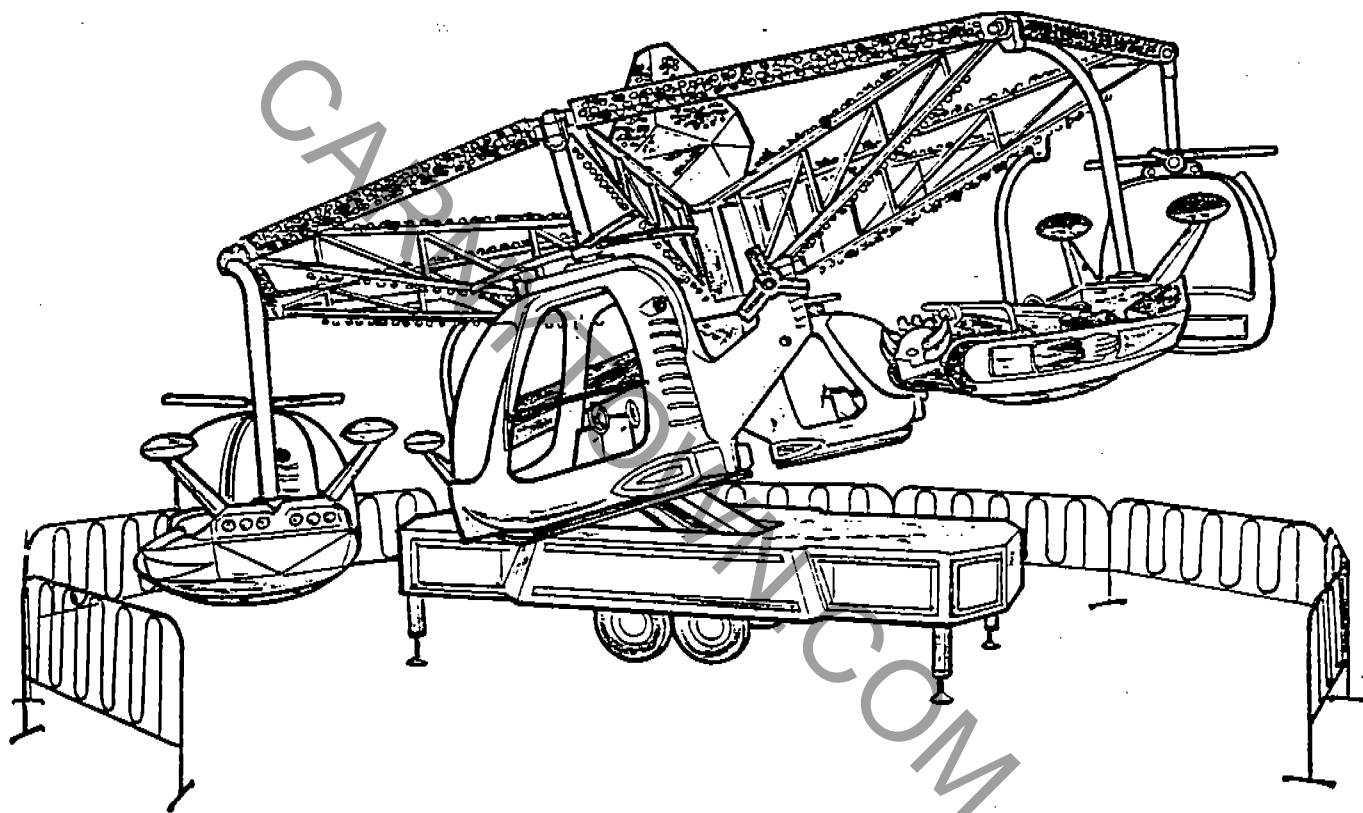


ZAMPERLA

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NAME: MINI ENTERPRISE
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Mini Enterprise

- INSTRUCTIONS FOR SETTING UP - USE AND MAINTENANCE
- ISTRUZIONI PER L'ASSEMBLAGGIO - USO E MANUTENZIONE
- SPARE PARTS CATALOGUE
- CATALOGO RICAMBI

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AMUSEMENT RIDE NAME

SERIAL # MODEL # YEAR OF MFG.

TRAILER MOUNTED HEIGHT WIDTH LENGTH

WEIGHT

OF AXLES BRAND CAP.TY EACH

CROSS WEIGHT IN OPERATION NET WEIGHT

STATIC: HEIGHT FRONT WIDTH OR DIAMETER LENGTH

OPERATION: HEIGHT FRONT WIDTH OR DIAMETER INCLUDING FENCING

LENGTH

PASSENGER CAPACITY: TOTAL WEIGHT WEIGHT EACH CAR

PASSENGER CAPACITY: TOTAL EACH CAR

PASSENGERS RESTRICTIONS:

CYCLE TIME

RISE SPEED

DIRECTION OF TRAVEL

ELECTRICAL POWER REQUIRED AMPERES

WIRE SIZE

OPERATIONAL RESTRICTIONS:

TEST DATE

LOAD lbs RPM

LOAD PER CAR lbs

I DO THEREBY CERTIFY THAT THE RIDE LISTED ABOVE HAS

BEEN LOAD TESTED.

DATE

SIGNATURE

AMUSEMENT RIDE NAME

SERIAL # MODEL # YEAR OF MFG.

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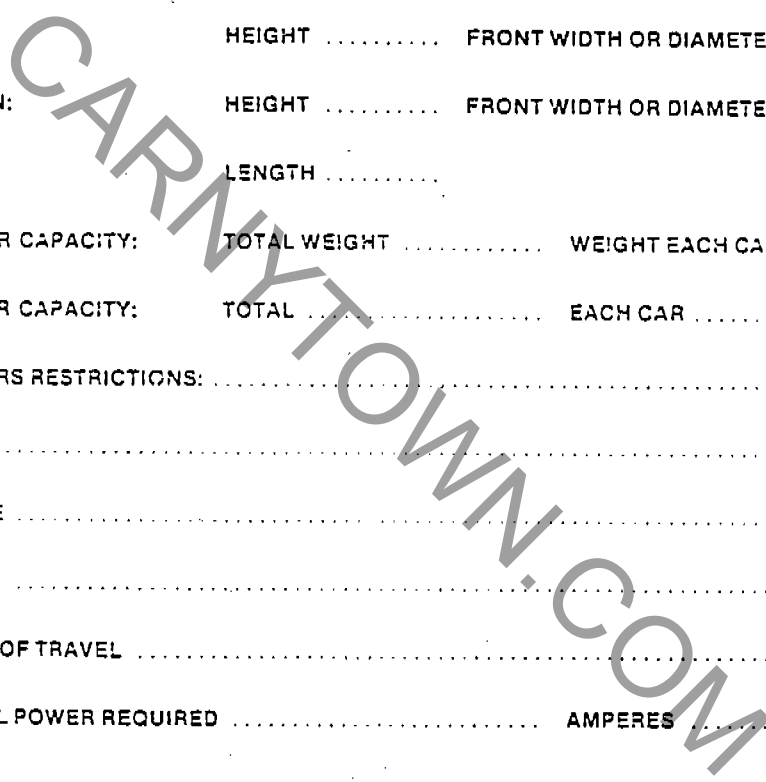
LOAD lbs RPM

LOAD PER CAR lbs

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DATE

SIGNATURE



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INTRODUCTION

This set-up, use, maintenance and spare parts book will help you to use, maintain and properly use the ride.

WARNINGS:

Before starting any set-up, repair or maintenance operation please carefully read this book, in order to properly perform all operations.



This attention mark is used in the book to focus your attention on points of particular interest, therefore, read them carefully.

INTRODUZIONE

Il presente manuale d'istruzione per il montaggio - Uso e Manutenzione completo del «Catalogo Ricambi» è stato realizzato affinché l'acquirente possa conoscere a fondo la giostra e possa in modo semplice e razionale, rintracciare le informazioni necessarie per un buon funzionamento e per l'eventuale necessità di ricambi.

AVVERTENZE:

Prima di iniziare qualsiasi operazione di assemblaggio - uso o manutenzione, leggere attentamente il contenuto della presente pubblicazione, in modo da eseguire le operazioni necessarie nel modo più corretto e razionale.



Questo simbolo è un richiamo di particolare attenzione per l'utilizzatore. Leggere con molta attenzione le descrizioni così contrassegnate.

Position the tension rods (2-Fig. 2), (with turn buckles) in the following way. Connect it in the center of a sweep and on the opposite side at the extremity (close to the center of the ride) of the second following sweep (skip one).

Do not tension the turn buckle yet.

Tension the bolts (1-Fig. 2), that hold together the perimeter rods; then the turn buckles of the tension rods (2-Fig. 2). Tension them equally.

Should it attach the one on the arm sweep.

Connect the cars on the arms, stopping them with a pin (3-Fig. 2), and securing them with a allen screw (4-Fig. 2). Plug on the electrical connection between arm and car.

Position the helicopter propellers on the arm bushing and secure eith an allen screw.

Insert the roof on the space warrior's arm. Stop them with a pin and plug in the electrical connection.

IMPORTANT: ALL PINS MUST BE SECURED WITH SAFETY PINS.

Posizionate i tiranti come da 2-Fig. 2; dopo aver stretto i bulloni che fissano le plancarde, tendete i tiranti do uguale.

Montate i soggetti sui bracci, il numero dei soggetti deve corrispondere a quello che appare sui bracci.

I soggetti vanno montati sui bracci con il numero corrispondente e fissati con una spina (3-Fig. 2) ed assicurati con una vite a brugola (4-Fig. 2); quindi collegate la spina che scende dal braccio alla presa che c'è nel soggetto.

ATTENZIONE: TUTTE LE SPINE VANNO ASSICURATE CON UNA SPINA DI SICUREZZA.

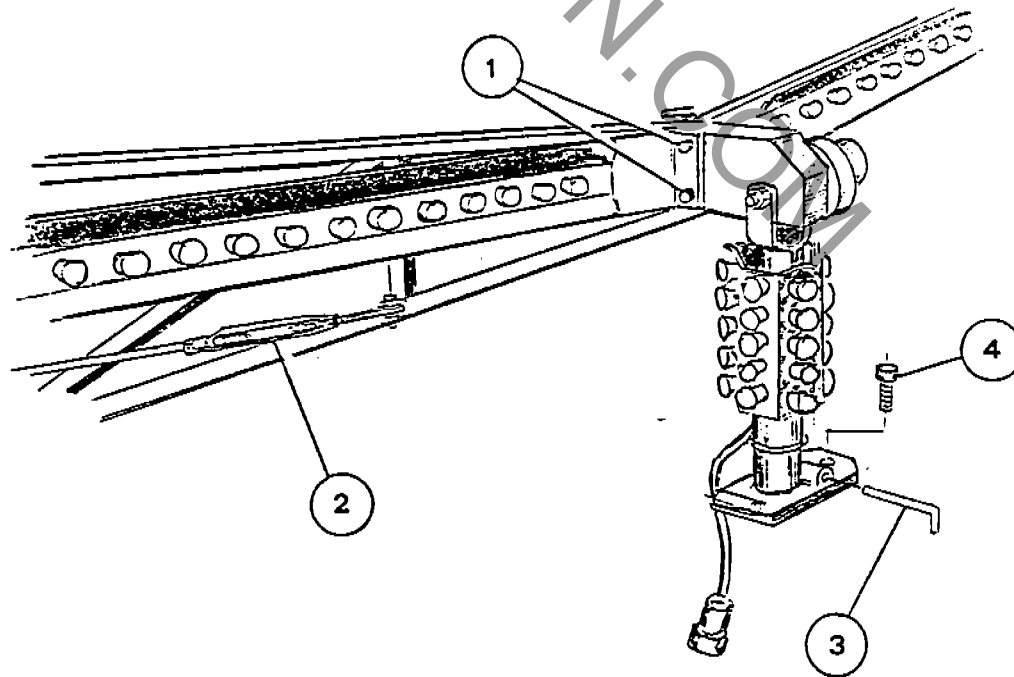



Fig. 2

ELECTRICAL CONNECTIONS

Connect the power to the ride. The three phases to the black connectors (1-2-Fig. 3), the neutral on the red one (3-Fig. 3), ground on the brass one (4-Fig. 3).

 If the ride turns in reverse counter clock wise, switch two phases.

COLLEGAMENTO ELETTRICO

Il collegamento elettrico va eseguito collegando le tre fasi con i morsetti neri (1-2-Fig. 3), il neutro con quello rosso (3-Fig. 3), mentre la terra va collegata con il morsetto (4-Fig. 3).

 Se la giostra gira in senso antiorario, invertite due fasi.

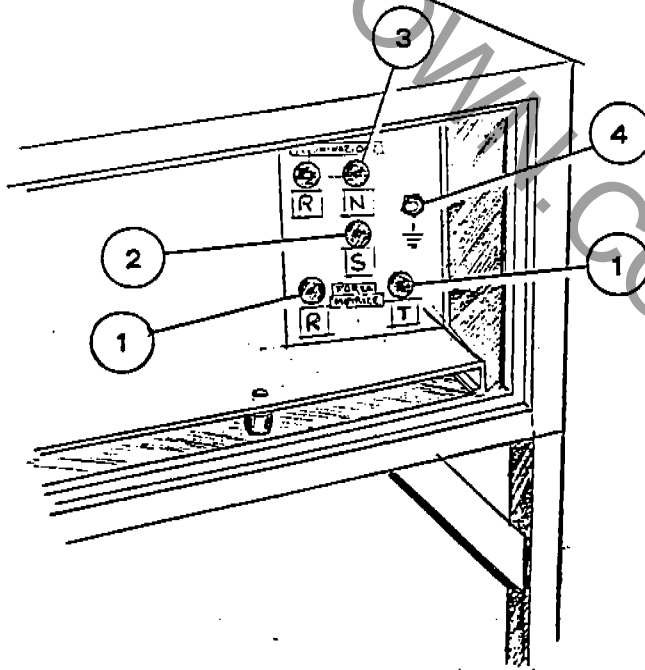


Fig. 3

1.0 - USE

1.1 - Pushbutton panel (Fig. 4)

- 1 - START green pushbutton: if pressed, puts the attraction in operation.
- 2 - STOP red pushbutton: if pressed, initiates the stopping phase under program control.
- 3 - ALARM yellow pushbutton: if pressed, activates the acoustic alarm.
- 4 - EMERGENCY red mushroom-head pushbutton: if pressed, causes the immediate stop of the attraction; to reset the pushbutton, turn it clockwise.
- 5 - UP red pushbutton: if pressed, causes the attraction to lift.
- 6 - DOWN black pushbutton: if pressed, causes the attraction to lower.

NOTE: Pushbuttons (5) and (6) are activated by selector switch (1-Fig. 5) when this is in manual position only.

1.0 - USO

1.1 - Pulsantiera (Fig. 4)

- 1 - Pulsante verde "START": premuto, mette in rotazione la giostra.
- 2 - Pulsante rosso "STOP": premuto, inizia la fase di fermata a programma.
- 3 - Pulsante giallo "ALARM": premuto, mette in funzione l'avvisatore acustico.
- 4 - Pulsante rosso a fungo "EMERGENCY": premuto, ferma immediatamente la giostra; per ripristinarlo, ruotarlo in senso orario.
- 5 - Pulsante rosso "UP": premuto, fa sollevare la giostra.
- 6 - Pulsante nero "DOWN": premuto, fa discendere la giostra.

N.B.: I pulsanti (5) e (6) sono attivati dal selettore (1-Fig. 5) solo nella posizione manuale.

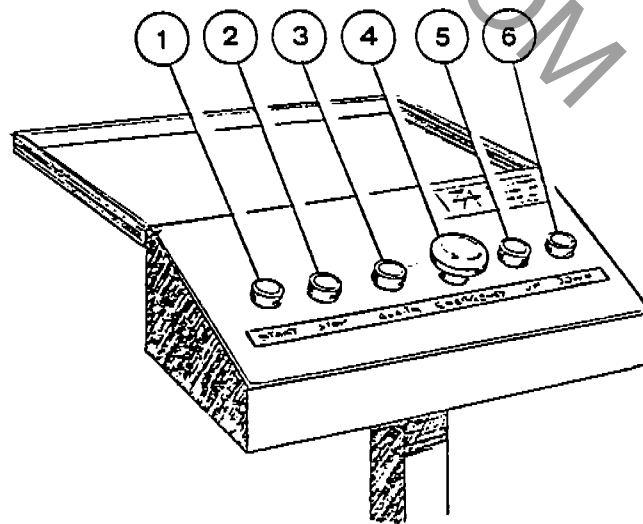


Fig. 4

1.2 - Test ride (automatic cycle)

After the power supply lines have been connected to the appropriate terminals, R-S-T (three phases), N (neutral) (ground), plug-in the pushbutton panel connector.

- Place main switch (2-Fig. 5) in ON (I) position.
- Place all switches (3 and 6-Fig. 5) in ON position.
- Press START pushbutton (1-Fig. 4); as soon as the attraction starts rotating press EMERGENCY pushbutton (4-Fig. 4).

NOTE: The purpose of this operation is to make sure that power supply connections are correct; should the attraction rotate in counterclockwise direction, swap two phases at the power supply panel after removing power.

- Place selector switch (1-Fig. 5) in automatic position; the AUTOMATIC and MANUAL positions relate to lifting.

NOTE: To prevent attraction motion during this stage, it suffices to set switches (6-Fig. 5) to OFF.

- Select the desired braking effect by means of selector switch (4-Fig. 5). If in doubt, set the selector switches to the lowest value then increase the setting until obtaining a proper braking action.
- Enter the ride length by means of timer (5-Fig. 5) (recommended time length: 1 to 3 minutes). To start the ride press START pushbutton (1-Fig. 4); the attraction will start rotating clockwise and after a few seconds lifting and sloping. After the set time has elapsed, the attraction will start lowering; when it reaches the "fully down" position, brakes will be applied and the attraction will come to a stop, always in the same position.

1.2 - Giro di prova (ciclo automatico)

- Dopo aver collegato l'alimentazione agli appositi morsetti R-S-T (tre fasi) N (neutro) (terra), collegare il connettore della pulsantiera.
- Posizionare su "ON" (I) l'interruttore generale (2-Fig. 5).
- Posizionare su "ON" tutti gli interruttori (3 e 6-Fig. 5).
- Premere il pulsante "START" (1-Fig. 4); appena la giostra inizia a ruotare, premere il pulsante "EMERGENCY" (4-Fig. 4).

N.B.: Questa manovra serve ad accertare che l'alimentazione sia corretta; nel caso che la giostra giri in senso antiorario, scambiare fra di loro due fasi sul pannello d'alimentazione, dopo aver tolto tensione alla linea d'alimentazione.

- Disporre il selettore (1-Fig. 5) in posizione automatica. La posizione "AUTOMATICO" o "MANUALE" è riferita al sollevamento.

N.B.: Per evitare i movimenti della giostra durante questa fase, basta posizionare su "OFF" gli interruttori (6-Fig. 5).

- Selezionare il grado di frenatura con il selettore (4-Fig. 5). In caso dubbio, disporre il selettore su valori più bassi ed aumentarlo qualora la frenata fosse insufficiente.
- Impostare il tempo della corsa con il temporizzatore (5-Fig. 5) (tempo consigliato: da 1 a 3 minuti). Per iniziare la corsa, premere il pulsante "START" (1-Fig. 4); la giostra inizierà a ruotare in senso orario, dopo pochi secondi inizierà a sollevarsi ed inclinarsi.

Trascorso il tempo impostato, comincerà a discendere; arrivata in posizione "tutto giù" si fermerà iniziando a frenare sempre nella stessa posizione.

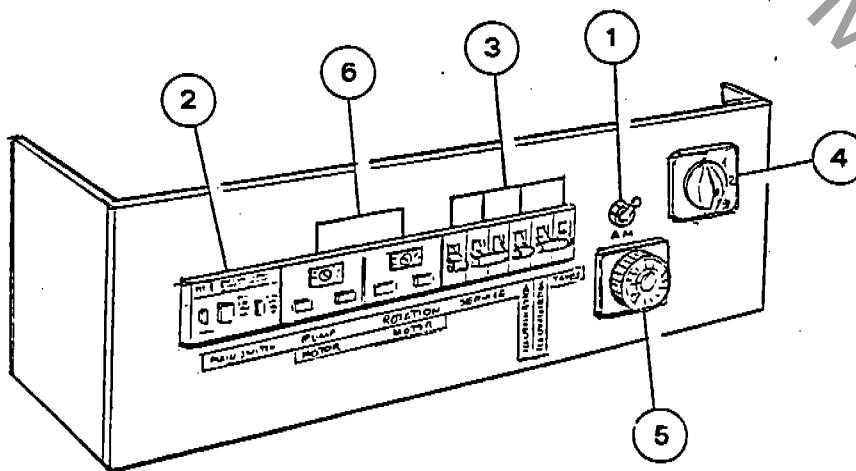


Fig. 5

NOTE: With selector switch (1-Fig. 5) in MANUAL position, the attraction movements take place according to the automatic cycle, except for lifting which can be controlled from the pushbutton panel by means of pushbuttons (5 and 6-Fig. 5).



The attraction keeps rotating even after the set time has elapsed, until the arm reaches the "fully down" position.

- i) Let people board and proceed according to step h).



N.B.: Nella posizione "MANUALE" (1-Fig. 5) del selettore, tutti i movimenti della giostra corrispondono al ciclo automatico ad eccezione del sollevamento che può essere eseguito dalla pulsantiera con i pulsanti (5 e 6-Fig. 4).

- i) Procedere come dal punto h) dopo aver fatto salire le persone per il normale lavoro.

2.0 - MAINTENANCE (Fig. 6)

DAILY

- Check limit stop damper (1) for operation.
- Check safety latches on the subjects for operation.
- Check lamps for operation; replace defective lamps with new ones of the same type.
- Check brake (2) for wear; replace the pad before damage may occur to the disk.

WEEKLY

- Grease the rotation drive shaft bearings (3).
- Grease the tie-rod joints (4).
- Grease points (5) on both sides.
- Check tank (6) oil level (if topping up is necessary, refer to the lubrication table according to environmental conditions).
- Check truss tie-rods (7) for tension.
- Check studs (13) for tightness.

MONTHLY

- Smear pinion and crown (8) with expendable grease.
- Check reduction gear (9) oil level (if topping up is necessary, use SAE 90 oil).
- Check ground supports for correct positioning.
- Check arm position with respect to the base; if necessary act on tie-rod (10).
- Check brushes (11) for wear; minimum thickness: 4 to 5 mm.
- Check drive belts (12) for wear and correct tension.

2.0 - MANUTENZIONE (Fig. 6)

OGNI GIORNO

- Controllare l'efficienza del sistema di ammortamento fine corsa (1).
- Controllare i sistemi di chiusura dei soggetti (sicurezze).
- Controllare e sostituire eventuali lampade bruciate con altre nuove dello stesso tipo.
- Controllare il grado di usura del freno (2); sostituire la pastiglia prima che l'usura sia tale da intaccare il disco.

OGNI SETTIMANA

- Ingrassare i cuscinetti dell'albero di rotazione (3).
- Ingrassare gli snodi dei tiranti (4).
- Ingrassare da ambo i lati i punti (5).
- Controllare il livello olio nel serbatoio (6) (per eventuale rabbocco, vedi tabella oli a seconda delle condizioni ambientali).
- Controllare la tensione dei tiranti capriate (7).
- Controllare il bloccaggio dei bulloni (13).

OGNI MESE

- Ingrassare pignone e corona (8) con grasso a perdere.
- Controllare il livello olio nel riduttore (9) (per eventuale rabbocco usare olio con viscosità SAE 90).
- Controllare il corretto posizionamento degli appoggi a terra.
- Controllare l'assetto dei bracci rispetto al basamento: se necessario, agire sul tirante (10).
- Controllare l'usura dei carboncini spazzole 11; spessore minimo 4 ÷ 5 mm.
- Controllare l'usura e la tensione delle cinghie di trasmissione (12).

BIANNUALLY

- Check hydraulic system hoses for absence of cracks or swellings.
- Check all fiberglass load bearing parts (bodies, seats, etc.) for condition.

ANNUALLY

- Check metal structures for condition: if necessary apply protective paint.
- Change hydraulic unit (6) oil.
- Check cables, raceways and wiring harness for condition: replace as required.

OGNI 6 MESI

- Controllare che i tubi flessibili dell'impianto idraulico non presentino screpolature o rigonfiamenti.
- Controllare tutte le parti portanti in fibra di vetro (scocche, sedili, ecc.).

OGNI ANNO

- Controllare lo stato di conservazione delle strutture metalliche: se necessario, proteggere con adeguate vernici.
- Sostituire l'olio della centralina idraulica (6).
- Controllare lo stato di conservazione di cavi, canaline e cablaggi: se necessario, sostituire i particolari difettosi o logorati.

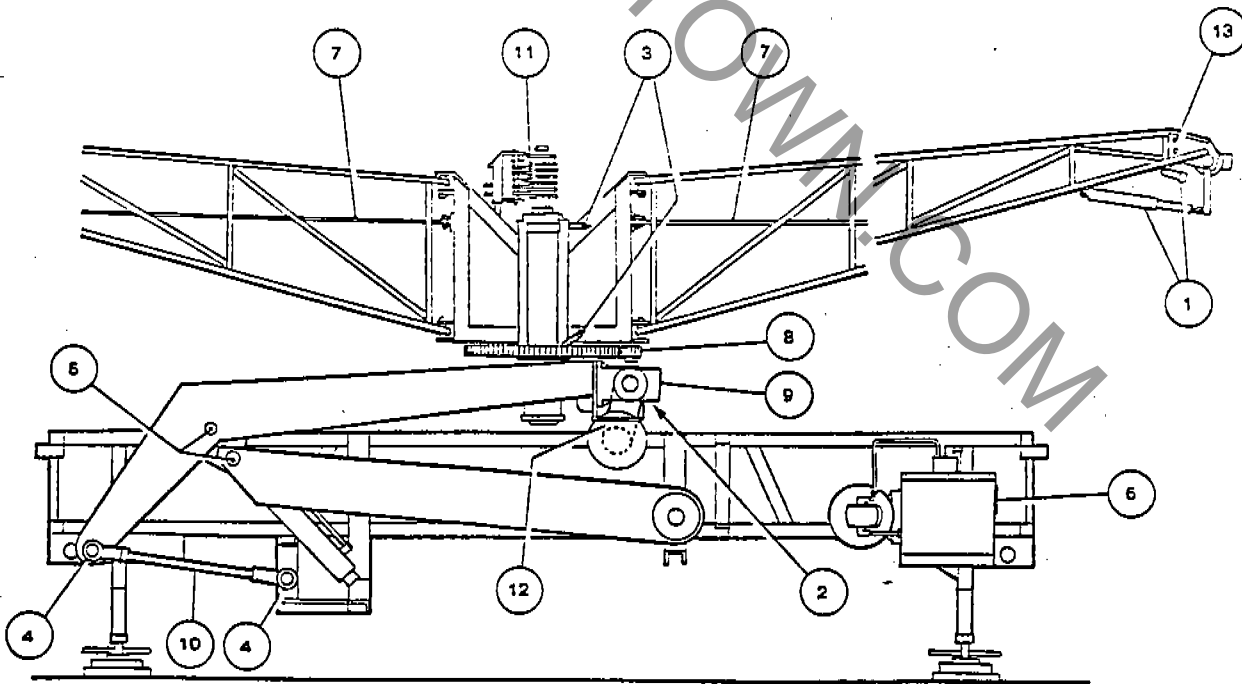


Fig. 6

3.0 - ADJUSTMENTS

3.0 - REGOLAZIONI

3.1 - Subject bumper (1-Fig. 7)

3.1 - Tampone paracolpi del soggetto (1-Fig. 7)

Adjust until the subject mounting arm seats on the bumper before the damper (2-Fig. 7) reaches the limit stop (fully retracted).

La regolazione consigliata deve garantire l'appoggio del braccio portasoggetto al tampone stesso prima che l'ammortizzatore (2-Fig. 7) arrivi a fine corsa, tutto chiuso. Per il posizionamento voluto, ruotare il tampone (1-Fig. 7) dopo avere sbloccato il controdado (3-Fig. 7).

To do this, turn the bumper (1-Fig. 7) after loosening lock nut (3-Fig. 7).

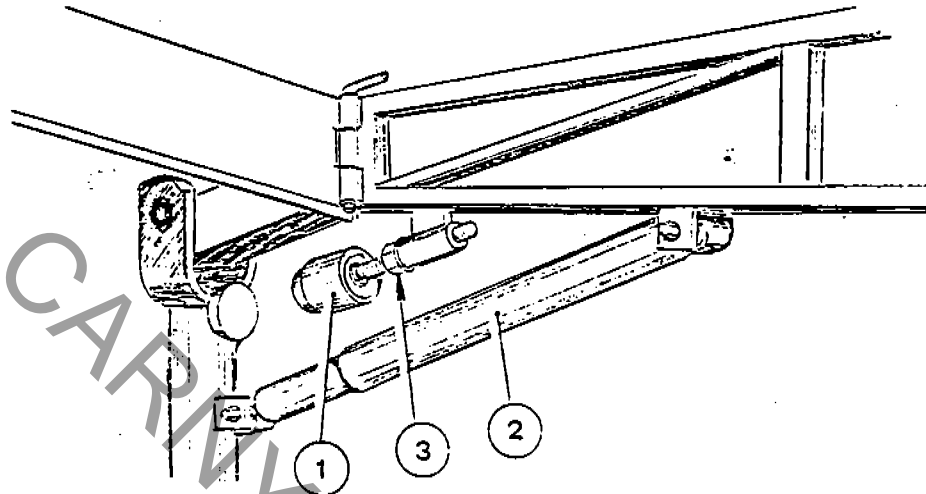


Fig. 7

3.2 - Lifting pressure (Fig. 8)

3.2 - Pressione di sollevamento (Fig. 8)

The lifting pressure adjustment is made during the setting-to-work stage; therefore no further adjustments or operations are required. Pressure reading is obtained by connecting a gauge to the union (1) to adjust proceed as follows:

La pressione di sollevamento viene tarata al momento della messa in funzione; non necessita quindi di particolari attenzioni o regolazioni.

La lettura della pressione va effettuata inserendo un manometro sul raccordo (1).

- a) Connect a gauge with a proper full range (minimum 150 kg/cm²);
- b) Manually operate the pump motor and read the pressure on the above mentioned gauge (see step a));
- c) The pressure value should be about 120 kg/cm²; otherwise act on dowel (2) after loosening lock nut (3).

Per la taratura procedere come segue:

- a) collegare un manometro con fondo scala adeguato (min. 150 kg/cm²);
- b) Mettere in funzione manualmente il motore della pompa e leggere la pressione sul manometro precedentemente installato (vedi punto a));
- c) La pressione corretta deve essere di circa 120 kg/cm²; in caso di discordanza, agire sul grano (2) dopo aver allentato il controdado (3).

NOTE: Screw dowel (2) to increase pressure; unscrew to decrease pressure.

N.B.: Avvitando il grano 2 la pressione aumenta; svitandolo la pressione diminuisce.

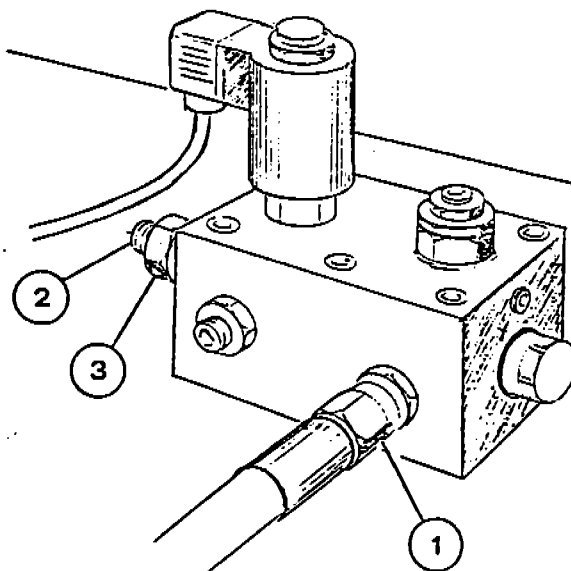


Fig. 8

3.3 - Driving gear (Fig. 9)

- The backlash between crown and pinion should be constant around the entire circumference and as small as possible (no binding should exist). Do not adjust if backlash is due to wear. Adjustment is made by removing or adding shims on the driving gear base.
- The start-up ramp can be varied by increasing or decreasing the amount of oil within the hydraulic coupling (1). By adding oil the start-up time decreases; by draining oil the start-up time increases.

RECOMMENDED OILS:

BP ENERGOL HPL 32096, TEXACO, RANDO HDA 32 (HDB 46), MOBIL DTE OIL LIGHT (MEDIUM)

NOTE: Do not mix oils from different brands.

- To put belts (2) under tension, act on nuts (3). Belt tension is correct when a sag of about 4 to 5 mm is obtained by applying a pressure of 5 to 6 kg to the midpoint of the belt section between the two pulleys.

3.4 - Brake adjustment

With the attraction under full load, the braking should be effected in about one revolution and a half.

Shorter braking distances are possible but they cause undue wear of the braking magnet and in the long run they also cause damage to the structure.

3.3 - Trasmissione (Fig. 9)

- La regolazione del gioco esistente tra corona e pignone deve essere costante per tutta la circonferenza e la minima possibile (senza alcun punto di forzatura). Non è consigliabile eseguire questa regolazione per giochi dovuti all'usura. La regolazione si effettua togliendo od aggiungendo degli spessori sulla base del riduttore.
- La rampa di partenza si può variare aumentando o diminuendo la quantità d'olio all'interno del giunto idraulico (1): aggiungendo olio il tempo di avviamento diminuisce; togliendone, il tempo di avviamento aumenta.

OLI CONSIGLIATI:

BP ENERGOL HPL 32096, TEXACO, RANDO HDA 32 (HDB 46), MOBIL DTE OIL LIGHT (MEDIUM)

N.B: Non mescolare olii di differenti marche.

- Per tendere le cinghie (2), agire opportunamente sui dadi (3). Per una corretta tensione delle cinghie si deve riscontrare una freccia di 4 ÷ 5 mm con una pressione di 5 ÷ 6 kg esercitata al centro del tratto libero fra le due pulegge.

3.4 - Regolazione del freno

La frenatura deve avvenire in circa un giro e mezzo con la giostra a pieno carico.

Spazi di frenatura più ristretti sono possibili ma provocano una considerevole usura del magnete frenante e possono, a lungo andare, provocare danni anche alle strutture.

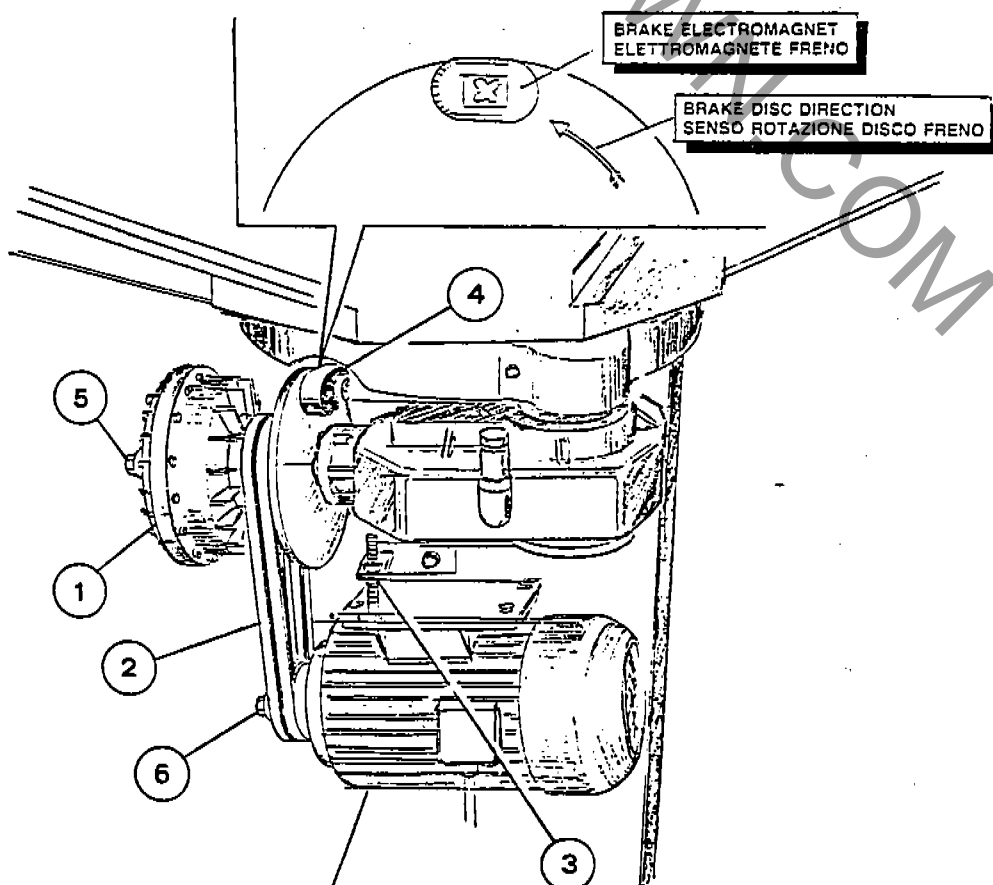


Fig. 9

NOTE: Replace the brake pad before it is worn and damage may result to the disk. When installing the pad pay attention that the disk, when spinning, first meets the pad section fitted with the lining. Refer to the detail shown in figure 9.

N.B.: La pastiglia freno deve essere sostituita prima che la lega frenante sia consumata del tutto, evitando che il contatto diretto disco/materiale metallico rovini il disco stesso. Per il montaggio della pastiglia fare attenzione che il disco, ruotando incontri per primo la parte di pastiglia rivestita di ferodo. Riferirsi al particolare di figura 9.

3.5 - Alignment of pulleys

Once in a while check the pulleys for alignment. Check bolts (5 and 6-Fig. 9) if necessary.

3.5 - Allineamento delle pulegge

Controllare di tanto in tanto l'allineamento delle pulegge. Eventualmente controllare i bulloni (5 e 6-Fig. 9).

3.6 - Adjustment of limit microswitches (Fig. 10)

- a) "Fully down" attraction limit switch (1): this should be activated when in lowering stage the cylinders have a travel of about 1 cm still to go.

NOTE: If this switch fails to operate the attraction fails to stop automatically.

- b) "Fully up" attraction limit switch (2): this should be activated when in lifting stage the cylinders have a travel of 1 to 2 cm still to go.

NOTE: Cylinders full travel is 525 mm.

- c) Attraction rotation limit switch (3): this should be activated once for each revolution of the attraction center piece; the switch actuator is acted upon by a cam united to the rotating center.

NOTE: If this switch fails to operate, the attraction fails to stop automatically.

3.6 - Regolazione microinterruttori fine corsa (Fig. 10)

- a) Micro fine corsa giostra "tutto giù" (1): deve intervenire quando, in fase di discesa, i cilindri devono compiere ancora circa 1 cm di corsa.

N.B.: Nel caso che questo microcontatto non agisca correttamente, la giostra non si ferma automaticamente.

- b) Micro fine corsa giostra "tutto su" (2): deve intervenire quando, in fase di salita, i cilindri devono compiere ancora 1 o 2 cm di corsa.

N.B.: La corsa totale dei cilindri è di 525 mm.

- c) Micro fine corsa rotazione giostra (3): deve compiere una manovra ad ogni giro del centro giostra; il tastatore del micro viene intercettato da apposita camma saldata sul centro rotante.

N.B.: Nel caso che questo microcontatto non agisca correttamente, la giostra non si ferma automaticamente.

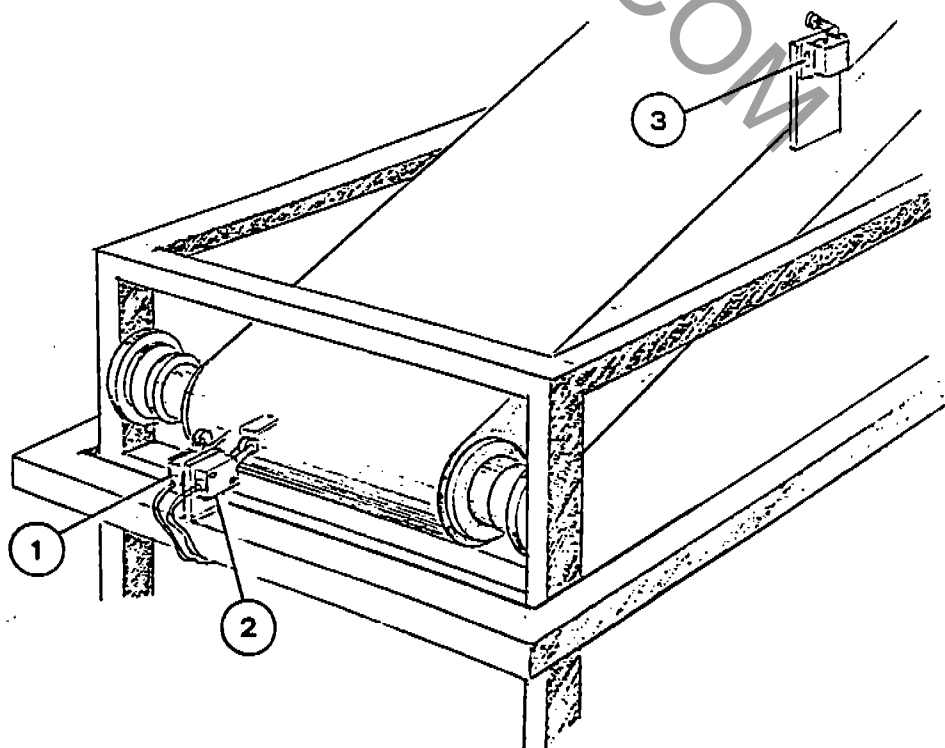


Fig. 10

HYDRAULIC OILS OLII IDRAULICI

Make Marca	For temperatures from -15°C to +30°C Per temperatura da -15°C a +30°C		For temperatures from -5°C to +40°C Per temperatura da -5°C a +40°C		For temperatures from +30°C to +50°C Per temperatura da +30°C a +50°C	
	H-L DIN 51524: H-LP DIN 51525		H-L DIN 51524: H-LP DIN 51525		H-L DIN 51524: H-LP DIN 51525	
AGIP	SIC 46	OSO 46	SIC 68	OSO 68	SIC 100	OSO 100
ARAL	Vitam UF 46	Vitam GF 46	Vitam UF 68	Vitam GF 68	Vitam UF 100	Vitam GF 100
AVIA	AVILUB 01 RL 46	AVILUB 01 RSL 46	AVILUB 01 RL 68	AVILUB 01 RSL 68	AVILUB 01 RL 100	AVILUB 01 RSL 100
BP	BP Energol HL 46	BP Energol HLP 46	BP Energol RC 68	BP Energol HLP 68	BP Energol RC 100	BP Energol HLP 100
BRENTAG	Hydraulikol D	Turboid D	Hydraulikol F	Turboid F	Hydraulikol H	Turboid H
CALYPSOL	Hydraulikol HLP 46		Hydraulikol HLP 68		Hydraulikol HLP 100	
CASTROL	HYSPIV VG 46	HYSPIV AWS 46	HYSPIV VG 68	HYSPIV AWS 68	HYSPIV VG 100	HYSPIV AWS 100
CHEMFA	Chemtol GP 46		Chemtol GP 68		Chemtol GP 100	
CHEVRON	Hydraulik Oil 46	EP Hydr. Oil 46	Hydraulik Oil 68	EP Hydr. Oil 68	Hydraulik Oil 100	EP Hydr. Oil 100
CONDOR	Hydor 46	CONDORANT EMI	Hydor 68	CONDORANT EMK	Hydor 100	CONDORANT EMO
ECUBSOL	Hydraulikol H-L46	Hydraulikol H-LP 46	Hydraulikol H-L 68	Hydraulikol H-LP 68	Hydraulikol H-L 100	Hydraulikol H-LP 100
ELF UNION	ECUBSOL OEL RK 46	ECUBSOL OEL HYD	ECUBSOL OEL RK 68	ECUBSOL OEL HYM	ECUBSOL OEL RK100	ECUBSOL OEL HYS
ESSO	ELF POLYTELIS 46	ELF ACANTIS 46	ELF POLYTELIS 68	ELF ACANTIS 68	ELF POLYTELIS 100	ELF ACANTIS 100
FINA	ESSTIC 46	ELF OLNA 46	ESSTIC 68	ELF OLNA 68	ESSTIC 100	ELF OLNA 100
FUCHS	FINA CIRKAN 46	NUTO H 46	FINA CIRKAN 68	NUTO H 68	FINA CIRKAN 100	NUTO H 100
GULF	FINA HYDRAN 46	FINA HYDRAN 46	FINA HYDRAN 68	FINA HYDRAN 68	FINA HYDRAN 100	FINA HYDRAN 100
LUBER	RENOLIN B 15		RENOLIN B 20		RENOLIN B 30	
TIN	RENOLIN MR 15		RENOLIN MR 20		RENOLIN MR 30	
AG	HARMONY 46	HARMONY 46 AW	HARMONY 68	HARMONY 68 AW	HARMONY 100	HARMONY 100 AW
MOBIL	CRUCOLAN 46	LAMORA 46	CRUCOLAN 68	LAMORA HLP 68	CRUCOLAN 100	LAMORA HLP 100
MONTAN-UNION	LIGOMAR 46 MZK	LIGOMAR 34 EP	LIGOMAR 64 MZK	LIGOMAR 47 EP	LIGOMAR 100 MZK	LIGOMAR 64 EP
QEST	CD 46	HS 46	CD 68	HS 68	CD 100	HS 100
OPTIMOL	MOBIL D.T.E. OIL	MOBIL D.T.E. 25	MOBIL D.T.E. OIL	MOBIL D.T.E. 26	MOBIL D.T.E. OIL	MOBIL D.T.E. 27
SHELL	MEDIUM		HEAVY-MEDIUM		HEAVY	
SUN OIL C	ISO-HLP 46		ISO-HLP 68		ISO-HLP 100	
TEXACO	OEST hydraulikol H-L 46		OEST hydraulikol H-L 68		OEST hydraulikol H-L 100	
TOTAL	Optimol hydo 5045 VG 46		Optimol hydo 5055 VG 68		Optimol hydo 5095 VG 100	
VEEDOL	Tellus Oel C 46	Tellus Oel 46	Tellus Oel C 68	Tellus Oel 68	Tellus Oel C 100	Tellus Oel 100
WISURA	Sunvis 921-ISO 46	Sunvis 821-ISO 46	Sunvis 931-ISO 68	Sunvis 831-ISO 68	Sunvis 951	Sunvis 851
ZELLER + GMELIN	Rando Oil 46	Rando Oil HD B-46	Rando Oil 68	Rando Oil HD C-68	Rando Oil 100	Rando Oil HD E-100
				Rando Oil HD C2-68		
				Rando Oil HD CZ-68		
	Reo 46	Azolla 46	Reo 68	Azolla 68	Reo 100	Azolla 100
		Andarin 46		Andann 55		Andann 60
	Dynex 46	Tempo 46	Dynex 68	Tempo 68	Dynex 100	Tempo 100
		Hydroma 46		Hydroma 68		Hydroma 100
	ZG GWA 2-ISO 46	ZG HLP 46	ZG GWA 3-ISO 68	ZG HLP 68	ZG GWA 4-ISO 100	ZG HLP 100
		ZG DHG 46		ZG DHG 68		ZG DHG 100

NOTE: Hydraulic oil trade marks indicate are indicative only.
Equivalent trade marks may be used.

NOTA: Le marche di olio idraulico nelle tabelle devono considerarsi come esempio per le nostre richieste di qualità d'olio.
Chiaramente si possono usare anche oli di marche non nominate ma la cui qualità corrisponda agli oli qui citati.

SPARE PARTS CATALOG

CATALOGO RICAMBI

INTRODUCTION

This catalogue illustrates and describes spare parts for product ZAMPERLA, and its layout is designed to permit rapid identification of the product in all its versions and rapid tracing of its component parts.

Up-dating

The catalogue is bound in such a way as to enable it to be periodically up-dated by replacing or adding pages.

HOW TO CONSULT THE CATALOGUE

Tracing spare parts

To trace the spare parts illustrated in the catalogue, the following procedure must be followed:

- 1) Consult the index of the tables so as to identify the relevant table.

NOTE: This catalogue is designed in such a way as to simplify the identification of spare parts on the basis of the following criteria:

- a) Those descriptions preceded by a dot or series of dots are understood to be sub-assemblies of the preceding description entry without a dot or with one dot less.

How to order spare parts

In order to facilitate stock search operations and shipment of spare parts, we would ask our customers to observe the following standard procedures, specifying:

- a) Ride model and serial number (stamped on identification plate on the ride)

INTRODUZIONE

Il presente catalogo, illustra e descrive le parti di ricambio relativo al prodotto ZAMPERLA ed è stato realizzato in modo tale da consentire una rapida identificazione del prodotto in tutte le sue versioni e quindi una rapida individuazione delle parti che la compongono.

Aggiornamenti

La rilegatura del presente catalogo, consente l'aggiornamento periodico mediante la sostituzione o l'aggiunta di pagine.

CONSULTAZIONE CATALOGO

Ricerca delle parti di ricambio

Per la ricerca delle parti di ricambio illustrate nel presente catalogo, è necessario:

- 1) Consultare l'indice delle tavole in modo da individuare la tavola che interessa.

NOTA: Durante la realizzazione di questo catalogo, si è cercato di agevolare la ricerca delle parti usando i seguenti criteri:

- a) Le descrizioni precedute da uno o più punti, si intendono sottogruppi della descrizione senza punto o con un punto in numero minore che li precede.

Modalità di ordinazione

Per facilitare la ricerca di magazzino e la spedizione dei pezzi di ricambio si pregano vivamente i Sigg. Clienti di attenersi alle seguenti norme e specificare sempre:

- a) Modello e matricola della giostra (stigliati sulla targhetta fissata alla giostra stessa)

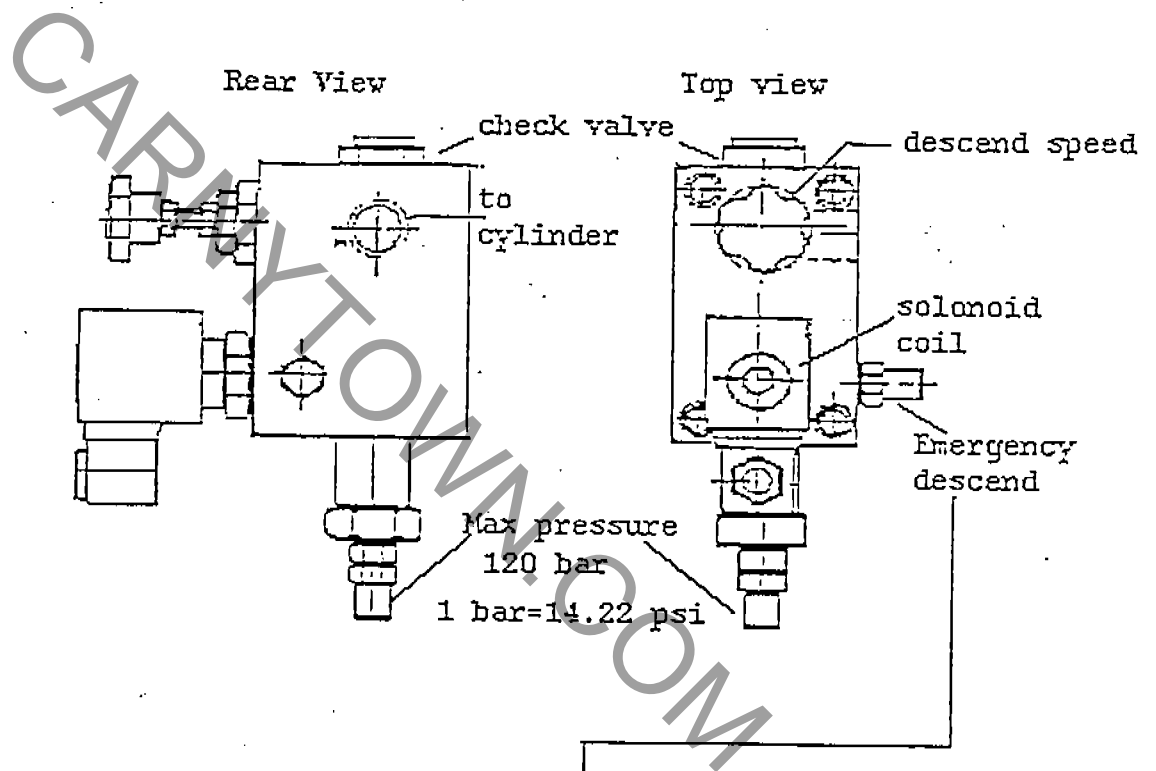
CARNYTOWN.COM

Zamperla Inc. Technical Update

February, 1990

RE:Mini-Enterprise hydraulic control valve

There has been some confusion as to the function of the control valve on the Mini-Enterprise. Below is a pictorial of the control valve with the components labeled.



To lower ride in the event of power failure: remove hex cap and slowly unscrew allen setscrew until ride begins to lower.

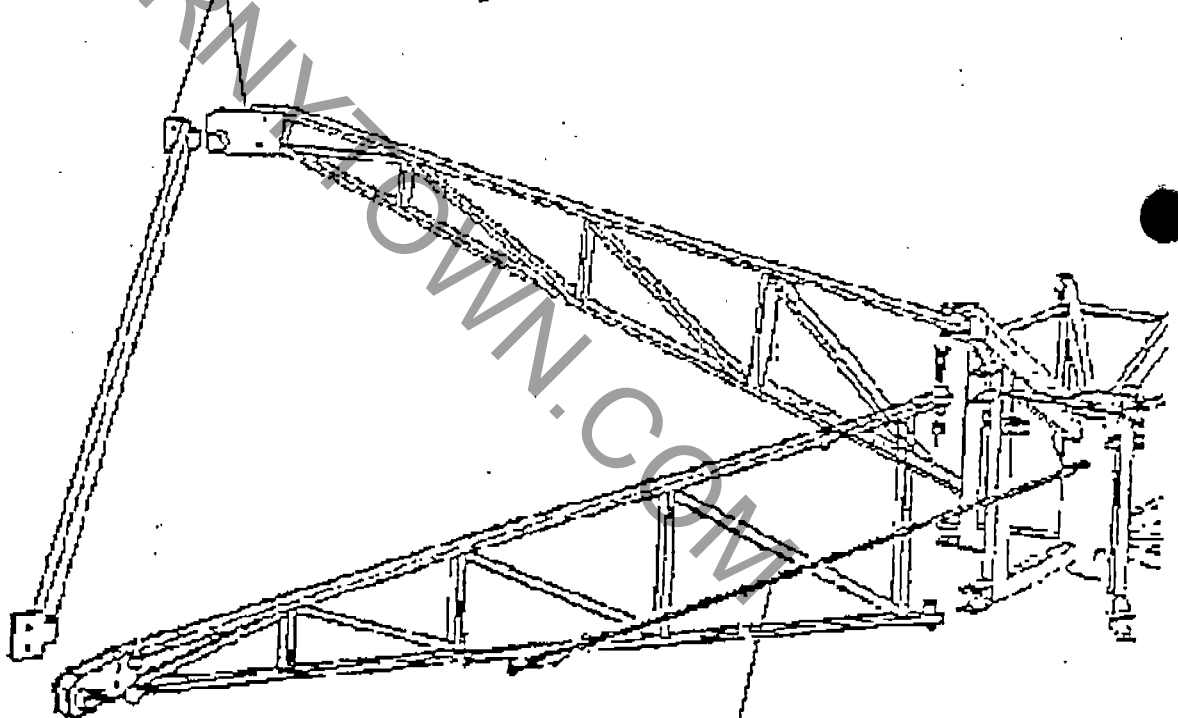
Rene Bernier
Customer Service Manager

Zamperla Inc.
Maintenance Bulletin February 1990

RE:Tension Rods Mini-Enterprise/Samba

There have been questions regarding the need to use all the tension rods in the center of the Mini-enterprise/Samba. There is a pair of rods, that form cross bracing between each pair of sweeps. These rods must all be installed. Failure to do so will lead to cracking in the outer end of the sweeps where the spreader/light bars bolt to the sweep.

Area cracks will develop



Tension rods
2 between each pair of sweeps

Rene Bernier
Customer Service Manager

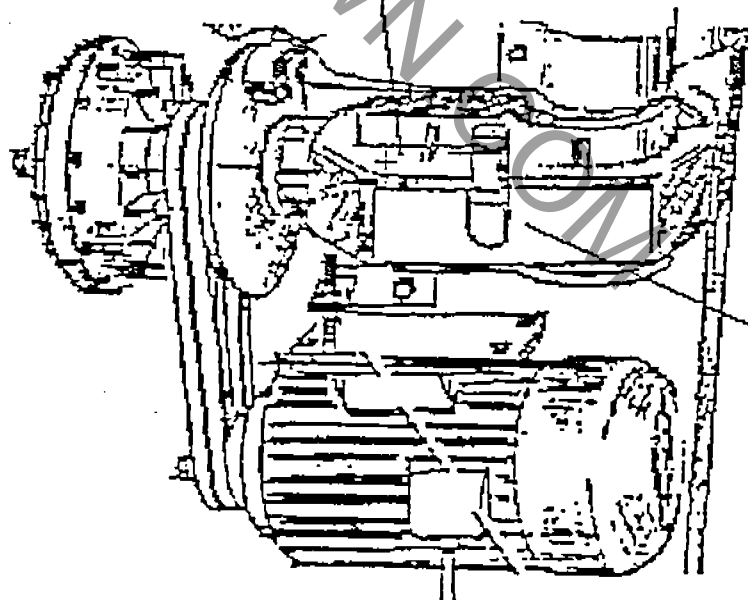
Zamperla Inc.

Technical Update February 1990

RE: Mini-Enterprise/Samba Gear Reducers
Top Pinion Bearing Failure

There has been a high failure rate of the upper bearing in the Samba and Mini-enterprise gear reducers. The cause appears to be lack of lubrication. Zamperla is recommending a new oil fill level, as well as breather unit for these units. The following drawing shows the modification to be made. Parts may be obtained thru Zamperla Inc. This modification requires the disassembly of the gear reducer. It is also recommended to check the gear oil for the presence of water on a regular basis, and replace the oil if any water is present. 90/140w gear oil is sufficient. Some customers have reported satisfactory results from a clinging type gear oil sold by many lubrication distributors.

Drill and tap case here for new
fill plug/breather



Existing fill tube
to be removed, and
opening plugged

NOTE* There is also a modification regarding the pinion on the upper Samba gear unit covered in the Samba section.

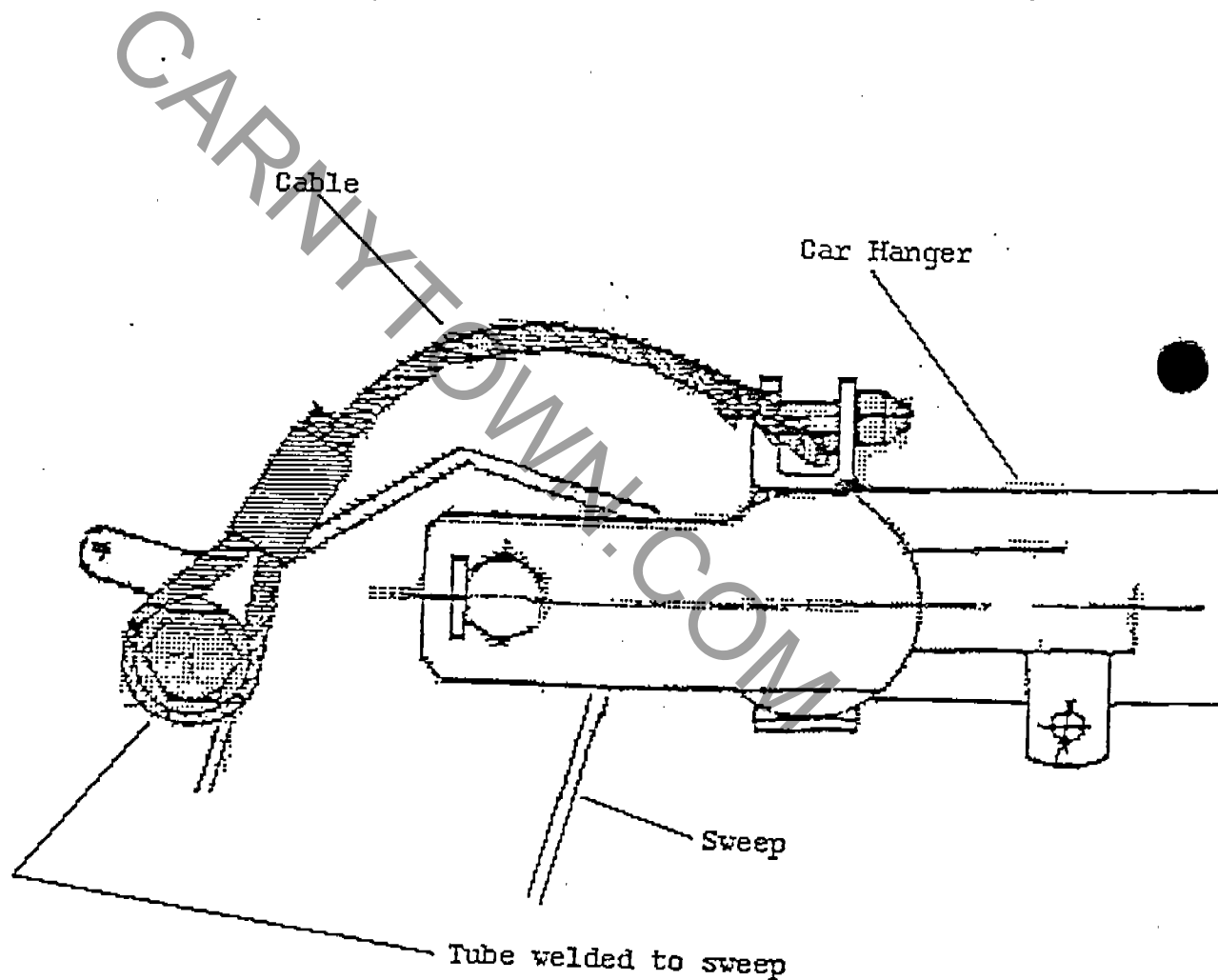
Rene Bernier
Customer Service Manager

Zamperla Inc.

Maintenance Bulletin February 1990

RE: Bulletin 4/86 Safety Cables Car Attachment
Mini-Enterprise/Samba

Bulletin 4/86 concerns a safety cable protecting the attachment of the car hanger to sweep on the Mini-enterprise/Samba rides. The hit consists of a Tube to be welded to the sweep, an attachment point to be welded to the car hanger, and a cable with hardware to be attached between the car hanger and sweep. All Mini-Enterprise and Samba rides Must have these cables.



Rene Bernier
customer Service Manager

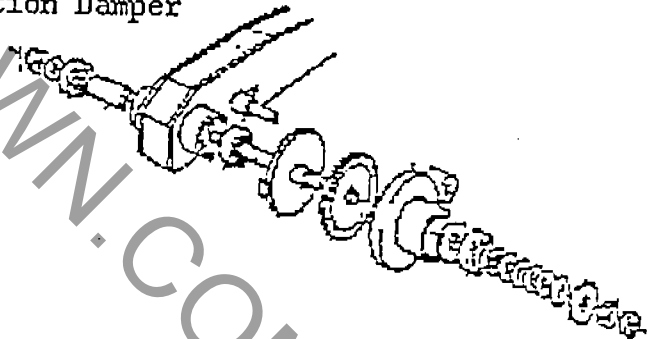
Zamperla Inc.

Technical Update February 1990

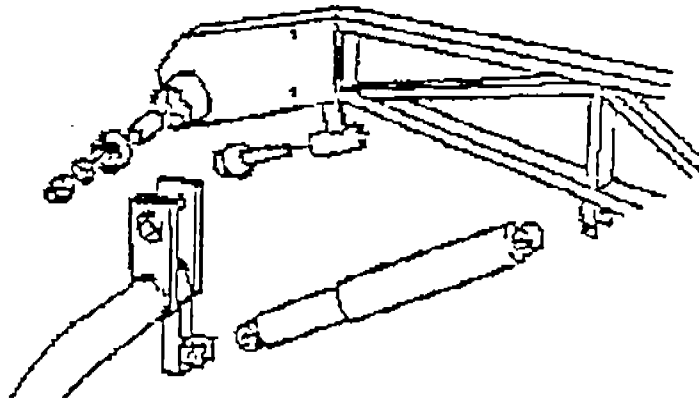
RE: Bulletin 7/86 Attachment and Damper Mini-enterprise/Samba

Bulletin 7/86 was issued to address the attachment parts and dampers used on the Mini-Enterprise and Samba. This optional upgrade was intended to eliminate the wear caused on the pivot shaft of the original design by improper maintenance. If the clutch type damper was not adjusted properly, the excessive motion of the vehicle combined with the action of the clutch disc itself would cause excessive wear to the pivot shaft. At the time this Bulletin was issued, owners were advised to inspect this area, and were encouraged to upgrade to the new system utilizing Hydraulic dampers (shock absorbers) if their original components were severely worn. This was never considered a mandatory modification, and there are still several properly maintained rides operating with the old system with no problems.

Original Design Friction Damper



Present Design Hydraulic Damper



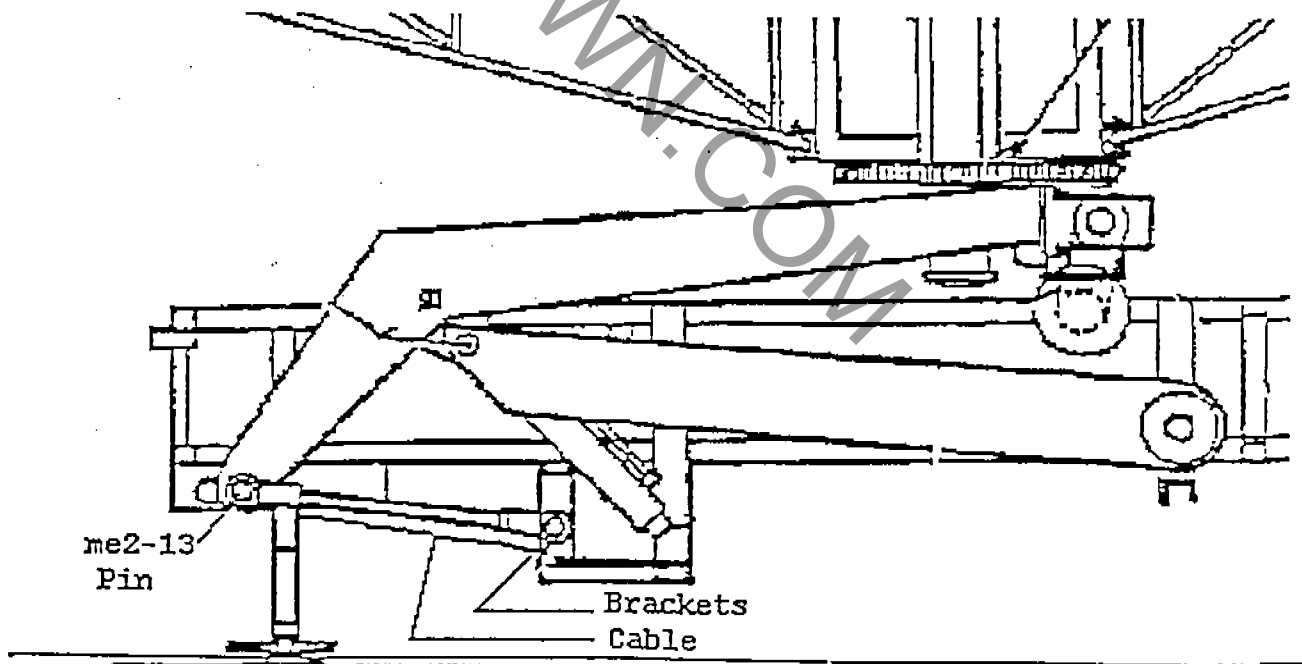
Rene Bernier
Customer Service Manager

Zamperla Inc.

Maintenance Bulletin February 1990

RE:Bulletin 8/86 Mini-Enterprise Boom Safety Cables

The following drawing shows the Tension Rod area of the lift boom on the Mini-Enterprise ride. All Mini-Enterprises MUST have the safety cables installed to prevent the boom from dropping in the event of a failure of the tension rod. A bulletin was sent to all Mini-Enterprise owners in December 1986. These cables were then provided at no cost to all owners. Mini-enterprises manufactured since that time are equipped with these cables from the factory. The safety kit consists of: 2 cables (me2-10), pin (me 2-13) and brackets. If for any reason you do not have these cables on your ride, contact our service department IMMEDIATELY!



Rene Bernier
customer Service Manager

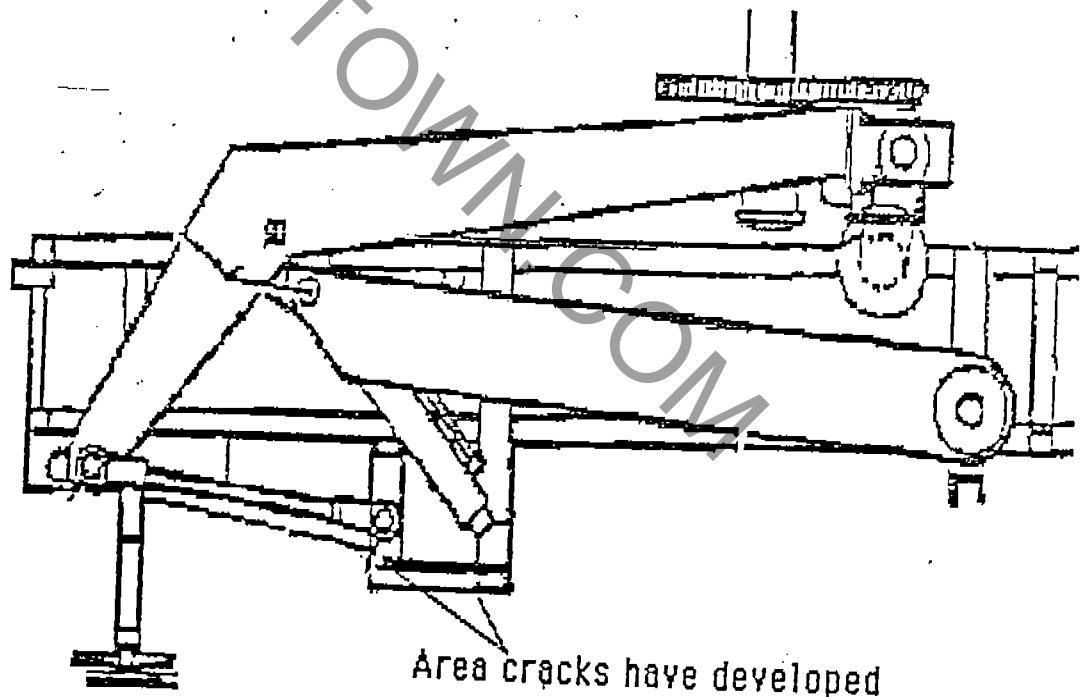
Zamperla Inc.

Maintenance Bulletin

January 1991

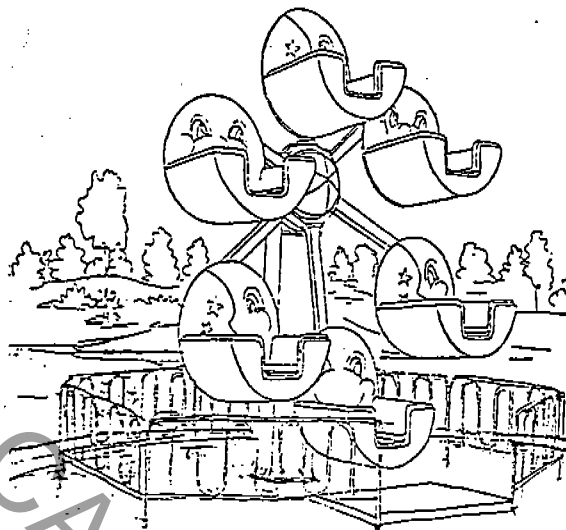
RE: Mini-Enterprise Tension Rod Attachment

A customer has reported the development of fractures in the structure that attaches the tension rod to the frame on the Mini-Enterprise ride. The cracks developed in the welds, and spread into the parent metal in one area. This ride is approaching 10 years of service. We are advising all Mini-Enterprise owners to visually inspect this area of their ride. Any indications of cracking should be reported to our technical service department and subjected to magnetic particle testing to determine the extent of the damage.



Rene Bernier
Technical Service Manager

SUN & MOON



SEATS

MAXIMUM TOTAL NUMBER OF PASSENGERS	24
MAXIMUM TOTAL PASSENGER WEIGHT	1800 KG.
LOADING	1 CAR AT THE TIME
MAXIMUM UNBALANCE	12 CHILDREN

PERFORMANCE

DIRECTION OF TRAVEL	CLOCKWISE
RISE SPEED	5 RPM.
RISE DURATION (MAXIMUM)	2.5 MIN. (PROGRAMMED TIMER)
RISE DURATION (RECOMMENDED)	2 MIN. (PROGRAMMED TIMER)
HOURLY CAPACITY	480
OPERATOR	1

MAXIMUM RIDE WEIGHT 2.5 TONS.

INSTALLED POWER

TOTAL	6.5 KW.
DRIVE	5.5 KW.
LIGHTS	1 KW.
VOLTAGE	3 PHASE + NEUTRAL

(OTHER SOLUTIONS HAVE TO BE CONFIRMED)

SHIPPING INFORMATION

CONTAINER 1x20 O.T.

ERECTION WORKS

No. 1 PERSON FOR 6 HOURS
FORK LIFT

DESCRIPTION

SUN AND MOON IS OUR PROPOSAL FOR A CHILDREN FERRIS WHEEL .
THE RIDE CONSISTS OF A CENTRAL COLUMN WITH HYDRAULIC MOTOR AND ONE SUPPORT FOR EACH GONDOLA.
3 SUN AND 3 MOON-SHAPED CARS FOR A TOTAL CAPACITY OF 24 CHILDREN SEATS.
ARMS ARE PROVIDED WITH LIGHTS.
FENCES ON PERIMETER, ELECTRIC PANEL AND REMOTE CONTROL ARE INCLUDED.

OPTIONALS (TO BE QUOTED ON REQUEST)

- TICKET BOX
- DECORATION
- ALUMINIUM PLATFORM FOR LOADING/UNLOADING AREA.

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

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