Service Kit 753-05894A

Date: June 28, 2010

Subject: Service Replacement for the 618-04360 and 618-04360A Tiller Transmissions

Models Affected: N/A

Read through and understand these instructions completely before proceeding.

PURPOSE: This kit is the service replacement for the 618-04360 and 618-04360A Bronco CRT (Counter Rotating Tines) tiller transmissions which are no-longer-available. Due to the replacement transmission's mounting bosses new location, new engine mounting frames (here-in-after refered to as "frame" or "frames") are also supplied. The LH frame requires a modification for for the cable mounting bracket and idler spring attachment point. This required modification instructions are provided within this document, Form No. 769-04051B. The instructions for the possible modification for the relocation of the engine mounting holes, dependent on engine model, are provided in the separate Supplement Sheet Form No. 769-06178 supplied with this service kit.

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.***

Service Kit Contents

(See Figure 1)

ITEM NO.	PART NUMBER	QTY	DESCRIPTION
1	753-06042A	1	TRANSMISSION: TILLER: CRT: BRONCO
2	710-3008	4	BOLT: 5/16"-18 x .75: GR5: STANDARD
3	786-04419-0638	1	FRAME: MOUNTING: ENGINE: LH
4	786-04418-0638	1	FRAME: MOUNTING: ENGINE: RH
5	*	1	SHEET: SUPPLEMENT: 769-06178
6	*	1	THIS INSTRUCTION SHEET

* - Not Available Separately

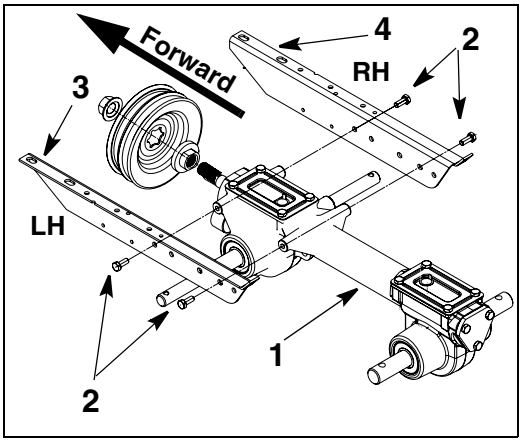

FIGURE 1

NOTE: *Left (LH) and right (RH) sides are determined from the operator's position behind the handle bars and facing forward.*

Pre-Service Preparation:

1. Place the tiller on a flat and level surface.

2. Turn off engine and allow engine and muffler to cool before proceeding.

NOTE: *Refer to the Operator's Manual - Illustrated Parts List for part identification and location.*

Disassembly Instructions:

3. Using a 3/8" socket and ratchet remove the screw and washer retaining the belt cover to the belt cover bracket. Slip the belt cover away from the engine along the forward drive clutch cable.

4. While manually pushing the forward drive idler pulley towards the forward drive clutch cable's mounting bracket, unhook the cable's "Z" fitting from the forward drive idler bracket. See Figure 2.

5. Using a 7/16" open end wrench loosen the hex jam nut securing the forward drive clutch cable to the cable mounting bracket. See Figure 2.

6. Slip the clutch cable from the mounting bracket and slide the belt cover off of the clutch cable.

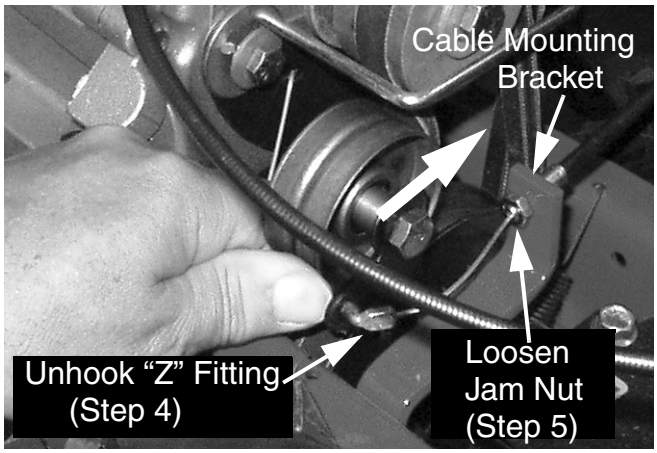

FIGURE 2

7. While manually pushing the reverse drive idler pulley towards the reverse drive clutch cable mounting bracket, unhook the cable's "Z" fitting from the reverse drive idler bracket. See Figure 3.

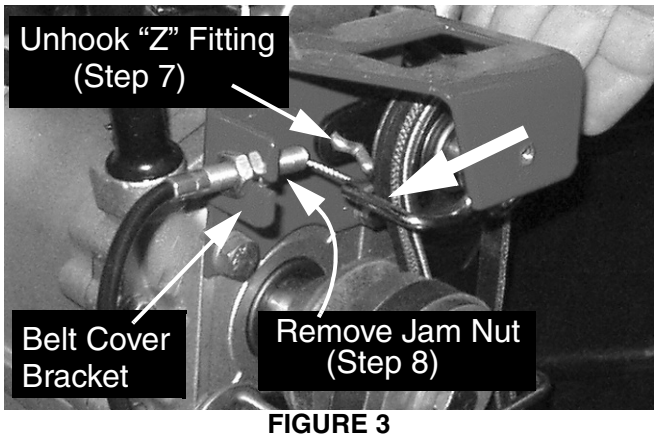

FIGURE 3

8. Using a 1/2" open end wrench, remove the reverse drive clutch cable's jamb nut from the idler side of the cable bracket. See Figure 3.

9. Using a 1/2" box wrench. loosen the idler bracket/belt guide retaining bolt just enough to rotate the belt guide away from the engine pulley. See Figure 4.

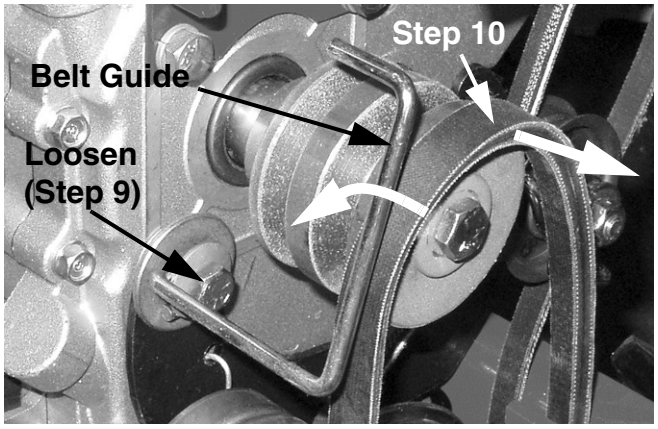

FIGURE 4

10. Remove the forward drive belt from the engine pulley.

11. Using two 1/2" box wrenches, loosen the reverse drive idler pulley mounting bolt just enough to rotate the belt guide providing added clearance to allow removal of the reverse drive belt from both sides of the pulley. Remove the reverse drive belt from the idler pulley. See Figure 5.

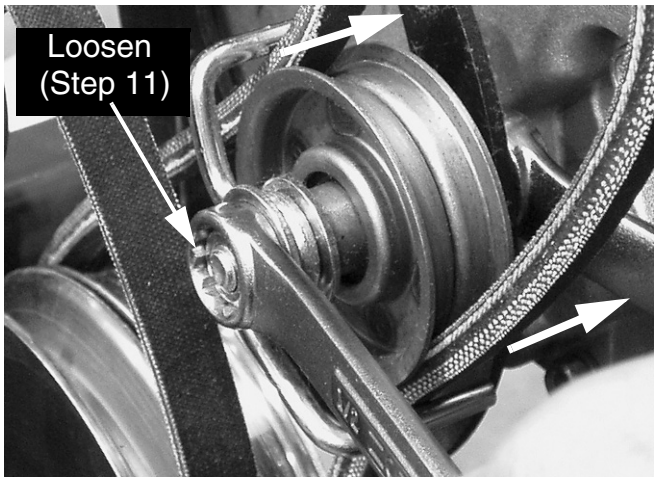

FIGURE 5

12. Mark the location of the engine mounting bolts on the existing engine mounting frames for future reference.

13. Using a 1/2" socket and ratchet and a 1/2" box wrench, remove the four (4) 5/16" bolts and lock nuts securing the engine to the engine mounting frames. Remove the engine from the tiller.

NOTE: *Tape the reverse idler extension spring to the reverse idler bracket, thereby ensuring that the spring's hook remains in the idler hole during handling and reassembly.*

14. Using a 3/8" socket and ratchet remove the two self tapping bolts securing the tine hood assembly to the left and right hood brackets. See Figure 6.

15. Using 1/2" socket and ratchet and a 1/2" box wrench, remove the 5/16" bolts and nuts securing the hood assembly to the engine mounting frames. See Figure 6.

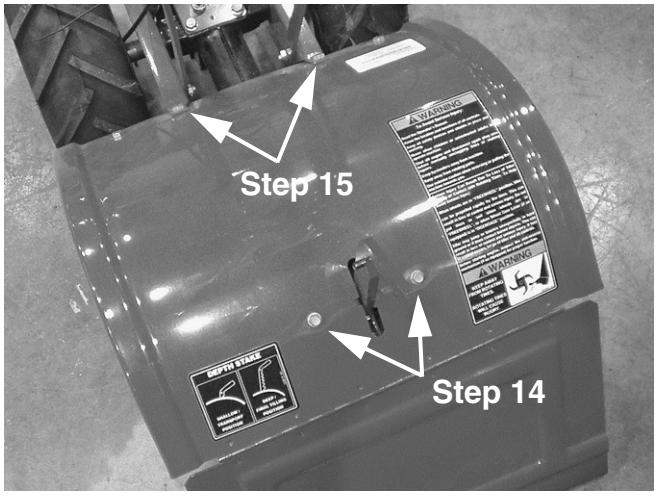

FIGURE 6

16. Carefully lift the tine hood assembly off of the engine mounting frames and adjustable depth bar.

NOTE: *The tine assemblies are left (LH) and right (RH) side specific. Mark the tine assemblies as to the side they are on before proceeding to the next step.*

17. Using a 9/16" socket w/ extension and ratchet and a 9/16" box wrench, remove the 3/8"- 16 cross bolt and nut securing the tine assemblies to the transmission's tine shaft. Remove the tine assemblies.

18. Place wood blocking (approximately 8") under the front portion of the frames and under **both tine shafts (for stability)** as shown in Figure 7, to raise the wheels off the ground.

FIGURE 7

19. Mark each wheel as to the side it is mounted on.

20. Remove the klik pins securing the wheels to the transmission's wheel shaft. Remove both wheel assemblies.

NOTE: *Support the handlebar assembly from falling when unbolted before proceeding to the next step.*

21. Using a 9/16" socket and ratchet and a 9/16" box wrench, remove the two (2) 3/8" bolts and nuts securing the lower handlebar to the frames.

22. Using a 1/2" socket and ratchet and a 1/2" box wrench, remove the two 5/16" bolts and nuts securing the handlebar supports to the frames.

23. Using a 3/8" socket w/ extension and ratchet, remove the four (4) self-tapping screws securing the belts/pulleys guard from the frames.

24. Using a 1/2" box wrench and using the forward drive belt as a strap wrench, as shown in Figure 8, remove the 5/16" bolt and bell washer securing the dual pulley assembly to the transmission input shaft.

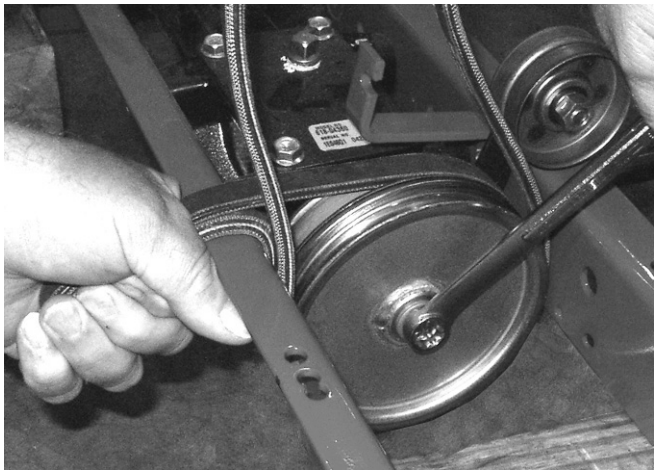

FIGURE 8

25. Remove the dual pulley assembly, belts, square key and flat washer from the transmission input shaft.

NOTE: *Note the position of the flat washer on the input shaft between the transmission and dual pulley assembly for reassembly later.*

NOTE: *For reassembly later...the "V" shape pulley is towards (next to) the transmission housing.*

26. Place the remaining transmission subassembly on a bench and set on wood blocking as shown in Figure 9.

27. Using a 1/2" socket and ratchet and 1/2" box wrench, remove the 5/16" bolt and nut securing the drag bar to the underside of the transmission housing. See Figure 9.

28. Using a 1/2" socket and ratchet, remove the two (2) 5/16" bolts securing the reverse stop arm, RH and LH hood brackets to the transmission housing. See Figure 9.

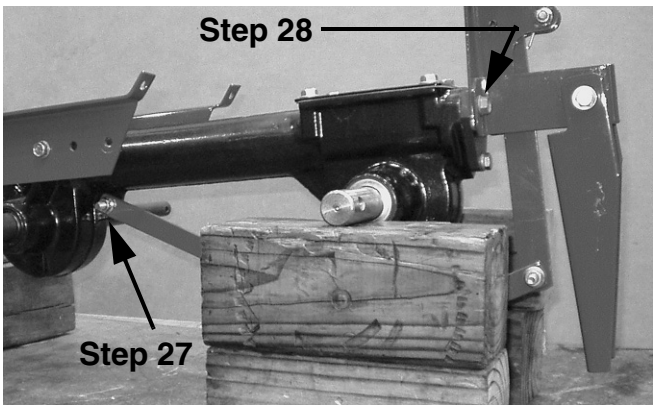

FIGURE 9

29. Unhook the forward drive idler extension spring from the RH frame. See Figure 10.

30. Using a 1/2” socket and ratchet remove 5/16” bolt securing the forward drive idler bracket and pulley to the front of the transmission housing. Keep the idler hardware together to ensure proper installation at reassembly.

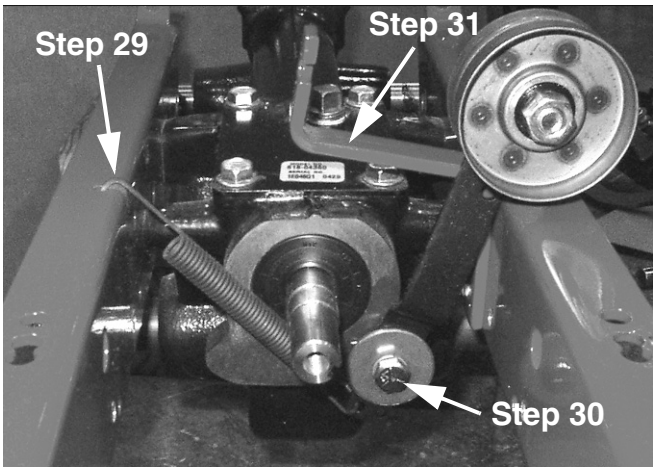

FIGURE 10

31. Using a 3/8” socket and ratchet, remove the two (2) self-tapping 1/4” screws securing the forward drive clutch cable mounting bracket from the LH frame.

32. Using a 1/2” socket and ratchet, remove the four (4) 5/16”-18 Whiz Lock bolts securing the RH and LH engine mounting frames to the transmission housing.

33. Discard the transmission. Retain the four bolts.

Frame(s) Modifications:

Required LH Frame Modification:

34. The current production LH Engine Mounting Frame, Item 3, provided in this service kit, will need to have 3 holes drilled. The holes accommodate the cable mounting bracket and idler spring attachment point.

35. Cut out the drill template found on page 7. See Figure 11.

36. Lay the new LH Engine Mounting Frame, Item 3, down on the bench with the short leg pointing up.

37. Position the template’s three (3) solid black circles directly on top of the three matching holes of the new LH frame. Tape the template in place. See Figure 11.

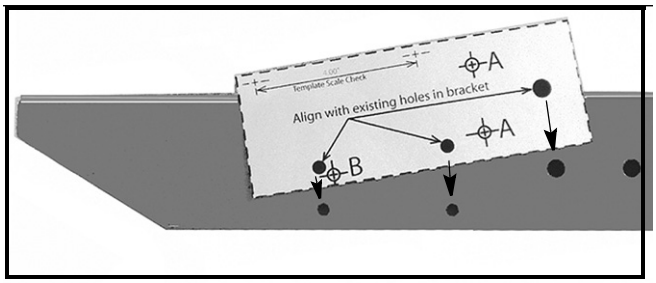

FIGURE 11

38. Using a center punch and hammer, mark the center points of the three holes marked “A” and “B”. Remove the template.

39. Using a 17/64” drill bit and drill motor, drill the two through holes marked “A”.

40. Using a 7/32” drill bit and drill motor, drill the one hole marked “B”.

41. Remove any burrs from around the just drilled holes.

Possible Modification for Engine Mounting Holes:

42. To determine if both the RH and LH frames need to be modified to correctly mount the engine, read and follow the instructions on Supplement Sheet Form No. 769-06178 supplied with this kit.

Reassembly of Tiller With New Transmission:

The new transmission comes as a kit. Follow only the “Preparing the New Transmission” Steps 26 through 31 of the Instruction sheet that comes with the 753-06042 Transmission Kit.

Read all reassembly instructions and NOTES before proceeding. This section does not provide complete step by step reassembly instruction. It does provide important NOTES that apply at different steps throughout the reassembly process.

Refer to the Operator’s Manual - Illustrated Parts List to assist in reassembly.

43. Check the transmission oil level. Place the new CRT Tiller Transmission, Item 1, on a bench. Ensure that the unit is level side to side. Place a 2”x4” flat wise under the front (wheel) section of the transmission, raising the input shaft end by 1-1/2”.

44. Remove the rubber plug from the transmission’s tine end housing and look inside the oil fill hole to locate the main drive shaft situated below the hole.

The gear oil level is correct if the gear oil is approximately halfway up the side of the main drive shaft.

NOTE: ***Use SAE 85W-140 or SAE 140 gear oil (GL-4 Spec) when topping off or performing a complete change. This gear oil is not available through MTD but may be purchased locally through an automotive parts retailer.***

45. Install the new Frames, Items 2 & 3, onto the new Transmission, Item 1.

46. Install forward drive idler bracket w/ flat pulley and spring to the transmission. See Figure 10. (Ensure idler pivots freely).

NOTE: *Inspect belts for wear, cracking or fraying. This is an opportune time to replace the belts with new belts.*

NOTE: *To retain the belts on the dual pulley assembly during reassembly, place a rubber band around both belts as shown in Figure 12.*

NOTE: *The reverse drive belt (narrower belt) installs onto the flat transmission pulley with the back of the belt riding on the flat pulley surface.*

47. Install the dual transmission pulley assembly w/ belts, square key, flat washer, bell washer and mounting bolt. Torque the transmission's dual pulley mounting bolt to 180-240 In-Lbs. Refer to Figure 8 / Step 24 for using forward drive belt as a strap wrench.

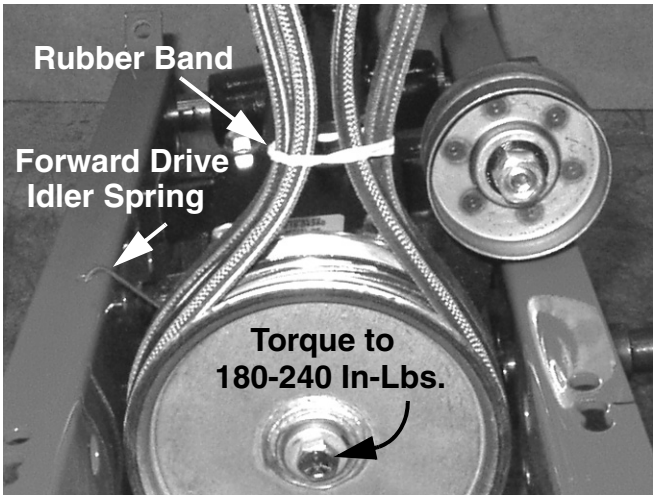

FIGURE 12

48. Re-install the belts/pulleys guard

49. Re-install the forward drive clutch cable mounting bracket. See Figure 10 / Step 31.

50. Set the tine shafts onto wood blocking as was done in Figure 9.

51. Install the drag bar, adjustable depth bar, right and left hood brackets, reverse stop arm and flap stop bracket. See Figure 9 / Steps 27 and 28.

52. Install the handlebar assemby and handlebar supports. Install all four (4) bolts and nuts loosely before tightening. See Steps 21 and 22.

53. Set the tiller onto the floor and place on wood blocking as in Figure 7.

54. Proceed with assembly of the tiller in the reverse order of disassembly.

NOTE: *Prior to re-installing the tine assemblies, apply an even coating of an anti-seize compound onto the tine shafts.*

NOTE: *Prior to re-installing the wheel assemblies, apply an even coating of an anti-seize compound onto the wheel shafts.*

NOTE: *Ensure that the reverse idler bracket extension spring's end hook is secure in the reverse idler bracket hole before mounting the engine to the frame. See Figure 13.*

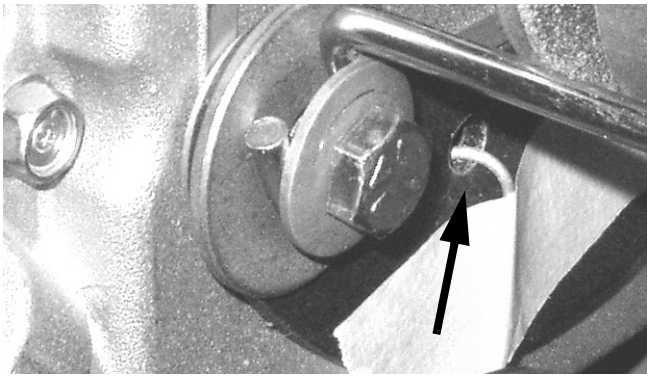

FIGURE 13

NOTE: *Mount the engine to the frames using the hole location noted in Step 12. Torque the engine bolts to 120-180 In-Lbs.*

55. With the tines, wheels and engine installed, the drive clutch cables, belts, and belt guides remain to be installed. See Figure 14.

56. Install the forward drive clutch cable to the forward idler bracket and to the cable mounting bracket. Tighten jam nut securely. See Figure 14.

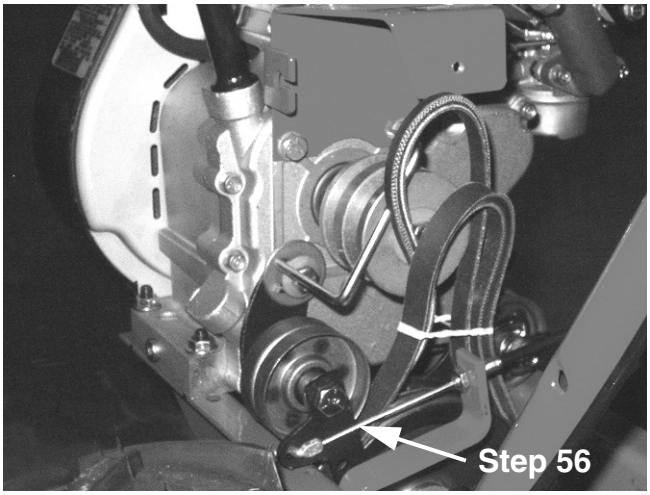

FIGURE 14

Refer to Figure 15.

57. Remove the rubber band from the belts.

58. Move the narrower belt to the right hand side of the engine pulley.

59. Install the wider belt onto the engine pulley

60. Rotate the forward drive belt guide back around the engine pulley until the guide arm is parallel to the frame. Using a 1/2" box wrench, tighten the belt guide/ reverse idler bracket bolt. Ensure that the reverse idler rotates freely.

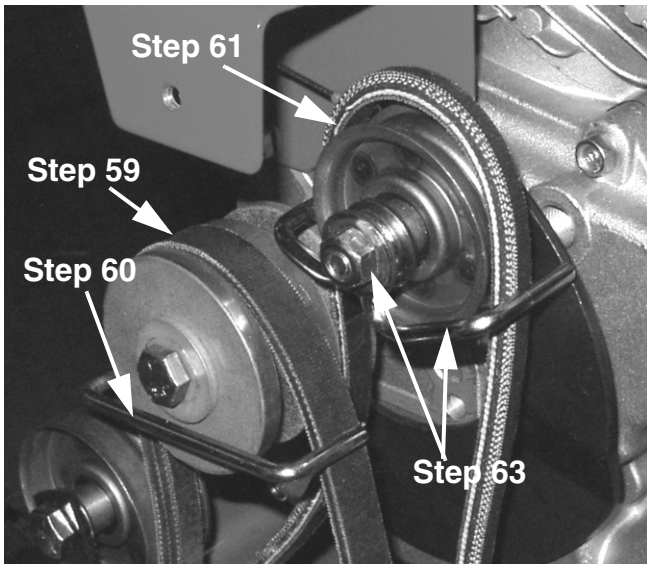

FIGURE 15

61. Install the reverse drive belt onto the reverse idler pulley.

62. Attach the reverse drive clutch cable's "Z" fitting to the idler bracket. Secure the cable ferrule to the cable mounting bracket (i.e. belt cover bracket).

63. Reverse Drive Belt Guide Adjustment - Push the idler in to remove slack from belt then position belt guide so that there is equal clearance on both sides of pulley. Tighten pulley bolt and nut using two 1/2" box wrenches.

NOTE: *Refer to the Maintenance Section of the Operator's Manual for proper adjustment of the tension for the drive belts.*

64. Test operate the tiller in both forward and reverse to ensure proper belt tensioning.

65. Replace the belt cover.

This completes the installation of this service kit.