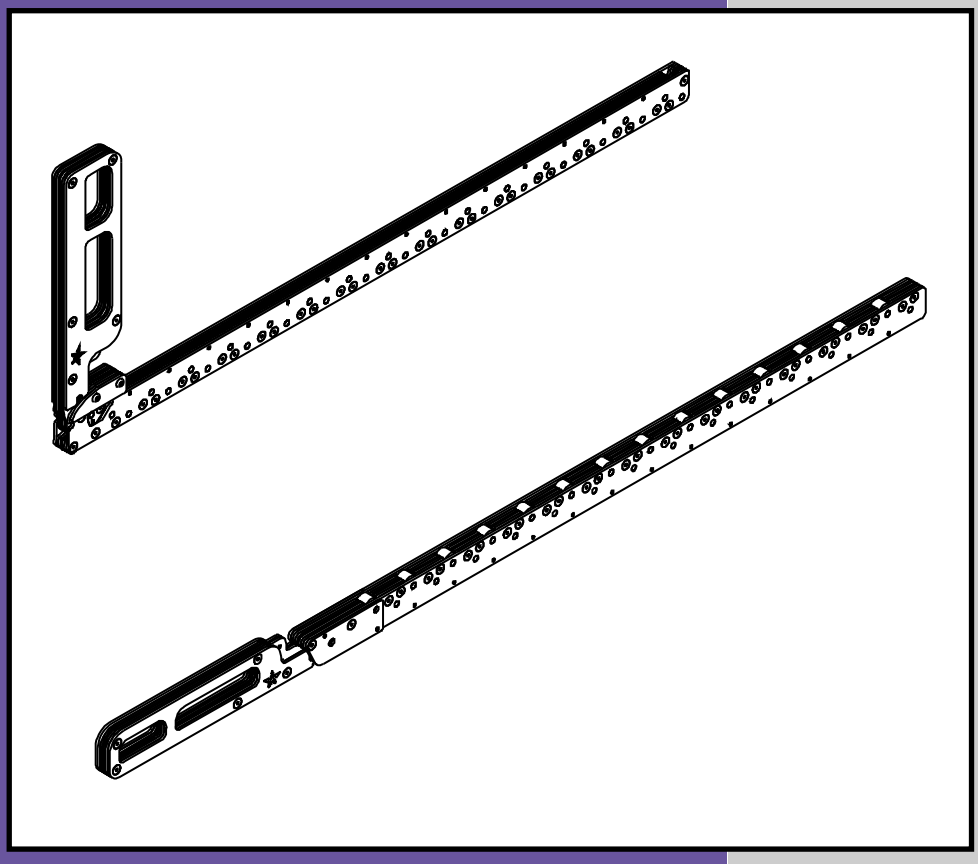
American Aerostar Corporation

Mechanical Die Lifters Applications Guide



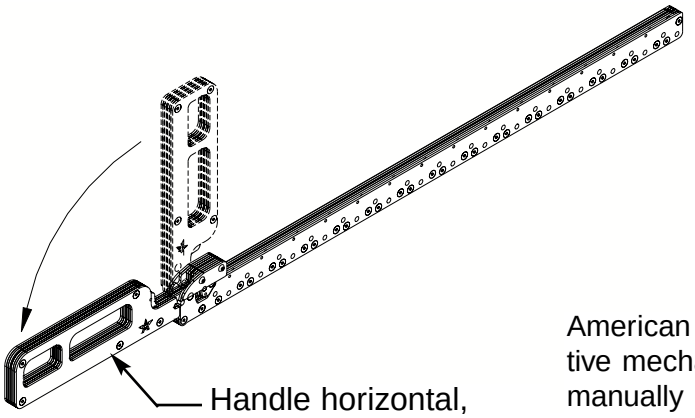
A leading manufacturer of equipment for Quick Die Change

About Mechanical Die Lifters

- Eliminates the need for dedicated die lifters in every press.
- Simplifies use of die lifters for dies equipped with parallels (risers).
- Most versatile die lifters ever. Use in T-slots, rectangular slots or without slots.

Model-706 - Rollers Down

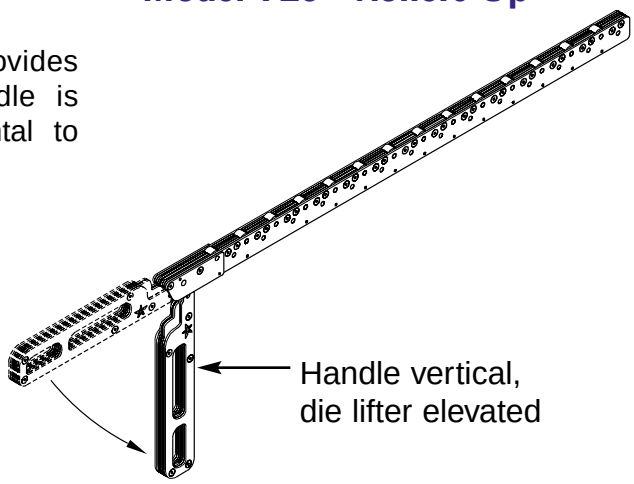
The Model-706 provides .085 lift when handle is moved from vertical to horizontal position.



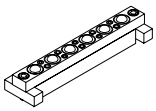
American Aerostar's innovative mechanical die lifters are manually elevated using two means of mechanical advantage: incline plane and leveraged cam action. The amount of force required to elevate the die lifter varies with handle position and is in the range of 1.5% to 2.5% of die weight. To lift a 2000 lbs. load requires 30-50 lbs. of pressure on the handle.

Model-710 - Rollers Up

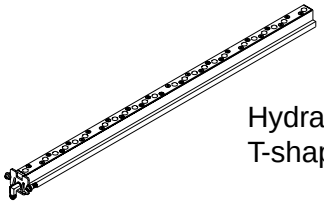
The Model-710 provides .085 lift when handle is moved from horizontal to vertical position.



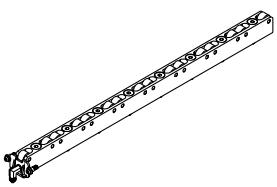
We also make other die lifters, for example:



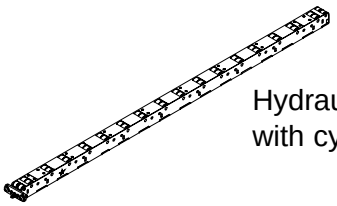
Spring loaded with ball rollers



Hydraulic, rectangular or T-shaped, with ball



Hydraulic, rectangular or T-shaped, with cylindrical rollers



Hydraulic, heavy duty, with cylindrical rollers

SLOTLESS

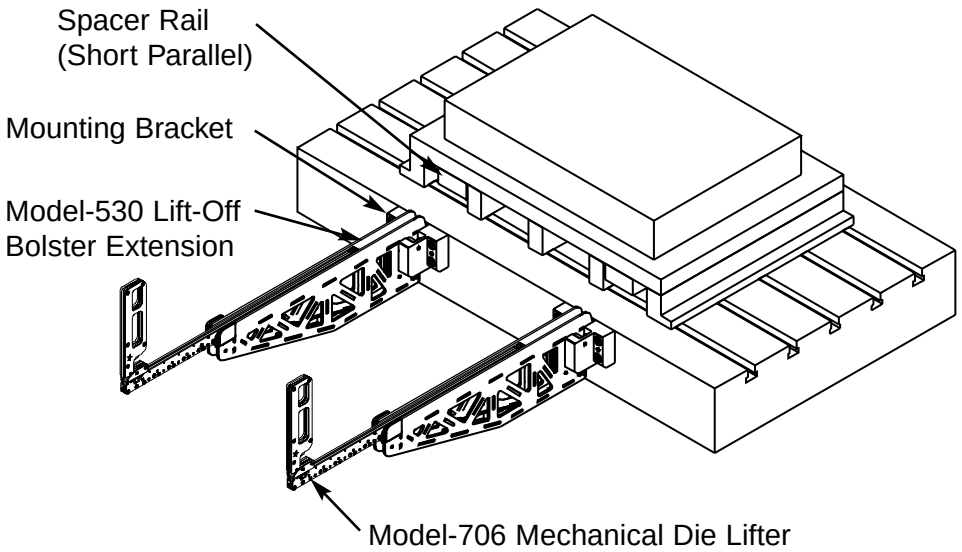
Mechanical Die Lifters roll on top
of the bolster, hence, slotless

Dies equipped with parallels (risers) present a special challenge during die exchange. Die lifters are almost impossible to use because of the need to align parallels with die lifters. Until now the only solution was to add subplates to every die, a solution that is costly and may create other problems.

Now, utilizing American Aerostar's exclusive 'slotless' die lifter system, dies can easily and quickly be loaded/unloaded from the press even if T-slots are lacking. By adding just two inexpensive spacer rails (short parallels) under the die shoe between the parallels the dies are ready to roll. A 1.500" gap from the bolster surface to the bottom of the spacer rail is required to accommodate the die lifters.

This system is made possible by American Aerostar's rollers down mechanical die lifters used with lift off bolster extensions or die carts incorporating die lifter guide rails. Since the die lifters travel on the bolster, a T-slot or guidance device is not required on the bolster surface. The mechanical die lifters can easily travel over perpendicular T-slots and other small holes and cut outs.

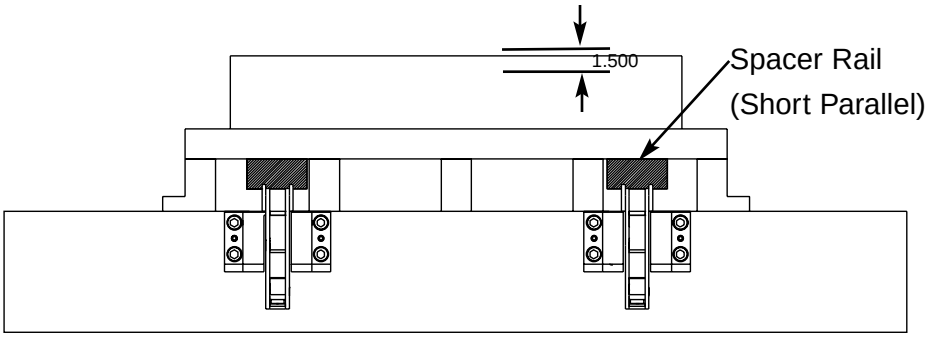
Once elevated, the mechanical die lifters utilize the rollers on the bottom to travel with the die as it moves in or out of the press.

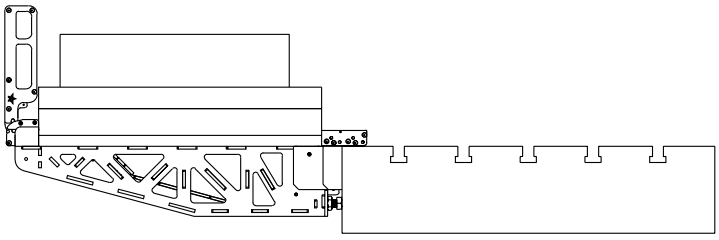


Illustrated above are mechanical die lifters in position to be rolled under the die for die removal.

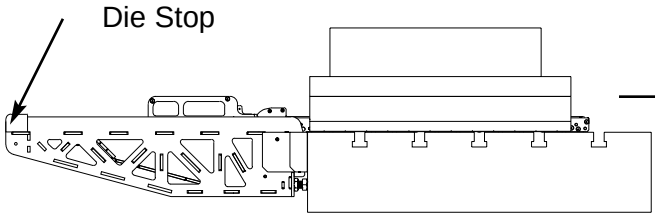
Below is a front view of spacer rails mounted under the die shoe and between the parallels. Note that a 1.500" gap is required between the bolster and the spacer rails.

SLOTLESS



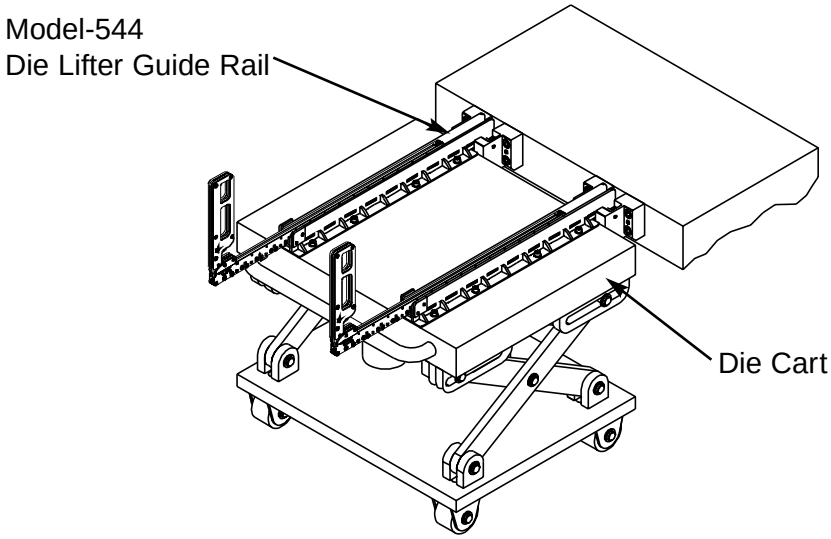


Above is a die staged on the bolster extensions ready to be lifted and rolled onto the bolster surface. The bolster extensions provide guidance as the die lifters travel across the bolster surface.



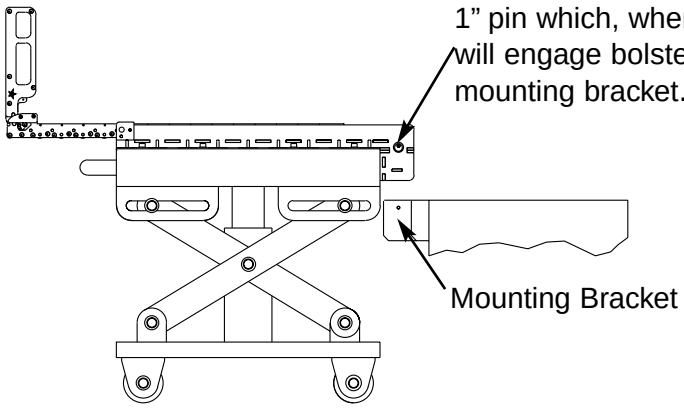
Above a die is being rolled off the bolster surface. Note that the die lifter is engaged in the bolster extension for proper alignment.

SLOTLESS



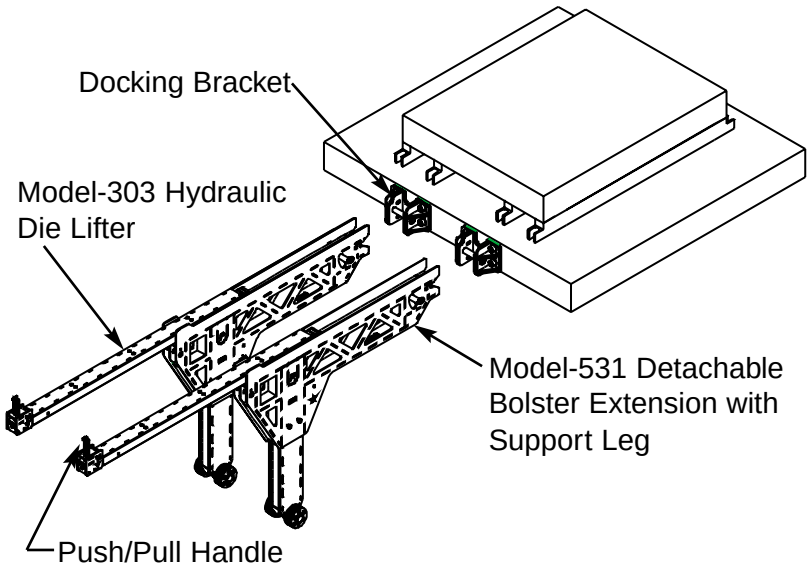
To utilize a die cart instead of bolster extensions, install American Aerostar Model-544 Die Lifter Guide Rails on top of the die cart. The die lifter guide rails function like bolster extensions and engage bolster extension mounting brackets for stability during die exchange.

Illustrated below is a die cart with the die lifter guide rails in position over the mounting brackets. To dock the die cart, simply lower the cart until the guide rails engage the mounting brackets.



For Heavy Dies

For dies weighing 8,000 to 16,000 lbs. hydraulic die lifters with detachable bolster extensions are used. Once the die is elevated the die exchange process is the same as for mechanical die lifters. To accommodate these larger die lifters the spacer rails (short parallels) under the die shoe need to create a 2.20” gap between the bolster surface and the short parallels.



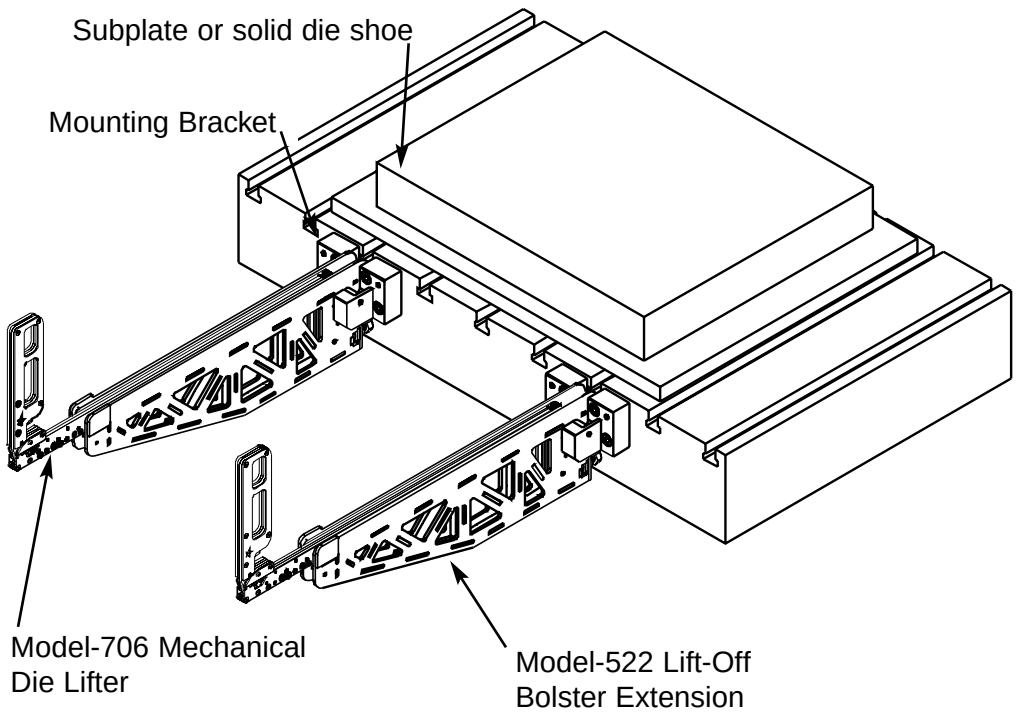
TRAVELING

The die lifters travel with the die on the bottom of bolster T-slots, hence, traveling

The traveling die lifter system is designed for dies having solid die shoes or subplates used in presses equipped with suitable bolster slots.

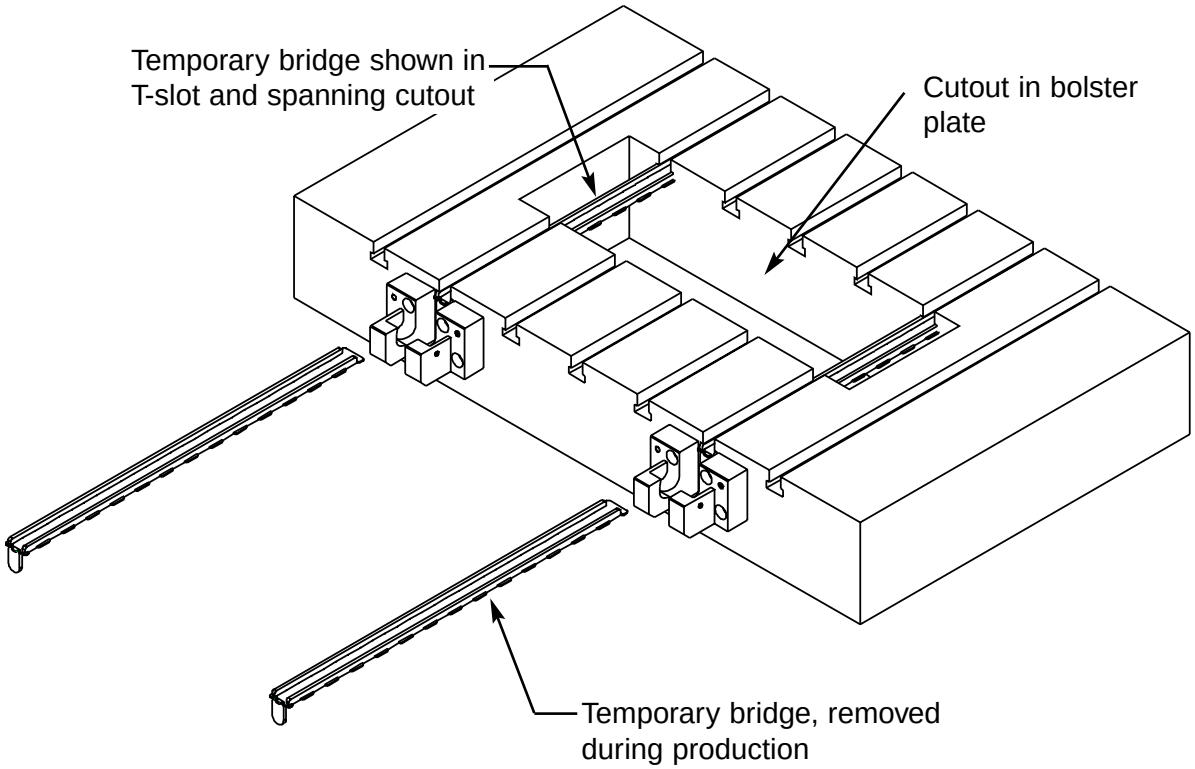
Bolster extensions and die lifter guide rails are identical for the traveling and slotless die exchange systems. The mounting brackets, may be different depending on bolster thickness.

When bolster cutouts are present a bridge may be used to help the die lifter span the gap.

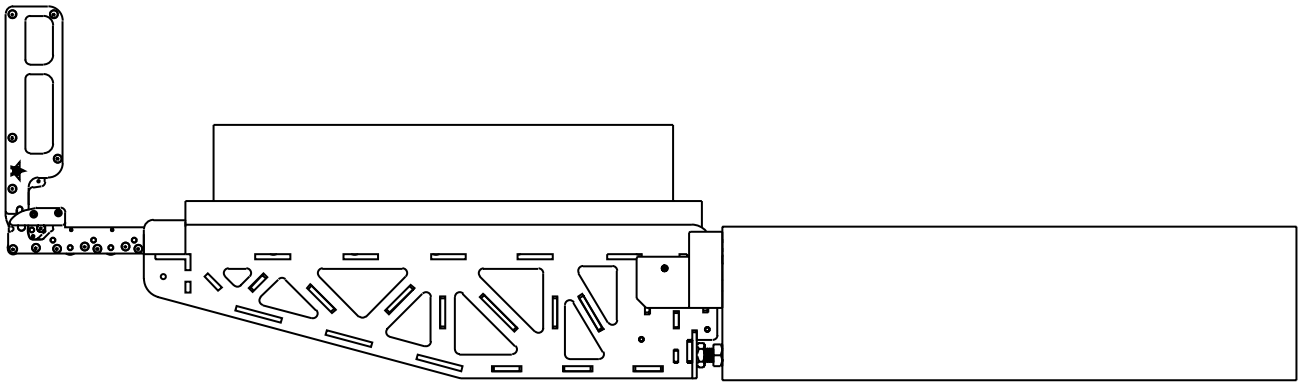


TRAVELING

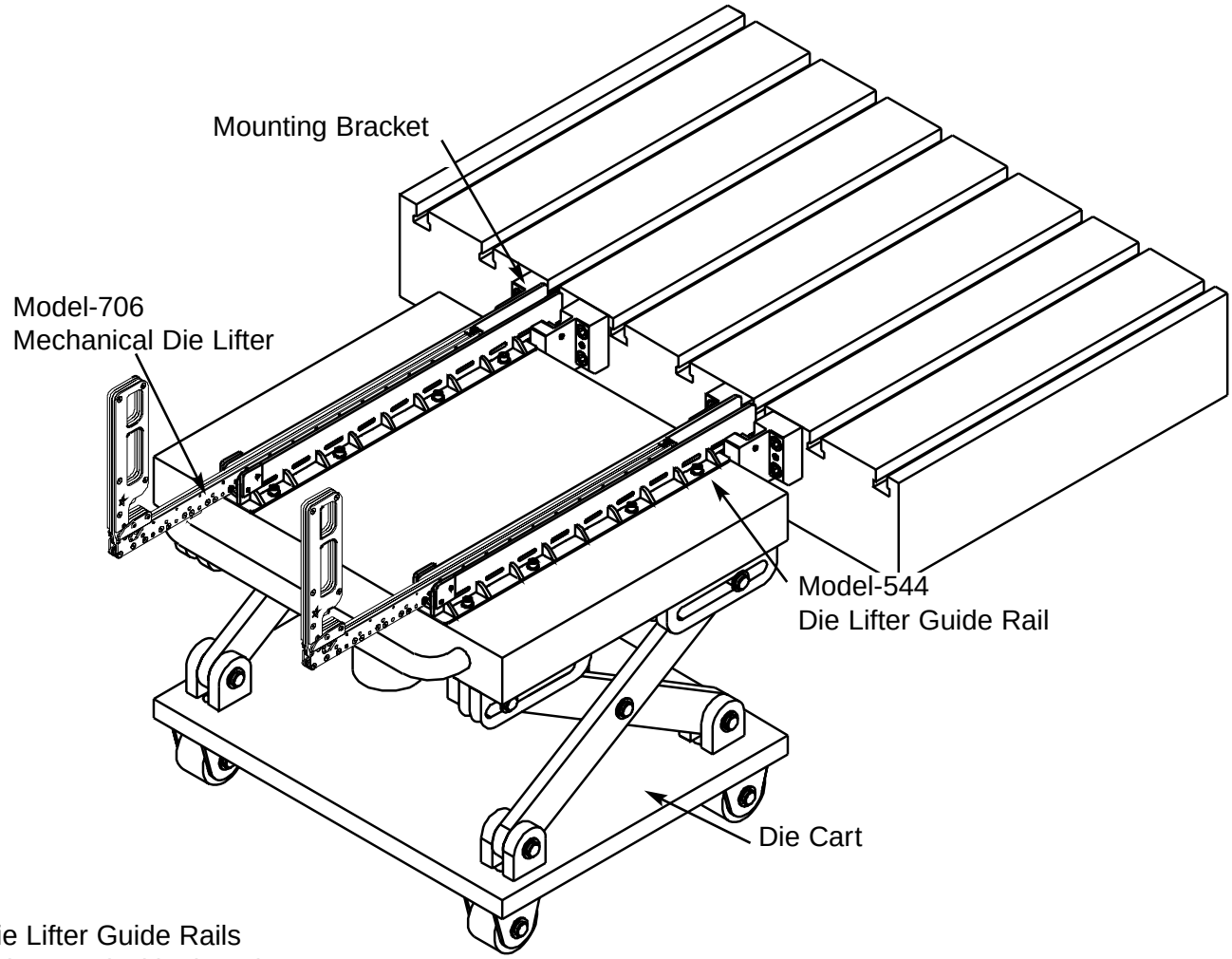
Illustrated below are temporary bridges which are inserted in the ‘T’ portion of the T-slots to help mechanical die lifters span the bolster cutouts. Once the die is in place on the bolster, die lifters and bridges are removed and can be used elsewhere.



Illustrated below is a die on the bolster extensions ready to be lifted and rolled into position on the bolster. Note that the die lifter rollers will travel on the bottom of the T-slots which have been shimmed as necessary to create 1.500” depth.



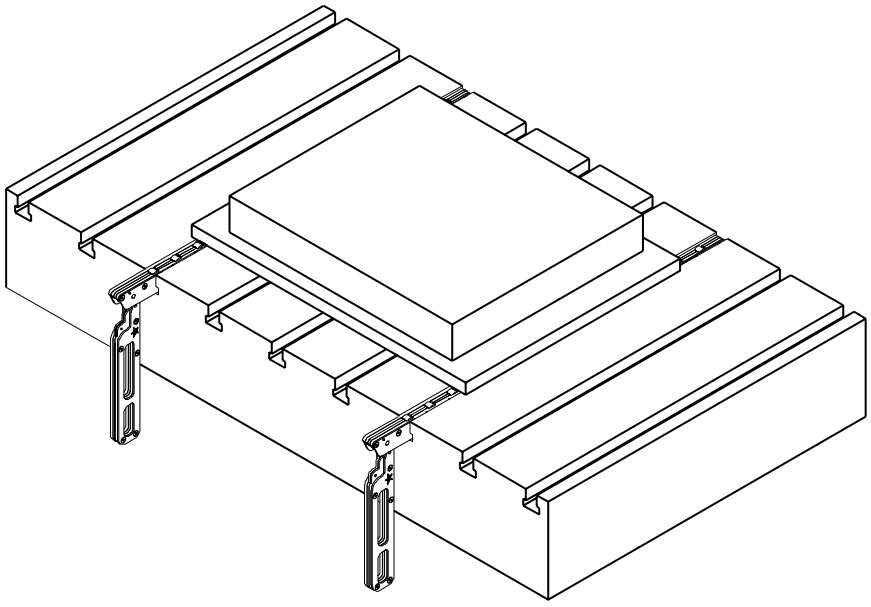
TRAVELING



Die Lifter Guide Rails
being used with slotted
bolster

TRAVELING

Model-710 Mechanical Die Lifters



The Model-710 Mechanical Die Lifter is designed to fit in a T-slot or U-slot in press bolsters. Unlike the traveling die lifters, this die lifter stays stationary when in use. The rollers are in an up position and allow the dies to roll on top of the die lifter. To elevate the die lifter the handle is pushed downward. The capacities of the Model-710 Die Lifter are the same as for the Model-706 Die Lifter.

American AEROSTAR CORPORATION

25014 Avenue Kearny • Valencia, CA 91355-1253
Phone: 800-780-9850 • Fax: 661-257-6609
E-mail: qdc@astar.com • Web Site: www.astar.com

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