

Serviceability/ Repair

How to accomplish structural repair
in the field

Not Totaled Repair

- Repair manual must be prepared and validated for structural integrity
 - Materials must be “friendly” for the use in a typical automotive body shop
 - 2 component structural adhesives
 - Static mixer for consistency
 - Disassembly
 - Tools used must be “relatively” conventional
 - Additional damage minimized
 - Heat and prying to debond interfacing “damaged” components
 - Simplified NDT for insuring all “damage” has been identified and replaced.
 - Visual and “coin tap”?
 - Replacement parts
 - Engineered heavier duty?
 - Intentionally stronger than original to account for variation in the repair shop

Not Totaled Repair

- Factory Trained field service (FTFS) inspection prior to return to service
 - Road worthiness confirmed
 - Possibly NDT (portable/hand-held)
 - C-Scan Ultrasonic to document and catalog
 - Mandatory inspections at regular intervals by repair shop and possibly FTFS

Totaled Repair/Salvage

- Major Structural Damage to BiW
 - Salvage yards desire to harvest “approved” replacement parts for cost conscious replacement and repair shops
 - Cut away damaged sections
 - Apply heat and then pry components apart
 - Labor intensive disassembly
 - Soften structural adhesive do NOT char composite resin
 - Removed components to be inspected

Salvage

- Severely damaged composite BiW
 - Those NOT to be salvaged
 - Recycling operation
 - BiW Chopped, resins and metallics removed
 - Chopped CF fibers converted into “Quasi-isotropic” fibers/ mat
 - Re-impregnated with epoxy
 - Returned to manufacturing operation for re-introduction into value stream