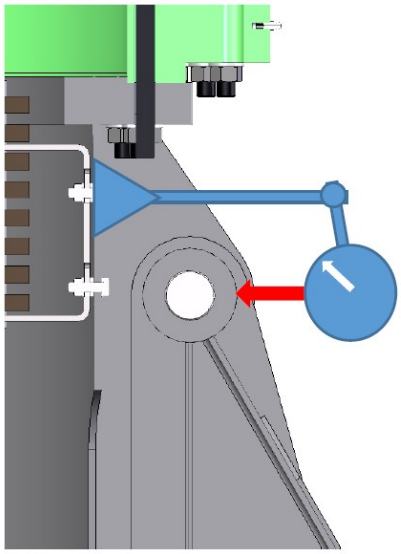
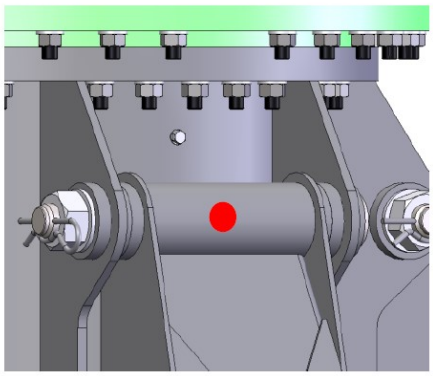
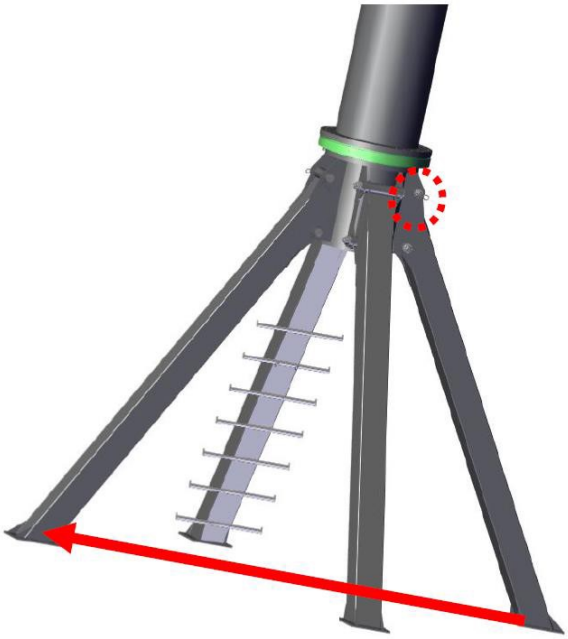
Detail of issue (continued)

2. Install dial indicator between sweep hub and gondola arm on top of sweep hub:





3. Lower gondola arm and use the chain hoist to pull the gondola arm to the opposite gondola arm



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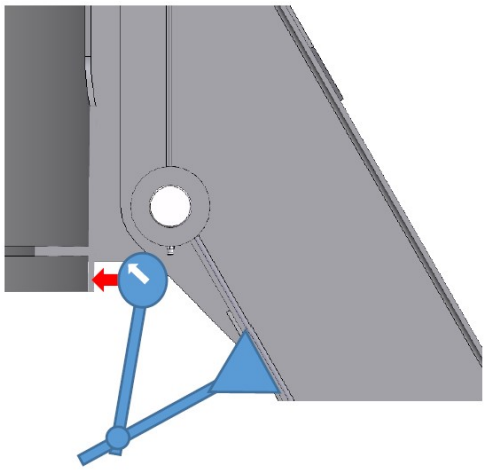
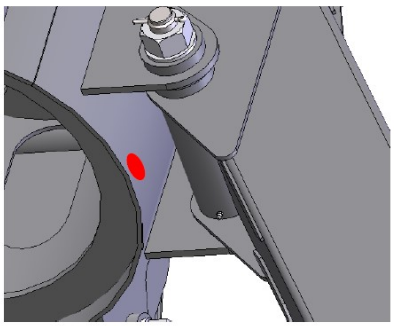
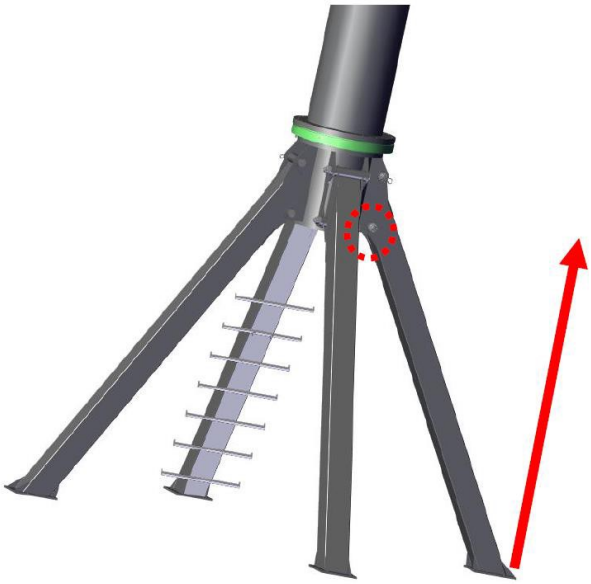
Detail of issue (continued)

4. Read out play indicator at the dial indicator; this is measurement A.
5. Keep chain hoist of step 3 in place.
6. Remove dial indicator from top and install indicator between sweep hub and gondola rm on bottom side of sweep hub:





7. Remove chain hoist from opposite arm and lift gondola arm with chain hoist or ride trailer winch:



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Detail of issue (continued)

8. Read out play indicator at the dial indicator; this is measurement B.
9. Repeat steps 1 through 7 for all four gondola arms.

Accepted: Measurements A and B are smaller than 0.5mm.

Rejected: Any measurement A or measurement B larger than 0.5mm.
Do NOT operate the ride.
Contact KMG International BV.