Abstract

GEA car manufacturing have done by manual forming process. That thing cause the part of car body can’t be uniformed, forming process requires considerable time, and whether or not the result of making still relies on the expertise of the operation. Frame and door hinges designed by more modern process that using press tool for deficiencies elimination. Frame and door hinges design analysis because load from door leaves must be done.

The steps undertaken research that is doing the design components of the door frame and door hinges using Catia V5R20 software assistance and the material strength from that frame and door hinges design will be evaluated. After that, manufacturing process for frame and door hinges will be design equipped with punch-dies dimension and material.

From the frame design that frame are consist of 7 part which equipped with 2 hinges. Frame and door hinges material are A1011 Class 1 Formable High Strength Low Alloy which has specifications as required automobile world. Pin and bolt material are Electrolytic Tough Pitch Copper, UNS 11000 and that is safe when accepting load. Frame and door hinges forming
process made with bending process and punch-dies material are AISI H13.

**Key word:** design, door frame, door hinges, material strength, bending process