

COLLISION REPAIR INFORMATION

FOR THE TOYOTA DEALER

TITLE: STRUCTURAL REPAIR PRECAUTIONS

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SECTION: STRUCTURAL REPAIR BULLETIN #89

MODELS: ALL TOYOTA/LEXUS
(UNIBODY AND PERIMETER FRAME)

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BACKGROUND

Changes in the structural configuration of steel can take place when it is heated during repairs. Generally, when steel is heated enough, its tensile strength can decrease. When steel is heated above a certain fixed temperature (about 750° F), the qualities of the metal will change. Using heat to stress relieve structural steel can result in:

- destruction of corrosion resistant coatings
- decreased impact energy absorption capacity
- brittleness of the metal
- cracking of the metal

Three types of High–Strength Steel (HSS) are used in the construction of Toyota/Lexus vehicles:

- *Solution Hardened HSS*, typically used for outer body panels, suspension–related components, unibody structural elements, and perimeter frames.
- *Precipitation Hardened Steel* is a high–tensile strength steel used mainly for door intrusion beams and bumper reinforcements.
- *Dual Phase Steel* referred to as quenched martensitic and ferritic structure is also used for intrusion beams and bumper reinforcements.

PRECAUTION

Toyota does not approve of the use of open flame heating to stress relieve High–Strength Steel (HSS), because it is extremely difficult to accurately control the temperature at the correct level in actual repair operations, which subsequently deteriorates the quality, durability and strength of the steel.

REPAIR INFORMATION

“Cold straightening” (stress relieving) is the only repair method used to repair unibody structural members and perimeter frames (excludes all components noted below in ‘replacement information’). If the structural member or perimeter frame can not be satisfactorily restored to original dimensions during this process, it should be replaced.

REPLACEMENT INFORMATION

Replacement and sectioning procedures, as well as location of HSS structural members and body panels are located in each model-specific Repair Manual for Collision Damage.

For perimeter frame vehicles, no sectioning is recommended, therefore the complete frame must be replaced.

The following HSS components must be always be replaced when damaged:

- bumper reinforcements
- suspension components
- door intrusion beams (only available with door shell assembly)

Toyota/Lexus only support the use of genuine OEM replacement parts for collision repair.

For additional information, plan to attend a Toyota or Lexus collision repair training course.

For training course schedule and registration, contact your Dealership Service Manager.

NOTE: PLEASE ROUTE THIS BULLETIN TO YOUR COLLISION REPAIR CENTER MANAGER AND COLLISION REPAIR TECHNICIANS