

TQ Review

Formerly known as "Jacks Journal"



from Trans-Quip Inc.

Exploring the Pros & Cons of Screw Jacks vs. Hydraulic Cylinders

by Mike Harris, Director of Marketing, Joyce/Dayton

Screw Jacks and Hydraulic Cylinders each offer their own unique advantages as lifting and positioning devices. Screw jacks are often preferred for their self-locking characteristics, ability to withstand harsh environments, minimal drive components, and high duty cycles.



Mechanical Screw Jack

Over time, hydraulic cylinders can lose position or "creep" due to loss of pressure at the pump or through the cylinder seal. In some cases, a damaged hydraulic line or hose can cause complete loss of position. This will not happen with Joyce/Dayton Screw Jacks since the primary lifting mechanism (acme thread) is inherently self-locking i.e. the jack will not "creep" even when the drive motor is shut down.

Harsh environment applications such as steel mills, paper mills, mining, oil & gas, and primary metal smelting operations are other areas where Joyce

Screw Jacks are preferred over hydraulics. Joyce Jacks commonly operate for many years in these environments where hydraulic cylinders would simply not survive the fluctuating temperatures and gritty conditions without frequent breakdown.

Additional benefits of screw jacks include minimal drive components and setup simplicity. Where hydraulics require a pumping device, oil reservoir, and oil lines, Joyce Screw Jacks can be directly connected to a drive motor and a simple on/off control device.

Joyce recently introduced its line of Electric Cylinders. The Joyce Electric Cylinder is designed to have the appearance of a hydraulic cylinder while offering the inherent advantages of a mechanical screw drive.

High duty cycle applications now utilize Joyce Ball Screw Jacks over hydraulic cylinders. While not self-locking, Joyce Ball Screw Jacks can be easily locked into position with the use of a common brake motor.

The next time you're deciding on whether your application requires a Screw Jack or Hydraulic Cylinder, please consider the many advantages of using Joyce/Dayton Screw Jacks. Visit www.trans-quip.com for more information.

PalletPal® Lift Truck Available with 79" Long Forks

The PalletPal® Lift Truck from Southworth combines the best attributes of a lift table and a pallet truck, allowing the operator to pick up a load, transport it to the workplace, and lift it to the most convenient working height.

With a lifting capacity of 3,300 lbs., the PalletPal Lift Truck can be raised as high as 31½". The electric-lift model, powered by a 12-volt maintenance-free battery, raises a load to the highest position in less than six seconds.

This model includes extended-duty cycles, a battery discharge indicator and an automatic battery charger.

The manual-lift model provides two lifting speeds: 17 strokes for light loads and 56 strokes for heaving ones.

Standard safety features include



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an overload relief valve and automatic stabilizers that take over from the wheels and lock into place when the load is approximately 15" high. High-tensile-strength-steel construction reduces weight without sacrificing strength. Standard forks are 45" long, with either 20½" or 27" as the outside dimension. For longer loads, 79" forks are available.

PalletPal Lift Trucks are ideal for anyone feeding printing presses, cutters, binderies, metal presses,

conveyors, packaging stations, etc.

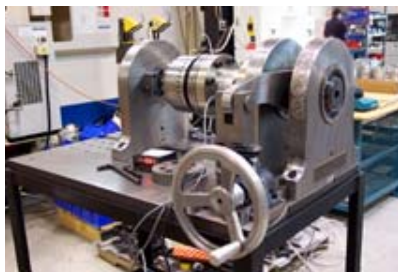
Whether used for picking orders, positioning materials at production machines or other applications, they reduce production time and labour turnover by eliminating repetitive bending, lifting and carrying, all at a fraction of the cost of a driver-operated fork lift truck.

For more information, visit www.trans-quip.com or call Chris Daley at 1-866-261-0251, ext. 307.

FEATURED APPLICATIONS

Torsion Rig Incorporates Screw Jack

Autocom Manufacturing, a division of Linamar, is a Guelph ON based manufacturer of auto transmission parts. A torsion rig was designed for testing torque on an automotive transmission



component up to 3,500 foot lbs. In order to achieve precise measurement, they considered both hydraulic and mechanical solutions to move the torsion arm,

however hydraulic cylinders were eliminated as the company did not want any backlash to occur during testing. They approached Trans-Quip Inc. for a mechanical solution.

Along with engineering assistance from jack manufacturer Joyce/Dayton, Trans-Quip was able to supply Autocom with a mechanical screw jack and handwheel (Model #WJT125U1K-6-HW12-STDX-B). This system allows the operator to manually turn the handwheel, raising the jack that actuates the torsion arm until the required torsion level was exerted onto the part.

JACK SPECIFICATIONS:

Model: WJT125U1K-6-HW12-STDX-B
Capacity: 5 ton Ratio: 12:1 Rise: 6" travel
Screw Type: Mechanical Screw Jack with Hand Wheel

Screw Jacks Turn Polishing Wheels

Cambridge, ON based Todd Engineering is a design and fabrication company specializing in machinery targeting the automotive, woodworking, plastics and metal working industries. Recently, the company was approached by a customer to design a polishing machine for individual components which vary in width and length.

During the design process, Todd Engineering was able to eliminate the need for multiple machines that would normally be required to handle the polishing process by creating and fabricating a "multi-task machine". With Trans-Quip's aid, they were able to develop their idea and bring it

to market. By adapting Joyce® machine screw jacks (model WJ250U2S-5-STDX-STDX-X) to each of the 4 polishing wheels, the multi-task



polishing machine is easily adjusted. By using hand wheels to manually raise and lower the machine screw jacks, the polishing wheels are positioned to match to the size each component.

JACK SPECIFICATIONS:

Model: WJ250U2S-5-STDX-STDX-X
Capacity: 250 lbs. Ratio: 5:1 Rise: 5" travel
Screw Type: Machine Screw Jack

A special thanks to Autocom Manufacturing and Todd Engineering for allowing us to feature their stories.



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