

# BUMPER CAR 3.5



Be Sure  
to Read this  
Manual  
Before Use



## Operation Manual



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Non-technical personnel who do not have technical knowledge and Expertise should refrain from performing such work that this manual require or perform tasks which are not explained in this manual. Failing to comply can cause severe accidents such as electric shock or other serious injuries. All repairs must be performed to original manufacturer specifications.

**WARNING:** To reduce the risk of fire, electric shock or personal injury, unplug or disconnect the machine from the power supply before servicing.

Thank you for purchasing BUMPER CAR 3.5. We hope you enjoy the product.

This manual contains valuable information about how to operate and maintain your game machine properly and safely. It is intended for the owner and/or personnel in charge of product operation. Carefully read and understand the instructions.

If you need any help during installation and setup please utilize this manual and troubleshooting guide. If the product fails to function properly, *non-technical personnel should under no circumstance attempt to service the machine*. Contact your distributor or manufacturer for help.

Before use, please read IMPORTANT SAFETY INSTRUCTIONS.

## **BUMPER CAR IMPORTANT SAFETY INSTRUCTIONS**

To ensure the safe usage of this product, carefully read and understand these instructions before operating your game.

Save these instructions for future reference.

Use this product only as described in this manual. Other uses not recommended may cause fire, electric shock or personal injury. Unplug the game from the outlet when not in use, when moving from one location to another, and before cleaning/servicing.

Explanations which require special attention are indicated by signs of warning. Depending on the potential hazardous degree, the terms: NOTE, NOTICE, and WARNING are used.

NOTE: A NOTE indicates useful hints or information about product usage.

NOTICE: A NOTICE indicates potential damage to product and how to avoid the problem.

WARNING: A WARNING indicates a potential for product damage or serious personal injury.

It is important to understand the meaning of the following HAZARD SIGNS before continuing:

### **High Voltage and Shock Hazard:**

High voltage can cause electric shock.  
Turn off/unplug power before servicing.



### **High Temperature Hazard:**

This part may cause scalding.  
Do not touch. Surface may be hot.




### **No Touching Hazard:**

This part may be hot or can cause electric shock.  
Do not touch.



Use the following safety guidelines to help ensure your own personal safety and to help protect your equipment and surrounding environment from potential damage.

 **This product is an indoor game machine. Do not install outdoors.**

**Avoid installing in the following places to prevent fire, electric shock, injury and/or machine malfunctioning:**

- Places subject to rain/moisture, or places subject to high humidity.
- Places subject to direct sunlight, or places subject to extremely hot or cold temperatures to ensure that it is used within the specified operating range.
- Places where inflammable gas may be present or in the vicinity of highly inflammable/volatile chemicals or items that can easily catch fire
- On unstable or sloped surfaces. The machine may topple or cause unforeseen accidents.
- Vicinity of fire exits, fire extinguishers etc that may block/prevent safety measures

**IMPORTANT NOTE:**

**ALL REPAIRS MUST BE DONE TO ORIGINAL MANUFACTURER SPECIFICATIONS. FAILURE TO DO SO VOID ALL WARRANTIES AND OPERATOR ASSUMES ALL RISKS.**

- Before the operation everyday, should try to running, if found any abnormal vibration, noise or clamping stagnation, should be handled in time, the equipment can never did run.
- Please check the tire pressure  $0.25 \pm 0.05 \text{MPa}$ , the pressure too high or too low will direct influence in personal safety.
- Fasten seat belt before drive, do not walk in area during operation, when the car stop smoothly, unfasten your seat belt to get off.
- Children under the age of 7 (under the height of 1m) refuse to sit.(Because children arm weakness, when cars crash, head easy to hit the steering wheel.)
- Area should be kept dry, unfavorable installation in damp environment.
- Electrical cabinet ground by TN-S system.
- Protection grounding resistance is not more than  $10\Omega$ .

Note: The contents of this manual may be updated without notice.

## 1. SPECIFICATIONS

Power consumption	350W, DC48V
Dimensions	W1200×D2000×H1070(mm)
Weight	Approximately 250kg
Maximum passenger capacity	2 people per car
Passenger capacity buffer tire pressure	0.25±0.05 MPa
DC motor	48V,230W
Electrical cabinet output	36V,39V,42V,44V,46V
Total power	380V,10KW
Speed	4~7Km/h
Output fuse	200A
Output over current relay	200A
Area size	120M <sup>2</sup> ,240 M <sup>2</sup> ,360 M <sup>2</sup>



## 2. PART NAME



## 3. SET UP & INSTALLATION

### 3.1 Bumper car installation

1. Install base should use premium concrete group, horizontal error  $\pm 5\text{mm}$ , load 25MPa。
2. Do not set based on wet place.
3. Base should set embedment parts according to the figure, tighten with expansion bolts.
4. Ground polar plate must be put in the solid group, tighten with expansion bolts.
5. Clean your area frequently, do not have any sundry, do not use conduction like water to do some cleaning. (Note: You can do some cleaning by vacuum cleaner)
6. To start the control cabinet make cars moving.(You can see details in control cabinet operation guide)
7. Tourist should not barefoot to enter area. And submit yourselves to staffs' direction.
8. Drawings requirements lofting, laid chassis and crash. Connections connect by welding and grinding smooth. At the point where foot margin connect concrete, drilling in concrete according to the hole of foot margin. Install the chassis and anti-collision. Then weld top iron base. Stick shock-proof jointing sheet on the chassis.
9. According to the drawing requirement to install polar plate. Notice these before install polar plate: Electrical man check if short circuit between two poles by ammeter. If short circuit, solve it first. And weld and grind between two polar plates. After install polar plate, fasten top iron all around, and weld power connect board.
10. Set distribution cabinets according to requirement. Commissioning and inspect, then connect power.
11. Installation safety fence according to the request.
12. Inspection and hand over.

### 3.2 Playground install notice item

According to the installation drawing order and pay attention to the following questions:

1. For the uneven and the deformation of the dinting U-steel, cause: a. Any gaps between group and dinting U-steel. Performance is the elastic of walk and the beat of car running. b. Playground surface uneven.
2. For there is error in rubber thickness skin between U-steel and pole plate will cause the pole plate up surface is uneven, there is high and low difference.

According to the above two kind of circumstances, operation can fixed with proper thickness wooden between ground and dinting U-steel, between dinting U-steel and pole plate, make sure pole plate even and solid.

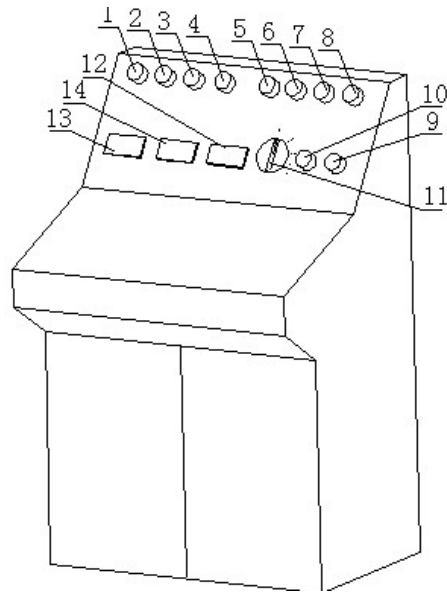
1. Pole plate unit constitutes of three pieces of iron, have any diagonal errors. So you should fixed wooden when installs. Make pole plates closely by hammer striking.
2. Surrounding crash bar in principle with proper length expansion screws fix on the floor to increase the strength and stability.
3. Each connecting screw and wire should connect solid.

## 4. CONTROL CABINET OPERATION GUIDE

### 4.1 Control cabinet schema:

Schema instruction:

- 1, 2, 3 power indicator light(red)
- 4 key switch
- 5 connection signal light/control light (yellow)
- 6 run indicator light/work light (green)
- 7 start button
- 8 scram button
- 9 alarm light
- 10 alarm buzzer
- 11 shifting switch
- 12 output ammeter
- 13 input voltmeter
- 14 output voltmeter



### 4.2 Operation specification

5.2.1 Open control cabinet front door, switch on the power switch, panel 1, 2, 3 indicator light all bright, explain already transfer to control cabinet.

5.2.2 Open the switch 4 with key, yellow signal light 5 bright, voltmeter 13 show input voltage condition, and show power already through.

5.2.3 General condition shifting switch 11 adjustment to “1”

Gear	0	1	2	3	4
Voltage(V)	0V	36V	39V	42V	46V

Notice: No shifting when equipment running.

5.2.4 Tourists in your beat and fasten your seat belt, please press “start” button 7. Running indicator light 6 will bright, and output voltmeter 14 will be working. After warning sound, move pedal switch on the car, car will drive, output ammeter 12 indicates load current.

5.2.5 Shutdown step is according to start up step.

5.2.6 Notice:

a. Alarm indicator light 9 twinkle and alarm buzzer issue a warning voice when excess of current. Power will auto trip after 5s.

b. If any accident occurs during operation, you should press “scram” switch 8, signal light 5(yellow) and signal light 6(green) off. After trouble removal, clockwise rotation “scram” switch, press “start” button, equipment will restart running.

c. Automatic operation run time, you can adjust it according to DIP table.

Position Time	SW	SW1	SW2	SW3	SW4	SW5
90s		ON	ON	ON	ON	ON
120s		ON	ON	OFF	ON	ON
150s		ON	ON	ON	OFF	ON
180s		ON	ON	OFF	OFF	ON
210s		ON	ON	ON	ON	OFF
240s		ON	ON	OFF	ON	OFF
300s		ON	ON	OFF	OFF	OFF



## 5. TROUBLE SHOOTING

Phenomenon	Failure cause	Trouble shooting point out
Car stop	Not on the pedal switch or pedal switch failure	Pedal switch
	Scram button has not release	Scram button
	Car crowd	Stepp on the pedal switch, turn the steering wheel
	Conductive wheel breaker	Try a push
	Fuse burn-out	Change fuse
	V type carbon crystal wear	Change
	Motor inner carbon brush wear	Change
	Rectifier silicon damage	Change
Car goes too slow	Low voltage	Adjust to second gear(in general use first gear)
	Poor conductivity	Conductive wheel or floor is too dirty
	Encronment is too wet	Pressure is too big, take moisture-proof measure
Make a loud noise	Direction motor bevel gear pair excesssive gap	Adjust bevel gear pair gap
	Front tire wear	Change tyre
	Motor bearing damage	Maintain and change
	Motor slowdown tooth wear	
	Ground is uneven	Ground local repair

## 6. MAINTENANCE & INSPECTION

### 6.1 Safety Check

Check the points listed before operating the machine. These checks are necessary for safe machine operation:

1. Try to run the game before operation each day.
2. Conduct monthly routine checks of game components ensure good working condition
3. Check the machine regularly for dust and clean when necessary.

Note: Parts and components require preventative maintenance to be kept running smoothly

### 6.2 Handling Precautions

When installing or inspecting the machine, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.

Non-compliance with the following points or inappropriate handling running counter to the cautionary matters herein stated can cause personal injury or damage to the machine



#### WARNING

- Before servicing the machine, be sure to turn power off. Servicing without turning the power off can cause electric shock or short circuit.
- To avoid electric shock or short circuit, do not plug then unplug the power quickly
- Do not expose power cords and earth wires, these are susceptible to damage.
- Damaged cords and wires can cause electric shock or short circuit and should be replaced immediately.
- When or after installing the product, avoid pulling the power cord to prevent unnecessary wear and tear. Use the power button to disconnect power.
- In case the power cord is damaged, ask for replacement through where the product was purchased from or replace locally. Continued usage of damaged cord can cause fire, electric shock or leakage.
- Perform grounding appropriately. Inappropriate grounding can cause electric shock.
- Use fuses that meet specified rating. Fuses exceeding can cause an electric shock.
- Should a problem occur, turn off the power immediately and stop operating the machine. Unplug the power cord of the service outlet. Operating the machine without correcting the problem may cause a fire or injuries.
- Insert the power plug securely into the outlet. Poor contact may cause overheating, resulting in fire or burns.
- To ensure the warning labels attached on the machine are visible and legible, install the machine in a well-lit location, and keep the labels clean at all times. Make sure the labels are not hidden behind other game machines.

### 6.3 Quick-wear part and important part instruction

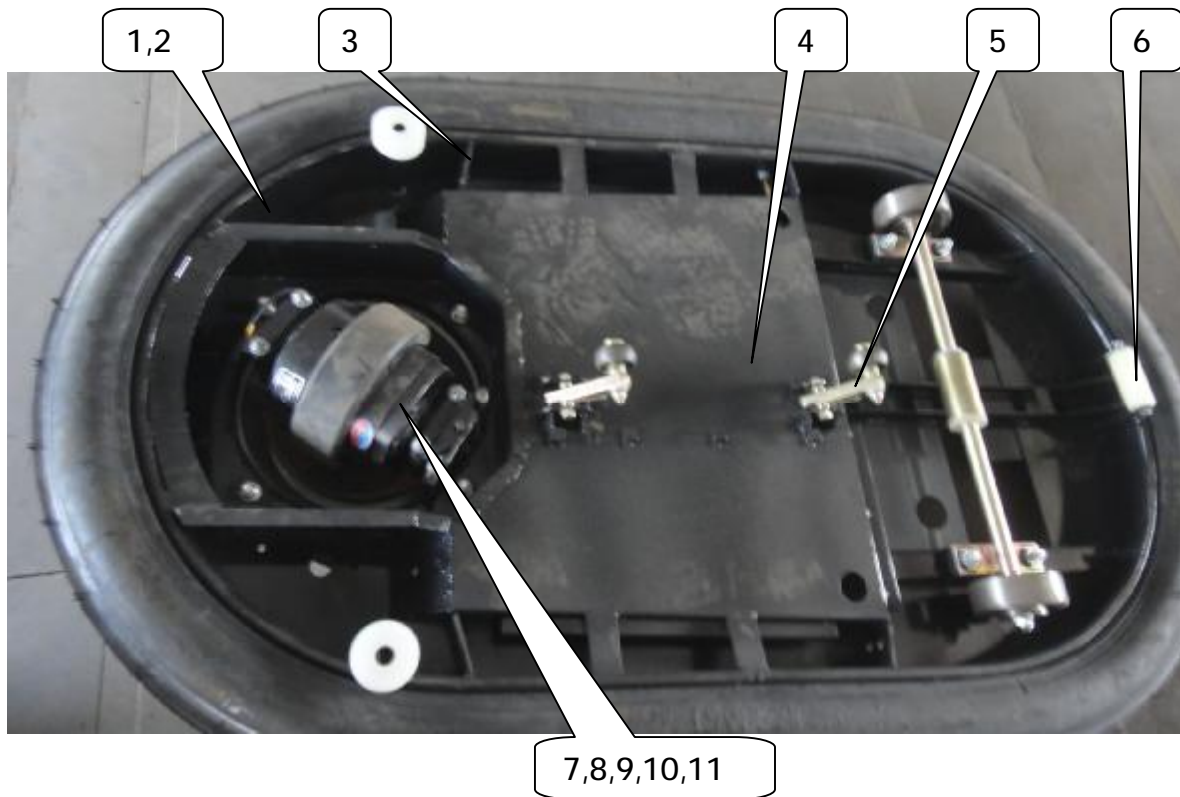
1. Check if any component screws started such as the steering wheel, conductive wheel, rear wheel before operation. If electrical circuits fall off, should handle immediately to run.
2. Check your seat belt, replace immediately if has the damage.
3. Everyday should keep the area floor clean.

### 6.4 Daily maintenance

1. Important Notice: According to the national standard (GB18169-2000) relevant provision: Actual operation speed is not more than 10 km/h. If not, user bear the consequences.
2. Check the seat belt performance to ensure its safety before operation everyday.
3. Check nuts, especially bumper car rear axle fixed parts nuts and fixed motor parts nuts before or after operation everyday.
4. Check electrical parts and wire, and change in time if found any bad situation before or after operation everyday.
5. Check the V type carbon brush and carbon brush in motor wear, before or after operation everyday.
6. Check bumper car conductive device and conductive ball wear before or after operation. If conductive ball a quarter down, should change it, and conductive wheel should often deburring.
7. Inject lubricant in steering wheel motor gear at least once every month, to ensure the rotation of steering wheel should be flexible.

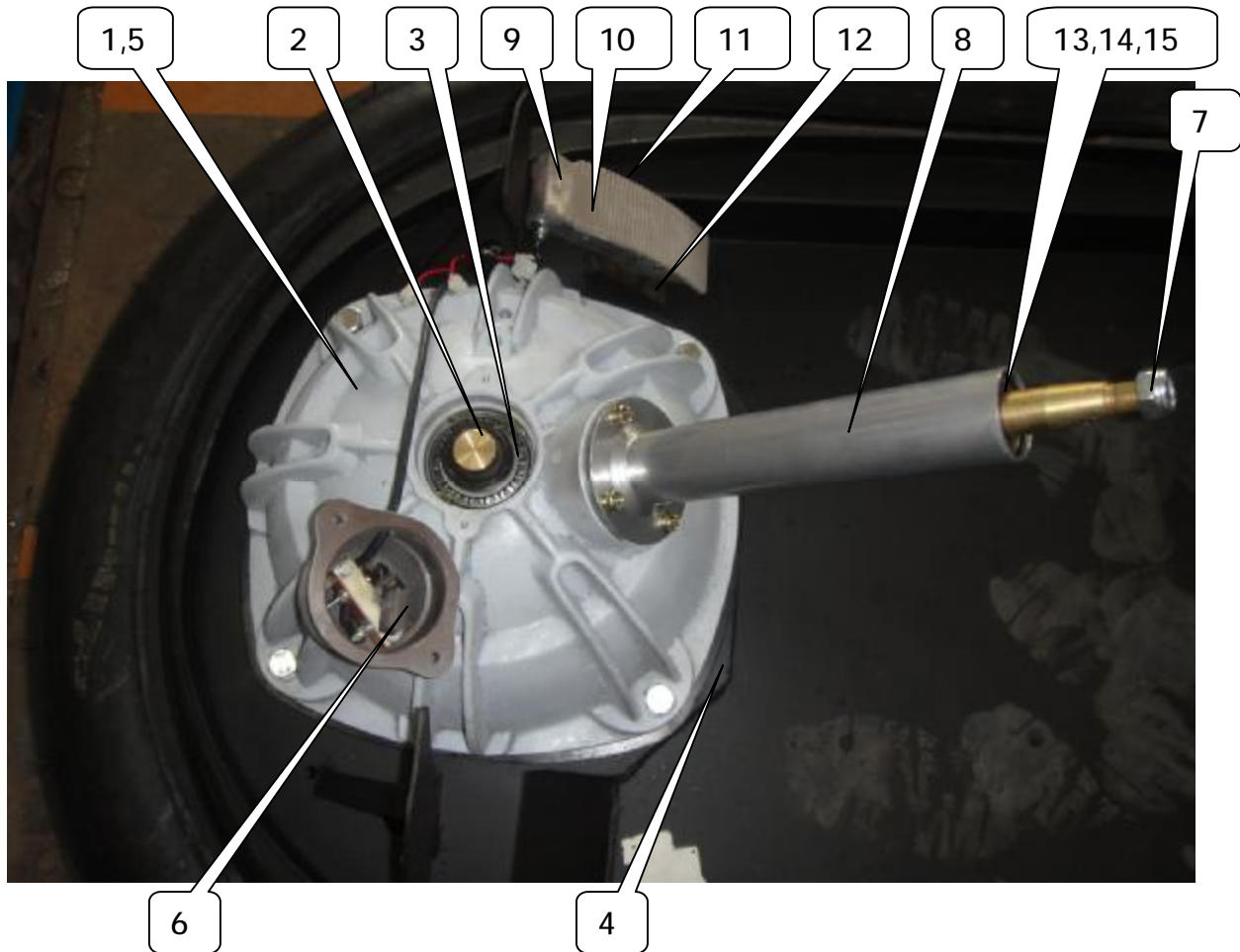
## 7. OVERALL CONSTRUCTION

### 7.1 Classis



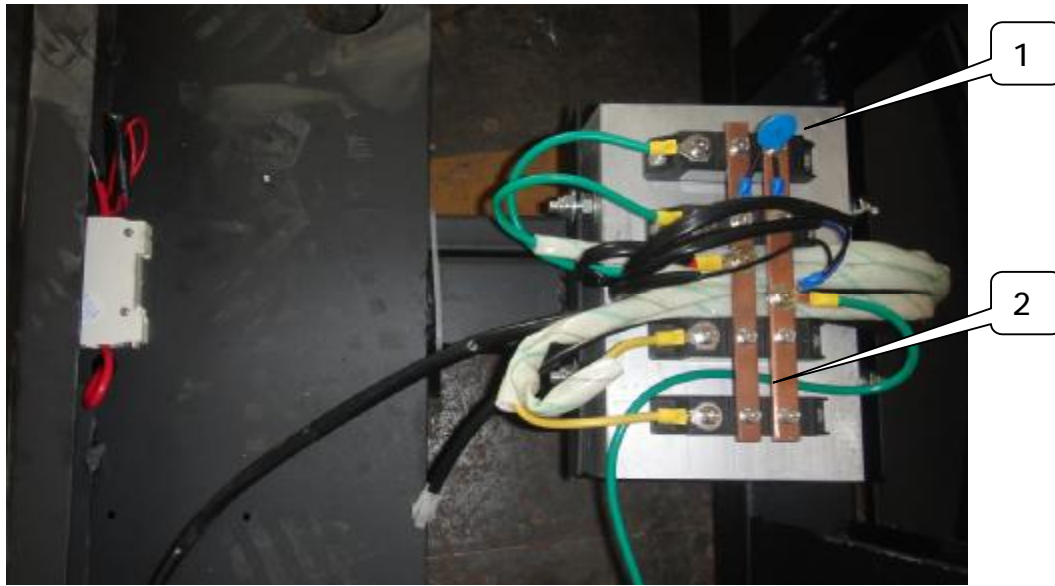
No.	Part No.	Code	Name	Qty	Unit
1	W108-601-000	2.66.000184	Inner tire	1	PCS
2	W108-602-000	2.66.000185	Cover tire	1	PCS
3	W108-603-000	206.6.08.20.007	Back limit sleeve	2	PCS
4	W108-614-000	WTWPPC3.5-1-0	Frame welding assembly	1	PCS
5	W108-101-000	202.6.08.04.001	New trolley	2	PCS
6	W108-604-000	206.6.08.20.006	Front limit sleeve	1	PCS
7	W108-102-000	202.6.08.32.040	Motor fork	1	PCS
8	W108-103-000	202.6.08.32.026	Motor fixed screw electricity	4	PCS
9	W108-104-000	202.6.08.32.027	Carbon brush fixed frame	1	PCS
10	W108-401-000	2.34.04.000008	DC series universal motor	1	PCS
11	W108-402-000	208.6.08.04.006	Brake clutch	1	PCS

## 7.2 Steering wheel mechanism



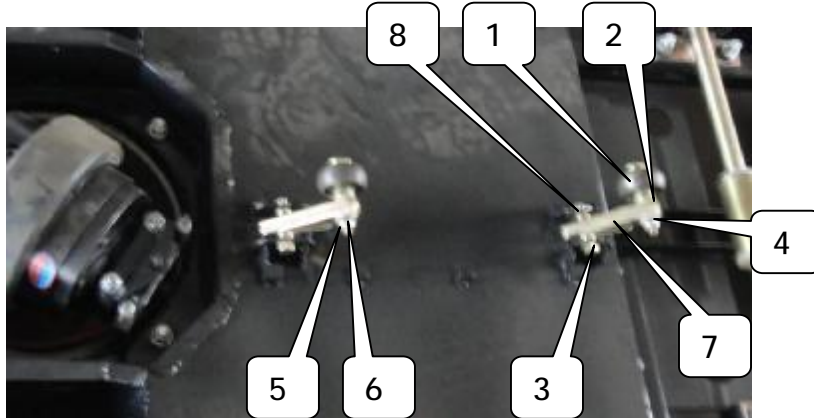
No.	Part No.	Code	Name	Qty	Unit
1	W108-105-000	202.6.08.32.041	Motor cover	1	PCS
2	W108-106-000	202.6.08.32.046	Carbon brush electrical shaft	1	PCS
3	W108-403-000	2.01.06.07.0094	Single-row tapered roller bearing	1	PCS
4	W108-605-000	202.6.08.20.070	Motor suspension pad	1	PCS
5	W108-404-000	2.01.06.12.0089	One-way thrust ball bearing	1	PCS
6	W108-107-000	2.34.09.000001	Carbon brush cover	1	PCS
7	W108-108-000	202.6.08.32.042	Steering shaft	1	PCS
8	W108-109-000	202.6.08.32.043	Steering shaft sleeve	1	PCS
9	W108-110-000	202.6.08.32.029	Limited block	1	PCS
10	W108-111-000	202.6.08.32.044	pedal spring	1	PCS
11	W108-112-000	202.6.08.32.030	Pedal board	1	PCS
12	W108-113-000	202.6.08.32.031	Pedal	1	PCS
13	W108-405-000	2.01.06.000173	Deep-groove ball bearing	2	PCS
14	W108-114-000	202.6.08.37.025	Large gear	1	PCS
15	W108-115-000	202.6.08.37.026	Small gear	1	PCS

### 7.3 Wire connection board



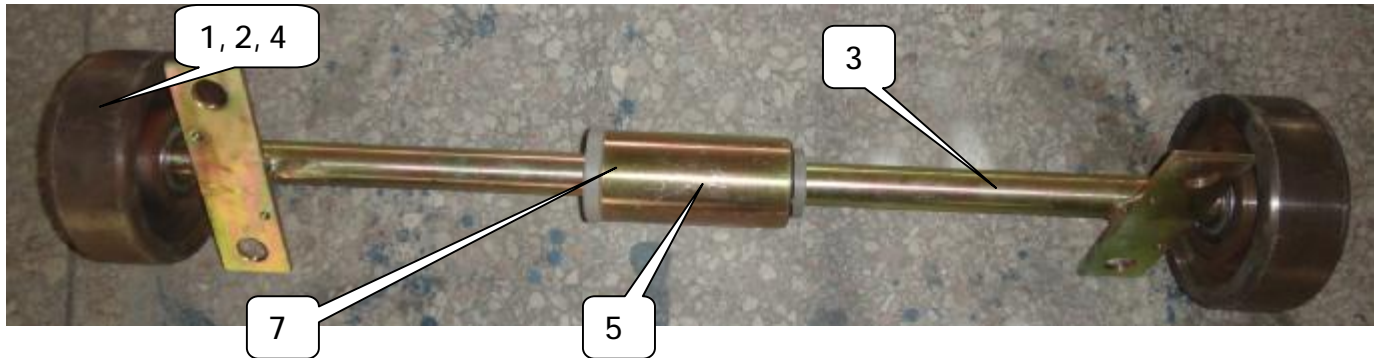
No.	Part No.	Code	Name	Qty	Unit
1	W108-116-000	202.6.08.32.032	Radiator	1	PCS
2	W108-117-000	202.6.08.32.033	Cable connecting board	2	PCS

### 7.4 Anti static caster



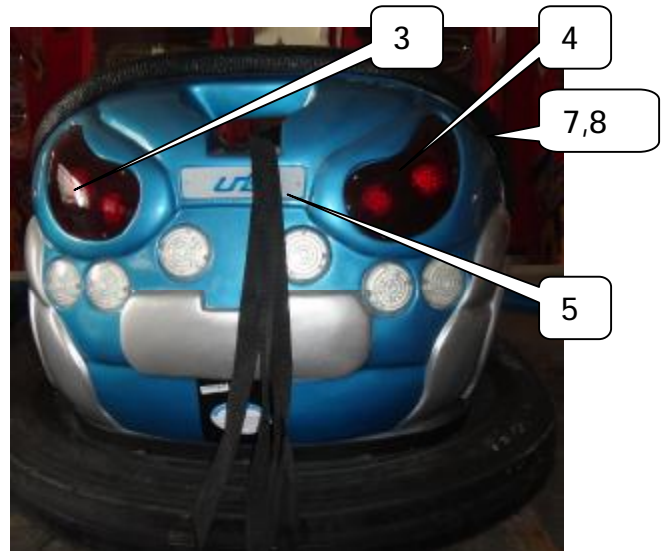
No.	Part No.	Code	Name	Qty	Unit
1	W108-118-000	202.6.08.04.001	New roller	2	PCS
2	W108-119-000	202.6.08.04.002	Sleeve 2	2	PCS
3	W108-120-000	202.6.08.04.003	Sleeve 1	2	PCS
4	W108-121-000	202.6.08.04.004	compression arm	2	PCS
4	W108-122-000	202.6.08.04.006	Roller shaft	2	PCS
5	W108-123-000	202.6.08.04.007	Spring pin shaft	2	PCS
6	W108-124-000	202.6.08.04.026	Torsional spring	2	PCS
7	W108-125-000	202.6.08.04.008	Torsional spring copper sleeve	4	PCS
8	W108-126-000	202.6.08.04.005	Insulation sleeve	4	PCS

### 7.5 Rear-wheel assembly



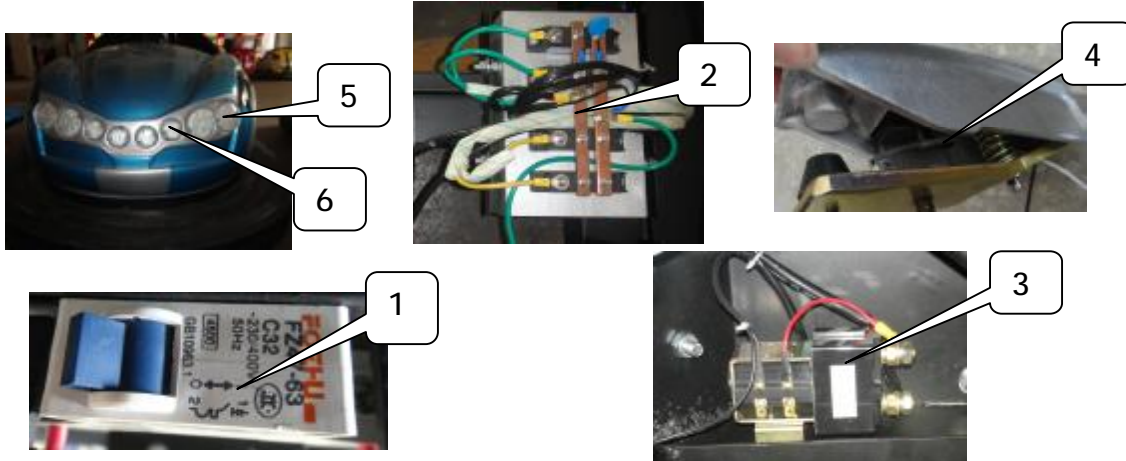
No.	Part No.	Code	Name	Qty	Unit
1	W108-135-000	2.01.06.000127	Deep-groove ball bearing	2	PCS
2	W108-136-000	2.01.06.000079	Deep-groove ball bearing	2	PCS
3	W108-137-000	202.6.08.32.047	Rear main shaft	2	PCS
4	W108-138-000	202.6.08.32.048	Rear wheel	2	PCS
5	W108-139-000	202.6.08.32.049	Rear main shaft sleeve	1	PCS
6	W108-140-000	206.6.08.32.007	Rear shaft shock absorber rubber	2	PCS
7	W108-141-000	206.6.08.32.008	Rear shaft nylon sleeve	1	PCS

### 7.6 Bumper car appearance



No.	Part No.	Code	Name	Qty	Unit
1	W108-606-000	202.6.08.37.014	Large light cover	10	PCS
2	W108-607-000	202.6.08.37.015	Small light cover	4	PCS
3	W108-608-000	202.6.08.37.023	L taillight vacuum foam	1	PCS
4	W108-609-000	202.6.08.37.024	R taillight vacuum foam	1	PCS
5	W108-610-000	202.6.08.37.025	Back LOGO	1	PCS
6	W108-611-000	206.6.08.04.003	Wheel	1	PCS
7	W108-612-000	206.6.08.37.018	Upper cushion	1	PCS
8	W108-613-000	206.6.08.37.019	Down cushion	1	PCS

### 7.7 Electrical part material list



No.	Part No.	Code	Name	Qty	Unit
1	H115-406-000	2.26.02.000013	C32 leakage broken appliance	1.0	PCS
2	H115-408-000	5.13.00000002	Bridge rectifier module	4.0	PCS
3	H115-409-000	2.26.05.000045	DC contactor	1.0	PCS
4	H115-410-000	2.26.04.000035	Micro switch	1.0	PCS
5	H115-411-000	2.17.04.000189	LED light board	20.0	PCS
6	H115-412-000	2.17.04.000175	Light board	2.0	PCS