



MAIN BRUSH MOTOR UPGRADE KIT

INSTALLATION INSTRUCTION

(Installation Time: 1.5 HOURS)

TOOLS REQUIRED: 3mm 4mm & 5mm Allen Wrench, small bearing puller, snap ring pliers, Rubber Hammer, 13 mm Wrench, 10mm Wrench

Supplies: Copper based anti-seize compound, 2 wire connectors

FOR SAFETY: When servicing machine, disconnect the battery connections before working on machine.

1. Remove the upper hood, disconnect battery and remove the front hopper.
2. Raise and support the left wheel (operator's left) off the ground.
3. Remove both wheels using 4mm Allen Wrench. Note: To prevent shaft from turning, engage traction lever while turning the screw.
4. Remove both side covers using 5mm Allen Wrench. (each cover has 4 screws)
5. Remove main brush assembly using 4mm Allen Wrench. (Figure 1)



Figure 1

6. Remove the brush height control knob by holding the nut (13mm) and turning CCW. Retain knob, nut and washers for re-assembly. (Figure 2)



Figure 2

KIT CONTENTS

<u>P/N</u>	<u>Description</u>	<u>Qty</u>
604158	*Brush Motor	1
612231	*Screw 6X25	3
612637	*Support, Bearing	1
604147	*Bearing 6202 2RS	1
604151	*Bracket, Main Br. Adj	1
604150	*Pivot Pin	1
604114	*Washer, 8X17	1
604149	*Outer snap Ring 12	1
604168	Key, 3 X 3, 7	1
611906	Screw	3
603344	Side Cover	1
612645	Washer shim	5
*Items are pre-assembled		

7. Cut red and blue motor wires approximately 2" from connector. (Figure3)



Figure 3

8. Remove the three fixing screws inside the main brush area that retains the brush motor. (Figure 4)



Figure 4

INSTALLATION INSTRUCTIONS - Continued

9. Draw the motor out from the side of the machine. (Figure 5)



Figure 5

10. Using a small bearing puller, remove the bearing from the brush shaft. (Figure 6)



Figure 6

11. Remove two snap rings, pulley and shaft key. Retain these parts for re-assembly. (Figure 7)



Figure 7

12. Remove right side bearing support and main brush shaft (operator's right) from brush carriage using 4 mm Allen Wrench and 10mm Wrench. (Figure 8)

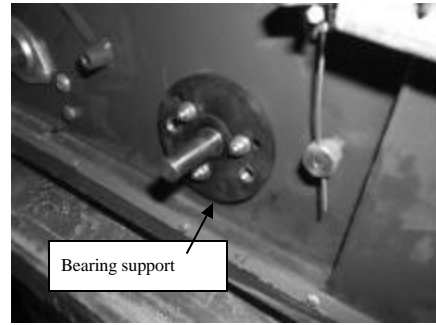


Figure 8

13. Remove the bearing from the main brush shaft.

INSTALLATION OF NEW MOTOR:

14. Lubricate the motor shaft with a copper based anti-seize compound and insert into main brush shaft. Pay close attention to the Woodruff key making certain it is seated properly into the shaft.
15. Align mounting holes on motor with the fixing plate and tighten the screws. (use the new screws provided in the kit) (Figure 9)

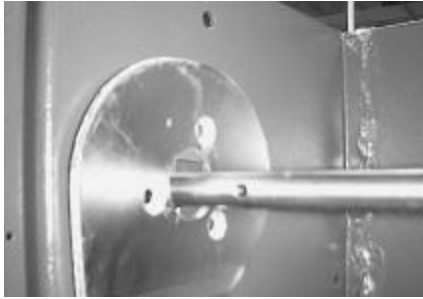


Figure 9

Alignment of Brush Shaft

16. Check position of shaft where it passes through carriage hole **opposite side of motor**.
- If the shaft passes through the hole without making contact with the carriage (as in figure 10) then the shaft and motor are properly aligned. Proceed to step 19.
 - If the shaft is making contact with the carriage (as in figure 11) then the motor and shaft need to be aligned. Proceed to step 17.

INSTALLATION INSTRUCTIONS - Continued



Carriage hole opposite side of motor
Figure 10



Carriage hole opposite side of motor

Figure 11

17. Remove motor from machine.
18. Remove bearing support screws from the motor using 4 mm Allen Wrench. Use the washers (figure 12) as shims to properly adjust the angle of the brush shaft so that it does not make contact with the carriage.
Notes:
 - It may take a few times to find the correct combination of shims.
 - Align the brush shaft as close to the center of the hole as possible.
 - When checking the alignment, be sure that all the motor mounting bolts are tight.



Figure 12

Re-assembly

19. Reverse step 12 and 11.
20. Reconnect the new motor with commercial connector as shown in figure 13.



Figure 13

21. Reverse steps 6 through 1. **Note:** Use the new left side cover for step 4. (operator's left)
22. Test unit for proper operation.