Flexible Manufacturing

One Design + One Assembly Process = Multiple Models

When different models are designed to be assembled in the same sequence they can be built in the same plant. This maximizes efficiency and allows the company to respond quickly to changing customer preferences.

Virtual manufacturing technology allows Ford to quickly add various models into an existing facility or to reconfigure an existing facility to produce a new model. In the virtual world, manufacturing engineers and plant operators evaluate tooling and product interfaces before costly installations are made on the plant floor. This method of collaboration improves launch quality and enables speed of execution.

Flexible Manufacturing Systems

Through the use of reprogrammable tooling in the body shop, standardized equipment in the paint shop and common build sequence in final assembly, Ford can build multiple models on one or more platforms in one plant.

Body Shop

In the body shop, where the sheet metal comes together to form the vehicle’s body, flexibility means more than 80 percent of the tooling is not specific to one model. It can be reprogrammed to weld a car or a truck or a crossover of similar size.

Paint Shop

In the paint shop, flexibility means robotic applicators are programmed to cover various body styles – as they move through the paint booth – with equal precision. This results in minimizing waste and environmental impact while maximizing quality.

Final Assembly

In the final assembly area, flexibility means the build sequence is the same among multiple models on one or more platforms allowing for efficient utilization of people and equipment.

Flexible Manufacturing Systems – Virtual Verification

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