

## Restoration of a classic „Vespa“ plate made of aluminum

The current model PUK4.1 carries some improvements. One of them is the aluminum-mode. The new workshop is about working with this new feature.



### Welding aluminum

The new workshop is intended to demonstrate the process of repairing an original aluminum „Vespa“ plate.



### Preparing material

First of all you must ensure that the plate is very clean. Using an ultrasonic device is the best way to be sure that the pores of the surface are well cleaned and ready for further processing. In the case of aluminum, it is particularly necessary as aluminum oxidizes quickly which will promote impurities.



### Welding wire

For this application, you also need proper welding wire with suitable alloy. AISi welding wire is preferred. These welding wires will soon be available at Lampert Germany.



### Aluminum-mode

Aluminum is normally welded with alternating current (AC) in contrast to any other metals which are typically welded with direct current (DC). The mode being used with the PUK4.1 for welding aluminum is a curve overlaid by a high frequency impulse which has similar properties as AC. Some aluminum alloys can be welded without feeding welding wire but most of them can only be welded by adding material.



## Welding

To achieve better connection, file the broken area before welding. Tack the two pieces together and then weld straight on. For working on this classic plate, we chose the settings pictured above.



## Notice material thickness

When working with thick material it is advisable to file a "V-shaped" groove (see also workshop-no. 5, "ring sizing"). You can add material step by step to ensure it is completely welded through. The electrode is positioned under the wire and the material will be added on the work piece by touching it.



## Modeling material

Afterwards the material can be modeled. See also workshop-no. 2 ("To add metal, spreading and modeling").



## Finish

Finally emerize your weld carefully and polish it with the appropriate polishing agent. Aluminum has the property of forming an oxide layer, which is invisible and protects the work piece from external influences.

