

Aesthetics

VEHICLE SYSTEMS

An Introduction to automotive design

Automotive design is the consideration of aesthetics during the product development of an automobile. It encompasses almost every aspect of a vehicle's design that is readily visible to the customer – from seats and steering wheel through to the tyre tread pattern.

What influences automotive design ?

- Branding
- Usability
- Security
- Sustainability
- Engineering

Team Work Required

- Marketing
- Finance
- Engineering

Automotive Design Process

Automotive Design Process is important because it;

Influences

Communicates

Changes

Deceives





Deception

Deception – in extreme

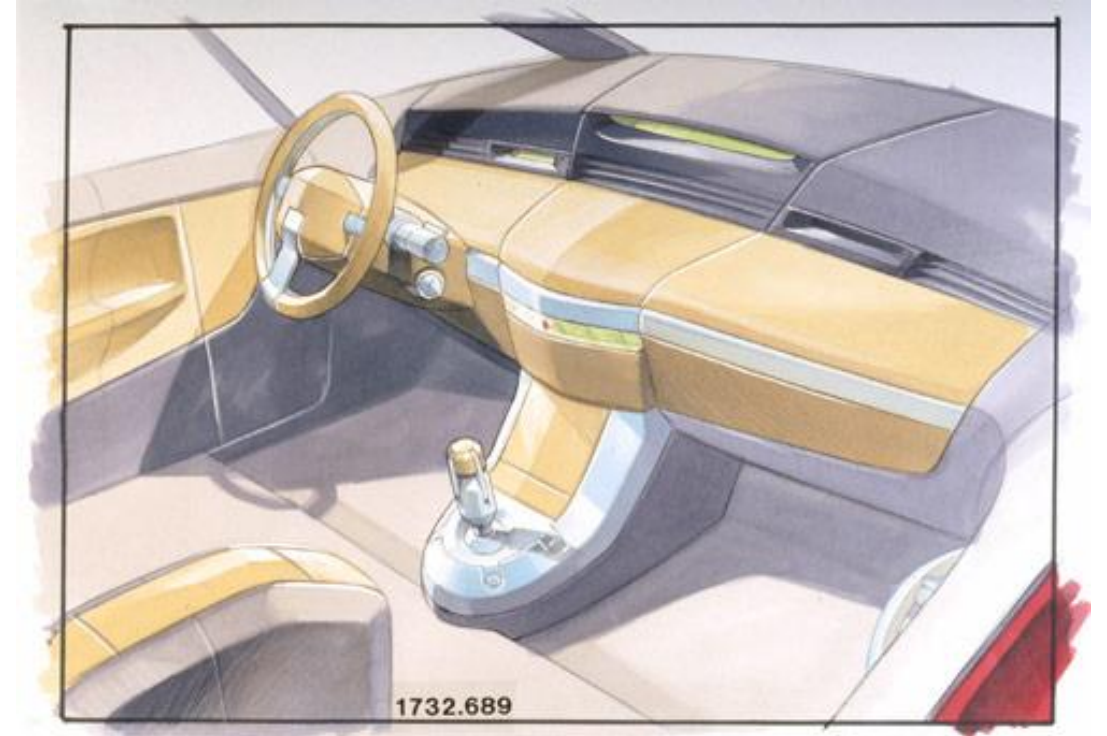


Typical stages of design process

Establishment of vehicle specification

Discussion of first concept sketches

Management review of concept sketches



Concept Sketches

Typical stages of design process

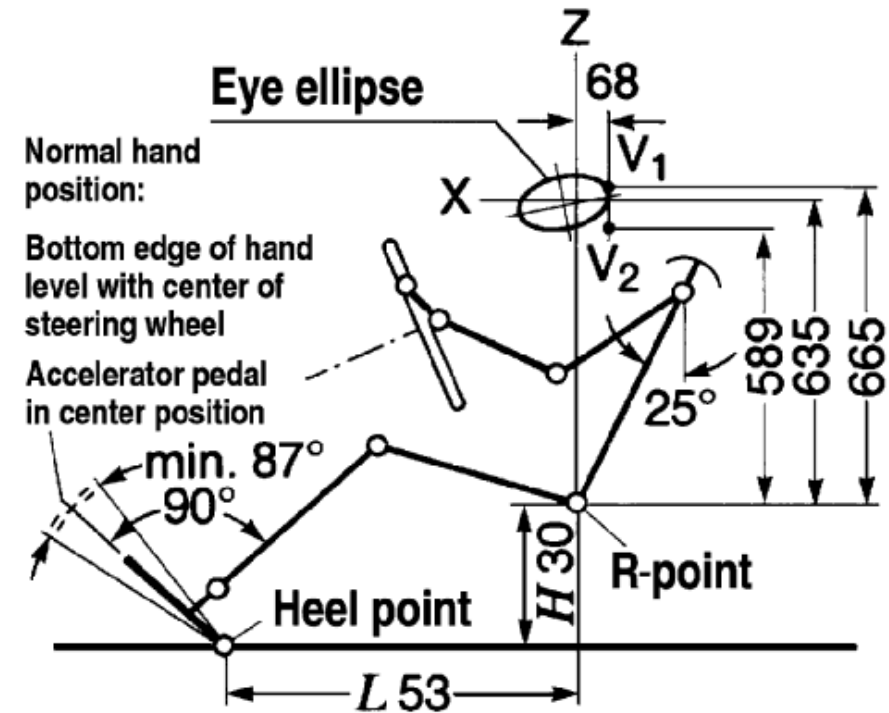
Establishment of vehicle specification

Discussion of first concept sketches

Management review of concept sketches

2D Market Research

Presentation of reworked concepts



Anthropometrics

IS THE COMPARATIVE STUDY OF HUMAN BODY MEASUREMENTS AND PROPERTIES.

Anthropometrics

Scandinavian men are generally tall and Far Eastern women are generally small

However people are changing;

- Getting taller
 - Headroom, seat travel
- Getting fatter
 - Reach, seat width
- Getting older
 - Mobility, ingress/egress

Ergonomics

‘The scientific study of people and their working conditions, especially done in order to improve effectiveness’

Source; Cambridge Dictionary

The cockpit of a stock car serves as the "weekend office" for the drivers. Configured uniquely by each team, it features an extensive array of safety features, as well as instrument gauges that allow the driver to monitor the car's performance.



Automotive Design Process

1) Approval for detailed engineering

2) 3D models are produced, both small scale and full scale

Clay Modelling





CAD Modelling



Automotive Design Process

- 3D market research
- Final approval of 3D Model
- Final feasibility development of chosen concept
- Final approval of design



Design Classic



Design Classic



Design Classic



Design Classic

The Future

Complexity of the product

Designing for safety

Component sharing

Reducing waste

Eco-friendly vehicles

Mass customisation

Inclusive design