



Fastening Tools and Arms

Knight Global's Torque Tube and Torque Arms are designed to reduce an operator's fatigue by absorbing torque reaction produced by assembly tools while balancing the tool weight. Torque Tubes use a pneumatic cylinder or spring balancer to achieve zero gravity balancing.

Torque Arms allow end tooling to be mounted to a rigid vertical mast. Vertical travel is achieved with a Knight Pneumatic Balancer, Servo Hoist, Pneumatic Cylinder or Chain Hoist. Torque Arms are typically used in applications that require significant UP/DOWN travel and precision placement for heavy loads.

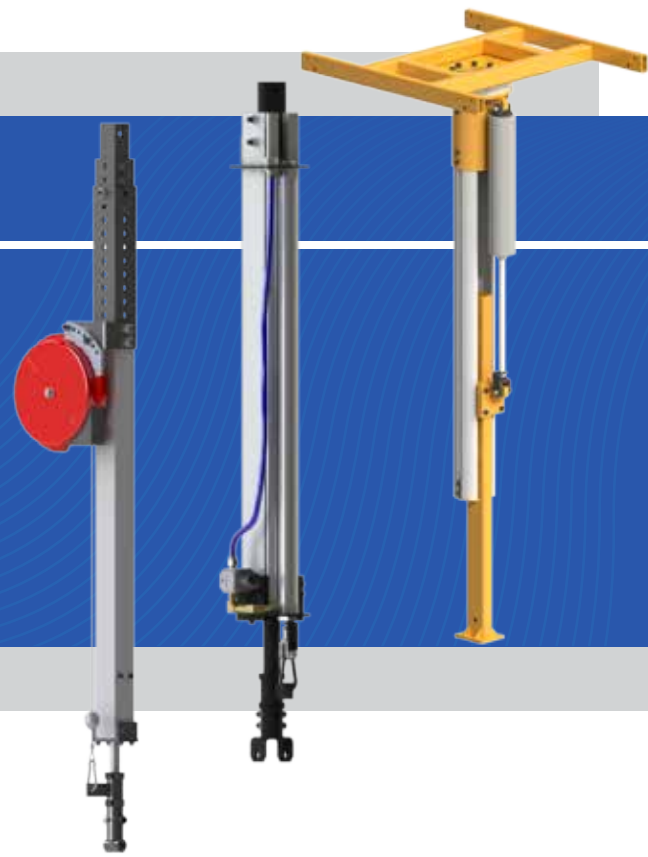
Knight Global Torque Tubes and Torque Arms can be used in a variety of different applications like torque tool holders, direct loads and to assist in the vertical travel of a arm or end effector. Knight torque tubes and arms are available in custom lengths and come with a 1 year manufacturer warranty.

Knight Torque Tubes and arms are available in custom lengths and come with a 1 year manufacturer warranty. They are available in numerous weight capacities and can be custom designed into many different applications.

Maximum Travel: Varies per application.

Maximum Torque: Up to 853 ft./lbs. [1,156 Nm]

Maximum Balancing Capacity: Up to 500 lbs. [227kg] at 100 psi [6.8bar]



Torque Tube Instrument Panel Secure with Torque Spindles

The customer required a tool that could quickly secure the outer instrument panel fasteners on the vehicle while traveling down the line. The tool needed to be light, small in size and able to adjust to multiple heights for different vehicle models.

Knight Global designed a torque tool holder utilizing a Knight ATA1550-25 Medium Duty Spring Balancer Torque Tube that is capable of adjusting to multiple heights and a customed End Effector to accommodate the supplied torque tools for the instrument panel installation.

Products

- Custom Overhead Carriage and Vertical Arm
- ATA1550-25 Medium Duty Spring Balancer Torque Tube
- Custom End Effector
- Supplied Torque Tools

Torque Arm Tie Rod to Knuckle Nut Runner Secure

The customer needed a new line of tie rod to knuckle nut runners for a new vehicle being manufactured on the line. The tool needed to be able to accommodate multiple vehicles.

Knight Global designed a series of nut runner torque arms that utilized Knight's standard overhead carriage and a custom length vertical arm. A custom length and travel torque arm was implemented with a custom end effector to attach the supplied torque tool for the application.

Products

- Overhead Carriage and Vertical Arm
- Custom Torque Arm
- Custom End Effector
- Supplied Torque Tool



Truck Bed Tie Down Plate Torque Arm

The customer's existing tool was only capable of utilizing two types of fasteners to attach the tie down plates within the truck bed. While attaching the inner fasteners for the plates it was also difficult for the line operator to view the the actual positioning of the fasteners before securing them because they were working blind by having to stand on the outside of the truck bed.

Knight Global designed a torque arm that was smaller and more compact for ease of use utilizing a custom designed end effector that was capable of accommodating the customers request for four different size fasteners. Knight implemented a LCD monitored visual camera system allowing the operator to clearly view the operation of attaching the fasteners from the outside standing area of the truck bed.

Products

- Custom ATA4500 Heavy Duty Torque Tube
- Custom End Effector
- LCD Monitored Visual Camera System
- Supplied Torque Tools