



SERVICE PROCEDURE

Replacement CTS Gearbox & Cartridge Cable

Applicable Model(s)

Compact Table Saw (CTS)

Tools Needed

- 7mm wrench
- 10mm wrench
- 4mm hex key
- 5mm hex key
- 6mm hex key
- #2 Phillips head screwdriver
- Flat head screwdriver
- Combination square
- Marker
- Feeler gauges

Part(s) or Service Kit(s) Needed

- [CTS-042 120V, 60Hz Motor \(CTS-120A60\) – Including Gearbox and Cartridge Cable](#)

Related Links

- [Compact Table Saw - Replacing the Motor/Gearbox Assembly](#)
- [Compact Table Saw - Aligning the Blade and Rip Fence to the Miter Slots](#)

PROCEDURE SUMMARY

This procedure demonstrates how to replace the motor/gearbox assembly on the CTS saw. Replacement might be required in the event of an electrical or mechanical fault within the motor, gearbox, or cartridge cable.

SAFETY

WARNING: Disconnect the plug from the power source from the tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.

WARNING: When servicing your tool, use only replacement parts from SawStop.

WARNING: Keep handles and grasping surfaces dry, clean and free from oil and grease. Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.



SERVICE PROCEDURE

WARNING: Read and understand the instruction manual and all safety warnings that came with your tool before attempting to maintain or operate the tool. Failure to follow instructions or heed warnings may result in electric shock, fire, serious personal injury or property damage. Save these instructions and refer to them whenever necessary.

DISASSEMBLY

1. Remove the Motor Cover.
 - a. At the front of the saw, adjust the CTS bevel adjustment to 45 degrees. (Image 1)



Image 1

- b. At the rear of the saw, unlatch and remove the accessory storage compartment. (Image 2)



Image 2

- c. Fasteners are now revealed that secure part of the motor cover in place. Remove the three button head Phillips screws using a #2 Phillips head screwdriver. (Image 3)



SERVICE PROCEDURE

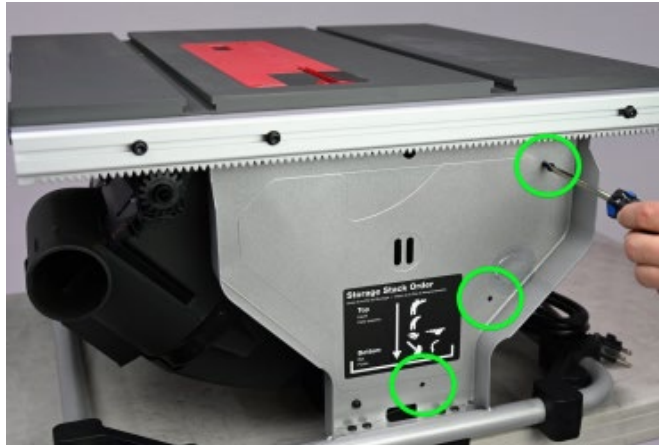


Image 3

- d. From the left side of the CTS, remove the two button head Phillips screws using a #2 Phillips head screwdriver. (Image 4)



Image 4

- e. The motor cover is now free. Use the handle at the left side of the saw to tilt the CTS up to rest on its right side. Slide the motor cover down and remove it through the bottom of the frame of the CTS. Once removed, set it aside to be re-installed later. (Image 5)



Image 5



SERVICE PROCEDURE

2. Remove the trunnion motor cover.
 - a. At the bottom of the saw, remove the three button head Phillips screws with the #2 Phillips screwdriver. (Image 6)

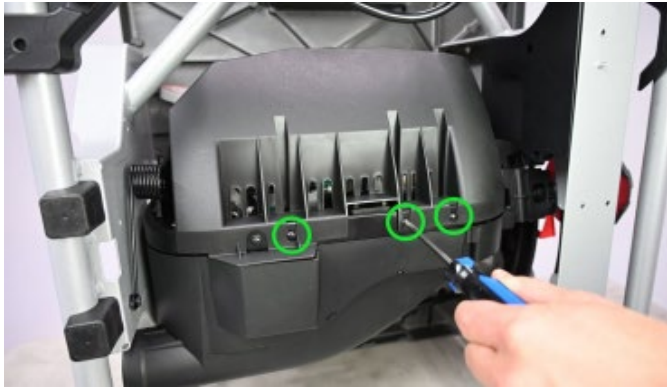


Image 6

- b. The trunnion motor cover is now free. Lift the cover away from the saw. Once removed, set it aside to be reinstalled later. (Image 7)

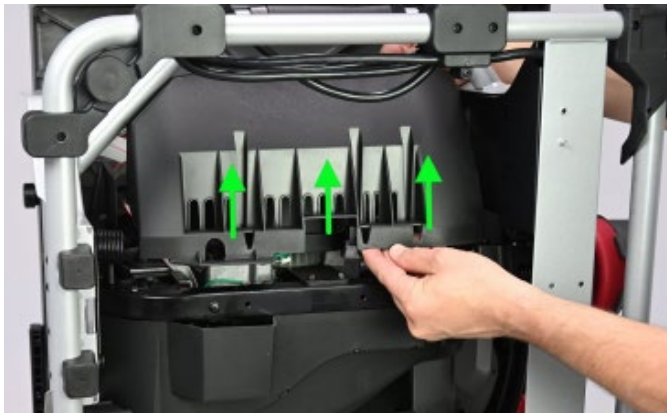


Image 7

3. Remove the dust shroud.
 - a. Flip the saw back onto its base. Adjust blade tilt back to zero degrees. Using a #2 Phillips head screwdriver, remove the three pan head Phillips bolts. (Image 8 and 9)



Image 8



Image 9



SERVICE PROCEDURE

- b. Flip the saw onto its right side. Using a #2 Phillips head screwdriver, remove the five pan head Phillips screws located around the perimeter of the square tube inner frame. Flip the saw back onto its base. (Image 10)

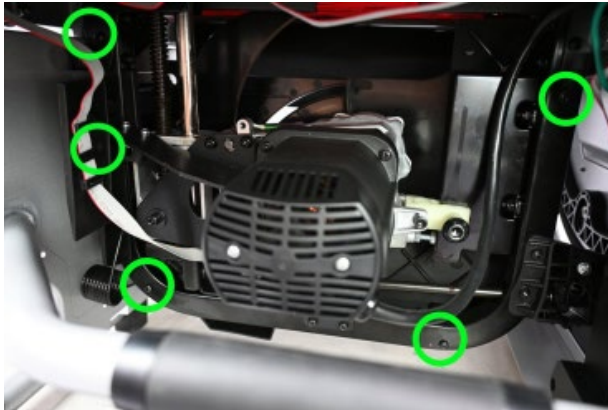


Image 10

- c. The dust shroud assembly is now free and can be removed. Once removed, set it aside to be re-installed later. (Image 11)



Image 11

4. Remove the brake cartridge bracket.
 - a. Using a 6mm hex wrench, remove the four button head socket bolts and lock washers securing the brake cartridge bracket assembly. (Image 12)



Image 12

SERVICE PROCEDURE

- b. Lift the brake cartridge bracket assembly off of the motor gearbox assembly. A small amount of prying force with a flat blade screwdriver or similar pry tool may be required to separate the plate from the saw. (Image 13)



Image 13

- c. Using a #2 Phillips screwdriver and a 7mm wrench, remove two flat head Phillips bolts, spacers, washers, and lock nuts at the locations shown from the brake cartridge bracket assembly. Once the nut is free from the bolt, be prepared for the flat washer and spacer to fall away as well. (Images 14 and 15)



Image 14



Image 15

- d. The brake cartridge bracket assembly is now free and can be removed. Once removed, set it aside to be re-installed later. (Image 16)



Image 16

SERVICE PROCEDURE

5. Remove the retraction bracket and motor/gearbox assembly.
 - a. Using a #2 Philips screwdriver remove all screws to free the ribbon, ground, and power cables. (Image 17)

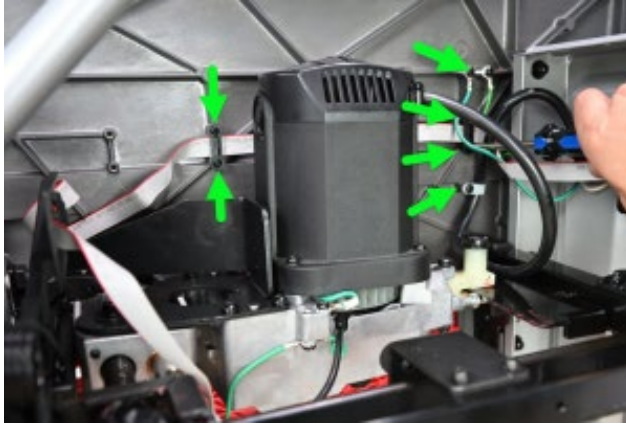


Image 17

- b. Unplug both ribbon and power cables from the switch box. (Image 18)

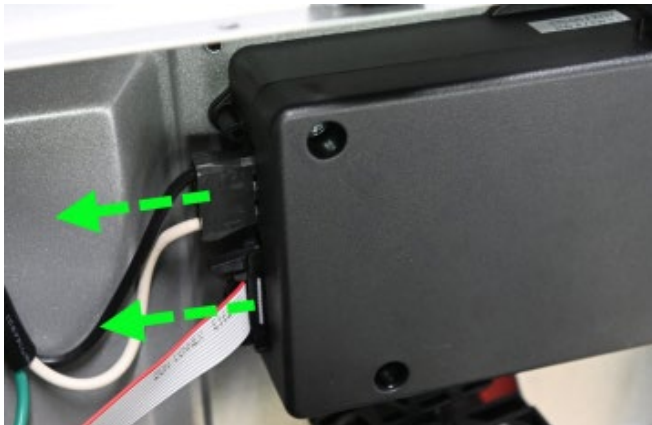


Image 18

- c. Rotate the elevation adjustment at the front of the CTS clockwise to raise the blade adjustment to its maximum elevation. (Image 19)



Image 19

SERVICE PROCEDURE



- d. Insert a flat blade screwdriver as shown for use as a lever. (Image 20) Place the tip of the screwdriver on the nut at left (green arrow). Push the handle of the screwdriver upward with the shaft of the screwdriver just under the black, hook-shaped hardware (red arrow). (Image21)



Image 20

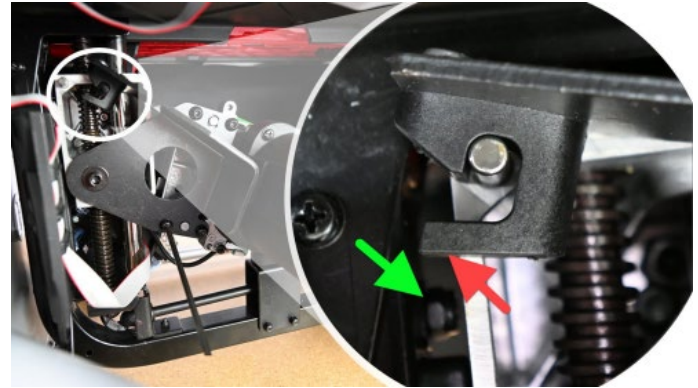


Image 21

- e. With an upward prying motion, hold the handle of the screwdriver against the underside of the saw table while rotating the elevation adjustment at the front of the CTS to lower the blade adjustment. This will assist with prying the black hook from the silver pin it straddles. (Images 22 and 23)

CAUTION: Be prepared for the motor to drop freely once the black hook has cleared the silver pin.



Image 22



Image 23



SERVICE PROCEDURE

- f. Remove the four button head socket bolts using a 4mm hex wrench. (Image 24)



Image 24

- g. Remove the socket head cap bolt using a 5mm hex wrench. (Image 25)



Image 25

- h. The retraction bracket is now free and can be removed. Once removed, set it aside to be re-installed later. (Image 26)



Image 26



SERVICE PROCEDURE

- i. The motor assembly is now free and can be removed. Once removed, set it to be re-installed later. Discard it if a replacement has been provided in the service kit you received from SawStop. (Image 27)

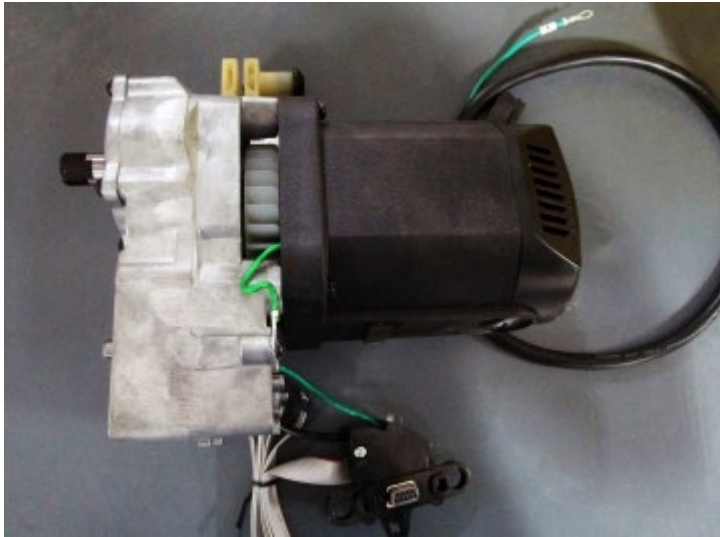


Image 27

REASSEMBLE YOUR SAW

1. Attach the retraction bracket and install the motor/gearbox assembly.
 - a. Using a 4mm hex wrench, attach the retraction bracket to the motor with the four button head socket bolts. (Image 28)



Image 28

SERVICE PROCEDURE

- b. Place assembled motor/gearbox assembly with retraction bracket into the saw, ensure the alignment block (circled) straddles the guide fin (arrow). (Image 29)



Image 29

- c. Install the socket head cap bolt indicated using a 5mm hex wrench. (Image 30)

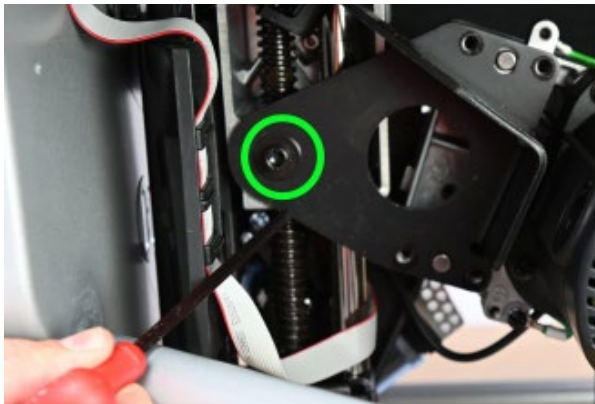


Image 30

- d. Rotate the elevation adjustment lowering the blade adjustment to its lowest position. There will be some resistance but continue to lower the assembly until the black hook on the retraction block reengages with the silver metal pin. (Images 31 and 32)



Image 31



Image 32

SERVICE PROCEDURE

- e. Plug the ribbon and power cables into switch box. (Image 33)

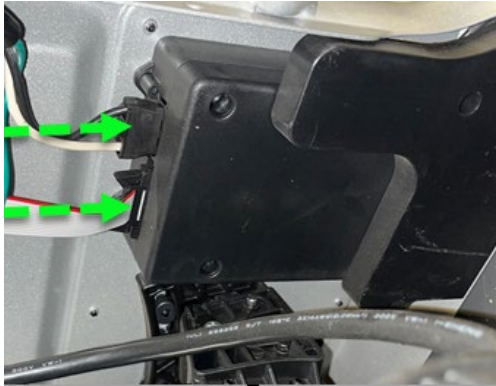


Image 33

- f. Using a #2 Phillips head screwdriver, resecure the ribbon, ground, and power cable. Ensure the blade has full range of tilt and elevation without straining the cables. (Image 34)

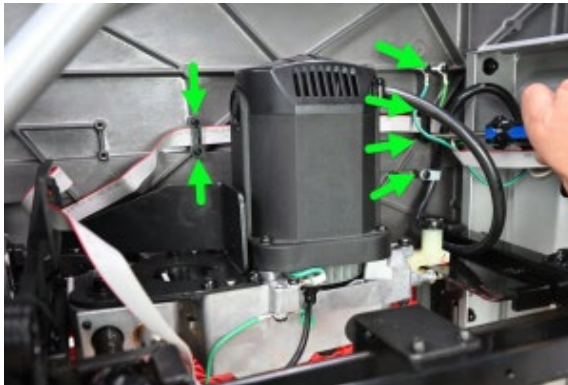


Image 34

- 2. Install the brake cartridge bracket.
 - a. Align the DB9 connector and ribbon cable on the brake cartridge bracket (Image 35). Secure it using the screws, spacers, washers, and nuts. (Image 36) Take note that once secure the DB9 connector should be able to move slightly.



Image 35



Image 36

SERVICE PROCEDURE

- b. Align the guide pin on the underside of the brake cartridge bracket with the hole in the motor housing. Keeping the brake cartridge bracket level, apply pressure to seat the brake cartridge bracket with the motor housing. (Images 37 and 38)



Image 37

Image 38

- c. Using a 6mm hex wrench, install the four button head socket bolts and lock washers to secure the brake cartridge bracket assembly. (Image 39)



Image 39



SERVICE PROCEDURE

3. Install the dust shroud.
 - a. Place the dust shroud back under the right wing and using a #2 Phillips screwdriver, install the five pan head Phillips screws located around the perimeter of the square tube inner frame. (Images 40 and 41)



Image 40

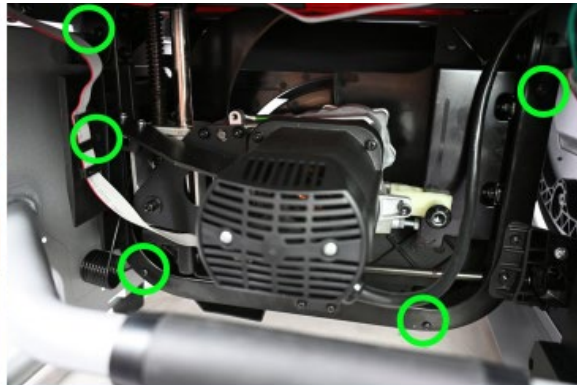


Image 41

- b. Using a #2 Phillips screwdriver, secure the three pan head Phillips bolts. (Image 42)



Image 42

4. Install the trunnion motor cover.
 - a. Position the trunnion motor cover and using a #2 Phillips screwdriver, secure with three button head Phillips screws. (Image 43 and 44)

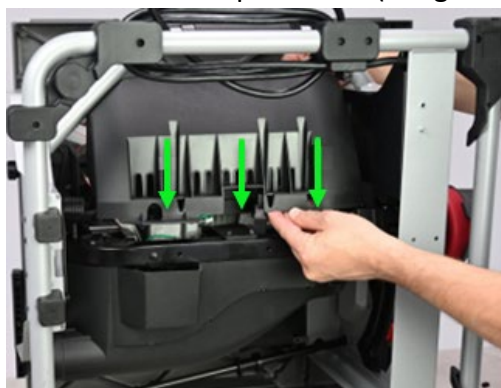


Image 43

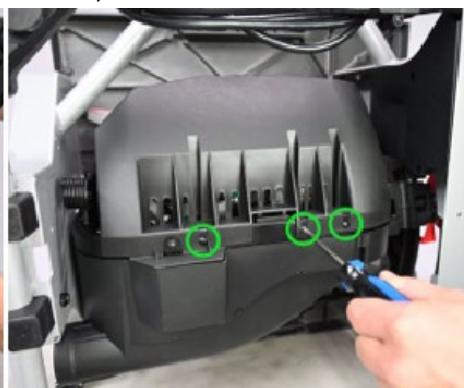


Image 44



SERVICE PROCEDURE

5. Install the motor cover.
 - a. At the front of the saw, adjust the CTS bevel adjustment to 45 degrees. (Image 45)



Image 45

- b. Rest the saw on its right side. Slide the motor cover up and position it through the bottom of the frame. (Image 46)



Image 46

- c. From the left side, install the two button head Phillips screws using a #2 Phillips screwdriver. (Image 47)



Image 47



SERVICE PROCEDURE

- d. At the rear, use a #2 Phillips screwdriver to secure the motor cover in place using the three button head Phillips screws. (Image 48)

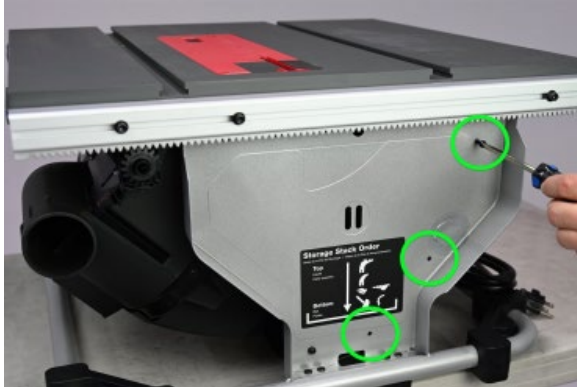


Image 48

FINAL ADJUSTMENTS

1. Align the blade to miter slot.
 - a. With the blade fully raised and the insert removed, mark one of the teeth at the back of the blade. (Image 49)

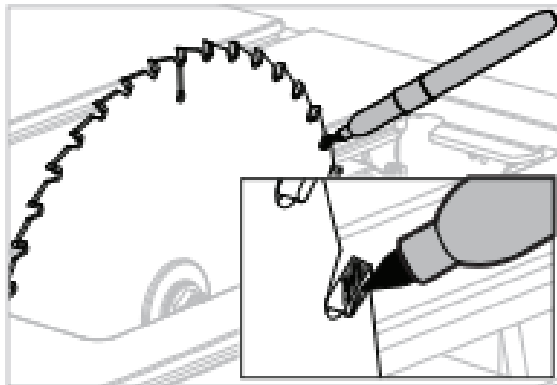


Image 49

- b. Loosen the locking knob on the combination square, and then place the square against the side of the right-hand miter slot near the back of the blade. Align the marked tooth and the end of the ruler. (Image 50)

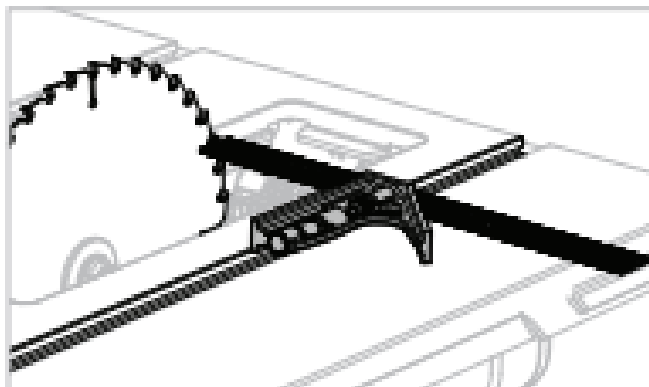


Image 50



SERVICE PROCEDURE

- c. Slide the ruler against the side of the marked tooth. Use a light touch so as not to deflect the blade. (Image 51)

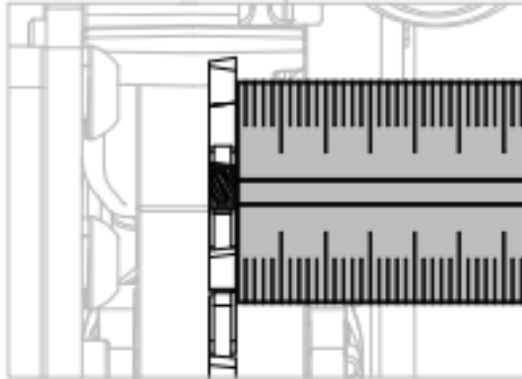


Image 51

- d. Tighten the locking knob on the combination square. (Image 52)

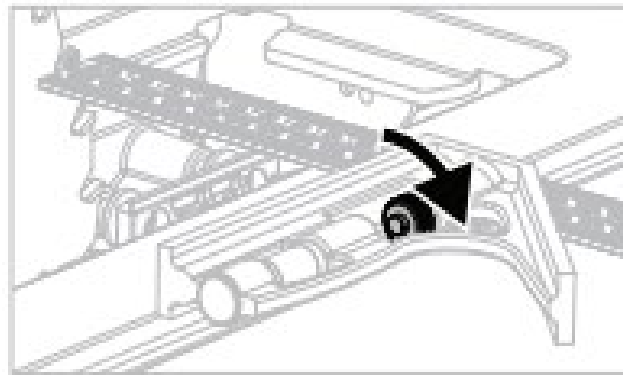


Image 52

- e. Rotate the blade so that the marked tooth is at the front of the blade. (Image 53)

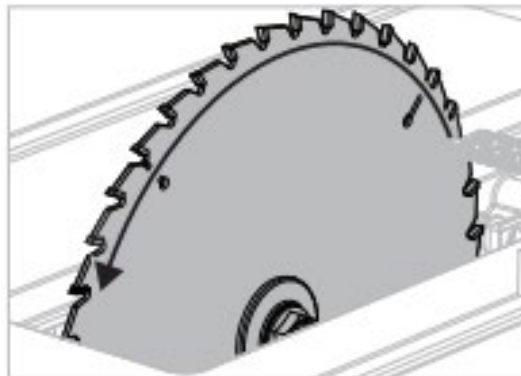


Image 53

SERVICE PROCEDURE

- f. Move the combination square so that the end of the ruler aligns with the marked tooth, holding the square firmly against the side of the miter slot. (Image 54)

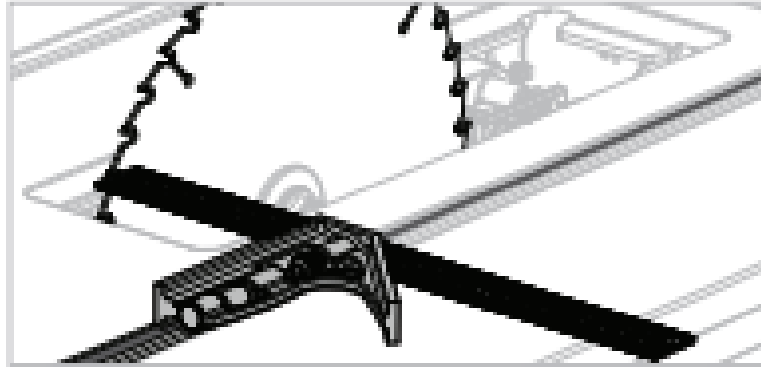


Image 54

- g. If there is a gap, measure the gap with the feeler gauge. If 0.25 mm (0.010") or less, the alignment is within tolerance and no further adjustment is required. (Image 55)

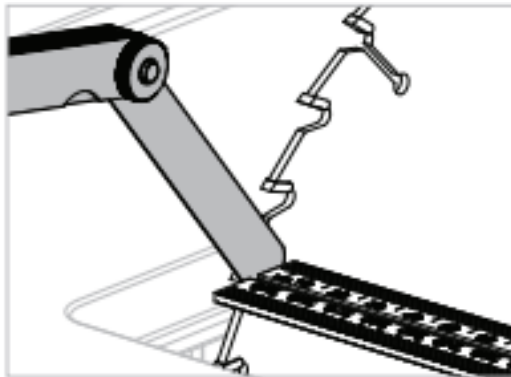


Image 55

- h. If adjustment is needed remove blade and fully lower the elevation mechanism. The adjustment bolt (B) is threaded through alignment block (C). By turning the adjustment bolt (B) the trunnion assembly will be moved left or right. Use the 5mm hex key to turn the adjustment bolt a small amount. (Images 56 and 57)

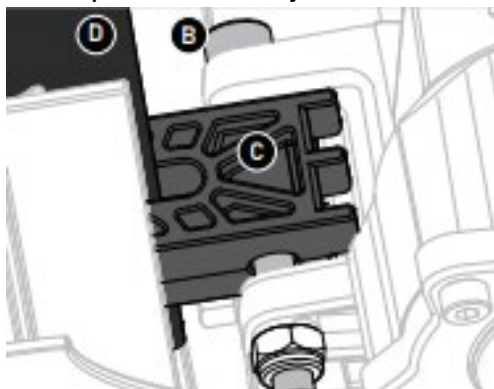


Image 56

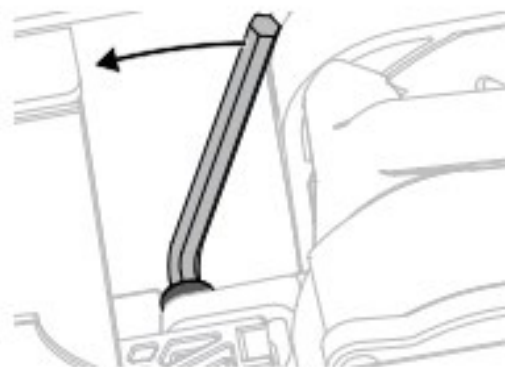


Image 57



SERVICE PROCEDURE

- i. Install and raise the blade. Rotate the marked tooth to the front. (Image 58)

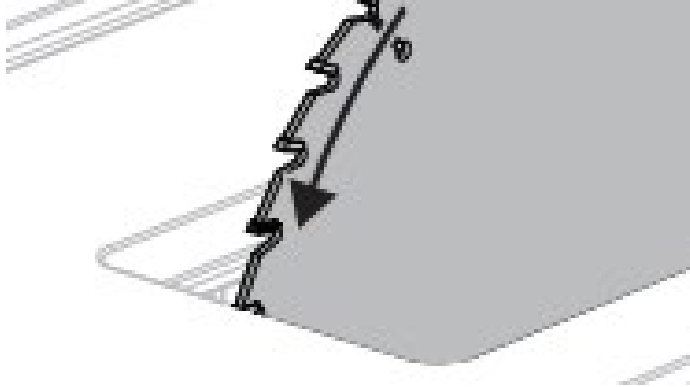


Image 58

- j. Check the gap again. If less than 0.25 mm (0.010"), the blade is aligned. If the gap is still too large, repeat the steps, as needed. (Image 59)

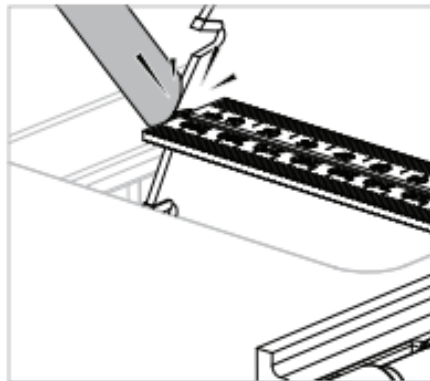


Image 59

2. At the rear of the saw, install and latch the accessory storage compartment.
3. Install the brake cartridge.
4. Install the table insert.