



# Service Advisory

## i SERIES

CC-561

Models Affected: i1046 (17AF9BKH710).  
i1050 (17AF9BKP710).

Serial Number Range Affected: All Production i Series.

Date: February 28, 2007

Subject: **i Series Steering Neutral Adjustment Tool & Adjustment Procedure (This Is A Required Tool)**

## ATTENTION SERVICE MANAGER

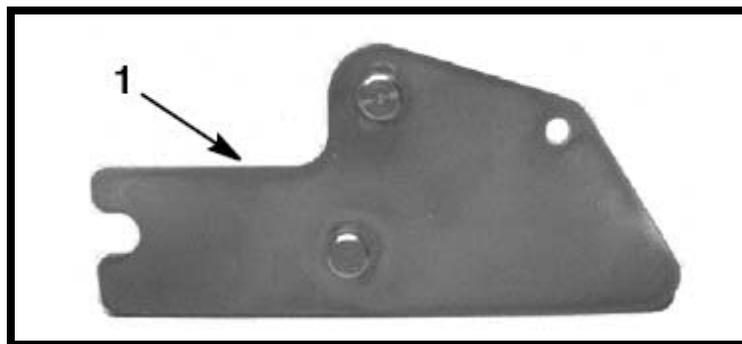
**PURPOSE:** To notify dealers that Service Kit 753-05437 provides the tool and instructions for adjusting the interlocking link mechanism for neutral position of both hydro transmissions with a centered steering gearbox & front tire gear sets correctly aligned.

**ACTION REQUIRED:** None. One 753-05437 Service Kit will be shipped to your dealership automatically.

### 753-05437 Service Kit Contents

ITEM NO.	PART NUMBER	QTY	DESCRIPTION
1	*	1	TOOL: GAUGE BLOCK: NEUTRAL
2	*	1	THIS INSTRUCTION SHEET

\* = Not Available Separately.



The 753-05437 Service Kit Instructions are attached with this advisory for informational purposes.

This Advisory is being released for informational purposes only.

SERVICE MANAGER	PARTS MANAGER	SALES MANAGER	SERVICE TECH.	SERVICE TECH.

Circulate and Initial



# Service Kit 753-05437

Date: 2/02/2007

Subject: iSeries Steering Neutral Adjustment  
Tool and Steering Neutral Adjust-  
ment Procedure

Models Affected: 2007 iSeries Front Engine Tractors

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

**PURPOSE:** This service kit provides the tool and instructions for adjusting the inter-locking link mechanism for neutral position of both hydro transmissions with a centered steering gearbox and front tire gear sets correctly aligned.

**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	683-04353	1	TOOL: GAUGE BLOCK: NEUTRAL
2	*	1	THIS INSTRUCTION SHEET

\* - Not Available Separately

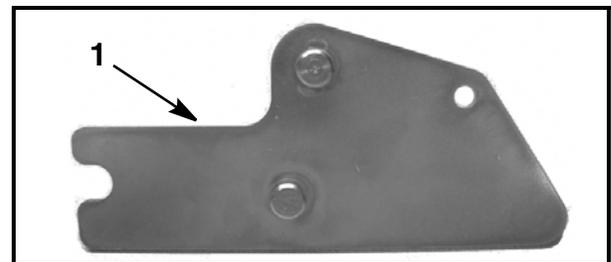


FIGURE 1

### Pre-Service Preparation:

1. Place unit on a flat and level surface, turn engine off, remove ignition key and block the front wheels to keep the unit from rolling.

2. Allow engine and muffler to cool before proceeding with steering adjustment.

3. There are three (3) critical areas to check to ensure proper sequencing of the forward wheel position, center point of the steering case and the drive direction of the hydrostatic transmissions:

**A. Hydro Transmissions Neutral Adjustment**

**B. Front Wheel Alignment**

**C. Speed Cam Neutral Adjustment**

### Steering Alignment Overview:

There are four(4) procedures in the alignment process that should be completed in the order provided in the following sections.

**1:** Lock Steering Gear Box in Neutral Position

**2:** Check Hydrostatic Transmissions Neutral

**3:** Check Front Wheel Alignment

**4:** Check Speed Cam Neutral (753-05437 Tool Required)

**NOTE:** The dash and fender have been removed in the following photos for clarity. It is not necessary to remove the dash and fender for Procedures 1 through 3. Dash and fender removal is only required for Procedure 4.

### 1. - Lock Steering Gear Box in Neutral Position:

4. Remove the 1/4"-20 plug screw from the steering gear box centering port as shown in Figure 2A.

5. Refer to Figure 2B. Using a 1/4"-20 bolt having a minimum of 1.5" of threaded length, thread the bolt into the steering box centering port until you feel it touch the steering rack. While trying to gently thread the bolt further, slowly rotate the steering shaft back and forth until the bolt sets into the detent in the steering rack, then finger tighten to set the screw fully into the detent. The steering gear box is now centered.

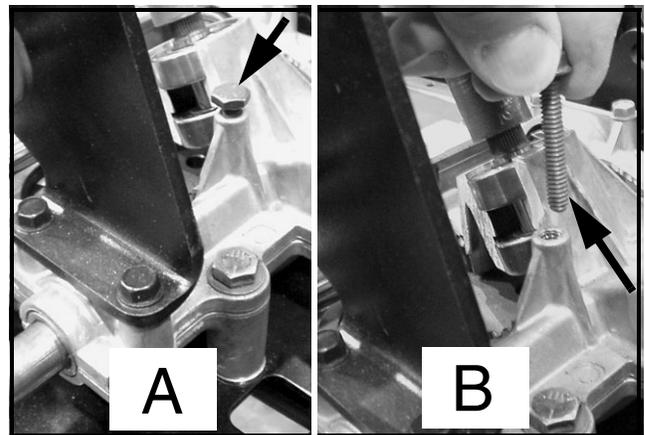


FIGURE 2

## 2. - Check/Adjust Hydro Transmission Neutral:

6. Jack the tractor up so that both rear wheels are off the ground and place a pair of jack stands under the rear transmissions as shown in Figure 3.

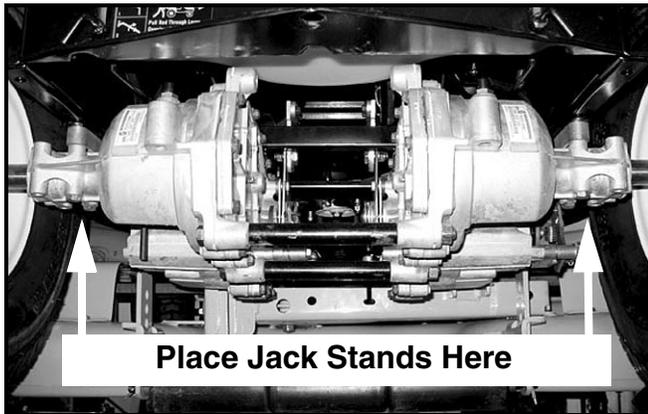


FIGURE 3

7. Disable the seat safety switch by removing the two wires from the switch tabs. Release the parking brake.

8. Start the tractor.

**CAUTION:** The hydro belt and fans are exposed and moving. Do not get loose clothing or hands on or near moving parts.

9. Check the rear wheels for movement.

**NOTE:** The rear wheels should not turn. If either or both wheels turn, adjust the transmission(s) for neutral as follows.

10. At the hydro that is exhibiting creep, loosen the two self-tapping screws securing the hydro steering link to the "T" shaped steering link bracket at the shift selector plate. See Figure 4.

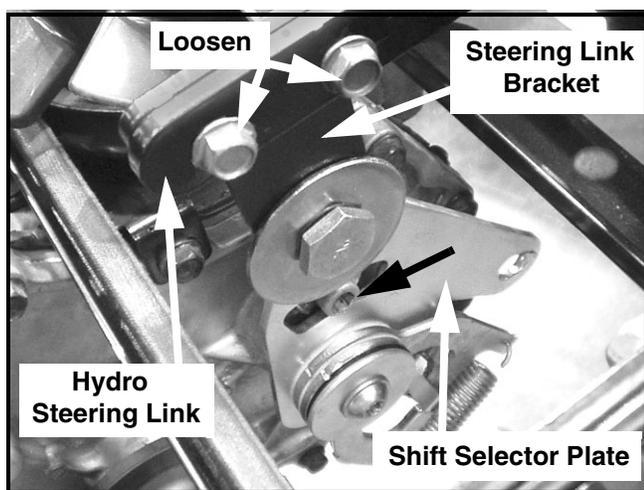


FIGURE 4

11. Using a 1/4" allen wrench, loosen the socket head cap screw located in the slot of the shift selector plate. See Figure 4, black arrow.

12. With the tractor still running, move the shift selector plate until the wheel stops moving, tighten the socket head cap screw.

13. Turn off the engine.

14. Tighten the self-tapping screws that secure the hydro steering link to the "T" shaped steering link bracket. Reattach the two wires to the seat safety switch.

**NOTE:** If you are going to perform the **Speed Cam Neutral Adjustment**, leave the two screws loose and the seat switch wires off.

## 3. - Wheel Alignment:

15. Remove the three (3) screws securing each front wheel steering gear plastic cover to the base cover plate. Remove the plastic covers. See Figure 5.

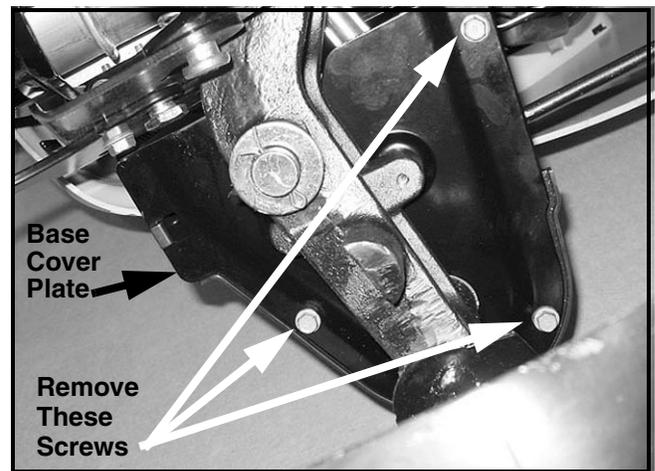


FIGURE 5

16. Check the timing marks on the axle's spur gear and the steering spur gear on the both the left and right wheels. See Figure 6.

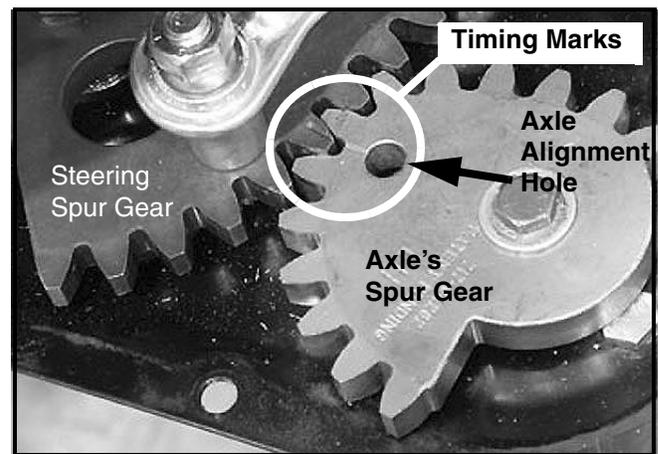
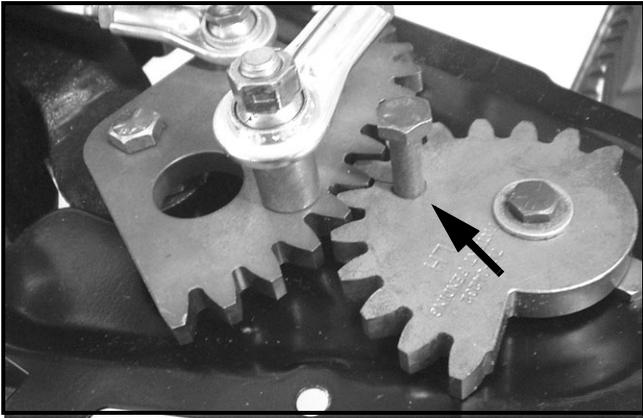


FIGURE 6

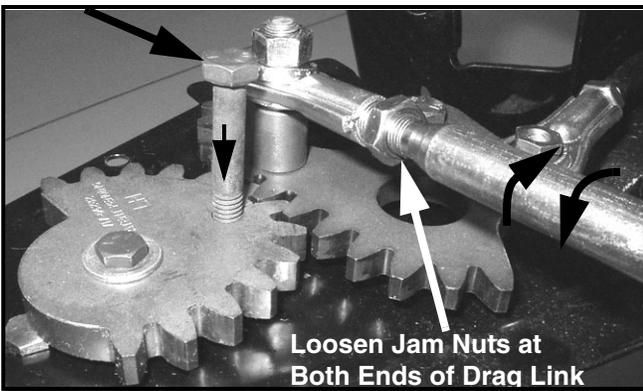
17. Both left and right wheel spur gear sets must have their timing marks aligned at this point. If both sets of timing marks are aligned, attempt to insert a 5/16" diameter bolt/pin into the axle alignment holes in the axle's spur gear and through the hole in the base cover plate at both wheels. See Figure 7.



**FIGURE 7**

18. If both 5/16" bolts/pins go into their respective holes in the base cover plates, as shown in Figure 7, with the timing marks aligned, the front wheel alignment is good. Proceed to Step 21.

If either of the 5/16" diameter bolt/pins do not go into its base cover plate hole the drag link must be adjusted. See Figure 8. Proceed to Step 19.



**FIGURE 8**

19. At the wheel where the axle's spur gear hole does not line up with the base cover plate, loosen the drag link jam nuts at both ends.

20. Rotate drag link clockwise or counterclockwise until 5/16" bolt/pin drops into the base cover plate and spur gear timing marks are aligned. Tighten both jam nuts.

21. This completes the wheel alignment section. proceed to **Section 4 - Speed Cam Adjustment.**

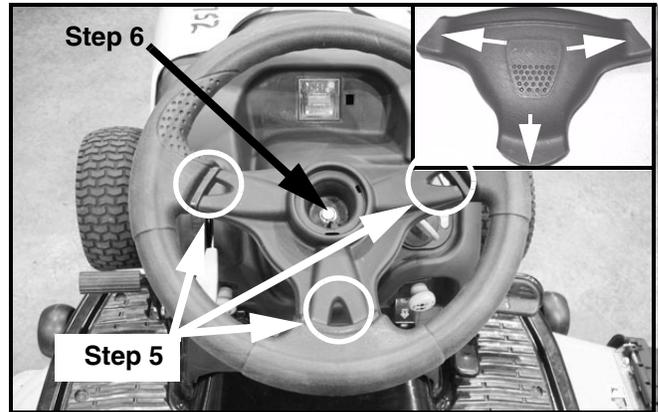
#### 4. - Speed Cam Adjustment:

##### Dash Panel and Fender Removal

22. Remove the center cover on the steering wheel by releasing the locking tab with your finger from the underside at the three spokes. See Figure 9 Inset.

23. Using a 1/2" socket with extension and ratchet, remove the steering wheel retaining bolt and lift the steering wheel up off the steering shaft.

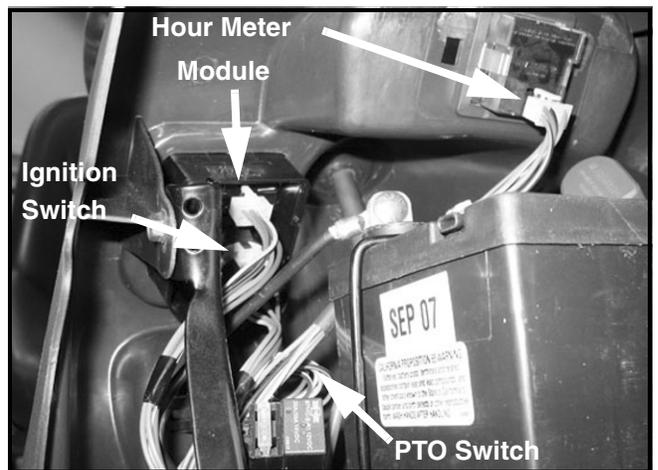
**NOTE:** No puller is required for the removal of the steering wheel.



**FIGURE 9**

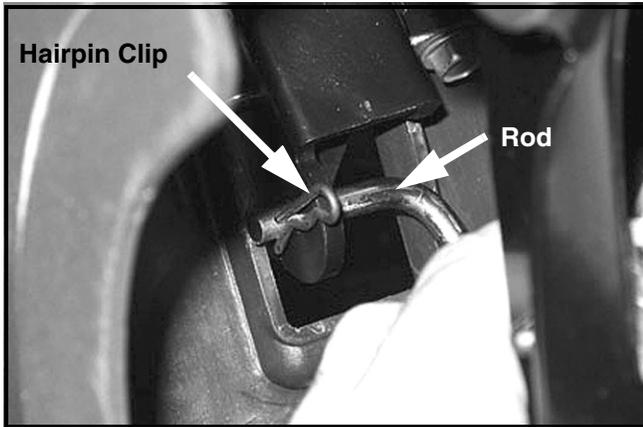
24. Raise the hood to its full forward/open position.

25. Disconnect the harness from the ignition switch, Mow-In-Reverse module, PTO switch and the hour meter. See Figure 10.



**FIGURE 10**

26. Disconnect the parking brake rod from the parking brake lever by removing the hairpin clip and sliding the rod out of the lever. See Figure 11.



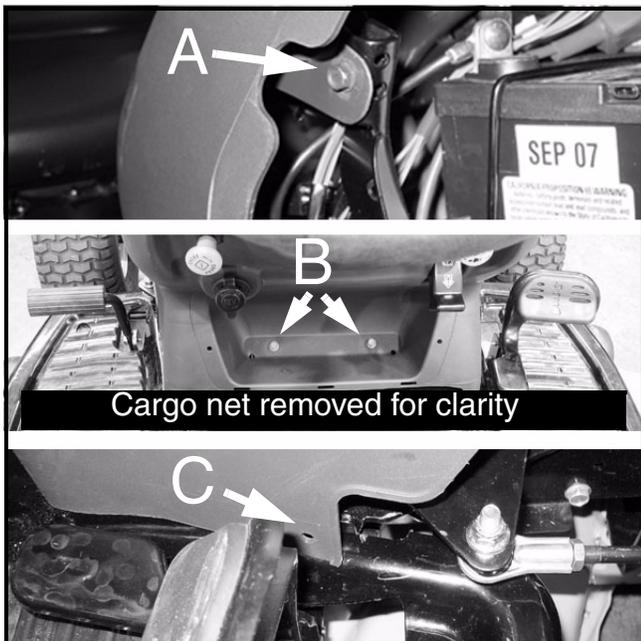
**FIGURE 11**

27. Remove the two screws, one on each side, attaching the dash to the dash support bracket. See Figure 12A

28. Carefully remove the two screws at the bottom of the dash behind the cargo net. See Figure 12B

29. Remove the two screws, one on each side, attaching the bottom of the dash to the steering support bracket. See Figure 12C

**NOTE:** The 12V outlet harness, throttle and choke cables are still attached to the dash. Care should be exercised so as not to damage the cables and harness when lifting the dash.



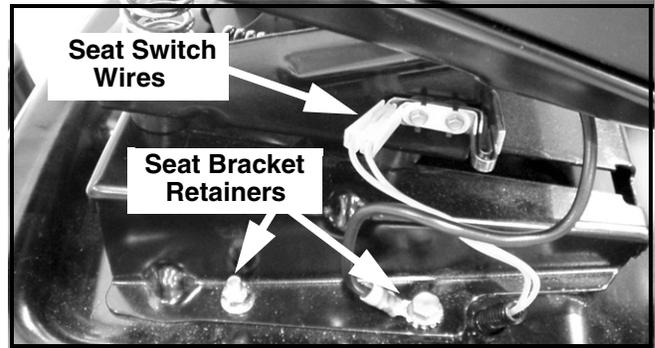
**FIGURE 12**

30. Carefully lift the dash subassembly up over the steering column and place it either to the left side of the engine or atop the engine.

**Fender Removal:**

31. Disconnect the wires from the seat switch. See Figure 13.

32. Remove the two nuts and two screws, one each on each side) retaining the seat bracket to the fender. See Figure 13. Remove the Seat bracket and seat as one piece.

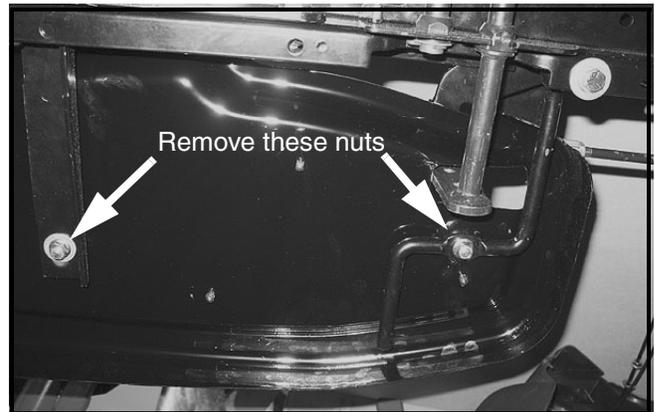


**FIGURE 13**

33. Remove the grip from the deck lift lever.

**NOTE:** It may be necessary to loosen the deck lift lever index plate in order for the fender to lift over the handle.

34. Remove the nuts from the underside of both foot rests. See Figure 14.



**FIGURE 14**

35. Remove the two screws that retain the brake pedal bracket and hydro control pedal assemblies. Set the pedal assemblies aside.

36. Under the instruction label, located in the center of the fender's floor pan area, is a screw securing the fender to the frame. Slight pressure on the label will locate the recessed screw. Slice open the label in a cross pattern to expose the screw. Remove the screw. See Figure 15.

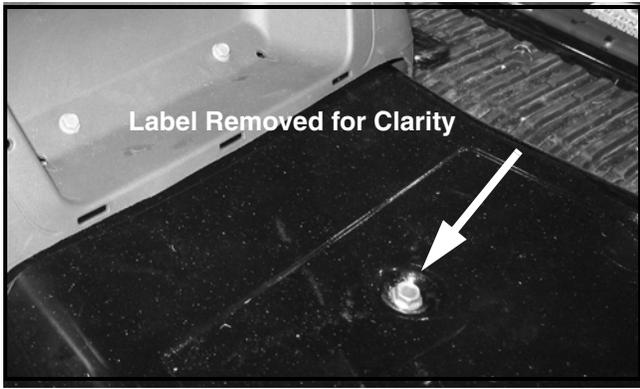


FIGURE 15

37. Temporarily remove the fuel cap.

38. Standing behind the tractor, lift the fender up until it clears the studs for the seat bracket, then pull back to clear the pedal mounting brackets.

### Speed Cam (Slot Angle) Adjustment

39. The cam slot angle adjustment is the most critical adjustment on the iSeries tractor. It should only be done in two cases:

1. When the steering gearbox is replaced

2. When the tractor is running, brake and drive pedals and parking brake are released and the steering wheel is rotated the rear wheel(s) creep. This is a safety issue and must be addressed before returning tractor to service.

**NOTE:** Tool P/N 753-05437 is required for this adjustment. Do not attempt to make one. If the angle, defined by the stud locations with respect to the gage's bottom surface is incorrect, a proper adjustment cannot be made.

40. Ensure that the steering gear box is locked in the neutral position. See Section 1 of this instruction sheet.

41. The hydrostatic transmission neutral adjustment **must be performed before** the speed cam slot angle adjustment is performed. See Section 2 of this instruction sheet.

42. Disconnect the hydro steering link from only the right side of the steering gear box speed cam by removing the nut, bolt and roller with spacer. See Figure 16.

43. Remove the cotter pin and clevis pin securing the RH hydro arm to the hydro steering link. See Figure 16.

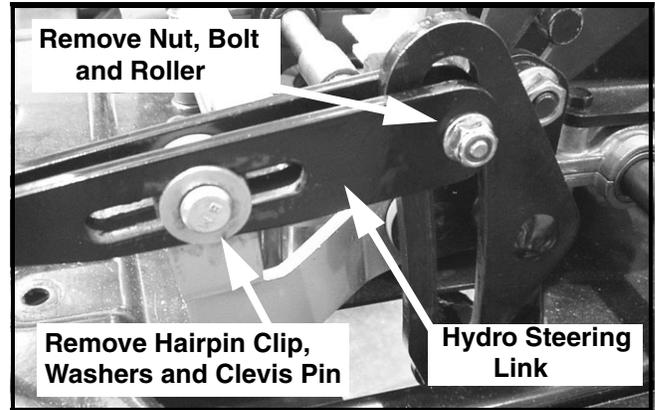


FIGURE 16

44. Secure the hydro steering link up and away from the cam slot bracket.

45. Position the gage block as shown in Figure 17 Inset. Insert the pins of the 753-05437 gage block tool into the cam slot. See Figure 17.

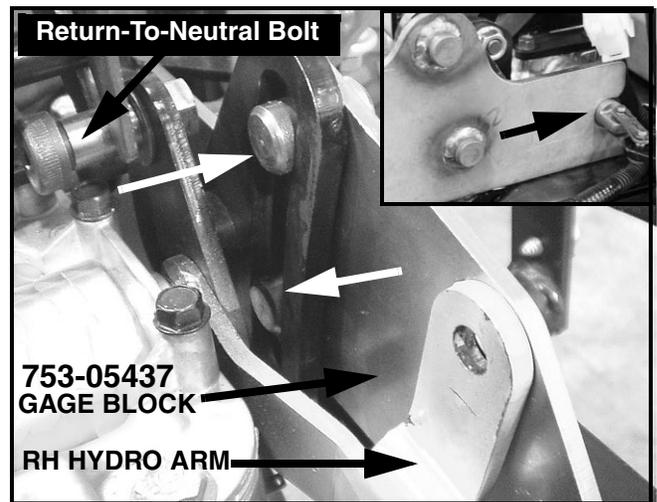
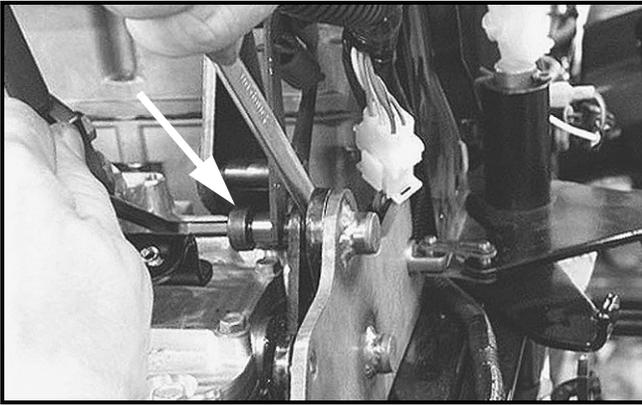


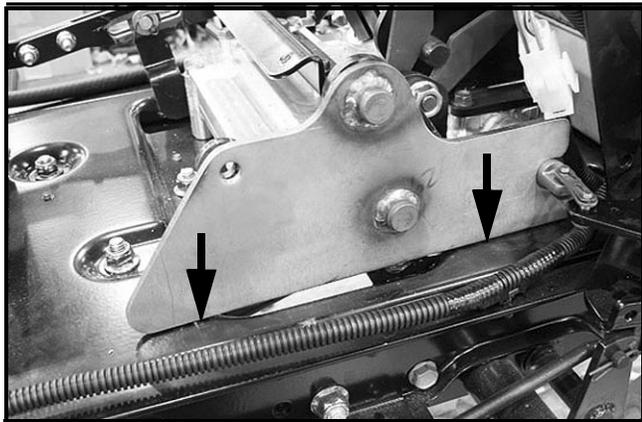
FIGURE 17

46. Using a 1/4" allen wrench and a 9/16" wrench, loosen the return-to-neutral bolt as shown in Figure 18.



**FIGURE 18**

47. With the return-to-neutral bolt loosened, ensure the Gage Block tool is setting flat on the frame as shown in Figure 19.



**FIGURE 19**

48. Re-tighten the return-to-neutral bolt.

49. Remove the 753-05437 Gage Block.

50. Reconnect the hydro steering link to the gear box speed cam and the RH Hydro Arm.

51. Tighten the two self-tapping screws that secure the hydro steering link(s) to the "T" shaped steering link bracket(s) back at the transmission.

52. Re-assemble the tractor in the reverse order of dis-assembly.

53. Test drive the tractor to ensure the following:

A. With the front wheels straight forward and the brake and drive pedals released, the tractor does not creep in any direction.

B. With the front wheels full left and full right and the brake and drive pedals released, the unit should not creep in any direction.