

# J&J Service Instructions

November 8, 2000

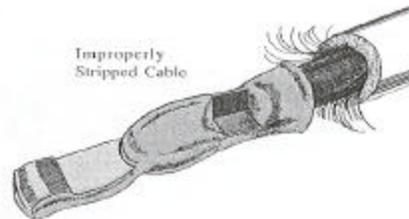
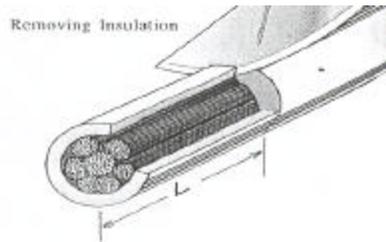
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## SB-50 Plug Installation Procedures

Whether 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

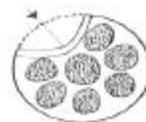
Aged and badly tarnished wire should be thoroughly scraped with a stiff wire brush that penetrates the entire bundle and cleans every strand. The wires are ready for insertion into the contact barrel when they are bur-nished to their original bright copper finish. Contact barrels are lined with silver 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.**

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## 4. Soldering

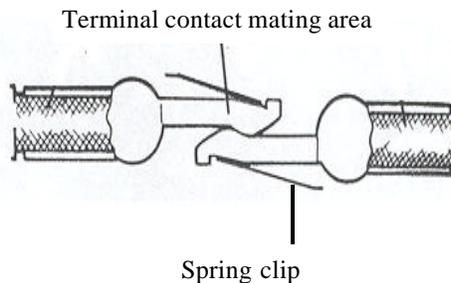
The alternative to crimping is to solder all cable strands within the contact barrel. The right proportion of solder is essential if this procedure is employed. Use a quality 60/40 solder (60 percent tin, 40 percent lead) in wire form with a rosin flux-core. Cable strands should be separately fluxed 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.



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

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