



Zierer Rides & Parts GmbH · Moosgasse 4 · D-94560 Offenber:g

To: WAVE SWINGER OWNERS

Zierer Rides & Parts GmbH
Moosgasse 4
D-94560 Offenber:g
Tel. (+49) 9 91/91 06 40
Fax (+49) 9 91/99 90 27
e-mail: mw-evg@zierer.com

March 29th 2000

Ihre Nachricht:
Your message dated:

Ihre Zeichen:
Your reference:

Unsere Zeichen:
Our reference:

Datum:
Date:

WAVE SWINGER MAINTENANCE DIRECTIONS

Dear Sirs

Since we have experienced strong requests for maintenance instructions for the Wave Swinger ride from our clients during the past months, we take the opportunity to provide you today with a general compilation of the major and regular maintenance measures required for the ride.

This general check list and instructions will help you to eliminate periods of disuse or down time of your Wave Swinger ride or at least to reduce them.

Subsequent listed you will find the required inspection and maintenance work as well as general references of tolerances and permissible limits for safety units of the ride which have to be checked and maintained regularly.

1 To be checked and exchanged regularly:

The primary change of the hydraulic oil has to be carried out after 5000 hours of operation at the latest. Afterwards an oil change will become due after every 2500 hours of operation or after two years at the latest.

When exchanging the hydraulic oil the filter elements have to be replaced as well. Apart from that the filter elements shall be regularly exchanged once a year.

Die Ware bleibt bis zur rastlosen Bezahlung unser uneingeschränktes Eigentum. Erfüllungsort für Lieferung und Zahlung ist Neuhausen. Gerichtsstand ist Deggendorf.

Telefon
(+49) 9 91/91 06 40

Telefax
(+49) 9 91/99 90 27

Bank: Sparkasse Deggendorf
BLZ: 741 500 00
Kto.-Nr.: 980 304 725

Ust. Id. Nr.:
VAT-No.:
DE 168 510 655

The complete set of lift cables (4 pieces) needs to be thoroughly checked for break, deformation, undue elongation and wear after **400 hours of ride operation or every second month** (please refer to DIN 15020 for detailed information or to the supplement to the manual)

But basically it is essential to completely replace the lift cables after every second year.

- High pressure hose compl. (to be exchanged after every six years according to BG-regulation HZ1/74 - Safety rules for hydraulic hose piping)

- 2 Experiences proved that after 5-6 years of ride operation especially those ride units described hereunder are strongly worn out and require an exchange (the rates of wear and tear always apply for the most worn out part).

3

Unit	Limit of wear
- shackle 1,0 to.	1,5 mm
- shackle 1,6 to.	1,5 to 2,0 mm
- S-hook	1,5 to 2,5 mm
- spreader bar	2,0 to 3,0 mm
- chain ring/ VA-shackle	0,8 to 1,0 mm
- seat chains and split links	1,5 to 2,0 mm

in addition also the following parts are worn out after 8-6 years

- rubber element for cado coupling
- nylon pads at telescope
- carbon brushes at mast and basket

- 3 As a rule the parts listed hereunder are worn out after 10 years:

- guide rollers and bolts for basket
- bolts and bushes of the cable pulley
- slewing rim basket / mast
- pinion basket / mast



we have experienced that the following parts will be worn out after 10 years as well and therefore need to be exchanged or require new bearing:

- hydraulic motors
- rotary switch unit
- lifting cylinder

We very much hope that the above directions and recommendations will assist you in carrying out maintenance works at the Wave Swinger much more calculated and effective so that the operational and service life of the ride will be increased significantly.

If you should require help and assistance from an expert technician we will be glad to provide you with an appropriate quotation.

Best regards

Dieter Hopfner jr. / Project Manager

A handwritten signature in black ink, appearing to be "Dieter Hopfner jr.", is written over the company name.

ZIERER RIDES & PARTS GmbH
Poststraße 4
D-94560 Offenberg
Tel: (+49) 991/91 06 40
Fax: (+49) 991/99 90 27