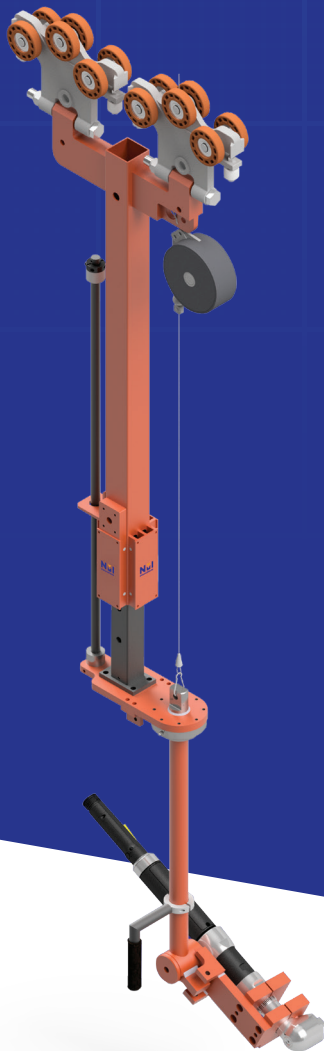


# Torque Tube with Zero-Gravity Balancing

Custom torque tube solutions enhance ergonomics, safety, and precision, minimizing operator fatigue and improving fastening accuracy across high-torque applications.



Watch the  
Torque Tube  
in Action



## ► CASE STUDY

### Torque Tube with Zero-Gravity Balancing



### Challenge

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In high-torque applications, rotational forces from tools act at a right angle to the handle, requiring operators to absorb the motion and apply counterforce. This repetitive action, especially with heavy tools, can lead to fatigue and pose ergonomic risks.

### Solution

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- **Torque Tube Integration:** Torque tubes lift, lower, and position tools with minimal effort, absorbing both tool weight and torque reaction forces.
- **Zero-Gravity Balancing:** Spring balancers or pneumatic cylinders allow easy tool positioning, reducing strain on operators.
- **Adjustable Travel Limits:** Built-in stops ensure precise control of tool movement, improving safety and accuracy.
- **Flexible Mounting:** Torque tubes integrate with most overhead rails, enabling use in various work environments.
- **Tailored Design:** NMI customizes solutions on-site for torque applications ranging from 10 to 2000 Nm, adding optional tool holders as needed.

### Outcomes

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The Torque Tube with Zero-Gravity Balancing from NMI Innovations has enhanced productivity and safety in the following ways:

- **Ergonomics:** Balances tool weight, reducing fatigue and allowing longer, more comfortable shifts.
- **Safety:** Protects operators by absorbing rotational forces, preventing torque-related injuries.
- **Precision:** Stabilizes tools, eliminating cross-threading and ensuring precise fastening.
- **Efficiency:** Supports multiple orientations and multi-spindle applications, reducing repositioning and improving productivity.

Nothing is more critical than your facility's safety and efficiency. NMI collaborates with our clients to provide custom-engineered, ergonomic equipment that seamlessly fits into existing workflows. Our commitment to innovation and user-centric design has led to hundreds of assembly and handling solutions, all purpose-built for today's industrial workspace.



**CONTACT US TODAY TO GET STARTED ON YOUR CUSTOM SOLUTION.**