

WEN 4214T Motor Replacement Guide

This a guide for replacing the motor on a WEN 4214/4214T drill press. If at any point you need assistance, have questions, or want to order parts, call WEN customer service at 1-800-232-1195, M-F, 8-5 Central Time, or email techsupport@wenproducts.com.

If replacing any parts, use only genuine replacement parts purchased from WEN Products. Use of replacement parts not sold by WEN Products will void the product's warranty and could lead to decreased performance or injury.

TOOLS NEEDED

- Phillips-head screwdriver
- Circlip pliers
- Needle-nosed pliers
- #3 metric hex wrench
- 13mm wrench
- Adjustable head wrench
- Rubber mallet
- Level

PREPARING THE DRILL PRESS

1. To prepare the drill press for the motor removal procedure, turn the drill press on and adjust it to maximum speed. Turn off the unit and unplug it from the power source. At the pulley's maximum speed setting, it will be easier to remove the belt and the motor pulley assembly.

ENSURE THAT THE DRILL PRESS IS TURNED OFF AND UNPLUGGED FROM THE POWER SOURCE BEFORE BEGINNING ANY MAINTENANCE OR REPAIR. FOLLOW ALL SAFETY PROCEDURES LISTED IN YOUR OWNER'S MANUAL. USE COMMON SENSE. AVOID INJURY.

REMOVING THE MOTOR PULLEY ASSEMBLY

1. Open the drill press lid by removing the screw circled in yellow in Figure 1.



Figure 1. Lid Screw

2. Remove the circlip at the top of the motor pulley assembly using circlip pliers as shown in Figure 2.

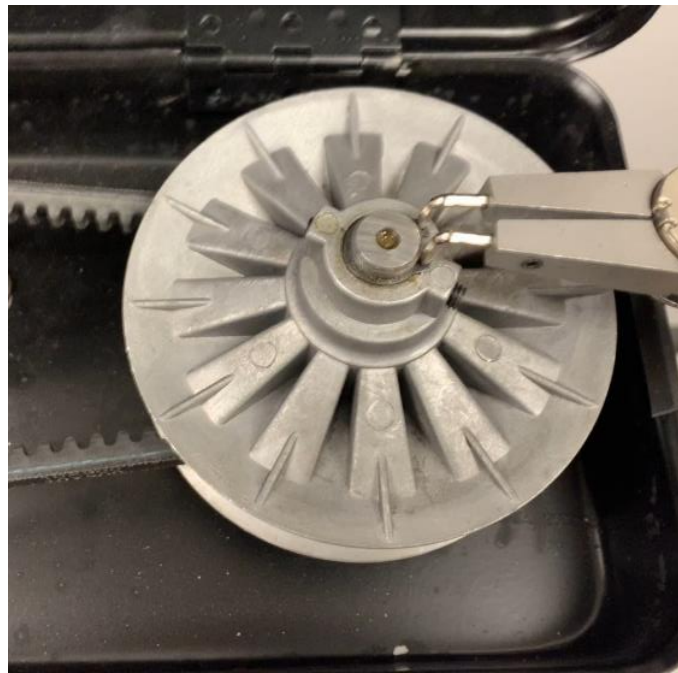


Figure 2. Removing the Circlip

3. Once the circlip is removed, loosen the set screws using a #3 metric hex wrench as seen in Figure 3. If the motor shaft is well-lubricated, the pulleys may pop-off once the set screws are loosened. If they do not, firmly work the pulleys off the shaft. If the pulleys are stuck, WD40 can be used to lubricate the shaft. A gear-puller can also be used.

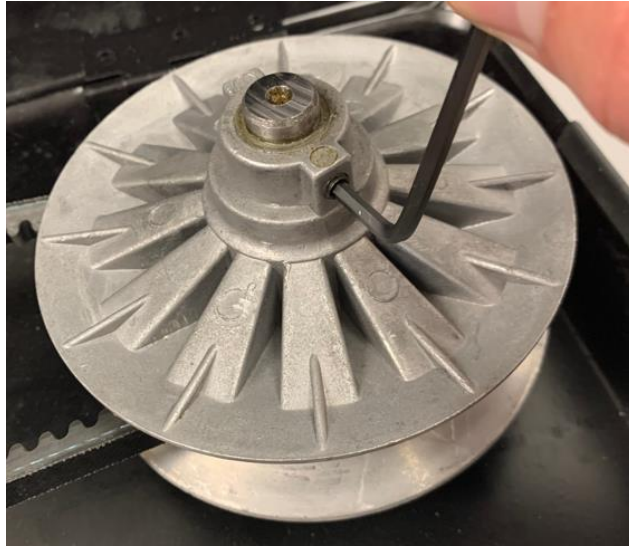


Figure 3. Loosening the Set Screws

4. Once the pulleys are removed, the motor shaft will be fully exposed as shown in Figure 4. Remove the spring (circled in yellow) and store it in safe place. You will need to put the spring back in place once the motor has been swapped out.

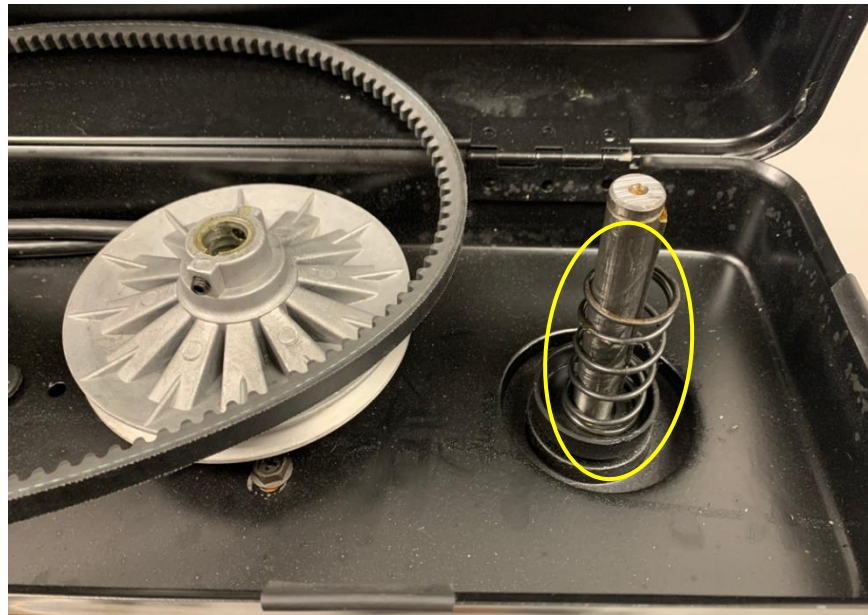


Figure 4. Motor Pulley Assembly Spring

UNWIRING THE MOTOR

1. Once the pulley assembly is removed, the motor will need to be unwired. Start by unscrewing the wire clipped located next to the motor, as shown in Figure 5.



Figure 5. External Motor Cable Clip

2. Inside the drill press case, there are three additional wire clips, as shown in Figure 6. Remove these clips as well, noting which wire is coming from the motor. It may be helpful to take a picture of the wire routing for when you have to re-route the motor wire.

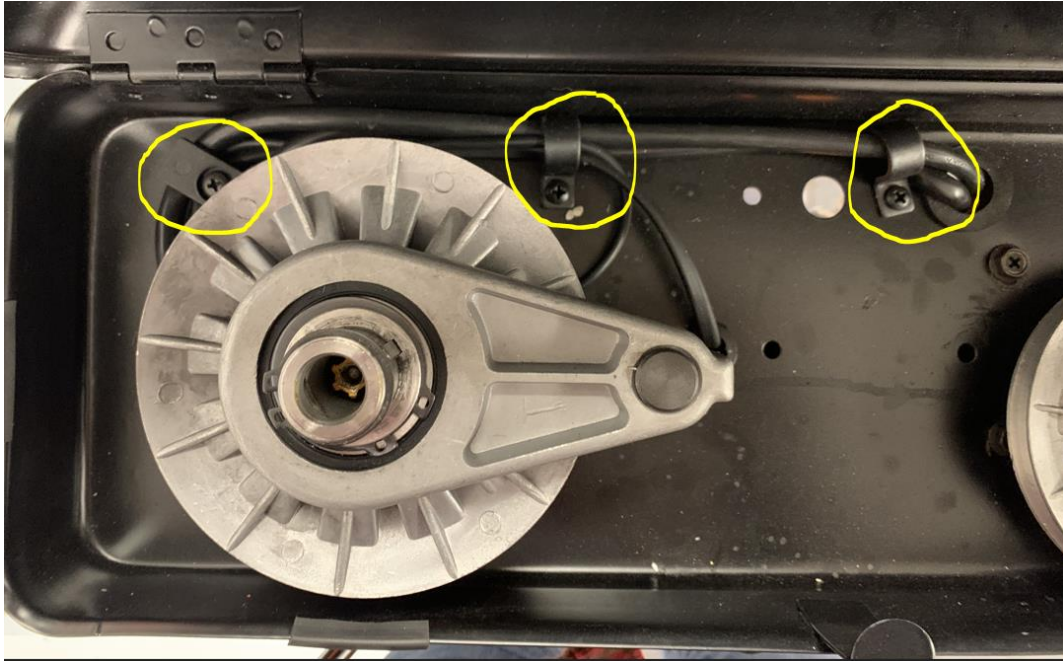


Figure 6. Internal Cable Clips

3. Next, open up the switch box by removing the three switch box screws as circled in yellow in Figure 7. **MAKE SURE THE DRILL PRESS IS UNPLUGGED BEFORE OPENING THE SWITCH BOX.**



Figure 7. Switchbox Screws

4. Inside the switch box, you will need to disconnect the motor wires. Start by unscrewing the green ground wire from the body of the drill press, as circled in yellow in Figure 8. Make sure not to lose the ground screw, as you will need to re-attach the ground wire of the new motor to the drill press body.

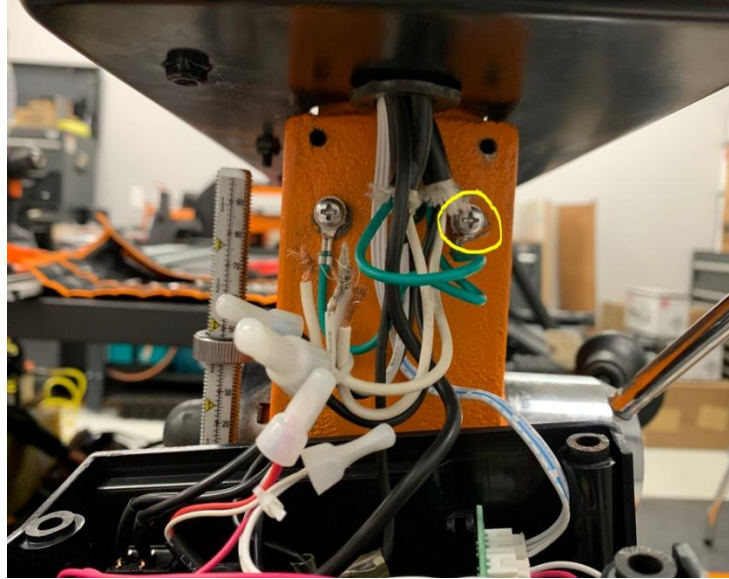


Figure 8. Ground Wire Screw

5. Next, trace the white wire from the motor's power cord and undo the white plastic end cap that it terminates in as shown in Figure 9. This cap has a thin inner metal sheath that allows it to be crimped to the wires. First undo this crimp (by squeezing the flattened part of the cap and making the cap circular) using needle-nosed pliers and then the cap should easily slide off.

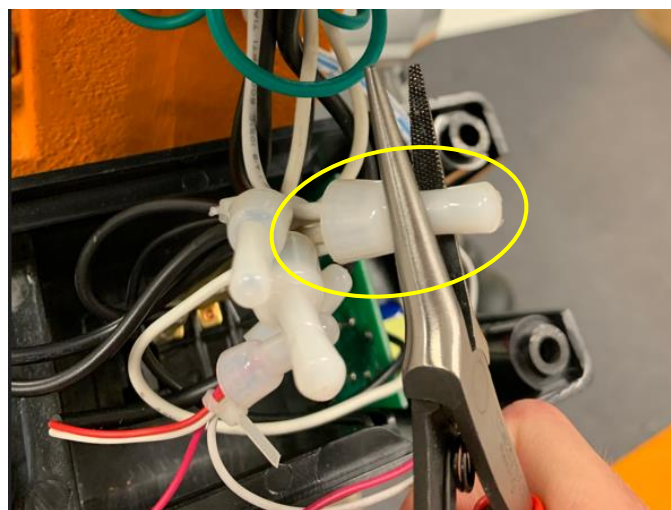


Figure 9. Uncrimping the Plastic End Cap

6. Once the wire cap is removed, untwist the motor wire from the other wires.
7. Next remove the black motor wire from its terminal location on the switch, as shown in Figure 10. Using needle-nose pliers, gently and firmly pull the motor wire connector from the switch terminal. Pull directly up from the switch terminal (not at an angle but 90 degrees upward) so that the terminal does not bend or become strained.

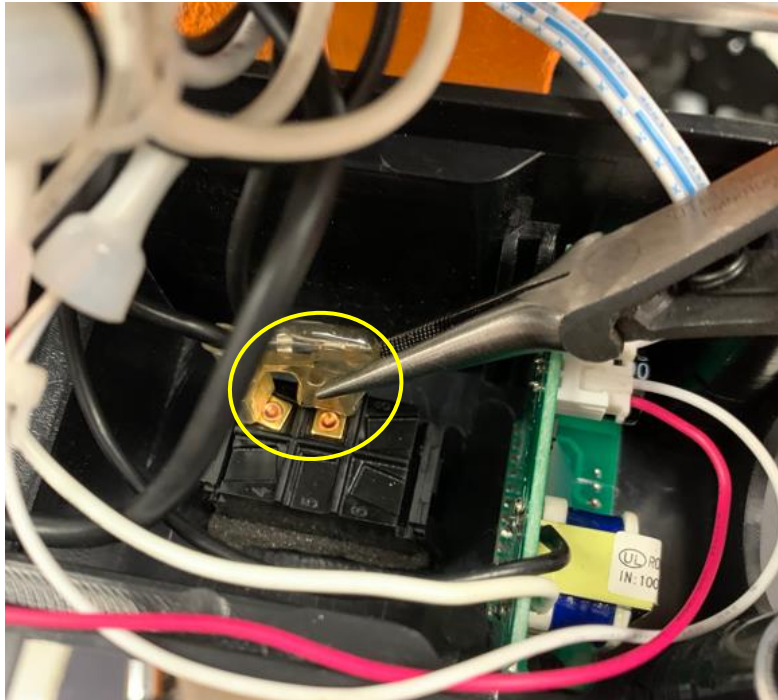


Figure 10. Motor Wire Switch Connection

8. Once the motor wires are disconnected, un-thread the wire cable through the drill press lid. Note how the wires are threaded and connected, as you will need to re-thread and connect the wires of the replacement motor.

REPLACING THE MOTOR

1. Once the motor was been unwired, the motor can be unbolted from the drill press head. Using a 13mm wrench in combination with an adjustable wrench (or another 13mm wrench), unbolt the motor as shown in Figure 11. **TAKE CARE WHEN REMOVING THE LAST BOLT, AS THE MOTOR WILL FALL OFF AND COULD CAUSE INJURY TO FEET OR BODY. HAVE AN ASSISTANT HELP HOLD THE MOTOR WHILE THE FINAL BOLT IS REMOVED.**



Figure 11. Unbolting the Motor

2. Once the motor is unbolted and fully removed from the drill press, bolt the new motor onto the drill press in the same fashion. Using a level, make sure that the motor (and the motor shaft) is vertical and not skewed to the left or right. Securely tighten the motor bolts.
3. Re-thread the motor cable through the drill press lid and into the switch box. Re-attach the 4 wire clips which were previously removed.
4. Re-wire the motor wires to the switch box. Re-attach the black wire connector to the switch terminal. Re-attach the green ground wire to the drill press head.

5. Re-wire the white motor wire with the other white wires from which the plastic cap was removed. As shown in Figure 12, securely re-twist these white wires together. It is important that all the wires have the exposed metal strands touching each other so that the connection is strong. Place the plastic cap back over the twisted wires and then re-crimp the cap with needle-nose pliers. Gently try to pull the cap off to make sure it is securely crimped. If it falls off, tightly re-twist the wires, push the cap fully onto the wires, and tightly crimp the cap.

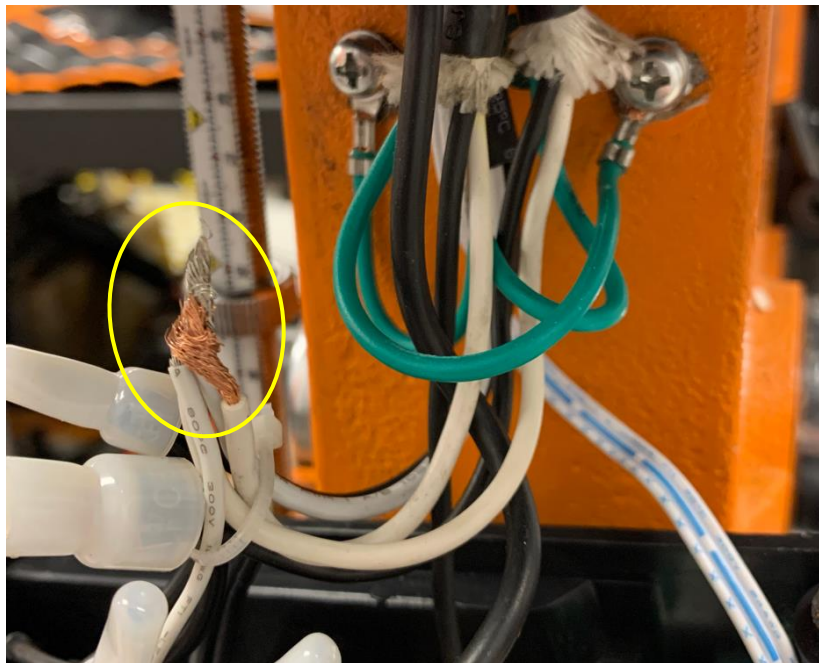


Figure 12. Twisting the Wire Connection

6. Re-attach the switch box with the three switch box screws.

REATTACH THE MOTOR PULLEYS

1. Place the pulley spring back onto the motor shaft.
2. Slide the bottom pulley onto the motor shaft, lining up the key slot. Place the belt over the bottom pulley and the shaft

3. Slide the top pulley onto the shaft. This can be difficult, as the spring is trying to push upward, the bottom pulley and belt must compress the spring in order for the top pulley to push pass the circlip ring on the motor shaft. A rubber mallet may be used to force the top pulley onto the shaft, just make sure that the key slot is lined up.
4. Once the pulley assembly is on the shaft, quickly tighten the set screws before the assembly pops off.
5. Using circlip pliers, put the circlip back on the motor shaft. Make sure the circlip fits into the circlip groove on the motor shaft. The pulley assembly may have to pushed lower on the shaft.

QUESTIONS? PROBLEMS?

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