

# **LT-200**

## **LATERAL HEADER TILT SYSTEM**

### ***INSTALL MANUAL***

***For John Deere 9400, 9410,  
9500, 9510, 9600, 9610, CTS &  
CTS II Combines***

***D-041607SGD01***





# LT-200

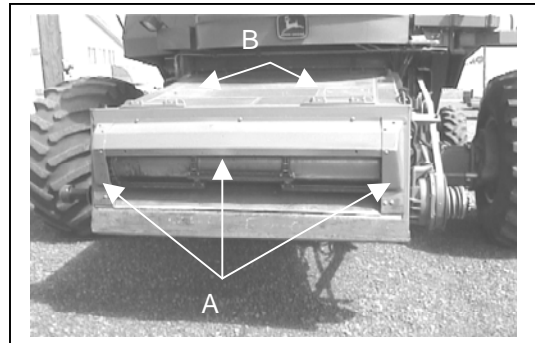
## LATERAL HEADER TILT SYSTEM

# INSTALLATION INSTRUCTIONS

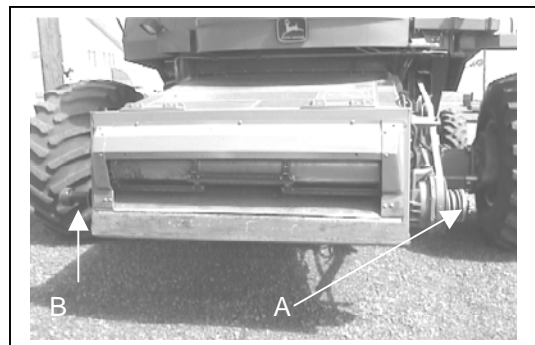
For John Deere 9400, 9410, 9500, 9510, 9600, 9610, CTS & CTS II Combines

**NOTE: The terms “Left, Right, Top, Bottom, Front or Back” used in this manual are referenced as if sitting in the operator’s seat of the combine facing the direction of travel.**

1. Remove the feederhouse shields (A) and the cast header mount blocks. (B)

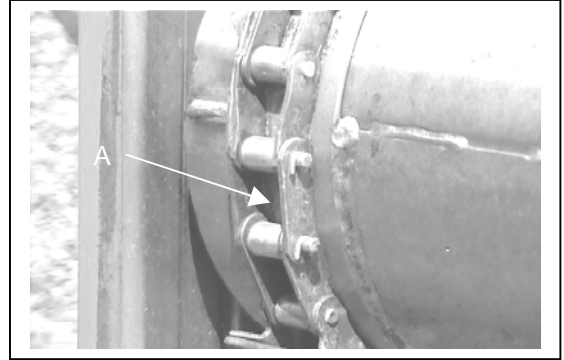


2. Remove the header drive sprocket (B) from right side of the reverser shaft. On 9400, 9410, 9500, 9510, CTS and CTS II combines also remove the header drive sprocket (A) from the left side of the reverser shaft.



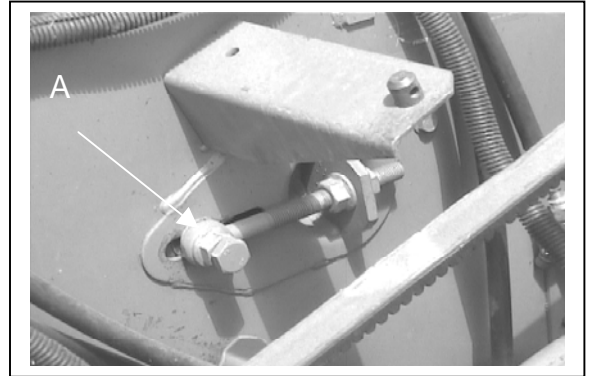
LT-200 Installation Instructions  
D-041607SGD01 REV1

3. Roll the feeder chain until the master links (A) are at the front of the feeder chain drum. Remove the master links and set aside.



**Caution: The feeder drum is awkward to handle. Use safe lifting practices and/or appropriate lifting devices.**

4. Block the feeder drum to prevent it from rolling out. Remove the feeder chain drum bolts (A). Remove the drum from the feederhouse.



5. Remove the JD feeder chain drum arms (A). Check feeder drum bearings and replace if needed. Install the Hillco arms with the blocks to the inside and hump to the top. Reinstall drum into the feeder house.

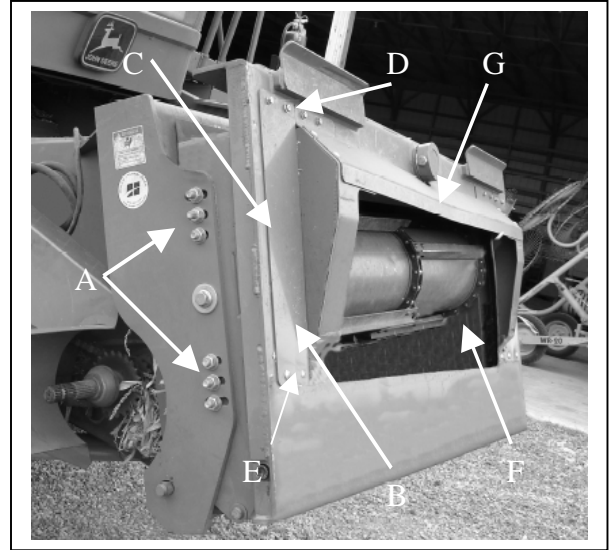


6. Install the Hillco feeder chain extensions from Bag #6. The 9600 and 9610 models use four extensions while the other models use three extensions. Add additional slats to maintain the slat timing. Fasten the slats use with M8x16 and M8 lock nuts from Bag #4. Tightened the feeder chain according to the John Deere procedure as described in the operator's manual.  
Note: Hillco does not supply the additional slats. Contact your JD dealer for these slats.

LT-200 Installation Instructions  
D-041607SGD01 REV1

7. Configure the shields to fit your combine.

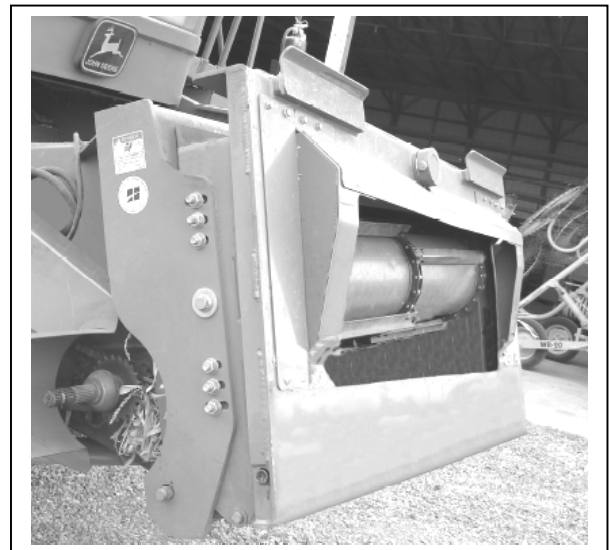
The 9450, 9550, 9650CTS, 9650STS, and 9750STS models require the narrow position for the shields. Remove the middle studs (A). Install the filler mounts to the throat with the studs. Fasten the throat fillers to the filler mounts with M8x120 carriage head bolt. Fasten the shields extensions (B), the main left and right shields (C) with M8x30 flanged head bolts (D) on the top and M8x30 carriage head bolts (E) with the support brackets. Fasten the top shield (G) with the M8x30 flanged head bolts. These fasteners are found in Bag #8.



The 9600 and 9610 models require the wide position for the shields and do not require the throat fillers (E), shield extensions (A), or shield extension support brackets.



8. Using an appropriate lifting device, lift the LT-200 onto the front of the feederhouse and fasten with four M12x40 flanged head bolts (A). Later combines use four M16x40 flanged head bolts instead of the four M12x40 flanged head bolts. Engage the header lockout pins. Due to wear of the faceplate, there can be variations in the fit of frame. It is generally better to leave the bolts loose until the lockout pins are engaged. Then tighten the mounting bolts to a torque of 105 lb-ft (140N-m) for the M12x40 bolts and 255 lb-ft (350N-m) for the M16x40 bolts.



## LT-200 Installation Instructions

D-041607SGD01 REV1

9. It is necessary to check the feeder drum clearance. Pry the feeder drum up until arms hit upper stops. With the drum in this position the slats should not be able to strike any of the structure of either the LT-200 or the feederhouse. If the slats come in contact with any structure, recheck the installation of the Hillco feeder drum arms.

10. On the hex ends of reverser shaft, grind a groove 1-1/2" from the end of the shaft. Be careful not to make the groove too wide. Test the groove with the drive shaft coupler. Make sure that the yoke fully locks on, but does not have more than 1/8" of end play. On 9600 and 9610 models, bolt the Hillco hex drive adaptor (A) onto the left header drive sprocket using M12x40 flanged head bolts and lock nuts from Bag #3.



11. Relieve all pressure in the JD hydraulic stack valve by lowering the feederhouse to the ground. Once on the ground hold the feederhouse down switch a few seconds longer. Shut off the combine. Drain the hydraulic oil.

**Caution: HIGH PRESSURE FLUIDS**

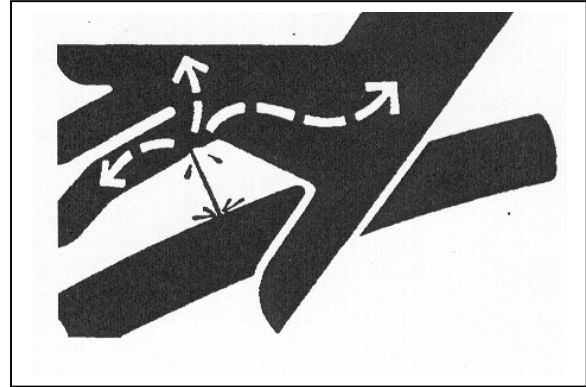
Escaping fluids under pressure can penetrate the skin causing serious injury.

Search for leaks with a piece of cardboard.

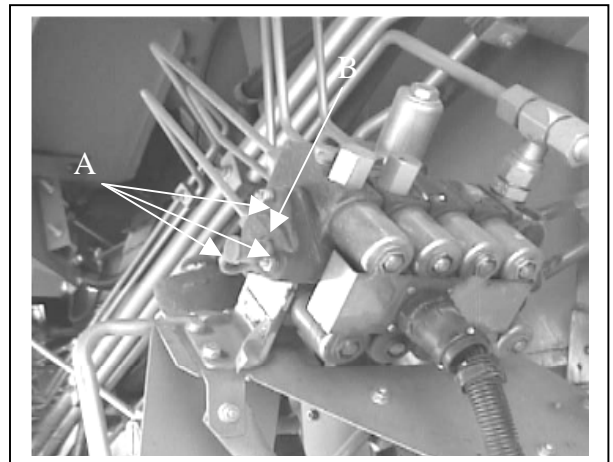
Relieve pressure before disconnecting hydraulic lines.

If an accident occurs consult a physician immediately.

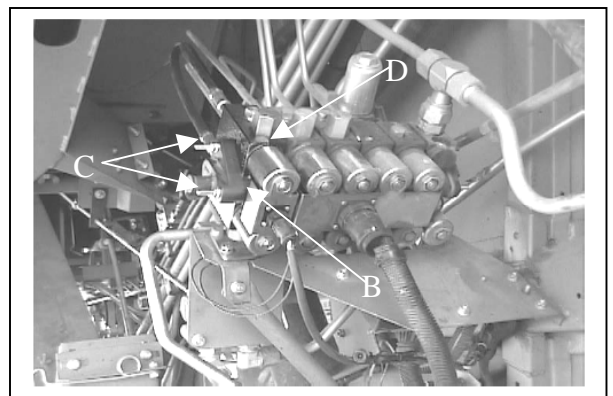
Fluid injection into the skin must be surgically removed within a few hours or gangrene may result.



12. Remove the nuts from the three tie bolts (A). Remove the end cap (B). Replace the two connecting tubes with the longer tubes found in Bag #1A. Replace the tie bolts (C) with longer tie bolts from Bag #1A, one bolt at a time.

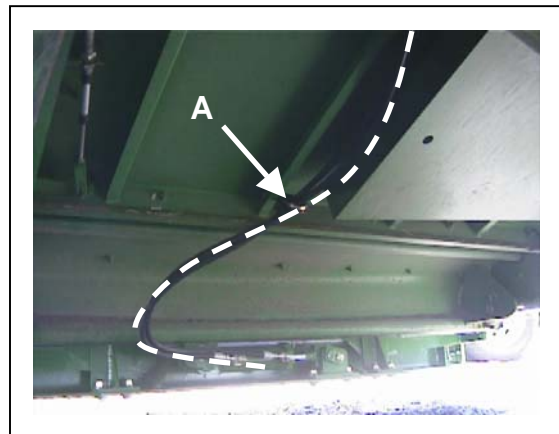
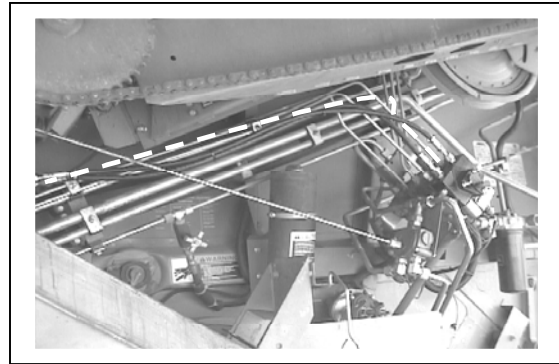


13. Install the Hillco valve (D) onto the outside of the stack. Insert the short connecting tubes from Bag #1A into the Hillco valve. Face the ball plugs in the same direction as the other valves in the stack. Reinstall the end cap. Tighten nuts onto the tie bolts to a torque of 141LB-in (16N-m).



LT-200 Installation Instructions  
D-041607SGD01 REV1

14. Route hoses LTA-242262 as shown. Connect the rod end of the cylinder to bottom port of the Hillco valve. Connect the base end to the top port of the Hillco valve. Use the clamps from Bag #4 (A) and zip ties to secure the hoses. Ensure the hoses are free of pinch and abrasion points.

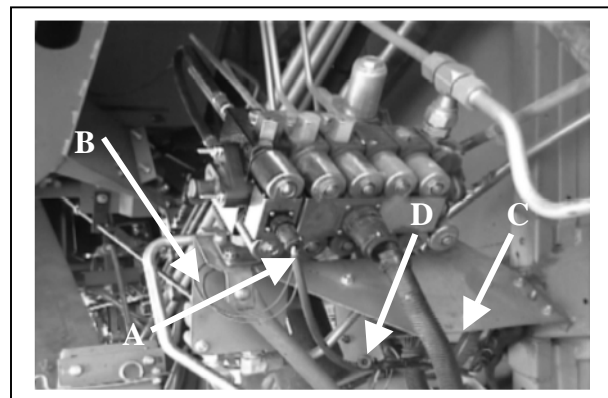


LT-200 Installation Instructions  
D-041607SGD01 REV1

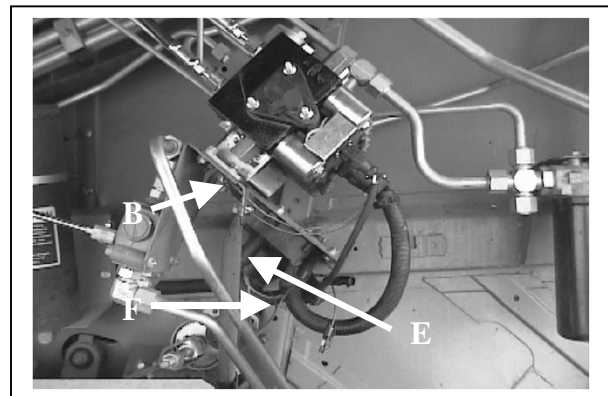
15. Locate LTA-242271 harness and plug the round four-pin Amp connector (A) into Hillco valve.



16. Before bolting the two ground wires #7 & #8 (B) to the JD stack valve mount bolt ensure that the contact surface is bare and clean.



17. Locate JD connector C221 (E) and disconnect from JD stack valve. Disassemble the strain relief from connector C221.



18. Using the Amp terminal extraction tool from Bag #5 remove wire #922 from hole #7.

19. Connect Hillco wire #10 to JD wire #922. Seal the connection with heat shrink.

20. Insert Hillco #12 into #7 hole of JD connector C221.

21. Reassemble JD connector C221. Reconnect harness to the JD stack valve.

# LT-200 Installation Instructions

D-041607SGD01 REV1

22. Connect Hillco wire #11 into wire #9 of the Hillco harness LTA-242271.

Zip tie the harness neatly to the JD harness.

23. On late model combines:

- Connect the four-pin plug from LTA-242271 into JD Weatherpack connector (A) located under the JD stack valve.

9400 SN ( -660100)	These combines will use early combine instructions
9500 SN ( -660200)	
9600 SN ( -660300)	
CTS SN ( -660400)	
9400 & 9410 SN (660101- )	These combines will use late combine instructions
9500 & 9510 SN (660201- )	
9600 & 9610 SN (660301- )	
CTS & CTS II SN (660401- )	

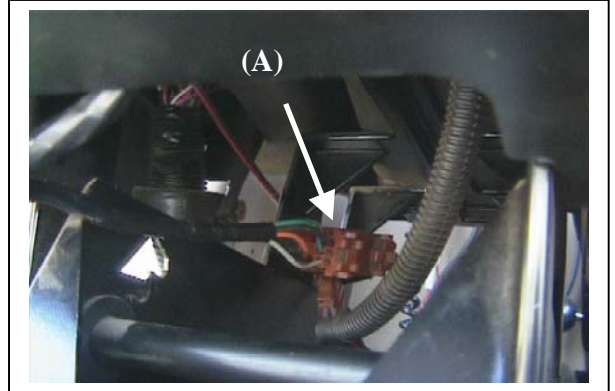
On early model combines:

- Locate either Hillco harness kit LTA-242291 (manual-only) or Hillco harness kit LTA-243931 (automatic/manual) and refer to the enclosed instructions for installation.

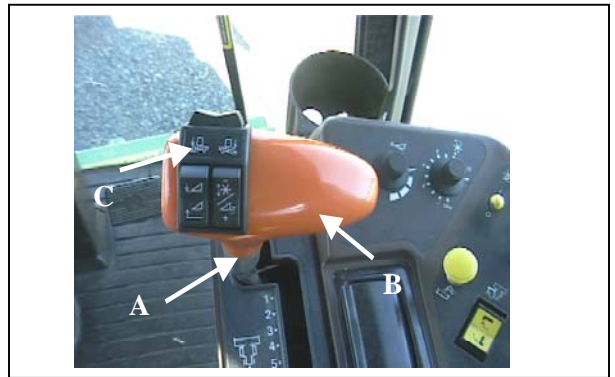


LT-200 Installation Instructions  
D-041607SGD01 REV1

- Locate JD connector C518 (A) under the armrest.  
**Note: C518 connector should be a 9-pin cavity.**



24. Unscrew the nut at the base of the original hydro handle (A) and remove the handle. Replace with JD hydro handle (AH145061) (B) and switch (AH145060) (C). These must be purchased from a JD dealer.



25. Insert the wires into the 9-cavity connector as described in the chart.

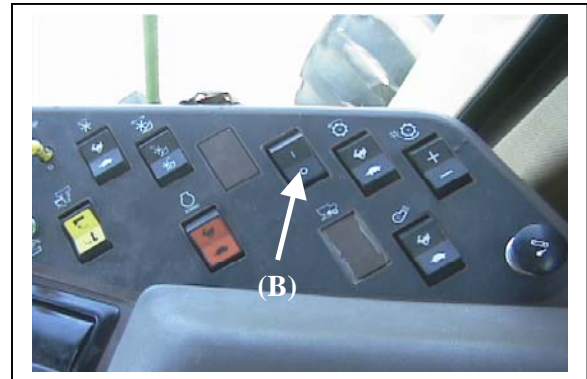
Wire Color (hydro handle switch)	Cavity #	Wire #
Red	1	15
Orange	2	437
Black	3	425
Yellow	4	408
Green	5	409
Gray	6	426
Brown	7	427
Empty	8	None
Empty	9	None

LT-200 Installation Instructions  
D-041607SGD01 REV1

26. Although LT-200 will operate as a manual-only lateral tilt mode, the combine can be upgraded to support automatic lateral tilt if desired. This requires replacing the Dial-A-Matic circuit board with a Contour Master/Dial-A-Matic circuit board and completing the following steps.

On late model combines:

- Carefully cut out the switch knock out (A) with a utility knife. Insert JD switch (JD #AH111705) (B) into the socket in the armrest circuit board. Switch actuator (JD#H143918) on to the switch. Place the decal (JD#H151908) on the actuator with the "I" towards the window. These parts need to be purchased from your JD dealer.



27. Before start-up, fill hydraulic oil system. Start the engine. Press the header tilt switch on the hydro-handle. It may take a little time till it starts to rotate. Rotate the header adapter several times to bleed the air out of the system. Check the hydraulic oil level and fill as necessary.

28. Start the combine and at low idle engage the separator. Rotate the header adapter through its range of motion and listen for sounds of the feeder chain striking either the LT-200 or the feederhouse. If no unusual sounds are heard, increase engine speed to full idle and again check for unusual sounds. If the feeder chain is striking, check to make that the feeder drum arms are correctly installed. Contact Hillco if the problem persists.

**THIS COMPLETES THE  
INSTALLATION.**

## 29. TROUBLE SHOOTING

**Problem:** The header adapter rotates in the opposite way as the switch is depressed.

**Solution:** The hoses are installed backwards. Switch the hoses at the cylinder.

**Problem:** The header adapter rotates one way but not the opposite way.

**Solution:**

- If the header adapter does rotate to the right, then press and hold the right header tilt button. Check coil #11 (C). It should magnetize. If not, check connection at the stack valve. Also check the ground wire connection.
- If this does not correct the problem contact Hillco.
- If the header adapter does rotate to the left, then press and hold the left header tilt button. Check coil #10 (A). It should magnetize. If not, check connection at the stack valve. Also check the ground wire connection.
- If this does not correct the problem contact Hillco.

**Problem:** The header adapter does not rotate.

**Solution:**

- With the combine idling, raise the header.
- If the header does not rise, then check the hydro-handle connections.
- If the header raises, then depress and hold the header tilt switch to the right. The coil #1 (B) and coil #11 (C) should magnetize.
  - If the neither coil magnetizes, then check connections, particularly the ground wires.
  - If the coil #1 magnetizes, but coil #11 (C) does not magnetize then recheck the connections particularly the ground wires.

