

# RAPTOR

WORKHOLDING PRODUCTS

## CATALOG VOL. 1



**CONTACT  
US AT**  
**(800) 824-8333**  
**RAPTORWORKHOLDING.COM**





Raptor began with an innovative design: the original, patented dovetail fixture. Now we have products that will either work independently or together seamlessly:

Start with a Self Centering Vise.  
Use the vise in two ways:

- Hold a workpiece for dovetail prep.
- Machine a complete part.



Then utilize a patented Dovetail Fixture.

- The combination of the dovetail and spring-loaded clamping system provides superior holding strength.
- The dovetail prep on the bottom of a workpiece means full access to five sides of a workpiece with little waste.

Finish with a dovetailed Pinch Block. Use these in a variety of applications:

- Machine the sixth side of workpiece for dovetail removal.
- Secondary or final machining operations.

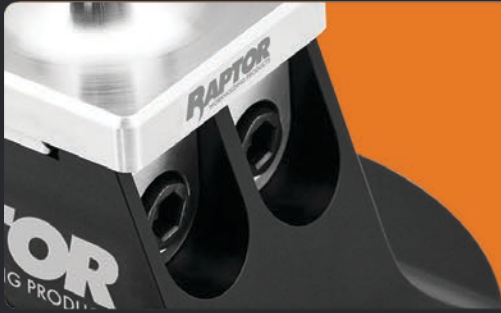


### **Raptor Tip**

Save time! Raptor's carbide dovetail cutters completes the dovetail prep, including the flat of the dovetail edge, in a single pass!



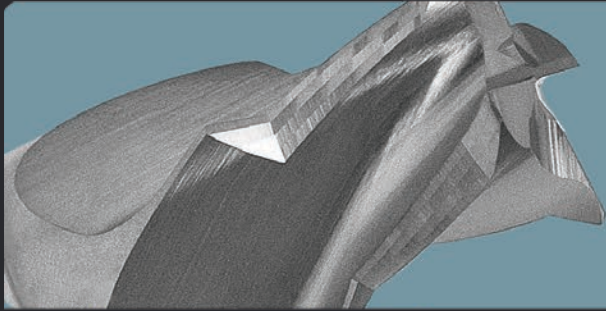
## **VICES**



## **DOVETAIL FIXTURES**



## **MULTI-FIXTURES**



## **DOVETAIL CUTTERS & REPLACEMENT ITEMS**



## **ADAPTERS, RISERS, CONNECTORS & EXTENDERS**



## **PINCH BLOCKS**



# VISES

## RWP-502

100mm Self Center Vise



- All steel construction
- Automatically positions workpiece in center of vise. Centering tolerance is  $\pm 0.013$  (0.0005) and repeatability is 0.001.
- Jaws adjust from either end of vise.
- Jaws opening capability from 2.50"/63.5mm to 5.62"/142.8mm.
- Segment screw for added rigidity
- Utilizes Mitee-Bite Loc-Down Screws to secure vise in place and for quick change capability.
- Utilizes two 12mm dowel pins: one for centering and one for locating.
- If using mounting clamps to hold workholding products to machine table/pallet then this vise may also be used as it has been designed with clamping rails on each side. Clamping repeatability is 0.001.
- Jaw insert options available for a variety of holding applications: Dovetail, Serrated, Thin or Thick Parallel, Soft Jaws, TalonGrip™ & Talon Stop (all sold separately).

Weight	14lbs / 6.35kg
Base Width	3.94" / 100mm
Base Length	6.49" / 165mm
Bed Height	1.96" / 50mm
Jaw Opening	Standard: 0-2.5in / 63.5mm
Jaws Reversed	5.62in / 142.8mm
Clamping Slot Opening	0.38in / 9.5mm
Maximum Allowed Torque	40.7Nm / 30ft/lbs
Clamping Force @ Maximum Torque	17792N / 4000lbs
Centering Tolerance +/-	0.0005" / .013mm

# WISE JAW INSERTS

There are a variety of jaw inserts available to hold workpieces in place as illustrated below.

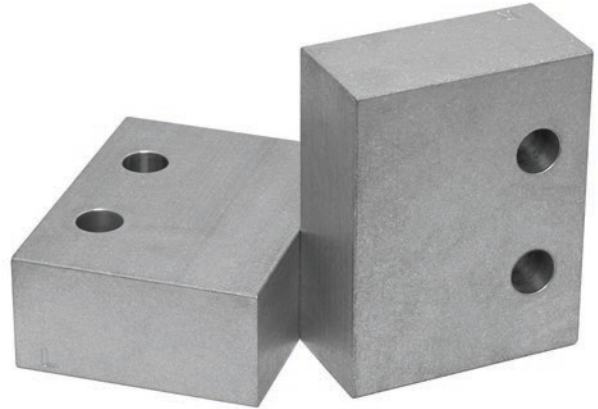
## RWP-1027

Soft Jaw (Right)

## RWP-1028

Soft Jaw (Left)

- Allows user to machine part specific profile in jaw for maximum clamping/location
- Good for secondary ops
- Includes thread inserts for thread durability
- Dowel pin used for on/off repeatability
- 6061 aluminum



## RWP-1050

Serrated 45° Dovetail

- Use as a dovetail clamp or serrated edge clamp
- Utilizes dovetail form for secure clamping and retention
- Dovetail width can be modified to fit different workpiece sizes
- Utilizes standard 45° dovetail form, dovetail can be cut with any standard 45° cutter
- Use serrated edged to “penetrate soft material workpiece”
- Hardened and ground steel



## RWP-1051

Standard Parallel (1/8" Ledge)

- Provides precise straight edge for clamping machined workpiece
- Good for light / medium duty machining
- Rail provides maximum support while allowing clearance on bottom of workpiece
- Hardened and ground steel



## RWP-1052

### Thin Parallel (1/16" Ledge)

- Provides precise straight edge for clamping machined workpiece
- Good for light / medium duty machining
- Rail provides support while allowing more clearance on bottom of workpiece
- Hardened and ground steel



## RWP-1056

### Straight Edge 60° Dovetail

- Utilizes dovetail for secure clamping and retention
- Dovetail width can be modified to fit various workpiece sizes
- Utilizes standard 60° dovetail form, dovetail can be cut with any standard 60° cutter
- Hardened and ground steel



## RWP-33020

### Mitee-Bite End Stop

- Locates workpiece for repeat positioning



## RWP-33050

### Mitee-Bite TalonGrip™

- Low profile clamping
- Use to secure soft material workpieces
- Position flexibility on insert slot of vise
- May be used in conjunction with end stop.
- Hardened steel



# WISE ADAPTERS / RISER PLATES

The following products were designed specifically with the RWP-502 100mm mounting interface when utilizing Loc-Down Screws and Dowel Pins. There are multiple options to chose from and will mount to most rotary tables / pallets.

## RWP-209-V100

### Emergency Adapter

The emergency adapter allows you to drill the specific mounting hole configurations necessary to connect to your machine's rotary table/pallet. Once completed then connect adapter to table/pallet and mount the vise. When mounted together the overall height is 4.471". If additional height is needed, then mount the RWP-242-V100 Riser Plate in between vise and adapter for total Z: 6.221".



Material	Aluminum
Product Height	1.50" / 38.1 mm
Product Diameter	9.90" / 251.46mm

## RWP-222-V100

### Universal Adapter

Mount directly to your machine pallet or rotary table using T-slots. When mounted together the overall height is 4.971". If additional height is needed, then mount the RWP-242-V100 Riser Plate in between vise and adapter for total Z: 6.721".



Material	7075 Aluminum, Anodized Type II Class 2
Product Height	2.0" / 50.8mm
Product Diameter	9.875" / 250.825mm

## RWP-223-V100

### Universal Adapter

Mount directly to your machine pallet or rotary table using T-slots. When mounted together the overall height is 4.971". If additional height is needed, then mount the RWP-242-V100 Riser Plate in between vise and adapter for total Z: 6.721".



Material	7075 Aluminum, Anodized Type II Class 2
Product Height	2.0" / 50.8mm
Product Diameter	11.90" / 302.26mm

## RWP-242-V100

### Riser Plate

Mount directly to your machine pallet or rotary table.  
May also be used in a stacked application for higher Z,  
when mounted to either:  
RWP-209-V100, RWP-222-V100 or RWP-223-V100.



Material	7075 Aluminum, Anodized Type II Class 2
Product Height	1.75" / 44.45mm
Product Diameter	8.45" / 214.63mm

## RWP-244-V100

### 2.25" Dovetail Connector Plate

This connector plate has been designed with a 2.25" dovetail base.  
Mounts directly to Raptor dovetail fixtures: RWP-006 or RWP-006SS.  
When mounting vise, dovetail connector plate, and dovetail fixture  
together, the total Z is 6.471".



The RWP-006(SS) connect to Raptors' standard adapters with 3.80" BC  
dia. interface: RWP-209 (total Z: 7.971"), RWP-222 (total Z :8.471"),  
RWP-223 (total Z:8.471").

Material	7075 Aluminum, Anodized Type II Class 2
Product Dimensions	6.5"L x 4.125" W x 1.0" H 165.1mm x 104.775mm x 25.4mm







## A FULL ACCESS PASS.

Speed up your manufacturing by machining five full sides of the workpiece in one set-up.

Raptor's patented dovetail design quickly locks the part in place for extreme clamping strength and rigidity without wasting much material on the base.

A locating pin ensures your part is positioned accurately and, unlike other products, the spring-loaded clamp can be tightened with a simple T-handle wrench. Quick and easy.

Raptor gets out of your way so you can get the job done.

## TESTED AND PROVEN.

Raptor was created by manufacturers for manufacturers.

We know that workholding can be difficult because we face the same challenges. That is why we continue to create innovative products. Raptor is a strong, flexible workholding solution that has been utilized for years by some of the world's leading manufacturers. Raptor's dovetail design has been tested by an independent laboratory for strength.

## FASTER JOB SETUP.

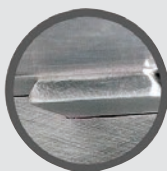
With Raptor, you can run a wide variety of parts and eliminate the changeover time. There is no need to spend time removing and replacing custom fixtures in your machines. We simplified the process. Smaller Raptor fixtures can also be attached to larger ones, allowing you to switch to any size part as fast as you can turn a hand tool. We've made workholding easier for you.

## RAPTOR IS ADAPTABLE.

Our workholding products can fit any machine and any situation. We have a variety of adapters, risers, and fixtures built to attach directly to the most popular CNC machines. Multiple Raptors can be mounted to tombstones, bridges, carousels, nests and base plates. Raptor creates new products based on our customers' valuable feedback. If you need something special, let us know.

# RAPTOR IS SIMPLE.

Simply load your workpiece onto the fixture and hand-tighten the spring-loaded clamp. Unloading is just as easy.



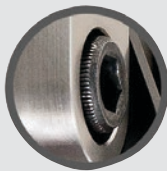
## 1 - SIMPLE DOVETAIL

A simple workpiece prep creates a dovetail that locks into the Raptor spring-loaded clamp.



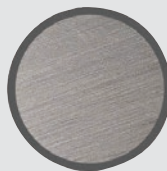
## 2 - SPRING-LOADED CLAMP

Raptor's spring-loaded clamp strongly holds the part and makes releasing easy.



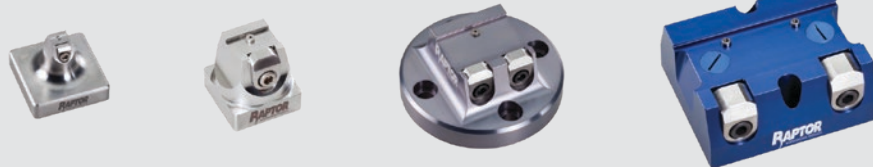
## 3 - HAND TIGHTENED

Use a T-wrench to hand-tighten the clamp and you're done. It's quick, simple and strong.



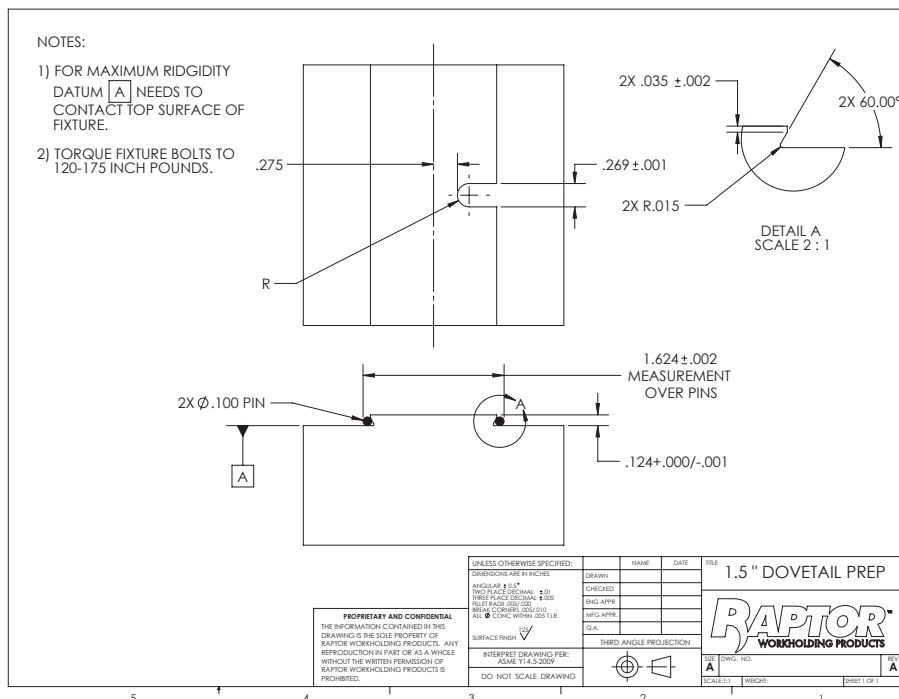
## 4 - STRONG BY DESIGN

Solid, super-strong stainless-steel or lightweight aluminum ensures that Raptor will hold up to repeated use.



## 5 - FITS ANY MACHINE

We have adapters, risers and versions of Raptor to fit any machine you can think of. Yes, even that one.

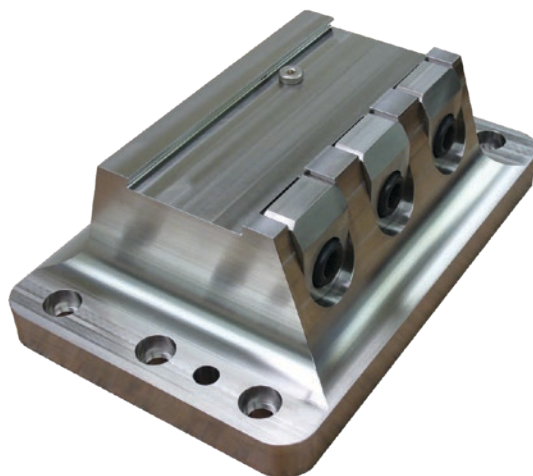


## 2.75" DOVETAIL FIXTURE

### RWP-403SS-12

Stainless Steel 2.75" Dovetail Fixture

Max Workpiece Weight	225 Pounds / 102.058 kg
Max Workpiece Size	10.0"L x 8.0"W x 10.0"H Steel 254mm x 203.2mm x 254mm
Fixture Material	17-4 Stainless Steel
Number of Clamps	3 Clamps
Clamp Part Number	RWP-CL3001SQ
Dovetail Height	0.25" / 6.35mm
Dovetail Width	2.75" / 69.85mm
Fixture Length	11.50" / 292.1mm
Fixture Width	7.50" / 190.5mm
Fixture Height	3.875" / 98.425mm



## 2.25" DOVETAIL FIXTURES

### RWP-006

Aluminum 2.25" Dovetail Fixture



Max Workpiece Weight	80 Pounds / 36.287 kg
Max Workpiece Size	8.0"L x 10.0"W x 10.0"H 254mm x 203.2mm x 254mm
Fixture Material	7075-T6511 Aluminum

### RWP-006SS

Stainless Steel 2.25" Dovetail Fixture

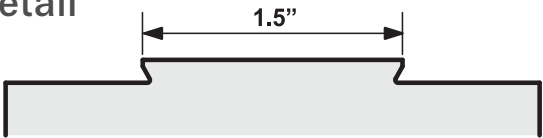


Max Workpiece Weight	168 Pounds / 76.203 kg
Max Workpiece Size	12.0" / 304.8mm Cubed
Fixture Material	17-4 Stainless Steel

Number of Clamps	2 Clamps
Clamp Part Number	RWP-CL303SQ
Dovetail Height	0.1875" / 4.7625mm
Dovetail Width	2.25" / 57.15mm
Fixture Dimensions	5.950"L x 3.957"W x 3.957"H 151.13mm x 100.5078 mm x 63.5mm
Bolt Circle Diameter	3.8"

# 1.5" DOVETAIL FIXTURES

The following fixtures are for parts using a dovetail width of 1.5 inches. These dovetail fixtures are available in multiple configurations constructed of aluminum or stainless steel.



## RWP-001

Aluminum 1.5" Dovetail Fixture



Max Workpiece Weight	30 Pounds / 13.607 kg
Max Workpiece Size	6.75" / 171.45mm Cubed
Number of Clamps	2 Clamps
Clamp Part Number	RWP-CL301SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	1.5" / 38.1mm
Fixture Diameter	4.970" / 126.238mm
Fixture Height	3.0" / 76.2mm
Fixture Material	7075-T6511 Aluminum
Bolt Circle Diameter	3.8"

## RWP-001SS

Stainless Steel 1.5" Dovetail Fixture



Fixture Material	17-4 Stainless Steel
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## RWP-004

Aluminum 1.5" Dovetail Fixture

This fixture is designed to connect directly to the Mori Seiki MNV3000. It can also be utilized in other machines when connected with an adapter or riser.

Max Workpiece Weight	30 Pounds / 13.607 kg
Max Workpiece Size	6.75" / 171.45mm Cubed
Fixture Material	7075-T6511 Aluminum
Number of Clamps	2 Clamps
Clamp Part Number	RWP-CL301SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	1.5" / 38.1mm
Fixture Diameter	4.970" / 126.238mm
Fixture Height	2.0" / 50.8mm
Bolt Circle Diameter	3.74"



## RWP-013

Aluminum 1.5" Dovetail Fixture



Max Workpiece Weight	30 Pounds / 13.607 kg
Max Workpiece Size	6.75" / 171.45mm Cubed
Number of Clamps	2 Clamps
Clamp Part Number	RWP-CL301SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	1.5" / 38.1mm
Fixture Diameter	4.970" / 126.238mm
Fixture Height	2.0" / 50.8mm
Bolt Circle Diameter	3.8"

Fixture Material	7075-T6511 Aluminum
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## RWP-013SS

Stainless Steel 1.5" Dovetail Fixture



Fixture Material	17-4 Stainless Steel
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## RWP-026

### Aluminum 1.5" Dovetail Fixture: 4" Diameter Bolt Circle

Made for tombstones with a 2.0" x 2.0" hole pattern or 4.0 bolt circle  
- without a boss or plug. This fixture will not mount to Raptors' adapters or risers.

Max Workpiece Weight	30 Pounds / 13.607 kg		
Max Workpiece Size	6.75" / 171.45mm Cubed		
Fixture Material	7075-T6511 Aluminum		
Number of Clamps	2		
Clamp Part Number	RWP-CL301SQ		
Dovetail Height	0.125" / 3.175mm	Fixture Diameter	4.970" / 126.238mm
Dovetail Width	1.5" / 38.1mm	Fixture Height	3.0" / 76.2mm
Bolt Circle Diameter	4.0"		



## RWP-027

### Aluminum 1.5" Dovetail Fixture

This fixture is great for small rotary tables and lathes when used with a sub-plate. May also be used for the Yukiawa TNT100L when mounted to the RWP-241 adapter plate.

Max Workpiece Weight	20 Pounds / 9.071 kg		
Max Workpiece Size	6.0" / 152.4mm Cubed		
Fixture Material	7075-T6511 Aluminum		
Number of Clamps	2		
Clamp Part Number	RWP-CL301SQ		
Dovetail Height	0.125" / 3.175mm	Fixture Diameter	3.0" / 76.2mm
Dovetail Width	1.5" / 38.1mm	Fixture Height	2.0" / 50.8mm
Bolt Circle Diameter	3.937"		



## RWP-036SS

### Stainless Steel 1.5" Dovetail Fixture

Mount directly to the KME 135mm pallet used in the following KME products:

	5 Axis Tombstones:	5 Axis Trunnions:
	KME-TS300-2.0 300mm	KME-TR100
	KME-TS400-4.0 400mm	KME-TR200
	KME-TS500-4.0 500mm	KME-TR300
Fixture Material	17-4 Stainless Steel	
Number of Clamps	2	
Clamp Part Number	RWP-CL301SQ	
Dovetail Height	0.125" / 3.175mm	
Dovetail Width	1.5" / 38.1mm	
Fixture Diameter	5.315" / 135.001 mm	
Fixture Height	2.0" / 50.8mm	
Bolt Circle Diameter	3.937"	



## RWP-401-11

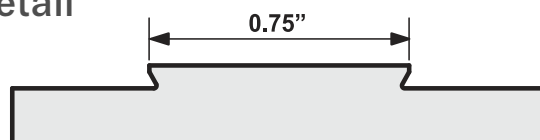
### Aluminum 11" Rail with 1.5" Dovetail

Max Workpiece Weight	140 Pounds / 63.502 kg		
Max Workpiece Size	17.0"L x 7.0"W x 12.0"H / 431.8mm x 177.8mm x 304.8mm		
Fixture Material	7075-T6511 Aluminum		
Number of Clamps	6		
Clamp Part Number	RWP-CL301SQ	Fixture Length	11.0" / 279.4mm
Dovetail Height	0.125" / 3.175mm	Fixture Width	4.40" / 111.76mm
Dovetail Width	1.5" / 38.1mm	Fixture Height	3.0" / 76.2mm



# 0.75" DOVETAIL FIXTURES

The following fixtures are for parts using a dovetail width of 0.75 inches. These dovetail fixtures are available in multiple configurations constructed of aluminum or stainless steel.



## RWP-002

0.75" Dovetail Fixture



Number of Clamps	2 Clamps
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Diameter	4.970" / 126.238mm
Fixture Height	3.0" / 76.2mm
Bolt Circle Diameter	3.8"

Max Workpiece Weight	18 Pounds / 8.164 kg
Max Workpiece Size	5.75" / 146.05mm Cubed
Fixture Material	7075-T6511 Aluminum



Max Workpiece Weight	25 Pounds / 11.339 kg
Max Workpiece Size	6.375" / 161.925mm Cubed
Fixture Material	17-4 Stainless Steel

## RWP-003

Aluminum 5C Collet Closer 0.75" Dovetail Fixture

Max Workpiece Weight	3 Pounds / 1.360 kg
Max Workpiece Size	3.0" / 76.2mm Cubed
Fixture Material	7075-T6511 Aluminum
Number of Clamps	1 Clamp
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Height	1.50" / 38.1mm
Fixture Inner Diameter	1.125" / 28.575mm
Fixture Outer Diameter	2.230" / 56.642mm



## RWP-007SS

Stainless Steel 0.75" Dovetail Fixture

Connects directly to System 3R 54mm pallets:

MacroStd: 3R-651.7E-S / 3R-651.7E-XS and MacroHP: 3R-651.7E.P, reducing downtime by switching to an alternate pallet in seconds.

Max Workpiece Weight	7 Pounds / 3.175 kg
Max Workpiece Size	3.75" / 95.25mm Cubed
Fixture Material	17-4 Stainless Steel
Number of Clamps	1 Clamp
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Dimensions	2.070"L x 2.070"W x 2.125"H
	52.578mm x 52.578mm x 53.975mm



## RWP-011SS

### Stainless Steel 0.75" Dovetail Fixture with 0.75" Dovetail Bottom

Connects directly to compatible 0.75" dovetail fixtures allowing quick machining of smaller parts without removing the primary fixtures.

Max Workpiece Weight	7 Pounds / 3.175 kg
Max Workpiece Size	3.75" / 95.25mm Cubed
Fixture Material	17-4 Stainless Steel
Number of Clamps	1 Clamp
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Dimensions	2.070"L x 2.070"W x 2.001"H 52.578mm x 52.578mm x 50.825mm



## RWP-012SS

### Stainless Steel 0.75" Dovetail Fixture with 1.5" Dovetail Bottom

Connects directly to compatible 1.5" dovetail fixtures allowing quick machining of smaller parts without removing the primary fixtures.

Max Workpiece Weight	7 Pounds / 3.175 kg
Max Workpiece Size	3.75" / 95.25mm Cubed
Fixture Material	17-4 Stainless Steel
Number of Clamps	1 Clamp
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Dimensions	2.070"L x 2.070"W x 2.001"H 52.578mm x 52.578mm x 50.825mm



## RWP-015

### Aluminum 0.75" Dovetail Fixture

This fixture is designed to connect directly to the Haas TR110 Trunnion. It can also be utilized in other machines when connected with an adapter riser.

Max Workpiece Weight	18 Pounds / 8.164 kg
Max Workpiece Size	5.75" / 146.05mm Cubed
Fixture Material	7075-T6511 Aluminum
Number of Clamps	2 Clamps
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Diameter	4.330" / 109.982mm
Fixture Height	2.0" / 50.8mm
BC Diameter	3.267"



# RWP-023

**Aluminum 0.75" Dovetail Fixture: 4" diameter bolt circle**

Made for Tombstones with a 2.0" X 2.0" Hole Pattern or 4.0 Bolt Circle - without a boss or plug. This fixture will not mount to Raptors' adapters or risers.



Max Workpiece Weight	18 Pounds / 8.164 kg
Max Workpiece Size	5.75" / 146.05mm Cubed
Fixture Material	7075-T6511 Aluminum
Number of Clamps	2
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Diameter	4.970" / 126.238mm
Fixture Height	3.0" / 76.2mm
Bolt Circle Diameter	4.0"

# RWP-024

**Aluminum 0.75" Dovetail Fixture**



Designed for modular applications. Multiple RWP-024 fixtures can be placed in-line to hold long parts. See pages 17-18.

Max Workpiece Weight	12.5 Pounds / 5.669 kg
Max Workpiece Size	4.0" / 101.6mm Cubed
Number of Clamps	1
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Dimensions	2.0"L x 2.0"W x 1.5"H 50.8mm x 50.8mm x 38.1mm

Fixture Material 7075-T6511 Aluminum

# RWP-024SS

**Stainless Steel 0.75" Dovetail Fixture**



Fixture Material 17-4 Stainless Steel

\*EDM Screw Kits Available

# RWP-025

**Aluminum 6" Rail, with 0.75" Dovetail and 1.5" Dovetail Bottom**

Designed for quick-change applications machining long and skinny parts. Connects to compatible 1.5" dovetail fixtures.

Max Workpiece Weight	12.5 Pounds / 5.669 kg
Max Workpiece Size	8.0"L x 4.0"W x 4.0"H 203.2mm x 101.6mm x 101.6mm
Fixture Material	7075-T6511 Aluminum
Number of Clamps	3
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Dimensions	6.0"L x 2.0"W x 1.5"H 152.4mm x 50.8mm x 38.1mm





## RWP-030SS

### Stainless Steel 0.75" Dovetail Fixture

Max Workpiece Weight	40 Pounds / 18.143 kg
Max Workpiece Size	7.5" / 190.5 Cubed
Fixture Material	17-4 Stainless Steel
Number of Clamps	3
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Diameter	4.970" / 126.238mm
Fixture Height	3.0" / 76.2mm
Bolt Circle Diameter	3.8"



## RWP-034SS

### Stainless Steel 0.75" Dovetail Fixture

This fixture is designed to connect directly to the Makino A51NX-5XU. It can also be utilized in other machines when connected with an adapter or riser.

Max Workpiece Weight	40 Pounds / 18.143 kg
Max Workpiece Size	7.5" / 190.5 Cubed
Fixture Material	17-4 Stainless Steel
Number of Clamps	3
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Bolt Circle Diameter	3.0"
Fixture Dimensions	5.0"L x 3.90"W x 2.0"H 127mm x 99.06mm x 50.8mm



## RWP-038SS

### Stainless Steel 0.75" Dovetail Fixture

This fixture is designed to connect directly to either the HAAS TRT100 Compact Dual Axis Rotary Table or TR110 for milling applications. It can also be utilized in other machines when connected with an adapter or riser.

Max Workpiece Weight	TRT100: 4 Lbs / TR100: 12 Lbs
Max Workpiece Size	5" / 127 Cubed
Fixture Material	17-4 Stainless Steel
Number of Clamps	2
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Bolt Circle Diameter	3.267"
Fixture Diameter	4.330" / 109.982mm
Fixture Height	1.3" / 33.02mm



## RWP-405

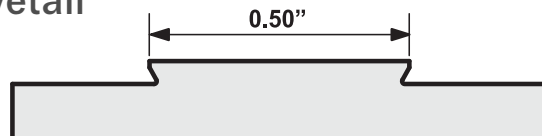
### Aluminum 8" Rail with 0.75" Dovetail

Max Workpiece Weight	65 Pounds / 29.483 kg
Max Workpiece Size	4.0"L x 14.0"W x 4.0"H Steel / 101.6mm x 355.6mm x 101.6mm
Fixture Material	7075-T6511 Aluminum
Number of Clamps	4
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Dimensions	8.0"L x 3.8"W x 3.0"H 203.20mm x 96.52mm x 76.2mm



# 0.50" DOVETAIL FIXTURES

The following fixtures are for parts using a dovetail width of 0.50 inches. These dovetail fixtures are available in multiple configurations constructed of aluminum or stainless steel.



## RWP-017SS

### Stainless Steel 0.50" Dovetail Fixture

Connects directly to System 3R 54mm pallets:  
MacroStd: 3R-651.7E-S / 3R-651.7E-XS and MacroHP: 3R-651.7E.P,  
reducing downtime by switching to an alternate pallet in seconds.

Max Workpiece Weight	6 Pounds / 2.721 kg
Max Workpiece Size	3.25" / 82.55 mm Cubed
Fixture Material	17-4 Stainless Steel
Number of Clamps	1 Clamp
Clamp Part Number	RWP-CL306SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.50" / 12.7mm
Fixture Dimensions	2.070"L x 2.070"W x 2.125"H 52.578mm x 52.578mm x 53.975mm



## RWP-018

### Aluminum 0.50" Dovetail Fixture



Number of Clamps	2 Clamps
Clamp Part Number	RWP-CL306SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.50" / 12.7mm
Fixture Diameter	4.970" / 126.238mm
Fixture Height	3.0" / 76.2mm
Bolt Circle Diameter	3.8"

Max Workpiece Weight	10 Pounds / 4.535 kg
Max Workpiece Size	4.75" / 120.65mm Cubed
Fixture Material	7075-T6511 Aluminum
Raptor's plug RWP-PLUG-208, sold separately.	

## RWP-018SS

### Stainless Steel 0.50" Dovetail Fixture



Max Workpiece Weight	12 Pounds / 5.443 kg
Max Workpiece Size	5.0" / 127mm Cube
Fixture Material	17-4 Stainless Steel
Raptor's plug RWP-PLUG-208SS, sold separately	

## RWP-022SS

### Stainless Steel 0.50" Dovetail Fixture with 1.5" Dovetail Bottom

Connects to an RWP-001(SS), RWP-004, RWP-013(SS) or RWP-026.

Max Workpiece Weight	6 Pounds / 2.721 kg
Max Workpiece Size	3.25" / 82.55 mm Cubed
Fixture Material	17-4 Stainless Steel
Number of Clamps	1 Clamp
Clamp Part Number	RWP-CL306SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.50" / 12.7mm
Fixture Dimensions	2.070"L x 2.070"W x 2.0"H 52.578mm x 52.578mm x 50.8mm



# 0.375" DOVETAIL FIXTURE

## RWP-019SS

Stainless Steel 0.375" Dovetail Fixture



Modular capabilities  
when used with  
RWP-213SS or RWP-214SS

Max Workpiece Weight	2 Pounds / 0.907 kg
Max Workpiece Size	2.50" / 63.5mm Cubed
Fixture Material	17-4 Stainless Steel
Number of Clamps	1 Clamp
Clamp Part Number	RWP-CL305SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.375" / 9.525mm
Fixture Height	1.25" / 31.75mm
Fixture Length	2.5" / 63.5mm

## RWP-042SS

Stainless Steel 0.375" Dovetail Fixture



Max Workpiece Size	4.0"L x 2.50"W x 2.50"H 101.6mm x 63.5mm x 63.5mm
Fixture Material	17-4 Stainless Steel
Number of Clamps	2 Clamps
Clamp Part Number	RWP-DC305SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.375" / 9.525mm
Fixture Height	1.25" / 31.75mm
Fixture Length	3.75" / 95.25mm

Dovetail Fixtures

## RWP-213SS

Stainless Steel 0.75" Adapter for RWP-019SS only



Material	17-4 Stainless Steel
Height	0.5" / 12.7mm
Adapter Length	2.5" / 63.5mm

Fixture Compatibility RWP-002(SS), RWP-015,  
RWP-023, RWP-024, RWP-030SS

## RWP-214SS

Stainless Steel 1.5" Adapter for RWP-019SS only



Fixture Compatibility RWP-001(SS), RWP-004,  
RWP-013(SS), RWP-026

# 0.281" x 0.0781" DOVETAIL FIXTURES

## RWP-031SS

Stainless Steel 0.281" Width x 0.0781" Height  
Dovetail Fixture with .075" Dovetail Bottom

Compatible fixtures: RWP-002, RWP-002SS, RWP-015,  
RWP-023, RWP-024 and RWP-030SS.



Max Workpiece Weight	0.284 Pounds / 0.128 kg
Max Workpiece Size	1.25" / 31.75mm Cubed
Fixture Material	17-4 Stainless Steel
Number of Clamps	1 Clamp
Clamp Part Number	RWP-CL307SQ
Dovetail Height	0.0781" / 19.8374mm
Dovetail Width	0.281" / 7.137mm

Fixture Height 1.438" / 36.5252mm  
This fixture replaces the discontinued RWP-010SS.

## RWP-032SS

Stainless Steel 0.281" Width x 0.0781" Height  
Dovetail Fixture

Connects to your machine using the  
4 mounting holes.



Fixture Height 1.563" / 39.700mm  
This fixture replaces the discontinued RWP-009SS.

# MODULAR FIXTURE COMPATABILITY

The parts you machine come in different shapes and sizes, so we designed Raptor products with this in mind, to be versatile. To machine larger parts use a standard dovetail fixture. For smaller parts, mount a smaller dovetail fixture on top of a standard, as shown.

It's that easy. Spend time making parts, not figuring out how to hold them.



## 0.75" MODULAR CONFIGURATIONS

RWP-031SS / RWP-010SS	RWP-011SS	RWP-019SS +RWP-213SS
<b>RWP-002(SS) or RWP-030SS</b>		
<b>RWP-015</b>		
<b>RWP-023</b>		
<b>RWP-024</b>		

## 1.50" MODULAR CONFIGURATIONS

RWP-012SS	RWP-022SS	RWP-019SS +RWP-214SS	RWP-025	RWP-019-4X45T	RWP-019-4X90T
<b>RWP-001(SS)</b>					
<b>RWP-004</b>					
<b>RWP-013(SS)</b>					
<b>RWP-026</b>					
<b>RWP-027</b>					



# RAPTOR IS FAST.

Raptor multi-fixtures provide a platform to attach multiple Raptor dovetail fixtures. Now you can manufacture longer parts or program your 5-axis to machine multiple parts in one load.

Some Raptor multi-fixtures can attach to the top of other Raptor fixtures or adapters for quick and easy change-out. Load up the next multi-fixture with your workpieces while the other one is cycling. Changeover time is reduced and the productivity of your machine is drastically increased.



Multi-Fixtures

## RWP-003-4X

Aluminum 0.75" Dovetail Fixture - The Pyramid system holds 4 RWP-003 on a single base

This Raptor Pyramid utilizes four included RWP-003 0.75" dovetail fixtures. This is designed specifically for five-axis machining applications and allows you to hold four workpieces on a single base.

The RWP-003-4X Raptor Pyramid will mount to any of our standard adapters and risers.



Max Workpiece Weight	3 Pounds / 1.360 kg Each
Max Workpiece Size	3.0" / 76.2mm Cubed Each
Fixture Material	7075-T6511 Aluminum
Number of Clamps	4 Clamps
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Each Fixture Height	1.50" / 38.1mm
Total Product Height	3.25" / 82.55mm

Bolt Circle Diameter	3.80" / 96.52mm
Boss / Plug	1.250" Dia. x 0.25" / 31.75mm x 6.35mm

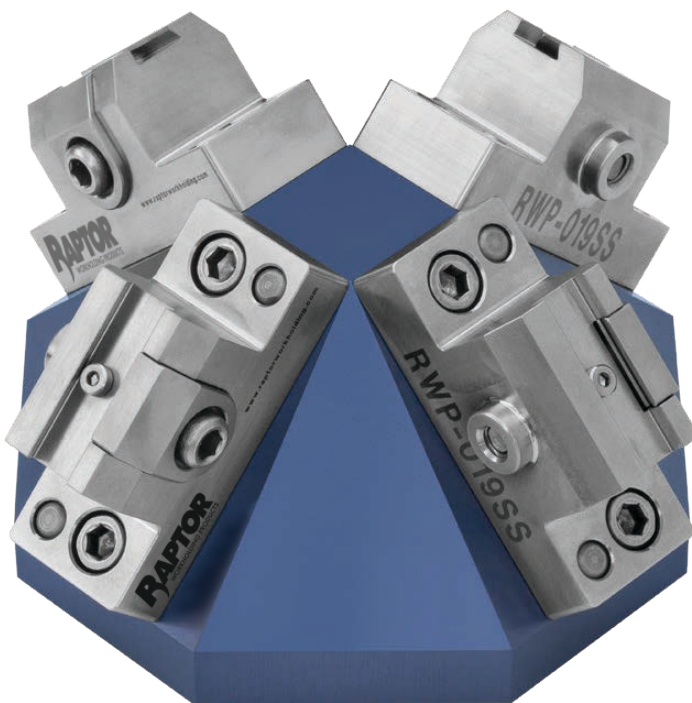
## RWP-019-4X45T

**Stainless Steel 0.375" Dovetail Fixture - The pyramid system holds 4 RWP-019SS on a single base**

This Raptor Pyramid utilizes four included RWP-019SS 0.375" dovetail fixtures mounted at a 45 degree angle. This Raptor Pyramid has a 1.5" dovetail bottom and attaches to the top of other Raptor fixtures for quick and easy change-out. Load up the next pyramid with your workpieces while the other one is cycling. Changeover time is reduced and the productivity of your machine is drastically increased.

The RWP-019-4X45T Raptor Pyramid will mount to the following Raptor fixtures: RWP-001(SS), RWP-004, RWP-013(SS), or RWP-026

Max Workpiece Weight	2 Pounds / 0.907 kg Each
Max Workpiece Size	2.50" / 63.5mm Cubed Each
Fixture Material	17-4 Stainless Steel
Number of Clamps	4 Clamps
Clamp Part Number	RWP-CL305SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.375" / 9.525mm
Each Fixture Height	1.25" / 31.75mm
Total Product Height	2.69" / 68.326mm



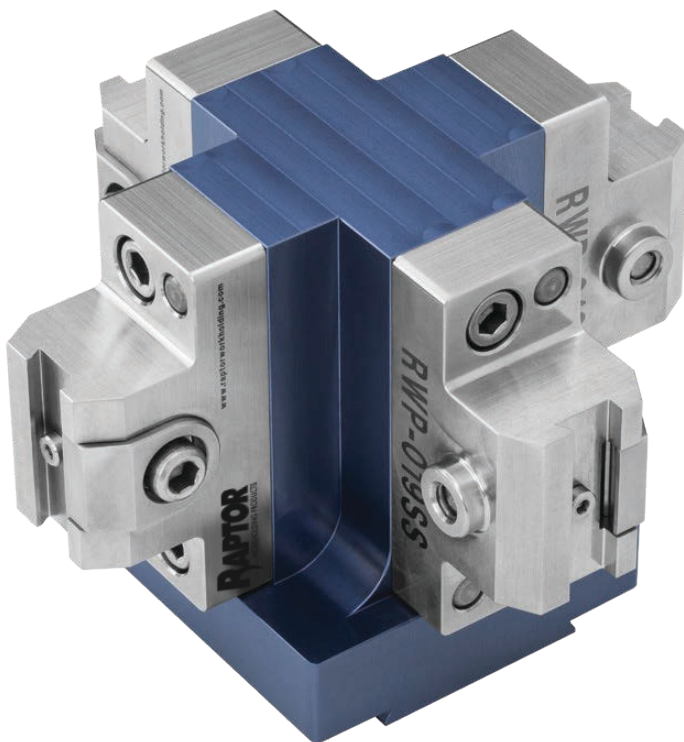
## RWP-019-4X90T

**Stainless Steel 0.375" Dovetail Fixture - The Mini Tombstone system holds 4 RWP-019SS on a single base**

This Raptor Mini Tombstone utilizes four included RWP-019SS 0.375" dovetail fixtures mounted at a 90 degree angle. This Raptor Mini Tombstone has a 1.5" dovetail bottom and attaches to the top of other Raptor fixtures for quick and easy change-out. Load up the next Mini Tombstone with your workpieces while the other one is cycling. Changeover time is reduced and the productivity of your machine is drastically increased.

The RWP-019-4X90T Raptor Mini Tombstone will mount to the following Raptor fixtures: RWP-001(SS), RWP-004, RWP-013(SS), or RWP-026

Max Workpiece Weight	2 Pounds / 0.907 kg Each
Max Workpiece Size	2.50" / 63.5mm Cubed Each
Fixture Material	17-4 Stainless Steel
Number of Clamps	4 Clamps
Clamp Part Number	RWP-CL305SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.375" / 9.525mm
Each Fixture Height	1.25" / 31.75mm
Total Product Height	3.13" / 79.502mm



## RWP-024-2XR

Aluminum 0.75" Dovetail Fixture - In-Line bridge system holds 2 RWP-024 on a single base

The RWP-024-2XR is a 0.75" dovetail bridge system for milling applications. This product is designed for modular applications: utilizing two RWP-024 0.75" fixtures in-line to hold longer parts.



Fixture Material	7075-T6511 Aluminum
Number of Clamps	2 Clamps
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Height	2.875" / 73.025mm
Base Length	7.0" / 177.8mm

### 1 Workpiece (Total)

Max Workpiece Weight	16 Pounds / 7.257 kg
Max Workpiece Size	8.5"L x 4.0"W x 4.0"H 215.9mm x 101.6mm x 101.6mm

### 2 Workpieces (Each)

8 Pounds / 3.628 kg
4.0" / 101.6mm Cubed

## RWP-024-3XR

Aluminum 0.75" Dovetail Fixture - In-Line bridge system holds 3 RWP-024 on a single base

The RWP-024-3XR is a 0.75" dovetail bridge system for milling applications. This product is designed for modular applications: utilizing three RWP-024 0.75" fixtures in-line to hold longer parts.



Fixture Material	7075-T6511 Aluminum
Number of Clamps	3 Clamps
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Height	2.875" / 73.025mm
Base Length	10.0" / 254mm

### 1 Workpiece (Total)

Max Workpiece Weight	24 Pounds / 10.886 kg
Max Workpiece Size	12.5"L x 4.0"W x 4.0"H 317.5mm x 101.6mm x 101.6mm

### 3 Workpieces (Each)

8 Pounds / 3.628 kg
4.0" / 101.6mm Cubed



## RWP-024-4XR

Aluminum 0.75" Dovetail Fixture - In-Line bridge system holds 2 RWP-024 on a single base

The RWP-024-4XR is a 0.75" dovetail bridge system for milling applications. This product is designed for modular applications: utilizing four RWP-024 0.75" fixtures in-line to hold longer parts.



Fixture Material	7075-T6511 Aluminum
Number of Clamps	4 Clamps
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Height	2.875" / 73.025mm
Base Length	13.0" / 330.2mm

### 1 Workpiece (Total)

Max Workpiece Weight	32 Pounds / 14.514 kg
Max Workpiece Size	16.5"L x 4.0"W x 4.0"H 419.1mm x 101.6mm x 101.6mm

### 4 Workpieces (Each)

8 Pounds / 3.628 kg
4.0" / 101.6mm Cubed

## RWP-024-6XC

Aluminum 0.75" Dovetail Fixture - 6 Fixture Carousel

The RWP-024-6XC is a 0.75" dovetail carousel for milling applications. This product is designed for modular applications: utilizing 6 RWP-024 fixtures on a carousel base to machine multiple items in 1 operation. This carousel base mounts to either RWP-006 or RWP-006SS

Max Workpiece Weight	8 Pounds / 3.628 kg
Max Workpiece Size	4.0" / 101.6mm Cubed
Fixture Material	7075-T6511 Aluminum
Number of Clamps	1
Clamp Part Number	RWP-CL302SQ
Dovetail Height	0.125" / 3.175mm
Dovetail Width	0.75" / 19.05mm
Fixture Height	1.5" / 38.1mm







## NEED DOVETAIL CUTTERS?

We have a solution for that too. Raptor dovetail cutters machine the flat on the dovetail edge of your workpiece in one pass. This prevents a sharp edge on the dovetail from pressing into the corner of the fixture. Our dovetail cutters are available in a variety of dovetail heights and diameters depending on your need.

### RWP-DC403U

3 Flute Uncoated 0.75"  
Diameter 0.125" High Dovetail Cutter

### RWP-DC404C

4 Flute Coated 0.75"  
Diameter 0.125" High Dovetail Cutter

### RWP-DC405C

4 Flute Coated 0.248"  
Diameter 0.0469" High Dovetail Cutter

### RWP-DC407C

4 Flute Coated 0.35"  
Diameter 0.125" High Dovetail Cutter

### RWP-DC408C

4 Flute Coated 0.45"  
Diameter 0.125" High Dovetail Cutter

### RWP-DC409C

4 Flute Coated 0.248"  
Diameter 0.0781" High Dovetail Cutter

See website for Speeds & Feed Rates for Raptor Dovetail Cutters.

## REPLACEMENT PARTS

### RWP-KIT-301SQ

#### Replacement Clamp Kit

Fixture Compatibility  
RWP-001(SS), RWP-004, RWP-013(SS),  
RWP-026, RWP-027, RWP-036SS,  
RWP-401-11

### RWP-KIT-303SQ

#### Replacement Clamp Kit

Fixture Compatibility  
RWP-006(SS)

### RWP-KIT-305SQ

#### Replacement Clamp Kit

Fixture Compatibility  
RWP-019SS, RWP-019-4X45T,  
RWP-019-4X90T

### RWP-KIT-302SQ

#### Replacement Clamp Kit

Fixture Compatibility  
RWP-002(SS), RWP-003, RWP-003-4X,  
RWP-007SS, RWP-011SS, RWP-012SS,  
RWP-015, RWP-023, RWP-024,  
RWP-024-2XR, RWP-024-3XR,  
RWP-024-4XR, RWP-024-6XC, RWP-025,  
RWP-030SS, RWP-034SS, RWP-038SS,  
RWP-405

### RWP-KIT-306SQ

#### Replacement Clamp Kit

Fixture Compatibility  
RWP-017SS, RWP-018(SS), RWP-022SS



### RWP-KIT-304SQ

#### Replacement Clamp Kit

Fixture Compatibility  
RWP-008SS, RWP-009SS, RWP-010SS

### RWP-KIT-307SQ

#### Replacement Clamp Kit

Fixture Compatibility  
RWP-031SS, RWP-032SS

### RWP-8-32

#### 8/32 x 1/4 Replacement Locating Pins

These replacement locating pins are for all Raptor Fixtures except the RWP-019SS.  
Five replacement pins per pack.

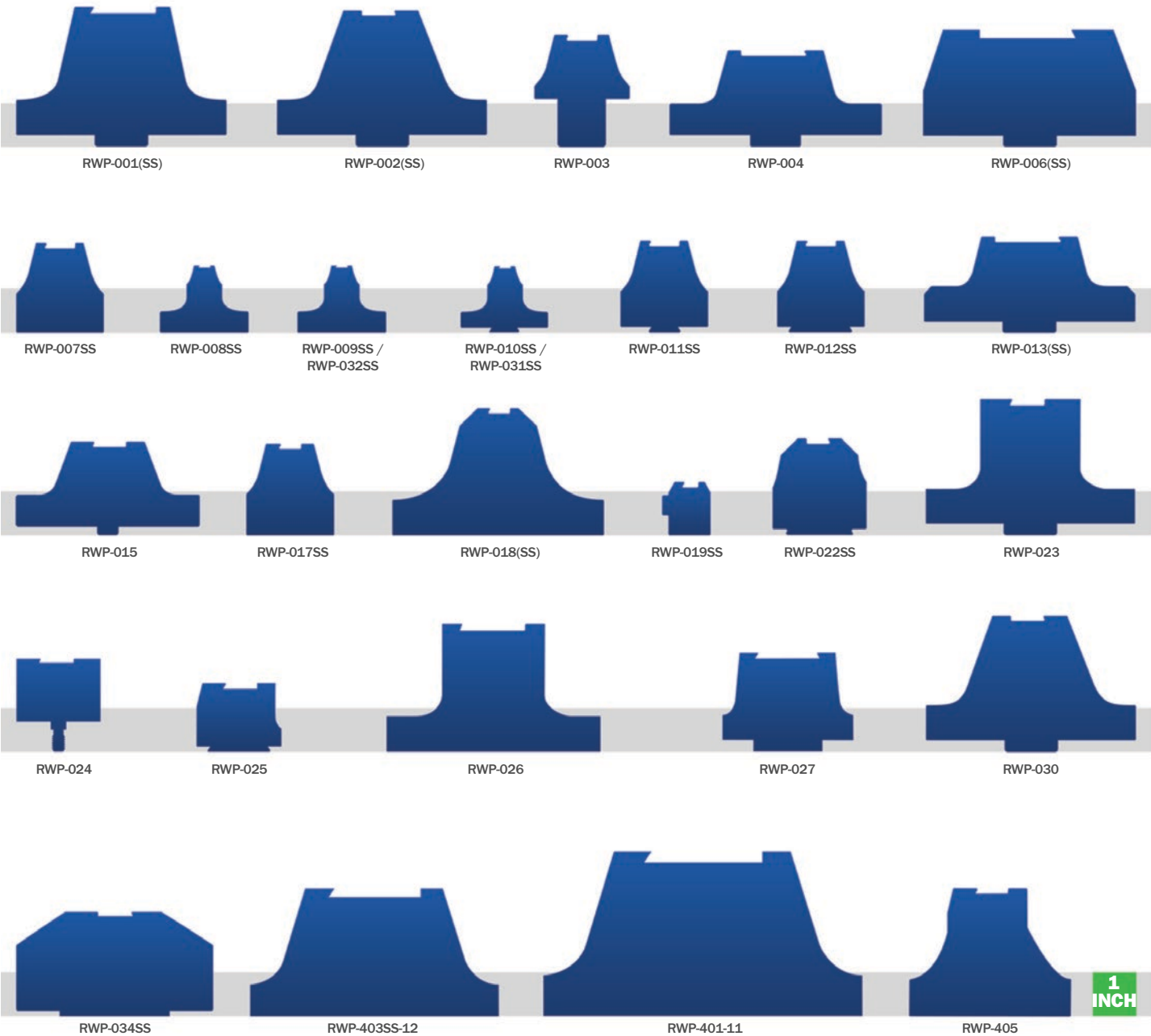
### RWP-8-32MO

#### 8/32 x 8/32 x .165 Replacement Locating Pins

These replacement locating pins are for the RWP-019SS only.  
Five replacement pins per pack.

# RAPTOR IS FLEXIBLE.

The parts you make come in different sizes and so does Raptor. Our Micro-Raptors work great for small parts while our Raptor Rails, Raptor Nests and Raptor Tombstone solutions can hold multiple parts or workpieces as heavy as 150 pounds.



# RAPTOR IS **ADAPTABLE.**



Our workholding products can fit any machine and any situation. We have a variety of adapters, risers, and fixtures built to attach directly to the most popular CNC machines. Multiple Raptors can be mounted to tombstones, multi- fixtures and base plates.

Raptor creates new products based on our customers' valuable feedback. If you need something special, let us know.

Similar-sized fixtures omitted for clarity

## RWP-201

### Riser

Enables compatible fixtures to be mounted on the Mori Seiki NMV5000.

Material	7075-T6511 Aluminum
Product Height	3.5" / 88.9mm
Product Diameter	8.980" / 228.092mm
Bolt Circle Diameter	6.25" / 158.75mm
Connection Bolts	(4) 1/2" SHCS
No Boss / Plug	
Connects to	Mori Seiki NMV5000
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-003-4X, RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS



## RWP-202

### Adapter

Enables compatible fixtures to be mounted on the Haas TR210, HRT210 & HRC210

Material	7075-T6511 Aluminum
Product Height	2.0" / 50.8mm
Product Diameter	8.20" / 208.28mm
Bolt Circle Diameter	6.50" / 165.1mm
Connection Bolts	(6) 1/2" SHCS
Boss / Plug	2.00" Dia x 0.375"
Connects to	Haas TR210, HRT210 & HRC210
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-003-4X, RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS



## RWP-203

### Adapter

Enables compatible fixtures to be mounted on the Haas Series: TR160 & HRT160.

Material	7075-T6511 Aluminum
Product Height	1.5" / 38.1mm
Product Diameter	6.30" / 160.02mm
Bolt Circle Diameter	5.40" / 137.16mm
Connection Bolts	(6) 3/8" SHCS T-NUTS
Boss / Plug	1.499" Dia x 0.313"
Connects to	Haas Series: TR160 & HRT160
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-003-4X, RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS





## RWP-205 / RWP-206

Riser for Mori Seiki NMV3000

(RWP-205 Metric Pallet / RWP-206 Inch Pallet)

Enables compatible fixtures to be mounted on the Mori Seiki NMV3000.

Material	7075-T6511 Aluminum
Product Height	3.5" / 88.9mm
Product Diameter	8.980 / 228.092mm
Bolt Circle Diameter	175mm (RWP-205) / 7.0" (RWP-206)
Connection Bolts	(4) M12 SHCS (RWP-205) / (4) 1/2" SHCS (RWP-206)
Boss / Plug	1.180" Dia x 0.250
Connects to	Mori Seiki NMV3000
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-003-4X, RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS



## RWP-208

Emergency Adapter

Emergency adapter plate enables any compatible fixtures to be mounted on the pallet of your machine. You simply add the mounting holes.

Material	6061 Aluminum
Product Height	1.5" / 38.1mm
Product Diameter	7.950" / 201.93mm
Boss / Plug	2.500" Dia x 0.780 optional plug
Connects to	Any Machine
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-003-4X, RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS Raptor's plug RWP-PLUG-208, sold separately, may need to be modified.



## RWP-209

Emergency Adapter

Emergency adapter plate enables any compatible fixtures to be mounted on the pallet of your machine. You simply add the mounting holes.

Material	6061 Aluminum
Product Height	1.5" / 38.1mm
Product Diameter	9.055" / 229.997mm
Boss / Plug	2.500" Dia x 0.780 optional plug
Connects to	Any Machine
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-003-4X, RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS Raptor's plug RWP-PLUG-208, sold separately, may need to be modified.



There are many CNC machines and rotary table sizes. That's why we offer universal adapters. Our universal adapters are 2 inches tall and are available in 9 inch and 11 inch diameters. Both universal adapters have multiple mounting slots so they are guaranteed to fit your machine.

Combine the universal adapters with extenders available in either 1 inch or 2 inch sizes to provide additional height without unnecessary bulk. Please refer to charts for options.

**RWP-222**  
Universal Adapter 9.875" Diameter, 2" Height

Has multiple slots to allow for use on multiple machine pallets or rotary tables. This universal adapter is modular in design with many options



Material	7075 Aluminum, Anodized Type II
Product Height	2.0" / 50.8mm
Product Diameter	9.875" / 250.825mm
Bolt Circle Diameter	7.00" / 177.8mm T-Slots: 0.406"W x 4.45"L
Connection Bolts	(4) 1/2"-13 UNC-2B
Boss / Plug	1.00" Dia x 0.30" Receiving Hole
Connects to	RWP-206, RWP-601, RWP-602
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS

\*Centering plug required. Raptor's plug RWP-PLUG-208, sold separately, may need to be modified.

**RWP-222 Universal Adapter Configuration Options**

RWP-001(SS)      RWP-002(SS) / RWP-030SS      RWP-006(SS)      RWP-013(SS)      RWP-018(SS)

**RWP-222 direct mount with fixture only**

**RWP-222 direct mount with fixture and RWP-601 one inch extender**

**RWP-222 mount with fixture and RWP-602 two inch extender**

**RWP-222 mount with fixture and RWP-206 riser**


# RWP-223

Universal Adapter 11.95" Diameter, 2" Height

Has multiple slots to allow for use on multiple machine pallets or rotary tables. This universal adapter is modular in design with many options



Material	7075 Aluminum, Anodized Type II Class 2				
Product Height	2.0" / 50.8mm				
Product Diameter	11.950" / 303.53mm				
Bolt Circle Diameter	10.150" / 257.81mm	T-Slots: 0.53"W x 5"L			
Connection Bolts	(4) 1/2"-13 UNC-2B				
Boss / Plug	1.250" Dia x 0.30" Receiving Hole				
Connects to	RWP-224, RWP-601, RWP-602				
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS,				



\*Centering plug required. Raptor's plug RWP-PLUG-208, sold separately, may need to be modified.

## RWP-223 Universal Adapter Configuration Options

RWP-001(SS)	RWP-002(SS) / RWP-030SS	RWP-006(SS)	RWP-013(SS)	RWP-018(SS)
<b>RWP-223 direct mount with fixture only</b>				
<b>RWP-223 direct mount with fixture and RWP-601 one inch extender</b>				
<b>RWP-223 mount with fixture and RWP-602 two inch extender</b>				
<b>RWP-223 mount with fixture and RWP-224 riser</b>				

## RWP-224

### Riser

This riser can be used in a modular configuration when combined with the Universal Adapter: RWP-223.

Material	7075 Aluminum
Product Height	6.0" / 152.4mm
Product Diameter	11.950" / 303.53mm
Bolt Circle Diameter	10.150" / 257.81mm
Connection Bolts	(4) 1/2"-13 SHCS
Boss / Plug	1.00" Dia. X 0.30" Receiving Hole
Connects to	Any Machine, RWP-223
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-003-4X, RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS



## RWP-228

### Riser

Enables compatible fixtures to be mounted on the pallet of the DMG Mori DMU50/50eco machine.

Material	7075 Aluminum
Product Height	3.494" / 88.7476mm
Product Diameter	8.96" / 227.584mm
Bolt Circle Diameter	7.015" / 178.181mm
Connection Bolts	(4) M12 SHCS
Boss / Plug	1.180" Dia x 0.25
Connects to	DMG Mori DMU50/50eco
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-003-4X, RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS



## RWP-234

### Riser

Enables compatible fixtures to be mounted on the Haas UMC-750 / UMC-750SS or Matsuura MX-520 300MM.

Material	7075-T6511 Aluminum
Product Height	4.50" / 114.3 mm
Product Diameter	11.40" / 289.56
Bolt Circle Diameter	9.92" / 251.968 mm
Connection Bolts	(4) M12 SHCS
Boss / Plug	1.970" Dia. x 0.75
Connects to	Haas UMC-750 / UMC-750SS or Matsuura MX-520 500MM
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-003-4X, RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS





## RWP-237

### Nest Riser

The RWP-237 is an aluminum Nest riser, designed for the Haas UMC-750 / UMC-750SS or Matsuura MX-520 300MM.

Material	7075-T6511 Aluminum
Product Height	6.550" / 166.37mm
Product Diameter	14.75" / 374.65mm
Bolt Circle Diameter	13.20" / 335.28mm
Connection Bolts	(8) 1/2" SHCS
Boss / Plug	1.970 Dia x 0.75
Connects to	Haas UMC-750 / UMC-750SS or Matsuura MX-520 500MM
Fixture Compatibility	RWP-001(SS), RWP-002(SS), RWP-006(SS), RWP-013(SS), RWP-018(SS), RWP-030SS



## RWP-238-8

### Adapter 8 Thread

Aluminum Adapter to connect RWP-003 5C Rotary Indexer Spindle Nose 8TPI.

Material	7075 Aluminum
Machine Type	5C Rotary Indexer
Connects to	RWP-003



## RWP-238-10

### Adapter 10 Thread

Aluminum Adapter to connect RWP-003 5C Rotary Indexer Spindle Nose 10TPI.

Material	7075 Aluminum
Machine Type	5C Rotary Indexer
Connects to	RWP-003

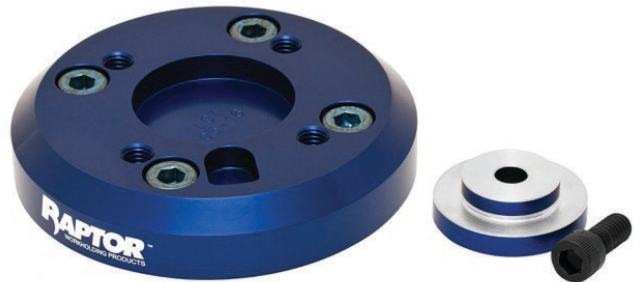


## RWP-241

### Adapter

This adapter has the mounting interface for the RWP-027, 1.5" dovetail fixture, and is designed for the Yukiwa TNT100L.

Material	7075-T6511 Aluminum
Product Height	0.75" / 166.37mm
Product Diameter	3.938" / 374.65mm
Bolt Circle Diameter	2.677" / 68mm
Connection Bolts	(4) M8 SHCS
Boss / Plug	1.968" Dia x 0.230"
Machine Type	Yukiwa TNT100L
Fixture Compatibility	RWP-027



## RWP-601

### Aluminum Extender 1" Height

The 1" Extender is to add height when used with either Universal Adapter: RWP-222 or RWP-223 in lieu of using a riser.



Material	7075 Aluminum
Connects to	RWP-222, RWP-223
Boss / Plug	1.25" Dia x 0.25 31.75mm Dia x 6.35mm
Fixture Compatibility	RWP-001(SS) RWP-002(SS) RWP-013(SS) RWP-018(SS) RWP-030(SS)

## RWP-602

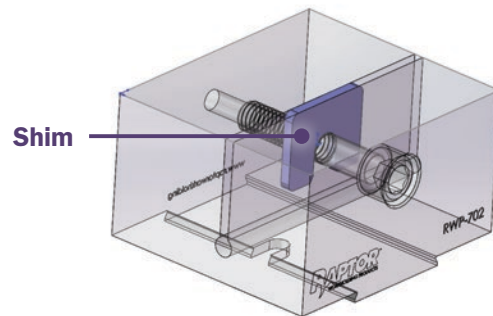
### Aluminum Extender 2" Height

The 2" Extender is to add height when used with either Universal Adapter: RWP-222 or RWP-223 in lieu of using a riser.



# PINCH BLOCKS

The Pinch Block connects directly to a Raptor dovetail fixture and is designed to offer a quick solution for secondary or final operations. Allows for quick dovetail removal and part completion. Convenient size and shape. Simply tighten with T-Handle wrench. Available in three sizes



## RWP-702

### Aluminum Pinch Block

Utilizes a single 3/8-16 Socket Head Cap Screw to actuate it.

Material	7075-T6511 Aluminum
Product Dimensions	2.350" L x 2.950" W x 1.820" H 59.69mm x 74.93mm x 46.228mm
Dovetail Width	1.50" / 38.1mm
Fixture Compatibility	RWP-001(SS), RWP-004, RWP-013(SS), RWP-026, RWP-027, RWP-036SS



## RWP-703

### Aluminum Pinch Block

Utilizes two 3/8-16 Socket Head Cap Screws to actuate it.

Material	7075-T6511 Aluminum
Product Dimensions	5" L x 2.950" W x 1.820" H 127mm x 74.93mm x 46.228mm
Dovetail Width	1.50" / 38.1mm
Fixture Compatibility	RWP-001(SS), RWP-004, RWP-013(SS), RWP-026, RWP-027, RWP-036SS



## RWP-704

### Aluminum Pinch Block

Utilizes a single 3/8-16 Socket Head Cap Screw to actuate it.

Material	7075-T6511 Aluminum
Product Dimensions	2.350" L x 2.950" W x 1.820" H 59.69mm x 74.93mm x 46.228mm
Dovetail Width	0.75" / 38.1mm
Fixture Compatibility	RWP-002(SS), RWP-015, RWP-023, RWP-030SS, RWP-034SS, RWP-038SS, RWP-405



## The benefits of Raptors' workholding products are widespread!

Our customers have reported that by utilizing Raptor products in their facilities, there have been numerous benefits:

- Saving time and money by becoming more efficient.
- Ultimately increasing overall company health by:
  - \* Decreasing production time while increasing yield of finished goods
  - \* Opening up production schedules to accommodate more orders.
  - \* Improving employee performance by streamlining application processes, while increasing their enthusiasm and morale,
  - \* Growing their customer base due to greater production capacity, improving pricing and even increasing on-time delivery.

As we always say:

*"Spend time making parts not figuring out how to hold them – Raptor is your solution!"*

## Policies & Warranty

### Engineering Changes

Specification and engineering data are subject to change without notice.

### Manufacturing Policy

Products supplied by Raptor are high quality and adhere to manufacturing standards. Tolerances are uniformly held in accordance with catalog specifications. Our products are simple to use and we provide support material with each shipment to ensure that your applications go smoothly. We are happy to provide you with additional support, just contact us.

### Damaged, Short or Lost Items

UPS is our primary carrier. If your package and subsequent product is damaged/lost in transit, immediately place a claim with your UPS office. Keep all damaged product and packaging for inspection by UPS. Notify Raptor so we can help replace the merchandise.

### Returned Goods

Materials cannot be returned without authorization. Final credit will be determined as follows:

- *Only catalog items suitable for resale may be returned.*
- *Customers need to obtain an RGA# by contacting a Raptor Customer Service representative and reference the RGA# on the returned goods.*
- *Invoice number and date must be furnished.*
- *Follow packing instructions, if applicable, for returning goods.*
- *Transportation charges must be prepaid.*
- *Credit value will be issued at invoiced price less a minimum 20% restocking charge. Specials cannot be returned.*

## Warranty

Raptor Products are protected with a 1 year limited warranty for parts\*

\* Subject to the terms as described in our Limited Warranty Policy.



**RaptorWorkholding.com**



Patent No. US8,672,310 B2

Patent No. US9,126,299 B2