



**CHANCE RIDES, INC.**  
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Bulletin No:	B414R1263-0
Release Date:	September 17, 2001
Effective Date:	September 17, 2001
Supersedes:	N/A
Completion Date:	N/A
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# SERVICE BULLETIN

Ride Manufacturer: CHANCE RIDES, INC.      Affected Production Dates: All

Ride Name: INVERTER (Portable Model)      Affected Serial Nos.: All Units  
              INVERTER (Park Model)  
              DOUBLE INVERTER

Model No.: 414

Abstract of Issue:  
DC Motor Inspection and Maintenance

**Reason For Release:**

The INVERTER amusement ride is driven by two DC motors (four motors on the DOUBLE INVERTER). As with any machinery, proper maintenance is essential to minimize downtime and provide satisfactory service life. This bulletin describes the normal inspection and maintenance procedures required by the original manufacturer of these motors (Bautronic Corporation, a subsidiary of Baumuller Nurnberg).

**Detail of Issue:**

Chance Rides, Inc. requires all owner/operators of the above noted INVERTER amusement rides to perform the procedures described in this bulletin in addition to all other scheduled inspection and maintenance. Failure to perform proper maintenance could void the warranty on the motor.

All work must be performed by qualified personnel, capable of understanding the function of the parts and their proper installation.

**NOTICE**

Use only those components authorized, specified or provided by Chance Rides, Inc.

Chance Rides, Inc. **SPECIFICALLY DISCLAIMS ANY LIABILITY** for losses associated with any unauthorized alterations and/or modifications or additions and installations of unauthorized components.



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Ride Name: INVERTER (Portable Model)  
              INVERTER (Park Model)  
              DOUBLE INVERTER      Affected Serial Nos.: All Units

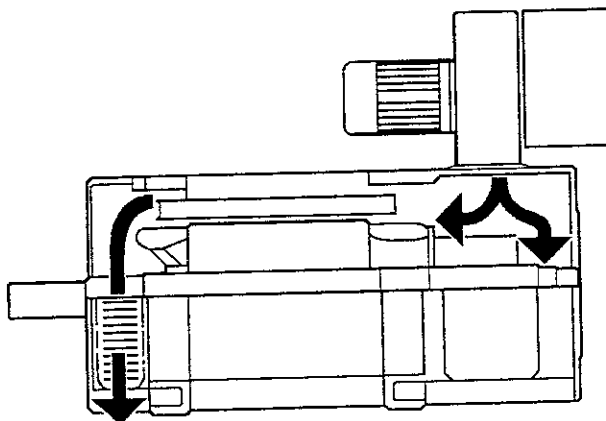
Model No.: 414

Action to be taken (

### **Intake Filter Inspection and Maintenance**

Each motor is cooled by a fan, mounted either on the back of the motor, or remotely mounted and connected to the motor by a metal duct.

The cooling air is drawn through a dust filter at the fan's intake. It is forced through the motor, then exits through openings at the shaft end. The intake filters must be kept clean to allow an adequate flow of air through the motors.



**Air Intake Filter**  
Chance part number 22671801  
or Baumuller part number 1801-0527

Clean the filters and inspect for signs of damage at least once a week. Also check the exit openings at the shaft end of the motor. When operating in dusty or damp conditions, it may be necessary to service the filter more frequently. If a filter is damaged, replace it with a new part.

Dry dirt can usually be cleaned by blowing it out. If necessary, remove the filters and wash in a mild solution of lukewarm water and detergent. Rinse and dry filters before installing them.



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              INVERTER (Park Model)  
              DOUBLE INVERTER

Model No.: 414

Action to be taken (continued):

**Brush Holders, Carbon Brushes and Commutator Inspection and Maintenance**



**DANGER: High voltage. Contact can result in electrocution. Make sure the main circuit breakers are off before performing any work on electrical components.**

**When maintenance is complete, replace all covers and guards before turning the power back on.**

**Brush Holders and Carbon Brushes**

Check the condition of the brush holders and carbon brushes every 1000 hours of operation or twice each operating season, whichever occurs first. Check the following:

- Brush wear - Replace the carbon brushes before the brush shunt damages the commutator. The remaining length of the carbon that cannot be used is about 15 mm (0.59 inch). If the carbon brush has a wear indicator, replace it before it wears down to that mark.
- Brush pressure - Brushes must make firm, even contact with the commutator.
- Movement of the brush in the holder - Brushes must move freely, without binding in the holders.
- Firm contact between the carbon brush and the brush shunt.

If necessary, replace ALL the brushes on that motor with new parts. Do not just replace visibly worn or damaged brushes. Each motor has 4 brushes on portable model rides, 8 brushes on park model rides.

To change the carbon brushes, release the locking screws from the operator opening on the side of the terminal box. Loosen and twist the brush rocker.

After changing the brushes, turn the brush rocker back to its original position with the marks on the end shield and the brush rockers lined up exactly with one another.



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 INVERTER (Park Model)  
 DOUBLE INVERTER

Model No.: 414

Action to be taken (continued):

**Commutator**

Check the commutator and clean all dust and oil from its surface every 2000 hours of operation or once each operating season, whichever occurs first. Using a clean rag, wipe off any oil and blow away any loose dust with compressed air.

Inspect the commutator for damage, such as burn stains, beads of molten metal, rough areas and small grooves. If necessary, remove minor damage using progressively finer grades of emery cloth. Be careful not to remove too much material. The commutator must remain concentric within 0.02 mm (0.0008 inch).

**NOTE:** *A discoloration ranging from light to dark brown in the brush paths is normal and indicates the equipment is operating properly. Do not try to remove this discoloration.*

If necessary, remove minor damage using progressively finer grades of emery cloth. Be careful not to remove too much material. The commutator must remain concentric within 0.02 mm (0.0008 inch).

**NOTE:** *Out of round running surfaces, protruding segments, pitting and severe grooves must be corrected by specialized machining operations. If the commutator has been machined, adjust the brush holder to a distance of 1.5 mm (0.060 inch) to the commutator surface.*



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Action to be taken (continued):

**Carbon Brushes**  
Chance part number 20975101  
or Baumuller part number 1801-6903  
(4 brushes required for each motor on portable model rides  
8 brushes required for each motor on park model rides)

**Brush Rocker**

