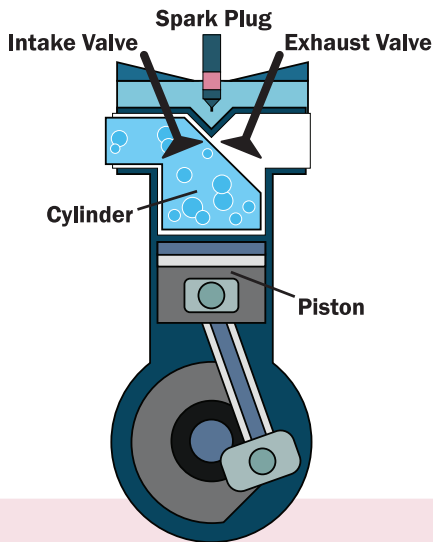


INDEPENDENT FUNCTIONS



CONCEPT Independent functions refer to the ability of individual components or subsystems to perform their intended function independently, without relying on other parts or systems to function properly. This design approach is often used in advanced manufacturing processes where high precision, efficiency, and reliability are critical.

BACKGROUND

The modern approach to independent function design emerged in the 20th century with the advent of advanced manufacturing processes and computer-aided design (CAD) tools. The emergence of modularity, precision engineering, automation, and integration enabled the development of complex manufacturing systems that could achieve high levels of efficiency, scalability, and reliability. Today, independent functions are an essential aspect of modern mechanical design, enabling manufacturers to achieve greater flexibility, modularity, and scalability in their production processes, while also improving efficiency, reliability, and maintainability.

REAL WORLD CONNECTIONS

For communities, the development of advanced manufacturing processes and systems can have significant economic impacts, creating jobs and driving innovation.

For public power, the principles of independent function design can help utilities achieve greater efficiency and reliability in their power generation and distribution systems.

For Nebraska, the development of advanced manufacturing systems and processes can drive economic growth and innovation, helping the state remain competitive in a global marketplace.