

INSTRUCTIONS -

CASICA TECH MODIFIED SHAPING PLANER

BASED ON MAKITA® MODEL KP0810



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IMPORTANT NOTES:

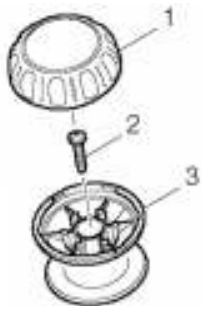
- Please read the Makita® instruction manual before using this tool. All original safety warnings and precautions apply. Maintenance instructions for belt, brushes, and blades per manual should be followed exactly.
- Please read these conversion instructions thoroughly before starting.
- Makita 1 year warranty is void as the tool has been altered after this conversion.
- Casica Tech assumes no responsibility for any injury or damage caused by conversion of this tool. The conversion design does not significantly change the basic operation of this tool nor alter electrical safety features (i.e. double insulation). It is the users responsibility to follow all conversion instructions especially on the electrical procedures as stated.
- Casica Tech is NOT affiliated with the Makita Corporation and they do not endorse this modification of their original product. All reference to the KP0180 model is for application of this modification kit and not a product name of Casica Tech.

OPERATING NOTES:

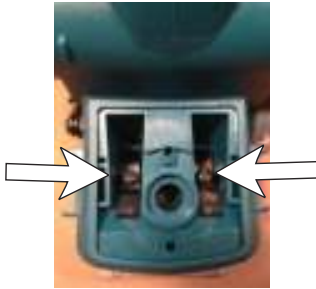
- This planer uses a cam / follower design which moves the shoe both upwards and forward at the same time and ratio. A characteristic of this design is that the shoe seems like there is slight delay when turning. This is due to the high force needed to engage the cam in the follower which causes torsional flex (twisting) of the long cam shaft. To minimize this, a lighter version of the original clicker is used which will significantly reduce this play.

TOOLS NEEDED:

- Dremel or other rotary tool with wood cutting and sanding bits. Small hand saws, files, chisels, hand sanding can also be used, but it's faster with a rotary tool. Some of the cuts in the photos were done on a bandsaw and finished with a bench-top 1" belt sander.
- Phillips and flat screwdrivers, 2 - 24" (60cm) quick-clamps, electrical terminal crimping tool and/or soldering iron, big pliers or channel-locks. A good type of epoxy putty like the kind for metal repairs, not the soft type used for plumbing leaks. Small orbital sander will also make things go faster.
- Protect the blades at all times, they chip very easily. Remove them first or work on a piece of carpet and rotate the cutter so they're not exposed.



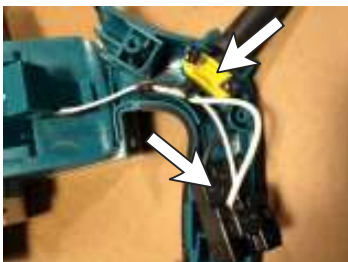
1. Remove front knob: Pry off cap (1) from (3). There's a small notch under (1) to fit a small screwdriver. Remove screw (2) and pull off knob (3). Remove clicker balls and springs (use magnet) from holes in housing under knob. Remove plate printed with depth scale. Keep screw and plate, and the clicker balls.



2. Remove these 2 screws, pull out the flat springs underneath. Pull the shoe out from under the housing and push out the cam. Keep screws, shoe and flat springs, cam is not reused.



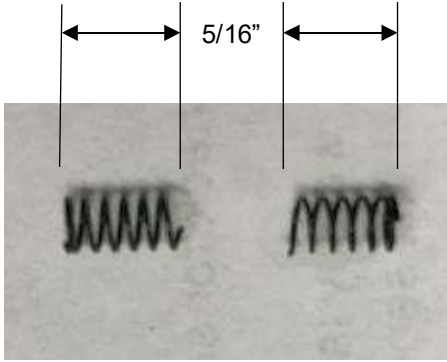
3. Remove the 5 handle screws and pull off vacuum port plug. One side of the handle will pull off, the other is snapped into the housing at rear. Pry the snap lock with a flat screw driver (photo) while tapping the side of the handle off. Doesn't matter if you break it, just don't tear up the housing getting this off.



4. Remove the wires from the switch and remove cord clamp. There should be nothing left attached to the planer just the white & black wires coming out of the motor. Keep the cord unless installing the 3-wire option. Keep with the rubber boot in either case.



5. Inside the interlock button (push button on handle) is a spring. Carefully remove this by putting a nail or other pointed object inside the spring so it doesn't fly off.



6. Cut the spring in half with wire cutters so that each piece is 5/16" (8 mm). Cover it when you cut so the pieces don't fly away, they will never be found again.



7. Your Makita came with a fence like this. Remove the thumbscrew shown and put aside. This is the longer of the two screws and may have an O-ring holding it, just cut it off.



8. Remove the 4 screws attaching the base and remove. Remove the little kick-stand and spring at the rear and discard. Keep the base plate and screws.

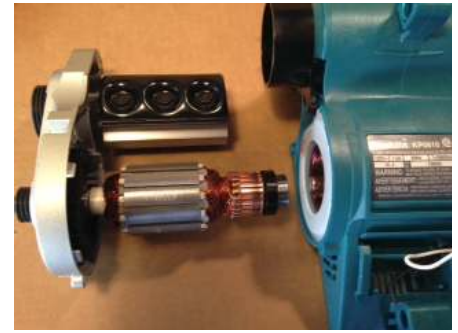
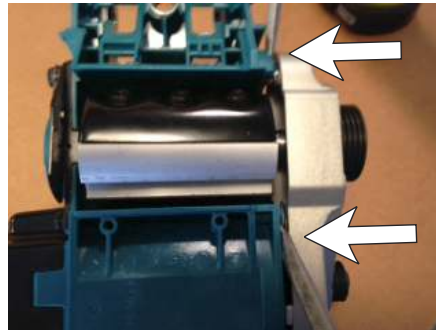
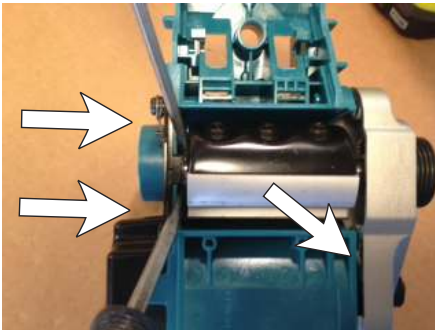


9. Remove the belt cover (1 screw). Remove the belt by prying with a flat screwdriver as shown and rotating the left pulley until the belt winds off.



10. Remove the 4 screws attaching the aluminum cover. Remove the 2 screws on the motor cover on the opposite side. Pry out the brushes and holders with a small

screwdriver.

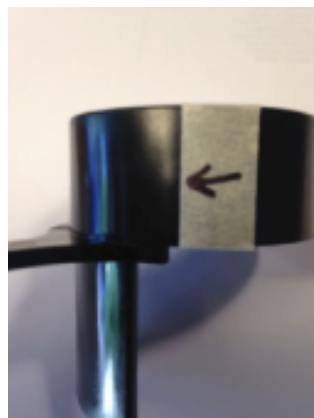


11. Insert 2 flat screwdrivers between the cutter and the housing, away from the blades. Pry gently until you see a small gap form between the metal cover and housing (right arrow).

Put the screwdrivers in the gap at the cover and wiggle it until it comes off. The motor armature and cutter will go with it. Wrap the cutter in bubble wrap, paper, etc. to protect the blades.



12. Pull out the black plastic adapter from the vacuum port.



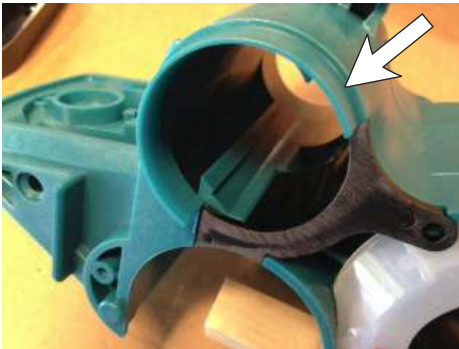
13. The adapter will be cut along the edge of the tape marked with the arrows (2 cuts). There are notches (steps) in the part where the cuts will finally be, but tape 1/16" (1.6 mm) away from these features as allowance for the rough cut. Part will be sanded / filed to final edge later.

Will look like this when rough cut:





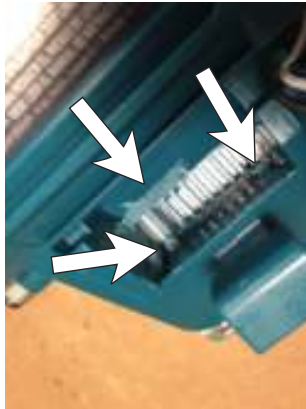
14. The next cut is right at this inside corner, tape 1/16" away as before and rough cut. Sand / file this cut until flush with the face. Smooth the other cuts also.
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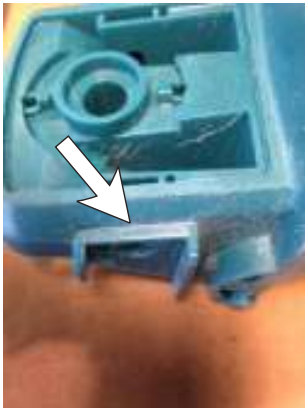
15. Fit the adapter back into the housing. The housing must be trimmed along this inside corner at the arrow flush with adapter; rough cut then sand smooth.
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16. There is a raised feature inside the port, measure in from the edge 5/8" (16mm) and mark. Grind this down so that the opening is circular. There's another one directly above (not shown), grind that one down also. No need to be pretty, leave rough.



- 17.** In the rear, there's a big tab and 2 small ones which must be removed. The big one can be grabbed with pliers and twisted until most is broken away, then grind out with whatever dremel bit will fit. Alternately, you can use a sharp chisel and carve them out. Leave rough, this will be covered.
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- 18.** These 2 raised features at the front of the housing will have to be removed so that they won't interfere with holding the planer with the new knob. Grind / cut down, sand smooth.

If you are installing the 3-wire cord, see the separate instructions since there is more additional grinding/cutting.



- 19.** NO MORE CUTTING / GRINDING! Blow all the dust inside and outside off the planer. Be thorough in the motor area. Install the black adapter and push in the plug from the kit.



20. Well, I didn't say there would be no more sanding. Fill the grooves in the shoe with epoxy putty and sand smooth. You may have to do it twice.



21. Put the cover plate with the cutter and armature partially into the housing and turn it over.

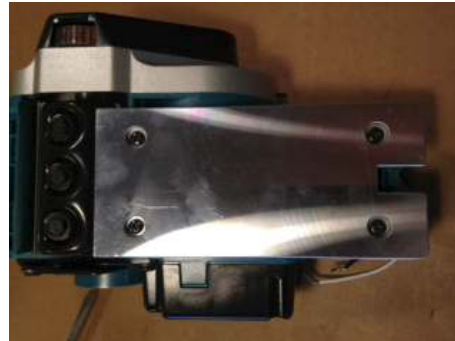


22. Push in further and make sure that the bearing is aligned with the hole in the cutter or else it will jam. The motor will pretty much align itself.

Put 2 quick-clamps on as shown and alternately tighten until the cover is on. If it jams, check that cutter bearing. You may need to adjust the clamps from the pulleys to the cover. Once on spin the motor and cutter and check for free movement.



23. Reinstall the screws into the cover then reset the brushes on the opposite side. Angle them in as shown, then push them flat as the brushes retract into the holders. You may need to fully push the holders down with a screw driver. Second photo shows fully seated.



- 24.** Take the 2 wires from the motor out of the plastic guide on top. Re-route them through the hole below as shown. Pull them tight. Then replace the motor cover (2 screws) and the base plate (4 screws). Leave off the baseplate if using the 3-wire cord.
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- 25.** Install the new white cam from underneath, red dot should be angled forward. Install the shoe with the cam in the follower-recess. Secure the shoe with the flat springs and screws. Make sure that the hole in the spring is towards front and that both are straight before tightening the screws. Adjust the springs by first tightening the screws all the way, then backing out each until you can wobble the shoe front to back, then re-tighten 1/4 turn or until the wobble just stops. Don't worry if the screws aren't tight, the flat springs will keep the tension.
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- 26.** Drop in the cut springs (from step 6) into the holes, then the balls before installing cover plate. Carefully put the cover plate on; the balls can fall inside and not fun to get out.



27. Orient the flat sides of the cam as shown in left photo. Hold the lower knob so that the pointer is on the left. Now look under it and orient the flat sides of the hole to the cam. Push the lower knob over the cam then install with the flat head black screw from the kit and tighten securely.



28. Check the rotation of the lower knob: Grip with channel locks, turn and verify that the pointer stops at zero and 1/8 marks on the depth scale. If it does, rotate back and forth a few times to seat the cam in the follower. CAUTION: Do not use excessive force when turning; it may be tight but should still turn freely. Loosen the screw about 1/8-1/4 turn while checking rotation again, this will make it easier to turn.

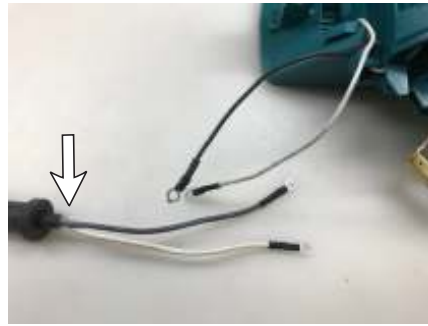
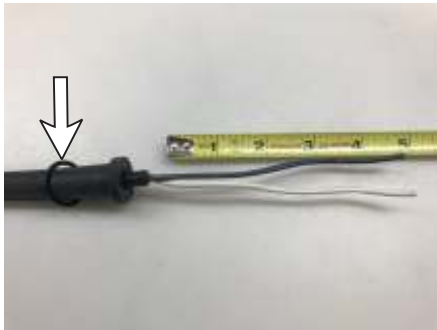
If the knob doesn't engage the two stops or if it seems impossible to turn, then the cam is probably in backwards. Disassemble and go back to step 25 and start over.



29. Assemble the upper knob as shown, tighten the big screw. Then install the thumbscrew (step 5) using the spacer and flat washer. Do not tighten yet, check that it doesn't protrude into the big hole of the collar. If so, back it out. Same with both of the setscrews. This may come pre-assembled in the kit, if so ignore this step.



30. Turn the lower knob (with pointer) so that the lever is pointed straight ahead and the point is at 1/16 cut. Apply downward pressure on the round knob with a quick-clamp between the top of the knob and shoe. Tighten the setscrews (alternately) and the thumbscrew last (use padded pliers). In the same order, go back and tighten all securely. Remove the quick-clamp and check the rotation, the lever should move only between the two corners of the housing (90°) and hit the stops. To get the thumbscrew vertical, tighten it more using padded pliers. Check again that the pointer stops at zero and 1/8 marks on the depth scale. Remove the clamp.



31. If running the cord up a vacuum hose and it needs to be shortened, do it now. Otherwise, leave the cord at factory length. If you are installing the 3-wire cord, see the separate instructions and ignore the rest of this step. Attach the cable tie around the wires (not jacket) at the arrow.

Trim back the rubber insulation about 5" (1.25cm). Crimp the terminals on the wires from the cord and the motor. If you don't have the proper crimp tool, solder them. Put the black washer on the boot (arrow). Put the heat-shrink tubing over the terminals as shown. Shrink down with a heat gun / lighter / matches / candle or whatever your habits acquire. Just don't burn the house down.



32. Install the shorter threaded standoff into the lug on the front of the planer body. Then install the front handle support with the black spacers between the lug and the support (arrows). Thread in the 5/8" long screws (flat washer then lockwasher under screw head) loosely.



- 33.** Remove the switch from the handle (black screw) then remove the terminal screws. Attach the wires as shown to the switch: Left - cord wires, right – motor wires. White at top of switch, black at bottom. Trim the cable tie if you haven't already.



- 34.** Install the longer threaded standoff in the body lug as shown. Push in about 1/4" past the end of the lug, then push in the white spacer flush. The opposite end of the standoff will hang out of the lug. Tap the spacer end with a small hammer if necessary.



- 35.** Install the left side of the handle as shown and secure with the 5/8" long screw in the opposite side and tighten fully. Lock washer goes under screw head then flat washer.



- 36.** Install the switch in the left handle half with the smaller self tapping screw. Position the rubber cord boot as shown with the black washer in the handle groove and the cable tie in the opening. Dress the wires as shown: Cord wires in the left handle slot and motor wires in the right side slots. Then the wires pass over the lug in the body and down, make sure the wires are not pitched between the handle and lug. Push the wires into the two slots in the lower part of the handle (not shown) and dress them straight down so they won't get pinched by the other handle half. The handle may wobble and some of the wires can pop out of place, just push them back in position and try to stabilize everything. Use a flat screwdriver to jam them back if needed.

Fit the right half of the handle and make sure the wires are still in place. Install the 3/8" long screw into the standoff on the right half using the same washer sequence as the other side and tighten. If there is a gap between the halves ahead of the grip area, the handle needs to be centered. Do this by tapping the standoff screws with a screwdriver and small hammer until the handle is centered. Using two screwdrivers, tighten both screws until the gap between the halves is gone. If the gap persists, center by tapping again. Once the gap is gone, secure the handle halves with the self-tapping black screws and tighten.



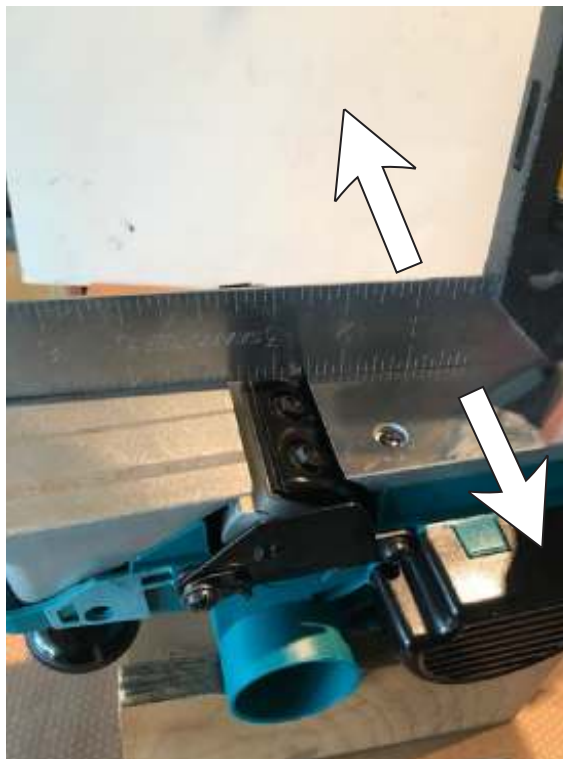
- 37.** Find the coupling screw and long screw in the kit and slide washers over each as shown.



- 38.** Fit the screw from the LEFT handle side (opposite side of photo) all the way through the hole in the support. You may have to pry the screw in the hole from the photo side to get it centered for the coupling screw. Install the coupling screw until it mates with the other screw; be careful not to cross-thread. Note: Do not attempt to put the washers in the handle halves first, it'll never line up. Once the screws are mated correctly the washers will center themselves.



- 39.** Tighten the handle into the support bracket using 2 screwdrivers. If everything looks OK, tighten the 4 screws to the planer body at front and handle rear. Reinstall the blades per the instructions in the Makita manual if you removed them. Put the drive belt back on and make sure it's in the first groove of each pulley. Put on the belt cover. Rotate the belt by hand from underneath the cover and make sure the cutter turns freely without binding.



- 40.** Put the completed planer upside down and secure it. Set the cutting depth at zero and place a straight edge or square across the shoe and rear baseplate. Rotate the cutter head by moving the belt (counterclockwise in photo) while at the same time sliding the square in the directions of the arrows. Be sure to move all the way to the edges. If the blade hits the square at any point, remove the blade carriers, adjust per the Makita manual, then reinstall. The blades must not contact the square to insure an even cut and none at zero setting. If the blades are straight and low enough, you're done and the planer is ready to go.

Thanks for your patience with this detailed procedure and purchasing the kit.