

New Style MIDWEST or NSK Nosecones Repair Instructions



All three of the above Nosecone models (NSK, Midwest & Schein), have identical components and repair procedures. The only difference is in the Base Piece and Drive fork, as you can see in side by side pictures.

As a result, the repair techniques for all 3 models are identical.



STEP 1

Make sure you have a burr blank or a straight small tip bur in the chuck. Next, using an adjustable, flat surface wrench **ONLY**, unscrew the top NOSE CAP from the nosecone. Remember, **ALL** threads on this nosecone are standard, so loosen the CAP by turning in a counter-clockwise direction.



STEP 2

Once you have removed the NOSE CAP, place a small, flat head screwdriver in the back end of the nosecone and insert it into the DRIVE FORK. While holding the screwdriver in the DRIVE FORK to keep it from turning, place your adjustable wrench around the top NOSE NUT. Unscrew it in a counter-clockwise direction and remove it from the nosecone.



NOTE: A small black round seal will now be exposed on the top of the spindle, or it is stuck inside the NOSE NUT you just removed. Do not lose it, as it is required for proper nosecone function.



STEP 3

Now, again using your flat surface adjustable wrench, unscrew the upper nose housing. Then, holding it in a horizontal position, carefully slip it off of the bur as pictured at left.



STEP 4

Carefully lay out the loose pieces that were exposed when you removed the upper nose housing.

Picture #	Part #	Description
1	NSK Nose Cap	NOSE CAP
2	NSK Nut	Nose Nut
3	90135	Seal
4	NSK Nose Piece	Upper Nosecone Housing
5	90130	Bearing Spacer
6	H0010	Upper Bearing
7	90131	Spring Spacer
8	90128	Upper Spring
9	90136	Brass Cylinder



STEP 5

Place your hand tightly over the Chuck Collar. While keeping your hand in that position, slowly pull the Chuck Collar off of the front of the nosecone. Keeping your hand in place will allow you to catch the Chuck Balls, as the spring tension from the collar is released.



STEP 6
Once you have removed the 2 Chuck Balls from the angled groove they rest in, place the front of the nosecone into a $\frac{21}{32}$ "

collet. Now that the front of the nosecone is secured, unscrew the rear housing. It is standard thread so turn it in a counter-clockwise direction to remove. Next, lay out all of the nosecone components in an organized fashion as pictured above.



STEP 7

Using your 00061 Nosecone Pliers, compress the Chuck Spring. Once compressed, use a magnet to remove the 3 – Chuck Pins. After you slide the Chuck Sleeve off of the Spindle, place some sort of Lab Bur in the chuck. Now, carefully slide the opposite facing Chuck Spring Washers onto the bur. This helps you keep them in order; there are 21 of them.

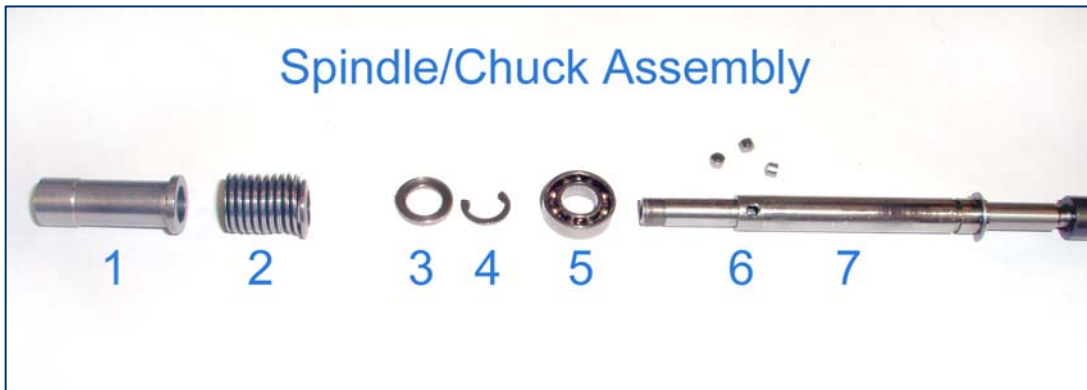


STEP 8

Now that you have removed the Chuck Springs, use a pair of cutters to carefully slide the C-Clip out of its groove on the Spindle. Unlike the picture, put a free finger over the back side of the C-Clip to keep from losing it. Once you have removed the C-Clip, slide the bearing off of the spindle as well.



Now you have a naked Spindle. Many times, deep grooves will be worn into its surface. Buff the shaft until no more deep grooves are present.



Picture #	Part #	Description
1	90154	Chuck Sleeve
2	90145	Chuck Springs
3	90137	Lower Bearing Spacer
4	90129	C-Clip
5	10060	Lower Bearing
6	60255	Chuck Pins
7	90155	Spindle
Not Pictured	90116	Drive Dog

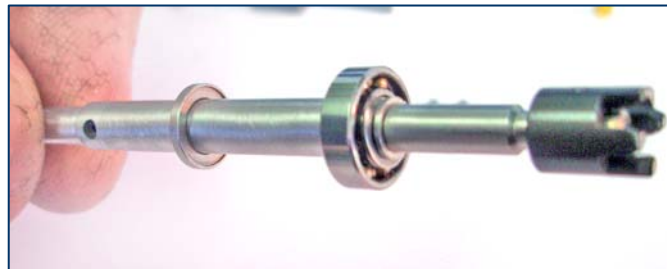
Assembly



STEP 1

Slide your new 10060 Spindle Bearing onto the Spindle. Slide it all the way down so that it sits below the groove cut into the Spindle for the C-Clip.

Next, insert the C-Clip into the groove just above the Spindle Bearing. Sometimes you need to use the blunt side of a flat-head screwdriver to fully insert the C-Clip into the groove.

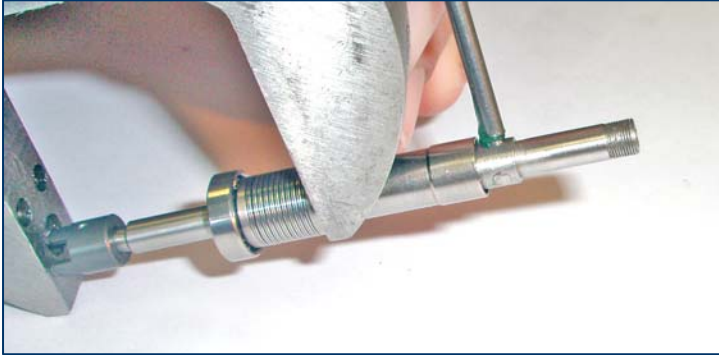


After the C-Clip is inserted, Slide the Lower Bearing Spacer onto the shaft.



STEP 2

Now, insert the lab bur with the Chuck Springs on it, into the end of the spindle. Once inserted, slide the Chuck Springs all the way down to the Lower Spindle Bearing.



STEP 3

Now, slide the Chuck Sleeve onto the spindle. Remove the Lab Bur and hold the Spindle in your 00061 Nosecone Wrench. Have your new Chuck Pins ready and put a small dab of grease on each one.

With the Chuck Sleeve compressed in your wrench, put the Flat Side of each Chuck Pin

into one of the 3 holes in the Spindle. While still keeping the Chuck Sleeve compressed, insert a small head Lab Bur or Bur Blank into the spindle. Then remove the Spindle from your wrench and place it on your work surface.



STEP 4

Lay your Assembled Spindle between the Middle Nosecone Housing and the Bottom Nosecone Housing or Base Piece. With the internal spring and Chuck Opener already inserted in the Middle Housing, lower the Middle Housing over the top of the Spindle and

raise the Bottom Housing up the Spindle. Make sure the spring was inserted into the Mid-Housing first, followed by the Chuck Opener.



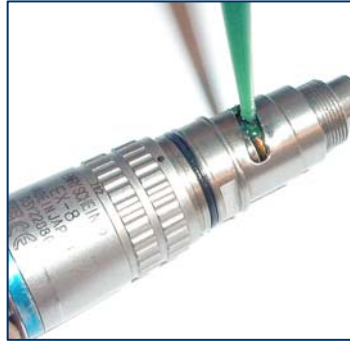
STEP 5

Begin to screw the two housings together until you can see the Chuck Opener groove through the angled slits in the Middle Housing.



STEP 6

Place a dab of grease in the Collet Opener and slit (Pictured Below). Next, place one of the Chuck Balls into the slit (Pictured at Left). It will be held nicely by the grease. Turn the nosecone exactly 180 degrees and place the second Chuck Ball in the other slit. Make sure the Chuck Balls are exactly opposite of each other.



STEP 7

With the Chuck Balls now in place, you need to slide the Chuck Collar into place. Remember to line two of the grooves cut into the inside of the Chuck Collar with the two Chuck Balls.

Now reassemble the top section of the Nosecone. First, slide the spring onto the Spindle, follow that with the small Spring Spacer. Next, slip the Brass Cylinder over the Spindle and then the Upper Bearing. Next, slide the Bearing Spacer on and against the bearing.



The Bearing Spacer has a raised lip on its outer edge. This lip rests against the Bearing.

Finally, lower the Upper Nosecone Housing over the spindle and tighten it by twisting in a Clockwise direction.



STEP 8

With the Nosecone almost assembled, slide the Upper Seal over the Lab Bur and up against the front of the spindle. Next, slip the Nosecone Nut down over the front of the spindle.

To fully secure it, Place a flathead screwdriver in the drive fork and tighten the nut using your adjustable wrench. Then screw the Nose Cap onto the top.



STEP 9

You may have gotten lucky, but chances are that the two black Chuck Indicator Dots do not line up. Normally, you over tighten the Base Piece past the upper Dot.



Notice in the picture at left, that the Chuck Indicator Dots are not lined up properly. The lower Dot has passed the upper Dot during the tightening process.



The solution is simple. Unscrew the Bottom Nosecone Housing from the Middle Housing. Place a small drop of Loctite onto the threads. The picture at left is an example of Too Much Loctite, simply shown to distinguish what we are doing. In practice, it is safer to put a small drop of Loctite onto a pin or needle and apply it to the threads in that manner.



Now secure the Bottom Nosecone Housing to the Middle Nosecone Housing. Tighten the two together but STOP when the two Chuck Indicator Dots align.