HUSS

MFG: HUSS-HEINER, WILHIEM, CO.
NAME: BREAK DANCE
TYPE: NON-KIDDIE

Amusement Ride "BREAKDANCE"

Serial No. 50409

The Operating and Maintenance Instructions have been handed over/sent and explained.

Every owner of this ride is obliged to obtain introduction to the operation from the manufacturer and to have the Operating and Maintenance Instructions - latest edition - handed over to him.

HUSS MASCHINENFABRIK GMBH&CO.KG
D-BREMEN
☎ 0421 · 49900-0

RESPONSIBILITY OF MANAGERS AND OPERATORS

The following remarks should serve as a guide only and do not lay claim to completeness:

1. In all cases the manager is ultimately responsible for the safety of passengers and economic operation of the ride.

2. Selection of operators must correspond to the demands made on them regarding operation of the equipment.

3. The operator must devote his undivided attention to the operation of the ride.

4. He must be acquainted with the functioning of the equipment, its safety devices, emergency devices, operating instructions and regulations, and ensure the safety of passengers and safe running of the ride.

5. He must have complete and safe control over the unloaded equipment before he operates it with passengers.

6. If a malfunctioning occurs operation must cease immediately.

7. Malfunctioning may often be detected by a change in noise during operation. If this occurs, one should look for the cause and, if necessary, get in touch with the manufacturer.

8. The operator must insist on maintenance work being carried out. If he does not, he is obliged to cease operation.

9. Before initiation the operator has to check the ride on its perfect working condition by performing the ordered controls and the trial run.

10. The carrying parts as well as the motor driven parts are to be checked on perfect working condition before each initiation. Damaged parts are to be substituted by perfect ones. Furthermore it has to be observed that the ride is in safe upright position during erection and dismounting. After erection all parts have to be orderly connected and all connecting parts and necessary anchorages have to be mounted in a safe way.

OPERATING INSTRUCTIONS

for

CARROUSEL "BREAKDANCE"

ERECTION AND DISMANTLING

Central Section

1) The central section (1) has to be moved to the planned central point in such a manner that the front axle (2) is within the area of the entry (see drawing no. 1-17.57).

2) Fix rear axle by means of wheel chocks.

3) Provide the 2 hydraulic cylinders (3) (resp. supporting winches) with stable bases. Lift the front central section evenly and move tractor our. For trailer execution first insert supports and forked draw-bar (4) and draw the bolts (5).

4) Place wooden/steel support plate (6) (750 x 750 mm) under the rear hydraulic cylinder (7) and undershim as high as possible.

5) Swing out stabilizers (8) and bolt bracing struts (9).

6) Align central section horizontally as to longitunidal and lateral axis by means of hydraulic cylinders (3) and (7) and undershim stabilizers (8) in a provisional manner.

7) Fit the decoration mast (10) - if supplied - onto the rotating section (11).

Wheel Disk

8) Remove the transport scaffolding

9) Fit and secure the booms (12) with ring spacing struts (13) and stabilizing struts (14) as per drawing no. 1-17.F.0.
Make sure that the rotation lock (15) is folded upwards on the rotating structure and that opposite booms are folded down together to avoid placing a one-sided strain on the structure.

10) Insert the turnbuckle tie rods (16) between the booms and the rotating section. Tighten the turnbuckles by hand as far as possible and secure against loosening with a locknut.

11) Insert the wheel flooring sections (17) and bolt the outer plate.

Gondolas

12) Bolt the gondolas (18) with folding supports (19) to the revolving gondola crosses (20) and secure.

13) Remove gondola guide frames. Insert tie rods, bolt and secure.

14) Connect light plugs and pneumatic hoses.

Angled Set-Up of the Central Section

15) With the aid of the hydraulic cylinders (3) the front central section is to be lowered and is to remain 50 mm above the highest point of the ground. Before you finish the lowering process, place 2 support plates (23) of 550 x 550 mm accurately under the front cross bracing.

16) Place support plates (24) of 550 x 550 mm under the rear supports (25) and draw transport bolt (26).

17) Raise central section with the aid of the hydraulic cylinder (7) until the supports (25) can be bolted in the next hole with the bolt (26).

18) Lower hydraulic cylinder (7), undershim higher and elevate until the supports (25) and the stabilizers (8) can be undershimmed with the support block (27), true to dimensions. Align central section so that the lateral axis is exactly horizontal and that the longitudinal axis has a slant angle of 7,5°.

Circular Flooring Structure

19) Fit the platform erection aid (28) to a boom bearing a gondola cross (29).

20) Swing out centering of platform (30) at rear central section and bolt to the highest flooring frame.

21) Turn boom with platform erection aid to face the flooring frame.

22) The distance to the centre and the height of the outer edge of the wheel disk are fixed by laying the flooring frame on the erection aid and pushing it inwards up to the stop. Underpin the inside of the flooring frame with support blocks.

23) Underpin the outside of the flooring frame with support blocks in such a way that the platform erection aid and the top edge of the frame (T section) are parellel to each other. Check vertical alignment of the frame!

24) Turn the platform erection aid further in clockwise direction and set up the next flooring frame. The distance between one flooring frame and the next one is determined by internal and external crossbeams.

25) Fit all remaining frames, crossbeams, longitudinal beams and hook-on step units as per drawing no. A1-17.G and securely underpin with support blocks as per drawing no. 1-17.57.

26) Affix the flooring panneaux. Insert railings and secure them. Adjust the height of the outer hook-on step units so that the railing post is absolutely vertical. Detach centering of platform (30) from the frame at rear central section and tilt onto the central section.

Rear Wall/Backdrop

27) Fit the support brackets of the facade catwalk to the rear wall uprights (32), bolt rear wall uprights to the flooring frames and insert the transverse connections with the crossover turnbuckle tie rod arrangements. Fit the facade catwalk floorboards.

28) Align all rear wall uprights exactly to the vertical position with the aid of the crossover turnbuckle tie rod arrangements!

29) Insert the facade panels and fit the lettering and the decorative elements.

Operation Control Stand (33)

30) Fit together the control stand subframe and bolt to the flooring frames.

31) Install the operation control stand with the control panel.

Rotation Lock (15)

32) Fold down the rotation lock (15) on the rotating section!!

Dismantling is exactly the same procedure in reverse order. It is especially important to ensure that all electrical cables are properly disconnected first.

All plugs and sockets for the electrical cables must be protected against dirt!

Keep unused sockets closed!

PUTTING INTO OPERATION AND CLOSING DOWN

On putting into operation for the first time after erecting/re-erecting the ride:

1) Check that all bolts are secured by safety locking pins.

2) After connecting the electric power supply, check for proper phase sequence and correct direction of rotation of the electric motors.

On daily start-up:

1) Check the oil levels of the compressors.

2) Grease the toothing of the 5 drive rings (see III. E)

3) Switch on the electric main switches.

4) After switching off the compressors, run through at least 3 complete ride programmes without passengers, checking out all possible control functions.
At the same time check the support blocks.

5) When these trial runs have been successfully completed, commercial operation of the ride can be started.

Closing down:

1) Switch off the main switches. Lock the control panel and the switchgear cabinets.

2) In case of storm warning, insert bracing struts (28) between rear wall uprights and wheel and secure the outer crossbeams of the circular flooring structure by bolts.

I M P O R T A N T :

All safety locking bars must be closed at all times during the ride!

The wheel must not be accelerated to faster than creeping speed until all persons standing on the wheel have vacated same and are standing behind the red marking on the outer circular flooring structure!

Prior to putting the ride into operation, do not forget to fold out the rotation lock on the bottom flange of the rotating section!

III. LUBRICATION AND MAINTENANCE

Whenever repairs or maintenance work are to be carried out or faults are to be remedied, it is essential to switch off the drive aggregates and secure them against being switched on again by unauthorised persons!

A) Gondola Bearings (29)

After an operating period of 5 years, the manager of the ride must apply for an inspection to be carried out by the manufacturer.

B) Direct Current Motors (30)

See attached instructions of the makers (Weier).

C) Compressors

The oil level must always lie within the red ring. Overfilling can also cause problems. First oil change after 50 hours of operation, thereafter every 500 hours of operation but at the latest every 12 months. Use only HD engine oils SAE 30 which correspond to the VC-L group as per DIN 51 506.

At reasonable intervals, the suction intake filter must be washed with a washing agent and then oiled.

Occasionally vent the safety valves by hand to prevent the valve seatings from sticking.

Once a week, open the condensate drain valves on the tanks and run the condensate off under pressure.

Regularly check the condensate in the transparent reservoir of the filter pressure reducer. It must never exceed the upper mark or flood the baffle plate. Drain the condensate by pressurising the drain valve.

Now and again clean the cooling fins of the compressor and the motor. Good cooling is important for problem-free operation.

D) Gearboxes

For the reduction gearboxes, use ESSO Gear Oil GP 90 HYPOID (SAE 90 EP). The quantity required for first-time fillings are:

Main drive (38): approx. 4 litres
First oil change after approx. 50 hours of operation, thereafter every 1000 hours.

Revolving gondola cross drive (39): approx. 7,6 litres

Decoration tower (40): approx. 2,1 litres
Oil change every 10000 hours of operation or after 2 years. The revolving gondola cross drive must be removed to change the oil. For this it is necessary to dismantle the revolving gondola cross (20) and the ball bearing slewing rim (42). Tightening torques: ball bearing slewing rim: 295 Nm; gearbox mounting on the boom: 206 Nm.

If the gearbox is not removed use the oil level plug as filling connection.

E) Live Rings (41, 42)

The toothing of the live rings must be greased either daily or at the latest as soon as bare patches are seen on the gear teeth, using gear grease MOLYKOTE 165 BR or Calypsol heavy-duty gear spray from UK-Mineralölwerke Wenzel & Weidemann, D-5180 Eschweiler. The ball-bearing mounted tracks of the live rings must be greased daily or at the latest after 30 hours of operation using ESSO Multi-Purpose Grease "BEACON 2". Greasing nipples are provided for this purpose. Turn the bearings while applying the grease.

Check the M20 and M16 fixing bolts on the live rings at regular intervals for tightness using the torque wrench supplied with the ride. First undo the individual bolts and then retighten with 580 Nm for 20M and 295 Nm forM16. The revolving gondola crosses are provided with inspection openings for this purpose; these are to be found on the covering plate and under the fibre-glass canopy.

F) Erection Hydraulics

The hydraulic aggregate with the oil reservoir is located in the subframe. The whole hydraulic system contains approx. 50 litres of hydraulic oil ESSO NUTO H 68 (SAE 20).

The most important precondition for perfect and reliable operation is a clean hydraulics system.

Dirt in the hydraulics system results in a faster fall-off in pump performance and shortens the service life of all parts. Dirt can also block control functions.

Always make sure that the system has enough oil (up to the centre of the oil sight glass). Following long periods of disuse (max. 2 months) and after each oil change, any bubbles which may have entered the system must be carefully eliminated. For this purpose, venting facilities are provided at different locations.

G) Wedge Belts

The four wedge belts (Type SPB, Lw = 3000mm as per DIN 7753 Sheet 1) must be protected against coarse dirt and obstructions. The tension of the belts is adjusted by two tension screws on the drive motor. For this, the four screws on the sliding motor bedplate must be slightly loosened. At the end of each season, the belts should be checked to see if they need replacing.
Tightening torque for the motor mounting screws: 295 Nm.

H) Trailer Tyres on Road Models

Tyres:	8.25 x 15X PR18
Inflation pressure:	9 bar at 80 km/h

Only original HUSS spare parts may be used!

Attention!

If you intend to operate the ride at temperatures below the freezing point of water, ask HUSS for advice concerning the pneumatic system.

OPERATING AND ERECTION REGULATIONS

for the carrousel

"BREAKDANCE"

Road and Amusement Park Version

A) Instructions for Operation

1. The equipment must be erected so that a sufficient distance is maintained away from houses, trees, electrical cables etc. (min. 0,5 m) in all positions of the swing so that passengers are not endangered.

2. All connecting elements must be secured by suitable means against unintentional loosening. Such parts must also be constantly checked. If necessary, this must be done while the ride is being operated. Railings must be secured so that they cannot be lifted out of their mountings.

3. The gondolas must not be loaded with more than 2 passengers each (calculated load 75 kg/person). The passengers must be distributed among the gondolas and the rotating units as evenly as possible.

4. It is prohibited to lean out of the gondolas, to stretch out arms and legs, to smoke and to enter the gondolas with animals or with umbrellas, sticks or other bulky or pointed objects.

5. Children under 8 may ride only when seated together with adults on one bench. Drunken people must not be allowed onto the ride.

   The conditions as under 4 and 5 must be clearly displayed on notice boards.

6. A marker line must be provided at a distance of 0,5 m from the rotating platform. This marker must not be crossed by the public on the ring-shaped platform while the ride is in motion.

7. The operator must not switch on the drive power until:

   a) the passengers are properly seated in the gondolas,

   b) all seat safety bars in the gondolas have been locked in position,

   c) the public have been requested via the public address system to step back behind the marker line and all non-passengers have followed this request and are behind the line.

8. The stopping brakes of the gondolas must be left in the setting in which they prevent the gondola from turning away when the passengers enter it.

9. The equipment must be checked continuously during operation, with particular regard to the supporting blocks and to the supports; any faults must be remedied immediately.

10. At wind speed force 8 or higher, operation of the ride must be discontinued immediately and the necessary storm bracings must be fitted.

B) Instructions for Erection

11. The equipment is not designed for snow loads. Should it be erected during the snowy season, any snow must be removed immediately.

12. At wind speed force 8 or higher (stormy wind, twigs broken off trees) erection of the ride must be discontinued immediately and if necessary the backdrop facade must be braced against the big wheel (rotating platform) with storm struts.

13. The ride must only be set up on ground with sufficient load-bearing capacity. The supports under the backdrop facade are calculated with a friction coefficient of my = 0.4, i.e. steel must first be underpinned with wood.

    The movable tilting booms must always be secured against folding. In the supports for the central section, steel must never lie on steel.

14. Access to the rotating platform must be restricted.

15. High-quality screwed connections which require a specific prescribed tightening torque must be subjected to a careful visual inspection before starting to erect the ride. In any case, only nuts and bolts in perfect condition must be used for assembly and these must be clean and lightly oiled.

    After certain periods of operation, it is necessary to check the pretensioning. If it is found that the ride has settled on its foundations, these checks must be carried out at more frequent intervals.

C) GENERAL

16. The site must be levelled to ensure stability of the equipment and, as far as necessary, unhindered access.

17. Supporting and mechanical components must be inspected before erection to ensure that they are in perfect condition. Faulty components must be replaced immediately. Further care must be taken that the equipment is also stable during erection and dismantling. After erection, all components must be properly connected and connecting parts as well as any necessary bracing must be securely mounted.

18. The operator of the equipment or his deputy must instruct the employees with regard to careful treatment of the individual components during erection and dismantling, loading, unloading and transportation. He must supervise, and, if necessary, direct the work.

19. The underbushings (supports) between the ground and the foundation construction must be kept low, and must be constructed so that they are immobile and stable. Underbushings of stocked squared wood etc. must, if necessary, be secured with ground bracing or stays; possible flooding or washing away of the soil from below must be also taken into account as a precautionary measure.

20. The operator (licensee) or a sufficiently knowledgeable deputy appointed by him, must supervise operation and ensure that the operation regulations are observed.

21. At each site, the operating personnel must be instructed with regard to

- operation regulations
- what to do in case of current failure, fire, panic outbreak or any other disturbances
- operation of the safety lighting or ancillary lighting
- location of the nearest fire alarm or nearest telephone which can be used to call the fire brigade

22. The operational safety of the amusement ride must be checked daily before starting operation. The main connections, moving and mechanical components must also be observed during operation; any faults which arise must be immediately corrected. If necessary, operation must be stopped. Repairs which could endanger passengers or operating personnel are not permissible during operation.

23. Sitting or standing on railings, swaying to the music and rhythmic stamping on the platforms must not be permitted. If necessary, the music should be stopped and the machinery switched off.

Maintenance-Instructions for Fiberglass Surfaces

We use only first-class materials to produce the surface finish of our fiberglass components. Although these require very little maintenance, they cannot do entirely without maintenance. To retain the brilliant surface gloss for a long time we recommend you to:

1. Clean the surfaces at least every 14 days with clear water and then polish with a leather cloth.

2. Never rub dust or dirt off the surfaces when dry.

3. Clean the surfaces with a solution of water and household washing-up liquid or similar as required but at the latest every 3 months; after drying, apply a good automobile wax and polish with a soft cloth.

4. If you use a high-pressure steam jet, never work with chemicals which are more aggressive than soapy water.

5. If you use a high-pressure steam jet with chemicals which comply with Point 4, wax and polish the surfaces again afterwards.

6. Stubborn spots and stains can be swiftly removed with moist acetone cloths; keep the contact time with acetone to a minimum.
   Immediately after working with acetone or cleaning benzine, wash the surface well with clear water and then wax and polish.

HARTIG ELEKTROTECHNIK GMBH
D-2800 Bremen 11, P.O.B. 11 03 29, Hastedter Dorfstraße 10, ☎ (0421) 49 30 70

AMUSEMENT RIDE "BREAKDANCE"

ELECTRICAL DATES:

Operating voltage:	3 phase 380 V ± 10 % + neutral / 50 cycles		
Control voltage:	115 V / 60 cycles and 24 V DC		
Main fuse input:	315 A min.		
Installed power:	1 pc DC motor (rotary drive)	37,5	kW
	4 pc.DC motors (gyro drive) à 7,5 kW	30	kW
	auxiliary drives, field supply, control	3	kW
	lightning max.	60	kW
	total installed power	120	kW

Trouble indication: A trouble indicator in the electonic control stores up to 12 breakdowns

HARTIG ELEKTROTECHNIK GMBH
D-2800 Bremen 11, P.O.B. 11 03 29, Hastedter Dorfstraße 10, ☎ (0421) 49 30 70

AMUSEMENT RIDE "BREAKDANCE"

OPERATING INSTRUCTIONS

GENERAL INFORMATION

1. Keep control boxes always closed. Only then the correct guidance of the cooling air is assured. Do not remove coverings in the control box. They are there for your safety's sake.

MAINTENANCE WORKS

1. The filtering mats in the control box must be checked regularly for dirt and exchanged if necessary.
2. The thyristors and the DC motor should be cleaned by an expert once a year.
3. After the first 100 operating hours all screw connections in the control boxes an motors, especially of the main current connections, should be retightened.
4. There should always be some spare fuses for the thyristors because fuses might blow, especially during the braking phase when there is a power failure.

BREAKDOWNS

When there is a breakdown a red light will show on the fault indicator, which indicates the default in plain language.

Beakdowns will be stored in the fault indicator an thus be indicated even if the beakdown occurs only temporarily. After having located the default you can cancel the trouble indication by pressing the "reset" button.

1. phase sequence wrong
2. - - -
3. - - -
4. circuit fuses
5. monitoring centre
6. monitoring gyroscope
7. monitoring field centre
8. monitoring field gyroscope
9. monitoring thyristor centre
10. monitoring thyristor gyroscope
11. oveload centre
12. overload gyroscope

DESCRIPTION OF THE CONTROL SYSTEM

1. Protective Measures

The main distribution box is a steel sheet distribution box which can only be set up in the open air under certain conditions. During transportation and during operation, it must be protected against rain.

The protective measure against excessively high touch potential is earthing.

2. Monitoring the Rotation Drive Units

Speed controllers are installed to protect against excessive rotation speeds of the rotation drive units. These speed controllers sense the rotation speed of the rotating machine parts via inductive switches. At an overspeed of approx. 15% the drive units are switched of. The fault is indicated on the fault annunciator relay.

3. Fuses

3 special fuses each are interposed between the mains power supply and the rectifieres. If these fuses need to be exchanged, only original 125 A "superflink" fuses may be used. 2 armature fuses are integrated into the circuits in front of the motors. If these fuses need to bei exchanged, only original 160 A "superflink" fuses may be used.
2 screw-plug fuses are integrated into the circuits in front of the field rheostats. If these fuses need to be exchanged, only original 10 A "superflink" fuses may be used.

OPERATION

1. While the ride is in motion, the main power switch may only be switched off in an emergency. Switching the main power switch off while the ride is in motion may cause the rectifier fuses to blow.

2. The first time the ride is put into operation, the speed controllers must first be tested. During current operation of the ride this test should be repeated once a week.
Test procedure: the test is carried out for the rotation drive unit and the revolving gondola cross drive unit one after the other. The speed controls on the control console must be turned to full speed and the relevant drive

unit (rotation drive or revolving gondola cross drive) is switched on. When the drive units have reached full speed, turn the key-operated switch marked "Speed Test" in the switch cabinet. The drives are then accelerated to approx. 15% overspeed. They must switch off automatically whithin a few seconds.

Following this test, it is necessary to actuate the "Reset" button in the switch cabinet.

This test must be carried out with the ride empty!

3. The first ride following a switch-off due to a fault must always be carried out without passengers.
4. The pushbutton switches on the control console can be actuated in any desired or even simultaneously. The speed controllers can also be adjusted while a ride is in progress.
5. On automatic operation, the desired ride program must be selected via the selector switch prior to starting the ride. The automatic ride program can be switched off at any time by pressing the buttons marked "Automatic off" or "Brake". From then on further instructions must be input by hand.
6. The public must not set foot on the platform until the signal lamps marked "Rotation On" and "Revolving gondola cross On" on the control console have gone out. Only then are the drive units properly disconnected from the mains and thus safely switched off.

drive units from being accelerated once more by the interaction of the drive units among themselves. The braking effect is maintained via the rectifiers.

6. Gondola Brakes

The gondola brakes can be controlled via pusbutton switch 3S5. This switch has the function of always reversing the current operating condition Brake On/Release when it is pressed.

HUSS

SERVICE LETTER BR-01
ISSUED BY HUSS MASCHINENFABRIK
DECEMBER 1986

RE: Revolutions per minute for the Breakdance

An ocerspeed indicator controls the programmed revolutions. Indicators on a few rides shut the ride down because specific situations lead to higher revolutions.

IT IS ABSOLUTELY MANDATORY THAT THE OVERSPEED INDICATOR MAY NOT BE READJUSTED TO PREVENT THE SHUTDOWN ----- THIS IS A SAFETY FEATURE!

Even a small increase of the RPM can lead to 50% higher stress on certain structure parts, which can cause cracks at the gondola arms near the braking cylinders.

For your information again:

The gondola gyros have a maximum of 28 RPM.

The turning play - 14 RPM

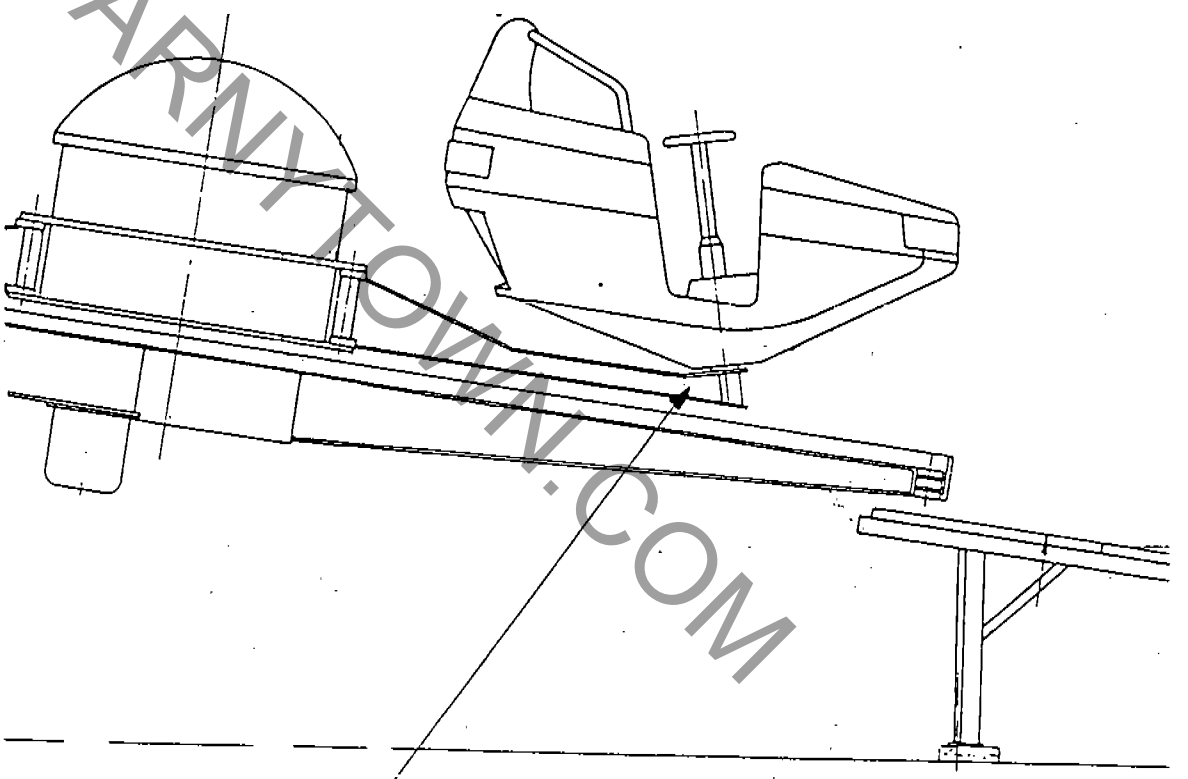
In any event, the gondola arms have to be checked on a regular basis.

Enclosure: Drawing #4-22378

HUSS

BREAKDANCE

Gondelkreuz
gondola cross



Diesen Bereich besonders auf Rißbildung kontrollieren
this area is to be controlled for possible cracks

Nr. 4-22378

SERVICE LETTER BR-02
ISSUED BY HUSS MASCHINENFABRIK
JUNE 1988

RE: Conversion kit - Breakdance II

To avoid boring waiting time during the loading, the customer tends to spin the gondola around the center steering wheel.

As reported, there is the danger that loose clothing could be wrapped around the wheel support.

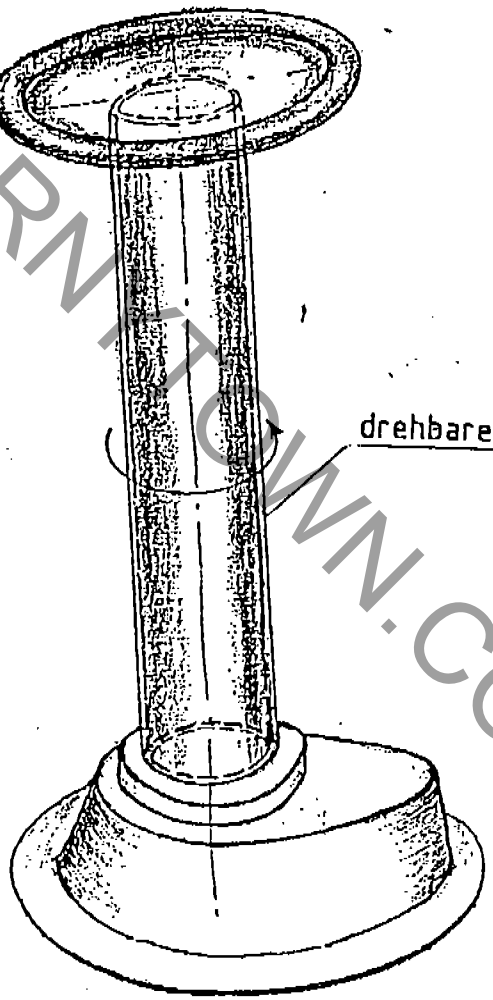
To avoid accidents, we offer you a conversion kit, where the free-standing tube around the support eleminates this problem.

Enclosure: Drawing #4-22843

HUSS

BREAKDANCE

Drehbare Hülse um Gondel-Handradsäule



HUSS MASCHINENFABRIK GMBH&CO.KG
D-BREMEN
P.O.Box 110206
☎ 0421-49900-0
Telex 245180huss d

Nr. 4-22843

SERVICE LETTER BR-03
ISSUED BY HUSS MASCHINENFABRIK
APRIL 1988

RE: Breakdance Spacer for the gondola lap bar

We have experienced that some gondolas are flexible in the fiberglass body with the result that if a heavy person rides the Breakdance, the lap bars could be accidently opened.

Therefore, you will need to modify the gondola lap bar system. With the enclosed spacers, you can reduce the distance between both sides to prevent an accidental opening. If you have questions on the installation, please call us.

As a courtesy to you, we will be sending you these parts free of charge.

*This service letter applies to serial numbers up to #52912 only.

HUSS
MASCHINENFABRIK

RETURN RECEIPT REQUESTED

Amusement Ride "BREAKDANCE"

Service Letter No. 04

Re.: Lap bar modification

Dear customer,

We want to notify you that HUSS Maschinenfabrik uses a modified design on all new "BREAKDANCE" gondolas; this modification has a new locking device with a hook-design to avoid accidental opening due to excessive axial stress on the gondolas.

If you are interested to change your existing mechanism, there is a modification kit available.

Bremen, April 25, 1990

P.O.Box 110206 · Stresemannstr. 56 · D-2800 BREMEN (W.-GERMANY) · ☎ 0421-499000 · Telex 245180 · Telefax 4990040

SERVICE LETTER BR-05
ISSUED BY HUSS MASCHINENFABRIK
May 1990

HUSS

RETURN RECEIPT
REQUESTED

RE: Gondola bearing modification kit - Breakdance

Huss Maschinenfabrik has designed a modification kit for the gondola bearings in order to extend the lifetime of them. This is not safety related. The kit includes new bearings, Nilos-rings, and shim plates according to the enclosed drawing #E1-17.4.

SERVICE LETTER BR-06

HUSS
MASCHINENFABRIK

Huss Maschinenfabrik GmbH & Co. KG · Postfach 110206, D-2000 Bremen

Stresemannstr. 56 · Telex 245100 huss d
☎ (0421) 499000 · Telefax 4990040

RETURN RECEIPT REQUESTED

Ihre Zeichen/Nachricht

Unser Zeichen
Dreier/Mi

Telefon-Durchwahl / Kommission / Tag
September 25, 1990

RE: "BREAKDANCE" up to #51039

Dear Customer:

In our Service Letter BR-01 we pointed out that the revolving gondola cross booms, i.e. 4 booms per gondola cross, a total of 16 pieces, must be constantly checked for cracks.

Today we would like to direct your attention to this matter once again. After 4 - 5 years of operation it may happen that there is cracking. Therefore, we urgently recommend that you think about a complete replacement of the gondola crosses.

Since the bearings are also subject to a certain wear, it may be advisable to replace them at the same time.

Yours Faithfully,

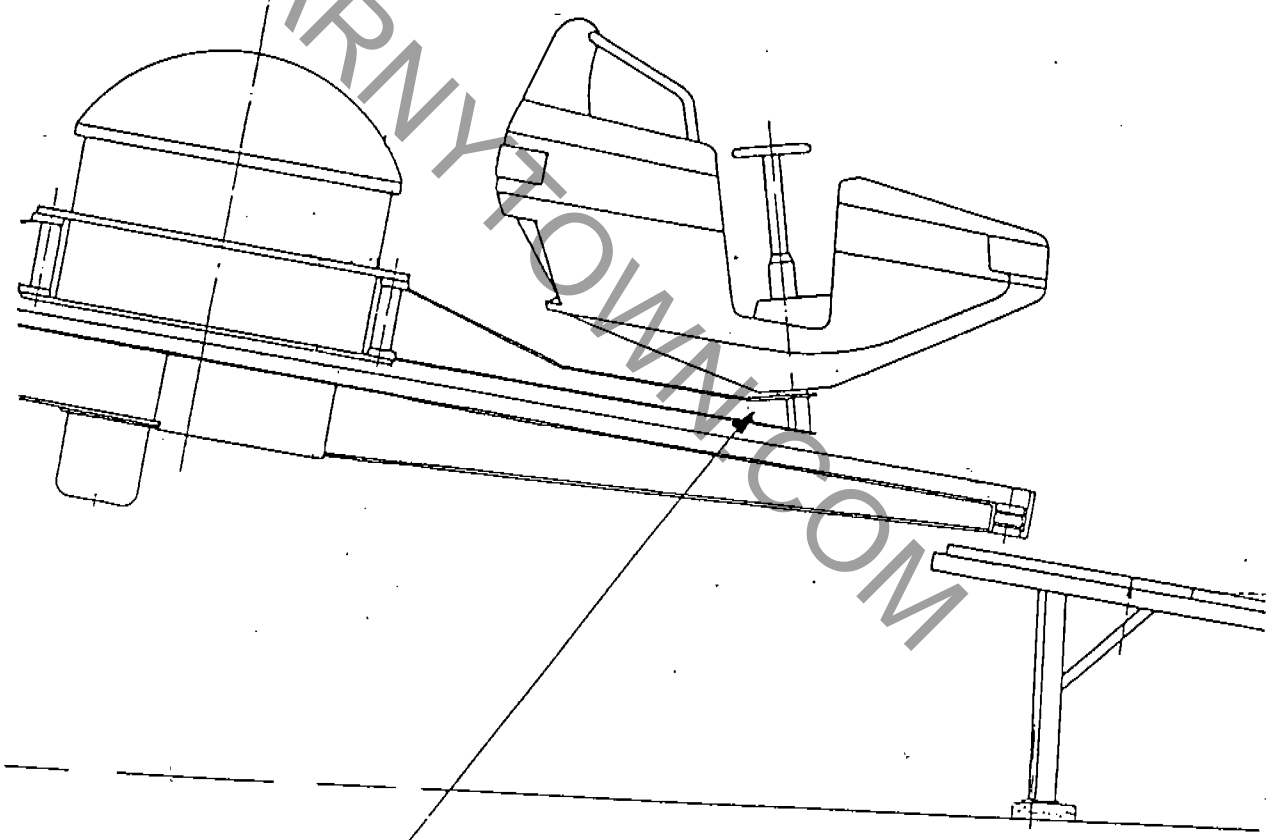
Huss Maschinenfabrik
GmbH & CO. KG

Encl.
drawing No. 4-222378
Service Letter BR-01 (copy)

HUSS

BREAKDANCE

Gondelkreuz
gondola cross



Diesen Bereich besonders auf Rißbildung kontrollieren.
this area is to be controlled for possible cracks.