

SERVICE LETTER 1 (SER-KR)

Your reference/communication	Our reference	Tel. direct dial	Date
	SER-KR	+49 (0) 421-499 0051	17.08.2001

Dear Sirs,

According to our records you are the owner/operator of a HUSS TOP SPIN amusement ride. If this is no longer the case, please return this letter to us together with the name, address and contact information of the current owner.

With reference to the Top Spin be advised that an incident occurred earlier this year where a gondola brake solenoid failed and as a result the ride was unable to be properly levelled for unloading. As a result, passengers were held in the ride for an extended period of time. Passengers were eventually unloaded unharmed when ride mechanics were able to activate the pneumatic outlet valve on the gondola bearing and rotate the ride into the loading / unloading position.

Unfortunately by the time the gondola was rotated into the loading / unloading position, the gondola's air activated restraint system was depleted of air pressure and the restraints had to also be overridden and release manually.

The issue of brake solenoid failure is not addressed in the ride's operation manual and a procedure is attached for your review and circulation. In addition, our design department is currently working on a modification which will enable the brakes to be release manually without climbing onto the ride's gondola. We expect this modification to be developed by November, 2001 when it will be made available to customers as an upgrade.

Should you have any questions regarding this or any emergency procedures please contact the Huss Service Department at 011 49 421 499 00.

Best regards

HUSS Maschinenfabrik GmbH & Co. KG
 - Department for technical services -

Gondola Solenoid Brake Failure Procedure (SER-KR)

WARNING: This procedure involves the release of gravitational energy and can be very dangerous if it is not completed carefully. If the gondola is not level when the brake outlet valves are opened, the gondola will rapidly rotate and return to the level position. Maintenance personnel should be very careful when completing this procedure. If you have any questions contact the Huss Service Department before attempting.

In the event of a gondola solenoid brake failure during normal operation, the gondola will stop immediately and come to rest in one of several orientations. If it is possible to unload the ride in the orientation that the ride comes to rest in, unload the ride and then follow the procedures below. If the gondola comes to rest in a position where unloading is not possible, rotate the attraction's boom arms into a position so that the gondola is level and the passengers are comfortable, then follow the procedures below.

Once the gondola is level using a lift or ladder, open the brake outlet valves shown in diagram one below. If a lift or ladder is not available or if landscaping or theming of the ride makes it difficult to reach these valves, this procedure can also be accomplished in the loading position, however passengers may briefly be suspended in awkward orientations while this procedure is being completed.

Opening these valves will not normally remove all the air from the gondola's pneumatic system, however with a solenoid brake failure it is possible for the opening of these valves to exhaust all of the air from the system. If this occurs the passenger restraints cannot be opened and passengers cannot be evacuated until the air supply is recharged.

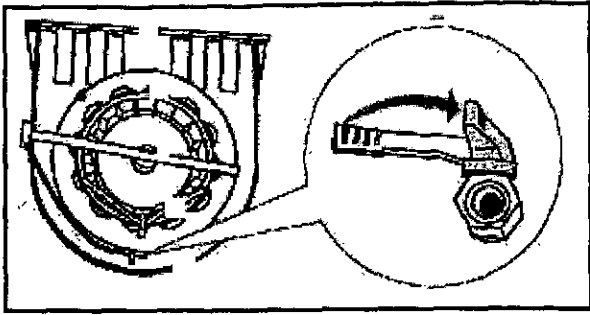


Diagram 1

Once the brakes are released and the gondola is free to rotate, return the gondola to the loading / unloading position and open the seat restraints and evacuate the ride. As stated above, if the gondola's pneumatic energy is depleted, the passenger restraint locking mechanism cannot be opened until the brake outlet valves are closed, the pneumatic compressors are reactivated and the system is recharged with compressed air. Once the system is recharged, open the passenger restraints per standard operating procedures.

SERVICE LETTER 2 (25-02)

Your reference/communication	Our reference	Tel. direct dial	Date
	SER-KR	+49 (0) 421-499 0051	27.02.2002

Service-Letter 25-02 (Important service information, please observe !!)

Dear Sirs,

According to our records you are the owner/operator of a HUSS TOP SPIN amusement ride. If this is no longer the case, please return this letter to us together with the name, address and contact information of the current owner.

Regarding the TOP SPIN, be advised that the daily inspection of the upper safety restraint for cracks is required, pursuant to item 6 part 1, section V of the "Safety Requirements" section of the Top Spin ride manual. The daily inspection of this restraint is critical as the restraint is a primary safety component of this machine.

It has come to our attention that years of wear and also due to improper adjustment of the lower restraint caused by wear, may result in the cracking of this component. We therefore would like to draw your attention again to the importance of daily inspections of this restraint and also to item 6 (part 1) of the ride manual in this regard.

We have enclosed copies of the current ride manual sections mentioned above. We would ask that you and your staff thoroughly review the attached material to ensure that all the required inspections on this ride are being carried out on a regular basis. Thank-you for your attention to this matter, should you have any questions or concerns please contact the Huss Service Department at +49 421 499 000.

6.

The upper restraints must be inspected visually on a daily basis before approving the ride for operation. As part of the daily inspection process, a close visual check of the restraint pivot point and the restraint tubing from the pivot to the restraint padding must be done on a daily basis.

Best regards



HUSS Maschinenfabrik GmbH & Co. KG
- Department for technical services -



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e-mail: service@hussrides.com

Bulletin No: Top Spin Service
Letter 5

Release Date: August 15,
2002

Effective Date: August 15,
2002

Supercedes:

Completion Date: August 15,
2002

Page 1 of 3

Service Bulletin

Ride Manufacturer: Huss Maschinenfabrik
Ride Name: Top Spin
Model Number: All

Affected Production Dates: All
Affected Serial #: All

Abstract of Issue:

The failure of the solenoid that controls the main pneumatic valve which opens and closes the restraint locking mechanism can result in passengers being locked in the ride vehicle for an extended period of time. It is important to ensure that this solenoid is functioning properly and is kept in a dry condition.

Reason for Release:

Recently a number of ride patrons were locked in a Top Spin ride for an extended period of time due to the failure of the solenoid (*Festo Solenoid, Model Number: MSG-24 35599, 24 Volt, 11 Watt*) that controls the main pneumatic valve (*Festo Air Valve Type 9981 MCH-3-1/2 Series LD02*) which opens and closes the ride's restraint locking mechanism.

The solenoid failed because water had penetrated the device's electrical connection and short circuited the connection. As a result the valve which controls the gondola's restraint locking system did not activate and the restraints did not open at the end of the normal ride cycle.

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Page 2 of 3

Action to be Taken:

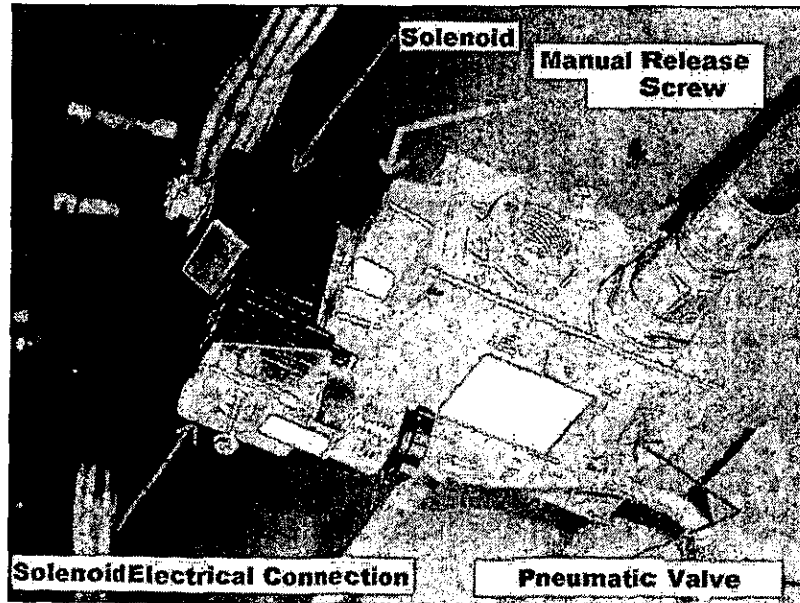
(Inspection, modification, replacement, etc)

The valve and solenoid should be inspected on a regular basis. These items are located in the center of the gondola, on the bottom side of the gondola, in the middle row. See photograph below. It is important to ensure that moisture has not penetrated the solenoid's electrical connection. If any moisture is evident, the connection must be dried and sealed with silicone.

In the event that the solenoid does fail the valve can be manually opened by rotating the manual release screw located on the top of the pneumatic valve. Also see photograph below.

Detail of Issue:

(Text, drawing, Schematic, etc)



Valve when viewed from below.

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Letter 5

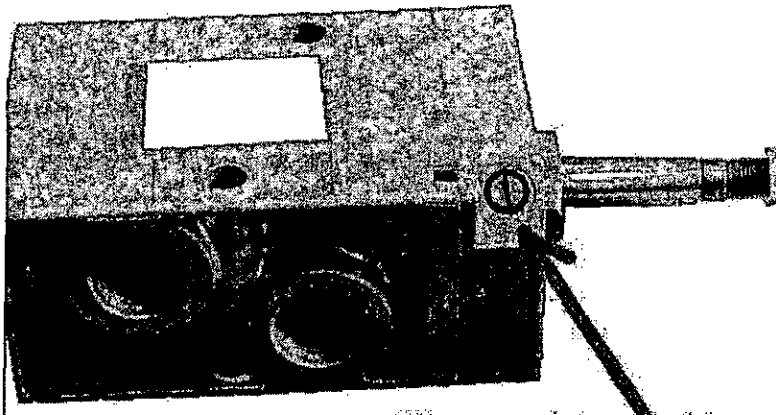
Release Date: August 15,
2002

Effective Date: August 15,
2002

Supercedes:

Completion Date: August 15,
2002

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Manual Release Screw

Valve when viewed from above.

Should you have any questions regarding the above or if you would like to order the spare parts, please contact the Huss Service department in Bremen Germany at 011 49 421 499 0000. Additional service bulletins and service information can also be found at our service web site www.husservice.com.

In North America you can also order spare parts through North American Parts Inc. at 716-839-4791.

In Asia, you can also order spare parts through Melcher's GMBH & Co at +65 (3559) 272

Best regards

HUSS Maschinenfabrik GmbH & Co. KG
- Department for technical services -

According to our records you are the owner/operator of a HUSS amusement ride. If this is no longer the case, please return this letter to us together with the name, address and contact information of the current owner.



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Bulletin No: Top Spin Service
Letter 6

Release Date: May 10, 2004
Effective Date: May 10, 2004
Supercedes: None
Completion Date: May 10,
2004

Page 1 of 2

Service Bulletin

Ride Manufacturer: Huss Maschinenfabrik
Ride Name: Top Spin
Model Number: All

Affected Production Dates: All
Affected Serial #: All

Abstract of Issue:

Recently an incident occurred where a Top Spin drive motor fell to the ground during a ride cycle. No one was injured during this incident, however this was only as a result of good fortune and the incident had the potential of being very serious.

The owners of the attraction had recently repaired a crack in the motor's footing. The repair was completed by a local repair shop and was not repaired or inspected by Huss. Additionally the motor was reinstalled without the aid of factory lifting jigs and was not properly aligned.

Reason for Release:

To advise Top Spin ride owners that cracks in motor mounts or housings should only be completed by Huss and owners should contact the Huss service department to receive motor installation instructions and lifting jig designs before proceeding.

It is strongly suggested that motor installations and repairs only be completed with the supervision and or advice of Huss service personnel.

According to our records you are the owner/operator of a HUSS amusement ride. If this is no longer the case, please return this letter to us together with the name, address and contact information of the current owner.



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Bulletin No: Top Spin Service
Letter 6

Release Date: May 10, 2004
Effective Date: May 10, 2004
Supercedes: None
Completion Date: May 10,
2004

Page 2 of 2

Action to be Taken:

(Inspection, modification, replacement, etc)

Any motor feet or housings that have been welded or repaired by owners prior to the release of this service bulletin and without the assistance of Huss must be inspected (e.g. NDT) by a local engineer and certified to be in good condition or replaced with a factory component.

Detail of Issue:

(Text, drawing, Schematic, etc)

NONE

Should you have any questions regarding the above, please feel free to contact the Huss Service department in Germany at 011 49 421 499 0000. In North America you can also contact us at 604 763-4503.

Best regards

HUSS Maschinenfabrik GmbH & Co. KG
- Department for technical services -

According to our records you are the owner/operator of a HUSS amusement ride. If this is no longer the case, please return this letter to us together with the name, address and contact information of the current owner.



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Bulletin No: Top Spin
Notification 7 re water
fountains

Release Date: February 26,
2004

Effective Date: February 26,
2004

Supersedes:

Completion Date: February
26, 2004

Page 1 of 2

Notification

Ride Manufacturer: Huss Maschinenfabrik
Ride Name: Top Spin
Model Number All

Affected Production Dates: All
Affected Serial #: All

Abstract of Issue:

The addition of a water fountain system can add significantly to a guest's ride experience on any Top Spin. Huss is regularly asked to investigate and provide budget costs of retrofitting existing "dry" Top Spin attractions with water fountain systems.

Depending upon design parameters and the local rules and regulations regarding water quality the costs can vary widely. For Budget purposes however customers can expect the cost of the fountain equipment to range between forty and seventy-five thousand Euro (40,000 - 75,000 €).

In addition, to the equipment costs noted above, customers should also consider the price of the fountain pool (varies widely depending upon design and local labour rates) and the water proofing of the restraint systems electrical system (estimated at ten - fifteen thousand Euro (10,000 - 15,000 €)).

Should your organization want to upgrade your existing "dry" Top Spin to a "wet" model or if you would like to utilize your existing fountain to soak passengers, rather than simply using the fountain as a landscaping feature, we would encourage you to contact our service office around the world to discuss the options and costs.

According to our records you are the owner/operator of a HUSS amusement ride. If this is no longer the case, please return this letter to us together with the name, address and contact information of the current owner.



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Notification 7 re water
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2004

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2004

Supercedes:

Completion Date: February
26, 2004

Page 2 of 3

Should you have any questions regarding the above or if you would like to order the spare parts required to complete these upgrades please contact the Huss Service department in Bremen Germany at 011 49 421 499 0000.

In North America you can also discuss service issues by contacting our service department at (604) 763-4503 or order spare parts through North American Parts Inc. at 716-839-4791.

In Asia, you can also discuss service issues or order spare parts through Melcher's GMBH & Co at +65 (3559) 272

Best regards

HUSS Maschinenfabrik GmbH & Co. KG
- Department for technical services -

According to our records you are the owner/operator of a HUSS amusement ride. If this is no longer the case, please return this letter to us together with the name, address and contact information of the current owner.



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Bulletin No: Top Spin Service
Letter 8 re motor
refurbishment

Release Date: February 26,
2004

Effective Date: February 26,
2004

Supercedes:

Completion Date: February
26, 2004

Page 1 of 2

Service Bulletin

Ride Manufacturer: Huss Maschinenfabrik
Ride Name: Top Spin
Model Number

Affected Production Dates:
Affected Serial #: All

Abstract of Issue:

The refurbishment of Top Spin drive motors should only be completed by factory authorized personnel. The rewinding of motors by local supplier is not an approved procedure. The welding of motor housings or support legs is not permitted.

Reason for Release:

The rewinding of Top Spin motors by local motor shops can result in various attraction motors have different motor torque values. This torque differentiation can result in one motor working against other motors and lead to the damage of the motor(s). Top Spin owners should not have motors rewound by organizations that are not authorized by Huss to compete such work.

Additionally, if cracks develop in drive motor housings, the motors must be replaced. Drive motor housings cannot be welded to repair cracks or damage.

According to our records you are the owner/operator of a HUSS amusement ride. If this is no longer the case, please return this letter to us together with the name, address and contact information of the current owner.



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Bulletin No: Top Spin Service
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Release Date: February 26,
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2004

Supersedes:
Completion Date: February
26, 2004

Page 2 of 2

Action to be Taken:

(Inspection, modification, replacement, etc)

Drive motors requiring rewinding must be repaired by a factory authorized service center.

Drive motor housings and support brackets should be inspected on a regular basis for cracking. If cracking is identified or if previous welds are found, the motor must be replaced with a new or factory refurbished motor.

Should you have any questions regarding the above or if you would like to order the spare parts please contact the Huss Service department in Bremen, Germany at 011 49 421 499 0000.

In North America you can also discuss service issues by contacting our service department at (604) 763-4503 and / or order spare parts through North American Parts Inc. at 716-839-4791.

In Asia, you can also discuss service issues or order spare parts through Melcher's GMBH & Co at +65 (3559) 272

Best regards

HUSS Maschinenfabrik GmbH & Co. KG
- Department for technical services -

According to our records you are the owner/operator of a HUSS amusement ride. If this is no longer the case, please return this letter to us together with the name, address and contact information of the current owner.

Your reference/communication

Our reference

Tel. direct dial

Date

SER-KR

+49 (0) 421-
4990051

25/03/2008

Service Letter 25-04

Dear Sirs,

According to our records you are the owner/operator of a HUSS TOP SPIN amusement ride. If this is no longer the case, please return this letter to us together with the name, address and contact information of the current owner.

With reference to the Top Spin, be advised that over an extended period of time corrosion may occur between the padding and steel tube structure of the ride's restraint system. If corrosion occurs the tube wall thickness and the structural integrity of the restraint may deteriorate to unacceptable levels. As such we strongly recommend that each restraint be x-rayed after five (5) years of use and then every three (3) years thereafter, where no corrosion is evident. If there is evidence of corrosion, we then recommend that the restraint tube wall thickness be inspected annually.

Typical steel tube wall thickness for the upper restraint was three point two millimetres (3.2 mm) depending upon the tube stock that was available on the date of manufacture. The minimum acceptable wall tube wall thickness is two point seven millimetres (2.7 mm) in the area between the hinge and the handle (see diagram attached). In addition, if any reduction in wall thickness is evident around the restraint handles, the restraint must be replaced immediately see drawing one attached.

The typical tube wall thickness of the lower restraint vertical tube was two point nine millimetres (2.9 mm) depending upon the tube stock that was available on the date of manufacture. The minimum acceptable wall tube wall thickness is two millimetres (2.0 mm) see drawing two attached.

The typical tube wall thickness of the lower restraint horizontal tube was two point six millimetres (2.6 mm) depending upon the tube stock that was available on the date of manufacturer. The minimum acceptable wall tube wall thickness is two milimetres (2.0 mm) see drawing two attached.

We recommend that the x-raying procedure should be carried out as a "On Stream" procedure which is also shown on the enclosed drawing #3. The x-raying check can be done by any local company which has the necessary qualification. In case you will not find any company locally, please contact our service to assist you.

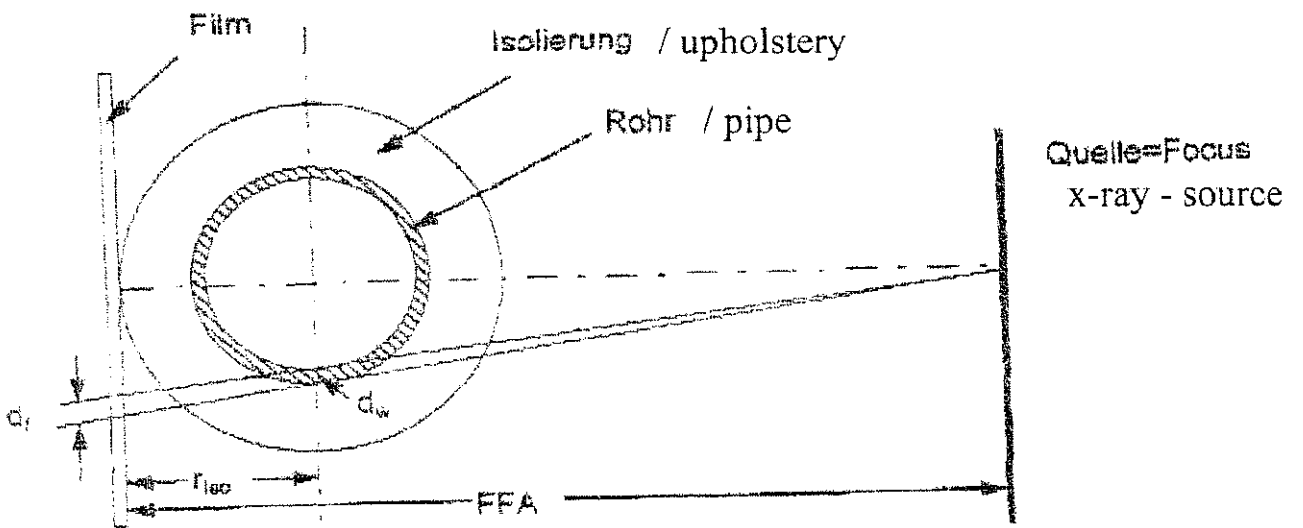
Best regards



HUSS Maschinenfabrik GmbH & Co. KG
- Department for technical services -



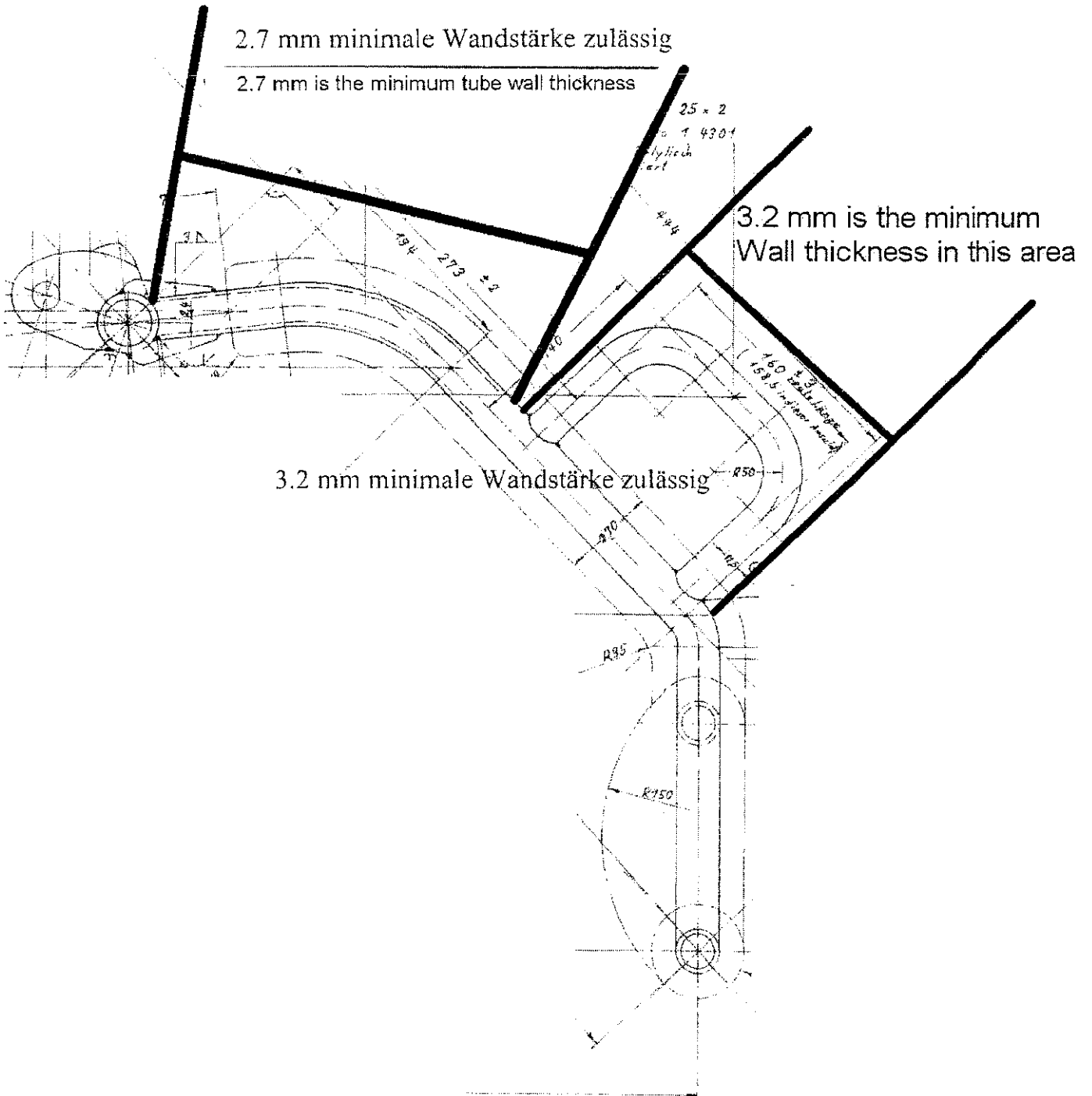
MASCHINENFABRIK



$$d_w = d_f \cdot \frac{FFA - r_{iso}}{FFA}$$



MASCHINENFABRIK





Postanschrift:
HUSS Parts & Service GmbH Postfach 110206 D-28082 Bremen

Firmensitz:
Emil-Sommer-Straße 4-6, D-28329 Bremen
Tel. 0421-49900-0 Fax 0421-49900-56
E-mail: service@hussparts.com
Internet: <http://www.hussrides.com>

«Name_1»
«Straße»

«PLZ» «Ort»

«Land»

Ihre Zeichen/Nachricht	Unser Zeichen SER-SF	Durchwahl -51	Datum 29.05.2009
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Service-Information

To whom it may concern:

Our records indicate that you are the owner/operator of a TOP SPIN amusement ride manufactured by Huss. If you no longer are in possession of this ride please return this letter with the contact data of the new owner to Huss Parts & Service GmbH.

Based on field data collected from TOP SPIN installations worldwide, we would like you to check your ride for possible wear at the swing arm hinge as well the gondola suspension. The enclosed drawings/pictures shall help identifying the locations where to take the necessary measurements. They can be taken by your personnel or our field service engineers.

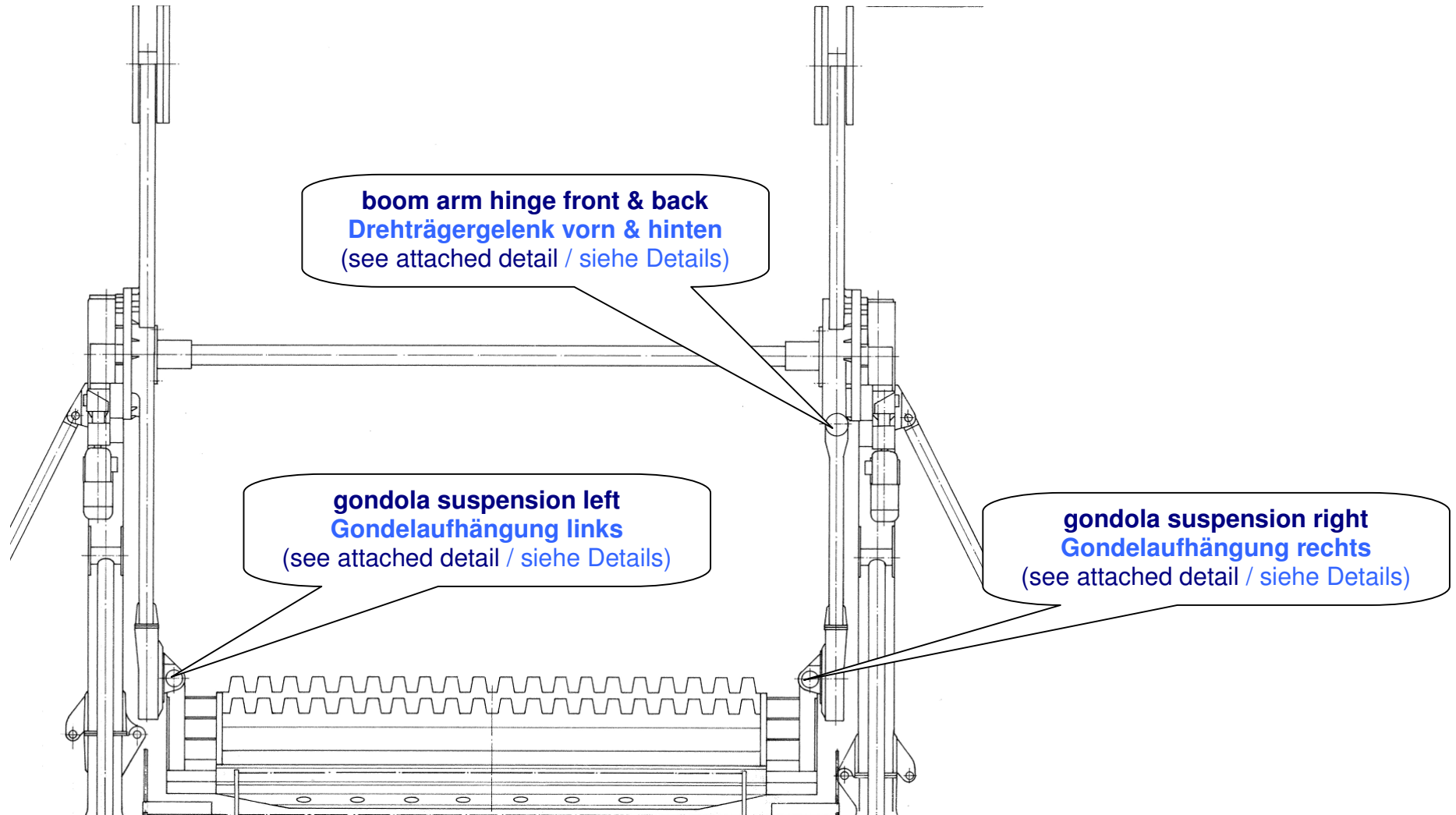
Furthermore we would like you to keep in mind, that both bearing sets – gondola bearings as well as swing arm bearings – should be inspected for wear by the bearing manufacturer after approximately 7500 operating hours. The inspection will be performed at the bearing manufacturers factory, thus requiring the disassembly of the ride. Please allow for at least 2-3 months of turn around time by the manufacturer.

Neither the wear on the swing arm hinge or the gondola suspension, nor the wear at the bearings have a negative impact on the safety of the ride.

If we can be of further assistance, please contact us at your earliest convenience,
best regards

HUSS Parts & Service GmbH

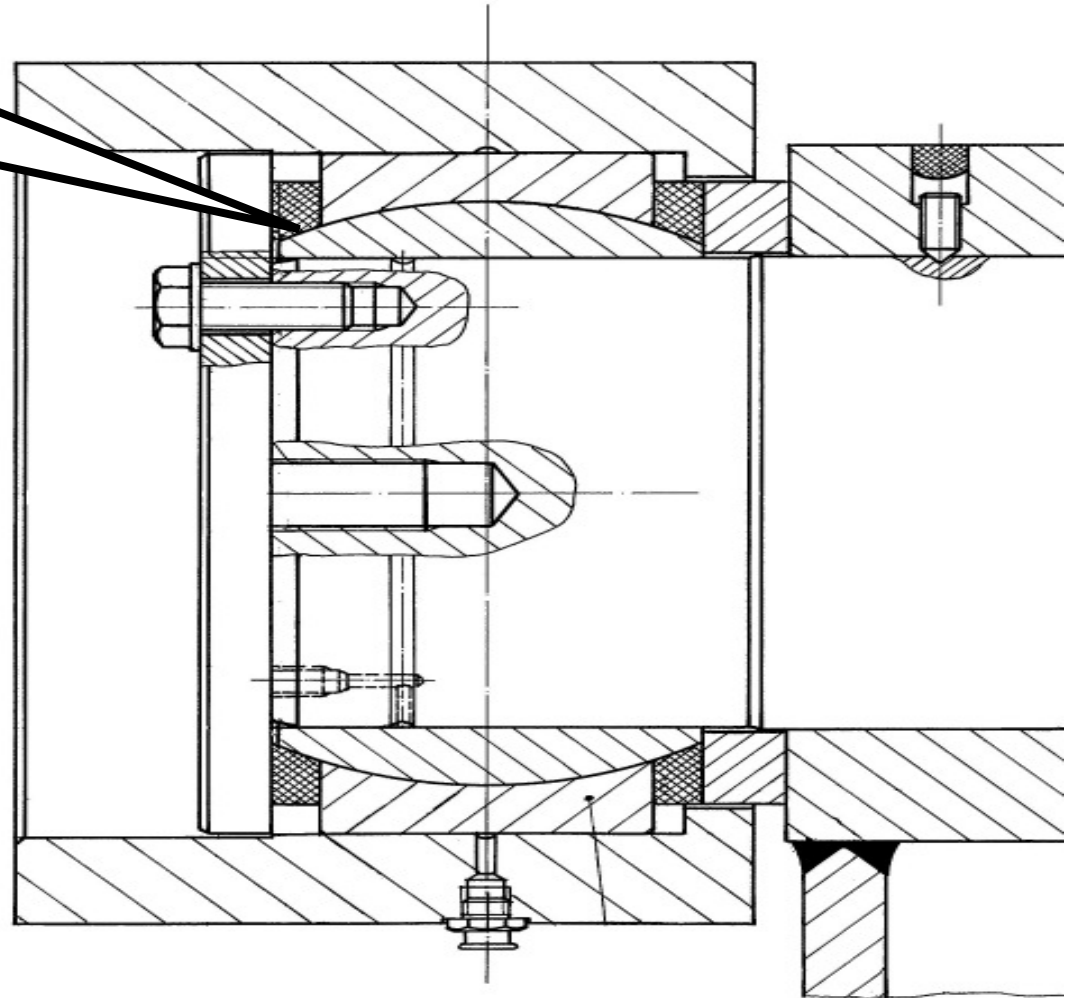
Overview / Übersicht



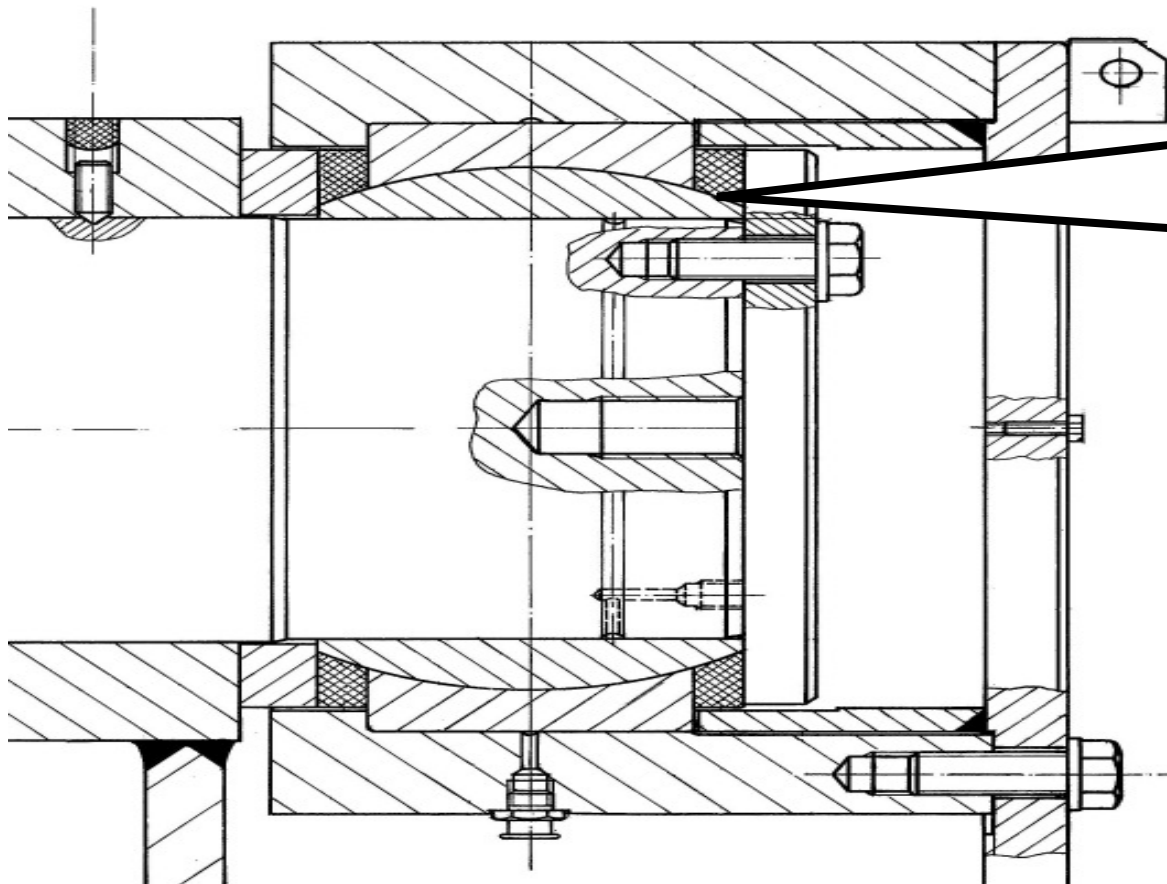
Boom arm hinge front / Drehträgergelenk vorn

Surface of the inner bearing
Ring have to be free of rust.
If desired will a HUSS technician
assist the evaluation.

Die Oberfläche der Lager Innenkugel
muss rostfrei sein. Wenn gewünscht,
kann ein HUSS Techniker bei
der Beurteilung behilflich sein.

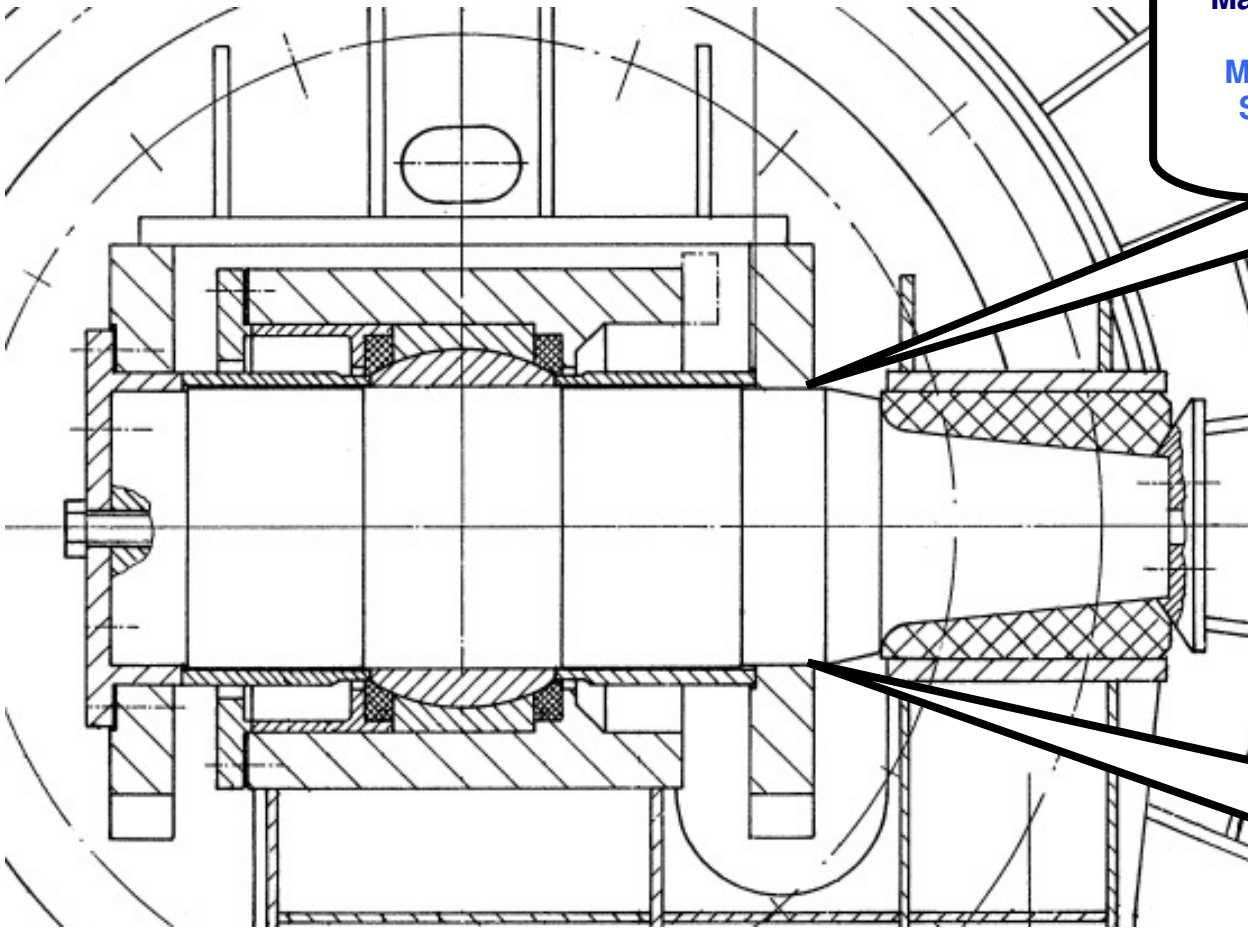


Boom arm hinge back / Drehträgergelenk hinten



Surface of the inner bearing
ring have to be free of rust.
If desired will a HUSS technician
assist the evaluation.
Die Oberfläche der Lager Innenkugel
muss rostfrei sein.
Wenn gewünscht, kann ein HUSS Techniker
bei der Beurteilung behilflich sein.

Gondola suspension left & right / Gondelaufhängung links & rechts



Maximum allowed gap between steel structure and shaft is 0.3 mm
Maximal zulässiger Spalt zwischen Stahlkonstruktion und Welle darf 0,3 mm nicht überschreiten

Maximum allowed gap between steel structure and shaft is 0.3 mm
Maximal zulässiger Spalt zwischen Stahlkonstruktion und Welle darf 0,3 mm nicht überschreiten