

Atlas FLEX

# Finger Tooling





## Product Overview:

Atlas Technologies Universal Tooling Rail System and FLEX 100/125 Finger Tooling allows quick and easy changeover of tools between new die sets. Our modular components are simple to configure due to the ability to adjust one axis at a time without disrupting the position of the other axis. This saves time and resources by allowing more throughput per press line.

Atlas FLEX Finger Tooling is the strongest available on the market today, providing joint strength of up to 400 foot pounds. Our patented wedge style of swivel clamp holds its position accurately during high speeds and heavy volumes of production. In fact, testing has proven that our tooling holds nearly 100% of its clamping strength even when it is readjusted and reused, unlike other tooling brands on the market.

Our customers are going green while saving some green. Atlas FLEX tooling improves return on investment and green manufacturing practices due to the ability to continue to reconfigure and reuse each modular piece for new in-coming die sets.



## Next Generation Tooling Receiver

- Atlas utilizes an anti-rotational design for the receiver and adaptor that also provides abundant clearance for fast changeover
- The receiver locks the adaptor into place with a durable cam operated lever, this is coupled with an automatic detent latch which provides double assurance that the adaptor is securely held in place
- The next generation receiver provides automatic connections to electrical and pneumatic lines for part detection sensors and clamps (where required)
- To insure proper tooling placement of the adapter into the correct receiver, Atlas incorporates a mechanical coding interface
- Atlas tooling is light weight which increases transfer performance and allows for higher speeds
- Tooling fingers are quickly and easily changed over and storage is simplified
- Hard coated aluminum reduces nicking and wear to the receiver
- Mounting of the tooling is easy due to the compact design
- Quick change tooling with universal receivers is more economical than dedicated, hard mounted rail systems due to the requirement to invest in only one set of receivers and universal rails for all die sets.
- The next generation receiver is compatible with both 1 ¼" and 1" diameter tooling fingers

## Universal Tooling Rails

Atlas' 4" x 4" extruded aluminum tooling rails equipped with permanently mounted, plumbed and wired, next generation tooling receivers and adapters are equipped to handle all sets in production today and any configuration required for tomorrow.

This feature makes Atlas universal rails ideal for "take over" work and allows our customers more press up time due to the ability to plug their pre-set fingers into the mechanically encoded adapters and immediately begin stamping parts.



## Dedicated Tooling Rails

Dedicated tooling rails are devoted to transferring a particular part. The entire rail is exchanged with each die set or the tools may be unbolted from the rail. Rails are extruded aluminum and are available in 2" x 4" or 4" x 4". Rails include automatic attach and detach for mechanical, electrical and pneumatic connections to the Atlas FLEX transfer or any other transfer brand. Atlas offers parking stanchions for docking onto the bolster for ease of finger and or rail change during die change.

The tooling rail provides for connection to part present sensors through internal electrical wiring. If pneumatic valves are required, they are mounted in close proximity to the appropriate actuator to increase response time. Pneumatic valves are hard piped to the tooling rail, wiring is internal for protection.



## Standard Tooling Bases

Atlas FLEX 125 standard tooling bases are made of machined aluminum and maintain their structural integrity due to their one piece design. We apply an anodized finish to our tooling for durability and appearance

Maximum clamping forces of mating components is achieved through the close tolerances of our machining process.

Standard bases may be utilized with Atlas standard tooling rails or customer supplied tooling rails. Mounting of the base is accomplished with four mounting holes, providing secure attachment of the finger tooling assembly.



## Universal Tooling Adapter

The adaptor is easy to remove and install with plenty of clearance

Wearing of the adapter is minimized due to hard coating

The Acme lock handle and screw are durable

Three axis "wedge action" reduces any undesired movement

Rotation of the tooling is eliminated due to the square design

Detent latch works as duplicate safety lock

The air and electronic sensors have automatic connection

Tooling is keyed to its matching receive via mechanical coding

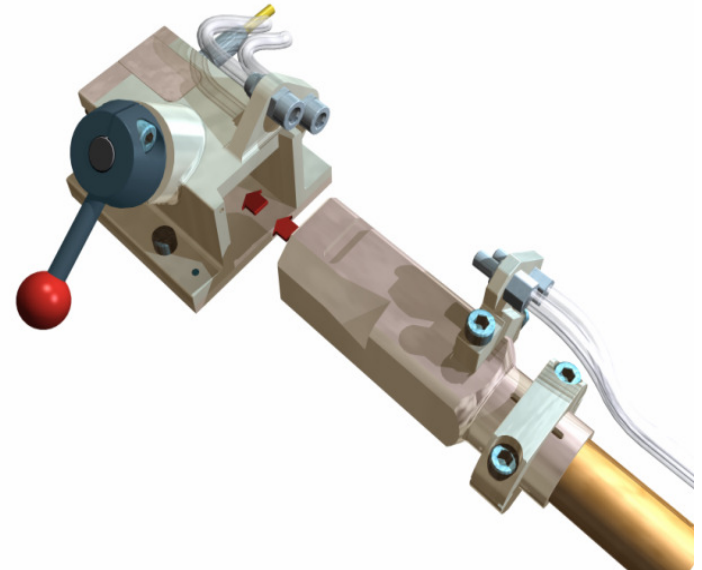
Mounting is simplified due to its compact design

Transfer performance is enhanced due to light weight components

Storage and handling of the tooling fingers is simplified

Reusable, modular items are more cost effective than mounted bar systems

Compatible with 1 1/4" diameter tooling fingers



## Tooling Arms

Close tolerances are maintained due to utilizing drawn aluminum tubing for maximum clamping force of all mating products

Available in 1" diameter - Series 100 and 1 1/4" diameter - Series 125

Standard product lengths available range from 4" to 24"

The lower cost components have been designed to be the sacrificial portion of the finger tooling assembly

The finish is anodized for durability and appearance





## In-Line & 90 Degree Off-set Arms

The in-line offset and the 90 degree off-set arms provide for a lower cost means for simple 90 degree transitions or in-line off-sets without the higher cost or additional flexibility of our patented swivel clamp assemblies.

Structural Integrity is maintain due to our solid one piece machined aluminum design

Maximum clamping forces are maintained on our standard bases, tooling arms and links due to close tolerance machining

Ideal for a simple 90 degree offset or an in-line offset of standard bases to tooling arms or tooling arm to tooling arm transitions

Adjustments are made Independently in two axis

Fasteners are metric

The finish is anodized for durability and appearance



## Mounting Assemblies

Clamping forces are maximized due to close tolerance machining on standard bases, tooling arms, tooling links and grippers

Mounting assembly will adapt most competitors grippers to Series 100 and Series 125 finger tooling products

Available with or without spherical steel ball

Adjustability is independent in two axis

Fasteners are metric

The finish is anodized for durability and appearance



## Swivel Clamp Assemblies

Clamping force is maintained due to close tolerance machining for maximum clamping force on standard bases, tooling arms and tooling links

Adjustability is Infinite in all three axis

Single axis adjustability is Independent without affecting the other two axis

360 degree swivel clamp joint is capable of holding and maintaining 400 foot pounds of torque

Independent 360 degree rotation of the clamp collar provides for ease of tightening clamp fasteners

Fasteners are metric

The finish is anodized for durability and appearance



## Grippers

Atlas offers all commercially available PHD grippers at competitive prices for use with Series 100 and Series 125 finger tooling assemblies

PHD grippers are available with jaw actuated part present and/or double sheet detection features

Series 125 tooling arms have been designed to accept standard PHD gripper mounts

Atlas offers all PHD gripper options



## Shovels

Atlas offers a wide variety of stamped steel standard box shovels, spade shovels, shovel stops and shovel traps

Mounting and adjustments are accomplished with our box and spade shovels via integrated slots to crossbars or tooling arms

Shovel stops and traps fit to the contour of the part

Integrated shovel mounting slots are designed to fit over the key on the wedge clamp assembly to prevent rotation of the shovels mounted to tooling arms

All shovels have been designed to allow the use of edge sensing assemblies for part present detection

Black oxide coating is used as rust prevention on the shovels

The scissor shovel may be utilized as a one-piece shovel/trap combination or rotated 90 degrees and used as a side guide/trap



## Edge Sensing Assemblies

Designed to straddle standard shovels, shovel stops and shovel traps for part present detection

Part present faults to the transfer system are minimized because minor part movement will not disrupt part present detection within the shovel and shovel trap

Edge sensing assemblies work with all commercially available 12 mm cylindrical proximity sensors

The assembly may be purchased with or without the sensor

Proven edge sensing flipper gravity return

The sensor is protected from damage by the edge sensing assembly from parts

The adapter bushing allows for use with both the Series 125 and Series 100 components



## Adapter Bushings

The Series 100 tooling arms have the ability to utilize all Series 125 components with the use of the adaptor bushing to include:

Knuckles

Quick Disconnect Adaptors

Tooling Links

Gripper Assemblies

Edge Sensing Assemblies



## Tooling Links

Structural integrity is maintained due to solid, one-piece machined aluminum

Maximum clamping force on all mating components due to close tolerance machining

Perfect component for 90 degree in- line transitions

Fasteners are metric

Finish is anodized for durability and appearance





## Internal Wedge Assemblies

Maximum clamping force on inner diameter of all tooling arms due to close tolerance machining

Standard, stamped steel shoves and crossbars are mounted to all tooling arms via the internal wedge assembly

Radial orientation is held as the machined key engages with the slots on the shoves and crossbars

Available in the Series 100, 1" diameter tooling and the Series 125, 1 1/4" tooling



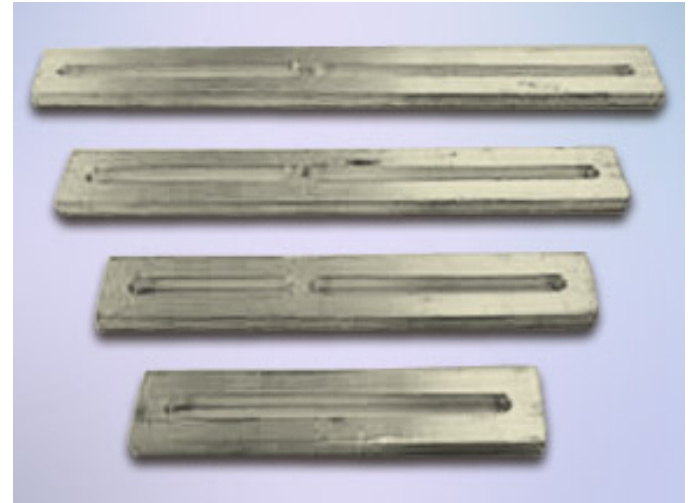
## Crossbars

Structural integrity maintain through the solid one-piece machined aluminum

Slots accommodate mounting multiple shovels on a single finger tool

Radial orientation is maintained with mounting the machined key on the wedge clamp assembly to the slot of the crossbar

Double shove arrangements are accommodated through the availability of numerous standard lengths for a variety of part widths



## Shovel Stops & Traps

Wide variety of stamped steel standard shovel stops and traps

Part contours are accommodated by the design of the shovel stops and traps due to the integrated slots that pair with the box and spade shovels that allow for mounting adjustments

Adjustment is simplified due to integrated nuts on the shovel stops and traps

Rust prevention on the shovel stops and traps through black oxide coating

The scissor shovel may be utilized as a one-piece shovel/trap combination or rotated 90 degrees and used as a side guide/trap



## Robotic Tooling Adaptor

Atlas robotic tooling adapters provide a fundamental, lightweight means to interface between the robot and Atlas boom tooling. Changeover is fast and easy due to the quick disconnect handles.



Die Handling Automation • Robotic Integration • Sheet Metal Handling • Tri-Axis Transfers  
System Integration • AS/RS • Washer & Oiler Systems • Automation Tooling

## Why Atlas?

Our Promise....Atlas listens to you, the customer.

We embrace your vision and understand your motivation.

It's our culture of total commitment that allows us to conceptualize solutions tailor made to fit your specific applications...creating world class material handling systems that will exceed your expectations.



3100 Copper Avenue  
Fenton, Michigan 48430 USA  
Phone: +1 810.629.6663  
Fax: +1 810.629.8145  
[www.atlastechnologies.com](http://www.atlastechnologies.com)