



Service Kit 753-05173A

Date: 5/02/2008
 Subject: Wheel Drive Upgrade
 Models Affected: 2004-2005 (2005-1) Model Year, 2-Stage, Non-Steer, Wheel Drive Snow Throwers, w/ Auger Housings 24" to 30" (Does Not Include 300 Series)

Read through and understand these instructions completely before proceeding with repair.

PURPOSE: This kit includes the parts and instructions to repair the wheel drive gear train. This upgrade corrects the manufacturing anomaly of the hex drive shaft and provides improved wear and corrosion protection of the hex shaft and wheel axle.

NOTE: These materials are prepared for use by trained technicians who are experienced in the service and repair of equipment of the kind described in this publication, and are not intended for use by untrained or inexperienced individuals. Such individuals should seek the assistance of an authorized service technician or dealer.

NOTE: Save this Instruction Sheet. Refer to it when ordering replacement parts.

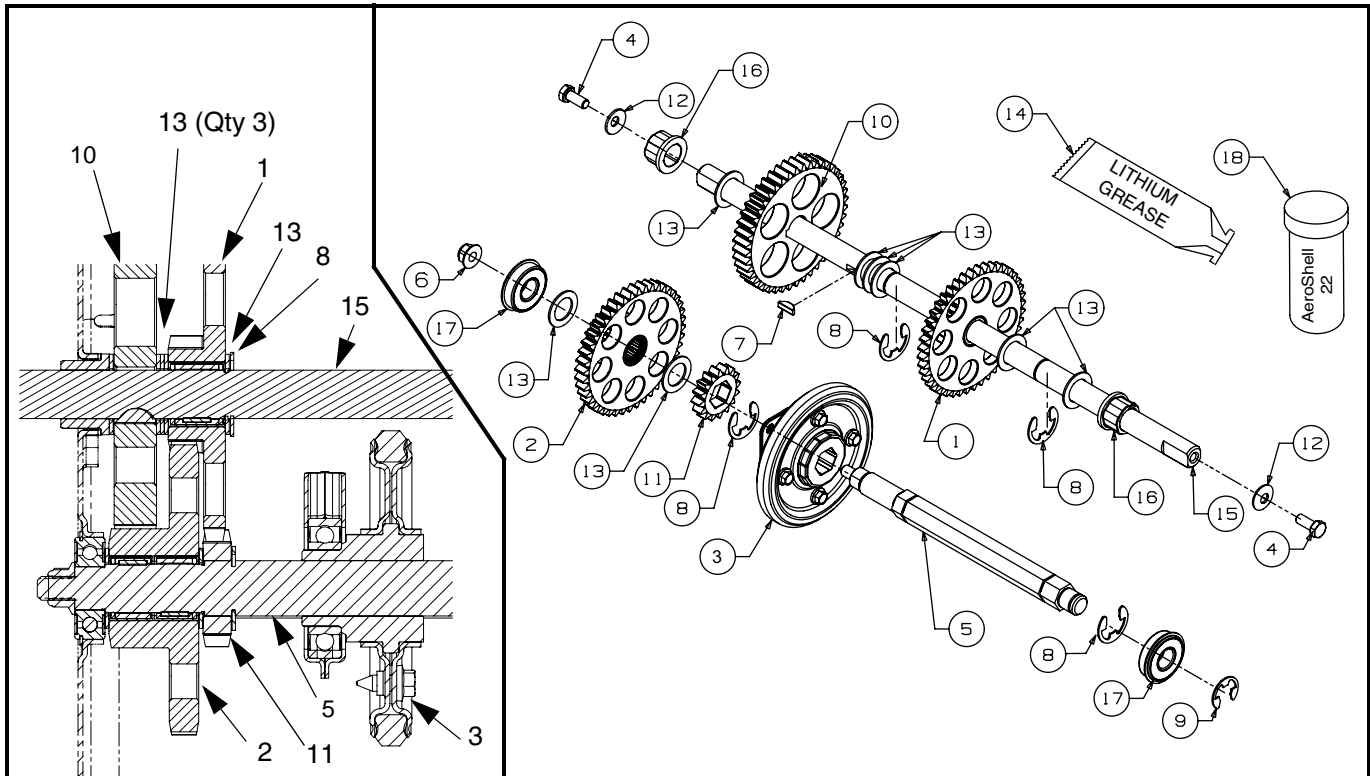


FIGURE 1

Service Kit Contents

ITEM NO.	PART NUMBER	QTY	DESCRIPTION
1	617-04025A	1	GEAR ASSEMBLY: 16(Narrow)/44T
2	617-04026A	1	GEAR ASSEMBLY: 16 (Wide)/44T
3	684-04177	1	WHEEL ASM: FRICTION: 4.9" OD
4	710-0627	2	SCREW: LOCK: 5/16"-24 x .75: GR5
5	711-04556	1	HEX SHAFT: DRIVE
6	712-04065	1	NUT: FLANGELOCK: 3/8"-16: GRF
7	714-0161	1	KEY: HI-PRO- 3/16" X 5/8"
8	716-0136	4	E-RING: RETAINER: .875 DIA.
9	716-0231	1	E-RING: RETAINER: .750 DIA.

ITEM NO.	PART NUMBER	QTY	DESCRIPTION
10	717-04137A	1	GEAR: 44T
11	717-04301	1	GEAR: PINION: 16T: .8125 HEX
12	736-0242	2	WASHER: BELL: .340 x .872 x .060
13	736-0287	8	WASHER: FLAT: .793x 1.24x .06 HT
14	737-04085	1	GREASE: LITHIUM: WHITE
15	738-04209	1	AXLE: .75 DIA. x 22" LG
16	741-0245	2	BEARING: HEX FLANGE x .75 ID
17	741-0563	2	BEARING: BALL: 17 x 40 x 12
18	737-04141	1	GREASE: AEROSHELL 22
19	769-02061	1	THIS INSTRUCTION SHEET

Pre-service Preparation:

NOTE: Reference to left, right, forward and rear are from the operator's position behind the handles facing towards the engine.

1. Place the snow thrower on a flat surface.
2. Drain the fuel tank. Drain the carburetor's float bowl by the spring loaded drain button on the bottom of the float bowl. Optional: Run unit until float bowl is empty.

NOTE: Make sure that there is sufficient oil in crankcase to run engine.

3. Disconnect the spark plug wire from the spark plug. Ground the spark plug wire to the engine block.

4. Ensure oil dipstick/cap is tight. Draining the oil is preferred.

5. Using the handles, tip the snow thrower forward so that the unit is resting on the front of the auger housing. See Figure 2. Check for oil leaks.

NOTE: Do not leave unit in this position any longer than it takes to perform the repair. Extended length of time in this position will result in some oil leakage.



FIGURE 2

Unit Disassembly:

NOTE: The following instructions are written with the assumption that the gears are seized to the axle and drive hex shaft. Use of a rust penetrant, a hammer and drift punch may be required.

NOTE: Retain all hardware and parts removed unless stated otherwise.

6. Mark each wheel to which side of the frame it is on, left or right. This will ensure correct tire tread direction on reassembly. Using a 1/2" socket and ratchet, remove and discard the wheel retainer screws and bell washers from both ends of the wheel axle. Remove both wheels and plastic axle spacers.

7. Using a 3/8" socket and ratchet, remove the four self-tapping screws that attach the frame cover to the frame. See Figure 3. Remove the frame cover.

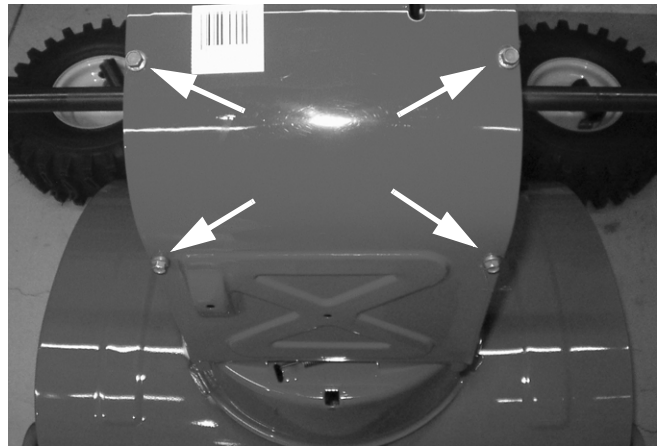


FIGURE 3

8. Using a 7/16" socket and ratchet, loosen the shoulder screw that retains the wheel drive cable pulley just far enough to slide the cable off the pulley. See Figure 4.

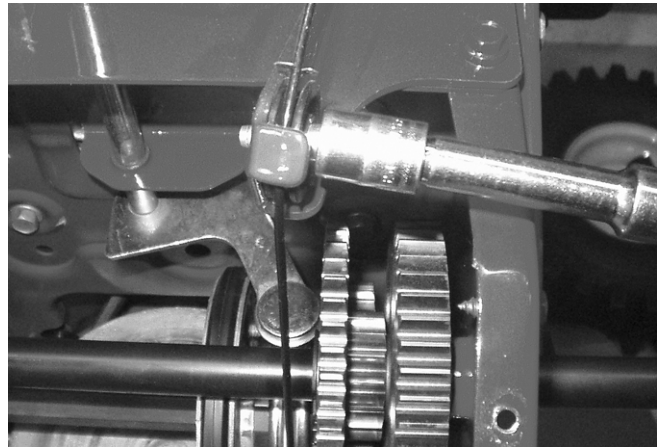
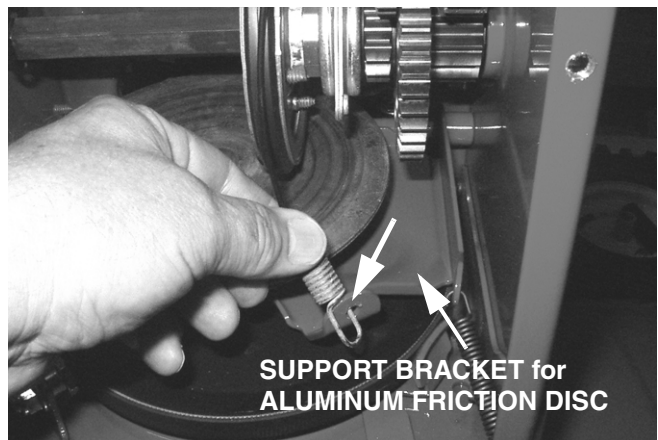


FIGURE 4

9. Unhook the spring end of the wheel drive cable from the friction wheel support bracket assembly and place over the handle panel. Be careful not to kink the cable. See Figure 5.



SUPPORT BRACKET for ALUMINUM FRICTION DISC

FIGURE 5

10. Place the speed selector lever in the highest forward speed position.

11. Remove and discard both E-ring retainers from the wheel axle. See Figure 6.

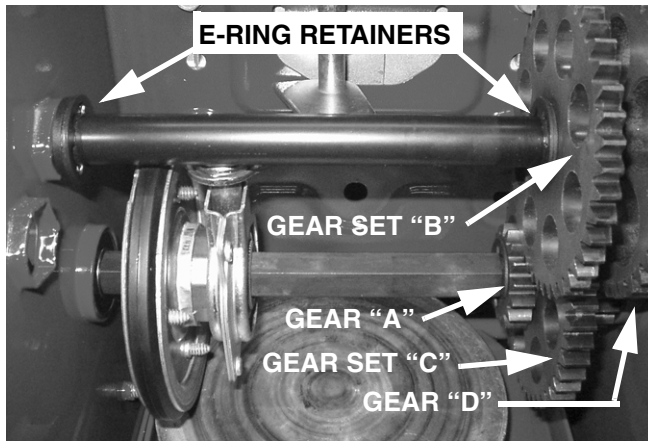


FIGURE 6

12. While keeping GEAR "D" against the right side of the frame, slide the axle, along with GEAR SET "B", to the left sufficiently, about 1 1/2 inches, to expose the Hi-Pro key. See Figure 7. This will provide sufficient room for Steps 15 and 16. Remove and discard the key.

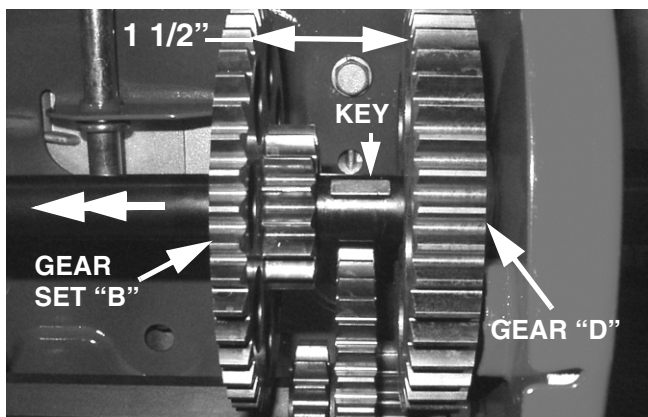


FIGURE 7

13. Mark the side of the frame to denote which set of hex holes the axle is installed through for later re-installation.

14. Remove and discard the E-ring retainers and ball bearings from both ends of the drive hex shaft as shown in Figure 8.

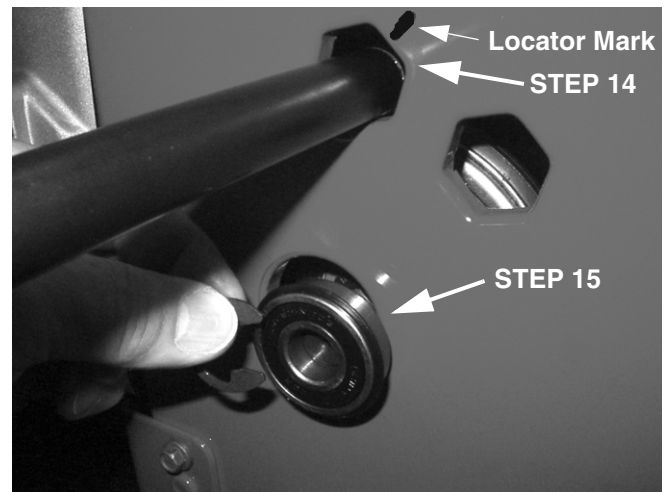


FIGURE 8

15. Slide both the axle and drive hex shaft assemblies to the left sufficiently so that the end of the drive hex shaft is clear of the right side of the frame.

16. Rotate the right side of the drive hex shaft assembly out from between the axle gears and remove from the frame. Discard the complete hex drive shaft assembly. See Figure 9.

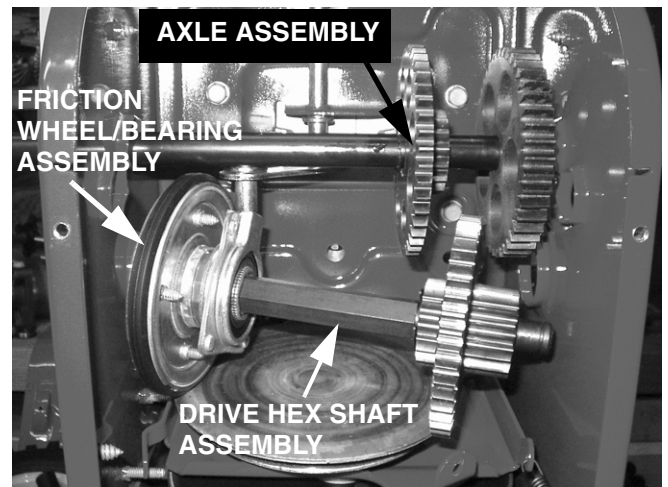


FIGURE 9

17. Remove the hex lock nut and special spacer from the end of the shift rod assembly as shown in Figure 10.

NOTE: Observe how the special spacer is positioned for re-installation later. Carefully allow the shift rod assembly to slide down and rest on the friction wheel disc assembly.

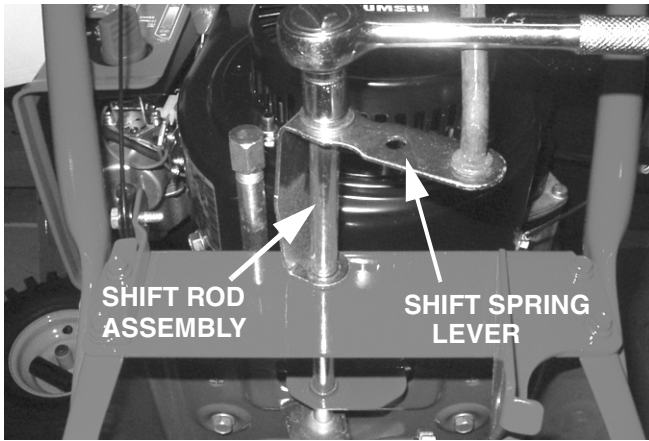


FIGURE 10

18. Slide/drive the axle to the left to remove from the frame. See Figure 11.

NOTE: To remove the axle through the left frame side, it will be necessary to move and remove both gears to the right end of the axle. This may require rust penetrant, a hammer and drift punch. Place a few flat washers on the right hand end of the axle and secure with the wheel bolt. This will keep the end of the axle from mushrooming so the gears can be removed.

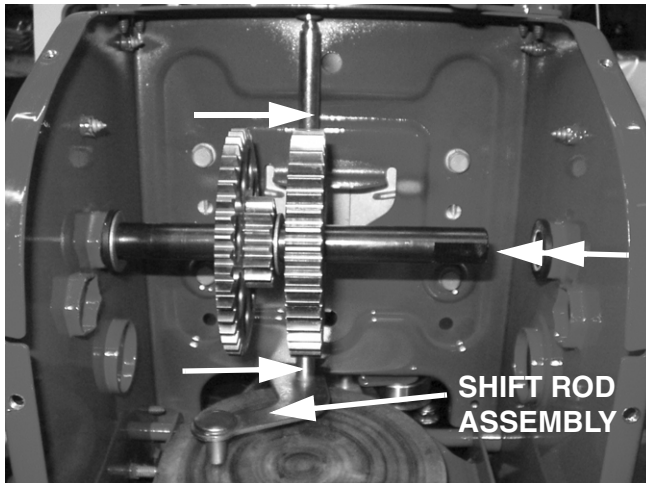


FIGURE 11

19. Discard the axle and both axle gears.

Drive Train Upgrade Installation:

20. For Reference - Figure 1 Inset is a sectional view of the completed assembly of the gear cluster. The exploded view of Figure 1 is not representative of the correct positioning of Gear Assembly, Item 1.

NOTE: Inspect both Gear Assemblies, Items 1 and 2, to ensure that the needle bearings are properly pressed in. The ends of the bearing races must be flush or slightly below the gear face. If not, properly press the needle bearings to be flush or slightly below the gear faces.

21. Pack AeroShell 22 Grease, Item 18, into the needles in the bearing and apply a coating onto the bearing seals of Gear Assembly, Item 2. Apply AeroShell 22 Grease, Item 18, to the sides of one (1) Flat Washer, Item 13. Pre-assemble the new Drive Hex Shaft Assembly as shown in Figure 12.

Use care in sliding the Gear Assembly, Item 2, onto the shaft so not to damage the needle bearing or seals. Remove excess grease from the end of the shaft.

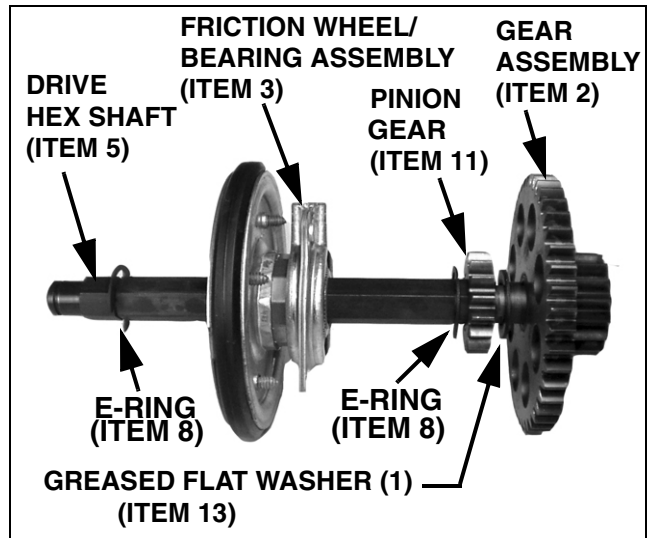


FIGURE 12

22. Install Drive Hex Shaft Assembly into the frame as shown in Figure 13. Raise the shift rod assembly up and rotate the Friction Wheel/Bearing Assembly and rotate the Pinion Gear/Bearing Assembly to set the shift rod stud into the Friction Wheel/Bearing Assembly socket.

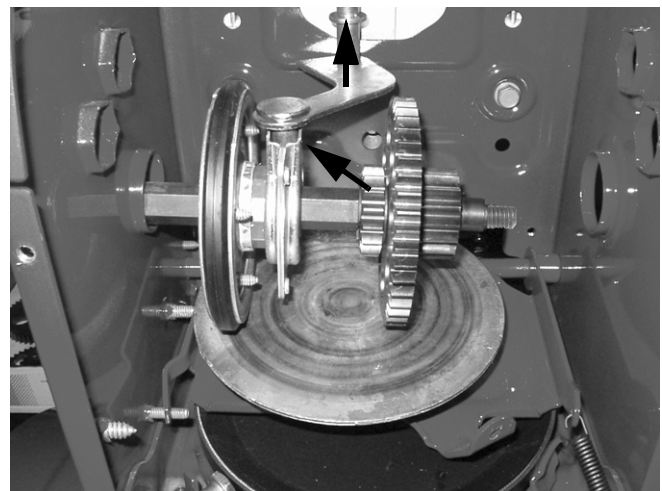


FIGURE 13

23. Install a Ball Bearing, Item 17, onto the left side of the Drive Hex Shaft Assembly. The bearing's retainer ring is on the outside of the frame. Secure with E-ring Retainer, Item 9.

24. Move the Drive Hex Shaft Assembly to the right until the left side ball bearing is seated in the frame.

25. Move the gear pack all the way to the left against the E-ring retainer adjacent to the pinion gear.

26. Install Flat Washer, Item 13, onto the Drive Hex Shaft's right end and set against Gear Assembly, Item 2.

27. Install a Ball Bearing, Item 17, onto the right side of the Drive Hex Shaft Assembly. Bearing's retainer ring is on the outside of the frame. Finger start a Flange Lock Nut, Item 6 onto the threaded end.

28. Place a 13/16" open end wrench on the Drive Hex Shaft against the E-ring retainer adjacent to the pinion gear. With the wrench, push the Drive Hex Shaft Assembly to the right against the right side of the frame, tighten the flange lock nut securely with a 5/8" socket and ratchet.

29. From the inside of the frame, insert the Hex Flange Bearings, Item 16, into the appropriate hex holes, marked in Step 13, in the left and right sides of the frame. See Figure 14.

30. Lubricate the bore and flange of the both hex flange bearings with Lithium Grease, Item 14. With the Axle, Item 15, positioned so that the key slot is on the right hand side, slide the axle through the left side hex flange bearing as shown in Figure 14.

NOTE: Wipe clean any lithium grease from the axle shaft that was picked up as the axle passed through the lubricated bearing.

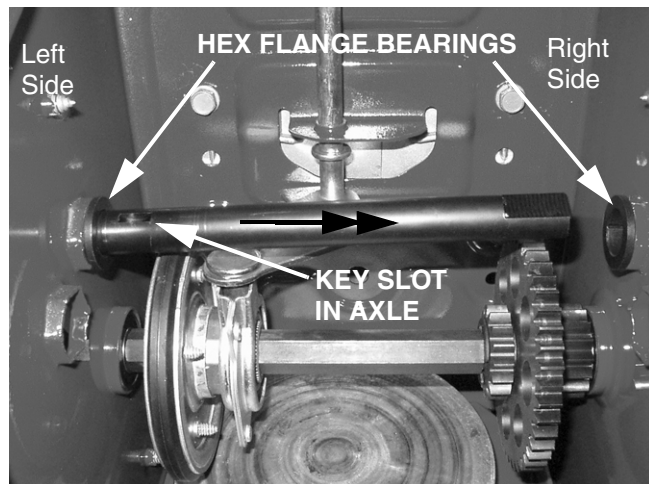


FIGURE 14

31. Pack AeroShell 22 Grease, Item 18, into the needles in the bearing and apply a coating onto the bearing seals of Gear Assembly, Item 1. Assemble two (2) Flat Washers, Item 13, onto the axle from the right hand side, followed by the Gear Assembly, Item 1. Apply AeroShell 22 Grease, Item 18, to both sides of three (3) Flat Washers, Item 13. Assemble the three greased washers onto the axle. See Figure 15.

Use care in sliding the Gear Assembly, Item 1, onto the shaft so not to damage the needle bearing or seals. Remove excess grease from the end of the shaft.

NOTE: Ensure that the Flat Washer nearest the left side hex flange bearing is positioned and remains to the left of the Friction Wheel/Bearing Assembly as shown in Figure 15 through the remaining axle installation.

32. Using a piece of 1/2" or 3/4" wood dowel, or other suitable tool, positioned through the frame's right side axle hole, place a Flat Washer, Item 13, then Gear, Item 10, onto the dowel as shown in Figure 15.

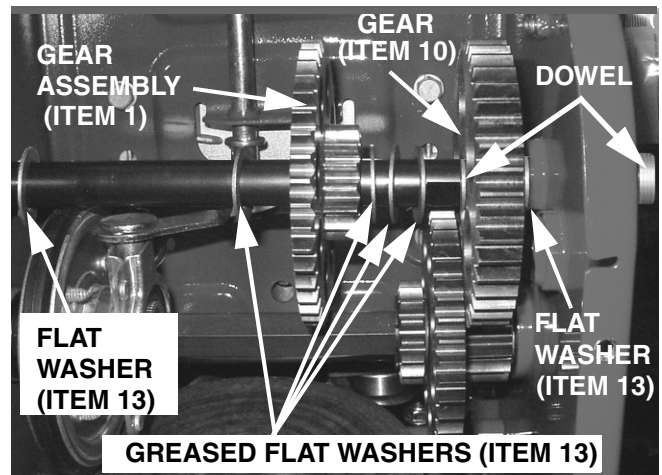


FIGURE 15

33. Slide the axle to the right through Gear, Item 10, and Flat Washer, Item 13, displacing the dowel until the key slot is visible as shown in Figure 16.

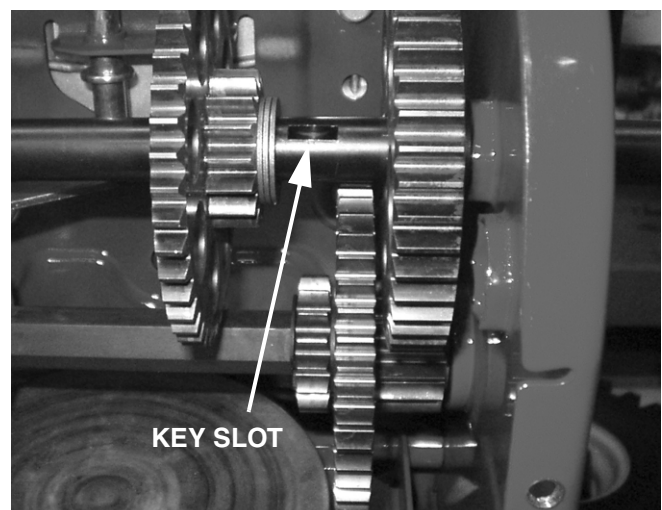


FIGURE 16

34. Ensure the 3 Flat Washers, Item 13 are next to the gear as shown in Figure 16. Insert Hi-Pro Key, Item 7, into key slot. Ensure key is inserted all the way in and top surface is parallel to axle.

35. Slide axle, flat washer and Gear Assembly, Item 1, together to the right until key is inserted in Gear, Item 10.

36. Install E-ring Retainer, Item 8, into the undercut slot next to Gear Assembly, Item 1. Ensure that the flat washer is between the Gear Assembly, Item 1, and the E-ring retainer. See Figure 6.

37. Install E-ring Retainer, Item 8, into the undercut slot next to the left side hex flanged bearing. Ensure the flat washer is between the hex flange bearing and the E-ring retainer. See Figure 6.

38. Place the speed selector lever in the top forward speed position and move Friction Wheel/Bearing Assembly all the way to the left against the E-ring retainer.

39. Re-install the shift spring lever, special spacer, and hex lock nut on the end of the shift rod assembly as shown in Figure 10. Ensure that the square end of the shift rod assembly is set squarely in the square hole on the shift spring lever and that the special spacer is positioned as found in Step 18. Tighten securely.

40. Re-attach the wheel drive cable spring end to the support bracket for the aluminum friction disc. See Figure 5.

41. Re-install the wheel drive cable over the cable pulley and tighten the shoulder screw. See Figure 4.

42. Apply a coating of Lithium Grease, Item 14, to both axle ends 100% of their diameter for the full exposed length outside the frame. Do not get grease in threaded holes at the axle ends.

NOTE: *If wheel hubs were difficult to remove initially, remove any paint from inside the hub with a file, especially the double-D end. Place a light coating of the lithium grease in each wheel hub at both ends.*

43. Re-install the plastic tube spacers on each axle end.

44. Re-install both wheel assemblies. Ensure that the left wheel assembly is on the left and right wheel assembly is on the right side. Refer to Step 6.

45. Wipe excess grease from the end of the wheel hub/ axle. Clean out any that had gotten into the threaded holes on the axle ends with a cotton swab dipped in a solvent like brake pad cleaner.

46. Secure both wheel assemblies to the axle with Lock Screw, Item 4, and Bell Washer, Item 12. Tighten securely.

47. Apply a light coating of engine oil to the hex Drive Shaft in the area that the Friction Wheel/Bearing Assembly operates through to prevent rust. Shift speed

selector lever back and forth through it's full range to spread lubrication. Wipe off any excessive amount that could fling onto the aluminum friction wheel assembly.

48. Clean the aluminum friction wheel assembly with a degreaser.

49. Re-install the frame cover and four self-tapping screws that attach to the frame. See Figure 3.

50. Refer to the Adjustment Section of the Operator's Manual if readjustment of the wheel drive clutch cable or speed selector shift rod is required.

51. Return unit to it's normal operating position.

This completes this service kit installation.

NOTES