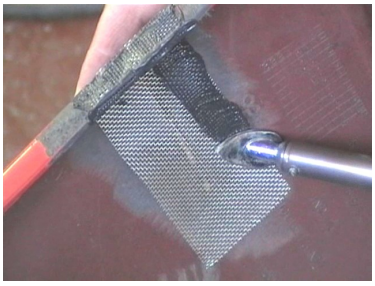
Brazing Plastics Repair Kit

Check the type of plastic to be repaired

The easiest way to identify the type of plastic you are working on is to look at the ID symbol on the backside of the part. Ex : PP/EPDM - PE – PP - …



There are 2 types of plastics Bumpers

- Thermoplastic
- Thermoset

Thermoplastics symbols are: PP-PE-PP/EPDM -TEEE-TPE-TPO-TPU-TPUR
Thermoset symbols are : PUR-RIM-RRIM-EEBC
Thermoplastic or Thermoset bumpers should be repaired in a different way.

The Car Manufacturers indicate the nature of the plastics on the parts.

The concept of brazing repair consists in melting a stainless steel mesh inside the plastic, using an electric soldering iron with a specially designed tip, and a fine stainless steel mesh 18/8 **(ref. 052949 – Stainless Steel mesh 25cm x 12.5cm).**

This mesh will actually reinforce the repair, and ensure the solidity and the flexibility of the bumper. The finishing and the filling of the holes or breaks will be done by adding the recommended plastics brazing material (ref. 052956 – Plastic Brazing Sticks), which is Polypropylene reinforced with glass fibre and carbon fibre. This filling material is applied just like a tin soldering.

Operating instructions :

Connect the soldering iron to a 230V electrical supply. The soldering iron will gradually heat up to its working temperature.

Instructions of use :

It order to optimize the quality of the work, it is recommended to work on elements dismantled from the car. Indeed, in case of a break or a crack in the bumper, a back reinforcement is recommended to make the repair stronger. However, a hole in the front of the bumper can be repaired without taking off the bumper. To do so, 1/2mm of material should be grinded around the hole in order to avoid higher thickness around the hole; grind 3 to 4 cm around the hole, bevelling the edges, and melt the stainless steel mesh in the plastic. Once this operation is finished, fill with the brazing sticks (filler ref. 052956).

Preparation of the surface of the bumper :

Clean and remove any grease on the part. **Do not use cleaning products with solvents**. Soapy water will be preferred to any other cleaning product. Cut a piece of mesh, in order to cover the whole of the break or crack, and extend 3cm on either side of the repair to be performed. The stainless steel mesh will come on the back of the bumper and will act as reinforcement.

Grind the area to be repaired using abrasive paper with grain 40. Avoid a too fast rotation speed, which would make the plastic material melt. A slight grinding is enough, in order to remove the paint or any other covering product.

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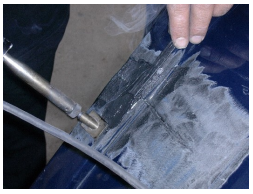
Position the stainless steel mesh onto the break, taking care that the edges of the crack are perfectly aligned. Make the stainless steel mesh melt into the plastic, using the soldering iron tip specifically designed for this purpose (photo 1).

Do not press too hard on the soldering iron. The temperature of 550°C of the tip is quite sufficient to make the melted plastic go back up through the stainless steel mesh. Once this operation has been performed, and for a very limited cost, your bumper already has quite a good resistance to stress and shocks (photo 2).

Never use another mesh than the one provided by JBDC. Indeed, in order to save money, you may be tempted to use a fine steel mesh, or even an aluminium mesh which is commonly found on the market.

- the steel mesh, when being heated will oxidize quickly and the risk is to have traces of oxidation coming back up under the paint; furthermore, the mesh will degrade with time, fragilizing the repair that you have just performed.
- the aluminium mesh has no particular mechanical resistance, and it will tear off under stress.



Once this operation is finished, leave the mesh to cool down (you can use compressed air to cool faster). In the front of the bumper, grind largely around the break. Chamfer the edges of the break. You can chamfer using the extremity of the soldering tip, on the sharp side, by melting the plastic.
Blow off, clean and remove grease (soapy water is enough, rinse); take off the dust.
Fill the chamfer with the JBDC brazing sticks ref. 052956.
Pre-heat the brazing stick (photo 3) until it is melted on half of the thickness (this recommendation is important, as it allows a good match by capillarity with the bumper).

Apply the brazing stick, melted side against the part to be repaired.
Operate jus like brazing with tin (photo 4).
Leave the surface to cool down and blow.

Sanding : take off the excess material using sanding paper grain 40 or 80. For finishing sanding, in order to obtain a perfect surface, it is recommended to use ABRALON abrasive. Once the finishing sanding is performed, clean, blow, and apply plastic primer.

In order to remove aspect defaults or lack of material, a specific plastic mastic can be used.

Comment : some plastics like the car body elements can be repaired with the brazing sticks process, but it will not be possible to make the steel mesh melt deep into the plastic.

In this case, after perfectly sanding and removing grease on the edge of the break, braze with the JBDC brazing sticks.

Cover entirely the area to be repaired.

Apply the steel mesh on the brazed area and insert it in the melted material deposited; then charge again with brazing material.

Information :

- SMC – Glass fiber – UP - FRP do not solder together. They should be glued (Use UV PATCH and FASTSEALER)
- ABS – PA - PC/PBT - PPO do not seal with brazing process, but can be glued.

BEWARE : NEVER LEAVE THE SOLDERING IRON SWITCHED ON WITH THE TIP FACING DOWN, AS THE BODY OF THE SOLDERING IRON MAY OVERHEAT AND DETERIORATE. IN CASE OF BAD AIR EXTRACTION, WEAR A BREATHING MASK.