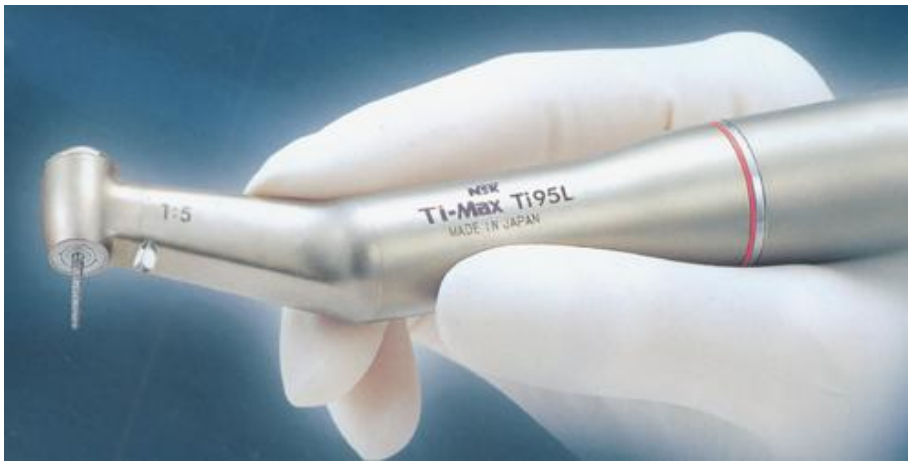
NSK Ti-Max Ti95L

Repair Procedure



Tooling needed to properly perform this repair.

1) Lube Nozzle for E-Attachments (00001A)
2) Threaded Ring Removal Tool (10112D)
3) Mini Phillips Head Screwdriver
4) Mini Flat Head Screwdriver
5) Adjustable Wrench
6) Mini Channel Lock Pliers

Step 1:

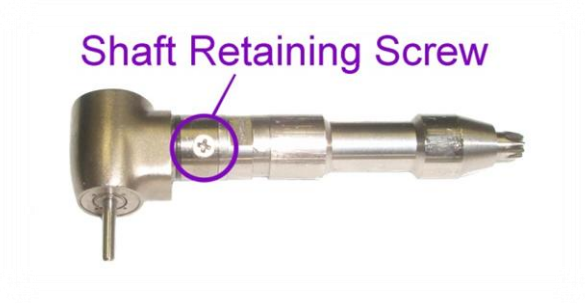
Remove the small Phillips Head screw on the neck assembly using your mini Phillips Head screwdriver. It is regular thread, so turn the screw counterclockwise to loosen.

Step 2:

Using an adjustable wrench (as pictured), unscrew the back cap. Again, it is regular thread so turn the cap counterclockwise to loosen. WARNING: Do Not Use any type of Channel Lock pliers on the back cap, they may damage the cap.

Step 3:

Now, pull the head assembly straight out of the neck of the attachment. WARNING: Do Not twist the head assembly as you pull it out as this may result in damage to the water lines and fiber optics. Now locate the upper water line o-rings. Sometimes they will be stuck on the top of the protruding waterlines, and sometimes they will be up in the head assembly. Once you locate them, if there was no water leak, simply place them back in the appropriate holes in the head assembly.



Step 4:

With the head assembly out of the attachment, use your mini Phillips Head screwdriver to remove the 3 screws that secure the transmission assembly to the head. These are also regular thread so turn them counterclockwise to loosen. They are shorter screws than the neck screw from Step 1 so do not mix them together.

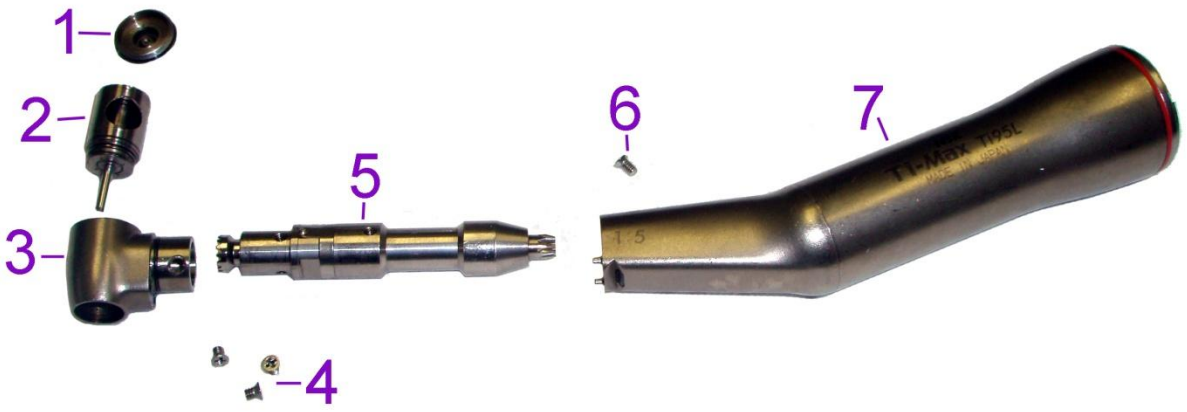
Step 5:

Push the turbine cartridge (part# 90133) out of the head shell.

Step 6: Remove the small clip from the old driveshaft and place it on the new driveshaft (part# 90139).

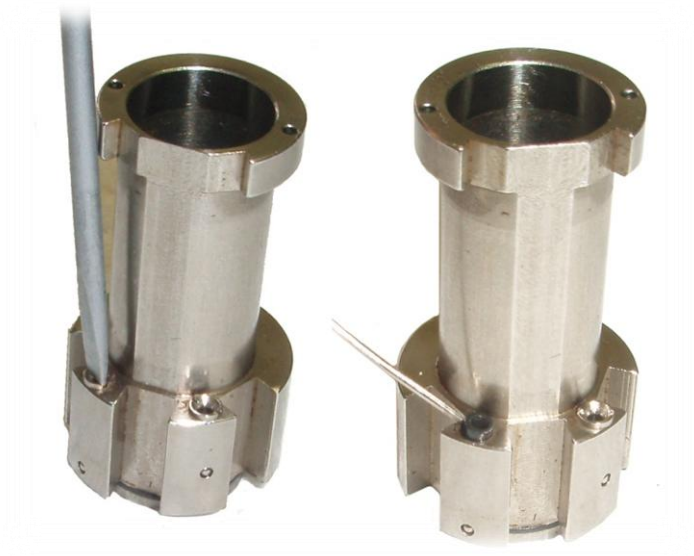
Step 7:

Using your Threaded Ring Removal Tool (3), unscrew the lower retaining nut from the bottom of the attachment (2). It is also regular thread, so turn the nut counterclockwise to loosen. Using a pair of mini Channel Lock pliers, grip the internal manifold as shown in the picture, and pull it out of the attachment. The lower drive assembly will come out with the manifold. If not, you can gently tap the bottom edge of the attachment on your work surface to remove it. Be careful not to hit the exposed fiber optics on your desk as this could damage them.



#	Part #	Description
1	90132	Back Cap
2	90133	Turbine Cartridge
3	N/A	Head Shell
4	90126 – Modified	Drive Shaft Screw
5	90139	Drive Shaft
6	90126	Neck Screw
7	N/A	Main Body

#	Part #	Description
1	N/A	Main Body
2	90139T	Tail Assembly
3	90139M	Lower Manifold



Step 8:

If your doctor complained of a water leak, you can replace the o-rings in the lower manifold assembly. Remove the screw heads using a mini Flat Head screwdriver. Then remove the cylinder shaped o-rings (part# 90148).

You should now have a disassembled NSK TiMax Ti95L Attachment

Clean all component parts thoroughly. It is safe to place them in your ultra-sonic cleaner.

Reassembly

Step 9:

Replace the cylindrical shaped o-rings in the lower manifold assembly (part# 90148). Be careful not to over tighten the screw securing those o-rings, this may compress them too much and not allow the waterlines to pass through them.

Step 10:

Test the lower drive assembly for smoothness. If the shaft turns smoothly and all of the gear teeth are present, you should not need to replace this assembly (part# 90139T). If gear teeth are missing or it turns roughly, it does need to be replaced. Place the drive assembly into the top of the lower manifold being sure to align it using the pins on its lower half.

Step 11:

Now insert the manifold and drive assembly into the main housing. Be careful to properly align the waterlines and fiber optics into the appropriate grooves and holes in the lower manifold assembly. Now reinstall the lower retaining nut using your 10112D tool. Secure this nut by turning the nut clockwise into the attachment.

Step 12:

Now insert a new turbine cartridge (part# 90133) into the head assembly. Please place the turbine properly into the head using the small alignment nub on the cartridge and pushing it into the obvious groove on the inside of the head shell. After inserting the cartridge fully, screw the back cap onto the head shell. Use an adjustable wrench only and turn the cap clockwise until secure and tight.

Step 13:

Remove the small clip from the old driveshaft and place it onto the new driveshaft (part# 90133). Now, insert the new driveshaft into the head assembly, with the small hole in the driveshaft (which will later accept the neck assembly screw) facing backwards…or directly below the back cap. Then, install the 3 small Phillips Head screw into the three holes in the head assembly. Screw them into the driveshaft using your mini Phillips Head screwdriver. These screws are regular thread, so turn them clockwise to tighten.

Step 14

Replace the 2 upper waterline o-rings (part# 90147) by placing them into the appropriate holes in the head shell assembly.

Step 15:

Now insert the head assembly into the neck of the attachment. Again, do not twist the assembly while inserting it as this may cause damage to the waterlines or fiber optics. If the head does not sit flush on the neck of the attachment, twist the bur slightly while applying minor downward pressure to align the internal gearing. Next, install the neck screw into the back of the neck of the attachment. Turn clockwise to tighten, using your mini Phillips Head screwdriver until it is snug.