Special Applications Chucks Catalog

Machine a Family of Parts on One Chuck ASI-26900

This modular design is used for machining hard to hold aluminum pump housings. In this family of parts, changeover and chucking can happen in a short amount of time.

Part Name: Pump Housing

Material: Cast Aluminum

Machine: Okuma CNC Lathe

Designed to withstand Harsh Coolants ASI-19800

This chuck was specially built for a customer to produce pistons for Navistar™ Diesel Engines. Engineered for rough turn machining, the customer was able to double his feed rates. This chuck has been designed to provide long up times even with high PH coolant conditions.

Part Name: Piston

Operation: Rough Turning Operation

Material: Cast Aluminum with Steel Insert

Machine: Mori Seiki ZL25 CNC Lathe

ASI Workholding

A Chuck in a Chuck

ASI-27700

This Customer was using a nose clamp style fixture in a collet chuck. This style of clamping was very time consuming and slowed production.
The Engineers of ASI designed a pullback chuck to fit into their existing collet. This eliminated disassembly of the collet chuck and bar feeder, allowing for quick loading of the part without major changeover or tear down of the existing setup. This chuck is hydraulically actuated by air, separate from the lathe's hydraulic system. The hydraulic lines go through the spindle to a rotary union.

Part Name: Tri-legged Roll Form part

Material: Steel & Stamped Sheet Metal

Operation: Turning Operation, Ball nose

Machine Two Parts on one Chuck

ASI-20500

Two distinct parts produced from one chuck. Balance for the changeover is engineered into the top tooling consisting of a part nest and two clamp fingers.

Part Name: Water Outlet

Material: Cast Aluminum

Operation: turning

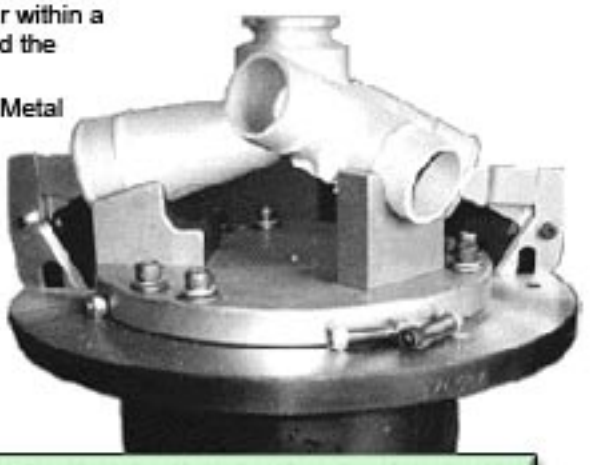
Machine: CNC Mazak Lathe

ASI Workholding

Use a Lathe instead of Milling

ASI-28800

How do you hold a 5 port odd shaped part and still have short setup time per part?
This customer knows where to turn for the best in specialty chucks. This chuck features easy loading and unloading while maintaining consistent positioning necessary for tight machining tolerances.
"This was a revolution that took our industry from milling complex angles with special form cutters to being able to use a lathe with a single standard cutting tool. The balancing of the chuck allowed us to turn the part at the maximum RPM of the lathe and produce the contour within a CPK of 2. The cost of perishable tools dropped by 100 fold and the productivity increased from 10 per hour to 60 per hour."
Geoffrey L, Gatton?Director of Engineering--Pacific Baja Light Metal



Part Name: Manifold
Material: Cast Aluminum
Operation: Turning Operation
Machine: Femco CNC Lathe
Speed: 2400 RPM

From Production to Service Runs

ASI-30700

This front spindle for an automotive application is bored in the center with a step on both sides. The customer wanted to take this from a transfer line operation on a high quantity production run to a turning operation on a smaller quantity part & service run to decrease cycle times and improve tooling life.

Part Name: Front Spindle Steering Knuckle

Material: Cast Iron

Operation: Turning Operation, Center Bore

Machine: Mazak QT-20 CNC Lathe

ASI Workholding

Balanced for Higher RPM

ASI-33800

This turbo-housing was being turned on a unbalanced chuck causing slow RPM. The ASI Engineers designed a balanced chuck to decrease vibrations and enable faster spindle speeds.
The customer said that this chuck "Increased ability to go from 600 RPM of unbalanced chuck to 1800 RPM balanced chuck with faster load times. This product improved not only quality and repeatability but increased throughput 3 to 1."

Part Name: Compressor Housing
Material: Aluminum
Operation: OP 20 – Center Bore Turning
Machine: Femco CNC Lathe

It can be Turned on a Lathe!

ASI-37500

This Customer was told by other special tooling manufacturers that this part could not be processed on a lathe. Starting with the rough cast part and a 12 week deadline, our engineers went to work. In 8 short weeks the chuck was designed, tested and delivered. The Customer said we "Exceeded his expectations".

Part Name: Catalytic Converter Housing
Material: Cast Iron
Operation: OP 10 Turning, Drilling, Tapping
Machine: Horizontal CNC Lathe - Mazak SQT-250M
Speed: 2400 RPM

ASI Workholding

Same Chuck, Different Tooling

ASI-15700

This chuck is designed to machine a family of parts. Using the same base chuck and clamp arms, different locating tooling is designed for varying part lengths and diameters. It is also designed to fit in smaller lathes with an A6 spindle with a maximum operating speed of 3600 R.P.M.

Part Name: various distributor parts

Material: Cast Aluminum
Operation: Turning
Machine: Mori Seiki AL-22A CNC Lathe

Machine different length parts

ASI-22600

By changing two details, this chuck can be used to machine a variety of parts. It is also, designed to be compact to fit a smaller lathe with an A6 spindle. The chuck dimensions are 10” outer diameter by 13.75” over all length. It is balanced for a maximum operating speed of 3600 R.P.M.

Part Name: Turbine Housing

Material: Cast Aluminum
Operation: Turning & Threading
Machine: Mazak Quick Turn 15 CNC Lathe

Machine Multiple Diameter Parts Under Extreme Heat ASI-28500

This chuck is used for centrifugally casting of Caterpillar® heavy equipment brake drums. It is designed to hold multiple diameter parts, ranging from 25.9” to 35.35” at a maximum of 400 R.P.M. It also can withstand temperatures in excess of 800 degrees Fahrenheit. Non-magnetic Stainless Steel is used to minimize the conducted heat away from the chuck at the six contact points of the drum. Optional copper shielding can also be used to deflect

Part Name: Caterpillar® Brake Drum

Material: Rolled Steel Shell with Cast Iron
Operation: Centrifugal Casting
Machine: Centrifugal Casting Machine

Easy to Load ASI-25100

This chuck is designed for turning bearing flanges. With a outer diameter of 10 inches and a overall length of 7.75 inches and an A6 spindle mounting, this chuck can fit in smaller lathes. It is rated for a maximum operating speed of 3600 R.P.M

Part Name: Bearing Flange

Material: Forged Steel (SAE 1070M)
Operation: Turning
Machine: CNC Lathe

Reduce Scrap Rates

ASI-35300

This chuck was designed to be able to accommodate different parts. Simple and quick tooling setup. Doubled throughput. Reduced scrap rate from 5% to 0%. Positive quick loading.
Handles cast and forged parts unwanted heat.

Part Name: Yoke End

Material: Aluminum
Operation: Turning
Machine: Okuma CNC Lathe

Grind-Like Finishes

ASI-32400

This chuck is balanced for high speed (2000 R.P.M.) turning. Integral A6 spindle mounting, Produces grind-like finishes on cast aluminum parts

Part Name: Oil Cooler/Filter

Material: Cast Aluminum
Operation: Turning
Machine: Femco CNC Lathe

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Flanged gear chuck

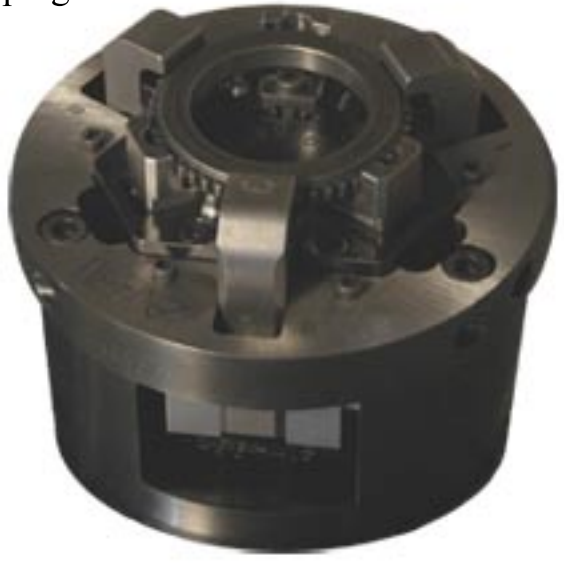
ASI-49600S2

This gear has a external flange. The chuck centers the gear at the pitch diameter at two teeth and clamps the external flange. The result is a bore which can be controlled for size and roundness, and run-out to pitch diameter can also be maintained, while at the same time allowing for higher cutting speeds and more throughput.

Gear with dual hubs

ASI-49600S6

This chuck uses a spring powered internal wedge chuck to center the gear prior to clamping. Because the radial location force is preset, changes to the hydraulic system of the lathe will not impact bore roundness or sizing. Only light clamping forces are required to run at high speeds



ASI Workholding

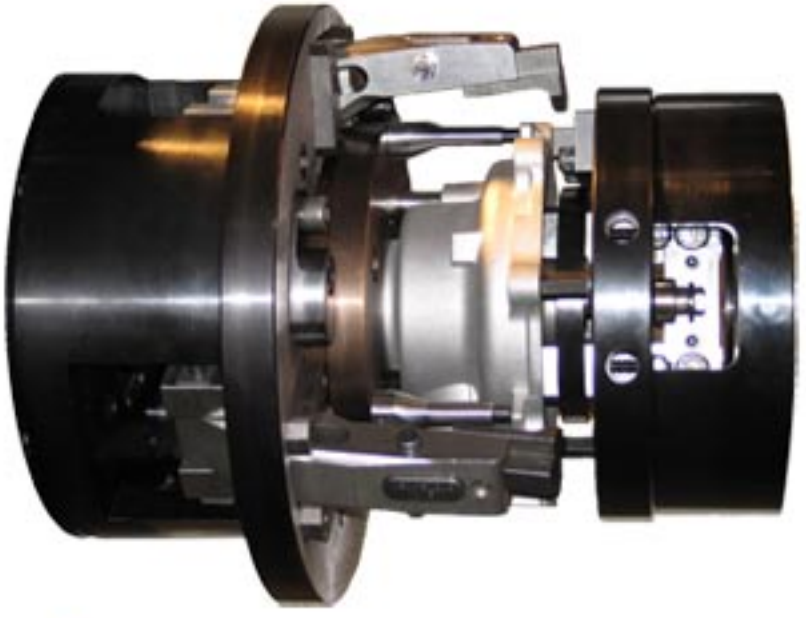
OP10 and OP20 with handoff

ASI-52200

Market pressures combined with advances in CNC equipment and better inserts and coatings have driven speeds and feeds to extreme levels. Pullback chucks help the efficiencies of lathe turning by reducing clamping force requirements, while minimizing centrifugal force effects

This set of chucks safely handles a die cast housing. Hand off is simulated at ASI prior to shipment to help simplify debug of installation

Light weight pull back chucks engineered for the product yield higher throughput. Let ASI help you reduce costs in manufacturing



ASI Workholding

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