

CASE STUDY



World leading aerospace company selects Doerfer's Wheelift technology for contract maintenance within Air Force's military aircraft complex.

Challenge: To provide a mobile long reach heavy duty programmable robotic arm with close positioning and movement capability while keeping a stable tool "focal length"

Solution: Provide a 4-axle mobile platform using Wheelift technology with a mounted robotic arm powered off the onboard hydraulic system.

Benefit:

- Increased productivity
- Product accessibility
- Controlled positioning & movements



A world's leading aerospace company and manufacturer of commercial jetliners and military aircraft needed a one-of-a-kind maintenance tool to support their contract maintenance agreements for military aircraft. Wheelift technology provided the foundation for their needs.



Process-driven features include an onboard hydraulic system, system monitor, program monitor, 3% slope capability, 5" vertical travel for surface compliance, weatherproofing for damp environment, and wireless pendant control.



The maneuverability of this new Mobile Manipulator for aircraft coating removal is made possible with Wheelift all-directional steer, precision equalizing suspension wheel modules. This 50,000 lb. manipulator nimbly moves around an aircraft fuselage, maneuvering a FlashJet light head across the aircraft surfaces to burn the paint off the fuselage to a precise depth turning it to powder, rather than using a traditional chemical paint removal process. With this unique process, the primer was left in tact.



The Wheelift module provides capacity along with a degree of flexibility not obtainable through other technologies. Worldwide niche markets drive manufacturing flexibility for product customization and configurable work processes. Wheelift Transporters and AGVs facilitate this requirement.

Manufactured in Iowa, **Wheelift** Transporters and AGVs are custom developed to each application including close positioning die loading, roll transfers, assembly, and general material handling. Load deck and fixturing is built to suit with load capacities to 500+ tons and deck heights as low as 18". Power options include LP gas, diesel, battery, or on-board generator. Electric or hydraulic drives are standard. For more information on our Wheelift Transporter and inertial/wire guidance AGV systems, please visit us at www.wheelift.com

The mobile platform has four on-center rotation axle assemblies. With their 3-point fluid equalizing suspension, the axles have interconnecting fluid lines that divide them into load sharing groups to assure that every wheel carries only its specific share of the load, regardless of variations, slopes, and irregularities in the floor surfaces. Floor loading is dispersed with ground pressure loads spread over a wide footprint.

Headquartered in Iowa, **Doerfer** develops application specific, custom manufacturing systems and machinery - many which revolutionize the way our customers manufacture, assemble, move, package, and test their products. We thrive on your toughest process challenges for manufacturing. For more information on our capabilities, please visit us at www.doerfer.com