

## Service Bulletin

04-07 KMG  
Fireball

Bulletin No.: FRB-SB01

Ride: Fire Ball by KMG International, b.v.

Relative Rides: S/N's FRB-24-020-08 (Demas Enterprises)  
FRB-24-020-10 (Branson Properties)

Date of Issue: May 15, 2000

Date of Compliance: Immediately

Regarding: Start Signal to PCB.

### Background

Recent field inspections have detected a problem in the Start Up sequence on the Fire Ball Amusement Ride. The ride's control circuit was designed with the assumption that the sequence of events leading up to the ride starting would include the Lap Bars closing and locking, thus closing the Enable Circuit, then the Operator would see the Green indicator Light on the console and then press the Start Button. However, in the daily testing process or if the operator presses the Start Button on the console BEFORE the Lap Bar circuit is closed, the ride would begin the start process when the Lap Bar circuit closed because it had already received the Start command from the console.

### Solution

KMG has sent a set of "ADD ON" contacts that snap onto the front of contactors 15K17M and 15K18M. These contactors are engaged ONLY when the Lap Bar circuit is closed. By routing the Start button wire thru these new contacts, the start command can not get to the Printed Circuit Board until the Lap Bar circuit is closed.

### Directions

1. Locate contactors (15K17M and 15K18M) in the main electrical panel just under the large Invertor. Snap one set of the new contacts on each contactor.
2. Locate and remove the wire going into Terminal 3 on the PCB. (The PCB, Printed Circuit Board, is located in the right hand side of the Main Electrical Panel.)
3. Using a crimp on butt connector, connect a 14ga wire from this wire to the top of the new set of normally OPEN contacts (terminal number 53) on 15K18M. Note: If there are two wires going into the terminal 3, remove BOTH and put them in the butt connector.
4. Connect a wire from terminal 54 on the same set of contacts to terminal 53 on the other contactor 15K17M.
5. Connect a wire from terminal 54 on 15K17M to terminal 3 on the PCB.

## **Result**

You will find a copy of the electrical drawings enclosed. Page 18 and page 1 are the affected drawings. All others you already have are not changed.

## **Testing Procedure**

1. Turn on the ride as if you were going to start it.
2. Open one lap bar closest to the entrance gate. (use this seat as a test because whoever is holding the bar open can step out of the way if the wire change was installed wrong.)
3. With the lap bar being held OPEN, push the START button. The ride should NOT start.
4. Slowly close the lap bar. When the lap bar is all the way down, check to see if contactors 15K17M and 15K18M are now closed. The ride should still NOT start when the lap bar closes.
5. Press the START button. The ride should start.
6. If it does not start, go thru the START up procedures again and make sure the Invertors are ready. If problems continue, call 210-601-8575 for help.
7. Replace all electrical covers and guards. Test run the ride two or three times. Instruct your operators that the protection is there, but they should continue to check all the lap bars BEFORE starting the ride.

**KMG International b.v.**

04-08 KMG A11



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## Service Bulletin

Bulletin No.: FRB-SB02  
Ride: Fire Ball by KMG International, b.v.  
Relative Rides: All Models

Date of Issue: May 15, 2000

Regarding: Installation of an Oil Reservoir on Sweep Gearbox

### Background

It has been determined through routine field inspections that the gearbox which drives the sweeps is in need of an oil reservoir in order to keep the top bearing properly lubricated. Normally, the gearbox is filled to approximately the half way point, which is recommended by Brevini for this type of application. It has been determined that with the swinging of the arm, the top bearing in the gearbox tends to be drained of oil because of the downward forces.

### Solution

Enclosed with this Service Bulletin, you will find the materials to mount an oil reservoir to the gearbox. This reservoir has two sight glass ports. You will need to fill the reservoir so that oil is visible in the lower sight port. This will allow for oil expansion when the oil gets hot.

- Materials needed:
- 1 Quart size oil reservoir
  - 3 pipe elbows (one brass)
  - 1 pipe nipple (3 in)
  - 1 pipe nipple (4 in)
  - 1 pipe nipple (6 in)
  - Roll of teflon tape
  - Mounting bracket and bolts
  - Drill and tap for 1/4" - 20 thread
  - Channel Lock pliers

### **Directions**

Refer to the picture and note the general location of the reservoir.

- Step 1. Locate the gearbox inside the tower and remove the oil plug located on the side of the gearbox just below the upper housing flange (See picture).
- Step 2. Apply teflon tape to both ends of the 3 inch pipe nipple. Using the channel lock pliers, thread the nipple into the port on the gearbox. Also, tread on one of the pipe elbows.
- Step 3. Be sure the elbow is point up so the next nipple can be screwed in. Apply teflon tape to each end of the 6 inch pipe nipple. Screw it in to the elbow installed in step 2. Install another pipe elbow on top of the 6 inch nipple and be sure to face the open end of the elbow out of the access hole.
- Step 4. Apply teflon tape to the 4 inch nipple and install it into the elbow.
- Step 5. Thread on the brass elbow. Be sure to face it straight up so the reservoir will be vertical.
- Step 6. Temporarily thread the reservoir on to the brass elbow so you can see where the mounting bracket will align and mark the holds on the tower using a marking pen or center punch. Drill and tap the two 1/4-20 holes.
- Step 7. Remove the tank and apply the teflon tape to the brass elbow. Reinstall the tank being careful to tighten it enough to see the sight glass ports and enough to seal the threads.
- Step 8. Install the tank into the bracket and tighten the bolts. Fill the tank through the top breather cap until the oil shows in the bottom glass. Note: it will take about 2 quarts to fill the rest of the gearbox and the pipes and the bottom of the new reservoir.  
Use 90 wt gear oil.

### **Testing Procedure**

Be sure your operators check the fittings for leaks for the first few weeks of operation.

**KMG International b.v.**



*Handwritten notes:*  
check  
KMG International

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## Service Bulletin

**Bulletin No.: FRB-SB03**

**Ride: Fire Ball by KMG International, b.v.**

**Relative Rides: All Models**

**Date of Issue: October 1, 2001**

**Regarding: Swing Column Inspection Hole Crack**

### Background

It has been determined through routine field inspections that a crack can develop at the location where the ends of the reinforcement bar meets inside the perimeter of the inspection hole. This is most likely due to an improper completion of the weld bead which can create a stress riser in the area.

Not all rides will have the crack and therefore this Service Bulletin applies only if the crack is present on your ride. A daily visual check of the area is required.

### Solution

Install gusset as shown on attached drawing.

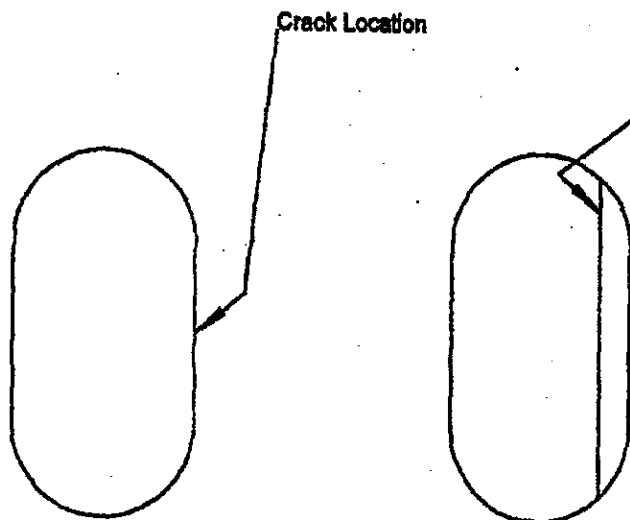
**KMG International b.v.**

**Fire Ball Amusement Ride**

**Manufacture: KMG Europe**  
**RE: Inspection Hole Crack**  
**Service Bulletin: FRB-SB03**  
**Date: October 2001**

**This must be performed by Level 1 Certified Welder.**

**Completion of this work must be confirmed with KMG Europe or its agent.**



**Gusset Material: 1" x 1/4" Bar, Cut to fit.**

**Preparation: Protect motor wiring and cover motor and hub bearing to prevent grind dust contamination. Remove paint from weld area.**

**Grind out existing crack. Reweld and grind smooth. Bevel weld edge of new gusset. Weld from top to bottom of gusset.**

**Use 7018 rod at highest setting possible.**



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## Service Bulletin

**Bulletin No.: FRB-SB04A**  
**Ride: Fire Ball (24 Passenger, Trailer Mounted) by KMG International, b.v.**  
**Relative Rides: Traveling Units only.**

**Date of Issue: February 20, 2003**

**Regarding: Crack near mounting plates for setup cylinders.**

### Background

It has been determined through routine field inspections that a crack can develop at the base of the mounting plates at the bottom of each "Mast Out" hydraulic cylinder. See Picture SB04-1.



Picture SB04-1

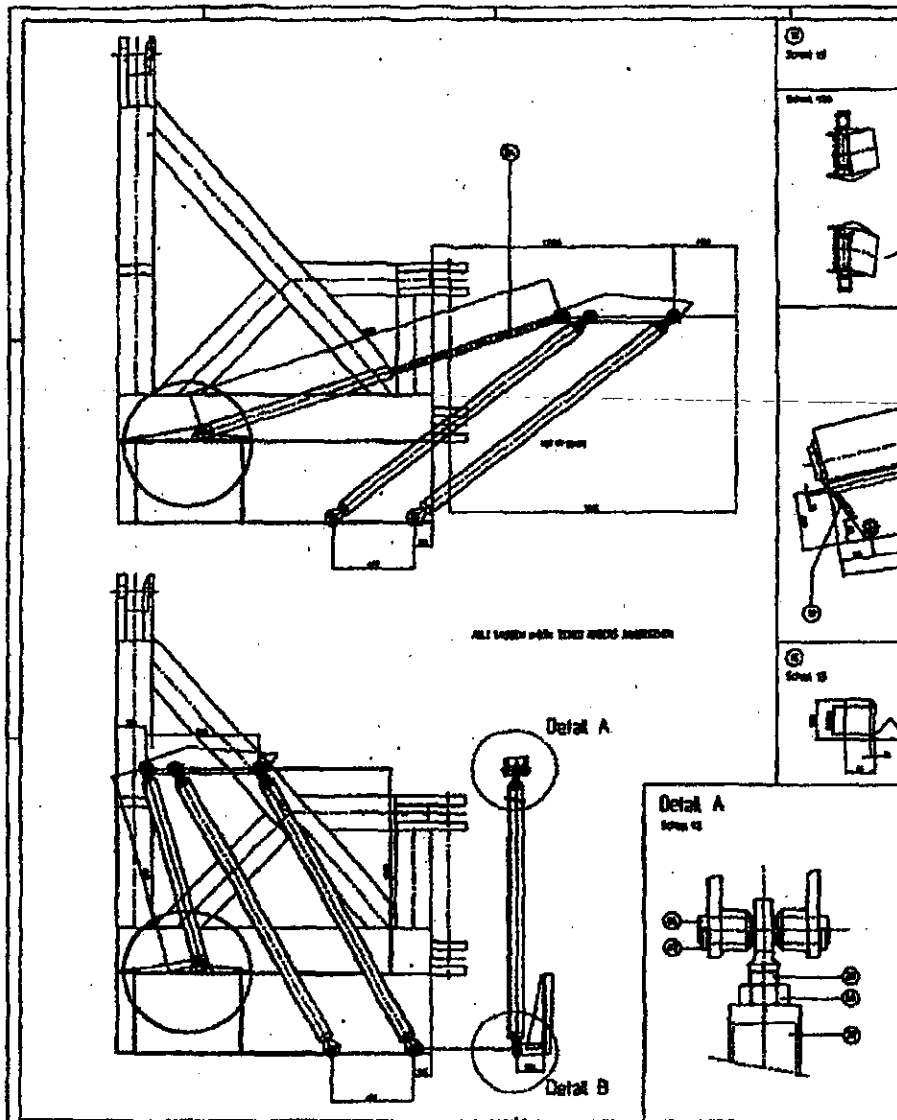
### Inspection

Visually inspect the area around each cylinder mounting plate on both trailers. If a crack is detected, notify KMG or it's agent immediately.

### Solution

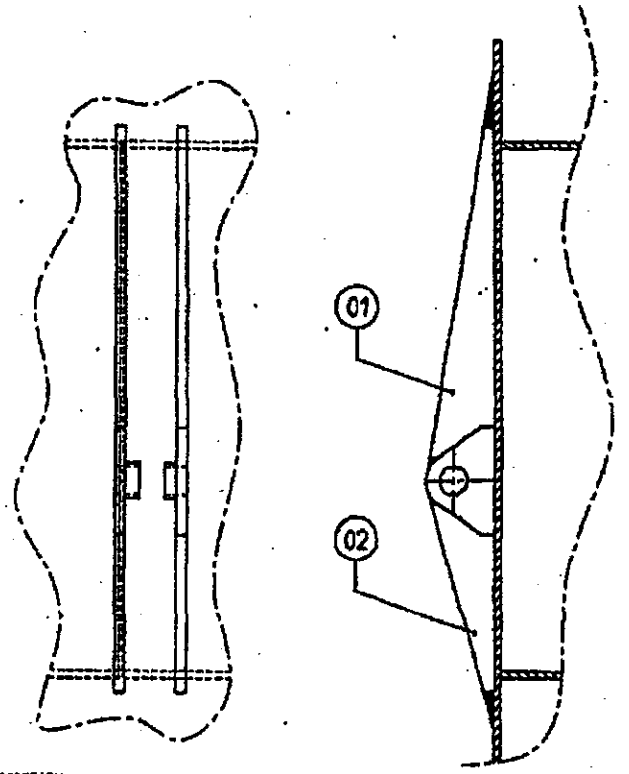
This is a Mandatory Service Bulletin, even if there is no crack detected during the visual inspection. Install the gusset modification as described in this bulletin before performing your next setup or tear down of the ride.

KMG International b.v.





SCALE 15



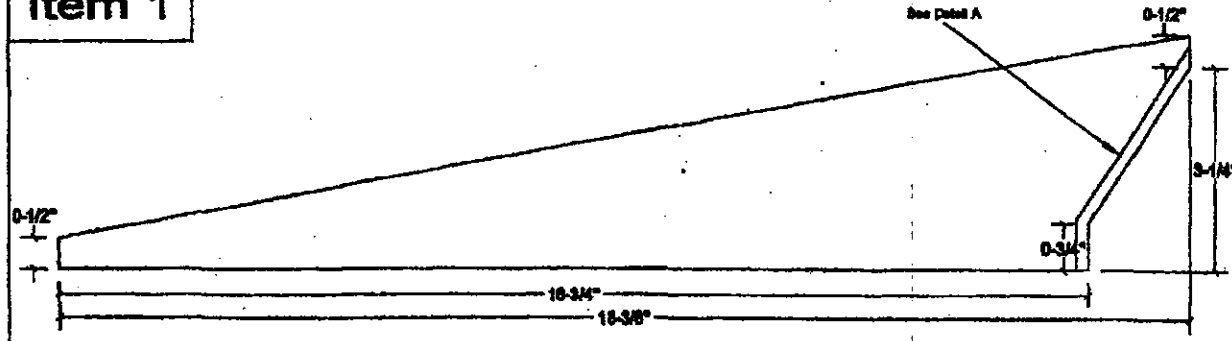
FIRST WELD  
THEN GRIND IF NECESSARY

17/02/2003 13:18 654251205

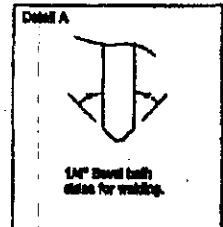
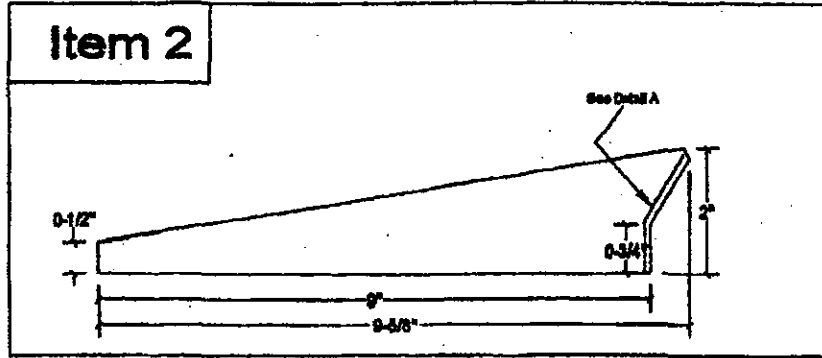
106 ELDERE BV

PAG. 03

**Item 1**



**Item 2**



Material: A36, 1/2" Plate  
 Item 1 Quantity = 8  
 Item 2 Quantity = 8

<b>KMG International bv</b> <small>25 Panslootweg          Nieuwe, Holland</small>	<small>Title</small> <b>Fire Ball</b>	<small>Date</small> <b>Feb 20, 03</b>	<small>Drawing No.</small> <b>FRBSB04</b>
	<small>Description</small> <b>Gussets for FRBSB04</b>	<small>Scale</small> <b>1:2</b>	<small>Rev.</small> <b>1</b>



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For your information  Urgent

Neede, 5 August 2005

From : A. Kroon  
Subject : NDT testing on Reithoffer Wild Claw Ride  
Order no. :  
Our reference : FRB-24-12

Dear Mr / Mrs.,

Regarding our statement of August 3rd 2005, we have to admit that the information given was incomplete. We want to add that the NDT testing of the mentioned connection shafts only needs to be done annually for the Fireball-type rides older than 6 years. The first ultrasonic testing of the shafts should be done within two months following the 6 year anniversary of the ride, with a copy of the NDT-report being filed to the fabricator of the ride.

In case of the Wild Claw ride owned by Reithoffer Amusements, the ride's manufacture date is May 31st, 2000. This means that the section about the ultrasonic testing of the shafts in our message of August 3rd, does not apply to Reithoffer's Wild Claw ride. The NDT testing of the Wild Claw ride shafts needs to be tested after May 31st 2006 and before July 31st 2006.

I hope to have you informed sufficiently.

Kind Regards,

A handwritten signature in black ink, appearing to read 'A.L.P. Kroon', is written over a diagonal line that extends from the bottom left towards the top right of the page.

A.L.P. Kroon  
Quality and Product Manager