

COLLISION REPAIR INFORMATION

FOR THE TOYOTA DEALER

TITLE: SPOT WELD REMOVAL METHODS & TOOLS PAGE 1 of 3

SECTION: STRUCTURAL REPAIR BULLETIN #59

MODELS: ALL

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The removal and replacement of spot welds during unibody panel replacement can be performed quickly and efficiently by the following methods:

- drill-through method
- top-drill method
- hole-saw method

This bulletin outlines three spot weld removal methods. This material will help you make a decision on which method to use. The final section is a review of common tools and an example of their use.

- (1) Drill-through method: This method is used when a replacement panel is welded under or sandwiched between existing panels (see illustration A.)

Use the drill-through method when:

- the replacement panel is behind or beneath an existing panel.
- the replacement panel is between existing panels and the welding access is from either the front or the back side. Use the appropriate size drill for the panel thickness and weld diameter (typically 6 to 8 mm).



Illustration A.

- (2) Top-drill method: This method is used when the top or middle panel is removed without damaging the panel beneath. The spot weld is center punched and drilled until the measured depth of the top sheet steel is reached. This will remove the spot weld without unnecessarily removing material from the panel below. It also provides the correct diameter hole for MIG welding; see illustration B.

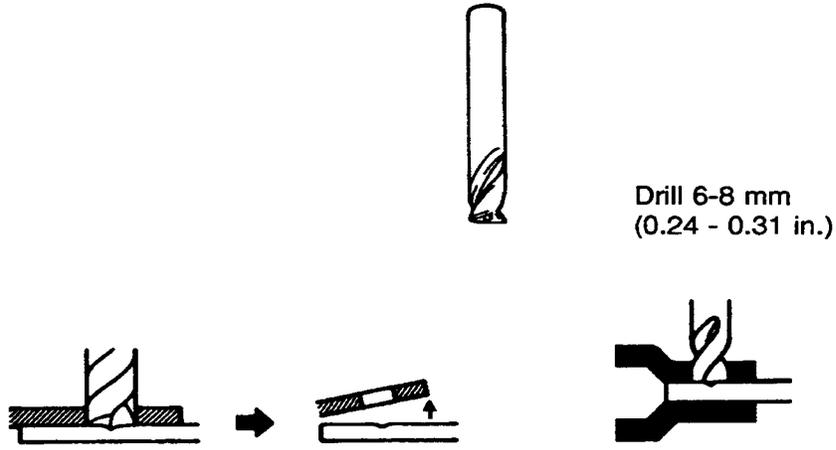


Illustration B.

- (3) Hole-saw method: This method uses a hole saw spot weld remover. Essentially it is the same as the top drill method except the tool used has an additional feature. This tool has replaceable cutters in various sizes (ranging from 1/4 to 7/16 in). To use a small hole saw type spot weld remover, first center punch the spot weld (see illustration C). Next, drill the spot as you normally would. The small nib of metal left after the panel has been removed is eliminated by using a small metal grinding wheel (see illustration D).

TIP: Using a variable speed electric drill or an air drill with controllable air pressure and slow speed will extend the life of the bit.

CAUTION: Safety precautions, safety goggles or similar safety-related protective clothing are mandatory.

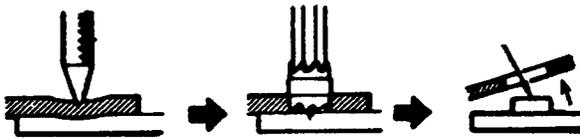


Illustration C.

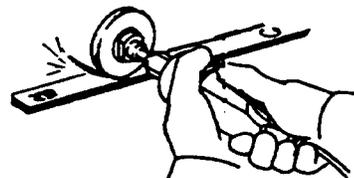
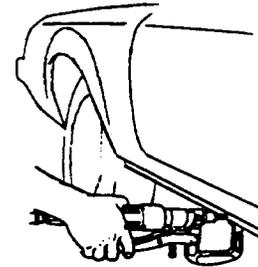
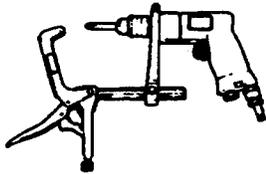


Illustration D.

- (4) Tools: The illustration below shows two different types of spot weld removal tools that support the drill-through and top-drill methods. These types of tools simplify the spot weld removal process and improve efficiency (see illustration E).

Illustration E.



TWO TYPES OF DRILLS

TYPICAL SPOT WELD REMOVAL USE

Additional sources of Toyota structural repair information is available: there are Collision Damage Repair Manuals for each model (as an example the 1995 Supra P/N BRM042E), a Fundamental Body Repair manual which shows typical panel replacement procedures (P/N BRM002E). Finally, a self-study video-based training package entitled Minor Body Panel Repair which gives the latest techniques for panel replacement (P/N 00415-10001).