



# Main Brush Shaft Alignment Kit

## INSTALLATION INSTRUCTIONS:

(Installation Time: 1-1.5 Hour)

**TOOLS REQUIRED:** 3mm Allen Wrench, 4mm Allen Wrench, 5mm Allen Wrench, snap ring pliers, Rubber Hammer, 13 mm Wrench, 10mm Wrench

**Supplies:** Copper based anti-seize compound, Grease

KIT CONTENTS		
P/N.	Description	Qty.
612644	Gear	1
604142	Main Brush Shaft	1
612645	Washer shim	5
604168	Shaft Key, 3x3,7	1

1. Remove the upper hood, disconnect battery and remove front hopper.
2. Raise and support back of machine so each wheel is 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 side brush belt from main broom pulley. (Figure 1)



Figure 1

6. Remove two snap rings, pulley and shaft key. Retain these parts for re-assembly. (Figure 2)



Figure 2

7. Remove main brush using 4mm Allen Wrench. (Figure 3)



Figure 3

8. Remove the brush height control knob by holding the nut (13 mm) and turning the knob CCW. Retain these parts for re-assembly (Figure 4)



Figure 4

9. Remove the three fixing screws inside the main brush area that retain the brush motor. (Figure 5)



Figure 5

## INSTALLATION INSTRUCTIONS - Continued

10. Loosen the 2 spacer set screws using a 3mm Allen Wrench. (Figure 6)



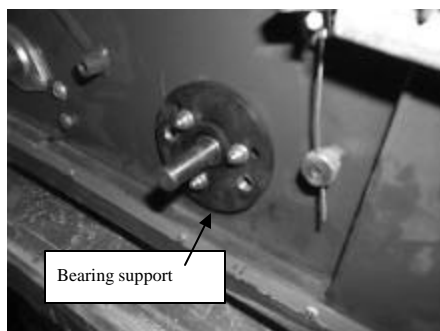
**Figure 6**

11. Remove brush shaft by tapping with a rubber hammer. (Figure 7)



**Figure 7**

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



**Figure 8**

### Gear Replacement

13. Remove gearbox cover and gasket by removing the five screws. (Figure 9)



**Figure 9**

14. Remove old white gear by pushing on the shaft. Gear and shaft will come out as one piece. (Figure 10)



**Figure 10**

15. Remove 2 metal washers from old motor shaft and install onto new gear shaft. (Figure 11)



**Figure 11**

16. Install new gear into the gearbox.  
17. Apply grease to the new gear.  
18. Re-assemble gasket and gearbox cover.

## INSTALLATION INSTRUCTIONS - Continued

19. 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. (Figure 12)

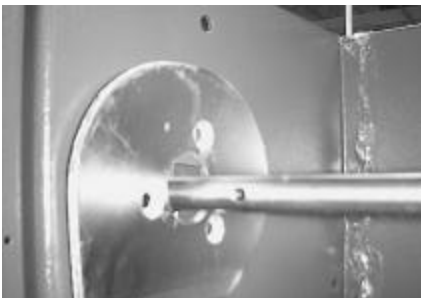


**Figure 12**

20. Mount the motor to the machine with brush shaft attached.

### Alignment of Brush Shaft

21. Check position of shaft where it passes through carriage hole **opposite side of motor**.
- If the shaft passes through the center of the hole opposite of the motor (as in figure 13) then the shaft and motor are properly aligned. Proceed to step 24.
  - If the shaft is off center (as in figure 14) then the the motor and shaft need to be aligned. Proceed to step 22.



Carriage hole opposite side of the motor  
**Figure 13**



Carriage hole opposite side of the motor  
**Figure 14**

22. Remove motor from machine.
23. Remove bearing support screws from the motor using 4 mm Allen Wrench. Use the washers (figure 15) as shims to properly adjust the angle of the brush shaft to the center of the carriage hole.

#### **Notes:**

- It may take a few times to find the correct combination of shims.
- When checking the alignment, be sure that all motor mounting bolts are tight.



**Figure 15**

### Re-assembly

24. Reverse procedures 12 through 1 for re-assembly.
25. Test unit for proper operation.