

## 90 Degree Upender Designed with Shuttle Deck for Fiber Lay-Up



### The Challenge

Aerospace manufacturer that specializes in the aerostructure of engine-related components was looking for a new process for fiber lay-up. The company uses a hand lay-up precision technique, which can be difficult to access both ends of the vertical component because of the scale of the structure. In the past, workers had to crawl into the mold component to access each end to complete the fiber lay-up process. The main challenge was to design a lift handling system specifically capable of holding the unique component, and also tilt and shuttle with a precise degree of measurement. A secondary challenge at the customer's request was to fit the lift with a protective shade that would raise and lower with the 90-degree tilt operation and extend along with the shuttle deck.

### The Autoquip Solution

Autoquip has custom engineered the 90 Degree Upender with shuttle deck extension that will provide a better solution for accessing all parts of the component. The workers will be able to easily secure the mold component to the lift platform and lock in place with the fixed clamps. They can then tilt the mold upright to access the top of the part for fiber lay-up. Once that end is completed and with a push button control, the platform will shuttle up 36 more inches to access the bottom end of the mold to finish the lay-up process. The protective shade has been custom fitted and mounted to the tilter, and will rise with the tilt movement.

Custom Features Include:



1. 90 degree tilt with shuttle deck that extends out by 3 ft.
2. Platform Size 72×95
3. Safety features to alert and protect personnel around the operating zone
4. Custom fixture clamps to hold part in place as it is shuttled
5. Photo-eye to help detect the pallet is in the correct location
6. Cylinder boot covers
7. Verification light on pushbutton for Ok to tilt.

## The Solution Benefits

The customized tilt system will result in fewer touch labor hours and a more efficient fiber lay-up process. The workers can still apply the hand lay-up technique, but now with more precise control and easier access than before.