# SERVICE BULLETIN

June 20, 1996 Batry-01

# DANGER OF EXPLODING BATTERY and/or GASES
## Battery Safety Precautions

### MANDATORY OPERATING SAFETY PROCEDURES

BATTERIES EXPEL EXPLOSIVE GASES. KEEP SPARKS, FLAMES, BURNING CIGARETTES, OR OTHER IGNITION SOURCES AWAY AT ALL TIMES. ALWAYS WEAR A FACE SHIELD WHEN WORKING NEAR BATTERIES.

Hydrogen and oxygen gases are produced during normal battery operation. These gases escape through the battery vents and may form an explosive atmosphere around the battery if ventilation is poor. Explosive gases may continue to be present in and around the battery for several hours after it has been charged. Despite the most modern vent cap designs, an external spark may ignite the gases within the battery resulting in an explosion and possibly shattering the battery. Anyone in the vicinity of the battery when it explodes could receive injuries, including eye injury from flying pieces of the case or cover or acid thrown from battery. Never lean over it during charging, testing operations. Do not break "live" circuits at the terminals of batteries because a spark usually occurs at the point where a "live" circuit is broken. Make certain the charger cable clamps or booster lead are clean and making good connections. A poor connection can cause an electrical arc which could ignite the gas mixture and explode the battery.

### CHARGING A BATTERY

**The room or compartment in which the battery is being charged should be well ventilated.** Do not place a battery on charge unless you are wearing a face shield. It must be assumed the **explosive mixtures of hydrogen gas are present within the battery cells at all times.** Even a battery standing idle generates small quantities of hydrogen due the the self-discharge action. This gas collects in the cells and can be exploded by a torch, match flame, lighted cigarette, sparks from loose connections or metal tools making contact between the terminals or the ungrounded terminal and adjacent metal parts which are grounded.

**Always turn the charger "off" before attaching or removing a charger lead from the battery.**

**If you have any questions please call service at**
**(800) 854-3140 or (503) 304-8899.**

# SERVICE BULLETIN

July 02, 1997 EBB-01

## Electric Bumper Boat

### AFFECTED MODELS

We have experienced reports from the field concerning Electric Bumper Boat motors shipped between 5/15/97 and 6/15/97.

### SYMPTOM

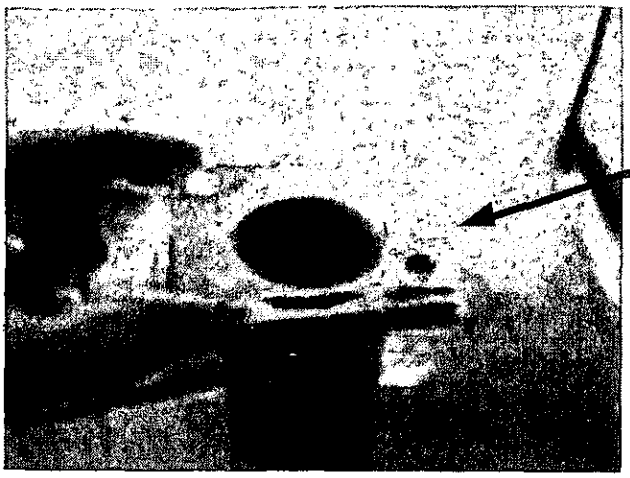
Drive shaft length being slightly long causing an undo preload on the bevel gears of the gear case. This preload causes pre-mature failure of the gears and is evidenced by a grinding noise inside the gear case.

### WHAT WE ARE DOING ABOUT IT

We are sending (overnight delivery) a spacer shims, gaskets and longer bolts to be installed between drive shaft housing and gear case. This will relieve the preload and correct the problem area.

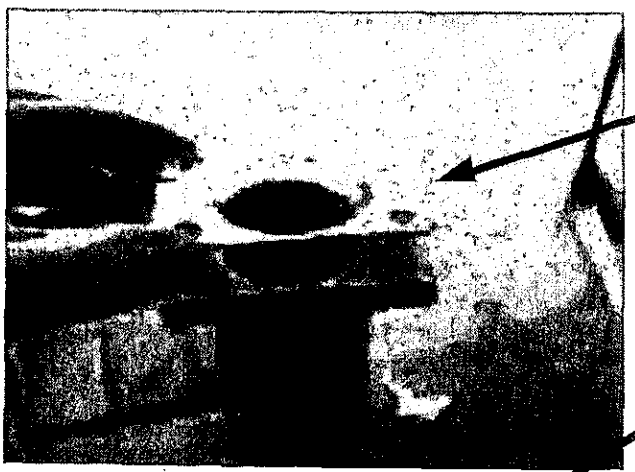
We apologize for the inconvenience and have credited your account in the amount of $50.00 per unit to help offset this.

**If you have any questions please call service at**
**(800) 854-3140 or (503) 304-8899**

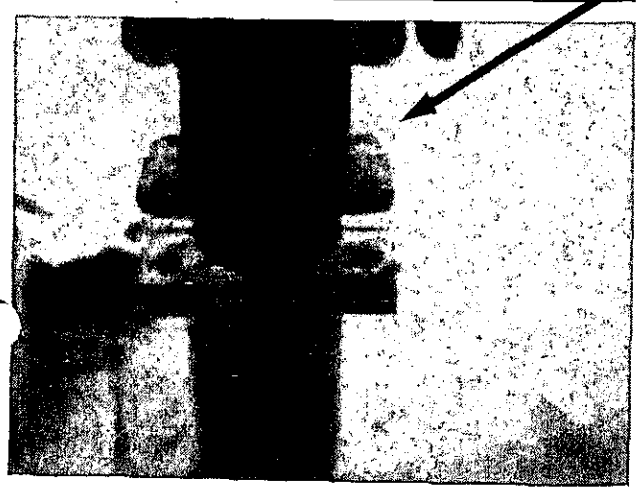


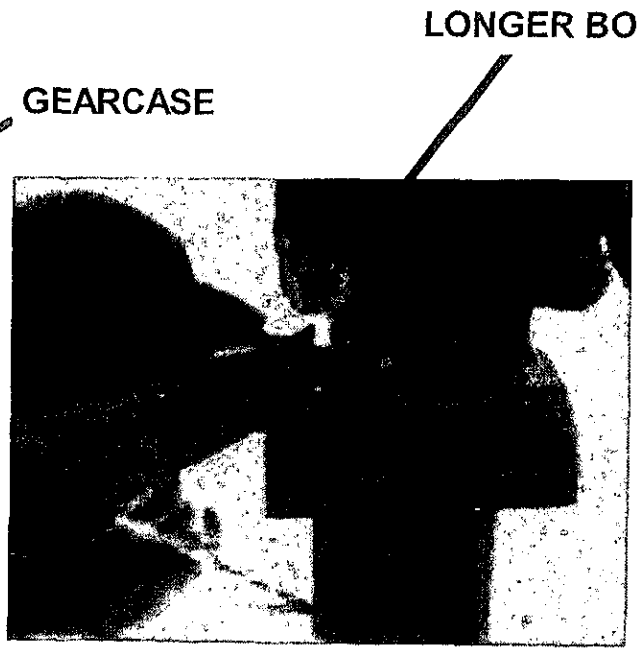

- Remove gearcase from center shaft.
- Install first gasket as shown left.


- Install spacer.




- Install second gasket.
- Reinstall gearcase using longer bolts supplied in kit.



# SERVICE BULLETIN

October 2, 1998

## ELECTRIC BUMPER BOAT COTTER PIN & GEAR HOUSING GUARD UPDATE

### MODELS INVOLVED

All Electric Bumper Boats built before October 1998.

### SYMPTOM

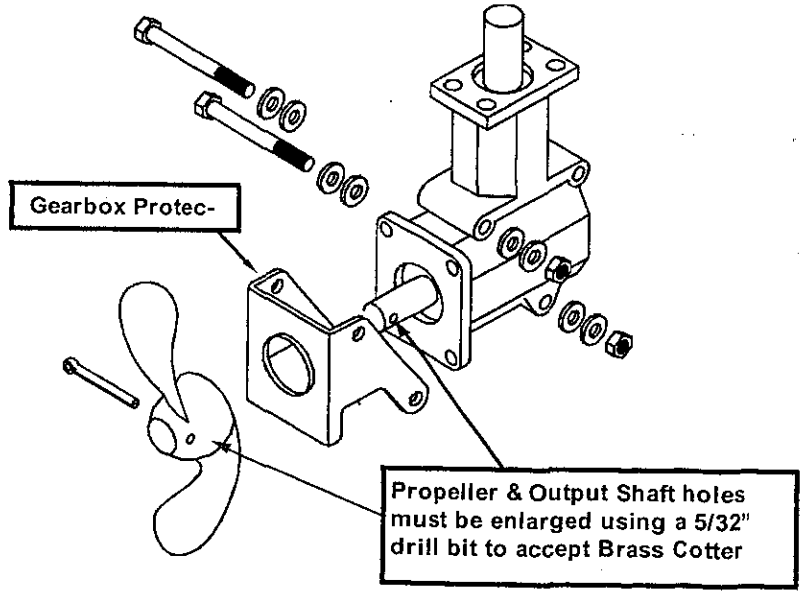
#1 Cotter Pin: Original Stainless Steel Cotter Pin shears causing the drive shaft to spin freely inside propeller.

#2 Gear Housing Guard: Adding this Housing Guard (Part#24550) will help protect Gear Housing in an event your daily inspections fail to detect Cotter Pin failure.

### CORRECTIVE ACTION

Install Update immediately.

| Part# | Qty | Description | Price |
|---|---|---|---|
| 24550 | 1 | Plate, EBB Gearbox Protector | $9.75 |
| 60060 | 1 | Cotter Pin, Brass EBB Prop -5/32holes ize | $1.00 |




**If you any questions please give us a call at 1-800-854-3140 or 1-503-304-8899.**

J&J Amusements, Inc.
4897 Indian School Rd NE
Salem, OR. 97305 USA
E-mail: parts@jjamusements.com
503-304-8899
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FAX: 503-304-1899

| | | |
|---|---|---|
| | Issuing Entity:<br>J&J Amusements, Inc.<br>4897 Indian School Road NE Suite 150<br>Salem, Oregon 97305-1126<br>United States<br>Phone: 800-854-3140 Fax: 503-304-1899 | Bulletin No: GB0002<br>Release Date: 4/14/1999<br>Effective Date:<br>Supercedes:<br>Completion Date:<br><br>Page: 1 of 2 |

# BULLETIN

| | |
|---|---|
| Ride Manufacturer: J&J Amusements, | Affected production dates: 1999 |
| Ride Name: Electric Bumper Boat | Affected Serial Numbers: N/A |
| Model Number: All | |

Abstract Of Issue:

**J&J Electric Bumper Boats that use the Trojan T105 or Exide GC-5 Screw type terminal battery.**

Reason For Release:

**This season, we had reports that a few electric bumper boats lids don't close properly. This is caused by the battery stud interfering with the lid.**

Action To Be Taken:

**Use Battery Post instead of the Battery Screw Stud.**

Detail of Issue:

**See detail of update on Service Bulletin #BE0002S**

**Thank you for your continued support. If you have any questions, please call.**

# SERVICE BULLETIN

April 14, 1999 BE0002S

## Battery Terminal Update

### MODELS INVOLVED

J&J Electric Bumper Boats that use the Trojan T105 or Exide GC-5 Screw type terminal battery.

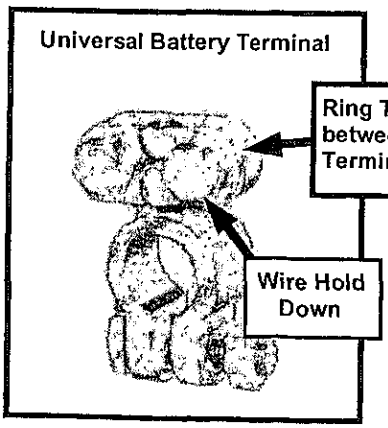
### SYMPTOM

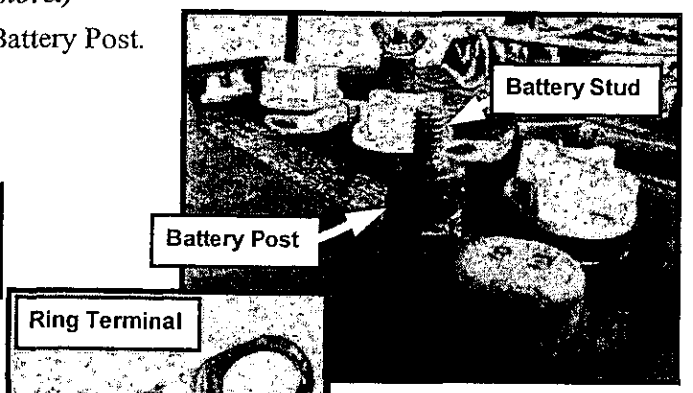
This season, we had reports that a few electric bumper boats lids don't close properly. This is caused by the battery stud interfering with the lid.

### CORRECTIVE ACTION


**Use Battery Post instead of the Battery Screw Stud.**

1) Locate the battery stud that's interfering with the lid. ***Note: Its usually studs on the front two batteries***
2) Using a Bolt Cutter, remove the threaded portion of the battery stud.
   ***Warning: Be extra careful when cutting the battery stud, electrical shock or burn could occur. If needed, remove battery from boat.***
3) File down any rough edges.
4) Attached necessary wires via the Ring Terminal to one of the Wire Hold Downs on the Universal Battery Terminal.
   ***(Note: Available from any local battery store.)***
5) Attached Universal Battery Terminal to Battery Post.





**If you any questions please give us a call at 1-800-854-3140 or 1-503-304-8899.**

J&J Amusements, Inc.

# SERVICE BULLETIN

June 14, 2000

## "OOP'S I dropped my Electric Boat motor in the pond, what do I do now?!?"

That may sound funny until the day one of the attendants says that to you, so what do you do now?

Don't panic; it can be repaired and here's where you start:
Begin by removing the engine cover and rinsing off the motor with clean tap water to rinse off any chemicals from the pond. Then remove the brush cover and lightly rinse out the inside of the motor as well. Carefully tip the entire motor upside-down to drain out any water that may have gotten into the lower housing, this should take two people to do it safely. Inspect the complete motor assembly for damage due to the drop. Pay close attention to the handle bars and gear case and squirt pump for cracks or damage. Blow dry completely with compressed air. Then let air dry. While it is drying remove the micro switches they need to be closely inspected make a note of the wires and where they are located on the switch. Dry off the micro switches and check them to see if they are operating correctly by first listening for the clicking sound when depressing the switch. If they are clicking then by using a multi meter test the switch to see if it is working, set the multi meter to the continuity test, place one lead on the center position and one at the back position labeled common. With the arm up the meter shouldn't move then depress the arm of the switch there should be no resistance with a analog meter the needle will move to the right with a digital meter it will drop to .02 or less. Then check the common in the back to the front position, with the switch not depressed there should be no resistance and depressed it should not read at all. If the micro switch still works on both tests then is ok to re-install after spraying it with Corrosion Block** (this is a excellent water displacer and helps prevent rust and corrosion) if it does not pass both tests it must be replaced. After it has **completely dried** and any needed parts have been replaced completely spray entire motor inside and out, the brush assembly, solenoid and all wire ends with corrosion block even spray the push button assembly to lubricate it as well. Reassemble the brushes and spray the brush cover with corrosion block. Check the SB-50 plug that connects the batteries to the motor for damage, clean contacts and spray with Corrosion Block**. Lightly cover the contacts with a dielectric grease to also prevent corrosion. Pump 1 or 2 pumps of water proof bearing grease in the gear case to purge out any water and now your ready to test the motor back in a boat and be careful don't drop it putting it back in.

**Corrosion block part number 99101 12oz Aerosol $11.95 each
99101S 4oz Pump $7.60 each

**If you have any questions please call service at (800) 854-3140 or (503) 304-8899.**

| | | |
|---|---|---|
| | Issuing Entity:<br>J&J Amusements<br>4897 Indian School Road NE Suite 150<br>Salem, Oregon 97305-1126<br>United States<br>Phone: 800-854-3140 Fax: 503-304-1899 | Bulletin No: EBB0001<br>Release Date: 8/3/2000<br>Effective Date: 8/3/2000<br>Supercedes:<br>Completion Date:<br><br>Page: 1 of |

# SAFETY ALERT

| | |
|---|---|
| Ride Manufacturer: J&J Amusements, | Affected production dates: All |
| Ride Name: Electric Bumper Boats | Affected Serial Numbers: All |
| Model Number: All | |

Abstract Of Issue: Problem: Intermittent motor operating and/or high heat and melting of connectors or main harness. In extreme cases can cause fire and burning of wire insulation.
Cause: Movement of main wire harness will eventually cause wire breakage inside the insulation jacket. Partial separation of wire inside the harness may cause excessive heat due to resistance without causing fuse to blow.

Reason For Release: Reported incident.

Action To Be Taken: Checks: Daily manual check - tie boat off securely. Point motor toward dock and hold down power "on" button (tape can be used to hold button down temporarily for test). Carefully feel wire harness from motor to hull checking for hot spots that would indicate an area of high resistance. With motor still running wiggle and bend the harness paying special attention to areas around the connector clamp and through hull strain relief. Intermittent motor operation at any time indicates a connection or wire problem.

*Corrective Action:* Repair or replace wire or connectors as needed. Use corrosion block grease (part #3-60-0002) or similar dielectric grease on the backside of SB50 (Grey) connectors as well as connections themselves to help stop corrosion. Wire terminal ends for the SB50 connectors can be replaced (part #01413). These can be soldered or crimped on to the 10-gauge wire. A good method here is to have some spare harness so they can be replaced, then repaired for reuse.

Always advise your pond attendants to remove boat from service if the motor exhibits intermittent operation during a ride or wire harness/connector gives any indication of getting hot.

Detail of Issue:

| | | |
|---|---|---|
| | Issuing Entity:<br>J&J Amusements<br>4897 Indian School Road NE Suite 150<br>Salem, Oregon 97305-1126<br>United States<br>Phone: 800-854-3140 Fax: 503-304-1899 | Bulletin No: EBB0002<br>Release Date: 8/3/2000<br>Effective Date: 8/3/2000<br>Supercedes:<br>Completion Date:<br><br>Page: 1 of |

# SAFETY ALERT

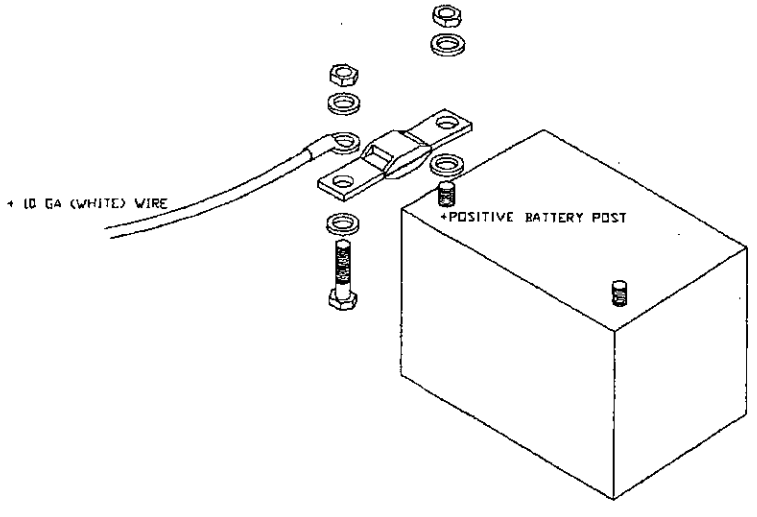
| | |
|---|---|
| Ride Manufacturer: J&J Amusements, | Affected production dates: All |
| Ride Name: Electric Bumper Boats | Affected Serial Numbers: All |
| Model Number: All | |

Abstract Of Issue: In line 100-amp fuse to disconnect battery power in event of a shorted motor power circuit.

Reason For Release: Reported incident. Short circuit of white and black wires downstream from batteries may cause melting and/or burning of insulation.

Action To Be Taken: Install in line 100-amp fuse using fuse and stainless steel hardware provided by J&J (kit part #2-70-0001). Remove white 10ga wire from positive battery terminal (goes to motor), install fuse following drawing provided in Detail section of this bulletin. Reattach white 10ga wire to fuse using stainless steel 5/16 bolt nut and washers provided. DO NOT BEND OR APPLY UNDO PRESSURE TO THE FUSE. Using a voltmeter check for power through the fuse before putting boat back in service. Treat all connections and terminals with Corrosion Block Spray part # 99101 or equivalent.

Always advise your pond attendants to remove boat from service if the motor exhibits intermittent operation during a ride or wire harness/connector gives any indication of getting hot.

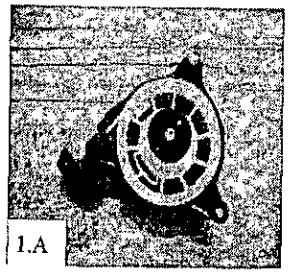


# SERVICE BULLETIN

*October, 17 2000*

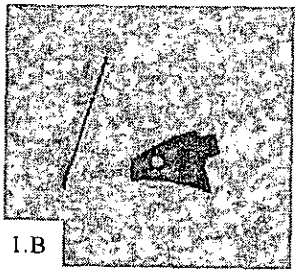
BF2D 001

## BF2D Starter Brace Installation Procedures

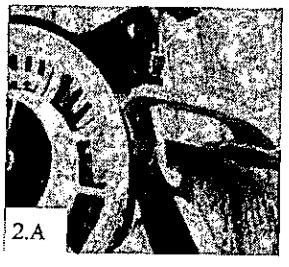


1.A

1. Remove starter recoil assembly from motor. Each starter recoil assembly will require 1 starter recoil assembly brace kit P/N 2-60-0024 as seen in 1.B

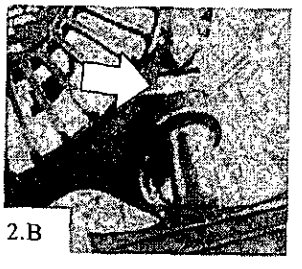


1.B



2.A

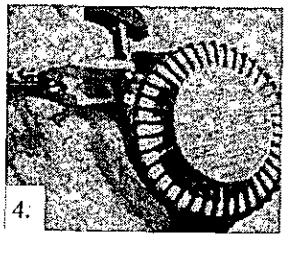
2. Install brace as shown, make sure rope ferrule is properly installed, hold brace in place with vise-grips or similar clamp.
A screw driver can be used to hold starter rope out of the way.
Turn starter recoil assembly over to check the brace be sure it is covering the rope ferrule.



2.B

3.

3. Using a 1/8 drill bit, drill a hole in the starter recoil assembly through the hole in the brace.



4.

4. Install the 1/8 pop rivet, provided with brace, from the outside of the starter through the hole drilled in the last step. Remove vise-grip or clamp and re-install the starter recoil assembly.

**If you have any questions please call service at (800) 854-3140 or (503) 304-8899.**

J&J Amusements, Inc.

# J&J Service Instructions

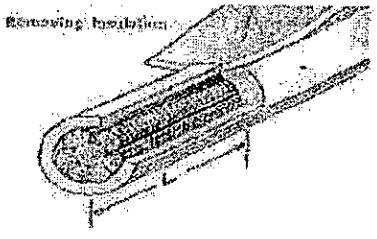


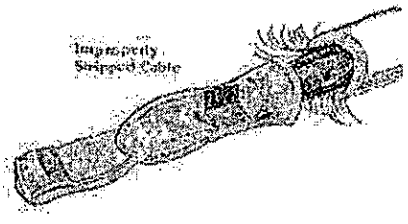
## SB-50 Plug Installation Procedures

Weather you are replacing the entire plug or just putting on new Terminal connections following these few simple steps will ensure durability and life of the plug.

1. Stripping Cable Insulation:

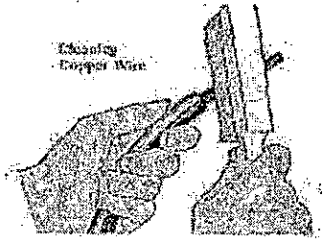
*Problems with cable harness* and connector systems often begin with improper or accidental cutting of wire strands when stripping cable insulation. Each strand is important, and all of them must be included in the contact barrel to avoid unnecessary hot spots during later operation. When removing insulation ,position a sharp blade at a right angle and apply steady, controlled pressure, cutting only the cable insulation, not the copper wire. Strip cable to the right length for the contact being crimped.





2. Cleaning Wire

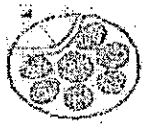
Aged and badly tarnished wire should be thoroughly *scraped with a stiff wire brush that penetrates the entire* bundle and cleans every strand. The wires are ready for insertion into the contact barrel when they are bur*nished to their* original bright copper finish. Contact barrels are lined with silver plating to assure consistently high conductivity, which will be reduced if the barrel is crimped around aged or tarnished wire.



3. Crimping

The best preparation will be defeated if inadequate tools or improper crimping procedures are employed. Never use a hammer and chisel or the "squeeze-in-a-vise" method. They won't do the job, and will lead directly to substantial reduction in connector life. Use a crimping tool. It effectively compresses the contact barrel tightly around the cable strands so that all of them are pressed tightly against each other and the inside wall of the contact barrel. Doing this requires that the stripped cable be inserted all the way into the barrel of the contact, and that the contact point is centered in the crimping tool. When the crimp has been completed, check the appearance of the contact. A *properly crimped contact barrel is compacted tightly* with the outer strands. The outer strands on an improperly crimped barrel will be loose and will not have adequate clamping force. Test for low pull-out force by giving the cable a tug. If the cable can be loosened, re-crimp until it is tight.

Properly Crimped 

 Improperly Crimped (Contains Air Pockets)

Web Site: http://www.jjamusements.com

**If you have any questions please give us a call at (800) 854-3140 or (503) 363-7533.**

4. Soldering

The alternative to crimping is to solder all cable strands within the contact barrel The right proportion of solder is essential if this procedure is employed. Use a quality 60/40 solder (60 percent tin, 40 percent lead) in wire form with a rosin flux-core. Cable strands should be separately fluxed with rosin paste, and the contact should be held in a vise with the barrel entrance facing up. Apply heat to the outside of the barrel while the solder flows in beside the wire strands.

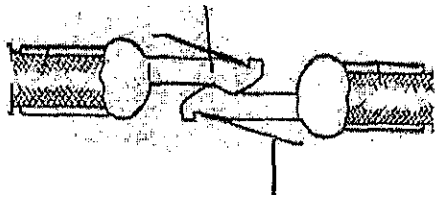
Here are some things to avoid when soldering.

A. Don't use too much solder- to the point that it flows out of the contact barrel.
B. Don't allow flux or solder on the outside of the contact. This will interfere with contact mounting within the installation or with the contact connection to a mating connector.
C. Don't overheat and cause excessive solder to "wick" up into the cable and stiffen it. This could interfere with contact flexibility when connectors are mated.
D. Don't solder when contact is in the connector housing. Solder away from the housing and then insert the contact into the housing.

5. Inserting Terminal Contact into Housing

Terminal contacts should never be forced into the SB-50 housing. If the terminal contact does not fit easily, check the SB-50 housing and terminal contact for distortion. Replace any parts that may be distorted or show signs of wear or damage. The terminal contact is pushed in from the back of the plug, mating side up. Mating side is noted by the letter "A" within a circle. Insert terminal contact into SB-50 housing until lip on terminal contact clips into the spring clip, once in place test by giving cable a tug . To protect SB-50 plug assembly , lightly terminal contacts with water proof grease.

Terminal contact mating area



Spring clip

J&J Amusements part numbers
** SB-50 Plug- 01411
** Terminal Contact " Nickel Plated" anti corrosion– 2-60-0007
** Corrosion Block "High Performance Grease" - 3-60-0002

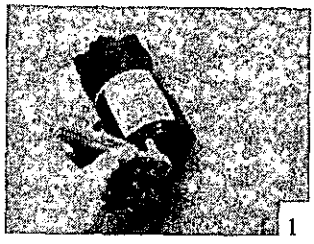
Web Site: http://www.jjamusements.com

**If you have any questions please give us a call at (800) 854-3140 or (503) 363-7533.**

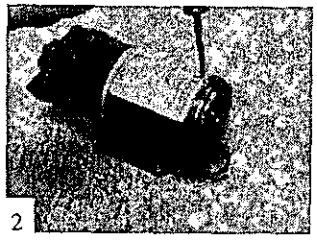
# J&J Service Instructions

January 5, 2001 — Squirt Pump Brush Service

## Squirt Pump Brush Servicing Model 2100-797


1

Begin by removing the Squirt Pump from the motor. Remove the Motor End Cap by removing the 2 end cap bolts (fig 1) then using a small flat head screw driver between the end cap and the motor case lightly pry end cap off the motor case. (fig 2)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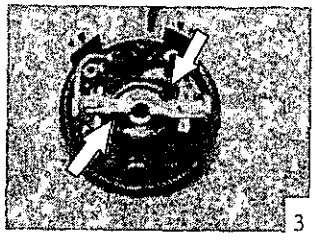
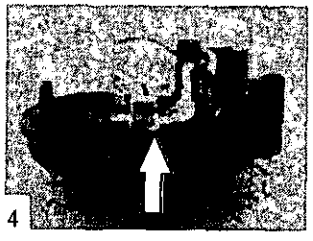

3

Clean the Brush and cap assembly with electric motor cleaner. (fig 3) To remove the brush first remove female terminal from brush holder. Then using a small flat screw driver or needle nose plyers, move the brush spring down below brush holder and slide brush out the back of the brush holder. (fig 4)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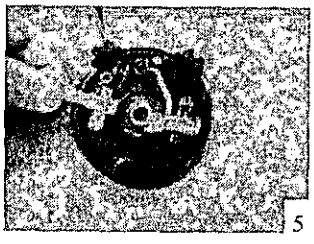
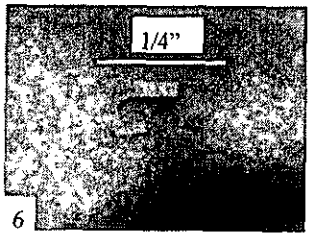
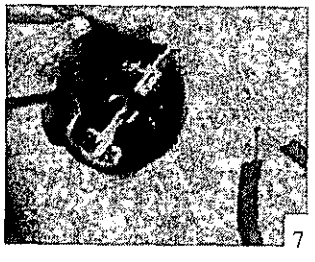

5

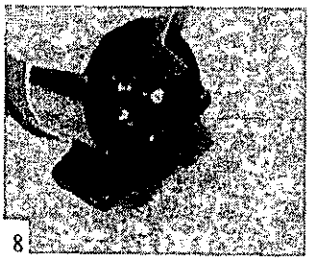
With the Brushes removed clean the entire assembly with an electrical motor cleaner. Measure both Brushes length if either is 1/4 of an inch or less both Brushes should be replaced. (fig 5&6)
** Brush kit part number: 10071 **



6


7

Re-install Brushes and connect wire to terminal on Brush holder, lightly spray brushes with *Corrosion Block. (fig 7) Lightly sand Commutator with a fine grade emery cloth (fig 8) do not allow dust from sanding into motor assembly. Wipe out any built up dust before re-assembly.
*Corrosion Block P/N 99101*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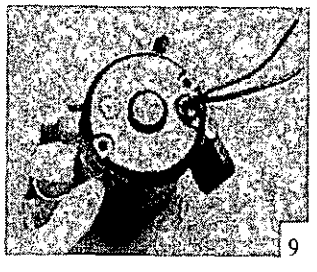
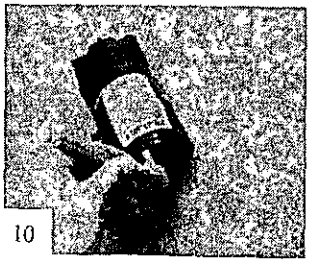

9

Using the Brush installation tool that comes with the Brush kit to re-install the Brushes. A small screw driver can also be used to push the brushes past the Commutator. Tighten the end cap snug and reinstall.


10

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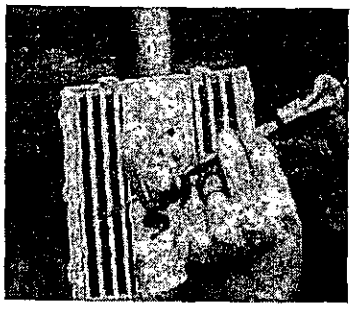
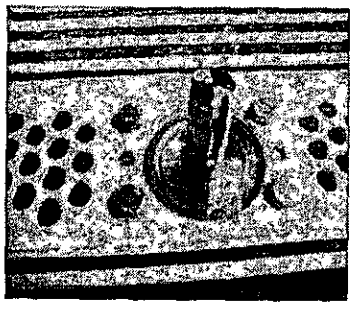
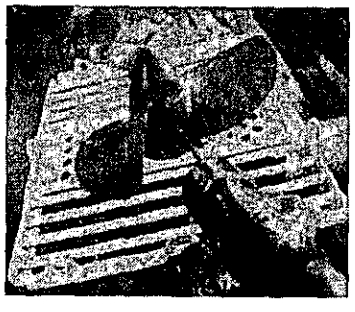
# Three Blade Propeller Installation



Begin by removing the propeller cage cover and propeller cotter pin. The cotter pin can be removed by using a 5/32 drift punch as shown. Be sure the motor of on a stable surface and you are wearing eye protection. Use a spray lubricant to help loosen the cotter pin for removal.



Once the propeller is removed, it is very important to clean the gearbox shaft. It can be sanded lightly with a fine grade sand paper it help remove any corrosion. It must be completely clean prior to attempting to install the new propeller.



Once the shaft is clean slide the new propeller on, line up the pin hole and tap the roll pin completely into place. Once the roll pin is in place re-install the propeller cage.

The 3 blade propeller is designed to turn in the opposite direction than the 2 blade propeller. The next step will be to change the direction the motor turns.

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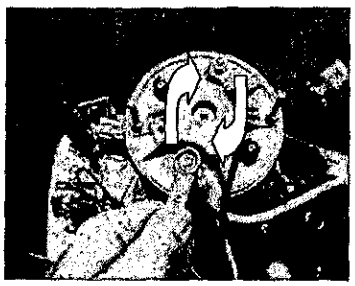
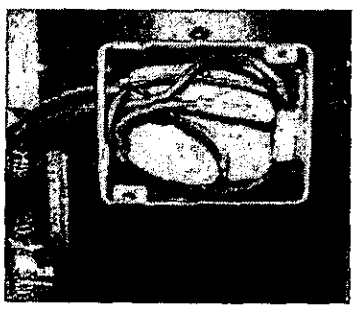
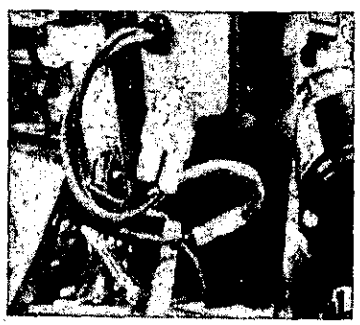
****Do not reverse the leads at the batteries! In order for the squirt pump and charging system to operate correctly follow the instructions below.**



With the Pacific Motors (Light blue in color) the direction can be changed by removing the motor cap and switching the power and ground leads . Re– install motor cap and you are done.



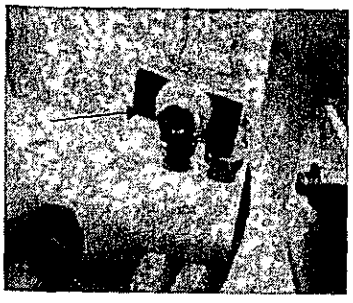


With the Leeson Motors (Dark blue in color), the direction can be changed by cutting the leads inside the junction box located on the side of the motor. Re-connection the red wire to the black wire and the black wire to the red wire. As shown in the lower picture Motors with the fuse holder you will need to remove the cover completely in order to get to the red and black wires. Be sure to use the enclosed 10 gauge connectors.
Re-install junction box and cover and your done.

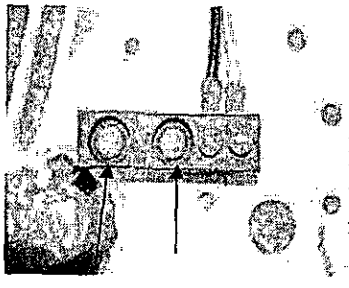
# J&J Service Instructions



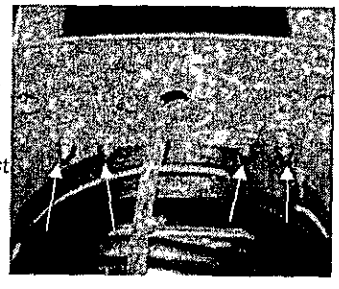
## Solid State Switch Installation

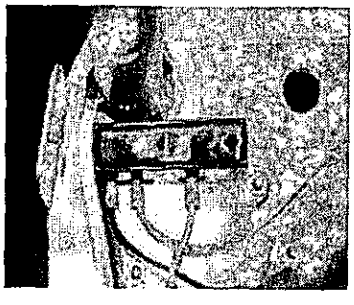


Remove both of the contact bars, save the bolt and the nylon bushings. One of the three bushings will be re-used along with the bolt.



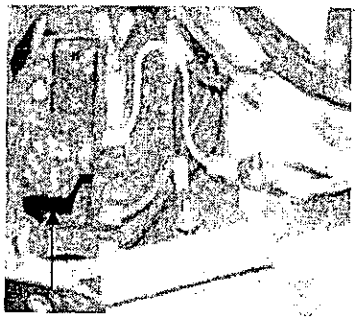
Remove both of the contact block assemblies, including the wires by removing the two bolts that hold the contact block to the handle bar plate. You will need to hold the nuts on the bottom of the plate, be sure to save the nuts as they will be re-used. Leave the wires attached to the to the contact block assembly, the new solid state switches have new wires pre-attached.





Install solid state switches through the same holes the contact block was mounted through. Re-used the nuts that held the contact block to the handle bar plate.

Install magnetic trigger as shown, use the small nylon bushing behind the trigger. The magnet faces sword the switch and the hole should be facing up.



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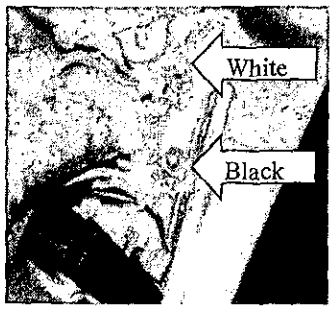
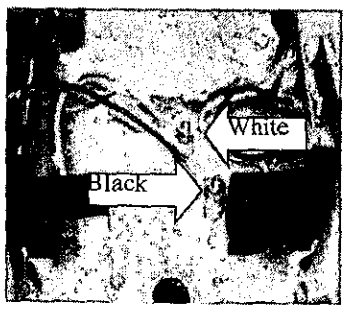
# J&J Service Instructions






Installation of the Go Switch:
Using the 10-32 nuts, connect the black wire to the 10-32 screw directly behind the new switch. (as shown in the picture.) Connect the white wire to the 10-32 screw just behind and to the left. (as shown in the picture.)

Installation of the Go Switch continue:
The yellow wire is routed in front of the motor and plugs into the current limiter on the red relay.
** The current limiter P/N 2-70-0074 must be installed for the new solid state switch to operate correctly.




Installation of the Squirt Switch:
Using the 10-32 nuts, connect the black wire to the screw to the left of the go switch. (as shown in the picture.) Connect the white wire to the screw just in front of the motor. (as shown in the picture.)

Installation of the Squirt Switch continue:
The yellow wire is routed straight back from the switch and connected to the fuse for the squirt pump. (as shown in the picture.)

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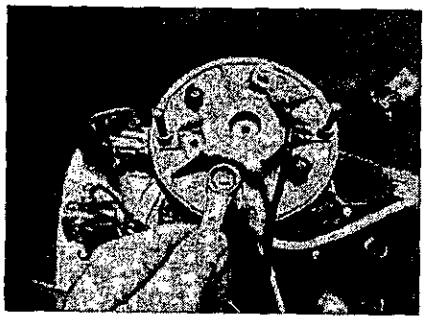
# SERVICE OF ELECTRIC BUMPER BOAT MOTOR BRUSH ASSEMBLY

STEP 1

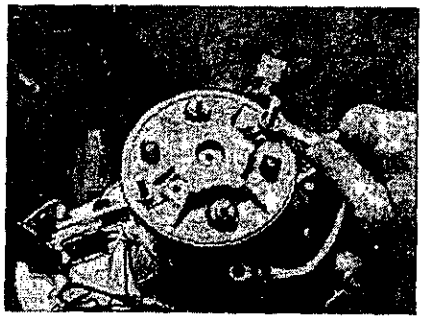
Remove acorn nuts that hold terminal cover

STEP 2



Remove 1/4 –20 nuts that hold wire terminals, note that WHITE wires go to terminal marked A2

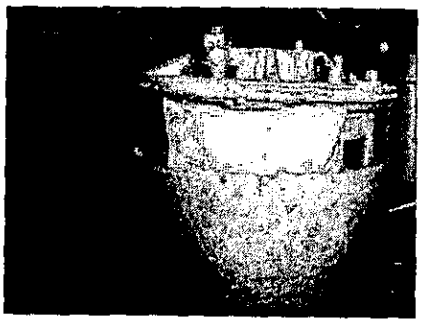
STEP 3



Remove 1/4-20 "knurled" nuts that hold end plate to motor, note the bolts are Phillips head and run completely through motor. Nut will normally spin free once loosened but if bolt turns you may have to install two "jam" nuts to hold bolt while removing "knurled" nut, some penetrating oil would be advisable here. If this is not successful the motor will have to be removed to gain access to Phillips head end of through bolts.

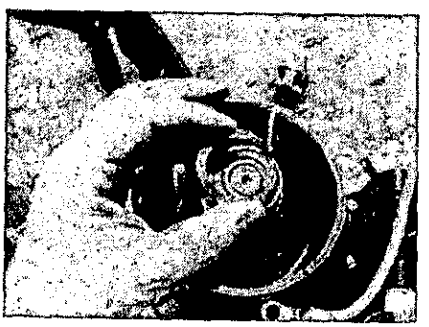
# SERVICE OF ELECTRIC BUMPER BOAT MOTOR BRUSH ASSEMBLY

STEP 4



Carefully pry up end plate in an even sequence around motor. NOTE: The index tabs must be aligned when you reassemble the unit..

STEP 5



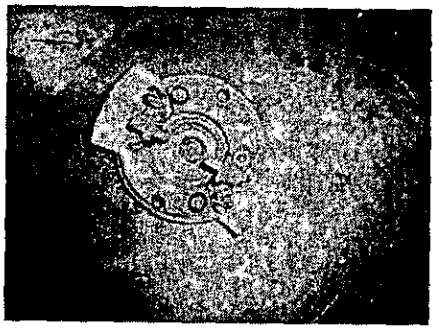
Be careful to locate "wavy" thrust washer and set aside, when you reassemble use a small amount of grease to hold washer in end plate during the process.

STEP 6

Loosen the terminal stud which will free the corresponding brush terminal, it is not necessary to remove stud entirely unless you wish to remove the brush holder from the end plate in which case you would also remove the corresponding Phillips head screw that secures holder to plate. It is not necessary to remove brush holder from end plate to service motor brushes.

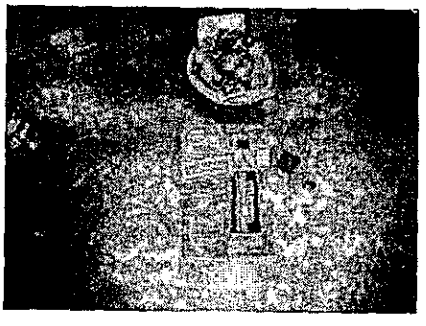
# SERVICE OF ELECTRIC BUMPER BOAT MOTOR BRUSH ASSEMBLY

STEP 7



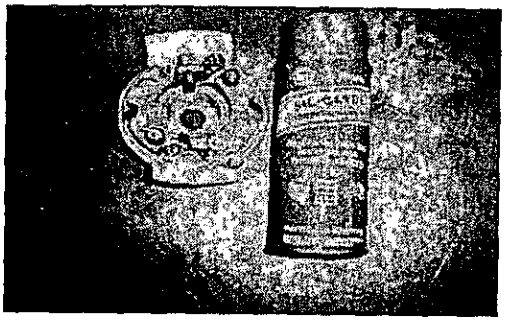
To remove brush from holder, push brush away from center of end plate and pull back coil spring to allow brush to slide by end of spring. Reassemble in reverse order making sure that groove in top of brush faces coil spring

STEP 8



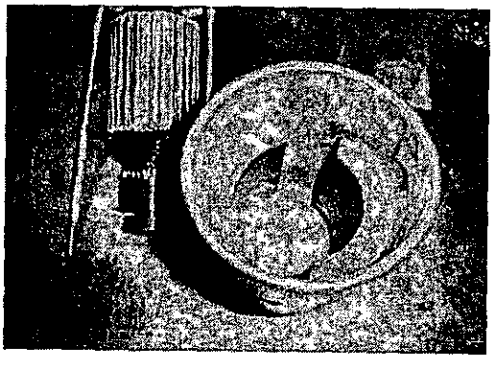
During the assembly process a dielectric compound such as those found at auto parts stores can be used to help seal the holder assembly from corrosion. Spray compounds like those shown in the next step may be easier to use.

STEP 9



Products that are made to help seal electrical parts can be used to help prevent brushes from sticking. Read and follow manufactures recommendations.

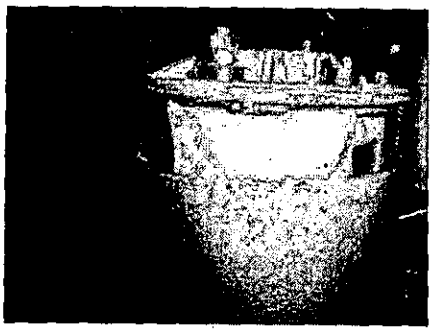
STEP 10



If motor permanent magnet housing is removed make sure, upon assembly, that magnets are in the down position (toward the output shaft) and housing is indexed to end plate.

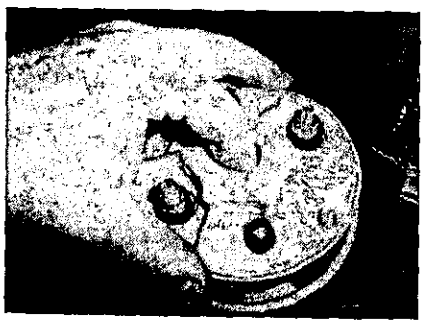
# SERVICE OF ELECTRIC BUMPER BOAT MOTOR BRUSH ASSEMBLY

STEP 11



During assembly carefully line up end plate to housing and make sure paper "brush wire isolators" are in place,

STEP 12



Align through bolts and using finger push back brush in holder to clear bearing and motor comutator. Slide end plate down to motor housing. DO NOT FORCE.

STEP 13

Secure all fasteners and wire terminals, install terminal cover being careful not to pinch wires in exit slot. Hook to battery pack and verify motor performs properly, make sure propeller is turning in correct direction, if not, the wire terminals on motor have been installed improperly.

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