

ATTN: To all owners using Hagenbuch Safety Components (Restraint Cylinders)

FROM: INTAMIN After Sales Department

DATE: June 16th, 2016

REF: Restraint Cylinders Classifications / Overhaul & Replacement Schedule

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Dear Customer

To whom it may concerns

The purpose of this After Sales Information (ASI 001-2016) is to provide updated service requirements regarding restraint cylinders used on Intamin Rides. Based on the latest TÜV requirements for new rides and after safety assessment with Hagenbuch Safety Components (HSC) the maintenance schedule for restraint cylinders have been revised and updated. Attached to this information we send you a short summary for overview to identify the applicable restraint class for your ride and related overhaul and/or replacement requirements.

Please note, the scheduled date covers only the minimum requirement. In case that any irregularity on the restraint cylinders can be detected or observed during maintenance, these restraint cylinders must be replaced immediately prior operation. The regular time period for the replacement procedure starts with the Handover Date, but not later than 1 year after the Contract Date. In case that the scheduled replacement/overhaul requirement is already overdue, Intamin recommends to replace or overhaul the restraint cylinders at next occasion but shall be completed latest by 31.12.2018.

In conclusion with HSC and to insure that your required restraint cylinders can be scheduled for refurbishing or replaced in time for the next season, Intamin will follow up with a quotation very soon. To coordinate all refurbishing activities in time, Intamin would appreciate to receive a signed purchase order latest 2 weeks after receipt of the quotation for a) new cylinders or b) refurbishing. Prior sending the cylinders to HSC for overhaul, the restraint cylinders must be visual checked for any extraordinary damage, completely retracted, cleaned and properly packed in a wooden box. Intamin reserve the right to reject any cylinder from refurbishing which shows more damage than usual wear and tear. In case that a cylinder will be rejected from HSC, Intamin will send a short notice and will follow up with a quotation for replacement units.

Thank you in advance for your corporation.

Best regards,

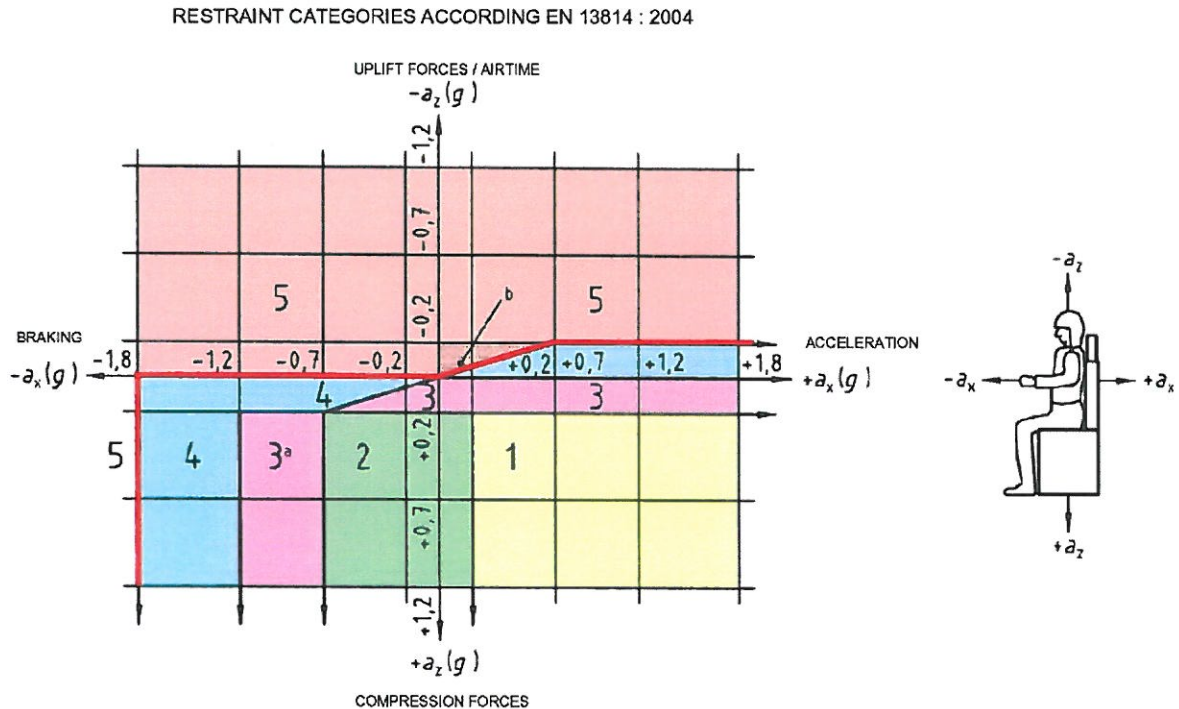
INTAMIN TRANSPORTATION Ltd.



Hartmut Gropp
Manager After Sales

Restraint System Classifications / Overhaul & Replacement Schedule

According to EN 13814 the restraint system is classified for different categories (1 to 5). For the majority of Intamin's thrill rides (especially Roller or Launch Coasters) Cat. 5 and Cat. 4 is applicable to restrain passengers safely. Each category requires special requirements for overhaul and replacement intervals which are defined as follows:



The diagram above can be used to find the applicable category for the Restraint System

Restraint System Category **5A** (RLM + SCB)

- ⇒ Redundant **L**ocking **M**echanism (as hydraulic locking cylinders)
- ⇒ with **S**ingle **C**rotch **B**elt attached to over the shoulder lap bar tube

Restraint System Category **5B** (RLM + ALB)

- ⇒ Redundant **L**ocking **M**echanism (as hydraulic locking cylinders)
- ⇒ with **A**adjustable **L**ap **B**elt attached to chassis or seat frame to additionally restrain each passenger individual

Restraint System Category ≤ 4 (RLM only)

- ⇒ Redundant **L**ocking **M**echanism (as hydraulic locking cylinders)
- ⇒ without any further restraint systems installed

Overhaul and Replacement Schedule for Hydraulic Locking Cylinder's

Time / Category	After 5 Years	After 10 Years	After 15 Years	After 20 Years
Cat 5A	Overhaul	Replacement	-----	-----
Cat 5B	1 st Overhaul	2 nd Overhaul	Replacement	-----
Cat ≤ 4	-----	1 st Overhaul	2 nd Overhaul	Replacement

Please note:

The scheduled dates cover only the minimum requirements. In case that any irregularity on the restraint cylinders can be detected or observed during maintenance these restraint cylinders must be replaced immediately prior operation. The time period for the replacement procedure start with the Handover Date but not later than 1 year after contract date.

The max. theoretical lifetime for the restraint cylinders (as listed above) have been defined in agreement with HSC (cylinder manufacturer), but depending on the condition of the "old" cylinders it might be more economical to replace the cylinders prior to the end of the theoretical lifetime.