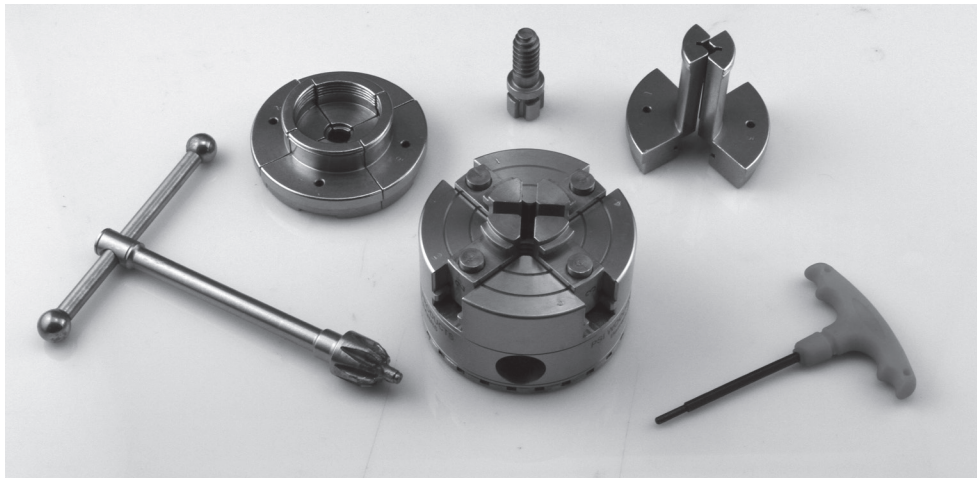


# User's Manual

## Barracuda 52 Insta-Change Jaw Chuck System

A highly versatile chuck featuring easy to attach and release jaws for midi- and full-sized woodworking lathes



# #CSCBARR52

*BarrAcuda* **52**  
Insta-Change

**PSI** Woodworking  
PRODUCTS

**⚠ IMPORTANT: Read this manual thoroughly before using the Barracuda 52 Insta-Change Jaw Chuck System.**

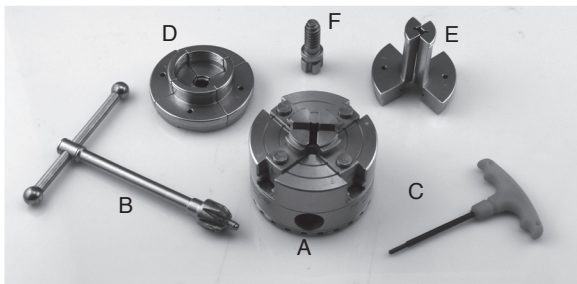
Thank you for purchasing one of PSI's growing family of quality woodturning products. The **Barracuda 52 Insta-Change Jaw System Chuck** is engineered and manufactured to the highest standards of quality. The Quick-Change Jaw System allows you to change jaws in a matter of seconds. To mount and un-mount the jaws refer to the drawings on page 4.

## Safety Instructions

- Do not wear gloves, neck ties, long sleeves, loose clothing, or loose jewelry when turning. Long hair should always be tied back.
- Wear safety goggles or a face shield when turning.
- Wear sturdy shoes or boots with non-slip soles. Avoid open-toed shoes.
- Check your wood for splits, weakness, voids or cracking prior to mounting on the chuck. Avoid using wood with knots, splits, or other defects.
- Confirm that the wood is tightly gripped in the chuck before starting your lathe. Use a tailstock center for additional support when necessary. Never run the lathe without a workpiece in the chuck.
- When installing new jaws always test to be sure the jaws are securely in place.
- Never stop the lathe by grabbing the headstock wheel.
- Support your work with a tailstock center whenever possible
- Rotate the chuck and workpiece manually prior to starting your lathe to ensure proper clearance.
- Always check and re-tighten the workpiece to the chuck after any loosening or tool catch.
- Use appropriate speeds as referenced in instructions.
- Do not wrap sandpaper or finishing cloths around your hands or fingers when turning.
- Always turn with sharp lathe chisels and gouges. Avoid dull tools.
- Feed a woodturning tool slowly and steadily into the stock being turned. Never jam or stab the tool's blade into the work piece.
- Capture fine particles from the air with a dust collector. Use a quality respirator or dust mask when turning.
- Remove the tool rest before sanding or finishing your turning.
- The maximum RPM for the **Barracuda 52 Insta-Change Jaw Chuck System** is 2500 RPM.

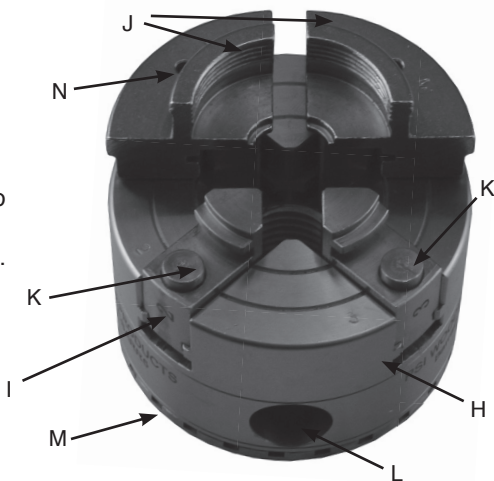
### Package Contents

- A. Barracuda 52 Insta-Change Jaw System Chuck (pre-threaded to 1" x 8tpi) #CSCBARR52
- B. Key tightening wrench with sliding handle (expands and contracts carriers and jaws)
- C. T-handled removal tool (to releases jaws from carriers)
- D. One set (4 pieces) of #2 round jaws (pre-mounted to chuck)
- E. Pen Blank Drilling Jaws
- F. Woodworm Screw
- G. Blow-molded carrying case



### Chuck System Description

- Chuck Diameter: 3.5"
- Chuck Weight w/ #2 jaws: 5.0 lbs
- H. Main body: designed to securely hold the jaw carriers.
- I. Carriers: used to attach the different jaws to the main body.
- J. Jaws: attached and secured to the carriers. Used for gripping the wood being turned (#2 round dovetail jaws are shown in the photograph.)
- K. Spring Loaded Locking pins - (Used to secure Jaws into carrier)
- L. Wrench hole on body & jaws
- M. Indexing backplate 24 positions
- N. Jaw extraction hole



(CSCBARR52 with #2 Round Jaws attached)  
See page 7 for dimensions

### Jaw Capacity Chart

Jaw Style	Over Gripping Dowel / Outside Diameter	Gripping in Hole / Inside Diameter
#1 Step Jaws (Optional)	3/32" to 1-3/8"	11/16" to 2-3/8"
#2 Round Jaws	1-1/2" to 2-5/8"	2" to 3-3/8"
#3 Wide Jaws (Optional)	3-1/6" to 4-3/8"	N/A
Pin Jaws	N/A	1" to 2-3/8"
Pen Blank Drilling Jaws		N/A

## Operating the Chuck

After threading the chuck (A) to the lathe headstock snap-lock four jaws to the chuck carriers (I) and make sure each jaw is firmly secured to its mating carrier. Insert the end of the workpiece into the jaws. Then, insert the key tightening wrench (C) into either hole on the side of the chuck. Rotate the key wrench to open and close the jaws. **⚠ Warning: Make sure your workpiece is secure before turning!**

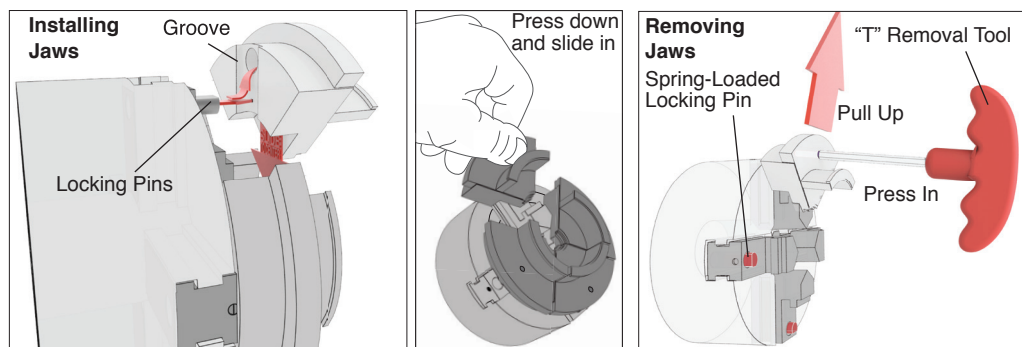
## Mounting & Removing quick change Jaws

Both the jaws & chuck are marked with numbers 1 thru 4 that indicates the carrier position of the jaws. It is important to align and install the jaws in these positions. Use the "T" handle tool (C) to remove the jaws.

**Installing Jaws:** Depress the locking pin(K) with the groove in the jaw. Slide the jaw toward the center of the chuck to lock the jaw in the carrier.

**Removing Jaws:** To separate the jaw from the chuck carriers, insert the shaft of the "T" handled removal tool into the hole in the jaw as shown to fully depress the spring-loaded pin (K). When fully depressed, the jaw will be disengaged from the carrier. Pull upward to remove jaw.

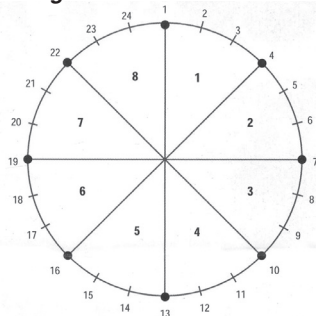
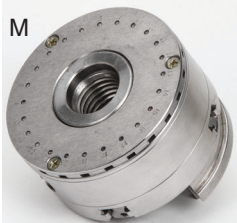
**⚠ Warning: Listen for the "click" when the jaw is in place. Pull the jaw outward to make sure it is securely locked in place**



**Note: For ease of mounting and removing the jaws to the carriers, start by threading the chuck onto the lathe headstock. If possible, lock the headstock spindle so the spindle and chuck cannot rotate. Then, snap the jaws to the carriers or use the "T" handled removal tool to release the jaws from the carriers. Always verify that the jaws are locked in place before starting the lathe.**

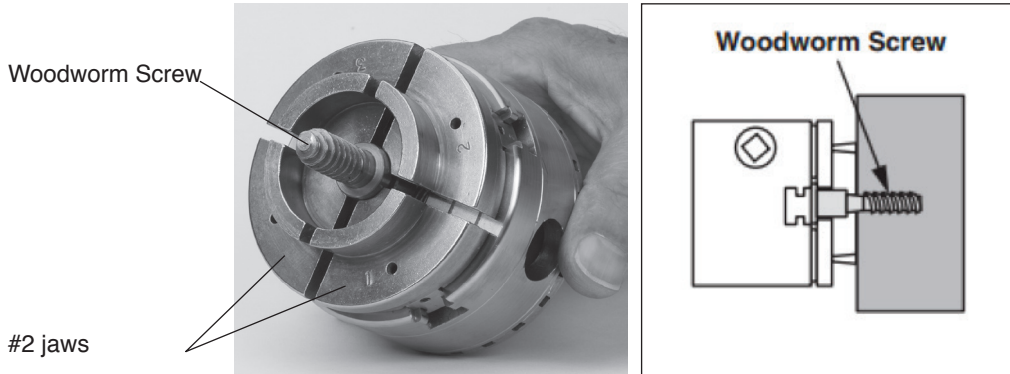
## Indexing Plate

Indexing is used to segment a turning into equal sections. The back of the CSCBARR52 lathe chuck (M) has grooves on the index plate so that a pin can secure the chuck in fixed segmented locations. One way to position the pin is to secure it in your toolrest. The plate has 24 grooves so the turning's sections can be made in multiples of 24, 12, 8, 6, 3, and 2. For example, to make 8 equal sections, mark your work at 1, 4, 7, 10, 13, 16, 19, and 22.

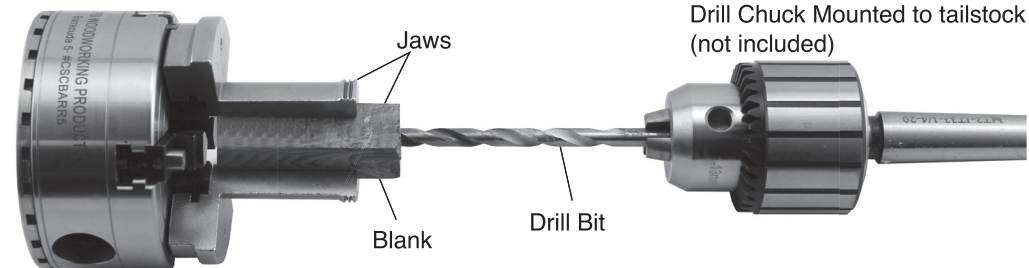


## Installing the Woodworm Screw

The screw chuck (F) mounts directly into the bottom of the #2 round jaws (D). To safely secure the screw chuck to the jaws, insert the base of the screw chuck so the tenon end of the jaws fit securely into the recess/groove in the screw chuck (see photo below). Use the key tightening wrench (C) to tighten the jaws onto the screw chuck. Wiggle the screw against the jaws to ensure it is firmly seated. For mounting the wood, drill a 3/8" hole. Spin the blank over the screw chuck to thread it firmly in place.



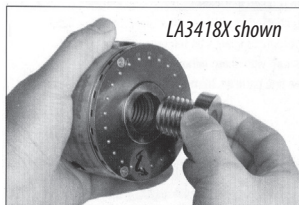
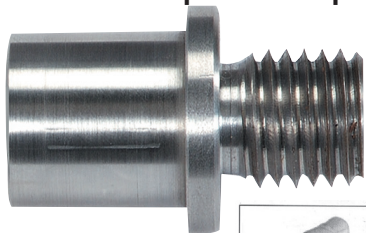
## Using the Pen Blank Drilling Jaws



- Install the jaws into the chuck. Open the jaws using the key tightening wrench included with the chuck.
- Insert your blanks as far as possible towards the back of the chuck using the grooves in the chuck to grasp the corners of your blanks. (optional: place a small piece of wood behind your blank to avoid "tearout" while drilling.)
- Tighten the jaws around your blank. **Note:** Jaws will self center non-square pen blanks
- Install a drill chuck into the tailstock of your lathe, install the drill bit with the appropriate diameter for drilling the blank.
- Re-wind the tailstock quill as far back as possible (without ejecting the drill chuck).
- Advance the tailstock assembly so the drill bit almost touches the blank.
- Turn on your lathe to its slowest speed (or about 600RPM).
- Advance your bit into the blank using the quill handwheel.
- Advance until completely through the blank (note: the chuck is hollow behind the jaws to allow the bit to advance well beyond the end of the blank).
- Back out the bit during drilling as necessary to clear the hole of debris.
- If you have a variable speed lathe, adjust the speed for optimum drilling speed.

### Accessories

### Headstock Spindle Adapters



	Headstock	Chuck
#L5818	Shopsmith™ 5/8"	1" x 8tpi*
#LA3418X	3/4" x 16tpi	1" x 8tpi**
#LA11418	1-1/4" x 8tpi	1" x 8tpi
#LA341018	3/4" x 10tpi	1" x 8tpi
#LAG1218	1" x 12 tpi	1" x 8tpi
#LA11218	1-1/2" x 8tpi	1" x 8tpi
#LA3318	M33 x 3.5 MMRH	1" x 8tpi

\*includes set screw  
\*\*mounts internally

### Mounting a Headstock Spindle Adapter to the Chuck

The Barracuda 52 Insta-Change Jaw System Chuck mounts directly onto a 1"x8tpi headstock spindle. If your lathe has a different sized thread than your headstock spindle you'll need to select the appropriate-sized adapter to fit between the headstock spindle and the bottom of the chuck. To mount the adapter between the headstock spindle and your chuck:

1. Wipe the inside of the threads of the chuck and all the threads of the adapter to remove any dust and ensure clean mating threaded surfaces.
2. Hold the chuck in one hand and with the other hand screw and tighten the adapter into the bottom/rear threaded portion of the chuck.
3. Set the spindle stop (if available) on the lathe and thread and secure the chuck onto the headstock spindle. Thread the adapter (secured to the chuck) onto the headstock spindle.

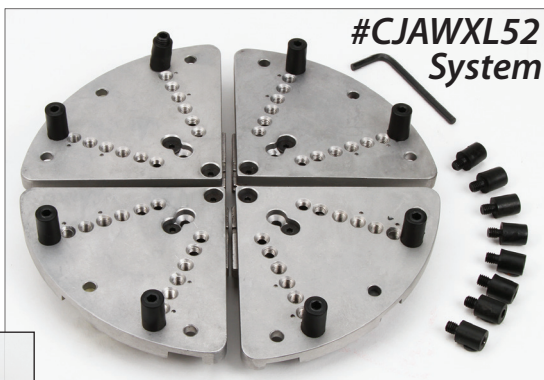
### Flat Jaws

Makes quick and easy work out of finishing bowl bottoms and is ideal for polishing and finishing.

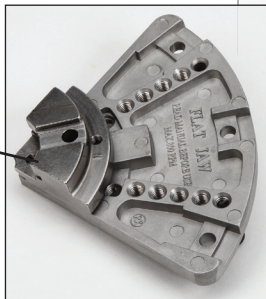
#### Includes:

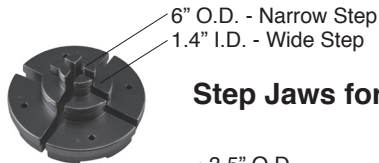
Mounting adapter for quick installation & removal.

8 pins 1/2" long & 8 pins 3/4" long. Holds bowls to 8-1/4" Diameter. Closes over 3" round or larger.



Quick change adapter installed

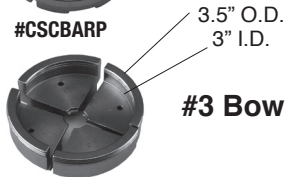


**Accessories**

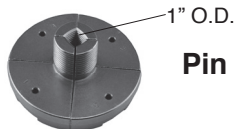
6" O.D. - Narrow Step  
1.4" I.D. - Wide Step

**Step Jaws for #CSCBARR52**

#CSCBARP

**#3 Bowl Jaws for #CSCBARR52**

#CSCBARB

**Pin Jaws for #CSCBARR52**

#CSCBARS

*See page 3 for Jaw capacity***General Maintenance**

Depending on use, it may be necessary to periodically clean your chuck. To do so, start by using compressed air to blow off dust and debris. Always wear protective goggles when doing this to protect your eyes. For stubborn, stuck-on debris use a tooth brush or soft-bristled brass brush.

Compressed air and brushing should be all that is needed to clean a chuck. If, however, these do not clean the chuck, soak it in mineral spirits for 30 minutes and blow dry. Apply lubricant to the gears as the solvent will probably dissolve previously applied lubricant.

Periodically spray a small amount of dry lubricant through the wrench hole into the inside of the chuck to lubricate the mating parts. Light grease will also work. Wipe off any excess lubricant. If you use a light grease for a lubricant, spin the chuck on your lathe starting at a low speed and slowly increase it to "throw" off any excess lubricant.

**Lathe Speeds**

- Turning: 500-1500 RPM
- Sanding & Polishing: 1500-2500 RPM
- Make sure your wood is properly aligned and balanced when mounted or re-mounted.

 •Use slower speeds for larger work.

**Warranty**

The Barracuda 52 Insta-Change Jaw System is engineered and manufactured to the highest standards of quality. You will find this product an essential accessory to your workshop. This chuck is warranted against defects in material and workmanship for a period of two years for all components. This warranty applies to the original purchaser of the product and is limited to the repair and/or replacement of the product, or its parts at the discretion of PSI Woodworking Products. Excluded are parts which have been misused, abused, altered, or consumed by normal operation of the chuck. Also excluded are direct or consequential damages to persons, properties, or materials. Your invoice serves as proof of purchase and must be referenced to authorize any warranty repair. Call your PSI dealer for proper authorization.

