

Assembling the Grain Tank onto the BP 661



Park the BP 661 on level ground.

Lower the forks to the ground for additional stability.

Ensure the BP 661 upper discharge door is locked in the upright position.

Disconnect the drive shaft from the tractor before beginning any work. Disconnect the BP 661 from the tractor hitch.

Block the machine to prevent any movement while assembling.



Shut down the tractor and remove the key before repairing, servicing, lubricating or cleaning the machine.

Relieve all hydraulic pressure in the hoses. Disconnect the hydraulic hoses from the tractor before going near the machine.

Securely block the machine to avoid any movement while doing the work.



Do Not Enter Tub While Parts Are Rotating

Before entering the tub:

- Turn off the tractor and remove the key.
 - Wait for rotating parts to stop
- Contact with the rotating flail drum will cause serious injury or death.

1. Jack up the BP 661 under the left rear frame to allow the left axle to be removed.

Note: Do not place the jack on the axle or the bale lift frame.

Note: Leave the machine on the jack until the end of the assembly.

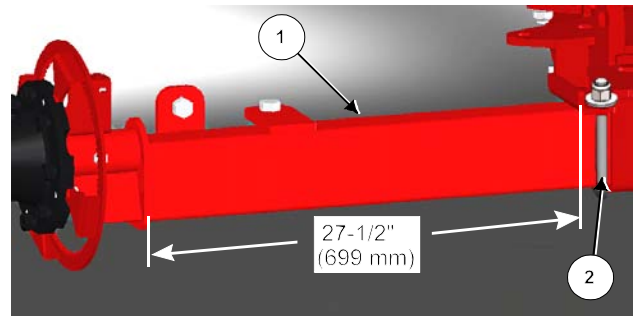


Jack Under the Left Frame

211191C

Assembling the Grain Tank onto the BP 661

2. Remove the tire.
3. Remove the existing axle and hub.
 - Remove the u-bolt holding the axle.
 - Keep the u-bolt to be used again.
 - Slide the axle out.
 - Discard the axle.
 - Discard the hub and spindle.
4. Slide in the new Grain Tank axle with hub and spindle (1).



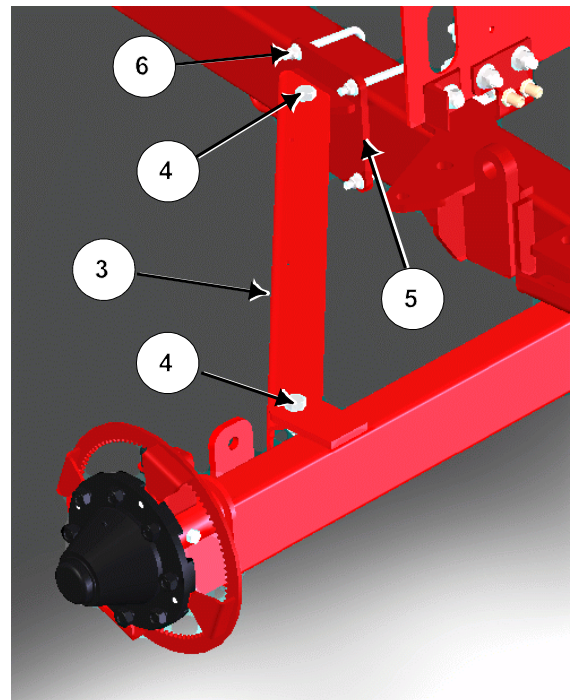
Slide in the New Axle

221455C

- Position the axle to be 27-1/2" (699 mm) from the inside of the tab near the hub to the outside of the flatbar that the u-bolt goes through.
- Re-install the u-bolt (2) and locknuts.
- Do not tighten at this time.

5. Install the axle brace.

- Attach the brace plate (5) to the processor frame with 2 of 1/2" x 6-1/16" x 1/2" u-bolts and flange locknuts (6).
- Do not tighten at this time.
- Attach the axle brace (3) to the brace plate (5) with a 3/4" x 1-3/4" hex bolt and flange locknut (4).
- Place the brace on top of the support tab.
- Do not tighten at this time.
- Fasten the brace (3) to the axle tab with a 3/4" x 1-3/4" hex bolt and flange locknut (4).
- Place the brace under the tab on the axle.
- Tighten the u-bolts on the brace plate (5) to 85 lbft (115 Nm).
- Tighten the brace bolts (4) to 297 lbft (403 Nm).



Install the Axle Brace

221456C

6. Remove the center flail cover panel on the left side of the processor.

- Keep the fasteners for re-use.
- Discard the panel.



Remove the Center Flail Cover Panel 221481

7. Mount the new auger transition panel to the outside of the tub wall using 4 of 3/8" x 1-1/4" carriage bolts and locknuts removed earlier.



Install Center Transition Panel 221482

8. Remove the left rear clearance light assembly from the rear tub wall.
- Disconnect the harness connection.
 - Remove the light assembly.
 - Keep the light assembly and fasteners for re-installation later.



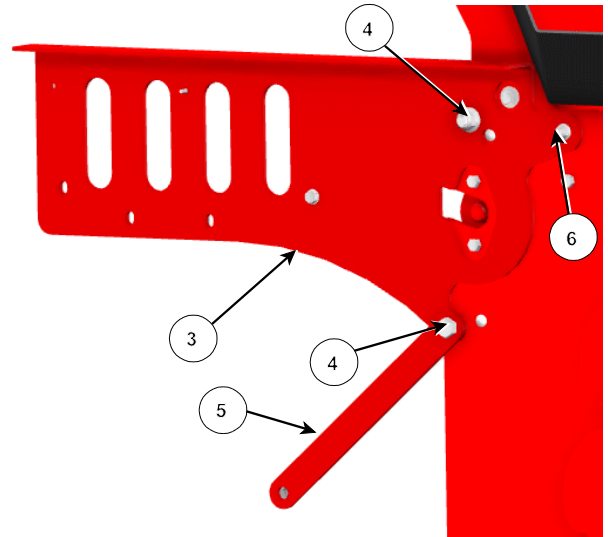
Remove the Left Rear Clearance Light 221483

Assembling the Grain Tank onto the BP 661

9. Install the rear tank mount bracket (3) to the tub end wall.

Note: Have the top angle facing to the rear.

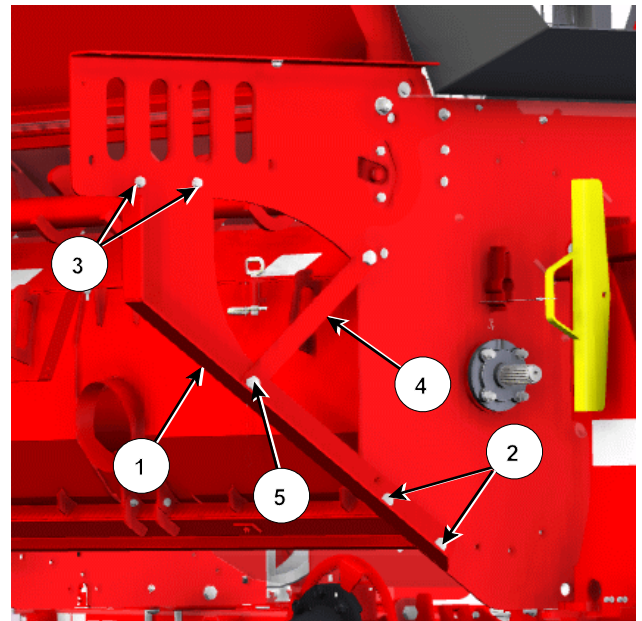
- Connect with a 2 of 3/4" x 1-3/4" flange bolt and flange locknut (4).
- On the bottom 3/4" bolt also place the knee brace support bar (5).
- Connect the tank mount with 1 of 1 x 1-1/4" flange bolt and flange locknut (6)
- Do not tighten at this time.



Install the Rear Tank Mount Bracket

221484C

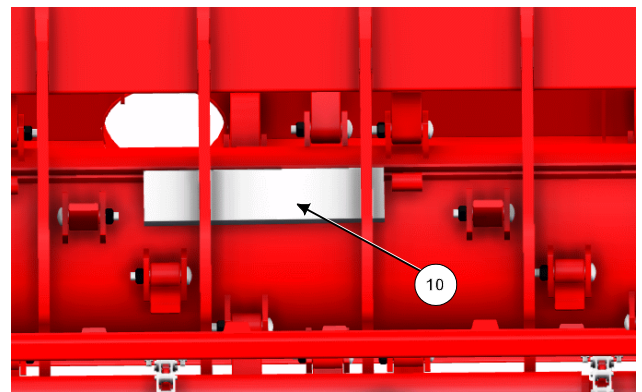
10. Install the knee brace (1).
- Attach to the lower tub wall with 2 of 3/4" x 2" carriage bolts and flange locknuts (2).
 - Attach to the tank mount with 2 of 1/2" x 1-1/4" flange bolts and flange locknuts (3).
11. Attach the knee brace support bar (4).
- Attach with a 3/4" x 1-3/4" hex bolt and flange locknut (5).



Install the Rear Knee Brace and Support

221485C

12. Inside the tub place a piece of wood (10) between the guard rods and the flail drum.
- The wood will hold up the rods when the aggression handle is removed.
13. Move the aggression handle so that the guard rods are resting on the wood (10).

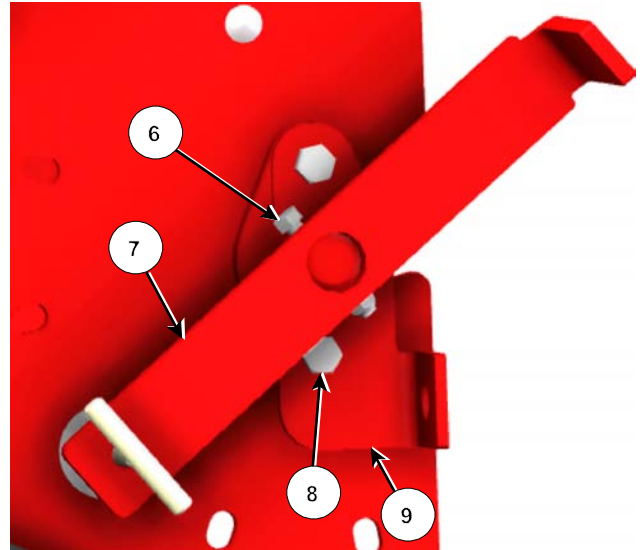


Place Wood Between the Guard Rods and Flail Drum

221488C

Assembling the Grain Tank onto the BP 661

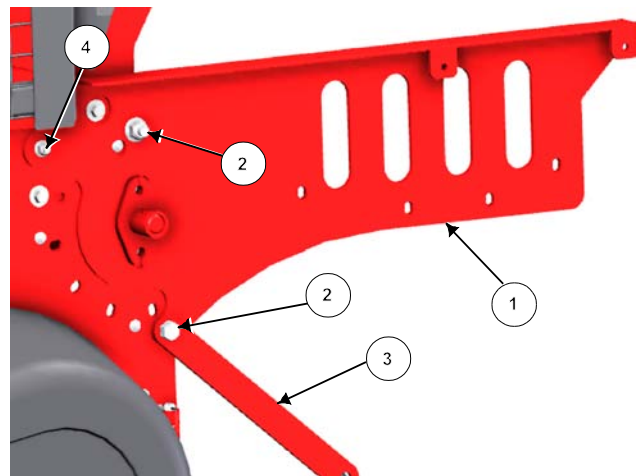
14. At the front tub wall, remove the aggression adjustment handle (7) by removing the bolt and nut (6) from the handle.
 - Slide the handle (7) off the rod.
 - Keep the handle and fasteners.
15. Remove the flail drum pin storage bracket (9) by removing the bearing bolts (8).
 - Keep the bracket and fasteners.



Remove the Aggression Handle and Pin Storage Bracket

222151C

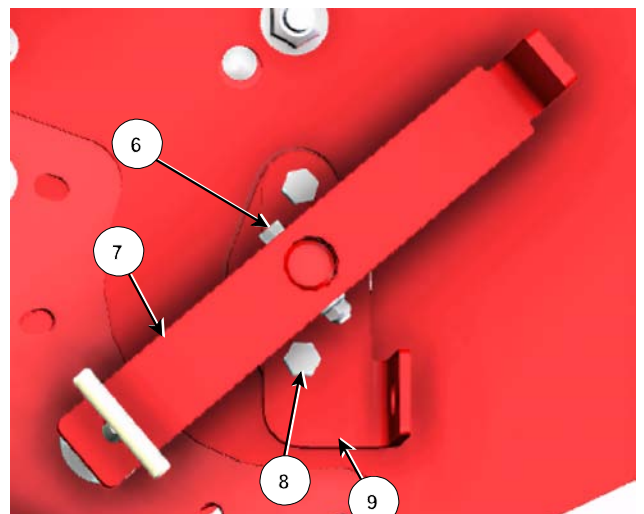
16. Install the front tank mount bracket (1) to the tub end wall.
 - Connect with 2 of 3/4" x 1-3/4" flange bolts and flange locknuts (2).
 - On the bottom 3/4" bolt also place the knee brace support bar (3).
 - Do not tighten at this time.



Install the Front Tank Mount

222152C

17. Re-install the flail drum pin storage bracket (9).
18. Replace the bolts (8) that go into the bearing.
19. Slide the aggression adjustment handle (7) onto the rod.
 - Install the bolt and nut (6) onto the handle.

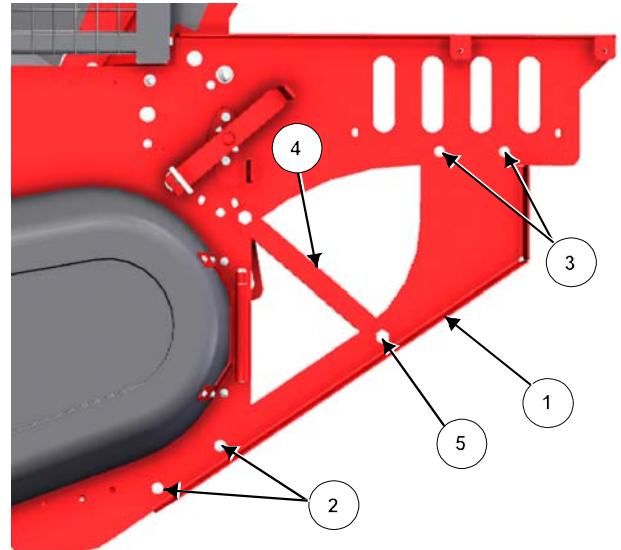


Re-Install the Pin Storage Bracket and the Aggression Handle

222155C

Assembling the Grain Tank onto the BP 661

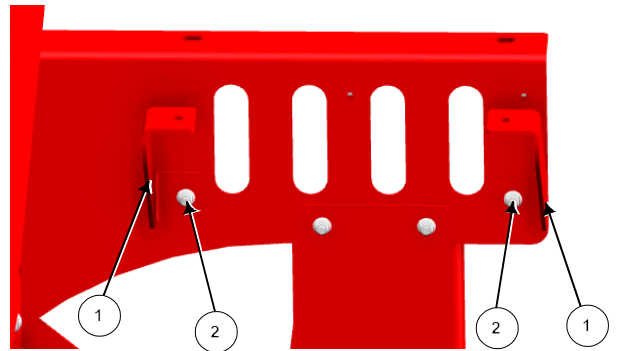
20. Install the front knee brace (1).
- Attach to the lower tub wall with 2 of 3/4" x 2" carriage bolts and flange locknuts (2).
 - Attach to the tank mount with 2 of 1/2" x 1-1/4" flange bolts and flange locknuts (3).
21. Attach the front knee brace support (4).
- Attach with a 3/4" x 1-3/4" hex bolt and flange locknut (5).
 - Do not tighten at this time.



Install the Front Knee Brace and Support

222154C

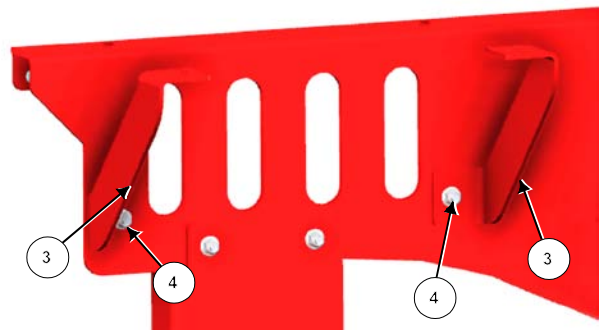
22. Install the 2 rear tank mount gussets (1) to the tank mount using 2 of 1/2" x 1-1/4" (2) flange bolts and flange locknuts.



Install the Rear Tank Mount Gussets

221491C

23. Install the 2 front tank mount gussets (3) to the tank mount using 2 of 1/2" x 1-1/4" (4) flange bolts and flange locknuts.



Install the Front Tank Mount Gussets

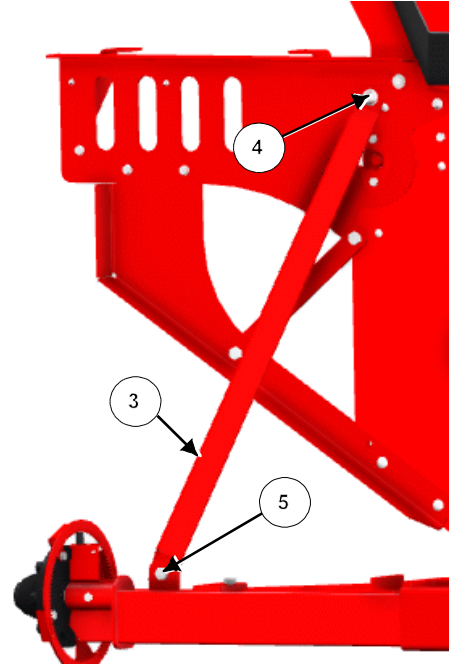
222156C

Assembling the Grain Tank onto the BP 661

24. At the rear of the processor attach the tank to axle brace (3).

- Fasten to the tab on the rear tank mount with a 3/4" x 1-3/4" hex bolt and flange locknut (4).
- Do not tighten at this time.

- Attach to the axle tab with a 3/4" x 1-3/4" hex bolt and flange locknut (5).
- Do not tighten at this time.

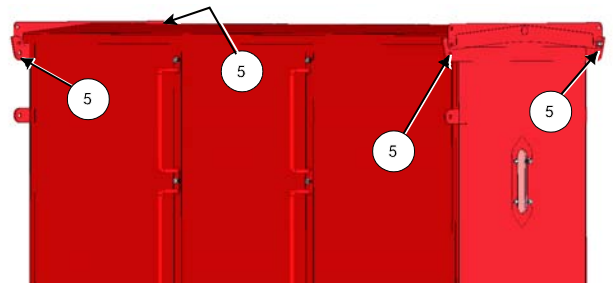


Attach the Tank to Axle Brace

221493C

25. Place lifting straps at the four corners (5) of the tank.

- Use the holes in the flat along the side of the tank as attachment points for the lifting straps.



Place Lifting Straps onto the Tank

221464C

26. Remove the fasteners holding the grain tank to the shipping frame.

27. Lift the tank.

28. Lower the tank onto the tank supports and gussets.

- Keep the weight of the tank on the lifting straps.

Note: The tank will need to be supported by the lifting straps until near the end of the assembly.

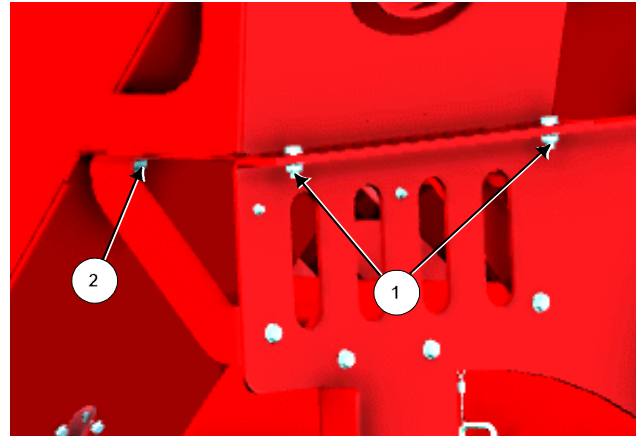


Lower the Tank Onto the Supports and Gussets

222157

Assembling the Grain Tank onto the BP 661

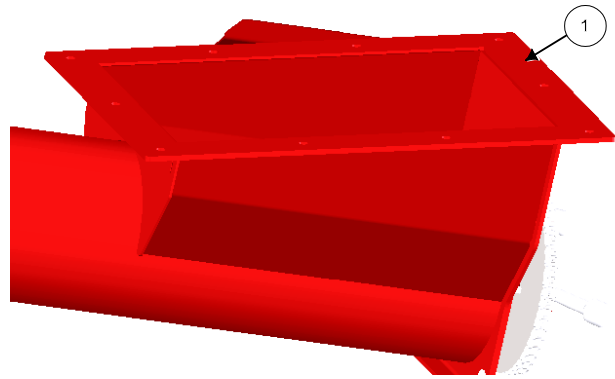
29. Align the tank mount holes to the front and rear mounting bracket holes
- Fasten with 4 of $\frac{1}{2}$ " x 1- $\frac{1}{4}$ " flange bolts and flange locknuts (1).
 - Do not tighten at this time.
30. Align the support gussets to the front and rear tank support holes.
- Fasten with 4 of $\frac{1}{2}$ " x 1- $\frac{1}{4}$ " flange bolts and flange locknuts (2).
 - Do not tighten at this time.



Fasten the Tank to the Mounting Brackets and Gussets

221495C

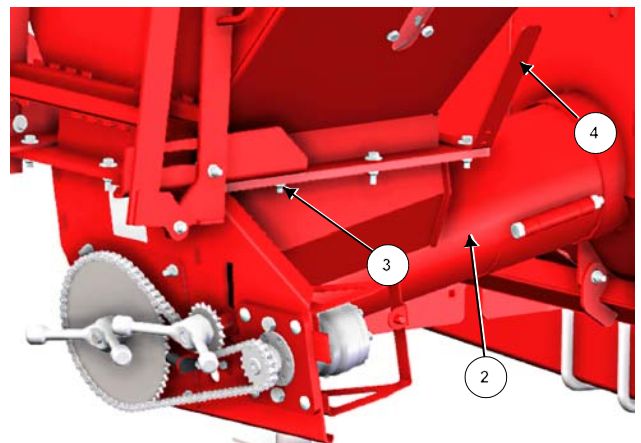
31. Check the condition of the foam tape around the surface of the auger flange (1) that will connect to the bottom of the tank.
- This foam tape will ensure a good seal.



Check Condition of the Foam Tape on Flange

221468C

32. Slide the auger tube (2) into the auger transition mounted on the processor tub wall.
33. Mount the auger flange to the bottom of the tank using 10 of $\frac{3}{8}$ " x 1- $\frac{1}{2}$ " hex bolts, flatwashers and flange locknuts (3).
- On the back two bolts attach the calibration pail holder (4) with the fasteners.
 - Fully tighten all the fasteners to create a good seal to the tank.



Mount the Auger to the Tank

221496C

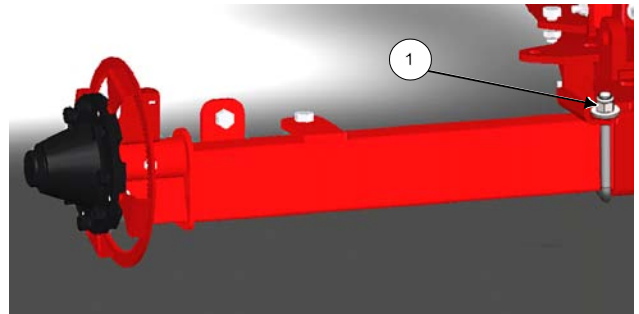
Assembling the Grain Tank onto the BP 661

34. Adjust the tank to be level with the frame of the processor.
35. Tighten all the fasteners on the tank supports, tank mounts, gussets and the axle brace.



Adjust Tank to Be Level, Tighten all Fasteners 222157

36. Tighten the u-bolt holding the axle.
 - Torque to 170 lbft (230. Nm).



Tighten the U-bolt To Hold the Axle

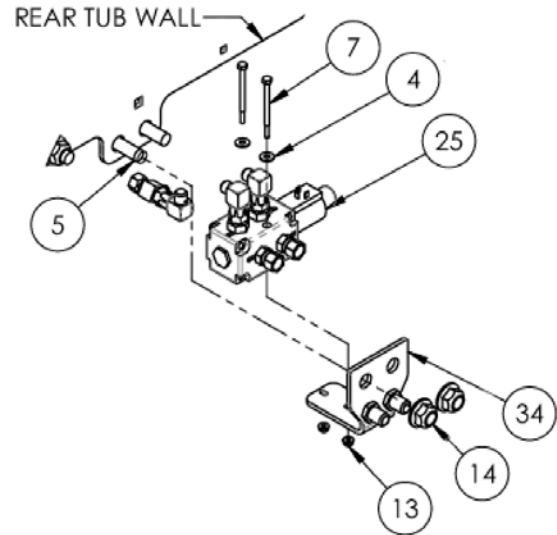
221455C2

Assembling the Grain Tank onto the BP 661

37. Mount the selector valve onto the rear tub wall.

- Remove the hoses from both sides of the bulkhead on the rear tub wall.
- Remove the bulkhead union from the tub wall.
- Mount the union to the bottom holes of the valve support (34).
- Mount the selector valve according to the chart and diagram.

ITEM	DESCRIPTION
4	WASHER,FLAT,1/4,ZP
5	BOLT,HEX,3/4X1-3/4,UNC,GR5,ZP
7	BOLT,HEX,1/4X3-1/2,UNC,GR5,ZP
13	NUT,FLG,LOCK,1/4,UNC,GR5,ZP
14	NUT,FLG,LOCK,3/4,UNC,GR5,ZP
25	HYD,VALVE,ELEC_DOUBLE SELECTOR
34	BP661GT,VALVE_SUPPORT



Mount the Selector Valve

221499

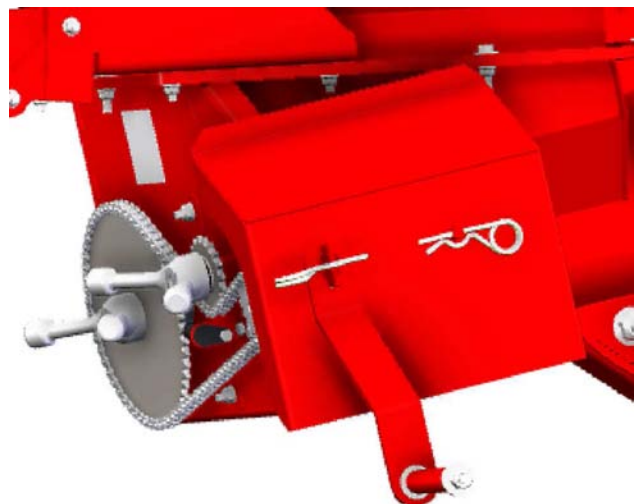


Selector Valve Mounted on Rear Tub Wall

221498

38. Remove the lifting straps from the Grain Tank.

39. If the auger drive guard and calibration crank are attached to the auger, remove them to allow the assembly of the hydraulic components.

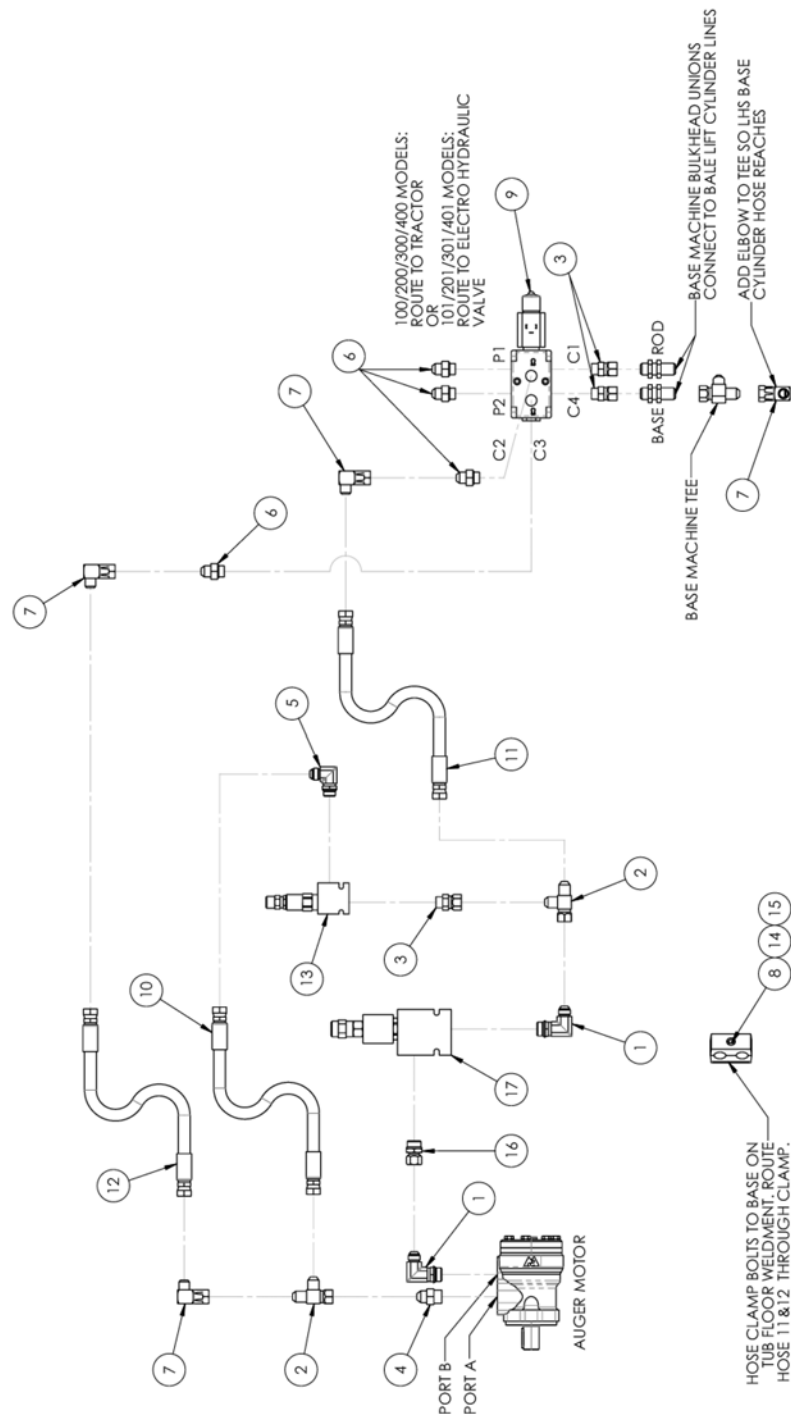


Remove Drive Guard and Crank

221516

40. Assemble the hydraulics according to the chart and diagram below.

Note: The motor is already installed on the auger. It is shown in the diagram for reference purposes only.

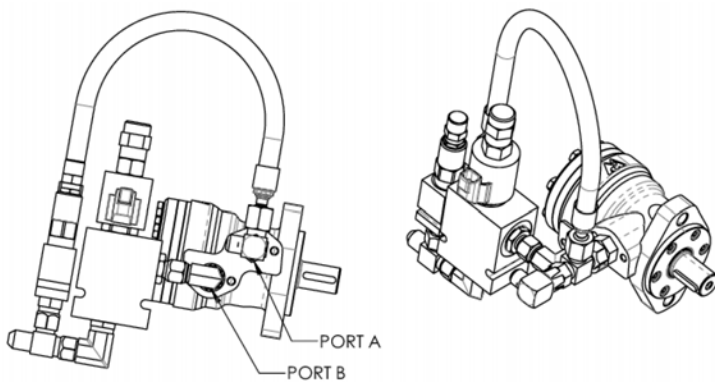


Auger Hydraulics

46193_C

Assembling the Grain Tank onto the BP 661

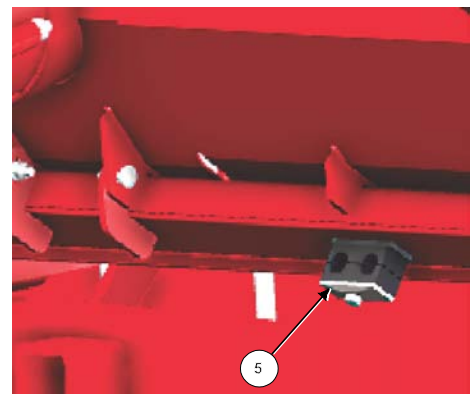
ITEM	DESCRIPTION	QTY.
1	HYD,FIT,ELBOW,10MB-8MJ90	2
2	HYD,FIT,TEE,8FJX-8MJ-8MJ	2
3	HYD,FIT,ADAPTER,8MB-8FJX	3
4	HYD,FIT,ADAPTER,10MB-8MJ	1
5	HYD,FIT,ELBOW,8MB-8MJ90	1
6	HYD,FIT,ADAPTER,8MB-8MJ	4
7	HYD,FIT,ELBOW,8FJX-8MJ90	4
8	BOLT,HEX,5/16X1-3/4,UNC,GR5,ZP	1
9	HYD,VALVE,ELEC_DOUBLE_SELECTOR	1
10	HYD,HOSE,3/8X19,8FJX-8FJX,2W	1
11	HYD,HOSE,3/8X69,8FJX-8FJX,2W	1
12	HYD,HOSE,3/8X76,8FJX-8FJX,2W	1
13	HYD,VALVE,RELIEF,1500,10 ORB	1
14	HYD,CLP,19/19,3015-3,3,PA	1
15	HYD,CLAMP,CAP,DIN,3015-3,3	1
16	HYD,FIT,ADAPTER,10MB-8FJX	1
17	HYD,VLV,PRO,SOL,3500,10_ORB	1



Views of Installed Valves and Hose
on Auger Motor

46195_C2

41. Attach the auger hose clamp (5) to the lower bottom side of the processor.

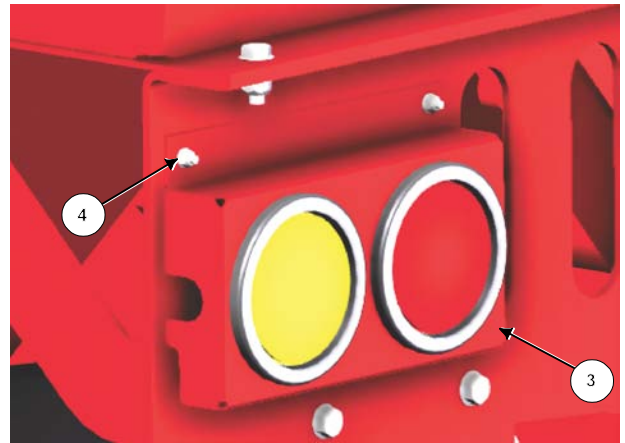


View of Installed Hose Clamp
on Processor Tub

221515C

Assembling the Grain Tank onto the BP 661

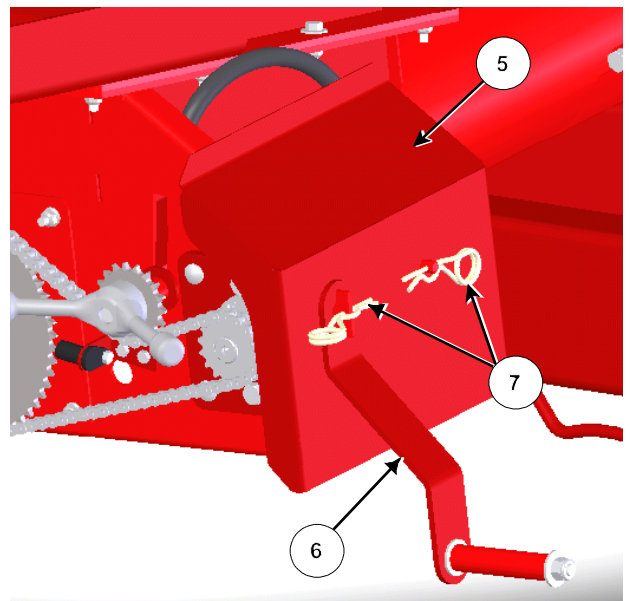
42. Route the hydraulic hoses along the frame and support them.
43. Install the left rear clearance light assembly (that was removed earlier) (3) to the rear tank mount bracket.
 - Use 2 of 1/4" x 3/4" carriage bolts and flange locknuts (4).



Install the Rear Left Clearance Light

221532C

44. Install the motor guard (5) and calibration crank (6).
 - Fasten with 2 of 2" x 3-5/8" spring pins (7).

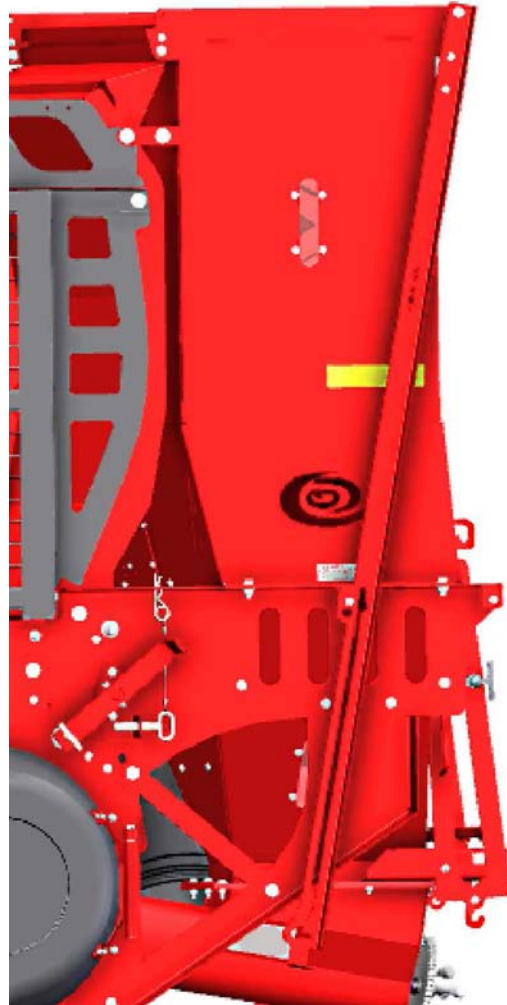


Install the Motor Guard and Calibration Crank

221476C

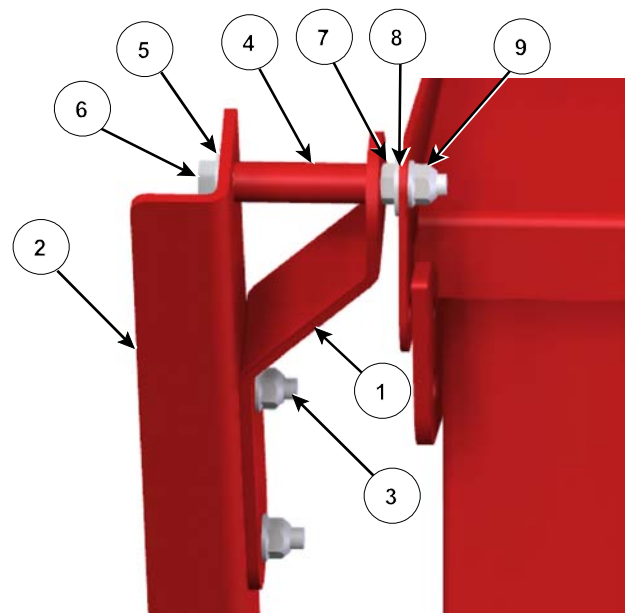
45. Attach the tank lid handle according to the instructions below.

- Attach the lid offset tab (1) to the handle (2) with 2 of 3/8" x 1" flange bolts and flange locknuts (3).
- Place a 3/8" flatwasher (5) onto a 3/8" x 3-1/2" hex bolt (6).
- Position the lid opener spacer (4) between the handle (2) and the offset tab (1).
- Place the bolt (6) with washer through the handle, the spacer and the tab.
- Place a 3/8" jam nut (7) onto the bolt.
- Place a 3/8" flatwasher (8) onto the bolt next to the jam nut.
- Place the bolt into the lid front upper hole.
- Place a 3/8" flange locknut (9) onto the bolt.
- Adjust the jam nut (7) and flange locknut (9) so the bolt becomes a pivot shaft for the handle.



Handle Installed (Shown in Storage Position)

222153

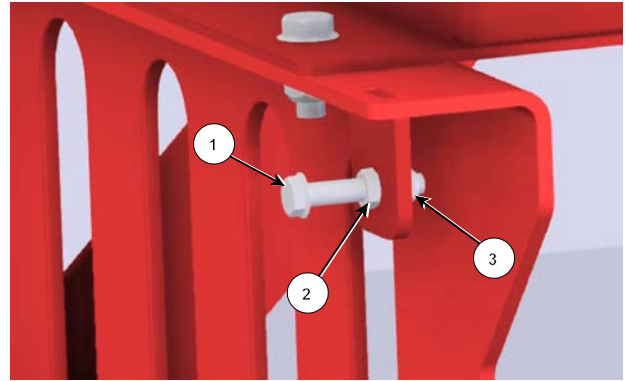


Attach Handle to Lid

46183_GC

Handle Guide Bolt

- Install a 3/8" jamnut (2) onto a 3/8" x 2" flange bolt (1).
- Place the bolt (1) with jamnut into the front tab on the front tank support.
- Place a 3/8" flange locknut (3) onto the bolt.
- Adjust the jamnut (2) and locknut (3) so the tank handle can fit over the bolt as a guide for the tank handle.
- Check for free movement of the handle and tank lid.

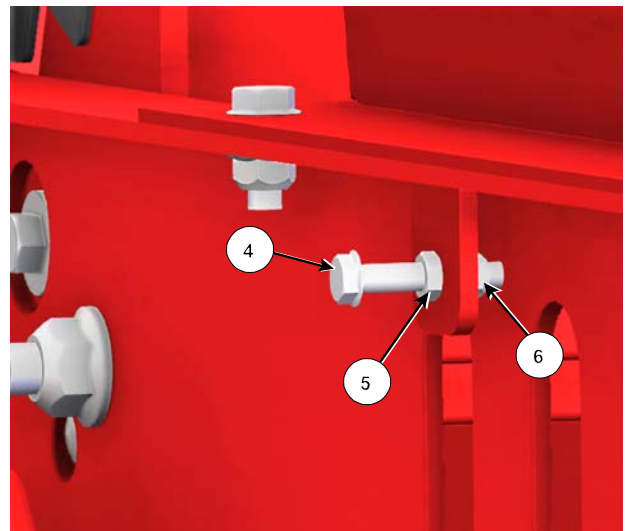


Install the Tank Handle Guide Bolt

222147C

Handle Storage Bolt

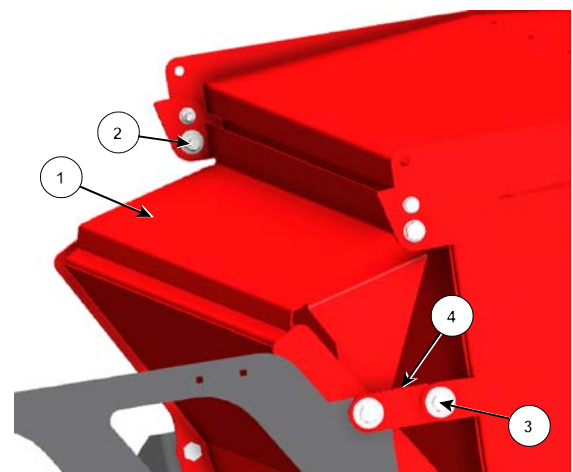
- Install a 3/8" jamnut (5) onto a 3/8" x 2" flange bolt (4).
- Place the bolt (4) with jamnut into the rear tab on the front tank support.
- Place a 3/8" flange locknut (6) onto the bolt.
- Adjust the jamnut (5) and locknut (6) so the tank handle can fit over the bolt and act as a storage location for the tank handle.



Install the Handle Storage Bolt

222158C

46. Attach the top grain deflector (1) to the top of the tank.
- Position the grain deflector (1) inside the tank top plates.
 - Place 2 of 1/2" x 1-1/4" flange bolts (2) through the tank side and into the grain deflector.
 - Attach with a 1/2" flange locknut.
 - Do not tighten at this time.
 - Place a 1/2" flat washer onto a 1/2" x 1-3/4" hex bolt (3).
 - Place the bolt into the tab on the side of the tank.
 - Place a 1/2" flat washer onto the bolt.
 - Place the link (4) onto the bolt.
 - Attach with a 1/2" flange locknut.
 - Do not tighten at this time.

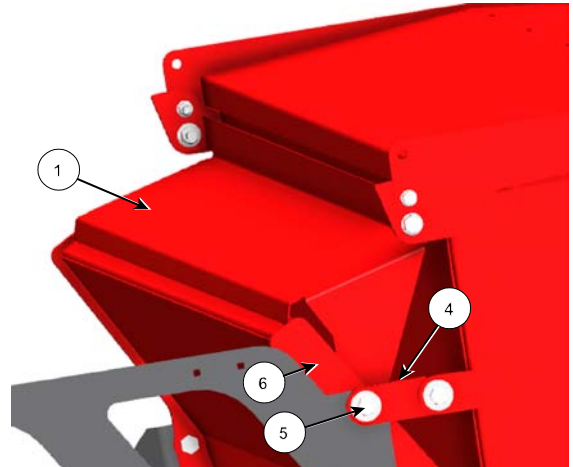


Attach the Top Grain Deflector - Part 1
(Front of Processor Shown)

222159C

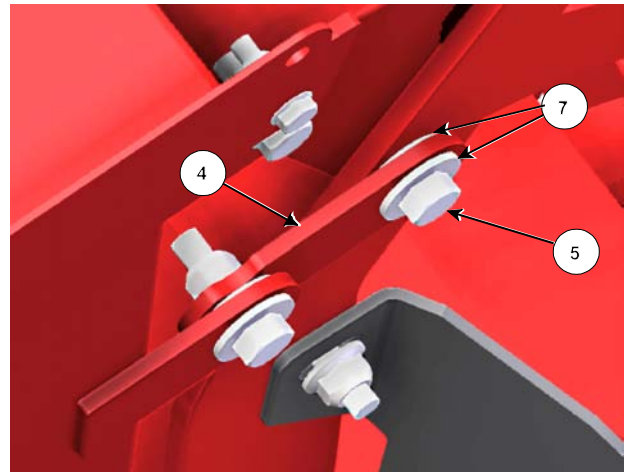
Assembling the Grain Tank onto the BP 661

- Place a 1/2" flat washer (7) onto a 1/2" x 1-3/4" hex bolt (5).
- Place the bolt through the link (4).
- Place a 1/2" flat washer (7) between the link and the tub deflector.
- Place the bolt through the tub deflector (6).
- At the front tub screen place the bolt through the link, the front tub screen and the tub deflector.
- Place the bolt through the grain deflector (1).
- Attach a 1/2" flange locknut.
 - Do not tighten at this time.
- Attach the link at the back of the tank with the same procedure.



Attach the Top Grain Deflector - Part 2
(Front of Bale Processor Shown)

222159C2



Connect Link to Tub Deflector

222161C

47. Place the grain deflector to its final position.
- Tighten all the fastener.



Grain Deflector in Position

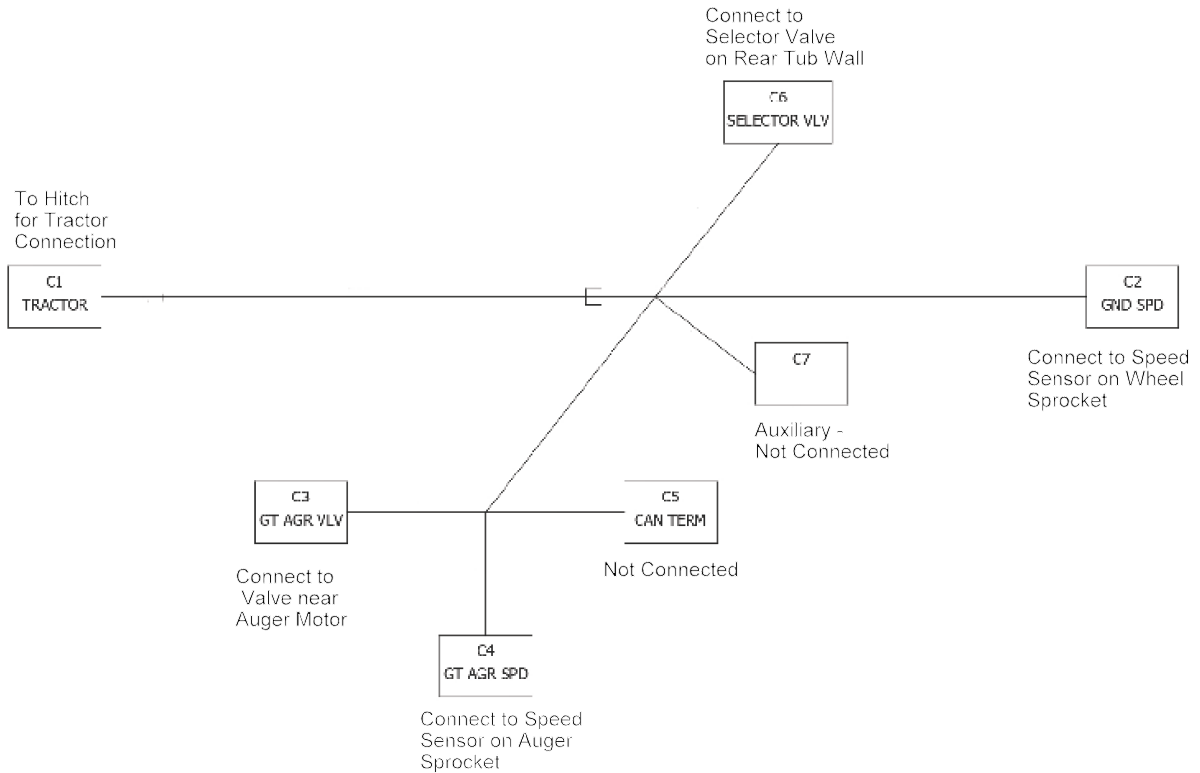
222160

Assembling the Grain Tank onto the BP 661

48. Connect the electrical wiring harnesses according to the drawings.

Grain Tank Harness

46169_CC



Note: Install the electrical adapter (1) to the solenoid of the valve near the auger motor before attaching the harness (2).

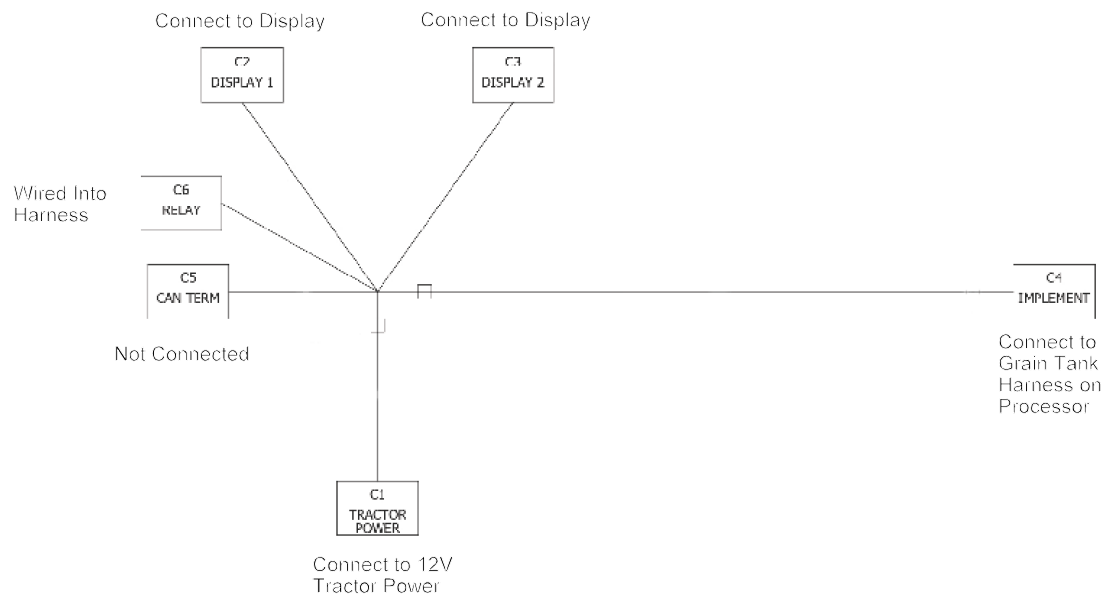


Attach Electrical Adapter to the Solenoid Before Attaching the Harness

223378C

Tractor Harness

46170_CC



49. Mount the tire onto the hub.
50. Lower the BP 661 and remove the jack.
51. Place the calibration bucket onto the bucket holder.
52. Place the weigh scale and Operator Manual in the manual tube on the processor.
53. Adjust the wheel sensor according to the instructions given in "Adjust the Wheel Sprocket Sensor" located in Section 5 "Maintaining the Grain Tank" of the Operator Manual.