

WHAT IS HAPPENING TO REBUILDING?

Solenoid Rebuilding

By Richard R. Vensel

Rebuilding **OEM** or equivalent round can crimped cap solenoids will not only save you up to 50% or more, but can also increase your quality level which will increase your customer confidence. You already have at least 95% of the equipment required. Many rebuilders have tried to rebuild solenoids before and have not had good results, but with these procedures and tips you should have no problems. The following procedures are necessary to do a great job.

Before starting remember to review and follow all safety procedures that apply to all the equipment and tools you will be using.

Process for Disassembly:

1. Remove the cap and coil assembly. This requires a 3-ton arbor press or equivalent and a base plate.
2. Unsolder any external connections on the outside of the solenoid cap. Then remove the cap and the movable contact assembly from the coil assembly. Cleaning the cap first and simply dipping the cap in a solder pot until the soldered connections are covered can accomplish this. The De-soldering time is very short. Remove the solenoid from the solder pot and tap the solenoid on a piece of wood, hitting on the solenoid studs.
3. Clean the can and possibly the cap on some units using a shaker or hot water washer. Blast the can with a sand blaster or steel shot machine. The can may be painted or coated with a blackening system. If you are going to reuse the cap, it can be sprayed with gloss acrylic clear enamel to create an appearance that looks brand new.
4. The coil assembly should be cleaned and the leads extended if necessary. We recommend a fast drying solvent for cleaning. The inside of the coil assembly sleeve should be inspected for any scratches or corrosion. The movable contact assembly can be cleaned in a shaker or hot water washer.
5. Test the pull in and hold in windings for amps, balance and strength. Inspect the soldered or welded ground connections and resolder to insure a good connection. Don't forget to make sure that the contact between the ground on the coil assembly and the can is good. Wire brushing works well. Inspect the contact disk to insure it is flat. If the contact disk is flat it can be reused sometimes by turning it over, but if it is warped or pitted it should be replaced.

Process for Assembly:

1. Straighten out the lip at the top of the solenoid can where the cap has been removed. A snug fit for the cap is required.
2. Insert of coil assembly into the can making sure it fits tight up against the bottom of the can and the side crimps in the can. Gauge the sleeve to insure proper plunger clearance.
3. Install the movable contact assembly and gasket if required.
4. Install the cap and crimp the top lip of the can over the cap. Make sure you crimp the can all the way around the cap. As funny as it may sound, we recommend shaking the assembled solenoid to see if it rattles. If a solenoid rattles when shaken the coil assembly was not fitted tightly in place before crimping and it must be crimped again and once again checked by shaking. If not corrected, this will make a bad ground circuit and cause nothing but problems.
5. Install the necessary hardware. We recommend a final electrical test of the pull in and hold in windings and a balance test to insure the plunger will not be sticking. A good test for shorted windings is to put a battery across the motor terminal and ground the can. Then insert a plunger and there should be no magnetic attraction. If there is magnetic attraction present, the windings are shorted and the drive could stay engaged in the flywheel, which could result in a blown up starter. Another test we highly recommend is a voltage drop test across the battery contact and the motor contact studs. This will tell you that the movable contact disk is seated correctly and prevent early solenoid failure. The best way to do this is with a load, say a starter connected to the large stud circuits.

Rebuilding solenoids is only one of the ways to increase your profitability, there are many more.

If you have any questions please give me a call at 800-662-6099.