

Project Title: [Arbor Press Alignment](#)

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Area: [Mechanical Engineering](#)

Sponsor: [PHD Incorporated](#)

PHD Incorporated—located in Fort Wayne, Indiana—is a lead manufacturer of industrial automation products. This company is pursuing assistance in the development of an arbor press fixture with the intention of improving manufacturing efficiency, safety procedures, and tool durability. The goal of this investigation is to construct a fixture that effectively secures at least three separate stock assembly parts in place. Simultaneously, this fixture must permit the administration of either a bearing, pin, or flat punch through a communication hole or open surface on the part in a precise, prudent manner. This will be accomplished through the administration of a punch either flush with the fixture surface or below the fixture surface. Current fixtures are equipped to secure parts in place. Albeit, the alignment of the fixture with the hole punch bit is a safety hazard since the hole punching bit is prone to snapping and injuring the operator. It is also important to note that the fixture is not fastened to the arbor press plate. PHD Incorporated is seeking a fixture capable of withstanding one million cycles of cyclic loading through the provision of a \$500 budget. It is also pertinent to avoid sustainable materials that adhere to the provided dimensions of the arbor presses and fixture assemblies aforementioned.