

MFG: ZAMPERLA

NAME: FIELD REF. MANUAL

TYPE: N/A

ZAMPERLA RIDES

FIELD REFERENCE MANUAL

REF# 3 JANUARY 1992



ZAMPERLA®
IN THE USA

**MANUFACTURER OF
QUALITY AMUSEMENT RIDES**

January 1992

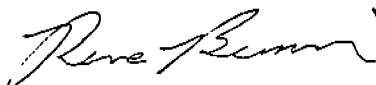
Zamperla Inc. is providing this Field Reference Manual as a guide for anyone involved in the inspection or maintenance of Zamperla rides. This manual contains general technical information covering the Zamperla rides operating in the United States and Canada at this time. Following each specification page will be any Maintenance Bulletins or Technical Updates that have been released pertaining to that ride.

Items classified as Maintenance Bulletins are considered mandatory modifications or service procedures. Technical Updates are issued as a means of providing information regarding parts, inspection, or service procedures we feel will help our customers increase the reliability/performance of their Zamperla rides.


All bulletins released to date are included in this manual. The technical specifications listed in this manual are effective as of their publishing date. These specifications are subject to change without notice.

If there are any questions regarding any of the bulletins or specifications covered in this manual, or a condition is encountered in the field not covered herein, please contact Zamperla's Technical Service Department.

Rene Bernier



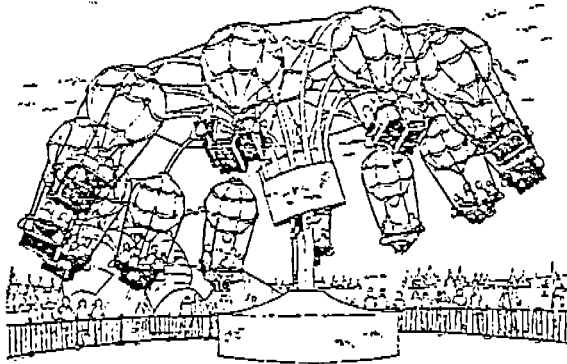
Technical Service Manager

MADE BY  A.ZAMPERLA
VIA M. GRAPPA, 17-36077 ALTAVILLA VIC. NA (VI)-ITALY

RIDE NAME
SERIAL N.
PASSENGER CAPACITY FOR EACH CAR N.
LOADING WEIGHT FOR EACH CAR: lbs. Kg.
RESTRICTION ft cm IF NOT ACCOMPANIED
ROTATION DIRECTION: CLOCKWISE COUNTERCLOCKWISE
RIDE SPEED RPM
POWER: VOLT KW Hz PHASES
LIGHTING: VOLT KW Hz PHASES
OPERATING DIMENSIONS INCLUDING FENCING:
FRONT SIDE
MAXIMOM OPERATING WIND: Mph Km/h
CONTROL: START-Green STOP-RED
ALARM-YELLOW EMERGENCY STOP-RED

All Zamperla manufactured rides are delivered with an identification plate as represented above attached in the vicinity of the electrical cabinet. With the increase in imported equipment operating in the United States this plate verifies that the ride is in fact manufactured by Zamperla. Many of the rides manufactured by the various Italian Ride manufacturers look similar to each other. If there is no I.D. plate attached to a ride you encounter please contact Zamperla Inc. at the address/phone numbers listed on the preceding cover letter to verify the origin of the equipment.

BALLOON RACE 8



DESCRIPTION

OUR FAMILY RIDE, BALLOON RACE, PARK MODEL HAS 8 CARS WHICH CARRY 4 ADULTS EACH FOR A TOTAL CAPACITY OF 32 PEOPLE.

THE CARS ARE DESIGNED AS HOT-AIR BALLOONS WITH BRIGHTLY COLORED FIBERGLASS. THE CARS ROTATE WITH AN INCLINATED AND SWINGING MOVEMENT AROUND THE MAIN AXLE.

THE ROTATION IS GIVEN BY AN ELECTROMECHANICAL SYSTEM AND THE LIFTING BY OLEODYNAMIC CYLINDER SYSTEM, REACHING AN INCLINATION OF 15°.

ON THE MAIN COLUMN STRUCTURE ARE ANCHORED THE ARMS FROM WHICH HANG THE BALLOONS. EACH BASKET HAS A SAFETY GATE AND AN EXTERNAL OPENING HANDLE.

THE MOTORIZATION IS MOUNTED ON THE FIXED LIFTING CENTER. THE OLEODYNAMIC SYSTEM AND THE ELECTRIC PANEL ARE GROUND LOCATED UNDER THE RIDE CENTER AND HIDDEN BY A CIRCULAR STRUCTURE COVERED WITH A PVC CANVAS. FENCES AROUND PERIMETER.

THE ELECTRIC PANEL IS INCLUDED. FOUNDATIONS ARE NEEDED FOR CENTRAL COLUMN.

STANDARD LIGHTING

- EACH BALLOON HAS 160 LIGHTS.
- EACH ARM HAS ONE LIGHTED STRIPE WITH 32 LIGHT-POINTS.

OPTIONAL (TO BE QUOTED ON REQUEST)

- SECOND ROW OF LIGHTS ON EACH ARM.
- BALLOON RACE SIGN WITH CLOUDS AND LIGHT EFFECTS
- BALLOON RACE TICKET BOX WITH SIGN
- PAINTED AND LIGHTED FIBERGLASS STRUCTURE TO COVER BASE OF RIDE
- PAINTED FIBERGLASS STRUCTURE TO COVER FIXED LIFTING CENTER
- LIGHTS ON FIBERGLASS STRUCTURE COVERING FIXED LIFTING CENTER.
- SPIDER BASEMENT TO AVOID CENTRAL PLINTH

OTHER VERSION

- TRAILER MODEL WITH BERGISCHE AXES
- PARK MODEL WITH 12 BALLOONS

SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	32
MAXIMUM TOTAL PASSENGER WEIGHT	2400 KG.
MINIMUM PASSENGER HEIGHT	105 CM.
	(UNACCOMPANIED BY ADULT)

LOADING	ALL SEATS SIMULTANEOUSLY
MAXIMUM UNBALANCE	16 ADULTS (1200 KG.)

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
RIDE SPEED	9 RPM.
RIDE DURATION (MAXIMUM)	2.5 MIN. (PROGRAMMED TIMER)
RIDE DURATION (RECOMMENDED)	2 MIN. (PROGRAMMED TIMER)
HOURLY CAPACITY	800
OPERATOR	1

MAXIMUM RIDE WEIGHT	16 TONS.
---------------------	----------

DRIVE	ELECTRIC
-------	----------

INSTALLED POWER

TOTAL	42 KW.
DRIVE	30 KW.
LIGHTS	12 KW.
VOLTAGE	3 PHASE + NEUTRAL
	(OTHER SOLUTIONS HAVE TO BE CONSIDERED)

SHIPPING INFORMATION

CONTAINER	1x40 O.T.
-----------	-----------

LARGEST COMPONENTS

RIDE CENTRE	6 MT. x Ø 2 MT. x 8 TONS
ARMS	4 MT. x 0.35 MT. x 220 KG.
NO. 3 STACKED BASKETS	1.5 MT. x 1.2 MT. x 2.5 MT.

ERECTION WORKS

- *NO.1 SUPERVISOR FOR 2-3 DAYS WITH A TEAM OF 5 LOCAL MEN.
- *CRANE: HEIGHT X TONS X LENGTH OF THE ARM X TIME IN HOURS
10 MT. x 15 TONS. x 6 MT. x 8 HOURS.
- *DEPENDS ON SITE CONDITIONS AND WORK FORCE AVAILABLE

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91

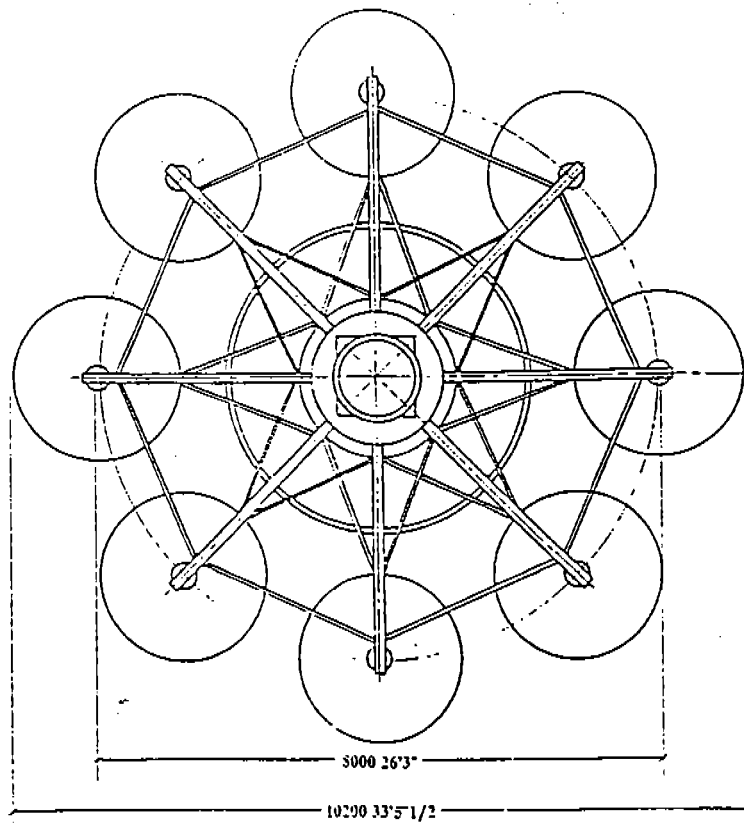
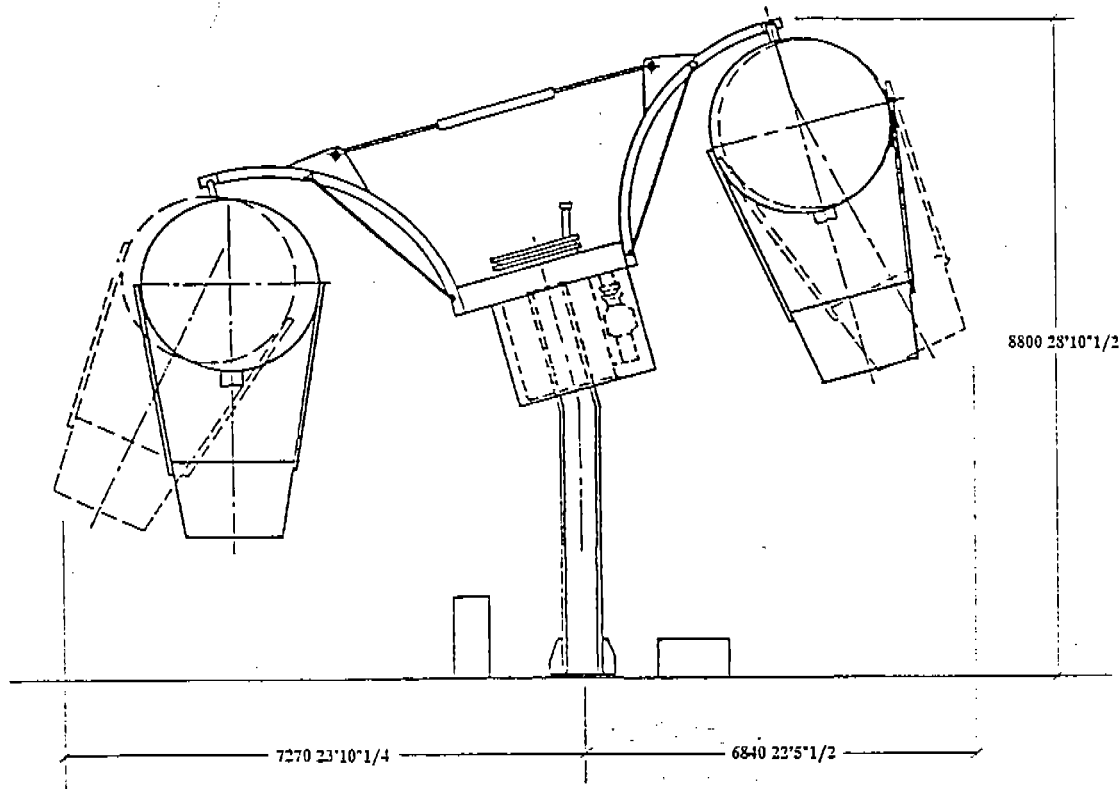
ZAMPERLA

AMUSEMENT RIDES MANUFACTURERS

ANTONIO ZAMPERLA S.P.A.
- (HOME OFFICE FACTORY)
36077 ALTAVILLA VIC.(VI) ITALY
Via MONTE GRAPPA 15-17
TEL. (0444) 573133 FAX 573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. Box 5545
PARSIPPANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



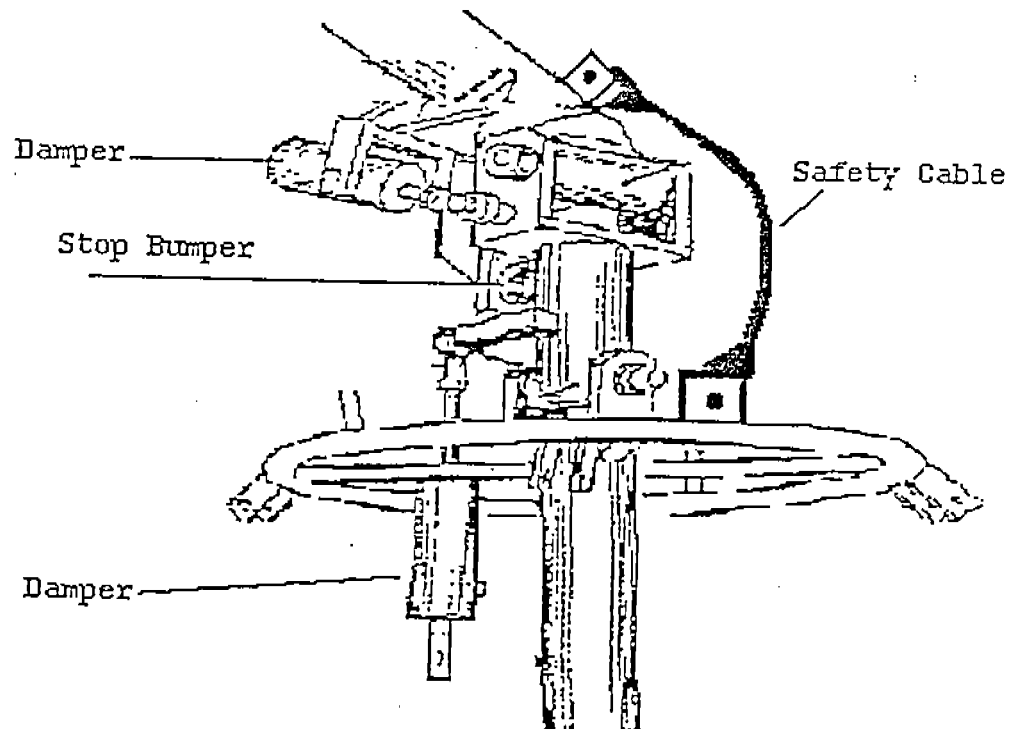
Zamperla Inc.

Maintenance Bulletin

February 1990

RE: Balloon Race Dampers and Stops

Under NO circumstances should any Balloon Race be operated without the hydraulic dampers (shocks) or stop bumpers. Both these devices were installed to limit the action of the gondolas and operation with any of them missing is dangerous to both the passengers and equipment! The hydraulic damper has lost its effectiveness when it takes more than 1 3/4 swings for the gondola to come to rest after being released from a position an average person can swing it out to. The travel should be gauged by the balloon movement not the gondola as there is some movement allowed by the support rods. Below is a pictorial of the damper area showing components.



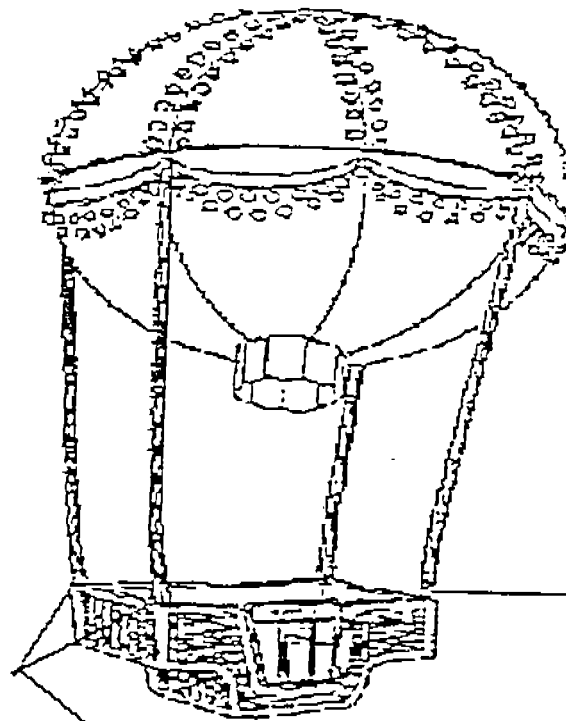
Rene Bernier
Customer Service Manager

Zamperla Inc. Maintenance Bulletin

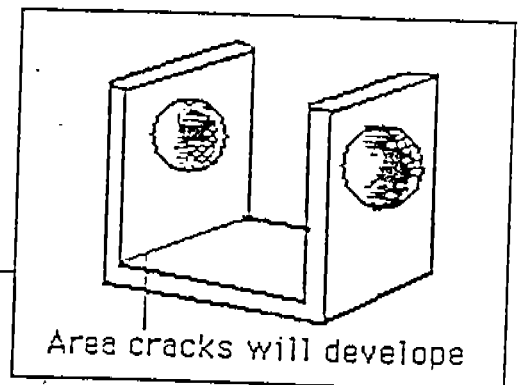
February 1990

RE: Balloon Race Gondola Hangers

There has been one Balloon Race ride that developed cracks in the gondola hanger attachments. This was a portable ride, and the cause of the cracks was determined to be the bending of the attachments by overtightening the bolts during set up, then re-straightening the attachments to rack the gondolas for transport. It is important when erecting the Balloon Race to only tighten these attachment bolts enough to engage the nylon of the locknut, and not compress the attachment part. Zamperla Inc. is recommending you inspect these areas for cracks. The correct method of repair is replacement. If any cracks are found please contact our service department.



Do NOT Overtighten Bolts



Rene Bernier
Customer Service Manager

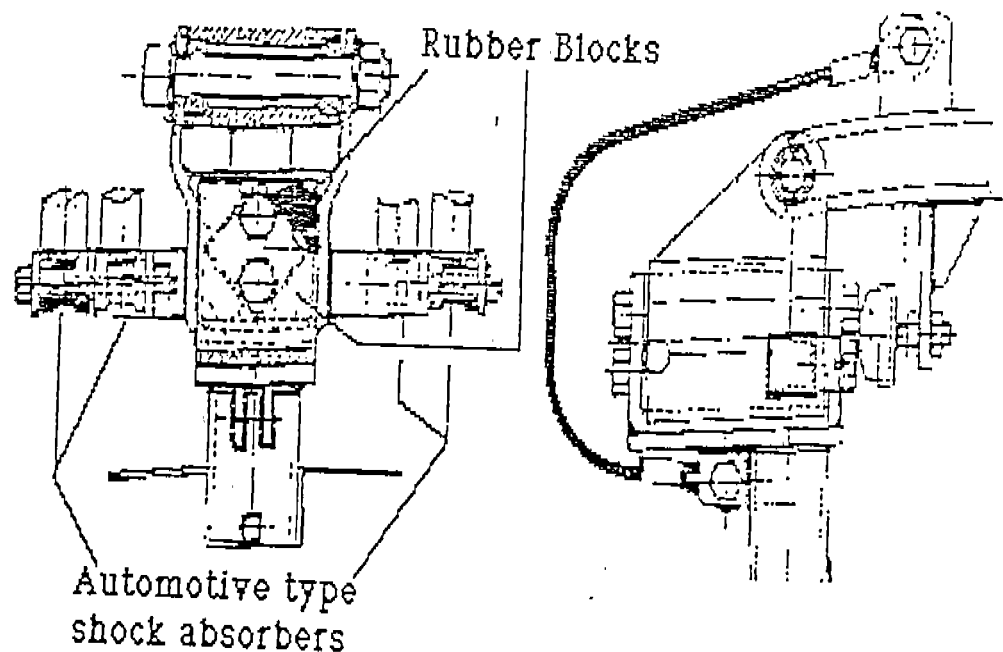
Zamperla Inc.

Technical Update

January 1991

RE: Maintenance Bulletin BR-1 February 1990
Balloon Race Dampers and Stops

There has been a change in the method of attachment and damping of the gondolas on Balloon Race rides delivered in 1990. The bearings and dampers for movement parallel to rotation have been replaced with a captured rubber block coupling which allows movement in this direction as well as damping. The single hydraulic damper for movement perpendicular to rotation has been replaced with 4 automotive type shock absorbers. The parts needed to update earlier rides are available thru our parts department. The method of testing damper effectiveness detailed in the previous bulletin still applies.



Rene Bernier
Technical Service Manager

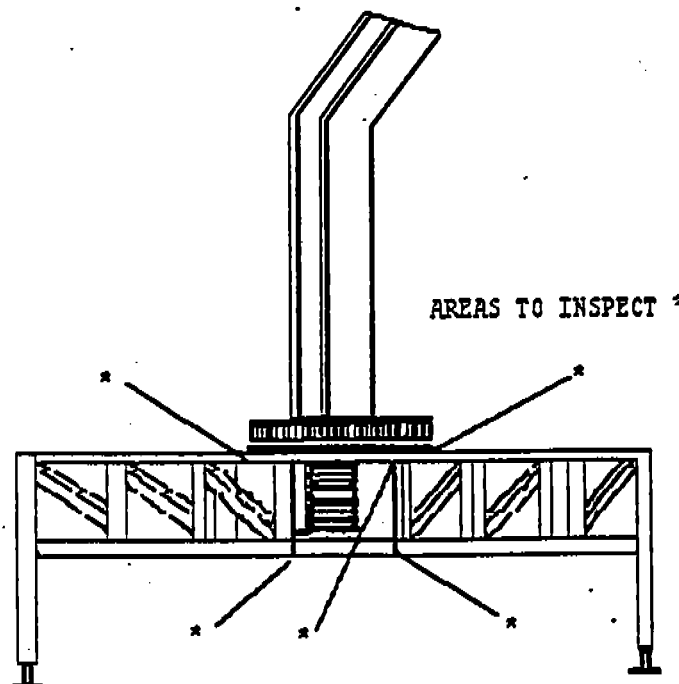
Zamperla Inc.

Maintenance Bulletin

NOVEMBER 1994

RE: SAMBA/SAMBA BALLOON (UP UP & AWAY) CENTER SUPPORT STRUCTURE

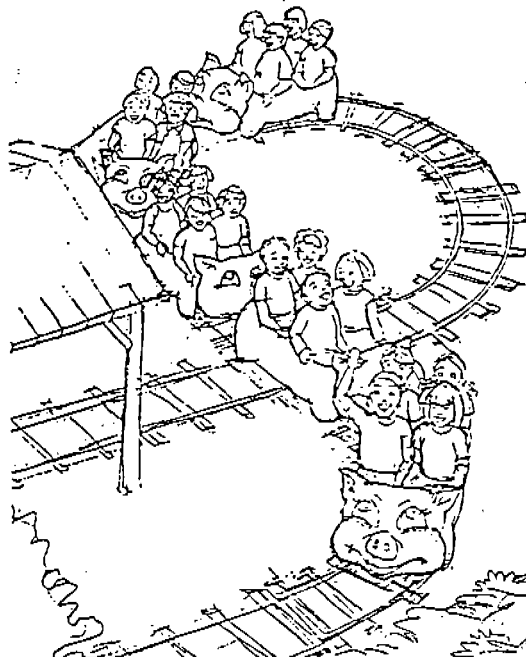
Several Samba Balloon (Up Up & And Away) rides delivered during the 1994 season developed cracks in the center support structure. Due to similarities in the base structure of the Samba Balloon and Samba rides we are asking all owners/operators of Samba rides to inspect the base of their rides as indicated below. If any indications of cracking are found please contact our technical office at 800-888-8878 ext. 217. Also please complete and return the enclosed postage paid inspection card.



Rene Bernier
Technical Service Manager



CHILDREN TRAINS



DESCRIPTION

OUR RANGE OF CHILDREN TRAINS INCLUDES: EL PASO - TURTLE - CATERPILLAR - PORKIES AND PANDA. ALL THESE 4 DIFFERENT MODELS ARE PROVIDED WITH THE SAME TYPE OF RAIL AND THE SAME DRIVING SYSTEM. THE TRAINS REPRESENT A NICE ROW OF ANIMALS OR A REPRODUCTION OF AN OLD FAR-WEST TRAIN. EACH HEADCAR IS EQUIPPED WITH 4 D.C. MOTOR WHILE THE WAGONS ARE NOT MOTORIZED.

ALL CARS HAVE A CHASSIS WITH 2 WHEELS (ONLY THE HEADCAR HAS 4 CAST IRON WHEELS) TO WHICH IS CONNECTED THE FIBERGLASS BODY. THESE TRAINS RUN ON AN OVAL TRACK OF 30 MT. FORMED BY: 3 MT. LONG RAIL SECTIONS, 6 STRAIGHT AND 4 CURBED (90°) PIECES. THE RAIL IS MADE WITH PAINTED STAINLESS STEEL AND TARRED WOODEN SLEEPERS.

FENCES ON PERIMETER ARE NOT INCLUDED. THE TRAIN COMES STANDARD WITH A SINGLE PHASE RECTIFIER (WITHOUT MICRO-SWITCH AND TIMER) WHICH ALLOWS THE NEGATIVE AND POSITIVE CONTACT WITH THE RAIL. THE SPEED IS ADJUSTABLE BY CHANGING THE POSITION OF THE OUTPUT CABLE ON THE MAIN TRANSFORMER. FOUNDATIONS ARE NOT REQUIRED.

OPTIONALS (TO BE QUOTED ON REQUEST)

- RECTIFIER WITH TIMER AND MICRO SWITCH.
- FENCES ON PERIMETER.
- TRAIN STATION SIGN.
- FIBERGLASS DAISY ROOF FOR TURTLE TRAIN OR PVC ROOF FOR ALL OTHER TRAINS WITH STAINLESS STEEL SUPPORTS.
- R.R. CROSSING.
- MUSHROOMS
- ADDITIONAL CAR.
- DIFFERENT TRACK SIZE AVAILABLE ALSO WITH CROSS.

EL PASO

COMPOSED	1 HEADCAR + 3 WAGONS
MAXIMUM TOTAL NUMBER OF PASSENGERS	26 CHILDREN
MAXIMUM CHILDREN AGE	8 YEARS
DIRECTION OF TRAVEL	CLOCKWISE
MAX. SPEED	5 KM/H.
HOURLY CAPACITY	520
OPERATOR	1

DRIVE

ELECTRIC

INSTALLED POWER

TOTAL	1.5 KW
VOLTAGE	SINGLE PHASE
(OTHER SOLUTIONS HAVE TO BE CONFIRMED)	

9 CUBIC METERS

CONTAINER

CATERPILLAR

COMPOSED	1 HEADCAR + 4 WAGONS
MAXIMUM TOTAL NUMBER OF PASSENGERS	28 CHILDREN
MAXIMUM CHILDREN AGE	8 YEARS
DIRECTION OF TRAVEL	CLOCKWISE
MAX. SPEED	5 KM/H.
HOURLY CAPACITY	560
OPERATOR	1

DRIVE

ELECTRIC

INSTALLED POWER

TOTAL	1.5 KW
VOLTAGE	SINGLE PHASE
(OTHER SOLUTIONS HAVE TO BE CONFIRMED)	

9 CUBIC METERS

CONTAINER

TURTLE - PORKIES - PANDA

COMPOSED	1 HEADCAR + 4 WAGONS
MAXIMUM TOTAL NUMBER OF PASSENGERS	20 CHILDREN
MAXIMUM CHILDREN AGE	12 YEARS
DIRECTION OF TRAVEL	CLOCKWISE
MAX. SPEED	5 KM/H.
HOURLY CAPACITY	400
OPERATOR	1

DRIVE

ELECTRIC

INSTALLED POWER

TOTAL	1.5 KW
VOLTAGE	SINGLE PHASE
(OTHER SOLUTIONS HAVE TO BE CONFIRMED)	

9 CUBIC METERS

CONTAINER

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91

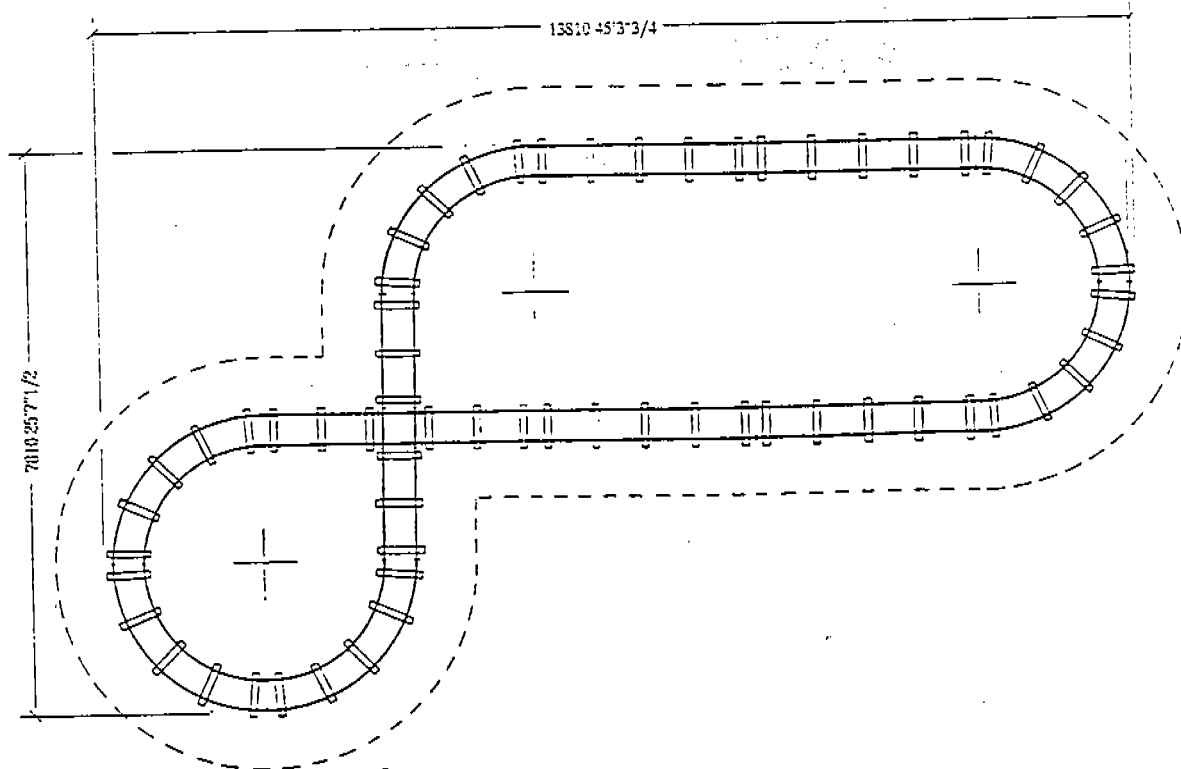
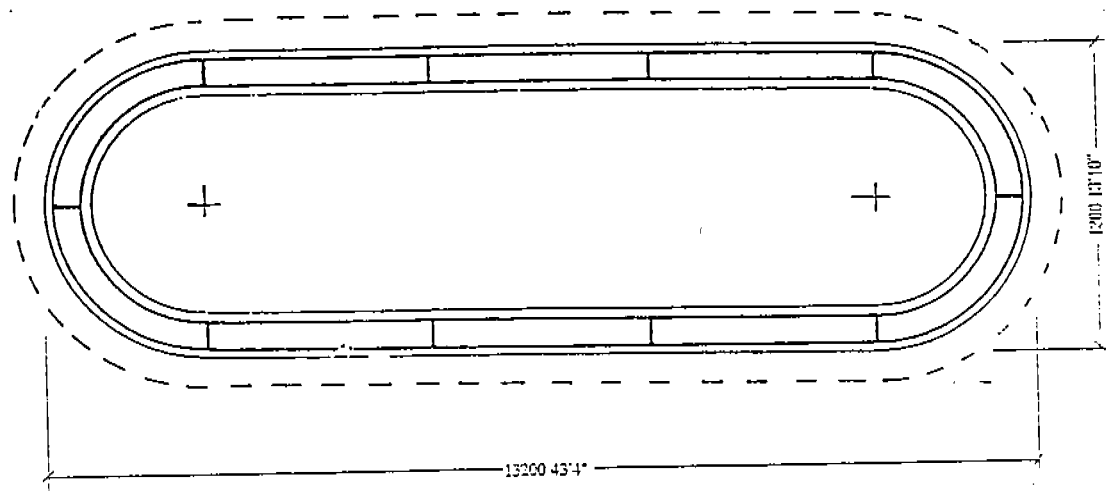
ZAMPERLA

AMUSEMENT RIDES MANUFACTURERS

ANTONIO ZAMPERLA S.p.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC. (VI) ITALY
Via MONTE GRAPPA 15-17
TEL. (0444) 573133 FAX 573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. Box 5545
PARSIPPANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



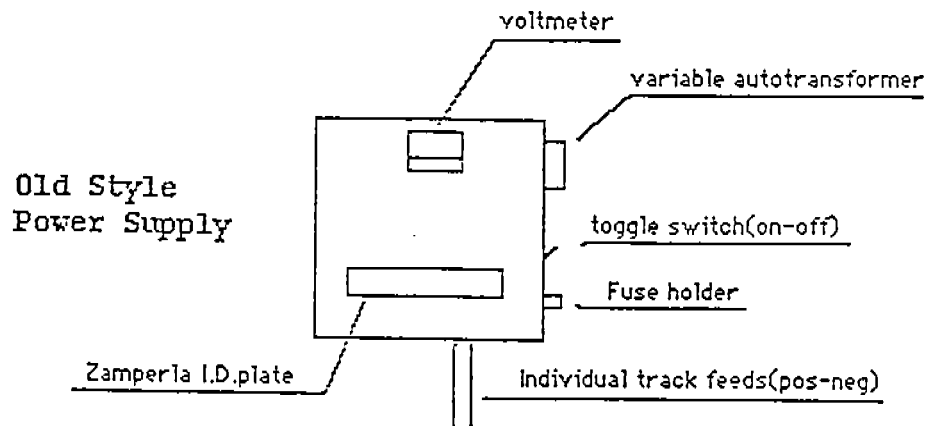
Zamperla Inc.

Technical Update

February 1990

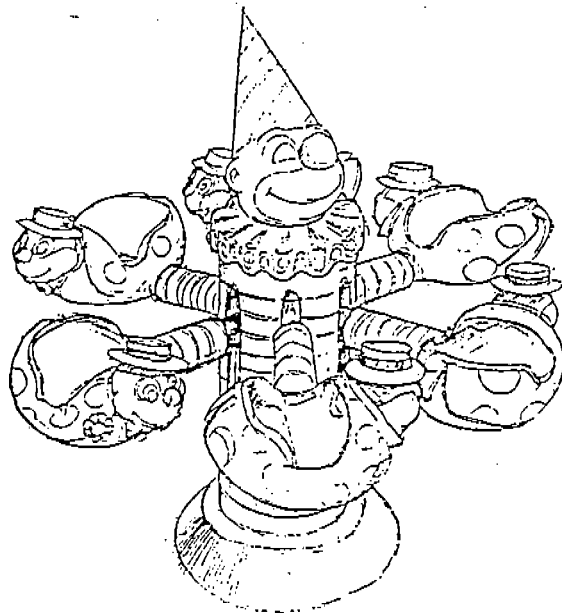
RE: Small Train Power Supply

There is the potential to create an electrical shock hazard involving old style small train power boxes. The old style box utilizes a variable auto-transformer for voltage reduction and speed control. There is nothing inherently wrong with the design or construction of the power supply as it was produced. The problem occurs when the 110v line plug is replaced, or the box is plugged into an incorrectly polarized outlet. As with all auto-transformers there is no isolation between primary and secondary windings. Incorrect polarity on the line side will cause a 110v Potential between the track and earth ground. Zamperla is recommending that customers still operating with this old style box, verify the polarity is correct on their line plug. We also recommend they verify the outlet they plug into before beginning operation. A solution approved by Zamperla is the installation of a 1 kva isolation transformer between the line plug and the auto-transformer. This eliminates the need to verify every outlet you plug into. This is NOT considered a manufacturers recommended modification, and the absence of this isolation transformer does not constitute the RED TAGGING of a train operating with this old style box. Below is a diagram to help you identify this power supply. If there is any question regarding this please contact our service department.



Rene Bernier
Customer Service Manager

CLOWN AROUND



SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	12
MAXIMUM TOTAL PASSENGER WEIGHT	900 KG.
LOADING	ALL SEATS SIMULTANEOUSLY
MAXIMUM UNBALANCE	6 CHILDREN

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
RISE SPEED	6 RPM.
RISE DURATION (MAXIMUM)	2.5 MIN. (PROGRAMMED TIMER)
RISE DURATION (RECOMMENDED)	2 MIN. (PROGRAMMED TIMER)
HOURLY CAPACITY	300
OPERATOR	1

MAXIMUM RIDE WEIGHT 1.3 TONS.

INSTALLED POWER

TOTAL	3 KW.
DRIVE	2.2 KW.
LIGHTS	0.8 KW.
VOLTAGE	3 PHASE + NEUTRAL SINGLE PHASE

SHIPPING INFORMATION

CONTAINER 1x20 O.T.

ERECTION WORKS

No. 1 PERSON FOR 3 HOURS

DESCRIPTION

CLOWN AROUND IS A SMALL RIDE SPECIALLY DESIGNED FOR SMALL LOCATIONS, WITH 6.5 MT DIAMETER WITH FENCES.

STANDARD VERSION HAS 3 LADYBUGS AND 3 TURTLES, FOR A TOTAL CAPACITY OF 18 CHILDREN SEATS.

EACH CAR IS PROVIDED WITH SOUND AND LIGHTS. CENTRAL HYDRAULIC SYSTEM WITH SIMULTANEOUS LIFTING OF THE 6 CARS.

CENTRE OF THE RIDE REPRESENTS A CLOWN HEAD, WITH LIGHTS AROUND HIS COLLAR.

FENCES ON PERIMETER, ELECTRIC PANEL AND REMOTE CONTROL ARE INCLUDED.

OPTIONAL (TO BE QUOTED ON REQUEST)

- DIFFERENT CARS
- PLATFORMS
- TICKET BOX
- LIGHTS ON ARMS

OTHER VERSION

- MANHATTAN TOUR
- PANDA
- PETER PAUL DRAGON WITH CASTLE CENTRE.

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91

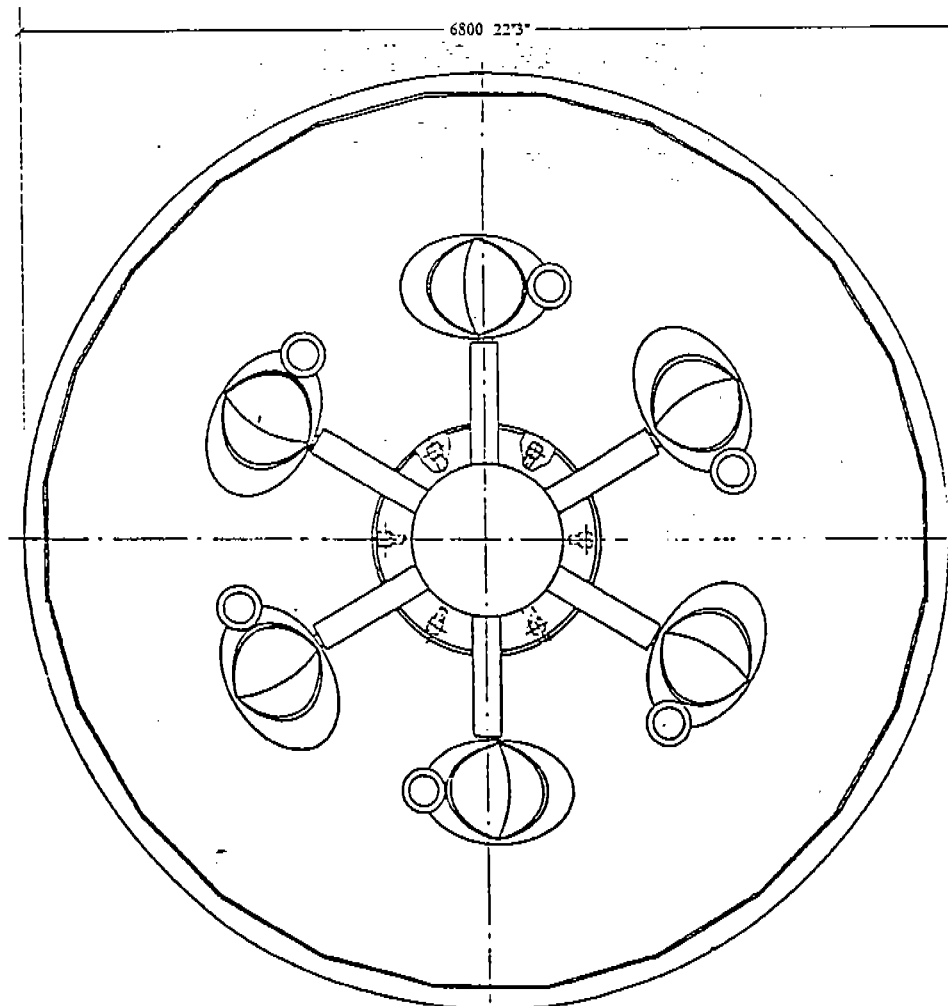
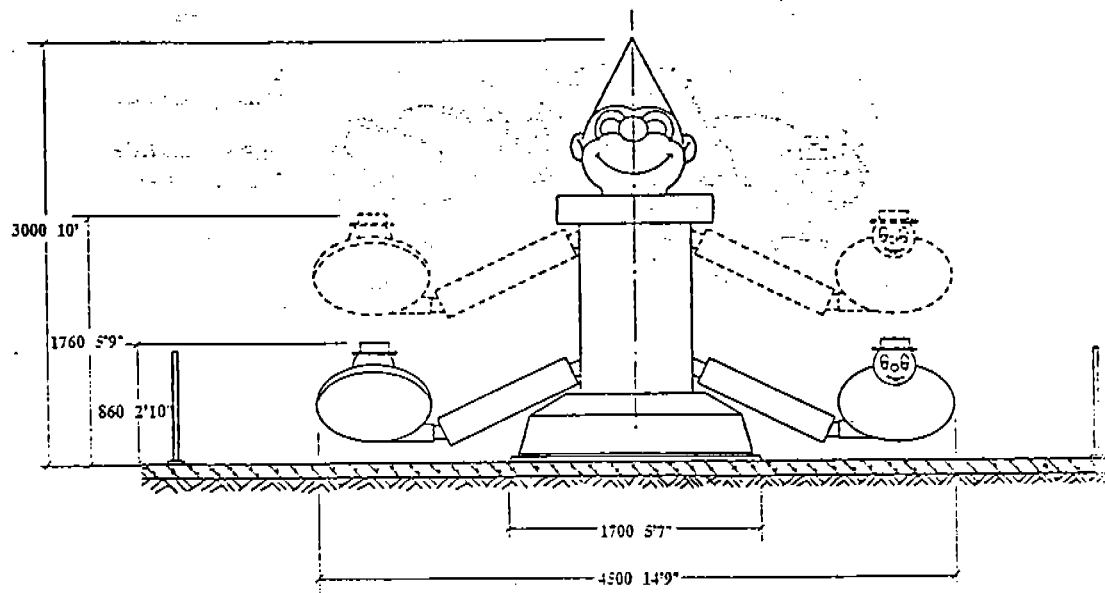
ZAMPERLA

AMUSEMENT RIDES MANUFACTURERS

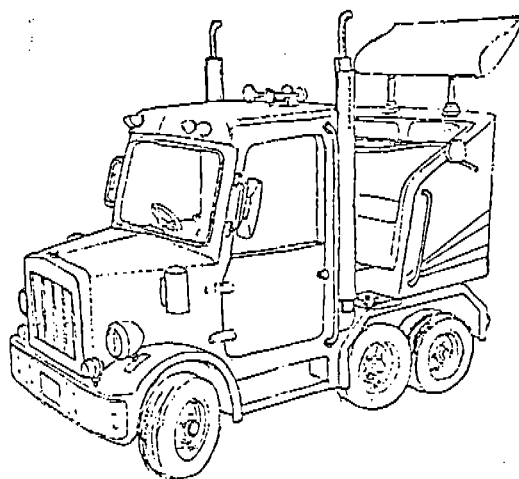
ANTONIO ZAMPERLA S.P.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC. (VI) ITALY
Via MONTE GRAPPA 15.17
TEL. (0444) 573133 FAX 573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. Box 5545
PARSIPPANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8876
TELEFAX (201) 334-6880

DIMENSIONS



CONVOY



DESCRIPTION

THE PARK MODEL VERSION OF OUR CONVOY KID'S RIDE HAS 120 MT. OF GUIDE LINE TRACK, POWER PICK-UP AND 6 TRUCKS WHICH RUN INDIVIDUALLY. TOTAL CAPACITY IS 24 (REAR SEATS CAN HOLD 1 ADULT AND 1 CHILD). EACH TRUCK IS PROVIDED WITH: ONE 48 V D.C. MOTOR, POWER PICK-UP TO ALLOW THE CONTACT WITH THE CENTER GUIDE-LINE OF THE TRACK, SAFETY ROPE, LIGHTS, TRUMPETS AND TWIN-WHEELS. PHOTOELECTRIC CELLS TO STOP CARS ON STATION, ELECTRIC PANEL AND RECTIFIER ARE INCLUDED. THE CONCRETE TRACK IS TO BE DONE LOCALLY.

OPTIONAL

- LOUDSPEAKER WITH TRUCK SOUND
- STANDARD TICKET BOX OR CONVOY TICKET BOX WITH SIGN.
- CONVOY SIGN WITH 2 STARS.
- SAFETY BARS ON REAR SEATS.

SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	24
MAXIMUM TOTAL PASSENGER WEIGHT	1200 KG.
MINIMUM PASSENGER HEIGHT	105 CM.
LOADING	ALL SEATS SIMULTANEOUSLY

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
RIDE SPEED	7 KM./H
RIDE DURATION (MAXIMUM)	2.5 MIN. (PROGRAMMED TIMER)
RIDE DURATION (RECOMMENDED)	2 MIN. (PROGRAMMED TIMER)
HOURLY CAPACITY	720
OPERATOR	1

MAXIMUM RIDE WEIGHT

VEHICLES	1.8 TONS.
GUIDE PIPE	4 KG./MT.

DRIVE

ELECTRIC

INSTALLED POWER

TOTAL	9 KW.
DRIVE	9 KW.
LIGHTS	/ KW. -
VOLTAGE	3 PHASE + NEUTRAL

(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

MAXIMUM SLOPE

4/5% FOR MAX. 6 MT. LENGTH

SHIPPING INFORMATION

CONTAINER	1x20 O.T.
-----------	-----------

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91



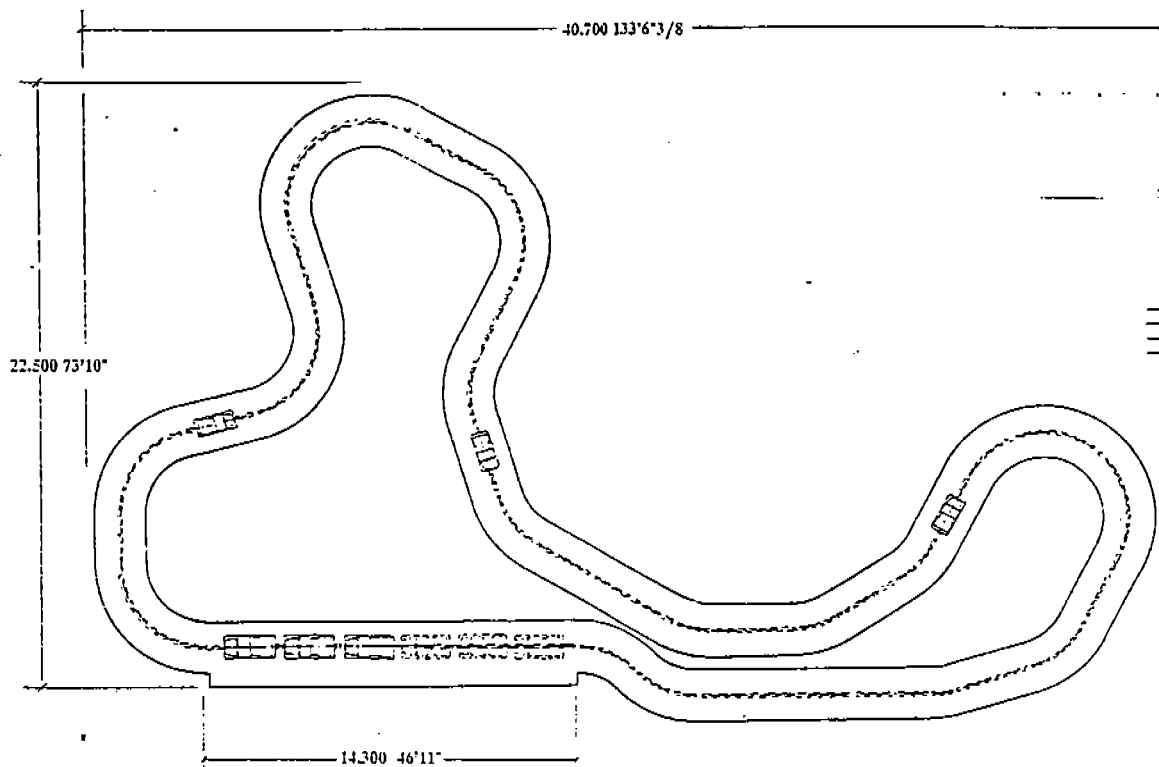
ZAMPERLA

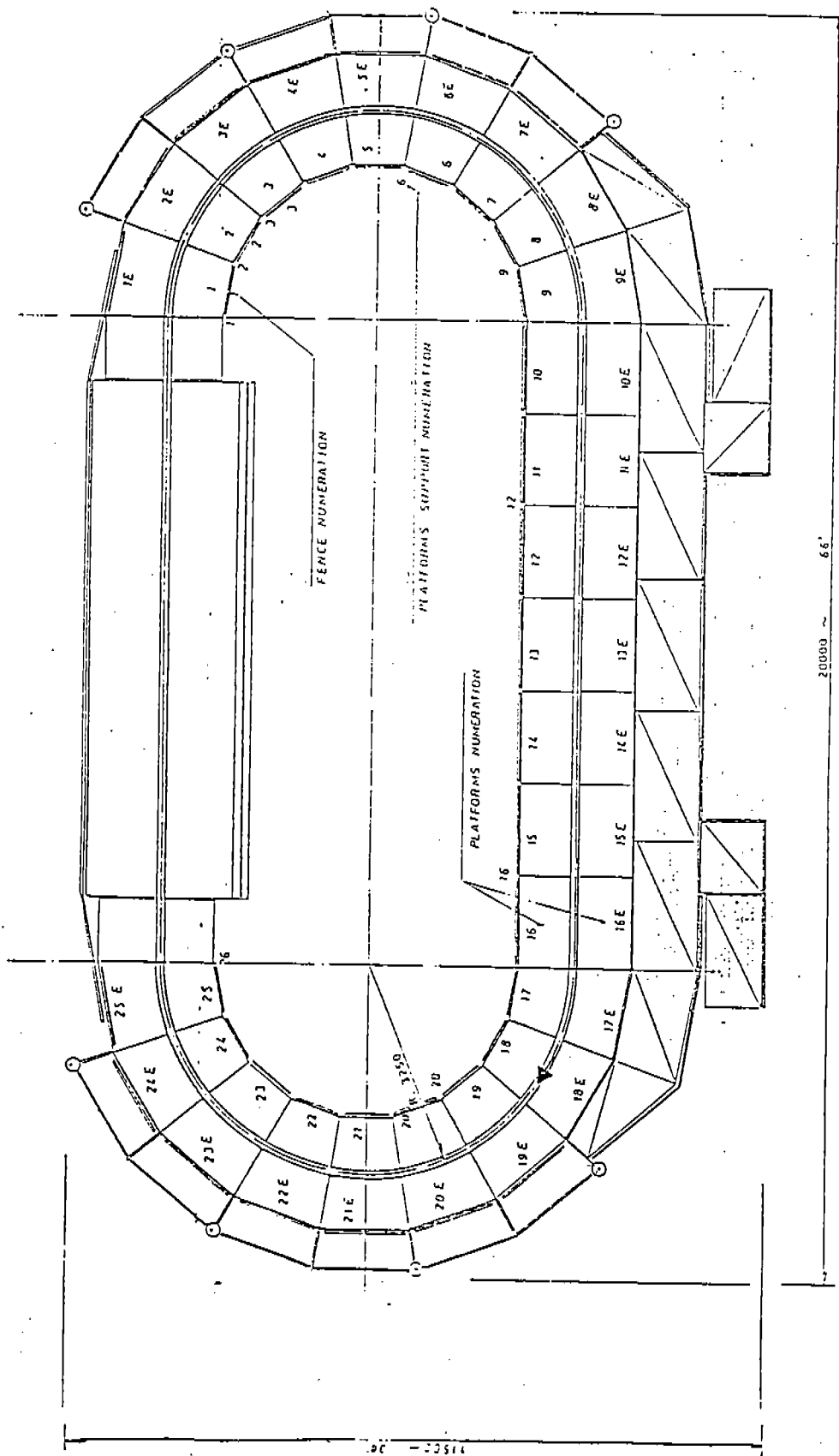
AMUSEMENT RIDES MANUFACTURERS

ANTONIO ZAMPERLA S.P.A.
- (HOME OFFICE FACTORY)
36077 ALTAVILLA VIC.(VI) ITALY
Via MONTE GRAPPA 15-17
TEL. (0444) 573133 FAX 573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. Box 5545
PARSIPPANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS





TRAILER MOUNTED CONVOY/BIG FOOT OPERATING DIMENSIONS

POWER REQUIREMENTS: 9KW MOTIVE 4KW LIGHTING

VEHICLE LOADING: 4/VEHICLE 440lbs/VEHICLE MAX

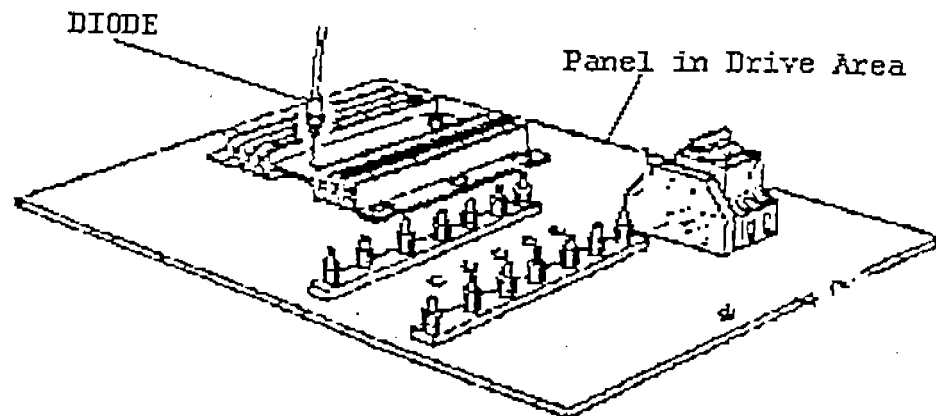
Zamperla Inc.

Technical Update

February 1990

RE:Convoy Truck Derailment

There have been a couple of occasions when Convoy trucks have derailed from the guide track. The location of these derailments has always been on the uphill turn. The cause has always been one or more trucks in the middle of the train losing driving power. The combined action of the front trucks pulling against the resistance of the dead drive train and the rear trucks pushing causes the non driving truck to jack up on its' guide assembly popping the guide rollers off the guide rail. The most obvious reason for loss of drive is a kicked off pickup brush, or disconnected brush wire. In this case the power out is obvious by the loss of lighting on the vehicle. A more subtle and often overlooked reason for loss of drive is the failure of the diode located in the drive area of the truck. The purpose for this diode is to prevent the motors from being powered when the power rail polarity reverses to allow the truck lights to operate during loading and unloading. If this diode blows open the motor will not receive power and the truck lights will still operate. If this diode should fail shorted, the motor will try to pull the other trucks during loading/unloading blowing the fuses for parked truck lighting.



Rene Bernier
Customer Service Manager

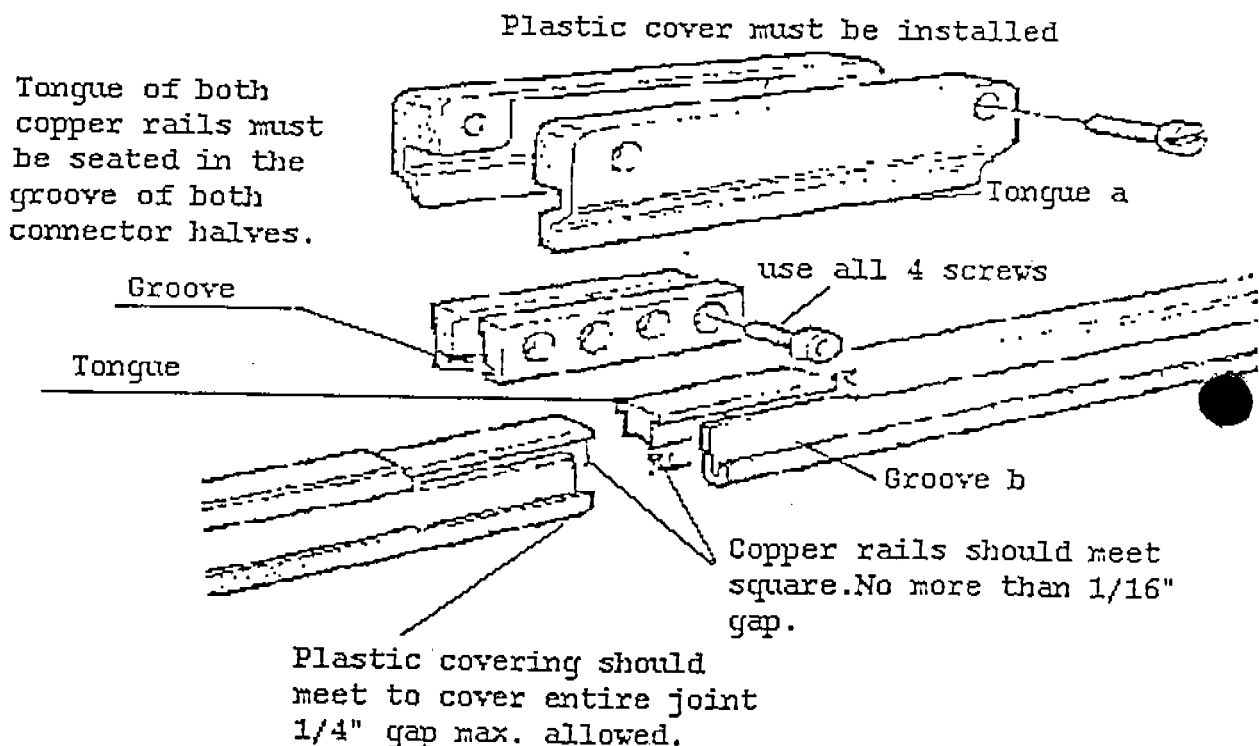
Zamperla Inc.

Technical Update

February 1990

RE:Power Rail Convoy/Dragon/Pony Rodeo

There has been a problem of excessive pickup brush wear reported on some Convoys, Dragon Coasters, and Pony Rodeos. The problem has occurred mostly on portable rides. The cause of this problem is incorrect assembly of the power rail sections. Below is a pictorial of the connector with correct assembly instructions.



When installing cover, tongue a (see above) must fit in groove b on both halves of cover. If cover is not in grooves it will push plastic together causing brushes to kick off as they pass this connection.

Rene Bernier
Customer Service Manager

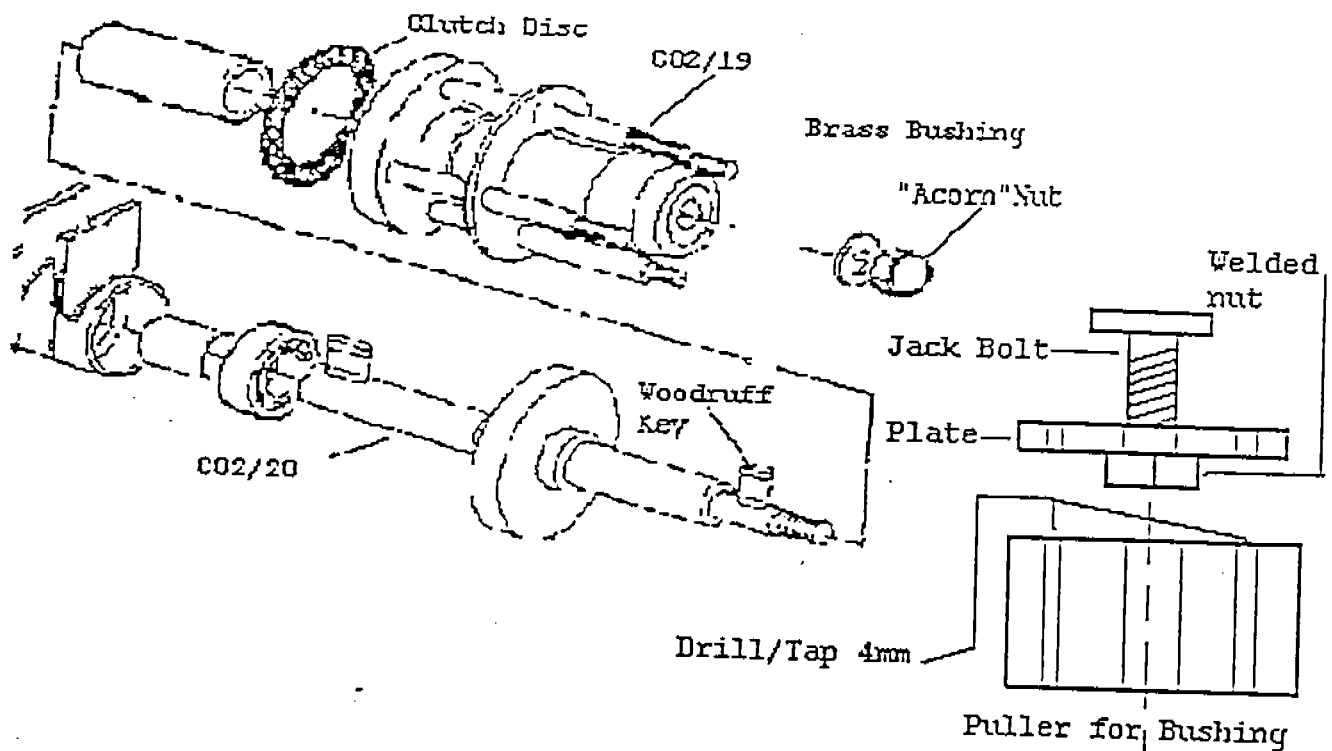
Zamperla Inc.

Technical Update

February 1990

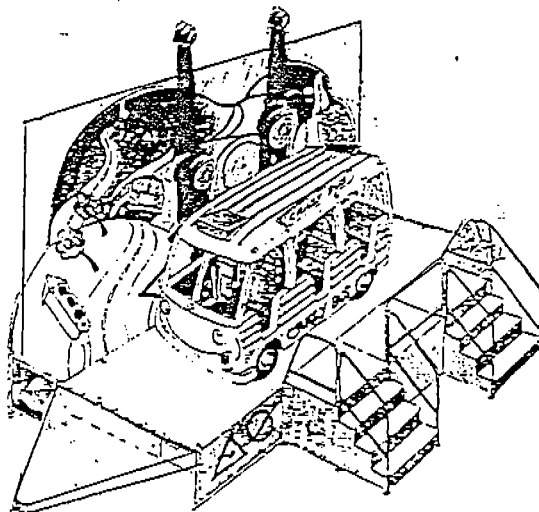
RE:Convoy Drive Axle

The drawing below shows the left(drive) axle assembly on the convoy. Several customers have tried to disassemble this unit unaware that there is a woodruff key in the shaft(C02/20) that must pass thru a notch in the freewheeling hub(C02/19). Any attempt to press these units apart without aligning this key and notch will ruin the shaft(C02/20). The proper way to disassemble these units is to remove the end nut and washer, now you will see the brass bushing that keys onto C02/20. If this unit has not been released to freewheel for some time (as in a permanent location), this bushing may be frozen in place. The easiest way to remove it is to fashion a puller as shown below to remove the frozen bushing. Once the bushing is removed the notch in C02/19 is visible and can be aligned with the woodruff key. the assembly will now slide apart. The Decorative "acorn"nut used to place pressure on this clutch assembly has been changed to a nylon lock nut. The reason for the change is, in some cases the "acorn"nut was bottoming on the shaft before sufficient pressure was placed on the clutch disc, causing slippage and excessive clutch disc wear.



Rene Bernier
Customer Service Manager

CRAZY BUS



DESCRIPTION

OUR FAMILY RIDE CRAZY BUS PARK MODEL IS A MINIATURE VERSION OF THE FLYING CARPET. THIS RIDE IS A REAL PROMISE OF EXCITEMENT AND THRILLS. TAKING ITS RIDERS UP TO A MAXIMUM HEIGHT OF 8 MT., THE CRAZY BUS THEN FALLS DOWN; PASSENGERS EXPERIENCE THIS MOVEMENT IN EITHER CLOCKWISE OR COUNTERCLOCKWISE ROTATION, OR BOTH, DEPENDING ON THE OPERATOR. THE RIDE CAN ALSO BE STOPPED IN MID-AIR, WHERE THE RIDERS CAN ENJOY THE VIEW BEFORE BEING BROUGHT BACK DOWN TO THE GROUND.

THE PLATFORM WITH 24 CHILDREN SEATS REPRESENTS A SCHOOL-BUS SUPPORTED BY 2 ROTATING ARMS WITH A COUNTERWEIGHT ON THE OPPOSITE SIDE.

THE CENTER OF THE TWO ROTATING ARMS IS CONNECTED TO 2 SUPPORTING COLUMNS BY DRIVING SYSTEM UNITS.

THE DRIVING IS GIVEN BY D.C. MOTOR CONNECTED TO GEARBOXES PLACED ON THE BACK OF THE SUPPORT COLUMNS.

THE SEATS ARE PROVIDED WITH SAFETY BARS CONTROLLED BY AN EXTERNAL PEDAL ACCESSIBLE ONLY BY THE OPERATOR.

PAINTED BACK SCENERY IS INCLUDED. THE BUS AND SCENERY ARE PROVIDED WITH LIGHTS.

ELECTRICAL BOX AND CONTROL PANEL ARE INCLUDED. FOUNDATIONS ARE REQUIRED.

OTHER VERSION

- TRAILER MODEL WITH SAME CHARACTERISTICS THAN ABOVE.

SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	24
MAXIMUM TOTAL PASSENGER WEIGHT	1200
MINIMUM PASSENGER HEIGHT	105 CM. (UNACCOMPANIED BY ADULT)

LOADING	ALL SEATS SIMULTANEOUSLY
MAXIMUM UNBALANCE	12 CHILDREN (600 KG.)

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE-COUNTERCLOCKWISE
RIDE SPEED	10 RPM.
RIDE DURATION (MAXIMUM)	2.5 MIN.
RIDE DURATION (RECOMMENDED)	2 MIN.
HOURLY CAPACITY	480
OPERATOR	1

MAXIMUM RIDE WEIGHT	7 TONS.
---------------------	---------

DRIVE	ELECTRIC
-------	----------

INSTALLED POWER

TOTAL	16 KW.
DRIVE	14 KW.
LIGHTS	2 KW.
VOLTAGE	3 PHASE + NEUTRAL

(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

SHIPPING INFORMATION

CONTAINER	1 x 40 O.T.
-----------	-------------

ERECTION WORKS

NO. 1 SUPERVISOR FOR 1 DAY
CRANE: HEIGHT X TONS. X LENGTH OF THE ARM
10 MT. X 5 TONS. X 6 MT.

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

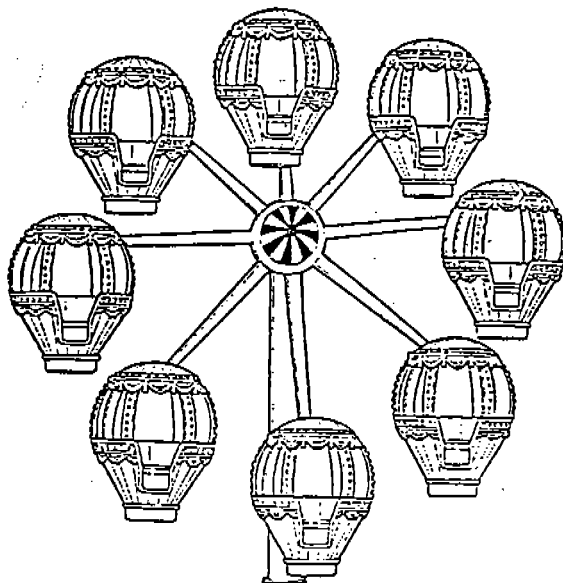
DATE: 06/91

ZAMPERLA
AMUSEMENT RIDES MANUFACTURERS

ANTONIO ZAMPERLA S.P.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC. (VI) ITALY
Via MONTE GRAPPA 15-17
TEL. (0444) 573133 FAX. 573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. Box 5545
PARSIPPANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

FERRIS WHEEL 8



DESCRIPTION

OUR FAMILY RIDE FERRIS WHEEL PARK MODEL HAS 8 CARS OF 5 ADULT AND CHILDREN SEATS FOR A TOTAL CAPACITY OF 40 PEOPLE.

ITS CARS HAVE A BEAUTIFUL SHAPE OF HOT-BALLOONS HANGING FROM A UNIQUE AND NEAT SUPPORTING STRUCTURE WHICH ALLOWS TO OFFER AN ALMOST UNOBSTRUCTED 360° VIEW OF YOUR PARK.

THIS RIDE ROTATES BY MEANS OF AN HYDRAULIC SYSTEM CONSISTING OF 2 HYDRAULIC MOTORS. ITS MOTORIZATION IS MOUNTED ON A FIXED CENTER, WHILE THE HYDRAULIC UNIT IS LOCATED ON THE GROUND BEHIND THE COLUMN. TO THE COLUMN STRUCTURE ARE ANCHORED THE ARMS FROM WHICH HANG THE BALLOONS. EACH CAR IS PROVIDED WITH A SAFETY GATE WITH EXTERNAL OPENING. THE PLATFORM AREA IS MADE BY A METALLIC STRUCTURE COVERED BY ALUMINIUM SHEETS, STAIRS AND FENCES WHICH FORM ALL TOGETHER THE PODIUM.

THE LOADING AND UNLOADING OPERATION IS MADE FOR TWO CARS AT THE SAME TIME. FENCES ON PERIMETER ARE INCLUDED.

EACH BALLOON IS LIGHTED WITH CARBON LIGHTS.

FOUNDATIONS ARE NEEDED FOR THE CENTRAL STRUCTURE AND FOR HYDRAULIC UNIT.

OTHER VERSION

- MODEL WITH 12 CARS 60 SEATS
- MODEL WITH 16 CARS 80 SEATS.
- DIFFERENT THEMES: CHRISTMAS BALL, CHUCK WAGONS, MEDIEVAL TENTS, DIVING BELLS, COCA COLA.

SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	40
MAXIMUM TOTAL PASSENGER WEIGHT	3000 KG.
MINIMUM PASSENGER HEIGHT	105 CM. (UNACCOMPANIED BY ADULT)
LOADING	TWO CARS AT THE SAME TIME
MAXIMUM UNBALANCE	20 ADULTS (1500 KG.)

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE-COUNTERCLOCKWISE
RIDE SPEED	2.5 RPM.
RIDE DURATION (MAXIMUM)	2.5 MIN.
RIDE DURATION (RECOMMENDED)	2 MIN.
HOURLY CAPACITY	960
OPERATOR	1

MAXIMUM RIDE WEIGHT 13 TONS.

INSTALLED POWER

TOTAL	26.5 KW.
DRIVE	22 KW.
LIGHTS	4.5 KW.
VOLTAGE	3 PHASE + NEUTRAL

(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

SHIPPING INFORMATION

CONTAINER 3x40 O.T.

LARGEST COMPONENTS

COLUMN	8 MT.X1.5 MT.X1.8 MT.X 7 T.
MOTORIZATION	2.4 MT.X 2.2 MT.X 2 MT.
CAR	2.6 MT.X 2.2 MT.X 350 KG.

ERECTION WORKS

*NO. 1 SUPERVISOR FOR 2-3 DAYS WITH A TEAM OF 4/5 LOCAL MEN

*CRANE: HEIGHT X TONS. X LENGTH OF THE ARM X TIME IN HOURS

12 MT.X 20 TONS. X 2 DAYS

*DEPENDS ON SITE CONDITIONS AND WORK FORCE AVAILABLE

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

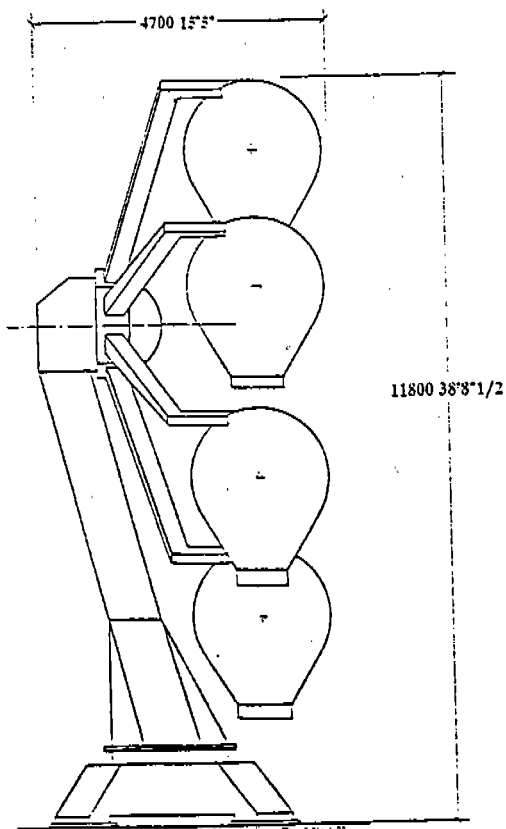
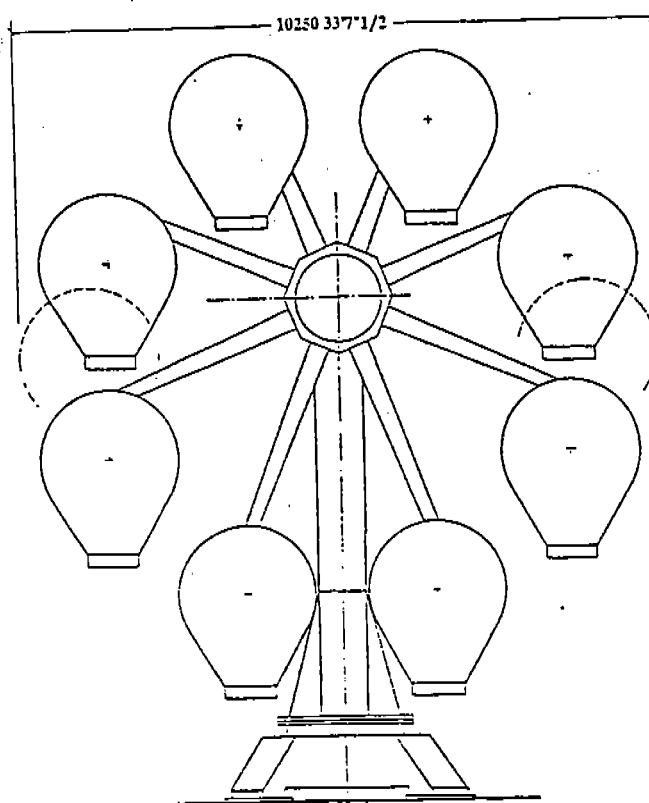
DATE: 06/91

ZAMPERLA
AMUSEMENT RIDES MANUFACTURERS

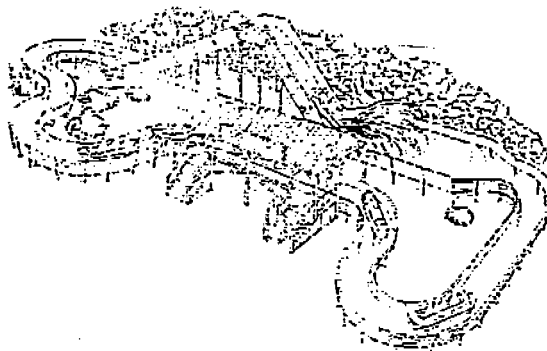
ANTONIO ZAMPERLA S.p.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC.(VI) ITALY
Via MONTE GRAPPA 15-17
TEL.(0444) 573133 FAX.573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O.Box 5545
PARSIIPPANY N.J. 07054-0598
PH.(201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



FLUME RIDE 96 mt.



DESCRIPTION

OUR FAMILY FLUME RIDE PARK MODEL, HAS 6 LOG-CARS OF 4 SEATS EACH FOR A TOTAL CAPACITY OF 24 ADULTS AND CHILDREN; ITS 96 MT. LONG OF OPENCAST CHANNEL HAS A PECULIAR SHAPE AND ONE 5 MT. HIGH RAMP.

THE CHANNEL IS HOT-GALVANIZED AND ITS FIBERGLASS LOGS ARE GUIDED BY WHEELS LOCATED ON THE BOTTOM AND THE SIDES OF THE SAME.

ITS MOVEMENT IS GIVEN BY SUBMERGED PUMPS WHICH MOVE THE WATER WHILE THE ENTRAINMENT OF THE LOGS INTO THE STATION AND THEIR LIFTING UP THE RAMP IS MADE BY CONVEYOR BELTS.

THE SAFETY SYSTEM IS GUARANTEED BY PHOTOELECTRIC CELLS LOCATED ALONG THE CHANNEL, TO CHECK THE WATER LEVEL AND THE TIMED PASSAGE OF LOGS ON CRITICAL POINTS. EACH LOG IS PROVIDED WITH SAFETY HANDLES, TEETH PROTECTION PAD AND CENTER BACK-SUPPORT.

THE 10 MT. LONG STATION IS MADE BY A METALLIC STRUCTURE COVERED WITH ALUMINIUM SHEETS AND PROVIDED WITH STAIRS AND FENCES WHICH FORM ALL TOGETHER A PODIUM WITHOUT ROOF.

THE ELECTRIC PANEL AND REMOTE CONTROL BOARD ARE INCLUDED.

FOUNDATIONS ARE NEEDED FOR CHANNEL AND POOL AREA WITH LEVELLED FLAT CONCRETE PLATFORMS.

OPTIONAL (TO BE QUOTED ON REQUEST)

- COLORADO RIVER OR CANYON RIVER LIGHTED SIGN.
- WOODEN STYLE FIBERGLASS PANELS ON THE STATION ROOF.
- FIBERGLASS CHANNEL WITH STEEL STRUCTURE.
- 16 x 500 WATT HALOGEN SPOT LIGHTS.
- WOODEN STYLE TICKET BOX.
- AIR COMPRESSOR 1.5 KW 100 Lt.

OTHER VERSION

- DIFFERENT CHANNEL SHAPES AND LENGTH WITH ONE OR MORE RAMPS AND ADDITIONAL LOGS.
- TRAILER MODEL WITH THE SAME CHARACTERISTICS THAN ABOVE.

SEATS

NUMBER OF LOGS	6
MAXIMUM TOTAL NUMBER OF PASSENGERS	24
MAXIMUM TOTAL PASSENGER WEIGHT	1800 KG.
MINIMUM PASSENGER HEIGHT	105 CM.
	(UNACCOMPANIED BY ADULT)
LOADING	3 LOGS SIMULTANEOUSLY

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
MAX. SPEED	0.9-1.5 MT/SEC.
HOURLY CAPACITY	600
OPERATOR	1

DRIVE

ELECTRIC

INSTALLED POWER

TOTAL	29.5 KW
DRIVE	29.5 KW
LIGHTS	/ KW
VOLTAGE	3 PHASE + NEUTRAL
	(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

SHIPPING INFORMATION

CONTAINER	3 x 40 O.T.
-----------	-------------

ERECTION WORKS

* NO. 4 SUPERVISORS FOR 10 DAYS WITH A TEAM OF 6 LOCAL MEN

* CRANE: TONS. x LENGTH OF ARM x TIME IN HOURS

15 TON. x 10 MT. x 20 HOURS

* DEPENDS ON SITE CONDITIONS AND WORK FORCE AVAILABLE.

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91

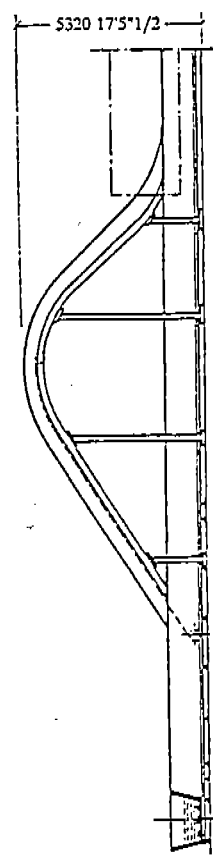
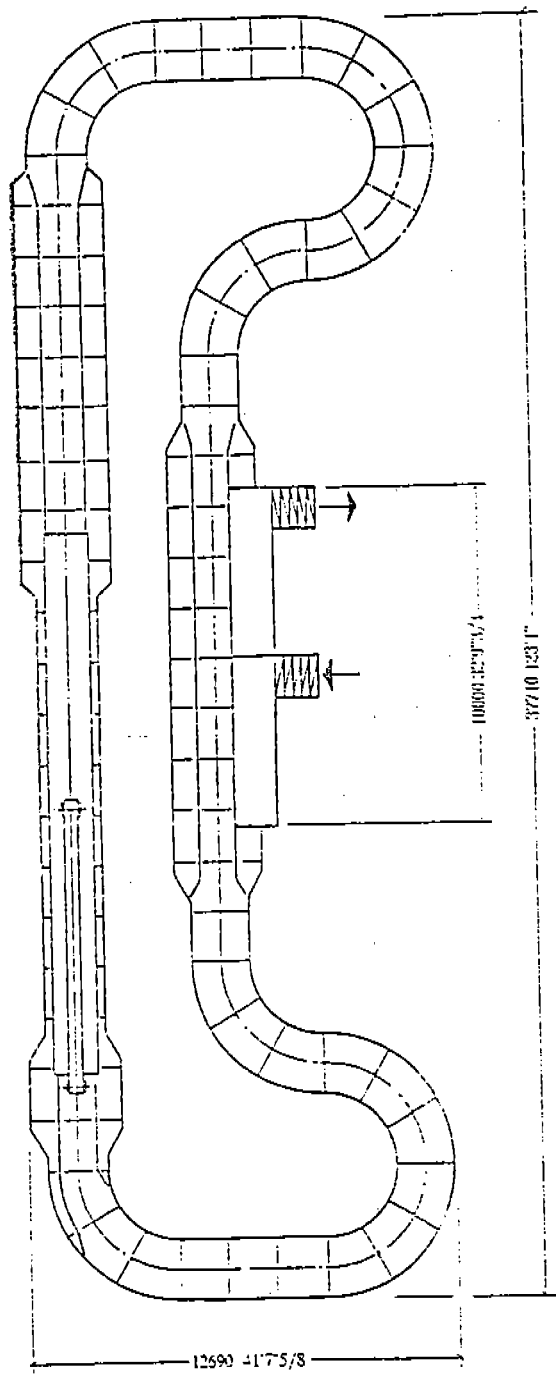


AMUSEMENT RIDES MANUFACTURERS

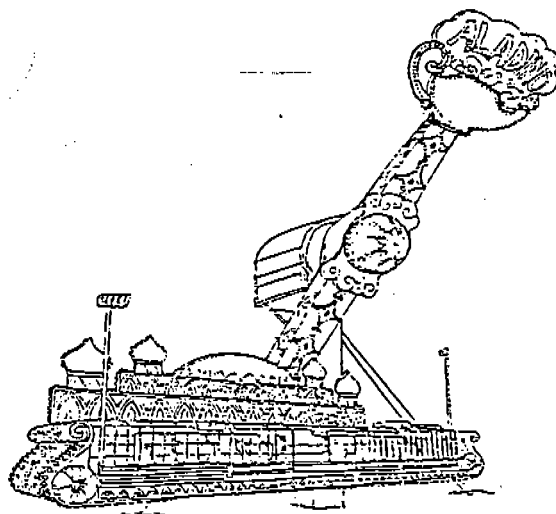
ANTONIO ZAMPERLA S.p.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC.(VI) ITALY
Via MONTE GRAPPA 15.17
TEL. (0444) 573133 FAX. 573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. Box 5545
PARSIPPANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



JOKER



DESCRIPTION

THE ADULT RIDE JOKER PARK MODEL IS OUR VERSION OF FLYING CARPET WITH ONLY ONE COLUMN FOR SUPPORT AND A PLATFORM WITH 34 ADULT SEATS, REACHING THE HEIGHT OF 21 MT.

THIS RIDE IS A REAL PROMISE OF EXCITEMENT AND THRILLS. TAKING ITS RIDERS UP TO A MAXIMUM HEIGHT OF 21 MT. THE JOKER THEN FALLS DOWN; PASSENGERS EXPERIENCE THIS MOVEMENT IN EITHER CLOCKWISE OR COUNTERCLOCKWISE ROTATION, OR BOTH DEPENDING ON THE OPERATOR.

THE RIDE CAN ALSO BE STOPPED IN MID-AIR, WHERE THE RIDERS CAN ENJOY THE VIEW BEFORE BEING BROUGHT BACK DOWN TO THE GROUND.

THE TRANSMISSION IS MADE BY 3 D.C. MOTORS COMPLETE WITH A GEAR BOX. THE SEATS ARE PROVIDED WITH SAFETY BARS CONTROLLED BY AN HYDRAULIC SYSTEM.

FENCES ON PERIMETER ARE INCLUDED. THE PLATFORM AREA IS MADE BY A METALLIC STRUCTURE COVERED BY ALUMINIUM SHEETS, STAIRS AND FENCES WHICH ALL TOGETHER FORM THE PODIUM.

PAINTED PANELS COVER THE FRONT, LOWER SPACE UNDER THE PODIUM.

THEMED TICKET BOX, CONTROL BOARD AND ELECTRIC PANEL ARE INCLUDED.

THE RIDE IS LIT BY 8 STARS AND A ROW OF LIGHTS ON THE BACK SCENERY.

CAPSON LIGHTS DECORATE THE ARMS, THE PLATFORM AND JOKER SIGN.

FOUNDATIONS ARE NEEDED FOR CENTRAL COLUMN SUPPORTS.

OTHER VERSION

- TRAILER MODEL COMES ON 2 TRAILERS WITH A HYDRAULIC DRIVE SYSTEM THE JOKER HAS THE SAME CHARACTERISTICS AS ABOVE, EXCEPT IT IS 19 MT. HIGH.
- DIFFERENT THEMED MODELS ARE NIAGARA, EAGLE, MONKEY AND ALADINO.

SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	34
MAXIMUM TOTAL PASSENGER WEIGHT	2550 KG.
MINIMUM PASSENGER HEIGHT	105 CM.
LOADING	ALL SEATS SIMULTANEOUSLY
MAXIMUM UNBALANCE	17 ADULTS (1275 KG.)

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE-COUNTERCLOCKWISE
RIDE SPEED	10 RPM.
RIDE DURATION (MAXIMUM)	2.5 MIN. (PROGRAMMED)
RIDE DURATION (RECOMMENDED)	2 MIN. (PROGRAMMED)
HOURLY CAPACITY	700
OPERATOR	1

MAXIMUM RIDE WEIGHT 30 TONS.

DRIVE ELECTRIC

INSTALLED POWER

TOTAL	183 KW.
DRIVE	166 KW.
LIGHTS	17 KW.
VOLTAGE	3 PHASE + NEUTRAL

(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

SHIPPING INFORMATION

CONTAINER 3x40 O.T.

LARGEST COMPONENTS

PLATFORM 2 PIECES	8 MT. x 2 MT. x 1.2 MT.
CENTER	3 MT. x 2.5 MT. x 2.2 MT.
ARMS	7 MT. x 1.5 MT. x 0.8 MT.
COLUMN	8.6 MTS x 1 MT. x 1 M
BALANCE WEIGHT	1 MT. x 2.2 MT. x 1.2 MT.

ERECTION WORKS

*NO. 2 SUPERVISORS FOR 5 DAYS WITH A TEAM OF 2 LOCAL MEN

*CRANE: HEIGHT X TONS X LENGTH OF THE ARM

20 MT. x 60 TONS. x 6 MT.

*DEPEND ON SITE CONDITIONS AND WORK FORCE AVAILABLE

Specifications are effective as publication date. Because we try to improve every ZAMPER product, these specifications are subject to change without notice.

DATE: 06/91

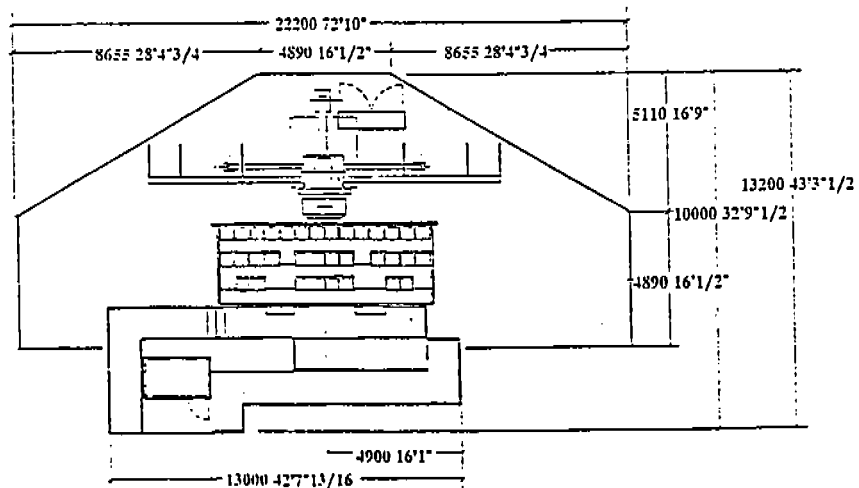
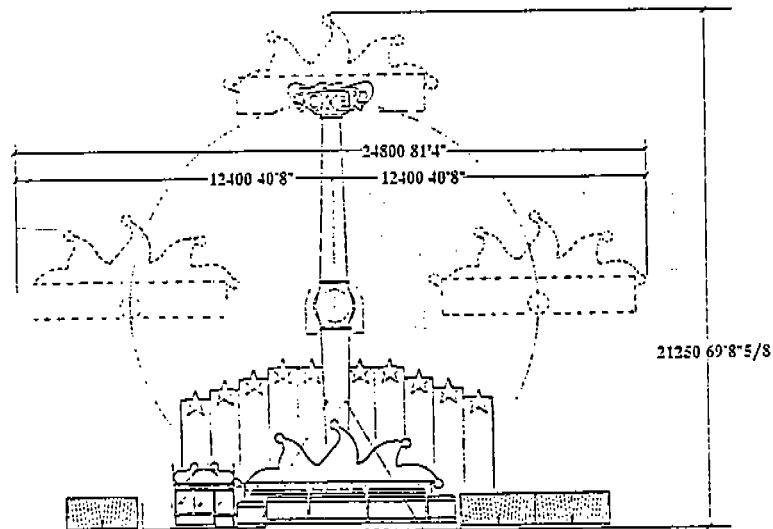
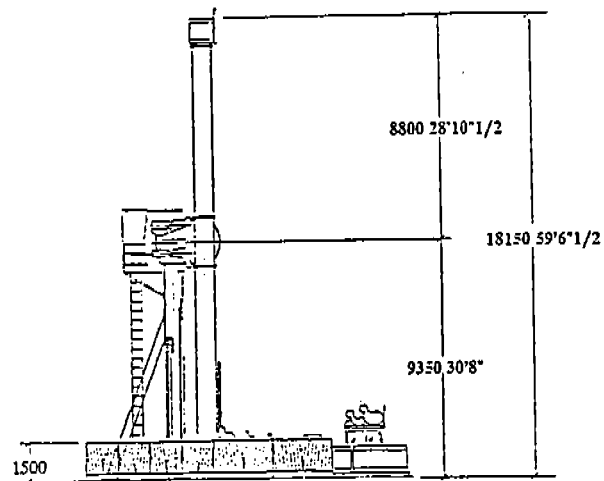
ZAMPERLA

AMUSEMENT RIDES MANUFACTURERS

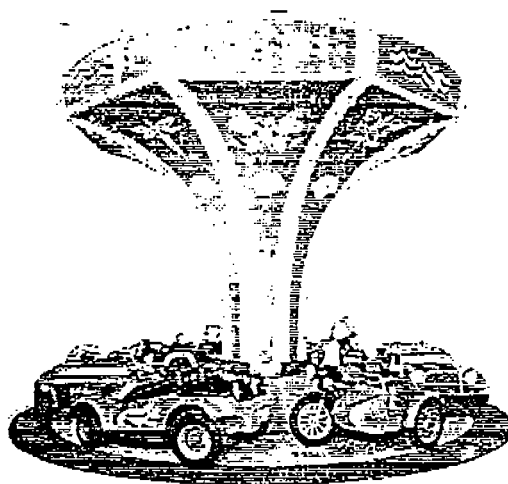
ANTONIO ZAMPERLA S.p.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC. (VI) ITALY
Via MONTE GRAPPA 15-17
TEL. (0444) 573133 FAX 573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FARMY ROAD, P.O. Box 5545
PARSIPOANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



MAGIC RING



DESCRIPTION

OUR CHILDREN RIDE MAGIC RING PARK MODEL HAS 8 BIG AND 8 SMALL HORSES, FOR A TOTAL CAPACITY OF 16 CHILDREN. THIS IS A SMALL DIAMETER RIDE, SUITABLE FOR INDOOR AMUSEMENT PARKS AND SHOPPING CENTRES. ITS CENTRAL STRUCTURE IS COVERED BY FIBERGLASS PANELS WITH DECORATIONS AND LIGHTS ON THE JUNCTIONS.

THE FLOOR IS COVERED WITH WOOD BOARDS AND THE ROOF WITH A COLOURED PVC CANVAS.

THE CENTRAL STRUCTURE AND THE PLATFORM ROTATE ALL TOGETHER IN A CLOCKWISE DIRECTION.

THE DRIVE SYSTEM IS MADE OF A A.C. MOTOR COUPLED WITH A GEAR BOX AND THE ROTATION IS GIVEN BY A SERIES OF WHEELS LOCATED UNDER THE PLATFORM.

THE HORSES HAVE A ROCKING MOVEMENT ON RUBBER BUFFER. ELECTRIC PANEL AND REMOTE CONTROL ARE INCLUDED.

OPTIONAL (TO BE QUOTED ON REQUEST)

- FENCES ON PERIMETER.
- TICKET BOX.

OTHER VERSION

- MODEL WITH 6 CARS: 1 DUNE BUGGY, 1 SPITFIRE, 1 BUGATTI, 1 JEEP, 2 SIDECARS FOR A TOTAL CAPACITY OF 22 CHILDREN. FIXED PLATFORM. CARS JOINED TO THE ROTATING CENTER BY A SMALL ARM.
- TRAILER MODEL.

SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	16
MAXIMUM TOTAL PASSENGER WEIGHT	600 KG.
LOADING	ALL SEATS SIMULTANEOUSLY

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
RIDE SPEED	6 RPM.
RIDE DURATION (MAXIMUM)	3 MIN.
RIDE DURATION (RECOMMENDED)	2.5 MIN.
HOURLY CAPACITY	400
OPERATOR	1

MAXIMUM RIDE WEIGHT 3.3 TONS.

DRIVE ELECTRIC

INSTALLED POWER

TOTAL	3 KW.
DRIVE	1 KW.
LIGHTS	2 KW.
VOLTAGE	3 PHASE + NEUTRAL

(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

SHIPPING INFORMATION

CONTAINER 1x20 O.T.

ERECTION WORKS

*No. 1 SUPERVISOR FOR 1 DAY

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91

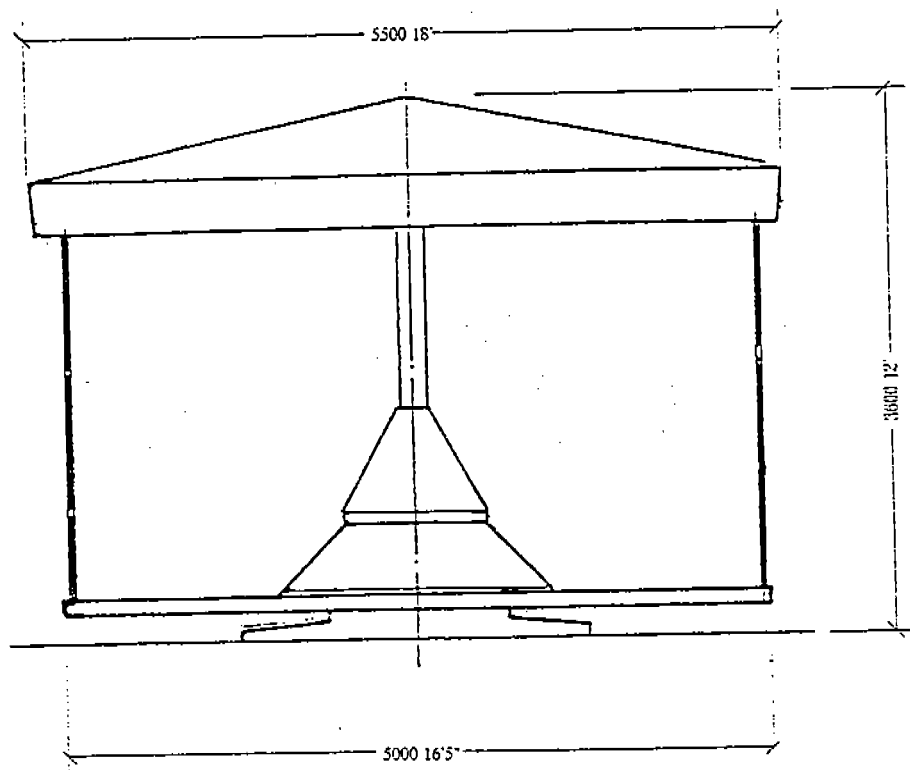


AMUSEMENT RIDES MANUFACTURERS

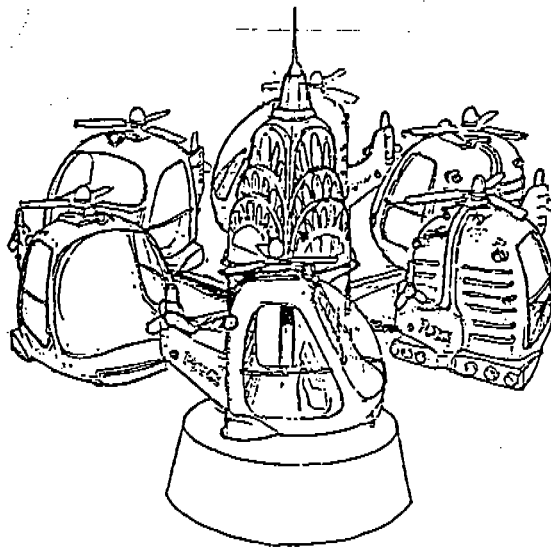
ANTONIO ZAMPERLA S.p.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC. (VI) ITALY
Via MONTE GRAPPA 15-17
TEL. (0444) 573133 FAX 573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. BOX 5545
PARSIIPPANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



MANHATTAN TOUR



SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	24
MAXIMUM TOTAL PASSENGER WEIGHT	1800 KG.
LOADING	ALL SEATS SIMULTANEOUSLY
MAXIMUM UNBALANCE	12 CHILDREN

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
RISE SPEED	6 RPM.
RISE DURATION (MAXIMUM)	2.5 MIN. (PROGRAMMED TIMER)
RISE DURATION (RECOMMENDED)	2 MIN. (PROGRAMMED TIMER)
HOURLY CAPACITY	600
OPERATOR	1

MAXIMUM RIDE WEIGHT	1.3 TONS.
---------------------	-----------

INSTALLED POWER

TOTAL	3 KW.
DRIVE	2.2 KW.
LIGHTS	0.8 KW.
VOLTAGE	3 PHASE + NEUTRAL SINGLE PHASE

SHIPPING INFORMATION

CONTAINER	1x20 O.T.
-----------	-----------

ERECTION WORKS

No. 1 PERSON FOR 3 HOURS

DESCRIPTION

MANHATTAN TOUR IS A SMALL RIDE SPECIALLY DESIGNED FOR SMALL LOCATIONS WITH 6.5 MT. DIAMETER WITH FENCES.

THE STANDARD VERSION HAS 6 HELICOPTERS FOR A TOTAL CAPACITY OF 24 CHILDREN SEATS.

EACH CAR IS PROVIDED WITH SOUND AND LIGHTS AND ONE STRIP OF LIGHTS ON EACH ARM. CENTRAL HYDRAULIC SYSTEM WITH SIMULTANEOUS LIFTING OF 6 CARS. CENTRE OF THE RIDE REPRESENTS THE EMPIRE STATE BUILDING.

FENCES AROUND PERIMETER, ELECTRIC PANEL AND REMOTE CONTROL ARE INCLUDED.

OPTIONAL (TO BE QUOTED ON REQUEST)

- DIFFERENT CARS
- PLATFORMS.
- TICKET BOX.

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91

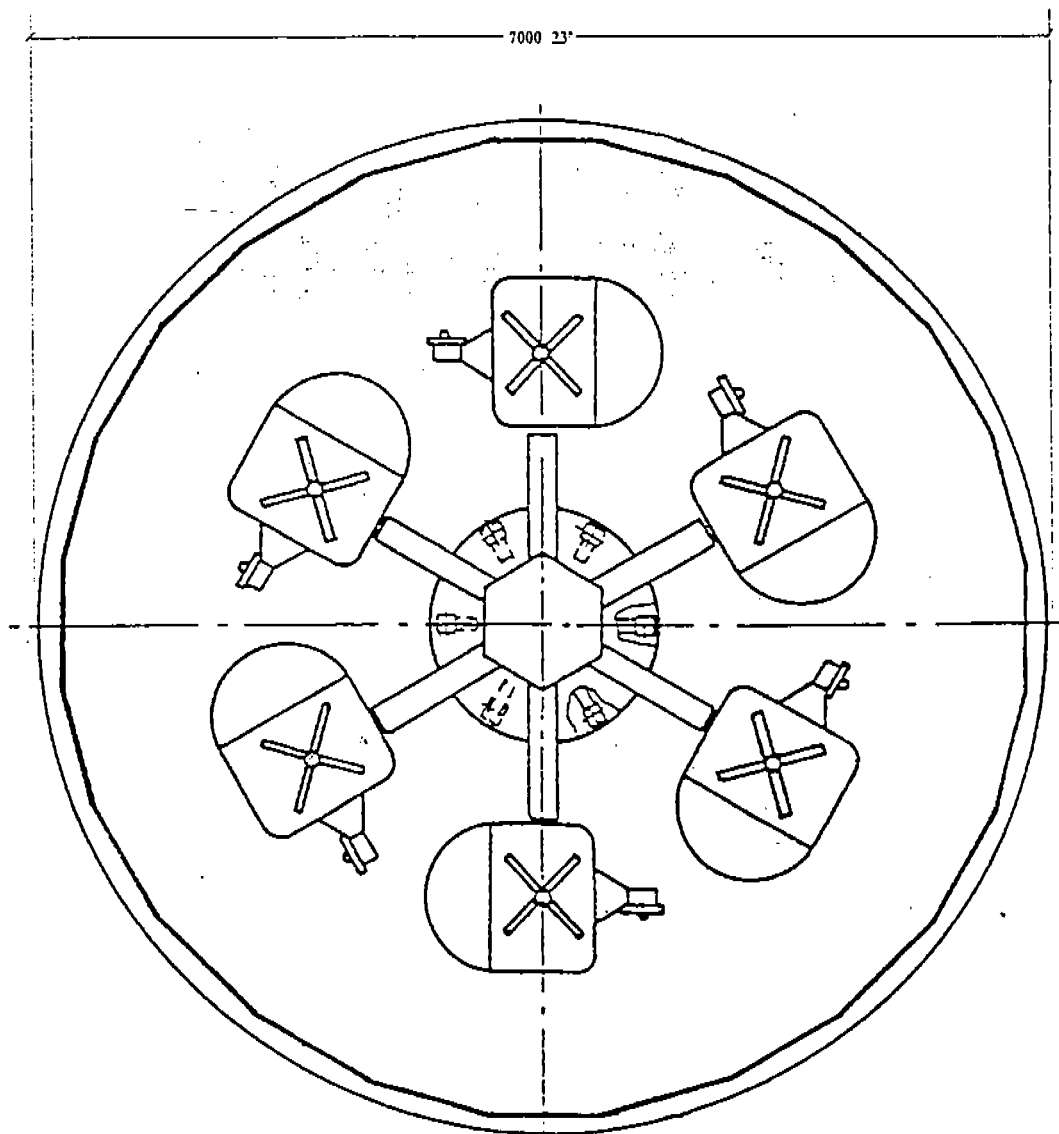
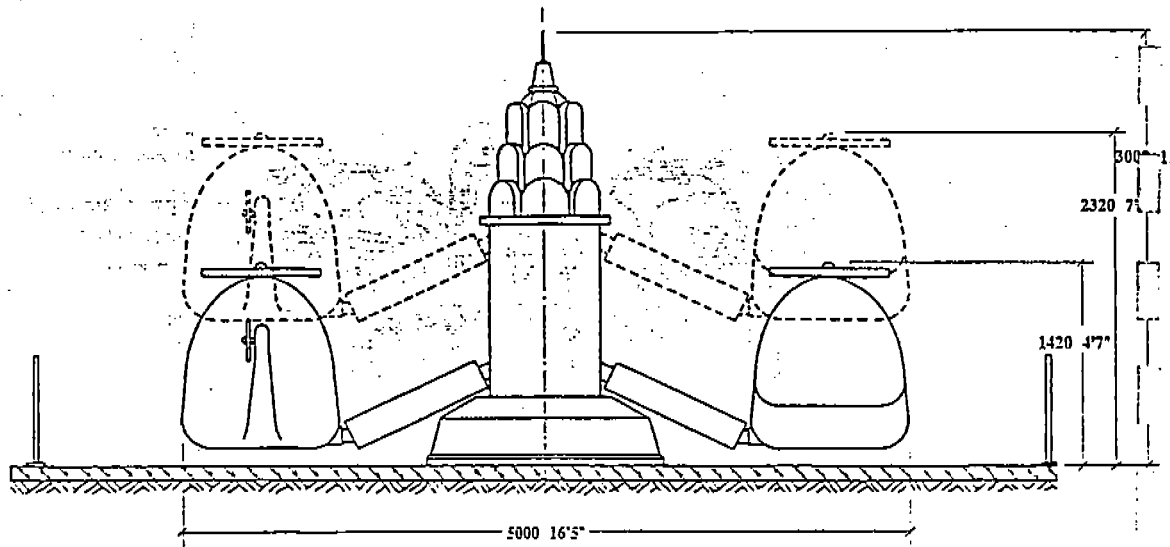


AMUSEMENT RIDES MANUFACTURERS

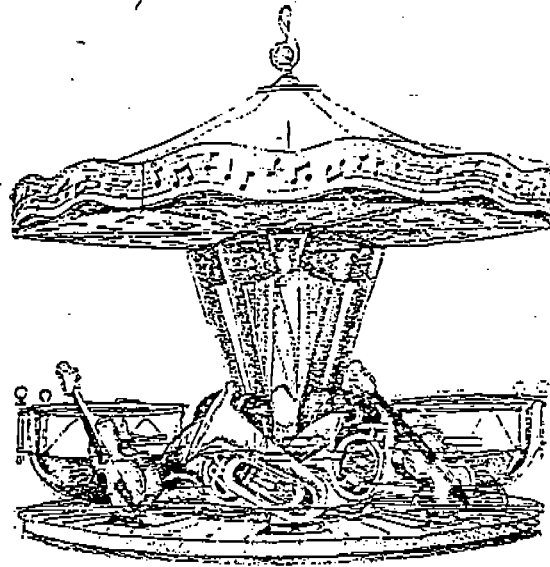
ANTONIO ZAMPERLA S.P.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC. (VI) ITALY
Via MONTE GRAPPA 15.17
TEL. (0444) 573133 FAX 573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. Box 5545
PARSIPPANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



MINUETTO



DESCRIPTION

OUR CHILDREN RIDE MINI MUSICAL RIDE PARK MODEL HAS A 5 MT. DIAMETER PLATFORM WITH TOTAL CAPACITY OF 18 SEATS.

THIS RIDE REPRODUCES A PIANO KEYBOARD WITH 10 SHINING MUSICAL INSTRUMENTS AS CARS. ITS BEAUTIFUL FINISH, SOUND AND LIGHT EFFECTS MAKE THIS RIDE ONE OF THE BEST AMONG OUR THEMED CHILDREN RIDE PRODUCTION.

THE DRIVE SYSTEM IS MADE OF A A.C. MOTOR COUPLED WITH A GEAR BOX AND THE ROTATION IS GIVEN BY A SERIES OF WHEELS LOCATED UNDER THE PLATFORM. THE PLATFORM IS COVERED WITH FIBERGLASS PANELS REPRODUCING A PIANO KEYBOARD, THE CENTRAL COLUMN IS DECORATED WITH MIRRORS AND GIANT MUSICAL NOTES IN FIBERGLASS.

THE ROOF IS COVERED WITH A PVC CANVAS. FIBERGLASS DECORATED PANELS ON THE CEILING AND ON ROOF PERIMETER LIGHTED WITH TWO ROWS OF CAPSON LIGHTS.

THE 10 CARS ARE THE FOLLOWING: 2 DRUMS- 5 SEATS EACH / 4 VIOLAS- 1 SEAT EACH / 2 TUBAS- 1 SEAT EACH / 2 HORNS- 1 SEAT EACH.

ALL CARS ARE BUFFER-ROCKING, EXCEPT FOR THE DRUMS WHICH TURN BY MEANS OF A MANUAL CENTRAL STEERING WHEEL. THE STANDARD VERSION OF THIS RIDE INCLUDES 6 LOUSPEAKERS CONNECTED TO A DIGITAL MUSIC SYSTEM.

THE RIDE IS PROVIDED WITH ELECTRIC PANEL AND CONTROL SCARD.

A CONCRETE PLATFORM IS SUGGESTED AS FOUNDATIONS.

OPTIONAL (TO BE QUOTED ON REQUEST)

- STANDARD OR THEMED TICKET BOX WITH SIGN.
- FENCES ON PERIMETER.
- PLATFORM ON PERIMETER.
- 6 ADDITIONAL LOUSPEAKERS, EACH WITH ITS OWN RECORDING PROGRAMMED BY A COMPUTER TO ALLOW EACH INSTRUMENT TO PLAY ITS OWN MUSIC AND CREATE A REAL ORCHESTRA EFFECT.

SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	18
MAXIMUM TOTAL PASSENGER WEIGHT	1350 KG.
MINIMUM PASSENGER HEIGHT	105 CM.
LOADING	ALL SEATS SIMULTANEOUSLY

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
RIDE SPEED	5 RPM
RIDE DURATION (MAXIMUM)	2.5 MIN. (PROGRAMMED TIMER)
RIDE DURATION (RECOMMENDED)	2 MIN. (PROGRAMMED TIMER)
HOOR CAPACITY	360
OPERATOR	1

MAXIMUM RIDE WEIGHT 3.2 TONS

DRIVE ELECTRIC

INSTALLED POWER

TOTAL	3 KW
DRIVE	1.5 KW
LIGHTS	1.5 KW
VOLTAGE	3 PHASE + NEUTRAL

(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

SHIPPING INFORMATION

CONTAINER 1 x 20 O.T.

LARGEST COMPONENTS

CENTER	Ø 1 MT. x 3 MT.
DRUM	Ø 1.4 MT. x 1.4 MT.

ERECTION WORKS

NO.1 SUPERVISOR FOR 1 DAY

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91

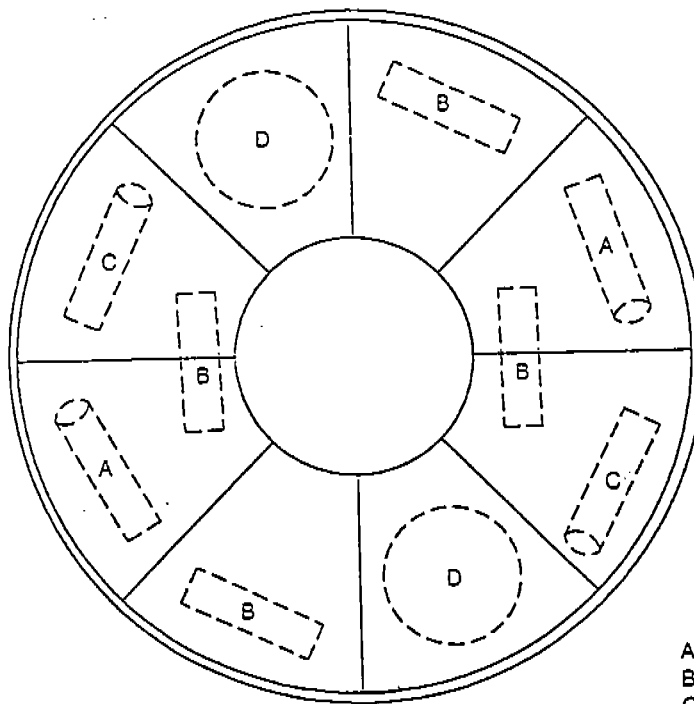
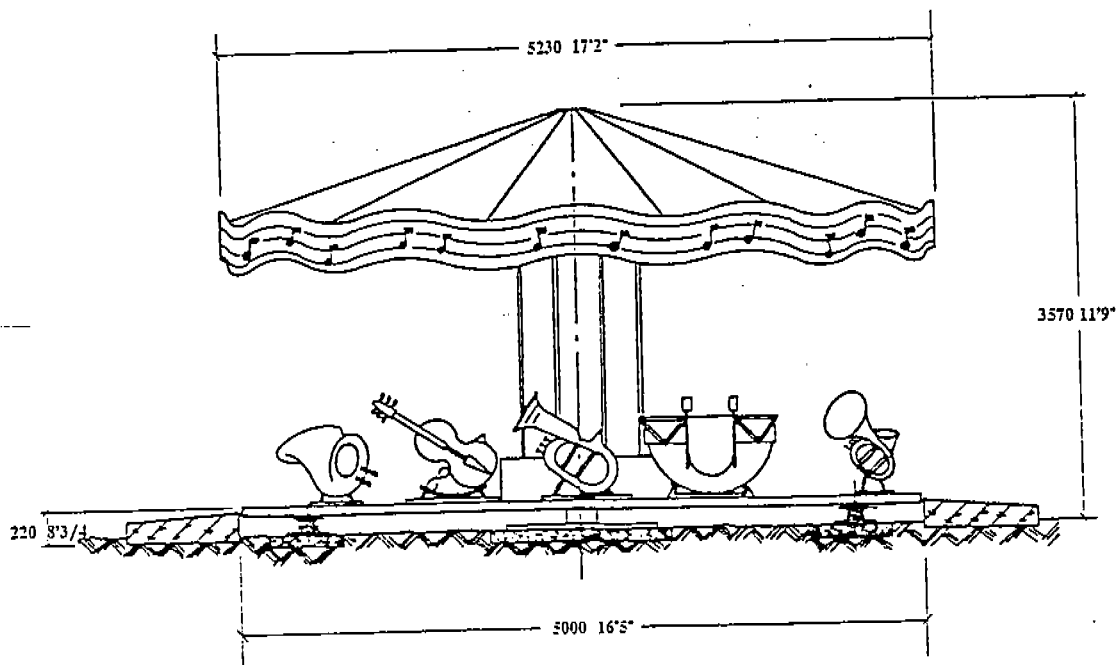


AMUSEMENT RIDES MANUFACTURERS

ANTONIO ZAMPERLA S.P.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC.(VI) ITALY
Via MONTE GRAPPA 15-17
TEL.(0444) 573133 FAX.573720
TELEX 481499 ZAMPER I

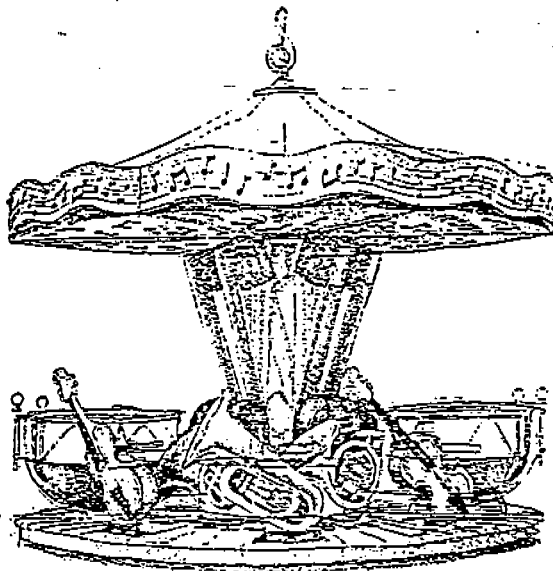
ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O.Box 5545
PARSIPPANY N.J. 07054-0598
PH.(201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



A = TUBAS
 B = VIOLONS
 C = CORS DE CHASSE
 D = TAMBOURS

MUSICAL CAROUSEL



DESCRIPTION

OUR CHILDREN RIDE MUSICAL CAROUSEL PARK MODEL HAS A 8 MT. DIAMETER PLATFORM WITH TOTAL CAPACITY OF 28 SEATS.

THIS RIDE REPRODUCES A PIANO KEYBOARD WITH 20 SHINING MUSICAL INSTRUMENTS AS CARS. ITS BEAUTIFUL FINISH, SOUND AND LIGHT EFFECTS MAKE THIS RIDE ONE OF THE BEST AMONG OUR THEMED CHILDREN RIDE PRODUCTION.

THE DRIVE SYSTEM IS MADE OF A A.C. MOTOR COUPLED WITH A GEAR BOX AND THE ROTATION IS GIVEN BY A SERIES OF WHEELS LOCATED UNDER THE PLATFORM. THE PLATFORM IS COVERED WITH FIBERGLASS PANELS REPRODUCING A PIANO KEYBOARD, THE CENTRAL COLUMN IS DECORATED WITH MIRRORS AND GIANT MUSICAL NOTES IN FIBERGLASS.

THE ROOF IS COVERED WITH A PVC CANVAS. FIBERGLASS DECORATED PANELS ON THE CEILING AND ON ROOF PERIMETER LIGHTED WITH TWO ROWS OF CAPSON LIGHTS.

THE 20 CARS ARE THE FOLLOWING: 2 DRUMS- 5 SEATS EACH / 6 VIOLAS- 1 SEAT EACH / 6 TUBAS- 1 SEAT EACH / 6 HORNS- 1 SEAT EACH.

ALL CARS ARE BUFFER-ROCKING, EXCEPT FOR THE DRUMS WHICH TURN BY MEANS OF A MANUAL CENTRAL STEERING WHEEL. THE STANDARD VERSION OF THIS RIDE INCLUDES 12 LOUDSPEAKERS CONNECTED TO A DIGITAL MUSIC SYSTEM.

THE RIDE IS PROVIDED WITH ELECTRIC PANEL AND CONTROL BOARD.

A CONCRETE PLATFORM IS SUGGESTED AS FOUNDATIONS.

OPTIONAL (TO BE QUOTED ON REQUEST)

- STANDARD OR THEMED TICKET BOX WITH SIGN.
- FENCES ON PERIMETER.
- PLATFORM ON PERIMETER.
- 12 ADDITIONAL LOUDSPEAKERS, EACH WITH ITS OWN RECORDING PROGRAMMED BY A COMPUTER TO ALLOW EACH INSTRUMENT TO PLAY ITS OWN MUSIC AND CREATE A REAL ORCHESTRA EFFECT.

SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	28
MAXIMUM TOTAL PASSENGER WEIGHT	2100 KG.
MINIMUM PASSENGER HEIGHT	105 CM.
LOADING	ALL SEATS SIMULTANEOUSLY

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
RIDE SPEED	5 RPM
RIDE DURATION (MAXIMUM)	2.5 MIN. (PROGRAMMED TIMER)
RIDE DURATION (RECOMMENDED)	2 MIN. (PROGRAMMED TIMER)
HOURLY CAPACITY	700
OPERATOR	1

MAXIMUM RIDE WEIGHT	6.8 TONS
---------------------	----------

DRIVE	ELECTRIC
-------	----------

INSTALLED POWER

TOTAL	8.4 KW
DRIVE	4 KW
LIGHTS	4.4 KW
VOLTAGE	3 PHASE + NEUTRAL

(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

SHIPPING INFORMATION

CONTAINER	1 x 40 O.T.
-----------	-------------

LARGEST COMPONENTS

CENTER	Ø 1 MT. x 3 MT.
DRUM	Ø 1.4 MT. x 1.4 MT.

ERECTION WORKS

NO. 1 SUPERVISOR FOR 3 DAYS

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91



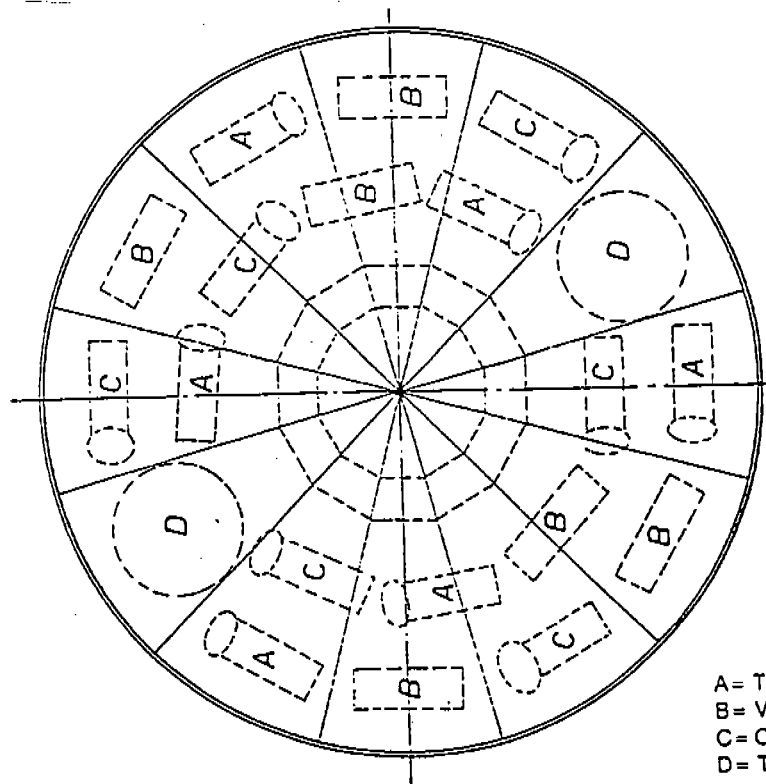
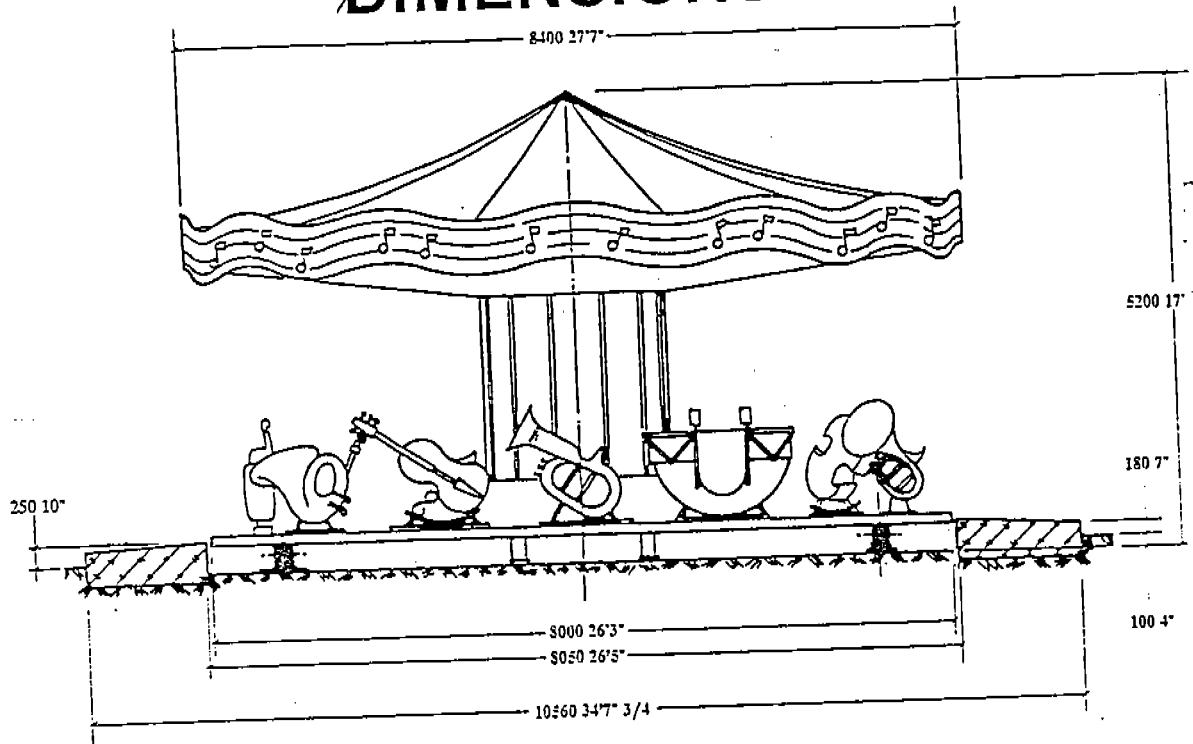
ZAMPERLA

AMUSEMENT RIDES MANUFACTURERS

ANTONIO ZAMPERLA S.p.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC. (VI) ITALY
Via MONTE GRAPPA 15-17
TEL. (0444) 573133 FAX. 573720
TELEX 481499 ZAMPER I

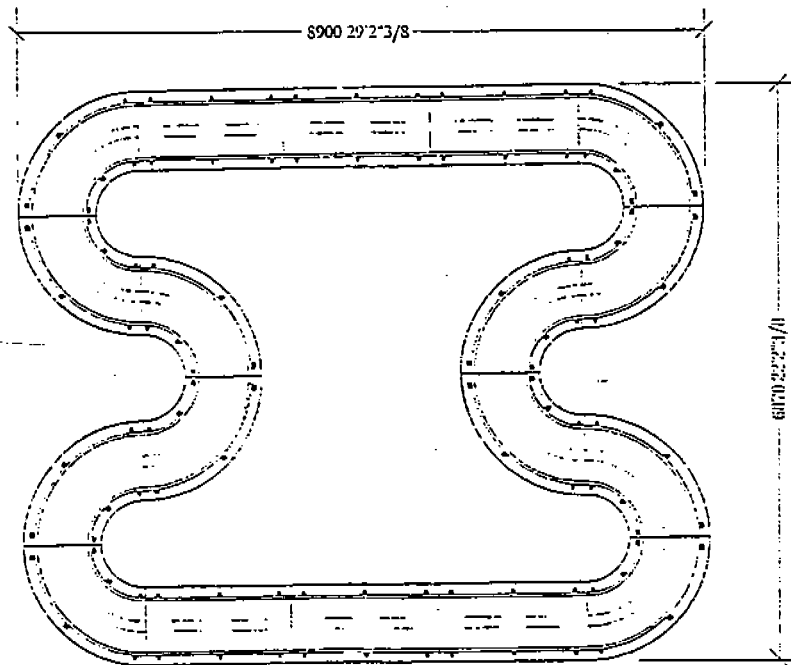
ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. BOX 5545
PARSIPPANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



A= TUBAS
 B= VIOLONS
 C= CORS DE CHASSE
 D= TAMBOURS

DIMENSIONS



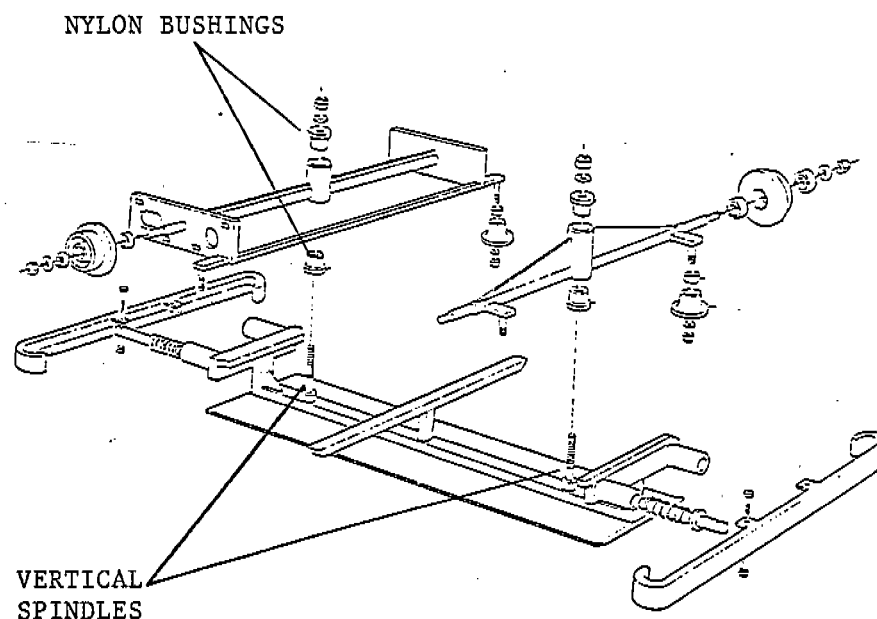
Zamperla Inc.

Technical Update

January 1991

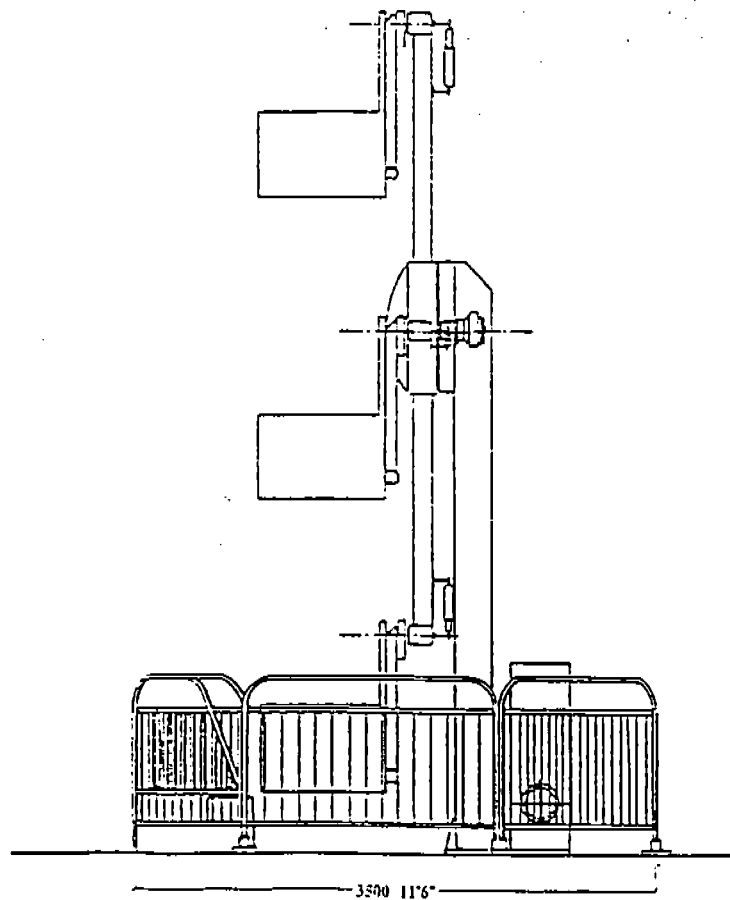
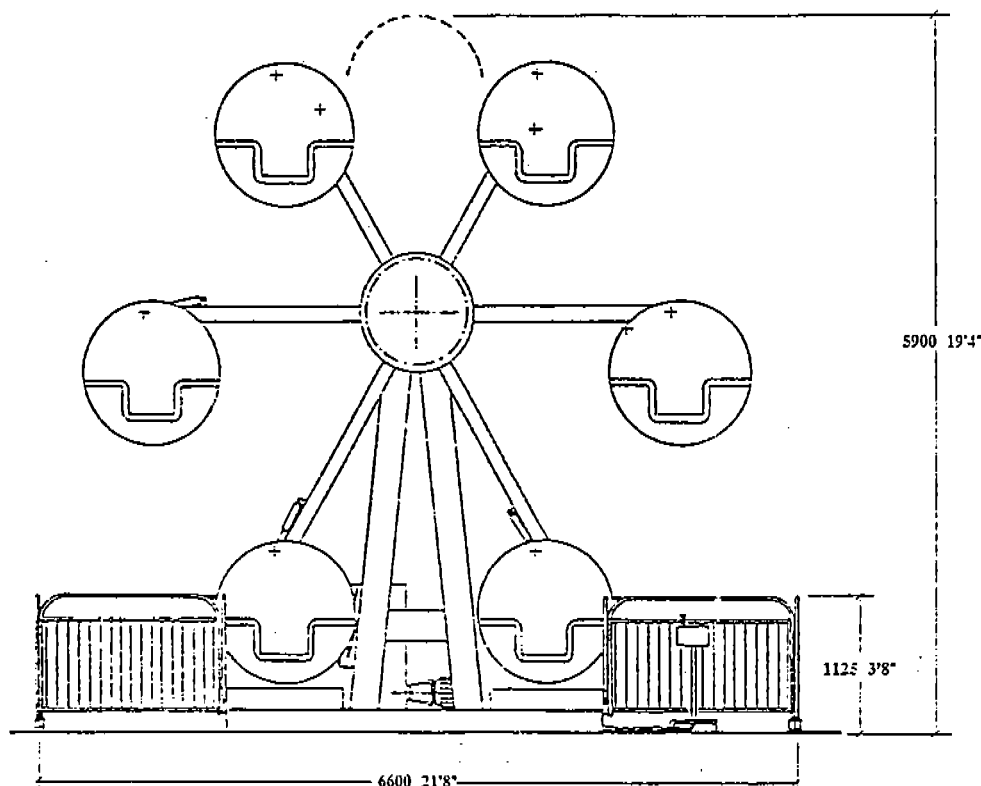
RE: Safari Adventure Track (excessive wear)

Several Safari Adventure owners have experienced excessive track rail wear. The wear has been greatest on the outside rail of the right turns. The cause has been found to be binding of the nylon bushings on the axle vertical spindle. The corrective action is to disassemble the axle and ream the nylon bushings to obtain free movement of the axle in both directions.

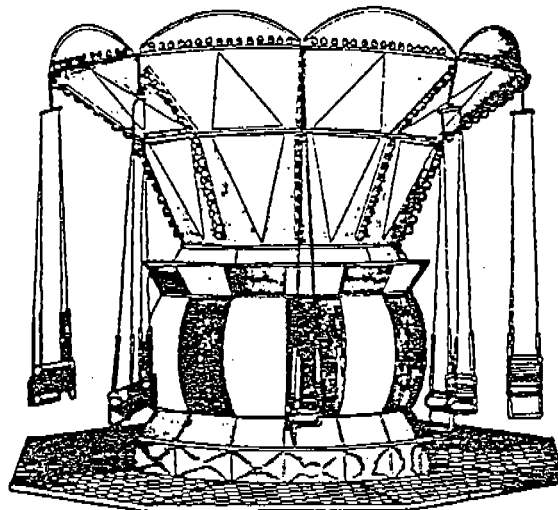


Rene Bernier
Technical Service Manager

DIMENSIONS



SWING RIDE 20



DESCRIPTION

SWING RIDE 20 COMES STANDARD WITH FIBERGLASS PANELS COVERING CENTRAL STRUCTURE, WITH LIGHTS ON PANEL JUNCTIONS, FOR A CAPACITY OF 20 CHILDREN SEATS HANGING ON 4 CHAINS.

ALUMINIUM PLATFORMS, FENCES, CONTROL BOARD AND REMOTE CONTROL ARE INCLUDED.

SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	200
MAXIMUM TOTAL PASSENGER WEIGHT	750 KG.
LOADING	SIMULTANEOUSLY

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
SPEED	10 RPM.
HOURLY CAPACITY	480
OPERATOR	1

MAXIMUM RIDE WEIGHT	1 TONS
---------------------	--------

DRIVE	ELECTRIC
-------	----------

INSTALLED POWER

TOTAL	3 KW
DRIVE	0.5 KW
LIGHTS	2.5 KW
VOLTAGE	3 PHASE + NEUTRAL

(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

SHIPPING INFORMATION

CONTAINER	1 x 40 O.T.
-----------	-------------

ERECTION WORKS

- * NO. 1 SUPERVISORS FOR 2 DAYS
- * CRANE: TONS. x LENGTH OF ARM x TIME IN HOURS
- 5 TON. x 10 MT. x 4 HOURS
- * DEPENDS ON SITE CONDITIONS AND WORK FORCE AVAILABLE.

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91



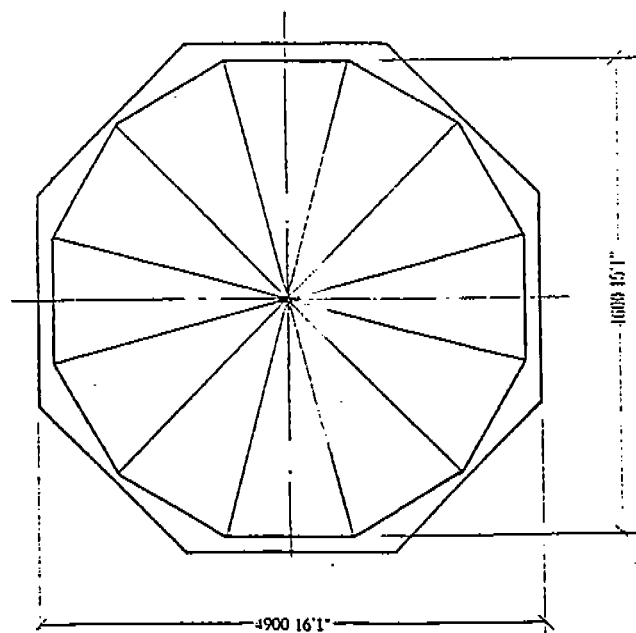
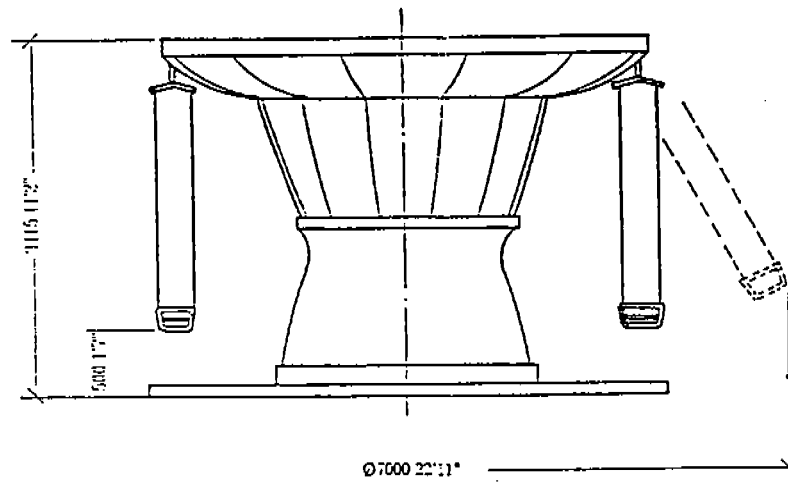
ZAMPERLA

AMUSEMENT RIDES MANUFACTURERS

ANTONIO ZAMPERLA S.P.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC. (VI) ITALY
Via MONTE GRAPPA 15-17
TEL. (0444) 573133 FAX. 573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. Box 5545
PARSIPPANY N.J. 07054-0598
PH. (201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



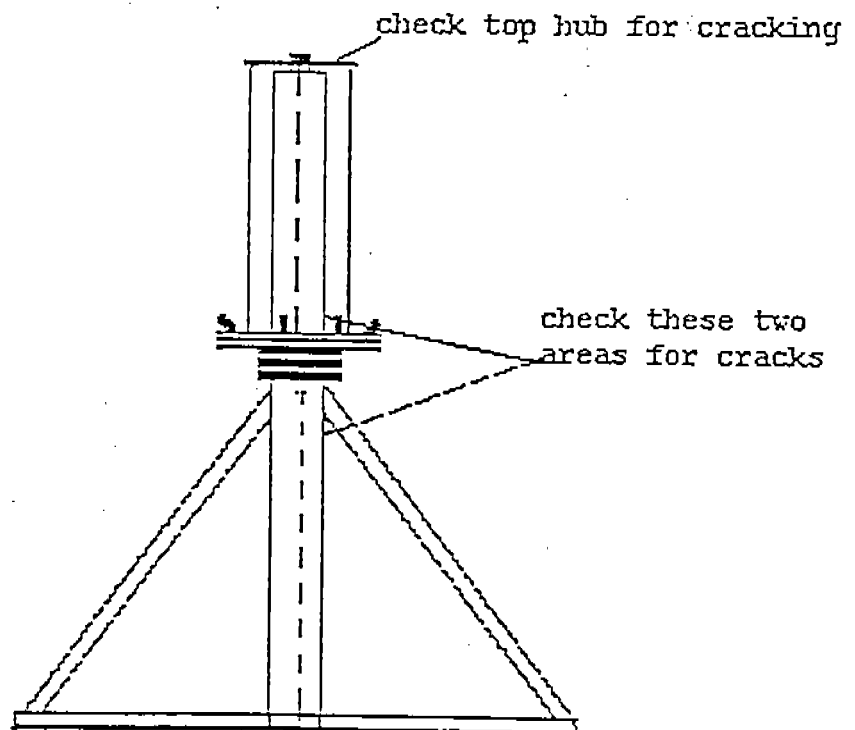
Zamperla Inc.

Maintenance Bulletin

February 1990

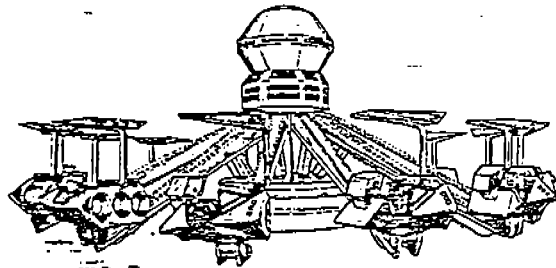
RE: Bulletin 5/86 Swing Ride 20 center pole

Below is a drawing of the center pole on the Swing Ride 20. Bulletin 5/86 recommends routine inspection of the areas marked (below the point where the brace poles meet the center column, and above the sweep hub) for cracks. If any cracking occurs in these areas please contact our service department. As an update to this bulletin, also inspect the top hub where the sweep support rods attach.



Rene Bernier
Customer Service Manager

TOP JET TELECOMBAT



DESCRIPTION

OUR ADULT PARK MODEL RIDE TOP JET TELECOMBAT IS PROVIDED WITH 14 PLANES OF TWO SEATS EACH FOR A TOTAL CAPACITY OF 28 ADULTS. ITS MOTORIZATION IS MOUNTED ON A FIXED LIFTING CENTER WHILE ITS OLEODYNAMIC AND PNEUMATIC SYSTEM WITH RELATIVE AIR-TANKS ARE LOCATED ON THE GROUND UNDER THE RIDE CENTER. THE AIR-COMPRESSOR AND CONTROL BOARD ARE SET UP AT A DISTANCE. IF REQUIRED, THE WHOLE SYSTEM CAN BE LOCATED FAR FROM THE RIDE CENTER. THE ROTATION IS DONE BY AN ELECTRIC SYSTEM. THE ARMS AND THE CARS LIFTING OF 3.5 MT. IS DONE BY A PNEUMATIC SYSTEM WHILE THE FURTHER 2.5 MT. LIFTING OF THE ROTATING CENTER IS DONE BY AN OLEODYNAMIC SYSTEM. THE ROTATION OF THE CAR IS MADE BY A MANUAL STEERING WHEEL PLACED IN THE CAR AND ITS UP DOWN MOVEMENT BY A JOYSTICK CONTROLLED BY PASSENGERS WHO CAN SHOOT DOWN OTHER CARS PUSHING THE BUTTON ON TOP OF THE JOYSTICK. EACH CAR IS PROVIDED WITH SAFETY BELT. THE CENTER BASEMENT OF THE RIDE IS COVERED BY A CIRCULAR STRUCTURE HIDDEN BY A PVC CANVAS. THE RIDE IS SUPPLIED WITH ELECTRIC PANEL AND REMOTE CONTROL BOARD. IT HAS A CENTRAL LIGHTED FIBERGLASS BOWL AND 3 LIGHT STRIPS ON EACH ARM. FOUNDATIONS ARE REQUIRED FOR THE CENTRAL COLUMN.

OPTIONAL

- TOP JET SIGN WITH SUPPORT AND FLASHING LIGHTS.
- STANDARD MODEL TICKET BOX.
- PLATFORMS AROUND PERIMETER.
- TENSOSTRUCTURE TO COVER THE RIDE IF WITHOUT HYDRAULIC LIFTING.
- SPIDER BASEMENT TO AVOID CENTRAL FOUNDATION PLINTH.

SEATS

NUMBER OF SEATS	14
MAXIMUM PASSENGERS PER SEAT	2 ADULTS
MAXIMUM TOTAL WEIGHT PER SEAT	150 KG.
MAXIMUM TOTAL NUMBER OF PASSENGER	28
MAXIMUM TOTAL PASSENGER WEIGHT	2100 KG.
MINIMUM PASSENGER HEIGHT	105 CM.
	(UNACCOMPANIED BY ADULT)

LOADING

ALL SEATS SIMULTANEOUSLY

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
RIDE SPEED	6 RPM.
RIDE DURATION (MAXIMUM)	2.5 MIN. (PROGRAMMED TIMER)
RIDE DURATION (RECOMMENDED)	2 MIN. (PROGRAMMED TIMER)
HOURLY CAPACITY	700
OPERATOR	1

MAXIMUM RIDE WEIGHT

15 TONS.

DRIVE

ELECTRIC

INSTALLED POWER (VERSION WITH LIFTING OF THE CENTER)

TOTAL	58 KW (80 KW)
DRIVE	45 KW (67 KW)
LIGHT	13 KW (13 KW)
VOLTAGE	3 PHASE + NEUTRAL
	(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

SHIPPING INFORMATION

CONTAINER	2 x 40 O.T.
-----------	-------------

LARGEST COMPONENTS

CENTER	2.2 MT. x 2.2 MT. x 8 MT.
ARM	0.3 MT. x 0.3 MT. x 6 MT.
CAR	2 MT. x 1.8 MT. x 0.9 MT.

ERECTION WORKS

- *NO. 2 SUPERVISORS FOR 3 DAYS
- *CRANE: HEIGHT X TONS X LENGTH OF THE ARM X TIME IN HOURS
10 MT. x 10 TONS x 6 MT. x 4 HOURS
- *DEPENDS ON SITE CONDITIONS AND WORK FORCE AVAILABLE

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91

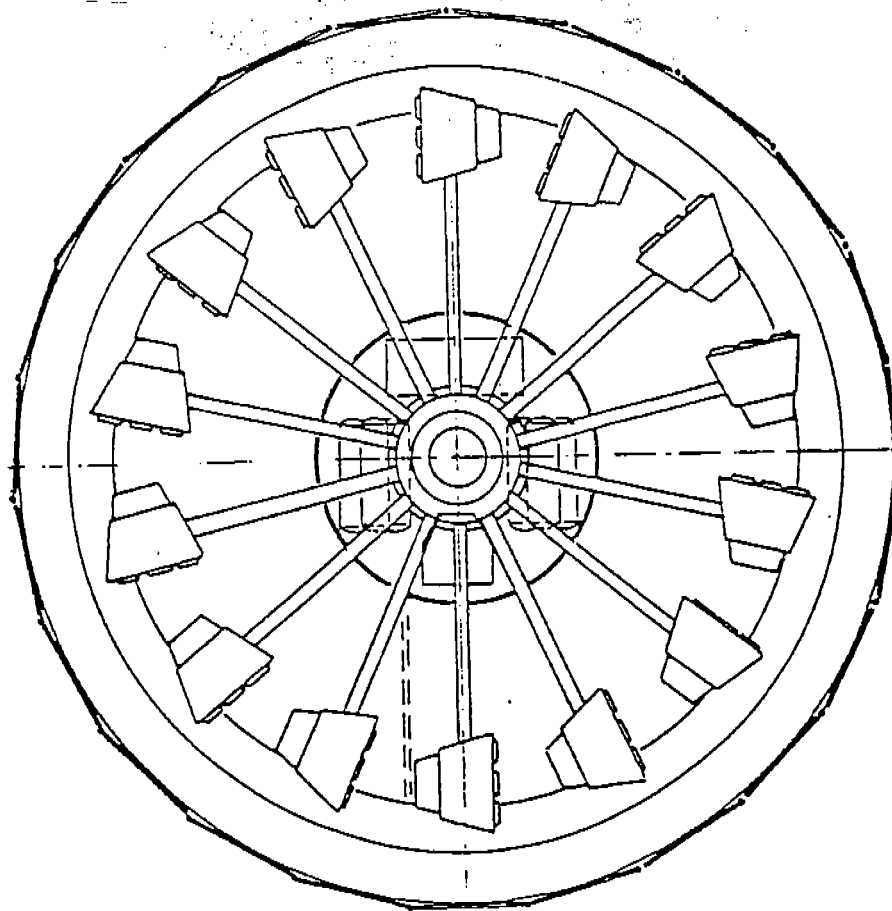
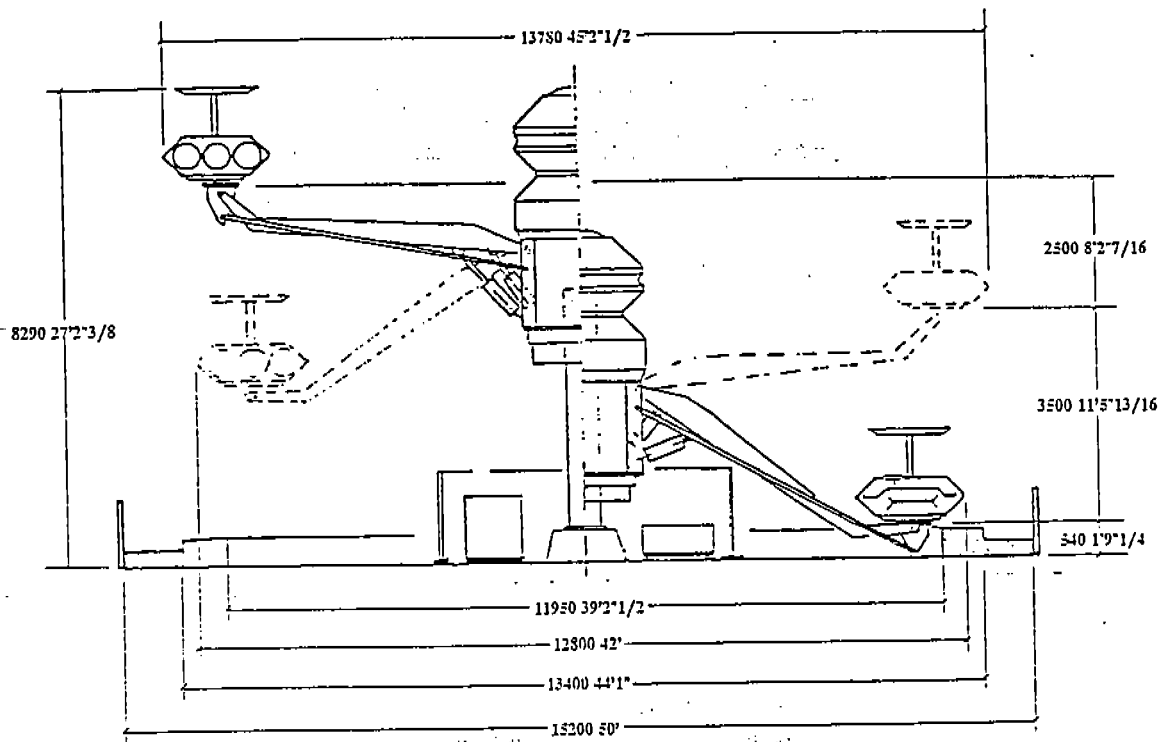


AMUSEMENT RIDES MANUFACTURERS

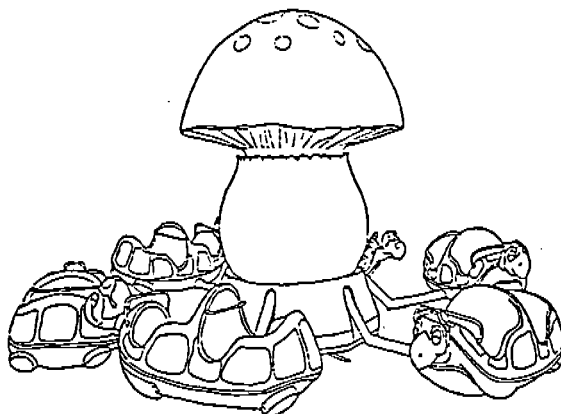
ANTONIO ZAMPERLA S.p.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC.(VI) ITALY
Via MONTE GRAPPA 15-17
TEL.(0444) 573133 FAX.573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O. BOX 5545
PARSIPPANY N.J. 07054-0598
PH.(201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



TURTLE PARADE



DESCRIPTION

TURTLE PARADE IS AN ATTRACTIVE CHILDREN RIDE SPECIALLY DESIGNED FOR SMALL LOCATIONS WITH 6.5 MT. DIAMETER WITH FENCES.

THE RIDE CONSISTS IN 6 ROTATING TURTLES AND A BIG CENTRAL FIBERGLASS COLOURED MUSHROOM. EACH CAR HAS 4 SEATS FOR A TOTAL CAPACITY OF 24 CHILDREN SEATS.

EACH CAR IS PROVIDED WITH SOUND AND LIGHTS.

FENCES ON PERIMETER, ELECTRIC PANEL AND REMOTE CONTROL ARE INCLUDED.

OPTIONAL (TO BE QUOTED ON REQUEST)

- TOP PART OF CENTER LIGHTED
- PLATFORM
- TURTLE PARADE SIGN
- TICKET BOX

SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	24
MAXIMUM TOTAL PASSENGER WEIGHT	1800 KG.
LOADING	ALL SEATS SIMULTANEOUSLY
MAXIMUM UNBALANCE	12 CHILDREN

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
RIDE SPEED	6 RPM.
RIDE DURATION (MAXIMUM)	2.5 MIN. (PROGRAMMED TIMER)
RIDE DURATION (RECOMMENDED)	2 MIN. (PROGRAMMED TIMER)
HOURLY CAPACITY	600
OPERATOR	1

MAXIMUM RIDE WEIGHT 1 TONS.

INSTALLED POWER

TOTAL	1.6 KW.
DRIVE	1.1 KW.
LIGHTS	0.5 KW.
VOLTAGE	3 PHASE + NEUTRAL SINGLE PHASE

SHIPPING INFORMATION

CONTAINER 1x20 O.T.

ERECTION WORKS

NO. 1 PERSON FOR 3 HOURS

Specifications are effective as publication date. Because we try to improve every ZAMPERLA product, these specifications are subject to change without notice.

DATE: 06/91



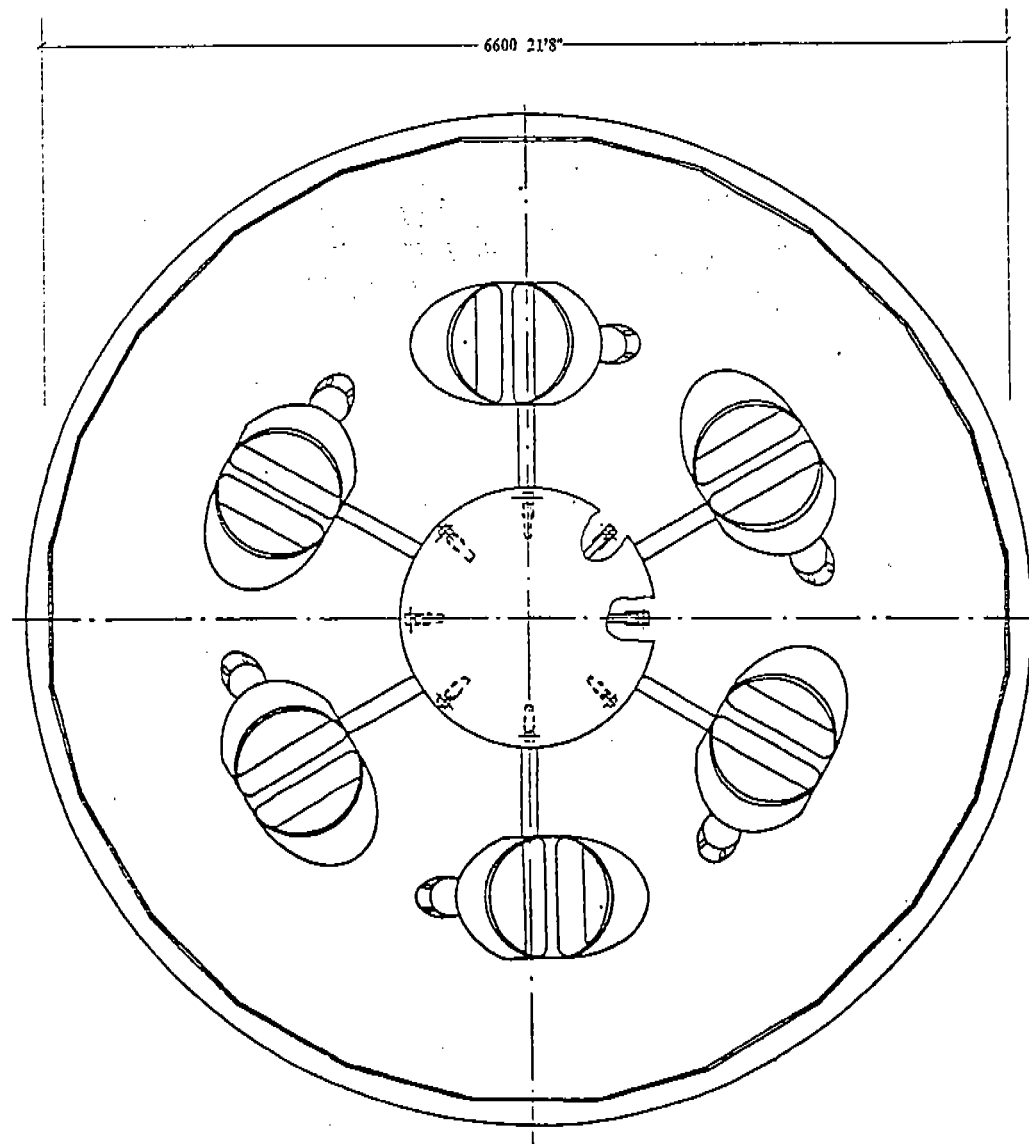
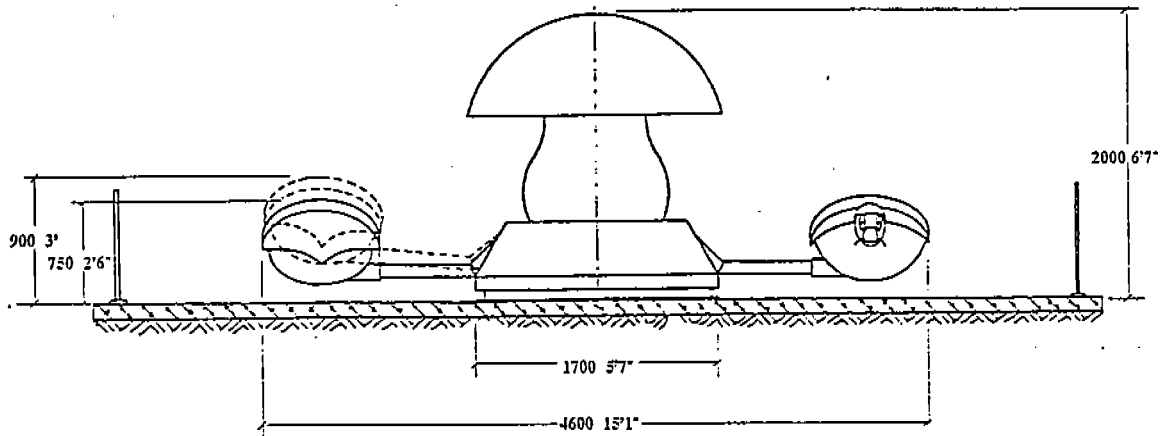
ZAMPERLA

AMUSEMENT RIDES MANUFACTURERS

ANTONIO ZAMPERLA S.P.A.
(HOME OFFICE FACTORY)
36077 ALTAVILLA VIC.(VI) ITALY
Via MONTE GRAPPA 15.17
TEL.(0444) 573133 FAX.573720
TELEX 481499 ZAMPER I

ZAMPERLA INC.
(U.S.A. SALES/SERVICE OFFICE)
49 FANNY ROAD, P.O.Box 5545
PARSONS N.J. 07054-0598
PH.(201) 334-8133 (800) 888-8878
TELEFAX (201) 334-6880

DIMENSIONS



DIMENSIONS

