

Aluminum Heat Shrinking

Aluminum is more common than ever on today's vehicles. What can you do when an aluminum dent has stretched during the repair process?

Shrinking is common on steel panels. The steel can become stretched, and "oil can". This is commonly corrected using heat-shrinking methods for steel panels. The same goes for aluminum; in fact, it is more susceptible to stretching. But can you heat-shrink aluminum? The simple answer is yes.

Aluminum dissipates heat much more effectively than steel. This becomes a problem when we need to shrink a specific area of a panel. For steel, the area is heated using various methods, after the desired temperature is reached, the area is rapidly cooled using water or cool air.

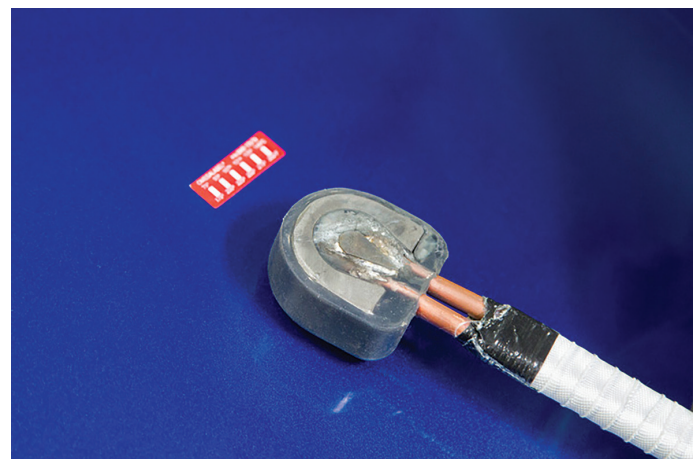
For aluminum, the desired tool for shrinking is an induction heater. Induction heaters designed for aluminum panels can rapidly heat a specific area of the panel much quicker than a heat gun. While the heat gun is used for general aluminum panel straightening, it is not as effective to use during the shrinking process.

Aluminum repairs take more care and precision than steel repairs; the same goes for heat-shrinking aluminum. The amount of heat needed to shrink the aluminum panel is much lower than steel. Generally, the target temperature during the repair is around 250-450°F, depending on the damage. Around 400°F, the adhesive starts to break down. Adhesive near the area you are shrinking can be a factor in the repair vs. replace

decision. When shrinking aluminum, closely monitor the heated area and keep the temperature below 400°F. Exceeding 400°F can cause irreversible damage to the panel.

Aluminum is permanently softened, or annealed, at around 750°F. The panel must not exceed that temperature if it is to be repaired. Take your time, check the temperature often, practice, and carefully observe the progress.

Always follow OEM procedures and guidelines for repairability of aluminum panels to ensure a complete, safe, and quality repair.

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