In 1926, machinist and entrepreneur W.A. Tietzmann of Englewood, Ohio began manufacturing a line of standardized jig and fixture components. He called his venture the Tietzmann Tool Company (TTCO). Over time and with new ownership, TTCO became TE-CO, and the tooling component product offering continued to grow, along with the acquisition of the Toolex vise line from Pennsylvania. TE-CO quickly became the go-to solution for anyone needing to increase the productivity of their machining operations.

In 2015, TE-CO joined the explosive growth of five-axis machining by adding Raptor Workholding to the TE-CO family. Raptor was founded in 2009, by two aerospace job shops in Southern California. These two shops had purchased palletized five axis machines and needed a smart way to hold products rigidly, while enabling them to machine five sides of the workpiece. At the time, there were very few options, so they worked together, designed, and tested these new products in their own shops. As visitors to their machine shops witnessed and inquired about the dovetail workholding devices, the engineers realized there was a market for these unique products. The Raptor name came from the dovetail clamp design – the hook of the clamp reminded them of the claw of a Raptor.

Raptor’s product line continues to expand, with the addition of Piranha Clamp’s zero-point self-centering vises, Piranha Cooling Line’s modular fluid distribution system, and Kwik-Clamp’s pneumatic quick-change workholding system. Today, TE-CO and Raptor are the country’s premier supplier of workholding products. From a large variety of tooling components and spring plungers, to high-precision vises and fixtures, and much, much more, TE-CO and Raptor provide superior, cost-effective clamping solutions.

Raptor Workholding is a leading manufacturer of modular workholding solutions designed for 3-, 4-, and 5-axis machining. We offer simple, secure, and versatile workholding solutions. Our products are designed and manufactured in the USA, and they offer a wide range of features that make them ideal for demanding applications.

Raptor fixtures are built to attach directly to the CNC machining industry's most popular machines. They can be mounted to tombstones, bridges, nests, carousels, and base plates; and they can be configured to hold multiple fixtures in a single setup.

Raptor’s unique dovetail spring-loaded clamps provide rigid clamping while exposing all five faces of the workpiece. This allows most features to be completed in a single operation, which can save time and money.

Raptor’s dovetail clamps require only 1/8” of material to hold the workpiece, resulting in less waste, easier prep, and zero distortion. All work can be prepared with a single dovetail, using the same fixture for every part, making setups quick, easy, and repeatable.

Raptor offers a variety of products that are zero-point adaptable with our 50mm Piranha Clamp zero-point and 52mm industry standard mounting. Look for Raptor’s ZP logo to ensure zero-point compatibility.

Raptor’s pneumatic solution, Kwik-Clamp, can be installed on 3-, 4-, and 5-axis vertical and rotary machining centers. Raptor’s Kwik-Clamp provides standardized repeatable, quick-change mounting of the workholding units with accuracy of two-tenths (.0002”). This is a perfect solution for hassle-free setups and automation.

A FULL ACCESS PASS
- 3-, 4- & 5-axis milling & EDM
- Access to all 5 sides
- Simplify your application
- Eliminate operations
- Minimal clamping depth

MODULAR SYSTEM
- Eliminate changeover time by attaching a small fixture to a larger fixture
- Go from large parts to smaller parts quickly
- Turn your single fixture into a multi-fixture in a matter of seconds
**INTRODUCTION TO PIRANHA**

<table>
<thead>
<tr>
<th><strong>Piranha Clamp</strong></th>
<th><strong>Self-Centering Zero-Point Vises</strong></th>
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<tbody>
<tr>
<td>If you are looking for a self-centering vise with zero-point mounting, accurate jaw repeatability, unbeatable clamping force, and a solution for chip and coolant evacuation, then the Piranha self-centering vise line is your perfect solution!</td>
<td></td>
</tr>
<tr>
<td>Piranha vises are 100% Swiss-designed and manufactured, made of hardened steel, and have maximum operating torque of 150 ft.-lbs. The open bed design allows chips and coolant to be efficiently evacuated, which improves part finish. The zero-point connection allows for rapid part change, resulting in less machine downtime. Piranha clamp also provides minimal material loss due to the 3mm clamping depth. Piranha offers a variety of jaw options for the single and double station Gepard vises.</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th><strong>Piranha Cooling Line</strong></th>
<th><strong>High-Performance Fluid Distribution</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you experiencing chip build-up and re-cutting in your lathes and machining centers? Wheel-loading on your grinders? Are you scrapping parts because your cooling line moved or broke while machining? Are you trying to run lights-out or extend your cutting tool life? If so, the Piranha Cooling Line system is the solution for you!</td>
<td></td>
</tr>
<tr>
<td>100% Swiss-designed and manufactured, Piranha is a unique, versatile, and modular coolant line system made from high-strength, anodized aluminum. The cooling line can withstand pressure of up to 1,150 PSI (80 bar). The patented threaded connection design allows for ease of assembly and provides unmatched rigidity, increasing the pressure and volume of coolant, oil, or air to the cutting zone. Piranha is infinitely variable in flexibility and length so it can be adapted to any setup, including cooling, blowing, misting, or suction. Piranha offers a variety of patented, multi-port nozzles that can easily be installed on lathes, grinders, machining centers, and transfer lines.</td>
<td></td>
</tr>
</tbody>
</table>
| • Fits on all standard tool holders and CNC Machines  
  • Flexible, adjustable, lightweight, and versatile  
  • Higher, more direct pressure in the cutting zone  
  • Better tool life and chip evacuation  
  • Distributes a precision flow of fluid, exactly where you want it, and…STAYS IN PLACE! |

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- **Dovetail Cutters & Accessories** .... Page 26
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- **Kwik-Clamp** ....................... Page 34
- **Self-Centering Vises** .......... Page 36
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**DOVETAIL FIXTURES**

**RAPTOR IS SIMPLE.**
Simply load your workpiece onto the fixture and hand-tighten the spring-loaded clamp. Unloading is just as easy. For dovetail prep guidelines, please see page 82.

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

2 - SPRING-LOADED CLAMP
The Raptor 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
Raptor offers adapters, risers and specific fixture designs to fit any machine. "Yes, even that one."

**0.281" x 0.0781" Dovetail Fixtures**

**RWP-031SS**
17-4 Stainless Steel Dovetail Fixture with 0.75" Dovetail Bottom
Raptor’s smallest dovetail, designed for micro-machining. Connects directly to the following 0.75" dovetail fixtures: RWP-002, RWP-002SS, RWP-015, RWP-023, RWP-024 & RWP-024SS

- Workpiece size min: 0.478" L x 0.478" W x 0.250" H
- Workpiece size max: 1.25" cube (0.55 lb. max)
- Dovetail width: 0.281"
- Dovetail height: 0.078"
- Fixture dimensions: 2.070" L x 2.070" W x 1.438" H
- Fixture weight: 2 lbs.

**RWP-032SS**
17-4 Stainless Steel Dovetail Fixture
Raptor’s smallest dovetail, designed for micro-machining. Connects to the machine using four mounting holes.

- Workpiece size min: 0.478" L x 0.478" W x 0.250" H
- Workpiece size max: 1.25" cube (0.55 lb. max)
- Dovetail width: 0.281"
- Dovetail height: 0.078"
- Fixture dimensions: 2.070" L x 2.070" W x 1.563" H
- Fixture weight: 2 lbs.

(See website for mounting information)

**RWP-282**
Zero-Point Riser

- Fixture dimensions: 5.25" diameter x 2.50" H
- Accepts: RWP-024, RWP-024SS & RWP-032SS only
- Mounts: On all Piranha Zero-Point plates
- Riser weight: 4 lbs.

See page 26 for dovetail cutters & accessories
DOVETAIL FIXTURES

0.375" Dovetail Fixtures

**RWP-019SS**
17-4 Stainless Steel 0.375" Dovetail Fixture

- Designed for small part production & modular applications. Multiple RWP-019SS fixtures can be placed in-line to hold long parts. Multi-fixture options: RWP-019-4X45T & RWP-019-4X90T (See pages 22-23)
- Workpiece size min: 1.25" L x 0.75" W x 0.50" H
- Workpiece size max: 2.50" cube (2 lb. max)
- Dovetail width: 0.375"
- Dovetail height: 0.125"
- Fixture dimensions: 2.5" L x 1.00" W x 1.25" H
- Fixture weight: 1 lb.
- (See website for mounting information)

**RWP-213SS**
17-4 Stainless Steel 0.75" Dovetail Adapter for RWP-019SS

- Connects the RWP-019SS to any of the following 0.75" dovetail fixtures:
  - RWP-002(SS), RWP-015, RWP-023, RWP-024(SS) & RWP-038SS
- Adapter height: 0.50"
- Adapter length: 2.50"
- Adapter weight: 1 lb.

**RWP-214SS**
17-4 Stainless Steel 1.50" Dovetail Adapter for RWP-019SS

- Connects the RWP-019SS to the following 1.50" dovetail fixtures:
  - RWP-001(SS), RWP-013(SS), RWP-026 & RWP-027
- Adapter height: 0.50"
- Adapter length: 2.50"
- Adapter weight: 1 lb.

**RWP-042SS**
17-4 Stainless Steel 0.375" Dovetail Fixture

- Designed for small part production & modular applications. Multiple RWP-042SS fixtures can be placed in-line to hold long parts. Multi-fixture options: RWP-042-4X90T (See page 23)
- Workpiece size min: 2.50" L x 0.75" W x 0.50" H
- Workpiece size max: 4.00" L x 2.50" W x 2.50" H (7 lb. max)
- Dovetail width: 0.375"
- Dovetail height: 0.125"
- Fixture dimensions: 3.75" L x 1.00" W x 1.25" H
- Fixture weight: 1 lb.
- (See website for mounting information)

**RWP-248SS**
17-4 Stainless Steel 0.75" Dovetail Adapter for RWP-042SS

- Connects the RWP-042SS to any of the following 0.75" dovetail fixtures:
  - RWP-002(SS), RWP-015, RWP-023, RWP-024(SS) & RWP-038SS
- Adapter height: 0.50"
- Adapter length: 3.75"
- Adapter weight: 1 lb.

**RWP-249SS**
17-4 Stainless Steel 1.50" Dovetail Adapter for RWP-042SS

- Connects the RWP-042SS to any of the following 1.50" dovetail fixtures:
  - RWP-001(SS), RWP-013(SS), RWP-026 & RWP-027
- Adapter height: 0.50"
- Adapter length: 3.75"
- Adapter weight: 1 lb.

**RWP-280**
Zero-Point Riser

- Fixture dimensions: 5.25" diameter x 2.50" H
- Accepts: RWP-019SS & RWP-042SS only
- Mounts: On all Piranha Zero-Point plates
- Riser weight: 4 lbs.

See page 26 for dovetail cutters & accessories
## 0.50" Dovetail Fixtures

### RWP-017SS
17-4 Stainless Steel 0.50" Dovetail Fixture

Connects directly to System 3R 54mm pallets: MacroStd: 3R-651.7E-S / 3R-651.7E-XS & MacroHP: 3R-651.7E.P.

- **Workpiece size min:** 1.30" L x 1.30" W x 0.50" H
- **Workpiece size max:** 3.25" cube (6 lb. max)
- **Dovetail width:** 0.50"
- **Dovetail height:** 0.125"
- **Fixture dimensions:** 2.070" L x 2.070" W x 2.125" H
- **Fixture weight:** 3 lbs.

(See website for mounting information)

### RWP-018
7075 Aluminum 0.50" Dovetail Fixture

- **Fixture weight:** 5 lbs.

### RWP-018SS
17-4 Stainless Steel 0.50" Dovetail Fixture

- **Fixture weight:** 12 lbs.
  
  Mounts directly to a Matsuura MAM72-35V English table / pallet or RWP-001-METRIC for metric table / pallet.

### RWP-022SS
17-4 Stainless Steel 0.50" Dovetail Fixture with 1.50" Dovetail Bottom

Connects directly to the following 1.50" dovetail fixtures: RWP-001, RWP-001SS, RWP-013, RWP-013SS, RWP-026 & RWP-027

- **Workpiece size min:** 1.30" L x 1.00" W x 0.50" H
- **Workpiece size max:** 3.25" cube (6 lb. max)
- **Dovetail width:** 0.50"
- **Dovetail height:** 0.125"
- **Fixture dimensions:** 2.35" L x 2.35" W x 2.00" H
- **Fixture weight:** 3 lbs.

### RWP-022
7075 Aluminum 0.50" Dovetail Fixture

- **Fixture weight:** 4 lbs.

### RWP-022SS
17-4 Stainless Steel 0.75" Dovetail Fixture

- **Fixture weight:** 9 lbs.
  
  Mounts directly to a Matsuura MAM72-35V English table / pallet or RWP-002-METRIC for metric table / pallet.

## 0.75" Dovetail Fixtures

### RWP-002
7075 Aluminum 0.75" Dovetail Fixture

- **Workpiece size min:** 2.00" L x 1.75" W x 0.50" H
- **Workpiece size max:** 5.75" cube (18 lb. max)
- **Dovetail width:** 0.75"
- **Dovetail height:** 0.125"
- **Fixture diameter:** 4.97"
- **Fixture height:** 1.50" from shoulder
- **Bolt circle diameter:** 3.80" (Raptor interface)

- **Fixture weight:** 2 lbs.

### RWP-002SS
17-4 Stainless Steel 0.75" Dovetail Fixture

- **Fixture weight:** 9 lbs.

Mounts directly to a Matsuura MAM72-35V English table / pallet or RWP-002-METRIC for metric table / pallet.

### RWP-003
7075 Aluminum 5C collet 0.75" Dovetail Fixture

Mounts in any 5C collet closer for milling applications. Multi-fixture option: RWP-003-4X (See page 22)

- **Workpiece size min:** 1.30" L x 1.30" W x 0.50" H
- **Workpiece size max:** 3.0" cube (3 lb. max)
- **Dovetail width:** 0.75"
- **Dovetail height:** 0.125"
- **Fixture dimensions:** 2.070" L x 2.070" W x 2.125" H
- **Fixture weight:** 3 lbs.

(See website for mounting information)

### RWP-007SS
17-4 Stainless Steel 0.75" Dovetail Fixture

Connects directly to System 3R 54mm pallets: MacroStd: 3R-651.7E-S / 3R-651.7E-XS & MacroHP: 3R-651.7E.P.

- **Workpiece size min:** 1.30" L x 1.30" W x 0.50" H
- **Workpiece size max:** 3.75" cube (7 lb. max)
- **Dovetail width:** 0.75"
- **Dovetail height:** 0.125"
- **Fixture dimensions:** 2.070" L x 2.070" W x 2.125" H
- **Fixture weight:** 3 lbs.

(See website for mounting information)
DOVETAIL FIXTURES

**RWP-011SS**
17-4 Stainless Steel 0.75" Dovetail Fixture with 0.75" Dovetail Bottom
Connects directly to the following 0.75" dovetail fixtures: RWP-002, RWP-002SS, RWP-015 & RWP-023

- Workpiece size min: 1.30” L x 1.30” W x 0.50” H
- Workpiece size max: 3.75” cube (7 lb. max)
  - Dovetail width: 0.75”
  - Dovetail height: 0.125”
  - Fixture dimensions: 2.070” L x 2.070” W x 2.000” H
  - Fixture weight: 3 lbs.

**RWP-012SS**
17-4 Stainless Steel 0.75" Dovetail Fixture with 1.50" Dovetail Bottom
Connects directly to the following 1.50" dovetail fixtures: RWP-001, RWP-001SS, RWP-013, RWP-013SS, RWP-026 & RWP-027

- Workpiece size min: 1.30” L x 1.30” W x 0.50” H
- Workpiece size max: 3.75” cube (7 lb. max)
  - Dovetail width: 0.75”
  - Dovetail height: 0.125”
  - Fixture dimensions: 2.350” L x 2.350” W x 2.000” H
  - Fixture weight: 3 lbs.

**RWP-015**
7075 Aluminum 0.75" Dovetail Fixture
Connects directly to the HAAS TRT100 & HAAS TR110 machines. Please refer to Haas indexer recommendation for platter weight restrictions.

- Workpiece size min: 2.00” L x 1.75” W x 0.50” H
- Workpiece size max: 5.75” cube (18 lb. max)
  - Dovetail width: 0.75”
  - Dovetail height: 0.125”
  - Fixture dimensions: 4.33” L x 2.0” H x 2.0” W
  - Fixture weight: 2 lbs.

**RWP-023**
7075 Aluminum 0.75" Dovetail Fixture - Grid Pattern Mounting
Designed for tombstones or grid plates with a 2.0” X 2.0” hole pattern or 4.0” bolt circle – without a boss or plug. Not compatible with Raptor risers or adapters.

- Workpiece size min: 2.00” L x 1.75” W x 0.50” H
- Workpiece size max: 5.75” cube (18 lb. max)
  - Dovetail width: 0.75”
  - Dovetail height: 0.125”
  - Fixture diameter: 4.97”
  - Fixture height: 3.0”
  - Bolt circle diameter: 4.00”
  - Fixture weight: 4 lbs.

**RWP-024**
7075 Aluminum 0.75" Dovetail Fixture
Designed for modular applications. Multiple RWP-024 fixtures can be placed in-line to hold long parts, referred to as a bridge system. Multi-fixture options: RWP-024-2XR, RWP-024-3XR, RWP-024-4XR & RWP-024-6XC (See pages 24-25)

- Workpiece size min: 2.00” L x 2.00” W x 0.50” H
- Workpiece size max: 4.00” cube (12.5 lb. max)
  - Dovetail width: 0.75”
  - Dovetail height: 0.125”
  - Fixture dimensions: 2.0” L x 2.0” W x 1.50” H
  - Fixture weight: 2 lbs.

**RWP-024SS**
17-4 Stainless Steel 0.75" Dovetail Fixture
Connects directly to RWP-024, RWP-024SS & RWP-032SS only

- Fixture dimensions: 5.25” diameter x 2.50” H
- Accepts: RWP-024, RWP-024SS & RWP-032SS only
- Mounts: On all Piranha Zero-Point plates
- Riser weight: 4 lbs.

**RWP-282**
Zero-Point Riser

- Fixture dimensions: 5.25” diameter x 2.50” H
- Accepts: RWP-024, RWP-024SS & RWP-032SS only
- Mounts: On all Piranha Zero-Point plates
- Riser weight: 4 lbs.
DOVETAIL FIXTURES

**RWP-025**
7075 Aluminum 0.75” 6” Mini Rail Dovetail Fixture with 1.5” Dovetail Bottom

Connects to the following 1.5” dovetail fixtures: RWP-001, RWP-001SS, RWP-013 & RWP-013SS, RWP-026 & RWP-027

- Workpiece size min: 6.00” L x 1.75” W x 0.50” H
- Workpiece size max: 8.00” L x 4.00” W x 4.00” H (12.5 lb. max)
- Dovetail width: 0.75”
- Dovetail height: 0.125”
- Fixture dimensions: 6.00” L x 2.00” W x 1.5” H
- Fixture weight: 9 lbs.

**RWP-030SS**
17-4 Stainless Steel 0.75” Dovetail Fixture

Utilized for milling applications. With three clamps, RWP-030SS provides the ability to machine long workpieces.

- Workpiece size min: 5.00” L x 1.75” W x 0.50” H
- Workpiece size max: 7.50” cube (40 lb. max)
- Dovetail width: 0.75”
- Dovetail height: 0.125”
- Fixture dimensions: 6.00” L x 2.00” W x 1.5” H
- Fixture weight: 9 lbs.

**RWP-034SS**
17-4 Stainless Steel 0.75” Dovetail Fixture

Designed to connect directly to the Makino A51NX-5XU for milling applications. Not compatible with Raptor risers or adapters.

- Workpiece size min: 5.00” L x 1.75” W x 0.50” H
- Workpiece size max: 7.50” cube (40 lb. max)
- Dovetail width: 0.75”
- Dovetail height: 0.125”
- Fixture dimensions: 6.00” L x 2.00” W x 1.5” H
- Bolt circle diameter: 3.80” (Raptor interface)
- Fixture weight: 9 lbs.

**RWP-038SS**
17-4 Stainless Steel 0.75” Dovetail Fixture

Designed to connect directly to the HAAS TRT100 & HAAS TR110 for milling applications.

- Workpiece size min: 6.00” L x 1.75” W x 0.50” H
- Workpiece size max: 8.00” cube (TRT-100 4 lb. max) (TR-100 12 lb. max)
- Dovetail width: 0.75”
- Dovetail height: 0.125”
- Fixture diameter: 4.33”
- Fixture height: 1.30”
- Bolt circle diameter: 3.267” for (6) 5/16” or M8 SHCS
- Boss/hole: 0.4992” dia. x 0.19” boss
- Fixture weight: 2 lbs.

**RWP-0405**
7075 Aluminum 8.00” Long Rail 0.75” Dovetail Fixture

Designed for longer workpieces. Not compatible with Raptor risers or adapters.

- Workpiece size min: 8.00” L x 1.75” W x 0.50” H
- Workpiece size max: 14.0” L x 4.00” W x 4.00” H (85 lb. max)
- Dovetail width: 0.75”
- Dovetail height: 0.125”
- Fixture length: 8.0”
- Fixture width: 3.80”
- Fixture height: 3.0”
- Fixture weight: 9 lbs.

See page 26 for dovetail cutters & accessories
**DOVETAIL FIXTURES**

### 1.5" Dovetail Fixtures

**RWP-001**

7075 Aluminum 1.5" Dovetail Fixture

- **Workpiece size min:** 2.35" L x 2.35" W x 0.50" H
- **Workpiece size max:** 6.75" cube (30 lb. max)
- **Dovetail width:** 1.5"
- **Dovetail height:** 0.125"
- **Fixture diameter:** 4.97"
- **Fixture height:** 3.0"
- **Bolt circle diameter:** 3.80" (Raptor interface)

- **Fixture weight:** 4 lbs.

Mounts directly to a Matsuura MAM72-35V English table / pallet or RWP-001-METRIC for metric table / pallet.

**RWP-001SS**

17-4 Stainless 1.5" Dovetail Fixture

- **Fixture weight:** 9 lbs.

**RWP-013**

7075 Aluminum 1.5" Dovetail Fixture

- **Workpiece size min:** 2.35" L x 2.35" W x 0.50" H
- **Workpiece size max:** 6.75" cube (30 lb. max)
- **Dovetail width:** 1.5"
- **Dovetail height:** 0.125"
- **Fixture diameter:** 4.97"
- **Fixture height:** 3.0"
- **Bolt circle diameter:** 3.80" (Raptor interface)

- **Fixture weight:** 3 lbs.

**RWP-0013SS**

17-4 Stainless 1.5" Dovetail Fixture

- **Fixture weight:** 8 lbs.

Mounts directly to a Matsuura MAM72-35V English table / pallet or RWP-013-METRIC for metric table / pallet.

**RWP-026**

7075 Aluminum 1.5" Dovetail Fixture

- **Workpiece size min:** 2.35" L x 2.35" W x 0.50" H
- **Workpiece size max:** 6.75" cube (30 lb. max)
- **Dovetail width:** 1.5"
- **Dovetail height:** 0.125"
- **Fixture diameter:** 4.97"
- **Fixture height:** 3.0"
- **Bolt circle diameter:** 3.80" (Raptor interface)

- **Weight:** 3 lbs.

**RWP-027**

7075 Aluminum 1.5" Dovetail Fixture

- **Workpiece size min:** 2.35" L x 2.35" W x 0.50" H
- **Workpiece size max:** 6.75" cube (30 lb. max)
- **Dovetail width:** 1.5"
- **Dovetail height:** 0.125"
- **Fixture diameter:** 4.97"
- **Fixture height:** 3.0"
- **Bolt circle diameter:** 3.80" (Raptor interface)

- **Weight:** 3 lbs.

**RWP-026**

7075 Aluminum 1.5" Dovetail Fixture

- **Workpiece size min:** 2.35" L x 2.35" W x 0.50" H
- **Workpiece size max:** 6.75" cube (30 lb. max)
- **Dovetail width:** 1.5"
- **Dovetail height:** 0.125"
- **Fixture diameter:** 4.97"
- **Fixture height:** 3.0"
- **Bolt circle diameter:** 3.80" (Raptor interface)

- **Weight:** 3 lbs.

**RWP-0401-11**

7075 Aluminum 11.00" long rail 1.5" Dovetail Fixture

- **Workpiece size min:** 11.00" L x 2.63" W x 0.50" H
- **Workpiece size max:** 17.0" L x 7.0" W x 12.0" H (140 lb. max)
- **Dovetail width:** 1.5"
- **Dovetail height:** 0.125"
- **Fixture length:** 11.0"
- **Fixture width:** 4.40"
- **Fixture height:** 3.0"
- **Fixture weight:** 10 lbs.

See page 26 for dovetail cutters & accessories.
**DOVETAIL FIXTURES**

### 2.25" Dovetail Fixtures

**RWP-006**

7075 Aluminum 2.25" Dovetail Fixture

- Workpiece size min: 5.9" L x 3.96" W x 0.50" H
- Workpiece size max: 8.0" L x 10.0" W x 10.0" H (80 lb. max)
- Dovetail width: 2.25"
- Dovetail height: 0.1875"
- Fixture dimensions: 5.950" L x 3.957" W x 2.500" H
- Bolt circle diameter: 3.80" (Raptor interface)

Fixture weight: 10 lbs.

Mounts directly to a Matsura MAM72-35V English table.

**RWP-006SS**

17-4 Stainless Steel 2.25" Dovetail Fixture

- Workpiece size min: 7.50" L x 4.15" W x 0.50" H
- Workpiece size max: 14.00" L x 13.00" W x 12.00" H
- Dovetail width: 2.75"
- Dovetail height: 0.250"
- Fixture dimensions: 11.500" L x 7.500" W x 3.875" H
- Bolt circle diameter: 3.80" (Raptor interface)

Fixture weight: 21 lbs.

### 2.75" Dovetail Fixtures

**RWP-403SS-12**

17-4 Stainless Steel 2.75" Dovetail Fixture

- Workpiece size min: 7.50" L x 4.15" W x 0.50" H
- Workpiece size max: 14.00" L x 13.00" W x 12.00" H (618 lb. max)
- Dovetail width: 2.75"
- Dovetail height: 0.250"
- Fixture dimensions: 11.500" L x 7.500" W x 3.875" H
- Fixture weight: 58 lbs.

See page 26 for dovetail cutters & accessories

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**Picatiny Rail Fixtures**

The defense industry relies on Raptor Workholding's variety of options for gripping the Picatiny Rail - a standard interface for the attachment of weapon accessories, which are found on almost every infantry weapon used by modern U.S. forces. Raptor's 3.5" and 6" Picatiny fixtures feature a spring-loaded clamp, purposely engineered to grip the standard DOD specific Picatiny rail.

Simply prepare a Picatiny rail on your first operation, flip it over and use this efficient, strong, and accurate Raptor fixture to hold on to the rail for machining your final operation. Picatiny fixtures are available in three base mounting configurations: Raptor Interface, direct-mount, or a 0.75" dovetail base. Increase productivity even further with optional Piranha zero-point mounting.

See page 26 for dovetail cutters & accessories
## PICATINNY RAIL FIXTURES

### RWP-PIC6-DM

**Picatinny Rail Fixture 6.00” Long Direct Mount**

Mounts and locates with (2) socket head shoulder screws.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workpiece size min</td>
<td>6.00” L x 0.50” H</td>
</tr>
<tr>
<td>Workpiece size max</td>
<td>12.00” L x 4.00” W x 4.00” H (54 lb. max)</td>
</tr>
<tr>
<td>Body material</td>
<td>4140 PHT Steel</td>
</tr>
<tr>
<td>Fixture length</td>
<td>6.00”</td>
</tr>
<tr>
<td>Fixture width</td>
<td>2.00”</td>
</tr>
<tr>
<td>Fixture height</td>
<td>1.625”</td>
</tr>
<tr>
<td>Fixture weight</td>
<td>5.0 lbs.</td>
</tr>
</tbody>
</table>

(See website for mounting information)

### RWP-PIC8-DM

**Picatinny Rail Fixture 8.50” Long Direct Mount**

Mounts and locates with (2) socket head shoulder screws.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workpiece size min</td>
<td>8.50” L x 0.50” H</td>
</tr>
<tr>
<td>Workpiece size max</td>
<td>16.00” L x 4.00” W x 4.00” H (60 lb. max)</td>
</tr>
<tr>
<td>Body material</td>
<td>4140 PHT Steel</td>
</tr>
<tr>
<td>Fixture length</td>
<td>8.50”</td>
</tr>
<tr>
<td>Fixture width</td>
<td>2.00”</td>
</tr>
<tr>
<td>Fixture height</td>
<td>1.625”</td>
</tr>
<tr>
<td>Fixture weight</td>
<td>6.5 lbs.</td>
</tr>
</tbody>
</table>

(See website for mounting information)

### RWP-PIC9-DM

**Picatinny Rail Fixture 3.50” Long Direct Mount**

Mounts and locates with (2) socket head shoulder screws.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workpiece size min</td>
<td>3.50” L x 0.50” H</td>
</tr>
<tr>
<td>Workpiece size max</td>
<td>6.50” L x 4.00” W x 4.00” H (30 lb. max)</td>
</tr>
<tr>
<td>Body material</td>
<td>4140 PHT Steel</td>
</tr>
<tr>
<td>Fixture length</td>
<td>3.50”</td>
</tr>
<tr>
<td>Fixture width</td>
<td>2.00”</td>
</tr>
<tr>
<td>Fixture height</td>
<td>1.625”</td>
</tr>
<tr>
<td>Fixture weight</td>
<td>3.0 lbs.</td>
</tr>
</tbody>
</table>

(See website for mounting information)

### RWP-PIC6-DT

**Picatinny Rail Fixture 6.00” Long Dovetail Mount**

Mounts on the following 0.75” dovetail fixtures: RWP-002, RWP-002SS, RWP-015, RWP-023, RWP-030SS & RWP-034SS

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workpiece size min</td>
<td>6.00” L x 0.50” H</td>
</tr>
<tr>
<td>Workpiece size max</td>
<td>12.00” L x 4.00” W x 4.00” H (54 lb. max)</td>
</tr>
<tr>
<td>Body material</td>
<td>4140 PHT steel</td>
</tr>
<tr>
<td>Fixture length</td>
<td>6.00”</td>
</tr>
<tr>
<td>Fixture width</td>
<td>2.00”</td>
</tr>
<tr>
<td>Fixture height</td>
<td>1.625”</td>
</tr>
<tr>
<td>Fixture weight</td>
<td>5.0 lbs.</td>
</tr>
</tbody>
</table>

### RWP-PIC3SS

**Stainless Steel Picatinny Rail Fixture**

Mounts directly to a Matsura MAM72-35V English table / pallet or RWP-PIC3SS-METRIC for metric table / pallet.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workpiece size min</td>
<td>5.00” L x 0.50” H</td>
</tr>
<tr>
<td>Workpiece size max</td>
<td>12.00” L x 4.00” W x 4.00” H (54 lb. max)</td>
</tr>
<tr>
<td>Fixture diameter</td>
<td>4.97”</td>
</tr>
<tr>
<td>Fixture height</td>
<td>3.0”</td>
</tr>
<tr>
<td>Bolt circle diameter</td>
<td>3.80” (Raptor interface)</td>
</tr>
<tr>
<td>Fixture weight</td>
<td>10.5 lbs.</td>
</tr>
</tbody>
</table>

### RWP-PIC9-SS

**Stainless Steel Picatinny Rail Fixture 9.00” Long Direct Mount**

Mounts and locates with (2) socket head shoulder screws.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workpiece size min</td>
<td>9.00” L x 0.50” H</td>
</tr>
<tr>
<td>Workpiece size max</td>
<td>18.00” L x 4.00” W x 4.00” H (54 lb. max)</td>
</tr>
<tr>
<td>Body material</td>
<td>4140 PHT steel</td>
</tr>
<tr>
<td>Fixture length</td>
<td>9.00”</td>
</tr>
<tr>
<td>Fixture width</td>
<td>2.00”</td>
</tr>
<tr>
<td>Fixture height</td>
<td>1.625”</td>
</tr>
<tr>
<td>Fixture weight</td>
<td>5.0 lbs.</td>
</tr>
</tbody>
</table>

(See website for mounting information)

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See page 26 for dovetail cutters & accessories
Raptor multi-fixtures provide a foundation to attach more than one Raptor dovetail fixture, which allows machinists to manufacture longer part runs or program for multiple parts in one setup. Providing a method to hold parts at different angles and in different dovetail sizes, multi-fixtures reduce changeover time and allow for increased productivity.

**RWP-003-4X**

0.75" Dovetail 60° Multi-Fixture with Raptor Interface Mounting

Utilizes (4) RWP-003 dovetail fixtures (see page 11). Designed specifically for five-axis machining applications. Mounts to Raptor risers with Raptor interface mounting.

- **Workpiece size min:** 1.30” L x 1.30” W x 0.50” H
- **Workpiece size max:** 3.0” cube (3 lb. max @ each fixture)
- **Fixture swing diameter:** 7.135” (without workpieces)
- **Fixture height:** 3.327” (without workpieces)
- **Fixture body diameter:** 4.970”
- **Bolt circle diameter:** 3.800” (Raptor interface)
- **Boss:** 1.250” dia. x 0.25” boss
- **Fixture weight:** 6 lbs.

**RWP-019-4X45T**

0.375” Dovetail 45° Multi-Fixture with a 1.50” Dovetail Bottom

Includes (4) RWP-019SS dovetail fixtures (see page 8). Mounts to the following 1.50” dovetail fixtures: RWP-001, RWP-001SS, RWP-013, RWP-013SS, RWP-026 & RWP-027

- **Workpiece size min:** 1.25” L x 0.750” W x 0.50” H
- **Workpiece size max:** 2.50” cube (2 lb. max @ each fixture)
- **Fixture swing diameter:** 4.554” (without workpieces)
- **Fixture height:** 3.126” (without workpieces)
- **Fixture weight:** 6 lbs.

**RWP-019-4X90T**

0.375” Dovetail 90° Multi-Fixture with a 1.50” Dovetail Bottom

Includes (4) RWP-019SS dovetail fixtures (see page 8). Mounts to the following 1.50” dovetail fixtures: RWP-001, RWP-001SS, RWP-013, RWP-013SS, RWP-026 & RWP-027

- **Workpiece size min:** 1.25” L x 0.750” W x 0.50” H
- **Workpiece size max:** 2.50” cube (2 lb. max @ each fixture)
- **Fixture swing diameter:** 4.554” (without workpieces)
- **Fixture height:** 3.126” (without workpieces)
- **Fixture weight:** 6 lbs.

**RWP-042-4X90T**

0.375” Dovetail 90° Multi-Fixture with a 1.50” Dovetail Bottom

Includes (4) RWP-042SS dovetail fixtures (see page 9). Mounts to the following 1.50” dovetail fixtures: RWP-001, RWP-001SS, RWP-013, RWP-013SS, RWP-026 & RWP-027

- **Workpiece size min:** 2.50” L x 0.75” W x 0.50” H
- **Workpiece size max:** 4.00” L x 2.50” W x 2.50” H (7 lb. max @ each fixture)
- **Fixture swing diameter:** 4.554” (without workpieces)
- **Fixture height:** 4.375” (without workpieces)
- **Fixture weight:** 6 lbs.

**0.75” Dovetail 60° Multi-Fixture with Raptor Interface Mounting**
RWP-024-2XR

0.75” Dovetail Multi-Fixture: Includes (2) RWP-024 (See page 13) on a single base

Workpiece size min: 5.00” L x 2.00” W x 0.50” H
Workpiece size max: 8.50” L x 4.00” W x 4.00” H
(16 lb. max)

Fixture height: 2.875”
Dovetail height: 0.125”
Dovetail width: 0.75”
Base length: 7.00”
Fixture weight: 5 lbs.

The bridge system is sold complete as shown. Base unit can be purchased separately.

RWP-024-3XR

0.75” Dovetail Multi-Fixture: Includes (3) RWP-024 (See page 13) on a single base

Workpiece size min: 8.00” L x 2.00” W x 0.50” H
Workpiece size max: 12.50” L x 4.00” W x 4.00” H
(24 lb. max)

Fixture height: 2.875”
Dovetail height: 0.125”
Dovetail width: 0.75”
Base length: 10.00”
Fixture weight: 7 lbs.

The bridge system is sold complete as shown. Base unit can be purchased separately.

RWP-024-6XC

0.75” Dovetail Multi-Fixture with 2.25” Dovetail Bottom

Designed for modular applications: includes (6) RWP-024 (see page 13) fixtures on a carousel base to machine multiple items in one operation. Mounts to either RWP-006 or RWP-006SS (see page 18).

Workpiece size min: 2.00” L x 2.00” W x 0.50” H
Workpiece size max: 4.00” cube (12.5 lb. max)

Fixture height: 2.310”
Dovetail width: 0.75”
Dovetail height: 0.125”
Dovetail width: 2.25”
Base length: 10.552” (without workpieces)
Fixture weight: 16 lbs.
Sold complete as shown.

RWP-024-4XR

0.75” Dovetail Multi-Fixture: Includes (4) RWP-024 (See page 13) on a single base

Workpiece size min: 11.00” L x 2.00” W x 0.50” H
Workpiece size max: 16.50” L x 4.00” W x 4.00” H
(32 lb. max)

Fixture height: 2.875”
Dovetail height: 0.125”
Dovetail width: 0.75”
Base length: 13.00”
Fixture weight: 10 lbs.

The bridge system is sold complete as shown. Base unit can be purchased separately.
DOVETAIL CUTTERS & ACCESSORIES

Raptor dovetail cutters machine the flat on the dovetail edge on a workpiece in one pass, preventing a sharp edge on the dovetail from pressing into the corner of the fixture. Available in various heights and diameters, Raptor has a dovetail cutter to address multiple needs. All cutters are for 60 degree dovetails.

<table>
<thead>
<tr>
<th>Cutter</th>
<th>Coated / Uncoated</th>
<th>Shank</th>
<th>Use with Dovetail Size</th>
<th>Flute</th>
</tr>
</thead>
<tbody>
<tr>
<td>RWP-DC403U</td>
<td>Uncoated</td>
<td>0.750&quot;</td>
<td>0.375&quot;, 0.50&quot;, 0.75&quot; &amp; 1.50&quot;</td>
<td>3</td>
</tr>
<tr>
<td>RWP-DC404C</td>
<td>Coated</td>
<td>0.750&quot;</td>
<td>0.375&quot;, 0.50&quot;, 0.75&quot; &amp; 1.50&quot;</td>
<td>4</td>
</tr>
<tr>
<td>RWP-DC405C</td>
<td>Coated</td>
<td>0.248&quot;</td>
<td>0.281&quot; x 0.0469&quot; (old style)</td>
<td>4</td>
</tr>
<tr>
<td>RWP-DC407C</td>
<td>Coated</td>
<td>0.350&quot;</td>
<td>0.375&quot;, 0.50&quot;, 0.75&quot; &amp; 1.50&quot;</td>
<td>4</td>
</tr>
<tr>
<td>RWP-DC406C</td>
<td>Coated</td>
<td>0.450&quot;</td>
<td>0.375&quot;, 0.50&quot;, 0.75&quot; &amp; 1.50&quot;</td>
<td>4</td>
</tr>
<tr>
<td>RWP-DC409C</td>
<td>Coated</td>
<td>0.248&quot;</td>
<td>0.281&quot; x 0.0781&quot;</td>
<td>4</td>
</tr>
<tr>
<td>RWP-DC410C</td>
<td>Coated</td>
<td>0.750&quot;</td>
<td>2.25&quot;</td>
<td>4</td>
</tr>
<tr>
<td>RWP-DC411C</td>
<td>Coated</td>
<td>1.0&quot;</td>
<td>2.75&quot;</td>
<td>4</td>
</tr>
</tbody>
</table>

Raptor pinch blocks connect directly to a Raptor dovetail fixture. They are designed for a quick solution for secondary or final operations with reoccurring machining or for removing a dovetail from the sixth side of a finished part. A shim and screw are included with each pinch block.

RWP-702
7075 Aluminum Pinch Block with 1.50° Dovetail Bottom

Product dimensions: 2.35" L x 2.95" W x 1.82" H
Fixture compatibility: RWP-001, RWP-001SS, RWP-013, RWP-013SS, RWP-026 & RWP-027
Fixture weight: 4 lbs.

RWP-703
7075 Aluminum Pinch Block with 1.50° Dovetail Bottom

Product dimensions: 5.00" L x 2.95" W x 1.82" H
Fixture compatibility: RWP-001, RWP-001SS, RWP-013, RWP-013SS, RWP-026 & RWP-027
Fixture weight: 4 lbs.

RWP-704
7075 Aluminum Pinch Block with 0.75° Dovetail Bottom

Product dimensions: 2.35" L x 2.95" W x 1.82" H
Fixture compatibility: RWP-002, RWP-002SS, RWP-015, RWP-023, RWP-038SS & RWP-027
Fixture weight: 4 lbs.

RWP-700-SHIM
The RWP-700-SHIM are used with the pinch blocks to prevent them from closing completely when machining part profile
These are sold in packs of six units.

Air Manifold

RWP-AIR-501

• Designed with 3 air connections and mounts to any machine where compressed air is needed.
• 3.00" L x 5.00" W x 1.50" H
• Hoses and lines are not included

Replacement Clamp Kits
• (2) clamp assemblies per kit
• Made from 17-4 stainless steel
• Includes grease
RWP-KIT-301SQ - 1.500" dovetail
RWP-KIT-302SQ - 0.750" dovetail
RWP-KIT-303SQ - 2.250" dovetail
RWP-KIT-304SQ - 0.281" x 0.0461" dovetail
(Fits obsolete RWP-008, RWP-009 & RWP-010)

Replacement Locating Pins
• (5) replacement pins per pack
RWP-8-32 - 8/32 x 1/4" replacement locating pins
Replacement locating pins for all Raptor fixtures manufactured before 2017 except the RWP-019SS, RWP-031SS, RWP-032SS & RWP-042SS
RWP-8-32CLS - 8/32 x 1/4" replacement locating pins
Replacement locating pins for all Raptor fixtures manufactured 2017 or after except the RWP-019SS & RWP-042SS
RWP-8-32MO - 8/32 x 8/32 x 0.165" replacement locating pins
Replacement locating pins for only the RWP-019SS & RWP-042SS
ADAPTERS & RISERS

Raptor provides a variety of adapters and risers to fit on many different CNC machine models. Adapters and risers are designed to accept multiple dovetail fixtures, allowing for many easy machining options when tooling up your CNC.

RWP-202
Adapter

Enables compatible fixtures to be mounted on the Haas TR-210, HRT210 & HRC210.

**Adapter material:** Aircraft grade aluminum  
**Adapter height:** 1.50"  
**Adapter diameter:** 8.00"  
**Bolt circle diameter:** 6.50" for (6) 1/2" SHCS  
**Boss/hole:** 2.00" dia. x 0.375" boss  
**Mounts:** All fixtures with a Raptor interface  
**Adapter weight:** 9 lbs.

RWP-203
Adapter


**Adapter material:** Aircraft grade aluminum  
**Adapter height:** 1.50"  
**Adapter diameter:** 6.30"  
**Slotted bolt circle diameters:** 5.400" to 5.512" for (6) 3/8-16" SHCS  
**Boss/hole:** 1.500" dia. x 0.313" boss  
**Mounts:** All fixtures with a Raptor interface  
**Included items:** (6) 3/8-16 x 1.00" long SHCS, (6) 41406T TE-CO t-nuts  
**Adapter weight:** 5 lbs.

RWP-208
Small Emergency Adapter

Enables compatible fixtures to be mounted on the pallet of your machine by simply adding the mounting holes.

**Adapter material:** Aircraft grade aluminum  
**Adapter height:** 1.50"  
**Adapter diameter:** 7.95"  
**Boss/hole:** 1.00" dia. x 0.30" receiving hole  
**Available plugs:** RWP-810 (1.25" dia.), RWP-811 (30mm dia.) & RWP-PLUG-208 (2.50" machinable dia.)  
**Adapter weight:** 9 lbs.  
**Includes:** Raptor interface mounting on top

RWP-209
Large Emergency Adapter

Enables compatible fixtures to be mounted on the pallet of your machine by simply adding the mounting holes.

**Adapter material:** Aircraft grade aluminum  
**Adapter height:** 1.50"  
**Adapter diameter:** 9.055"  
**Boss/hole:** 1.00" dia. x 0.30" receiving hole  
**Available plugs:** RWP-810 (1.25" dia.), RWP-811 (30mm dia.) & RWP-PLUG-208 (2.50" machinable dia.)  
**Adapter weight:** 9 lbs.  
**Mounts:** All fixtures with a Raptor interface  
**Includes:** Raptor interface mounting on top

RWP-262
Medium Universal Riser

Enables compatible fixtures to be mounted on the pallet of the following machines: Mori Seiki NMV5000, DMU50 / 50eco, NMV3000 metric / english & multiple other machines.

**Riser material:** Aircraft grade aluminum  
**Riser height:** 3.50"  
**Riser diameter:** 8.98"  
**Bolt circle diameter:** 6.00" to 7.03" slotted c "bores for M12 or 1/2" SHCS  
**Boss/hole:** 1.00" dia. x 0.30" receiving hole  
**Available plugs:** RWP-810 (1.25" dia.), RWP-811 (30mm dia.) & RWP-PLUG-208 (2.50" machinable dia.)  
**Mounts:** All fixtures with a Raptor interface  
**Riser weight:** 14 lbs.

RWP-PLUG-208
6061 Aluminum Machinable Plug – 2.50" diameter

This blank 2.50" diameter allows customer to modify to fit a specific application. The slip fit 1.00" diameter fits in the bottom of fixtures/risers that have a 1.00" diameter receiving hole.

**Plug weight:** 1 lb.

RWP-PLUG-208SS
17-4 Stainless Steel Machinable Plug – 2.50" diameter

This blank 2.50" diameter allows customer to modify to fit a specific application. The slip fit 1.00" diameter fits in the bottom of fixtures/risers that have a 1.00" diameter receiving hole.

**Plug weight:** 1 lb.
**ADAPTERS & RISERS**

**RWP-222**
**Small Universal Adapter**

Mounts directly to your machine table/pallet using slotted c'bores. The Raptor RWP-PLUG-208 (machinable 2.5" dia. plug) is available for locating this adapter to your machine table and is sold separately.

- Adapter material: Aircraft grade aluminum
- Adapter height: 2.00" 
- Adapter diameter: 9.875" 
- Bolt circle diameter: 5.50" to 8.50" for M10 or 3/8" SHCS 
- Boss/hole: 1.00" dia. x 0.30" receiving hole 
- Available plugs: RWP-810 (1.25" dia.), RWP-811 (30mm dia.) & RWP-PLUG-208 (2.50" machinable dia.) 
- Mounts: All fixtures with a Raptor interface 
- Adapter weight: 15 lbs.

**RWP-223**
**Large Universal Adapter**

Mounts directly to your machine table/pallet using slotted c'bores. The Raptor RWP-PLUG-208 (machinable 2.5" dia. plug) is available for locating this adapter to your machine table and is sold separately.

- Adapter material: Aircraft grade aluminum 
- Adapter height: 2.00" 
- Adapter diameter: 11.95" 
- Bolt circle diameter: 6.00" to 10.00" for M12 or 1/2" SHCS 
- Boss/hole: 1.00" dia. x 0.30" receiving hole 
- Available plugs: RWP-810 (1.25" dia.), RWP-811 (30mm dia.) & RWP-PLUG-208 (2.50" machinable dia.) 
- Mounts: All fixtures with a Raptor interface 
- Adapter weight: 22 lbs.

**RWP-224**
**Riser**

Can be used in a modular configuration when used with the universal adapter part number RWP-223.

- Riser material: Aircraft grade aluminum 
- Riser height: 6.00" 
- Riser diameter: 11.95" 
- Bolt circle diameter: 10.15" for M12 or 1/2" SHCS 
- Boss/hole: 1.00" dia. x 0.30" receiving hole 
- Available plugs: RWP-810 (1.25" dia.), RWP-811 (30mm dia.) & RWP-PLUG-208 (2.50" machinable dia.) 
- Mounts: All fixtures with a Raptor interface 
- Riser weight: 44 lbs.

**RWP-234**
**Riser**

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

- Riser material: Aircraft grade aluminum 
- Riser height: 4.5" 
- Riser diameter: 11.40" 
- Bolt circle diameter: 9.92" for M12 or 1/2" SHCS 
- Boss/hole: 1.97" (50mm) dia. x 0.75" receiving hole 
- Mounts: All fixtures with a Raptor interface 
- Riser weight: 31 lbs.

**RWP-237**
**Multi-Fixture Nest Riser (45° faces)**

Designed to fit the following machines: Haas UMC-750/UMC-750SS or Matsuura MX-520 500mm.

- Riser material: Aircraft grade aluminum 
- Riser height: 6.65" 
- Riser diameter: 14.75" 
- Bolt circle diameter: 13.20" for M12 or 1/2" SHCS 
- Boss/hole: 1.97" (50mm) dia. x 0.75" receiving hole 
- Mounts: All fixtures with a Raptor interface 
- Riser weight: 70 lbs.

**RWP-272**
**Multi-Fixture Nest Riser (30° faces)**

Designed to fit machines with the following spacings: 100mm, 80mm & 63mm.

- Riser material: Aircraft grade aluminum 
- Riser height: 4.50" 
- Riser diameter: 15.75" 
- Bolt circle diameter: 12.665" and 9.211" for M12 or 1/2" SHCS 
- Boss/hole: 1.97" (50mm) dia. x 0.75" receiving hole 
- Mounts: All fixtures with a Raptor interface 
- Riser weight: 65 lbs.
**ADAPTERS & RISERS**

**RWP-238-8**
5C Indexer Adapter

- **Adapter material:** 7075 aluminium
- **Mounts:** RWP-003
- **Spindle nose TPI:** 8 (see page 11)
- **Adapter weight:** 2 lbs.

**RWP-238-10**
5C Indexer Adapter

- **Adapter material:** 7075 aluminium
- **Mounts:** RWP-003 (see page 11)
- **Spindle nose TPI:** 10
- **Adapter weight:** 2 lbs.

**RWP-239**
Small Machine Adapter

Fits on the following Machines: Haas TRT70 & TRT100, Nikken 100FA & 130FA, Yukiwa TNT100L, Sankyo RT80 & RT100 & others. This allows you to mount the following fixtures on top: RWP-024, RWP-024SS, RWP-019SS & RWP-042SS

- **Adapter material:** 7075 aluminium
- **Adapter height:** 0.750"
- **Adapter diameter:** 3.937"
- **Boss/hole:** 0.375" dia. x 0.38" receiving hole
- **Comes with:** 3/8" dowel pin, 2.50" machinable plug, retaining screw
- **Mounts:** RWP-024, RWP-024SS, RWP-019SS & RWP-042SS
- **Adapter weight:** 1.5 lbs.

**RWP-241**
Adapter

This has the mounting interface for the RWP-027 (1.5" dovetail fixture). Designed to mount directly to the Yukiwa TNT100L.

- **Adapter material:** 7075 aluminium
- **Adapter height:** 0.750"
- **Adapter diameter:** 3.94"
- **Bolt circle diameter:** 2.677" for (4) M8 or 5/16" SHCS
- **Boss/hole:** 1.968" dia. x 0.23" plug
- **Adapter weight:** 1.1 lbs.

**RWP-601**
Extender – 1.00” Height

The 1” extender is to add height when used with Raptor interface fixtures and risers.

- **Extender material:** 7075 aluminium
- **Extender diameter:** 4.95"
- **Connects to:** All risers with a Raptor interface
- **Mounts:** All fixtures with a Raptor interface
- **Boss/plug:** 1.25" dia. x 0.25” boss
- **Extender weight:** 3 lbs.

**RWP-602**
Extender – 2.00” Height

The 2” extender is to add height when used with Raptor interface fixtures and risers.

- **Extender material:** 7075 aluminium
- **Extender diameter:** 4.95"
- **Connects to:** All risers with a Raptor interface
- **Mounts:** All fixtures with a Raptor interface
- **Boss/plug:** 1.25" dia. x 0.25” boss
- **Extender weight:** 4 lbs.

**RWP-810**
6061 Aluminium Plug Adapter

Plug with a 1.25” slip fit locating diameter for centering purposes. The slip fit 1.00” diameter fits in the bottom of fixtures / risers that have a 1.00” diameter receiving hole.

- **Weight:** 0.05 lbs.

**RWP-811**
6061 Aluminium Plug Adapter

Plug with a 30mm slip fit locating diameter for centering purposes. The slip fit 1.00” diameter fits in the bottom of fixtures / risers that have a 1.00” diameter receiving hole.

- **Weight:** 0.05 lbs.
Reduce setup and changeover times with Raptor’s quick-change workholding system, Kwik-Clamp!

The Raptor Kwik-Clamp can be installed on any 3-, 4-, or 5-axis CNC Vertical Machining Center in less than one hour. With two dowel pins and a standard CAT 40 retention knob, fixtures are clamped to the vertical or rotary table in less than 10 seconds using compressed air to provide between 2,000-4,000 lbs. of clamping force at 0.0002” repeatability. Rapid exchange, location and locking of common fixtures with Kwik-Clamp increases productivity during the production run, resulting in decreased downtime and more finished parts per shift. While one fixture is being machined, the operator loads parts into the next fixture outside of the machine. At the end of the machining cycle, fixtures are swapped within seconds, and production resumes. True positioning of Kwik-Clamp’s standardized system offers greater flexibility by allowing jobs to be transferred between machines. Multiple sides of a part are machined without the need for removal and re-positioning. Defects and scrap are greatly reduced as parts can be inspected inside the fixture mid-program and then instantly and accurately placed back into the machine for completion.

KWIK-CLAMP Accessories

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>RKC-100</td>
<td>HASS CAT40 RETENTION KNOB</td>
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<tr>
<td>RKC-101</td>
<td>DOWEL PIN .3125” DIA. - STANDARD</td>
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<tr>
<td>RKC-102</td>
<td>DOWEL PIN .3125” DIA. - DIAMOND</td>
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<td>RKC-201</td>
<td>RAPTOR/PIRANHA TO KWIK-CLAMP ADAPTER</td>
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<tr>
<td>RKC-202</td>
<td>KWIK-CLAMP 5C COLLET ADAPTER</td>
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<tr>
<td>RKC-203</td>
<td>KWIK-CLAMP 6” CHUCK ADAPTER</td>
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<td>RKC-204</td>
<td>KWIK-CLAMP 8” CHUCK ADAPTER</td>
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<tr>
<td>RKC-205</td>
<td>KWIK-CLAMP 1.25” x 4” x 5” FIXTURE BLANK</td>
</tr>
<tr>
<td>RKC-206</td>
<td>KWIK-CLAMP 1.25” x 3.5” x 4” FIXTURE BLANK</td>
</tr>
<tr>
<td>RKC-207</td>
<td>KWIK-CLAMP TOE CLAMP</td>
</tr>
</tbody>
</table>

RKC-301: 3-axis workholding system
- 2,000 lbs. clamping force at 100 PSI
- Air connection on side of unit

RKC-401: 4-axis workholding system
- 4,000 lbs. clamping force at 100 PSI
- Air connection on back of the indexer unit

RKC-501: 5-axis workholding system
- 2,000 lbs. clamping force at 100 PSI
- Air connection on bottom of base for through pallet air system
**SELF-CENTERING VISES**

Raptor Self-Centering Vises

Raptor self-centering vises are made of all steel construction. Raptor self-centering vises have a centering tolerance of +/- 0.13mm (0.0005”), and they hold a repeatability of .001”. They can be mounted onto Piranha zero-point plates. Raptor vise jaws adjust from either end of vise and the jaws can also be reversed. Raptor has many aluminum and steel jaw options available as well as multiple jaw inserts.

**RWP-502**
100mm Wide Self-Centering Vise

Vise weight: 14 lbs.

**RWP-505**
150mm Wide Self-Centering Vise

Vise weight: 50 lbs.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D (Hex)</th>
<th>Standard Jaw Opening</th>
<th>Reversed Jaw Opening</th>
<th>Maximum Torque</th>
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<tr>
<td>RWP-502</td>
<td>3.937” (100mm)</td>
<td>6.49”</td>
<td>1.96”</td>
<td>12MM</td>
<td>0-2.50”</td>
<td>2.50”-5.02”</td>
<td>30-foot lbs. (creates 4,000 lbs. force)</td>
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<td>RWP-505</td>
<td>5.91” (150mm)</td>
<td>9.84”</td>
<td>2.95”</td>
<td>16MM</td>
<td>0-3.88”</td>
<td>4.75”-9.25”</td>
<td>75-foot lbs. (creates 6,000 lbs. force)</td>
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</table>

**Raptor Vise Accessories**

**Inserts - 4140 Hardened Steel**

- **Serrated**
  - Part Number | Compatible With | A |
  - RWP-1000S | RWP-502 | 3.888” |
  - RWP-1500S | RWP-505 | 5.832” |

  + Sold as a set

- **Parallel**
  - Part Number | Standard/Thin | Vise Compatibility | A | B |
  - RWP-1051 | STANDARD | RWP-502 | 3.888” | .75” |
  - RWP-1551 | STANDARD | RWP-505 | 5.832” | .875” |
  - RWP-1052 | THIN | RWP-502 | 3.888” | .75” |
  - RWP-1552 | THIN | RWP-505 | 5.832” | .875” |

- **Dovetail**
  - Part Number | Compatible With | A |
  - RWP-1056 | RWP-502 | 3.888” |
  - RWP-1556 | RWP-505 | 5.832” |

**Raptor Vise Accessories**

- **Inserts - 4140 Hardened Steel**
  - **Serrated**
    - Part Number | Compatible With | A |
    - RWP-1000S | RWP-502 | 3.888” |
    - RWP-1500S | RWP-505 | 5.832” |

  + Sold as a set

- **Parallel**
  - Part Number | Standard/Thin | Vise Compatibility | A | B |
  - RWP-1051 | STANDARD | RWP-502 | 3.888” | .75” |
  - RWP-1551 | STANDARD | RWP-505 | 5.832” | .875” |
  - RWP-1052 | THIN | RWP-502 | 3.888” | .75” |
  - RWP-1552 | THIN | RWP-505 | 5.832” | .875” |

- **Dovetail**
  - Part Number | Compatible With | A |
  - RWP-1056 | RWP-502 | 3.888” |
  - RWP-1556 | RWP-505 | 5.832” |
SELF-CENTERING VISES

Machinable Soft Jaws

- Machinable jaws allow user to machine part-specific profile in jaw for maximum clamping / location, allowing for lower height / more tool clearance
- Good for secondary ops
- Dowel pins used for on / off repeatability

<table>
<thead>
<tr>
<th>6061 Aluminum</th>
<th>1018 Steel</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Compatible Vise</th>
<th>Part Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RWP-1028</td>
<td>RWP-1028-ST</td>
<td>3.89&quot;</td>
<td>3.00&quot;</td>
<td>1.50&quot;</td>
<td>RWP-502</td>
<td>Left Jaw</td>
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<tr>
<td>RWP-1027</td>
<td>RWP-1027-ST</td>
<td>3.89&quot;</td>
<td>3.00&quot;</td>
<td>1.50&quot;</td>
<td>RWP-502</td>
<td>Right Jaw</td>
</tr>
<tr>
<td>RWP-1528</td>
<td>RWP-1528-ST</td>
<td>4.50&quot;</td>
<td>5.83&quot;</td>
<td>2.00&quot;</td>
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<td>Left Jaw</td>
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<td>RWP-1527</td>
<td>RWP-1527-ST</td>
<td>4.50&quot;</td>
<td>5.83&quot;</td>
<td>2.00&quot;</td>
<td>RWP-505</td>
<td>Right Jaw</td>
</tr>
</tbody>
</table>

Raptor Vise Adapters / Riser Plates

The following products were designed for the RWP-502 or RWP-505 vise. There are multiple options to choose from that will mount to most rotary tables and pallets.

RWP-209-V100

- Emergency Adapter
- Provided blank for user to add mounting of their choice
- Stackable with RWP 242-V100 to achieve 3.25" H
- Mounts directly to your machine table / pallet using slotted c'bores. The Raptor RWP-PLUG-208 (machinable 2.5" dia. plug) is available for locating this adapter to your machine table and is sold separately.

RWP-222-V100

- Small Universal Adapter
- Slotted c'bores for 3/8" or M10 SHCS on a 5.50"- 8.5" B.C.
- Stackable with RWP-242-V100 to achieve 3.75" H
- Mounts directly to your machine table / pallet using slotted c'bores. The Raptor RWP-PLUG-208 (machinable 2.5" dia. plug) is available for locating this adapter to your machine table and is sold separately.

RWP-223-V100

- Large Universal Adapter
- Slotted c'bores for 1/2" or M12 SHCS on a 6.0" - 10.0" B.C.
- Stackable with RWP-242-V100 to achieve 3.75" H
- Mounts directly to your machine table / pallet using slotted c'bores. The Raptor RWP-PLUG-208 (machinable 2.5" dia. plug) is available for locating this adapter to your machine table and is sold separately.

RWP-33020

Mitee-Bite TalonGrip™ end stop

- Fits both RWP-502 & RWP-505 vises
- Locates workpiece for repeat positioning
- Stops sold individually

RWP-33050

Mitee-Bite TalonGrip™ (2) pack

- Fits both the RWP-502 & RWP-505 vises
- Low profile clamping
- Use to secure soft material workpieces
- Can be used in conjunction with end stops
- Hardened tool steel material

<table>
<thead>
<tr>
<th>6061 Aluminum</th>
<th>1018 Steel</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Compatible Vise</th>
<th>Part Description</th>
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<tbody>
<tr>
<td>RWP-1028</td>
<td>RWP-1028-ST</td>
<td>3.89&quot;</td>
<td>3.00&quot;</td>
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<td>RWP-502</td>
<td>Left Jaw</td>
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<td>3.00&quot;</td>
<td>1.50&quot;</td>
<td>RWP-502</td>
<td>Right Jaw</td>
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<tr>
<td>RWP-1528</td>
<td>RWP-1528-ST</td>
<td>4.50&quot;</td>
<td>5.83&quot;</td>
<td>2.00&quot;</td>
<td>RWP-505</td>
<td>Left Jaw</td>
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<tr>
<td>RWP-1527</td>
<td>RWP-1527-ST</td>
<td>4.50&quot;</td>
<td>5.83&quot;</td>
<td>2.00&quot;</td>
<td>RWP-505</td>
<td>Right Jaw</td>
</tr>
</tbody>
</table>

Machinable Soft Jaws

• Machinable jaws allow user to machine part-specific profile in jaw for maximum clamping / location, allowing for lower height / more tool clearance
• Good for secondary ops
• Dowel pins used for on / off repeatability

RWP-33020

Mitee-Bite TalonGrip™ end stop

• Fits both RWP-502 & RWP-505 vises
• Locates workpiece for repeat positioning
• Stops sold individually

RWP-33050

Mitee-Bite TalonGrip™ (2) pack

• Fits both the RWP-502 & RWP-505 vises
• Low profile clamping
• Use to secure soft material workpieces
• Can be used in conjunction with end stops
• Hardened tool steel material
SELF-CENTERING VISES

RWP-242-V100
Vise Riser Plate

- C’bores for 1/2” or M12 SHCS on a 7.0” B.C.
- Can be stacked in an application for higher “Z” using RWP-222-V100, RWP-223-V100 or RWP-209-V100
- Mounts directly to your machine table / pallet using slotted c’bores. The Raptor RWP-PLUG-208 (machinable 2.5” dia. plug) is available for locating this adapter to your machine table and is sold separately.

Adapter material: Aircraft grade aluminum
Adapter height: 1.75”
Adapter diameter: 8.45”
Vise compatibility: RWP-502
Boss/hole: 1.000” dia. x 0.30” receiving hole
Adapter weight: 9 lbs.

RWP-244-V100
Vise Adapter Plate with 2.25” Dovetail Bottom

- Mounts directly to: RWP-006 or RWP-006SS
- RWP-006 and RWP-006SS mount to any riser that has Raptor interface

Adapter material: Aircraft grade aluminum
Adapter dimensions: 6.50” L x 4.125” W x 1.00” H
Vise compatibility: RWP-502
Adapter weight: 4 lbs.

RWP-251-V100
Vise Riser

- C’bores for 1/2” or M12 SHCS on a 9.92” B.C.
- Mounts directly to: Haas UMC750, MC750SS, Matsuura MX520 300MM and many others

Adapter material: Aircraft grade aluminum
Adapter height: 4.50”
Adapter diameter: 11.40”
Vise compatibility: RWP-502
Adapter weight: 60 lbs.

Piranha Clamp Gepard Vises

The Gepard self-centering vise is designed for both first and second operations. Available in both single and double station. Gepard vises come standard with zero-point mounting, which allows for quick part changes and 0.01mm (0.0004”) repeatability/centering tolerance. The Piranha rail system enables the jaws to operate with the lowest jaw lift in the industry.

540444
Gepard 170 Self-Centering with Aluminum Jaws

Vise weight: 12.57 lbs.
Outside jaws weight: 1.32 lbs.
Maximum allowed torque: 73-foot lbs.
Hex size: 12mm

See pages 42-45 for replacement jaw options

551079
Gepard 170 Double Station with Aluminum Jaws

Vise weight: 12.57 lbs.
Outside jaws weight: 1.32 lbs.
Center jaw weight: 0.661 lbs.
Maximum allowed torque: 73-foot lbs.
Hex size: 12mm

Double Station Replacement Jaw Options:

551130
3-piece set
Short aluminum machinable jaws
Outer jaws: 50mm L x 98mm W x 31mm H (usable height)
Center jaw: 40mm L x 98mm W x 31mm H (usable height)
Weight: 1.30kg. (2.87 lbs.)
Clamping range: 0mm-75mm

551131
3-piece set
Medium aluminum machinable jaws
Outer jaws: 50mm L x 98mm W x 41mm H (usable height)
Center jaw: 40mm L x 98mm W x 41mm H (usable height)
Weight: 1.60kg. (3.52 lbs.)
Clamping range: 0mm-75mm

551132
3-piece set
Tall aluminum machinable jaws
Outer jaws: 50mm L x 98mm W x 51mm H (usable height)
Center jaw: 40mm L x 98mm W x 51mm H (usable height)
Weight: 1.90kg. (4.18 lbs.)
Clamping range: 0mm-75mm
SELF-CENTERING VISES

GEpard 170: Aluminum / Steel Machinable Jaws

<table>
<thead>
<tr>
<th>Jaw Number</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>Material</th>
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<td>551042</td>
<td>50</td>
<td>98</td>
<td>51</td>
<td>STEEL</td>
</tr>
</tbody>
</table>

*Jaws are sold as a set

GEpard 170: Serrated Clamping Jaws

551009

2-piece set

Short clamping jaws

**Jaw Dim:** 50mm L x 98mm W x 22mm H
**Weight:** 1.10kg. (2.42 lbs.)

551123

2-piece set

Medium clamping jaws

**Jaw Dim:** 50mm L x 98mm W x 22mm H
**Weight:** 1.00kg. (2.20 lbs.)

551008

2-piece set

Long clamping jaws

**Jaw Dim:** 50mm L x 98mm W x 22mm H
**Weight:** 0.90kg. (1.98 lbs.)

551056

2-piece set

High-short clamping jaws

**Jaw Dim:** 50mm L x 98mm W x 40mm H
**Weight:** 2.00kg. (4.40 lbs.)

**Clamping Range:** 7mm-61mm

Short clumping jaws

**Weight:** 1.10kg. (2.42 lbs.)

Medium clamping jaws

**Clamping Range:** 7mm-61mm

Long clamping jaws

**Clamping Range:** 7mm-61mm

High-short clamping jaws

**Clamping Range:** 7mm-61mm
**SELF-CENTERING VISES**

**GEPAID 170: Hybrid Serrated / Flat Clamping Jaws**

**551063**
- 2-piece set
- High-short
  - **Jaw Dim:** 50mm L x 98mm W x 40mm H
  - **Weight:** 2.00kg. (4.40 lbs.)
  - **Clamping Range:** Bottom - 10mm-65mm
  - Top - 17mm-70mm (serrated)

**551102**
- 2-piece set
- High-medium
  - **Jaw Dim:** 50mm L x 98mm W x 40mm H
  - **Weight:** 1.80kg. (3.96 lbs.)
  - **Clamping Range:** Bottom - 37mm-91mm
  - Top - 49mm-102mm (serrated)

**551032**
- 2-piece set
- High-long
  - **Jaw Dim:** 50mm L x 98mm W x 40mm H
  - **Weight:** 1.60kg. (3.52 lbs.)
  - **Clamping Range:** Bottom - 70mm-124mm
  - Top - 81mm-134mm (serrated)

**GEPAID 170: Low-Profile Flat Clamping Jaws**

**551005**
- 2-piece set
- Short low-profile flat
  - **Jaw Dim:** 50mm L x 98mm W x 25mm H
  - **Weight:** 1.30kg. (2.86 lbs.)
  - **Clamping Range:** 16mm-70mm

**551124**
- 2-piece set
- Medium low-profile flat
  - **Jaw Dim:** 50mm L x 98mm W x 25mm H
  - **Weight:** 1.10kg. (2.42 lbs.)
  - **Clamping Range:** 50mm-105mm

**551004**
- 2-piece set
- Long low-profile flat
  - **Jaw Dim:** 50mm L x 98mm W x 25mm H
  - **Weight:** 0.85kg. (1.87 lbs.)
  - **Clamping Range:** 81mm-135mm
**SELF-CENTERING VISES**

**540400**

Gepard 300 Self-Centering with Aluminum Jaws

- Vise weight: 31.52 lbs.
- Outside jaws weight: 2.42 lbs.
- Center jaw weight: 1.10 lbs.
- Maximum allowed torque: 73-foot lbs.
- Hex size: 16mm

See pages 47-49 for replacement jaw options

**551080**

Gepard 300 Double Station with Aluminum Jaws

- Vise weight: 31.52 lbs.
- Outside jaws weight: 2.42 lbs.
- Center jaw weight: 1.10 lbs.
- Maximum allowed torque: 73-foot lbs.
- Hex size: 16mm

**GEPAD 300: Aluminum / Steel Machinable Jaws**

<table>
<thead>
<tr>
<th>Jaw Number</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C Usable Height (mm)</th>
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<td>60</td>
<td>131</td>
<td>61</td>
<td>STEEL</td>
</tr>
</tbody>
</table>

*Jaws are sold as a set

**Double Station Replacement Jaw Options:**

- **551133**
  - 3-piece set
  - Short aluminum machinable jaws
  - Outer jaws: 60mm L x 131mm W x 41mm H (usable height)
  - Center jaw: 60mm L x 131mm W x 41mm H (usable height)
  - Weight: 2.40kg. (5.29 lbs.)
  - Clamping range: 0mm-132mm

- **551134**
  - 3-piece set
  - Medium aluminum machinable jaws
  - Outer jaws: 60mm L x 131mm W x 51mm H (usable height)
  - Center jaw: 60mm L x 131mm W x 51mm H (usable height)
  - Weight: 3.10kg. (6.83 lbs.)
  - Clamping range: 0mm-132mm

- **551135**
  - 3-piece set
  - Tall aluminum machinable jaws
  - Outer jaws: 60mm L x 131mm W x 61mm H (usable height)
  - Center jaw: 60mm L x 131mm W x 61mm H (usable height)
  - Weight: 3.90kg. (8.59 lbs.)
  - Clamping range: 0mm-132mm

**Back to Index**
SELF-CENTERING VISES

GEPARD 300: Serrated Clamping Jaws

551007
2-piece set
Short clamping jaws
Jaw Dim: 60mm L x 131mm W x 22mm H
Weight: 1.80kg. (3.96 lbs.)
Clamping Range: 7mm-153mm

551006
2-piece set
Long clamping jaws
Jaw Dim: 60mm L x 131mm W x 22mm H
Weight: 1.50kg. (3.30 lbs.)
Clamping Range: 101mm-247mm

551058
2-piece set
High-short clamping jaws
Jaw Dim: 60mm L x 131mm W x 50mm H
Weight: 4.20kg. (9.25 lbs.)
Clamping Range: 7mm-153mm

GEPARD 300: Hybrid Serrated / Flat Clamping Jaws

551057
2-piece set
High-short
Jaw Dim: 60mm L x 131mm W x 50mm H
Weight: 4.15kg. (9.14 lbs.)
Clamping Range: Bottom - 11mm-157mm
Top - 17mm-164mm (serrated)

551038
2-piece set
High-long
Jaw Dim: 60mm L x 131mm W x 50mm H
Weight: 3.40kg. (7.49 lbs.)
Clamping Range: Bottom - 101-247mm
Top - 95mm-241mm (serrated)

GEPARD 300: Low-Profile Flat Clamping Jaws

551003
2-piece set
Short low-profile flat
Jaw Dim: 60mm L x 131mm W x 25mm H
Weight: 2.15kg. (4.73 lbs.)
Clamping Range: 17mm-163mm

551002
2-piece set
Long low-profile flat
Jaw Dim: 60mm L x 131mm W x 25mm H
Weight: 1.30kg. (2.86 lbs.)
Clamping Range: 101mm-247mm
Snapper 170 Double Station Vise

Utilizing hardened serrated jaws, the Snapper vise is designed for first operations or raw casting machining. The Snapper has the lowest profile in the industry, allowing for more “z-axis” access. The Snapper grips with two rows of teeth at 8,000 lbs. force on just 3mm of material. The Piranha Snapper vises come standard with zero-point mounting with allows for quick part changes and 0.01mm (0.0004”) repeatability / centering tolerance. *Replacement jaws available upon request.

540362
Snapper 170 Self-Centering Vise

- Vise weight: 9.92 lbs.
- Max allowed torque: 147-foot lbs.
- Hex size: 12mm
- Clamping range: (standard 5-15mm)
  (reversed jaws 53-118mm)

540446
Snapper 170 Self-Centering Vise with 10mm Taller Height Jaws

- Vise weight: 10.14 lbs.
- Max allowed torque: 147-foot lbs.
- Hex size: 12mm
- Clamping range: (standard 5-75mm)
  (reversed jaws 53-118mm)

551076
Snapper 170 Double Station Vise

- Vise weight: 11.02 lbs.
- Max allowed torque: 147-foot lbs.
- Hex size: 12mm
- Clamping range: (standard 6-30mm)
  (reversed jaws 26-52mm)

551075
Snapper 170 Double Station Vise with 10mm Taller Height Jaws

- Vise weight: 11.24 lbs.
- Max allowed torque: 147-foot lbs.
- Hex size: 12mm
- Clamping range: (standard 6-30mm)
  (reversed jaws 26-52mm)

540401
Snapper 300 Self-Centering Vise

- Vise weight: 25.35 lbs.
- Max allowed torque: 147-foot lbs.
- Hex size: 16mm
- Clamping range: (standard 5-191mm)
  (reversed jaws 53-238mm)

540447
Snapper 300 Self-Centering Vise with 10mm Taller Height Jaws

- Vise weight: 25.57 lbs.
- Max allowed torque: 147-foot lbs.
- Hex size: 16mm
- Clamping range: (standard 5-191mm)
  (reversed jaws 53-238mm)
SELF-CENTERING VISES

551078
Snapper 300 Double Station Vise
- Vise weight: 26.46 lbs.
- Max allowed torque: 147-foot lbs.
- Hex size: 16mm
- Clamping range: (standard 5-82mm) (reversed jaws 27-105mm)

551077
Snapper 300 Double Station Vise with 10mm Taller Height Jaws
- Vise weight: 26.67 lbs.
- Max allowed torque: 147-foot lbs.
- Hex size: 16mm
- Clamping range: (standard 5-82mm) (reversed jaws 27-105mm)

589003
ER40 Collet Chuck Fixture
- Accepts ER40 collets (not included)
- Fits on all Piranha Zero-Point plates

551111
Flange Mount Self-Centering Vise Direct Mount to Pyramid 551119
- Fits pyramid: 551119
- Vise weight: 4.00 lbs.
- Clamping range: (serrated 0-31mm) (plain 5-35mm)
  (serrated with reversed jaws 19-49mm) (plain with reversed jaws 25-55mm)
- Max allowed torque: 24-foot lbs.
- Hex size: 8mm

Pyramids

551119
Pyramid Fixture with (3) 551111 Vises
- Multiple clamping on 5-axis machines
- Mounting for (3) 551111 vises only
- Diameter 177.8mm x 108.6mm tall
- Pyramid faces are at 45°
- Weight = 5.4kg. (11.9 lbs.)
- Zero-point mounting included (on bottom)
- Includes (3) 551111 vises

551116
Pyramid Fixture Body
- Mounting for (3) vises (see below)
- 250mm x 160mm tall
- Pyramid faces are at 65°
- Weight = 9.7kg. (21.4 lbs.)
- Zero-point mounting included (on bottom)
- Vises not included, sold separately

Vise Options Available to Mount to 551116, 551141 & 551142:

540444-PY
Gepard 170, includes aluminum clamping jaws

540446-PY
Snapper 170 with 10mm taller height jaws

551079-PY
Gepard 170 double station, includes aluminum double station jaw set

551075-PY
Snapper 170 double station with 10mm taller height jaws

540362-PY
Snapper 170 self-centering vise
SELF-CENTERING VISES

Tombstones

551141
Tombstone Body with Mounting for (3) 170mm Vises
- Tombstone faces are evenly spaced at 120°
- Base = dia. 120mm, OAH = 210mm
- Zero-point mounting included (on bottom)
- Vises not included, sold separately

551142
Tombstone Body with Mounting for (4) 170mm Vises
- Tombstone faces are evenly spaced at 90°
- Base = dia. 150mm, OAH = 210mm, Faces = 90mm wide
- Zero-point mounting included (on bottom)
- Vises not included, sold separately

Piranha Clamp Accessories

540277
Zero-point studs (4) pack
Weight = 0.40kg. (0.88 lbs.)

551025
Aluminum hole plugs non-flush (4) pack
Must be used when not utilizing all zero-point holes
Weight = 0.20kg. (0.44 lbs.)

551140
Steel flush hole plug (4) pack
Must be used when not utilizing all zero-point holes
Weight = 0.40kg. (0.88 lbs.)

501000
8mm socket key for PV 75 vises
Weight = 0.01kg. (0.22 lbs.)

501001
12mm socket key for 170 vises
Weight = 0.01kg. (0.22 lbs.)

501002
16mm socket key for 300 vises
Weight = 0.01kg. (0.22 lbs.)
Piranha zero-point plates are comprised of precision bores and a clamp that is actuated with a simple turn of a wrench. All zero-point plates are steel material with a black oxide finish. Piranha zero-point plates allow for precise, repeatable set-ups utilizing a 50mm spread. Zero-point plates accept both Piranha and Raptor self-centering vises, as well as many Raptor dovetail fixtures by clamping on the precision locating studs.

**540415**
Zero-Point Clamping Plate
- Weight = 2.40kg. (5.29 lbs.)

**551023**
Double Zero-Point Clamping Plate
- Weight = 4.00kg. (8.8 lbs.)
- When zero-point holes are not used, a plug must be added to ensure proper function of the mechanism (see part numbers 551025 or 551140)

**551024**
Double Zero-Point Clamping Plate
- Weight = 4.30kg. (9.47 lbs.)
- When zero-point holes are not used, a plug must be added to ensure proper function of the mechanism (see part numbers 551025 or 551140)

**551022**
Zero-Point Clamping Plate
- Weight = 2.65kg. (5.84 lbs.)

**551093**
Blank Double Zero-Point Clamping Plate
- Weight = 4.40kg. (9.70 lbs.)
- 250mm L x 120mm W x 26mm H
- When zero-point holes are not used, a plug must be added to ensure proper function of the mechanism (see part numbers 551025 or 551140)
- Plates are provided with blank mounting (customer must modify)

**540283**
Zero-Point Butterfly Clamping Plate
- Weight = 2.50kg. (5.51 lbs.)
ZERO-POINT PLATES

551068
Triple Zero-Point Clamping Plate
- Weight = 5.20kg. (11.45 lbs.)
- When zero-point holes are not used, a plug must be added to ensure proper function of the mechanism (see part numbers 551025 or 551140)

551085
Zero-Point Clamping Plate
- Weight = 12.00kg. (26.45 lbs.)
- When zero-point holes are not used, a plug must be added to ensure proper function of the mechanism (see part numbers 551025 or 551140)

551158
Zero-Point Adapter
- Weight = 2.3kg. (5 lbs.)
- Adapts Raptor risers to zero-point products
- Has a 31.75mm (1.25") boss on the bottom
- 126mm dia. x 26mm H

551086
- Weight = 2.31kg. (9.0 lbs.)
- 120mm dia. X 26mm H

551087
- Weight = 4.1kg. (9.0 lbs.)
- 160mm dia. X 26mm H

551088
- Weight = 5.2kg. (11.4 lbs.)
- 180mm dia. X 26mm H

551089
- Weight = 6.4kg. (14.1 lbs.)
- 200mm dia. X 26mm H

551090
- Weight: 16.6kg. (27.7 lbs.)
- 280mm dia. X 26mm H
- When zero-point holes are not used, a plug must be added to ensure proper function of the mechanism (see part numbers 551025 or 551140)

Blank Zero-Point Clamping Plates - Customer Must Add Mounting

551086
- Weight = 2.31kg. (9.0 lbs.)
- 120mm dia. X 26mm H

551088
- Weight = 5.2kg. (11.4 lbs.)
- 180mm dia. X 26mm H

551087
- Weight = 4.1kg. (9.0 lbs.)
- 160mm dia. X 26mm H

551089
- Weight = 6.4kg. (14.1 lbs.)
- 200mm dia. X 26mm H

551090
- Weight: 16.6kg. (27.7 lbs.)
- 280mm dia. X 26mm H
- When zero-point holes are not used, a plug must be added to ensure proper function of the mechanism (see part numbers 551025 or 551140)
The Piranha Multi-Clamp Vise is one of the most accurate, versatile, and flexible clamping systems for multiple workpiece clamping. It is designed for clamping multiple workpieces at the same time on the machine tool table, creating a reduction in part changeover times.

This system is built around a steel clamping rail with standard lengths from 250mm up to 700mm and standard widths of 50mm, 80mm and 105mm.

Piranha Multi-Clamp offers a wide variety of clamping modules that bolt to the vise bed, locating on the 1mm, 60-Rockwell, serrations to maximize clamping repeatability. By utilizing the various clamping modules, the Piranha Multi-Vise can accommodate various clamping requirements needed in today's machining environments.

Each clamping module utilizes linear clamping with a single screw moving a conical shaped wedge, exerting up to 3,500 lbs. of maximum, uniform holding pressure on the clamped part. The optional jaw offerings allow the customer to clamp on parallels, serrated jaws or “V” jaws.

The optional jaw offerings allow the customer to clamp on parallels/serrated jaws or “V” jaws.
Vise Workplace Capacity - Calculator

The table below helps to determine the maximum number of parts that will fit on each size vise. Once you have determined the maximum size of the part you want to hold, find the size on the chart that is closest to the size being machined. From that, you can see how many of that size part fits on each size of each vise.

<table>
<thead>
<tr>
<th>Jaw width (mm)</th>
<th>Length of clamping rail (mm)</th>
<th>Number of workpieces</th>
<th>Maximum size of workpieces (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>250 mm</td>
<td>188</td>
<td>1</td>
<td>21</td>
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<tr>
<td>320 mm</td>
<td>258</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>500 mm</td>
<td>438</td>
<td>18</td>
<td>33</td>
</tr>
<tr>
<td>600 mm</td>
<td>538</td>
<td>26</td>
<td>43</td>
</tr>
<tr>
<td>650 mm</td>
<td>588</td>
<td>26</td>
<td>54</td>
</tr>
<tr>
<td>700 mm</td>
<td>638</td>
<td>26</td>
<td>62</td>
</tr>
<tr>
<td>80</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>350 mm</td>
<td>225</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>500 mm</td>
<td>405</td>
<td>10</td>
<td>38</td>
</tr>
<tr>
<td>600 mm</td>
<td>505</td>
<td>10</td>
<td>48</td>
</tr>
<tr>
<td>650 mm</td>
<td>555</td>
<td>10</td>
<td>58</td>
</tr>
<tr>
<td>700 mm</td>
<td>605</td>
<td>10</td>
<td>68</td>
</tr>
<tr>
<td>105 / 120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500 mm</td>
<td>381</td>
<td>9</td>
<td>46</td>
</tr>
<tr>
<td>600 mm</td>
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</tr>
<tr>
<td>700 mm</td>
<td>581</td>
<td>9</td>
<td>66</td>
</tr>
</tbody>
</table>

Compatibility Clamping Rail and Base Jaws

<table>
<thead>
<tr>
<th>Size of clamping rail (mm)</th>
<th>Jaw width (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>80</td>
<td></td>
</tr>
<tr>
<td>105</td>
<td></td>
</tr>
</tbody>
</table>

Fixed Base Clamping Jaws

Each fixed jaw is non-movable jaw, used to locate part prior to machining. These jaws are used in conjunction with the Piranha Multi-Vise Rail.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Single Step</th>
<th>Double Step</th>
<th>No Step</th>
<th>Jaw Width (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>570001</td>
<td>570010</td>
<td>570020</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>570002</td>
<td>570011</td>
<td>570021</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>570003</td>
<td>570012</td>
<td>570022</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>570004</td>
<td>570013</td>
<td>570023</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>

Moveable Clamping Jaws

Each movable jaw is designed to be moved up and down the clamping rail to accommodate different part sizes. The different steps are for the addition of various hard jaws and and / or parallels.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Single Step</th>
<th>Double Step</th>
<th>No Step</th>
<th>Jaw Width (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>570030</td>
<td>570040</td>
<td>570050</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>570031</td>
<td>570041</td>
<td>570051</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>570032</td>
<td>570042</td>
<td>570052</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>570033</td>
<td>570043</td>
<td>570053</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>
PIRANHA MULTI-CLAMP

Additional Jaws

Piranha Multi-Clamp offers a variety of jaws in many sizes and types to fit almost any application. These jaw offerings include standard parallels, serrated hard and step jaws, plain hard jaws, V-jaws and machineable soft jaws.

Parallels

Piranha offers standard parallels in many sizes that are designed to be used in conjunction with one of the step clamp modules (1 or 2 step) to lift your part off the bed of the vise.

<table>
<thead>
<tr>
<th>Wedges with Groove for Stepped Jaws</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>570060</td>
<td>49</td>
</tr>
<tr>
<td>570061</td>
<td>49</td>
</tr>
<tr>
<td>570062</td>
<td>49</td>
</tr>
<tr>
<td>570063</td>
<td>49</td>
</tr>
<tr>
<td>570064</td>
<td>49</td>
</tr>
<tr>
<td>570065</td>
<td>49</td>
</tr>
<tr>
<td>570066</td>
<td>78</td>
</tr>
<tr>
<td>570067</td>
<td>78</td>
</tr>
<tr>
<td>570068</td>
<td>78</td>
</tr>
<tr>
<td>570069</td>
<td>78</td>
</tr>
<tr>
<td>570070</td>
<td>78</td>
</tr>
</tbody>
</table>

Serrated Step Jaws and Hard Jaws

Serrated step jaws have a step with serrations at the top of the step for aggressive minimal clamping applications. Serrated hard jaws have serrations over the entire face of the steel jaw to enable more aggressive part clamping.

<table>
<thead>
<tr>
<th>Serrated Hard Jaws</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>570100</td>
<td>49</td>
</tr>
<tr>
<td>570101</td>
<td>49</td>
</tr>
<tr>
<td>570102</td>
<td>78</td>
</tr>
<tr>
<td>570103</td>
<td>78</td>
</tr>
<tr>
<td>570104</td>
<td>105</td>
</tr>
<tr>
<td>570105</td>
<td>120</td>
</tr>
</tbody>
</table>

Smooth Standard Hard Jaws

Made of hardened and ground steel, to provide an accurate surface for clamping your part.

<table>
<thead>
<tr>
<th>Smooth Standard Hard Jaws</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>570110</td>
<td>49</td>
</tr>
<tr>
<td>570111</td>
<td>49</td>
</tr>
<tr>
<td>570112</td>
<td>78</td>
</tr>
<tr>
<td>570113</td>
<td>78</td>
</tr>
<tr>
<td>570114</td>
<td>105</td>
</tr>
<tr>
<td>570115</td>
<td>120</td>
</tr>
</tbody>
</table>

Steel “V” Jaws

Piranha offers V-jaws in both 90° and 120° angle on the jaw surface for clamping of round surfaces.

<table>
<thead>
<tr>
<th>Steel “V” Jaws 120°</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>570120</td>
<td>49</td>
</tr>
<tr>
<td>570121</td>
<td>78</td>
</tr>
<tr>
<td>570122</td>
<td>105</td>
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<tr>
<td>570123</td>
<td>120</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel “V” Jaws 90°</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>570130</td>
<td>49</td>
</tr>
<tr>
<td>570131</td>
<td>78</td>
</tr>
<tr>
<td>570132</td>
<td>105</td>
</tr>
<tr>
<td>570133</td>
<td>120</td>
</tr>
</tbody>
</table>

Standard Aluminum Soft Jaws

Made out of aluminum, these jaws are designed for milling a pocket in the jaw to contour with the shape of the part being machined.

<table>
<thead>
<tr>
<th>Standard Aluminum Soft Jaws</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>570140</td>
<td>49</td>
</tr>
<tr>
<td>570141</td>
<td>49</td>
</tr>
<tr>
<td>570142</td>
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<td>570143</td>
<td>78</td>
</tr>
<tr>
<td>570144</td>
<td>105</td>
</tr>
<tr>
<td>570145</td>
<td>120</td>
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</tbody>
</table>
### Locking Support Brackets

**Used for support when encountering long distances between clamps**

<table>
<thead>
<tr>
<th>Locking Support Brackets</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>570150</td>
<td>11 x 9 x 50</td>
</tr>
<tr>
<td>570151</td>
<td>12 x 8 x 50</td>
</tr>
<tr>
<td>570152</td>
<td>13 x 7 x 50</td>
</tr>
<tr>
<td>570153</td>
<td>14 x 6 x 50</td>
</tr>
<tr>
<td>570154</td>
<td>15 x 5 x 50</td>
</tr>
<tr>
<td>570155</td>
<td>16 x 4 x 50</td>
</tr>
<tr>
<td>570156</td>
<td>17 x 3 x 50</td>
</tr>
<tr>
<td>570157</td>
<td>18 x 2 x 50</td>
</tr>
<tr>
<td>570158</td>
<td>19 x 1 x 50</td>
</tr>
<tr>
<td>570160</td>
<td>15.2 x 17 x 80</td>
</tr>
<tr>
<td>570161</td>
<td>16.2 x 16 x 80</td>
</tr>
<tr>
<td>570162</td>
<td>17.2 x 15 x 80</td>
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<tr>
<td>570163</td>
<td>18.2 x 14 x 80</td>
</tr>
<tr>
<td>570164</td>
<td>19.2 x 13 x 80</td>
</tr>
<tr>
<td>570165</td>
<td>20.2 x 12 x 80</td>
</tr>
<tr>
<td>570166</td>
<td>21.2 x 11 x 80</td>
</tr>
<tr>
<td>570167</td>
<td>22.2 x 10 x 80</td>
</tr>
<tr>
<td>570168</td>
<td>23.2 x 9 x 80</td>
</tr>
<tr>
<td>570169</td>
<td>24.2 x 8 x 80</td>
</tr>
<tr>
<td>570170</td>
<td>25.2 x 7 x 80</td>
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<td>570171</td>
<td>26.2 x 6 x 80</td>
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<tr>
<td>570172</td>
<td>27.2 x 5 x 80</td>
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<tr>
<td>570173</td>
<td>28.2 x 4 x 80</td>
</tr>
<tr>
<td>570174</td>
<td>29.2 x 3 x 80</td>
</tr>
<tr>
<td>570175</td>
<td>30.2 x 2 x 80</td>
</tr>
<tr>
<td>570176</td>
<td>31.2 x 1 x 80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Locking Support Brackets</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>570180</td>
<td>32.2 x 10 x 105</td>
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<tr>
<td>570181</td>
<td>34.2 x 8 x 105</td>
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<td>570182</td>
<td>36.2 x 6 x 105</td>
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<tr>
<td>570183</td>
<td>38.2 x 4 x 105</td>
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<tr>
<td>570184</td>
<td>40.2 x 2 x 105</td>
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<tr>
<td>570190</td>
<td>32.2 x 10 x 120</td>
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<tr>
<td>570191</td>
<td>34.2 x 8 x 120</td>
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<td>570192</td>
<td>36.2 x 6 x 120</td>
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<td>570193</td>
<td>38.2 x 4 x 120</td>
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<tr>
<td>570194</td>
<td>40.2 x 2 x 120</td>
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### Workstop

<table>
<thead>
<tr>
<th>Workpiece stop</th>
<th>Size (mm)</th>
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<tr>
<td>570200</td>
<td>50</td>
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<tr>
<td>570201</td>
<td>80</td>
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<tr>
<td>570202</td>
<td>Long</td>
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### Magnetic Workstop

<table>
<thead>
<tr>
<th>Magnetic workpiece stop</th>
<th>Size (mm)</th>
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</thead>
<tbody>
<tr>
<td>570210</td>
<td>50</td>
</tr>
<tr>
<td>570211</td>
<td>80</td>
</tr>
<tr>
<td>570212</td>
<td>Long</td>
</tr>
</tbody>
</table>

### Step Keys

**Locates vise on machine table**

<table>
<thead>
<tr>
<th>Step Keys</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>570220</td>
<td>18 x 10</td>
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<tr>
<td>570221</td>
<td>18 x 12</td>
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<tr>
<td>570222</td>
<td>18 x 14</td>
</tr>
<tr>
<td>570223</td>
<td>18 x 16</td>
</tr>
<tr>
<td>570224</td>
<td>18 x 18</td>
</tr>
</tbody>
</table>

### Chip Protectors

<table>
<thead>
<tr>
<th>Chip Protection</th>
<th>Size (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>570230</td>
<td>50</td>
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<tr>
<td>570231</td>
<td>80</td>
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<tr>
<td>570232</td>
<td>105</td>
</tr>
<tr>
<td>570233</td>
<td>120</td>
</tr>
</tbody>
</table>
The Piranha Cooling Line is a unique and versatile system that withstands higher pressures up to 1,150 PSI with a variety of connectors and nozzles. The system, made of high-strength, anodized aluminum, allows coolant, oil and air to be directed exactly where it is needed, leading to improved tool life, increased machine uptime and better part finish.

**Ball valves and check valve** allow the flow to be stopped mechanically if required.

The various angle elements (90°, T- and Y-pieces and multiple connections) allow individual extensions.

Nozzles are available with different passage and angles. With the multi-hole nozzle you get a point and precise jet.

Spacers in various lengths serve for optimum flexibility and accessibility.

Threaded connectors as well as ball socket connectors and bore adapters are the connection to the machine.

The flat nozzles are available in various widths to optimize the grinding process.

The nut is used to secure the nozzles.

The Piranha Cooling Line Starter Kit includes a variety of popular components to allow construction of a basic cooling line setup. The kits include a few different threaded connectors for adaptability to your machine. The kits are also a great way to keep components organized and close to the machine for quick additions or modifications to an existing setup. Everything you need packaged in a convenient, durable, sectioned storage case. Every machine should have this clever kit nearby!

**Available in the following sizes:** 1/8", 1/4" & 1/2"
PIRANHA COOLING LINE

1/8 INCH

• Through-hole dia. 3.4mm
• Clamping torque 1.5 - 2.2 ft. lbs.

Threaded Connectors

GA-9.5-1/8
G (BSPP)

GA-9.5-1/8-NPT
(NPT)

GA-9.5-1/8-R
R (BSPT)

GA-9.5-1/4
1/4"

GA-9.5-1/4-NPT
1/4" (NPT)

GA-9.5-1/4-R
1/4" R (BSPT)

GA-9.5-1/16-NPT
1/16" (NPT)

GA-9.5-M6
M6

GA-9.5-M8X1
M8 x 1.00

GA-9.5-M8
M8 x 1.25

GA-9.5-M10X0.5
M10 x 0.5

GA-9.5-M10X1
M10 x 1.00

GA-9.5-M10X1-S
M10 x 1.00 short

Bore Adapters

BA-10
Bore Adapter - 10mm diameter

Ball Connectors

KA-10-20
10mm ball x 20mm long
(includes clamping ring)

KA-12-20
12mm ball x 20mm long
(includes clamping ring)

KA-14-20
14mm ball x 20mm long
(includes clamping ring)

Spacers

D-9.5/20
20mm length

D-9.5/32
32.5mm length

D-9.5/45
45mm length

Accessories

RING-9.5
O-Ring 9.5mm

S-9/13
Hex wrench

M-SW13
Nut with 9.5mm ball socket AF13

Elbow

L-1/8
90° elbow

Nozzles

RD-9.5-1
9.5mm ball with 1mm hole
x 18mm long

RD-9.5-2
9.5mm ball with 2mm hole
x 18mm long

RD-9.5-3.4
9.5mm ball with 3.4mm hole
x 18mm long

RD-9.5-5/1.0
9.5mm ball with (5) 1.0mm holes
x 18mm long

SDK-9.5/60°
Short 60° 9.5mm ball with (7)
1.0mm holes x 14mm long

SDK-9.5/90°
Short 90° 9.5mm ball with (7)
1.0mm holes x 14mm long

SDL-9.5/60°
Long 60° 9.5mm ball with (7)
1.0mm holes x 20mm long

SDL-9.5/90°
Long 90° 9.5mm ball with (7)
1.0mm holes x 20mm long

• Through-hole dia. 3.4mm
• Clamping torque 1.5 - 2.2 ft. lbs.
The Piranha Cooling Line Starter Kit includes a variety of popular components to allow construction of a basic cooling line setup. The kits include a few different threaded connectors for adaptability to your machine. The kits are also a great way to keep components organized and close to the machine for quick additions or modifications to an existing setup. Everything you need packaged in a convenient, durable, sectioned storage case. Every machine should have this clever kit nearby!

Starter Kit: PCL-1/4-SET-1

Includes:

- (1) GA-1/4
- (1) GA-1/4-NPT
- (1) GA-1/8
- (1) GA-1/8-NPT
- (1) GA-M10X1
- (1) GA-M12X1
- (1) RD-12.5-3.5
- (1) RD-12.5-4.5
- (1) RD-12.5-5.5
- (1) RD-12.5-7/1.5
- (1) RD-12.5/60°
- (1) SDL-12.5/90°
- (3) D-12.5/43
- (3) D-12.5/60°
- (3) D-12.5/70
- (1) Y-12.5
- (5) M-SW16
- (2) S-11/16
- (3) D-12.5/28
- (1) L-12.5

Through-hole dia. 5.5mm
Clamping torque 1.8 - 2.2 ft. lbs.

Threaded Connectors

**GA-1/8**
1/8" G (BSPP)

**GA-1/8-NPT**
1/8" (NPT)

**GA-R-1/8**
1/8" R (BSPT)

**GA-R1/8-L**
1/8" R (BSPT)

**GA-1/4**
1/4" G (BSPP)

**GA-1/4-NPT**
1/4" NPT

**GA-R-1/4**
1/4" R (BSPT)

**GA-R1/4-L**
1/4" R (BSPT)

**GA-3/8-1/4**
3/8" G (BSPP)

**GA-3/8-R-1/4**
3/8" R (BSPT)

**GA-1/2-1/4**
1/2" connector with reduction 1/4" system

**GA-3/4-1/4**
3/4" connector with reduction 1/4" system

**GA-M8**
M8 x 1.25

**GA-M8-L**
M8 x 1.25

**GA-M8X1**
M8 x 1.0

**GA-M10**
M10 x 1.5

**GA-M10X1**
M10 x 1.0

**GA-M12X1**
M12 x 1.0

**GA-M14X1**
M8 x 1.0

**GA-R**
14mm dia. blank
### PIRANHA COOLING LINE

#### 1/4 INCH

- Through-hole dia. 5.5mm
- Clamping torque 1.8 - 2.2 ft. lbs.

<table>
<thead>
<tr>
<th>Bore Adapters</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BA-12</td>
<td>Bore Adapter - 12mm</td>
<td></td>
</tr>
<tr>
<td>BA-13</td>
<td>Bore Adapter - 13mm</td>
<td></td>
</tr>
<tr>
<td>BA-14</td>
<td>Bore Adapter - 14mm</td>
<td></td>
</tr>
<tr>
<td>BA-15</td>
<td>Bore Adapter - 15mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ball Connectors</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>KA-12-28</td>
<td>12mm ball x 28mm long with ring</td>
<td></td>
</tr>
<tr>
<td>KA-12.5-28</td>
<td>12.5mm ball x 28mm long with ring</td>
<td></td>
</tr>
<tr>
<td>KA-14-28</td>
<td>14mm ball x 28mm long with ring</td>
<td></td>
</tr>
<tr>
<td>KA-15-28</td>
<td>15mm ball x 28mm long with ring</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spacers</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D-12.5/28</td>
<td>28mm length</td>
<td></td>
</tr>
<tr>
<td>D-12.5/43</td>
<td>43mm length</td>
<td></td>
</tr>
<tr>
<td>D-12.5/70</td>
<td>70mm length</td>
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</table>

<table>
<thead>
<tr>
<th>Nozzles</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CR-12.5-8</td>
<td>Coolant halo assembly (8) nozzles</td>
<td></td>
</tr>
<tr>
<td>FD-12.5-20</td>
<td>20mm wide flat multi-hole</td>
<td></td>
</tr>
<tr>
<td>LDK-12.5-12X1</td>
<td>Short diagonal 12.5mm ball with (12) 1mm holes</td>
<td></td>
</tr>
<tr>
<td>LDL-12.5-18X1</td>
<td>Long diagonal 12.5mm ball with (18) 1.0mm holes</td>
<td></td>
</tr>
<tr>
<td>RD-12.5-1.5</td>
<td>12.5mm ball with (1) 1.5mm hole</td>
<td></td>
</tr>
<tr>
<td>RD-12.5-3.5</td>
<td>12.5mm ball with (1) 3.5mm hole</td>
<td></td>
</tr>
<tr>
<td>RD-12.5-4.5</td>
<td>12.5mm ball with (1) 4.5mm hole</td>
<td></td>
</tr>
<tr>
<td>RD-12.5-4/1.5</td>
<td>Multi-hole 12.5mm ball with (4) 1.5mm holes</td>
<td></td>
</tr>
<tr>
<td>RD-12.5-3/2</td>
<td>Multi-hole 12.5mm ball with (3) 2mm holes</td>
<td></td>
</tr>
<tr>
<td>RD-12.5-7/1.5</td>
<td>Multi-hole 12.5mm ball with (7) 1.5mm holes</td>
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</tr>
<tr>
<td>RDK-12.5-715</td>
<td>Multi-port with 14mm ball</td>
<td></td>
</tr>
<tr>
<td>RDK-14715</td>
<td>Multi-port with 15mm ball</td>
<td></td>
</tr>
<tr>
<td>SDK-12.5/60</td>
<td>Short 60° with 14mm ball</td>
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</tr>
<tr>
<td>SDK-12.5/90</td>
<td>Short 90° with 12.5mm ball</td>
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<tr>
<td>SDK-1260</td>
<td>Long 60° with 15mm ball</td>
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<tr>
<td>RRD-12.5-75</td>
<td>75mm round tube nozzle</td>
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<td>RRD-12.5-100</td>
<td>100mm round tube nozzle</td>
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<tr>
<td>RRD-12.5-125</td>
<td>125mm round tube nozzle</td>
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<tr>
<td>RRD-12.5-150</td>
<td>150mm round tube nozzle</td>
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</table>
The Piranha Cooling Line Starter Kit includes a variety of popular components to allow construction of a basic cooling line setup. The kits include a few different threaded connectors for adaptability to your machine. The kits are also a great way to keep components organized and close to the machine for quick additions or modifications to an existing setup. Everything you need packaged in a convenient, durable, sectioned storage case. Every machine should have this clever kit nearby!

**1/4 INCH**
- Through-hole dia. 5.5mm
- Clamping torque 1.8 - 2.2 ft. lbs.

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-SW16</td>
<td>Cap AF13</td>
</tr>
<tr>
<td>M-SW16</td>
<td>Nut with 12.5mm ball socket AF16</td>
</tr>
<tr>
<td>R-12</td>
<td>Clamping ring for 12mm ball</td>
</tr>
<tr>
<td>R-12.5</td>
<td>Clamping ring for 12.5mm ball</td>
</tr>
<tr>
<td>R-14</td>
<td>Clamping ring for 14mm ball</td>
</tr>
<tr>
<td>R-15</td>
<td>Clamping ring for 15mm ball</td>
</tr>
<tr>
<td>RING-12.5</td>
<td>O-ring 1/4&quot;</td>
</tr>
<tr>
<td>S-11/16</td>
<td>Hex wrench</td>
</tr>
<tr>
<td>H-12.5</td>
<td>Ball valve</td>
</tr>
<tr>
<td>RVD-12.5</td>
<td>Check valve 1/4&quot;</td>
</tr>
<tr>
<td>DK-12.5/23</td>
<td>Doubleball spacer- 12.5mm dia. for connecting plastic nozzles</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elbows</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-12.5</td>
<td>90° elbow</td>
</tr>
<tr>
<td>T-12.5</td>
<td>T-distributor</td>
</tr>
<tr>
<td>QUATRO-12.5</td>
<td>Quarto distribution block</td>
</tr>
<tr>
<td>Y-12.5</td>
<td>Y-distributor</td>
</tr>
</tbody>
</table>

**1/2 INCH**
- Through-hole dia. 12.0mm
- Clamping torque 3.7 - 5.5 ft. lbs.

**Starter Kit: PCL-1/2-SET-1**

Includes:

- (1) RD-22-6
- (1) RD-22-8
- (1) RD-22-10
- (1) RD-22-12-19.2
- (1) RD-22-12-19.2
- (1) SDK-22/90°
- (1) SDK-22/60°
- (1) SDK-22/90°
- (5) M-SW27
- (1) L-1/2
- (4) D-22-63
- (4) D-22-80
- (4) D-22-80
- (2) GA-22-1/2
- (2) GA-22-1/2-NPT
- (2) GA-22-1/2-NPT
- (2) GA-22-3/8
- (2) GA-22-3/8-NPT
- (2) GA-22-3/8-NPT
- (2) S-21/27
- (8) D-22-46
### 1/2 INCH
- Through-hole dia. 12.0mm
- Clamping torque 3.7 - 5.5 ft. lbs.

#### Threaded Connectors
- **GA-22-3/8**
  - 3/8" G (BSPP)
- **GA-22-3/8-NPT**
  - 3/8" NPT
- **GA-22-R-3/8**
  - 3/8" R (BSPT)
- **GA-22-1/2**
  - 1/2" G (BSPP)
- **GA-22-1/2-NPT**
  - 1/2" NPT
- **GA-22-1/2-R**
  - 1/2" G (BSPT)
- **GA-3/8-1/4**
  - 3/8" G (BSPT) with reduction to 1/4" system
- **GA-3/8-R-1/4**
  - 3/8" R (BSPT) with reduction to 1/4" system
- **GA-1/2-1/4**
  - 1/2" G (BSPT) with reduction to 1/4" system
- **GA-3/4-1/2**
  - 3/4" G (BSPP)
- **GA-3/4-1/4**
  - 3/4" G (BSPP) with reduction to 1/4" system
- **GA-22-R**
  - Blank 24mm dia.

#### Spacers
- **D-22-38**
  - 38mm long
- **D-22-46**
  - 46mm long
- **D-22-63**
  - 63mm long
- **D-22-80**
  - 80mm long

#### Accessories
- **D-SW27**
  - Cap SW27
- **M-SW27**
  - Nut-SW27
- **RING-22**
  - O-Ring 1/2"
- **S-21/27**
  - Hex wrench
- **H-22**
  - 1/2" Ball valve
- **RVD-22**
  - Check valve integrated in spacer
- **KU-38G**
  - Ball head 3/8" G (BSPP)

#### Nozzles
- **FD-22-30**
  - 30mm wide flat multi-hole
- **FD-22-40**
  - 40mm wide flat multi-hole
- **FD-22-50**
  - 50mm wide flat multi-hole
- **FD-22-60**
  - 60mm wide flat multi-hole
- **FD-22-80**
  - 80mm wide flat multi-hole
- **FD-22-100**
  - 100mm wide flat multi-hole
- **FD-22-120**
  - 120mm wide flat multi-hole
- **FD-22-30-1**
  - 30mm wide 1 row multi holes
- **FD-22-40-1**
  - 40mm wide 1 row multi holes
- **FD-22-50-1**
  - 50mm wide 1 row multi holes
- **FD-22-80-1**
  - 80mm wide 1 row multi holes

#### Spacers
- **LDK-22-16X2**
  - Short 22mm ball with (16) 2mm holes
- **LDL-22-24X2**
  - Long 22mm ball with (24) 2mm holes
- **RD-22-12-19.2**
  - 22mm ball with (19) 2mm holes
- **RD-22-1.5**
  - 22mm ball with 1.5mm hole
- **RD-22-6**
  - 22mm ball with 6mm hole
- **RD-22-8**
  - 22mm ball with 8mm hole
- **RD-22-10**
  - 22mm ball with 10mm hole
- **SDK-22/60°**
  - Short 60° multi-hole
- **SDK-22/90°**
  - Short 90° multi-hole
- **SDL-22/60°**
  - Long 60° multi-hole
- **SDL-22/90°**
  - Long 90° multi-hole
PIRANHA COOLING LINE

1/2 INCH

- Through-hole dia. 12.0mm
- Clamping torque 3.7 - 5.5 ft. lbs.

Elbows

L-1/2
90°

T-1/2
T-distributor

Y-1/2
Y-distributor

Y-1/2-1/4
Y-distributor ½" to ¼"

Lathe Balls

- Made of brass
- Maximum pressure = 500psi (33 bar)

BB11018
12mm ball with M5 x 0.8 hole plug

BB11031
14mm ball with M6 x 1.0 hole plug

BB11043
15mm ball with M6 x 1.0 hole plug

NOTES

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POLICIES AND WARRANTY

Engineering Changes
Specifications and engineering data are subject to change without notice.

Manufacturing Policy
Products supplied by Raptor are of high quality and adhere to manufacturing standards. Tolerances are uniformly held in accordance with catalog specifications. Raptor products are simple to use and support material is provided with each shipment to ensure that applications go smoothly. For additional support, contact Raptor Workholding Products.

Damaged, Short or Lost Items
UPS is the primary carrier if not specified by the customer. If a package and subsequent product is damaged / lost in transit, the customer should immediately place a claim with UPS. The customer should keep all damaged product and packaging for inspection by UPS and notify Raptor so merchandise can be replaced.

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

- Only catalog items suitable for resale may be returned.
- Specials and dovetail cutters cannot 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 minus a minimum 20% restocking charge.

Limited Warranty
Raptor products are protected with a 1-year warranty from the original date of invoice against defects in material or workmanship.

* Subject to the terms as described in the Limited Warranty Policy as stated at www.raptorworkholding.com