

---

# INTERCHANGEABLE PARTS

1.1.3 Manufacturing Research Presentation

Matthew Jeide

9/30/25

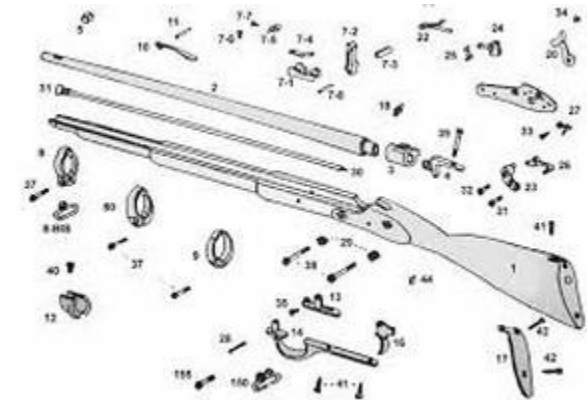
CIM Period 2



---

# WHAT ARE INTERCHANGEABLE PARTS?

- Standardized, identical components are manufactured so each part fits into any product of the same type.
- Easily replaceable: if a part breaks, you swap it without custom fitting.
- Mass-produced with machinery, not hand-crafted individually.
- Foundation of modern manufacturing: enabled assembly lines and large-scale production.



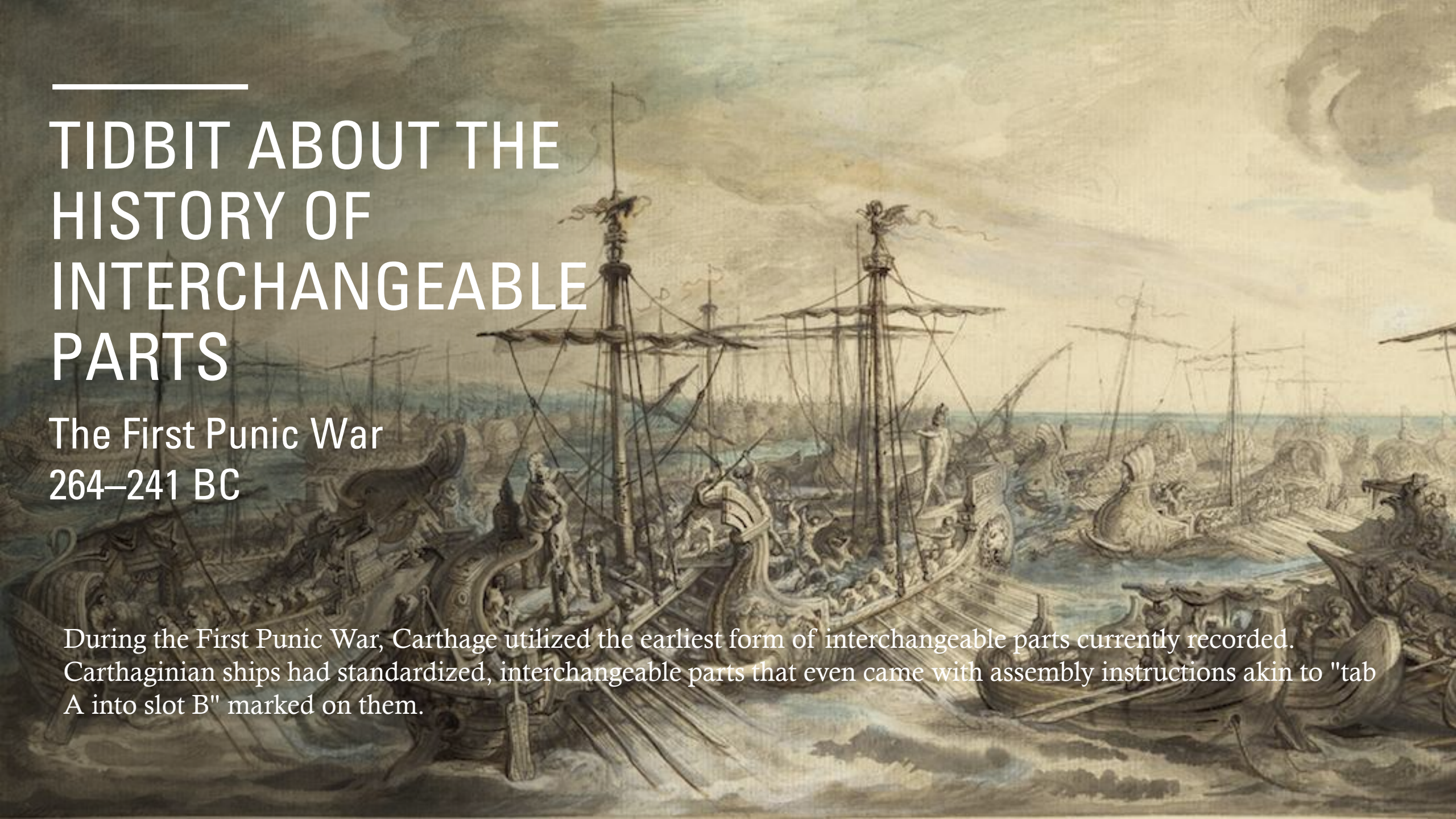


---

# TIDBIT ABOUT THE HISTORY OF INTERCHANGEABLE PARTS

The First Punic War  
264–241 BC

During the First Punic War, Carthage utilized the earliest form of interchangeable parts currently recorded. Carthaginian ships had standardized, interchangeable parts that even came with assembly instructions akin to "tab A into slot B" marked on them.

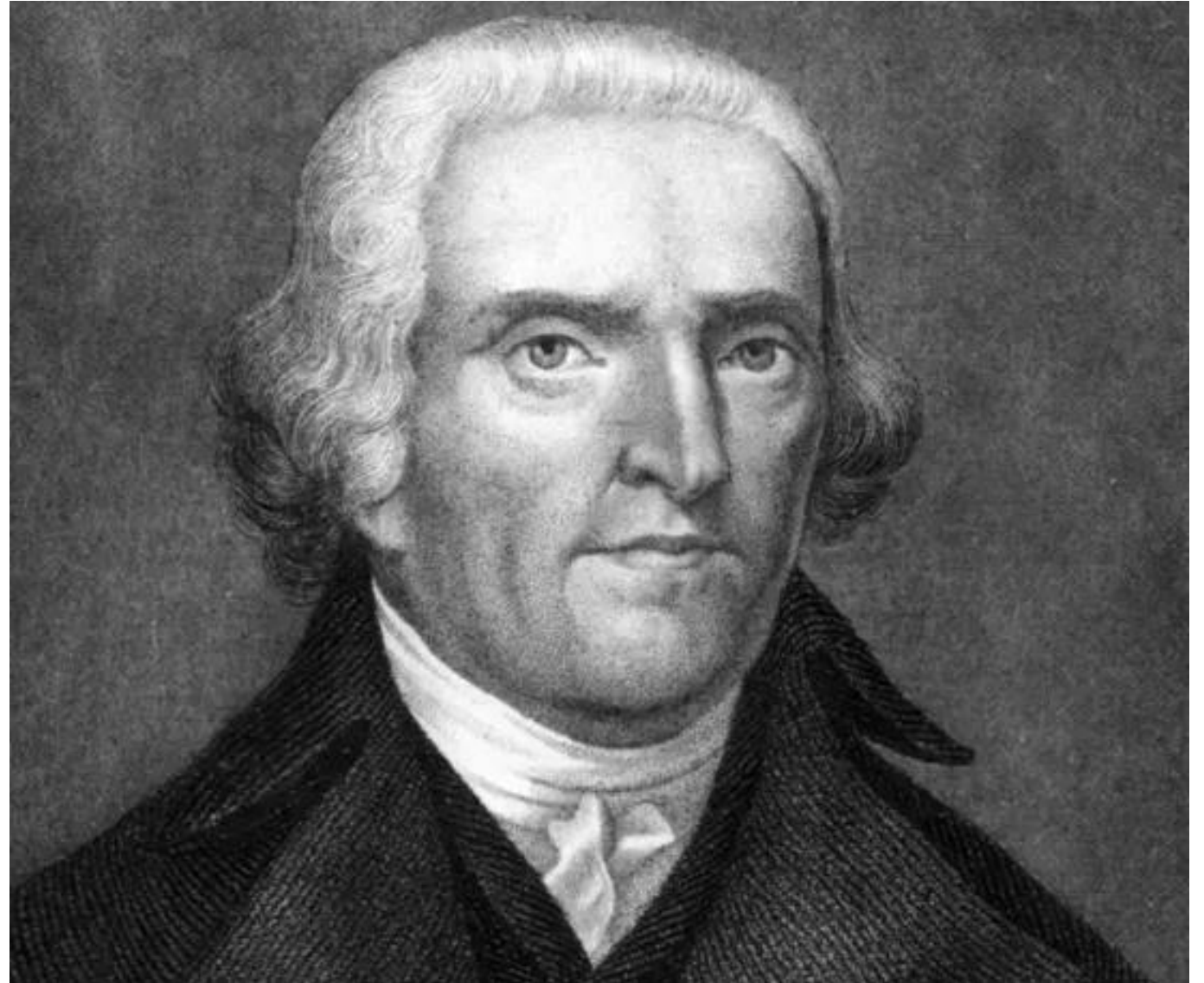




---

## “MODERN” HISTORY OF INTERCHANGEABLE PARTS

- Honoré Blanc (1736-1801)
  - Some people credit Blanc for the first modern “implementation” of interchangeable parts.
- But we don’t care because:
  - Blanc didn’t mass-produce with this system.
  - Blanc was French.



---

# ACTUAL MODERN HISTORY OF INTERCHANGEABLE PARTS

- Eli Whitney (1765-1825)
  - 1798: Got a contract from the U.S. gov't to make 10,000 muskets.
  - Popularized interchangeable parts in the U.S. (though his factory struggled at first).
  - Famous demo: dumped musket parts in a pile, reassembled working guns from random pieces.
  - Became known as the “father” of interchangeable parts in America.
  - AMERICAN RAH!





---

# HOW DO WE USE INTERCHANGEABLE PARTS IN THE MODERN DAY?

- In nearly literally everything.
- Any product assembled from two or more parts utilizes the concept of interchangeable parts.



2006 Honda Civic



PS5



Dr. Pepper Bottle



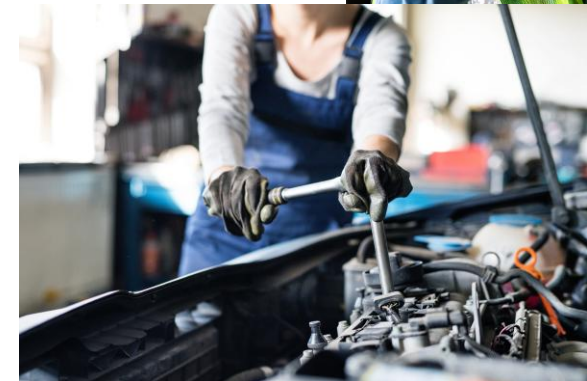
IKEA Chair

---

---

# CAREER OPPORTUNITIES

- Manufacturing engineers → design processes to mass-produce standardized parts.
- Industrial designers → create products that use modular, interchangeable components.
- Automotive/aviation technicians → specialize in repairing vehicles with standardized parts.
- Supply chain managers → coordinate global movement of interchangeable parts.
- Quality control specialists → ensure each part meets identical standards.



# CITATIONS



BBC Article – How interchangeable parts revolutionised manufacturing  
Harford, T. (2019, October 8). How interchangeable parts revolutionised the way things are made. BBC. <https://www.bbc.com/news/business-49499444>

Foodsco – Dr Pepper soda bottle image  
Dr Pepper soda bottle [Image]. (n.d.). Foodsco. Retrieved September 30, 2025, from <https://www.foodsco.net/p/dr-pepper-soda-bottle/0007800008240>

Wikipedia – First Punic War  
First Punic War. (n.d.). In Wikipedia. Retrieved September 30, 2025, from [https://en.wikipedia.org/wiki/First\\_Punic\\_War](https://en.wikipedia.org/wiki/First_Punic_War)

Wikipedia – Honoré Blanc  
Honoré Blanc. (n.d.). In Wikipedia. Retrieved September 30, 2025, from [https://en.wikipedia.org/wiki/Honor%C3%A9\\_Blanc](https://en.wikipedia.org/wiki/Honor%C3%A9_Blanc)

IKEA – Stefan chair  
IKEA. (n.d.). STEFAN Chair, brown/black [Product page]. Retrieved September 30, 2025, from <https://www.ikea.com/us/en/p/stefan-chair-brown-black-00211088/>

Wikipedia – Interchangeable parts  
Interchangeable parts. (n.d.). In Wikipedia. Retrieved September 30, 2025, from [https://en.wikipedia.org/wiki/Interchangeable\\_parts](https://en.wikipedia.org/wiki/Interchangeable_parts)

KBB – 2006 Honda Civic image  
Kelly Blue Book. (n.d.). 2006 Honda Civic EX Sedan 4D [Image]. Retrieved September 30, 2025, from <https://www.kbb.com/honda/civic/2006/ex-sedan-4d/>

PlayStation – PS5  
Sony Interactive Entertainment. (n.d.). PlayStation 5 [Product page]. Retrieved September 30, 2025, from <https://www.playstation.com/en-us/ps5/>