

Front Hood Assembly Lift,
Transfer and Install Assist



Success Story

NEW PRODUCT LINE

A new tractor was being added to the customer's assembly line and they were looking for a state of the art handling device that would assist their operators in the assembling of this new tractor by handling the new diesel particulate filter, hood, fuel tank, chassis and battery. These were all critical parts for the assembly process on the tractor that had to be done correctly and with precision.

The customer researched the market for these types of handling devices and made multiple different onsite visits to other facilities. They came across Knight Servo Arms in an automotive manufacturing plant and were impressed with the design, functionality, and ease of use.

S Knight Global's solution to facilitate these various types of material handling jobs was to implement a common design factor between all applications. The combination of ease of use, precision and the right amount of travel was focused on, so the customer could efficiently run these new tractors down the line without stopping for the assembly process.

O Knight's designers worked closely with the customer to program the servo systems virtual travel limits and speeds with the speed of the line and operators.

L The Servo Systems instantaneous response features and lifting speeds greatly increased their cycle times while the various programming features, i.e., virtual travel limits, programmed positioning, active dampening and float mode improved the ergonomics for the operators and provided a safer work environment on the assembly line.

T The combination between Knight Servo System technology and the various styles of end effector design provided by Knight Global proved to be the perfect solution for the customers new tractor assembly applications.

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Knight designed a servo and pneumatic operated Vacuum Style End Effector that is accurately maneuvered by Knight's overhead mounted KSHCA Series Articulating Arm.

The operator can quickly attach the adjustable angle end effector to the hood assembly by the use of four vacuum cups; then move the hood from the dunnage table to the tractor chassis on the assembly line.

Once the hood is close to being in the mounting position, the operator switches the Servo System into float mode by a quick press of a button on the control handle, grasps the part and then physically positions the hood into its final mounting position with precision.