



## Manufacturing

From Price Tags to Process Control

### World's Biggest Forging Press

Aluminum Company of America (ALCOA), Forging Division in Cleveland in 1954 began operating the world's largest fabrication tool. It was a 50,000-ton hydraulic forging press critical in development of aircraft and aerospace vehicles. It was designed and built for the U.S. Air Force by the Mesta Machine Company of Pittsburgh, following the discovery a 30,000-ton press used by the Germans in World War II (later acquired by the Soviet Union). It remains in use as one of the world's largest hydraulic presses.



### What is a Press Forging?

Press Forging is a process whereby slow pressure is continuously applied to the area to be shaped. The pressure extends through the material which can be either hot or cold. Cold press forging is primarily used on thin materials, while hot press forging is preferred for larger work such as parts for trains and heavy machinery.



### What is a Hydraulic Forging Press?

A basic forging press exerts a force that presses steel, aluminum, or other metal alloys into a shape, determined by the shape of a "forging die." Forging presses are used for manufacturing everything from gears to automotive wheels. Hydraulic presses are primarily used for large or complex dies and for extrusion. They work via high-pressure fluid produced by hydraulic pumps and are used in forging large airplane components, for example.

### Find out more...

- [Aluminum Company of America](http://www.alcoa.com)  
([www.alcoa.com](http://www.alcoa.com))
- [The History of ALCOA](http://www.alcoa.com/global/en/about_alcoa/dirt.asp)  
([www.alcoa.com/global/en/about\\_alcoa/dirt.asp](http://www.alcoa.com/global/en/about_alcoa/dirt.asp))
- [Alcoa Wheel and Forged Products - Cleveland](http://www.alcoa.com/locations/usa_cleveland/en/home.asp)  
([www.alcoa.com/locations/usa\\_cleveland/en/home.asp](http://www.alcoa.com/locations/usa_cleveland/en/home.asp))