



# Fender Installation Area (Hayrack) Simulation

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## PROJECT SUMMARY

This study was conducted for a major automotive manufacturer and included simulation of the fender installation area, which used floor conveyors to move automobiles on skids through a body shop. The simulation was used to determine if all of the conveyors designed into the system were actually needed to meet throughput requirements. Three different product mixes were simulated in the system.

## SYSTEM DESCRIPTION

A skid arrives at the fender installation area on a non-accumulating conveyor. The skid moves across a power roll conveyor and on to a second power roll conveyor. At the second power roll conveyor, fenders are installed onto the automobile. The skid then moves across a third power roll conveyor and onto a second non-accumulating conveyor. The skid then moves out of the system.

## OPPORTUNITY

The client needs to determine if the first and third power roll conveyors are necessary for the area to meet its throughput requirements.

## APPROACH

The objective of the study was to determine the minimum cost system design that would sufficiently meet the required throughput of the fender installation area.

## SOLUTION

A simulation model was written in ARENA for the fender installation area. The model was designed to allow the user to remove the first and third power roll conveyors from the system, and to change operation times and conveyor speeds. The simulation determined that the first and third power roll conveyors were necessary for the system to meet the required throughput rate.