



Service Kit 753-06153

Date: October 29, 2009 (Revised 1/20/2010)

Subject: Service Replacement 4-Way Chute Control Housing

Models Affected: 2009 Model Year and later 2-Stage Snow Throwers with Deluxe Handle Panel Remote Chute Rotation Control.

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

PURPOSE: This kit provides the 4-way chute control assembly's LH and RH housing halves and installation instructions for 2009 Model Year and later 2-Stage Snow Throwers with the Deluxe Handle Panel Remote Chute Rotation Control.

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	*	1	HOUSING: RH: 4-WAY CHUTE CONTROL
2	*	1	HOUSING: LH: 4-WAY CHUTE CONTROL
3	710-1256	8	SCREW: HI-LO: #8-18 x 1.250: PANPHI
4	937-04085	1	GREASE: LITHIUM: WHITE (Low Temp)
5	*	1	THIS INSTRUCTION SHEET

* - Not Available Separately

NOTE: Right (RH) and left (LH) sides are determined from the operator's position at the handle bars facing the auger housing.

Pre-Service Preparation:

- Place the snow thrower on a flat and level surface, turn off the engine and allow the muffler and engine to cool before proceeding.
- Remove spark plug wire from the spark plug and ground to the engine block.

Removal of the Chute Control Assembly:

- At the chute control assembly joystick, depress the red trigger and position the chute as shown in Figure 3.
- Check the chute control assembly input shaft to ensure that the arrow on the input shaft is at the top as shown in Figure 2A. Adjust chute position as necessary.
- At the chute rotation gear box, the coupler holes should be at the top as shown in Figure 2B. Mark the coupler, as shown, to assist reassembly later.

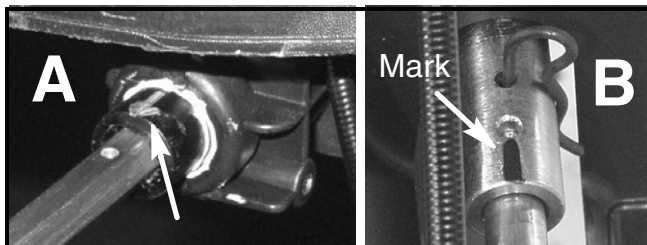


FIGURE 2

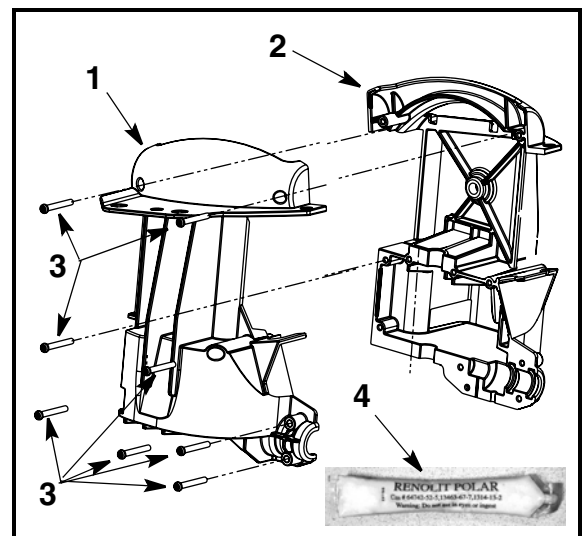


FIGURE 1

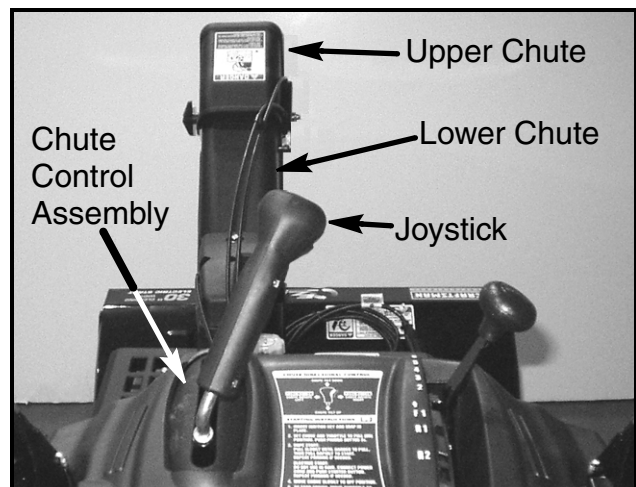


FIGURE 3

6. At the chute rotation gear box assembly, remove the hairpin clip. See Figure 4.

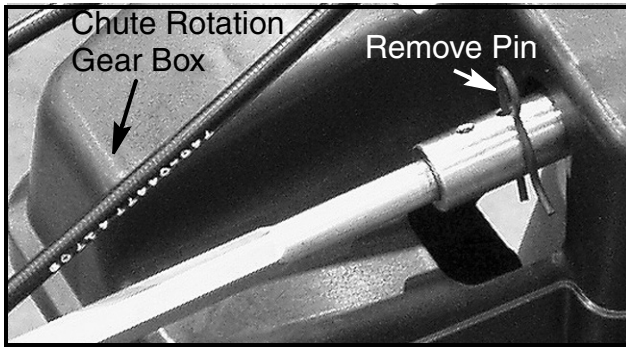


FIGURE 4

7. Carefully slide the 3/8" hex rod into the metal coupler of the chute rotation gear box to free the rod from the chute control assembly input shaft. See Figure 5.

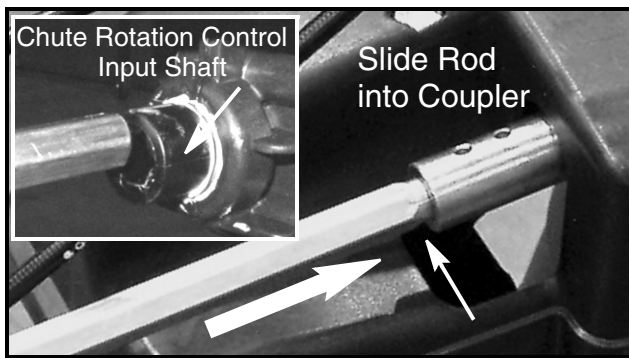


FIGURE 5

8. Using a 3/8" socket, long extension and ratchet, remove the six (6) Hi-Lo screws, from the underside of the handle panel, securing the chute control assembly to the handle panel. See Figure 6.

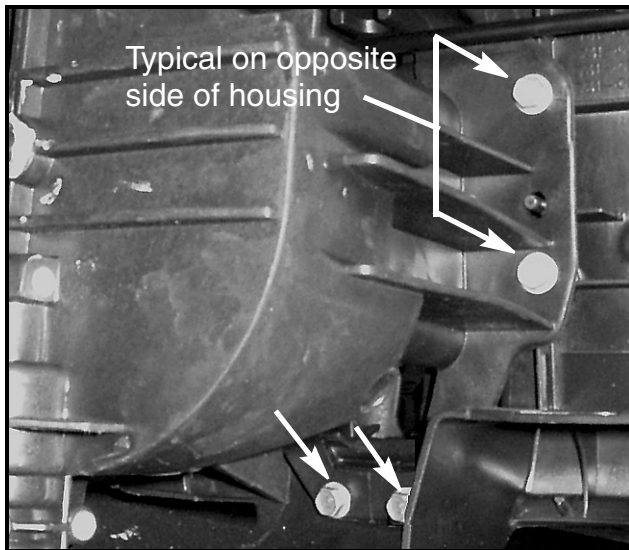


FIGURE 6

9. Carefully, remove the chute control assembly from under the handle panel and set the control assembly on a convenient work surface with its" RH housing half (i.e. screw heads facing down).

There is no need to disconnect any cables at the chute rotation gear box assembly and/or upper chute (if so equipped w/ upper chute remote pitch control).

Disassembly of the Chute Control Assembly:

10. Using a 1/2" socket and ratchet, hold the joystick with one hand and remove the flange lock hex nut securing the upper chute's pitch control bracket to the LH housing half. See Figure 7.

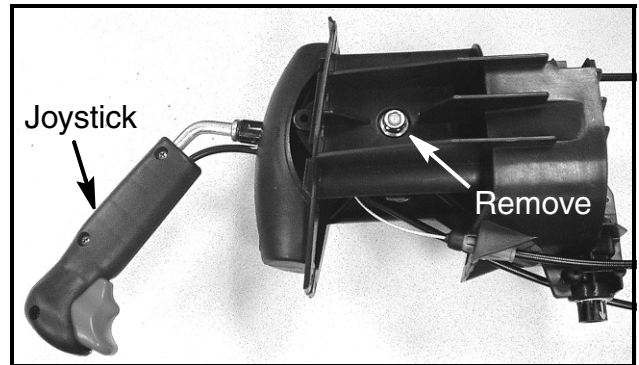


FIGURE 7

11. Turn the chute control assembly over onto its' LH housing side. Using a No. 2 Phillips screwdriver remove and discard the eight hi-lo screws securing the two housing halves of the chute control assembly. See Figure 8.

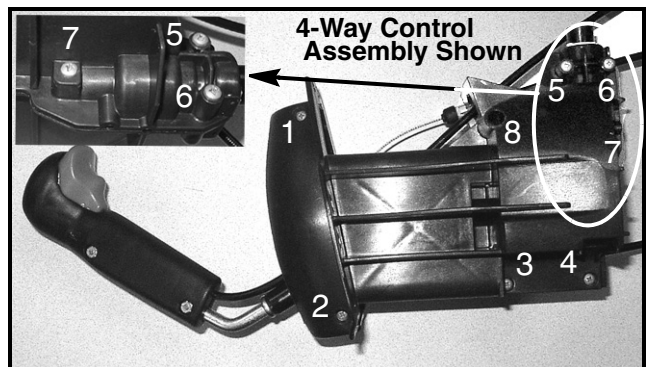


FIGURE 8

12. Holding the lower housing half (LH side) firmly, remove the RH housing half. See Figure 9.

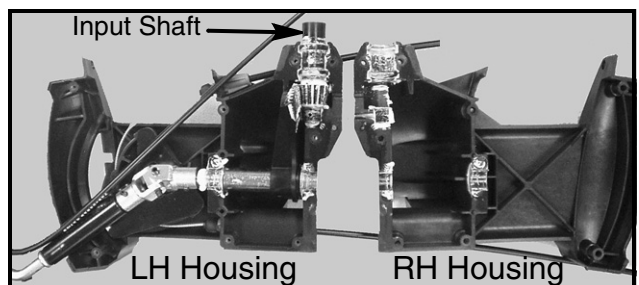


FIGURE 9

13. Remove and set aside, the input shaft from the LH housing half.

14. For both pitch control cables - Carefully remove the rubber boot from the end of the cable fitting. Using a pair of long nose pliers, squeeze the two tabs on the pitch control cable's plastic end fitting and pull the cable fitting out of the LH housing. See Figure 10.

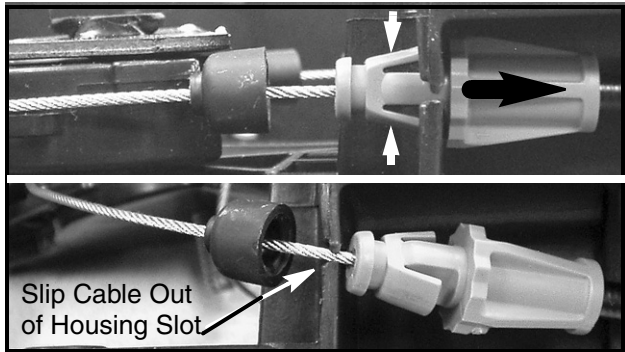


FIGURE 10

15. Rotate the joystick so that the universal yoke attached to the bevel gear shaft is as shown in Figure 11.

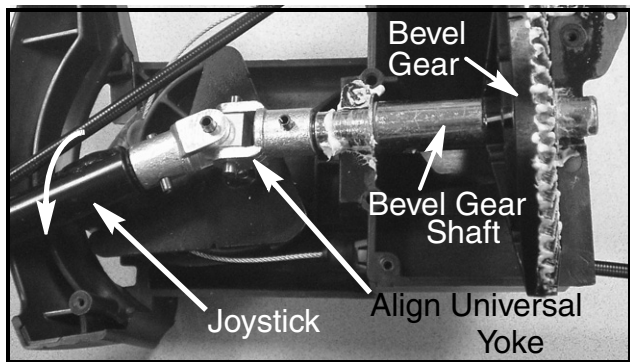


FIGURE 11

16. Rotate the bevel gear shaft up out of the LH housing as shown in Figure 12, then lift the joystick along with the pitch control pulley and cables out of the LH housing. Set aside.

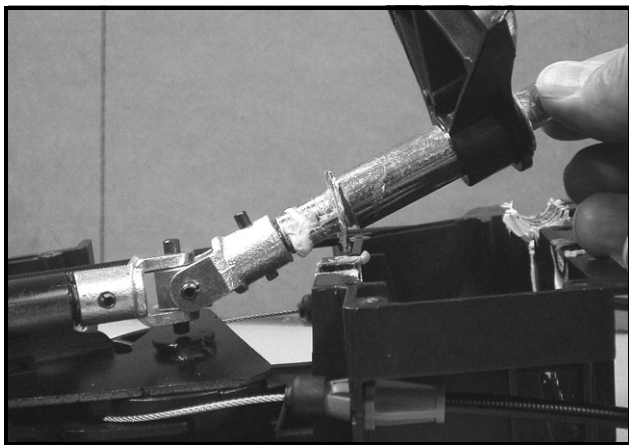


FIGURE 12

17. Discard both old housing halves.

18. Clean the input shaft and bevel gear of grease and debris. Inspect both to ensure that there are no cracks, no damage to the bearing surfaces and/or gear teeth. If either gear is damaged order new gear kit:

Bevel Gear Kit = 753-06152

Rev."A"

Rebuilding the 4-Way Chute Control Assembly:

19. Set the new LH Housing, Item 2, and RH Housing, Item 1, on the bench, internal cavities facing up.

20. Install the two pitch control cables into their respective cable sockets in the LH housing. Ensure that the cables are not crossed, both tabs on each cable are completely snapped into the socket and the rubber seal is re-installed over the fitting.

21. Apply a liberal amount of white lithium grease to both the new LH housing and the new RH housing at the areas shown. See Figure 13.

22. Apply a liberal amount of white lithium grease to the input shaft and to the 89 tooth bevel gear. See Figure 13.

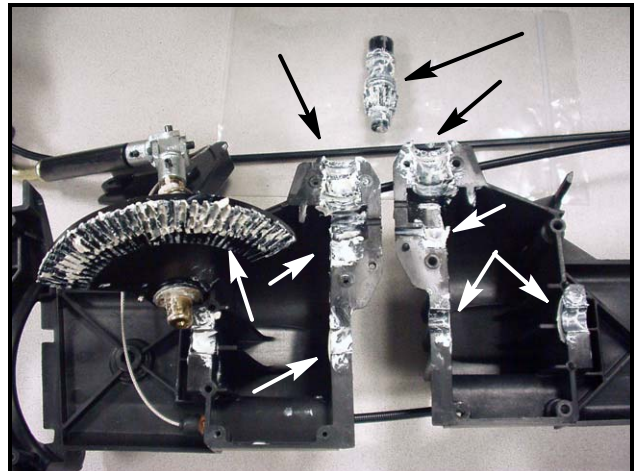


FIGURE 13

23. Ensure that the plastic chute tilt cable guide is installed (if removed earlier) onto the 5/16" threaded weld stud of the pitch control bracket. Ensure that the tab on the plastic chute tilt cable guide is set into the slot of the pitch control bracket. See Figure 14.

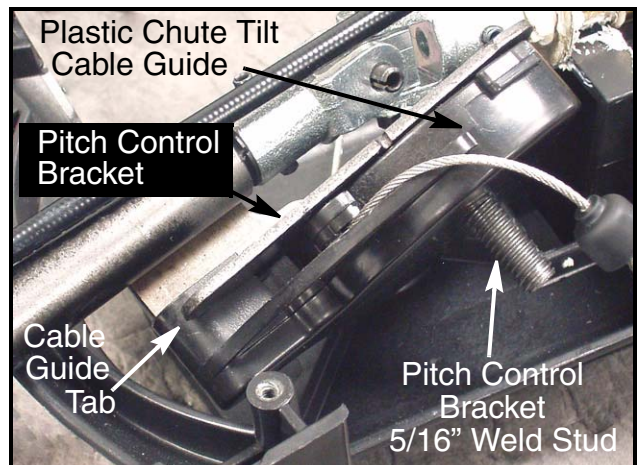


FIGURE 14

24. Refer to Figures 11 and 12 and install the joystick/bevel gear/flat washers sub-assembly (removed in Step 16) into the LH housing. Ensure that both flat washers are positioned as shown in Figure 15.

NOTE: The bevel gear shaft with flat washers may be a snug fit into the housing. Slight pressure to spread the housing walls will facilitate assembly.

NOTE: Ensure that the joystick is oriented as shown in Figure 8.



FIGURE 15

25. While installing the input shaft, align the timing marks on the input shaft with that on the bevel gear as shown in Figure 16A. Once aligned and set in the LH housing, insert a 1/8" allen wrench or similar tool through the pinion gear hole and through the bevel gear hole locking them together in the correct timing position. See Figure 16B.

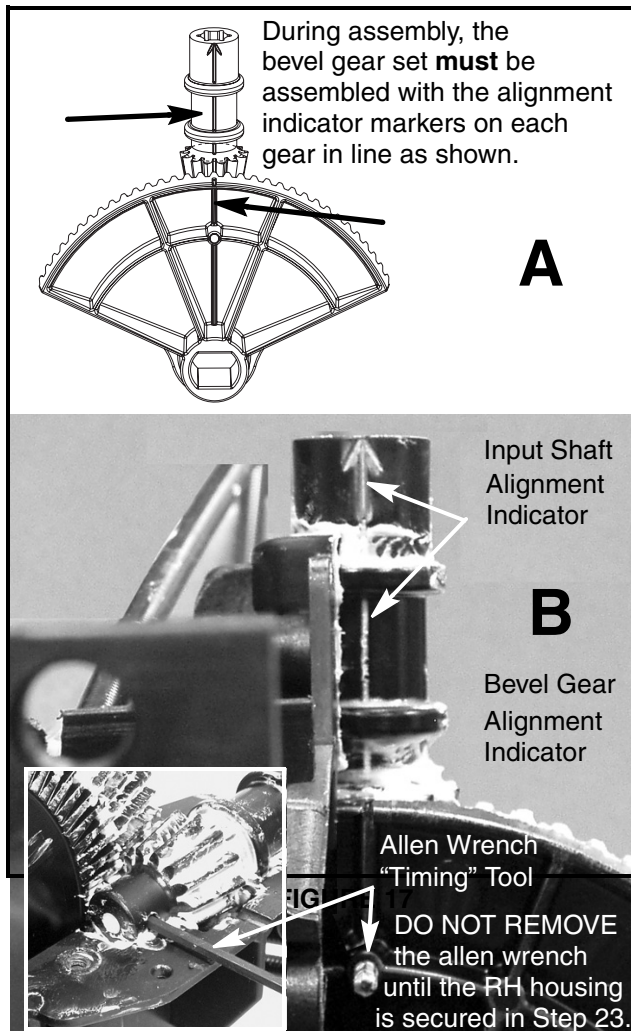


FIGURE 16

26. Before replacing the RH housing onto the LH housing ensure that the trigger cable is set in the half slot as shown in Figure 17.

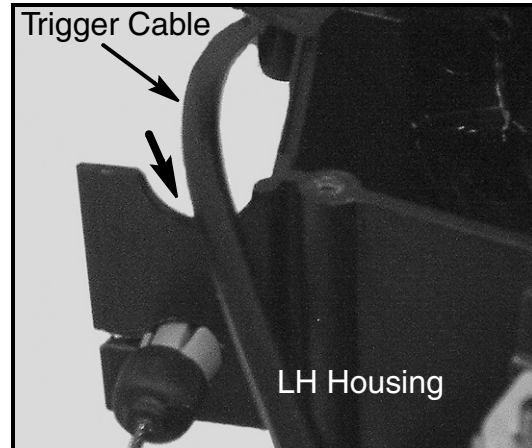


FIGURE 17

27. Carefully align the RH housing onto the LH housing subassembly ensuring that the RH housing's three guide pins align with the three LH housing's holes. See Figure 18.

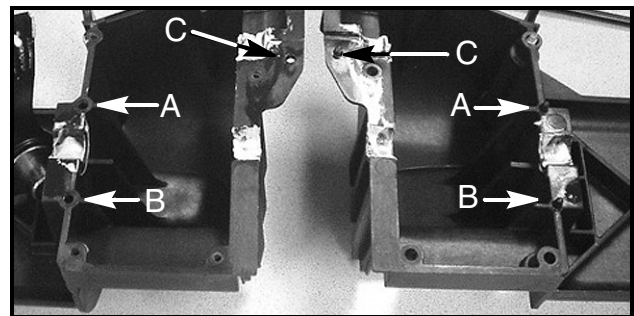


FIGURE 18

28. Secure the two housings together with the eight new #8-18 Hi-Lo Screws, Item3.

29. Remove the allen wrench "timing" tool from the assembled housing's hole.

30. Refer to Figure 10. Install the pitch control cables into their respective sockets in the LH housing. Slide each rubber boot back onto the cables end fitting. Ensure that the boot is snapped over and locked the end fitting.

31. Flip the chute control assembly over and install the 5/16" flange lock nut removed in Step 10. See Figure 7.

Chute Control Assembly Installation:

32. Re-install the chute control assembly onto the handle panel with the 6 screws removed in Step 8.

33. Squeeze the trigger on the joystick and rotate the chute by hand to face forward. The holes in the chute rotation gearbox coupler will be facing up. See Figure 19.

NOTE: The chute will not rotate without squeezing the trigger on the joystick.

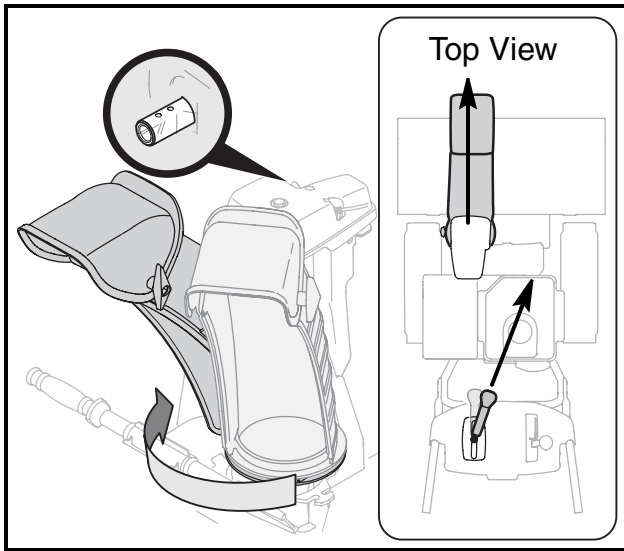


FIGURE 19

34. Rotate the joystick until the silver indicator arrow on the chute control assembly input shaft, below the control panel, faces upward. See Figure 20.

NOTE: The joystick will be angled slightly to the right, about the 1 o'clock position. See Figures 3 and 19.

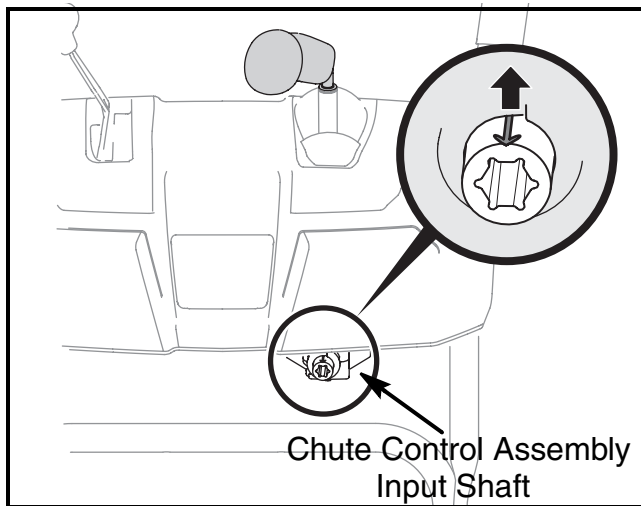


FIGURE 20

35. Insert hex rod into chute rotation gear box coupler. Push hex rod as far into the chute rotation gear box coupler as possible, keeping the hole in the hex rod pointing upward. See Figure 21.

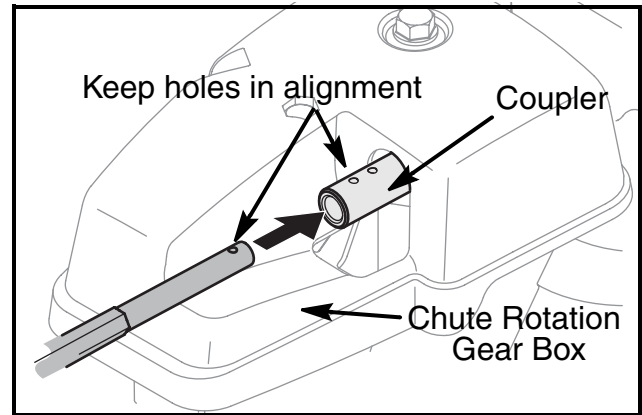


FIGURE 21

36. Insert the hex rod into the chute control assembly input shaft below the joystick. Make sure to line up the hole in the hex rod with the arrow on the input shaft. See Figure 22.

NOTE: The hex rod may fit snugly into the chute control assembly input shaft. Support the rear of the chute control assembly with one hand while inserting the hex rod with your other hand to ensure the hex rod is inserted **all the way** into the chute control assembly input shaft.

NOTE: The hole is a reference for aligning the rod with the indicator arrow on the chute control assembly input shaft. When the rod is properly inserted into the input shaft, the hole will be approximately a 1/4" from the end of the input shaft. See Figure 22.

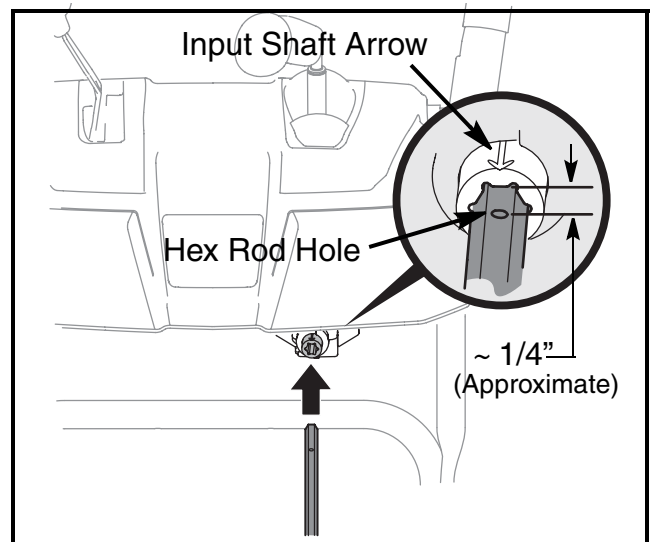


FIGURE 22

37. Push the hex rod toward the control panel until the hole in the hex rod lines up with the hole in the chute rotation gear box coupler closest to the chute rotation gear box and insert the cotter pin. See Figure 23.

NOTE: *The second hole is used to achieve further engagement of the hex rod into the chute control assembly input shaft if required.*

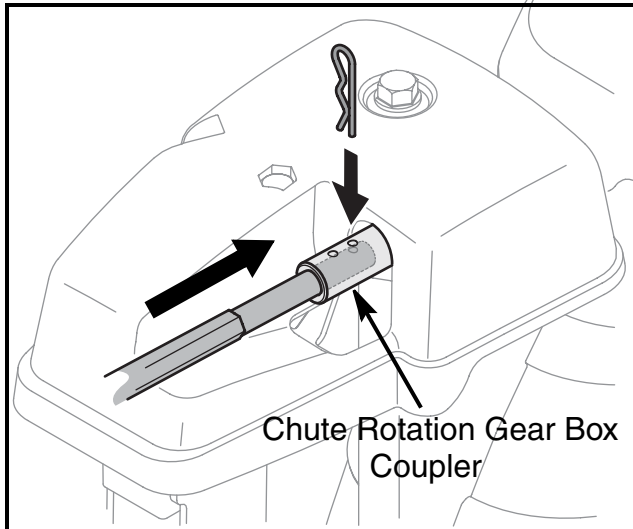


FIGURE 23

38. Test the operation of the chute control assembly to ensure full left to right chute direction. The chute should not come any closer to the muffler shield than approximately 1-1/4" when in the full left position.

This completes the installation of the 4-Way Chute Control Housing kit.

NOTES