



MFG: REVERCHON  
NAME: HIMALAYA  
TYPE: NON-KIDDIE

Himalaya

February 12, 1998

Mr. Ed Gregory, President  
United Shows of America  
PO Box 1089  
Nolensville, TN 37135

Via Fax: 813-620-1808

RE: Reverchon "Himalaya" Ride  
Operating at the 1998 Florida State Fair  
Tampa, FL

Dear Mr. Gregory:

From our conversation today regarding operation of the "Himalaya" on three (3) motors instead of four (4), it is permissible provided you don't exceed 10 revolutions per minute on the ride.

If you have any questions, please call.

Sincerely,

DANIEL T. KILINSKI, President  
Reverchon Industries, USA

DTK/md



*file*  
*cc: United's file*  
*Reverchon -*  
*Himalaya file*

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Dear Mr. Gregory:

There is no harm to the Reverchon "Himalaya" ride if the drive motors are welded to the drive wheels instead of being bolted.

Sincerely,

*Daniel T. Kilinski*

DANIEL T. KILINSKI, President  
Reverchon Industries, USA

DTK/md

# **AMUSEMENT RIDE SAFETY ALERT!**

**ATTENTION! STATE AMUSEMENT RIDE SAFETY INSPECTORS,  
OFFICIALS, RIDE OWNERS/OPERATORS & INSURERS**

**REVERCHON, S.A. INDUSTRIES, FRANCE**

**"HIMALAYA"**

**April 22, 1998**

On March 19, 1998, the U.S. Consumer Product Safety Commission (CPSC) in conjunction with the Austin, Texas Police Department and the Texas Department of Insurance investigated an incident with the Reverchon "Himalaya" mobile amusement ride at the Austin-Travis County Livestock Show & Rodeo in Austin, Texas. The incident involved the failure of a lap bar restraint in car #19 which contained 1 male and 2 female passengers. The car's lap bar disconnected from the floor fasteners and was ejected with the car's 3 passengers. One female passenger was killed and the two others were seriously injured.

The Reverchon "Himalaya" involved in this incident was manufactured in 1984 by Reverchon, S.A. Industries, France. The U.S. representative for Reverchon Industries, USA is Mr. Dan Kilinski in Wilsonville, OR. There are approximately 40 Reverchon "Himalaya" rides operating in the United States; both mobile and fixed-site units.

While the CPSC's investigation into the cause of the failure continues, in the interim, we recommend inspection of the ride's critical areas, as follows:

1. Check floor fasteners to the lap bar for wear - "R" keys/pins - are recommended by manufacturer. Cotter pins are not recommended by the manufacturer.
2. Check lap bar latches for excessive wear and secure attachment.
3. Ride speed should not exceed 10 rpm.
4. A ride with 2 or more inoperable cars should be inspected more thoroughly, repaired and returned to service.

For further information or clarification on this Safety Bulletin you may contact one of the following:

**US CPSC  
Office of Compliance  
Jay DeMarco at (301) 504-0608 ext 1353  
Division of Mechanical Engineering  
Tom Caton at (301) 504-0494 ext 1305  
FAX (301) 504-0359  
Reverchon Industries, USA, Wilsonville, OR  
at (503) 694-2803**

MEMORANDUM

DATE: April 22, 1998

TO: All Inspectors, via BFI Service/Safety Bulletin 98-14

FROM: Mike Rinehart, Operations & Management Consultant



SUBJECT: REVERCHON "Himalaya" CPSC Safety Alert 4/22/98

As you can see from the attached the CPSC finally came out with something.

Please remember, in addition to those items mentioned in this Safety Alert (attached), and the BFI Service/Safety Bulletin 98-12, Reverchon recommended a "double locking device" be installed on existing rides.

If you have any questions regarding this matter do not hesitate to give me a call.

PHOTOGRAPHY TOWN.COM

FROM DAHMS SECRETARIAL

TO 18136201808

P001/001

*United Shows*

*Reverchon*

*"Himalaya"*



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Reverchon Industries, USA

DTK/md

*fu*

*United Shows  
Reverchon  
"Himalaya"*



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Nolensville, TN 37135

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DTK/md



*file*  
*cc: United's file*  
*Reverchon-Himalaya file*

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Reverchon Industries, USA

DTK/md



Florida Department of Agriculture & Consumer Services  
**BOB CRAWFORD, Commissioner**  
The Capitol • Tallahassee, FL 32399-0800

Please Respond To:  
Division of Standards  
Bureau of Fair Ride Inspection  
131 Administration Building  
3125 Conner Boulevard  
Tallahassee, FL 32399-1650  
1-800-HELP FLA  
Ph. (850) 488-9790, Fax (850) 488-9023

March 25, 1998

To all Himalaya Owners permitted during the last year.  
Addressed to each individually.

RE: Austin, TX, Himalaya Death of 3/19/98:

Preliminary reports on the above accident (copy attached) indicate, among other things, the passengers were "thrown out" and the lap bar on the car had broken away. The investigation into this tragedy is continuing. However, indications are that officials are focusing on broken and/or too small cotter keys, operating the ride after being told the lap bar was detached, and/or the possibility that the ride was operating too fast.

Because of this we want to reemphasize the manufacturer's position and requirements as it relates to Himalaya type rides operated in Florida (copy of 3/7/97 Reverchon memo attached).

1. Cotter keys, or diaper pins, of any type are unacceptable and shall not be used to secure the bottom of the lap bar.
2. "R" keys are required to secure the lap bar in place on both the right and left sides and the "R" keys must be of a sufficient size so that no movement or play occurs after they are inserted.
3. A block of wood shall be placed, and nailed down, near each "R" key to avoid patrons placing their feet on or near the keys and eliminate the possibility of the keys being removed.
4. "R" keys shall be tied off to eliminate them being inadvertently, or intentionally, pulled out.
5. Operator's should be instructed and cautioned; any car's lap bar that is found to not lock properly shall immediately cease being used until proper repairs can be made.
6. Rides shall not be operated in excess of the manufacturer's authorized or recommended speed under any circumstances.

If you have any questions in regard to this matter please do not hesitate to write or call.

Sincerely,

**BOB CRAWFORD**  
**COMMISSIONER OF AGRICULTURE**

Michael W. Rinehart  
Operations & Management Consultant  
(850) 413-7756



*Siège Social :*  
18 av. des Champs Elysées  
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FRANCE

123 route de Courbousson  
BP 1-77920 SAMOIS  
FRANCE  
Tél : 33/ (1) 60.74.94.00  
Fax : 33/ (1) 60.74.94.10

*Himalaya  
by Reverchon*

## TELEFAX MESSAGE

DATE : MARCH 7, 97  
DE/FROM : REVERCHON INDUSTRIES  
A/TO : RON SAFFORD  
FAX : 1 904 488 90 23  
TOTAL PAGES : 1 **RECEIVED**  
Celle-ci comprise/this one included

MAR 7 1997

**MESSAGE:**

DEAR SIR,

BUREAU OF  
FAIR RIDES INSPECTION

FURTHER TO YOUR FAX DATED - 3-6-97 AND OUR TEL CONVERSATION,  
AND ONCE AGAIN DESPITE THE FACT THAT WE ARE NOT THE  
DESIGNER OF THE HIMALAYA, WE THINK THAT THE SOLUTIONS  
DISCUSSED WITH YOU BY TELEPHONE, COULD BE USED.

- 1) - DOUBLE THE LOCKING SYSTEM OF THE SAFETY BAR, BY  
A CHAIN LOCATED NEAR THE LOCK TO PREVENT  
UNEXPECTED OPENING OF THE BAR (DUE FOR INSTANCE TO  
A BAR NOT PROPERLY CLOSED)
- 2) - USE THE PROPER "B KEYS" TO SECURE THE BOTTOM  
OF THE BAR (ON THE RIGHT AND LEFT HANDSIDE)  
(IF I'M NOT MISTAKING IT SHOULD BE A 3mm DIAMETER) -  
ALSO NAIL DOWN A BLOCK OF WOOD CLOSE TO THE SAID KEY  
IN ORDER TO AVOID PEOPLE PUTTING THEIR FEET CLOSE TO  
THIS LOCATION -

WE ARE TRYING TO TALK TO BOB GILL TO HAVE HIM INSPECT THE  
RIDE AND HAVE HIS OPINION.

WE ALSO PREPARE AS PREVIOUSLY SAID, A PROTOTYPE CAR EQUIPPED  
WITH SAFETY BELTS WHICH IS THE ULTIMATE ANSWER TO THE  
QUESTION.

WE SHALL ALSO TAKE ADVICE FROM "VERITAS" WHICH IS OUR  
CONTROL AND INSPECTION OFFICE.

SINCERELY

### Deadly Texas carnival mishap probed

AUSTIN, Texas, March 24 (UPI) Police in Austin, Texas are investigating the possibility that a broken restraining bar caused a fatal accident on a rodeo carnival ride.

Investigators are laying the groundwork for possible negligent homicide charges in the accident that killed 15-year-old Leslie Lane last Thursday at the Austin/Travis County Livestock Show and Rodeo. \ 3/19

Police say at least one person who rode the Himalaya ride before Lane was thrown out and killed said the lap bar on her car had broken away.

Lane, who was buried Monday, suffered fatal head injuries when she was thrown from the fast-moving ride. Two other people suffered minor injuries. Lane was a sophomore honor student at McNeil High School.

Police say their investigation is focusing on broken cotter keys — thin metal pins that are supposed to hold the ride's restraining bars in place. They are also looking into claims by witnesses that the ride was moving too fast.

Police Sgt. Ken Cavett said today that "We are looking at everyone who had anything to do with that ride."

No charges have been filed in the case, but police filed court documents they say could form the basis for criminally negligent homicide charges.

An attorney for B&B Amusements, which operates the ride, challenged statements by witnesses who said the ride was going too fast. Robert Powell also said the legal team for B&B has been unable to examine the Himalaya, which has been impounded at the Travis County Exposition Center.

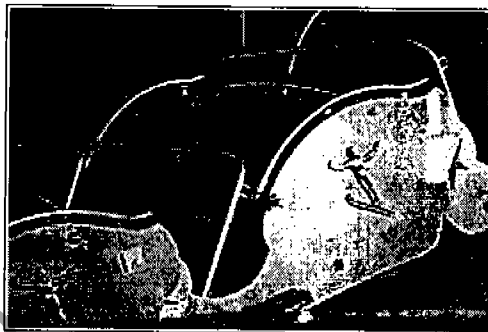
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The lap bar on an intact car on the Himalaya is secured in three places by cotter pins, which should be 3/16 of an inch, a ride operator said. Photo by Rebecca McEntee/AA-S.

## Report: Ride's lap bar broke Police investigation focuses on fastening pins on Himalaya

Extensive excerpt from search warrant affidavit

By Bob Banta  
American-Statesman Staff

Published: March 24, 1998

The restraining bar on a carnival ride broke away last Thursday as the ride operator sent the machine hurtling faster and faster, throwing 15-year-old Leslie Lane to her death, witnesses told detectives investigating the case.

Lane died of head injuries after being thrown out of car No. 19 on the Himalaya, a ride at the Austin-Travis County Livestock Show & Rodeo.

As family and friends buried the McNeil High School sophomore on Monday, police spelled out in court documents what they said is the foundation a criminally negligent-homicide case. No charges were filed.

"We are looking at everyone who had anything to do with that ride," said Austin police Sgt. Ken Cavett.

Police, in a sworn affidavit used to obtain a warrant to confiscate the ride, said their investigation was focusing

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### What do you think?

**Talk back:** In light of this accident, would you feel safe on a carnival ride?

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March 22, 1998

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March 21, 1998

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March 20, 1998

### The investigation

Austin police are investigating the carnival ride death of a 15-year-old girl as a criminally negligent homicide based on the following allegations:

said their investigation was focusing on broken cotter keys -- thin metal pins that are supposed to hold the ride's restraining bars in place. At least one customer who rode the Himalaya before Lane did complained that the lap bar on her car had broken away, too, and that she stayed in the car only by clinging to the frame of the car, the court documents said.

After the accident, Detective Mark Gilchrest "received several calls from persons stating that the Himalaya had safety problems when they rode the ride that day," he wrote in the affidavit. "Several of the callers stated that the ride was being run too fast. Others cited problems with the ride operators not checking the lap bars prior to the ride starting."

Robert Powell, attorney for B&B Amusments, owner of the Himalaya, said the affidavit contains hearsay.

"You should not draw any conclusions from what is stated in it," Powell said Monday.

Meanwhile, Austin police said that inspectors from the U.S. Consumer Product Safety Commission would arrive in Austin today to examine the Himalaya, which has been impounded at the Travis County Exposition Center at 7311 Decker Lane, where the rodeo was held.

The federal commission studies the causes of product-related injuries in the country.

Lane died of head injuries when she was thrown from the Himalaya about 7:20 p.m., striking a wall surrounding the ride. Her 9-year-old brother and a 16-year-old friend in the car suffered minor injuries.

## The Himalaya

According to the police affidavit, Gilchrest and other investigators arrived at the scene, questioned witnesses and examined car No. 19.

In the affidavit, Gilchrest describes the Himalaya as a ride that consists of a string of cars that are attached to each other and travel along an undulating circular track "at a rate of speed enough to create a substantial centrifugal force."

People riding in each car are restrained by a single metal bar across their laps. The metal cotter pins attach the lap bar to each side of the car.

The operators and owners of the Himalaya should have known about the safety problems on the ride because a rider earlier that day had complained of a broken lap bar.

Witness statements indicate the ride was going at an unsafe speed.

Police observed that the Himalaya's equipment was not sufficient to restrain riders and that the ride in general was poorly maintained.

The ride's operator told investigators that keys used to hold the restraining bar in place over riders' laps may have been too small.

The lap bar is also connected to the car by a locking device on the top left side of the car, Gilchrest said.

The detective said that during Lane's ride, the lap bar came loose from car No. 19 "at all three points of attachment." He said the lap bar was ejected from the car along with Lane.

Gilchrest said that when he examined the car, pieces of a cotter pin were visible on the floor of the car.

In the affidavit, Gilchrest says that Detective Marcelino Gonzales interviewed the operator of the ride, Joshua Johnson, who told Gonzales that the cotter keys that hold the lap bar may have been too small for the weight of the passengers.

"Johnson stated that they are supposed to use 3/16th (of an inch) size cotter keys, but sometimes they use smaller ones because some of the holes the keys go in are not big enough for 3/16th keys," Gilchrest said in the affidavit.

Austin police Detective Wayne DeMoss interviewed a rider named Erin Thompson, who said she rode the Himalaya shortly before Lane was killed, according to the affidavit.

Thompson told DeMoss that while she was on the Himalaya, the bottom of the lap bar broke off on the car Thompson was riding, causing the bar to rise.

In the affidavit, Thompson said she kept from being thrown from the car by holding onto part of the seat frame.

She said a friend riding in the car with her kept calling to the ride operators that the lap bar was broken but the operators did not stop the ride.

After the ride finally stopped, the affidavit said, Thompson told one of the operators that the lap bar was broken. She said an operator looked at the bar, and the ride was then loaded for another round and continued to operate.

DeMoss also interviewed a witness named Lemarcus Henderson, according to the affidavit. DeMoss said Henderson was on the ride at the time Lane was on the Himalaya.

Henderson told DeMoss that he heard the operator of the ride ask people in the cars whether they wanted to go faster.

Henderson said everyone on the ride started to scream and the ride



Police watch the grounds near the Himalaya ride, which is fenced in and covered with plastic, at the Austin-Travis County Livestock Show & Rodeo. On Thursday, Leslie Lane, 15, was thrown from car No. 19 and died. Witnesses say the lap bar broke away. Photo by Rebecca McEntee/AA-S.

speeded up. Henderson told DeMoss that after the Himalaya increased speed, he heard a loud noise that sounded like a gunshot, the ride operator slowed the cars, and Henderson saw a girl lying on the ground.

"The use of cotter pins that were too small to keep the lap bar in place created an unsafe restraint system," Gilcrest said in his affidavit. "This was known by operators of the Himalaya ride prior to the incident."

### **B&B response**

Powell, the lawyer for B&B Amusements, challenged statements by witnesses in the affidavit who said the ride was going too fast.

"My question is: 'How fast is that?' " said Powell. "They are not telling us what the speed was, so it is difficult to respond."

The attorney said the legal team representing B&B Amusements has been unable to examine the Himalaya.

"We are waiting to see the evidence ourselves," Powell said.

The company was sued at least 15 times in California between 1983 and 1993 after patrons were injured on rides it owned.

The Himalaya ride has been involved in other accidents, according to newspaper reports. In March 1997, two brothers were seriously hurt after being thrown from a Florida company's Himalaya when its restraining bar snapped open. A Florida state inspector said a metal rod shaped like a diaper pin that fastened the bar to the ride was evidently stepped on, causing the bar to release.

Rosemary Lehmborg, first assistant for the Travis County district attorney's office, said state law allows authorities to file criminal charges against corporations if an offense is committed by someone acting on behalf of the corporation.

Criminally negligent homicide is punishable by a state jail term from 180 days to two years and a fine of up to \$10,000.

Lehmborg said the law covers acts "authorized, requested, performed or recklessly tolerated by a majority of the governing board or a high managerial agent acting in behalf of the corporation."

### **A funeral**

At Cook Walden/Capital Parks Funeral Home in Pflugerville, Lane's baby-blue coffin was covered with a spray of blue, red, pink and yellow flowers. It rested at the front of the room as hundreds of people filled the pews and aisles.

"Questions still go unanswered as to why such a tragedy had to take place," said the Rev. Ed Humphrey of the First Baptist Church at Wells Branch. "All I can say is this: 'There is a season and a time to every purpose under heaven. A time to be born and a time to die,' " he said, quoting from the third chapter of Ecclesiastes.

**EVERETT**  
FRANCE

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(corresponding to the spare parts list)
- Quantity of the parts.
- Your name and christian name.
- Your address where you will be for the next two weeks.
- Name of the nearest railway station.

## GENERAL MAINTENANCE OF THE DODGEM CAR

We will separate this list into the following different headings:

- ① Generalities and frequency of maintenance operations
- ② Maintenance of the pneumatic bumper.
- ③ Maintenance of the wheels and the steering unit
- ④ Maintenance of the motor unit

A/ Electric motor

B/ Double clutch

C/ Reducer

- ⑤ Maintenance of the accessories

A/ Resistance

B/ Support and base of the trolley pole

C/ Pedal contact

D/ Automatic Stop

E/ Breakdowns and cures

F/ Wiring

G/ Branching

- ⑥ Repairs of lighting breakdowns

- ⑦ Body repairs

## MAINTENANCE PLAN

Every morning

talc your tires

Every month

check the fastenings of the car body  
check the nuts holding the seat in place  
check the current intake brushes  
check the adjustment of play of the clutch  
check the switch of the pedal contact

With the help of compressed air blow out the dust which is inside the motor, the double clutch and the automatic slot.

Every six months

polish the body  
cleaning and greasing of the motor level ball bearings

Every Year

grease the reducer  
check the fixing of the base and support of the pole  
grease the steering unit  
take up the play of the back wheels bearings  
clean and adjust the pivot casing  
check the motor brushes

Maintenance of the exterior surface

The colour is incorporated in the fibre - glass, the maintenance is thus reduced to a simple wash with water and detergent (type Teepol or other) one bucket of water to one glass of detergent, and wipe with a chamois leather.

Chrome

Normally maintenance can be effected by washing at the same time as the body. If it is very dirty rub with a rag soaked in methylated spirits.

During the wintertime smear all the chrome trimmings with a neutral grease (vaseline)  
Avoid the use of plastic car covers which retain humidity.

Seats

The washing of the seats can be done with the same product as the body. Clean fairly frequently.

CARNYTOWN.COM

## MAINTENANCE OF THE PNEUMATIC BUMPER

The tyre of the dodgem car must be sufficiently inflated. A tyre which is not inflated enough will cut up very quickly, over inflated it will spoil the comfort and might burst.

If you run slowly (75 to 80V) inflate to 2.0 bars/cm<sup>2</sup> (28 lbs per sq. in.)  
If you run fast (110V) inflate to 2.2 bars/cm<sup>2</sup> (31 lbs sq. in.)

Experience proves that the comfort and upkeep of the tyre depends on the speed and inflation pressure.

In order to reduce the wear and to increase the sliding of the tyres, one against the other, talc your tyres at least twice a day. For this prepare in a bucket (10 litres - 2 gall.) a paste of talc and water (consistency like pancake batter mixture) add. to this 3 table spoons of wall paper size, the spread on with a paint brush.

## MAINTENANCE OF THE WHEELS

1/- Steel wheel

Ground

The steel wheel serves as the earth for the dodgem car (until the 1972 model when a wire brush in the middle of the axle was introduced), electric pickup causes heating thus the steel wheel uses more grease than the rubber wheel. Grease every six months.  
Once a year grease with yellow ball bearing grease, check the axle nut is tight by taking out pin 19. Tighten the nut until it blocks then unscrew enough to reinsert pin.

2/- Rubber wheel

Same adjustment operation. Annual greasing.

## MAINTENANCE OF THE STEERING UNIT

1/- Steering unit

Greased for one year's running (2000 hours)

Once a year clean with petrol and grease the crown, race and TIMKEN pivot bearing with yellow grease. The steering column has been greased for its lifetime. In case of dismantling it clean the bearings with petrol, recharge with grease and remount.

CARNYTOWN.COM

2/- Pivot Insulator

The insulator 575 of the current intake socket no. 576 is fitted into the pivot, to change the insulator, dismount it by using a pin punch from underneath. Refitting is done from the

### General Considerations

The motor is the heart of your car, by giving it attentive care you will obtain good results results on which depends the returns of your equipment. Before going into the details, remember that dust has never got on very well with precision engineering.

Some knowledge of the Reversion drive motor will help you to maintain it better. We have divided in into three main parts:

#### A/- The electric motor

It is of a series type, the kind used in electrical drive its maintenance as we will see further on is practically nil. It serves as a rim for the front wheels.

#### B/- Double clutch

This organ protects the mechanical part of the reducer, its role is to limit the bumps due to rough stopping of the dodgem car. In normal service or when stopped with the motor under tension, it cannot slide thus there is a little or no wear or adjusting to do.

#### C/- The reducer

Takes the speed of the induced current (about 1000 r/m to the speed of 2500 r/m on the motor body to obtain a speed of 12 km/h ( 8 m p.h.) of the dodgem car.

1/ Maintenance

Every month blow out the dust with compressed air. In the case of a grease leakage take off the clutch disc No S 660 and degrease it with petrol.

2/ Adjustment

On a normally fitted motor, the play between the motor plate S624 and the clutch plate S 625 should be in the order of 7 to 10/10th (control this with wedges through the ventilation holes). In case that this play has not been obtained: Dismantle the reducer and the clutch plate, add or take off shim washers S 621 until you have normal play.

3/ Control

On a normally fitted motor, car lying on its side, block the motor with a bar or piece of wood (attention to the rotation direction), and connect the current before the resistance; the armature should practically not turn, the intensity read on the ampimeter (from the cash desk for example) should not surpass 12 amps. Do the same test again but connect up after the resistance, now the armature turns and the intensity should be 14 to 16 amps on the ampimeter.

### 1% Electrical maintenance

Once a month take off the cover of the motor current intake by removing circlips S 588. Check the brush and the shunt (strand of copper wire inside the spring), blow the dust out and remount. Once a year check and change if necessary the motor brushes, two caps S 661 to unscrew on the outside motor casing.

### 2% Mechanical maintenance

Every six months take off the cover of the motor bearing S 549. Check the paulstra joint S 558, clean the bearing S 524 and lubricate it with yellow grease (1 coffee spoon full). The paulstra joints are fragile, when fitting be careful not to damage edge.

### 3% Changing the rubber wheels

Dismantling: As it ages the rubber adheres to the steel of the motor casing the most simple way to take off a worn wheel is, after removing stop rings S 553 and S 554, to cut it with a hack-saw.

Mounting : Mounting should be effected with a press.  
Clean the motor casing thoroughly  
Coat it with tallow grease  
Also grease the inside of the rubber band and mount it.

Attention! The mounting of the rubber wheels must be done from the current intake side.

## 1º/ Greasing - maintenance

Greased when delivered for 4 months running, must be recharged every 4 months use grease with fusion point 250°C. (160L compound) (2 to 3 table spoons)  
In case of disassembling the reducer, clean the parts with petrol (washed out for impurities in the ball bearings)  
Check the state of the paulstra joints S 516 and S 523, never remount a damaged joint

## 2º/ Particular points when remounting

The ball bearings S 505, S 507, S 510, S 514, S 524, must be lightly greased with compound before remounting (never fill a bearing completely).  
The paulstra joints S 516 and S 523 must be in perfect condition immerse the joints in oil before remounting, check the cleanliness and polish of their bearing on the planetary gear S 504 and shaft S 512.  
Before replacing the sealing plate S 514 grease the crown and the pinions. Do not forget the paper joint S 520 before fitting S 660 plate.

## 3º/ Grease leaks

- either paulstra joint S 523 (deteriorated or worn out)
- or tightening screw S 521 unscrewed
- or paper joint S 520 destroyed or non existing
- or filling plug joint S 519 squashed

A/- Resistance

The resistance requires no maintenance, as it normally heats never paint it.

B/- The support and base of the trolley pole

Check every 4 months that the three bolts fixing the pole support and the screw of the pole base are tight. (never put any grease in the base)

C/- Pedal contact

Every month blow dust away and check the contacts of the switch.

D/- Automatic slot

The automatic slot requires no special maintenance. Blow out dust with compressed air every month. Grease lightly the brass wheel and the axle of the check slot shutter. When the car is running with the staff key, never use the key to cut off the current, first release the pedal, (otherwise deteriorates the contacts).

E/- Possible breakdowns, causes, cures

Before checking anything make sure that the current is coming into the slot !

BREAKDOWNS	CAUSES
Slot shutter will not open and the car continues running (on all cars)	Polarity dynamo or polarity 24v inverted ejection
Same breakdown on only one car	Resistance 500 $\Omega$ of the slot is cut
The shutter will not open but the car no longer works.	The shutter of slot is blocked
The shutter will not close	Deterioration of one of the 2 micro-switch H576 5F, or the contactor coil.

## F/- Wiring

The electrical distribution on the dodgem car is done by one trunk of lines. The only parts which can cause any problem are the connections of the automatic slot and the contact.

Connecting the automatic slot: Earth - blue connector, female clip

Pole intake - red connector, female clip

Output contact - yellow connector, female clip

## G/- Branching

positive tension feed (+) to the netting  
negative (-) to the track

### Branching contact:

Automatic slot yellow  
Headlight circuit output green  
Resistance output blue  
Pedal output

### Lighting feed

yellow cable

Consists of 4 or 8 bulbs in series fed between the input terminal of the slot and the earth from the motor body.

The lighting consists, according to the type of car of 4 bulbs 24 volts 35 Watts or 8 bulbs 12 Volt 15 Watts wired in series.

1. Breakdown: no bulb lights

Check that electricity is arriving in the car and that the fuse has not gone (for example by running the motor). If this test works then the filament of one of the bulbs must be broke; find which one it is either with a bulb on a testing socket or with a voltmeter.

2. Breakdown: One or several bulbs are not lighting, while others are lit brighter than normal

There must be a short circuit which must be found either inside the headlight (contact blade earthing) or one of the headlights touching the chrome or a bared wire or terminal touching the headlight.

### REPAIRING THE CHECK BOX AND THE CAR BODY INTERIOR

- 1/ Remove the top off the surface to be repaired either with acetone or cellulose thinners. Finish with sand paper.
- 2/ Prepare the materials: Two layers of fibre glass matting and one layer of tissue. Overlap round the break about 5cm (2in).
- 3/ Take 300gr. of resin, add to this 15 drops of accelerator. Mix then add a dessert spoon of catalyst.
- 4/ Wet the tissues with the prepared resin, either using a brush or by soaking them in the resin.
- 5/ Use acetone or cellulose thinners to clean hands and brush.

#### 1°/ Preparing the place

At the spot where the Gel Coat is damaged sand down to the fibre glass. Even the edges with emery paper and degrease with thinners or acetone.

#### 2°/ Take these precautions

The ideal working temperature for Gel Coat is about 20°C. Never repair in wet weather.

The repairs should be done in a horizontal position.

If this is not possible or if the repair has to be done vertically, fill in the place to be repaired by applying the product from bottom to top going slightly thicker. Stick celloctape over it to avoid running.

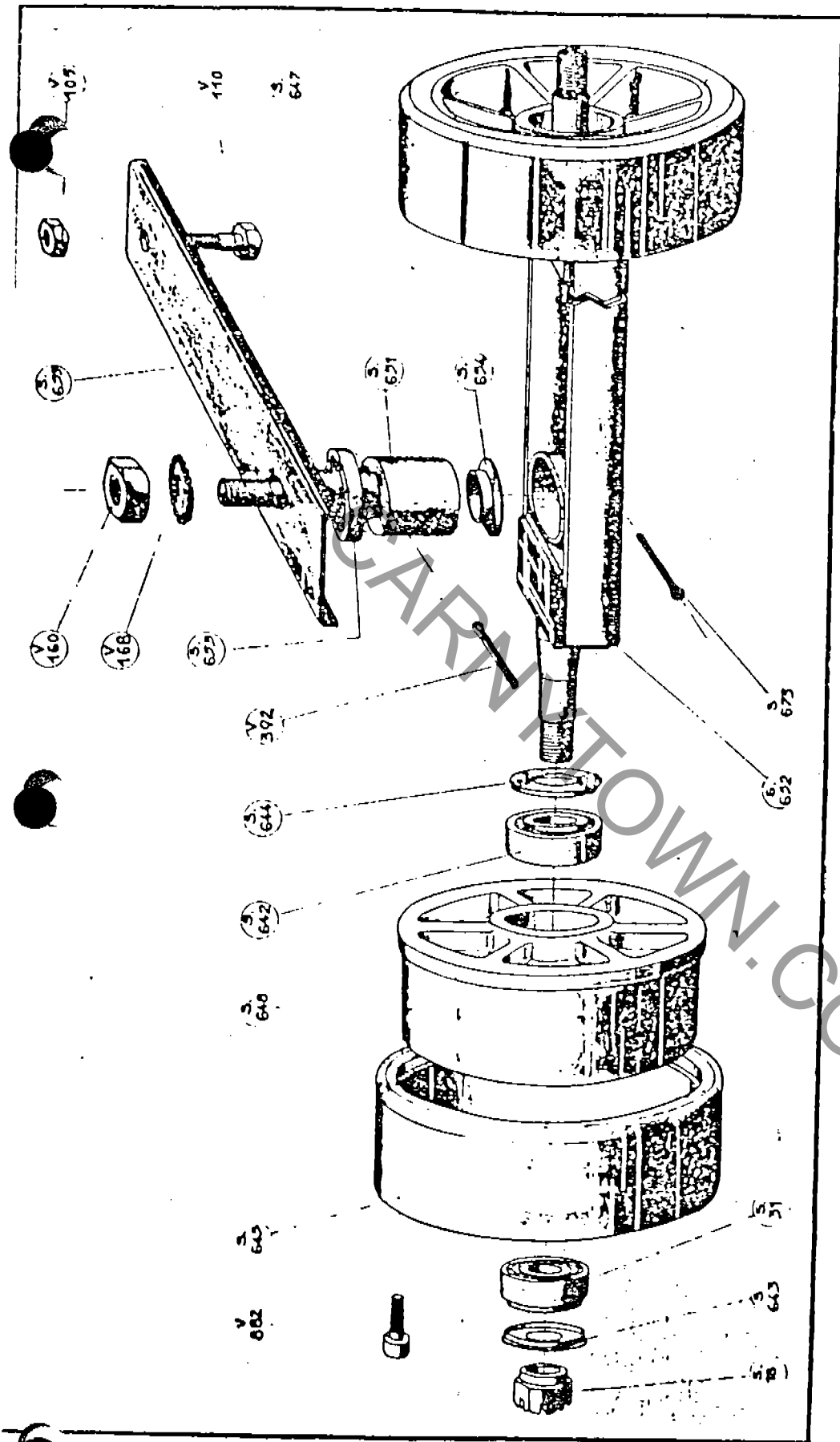
N. B. Any product left over cannot be used again.

#### 3°/ Preparing the Gel Coat

Take a level dessert spoon of Gel Coat, add 15 drops of catalyst; mix well and spread on with a spatula in the following 2' to 3 minutes; leave to dry.

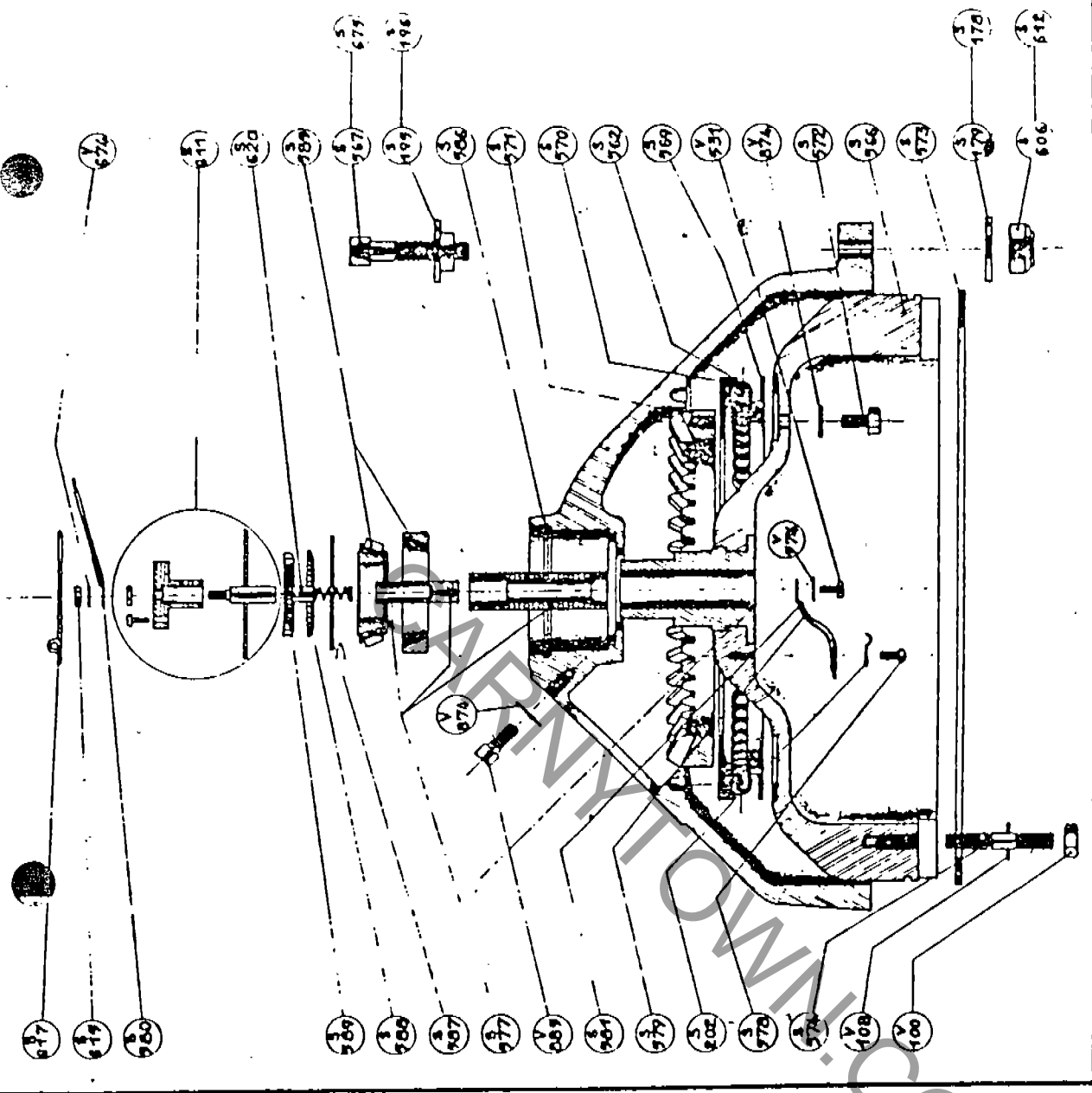
#### 4°/ Finish

After drying when hard to nail touch (take off the celloctape if work done vertically) thin down the thickness with a fine file. Then sand with wet and dry paper 280 and 400 using a block of wood as support. Finish the repaired surface with a non Silicone polish.



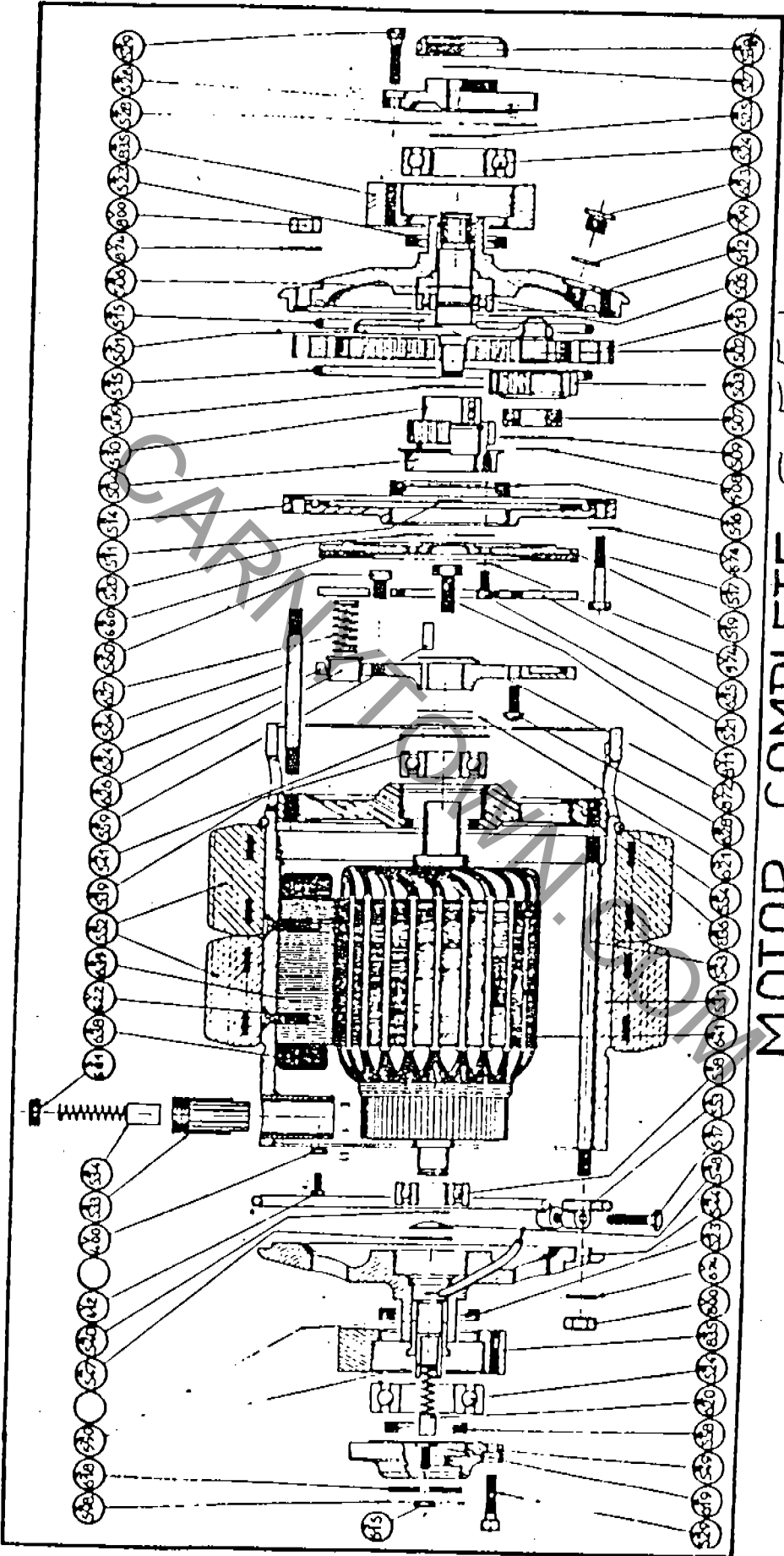
S 640  
Wheel-train  
Model 1970

Refer.	Qte.	Part-Description	Refer.	Qte.	Part-Description
S 647	1	Rubber-tire	V 168	2	Washer AZ 16
S 645	1	Steel-wheel	V 160	2	Nut HU 16
S 644	2	Ring nilos 30205 AV	V 105	2	Nut Nylstop 10
S 643	2	Ring nilos 30204 AV	V 110	2	screw H 10 x 45
S 642	2	Ballbearing 30205	V 882	3	inside screw 8 x 20
S 31	2	Ballbearing 30204	V 392	2	pin 3
S 18	2	Nut HK 18	S 673	1	Pin V 6
S 659	2	plate	S 654	2	cupel
S 653	2	protection tube f. sh.abs.	S 652	1	axle
S 651	2	snock absorber	S 648	1	hub for the steel wheel



S 601  
Case for pivot of the steering

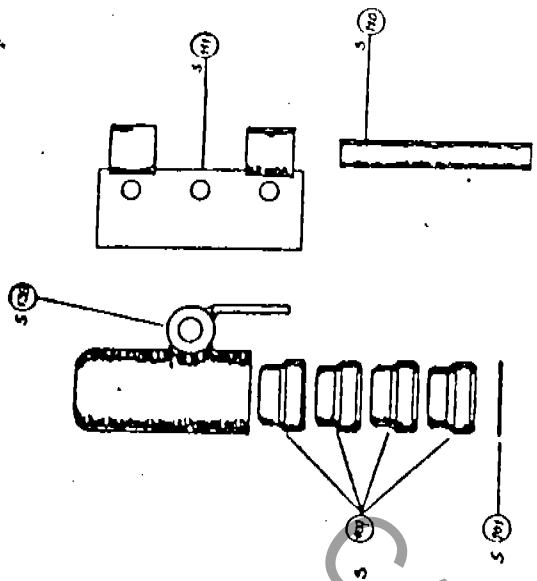
Ref.	Description	QTY
V 100	Nut HU 10	4
V 108	Washer AZ 10	4
V 147	Washer MU 14	2
S 178	Washer 10	2
S 179	Washer 12	1
S 195	ring 12	1
S 196	ring 14	2
S 202	clip No. 4	3
V 531	screw laiton TR 5 x 10	1
S 562	steel ball Ø 13	58
S 566	inside case	1
S 567	inside screw Ø 12 x 65	1
S 569	ball-race bottom	1
S 570	ball-race top	1
S 572	screw H 8 x 15	4
S 573	joint 5 x 5 x 1000	1
S 574	bolt fixation motor Ø 10	4
S 577	carbon support pivot	1
V 574	Washer AZ 5	1
S 578	spiral screw	3
S 579	connection wire U 500 SV 2,5 <sup>2</sup>	0,5 m
S 580	Thimble 6	1
S 581	Thimble 5	1
S 585	Ballbearing for pivot 30207	1
S 586	case outside	1
S 587	washer	1
S 588	washer SKF MB 7	1
S 589	castle nut SKF KM 7	1
S 606	Nut nylstop 12	1
S 611	current arrival case	1
S 615	Nut HU 6 laiton	1
S 617	break ring cap	1
S 620	carbon round 10	1
V 674	washer AZ 6	1
S 675	screw H 14 x 65	2
V 874	washer AZ 8	7
V 885	inside screw 8 x 30	3
S 571	crown for the steering	1
S 612	Nut nylstop 14	2



MOTOR COMPLETE S-551

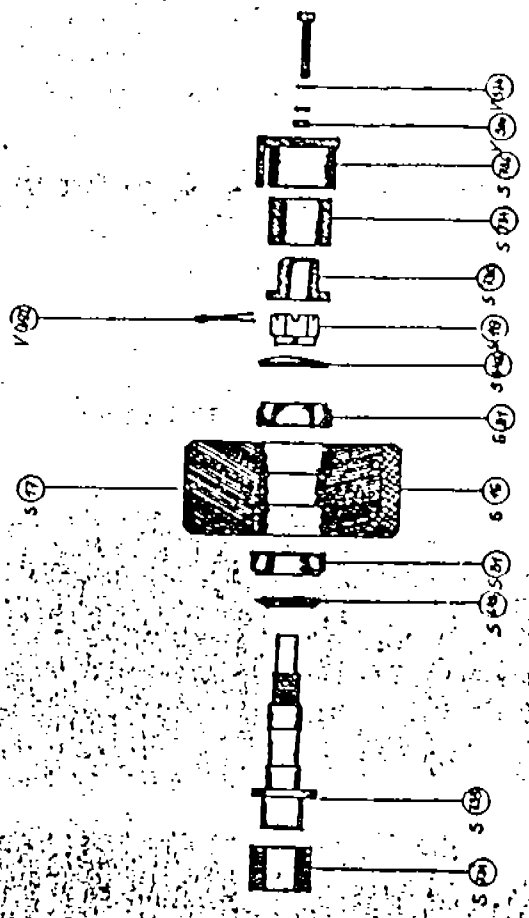
Motor complete

Ref.	Qty	Part - Description	Ref.	Qty	Part - Description	Ref.	Qty	Part - Description
S519	1	receiver plate (waked)	S521	6	inside screw 5x10	V574	6	washer AZ5
V674	6	washer AZ 6	S520	1	paper joint	V872	1	washer 8
S517	8	screw TH 6x35	V811	1	screw (fixation 8x20)	S660	1	receiver plate
S516	1	joint paulstra	S564	3	bolt	S616	1	arrival current motor
S515	2	joint	S560	3	inside screw	S605	1	motor plate complete
S514	1	watertight plate	S558	1	pin for motor plate	S604	1	double clutch
S513	1	crown for the reducer	S558	1	joint paulstra	S603	1	support differential with axle
S512	1	plate for reducer	S584	1	big ring for the rubber wheel	S602	1	reducer
S511	1	circclip 12 E	S553	1	small ring for the rubber wheel	E556	1	wire night temp. 2°
S510	1	ball bearing 4201	S552	1	rubber wheel	S551	1	motor
S508	2	circclip 32 I	V800	6	Nut Hx8	S518	1	support differential complete
S508	1	circclip 15 E	S550	1	carbon support	C135	6	grease
S507	1	ball bearing differential 6002	S519	1	cover	V874	1	washer AZ8
S506	1	circclip 20 E	S518	1	cap	S836	1	plate inside for the motor
S505	1	ball bearing 98204	S517	1	isolant washer	S835	2	motor level
S504	1	planet gear	S514	1	plate motor side	S799	1	joint
S503	1	differential	S513	3	bolt motor side			
S502	1	axle for differential	S511	1	circclip 47 I			
S501	1	support for differential	S510	1	induced			
S539	1	ball bearing 6204	S641	1	induced			
S538	1	ball bearing 6203	V622	12	screw F190 6x20			
V400	1	Nut HM Ø4	S638	6	coil induced			
V412	2	screw H 4x10	S635	6	pole induced			
S534	2	motor carbon 7x12	S628	3	screw TCB 6x15			
S661	2	cap for the carbon	S627	6	spring			
S533	2	support for motor carbon	S626	6	cupel			
S531	1	motor - body	S625	1	plate for the clutch			
S530	1	cap	S624	1	plate for the motor			
S529	8	inside screw 6x15	S623	1	cap for greasing			
S528	1	paper joint	S621	1	washer			
S527	1	circclip 18 E	S620	1	carbon arrival current			
S526	1	grooved cover	S619	1	contact motor			
S525	1	circclip 30 E	S618	1	support arrival current			
S524	2	ball bearing	S615	1	Nut HM lation Ø6			
S523	2	joint paulstra	S598	1	circclip 40 I			



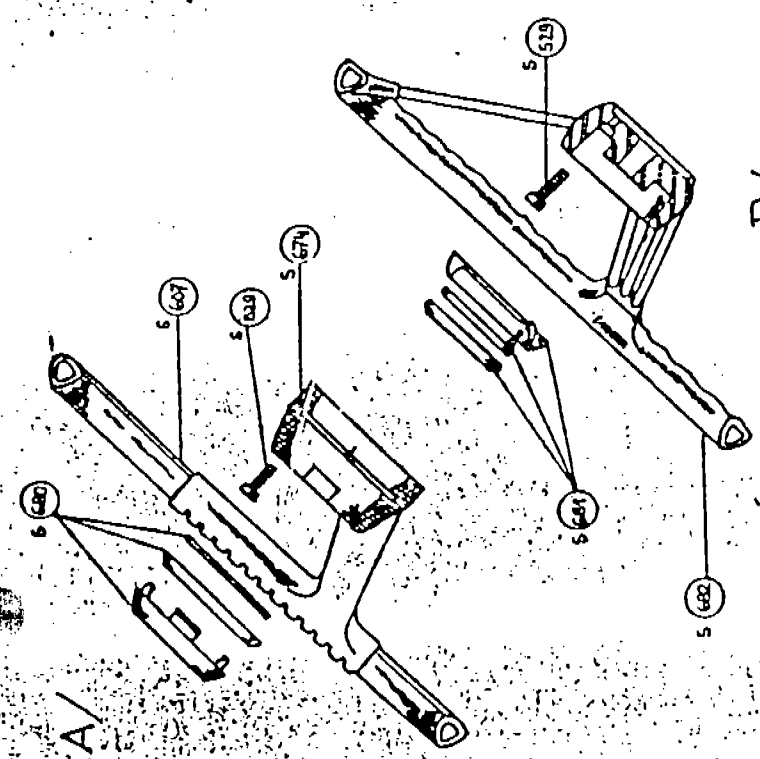
S-132 Support for the wire-pole

Ref.	Q'ty	Part-Description
S141	1	plate
S140	1	axle for the hinge
S131	1	body
S107	4	ring
S101	1	Circlips 44I



S 019 complete wheel -old model

Ref.	Q'ty	Part-Description
S 17	1	steel wheel
S 18	1	inside screw
V392	1	pin V 3
S15	1	rubber wheel (repaired)
S 31	2	ball bearing 30.204
S643	2	nylon ring 30-204AY
V574	2	washer AZS
S733	1	fuse
S734	2	silent-block
S735	1	ring
S736	1	square support
V500	1	Nut HU5
S16	1	rubber wheel

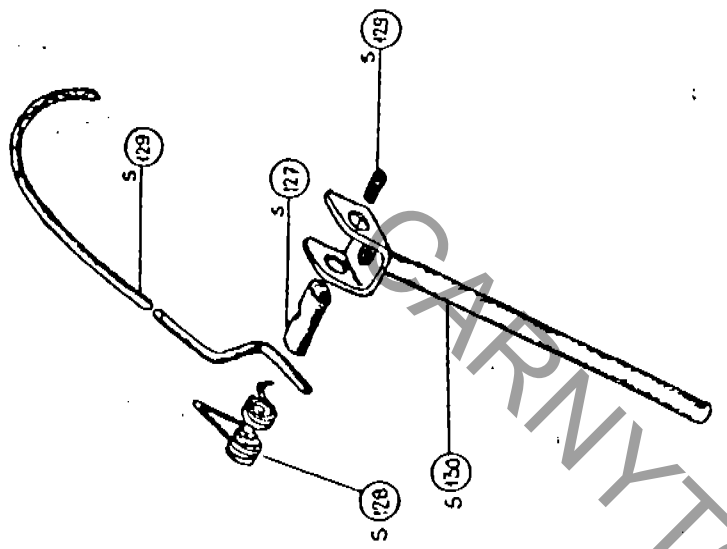


S 607 steering-wheel

Ref.	Qty	Part.- Description
S607	1	steering wheel (square)
S680	1	cap complete
S529	3	inside screw 6x25
V600	3	Nut HUG
V674	3	washer AZ6

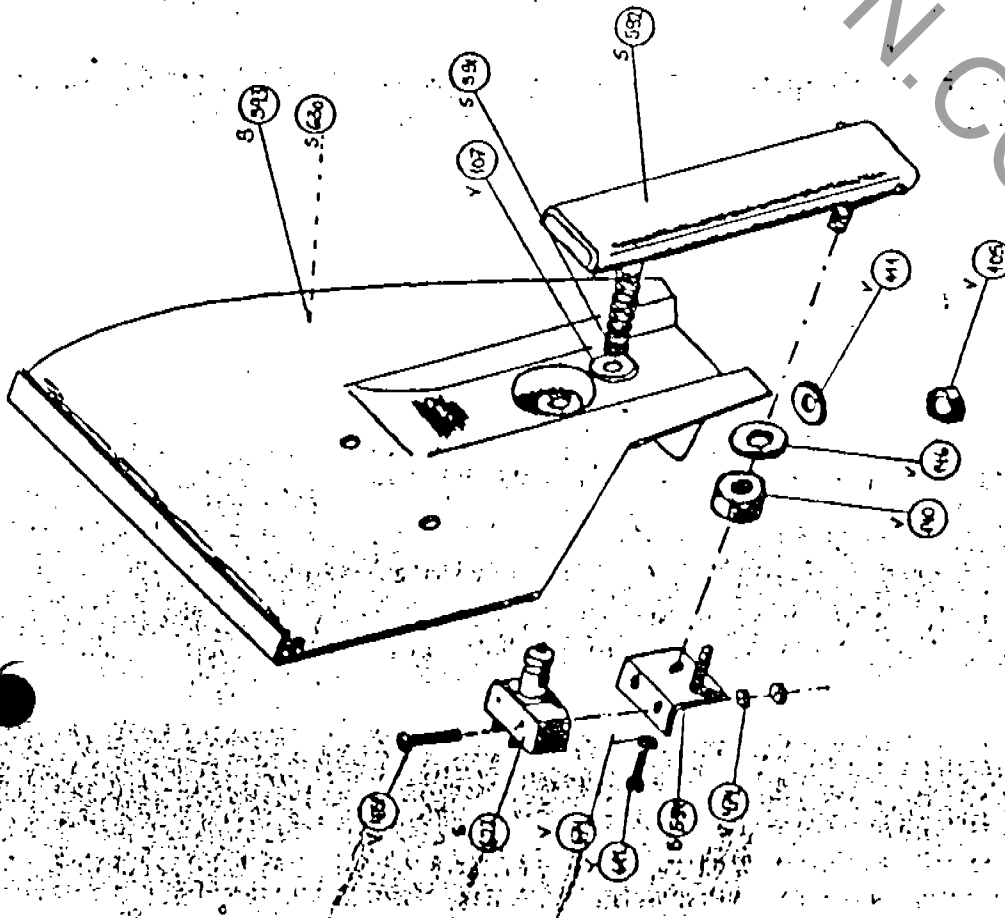
S 682 steering-wheel

Ref.	Qty	Part.- Description
S682	1	steering wheel 3 arms
S681	1	cap complete
S529	3	inside screw 6x25
V600	3	Nut HUG
V674	3	Washer AZ6



S 131 trolley

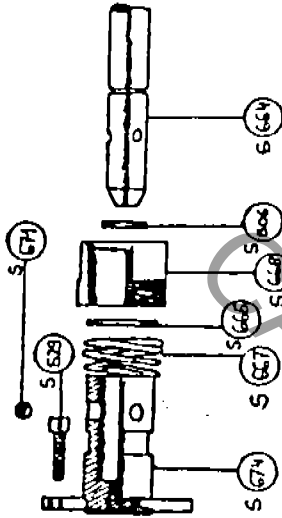
Ref.	Qty	Part.- Description
S125	1	shoe
S128	1	spring support
S130	1	support
S127	1	Axle
S129	1	screw



- S 592 - pedal
- S 593 - pedal plate right side
- S 630 - pedal plate left side

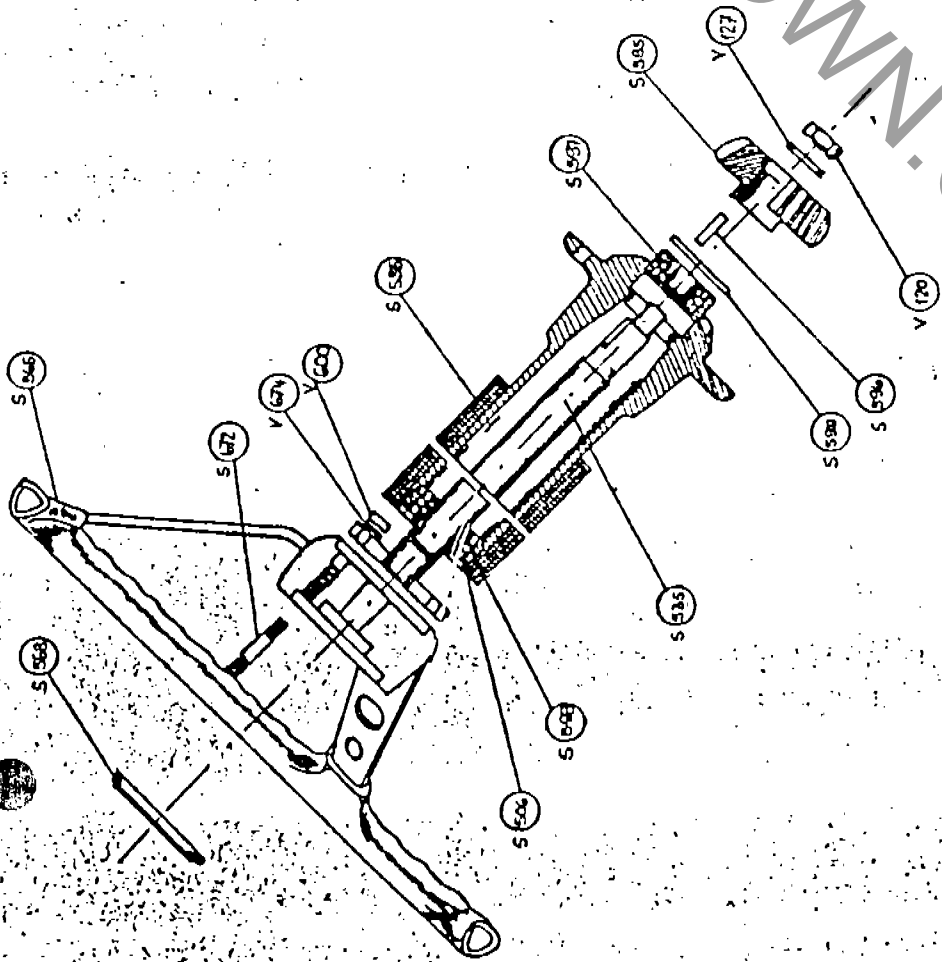
Ref.	Qty.	Part - Description
Y105	1	Nut nyl stop 10
Y107	1	Washer MU 10
V111	1	Washer 10
V140	1	Nut HU 14
Y146	1	Washer MU 14
V451	2	Bolt 4x30
V474	2	Washer AZ4
S 592	1	Pedale

Steering detachable



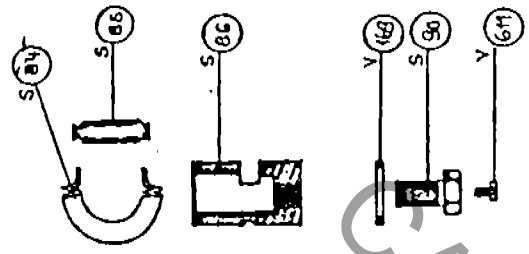
Ref.	Qty.	Part - Description
S 506	1	circclip 20E
S 664	1	steering - shaft
S 665	1	clip
S 667	1	spring
S 668	1	ring
S 669	1	steering complete
S 671	3	steel ball Ø 9
S 674	1	slide support
S 529	3	inside screw 6x25 BTR

Ref.	Qty.	Part - Description
S 591	1	Spring
S 593	1	pedal plate right side
S 594	1	support for micro - switch
V 611	1	Screw H 6 x 15
S 622	1	micro - switch
S 630	1	pedale plate left side
V 674	1	washer AZ 6



S 600 steering complete

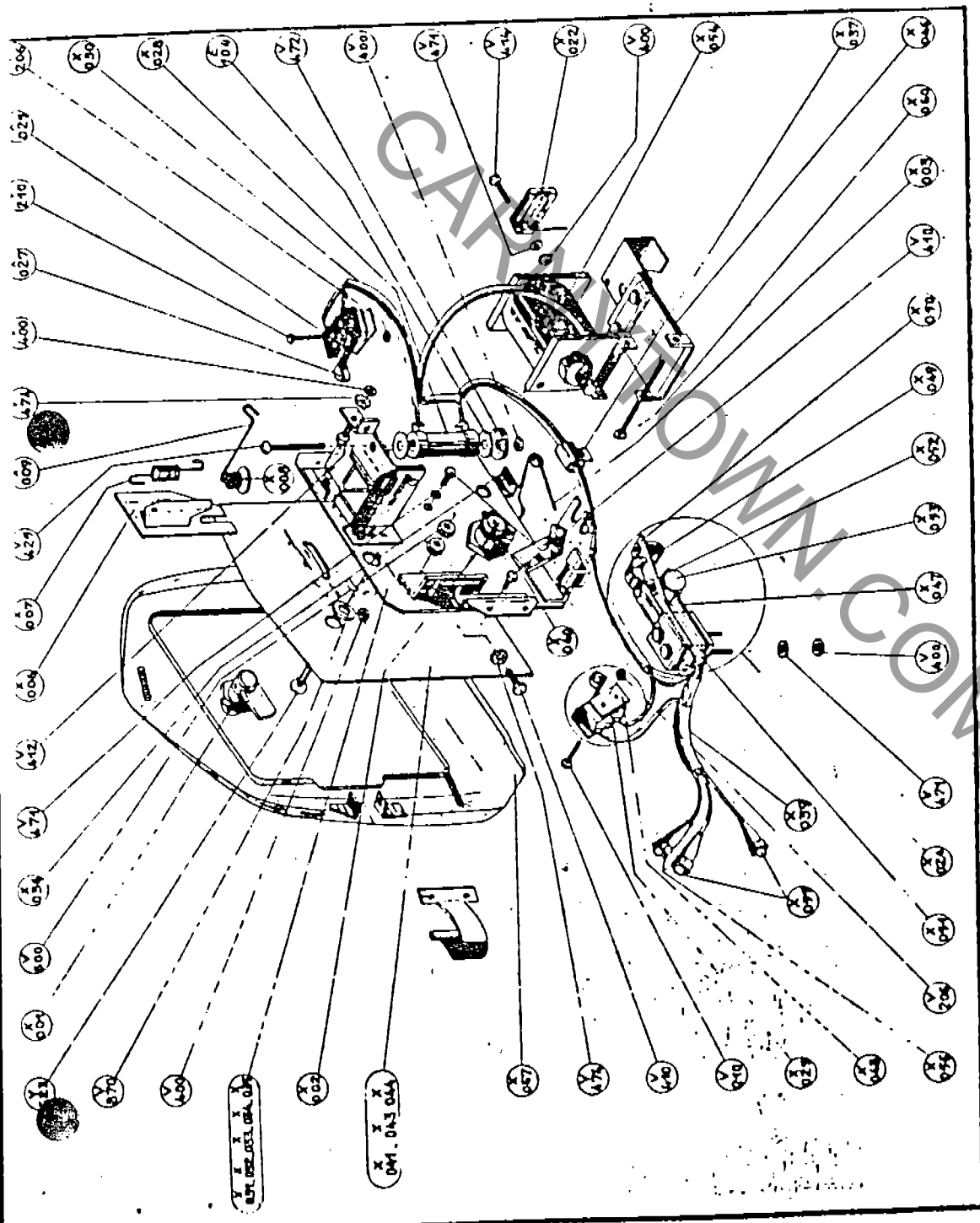
Ref.	Qty.	Part. - Description	Ref.	Qty.	Part. - Description
V600	3	Nut HU6	V127	1	Washer AZ12.
S506	1	Circlips 20E	V120	1	Nut HU12
V674	3	Washer AZ6	S536	1	protection and collar
S672	3	bolt Ø 61g. 45	S535	1	shaft and washer
S595	1	pinion 17 teeth	S599	1	ball bearing 6204E
S596	1	pin	S563	1	protection
S597	1	ball-bearing 6203	S565	1	steering wheel
S598	1	Circlips 40 I	S568	1	cap



S133 collar for wire-pole

Ref.	Qty.	Part. - Description
S84	1	spring
S85	1	axle for spring
S86	1	collar
V169	1	washer
S90	1	screw Ø16
V611	1	screw H 6x16





Automatic slot



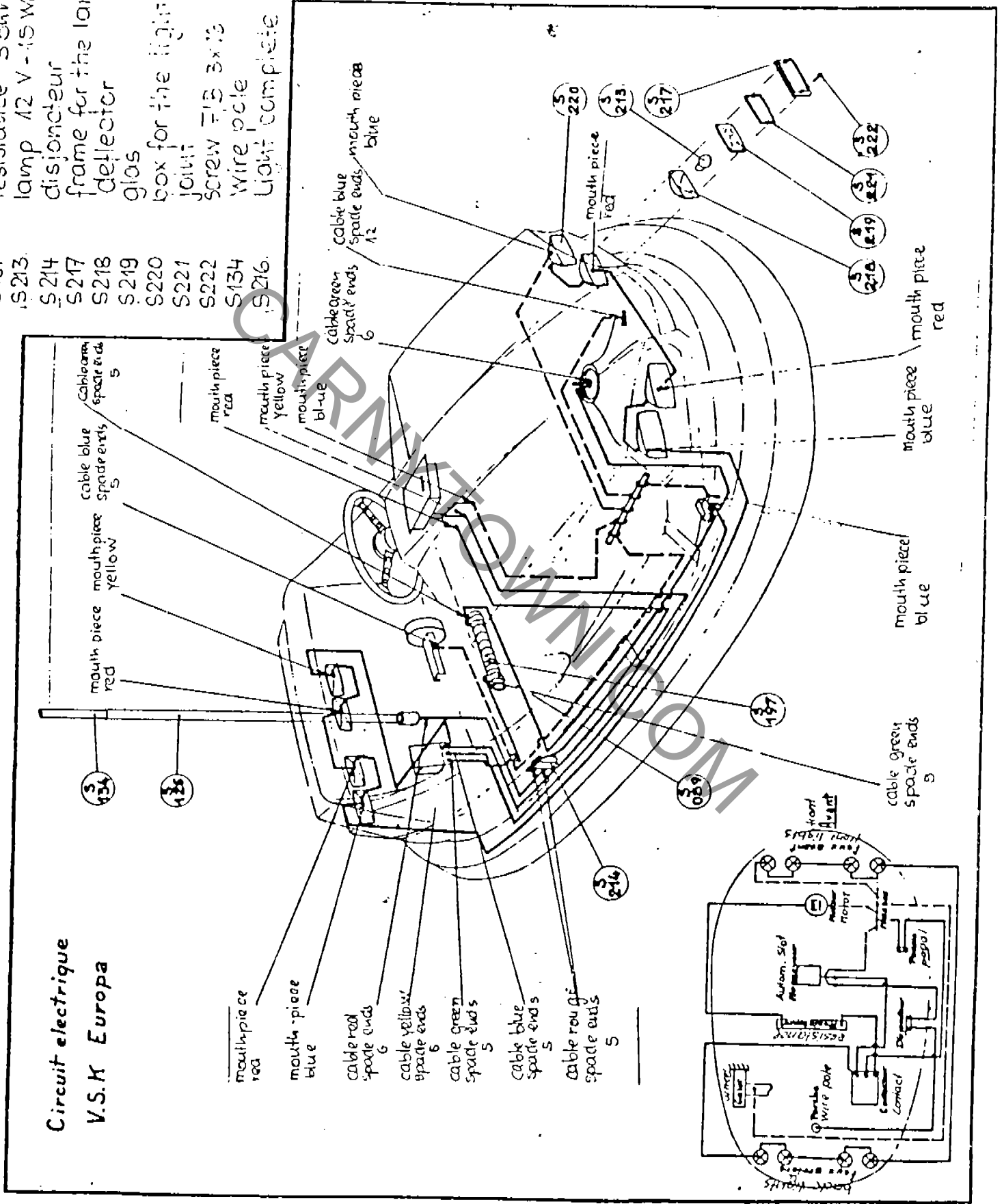
# Automatic slot

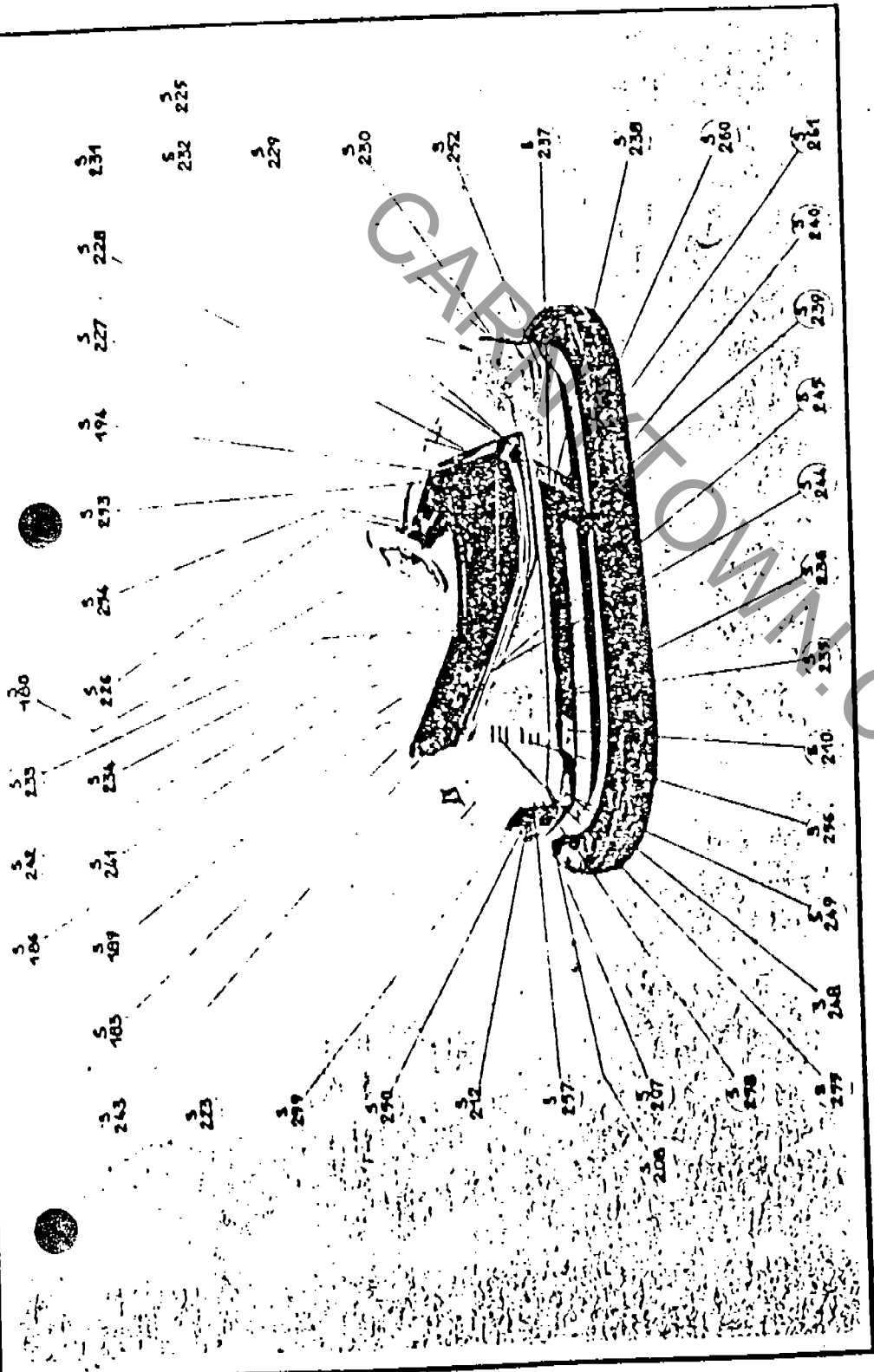
Ref.	Qty	Part - Description	Ref.	Qty	Part - Description
X001	1	lock with key	X052	1	central plate
X002	1	starting lock with key	X053	1	magnet round
X003	1	spring	X054	1	coil contact 500 Ω
X006	1	shield	X055	3	mouth piece
X007	1	coil spring	X056	3	rope thimble
X008	1	contact latton	X060	1	break for axle
X009	1	spring for contact	X067	1	chrome plate (baquetin)
X022	1	plate	V206	4	treat nut Hx2
X024	1	micro-switch ASP 2662	V210	4	screw H 2x12
X025	2	micro-switch H 576 5T	V400	5	Nut Hx4
X027	2	Lever L10/6H	V410	6	screw H 4x7
X028	1	resistance 500 Ω	V442	1	screw H 4x10
X030	1	cabling inside	V414	1	screw H 4x16
X031	1	frame No 1	V425	1	screw R 4 x 60
X032	1	frame No 2	V471	4	washer Mx4
X033	1	frame No 3	V472	1	washer 4x18
X034	1	frame No 4	V474	4	washer AZ 4
X035	1	frame No 5	V600	4	Nut Hx6
X037	1	cleat	V870	1	washer Mx8
X039	1	strand connection	E104	2	washer isolant 4x18
X040	1	circclip for lock	V623	2	screw F/B 6x16
X041	1	plate chrome No 1 and 2	X036	1	square
X043	1	plate chrome No 3	X046	1	contact plate
X044	1	plate chrome No 4 and 5	X065	1	contact complete
X047	1	magnet support 3398	X101	1	Automatic slot No 1
X048	2	isolant plate	X102	1	No 2
X049	1	spring (rolling)	X103	1	No 3
X050	1	command plate	X104	1	No 4
X051	1	contact arm	X105	1	No 5

Circuit électrique  
V.S.K. Europa

- protection (vinyle)
- resistance 3 chv
- lamp 12 V - 15 watt
- disjoncteur
- frame for the lamp
- deflector
- glas
- box for the light
- joint
- screw F15 3x15
- wire pole
- Light complete

- S126
- S197
- S213
- S214
- S217
- S218
- S219
- S220
- S221
- S222
- S134
- S216





Chrome Europa

Ref. No.	Part - Description	Ref. No.	Rate	Part - Description
S225	1 plate for chips box	S249	1	drag - back left side
S223	1 body	S248	1	drag - back right side
S212	1 plexi glas - back light	S245	1	chrome for the left side part
S210	2 name REVERCHON	S244	1	chrome for the right side part
S208	1 inner tube	S243	1	seat part - back
S207	1 tire	S242	1	seat part - left side
S104	1 hood for the board	S241	1	seat part - right side
S189	1 side part - left	S240	1	chrome stripes - left side
S186	1 side part - right	S239	1	chrome stripes - right side
S183	1 back part seat	S238	1	simili part left side
S180	1 seat	S237	1	simili part right side
S236	1 side part simili - left	S261	1	chrome part left side
S236	1 side part simili - right	S260	1	chrome part right side
S234	1 entrance drag inside left	S259	1	chrome grate back lights
S233	1 entrance drag inside right	S258	1	support for the grate left side
S232	1 entrance drag outside left	S257	1	support for the grate right side
S231	1 entrance drag outside right	S256	6	inox rush GH41
S230	1 chrome for lamp left side	S255	6	inox rush GH58
S229	1 chrome for lamp right side	S254	6	inox rush GH40
S228	1 chrome for board left side	S253	6	inox rush GH58
S227	1 chrome for board right side	S252	6	inox rush GH68
S226	1 chrome for the middle part board	S250	1	shock absorber back

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