AUTOMOBILES

Steam-Powered (Automobiles?)
Newton
Verbiest (1681)
Cugnot (1769)

“Father Of The Automobile ?”
- Definitions
  - Petrol As Fuel
  - Production
- Gottlieb Daimler, 1885
  - Best Engines
- Karl Benz, 1885
- Siegfried Marcus, 1875
- Henry Ford, 1903

Siegfried Markus
- 1875
- Petrol Driven
- Four Wheels
- Steering
- Viennese Police Objected To Noise
- No Future Development
- No Patent

Gottlieb Daimler
- 1886 (Shown)
- 1883 To 1885
  - Petrol Engines
  - First, Two Wheels
  - Then, Four Wheels
- Cannstatt To Esslingen
  - 11 mph - 1.5 hp
- Patent - 1885
- Company - 1899

Karl Benz
- 1885
  - Five Months After Daimler
  - Three Wheels
  - Single Cylinder - 0.9 hp
  - Also Patented
  - Mannheim to Pforzheim
    - Berta Benz Drove
    - Started & Stopped
    - Cleaned Plugs
    - Oil Squirted
    - Trans. Belt Slipped
Panhard-Levassor & Fiat

- Panhard-Levassor (1890)
  - Bought Engines From Daimler
- First Fiat Car (1899)
  - Two Cylinder
  - Horizontally Opposed

Peugeot

- Madame Sarazin
  - License From Daimler
- Armand Peugeot
  - 1896 (shown)
  - 1899
  - Two Cylinder
  - 1.65 hp

Renault

- 1899
- Enclosed Carriage
- Fenders
- Windshield
- Cardanic Drive Transmission

Mercedes

- First (1900)

Ford Motor Co.

- Henry Ford
- Horseless Carriage
  - 1896
- 1903 (Shown)
  - Dearborn, MI
  - 600 Cars Per Year
  - Mass Production?
  - Interchangeable Parts?

Ford Motor Co.

- Model "T" (Shown)
- First Year - 1908
- Production
  - 1908 - 19,000
  - By 1920 - 1,250,000
  - By 1927 - 15,000,000
  - Only VW Beetle Surpasses
  - Europe Adopted Mass Production
  - 1919 - Citroen Type "A"
Advancements
- Disc Brakes - George Labchester (1901)
- Electric Ignition - Robert Bosch (1897)
- Pneumatic Tires
  - John Boyd Dunlop - Son’s Tricycle (1888)
  - R.W. Thompson - Horse Drawn Carriage (1845)
  - Michelin (1894/95)
- England - Little Or No Development
  - Red Flag Act (1865-78) - Slowed Development
  - 4 mph Limit
  - Repealed 1898 - Brighton Veteran Car Run

Advancements
- Charles Rolls & Henry Royce
  - “Silver Ghost” (1907)
  - 50 hp
  - “Finest Car In World”
- Electric Starting & Lights
  - Austro-Daimler (1911)
  - Cadillac (1912)
- Hydraulic Brakes - Duesenberg (1920)
- Full Hydraulics - Citroen (1955)

Japanese
- England
  - Herbert Austin - “Baby Austin” 7
  - 1931
- Datsun Manufactured “Baby Austin”
  - 1935
  - Under License
  - Nippon Steel Co.
  - “Nissan-Letoo
- Largest In World
  - 7 Million Per Year