



MASCHINENFABRIK

VI.

OPERATING REGULATIONS

for

CARROUSEL "CONDOR"

MFG: HUSS-HEINER, WILHELM,
CO.
NAME: CONDOR

1. The carrousel must be erected such that in every position of the ride there is a sufficient distance (min. 20 inch) between the moving parts of the ride and houses, trees, electric power lines etc. so as to preclude all danger to the passengers.
2. The ride must only be erected on soil of sufficiently good bearing quality. The tower must be erected exactly vertical. This vertical alignment must be checked regularly. Do not use steel-on-steel plates for the support blocks.

Always secure the movable stabilizers against folding-down.

3. For the road model, the center section with the stabilizers must be placed on the supplied support blocks; use a glued plate of hardwood as intermediate shim.

For the stationary model, the foundation must be designed for the bearing loads specified in the load analysis bzw. drawing.

4. During erection of the ride, the fold-down stabilizers must be pre-loaded so as to distribute the weight of the ride evenly over the cross-shaped layout of the support points.
5. The connecting ropes between the lifting gear and the counterweight and their connecting fittings must be constantly checked in accordance with the provisions of DIN 15020 Sheet 2. To determine the time for discarding the ropes as per the table on page 3, it is always the less favourable power unit groups that must be assumed as the basis for calculation ($1 E_m$, , $1 A_m$).
6. 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.



MASCHINENFABRIK

Resumption of operation each time the arrester device has been triggered:

- a) At the tower foot, put switch lever (8) of the mechanical speed regulator (7) back into 0-position. To do so, relieve regulation rope (1) by lifting the weight lever (9).
- b) Pull out tappet of the safety limit switch (10)
- c) If the towing cable lies loose on the platform, replace it by hand on the cable reel when switching on the electric control in the control panel.
- d) Go up approx. 39.4 inch (1 m) on "assembly ride" and check from the platform whether the arrester devices (4) resp. (5) have opened.
- e) Go down on "normal ride" with opened arrester device and check entire arrester device including electrical limit switch (11) for perfect condition.
Pay special attention to foregoing item F 5.
(See Operating Instructions).
- f) Find out the cause for the reason why the arrester device has been triggered before opening the ride to the public again. Prior to starting operation make sure that the fault has been remedied.

G) Direct Current Motors

See attached instructions of the manufacturers (Weier).

H) Magnetic Brakes on Lifting Motors Pos. (56)

See attached instructions of the manufacturers (Weier and Pintsch Bamag). The air gap in the brake not exceed 0,07 inch (1,8 mm).

See also manufacturers's nameplate and instructions, Pintsch Bamag.

I) Tachogenerators on Lifting Motors

See attached instructions of the manufacturers (Thalheim).

J) Guiding wheel on tower, Pos. (48)

The play between wheel and running rail has to be 0,008 inch (0,2 mm) . This play has to be checked in regular intervals and is to be corrected if necessary.



MASCHINENFABRIK

D) Flanged Connections

Check the bolts on all flanged connections at regular intervals for tightness. If using the SKF pretensioning device HTS 2.24, screw the device onto the end of the thread, preload with 12325 psi (850 bar) and tighten the hexagon nut by hand. If using a torque wrench, the check is solely done by tightening once more with 1335 ft lb (1810 Nm). Drawing no. 2-15.11.Z for tower bolt connections to be observed.

E) Ropes

Maintenance must be carried out in accordance with the TÜV regulations.

F) Safety Brake (see Drawing no. 3-22798)

1. Clean the arrester rail (Item 6) every 4 weeks to keep it free of rust.
2. Spray the regulating rope (Item 1) with a rope care agent such as e.g. LOT-EX at least once every six months.
3. Check the complete arrester rod assembly (Item 2) every 4 weeks to ensure that it runs easily and oil the bearing points.
4. Check the springs and holders (Item 3) every 4 weeks and also keep free of rust.
5. Every time the arrester device has been used to arrest the ride, check the arrester bed (counterpiece) Item 5 and the linings of the arrester grippers Item 4. If parts are badly worn, i.e. if the bronze body is flush with the surface of the steel wedge, the clamping roller has less than 50% knurling and the longitudinal fluting grooves on the opposite steel wedge can no longer be felt, the grippers must be exchanged. In any case, any metal shavings that may have been gouged out of the metal must be removed from the grooves. The same checks and maintenance procedures apply in the case of the supra-mounted arrester rails.
6. All parts of the arrester device including the speed regulator (Item 7) located at the foot of the tower must be kept absolutely free of rust at all times.

However, it is essential that the arrester grippers (Item 4), the arrester bed (Item 5) and the arrester rail (Item 6) should remain completely free of grease.



MASCHINENFABRIK

V. MAINTENANCE and LUBRICATIONA) Reduction Gear Pos. (49) (50) (51)

For the reduction gear, use ESSO Gear Oil GP 90 HYPOID (SAE 90). The quantity required for filling the rotating and lifting gearboxes is approx. 304 floz (9 litres). Oil level sight glasses are provided for checking the oil level in the lifting gearboxes; these sight glasses must be at least half filled with oil . The quantity required for filling the gearboxes of the revolving structures in approx. 135 floz (4 litres). The first oil change is after approx. 50 hours of operation; thereafter every 1500 hours of operation. The filter plugs and drain plugs are marked.

In any case, the two lifting gearboxes must be exchanged at the latest after 5 years, approx. 3000 hours of operation and sent back to the makers for checking. The other gearboxes must also be checked (by the customer) and exchanged if necessary.

B) Racks and Pinions Pos. (52) (53)

The pinion gear of the lifting structure must be greased either daily or at the latest as soon as bare spots are to be seen on the gear teeth using gear grease MOLYKOTE 165 LT or high-performance gearwheel spray. When applying spray for the first time the teeth must be absolutely free of grease. If pitting is noticed on the gear teeth, the racks and the pinion must be exchanged.

Check the M16 fixing bolts on the racks at regular intervals for tightness using the torque wrench supplied with the ride. The check is solely done by tightening once more with 236 ft lb (320 Nm).

C) Live Rings Pos. (54) (55)

The tothing of the live rings must be greased either daily or at the latest as soon as bare spots are to be seen on the gear teeth using gear grease MOLYKOTE 165 LT or high-performance gearwheel spray. When applying spray for the first time the teeth must be absolutely free of grease.

The ball-bearing mounted tracks of the live rings must be greased daily or at laeast after 30 hours of operation using ESSO-Multi-Purpose Grease "BEACON EP 2" (K2N n. DIN 51825 Part 1 and KTA 2 K n. DIN 51825 Part 2). Greasing nipples are provided for this purpose. Turn the bearings while applying the grease.

Check the M20 (54) and M16 (55) fixing bolts on the live rings at regular intervals for tightness using the torque wrench supplied with the ride. The check is solely done by tightening once more with 428 ft lb (580 Nm) for M20 and 218 ft lb (295 Nm) for M16.



MASCHINENFABRIK

III.DAILY PUTTING INTO OPERATION AND SHUTTING DOWN"CONDOR"Putting into Operation:

1. Check that all safety signs are placed in such a manner as to be easily legible.
2. Check that all bolts are secured by safety pins.
3. Check vertical alignment of tower regularly.
4. Check hexagonal screw M 30 at the three flange places of the tower for tightness.
5. Switch on main electric switch.
Check for correct phase sequence.
6. Check tothing of live rings, pinions and racks for bare patches, grease if necessary.
7. After approx. 30 hours of operation provide grease nipples of the live rings with ball-bearing grease.
8. Check oil level of gearboxes. For both lifting gear motors, the oil sight glasses must be filled up to the center with oil.
9. Check the correct functioning of all gondola safety locking bars.
10. Run at least 3 complete ride sequences with unoccupied gondolas using all control facilities and at the same time check the support blocks.
11. After the trial runs have been successfully completed, commercial operation of the ride can be started.
12. All safety locking bars must be closed at all times during the ride sequence. During the ride sequence all persons must have left the upper platform.

Shutting Down:

1. Run the gondolas to the proper embarkation position.
2. Switch off all electric motors, then switch off the main switch at the control panel, lock by key.



MASCHINENFABRIK

10

III. DISMANTLING

Dismantling is exactly the same procedure in reverse order.

It is especially important to ensure that all electrical connections and pneumatic hoses are properly disconnected first.

All plugs and sockets for the electric cables and all pneumatic connections must be protected against dirt!

Keep unused sockets closed !

Before disconnecting the ride from the mains power supply, rotate the rotating section to the correct base position, i.e. with the compressor exactly opposite the hinge.

Run the lifting structure downwards until its bottommost point is 8,7 inch (220 mm) over the bottommost point of the tower flange.

The tower can then be folded down onto the base.



MASCHINENFABRIK

- 51) Attach frame (45) to boom (28) and secure with spring clip.
- 52) Attach decorations (46) to frame (45) and secure with spring clip.
- 53) All electrical connections and all pneumatic hoses must be connected with each other.

IMPORTANT

Each time the ride is re-erected, or in the case of stationary park models at the latest every 3 months, it is important to check the gap between the track roller (pinion) and the tower guide track (rack) as per Detail G in Drawing No. A1-15.0. From a gap width of 0,02 inch (0,5 mm) onwards per point or 0,04 inch (1 mm) total play, it is essential to adjust back to 0,008 inch (0,2 mm) at all points. When adjusting the gap make sure that the impression of the pinion tooth is as far as possible in the centre between the teeth of the rack on the tower.

In addition, the effectors (limit switches) (57) and (58) must be checked and, if necessary, adjusted in relation to the switching rail and toothed rack as per Drawing No. A1-15.0.



MASCHINENFABRIK

- 38) Run the lifting structure downwards.
- 39) Possibly retract the cylinders (9) a little so that the counterweight does not foul the structure during normal ride operation. Distance from the flange's point of separation to the highest point of the cylinder = 20 inch (500 mm).
- 40) Attach the booms (28) to the rotating section (29) and connect with bolts (30). Secure bolt (30) with peg and spring clip. Establish electrical and pneumatic connections.
- 41) Tighten spindles (5) with 810 ft lb (1100 Nm) (greased).
- 42) Set up the flooring as per Drawing No. 1-15.E
- 43) Bolt the frame (32) onto the spinning structure (33) and secure with spring clip.
- 44) Bolt tie rod (34) onto spinning structure and frame and secure with spring clip.
- 45) Screw frames (32) together; see section D-D in Drawing No. A1-15.0. Tighten bolt (35), washer (36) and nut (37) with 133 ft lb/ 180 Nm ($\mu = 0,14$; lightly oil) and secure with spring clip.
- 46) Attach gondola (38) to the frame (32); section E-E in Drawing No. A1-15.0. Tighten bolt (39), washer (40) and nut (41) with 133 ft lb/ 180 Nm ($\mu = 0,14$; lightly oil) and secure with spring clip.
- 47) Bolt shock absorber (42) onto the gondola and secure with spring clip.
- 48) Press the electrical cables and pneumatic hoses on the frames and tie rods into the clips provided and connect to the spinning structure.
- 49) Attach frame (43) to lifting structure and secure with spring clip.
- 50) Attach decoration rings (44) to frame (43) and secure with spring clip.



MASCHINENFABRIK

- 23) Run the lifting structure upwards, at the same time winding up the rope of the safety brake device.
- 24) Attach the lettering with frame (18) to the top section of the tower (19). Secure the bolts with spring clips.
- 25) Bolt the condor onto the top section of the tower.
- 26) Place the top section of the tower (19) on the centre section of the tower (12).
- 27) Bolt the tower sections together as described under Points 18 and 15 above.
- 28) Insert the safety brake rail element (20) and bolt on as described under Point 21 above.
- 29) Establish the electrical connections on the tower.
- 30) Run the lifting structure upwards so that the rope boxes (22) can be bolted onto the lifting structure. Secure the bolts with spring clips.
- 31) Run the lifting structure downwards a short way, i.e. until the ropes are taut and the counterweight rope box (23) is slightly raised; remove bolt (24).
- 32) Run the lifting structure upwards. The pulleys must not be run up further than the "STOP" sign (max. operating height).
- 33) Through the opening in the base, remove the two bolts from the counterweight (11) with the aid of the cylinders (9).
- 34) Run the cylinders (9) out to the stop with the aid of the erection aggregate (10).
- 35) Climb up into the counterweight (11). Attach the rope box (23) to the counterweight (11) with bolts and secure with spring clips.
- 36) Thread the rope from the safety brake device around the pulleys (27) and bolt onto the levers of the upper safety brake gripper.
- 37) Spread the condor's wings.



- 11) Tighten the spindles ^{MASCHINENFABRIK} (5) at the ends of the stabilizers (3) with 295 ft lb (400 Nm).
- 12) Lay the damping strip on the flange edge facing away from the hinge of the base.
- 13) Erect the lower section of the tower (2) with the aid of a crane.

IMPORTANT ! Be sure not to squeeze or pinch any electrical cables !

- 14) Remove the damping strip.
- 15) Bolt together the base (1) and the lower section of the tower (2) using 16 bolts (6) size M30 as per DIN 931-10.9, nuts (7) size M30 as per DIN 934-10, washers (8) size 31 as per DIN 6916 - C45 and bushes (47). See Drawing No. Al-15.0, section B-B. Preload the bolts with 12325 psi (850 bar) with the SKF pretensioning device HTS 2.24 which is supplied with the ride and tighten the hexagon nuts by hand. The pretensioning device must be applied at least twice.

Using a torque wrench, tighten the bolts with 1335 ft lb (1810 Nm) ($\mu = 0,14$; lightly oil)

- 16) Using the maintenance switch, run the lifting structure downwards.
- 17) Place the centre section of the tower (12) on the lower section of the tower (2).
- 18) Insert the 4 centering pins (14) (see Drawing No. Al-15.0, section A-A) and fix in position with the hexagon head bolt (15).
- 19) Connect the sections of the tower as described in 15 above.
- 20) Insert the safety brake rail element (13) between the lower and upper safety brake rails.
(The groove and the key must be absolutely clean).
- 21) Bolt the safety brake rail element (13) to the tower using 8 bolts (16) size M16 as per DIN 931-10.9 and nuts (17) size M16 as per DIN 934-10. Lightly oil the nuts only.
(See Drawing No. Al-15.0, section C-C).

TIGHTENING TORQUE 133 ft lb (180 Nm)

- 22) Establish the electrical connections on the tower.



MASCHINENFABRIK

5

II. ERECTION

- 1) Move the base (1) with the tower section (2) to the location at which the ride is to be set up.
 - 2) With the aid of the three hydraulic cylinders in the base, 2 at the rear (25) and 1 at the front (26), raise the trailer until the front wheels are only just touching the ground (the controls for the 3 cylinders are located on the erection aggregate (10)).
- Important!
- The rear cylinders (25) must be extended until the rear axle assembly just clears the ground when the central section has been aligned exactly horizontal.
- 3) With the aid of cranks, undo the locknuts at the front of the base and pull both bolts (21) right out.
 - 4) Drive the wheel assembly away from the ride.
 - 5) Lower the central section with the front cylinder (26).
 - 6) Settle the base (1) in position on the two front support blocks and on the rear support block. On uneven terrain, level up the ground underneath the support blocks with sand to spread the surface pressure evenly.
 - 7) Exactly align the base (1) with the aid of the built-in spirit level.
 - 8) Set up the control stand together with the switchgear cabinets. Establish the electrical connections between the base and the switchgear cabinets and connect to the mains supply.
 - 9) Fold out the stabilizers (3), insert the brace (4) and secure the bolts with spring clips.
 - 10) Place support blocks under the stabilizers. On uneven terrain, level up the ground underneath the support blocks with sand to spread the surface pressure evenly.



MASCHINENFABRIK

4.1

13. When carrying out repairs involving welding work it is essential to make sure that the welding current does not flow through bearings or other sensitive parts; in other words, the ground electrode must always be fitted close to the point of welding.

Welding repairs may only be carried out by properly approved specialist companies.

CARNYTOWN.COM



MASCHINENFABRIK

4

RESPONSIBILITY OF MANAGERS AND OPERATORS

The following remarks are a compulsory condition for the safe operation of the ride:

1. In all cases the manager is ultimately responsible for the safety of passengers during operation of the ride.
2. Selection of operators must correspond to the demands made on them regarding operation of the ride.
3. The operator must devote his undivided attention to the operation of the ride.
4. He must be acquainted with the functioning of the ride, 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 ride 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 experts to find the reason for any malfunctioning.
8. The operator must insist on maintenance work being carried out, as it is described in detail in the operating instructions. 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 runs.
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 dismantling. After erection all parts have to be orderly connected and all connecting parts and necessary anchorages have to be mounted in a safe way.
11. The complete operating instructions provided by the manufacturer have to be kept at hand in the operator's stand so that the operator can have a look at them at any time. Upon loss, the manufacturer has to be immediately requested to provide a new copy of the complete operating instructions.
12. During repair and maintenance works, the ride must be currentless i.e. the main switch in the switch cabinet must be switched off. Should it be necessary to carry out maintenance work while the ride is in operation, an additional person to control the switch board is required.



MASCHINENFABRIK

ÜBERNAHMEPROTOKOLL
ACCEPTANCE CERTIFICATE

für
for

Rundfahrtgeschäft
CONDOR
Amusement Ride

Auftrag-Nr.:
Order No.: Napi-Telefax vom 29.11.1990

Die ordnungsgemäße, vollständige Aufstellung, Übergabe und Einweisung
ist gemäß Kaufvertrag vom
an den Käufer/ oder dessen Stellvertreter, Fa.
erfolgt am

The proper, complete erection, handing-over and introduction of the
buyer/ or his representative
to the operation of the ride
in accordance with the sales contract of
has taken place on

Die Betriebs- und Wartungsanleitung sowie die gesonderten Hinweistafeln
wurde übergeben/zugesandt und erklärt. Jeder Besitzer dieses Fahr-
geschäftes ist verpflichtet, sich beim Herstellerwerk einweisen zu
lassen und sich die neueste Fassung der Betriebs- und Wartungsanleitung
aushändigen zu lassen.

The Operating and Maintenance Instructions as well as the separately
given informative signs 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.

Bremen,
Hersteller Käufer
Manufacturer Buyer



MASCHINENFABRIK

XI. Instructions of the Manufacturers

Thyssen, 6071053000
Weier, electric motor
Pintsch Bamag
Thalheim
Puls
SKF
Alup

page
page
page
page
page
page
page

XII. Electrical System

pages -

CARNYTOWN.COM



MASCHINENFABRIK
OPERATING INSTRUCTIONS

for
AMUSEMENT RIDE TYP CONDOR

Order-No.

I.	General References	pages	1 - 4.
	1. Contents		
	2. Handing Over Confirmation		
	3. Responsibility of Managers and Operators		
II.	Erection	pages	5 - 9
III.	Dismantling	page	10
IV.	Daily Putting into Operation and Shutting Down	page	11
V.	Maintenance and Lubrication	pages	12 - 14
	A) Reduction Gear		
	B) Racks and Pinions		
	C) Drive Rings		
	D) Flanged Connections		
	E) Ropes		
	F) Safety Brake		
	G) Direct Current Motors		
	H) Magnetic Brakes on Lifting Motors		
	I) Tachogenerators on Lifting Motors		
	J) Guiding wheel on tower, Pos. 48		
VI.	Operating Regulations for Carrousel "CONDOR"	pages	15 - 17
VII.	Maintenance Instructions for Fiberglass Surfaces	page	18
VIII.	Checkpoints of Safety Devices	pages	19 - 20
IX.	Principles Relating to Rope Drives (DIN15020, Sheet 2)	page	21
X.	Drawing		
	✓ No. A1-15.0	Carrousel "CONDOR"	page 22
	✓ No. 1-15.C.16	Adjustment of pinions and rollers	page 23
	✓ No. 2-15.11.Z	Tower Bolt Connection	page 24
	✓ No. 4-15.19.L.1	Hydraulic Diagram	page 25
	✓ No. 2-15.34.D.B1.1	Pneumatic-Diagram with auxiliary-safty-bar	page 26
	✓ No. 3-22798	Safety Brake	page

SERVICE LETTER CO-03
ISSUED BY HUSS MASCHINENFABRIK
APRIL 11, 1988



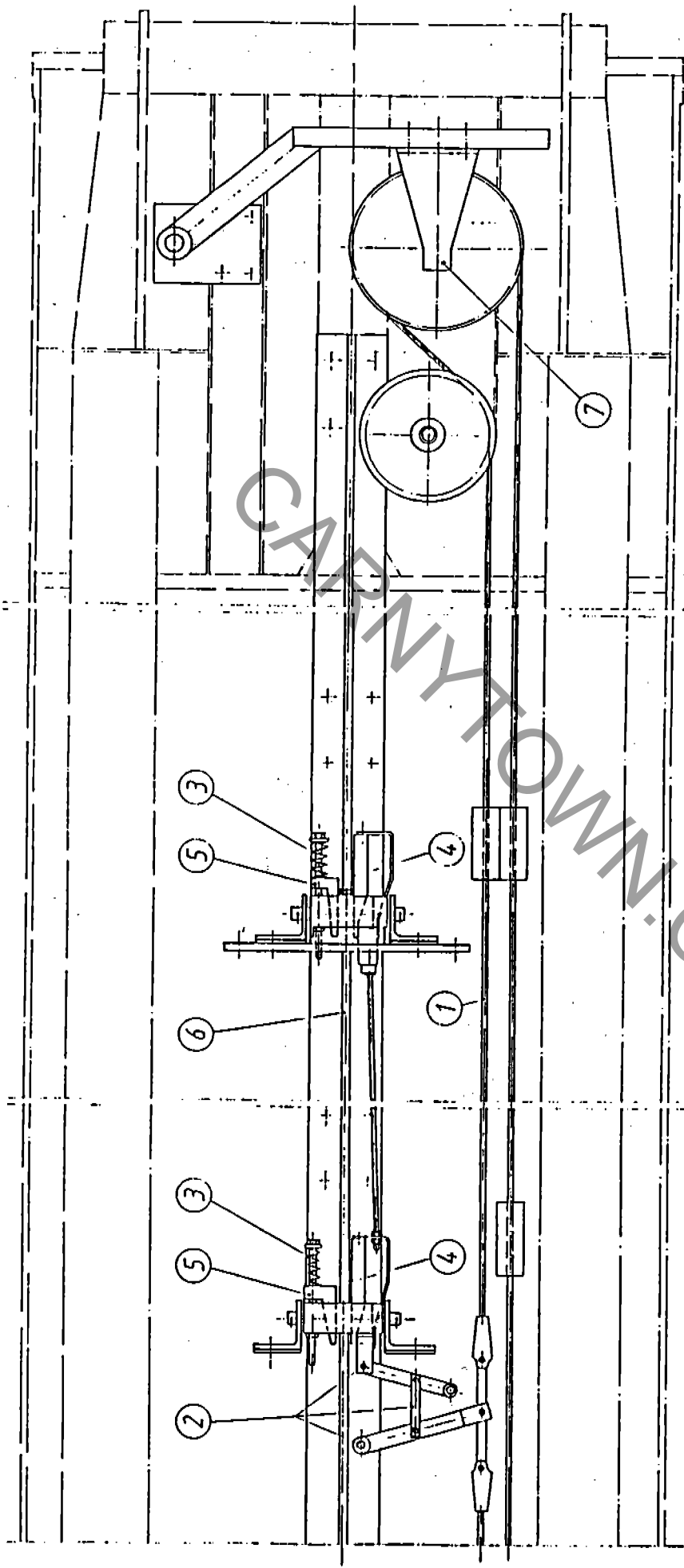
**RETURN RECEIPT
REQUESTED**

RE: Condor - Arrester device maintenance

Our Operating Manual prescribes that all parts of the "arrester device" must be kept free of rust.

We have occasion to draw special attention to these maintenance measures once again and we wish to assist you in this by means of more detailed instructions in conjunction with the attached Drawing No. 3-22798.

- 1) Spray the regulating rope (Item 1) with a rope care agent such as e.g. LOT-EX at least once every six months.
- 2) Check the complete arrester rod assembly (Item 2) every 4 weeks to ensure that it runs easily and oil the bearing points.
- 3) Check the springs and holders (item 3) every 4 weeks and also keep free of rust.
- 4) Each time the arrester device is triggered, subsequently check the cross-grooved linings of the arrester grippers (Item 4) and exchange if any signs of wear are noted.
Also check the arrester bed (counterpart) (Item 5).
- 5) All parts of the arrester device including the speed regulator (Item 7) located at the foot of the tower must be kept absolutely free of rust at all times.
However, it is essential that the arrester grippers (Item 4), the arrester bed (Item 5) and the arrester rail (Item 6) should remain completely free of grease.



1. Hohe des Aufzugs 2. Durchmesser des Aufzugs 3. Durchmesser des Seils 4. Durchmesser des Seils 5. Durchmesser des Seils 6. Durchmesser des Seils 7. Durchmesser des Seils	Umlaufzeit nach DIN 31 beachten	Material 1: Z5 2: St50	Gewicht Type
Seil 1. Durchmesser 2. Durchmesser 3. Durchmesser 4. Durchmesser 5. Durchmesser 6. Durchmesser 7. Durchmesser		Zeichnung Nr. 3-22798	
Muss Maschinenfabrik (Logo)		Muss Maschinenfabrik	



MASCHINENFABRIK

7. Quality screw connections for which a specific tightening torque is prescribed must be subjected to careful inspection prior to assembly / erection of the ride. In any case, only flawless nuts and bolts may be used and these must be clean and lightly oiled.

After certain periods of operation, it is necessary to check the pretensioning. If any parts of the ride are found to have settled with time, these checks must be carried out more frequently.

8. The gondolas must not be loaded with more than 2 passengers each (calculated load 165 lb/person). The passengers must be distributed among the gondolas and the rotating units as evenly as possible.
9. 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.
10. Children under 8 years of age and of a height of less than 4,5 ft. (137 cm) may only use the ride if accompanied by a responsible adult.

Drunken persons are not to be admitted to the ride.

11. The notices announcing the prohibitions and conditions contained in 9 and 10 must be prominently displayed.
12. The operator must not switch on the drive power until:
 - a) all passengers are properly seated
 - b) all entry ports to the gondolas have been pneumatically closed
 - c) the platform has been cleared of people
 - d) the public is standing at a sufficient distance away from the trajectory of the gondolas.



MASCHINENFABRIK

17

13. All parts of the ride must be checked daily prior to starting operation and if necessary also during pauses in operation to ensure that they are in perfect condition. It is especially important to check for any sinking or settling of the support blocks or of single support elements.

14. The two drive units (i.e. brakes, motors, gears, racks and pinions) possess safety functions in the lower part of the trajectory coming into the platform area.

For this reason they must be maintained in the manner specified by the manufacturing companies in order to ensure that they function properly at all times. Operation of the ride must always be discontinued if any faults are found.

If the drive brakes fail at full lifting speed, first determine the cause beyond any doubt and then wait until the brakes have cooled off before restarting operation of the ride. It may be necessary to call in a specialist company. If the deceleration/stop brakes fail, the manager of the ride must contact the manufacturers HUSS before restarting operation.

15. The ride is not designed for snow loads. If the ride is erected outside the snow-free season, any snow must be swept off all parts of the ride without delay.
16. At wind speed force 8 or higher (stormy wind, twigs broken off trees) operation of the ride must be discontinued immediately.
17. The correct functioning of the overspeed monitors and the battery voltage of the emergency lowering device must be checked once a week.
18. The instructions of operation and maintenance of the individual manufacturers and the specially indicated check-points must be observed.



VIII.

*** Points to Check in the Safety Equipment of the CONDOR ***
once a year with the assistance of an approved expert

Item	Component	Point to check	Desired value	Remarks
1	Magnetic brake on the lifting motor (56)	Air gap between the armature disk and the coil	0,07 in (1,8 mm)	See nameplate for max. air gap
2	Toothed racks (52) Pinions (53)	Tooth profile Fastening screws	236 ft lb (320 Nm)	
3	Running rollers on the lifting assembly (48)	Air gap between running roller and track	0,008 - 0,16 in. (0,2 - 0,4 mm)	If the gap is bigger than 0.5mm it must be re-adjusted
4	Limit switch on the tower (57) (58)	Position of the switching rail and the sensing distance	0,08 in (2,0 mm)	Check top and bottom positions
5	DC motors (49) (50) (51)	Carbon brushes Commutator		Clean interior of motors of carbon dust
6	Arrester device Drawing No. 3-22798	Rails, wedges Rope Rope pulleys		The rail should be free of grease Check visually Grease bearings
7	Slip-rings Conductor rails (59) (60)	Slip-ring tracks Carbon brushes Brush holders		Grind down welds Check spring tension and connections
8	Trailing cable (61) Winding drum	Cable sheath Coiling device Gearbox		Check for external damage Check oil level
9	Gondolas (38) (62) (42)	Bearings Shock absorbers Door locks		
10	Flange connections (63)	Tightening torque of the screws	12325 psi (850 bar)	With SKF pre-loading device Important for park models

VIIMaintenance 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.



MASCHINENFABRIK

*** Points to Check in the Safety Equipment of the CONDOR ***

once a year with the assistance of an approved expert

Item	Component	Point to check	Desired value	Remarks
11	Counter-weight ropes (64)	Rope fastenings Ropes		Visual inspection
12	Steel construction Welds	Check for cracks		
13	Lifting gearbox (50)	Cogs Bearings		Gearboxes should be dismantled after 5 years and checked at the maker's works
14	Hydraulic system	Leaks Oil level Filters		
15	Pneumatic system Gondola locking system Drawing No. 2-15.340	Leaks Pressure test		
16	Electrical system	Screw connections Plug-and-socket connections Earth-leakage circuit breaker Motor protection switch,		
17	Electrical system	Overspeed test Insulation resistance		
18		Trial operation after Acceptance Certificate		

CARNYTOWN.COM



SERVICE LETTER CO-07
ISSUED BY HUSS MASCHINENFABRIK
JANUARY 20, 1992

RE: CONDOR TOWING CABLE

It has been noted that the carrier for the worm gear arm of the coiling device may wear with time, or sooner, without proper maintenance of this device. It is recommended to inspect and clean/regrease this unit at least once during the operating season. It would also be beneficial to inspect and clean this unit more frequently during the operating season. Otherwise it may happen that the cable will not windup correctly and it could tear off. (See attached drawing to see unit to be inspected and cleaned.)



MASCHINENFABRIK

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

Stresemannstr. 56 · Telex 2 45 180 huss d
☎ (04 21) 49 90 00 · Telefax 4 99 00 40

Ihre Zeichen/Nachricht

Unser Zeichen

Telefon-Durchwahl / Kommission / Tag
November 1990

RE: CONDOR - Arrestor Gripping Device

Please replace paragraph F5 on page 13 of your manual as follows:

"After each use, check arrestor pad (pos. 5) and the arrestor pads (pos. 4).

If the bronze pads are flush with the steel surface, the gripping roll shows less than 50% knurl and there is no longitudinal grooved profile on the opposite iron wedge, the gripping device has to be replaced.

Any slivers have to be removed from the grooves, as well as the side rails."

See enclosed drawing 3-22798

Rechtsform: Kommanditgesellschaft, Sitz Bremen, Registergericht Bremen HRA 18318
Fertigstellende Gesellschaften: Huss Maschinenfabrik GmbH,
Sitz Bremen, Registergericht Bremen HRA 10337
Geschäftsführer: Dieter Weleschmann, Hans Karl von Winterfeld

Bremer Bank : (DL Z 290 800 10) Kto.-Nr. 211 381 000
Bankhaus Neelmeyer AG : (RI Z 290 200 001) Kto.-Nr. 8500
Postgroschl : Hannover (DL Z 250 100 30) Kto.-Nr. 1584 84 300