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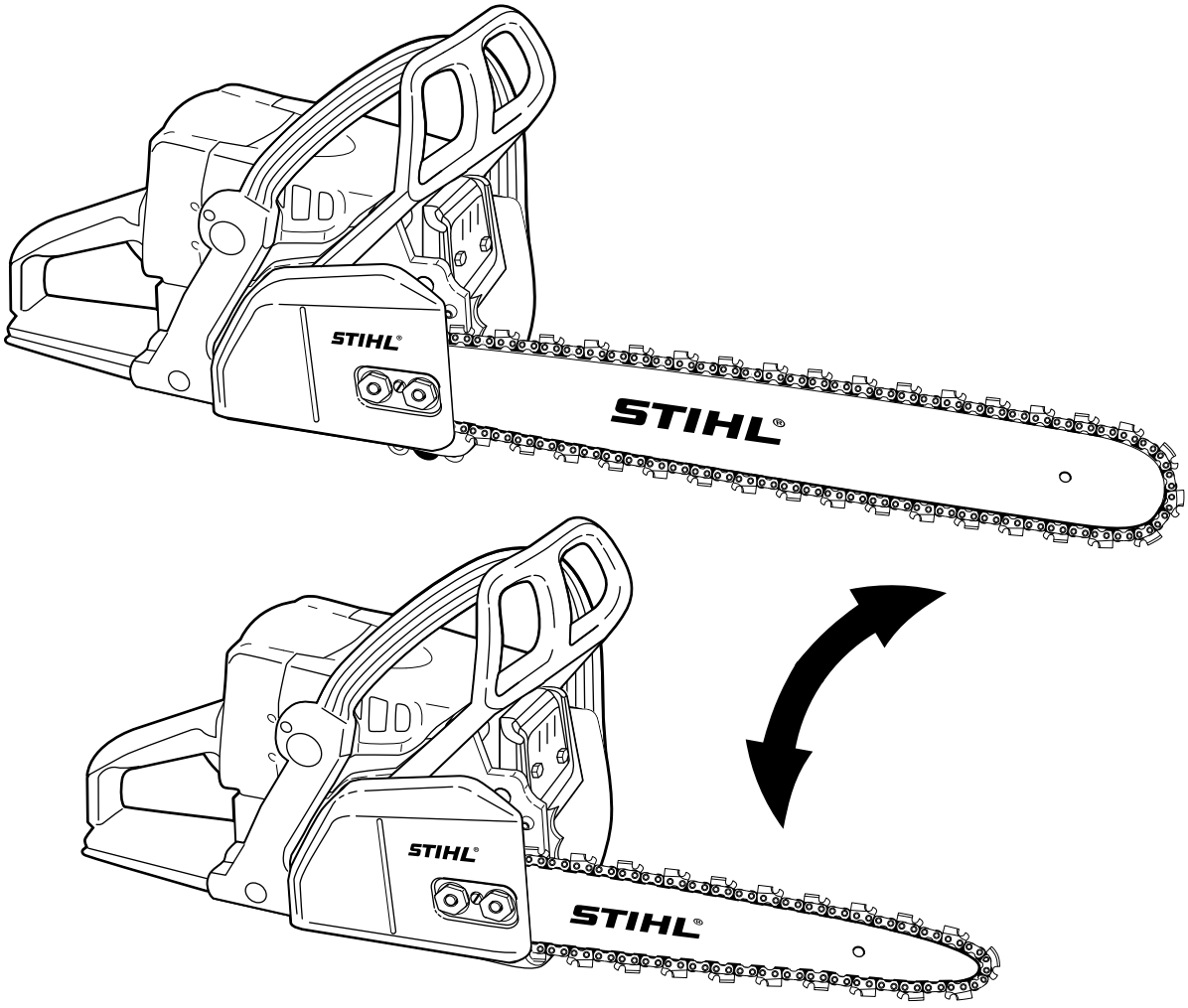
REMOVING AND REPLACING TWO DIFFERENT SIZE BARS, SAW CHAINS, AND CHAIN SPROCKETS ON A STIHL® MS 250 CHAINSAW



INTRODUCTION

The purpose of this manual is to instruct the reader on how to correctly change the chainsaw bar, saw chain and chain sprocket of one size to another size. These instructions are for a STIHL® MS250 chainsaw. The illustrations in this manual show a 1/4" bar, 1/4"saw chain, and a 1/4" chain sprocket being changed to a 1/8" bar, 1/8" saw chain and a 1/8" chain sprocket on a STIHL® MS250. The procedure can be performed by chainsaw operators who are familiar with tightening the saw chain and are also familiar with basic hand tools.

Your STIHL® MS250 owners manual will inform you on how to tighten the saw chain. You might want to look at your STIHL® MS250 owners manual for a refresher course before you attempt to do the procedures in this manual. Adjusting the tension of the saw chain is part of the procedure in this manual. The instructions for adjusting the saw chain are also included in this manual.

It is quite common for chainsaw artisans to change these various chainsaw parts to produce their carvings. The 1/8" bar is considered to be a carving bar because of the specialized small nose on the end of the bar. The STIHL® MS250 is the most powerful saw that will fit the 1/8"bar. The following instructions contain detailed technical illustrations that are not found elsewhere and are quite easy to understand making this procedure relatively easy.

DESCRIPTION OF THE EQUIPMENT/PROCESS

These instructions are for the STIHL® MS250 and can be used to change the 1/4" bar, saw chain, and a 1/4" chain sprocket to a 1/8" bar, 1/8" saw chain and a 1/8" chain sprocket but the operator can use these instructions to change to other size bars, chains and sprockets available for the STIHL® MS250 chainsaw.

During the procedure the bar, saw chain and chain sprocket will first be removed by loosening a couple of bolts on the chain sprocket cover. Secondly the operator will then remove a washer and C-clip from the crankshaft post and extract the chain sprocket. Next a tiny bearing that weighs less than the average jewelry ring, needs to be removed, oiled and be replaced. Finally when the bearing is in place the instructions inform the operator to install the new bar, saw chain, and chain sprocket.

The operator may be surprised at the sturdiness of the STIHL® MS250 chainsaw. STIHL® has their own patent on the industrial strength plastic used in all of their products which sets them apart from the competition.

The procedures provided here were made for the average to experienced chainsaw operator and this manual would make a great addition to the library of any workshop with a STIHL® MS250 chainsaw.

REMOVING AND REPLACING TWO DIFFERENT SIZE BARS, SAW CHAINS, AND CHAIN SPROCKETS ON A STIHL® MS 250 CHAINSAW

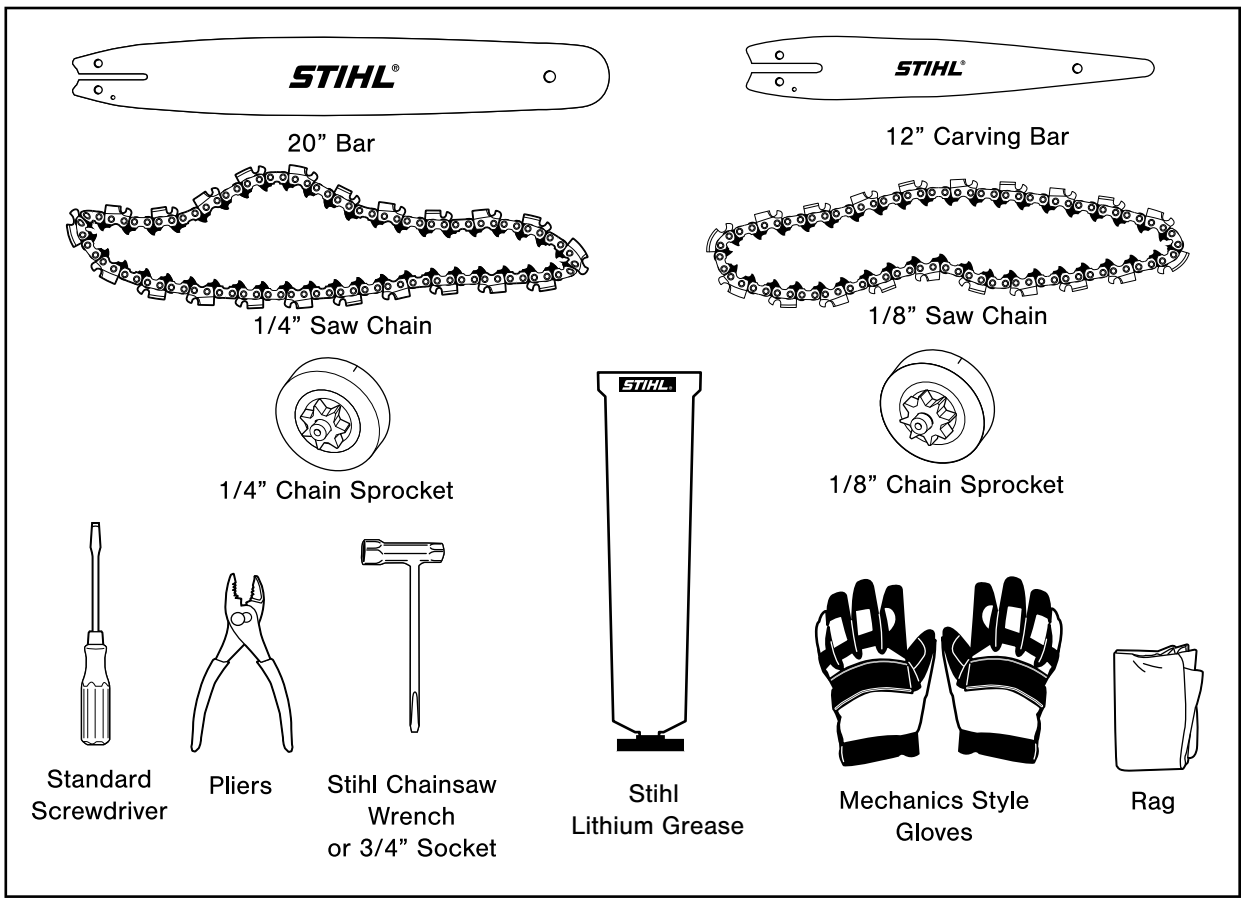
LIST OF MATERIALS AND EQUIPMENT

Failure to replace this bearing will most certainly do serious damage to the saw. It is difficult to hear the damage being done over the normal engine noise of the saw. The saw will operate for a short time, even if the bearing is missing and the operator will be unaware of the internal damage being done. The saw will not operate long in this condition and will eventually cease to quit working.

During the procedure a sprocket cover will be removed with a STIHL® wrench. If you do not have the STIHL® wrench you can use a size 3/4" wrench.

While removing and replacing the saw chains it is suggested that you wear mechanic style gloves because removing and replacing sharp chains without proper gloves can cause serious injury.

A small C-clip will need to be removed and replaced from the crankshaft post. When replacing this clip you will need to tap it lightly but sharply with a hammer and screwdriver. You must be really focused to perform this because this c-clip is about the size of a nickel and weighs less than one.

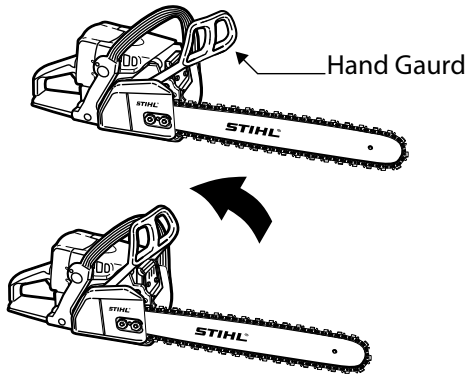


REMOVING AND REPLACING TWO DIFFERENT SIZE BARS, SAW CHAINS, AND CHAIN SPROCKETS ON A STIHL® MS 250 CHAINSAW

DISENGAGE THE CHAIN.

1. Grasp the hand guard.

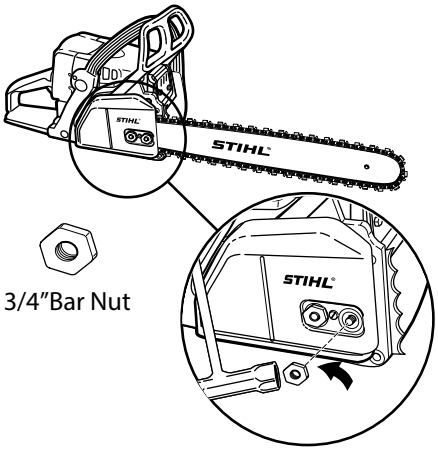
2. Pull the hand guard towards the rear of the saw and listen for the discernible clicking sound of the chain brake disengaging. *This releases the tension so that the saw chain can move freely. The saw chain needs to move freely throughout the course of this procedure. The hand guard is considered to be part of the chain brake. The chain brake is in the off position.* The chain is disengaged.

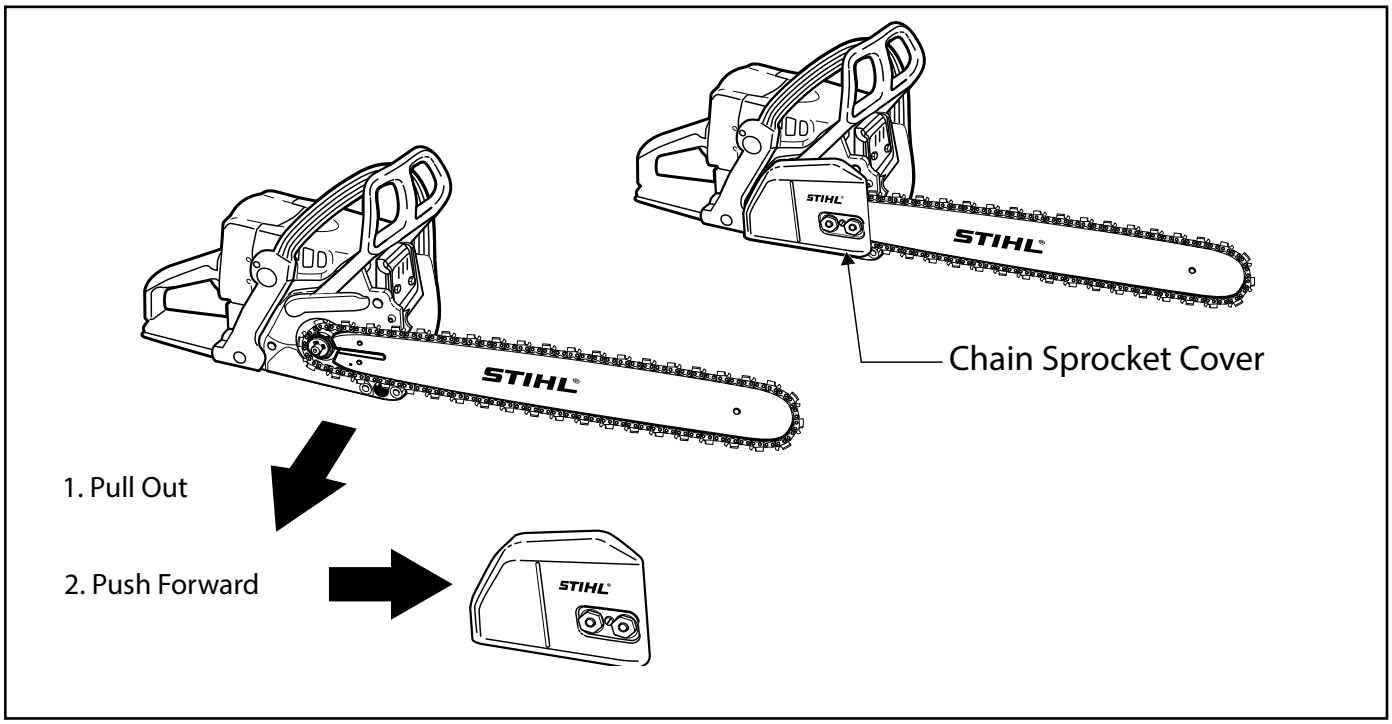


REMOVE SPROCKET COVER.

3. Remove the two 3/4″bar nuts with 3/4″ wrench.

4. Pull off the chain sprocket cover by first pulling it out and then secondly push it forward.

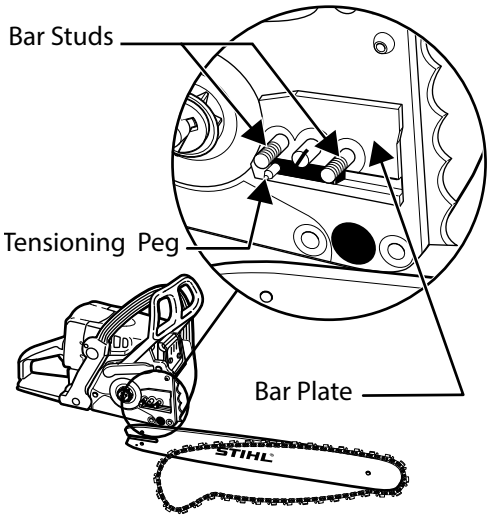




REMOVE THE 1/4" BAR AND 1/4" SAW CHAIN.

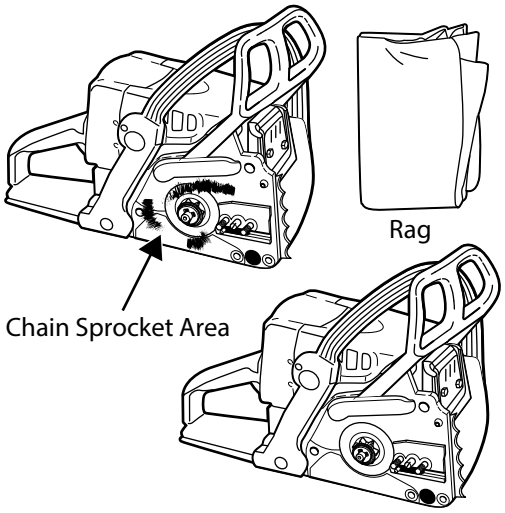
5. Hold the bar near the bar plate. Pull the bar and chain away from the tensioning peg and the bar studs at the same time.

6. Remove the saw chain from the 1/4" chain sprocket if it is still attached.



CLEAN THE CHAIN SPROCKET AREA.

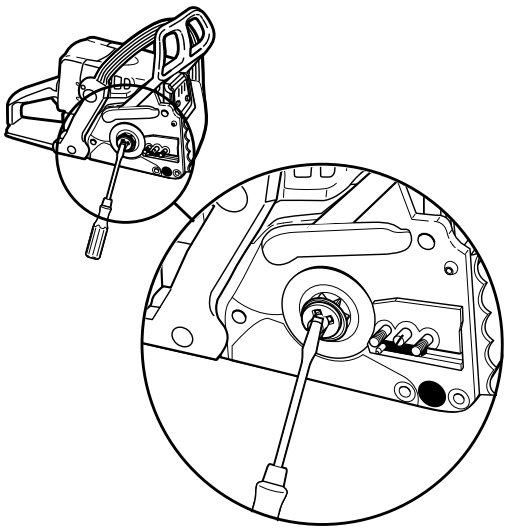
7. Clean the chain sprocket area with a rag so that no debris is around the chain sprocket.



REMOVE C-CLIP AND WASHER

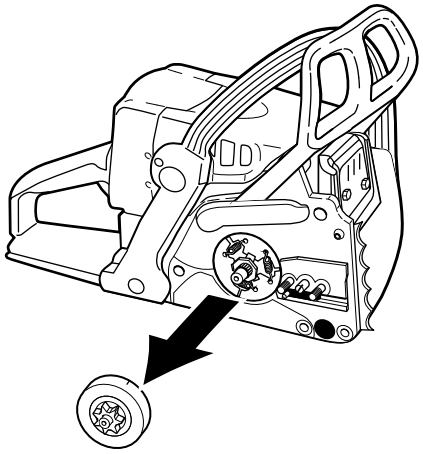
8. Pry the C-clip off with standard screwdriver. *Place the screwdriver blade in the groove that is on the inside of the C-clip for the best results.*

9. Remove the washer cover.



REMOVE THE 1/4" CHAIN SPROCKET.

10. Remove the 1/4" chain sprocket by pulling it out of the clutch assembly crankshaft chamber.

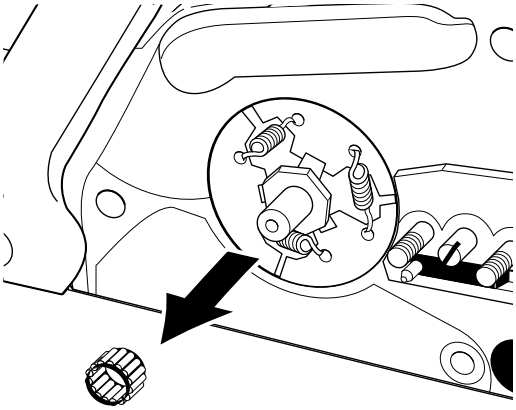


REMOVE AND OIL THE BEARING.

11. Remove the bearing from the crankshaft.

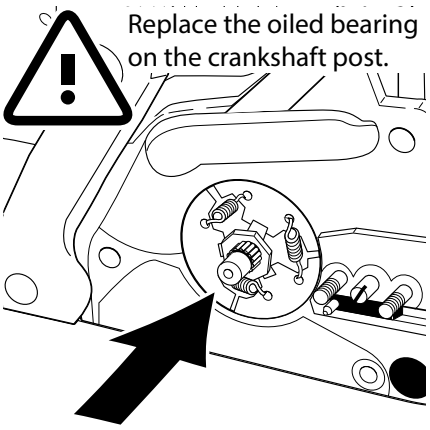
12. Apply STIHL® lithium grease to the bearing.

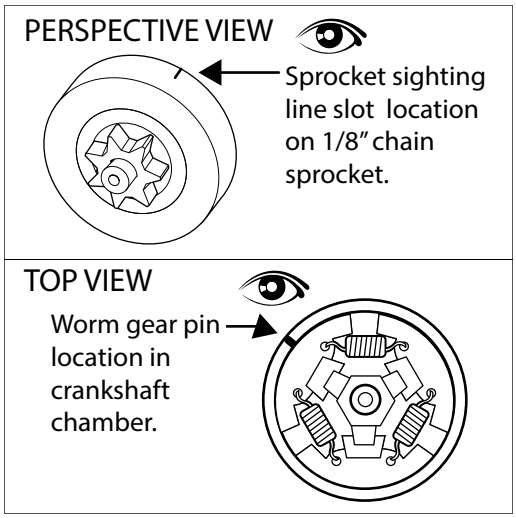
13. Put the bearing back on the crankshaft post.



WARNING:

It is essential that the bearing is replaced! The bearing will need to be removed, oiled and placed back on the crankshaft post. Failure to place the bearing back on the crankshaft post will result in severe damage to the saw.

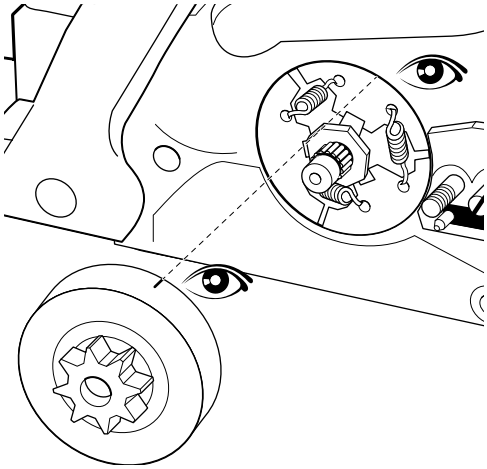




INSTALL THE 1/8" CHAIN SPROCKET.

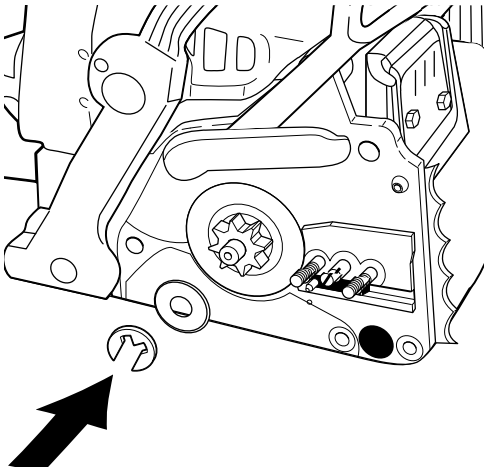
14. Locate the sprocket line sighting groove on the chain 1/8" sprocket. Locate the worm gear pin inside the crankshaft chamber on the saw.

15. Slide the 1/8" chain sprocket into the crankshaft chamber while aligning the sprocket line groove and the worm gear pin. *If the sprocket line groove and the worm gear pin are not aligned the sprocket will not go in the crankshaft chamber and will not seat properly. Do not force. If chain sprocket does not go in easily relocate the sighting on the chain sprocket, relocate the adjusting pin and repeat step 15.*

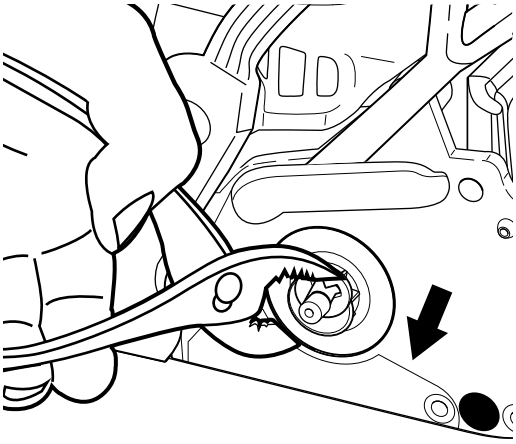


LOCK THE SPROCKET WITH WASHER AND C-CLIP REPLACE THE WASHER COVER.

16. Slide the washer bearing onto the post. Place the C-clip over the washer and make sure the open end is centered and touching the post.

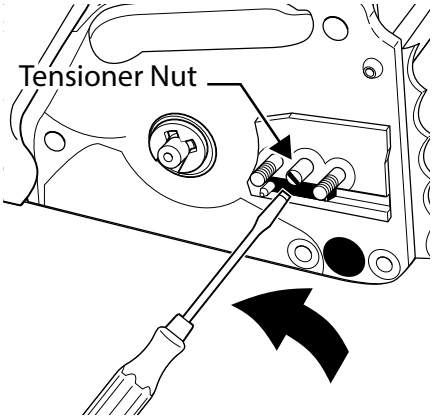


17. Position the ends of pilers on the C-clip and the edge of the washer. Close the C-clip back onto the post.



MOVE ADJUSTING PIN TO ASSEMBLY POSITION.

18. Screw in the tensioner nut by turning it counterclockwise until tensioning pin moves all the way to the leftmost position of the housing slot. *This is the correct position for the bar to be seated properly.*



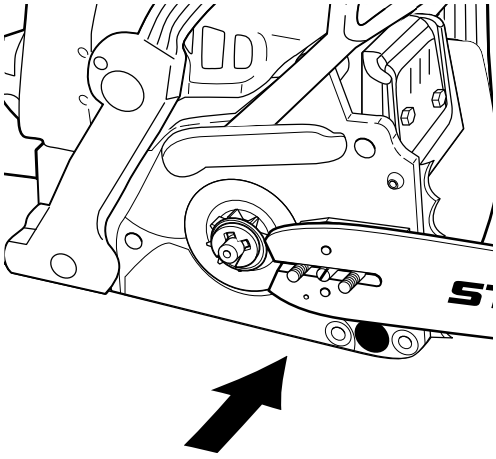
PLACE THE 1/8" BAR ON THE SAW.

19. Assemble the bar to the saw. Make sure that both the bar studs and the tensioning nut are correctly positioned in the bar guide slot and tensioning nut hole. The bar will stay in this position when released allowing the use of both of your hands for the next step. *Please keep in mind not to bump the saw or the bar because the bar might fall off. If this happens repeat step 18.*

PLACE THE 1/8" SAW CHAIN AROUND THE BAR.

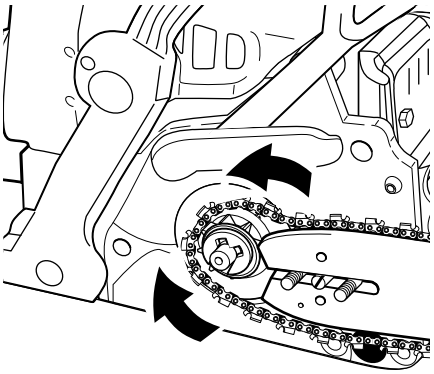
20. Pick up chain and ensure that the chain is being placed in the correct direction. *The angled tooth should be pointing forward to the tip of the bar.*

21. Hold the tip of the bar in one hand making sure that the studs and the tensioning pin stay in the bar guide and bar hole.



22. Place the chain around the sprocket and then drape the chain along the top edge the bar and around the bar nose sprocket.

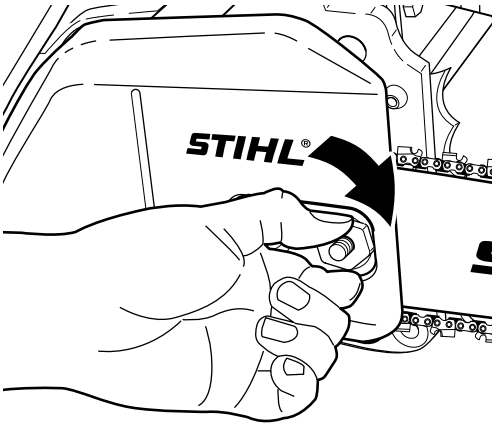
23. Straighten the chain on top of bar and ensure that chain is positioned correctly inside the track on the top and tip of the bar.



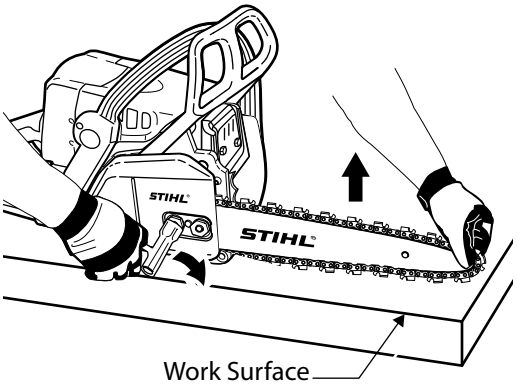
REINSTALL THE SPROCKET COVER.

24. Reinstall the sprocket cover onto saw. *Ensure that the chain is not outside of the sprocket cover tabs.*

25. Place nuts on the bolts and hand tighten both of them.



26. Ensure that the chain is still able to move freely inside the bar track. *If the chain does not move loosen the bolts until chain moves freely.*



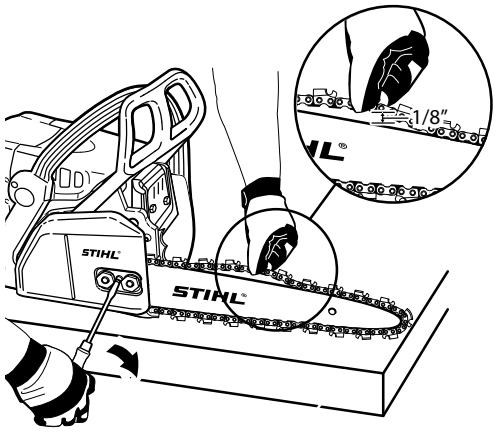
TIGHTEN THE BAR.

27. Hold the bar nose so that it is at the highest point possible from the work surface.

28. Tighten the nuts with wrench while holding the tip of the saw.

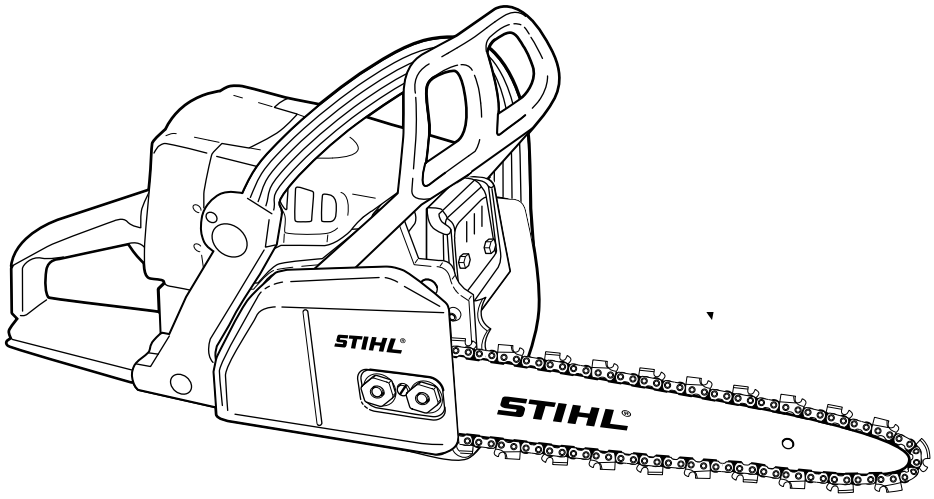
TIGHTEN THE SAW CHAIN.

29. Tighten chain tensioning screw by turning clockwise while holding chain and guiding it into the track. *The saw chain is correctly installed when saw chain can be pulled 1/8" from the bar track.*



CONCLUSION

The directions for the procedure are complete. The completed saw is pictured below. In the future I would like to laminate these directions so that this information would be available in workshops, protecting it from becoming unusable from tarnish acquired from the workshop environment.



TROUBLESHOOTING SECTION

- If the bar does not go on check the tensioning pin it might not be in place on the bar plate. See step 18 on page 7.

- If the sprocket cover does not go on easily remember it only has one tab that fits into the saw. The top of the sprocket cover rests on the top lip of interior.

REFERENCE

- ‘‘STIHL-MS-210-230-250-Instruction-Manual.’’ Sept. 2013. Web. 09 Sept. 2013.