

A Comprehensive Guide To Full Frame Sectioning

For many years, there has been limited information or recommendations regarding the sectioning of full frame vehicles. However, full frame sectioning recommendations from vehicle makers have become more prevalent over the recent years. In this article, we will address some of the late model full frame vehicles that have sectioning recommendations available.

In the I-CAR Steel Full Frame Sectioning (SPS03) program, information on some of the available sectioning was included. This article provides an update to that list and a brief description of which parts of the frame can be sectioned.

FORD

- Ford has a specific recommendation that the front frame convoluted area cannot be straightened if damaged. This includes kinks and bends. However, some late model Ford full frames have a sectioning procedure for this area of the frame. Therefore, a slight bend in the front frame area doesn't necessarily require the entire frame to be replaced. Ford frames with sectioning procedures include the following:
 - 2003–2005 Ford Expedition/Lincoln Navigator
Front frame horn
 - 2004–2005 Ford F-150 (New Style, not Heritage) (see Figure 1).
Hydroformed front frame horn
 - 1999–2004 Ford Super Duty (250, 350)

- 2000–2004 Ford Excursion
Front frame module
- 2003–2004 Lincoln Aviator
Front frame horn
- 2002–2004 Ford Explorer/
Mountaineer
Front frame horn

There is also one Ford vehicle that provides a repair recommendation for the rear section of the frame. This vehicle is the:

- 1997–2002 Ford Expedition/Lincoln Navigator
Rear-end module

Technical information regarding the repair of the frames can be accessed using the following link:

<http://www.motorcraft.com/>

The installation instructions for each of these parts are also included with the replacement part. It is important to note that there are no sectioning procedures from Ford for the 1997–2003 Ford F-150, Expedition, or Navigator. Tech-Cor, however, has a procedure for sectioning the left front frame horn on this frame. Using this procedure is a business decision. To access the procedure, use the following link:

<http://www.tech-cor.com/bulletins.asp>

The bulletin number is 1999-1.



Figure 1—This part can be ordered to section the front frame on the 2004 Ford F-150.

GENERAL MOTORS

General Motors continues to provide sectioning recommendations for their full frames. These frames include the following:

- 2000–2005 Silverado, Sierra, Tahoe, Suburban, and Yukon. Parts that can be sectioned on the frame include the:
 - Crush cap.
 - Rear end frame module.
- 2002–2005 Chevrolet Avalanche
 - Rail end crush cap
 - Rail end replacement
- 2002–2004 Chevrolet TrailBlazer, Oldsmobile Bravada, GMC Envoy, and Buick Ranier.
 - Front full frame which includes both frame horns and the cross tube (see Figure 2).
- 1997–2004 Chevrolet Corvette
 - Front frame
 - Middle frame
 - Rear frame

The installation instructions for each of these parts are shipped with the part. Procedures for these vehicles can also be accessed using the following link:

<http://www.acdelcotds.com/transaction/subscription.asp>

DAIMLERCHRYSLER

DaimlerChrysler provides sectioning recommendations for the following frames:

- 2002–2004 Dodge Ram
 - Rear H-section
 - Hydroformed front frame horn
 - Shotgun (upper fender rail)
- 2005 Dodge Durango (see Figure 3)
 - Hydroformed front frame
 - Shotgun – upper and lower

Tech-Cor provides a sectioning procedure for the 1994–2001 Dodge Ram 4x4 front frame horns. This procedure can be accessed at:

<http://www.tech-cor.com/bulletins.asp>

The bulletin number is 2000-2. Similar to the Tech-Cor procedure for the F-150, this is not a DaimlerChrysler recommended procedure. Therefore, it is a business decision to use the procedure.

Please note that DaimlerChrysler has stated that their parts should not be sectioned unless there is a:

- written procedure from DaimlerChrysler.
- specific part distributed by DaimlerChrysler (Mopar) as a partial component rather than a complete stamping.

This statement can be found in the Uni-body Analysis And Repair Fundamentals publication #81-699-6017.

MERCEDES-BENZ

The 1998-2003 Mercedes ML provides sectioning procedures for the side rail. The side rail is available in two sections, front and rear.

TOYOTA

Toyota does not recommend sectioning their full frame vehicles. According to Toyota Collision Repair Information Bulletin #89, “for perimeter frame vehicles, no sectioning is recommended, therefore the complete frame must be replaced.”

Other procedures for these vehicles can be accessed using the following link:

<http://techinfo.toyota.com/>

CONCLUSION

With the high number of full frame vehicles on the road, the vehicle makers have recognized the necessity of finding a good repair method without having to replace an entire frame. This has become especially important when there are restrictions about how to repair the frame, such as heating and straightening. For repair information on any full frame vehicle, refer to the vehicle maker web sites that have been linked from this web site.

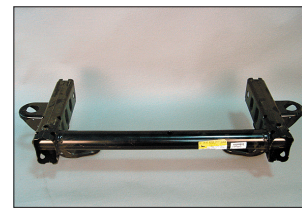


Figure 2—This S/T frame part is available as an assembly that includes both front frame horns and the tubular crossmember.



Figure 3—The Dodge Durango has sectioning procedures for the hydroformed front frame horn.