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DENTAL, INC.

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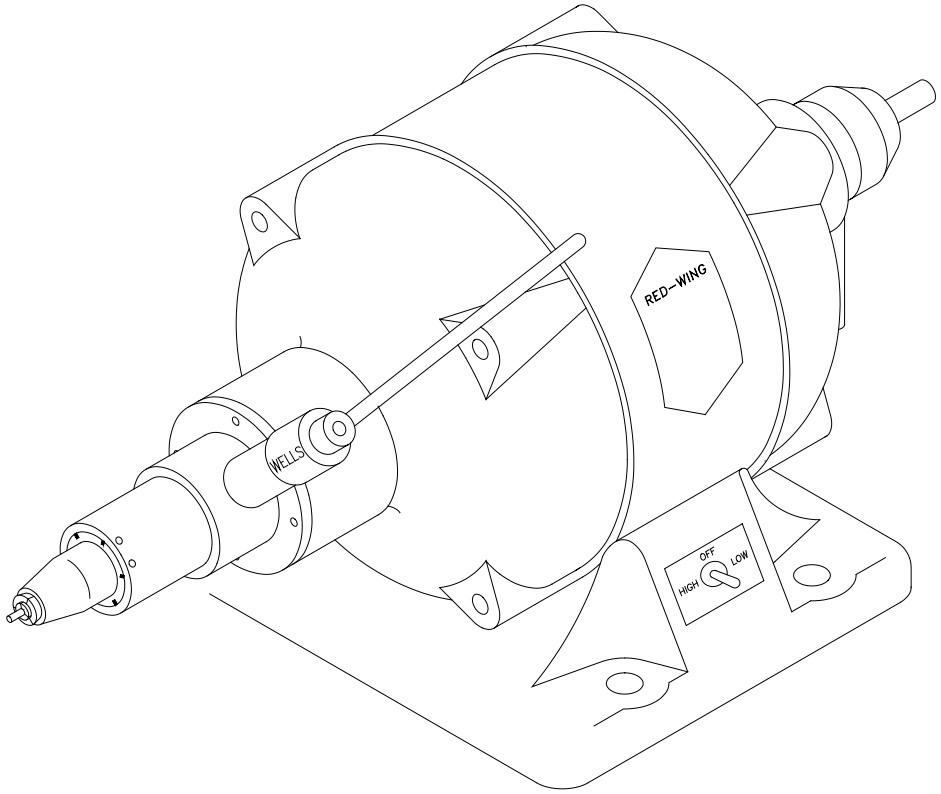
TECHNICAL BULLETIN
Q824-022510

READ ALL INSTRUCTIONS
BEFORE PROCEEDING
SAVE THIS FOR FUTURE REFERENCE

THIS PRODUCT IS FOR PROFESSIONAL LABORATORY USE ONLY

INSTALLATION OF WELLS SUPER QUICK CHUCK LEFT HAND ON RED WING LATHE



SUPER QUICK CHUCK LEFT HAND
Product No. Q011

SALES CUSTOMER SERVICE TECHNICAL ASSISTANCE
CALL TOLL-FREE: 1 800 233-0521

PHONE: (707) 937-0521, FAX: (707) 937-2809
MONDAY-FRIDAY, 8:00 a.m.-4:30 p.m. P.S.T.

NOTE: Because of the various attachment configurations, this manual may not apply in every detail to your specific application. If you have and difficulty or questions, please call Wells Dental, Inc. at 1-800-233-0521.

1.0 MATERIALS REQUIRED

1.1 The Red Wing lathe should be in good running condition. If it has noisy bearings, a worn switch, starting problems or excessive end play (greater than 1/32"), the condition should be corrected before proceeding with the installation. The condition of the tapered shaft is not important because it is not used.

1.2 A Q011 SUPER QUICK CHUCK LEFT HAND and a Q206 ADAPTER RED WING are required. See Figure 1.

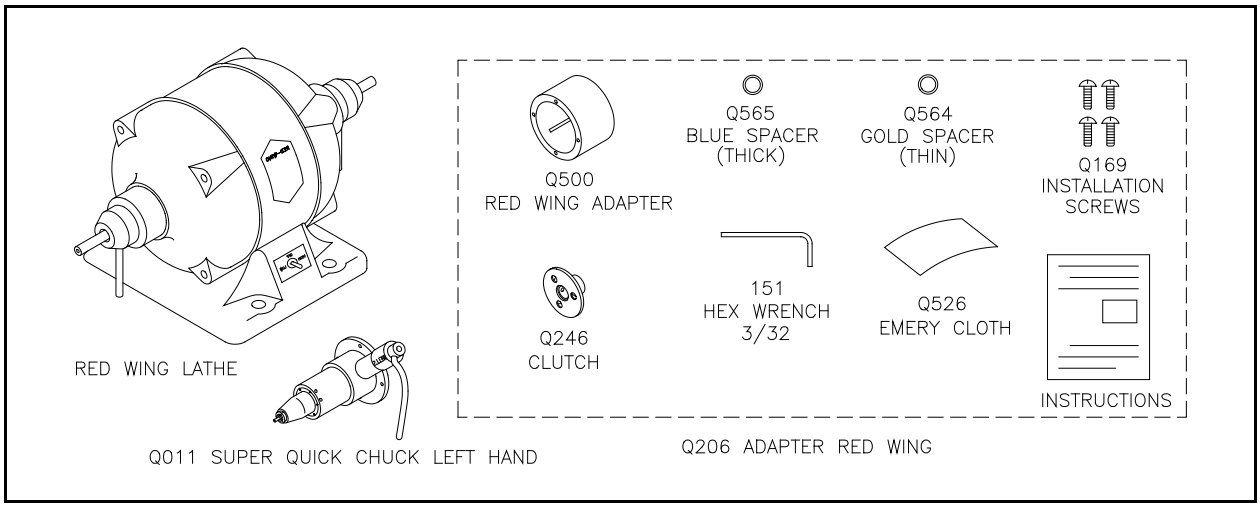


Figure 1. Materials

2.0 TOOLS NEEDED

1/4" straight blade screwdriver
9/16" socket or end wrench
3/8" socket or end wrench
Pair of pliers
File
Rule

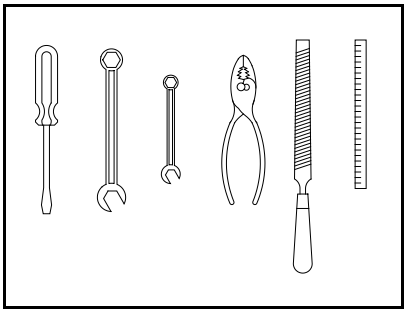


Figure 2. Tools

3.0 REMOVE THE LEFT SIDE THROW-OFF

UNPLUG THE POWER CORD. Remove the red plastic hub cover and unscrew the left side throw-off. See Figure 3. If the throw-off is in two pieces, **REMOVE THE SET SCREW** in the hub with the 3/32 hex wrench and remove the male threaded portion.

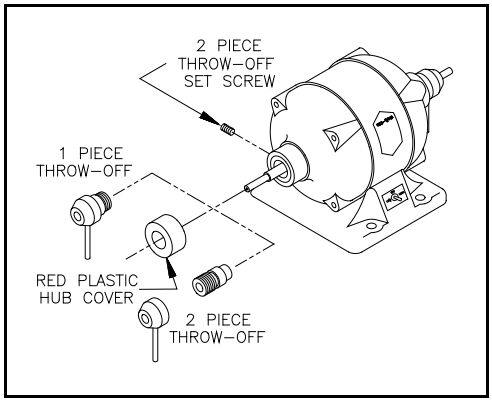


Figure 3. Left side throw-off

4.0 DETERMINE THE SHAFT END PLAY

4.1 Put a thickly folded shop towel in the palm of your hand and push firmly (50 lbs force) on the left end of the shaft. If any movement is detected in this direction, the lathe must be dismantled to adjust the end play; go directly to step 5.0.

4.2 If a Super Quick Chuck is **not** installed on the right side of the lathe, push on the right end of the shaft while measuring the protrusion of the left end. See Figure 4. You may need an assistant to push the shaft while you measure. If the end play is greater than 1/32" the lathe should be shimmed; go to step 5.0.

4.3 If the end play is 1/32" or less when the **RIGHT** end of the shaft is pushed and a Super Quick Chuck is **not** installed on the right side, skip step 5.0 and go to step 6.0.

4.4 If a Super Quick Chuck is to be installed on both the left and right side of the lathe, there should be less than 1/64" or **NO** end play from either the right or the left end.

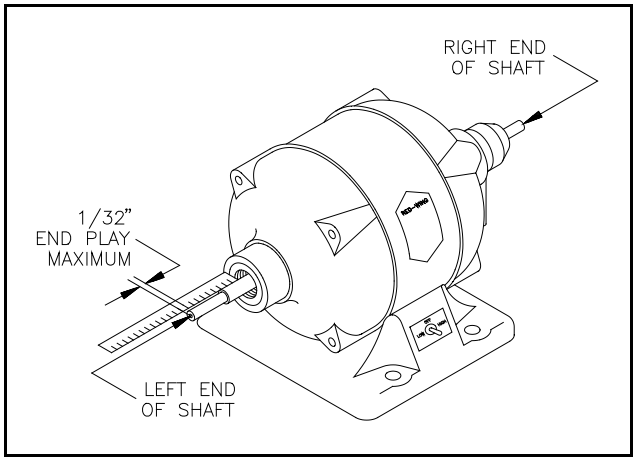


Figure 4. Shaft end play

5.0 DISASSEMBLE AND SERVICE THE LATHE

5.1 **CHECK THAT THE POWER CORD IS UNPLUGGED.**

5.2 Turn the lathe upside down and remove the four base plate screws, rubber feet and base plate. See Figure 5.

5.3 **LOOSEN** the two right side base bolt(s).

5.4 **REMOVE** the two left side base bolt(s) and lock washers.

5.5 Remove the four nuts on the thru-bolts.

5.6 Tap the rim of the left end bell with a screwdriver and hammer to loosen it. Remove the end bell but do not remove the rotor at this time. Remove all the washers from the left side of the rotor. They may be on the shaft, stuck to the left side bearing or inside the end bell. Keep the left side washers with the left end bell.

5.7 Carefully remove the rotor then remove all the washers from the right side. They may have fallen between the right end bell and the stator. They may be on the shaft, stuck to the right side bearing or inside the end bell. Keep the right side washers with the right end bell.

5.8 Clean the grease and dirt from the rotor and end bells paying particular attention to the outside bearing surfaces and inside the end bells where they rest. Check that the bearings slide freely in each end bell. If necessary, polish the outside of the bearings and the inside of the end bells with emery cloth.

5.9 **IMPORTANT:** If a Super Quick Chuck is **not** installed on the right side and the **SPRING WASHER** is on the right side, move the spring washer to the left side and move **ONE SPACING WASHER** from the left side to the right side in exchange. If a Super Quick Chuck is installed on the right side, leave the spring washer where it is.

5.10 Apply a very thin film of grease to the outside of the bearings, the washers and the inside of the end bells.

5.11 Install the spacing washers for the right side into the right end bell. Install the spring washer last so it will be next to the bearing. NOTE: If you have a finger type spring washer, the fingers must face **TOWARD** the bearing.

5.12 Carefully install the rotor into the right end bell paying particular attention to the wires and internal starting switches.

5.13 Install the spacing washers for the left side into the left end bell.

5.14 Install the left end bell. Rotate the end bell to align the thru-bolts. Start the nuts onto the four thru-bolts and tighten in an alternating pattern so that the end bells are pulled together evenly.

5.15 If a Super Quick Chuck is **not** installed on the right side, check the shaft end play as in step 4.2. There should be detectable end play less than 1/32" when pressure is applied to the right end of the shaft. If there is excessive end play, an additional spacing washer needs to be installed on the right side. If a Super Quick Chuck is to be installed on both sides of the lathe, there should be less than 1/64" or **NO** end play from either the right or the left end. Add spacing washers until there is no detectable end play in either direction.

5.16 Rotate the shaft by hand. It should turn freely. If it does not, disassemble the lathe and remove a spacing washer.

5.17 Install the two left side base bolts and lock washers and tighten all four base bolts.

5.18 Install the base plate and the four rubber feet with the base plate screws.

5.19 Plug in the power cord and check that the lathe starts and runs properly on both high and low speeds.

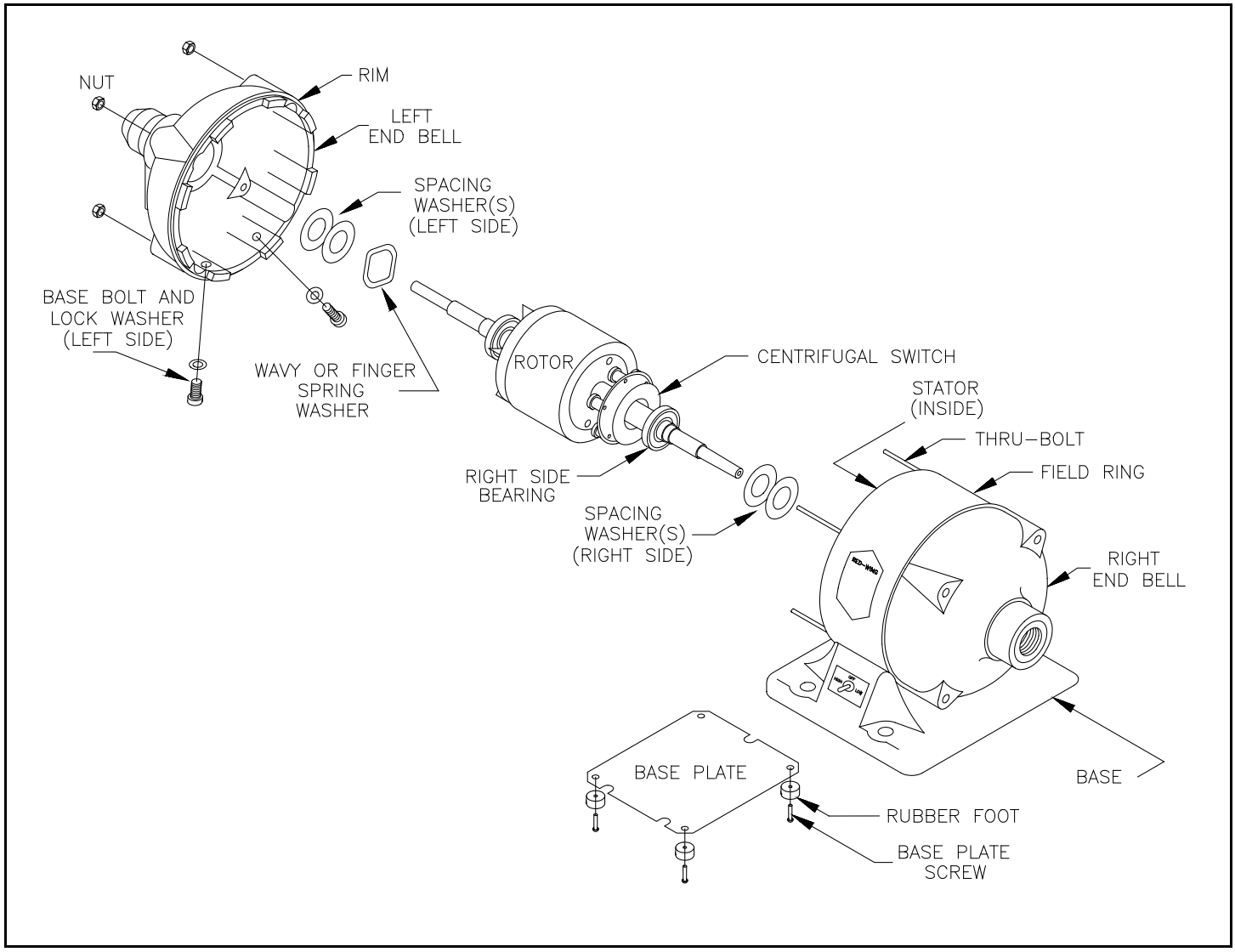


Figure 5. Exploded view of the Red Wing lathe

6.0 PREPARE THE HUB AND SHAFT

6.1 **CHECK THAT THE POWER CORD IS UNPLUGGED**.
6.2 Scrape and clean all the paint from the lathe hub.
6.3 Remove burrs from the 1/2" dia. shaft with the emery cloth.
6.4 File a flat on the shaft where the clutch set screw contacts the shaft. See Figure 6.
6.5 The clutch should slide into place without binding. Use the emery cloth to remove any high spots.

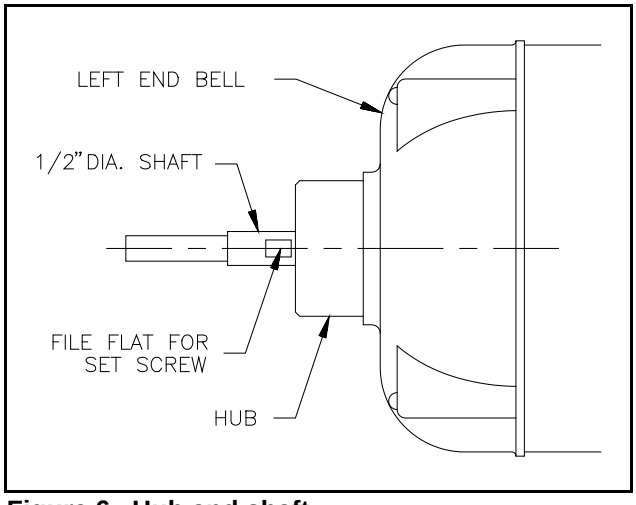


Figure 6. Hub and shaft

7.0 INSTALL THE CLUTCH

7.1 With the fiber side of the clutch facing away from the lathe, slide it onto the shaft until it stops. Measure the clearance between the hub and the clutch. See Figure 7. If it is less than 1/16", remove the clutch and install the thinner gold spacer. Recheck the clearance. If it is still less than 1/16", remove the gold spacer and try the blue one. If the clearance is still less than 1/16" install both spacers.

7.2 Put a very thin film of grease on the shaft and install the clutch so the set screw will tighten on the flat that was filed. Hold the clutch all the way on and tighten the set screw securely. Recheck the clearance.

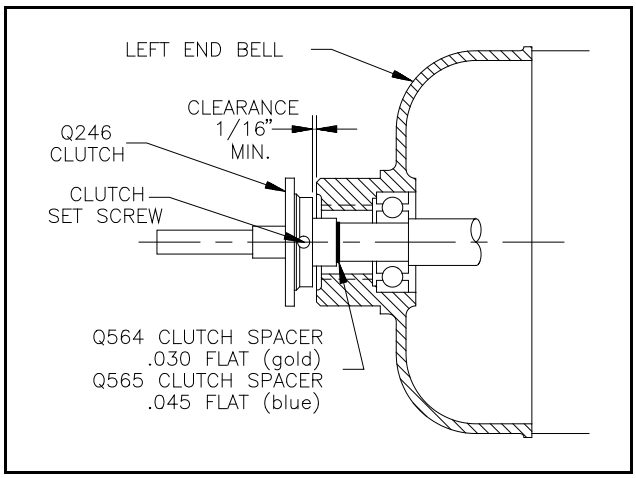


Figure 7. Clutch position

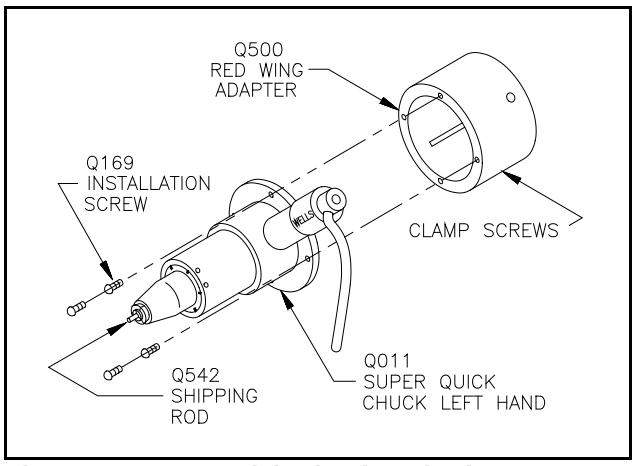


Figure 8. Super Quick Chuck and Adapter

8.0 FASTEN THE QUICK CHUCK TO THE ADAPTER

8.1 Loosen the two clamp screws on the adapter.

8.2 Fasten the Quick Chuck to the adapter using the four installation screws.

9.0 INSTALL THE QUICK CHUCK ASSEMBLY

9.1 Confirm that the Quick Chuck handle is in the shipping position. See figure 10. Slide the Quick Chuck and adapter assembly all the way onto the lathe hub. It may be necessary to open the slot in the adapter with a screwdriver. **CAUTION:** It should only take a small amount of pressure to open the slot or to slide the assembly into place.

9.2 Align the Quick Chuck on the hub so that the handle shaft points at a 45 degree angle above horizontal. See Figure 9.

9.3 Tighten the two clamp screws just enough to hold the Quick Chuck in place.

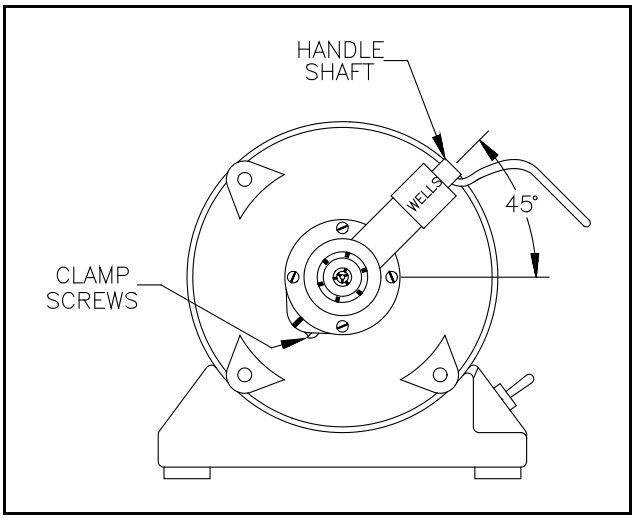


Figure 9. Left end view

10.0 ADJUST THE HANDLE POSITION

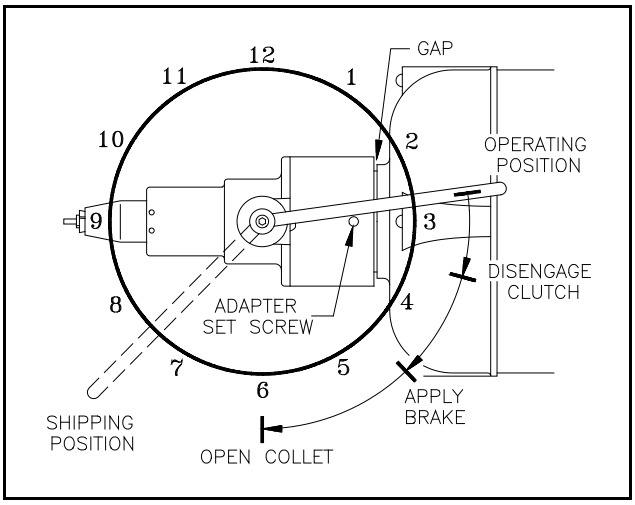


Figure 10. Handle position

10.1 Confirm that the handle is in the shipping position, that there is no gap between the lathe and the adapter and that the shipping rod is in the collet.

10.2 Slowly move the handle counterclockwise until it is in the operating position, 2:30 o'clock. NOTE: As the handle is moved, the adapter will slide on the hub and leave a gap between the lathe and the adapter.

10.3 Tighten the two clamp screws.

10.4 Move the handle to the open collet position at 6:00 then ease it back to the operation position several times. The handle should come to rest at 2:30.

10.5 If the handle stops **HIGHER** than 2:30, move the handle to the shipping position, loosen the two clamp screws and move the adapter closer to the lathe (less gap). Repeat steps 10.3 and 10.4.

10.6 If the handle stops **LOWER** than 2:30, loosen the two clamp screws and move the adapter further away from the lathe (more gap). Repeat steps 10.3 and 10.4.

10.7 Move the handle to the open collet position and start the lathe. Check that the handle returns to the operating position, that the clutch does not slip and that there is no excessive noise.

10.8 Turn off the lathe. Retighten the two clamp screws, first one, then the other alternating several times until the screws are **TIGHT**.

10.9 Tighten the adapter set screw. This completes the installation of the WELLS Super Quick Chuck.

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