## **CHIPPER BLADE REMOVAL ON BIO-90 CHIPPER**

(Contributed by Leonard Klinker)

## **Tools used:**

13mm socket

13mm wrench - open end 17mm socket

17mm wrench

5mm Allen wrench or socket (a socket would probably be easier if I had one)

3/8 ratchet for the sockets

3/8 handle for the 13mm socket

## **Procedure**

Warning: Remember that you are working around sharp blades. Do not work in a manner where you can be injured if you slip!

- 1. Remove the 7 13mm nuts and washers that hold the blade access/chute to the body. Remember the nut hidden below the bottom hinge!
- 2. Swing the blade access/chute open and remove the 7 spacers (if your unit has spacers) so they don't get lost.
- 3. Remove the small access panel on the side of the chipper opposite the hinges. It is held on by 4 13mm nuts and washers.
- 4. Inside the access panel, you will see an arching slotted grate at the top end of the chipping chamber. Remove the long bolt that holds the end near the access panel in place using the 17mm socket and wrench. Mine was tight because the grate is "sprung" a bit and doesn't fit exactly, so I basically had to screw out the bolt from the far end.
- 5. Rotate the grate up and out of the way providing much more space to get at the nuts that hold on the blades.
- 6. If the bolts/nuts behind the blades are rusted, hit them with some PB Blaster or some other rust dissolver and let things set for a bit.
- 7. Using the 5mm Allen wrench to hold the blade bolts from the outside, use an appropriate tool to loosen the nuts on the back inside the chipper. A ratchet would not fit so I used a pivoting handle for the 3 outermost nuts. There is not enough room to use a socket on the innermost nut so I used a 13mm open end wrench. A method I used to get the nuts loose was to hold the socket in place and then rotate the flywheel in the appropriate direction to apply pressure against the top/bottom edge of the access port. Once loose, I was able to back the nuts off using the Allen wrench.
- 8. Once both blades have been removed, reverse the procedure to complete the installation (either with new blades, or blades that have been sharpened)

Thanks to Leonard Klinker of New Jersey for recording this procedure and sharing it with us, so we can share it with our other customers! -- Earth Tools staff <a href="https://www.earthtools.com">www.earthtools.com</a>