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Improperly manufactured front axle caused the accident in Jetline - Gröna Lund's measures and change initiatives

The Swedish Accident Investigation Authority has now completed its investigation and presented its final report on the accident that occurred on Jetline on June 25, 2023. The report reveals that the front axle that broke was improperly manufactured, the original manufacturing drawing attached to the order could be misinterpreted, and Gröna Lund is recommended to take actions to strengthen its organizational safety procedures. Gröna Lund takes the accident very seriously and has already taken measures to prevent something similar from happening again. We intend to implement all of the Swedish Accident Investigation Authority's recommendations.

Today, the Swedish Accident Investigation Authority presented its final report on the accident at Gröna Lund, which occurred almost a year ago on the Jetline roller coaster.

– We have fully cooperated with the Swedish Accident Investigation Authority's investigation. It is important that the accident is thoroughly investigated, both for the victims and their families, and for us who work at Gröna Lund. Something like this has never happened at Gröna Lund before and something like this should never happen again, says Jan Eriksson, CEO of Gröna Lund.

Sequence of Events

The Swedish Accident Investigation Authority's investigation shows that the front axle on the first car of the train, where the wheels are attached, collapsed and fell off. This led to the train making severe sudden stops as the underside of the car hit various joints in the roller coaster track. Passengers were thrown forward with great force, causing the safety bar mounts to bend. The safety bars are designed and adapted for this type of attraction, but in

the accident, the bars were subjected to forces five times greater than during an emergency break.

The Front Axle

The report indicates that the new front axle installed on Jetline in the spring of 2023 was improperly manufactured. It lacked an internal cross plate and had serious welding defects. This resulted in the front axle having insufficient strength and breaking. The manufacturing defects were on the inside of the front axle and were not detected in subsequent inspections.

The Order and the Manufacturing Drawings

This type of front axle is expected to last a long time. The original front axles had been on Jetline for over 30 years and were starting to wear out, which is why Gröna Lund ordered replacement parts in 2019. The order was placed with an experienced and proven Swedish supplier that Gröna Lund had worked with for over 15 years and who had previously manufactured other parts for Jetline. Manufacturing drawings from the original manufacturer of the trains were sent with the order, and an exact copy was ordered with post-production inspection of all weld seams. The supplier then subcontracted the order, something Gröna Lund was unaware of.

The original drawing can be interpreted in different ways regarding whether an internal cross plate should be used as support. The Swedish Accident Investigation Authority's expert believes the drawing is unclear on this point, while experts consulted by Gröna Lund find the drawing clear and suitable as a manufacturing basis. The Swedish Accident Investigation Authority's report shows that the subcontractor had uncertainties about how the welding should be performed and that these uncertainties were never discussed with their client or with Gröna Lund. This led to the absence of the critical internal cross plate. The report also shows that the original drawing was deviated from and there were serious welding defects on the inside. The welder who performed the work had no formal welding training and no valid welding certification.

The Swedish Accident Investigation Authority on Gröna Lund's Safety Work, Criticism, and Recommendations

The Swedish Accident Investigation Authority's report states that work related to service, inspections, and maintenance has been functioning well. These are crucial for our safety work, involving regular checks of all attractions according to the manufacturers' guidelines. In addition to daily inspections before opening, more comprehensive checks are performed weekly, monthly, and annually using detailed methods. The Swedish Accident

Investigation Authority notes that there were no deficiencies in the staff's competence or experience in performing these safety tasks.

The Swedish Accident Investigation Authority criticizes Gröna Lund's order for the front axle, stating that the requirements in the order were not sufficiently clear.

– The fact that this could happen is something we take very seriously. In light of the accident, we can see that closer contact with and monitoring of the manufacturer could likely have reduced the risk of the deficiencies that occurred. Immediately after the accident, we initiated our own investigation, thoroughly reviewing our entire operation. This has led to a change initiative where we have already taken several measures to ensure that something like this never happens again, says Jan Eriksson, CEO of Gröna Lund.

Gröna Lund intends to implement all of the Swedish Accident Investigation Authority's recommendations, with actions regarding order and spare parts routines already in place. We have clarified and strengthened our procedures to increase our presence and control over the entire manufacturing chain during orders. We deploy a new inspection plan for orders, including enhanced inspection routines for suppliers, technical consultation and requirement setting with the intended supplier, updated order templates, manufacturing inspection, and documentation review, as well as an ongoing review of existing suppliers.

We have also reviewed all attractions, both through our regular basic inspections and extra inspections in light of what caused the accident. All attractions have also been inspected by an independent inspector before opening.

The Swedish Accident Investigation Authority's report also gives Gröna Lund recommendations that can be summarized as the need for increased systematics and a stronger organizational safety framework.

– Gröna Lund has staff with high technical competence and a strong focus on safety culture, but after what has happened, we will strengthen our overall organizational and systematic safety work. As part of this work, we have partnered with "MTO Säkerhet", a consulting firm with high expertise in the development of organizational safety. The collaboration focuses on organization, governance, and the continuous development of safety work within the organization, says Jan Eriksson.

– The serious accident last year has deeply affected us all, and there will always be a before and after. Something like this has never happened at Gröna Lund before and we will make sure that something like this will never happen again, says Jan Eriksson.

Invitation to Press Conference June 14 at 12:30 PM

Due to the Swedish Accident Investigation Authority publishing its report on the Jetline accident, Gröna Lund invites you to a press conference on Friday, June 14 at 12:30 PM at Hotel Hasselbacken.

Location: The press conference will be held at Hotel Hasselbacken on Djurgården, Hazeliusbacken 20.

Time: 12:30 PM.

Please notify if you wish to attend by emailing annika.troselius@gronalund.com or texting +46 (0)708-580050.

For more information, please contact Annika Troselius, Press Officer, at +46 (0)708-580050 or e-mail at annika.troselius@gronalund.com.

Gröna Lund är Sveriges äldsta tivoli och ingår i temaparkskoncernen Parks and Resorts, Nordens ledande aktör inom upplevelseindustrin, tillsammans med Kolmården, Furuvik och Skara Sommarland. Tivolit har 30 attraktioner och sex restauranger samt ett varierat utbud av lotterier, 5-kampsspel och mat- och snackskiosker. Gröna Lund bjuder även på en mängd underhållning i form av konserter, dans och barnunderhållning. Tivolit sysselsätter ca 1500 säsongsanställda och är en av landets ledande besöksattraktioner.

Kontaktpersoner



Annika Troselius

Presskontakt

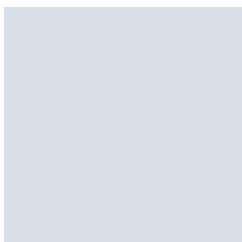
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