

INSPECTION[®] ARSENAL

DELIVER PERFECT PARTS *FASTER*

QUICK-SWAP FIXTURE PRODUCTS

QUICK-FIXTURE DESIGN

QUICK-SHIP ORDERS



CUSTOM FIXTURE DESIGN

PAGE 3

WPI WILLRICH PRECISION
INSTRUMENT
THINK MEASUREMENT... THINK WILLRICH
Ph 866-945-5742 email:sales@willrich.com



Proudly Made
in the USA by
Phillips Precision, Inc.

LASER[®]
ARSENAL

PGS. 12-14

Inspection Arsenal®
for CMM, 3D gage arm,
optical comparator, and
vision inspection.

Laser Arsenal® for laser
marking and welding
processes.

Modular, magnetically interlocking,
quick-swap fixture solutions designed
to help break workflow bottlenecks.

You are guaranteed to process more
parts per shift with these lean,
low-cost solutions.

For CMM & Optical Comparator Systems

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Universal Fixturing

Fixture up with Inspection Arsenal® and Laser Arsenal® Loc-N-Load™ fixture systems and Make Production Faster Than Ever Before!

Inspection Arsenal®

From the spindle to the shipping dock, the ability to get inspection data back to the shop floor quickly and accurately improves the entire production pipeline— and your profits! Quality inspection no longer needs to be complex, costly and time consuming. Modular fixturing reduces downtime, running at risk, and overproduction.

Laser Arsenal®

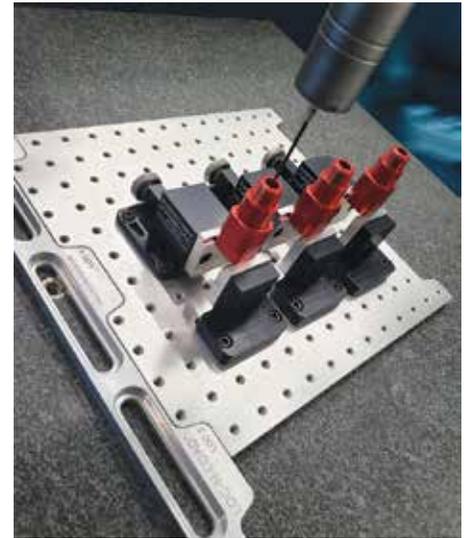
The same unique design of Loc-N-Load™ provides the only dedicated, modular fixture system for laser marking and welding processes. Operators can quickly and easily fixture parts in v-groove or pocketed trays or create custom and semi-custom setups on standard plates using a variety of work holding components.

Loc-N-Load™ and Open-Sight™ - for Inspection and Laser Marking - A universal modular fixturing system that provides a complete arsenal of work holding for inspection and laser marking machines. The freedom of quick swap fixturing helps you inspect and process parts faster than ever before. Simple versatility removes the complexity and tribal knowledge related to part fixturing and enhances the value of these processes. Operators and less-skilled employees can now easily inspect and mark parts, leaving your high-level programmers to focus on more complex work. Deliver perfect parts faster with **Inspection Arsenal®** and **Laser Arsenal®**.

Expand the work-holding possibilities to any light-duty, repeatable setups. Welding, assembly, pick and place, and more. It's the "anything but machining" fixture system limited only by your creativity.

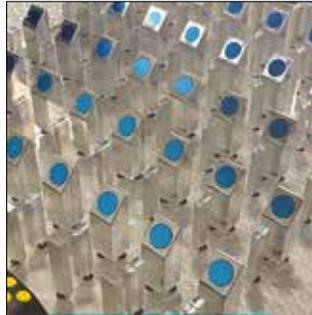
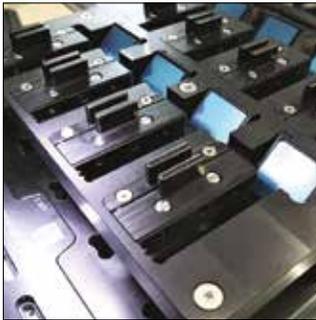
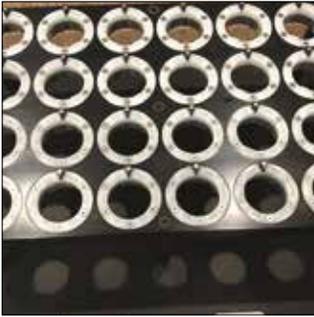
Phillips Precision is your one source for quick-swap, modular inspection fixture and laser marking products, fast and creative custom fixture designs, and quick shipping of orders.

Your colleagues are eager to share their successes using **Inspection Arsenal®** and **Laser Arsenal®** quick-swap fixture solutions. Read the many stories on Page 22 and visit phillips-precision.com for more testimonials.



- Enjoy a rapid return on investment
- Process more parts per shift
- Create multiple quick-swap setups per machine
- Move fixtures from one machine to another
- Cross-train more employees, quickly
- Adapt and reuse existing fixtures effortlessly
- Access granite or surface easily
- Use palletization techniques
- Work toward some lights-out processing
- Use as dedicated tooling - add it to your job box
- Ships immediately, as product is ready-made

Fixture Design Services and Custom Plate Orders



Phillips Precision Designs Custom Fixtures

While **Inspection Arsenal**® components are designed to be as versatile as possible right off the shelf, you can submit CAD models for more complex setups. Our engineers and designers can develop your perfect custom fixture.

We start with standard product – an automatic savings to you – and modify as needed or design fully customized complex solutions when necessary.

- 1-up or multi-part fixtures for CMM and vision systems
- Custom pneumatic fixtures or custom jaws for Rapid-Loc™ vises
- Special marking, barcoding or part numbers added as identifiers
- 3D printing of part fixtures available

Learn about the full-service manufacturing laboratory of Phillips Precision and the complete arsenal of products, as well as individual parts and services at our website. www.phillips-precision.com.

Contact us to talk about your custom design needs.

Phillips Precision, Inc. does not perform gage R&R studies on fixtures it designs for customers. This is the sole responsibility of the customer, unless specifically requested by customer and quoted as part of the initial work.

*We are Robotics Ready
see page 7*

Fixture Design Services Policy

To provide the most efficient service to you, we ask that you:

- complete the request form at www.inspectionarsenal.com
- accompany form with prints and electronic files

We will call you to review the details of the project. Fixture designs will be developed around Inspection Arsenal® products whenever possible. When standard product does not provide the solution, custom clamps and work-holding will be designed.

- A **design concept deposit** is required prior to the start of the project. This will be determined at the time the form and files have been received. If the project is awarded, this up-front fee will be deducted from the final invoice.
- **Project scope** must be detailed in writing and Phillips Precision will ask for approvals throughout the design process.
- A **not-to-exceed project cost** can be determined to initiate the project purchase order.
- Custom fixture projects are **non-refundable**.
- **Alterations after final approval** will be billed out at the current Phillips Precision rate.
- Phillips Precision, Inc. reserves the right to use images and graphical representations of fixture designs in promotional material.

Loc-N-Load™ CMM Bundled Fixture Systems

Choose a work-holding kit for your bundled fixture system:

- Starter - 62 pcs.
- Complete - 82 pcs.
- The Works - 152 pcs.

Loc-N-Load™ Docking Rail

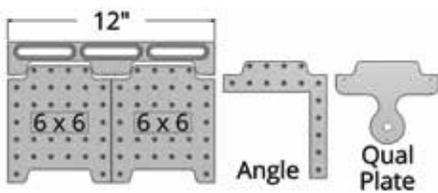
To choose the right docking rail length, consider the dimensions of the X & Y axis of the CMM work envelope. We recommend fixturing up the longest axis, however you have the option to install the docking rail anywhere on the granite. At Phillips Precision, we have a dock on the X and Y axis for a multitude of set ups.

Bundled systems take the guess work out of fixturing your machine. Choose from preconfigured sets of universal, Loc-N-Load™ plates, docking rails and versatile work holding. Easily choose individual components shown on pages 6 and 17-21.

See charts below for bundled system sizes which are then differentiated by your choice of work holding component kit.

Inch Plate dimensions: .5" thick, 1"x1" hole pattern, 1/4-20 thread

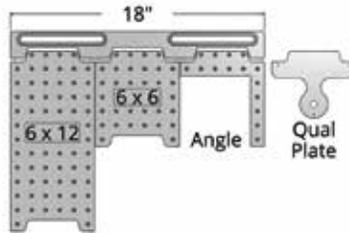
[See top of page 5 and page 17 for work holding kit contents.](#)



12" Bundle includes:

- (1) 12" Docking Rail
- (1) Angle Plate
- (2) 6x6" Plates
- (1) Qual Plate*

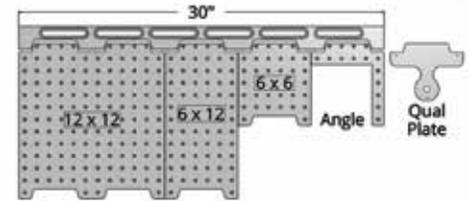
Part #	Work Holding Kit
SYS05_DK12TR03	Above Items + Starter Kit
SYS05_DK12TR02	Above Items + Complete Kit
SYS05_DK12TR01	Above Items + The Works Kit



18" Bundle includes:

- (1) 18" Docking Rail
- (1) Angle Plate
- (1) 6x6" Plate
- (1) Qual Plate*
- (1) 6x12" Plate

Part #	Work Holding Kit
SYS10_DK18TR03	Above Items + Starter Kit
SYS10_DK18TR02	Above Items + Complete Kit
SYS10_DK18TR01	Above Items + The Works Kit

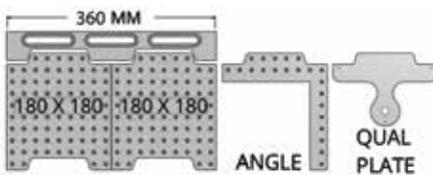


30" Bundle includes:

- (1) 30" Docking Rail
- (1) Angle Plate
- (1) 6x6" Plate
- (1) Qual Plate*
- (1) 6x12" Plate
- (1) 12x12" Plate

Part #	Work Holding Kit
SYS20_DK30TR03	Above Items + Starter Kit
SYS20_DK30TR02	Above Items + Complete Kit
SYS20_DK30TR01	Above Items + The Works Kit

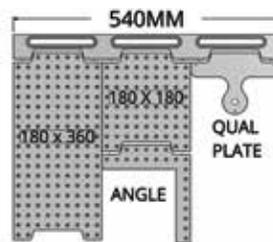
Metric Plate dimensions: 12.7 mm thick, 20 mm x 20 mm hole pattern, M6 thread



360mm Bundle includes:

- (1) 360mm Docking Rail
- (1) Angle Plate
- (2) 180x180mm Plates
- (1) Qual Plate*

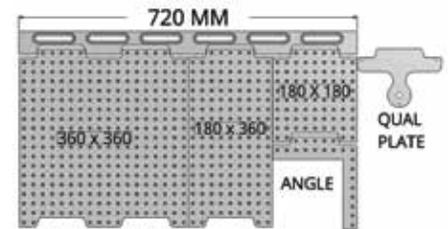
Part #	Work Holding Kit
SYSM1_DK360TR03	Above Items + Starter Kit
SYSM1_DK360TR02	Above Items + Complete Kit
SYSM1_DK360TR01	Above Items + The Works Kit



540mm Bundle includes:

- (1) 540mm Docking Rail
- (1) Angle Plate
- (1) 180x180mm Plate
- (1) Qual Plate*
- (1) 180x360mm Plate

Part #	Work Holding Kit
SYSM2_DK540TR03	Above Items + Starter Kit
SYSM2_DK540TR02	Above Items + Complete Kit
SYSM2_DK540TR01	Above Items + The Works Kit



720mm Bundle includes:

- (1) 720mm Docking Rail
- (1) Angle Plate
- (1) 180x180mm Plate
- (1) Qual Plate*
- (1) 180x360mm Plate
- (1) 360x360mm Plate

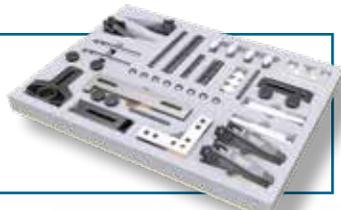
Part #	Work Holding Kit
SYSM3_DK720TR03	Above Items + Starter Kit
SYSM3_DK720TR02	Above Items + Complete Kit
SYSM3_DK720TR01	Above Items + The Works Kit

- Optical Comparator Bundled Fixture System
- Portable 3D Gage Arm Bundled Fixture System

Loc-N-Load™ Specialty Bundled Fixture Systems

Work-Holding Kit Contents – (Choice of one included with bundle)
See kit contents on page 17.

■ Starter Kit: 62 pcs.
Inch: TR-KIT-03
Metric: TR-KIT-03M



■ Complete Kit:
82 pcs.
Inch: TR-KIT-02
Metric: TR-KIT-02M



■ The Works Kit: 152 pcs.
Inch: TR-KIT-01
Metric: TR-KIT-01M



Includes a full set of
Stand-Offs and
Magnetic Components

Plates sold separately.

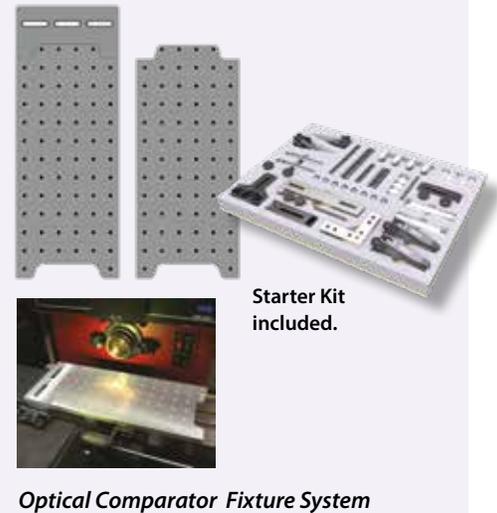
Plate dimensions: Inch: .5" thick, 1"x1" hole pattern, 1/4-20 thread Metric: 12.7 mm thick, 20 mm x 20 mm hole pattern, M6 thread

Optical Comparator Bundled Fixture System

The Optical Comparator bundle is a smaller fixture system perfect for your inspection applications.

Loc-N-Load™ fixture rails, plates, and work-holding clamps create affordable, repeatable, and durable fixtures that reduce setup time and process more parts per shift. Plates can be dedicated and kept with the job box for fast, repeatable setups.

Optical Comparator Bundle w/Starter Kit	
Inch: dimensions in inch	
SYS60_OC6TR03	6 x 3 docking rail, two 6 x 12 fixture plates, plus 62-pc. Starter work-holding kit and mounting hardware
OC-DOCK-06	6" optical comparator dock
Metric: dimensions in mm	
SYS60M_OC180TR03	180 x 75 docking rail, two 180 x 360 fixture plates, plus 62-pc. Starter work-holding kit and mounting hardware
OC-DOCK-M180	180 mm optical comparator dock



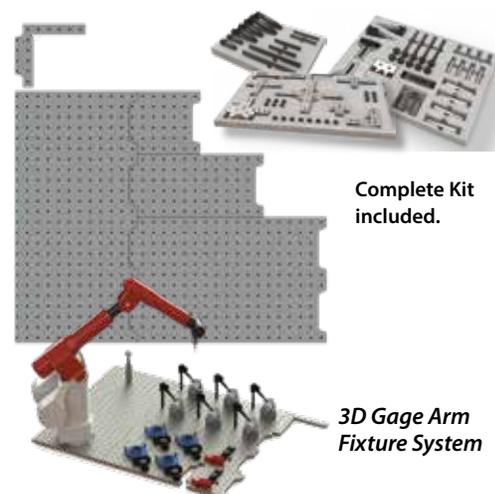
Portable 3D Gage Arm Bundled Fixture System

Further enhance the value of your portable 3D Gage Arm/CMMs with the lean, quick-swap **Loc-N-Load™** fixture system. Install the gage onto the Loc-N-Load™ base and start inspecting. Interlocking fixture plates quickly secure and release with the use of magnets, creating highly repeatable setups.

Get started with a preconfigured bundle and add plates as work requires.

You'll save money on shop floor inspection when you use Loc-N-Load™ quick-swap fixturing.

3D Gage Arm Bundle w/Complete Kit	
Inch: dimensions in inch	
SYS60_DK24TR02	24 x 12 dock, two 6 x 6 plates, two 6 x 12 plates, one 12 x 18 plate; angle plate; 80-pc. Complete work-holding kit
GA-MAG-0909	Steel Mount for Gage Arm magnetic base, 9 x 9 x .27
LNL-DOCK-2412	24 x 12 Gage Arm Docking Plate
Metric: dimensions in mm	
SYS60M_DK540TR02	540 dock, 180 x 180, 180 x 360; 360 x 360 plates; angle plate, 80-pc. Complete work-holding kit
LNL-DOCK-M540300	540 x 300 Gage Arm Docking Plate

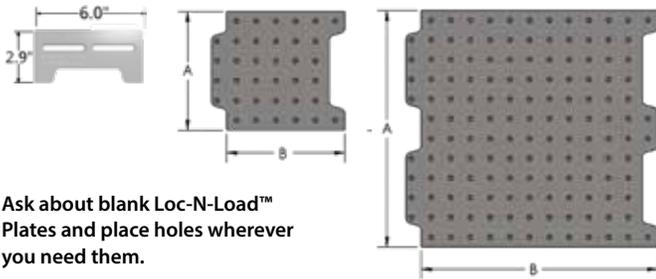


Loc-N-Load™ Fixture Plates and Docking Rails

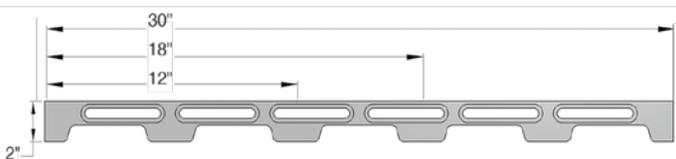
- Individual Docking Rails and Fixture Plates
- Accessory and Specialty Plates

Loc-N-Load™ fixture plates and docking rails can be ordered individually.

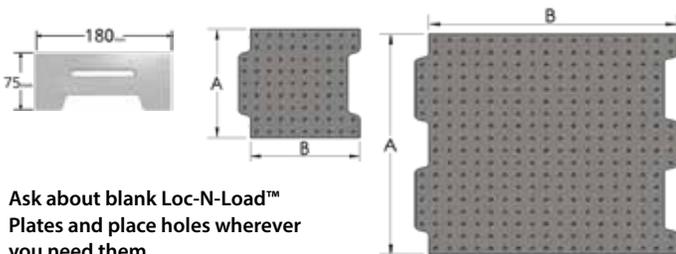
Inch Plates: 0.5" thick, 1/4-20 thread, 1" x 1" hole spacing



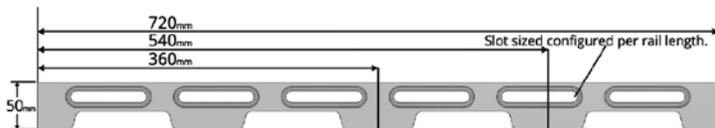
Ask about blank Loc-N-Load™ Plates and place holes wherever you need them.



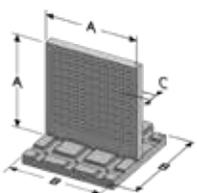
Metric Plates: 12.7 mm thick, M6 thread, 20 mm x 20 mm hole spacing



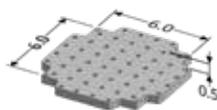
Ask about blank Loc-N-Load™ Plates and place holes wherever you need them.



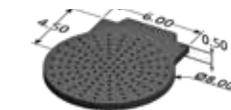
Accessory and Specialty Plates



**Verti-Plate™
Perpendicular Plate Set**



Indexable Loc-N-Load™ Plate



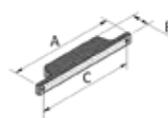
Radial Loc-N-Load™ Plate



Angle Plate/Stop



**Qualifying Ball Plate,
M8 insert**
*Inquire about other threaded insert sizes available



Adapter Plate
Mount the adapter plate to the side of any existing fixture plate to easily convert fixtures to Loc-N-Load™. Includes (2) 10-32 FHMS screws

Docking Rails and End Caps		Inch	
Part #	Description	A	B
OC-DOCK-06	Docking rail 6"	6	3
LNL-DOCK-12	Docking rail 12"	12	2
LNL-DOCK-18	Docking rail 18"	18	2
LNL-DOCK-30	Docking rail 30"	30	2
LNL-ENDCAP-18	End cap 18"	18	2
LNL-ENDCAP-30	End cap 30"	30	2

Fixture Plates		Inch	
Part #	Description	A	B
LNL-PLT-0606	Fixture plate 6 x 6	6	6
LNL-PLT-0606-X	Fixture plate 6 x 6 w/.5" hole spacing	6	6
LNL-PLT-0612	Fixture plate 6 x 12	6	12
LNL-PLT-0612-X	Fixture plate 6 x 12 w/.5" hole spacing	6	12
LNL-PLT-0618	Fixture plate 6 x 18	6	18
LNL-PLT-1206	Fixture plate 12 x 6	12	6
LNL-PLT-1212	Fixture plate 12 x 12	12	12
LNL-PLT-1212-X	Fixture plate 12 x 12 w/.5" hole spacing	12	12
LNL-PLT-1218	Fixture plate 12 x 18	12	18
LNL-PLT-1818	Fixture plate 18 x 18	18	18
LNL-PLT-1824	Fixture plate 18 x 24	18	24

Docking Rails and Fixture Plates Metric		mm	mm
OC-DOCK-M180	Docking rail 180	180	75
LNL-DOCK-M360	Docking rail 360	360	50
LNL-DOCK-M540	Docking rail 540	540	50
LNL-DOCK-M720	Docking rail 720	720	50
LNL-M180180	Fixture plate 180 x 180	180	180
LNL-M180360	Fixture plate 180 x 360	180	360
LNL-M360360	Fixture plate 360 x 360	360	360
LNL-M360540	Fixture plate 360 x 540	360	540

Accessory Plates		Inch		
Part #	Description	A	B	C
LNL-ADPT-06	Adapter plate	6	1	5.5
LNL-ANGL-0603	Angle plate/stop	6	6	
LNL-QUAL-PLT*	Qualifying ball plate	6	3	M8 x 1.25
LNL-0606-4X	Indexable plate	6	6	
LNL-RND-0608	Radial plate	8	10	
LNL-PLT-0606-PERP	Verti-Plate™ Set	6	6	6
Accessory Plates		Metric		
Part #	Description	A	B	C
LNL-ADPT-M6	Adapter plate	180	30	146.05
LNL-ANGL-M6	Angle plate/stop	180	180	
LNL-QUAL-PLT-M	Qualifying ball plate	180	80	M8 x 1.25
LNL-M180180-PERP	Verti-Plate™ Set	180	180	180

* Inquire about Metric for LNL-0606-4X, LNL-RND-0608

 Air-Glide™ Feature for Loc-N-Load™ Plates

 Robotics Integration

Air-Glide™ Option for Loc-N-Load™ Plates



Loc-N-Load™ Air-Glide™ feature lets your CMM and fixture plates do the heavy lifting!

With a press of a button and one pinky finger, inspectors can easily glide the weight of an anvil across the granite!*



Even move an anvil with your pinky.

The Air-Glide™ feature can be added to larger Loc-N-Load™ plates. The system comes ready for use with all hardware and accessories. Docking rails can be ordered separately. (see page 6 for sizes and selection)

**Customer must have air supply and female quick connection. Rails sold separately.*

"The Air-Glide™ you made for us works wonderful. We are extremely happy with this product and I would recommend it all day long. My biggest problem is keeping my boss away from playing with it!"

Elmet Technology is measuring a tungsten heavy alloy part 1.50" thick by 7" wide by 18" long weighing up to 120-lbs each. The part is loaded and unloaded with a lift table cart outfitted with a conveyor.

Frank Begert

*CMM Programmer/Metrology Leader
Elmet Technology*

Send requests for Air-Glide™ quotes to:

Quotes@phillips-precision.com or
call 508-869-0373 to speak to an engineer.

Robotics Integration



By design, **Loc-N-Load™** quick-swap fixture plate system provides a perfect platform for robotic applications.

The secure docking rail offers a repeatable location for parts fixtured on individual plates. Grippers are designed for any robot which highlights the universal nature of Inspection Arsenal®.

Utilize **Loc-N-Load™** quick-swap plates as the platform so you can inspect and deliver parts faster than ever before!

Phillips Precision can create the perfect turn-key solution combining standard products with expert custom fixture design services.

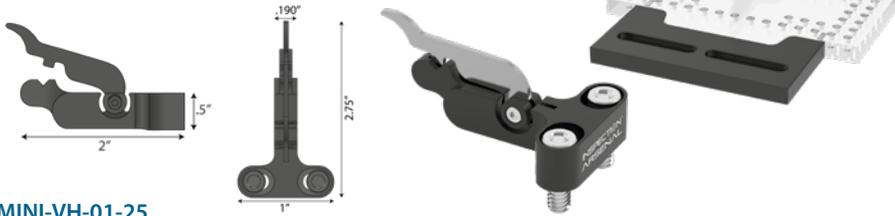
Deliver Perfect Parts **FASTER**

Specialty Chucks

- NEW Mini-Vise
- Spring-Load Chuck
- Collett Chucks

Mini-Vise

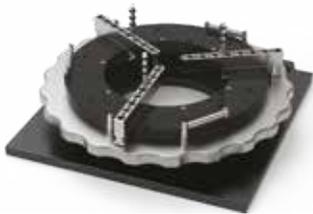
NEW



MINI-VH-01-25

Designed to hold needles, pins and parts ranging 0.010" to 0.250" for vision and CMM inspections with adjustable holding force from 0 to approximately 3.1 lbs. while its .190" wide retaining crown minimizes intrusion, making it ideal for precise inspection on very small parts.

Spring-Load Chuck

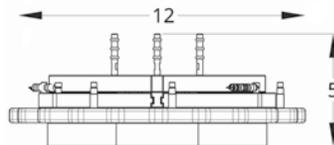


Spring-Load Chuck SLC-6.0-00

The solution for hard-to-hold parts that previously required custom fixture designs. Inspectors can easily measure rings and rounds ranging from 1/16" to 18" with a single chuck!

Spring-Load Chuck Mounting Plate SLC-6.0-10

Optional base plate available for Spring-Load Chuck. Black anodized, 12 x 12" plate w/male Loc-N-Load™ feature, viewing hole and 4 mounting holes.



Spring-Load Chuck over-all dimensions

Collet Chucks



CC-ER11 CC-ER11-M

opening from .012" to .312"



CC-ER16 CC-ER16-M

with flanged bottom, opening from .012" to .416"



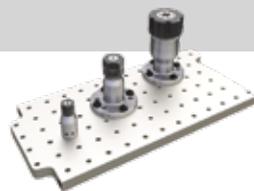
CC-ER32 CC-ER32-M

with flanged bottom, opening from .039" to .875"

1/4-20 or M6 threads mounting hardware included

Collets not included. The only difference in metric version is the M6 mounting hardware.

Hold small diameter parts and create a multi-part fixture.

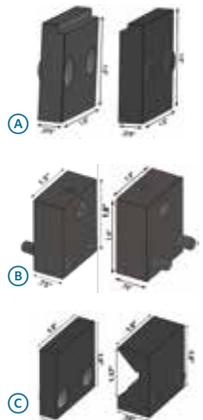


Spanner-Vise™ Jaws

NEW

Upgrade your Spanner-Vise™ with Optional Replacement Jaws!

- (A) **SPV-JAW**
Replacement Aluminum Step Jaws
Un-coated and machinable, the standard jaws boast a 90° step offering incredible versatility right off the shelf. But can also be easily modified for dedicated parts.
- (B) **SPV-JAW-C**
Centers Jaws
Featuring 60° cones, secure a wide range of shaft diameters. Put your Spanner-Vise™ on stand-offs to handle even larger dimensions.
- (C) **SPV-JAW-V**
V-Jaws
Engineered for secure grip on shafts and rounds from .500" to 1.625" in diameter.



Spider-Clamp™



Spider-Clamp™ SC-06-03 SC-06-03-M

3 legged for holding round parts from 1.18" to 6" in diameter. Hold delicate round parts without distortion for Vision and CMM.*



Spider-Clamp™ SC-06-01 SC-06-01-M

1 legged, 3" length
Hold parts of infinite size and shape.
Sold as a set of 2*

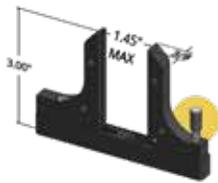
*Loc-N-Load™ and Open-Sight™ plates sold separately.

- Spider-Clamp™
- Skinny-Vise™
- Riser-Grip™

- Rapid-Loc Vise™
- NEW Spanner-Vise™ Jaws
- Spanner-Vise™

Specialty Vises and Rapid-Loc™

Skinny-Vise™ Available in 2 Styles: Thumb Screw and Spring Loaded



Skinny-Vise™ with thumb screw
SV-4375
SV-4375M

Static jaw is adjustable up to 1.25" while locking jaw easily engages with a gentle twist of thumb screw. Jaws are customizable.*

Skinny-Vise™ with compression springs
SV-4375-SPR
SV-4375M-SPR

Choose vise with 3 compression springs (10, 15 and 25 lbs) to ensure consistency of force between inspectors. Jaws are customizable.*

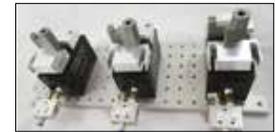
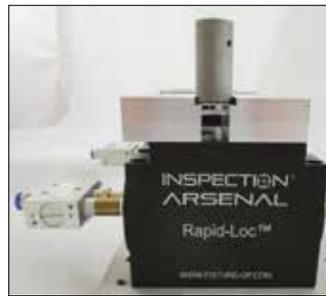
Adjustable Riser-Grip™
RG-2.75
RG-2.75-M

Full-Access clamp, adjustable. Secure parts from .0 to 2.1" in thickness.*

**Loc-N-Load™ and Open-Sight™ plates sold separately.*

Rapid-Loc™ Pneumatic Vise for CMM

Rapid-Loc™ Air Vise System	
Part#	Description
RL-VISE-SYS02	2.5" Rapid Loc™ Vise System - assembled: Soft jaws, valve and fittings included.
RL-REGULATOR	Air Regulator with mounting bracket**
Consumable Accessories, Regulator and Additional Fittings (purchase for multi-vise setups) Work with BOTH Inch and Metric Vise	
RL-SJAW-02	Aluminum soft jaws (set of 2)
RL-MV-PACK	Multi-vise connector pack: Elbows, tees and 6' tubing
RL-PORT-PLUGS	Multi-vise connector pack: 1/8" tube to 1/8" NPT 4 port w/3 plugs
Metric: Rapid-Loc™ with Adapter Plate for Metric	
RL-VISE-SYS02-M	2.5" Rapid Loc™ Vise System - assembled: Soft jaws, valve, fittings and adapter included.

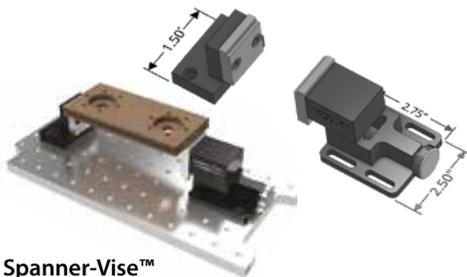


2.5" Rapid-Loc™ multi-vise assemblies mounted on Loc-N-Load™ plate. Configure with air regulator,** tubing and additional fittings.
 Left: Air regulator w/mounting bracket (sold separately)

** Customer must have air supply and female quick connection. Fixture plates and rails sold separately.

The **Rapid-Loc™** pneumatic vise for CMM inspection is designed to take advantage of the air at your CMM. Soft jaws for the Rapid-Loc™ vise can be customized to hold almost any part. Regulated air pressure can produce just enough clamping force to hold delicate parts or as much as 150 lbs. if needed.

Mount Rapid-Loc™ vises on **Loc-N-Load™** quick-swap fixture plates for fast, accurate, and highly repeatable setups that help break inspection bottlenecks. Rapid-Loc™ can also be mounted on existing CMM grid plates.



Spanner-Vise™
SP-VISE-2.5
SP-VISE-2.5M

2 pc. vise can infinitely adjust to accommodate work piece and lock down securely. **Metric version includes adapter plate.***

Spanner-Vise™ System with Base and Centers
SYS-SP-VISE-2.50

Works with inch and metric plates. Includes 2.5" vise, .75" thick slider base (adjustable up to 16"), step jaws, center jaws, and mounting hardware.*

1/4-20 or M6 threads mounting hardware included

**Loc-N-Load™ plates sold separately.*

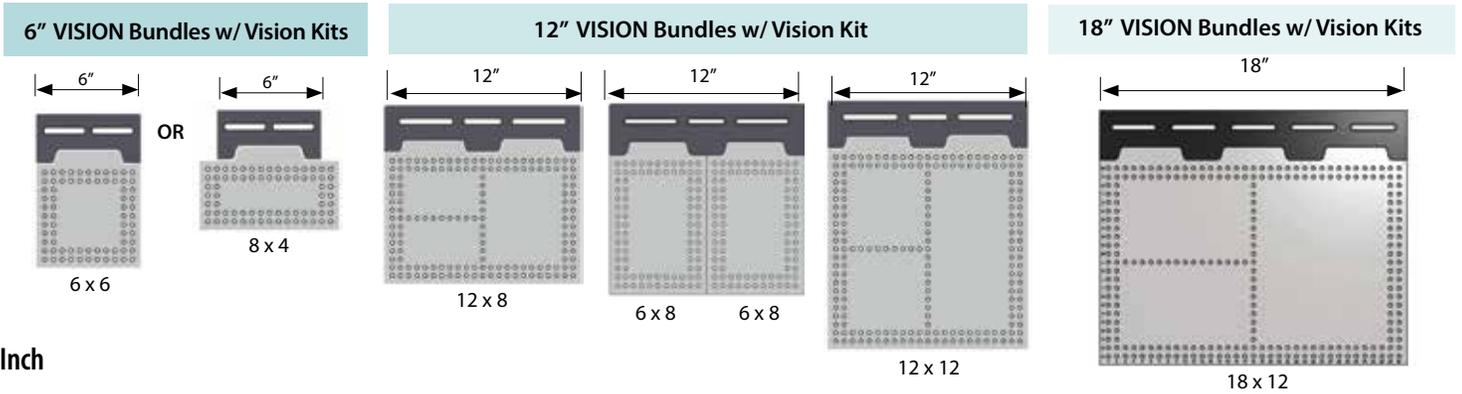


Open-Sight™ for Vision Bundled Fixture Systems

Open-Sight™ is especially designed for vision systems and it offers the same speed and efficiency as Loc-N-Load™. Docking rails fit the stage of any optical machine. Black anodized aluminum docking rails and scratch-resistant polycarbonate plates are .5" thick with 1/4-20 holes and .5" hole spacing.

Metric plates are 12.7 mm thick, with 10 mm or 20 mm spacing and M6 threaded holes.

2 Work-Holding Kit options, see page 11.



Inch

Selection is easy with preconfigured bundled fixture systems. Bundles include docking rail, plate(s), and work-holding kit designed for vision set ups.

VIS-KIT-01 comes complete with steel, scalloped spring clamps, hole adjusters, low profile rails and hold down clamps. An acrylic riser platform helps to hold parts out over the viewing surface. (inch and metric options)

VIS-KIT-02 comes with a full-access **Riser-Grip™**, magnetic v-blocks, clear scalloped corner stops, a variety of stand-offs and 2 style hold downs. (inch and metric options)

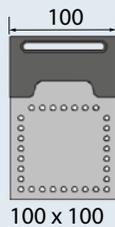
6" Bundles w/ Vision Kits	
Part #	Description
SYS01_DK06VIS01	6" dock w/6" X 6" plate
SYS01_DK06VIS02	6" dock w/6" X 6" plate
SYS04_DK06VIS01	6" dock w/8" X 4" plate
SYS04_DK06VIS02	6" dock w/8" X 4" plate

12" Bundles w/ Vision Kits	
Part #	Description
SYS02_DK12VIS01	12" dock w/12" X 8" plate
SYS02_DK12VIS02	12" dock w/12" X 8" plate
SYS03_DK12VIS01	12" dock w/2-6" X 8" plates
SYS03_DK12VIS02	12" dock w/2-6" X 8" plates
SYS06_DK12VIS01	12" dock w/12" X 12" plate
SYS06_DK12VIS02	12" dock w/12" X 12" plate

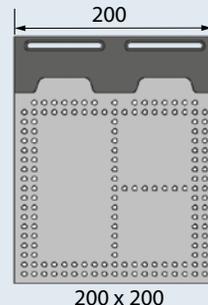
18" Bundles w/ Vision Kits	
Part #	Description
SYS07_DK18VIS01	18" dock w/18" X 12" plate
SYS07_DK18VIS02	18" dock w/18" X 12" plate

See Work-Holding Kit contents on page 11.

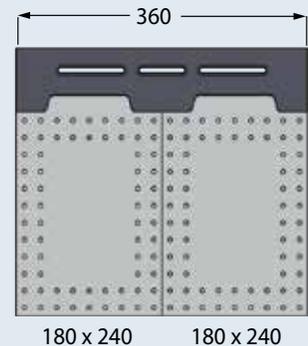
Metric 100 mm Vision Bundle w/Vision Kit



200 mm Vision Bundle w/Vision Kit



360 mm Vision Bundle w/Vision Kit



100 mm Vision Bundle	
Part #	Description
SYSM4_DK100V01	100 mm dock and plate + VIS-KIT-01M
SYSM4_DK100V02	100 mm dock and plate + VIS-KIT-02M

10 mm hole spacing

200 mm Vision Bundle	
Part #	Description
SYSM4_DK200V01	200 mm dock and plate + VIS-KIT-01M
SYSM4_DK200V02	200 mm dock and plate + VIS-KIT-02M

360 mm Vision Bundle	
Part #	Description
SYSM4_DK360V01	360 mm dock and 2 plates + VIS-KIT-01M
SYSM4_DK360V02	360 mm dock and 2 plates + VIS-KIT-02M

20 mm hole spacing

Open-Sight™ Vision Plates, Rails and Accessories

Vision Work-Holding Kit Options

Basic VISION Work-Holding Kit-01



VIS-KIT-01: Inch

VIS-KIT-01M: Metric

Vision Kit-01	Inch	Metric
Hole adjuster		2
Adjustable platform		1
Sliding-Stop™		2
Spring-Loc™		2
Simple-Stop™ #01-OS, #06, #07		3
Trigger-Finger™		2
Trigger-Point™		2
Steel shaft/stand-off		4
Hex key, assorted screws		16
TOTAL		34

Enhanced VISION Work-Holding Kit-02



VIS-KIT-02: Inch

VIS-KIT-02M: Metric

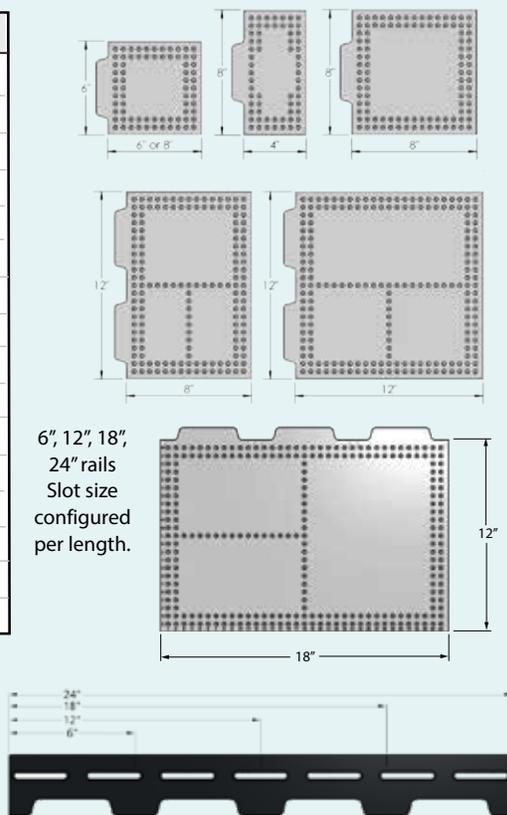
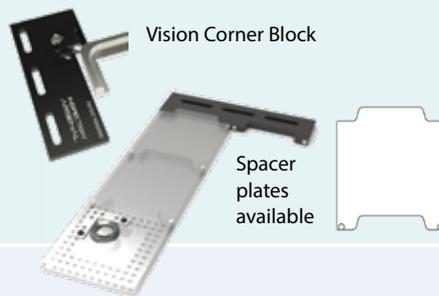
Vision Kit-02 w/Riser-Grip™

Inch	Metric	Qty.
Trigger-Finger™	Trigger-Finger™	2
Trigger-Point™	Trigger-Point™	2
Steel shaft/stand-off	Steel shaft/stand-off	4
Stand-off 1/2" x 1"	Stand-off 12.7 x 25	4
Stand-off 1/2" x 2"	Stand-off 12.7 x 50	4
Stand-off 1/2" x 4"	Stand-off 12.7 x 100	4
V-Block 90° angle	V-Block 90° angle	2
Riser-Grip™ adjustable	Riser-Grip™ adjustable	1
Clr. Corner Stop, pc*	Clr. Corner Stop, pc*	2
MISC screws, etc.	MISC screws, etc.	9
TOTAL		34

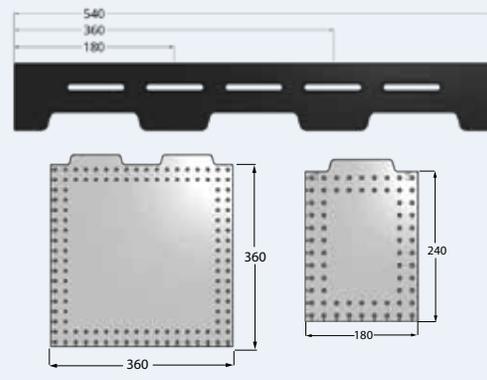
* polycarbonate

Open-Sight™ offers the same lean fixture concept for vision systems with polycarbonate fixture plates, aluminum docking rails and accessories.

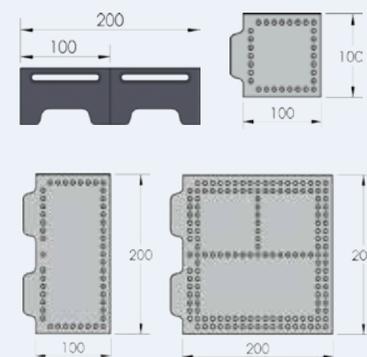
Inch: .5" thick, 1/4-20, .5" hole spacing	
Part #	Description
OS-DOCK-06	Docking rail 6 x 3
OS-DOCK-12	Docking rail 12 x 3
OS-DOCK-18	Docking rail 18 x 3
OS-DOCK-24	Docking rail 24 x 3
OS-PLT-0606	Fixture Plate 6 x 6
OS-PLT-0606-B	Fixture Plate blank 6 x 6
OS-PLT-0606-SPCR	Spacer Plate 6 x 6
OS-PLT-0608	Fixture Plate 6 x 8
OS-PLT-0804	Fixture Plate 8 x 4
OS-PLT-0808	Fixture Plate 8 x 8
OS-PLT-1208	Fixture Plate 12 x 8
OS-PLT-1208-B	Fixture Plate blank 12 x 8
OS-PLT-1212	Fixture Plate 12 x 12
OS-PLT-1812	Fixture Plate 18 x 12
VCB-150M	Vision Corner Block



Metric: 12.7 mm thick, M6, 20mm spacing	
Part #	Description
OS-DOCK-M180	Docking rail 180 x 75
OS-DOCK-M360	Docking rail 360 x 75
OS-DOCK-M540	Docking rail 540 x 75
OS-M180240	Fixture Plate 180 x 240
OS-M360360	Fixture Plate 360 x 360
OS-PLT-M180180-SPCR	Spacer plate 180 x 180
VCB-150M	Vision Corner Block



Metric Open-Sight™ for Small Machines and Digital Microscopes, 10mm spacing	
Part #	Description
OS-DOCK-M100	Docking rail 100 x 60
OS-DOCK-M200	Docking rail 200 x 60
OS-M100100	Fixture Plate 100 x 100
OS-M200100	Fixture Plate 200 x 100
OS-M200200	Fixture Plate 200 x 200
OS-M100100-B	Blank plate 100 x 100
OS-M200200-B	Blank plate 200 x 200

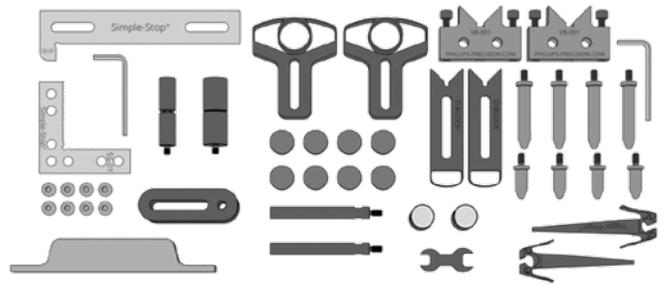
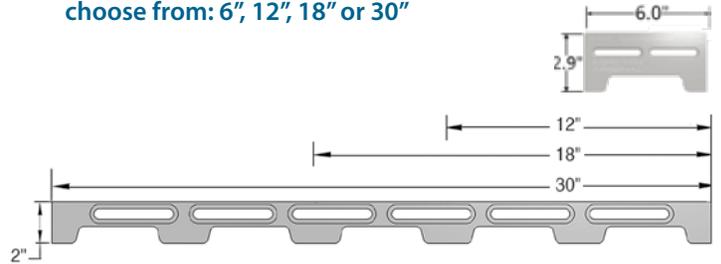


Modular, Quick-Swap Fixturing for Laser Marking and Other Non-Machining Processes

Loc-N-Load™ modular, quick-swap fixturing is perfect for **most light-duty or non-machining processes** that require repeatable light or no-touch setups. Think outside the box for process improvements in laser marking, welding, assembly and other material processing applications. Improvements can be made at a variety of steps along the manufacturing production line. **Laser Arsenal®** is the **ONLY** universal, ready-made system on the market to help you **Deliver Perfect Parts Faster!**

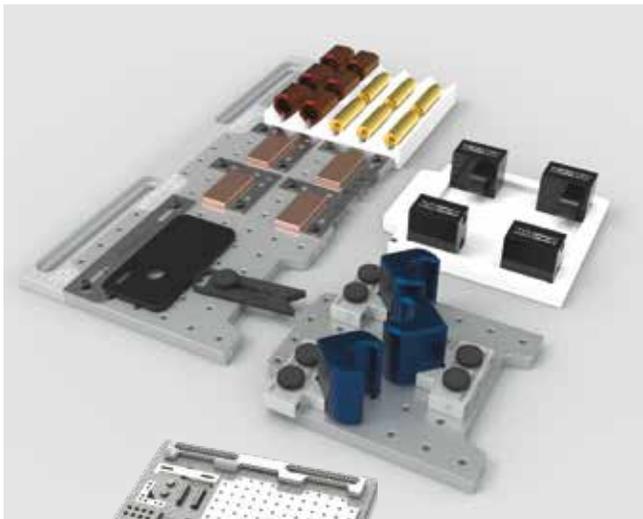
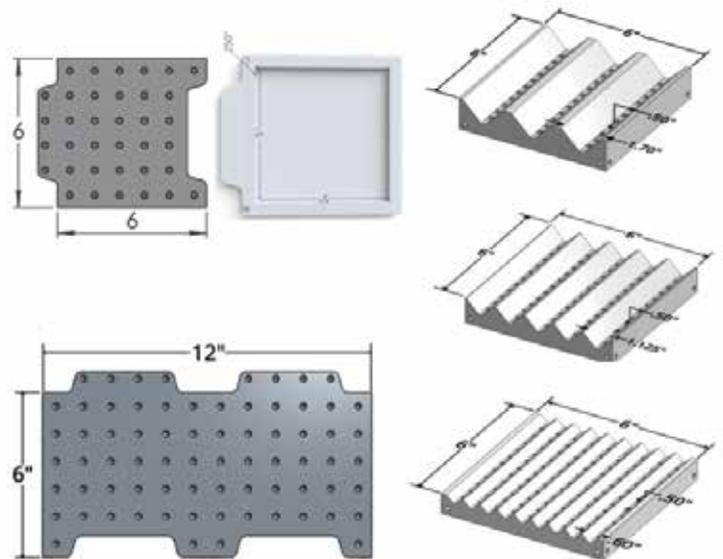
- Magnetically interlocking docking rails and fixture plates create highly repeatable and secure setups.
- Specially designed v-trays make fixturing round parts fast and accurate.
- Preconfigured bundled Fixture Systems kit contains a docking rail and, a large variety of plates and work holding components.
- Installs on all brands of equipment to help you process more parts per shift.
- Affordable prices and next day shipping will have you improving profits right away!

Inch Laser Bundled Fixture Systems are available with 4 Docking Rails to choose from: 6", 12", 18" or 30"

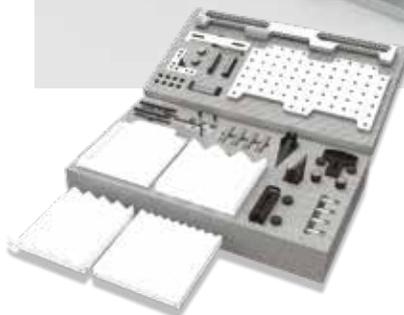


Loc-N-Load™ fixture plates and docking rails can be ordered individually.

Inch Plates: 0.5" thick, 1/4-20 thread, 1" x 1" hole spacing



Above: Loc-N-Load™ plates and work holding examples.

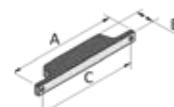


Left: Full system contents in 6S foam organizer.

Accessory and Specialty Plates



Angle Plate/Stop



Adapter Plate



Indexable Loc-N-Load™ Plate

Order a preconfigured Bundled Fixture System that best fits your equipment or customize your order.

Inch Laser Bundle Fixture

Bundle Part Numbers		52 piece Bundle
Part #	Description	
SYS01_DK06LA02	Laser Bundle w/ 6" Docking Rail	
SYS05_DK12LA02	Laser Bundle w/ 12" Docking Rail	
SYS40_DK18LA02	Laser Bundle w/ 18" Docking Rail	
SYS50_DK30LA02	Laser Bundle w/30" Docking Rail	
Docking Rails: choose 1 of 4 sizes: (6", 12", 18" or 30") <i>Double faced tape included for mounting rail or bolt rail down using counter bored slots</i>		
The items below are also available individually.		
OC-DOCK-06	6" Docking Rail, Aluminum	
LNL-DOCK-12	12" Docking Rail, Aluminum	
LNL-DOCK-18	18" Docking Rail, Aluminum	
LNL-DOCK-30	30" Docking Rail, Aluminum	
The components below come standard in all Inch Laser Bundles		
Fixture Plates: 1ea.		
LNL-PLT-0606	6 X 6" Fixture Plate, Aluminum; 1X1" hole spacing	
LNL-PLT-1206	12 X 6" Fixture Plate, Aluminum	
LA-PLT-06063V	3-Groove Plastic V-Tray	
LA-PLT-06065V	5-Groove Plastic V-Tray	
LA-PLT-06069V	9-Groove Plastic V-Tray	
LA-PLT-0606SQ	Square Pocket Plastic V-Tray	
LNL-ADPT-06	Adapter Plate—Aluminum; can be added to V-Tray	
LNL-ANGL-0603	6 X 6" Angle Plate, Stop—Aluminum	
Work Holding Components:		
Quantity		
2	Aluminum, magnetic V-Blocks	
4	Simple-Stop™ rails (2 corner, 2 straight)	
2	Hole adjusters	
2	1/2 X 1", 3/4 X 1" stand-offs	
2	3/4" magnetic rest pad	
4 each	1" and 2" Silver-Bullet™ stand-offs	
2 each	Cross-Bow™, D-Block™ spring clamps	
2	Trigger-Finger™ hold-downs with 3" shafts	

LA-KIT-01	Work Holding Components	Kit Only - 45 pieces
	Kit contents	
	4 Trigger-Finger™	
	4 Steel Shaft/Stand-Off	
	2 Hole Adjusters	
	8 Silver Bullets™ (4 ea., 2 sizes)	
	2 Magnetic V-Blocks	
	4 Simple-Stops™ (variety of 4)	
	2 D-Blocks™	
	19 Assorted screws, Hex key	

Simple and repeatable set-ups using standard work holding components available with Laser Arsenal®



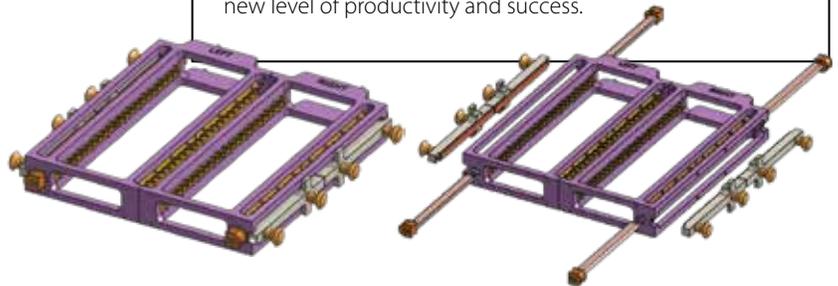
Magnetic V-Blocks turned on their side



Pocketed Tray being used as 4 right angle stops

Streamline operations, boost profits and empower operators with custom fixtures.

In response to a client's previously slow and cumbersome laser marking method, the Phillips Precision team engineered this custom fixture. **With a capacity to mark 46 parts simultaneously, coupled with the ability to have multiple fixtures in rotation, downtime was virtually eliminated.** Streamlining operations, boosting profits, and empowering operators of varying skill levels, ushering in a new level of productivity and success.



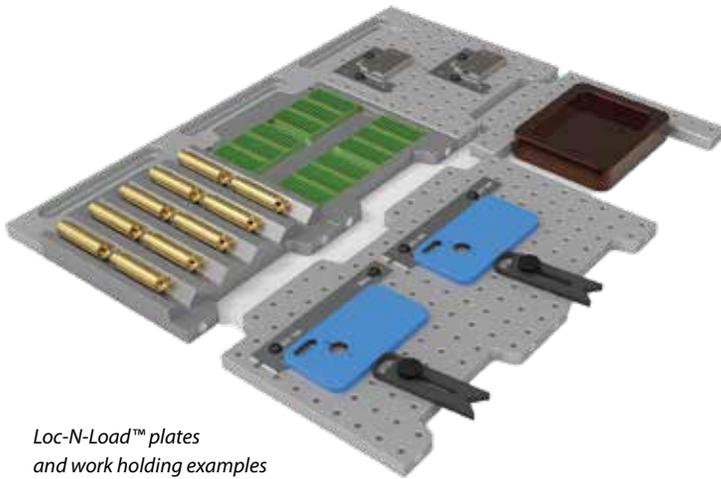
Don't forget, custom fixture design is available for your laser marking needs too!

It's not risky, hard or expensive to improve your laser marking and other light-duty processes and uncover hidden profits! Deliver perfect parts to your customers— *faster.*

Laser Arsenal®, lean and modular fixturing...

- Is the **ONLY** ready-made, quick-swap modular fixture system for laser marking.
- Easily installs on any equipment.
- Speeds up the process so you can mark more parts per shift.

The Loc-N-Load™ Fixture Plate System can adapt easily to your equipment. The docking rail fastens in place while interlocking fixture plates quickly secure and release with the use of magnets. Plus V and pocketed-trays make a variety of part setups a snap!



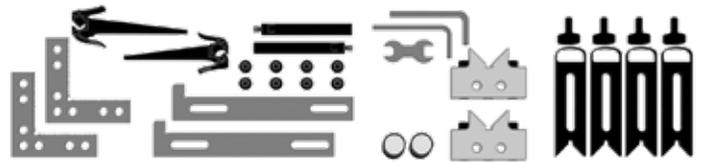
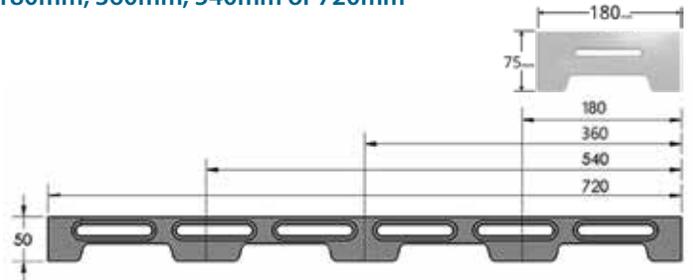
Loc-N-Load™ plates and work holding examples

Simple and Repeatable set-ups using standard work-holding components available with Laser Arsenal®



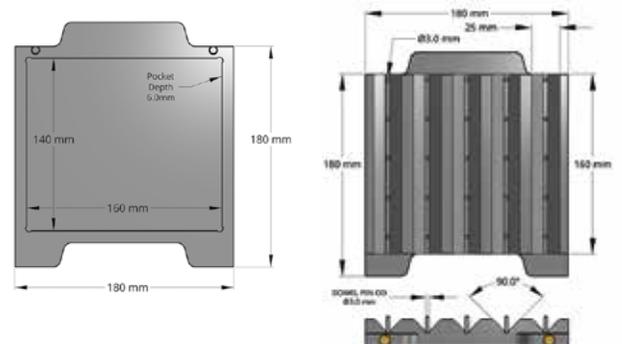
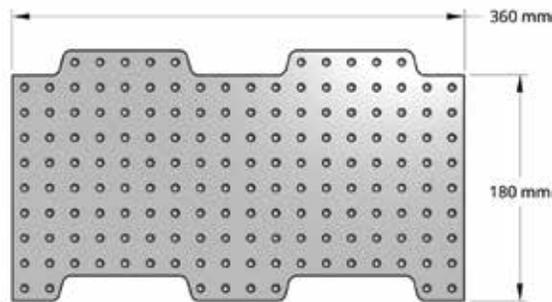
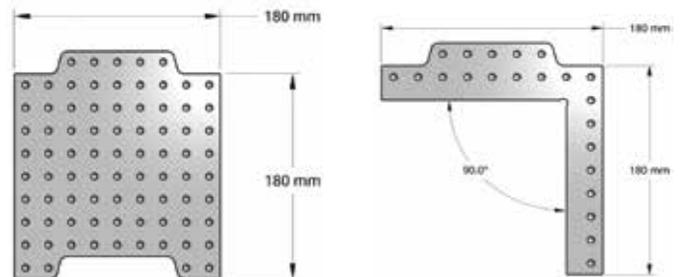
Ultra low profile Simple-Stops™

Metric Laser Bundled Fixture Systems are available with 4 docking rails to choose from: 180mm, 360mm, 540mm or 720mm



Metric Plates:

12.7 mm thick, M6 thread, 20 mm x 20 mm hole spacing

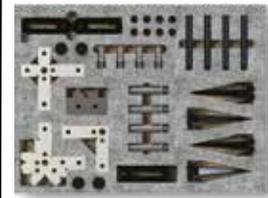


Order a pre-configured plate and clamp combination that best fits your equipment or customize your order.

Metric Laser Bundle Fixture

Bundle Part Numbers		46 piece Bundle
Part #	Description	
SYS60_DKM180LA02	Laser Bundle w/ 180mm Docking Rail	
SYS60_DKM360LA02	Laser Bundle w/ 360mm Docking Rail	
SYS60_DKM540LA02	Laser Bundle w/ 540mm Docking Rail	
SYS60_DKM720LA02	Laser Bundle w/ 720mm Docking Rail	
Docking Rails: choose 1 of 4 sizes <i>Double faced tape included for mounting rail or bolt rail down using counter bored slots.</i>		
The items below are also available individually.		
OC-DOCK-M180	180mm Docking Rail	
LNL-DOCK-M360	360mm Docking Rail	
LNL-DOCK-M540	540mm Docking Rail	
LNL-DOCK-M720	720mm Docking Rail	
The components below come standard in all Metric Laser Bundles		
Fixture Plates: 1ea.		
LNL-M180180	180 X 180mm Plate; 20mm spacing	
LNL-M360180	360 X 180mm Plate; 20mm spacing	
LNL-ANGL-M6	180 X 180mm Angle Plate, Stop	
LA-PLT-M180180-5V	5-Groove V-Tray	
LA-PLT-M180180-SQ	Square Pocket V-Tray	
Work Holding Components:		
Quantity		
2	Aluminum, magnetic v-Blocks	
4	Simple-Stop™ rails (2 corner, 2 straight)	
2	19mm Magnetic rest pads	
4	D-Block™ spring clamps	
2	Trigger-Finger™ hold-downs	
2	3" Steel shafts	
23	Assorted screws and hex keys	

LA-KIT-01M Work Holding Components Kit Only - 45 pieces

Kit contents	
	4 Trigger-Finger™
	4 Steel Shaft/Stand-Off
	2 Hole Adjusters
	8 Silver Bullets™ (4 ea., 2 sizes)
	2 Magnetic v-Blocks
	4 Simple-Stops™ (variety of 4)
	2 D-Blocks™
	19 Assorted screws, Hex key

A LEAN Parts Identification Process Involves Quick-Swap Fixture System

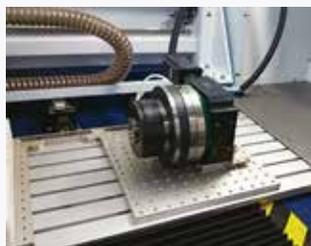


Continuous improvement is fostered in the culture at Armstrong International of Three Rivers, Michigan. The company's longevity – more than 115 years in business – is a reflection of this culture. One recent improvement was made in the identification process for the stainless steel line which tens of thousands of product variations totaling more than 115,000 parts are manufactured per year. The part marking process may seem like an insignificant step to examine, however in the case of Armstrong, not only has the improvement saved them countless dollars, it resulted in better service for their customers.

Armstrong employees discovered that over time, the labels that identify their parts were not holding up under harsh conditions. Parts were difficult to identify for service and replacement many years later. The solution was to purchase a large capacity laser marking machine to etch information permanently.

Given the extraordinary volume and variety, Zac Findlay, Senior Manufacturing Engineer at Armstrong knew the process would not be complete – or investment maximized – without a way to fixture the parts.

Through an online search, John Schneider, Lead Manufacturing Engineer found a ready-made, quick-swap solution perfect for their applications. They purchased a sampling of Laser Arsenal® Loc-N-Load™ fixture plates to test his idea.



“Our sample worked so well that we ended up purchasing twenty-five plates that accept five different fixture types. This allows us to use the same machine coordinates every time making setup and part swap fast and easy.” according to Findlay.



Parts are nested in machined plastic blocks that are affixed to Loc-N-Load™ plates. To make the process even more visual, fixtures are identified by their numbers and etched with associated part model numbers.

In order to start with the LEANest process, the laser machine and new fixturing was integrated into Armstrong's ERP system as soon as it hit the shop floor. This way, the operator can simply scan the work order to display the part program which then prompts to load the associated fixture A, B, C, D, or E. To change-over jobs, operators quickly and easily un-click the fixture, swap in a new fixture and hit run!

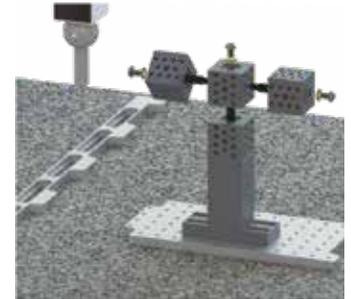
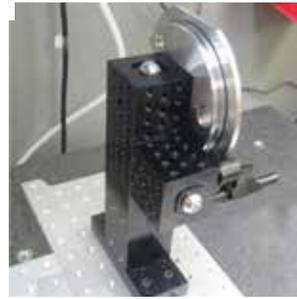
Modular Tower System and Cross-Member Set

Modular Tower System for CMM Inspections

Our modular fixture tower expands the CMM work area, enabling inspectors to work more efficiently – and more effectively.

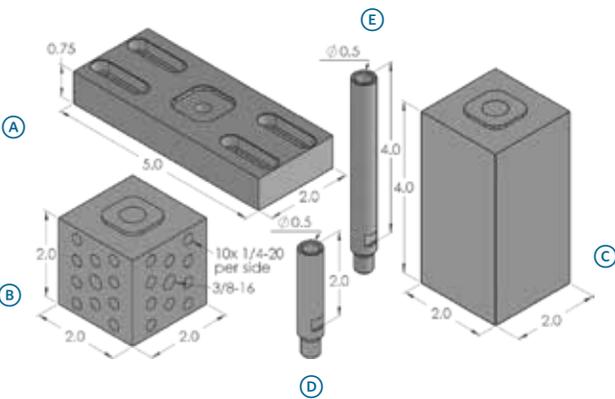
The first in our line of towers is a 2" interlocking system that can be built both vertically and horizontally. Cubes added horizontally can be turned to any angle and locked securely.

- Building-block design lets you determine the height you want.
- Staggered hole pattern adds flexibility for work holding.
- Adds even more versatility to **Inspection Arsenal®** work-holding and **Lock-N-Load™** fixture plates.
- Build vertically and horizontally – it's secure at any angle.
- Works with all existing 1/4-20 or M6 fixture plates.
- Use more available space of the CMM work envelope.
- Won't interfere with the probe's travel.



Modular tower built vertically and horizontally.

Modular Tower System: 11 pc. Assembled system includes: Base, Cubes, Spacer and Posts (items also available individually)				
Inch		Metric		
MT2-SYS-01		MT2-SYS-01-M		Qty.
MT-BASE-2.0	Ⓐ Mounting base with 1/4-20 slots	MT-BASE-2.0-M	Mounting base with M6 slots	1
MT-CUBE-2.0	Ⓑ 2 x 2 cube, 1/4-20	MT-CUBE-2.0-M	2 x 2 cube, M6	4
MT-SPACER-4.0	Ⓒ 4 x 2 blank spacer block, 1/4-20	MT-SPACER-4.0	4 x 2 blank spacer block, 1/4-20	1
MT-POST-2	Ⓓ .5 x 2 steel post, 1/4-20	MT-POST-2	.5 x 2 steel post, 1/4-20	4
MT-POST-4	Ⓔ .5 x 4 steel post, 1/4-20	MT-POST-4	.5 x 4 steel post, 1/4-20	1



Assorted hardware included. Refer to price list for individual component prices.

For metric option, cubes and mounting base are the only parts different. Cubes have M6 threaded holes and mounting base works with 20 mm metric plate hole pattern – all other parts in the system remain the same.

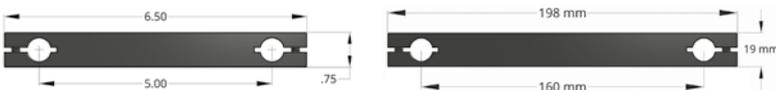
Inspectors are no longer limited to a few towers of fixed sizes. Maximize the work area of your CMM without interfering with the probe's travel.

Cross-Member Set

Cross-Member Set

The Cross-Member™ is a quick and simple solution to turn any clamp or vise on its side – providing more versatility for access to critical part features.

Cross Member Sets					
Inch - Part # CM-5.0			Metric - Part # CM-160		
Set contents		Qty.	Set contents	Qty.	
Cross-Member	5" long (1/4-20 Holes)	2	Cross-Member	160mm long (M6 Holes)	2
STOF-050-200	.5" dia x 2" ht. Stand-off	4	STOF-050-M50	12.7mm dia. x 50mm ht. Stand-off	4



Right: Dual Row Cross-Member Set Up (All included in Kit)



- Starter Kit
- Complete Kit
- The Works Kit

Inspection Arsenal® Work-Holding Kits

Inspection Arsenal® work-holding includes a variety of unique and versatile components designed to create fast, easy and repeatable setups. Components include quick-swap trigger-action, low-profile and non-marring clamps and hold downs; **Trigger-Finger™**, **Cross-Bow™**, **D-Block™** and **Trigger-Point™**. Heavy duty lever clamps provide additional force when necessary.

Stand-offs and risers include traditional and articulating styles and magnetic rest pads and risers. Round parts can be held with v-blocks or **Silver-Bullet™** stand-offs and hole adjusters provide infinite adjustability between holes.

Low-profile stops and rails include **Simple-Stop™**, **Sliding-Stop™**, and vision corner stops.

Components are sold in 3 kit combinations here; in sets and on page 18.

See pages 18-21 for individual components.

- 1/4-20 or M6 threads
- Plus 6S foam drawer inserts included with all kits



Starter Kit: 62 pcs.

Inch: TR-KIT-03

Metric: TR-KIT-03M



Complete Kit: 82 pcs.

Inch: TR-KIT-02

Metric: TR-KIT-02M



Starter Kit	Inch	Metric
Cross-Bow™ spring clamp		2
D-Block™ spring stop		2
V-Block, set of 2		2
Silver-Bullet™, 2 sets of 4: 1" and 3"		8
3" Steel shaft, stackable		2
Trigger-Finger™ hold downs		2
Hole adjuster		2
Simple-Stops™, 2 ea. #01, #07		4
Stand-offs, assorted sizes (Qty=10) Inch: (3) 0.5 x 0.75, (3) 0.75 x 0.75, (2) 0.5 x 2, (2) 0.75 x 2 Metric: (3) 12.7 x 19, (3) 19 x 19, (2) 12.7 x 50 (2) 19 x 50		10
Stand-Off cone - plastic		3
Lever Clamp w/shaft-set of 2		4
Hex keys, assorted screws, wrench		21

Complete Kit	Inch	Metric
Cross-Bow™ spring clamp		4
D-Block™ spring stop		4
Spring-Loc™ clamp		2
Silver-Bullet™, 3 sets of 4: 1", 2", 3"		12
V-Block, set of 2		2
3" Steel shaft, stackable		4
Trigger-Finger™ hold downs		2
Hole adjuster		2
Simple-Stop™, set of 7		7
Lever Clamps w/shafts, set of 6		12
Sliding-Stop™, set of 2		2
Hex keys, assorted screws, wrench		29

The Works Kit	Inch	Metric
Clamps and Hold-downs		
Cross-Bow™ spring clamp		4
D-Block™ spring stop		4
Trigger-Finger™ hold downs		2
3" Steel shafts, stackable		4
Spring-Loc™ low profile clamp		2
Lever Clamps w/shafts, set of 6		12
Silver-Bullet™, 3 sets of 4: 1", 2", 3"		12
V-Block, set of 2		2
Simple-Stop™ rails, set of 7		7
Hole adjuster		2
Sliding-Stop™ low profile stop		2
Hex keys, plus assorted screws		39
Stand-Off and Rest Pad Set		37
Magnetic Riser Set		23

The Works Kit: 152 pcs.

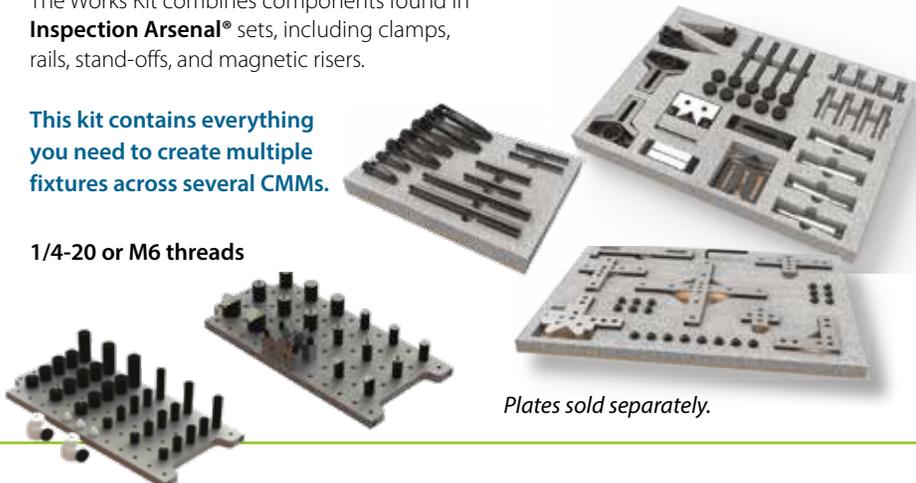
Inch: TR-KIT-01

Metric: TR-KIT-01M

The Works Kit combines components found in Inspection Arsenal® sets, including clamps, rails, stand-offs, and magnetic risers.

This kit contains everything you need to create multiple fixtures across several CMMs.

1/4-20 or M6 threads



Plates sold separately.

Riser, Stand-Off and Rest Pad Sets

- Magnetic Riser Set
- Stand-Off and Rest Pad Set
- Enhanced Stand-Off Set

Magnetic Riser Set

Magnetic clamping allows for unlimited probe access and MORE holding options for steel parts during CMM inspection. Combine with stand-offs and other work-holding kits for fixture building. (1/4-20 or M6 threads)



Inch: MAGN-SET-30

Metric: MAGN-SET-30M

Inch: 1/4-20, dimensions in inch		Qty.	Metric: M6, dimensions in mm		Qty.
MGN-STOF-500	Magnetic Rest Pad .5 dia. x 1 ht.	3	MGN-STOF-500-M	12.7 x 25.4 ht.	3
MGN-STOF-750	Magnetic Rest Pad .75 dia. x 1 ht.	3	MGN-STOF-750-M	19 x 25.4 ht.	3
MGN-PIN-500	Magnetic Pin Rest .5 dia. x 1 ht.	3	MGN-PIN-500-M	12.7 x 25.4 ht.	3
MGN-PIN-750	Magnetic Pin Rest .75 dia. x 1 ht.	3	MGN-PIN-750-M	19 x 25.4 ht.	3
MGN-VEE-500	Magnetic V stand-off .5 dia. x 1 ht.	2	MGN-VEE-500-M	12.7 x 25.4 ht.	2
MGN-VEE-1000	Magnetic V stand-off 1 dia. x 1 ht.	2	MGN-VEE-1000-M	25.4 x 25.4 ht.	2
VB-001	Magnetic V-Block Set 1 ht. (includes hex key and 4 bolts)	7	VB-001M	Magnetic V-Block Set 25.4 ht. (includes hex key and 4 bolts)	7
Total		23	Total		23

Plates sold separately - see page 6. • See page 21 for individual components.

Stand-Off & Rest Pad Set

High quality stand-offs and rest pads add flexibility to CMM fixture design. Made of plastic and steel with 1/4-20 threads for inch and M6 threads for metric. Combine with Starter, Complete and The Works kits.



Inch: STOF-SET-30

Metric: STOF-SET-30M

Inch: 1/4-20, dimensions in inch		Qty.	Metric: M6, dimensions in mm		Qty.
STOF-ADJ	Plastic Ht. Adjuster	2	STOF-ADJ-M	Plastic Ht. Adjuster	2
STOF-CONE	Plastic Cones	3	STOF-CONE-M	Plastic Cones	3
STOF-050-075	Stand-off .5 dia. x .75 ht.	3	STOF-050-M20	12.7 dia. x 19 ht.	3
STOF-050-100	Stand-off .5 dia. x 1 ht.	6	STOF-050-M25	12.7 dia. x 25.4 ht.	6
STOF-050-200	Stand-off .5 dia. x 2 ht.	3	STOF-050-M50	12.7 dia. x 50 ht.	3
	Thumb Screws 1/4-20 thread	2		Thumb Screws M6 thread	2
STPR-050-050	Pin rest .5 dia x .5 ht.	3	STPR-050-M12.5	12.7 dia. x 12.7 ht.	3
STPR-075-050	Pin rest .75 dia x .5 ht.	3	STPR-075-M12.5	19 dia. x 12.7 ht.	3
STOF-075-075	Stand-off .75 dia. x .75 ht.	3	STOF-075-M20	19 dia. x 19 ht.	3
STOF-075-100	Stand-off .75 dia. x 1" ht.	6	STOF-075-M25	19 dia. x 25.4 ht.	6
STOF-075-200	Stand-off .75 dia. x 2" ht.	3	STOF-075-M50	19 dia. x 50 ht.	3
Total		37	Total		37

Plates sold separately - see page 6. • Additional size stand-offs on page 20.
See page 21 for individual components.

Enhanced Stand-Off Set

Enhance other work holding with articulating height adjusters and stand-offs that can be angled in any direction. This set adds flexibility to inspection setups. Plastic and steel with 1/4-20 or M6 threads. Combine with other kits for added versatility.



Inch: STOF-SET-30

Metric: STOF-SET-30M

Inch: 1/4-20, dimensions in inch		Qty.	Metric: M6, dimensions in mm		Qty.
STAJ-500	Adjustable stand-off .50 dia.	2	STAJ-500-M6	12.7 dia.	2
STAJ-750	Adjustable stand-off .75 dia.	2	STAJ-750-M6	19 dia.	2
STOF-KNCL-750	Adjustable knuckle .75 dia.	2	STOF-KNCL-750-M6	19 dia.	2
STOF-ADJ	Plastic Ht. Adjuster	2	STOF-ADJ-M	Plastic Ht. Adjuster	2
	Thumb Screws 1/4-20 thread	2		Thumb Screws M6 thread	2
STOF-CONE	Plastic Cones	2	STOF-CONE-M	Plastic Cones	2
STOF-050-100	Stand-off .5 dia. x 1 ht.	2	STOF-050-M25	12.7 dia. x 25.4 ht.	2
STOF-075-100	Stand-off .75 dia. x 1 ht.	2	STOF-075-M25	19 dia. x 25.4 ht.	2
Total		16	Total		16

Plates sold separately - see page 6. • See page 21 for individual components.

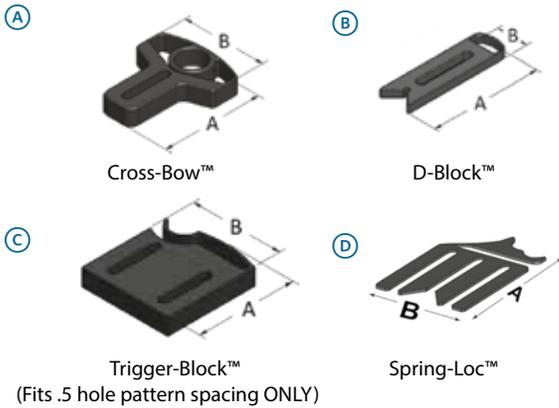
- Spring Clamps
- Hold Downs

Work-Holding Sets and Components for CMM and Vision

Inspection Arsenal® provides an arsenal of tools to fight inefficiency and waste. Set up quickly and cleanly with **Trigger-Block™**, **Cross-Bow™**

and **D-Block™** non-marring spring clamps, **Trigger-Finger™** hold-down, **Silver-Bullet™** stand-offs, and **Simple-Stop™** low-profile rails and stops.

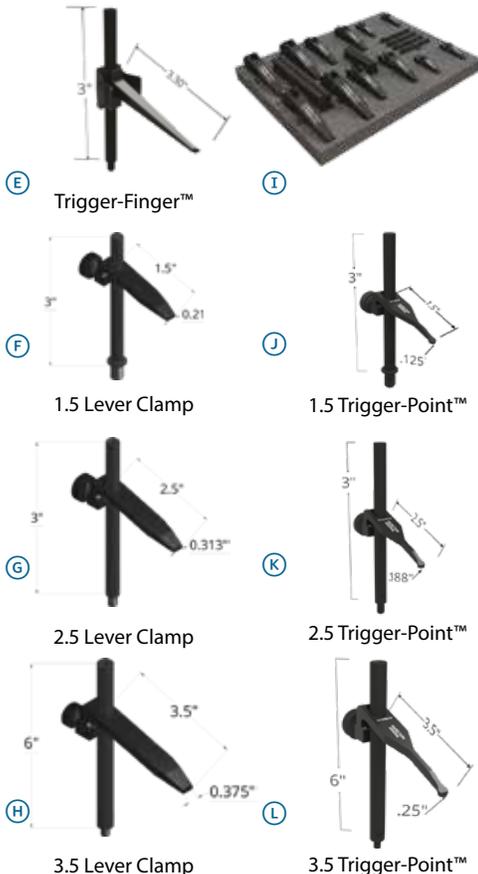
Spring Clamps



Spring Clamps				
Inch: 1/4-20, dimensions in inch				
Part #	Description	A	B	Qty.
CRBW-30	(A) Cross-Bow™ spring clamp	3.03	2.54	8
D-BLK-30	(B) D-Block™ spring-stop	3.55	1.00	8
TRBL-30	(C) Trigger-Block™ spring clamp .5" spacing	2.76	2.57	6
SPR-LOC	(D) Spring-Loc™ low-profile clamp	1.88	2.50	2
Metric: M6, dimensions in mm				
CRBW-30M	(A) Cross-Bow™ spring clamp	77	65	8
D-BLK-30M	(B) D-Block™ spring-stop	90	25	8
TRBL-30M	(C) Trigger-Block™ spring clamp	70	65	6
SPR-LOC	(D) Spring-Loc™ low-profile clamp	47	64	2

Hold Downs - Trigger-Finger™, Trigger-Point™, Lever Clamps

Trigger-Fingers™, Lever-Clamps and Trigger-Point™ Lever-Clamps provide controlled, non-marring downward clamping force. Applying gradual force at multiple angles is easy, because they are designed to hold force at the post and thumb screws for ease of use and complete control.



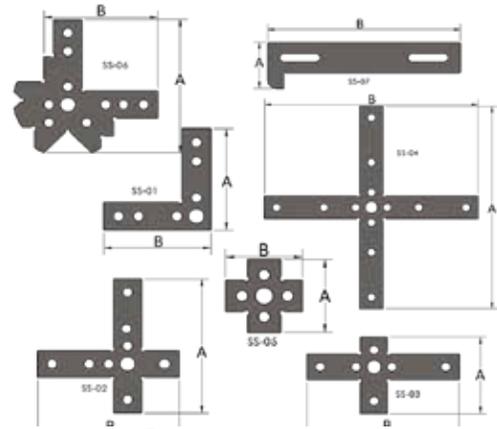
Trigger-Finger™ Hold-Downs		Inch: 1/4-20 thread	
Part #	Description	Qty.	
TRFN-20	(E) Trigger-Finger™ w/3" steel shaft	4	
TRFN-15	Trigger-Finger™ without shaft	4	
Trigger-Finger™ Hold-Downs		Metric: M6 thread	
TRFN-20M	Trigger-Finger™ w/ 76mm steel shaft	4	
TRFN-15M	Trigger-Finger™ without shaft	4	
Lever Clamps	Trigger-Point™	Inch: 1/4-20 thread	
Part #		Lever Clamps and Trigger-Point™ Description	
LC-1.50	LC-1.50-TP	(F)(J) 1.5" Hold-down w/ 3" shaft	1
LC-SET-4-1.50	LC-SET-4-1.50-TP	1.5" Hold-down SET of 4 w/ 3" shafts	4
LC-2.50	LC-2.50-TP	(G)(K) 2.5" Hold-down w/ 3" shaft	1
LC-SET-4-2.50	LC-SET-4-2.50-TP	2.5" Hold-down SET of 4 w/ 3" shafts	4
LC-3.50	LC-3.50-TP	(H)(L) 3.5" Hold-down w/ 6" shaft	1
LC-SET-4-3.50	LC-SET-4-3.50-TP	3.5" Hold-down SET of 4 w/ 6" shafts	4
LC-SET-6	LC-SET-6-TP	2 Sets of 3 Hold-downs, 1.5, 2.5, 3.5"	6
LC-SET-12	LC-SET-12-TP	(I) 4 Sets of 3 Hold-downs, 1.5, 2.5, 3.5"	12
Lever Clamps	Trigger-Point™	Metric: M6 thread	
LC-1.50-M	LC-1.50-TP-M	(F)(J) 1.5" Hold-down w/ 3" shaft, M6	1
LC-SET-4-1.50-M	LC-SET-4-1.50-TP-M	1.5" Hold-down SET of 4 w/ 3" shafts	4
LC-2.50-M	LC-2.50-TP-M	(G)(K) 2.5" Hold-down w/ 3" shaft, M6	1
LC-SET-4-2.50-M	LC-SET-4-2.50-TP-M	2.5" Hold-down SET of 4 w/ 3" shafts	4
LC-3.50-M	LC-3.50-TP-M	(H)(L) 3.5" Hold-down w/ 6" shaft	1
LC-SET-4-3.50-M	LC-SET-4-3.50-TP-M	3.5" Hold-down SET of 4 w/ 6" shafts	4
LC-SET-6-M	LC-SET-6-TP-M	2 Sets of 3 Hold-downs, 1.5, 2.5, 3.5"	6
LC-SET-12-M	LC-SET-12-TP-M	(I) 4 Sets of 3 Hold-downs, 1.5, 2.5, 3.5"	12

Work-Holding Sets and Components for CMM and Vision

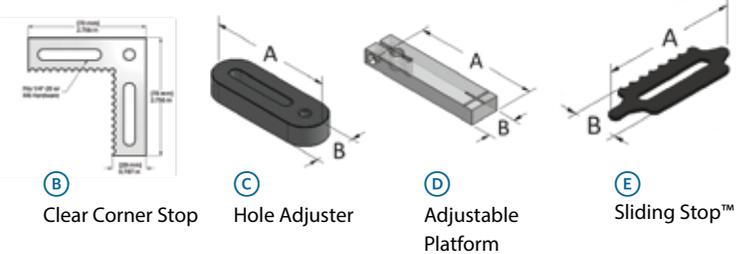
- Stops and Rails
- Risers and Stand-Offs

Stops and Rails Inch: 1/4-20, dimensions in inch				
Part #	Description	A	B	Qty.
SIST-RS-100	(A) Simple-Stop™ brushed stainless steel. Set of 7, SS-01, SS-02, SS-03, SS-04, SS-05, SS-06, SS-07			7
SS-01-OS	Simple-Stop™ w/serrated edge	2.75	2.75	1
SS-02	Simple-Stop™	3.75	3.75	1
SS-03	Simple-Stop™	2.25	4.25	1
SS-04	Simple-Stop™	6.75	6.75	1
SS-05	Simple-Stop™	1.75	1.75	1
SS-06	Simple-Stop™	3.75	3	1
SS-07	Simple-Stop™	1.5	6	1
SS-01-PC	(B) Clear Corner Stop, polycarbonate	2.756	.787	1
HA-1420	(C) Hole adjuster	3	1	2
ADJ-PLT-10	(D) Adjustable platform for TRFN, TRPT	4.25	1	1
SLI-STOP	(E) Sliding Stop™ low-profile stop	3	1	2
Stops and Rails Metric: M6, dimensions in mm				
SIST-RS-100M	Simple-Stop™ brushed stainless steel. Set of 7, SS-01M, SS-02M, SS-03M, SS-04M, SS-05M, SS-06M, SS-07M			7
SS-01OSM	Simple-Stop™ w/serrated edge	70	70	1
SS-02M	Simple-Stop™	95	95	1
SS-03M	Simple-Stop™	60	60	1
SS-04M	Simple-Stop™	180	180	1
SS-05M	Simple-Stop™	52	52	1
SS-06M	Simple-Stop™	94	94	1
SS-07M	Simple-Stop™	30	150	1
SS-01-PC	Clear Corner Stop, polycarbonate	70	20	1
HA-M6	Hole adjuster	76	25	2
ADJ-PLT-10M	Adjustable platform for TRFN, TRPT	108	25	1
SLI-STOP_M	Sliding Stop™ low-profile stop	76	25	2

Stops and Rails



(A) Simple-Stop™ set of 7



(B) Clear Corner Stop (C) Hole Adjuster (D) Adjustable Platform (E) Sliding Stop™

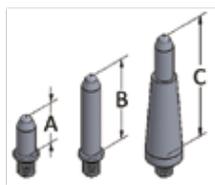
Risers and Stand-Offs Inch: 1/4-20, dimensions in inch

Part #	Description	A	B	C	Qty.
SIBU-SO-100	(F) Silver-Bullet™ module, set of 12	1	2	3	12
SIBU-SO-1	Silver-Bullet™ stand-off set	1			4
SIBU-SO-2	Silver-Bullet™ stand-off set		2		4
SIBU-SO-3	Silver-Bullet™ stand-off set			3	4
VB-001	(G) V-Block 90° included angle	2.45	1		2
TRFN-SHAFT-10	(H) 3" steel shaft, sold individually	3			1
TRFN-SHAFT-20	3" steel shaft, set of 4	3			4
STOF-050-400	(I) Steel Stand-off	4	.5	1/4 -20	1
STOF-050-600	Steel Stand-off	6	.5	1/4 -20	1
STOF-075-400	Steel Stand-off	4	.75	1/4 -20	1
STOF-075-600	Steel Stand-off	6	.75	1/4 -20	1

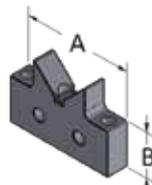
Risers and Stand-Offs Metric: M6, dimensions in mm

Part #	Description	A	B	C	Qty.
SIBU-SO-100_M	(F) Silver-Bullet™ module, set of 12	25	50	75	12
SIBU-SO-25MM	Silver-Bullet™ stand-off	25			4
SIBU-SO-50MM	Silver-Bullet™ stand-off		50		4
SIBU-SO-75MM	Silver-Bullet™ stand-off			75	4
VB-001M	(G) V-Block 90° included angle	62	25		2
TRFN-SHAFT-10M	(H) Steel shaft, sold individually	76			1
TRFN-SHAFT-20M	Steel shaft, set of 4	76			4
STOF-050-M100	(I) Steel Stand-off	100	12.7	M6 x 1.0	1
STOF-050-M150	Steel Stand-off	150	12.7	M6 x 1.0	1
STOF-075-M100	Steel Stand-off	100	19	M6 x 1.0	1
STOF-075-M150	Steel Stand-off	150	19	M6 x 1.0	1

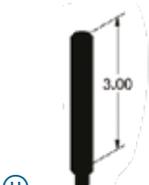
Risers and Stand-Offs



(F) Silver Bullets™ Set



(G) V-Block



(H) Steel Shaft



(I) Stand-Off

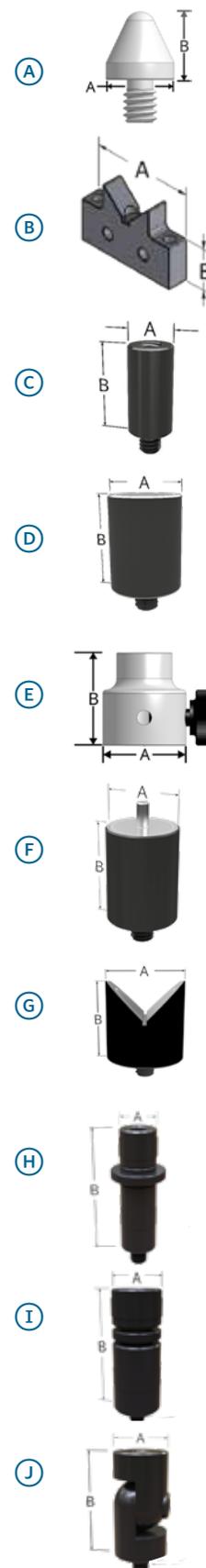
Work-Holding Individual Components

A variety of risers, stand-offs, rest pads, and articulating adjustable standoffs are available to create most any set-up. (expanded from sets on page 18)

Magnetic Risers and Pin Rests							
Inch: 1/4-20, dimensions in inch					Metric: M6, dimensions in mm		
Description	Qty.	Part #	A	B	Part #	A	B
Ⓓ Magnetic Rest Pad	1	MGN-STOF-500	.5	1	MGN-STOF-500-M	12.7	25.4
Ⓓ Magnetic Rest Pad	1	MGN-STOF-750	.75	1	MGN-STOF-750-M	19	25.4
Ⓕ Magnetic Pin Rest	1	MGN-PIN-500	.5	1	MGN-PIN-500-M	12.7	25.4
Ⓕ Magnetic Pin Rest	1	MGN-PIN-750	.75	1	MGN-PIN-750-M	19	25.4
Ⓖ Magnetic V stand-off	1	MGN-VEE-500	.5	1	MGN-VEE-500-M	12.7	25.4
Ⓖ Magnetic V stand-off	1	MGN-VEE-1000	1.0	1	MGN-VEE-1000-M	25.4	25.4
Ⓑ Magnetic V-Block Set	2	VB-001	2.45	1	VB-001-M	62	25.4

Stand-Offs and Rest Pads							
Inch: 1/4-20, dimensions in inch					Metric: M6, dimensions in mm		
Description	Qty.	Part #	A	B	Part #	A	B
Ⓔ Plastic Height Adjuster	1	STOF-ADJ	1.13	1.25	STOF-ADJ-M	28.7	31.8
Ⓐ Plastic Cones	1	STOF-CONE	.5	.5	STOF-CONE	12.7	12.7
Ⓒ Stand-off	1	STOF-050-075	.5	.75	STOF-050-M20	12.7	19
Ⓒ Stand-off	1	STOF-050-100	.5	1.00	STOF-050-M25	12.7	25.4
Ⓒ Stand-off	1	STOF-050-200	.5	2.00	STOF-050-M50	12.7	50
Ⓕ Pin rest	1	STPR-050-050	.5	.5	STPR-050-M12.5	12.7	12.7
Ⓕ Pin rest	1	STPR-075-050	.75	.5	STPR-075-M12.5	19	12.7
Ⓒ Stand-off	1	STOF-075-075	.75	.75	STOF-075-M20	19	19
Ⓒ Stand-off	1	STOF-075-100	.75	1.00	STOF-075-M25	19	25.4
Ⓒ Stand-off	1	STOF-075-200	.75	2.00	STOF-075-M50	19	50

Articulating and Adjustable Stand-Offs							
Inch: 1/4-20, dimensions in inch					Metric: M6, dimensions in mm		
Description	Qty.	Part #	A	B	Part #	A	B
Ⓗ Adjustable stand-off	1	STAJ-500	.5	1	STAJ-500-M6	12.7	25.4
Ⓘ Adjustable stand-off	1	STAJ-750	.75	1	STAJ-750-M6	19	25.4
Ⓙ Adjustable knuckle	1	STOF-KNCL-750	.75	1	STOF-KNCL-750-M6	19	25.4
Ⓔ Plastic Height Adjuster	1	STOF-ADJ	1.13	1.25	STOF-ADJ-M	28.7	31.8
Ⓐ Plastic Cones	1	STOF-CONE	.5	.75	STOF-CONE-M	12.7	19
Ⓒ Stand-off	1	STOF-050-100	.5	1	STOF-050-M25	12.7	25.4
Ⓒ Stand-off	1	STOF-075-100	.75	1	STOF-075-M25	19	25.4



Industry Testimonials

We're here to help. Inquire about our fixture design services and customization of plates and rails.

Read what our customers have to say...

A Need for Speed



In support of their impressive manufacturing process, Laker recognized the need to speed up inspection. We hear so often that quality inspection is the bottleneck in the production pipeline... slowing and even stopping expensive spindles. Scrapped parts due to uninspected production are a very costly and potential unsafe side effect, not to mention the potential damage to a company reputation that could result in lost business.

Process Improved

The need for presenting the part square to the CMM & Stylus System is crucial, and so the setup time using the Loc-N-Load™ system is much less than previously. Once the rail is fixed to the table and is square to the CMM axis, there is no longer a need to verify whether the part is presented square.



One of the other big savings noted by running batches of parts, is the automatic hours gained. While the CMM is running unattended for 1-2 hours, the inspectors are off doing another

task, essentially doubling their throughput. They run 2 shifts, with a 4-hour gap overnight so they also run batches of parts overnight while nobody is there...another huge gain in throughput without man-hours to attribute.

"We have installed Inspection Arsenal® and we are using it. I am very happy with the system. Very slick. Love that setup with rail and plates... so quick!"

Drazen Gavran

Quality Control Manager / Chief Inspector
Laker Energy Products Ltd., Oakville, Ontario, Canada

Deliver Perfect Parts
FASTER

"I love using the Loc-N-Load™ plates. They are fast, convenient, and reliable for CMM change overs. I recommend them to anyone using multiple setups in a fast-paced environment."

Steven Sarasin, *Metrology Engineer*
Milwaukee Tool

Robust Automation Solutions



"I first ran across Phillips Precision at a trade show several years ago and was impressed with the elegant design of their Inspection Arsenal® docking rail/pallet system. I appreciated how little real estate their docking rail took up on the work



surface when compared with competing systems.

We decided to try out their system on one of our metrology tools and it worked so well we quickly added docking rails to multiple metrology tools in our shop allowing us to easily share pallets between metrology equipment. We have developed a partnership with Phillips Precision over the years that has gone beyond just ordering standard products from their catalog. We have reached out to them for custom fixturing solutions and they have delivered time and again.

They have personalized service and are extremely knowledgeable when it comes to metrology work holding challenges. In addition, they are always looking forward to future solutions. In that vein I hope to one day access their robust automation solutions they have developed that I found out about in one of their online training sessions they offer free of charge.

I appreciate that they've "welcomed me to their tribe" and I hope to continue our strong partnership with Phillips Precision for many years to come."

Paul Lomeli, *Integration Engineer*
Precision Mesoscale Technology Center |
Technology Order Fulfillment

Eliminate the Guesswork



"Our new Pallettech machine was producing parts faster than we could inspect them. Even with our automated CMMs, production was creating quite a bottleneck in QC and throughout our assembly stations, because getting parts on the CMM and in laser marker was also taking way too long. The action of the Loc-N-Load™ quick swap plates and the versatility of the Inspection Arsenal® and Laser Arsenal®, helps us inspect and process parts faster - boosting productivity of both machines.

We also use the Inspection Arsenal® to inspect our AQL lots from parts that are machined with our collaborative robots. These are inspected in groups specific to each machine cell and co-bot. The part tending co-bots that run 24 hours require vigorous AQL inspection after each nightly run.

We build fixtures that can be used across all of our metrology equipment and if the job calls for it, we can get creative enough to go directly to laser marking in the same fixture. This takes the time and guess work out of complex fixtures the guys need to use on a regular basis out in the shop and in the lab. We're able to verify the quality of more parts early in production which minimizes spindle down-time, so we can keep machines turning and guys busy all day with the confidence that our parts are perfect."

Scott Ferrecchia

Vice President, Lincoln Tool & Machine

An Instrumental Partnership



Our customers have become accustomed to working alongside Phillips Precision and our team. Through this partnership, Phillips Precision provides design and fabrication of custom fixtures for CMMs, vision and comparator systems... all within the customer's required time line.

It has become apparent that many other customers want to advance their grasp on Industry 4.0 Technology and push as many processes as possible into lights out manufacturing.

The MSI-Viking partnership with Phillips Precision has undoubtedly been instrumental in helping us provide complex fixture solutions, in addition to a wide range of unique, standard components for customers to setup on their own.

Kenney Howayeck

Senior Account Executive, MSI Viking Gage

About The Manufacturer

Phillips Precision, Inc. is a modern and innovative manufacturing laboratory, committed to helping you deliver perfect parts faster. In an ISO9001:2015 registered machine shop, highly skilled engineers and machinists work with customers from all industries on complex machining, reverse modeling and CAD services. While the products division services the industry with unique, modular, light duty inspection and laser marking work-holding and custom inspection fixture design. Eliminating downtime and breaking production bottlenecks, Phillips Precision turn your inspectors and laser marking techs into superheroes!

Quality Policy

Strive to deliver perfect parts faster by implementing processes that eliminate our production "running at risk" and the company "operating at risk". Through a dynamic continuous improvement program, Phillips Precision mitigates risk to all concerned parties.

Shipping Information

Phillips Precision, Inc. products shipped from our manufacturing facility located in Boylston, Massachusetts. Customers in the Northeast may receive orders next day via ground services. Return product for a full refund within 7 business days in unused condition for refund or credit. Return may be subject to a restocking fee.

Laser Arsenal® for Laser Marking Application

The same quick-swap, process improving fixturing is sold under the name **Laser Arsenal®**.

It is the only universal, quick-swap fixture system for laser marking applications and is designed to fit all laser marking equipment.



Delivering Perfect Parts - *Faster*: Phillips Precision Podcast



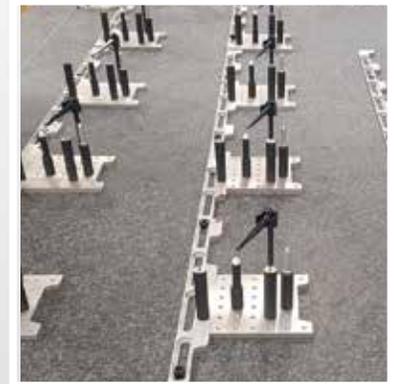
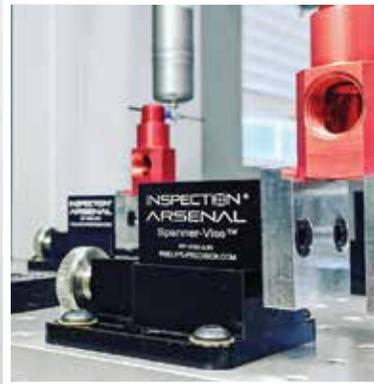
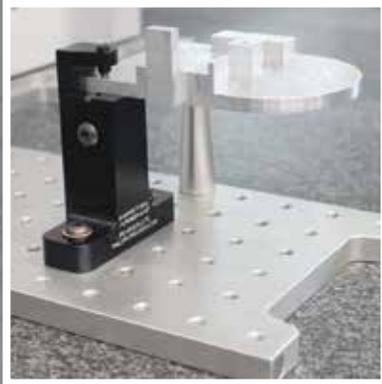
Tune in to our unique podcast series from inside the walls of our manufacturing laboratory - the birthplace of industry changing innovations; **Mitee-Bite® Pitbull®**

Clamp, Inspection Arsenal®, Laser Arsenal® and the **M5 Edge Finder™**.

Learn from our partners – industry's heavy hitters - about metrology trends in equipment, technology, services, educational opportunities and everything in between.

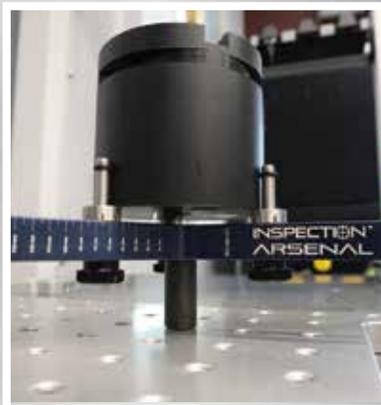
Phillips Precision is your one source for complex machining services, custom fixture design and innovative products.





Inspection Arsenal®

- Air-Glide™
- Cross-Bow
- Cross-Member
- D-Block™
- Indexable Loc-N-Load™ Plate
- Loc-N-Load™
- M5 Edge Finder™
- Magnetic Stand-Offs
- Modular Tower System
- Open-Sight™
- Radial Loc-N-Load™ Plate
- Rapid-Loc™
- Riser-Grip™
- Silver-Bullet™
- Simple-Stop™
- Skinny-Vise™
- Spanner-Vise™
- Spider-Clamp™
- Spring-Load Chuck
- Spring-Loc™
- Trigger-Block™
- Trigger-Finger™
- Trigger-Point™
- Verti-Plate™
- Traditional and Enhanced Stand-Offs



For helpful product videos visit:
<https://www.youtube.com/PhillipsPrecisionIncMA/inspectionarsenal.com>



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