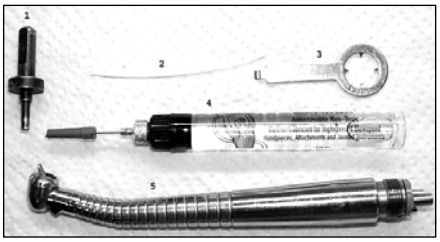
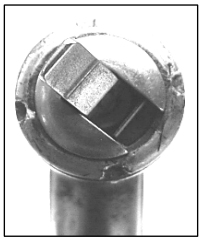
Midwest Tradition – L (Lever)
Repair Procedure



1. Auto-Chuck Protector Punch (00024 & 00024A)
2. Wire reamer
3. MW L Back Cap Removal Tool (40408A)
4. Pen Oiler
5. Midwest Tradition – Lever Handpiece



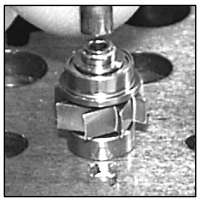
The Midwest Tradition - L has an "auto-chuck" mechanism. This design allows the insertion of a bur into the handpiece without the use of a bur tool. By raising the lever (as shown in the pictures to the left and above) the chuck is opened, allowing a high speed bur to be inserted. Most other manufacturers have variations of an auto-chuck system with a push button mechanism, as will be seen later. Auto-chucks are designed to last but, over time, they can also break. When the auto-chuck mechanism fails, it can not be repaired – it must be replaced. Most often, repairs to this handpiece involve replacing only the bearings and o-rings.

Note: This handpiece can be easily converted to a pushbutton style, using the aftermarket conversion kit (40423PBC). Refer to the Midwest Tradition & XGT – PB Repair Procedure section for the conversion instructions.

STEP 1 Try to determine the problem before opening the handpiece. Insert a high speed bur, checking that it inserts smoothly and tightens securely. Twist the bur manually to feel how smoothly it turns. Attach it to your air hose and run the handpiece (if you can). Check that air pressure is at 38 p.s.i.. Listen for the appropriate pitch at full speed and for a smooth rundown. Check the water spray – it should be a fine mist. Attempt to cut a shell to test the torque. Disassemble the handpiece following the instructions below.

DISASSEMBLY

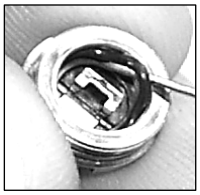
STEP 2
Remove the back cap using the MW L Back Cap Removal Tool (40408A).



STEP 3
Original Turbine: Place the flange on the back of the spindle into hole #4 of the work block. Note: Make sure the flange is completely inside hole #4 and not caught on the edge. This will avoid ruining the spindle when pressing it through the bearings and impeller as you disassemble the unit. Using the round punch (00024R), press the spindle through the bearings and impeller.

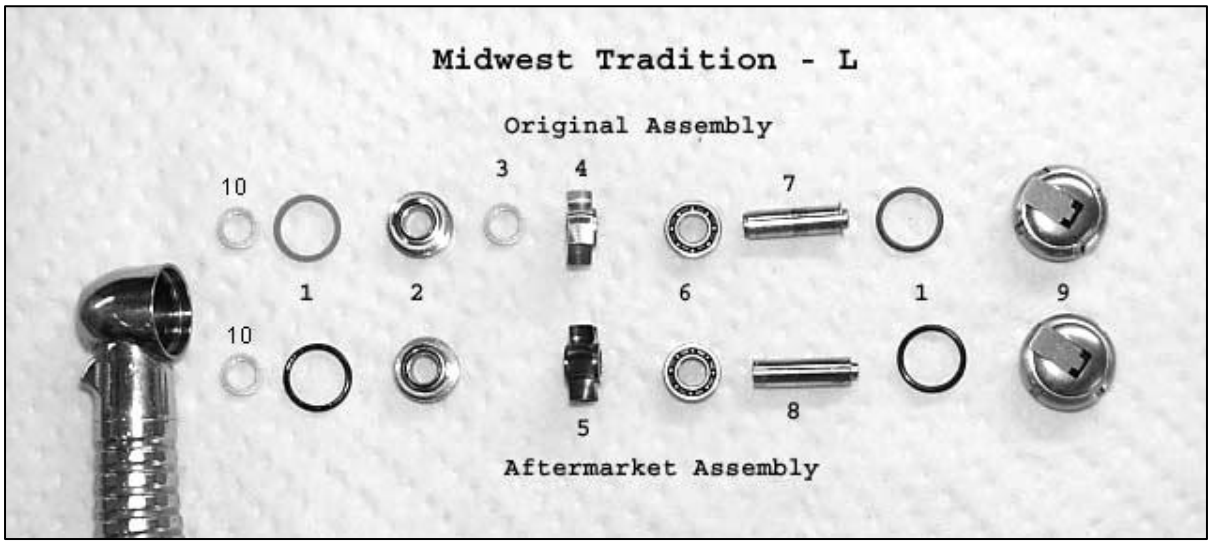
Aftermarket Turbine: The aftermarket spindle does not have a flange on it. To disassemble this turbine unit, place the spindle into hole #7 on the work block with the push button facing upwards, towards the ram of the press. Place the auto-chuck protector punch (00024 & 00024A) over the button on the spindle and press the spindle through the bearings and impeller.

STEP 4
Using a pin, remove the o-ring from the head of the handpiece.



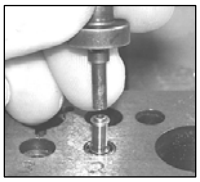
STEP 5
Remove the o-ring from the back cap, also. Set the old bearings and o-rings aside. Put the remaining parts into the ultrasonic cleaner until they are clean. Get the new parts from your inventory. Remember to thoroughly dry all parts after removing them from the ultrasonic cleaner.

The following picture is the exploded view of the Midwest Tradition – L. Both the original and the aftermarket turbine assemblies are shown.



Picture Number	Part Number	Description
1	404071 404072	O-Ring - Blue Square O-Ring - Black
2	40405A	Flanged Bearing
3	40497TS	Spacer Washer .017”
4	40498T	Original Impeller
5	40498	Aftermarket Impeller
6	40405D	Straight Bearing
7	40497TL	Original Remanufactured Spindle
8	40497L 40497L-A	Aftermarket Spindle with Impeller Timken Spindle with Impeller
9	40415AL	Lever Style Back Cap
10	40410D	Spacer Washer .015”

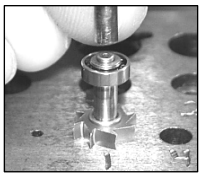
REASSEMBLY



STEP 6

Original Turbine: Place the rear bearing (40405D) into hole #2 of the work block with the balls of the bearing facing upwards. Place the original spindle into the bearing. Using the auto-chuck protector punch, press the spindle all the way into the bearing.

Aftermarket Turbine: Using the Midwest Impeller setting tool (00045) start by placing the impeller over hole #1 on the work block so that it will turn in a clockwise direction when assembled. Next, place the button in the tool press until the impeller bottoms out on the spindle.



STEP 7

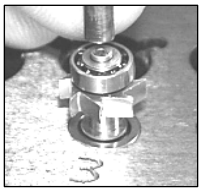
Original Turbine: Place the original impeller over hole #1 on the work block. Using the auto-chuck protector punch, press the spindle into the impeller.

Aftermarket Turbine: Place the rear bearing into hole #2 on the work block with the balls facing down. Insert the spindle into the bearing and press into place. If the bearing is loose on the spindle, a small amount of LocTite must be used to secure it to the spindle.

STEP 8

Original Turbine Only: Place the spacer washer (40497TS) onto the spindle.

STEP 9



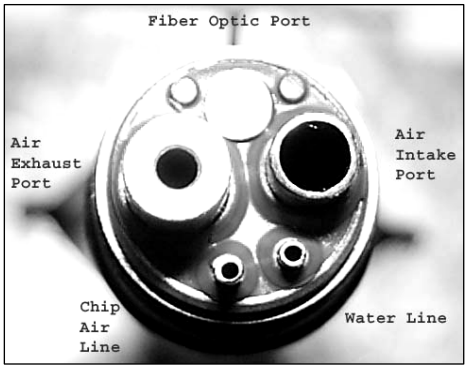
Original Turbine: Place the flanged bearing (40405A) with flange facing upwards, closest to the ram of the press, into hole #3 of the work block. Press the partially assembled spindle through the flanged bearing. Remember to add a 40410D spacer washer to the front of the spindle next to the front bearing.

Aftermarket Turbine: Place the flanged bearing (40405A) with flange facing upwards, closest to the ram of the press, into hole #3 of the work block. Carefully press the partially assembled spindle into the flanged bearing. Again, add a 40410D spacer washer to the front of the spindle next to the 40405A.

STEP 10

Original and Aftermarket Turbines: Place a new o-ring onto the flanged bearing and another one in the back cap. Using the pen oiler, place a drop of oil onto the o-ring in the back cap. Slip the rear bearing of the turbine assembly into the back cap. Insert the entire turbine assembly into the head of the handpiece. Thread the back cap into the head in a clockwise direction, being careful not to cross thread it. Tighten snuggly, using the back cap removal tool.

STEP 11 Test the handpiece by rotating the bur between your thumb and forefinger. The rotation should be smooth and easy, without drag.



TIP: *At first it may not feel as smooth as it should. Squirt a one second blast of The Dentist's Choice "Once a Day" lubrication into the air intake port. Put the handpiece on "air". Hold it at 38 p.s.i. for about 30 seconds. It should start to wind up to full speed. It will whine when it is at full power.*

TIP: *If it will not turn, recheck for a crimped O-ring! Don't forget to look for dents. Using your air hose, blast any debris out of the handpiece, including all of the water, chip and air lines. Then reinstall the o-rings, turbine and back cap.*

When testing the handpiece, flip the water on to make sure the water lines are clear. Always test for torque or cutting power. Use a seashell for testing the handpiece. A piece of plastic does <u>not</u> work, it melts. Remember when testing for torque, a Midwest Tradition - L will stop at about 6oz to 8oz of pressure. If it is not running properly it will stop the instant you touch something hard. If it cuts well and sounds good, it is done!