

HORSES MERRY-GO-ROUND

8,40

U.S.A. Type

MFG: BERTAZZON 3B, s.r.l.
NAME: HORSES M-G-R 8,40 USA
TYPE
TYPE: NON-KIDDIE

INSTALLATION AND OPERATION INSTRUCTIONS

Description

The carousel has a circular plan with a diameter of 8,90 m (29'3").

It consists of one rotating floor. Different subjects, such as horses, spinning tubs and coaches are fixed on it. The load bearing structure is formed by a central column (pillar) in tubular steel section that is anchored into a crossing structure by means of four struts. Everything is in tubular steel. The rotating structure is composed of one floor fixed to the roof and suspended from the ground by means of tie bars in steel round pipe.

The structure of the floor consists of ties in tubular steel supporting the panels in varnished wood.

The structure of the roof, constrained to the central pillar by some bearings, consists of some cantilevered brackets radially arranged that are formed by a tubular steel section placed horizontally, and by two inclined upper tie rods in steel round pipe.

The covering roof is made up by a fireproof canvas.

Some crankshafts fixed to the roof transmit a vertical motion to the

horses by means of rods. These subjects are made of fiberglass and are fixed on a pedestal in varnished tubular steel bolted to the floor. The load bearing structures are covered with ornamental and decorative fiberglass panels on which lighting is fixed.

The propelling unit of the carousel is composed of a selfbraking gear motor with an oleodynamic joint by means of which the carousel starts rotating smoothly until it reaches its max.speed of 5.5 r.p.m. The electric motor can also be controlled by a static frequency converter through which it is possible to adjust the acceleration ramp and the rotation speed of the carousel. The brake is provided with a manual release device that permits the manual rotation of the carousel also when tension is not present (this is very useful during the setting-up procedures).

The electric system feeds the motive power duty with 220 Volts and 60 Hz, the lighting duty with 110 Volts and 60 Hz. Materials and equipment are within law specifications and installation is carried out according to C.E.I. standards (C.E.I. = Italian Electric Committee). The electric system is shielded by magnetothermal switches. Protection grounding is compulsory. The system is provided with an emergency push button: if pressed, it causes the immediate stop of the carousel.

Installation

The carousel must be set up in accordance with the following procedures and with the numeration order of the different parts in order to guarantee its good operation.

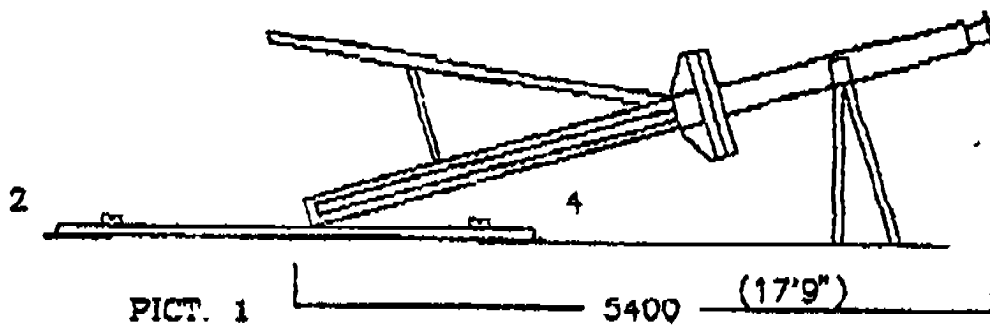
Take note that the numeration is anticlockwise and the space between two numbers refers to the lower number (i.e. the space between the long bar n° 1 and the long bar n° 2 belongs to the long bar n° 1).

First of all the central body (Crossing) must be firmly anchored into

a reinforced concrete flooring and stabilized by four steel screws class B.8 or B.8.

Now the central pillar must be erected. It is important to fix the base of the pillar to the center of the crossing structure with the proper latch. The other extremity of the pillar must rest on the proper stand. Please follow the direction of the long bar n° 4 of the crossing structure (pict.1).

The struts n° 1-2-3 must be erected together with the respective spacing bars



By means of a crane the pillar must be lifted up to a vertical position and the remaining strut n° 4 must be fixed to it.

The leveling of the base and the perpendicularity of the pillar must be checked. If everything is in order, the crossing structure must be fastened with the four screws.

Being the assembling of the fixed structure all around the pillar over, it is time to start with the rotating center. In order to start working on the higher section of the carousel it is necessary to put up a scaffolding, if supplied, and to loose manually the motor's brake by turning the manual release screw.

First fix the arms (A) and the upper tie bars (first the short tie bar (B) and later the upper tie bar (C)) and then go on with the diagonal

bars of the roof (D) and all supports for the horses mechanical motion and gear shafts (E).

Now comes the assembling of the tie bars of the floor (F) (with the hooks turned towards the center of the carousel), of the panels of the central structure (G), of the respective light bars (H) and of the structure belonging to the rotating floor (I). Before arranging the floor panels it is necessary to assemble the diagonal bars (L) with reference to the inside tie bars.

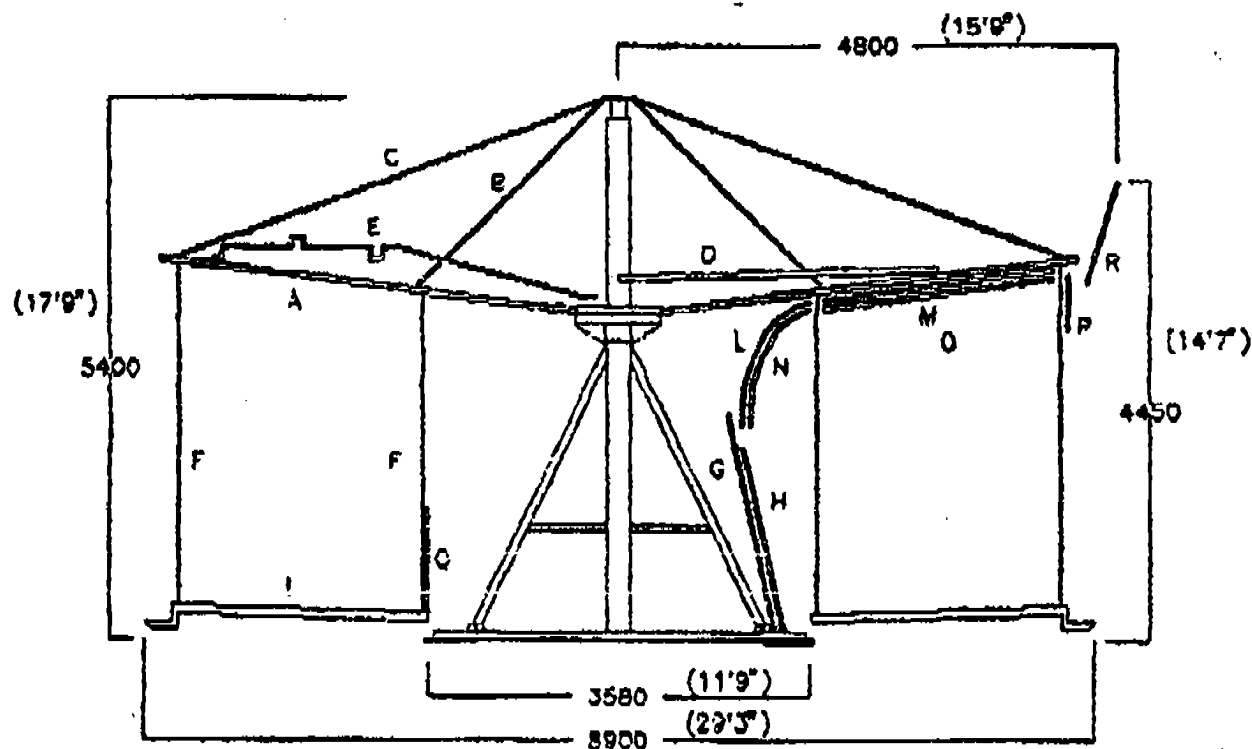


FIG. 2

First comes the assembling of the curved decorative panels (M) and of the horizontal ceiling panels (N), of the respective light bars (O-P) (please check their operation), of the outside vertical panels (Q), of the banisters belonging to the rotating floor (R) and of all fixed and

moving subjects (horses, etc..) paying attention to the correct assembling and fastening of the rods supporting and moving the horses. Next comes the laying out of the covering canvas (S) and eventually the assembling of the outside vertical hand-painted panels (T) (pict.2).

Lay out and connect all the electric lines.

Make sure that all parts of the carousel are secured with their split pins and safeties.

Connection of the control unit and first starting

The carousel must be connected to the electric network by 5 wires (3 phase wires, 1 neutral wire and 1 earth wire) having a section of 16 sqmm each. These wires feed the ride with 220 Volt and 60 Hz and must be connected to the proper terminal board of the main electric panel.

By operating the general switches, voltage is given to the controls, to the lights and to the motor. The lights, grouped in the different lines, can be checked through the automatic switches.

Once the general inspection is over, it is necessary to rotate manually the carousel in order to make sure that its rotation is loose. Now it is important to lock the motor's brake by turning the proper screw anticlockwise (max. 2-3 turns) and to open the vent of the reduction unit.

Following the instructions mentioned below, the carousel is ready for the manual operation. Please check the right direction of rotation (anticlockwise). If the ride rotates in the wrong direction, it is necessary to invert two phase wires in the main control board.

Operation of the ride

The control board is connected by means of a key switch and is provided with a selector switch, a button "Stop", a button "Start", a

timer, an emergency push button, a sound signal button and with some pilot lamps. Thanks to the selector switch it is possible to choose between the manual and the automatic working of the carousel (1= Manual operation, 2= Automatic operation). When the carousel works automatically, it is possible to adjust the duration of the ride through the timer.

By setting the selector switch on position 1 and by pressing the button Start the carousel begins to rotate and the pilot lamps of the brake and of the motor shall light up. By pressing the button Stop these pilot lamps shall switch off one by one and the carousel shall stop.

For the automatic starting it is necessary to set the selector on position 2 and to press the button Start. The carousel stops automatically and always in the same position once the fixed time is over.

The control board is provided with an emergency red (mushroom-shaped) push button that can be pressed if necessary. If pressed it causes the immediate stop of the carousel.

The public shall be warned with a sound signal of the imminent working of the carousel.

Before the operation of the carousel (opening time), the ride shall rotate without passengers and its good operation must be checked.

Maintenance

VERY IMPORTANT: After the carousel has rotated for some hours, check and tighten all the bolts of the rotating center by using the proper wrench (see table referring to the screws class 8.8 - 8G).

From time to time check and adjust the backlash between pignon and crown.

Check the oil level in the reduction gear and change it after 1 year

operation.

During the setting-up procedures all the pivots of the shafts must be lubricated. Tighten them locked with the proper nuts and split pins.

Lubricate all supports, gear, etc...

Lubrication frequency: A first lubrication with the proper grease must be carried out after the first 100 operating hours. During the first period we advise you to lubricate the carousel at short and frequent intervals and always before and after a long period of non-operation.

Tightening torque in Nm for screws class 8.8					
Screw thread	Tightening value	Screw thread	Tightening value	Screw thread	Tightening value
M 2	0,29	M 16	205,90	M 39	2991,00
M 3	1,08	M 18	284,30	M 42	3726,00
M 4	2,50	M 20	402,00	M 45	4658,00
M 5	4,91	M 22	539,30	M 48	5589,00
M 6	10,78	M 24	696,20	M 52	7207,00
M 8	25,49	M 27	1029,00	M 56	8973,00
M 10	48,05	M 30	1421,00	M 60	11130,00
M 12	84,33	M 33	1785,00	M 64	13386,00
M 14	132,30	M 36	2304,00	M 68	16181,00

Warnings

The owner/operator of the carousel must respect the following instructions:

- During the assembling of the carousel all pins shall be secured with the proper split pins;
- All active and passive safety systems safeguarding the public shall work to perfection whenever the carousel begins working and during its operation;
- The max. rotation speed shall not exceed 5.5 revolutions per minute;

- The carousel must not be operated until all passengers are sitting on the horses in the proper and correct position which shall suit their height and no person shall halt within the carousel's fences during its operation;
- No admittance to children under the age of 5 and shorter than 1.30 m (52") and to children incapable of sitting correctly on the subjects unless they are accompanied and helped by their parents;
- No admittance to persons who are not in full possession of their physical and mental faculties;
- The carousel shall be equipped with dry chemical fire extinguishers in compliance with regulations;
- The carousel shall have signs posted at the entrance indicating the age and the physical features that are necessary for the admittance on the carousel and signs such as: "No smoking", "Do not get on and off the carousel until it has come to a full stop", "Do not lean out of the seats", "Do not stand up", Keep out of the rotating center".

Every year the carousel shall be subjected to extraordinary overhaul and maintenance by skilled technicians. It is strictly forbidden to modify structures and safety systems unless the manufacturing firm gives its written assent.

Every modification must be justified by a certification of static fitness and of prevention given by a qualified technician.

The owner/operator shall install the carousel properly, shall inspect it, shall regularly check its state of preservation and control the proper working of the ride before its opening to the public.

The owner/operator is considered responsible for what can result from the omission of the above mentioned instructions.

This operation manual shall always be handed to new possible owners or operators.



Eagle Ridge Mall, Winter Haven Carousel
as of 2/16/96



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