

High Capacity Scissor Lift: Handles 50,000 lbs. Gas Turbine Engine



The Challenge

A supplier of gas turbine engines is looking to upgrade and incorporate four new engines to power generation stations, but faced a challenge using lifting cranes.

- The older models of gas turbine engines were previously installed using an overhead crane, but this type of lifting method is not possible with the new gas turbines.
- The customer needs a lifting solution to handle the capacity requirements of the new engines, and one that is more cost effective than having to rebuild the enclosure around the power generation or replacing the cranes.

The Autoquip Solution

Autoquip recommended a custom-engineered Tork – T1 scissor lift designed and rated to lift the 50,000-pound requirement of each turbine engine. Several design features were added to the Tork scissor lift so that risk of damaging the turbine casings or stressing the parts while it is laid on its side would be minimized. These design features will stabilize the turbine engine while the overhaul takes place.

Design Features:

- The Tork scissor lift is designed to set on guide rails to create stable flooring as the lift moves along 358" to the power station. This also creates a portable solution for moving the rails and lift to all four



power generation stations.

- Custom fixtures built on top of the lift platform to cradle the turbine engine and ensure a safe transfer.
- The platform also shuttles and extends to help align the gas turbines closer to the power generators.
- Two vertical cylinders are used for the required stroke which will raise the lift only 8". The vertical cylinders are designed with rod locks and are activated any time the lift is stopped which locks the lift in place and prevents any drifting.
- Pressure transducers sense and alert the operator if they have put more weight on the lift than the rated capacity.

The Solution Benefits

Autoquip provided the customer with a more cost effective solution for replacing their gas turbine engines rather than rebuilding the power generation stations and enclosures. Employing a scissor lift – lifting method will reduce time involved in the replacement effort, handle the large capacity, and provide more precision to the installation process.