Autoquip®

High Travel Scissor Lift for Large Air Craft Components

The Challenge

A large aircraft manufacturer needed a better solution for facilitating the installation of their equipment and components for assembly. The current process was becoming labor intensive as the set up to move the components became very time consuming and required several pieces of equipment and manpower just in preparation to transfer the components to the work stations. A lot of the times an overhead crane or tugs were used, but the task of lining up the components for mating became challenging.

The lifting equipment solution needed to accomplish three key tasks for the customer:

1. Transfer components to work stations for aircraft assembly.
2. Precise positioning for mating components.
3. Easy maneuvering for odd shaped or unbalanced components.

The following technical specifications were required as part of the lift design:

1. Include features for mobility in order for the lift to be attached to a rolling cart and when the lift supports the maximum payload; it will be capable of rolling smoothly for the positioning of installation.
2. Sized for the maximum equipment and component footprint per customer requirements.
3. Designed to assure stability and include necessary safety features.
4. Lift controller to be capable of moving payload slowly and safely to within ½” of its mounting surface.

The Autoquip Solution

The chosen solution for this project is the T2 Tork Lift designed with a stable scissors leg structure that consumes less floor space and travels the same vertical distance. The T2 has unlimited possibilities when it comes to customizing, so our engineers got busy conceiving a plan to design the lift with all the features the customer required of their application.

The final design of the lift included the following custom features:

1. Spherical roller balls added to transport base for making the lift easy to roll to approximate position for installation.
2. Integrated fork pockets for quick and easy pick up to relocate the lift to any work station within the plant.
3. Upper travel limit switch used to control travel requirements.
4. Single phase power unit for plug and play in almost any place in the plant the lift will need to be used.
5. Special power unit with fan powered oil cooler due to creep speed as used for the precision positioning for mating components.
6. Center of gravity marker on the platform allowing the workers to properly position components for a level position location in mating the components.

Lift Specifications:
Product Family: High Travel Scissors Lift
Model#: T2-120-060
Capacity: 1,700 lbs.
Platform: 80X88
Travel: 98”
Actuation: Electrohydraulic

The Solution Benefits

Autoquip was chosen for this project due to our ability to provide a custom design solution that met all the technical specifications and delivery time required by the customer. The lift has provided the customer with all-in-one, easy to use and easy to move scissor lift that has helped improve overall productivity of their component installation and assembly.