

ENGINEERED

AUTOMATION



LIFTING SOLUTIONS!

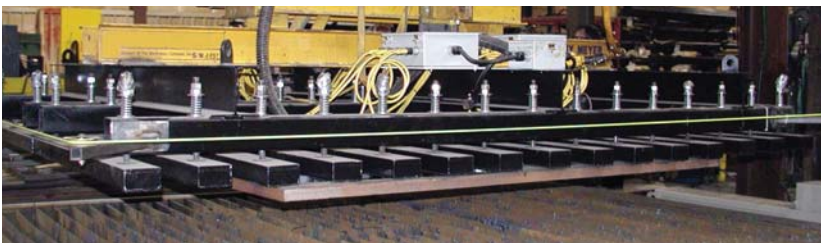


FLAT PLATE LIFTING SOLUTIONS

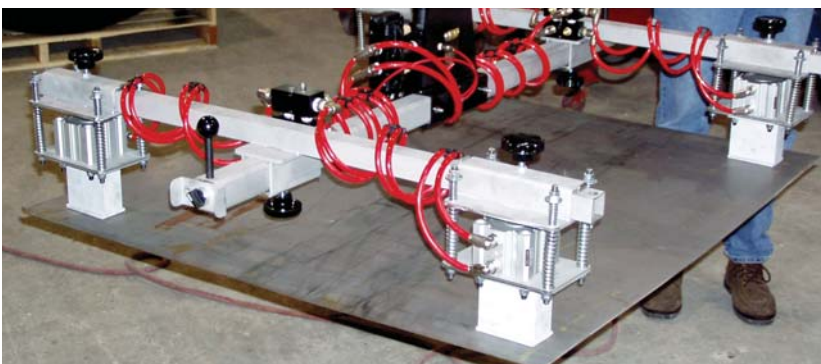


Customized Lifting / Moving Applications

Top: The unique design of this Permanent Magnetic Lifting System allows one person to safely and effectively move and load plates onto cutting tables, shear beds and other fabrication equipment. This Magnetic Plate Lifter features a series of adjustable position permanent magnetic lifting heads to handle a wide variety of sheet lengths and widths.



Middle: Electromagnetic plate lift system for loading a burn table with up to 2" thick plates. It is designed for loading 8' wide x 10' long plate steel ranging from .375" to 2" thick. This plate lift system can be used to remove the skeleton and parts together.



Bottom: Loading laser, plasma or waterjet cutting tables is now a one person operation. IMI's Sheet Lifter magnet allows the operator to destack a sheet and place it on the cutting table without assistance.

INDUSTRIAL MAGNETICS, INC.

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LARGE PLATE LIFTING SOLUTIONS

Large Plate Lifting Solutions

Picture Below: Increasing production on a large laser table for a military contractor who makes armor plating parts. The plates being lifted are 24' long x 8' wide with thicknesses ranging from 0.147" to 0.75". The plates will be lifted from a stack onto a burn table one at a time. The magnet was not allowed to double blank the thin plates, but needed the capacity for the heaviest plates. After the plates are cut the skeleton will be cut into quarters along the length. The skeleton and parts will then be cleared from the table two quarters at once to clear the table in two passes. The magnet featured two clusters of heads spread out to lift every other quarter of the sheet from the table after the they are cut. The magnet system provides enough coverage to clear the skeleton and all parts as small as 6" long (cut parallel to the length of the plate). Parts smaller than 6" long had tabs left to ensure that they were lifted with the skeleton.



PowerLift® Magnets With Air-Logic Control System

Picture Right:

- For lifting 5' x 10' plates 5" thick weighing up to 10,000 lbs.
- Pneumatic actuators control the On/Off release action of the PNL1300 Permanent Rare Earth magnets
- Air-logic load sensor only allows magnets to be released when the load is at rest on a solid surface
- No electrical connections required, Holding values on flat items is 1300 lbs per magnet
- Structural steel main beam with 4 cross beams
- Fixed mounting provisions for four PNL1300 magnets at opposite corners of the spreader beam
- Adjustable positioning for four PNL1300 magnets on the two center cross beams
- Center lift eye for attachment to crane



Ergonomic Solutions with Transporters

Picture Lower Right:

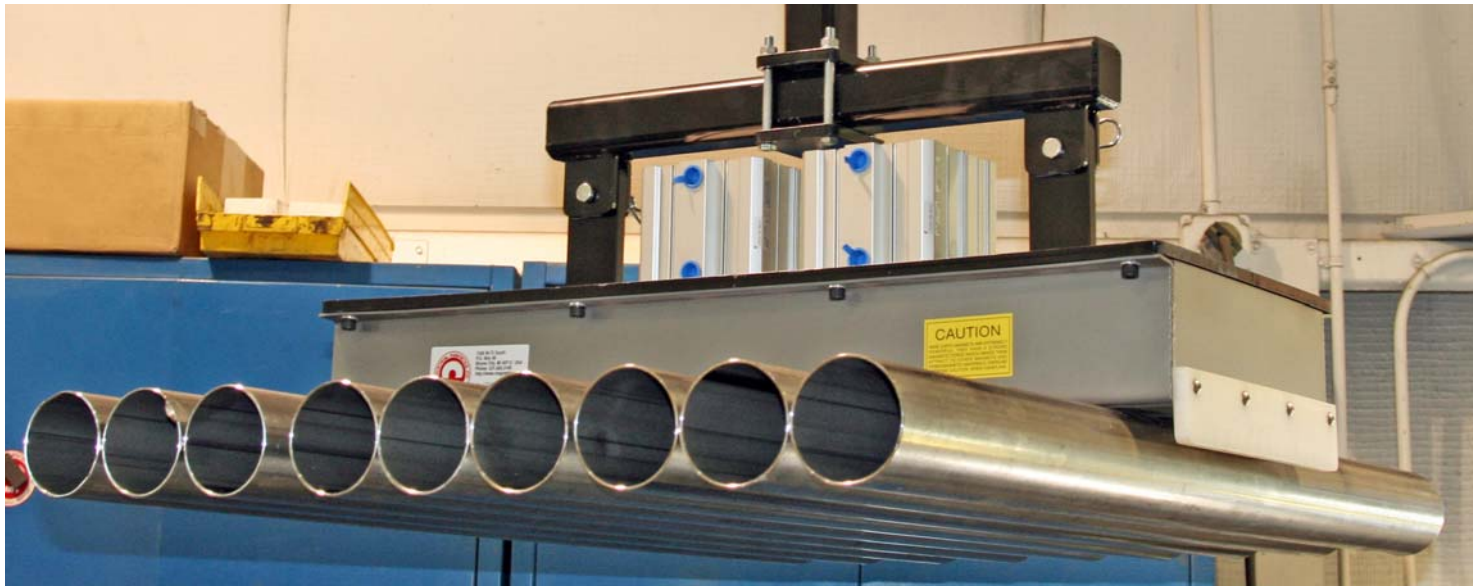
IMI's line of Transporter® Magnets are often used for assembly applications in conjunction with ergonomic manipulation equipment. The picture to the right shows TP80's arranged on a boom that is used to flip an industrial door framework during an assembly operation. The magnets allow the part to be lifted and moved in any orientation.



ROUND PART & TUBE LIFTING SOLUTIONS

Customized Tube Lifting

Magnetic Tube Lifters are designed to assist in stacking, destacking, loading and unloading for a variety of tube and pipe applications. This is a permanent magnet that requires a simple burst of shop air to release the row of tubes or pipes. In the result of a loss of shop air, the Tube Lifter is designed to remain in a "failure safe" mode without the need for a battery back-up system; simply put, the magnet will not drop the tube or pipe, ensuring safer working conditions. The Tube Lifter is ideal for hydroforming, roll-forming, packing, cutting or tube or pipe fabrication applications.



Adapted Lifts For Specific Applications

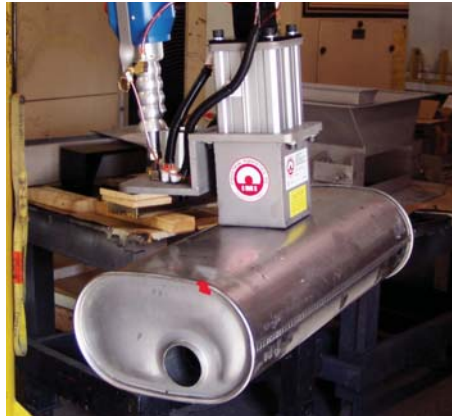
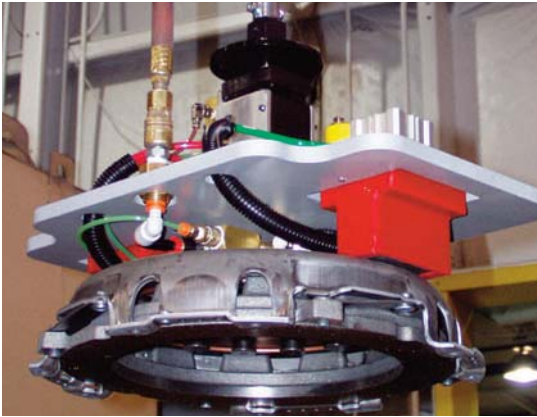
Picture Right: This custom Transporter[®] was designed to pickup this large truck spring. Not a typical application, you would think a magnet would work on, due to the round shape and little metal. However the Transporter technology is combined with a custom curve face to solve this customer's material handling needs.



UNIQUE SHAPED PART HANDLING SOLUTIONS

Ergonomic Transporter® Solutions

IMI's Transporter® technology combine with a Gorbelt G-Force "Intelligent Lifting Device" allows the operator to pick-n-place parts fast, accurately and safely. This ergonomic solution saves the operator from repetitive bending and lifting heavy parts. **Picture Left:** Load pickup truck clutch plate assembly from the line directly into the shipping container. Two Transporters® were used, with a part present load sensor, to contact the upper rim of the clutch plate housing. **Picture Center:** Load mufflers into corrugated boxes for shipping. One Transporter® was used to lift and load three different sizes of mufflers, preventing the operator from dropping the parts, which caused damage. **Picture Right:** Lift and precisely place cutting table work pieces. Four TPLP30 Transporters® were used to lift special cutout work pieces and kept the load level. The G-Force handle and the magnet release handle allowed the operator to locate the work piece exactly in place.



Transporters Customized For Lifting And Moving Awkward Products

Picture Below: Two air-actuated magnets move the weldments out of a robotic weld cell. The magnets were required to be same profile as the weldments to fit narrow gaps between welding components. The lifter is suspended from a customer supplied air balancer. The parts weigh over 40 pounds, have multiple sharp edges and very few hand holds - making the use of a magnetic solution ideal.



PowerLift® Customized For Lifting And Moving Large Billets

Picture Below: Billets Lifters customized designed for single or multiple diameters & thicknesses. Quickly & easily transfers billets from a flat to a vertical position, or vice versa, and allows multiple lifting positions.



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