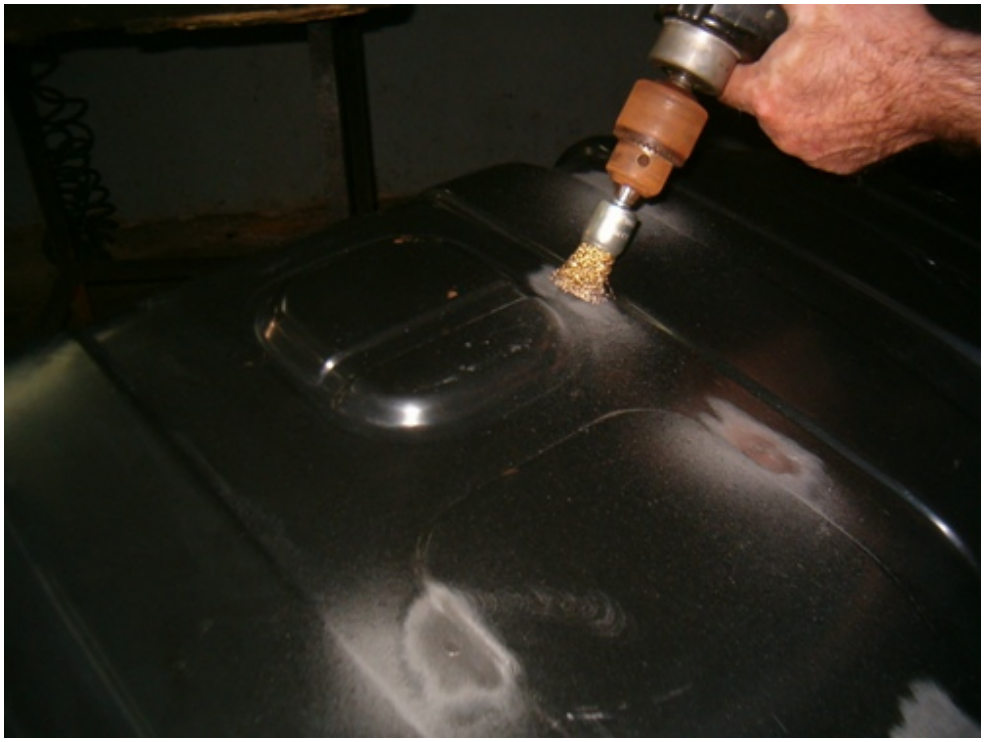
Tank Repair

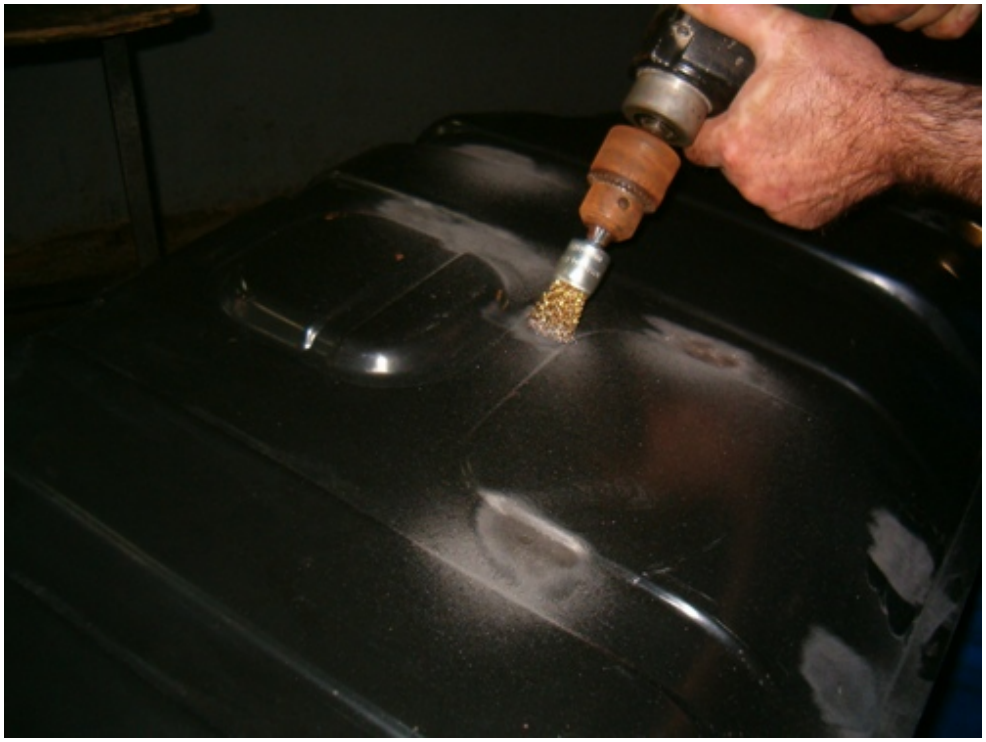
My first aim was to stop the current leak (and any future leak) coming from the spot welds. So a radiator shop having the proper gear and knowledge to repair fuel tanks would restore the leaking tank.

An important word of notice here: Fuel tanks hold inside petrol fumes/vapors that can be very dangerous if welding is done at the tank. One must fill the tank with water in order to make the tank "gas free". Welding process can easily ignite the vapors and have fatal results to the operator.

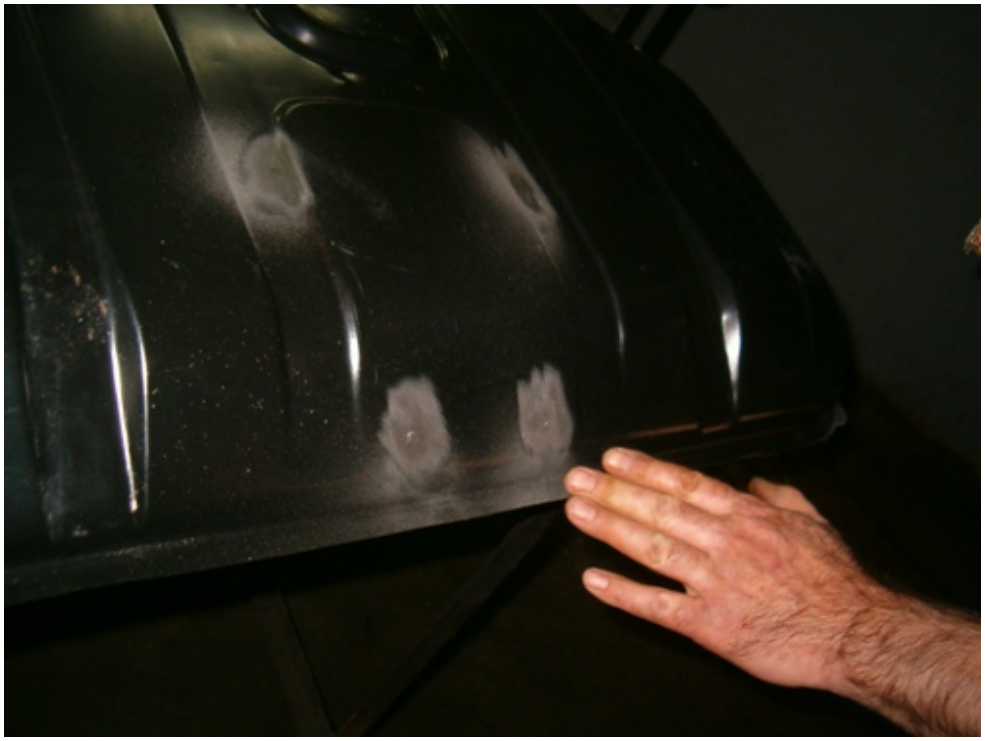
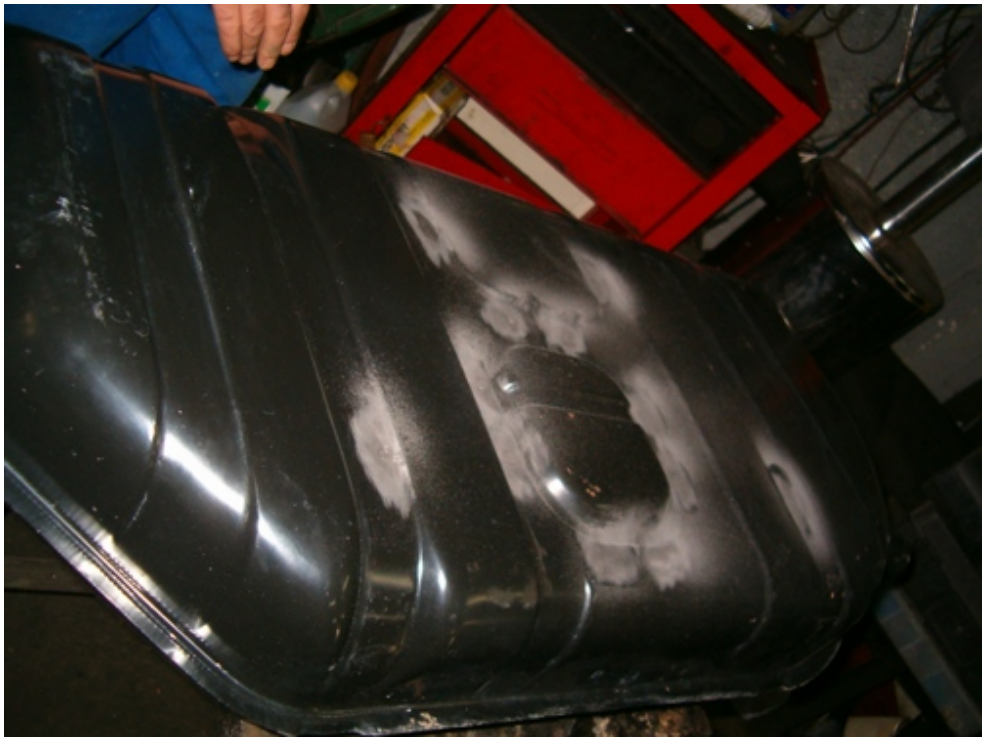
So in order to be safe than sorry I had the tank filled with water 2 or 3 times and then I handed it to the radiator shop for repairs.

The shop owner confirmed this to me and he proposed to solder the tank instead of welding it. Soldering does not involve sparks or arcs so it is safe to work on. His advice was to patch all welds (16 in total) as the welds are the first weak spot on the tank bottom.

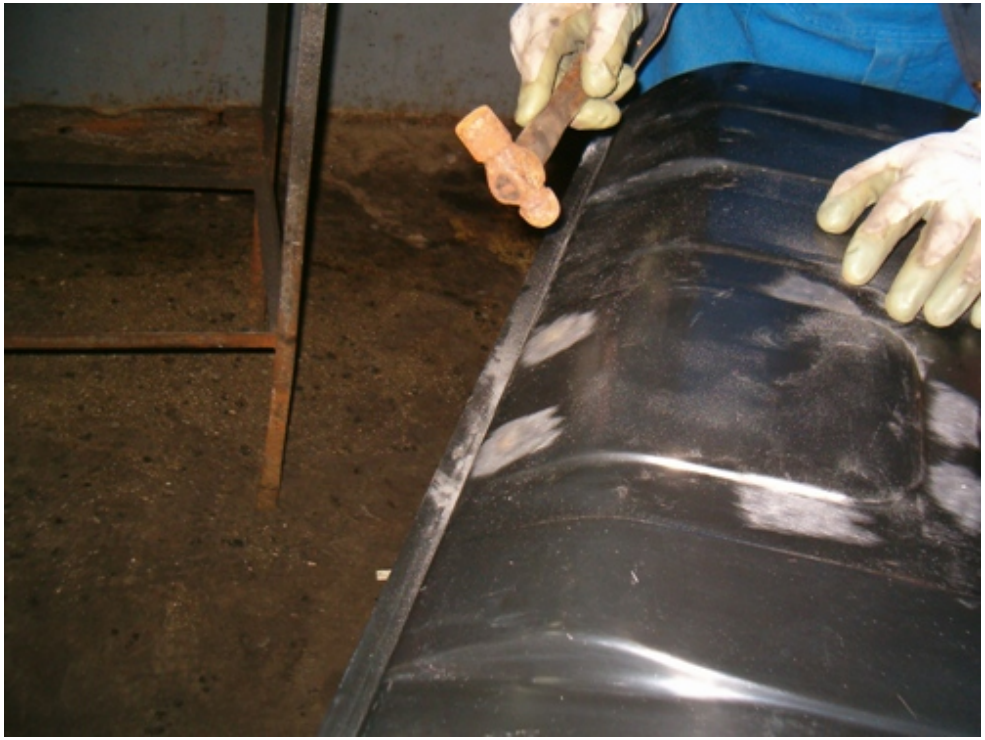


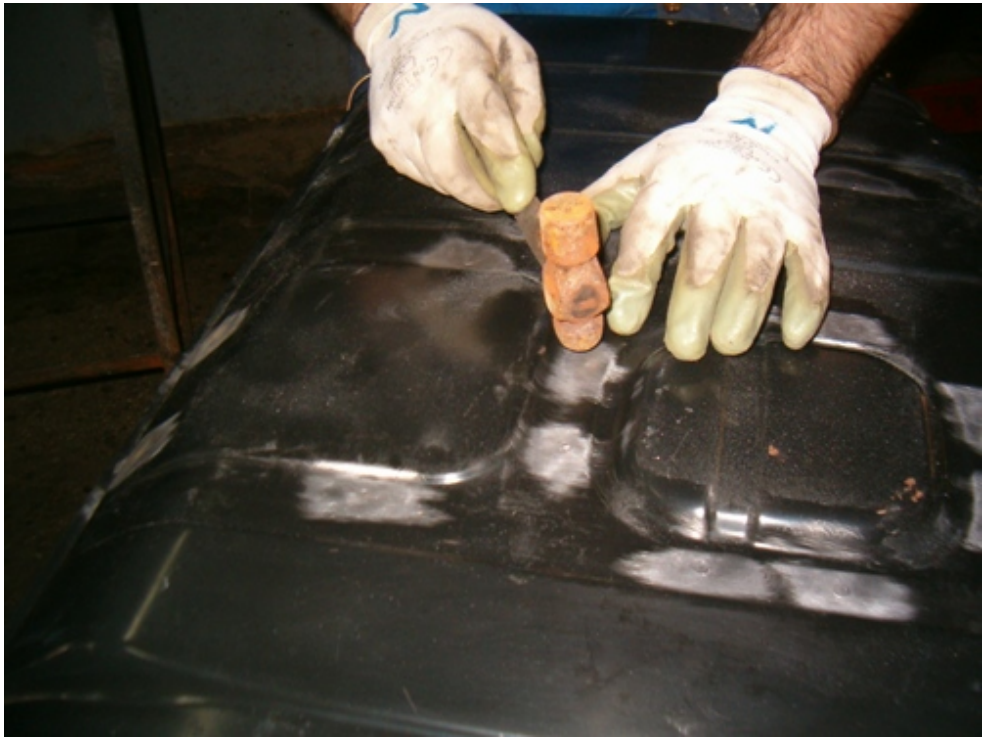


The welds are identified and paint is brushed away with the wire wheel.

Nearly all welds are now exposed to bare metal





Using the rounded end of the hammer the welds are flattened, so as patches are level

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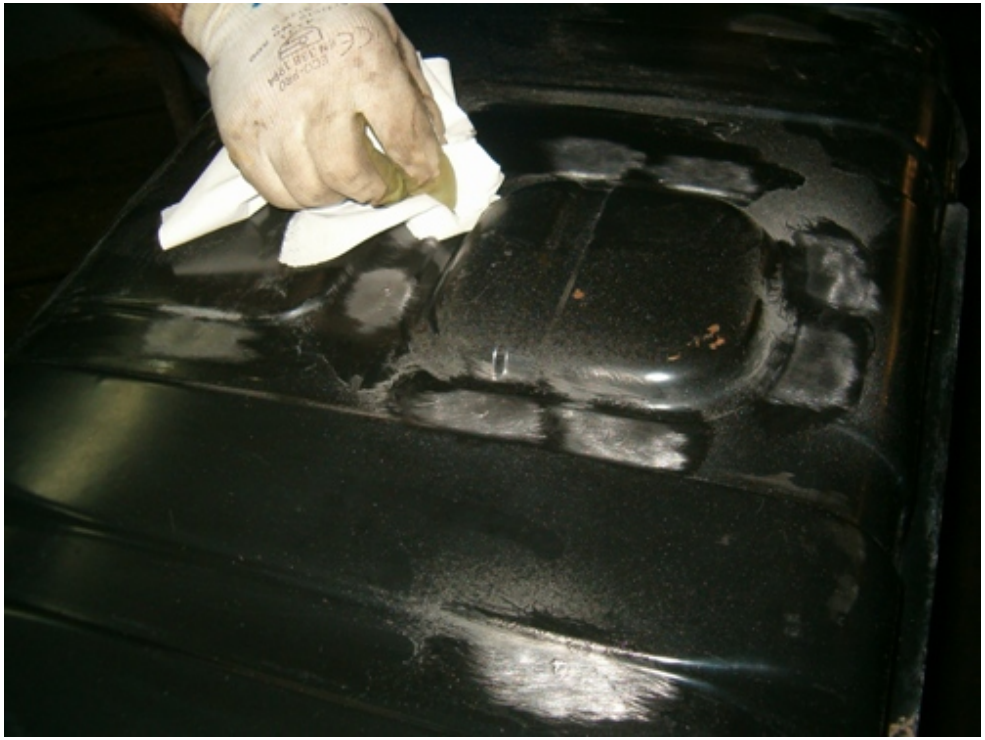
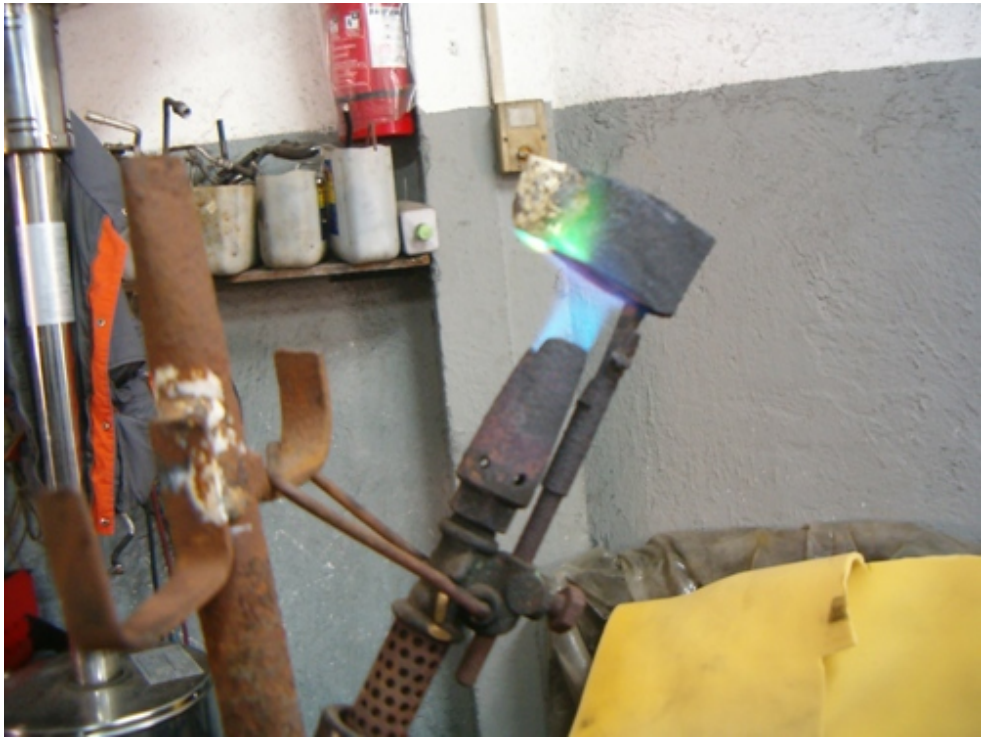


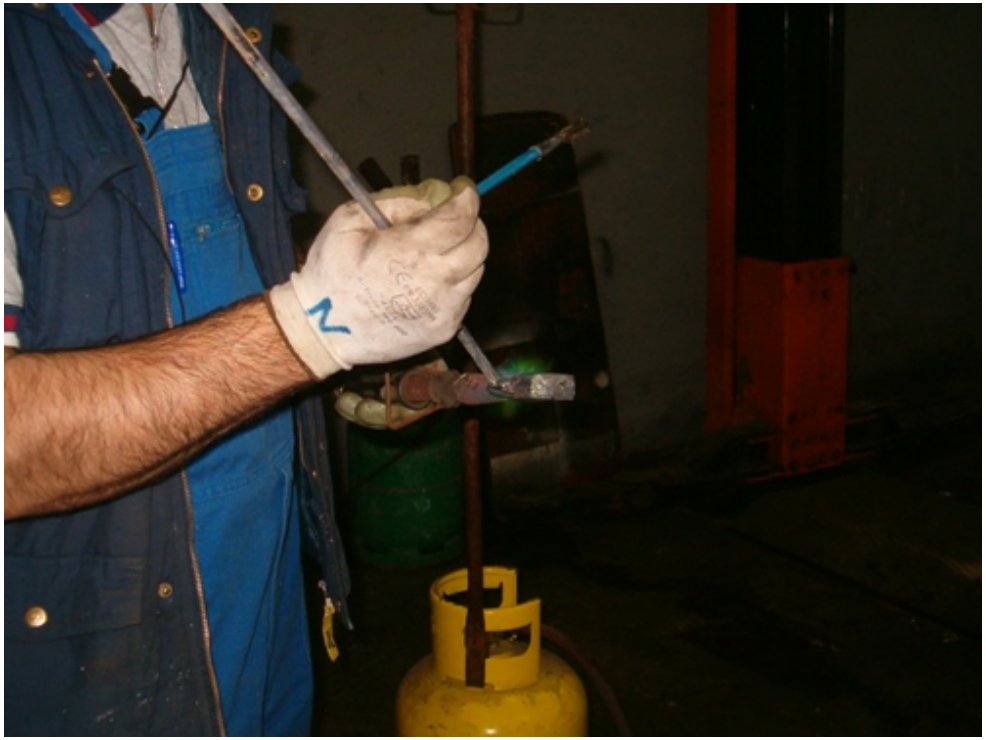
Metal surface is now cleaned with thinner in order to ensure proper bonding

Here you can see the patches being prepared

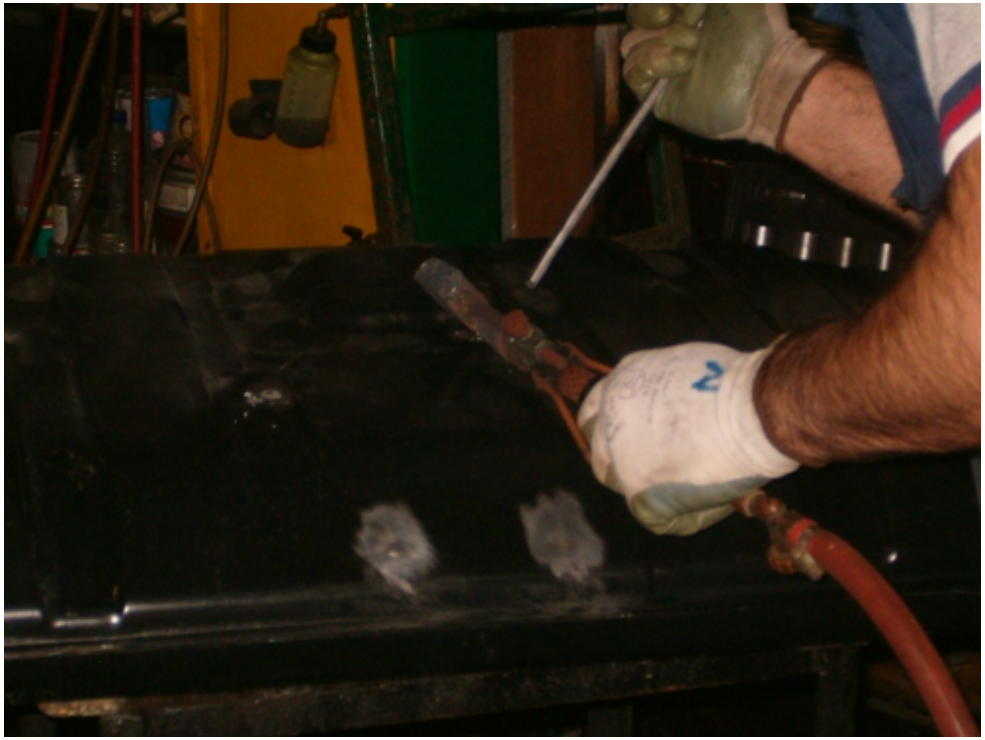
The patches are almost ready in round shape. The material used is brass in thin leafs.

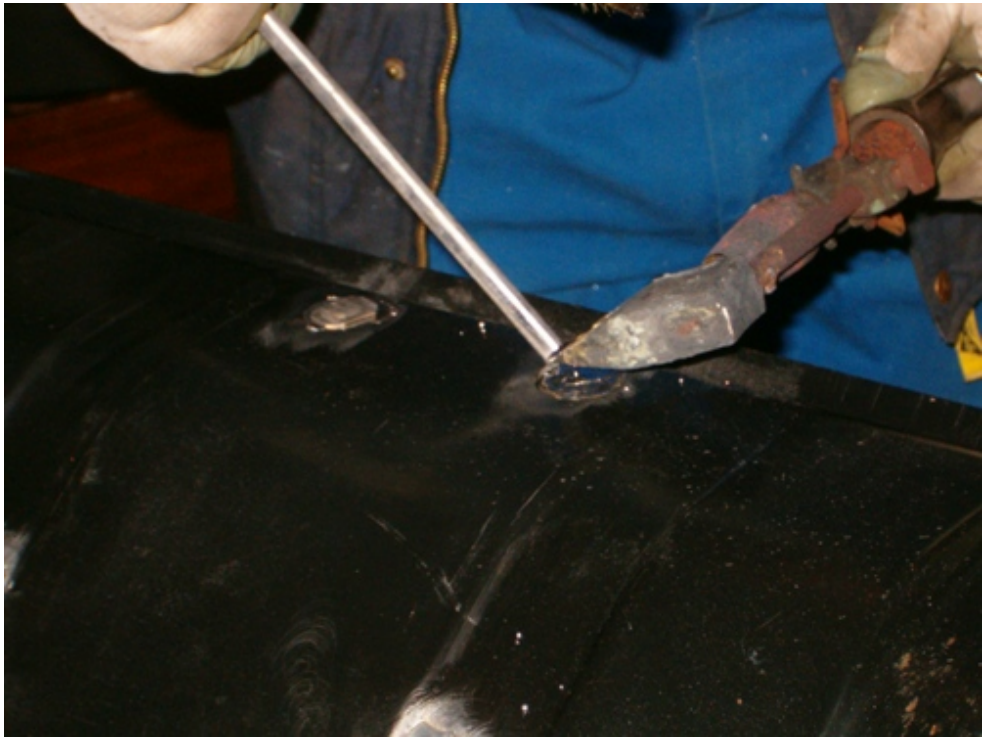


Here is the soldering iron prepared for action. It is not an electrical iron but a liquid gas one as here we want rapid heating of the iron that an electrical one can't provide.

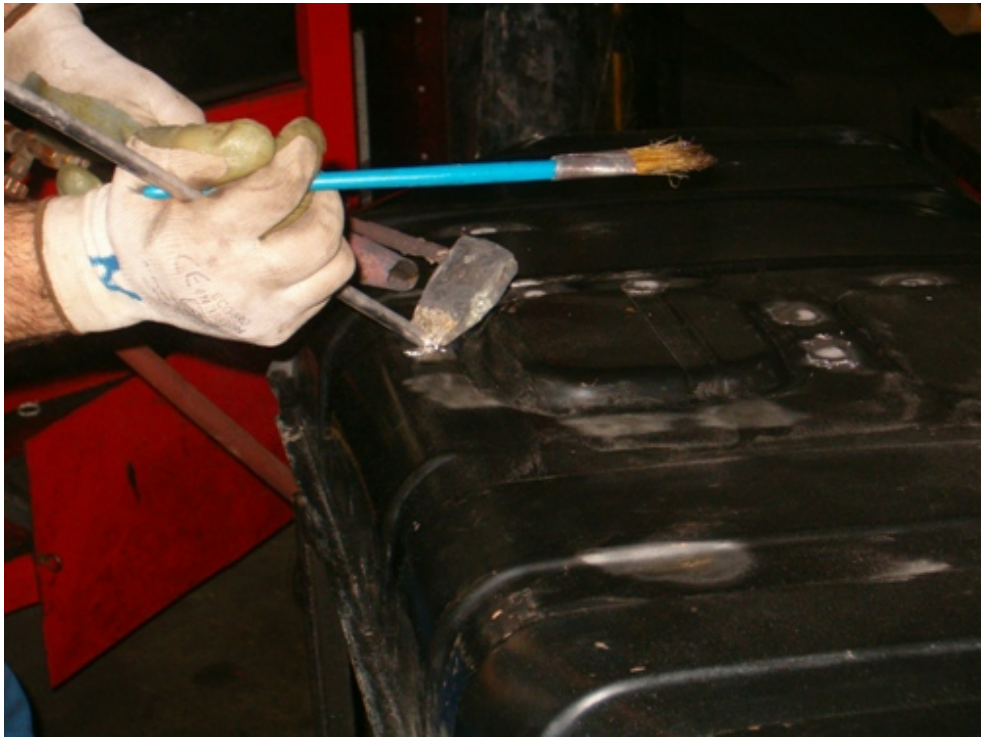


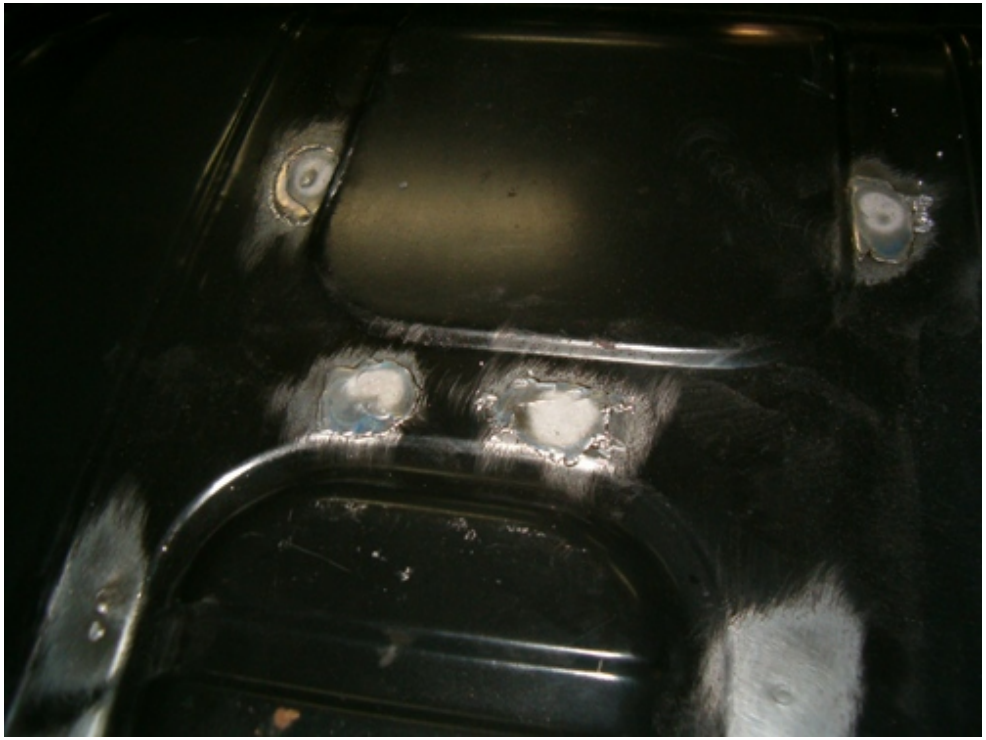
Sodler is being applied on the hot iron





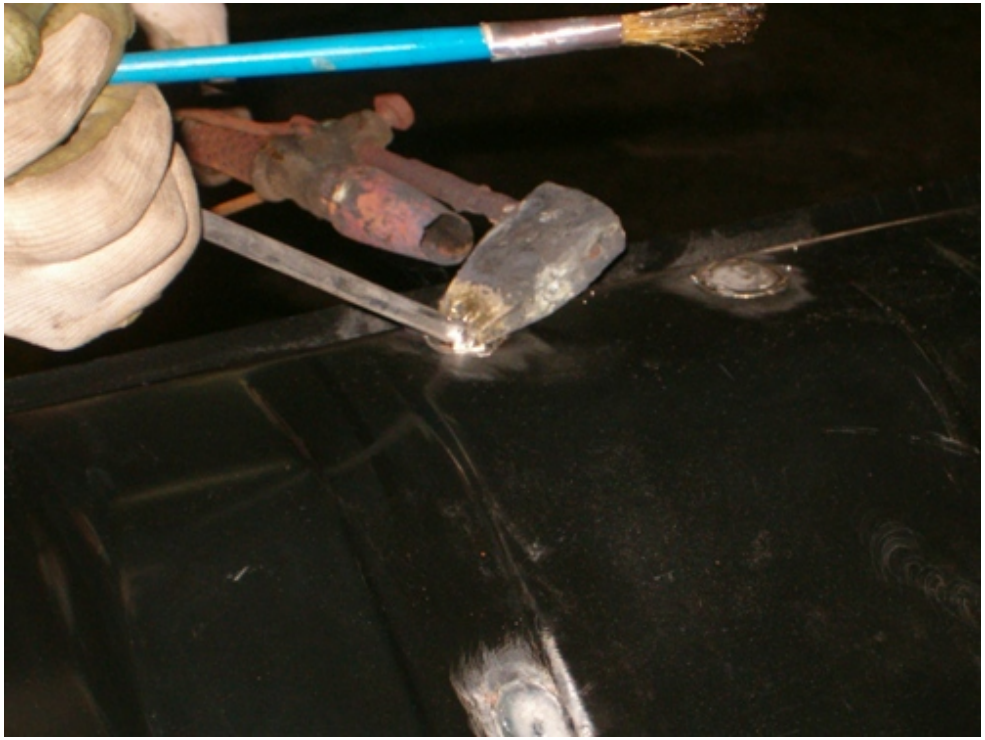
and the first layer of solder is applied to the tank welds

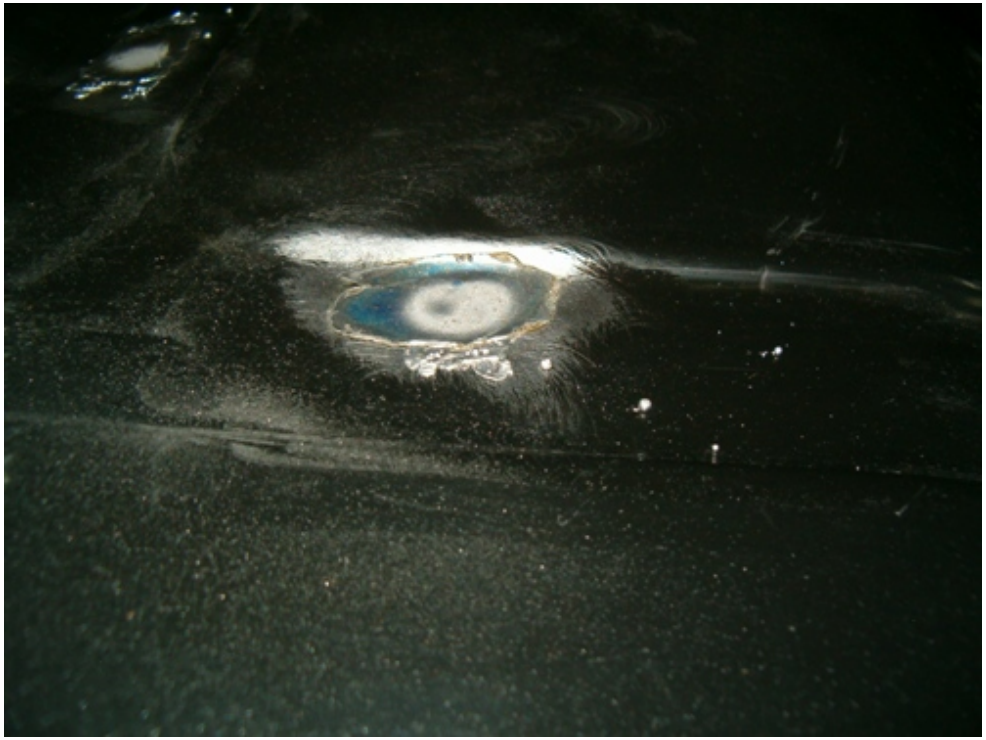




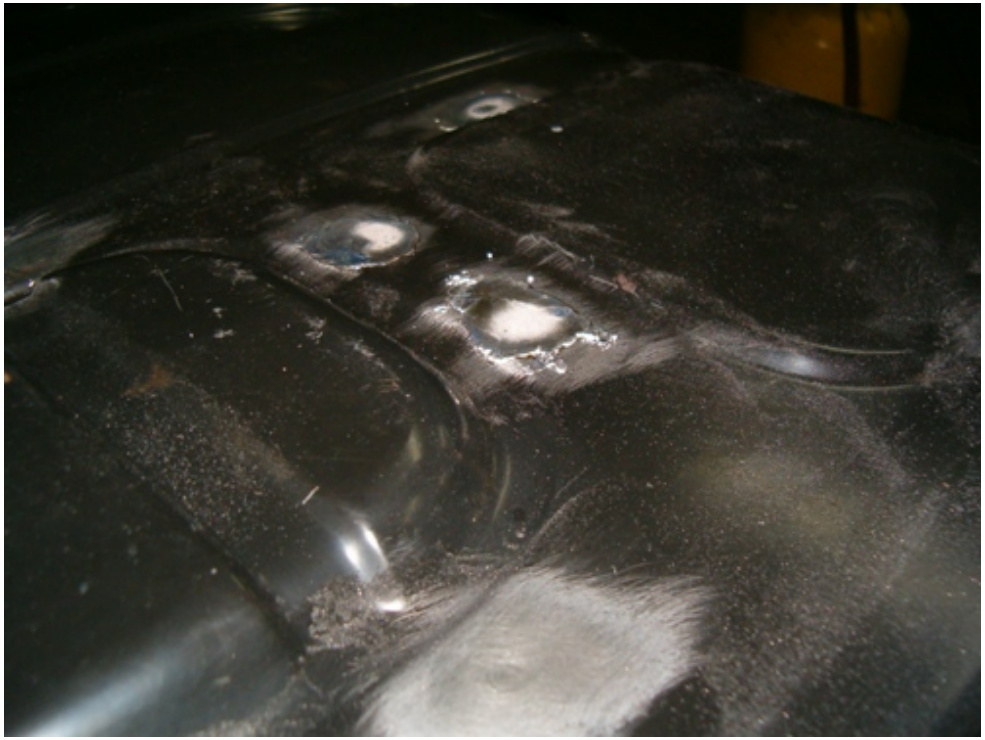
Since the soldering iron is not kept hot by the flame, the operator must be quick in order to apply as many as possible layers of solder. Remember that 16 welds must be patched so this makes 16 layers of solder in the first run and another 16 patches on the second run. The principle is that a layer of solder is applied on the metal and then the brass patch is applied on top of the solder layer accomplanied with a final layer of solder on top of the brass patch.

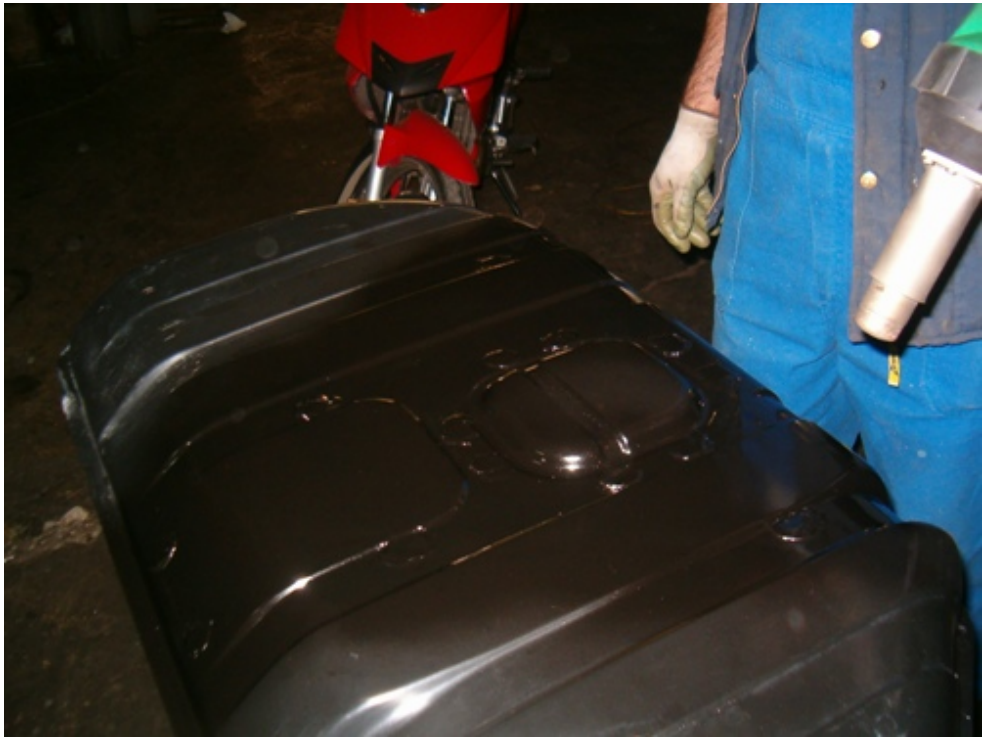
Thats the reason why the operator must be quick in order to be able to finish as many as possible patches; the soldering iron will not stay hot for long.





Here is the actual patch seen. We are now on the second round by applying the brass patches.





Final result and a layer of black paint.