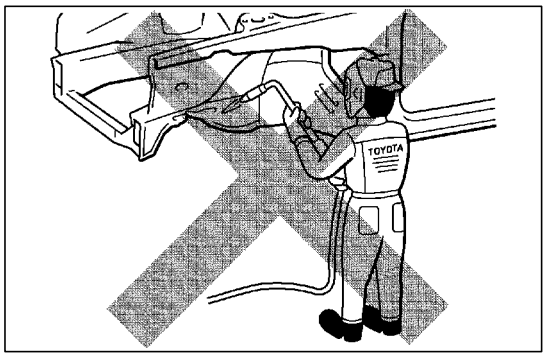
PRECAUTIONS FOR REPAIRING BODY STRUCTURE PANELS



1. HEAT REPAIR FOR BODY STRUCTURE PANELS

Toyota prohibits the use of the heat repair method on body structure panels when repairing a vehicle damaged in a collision.

Panels that have high strength and rigidity, as well as a long life span for the automobile body are being sought after.

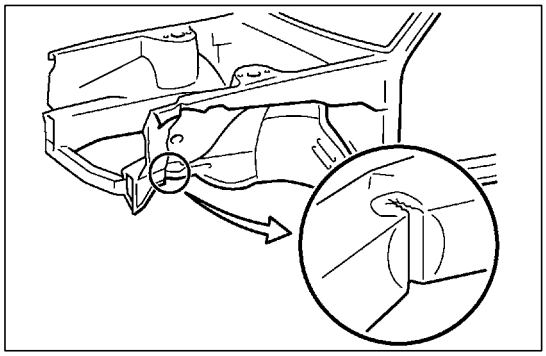
At Toyota, in order to fulfill these requirement, we use high tensile strength steel sheets and rust preventive steel sheets on the body.

High tensile steel sheets are made with alloy additives and a special heat treatment in order to improve the strength.

To prevent the occurrence of rust for a long period of time, the surface of the steel is coated with a zinc alloy.

If a body structure parts are heat repaired with an acetylene torch or other heating source, the crystalline organization of the steel sheet will change and the strength of the steel sheet will be reduced.

The ability of the body to resist rust is significantly lowered as well since the rust resistant zinc coating is destroyed by heat and the steel sheet surface is oxidized.

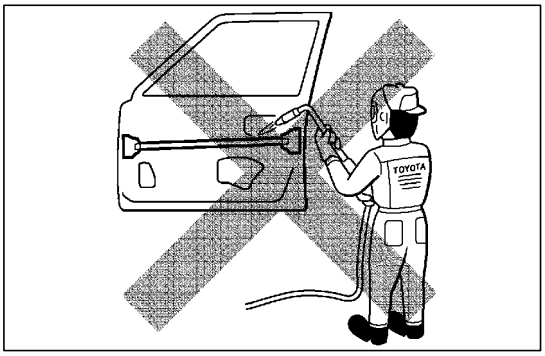


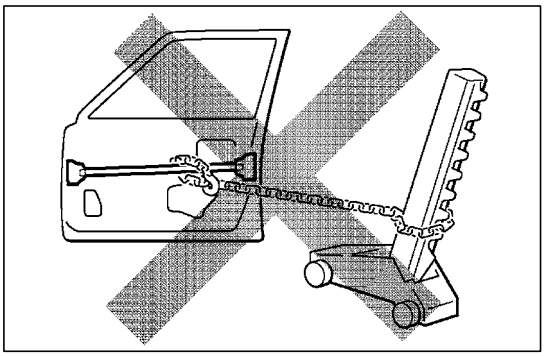
2. STRUCTURE PANEL KINKS

A sharp deformation angle on the panel that cannot be returned to its original shape by pulling or hammering is called kink.

Since structure parts are designed to exhibit its performance in their original shape, if parts are deformed in an accident, or if the deformed parts are repaired and reused, the parts may become unable to exhibit the same performance as intended in the design.

It is necessary to replace the part where the kink has occurred.





3. IMPACT BEAM REPAIR

The impact beam and bracket are necessary and important parts that help reduce the probability of injury to passengers in side collisions.

For impact beam, we use special high tensile strength steel.

The high tensile strength steel maintains its special crystalline organization by heat treatment or alloy additives.

Since these parts are designed to exhibit its performance in their original shape, if parts are deformed in an accident, or if the deformed parts are repaired and reused, the parts may become unable to exhibit the same performance as intended in the design.

If the impact beam or bracket is damaged, replace the door assembly which has the damaged beam.

Also, the bumper reinforcement is a necessary and important part that helps reduce the probability of injury to passengers in front collisions, and for the same reasons explained above, should be replaced if damaged.