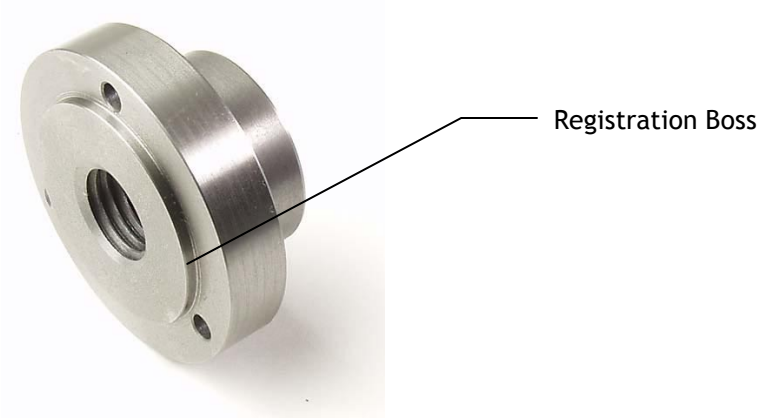
Lathe Chuck Adapters



Lathe chuck adapters are made with the registration boss oversize so you can do the final machining on your lathe to fit your chuck. This ensures concentricity on your lathe. In some cases you will need to drill the chuck mounting holes also.

Turning the Lathe Chuck Adapter

Follow these steps to finish machine your lathe chuck adapter:

1. Be sure the threads on your lathe spindle are clean and free of burrs.
2. Be sure the threads in the lathe chuck adapter are clean and free of burrs.
3. Screw the lathe chuck adapter onto the spindle of your lathe.
4. Measure the diameter of the recess in the back of your chuck to the nearest 0.0001". On most imported chucks, the recesses are the following sizes.

Chuck diameter	Recess diameter	Boss Diameter
3" (80 mm)	2.1654" (55 mm)	2.1654-2.1647" (55.000-54.983 mm)
4" (100 mm)	2.8346" (72 mm)	2.8346-2.8339" (72.000-71.981 mm)
5" (125 mm)	3.7402" (95 mm)	3.7402-3.7393" (95.000-94.978 mm)
6" (160 mm) 3-jaw	5.1181" (130 mm)	5.1181-5.1172" (130.000-129.978 mm)
6" (160 mm) 4-jaw	2.559" (65 mm)	2.5591-2.5583" (65.00-64.981 mm)

5. Turn the diameter of the registration boss on the lathe chuck adapter to fit your chuck. The diameter of the registration boss should be from 0.0001" to 0.0008" smaller than the diameter of the registration recess on the chuck.
6. Face the front mounting surface of the lathe chuck adapter so that it runs true on your lathe.

Drilling the Chuck Mounting Holes

The bolts that mount the lathe chuck to the lathe chuck adapter do not provide any registration. The holes in the adapter are clearance holes so the bolts do not force the chuck out of position.

Use transfer screws to mark the hole locations, or follow steps 1-6 below.

Transfer Screw Sets
PN 3085 for M6 Thread
PN 3086 for M8 Thread
PN 3087 for M10 Thread

Follow these steps to mark and drill the mounting bolt holes in your lathe chuck adapter:

1. Coat the back of the adapter with layout dye.
2. Screw the lathe chuck adapter onto the spindle of your lathe.
3. Using a piece of stiff wire off your tool post, scribe the bolt circle on the back of the lathe chuck adapter. Most imported lathe chucks have the mounting bolts on the bolt circles given below.

Chuck size	Bolt circle diameter	Bolt Size
3" (80 mm)	2.598" (66 mm)	M6
4" (100 mm)	3.307" (84 mm)	M8
5" (125 mm)	4.252" (108 mm)	M8
6" (160 mm) 4-jaw	3.740" (95 mm)	M10
6" (160 mm) 3-jaw	5.591" (142 mm)	M8

4. Using a gear on the lathe spindle, index and mark the 3 or 4 hole positions.
5. Remove the lathe chuck adapter from the spindle.
6. Center punch hole positions on the back of the lathe chuck adapter.
7. Drill the clearance holes through the lathe chuck adapter. The appropriate hole sizes for the bolt holes are given below.

Bolt size	Clearance hole	Counterbore diameter	Counterbore depth
M6	0.261" (6.6 mm)	0.433" (11.2 mm)	0.236" (6.0 mm)
M8	0.348" (8.8 mm)	0.571" (14.5 mm)	0.315" (8.0 mm)
M10	0.438" (11.0 mm)	0.689" (17.5 mm)	0.394" (10.0 mm)

If desired, counter bore the holes to recess the bolt heads. See counterbore sizes above.