

WALLENSTEIN

BY EMB MFG INC.

PTO DRIVE SPREADER MODELS MX50P, MX80P ASSEMBLY INSTRUCTION MANUAL

**Please review and understand the
operators manual before attempting
to operate this machinery.**

EMB MANUFACTURING INC.

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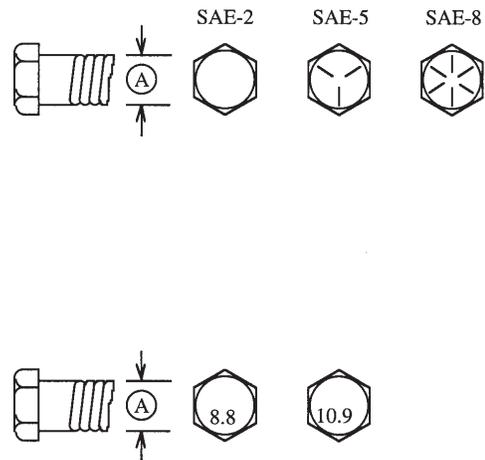
1.0 ASSEMBLY SAFETY

1. Read and understand the Assembly Manual and all safety signs before starting.
2. Follow good safety practices:
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
3. Use properly sized tools, stands, jacks and hoists at all times.
4. Don't handle heavy and/or bulky components alone, ask for help.
5. Position in a large open area to allow access from all sides during assembly.
6. Keep the assembly area neat and clean to prevent slipping or tripping.
7. When using lifting equipment, place jack stands under the machine to securely stabilize it before working on, beside or under it during assembly.
8. Stay away from overhead power lines and obstructions when lifting the machine during assembly. Contact with power lines can cause electrocution. Contact with obstructions can damage components or cause them to fail.
9. Tighten all fasteners to their specified torque, then recheck before using the machine.

2.0 BOLT TORQUE

ENGLISH TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*					
	SAE 2 (N.m) (lb-ft)		SAE 5 (N.m) (lb-ft)		SAE 8 (N.m) (lb-ft)	
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970



Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or caps crews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

* Torque value for bolts and capscrews are identified by their head markings.

3.0 ASSEMBLY

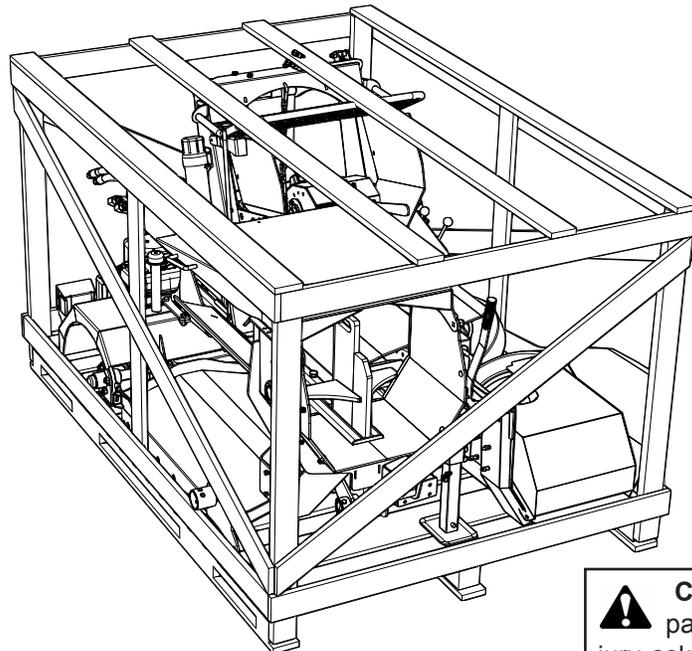
This assembly manual is for all trailer model manure spreaders. The MX80P is used as an example but generally applies to all manure spreader models. Model specific instructions are identified in the manual.

The machine is shipped from the factory in a partially disassembled configuration and attached to a pallet that provides easy moving and handling. Always use tools, equipment and fork lifts of appropriate size and capacity for the job.

Inspect for damage from shipping, immediately contact the shipping company if damage is found.

When the machine is shipped, follow this assembly procedure:

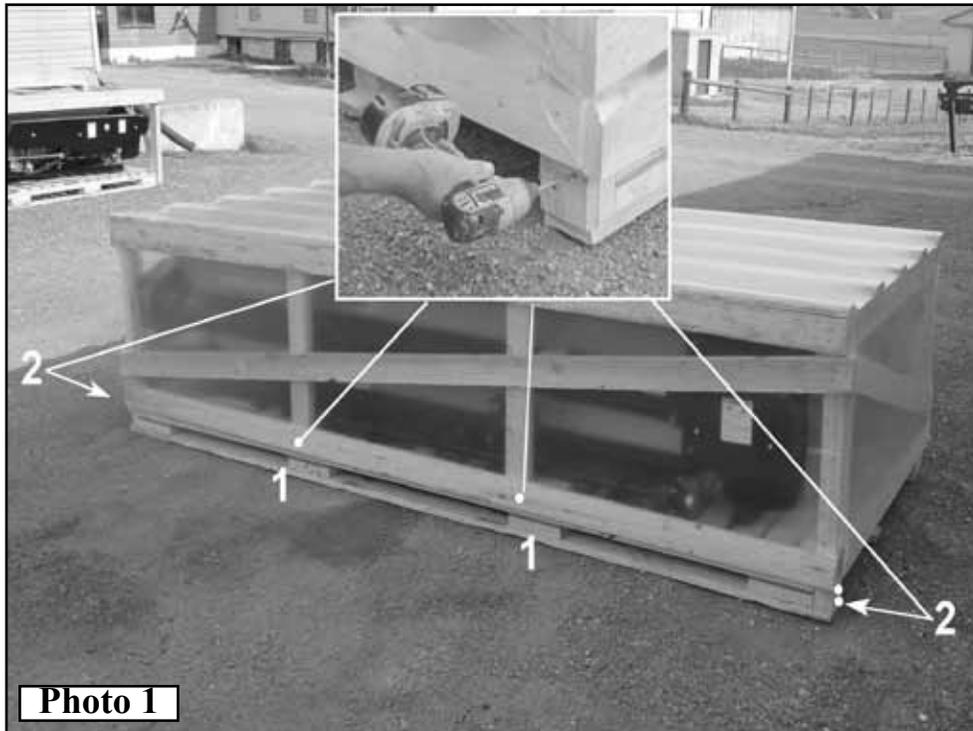
1. Clear the area of bystanders, especially small children.
2. Be sure you have all the required tools before you start.
3. Move the shipping package into an area where it is accessible from all sides.
4. Remove the screws holding the lid to the shipping pallet, remove the lid and set aside away from the assembly area.



⚠ Caution: Heavy or bulky parts: prevent potential injury ask for help when lifting or moving heavy, bulky parts.

Uncrating the Spreader

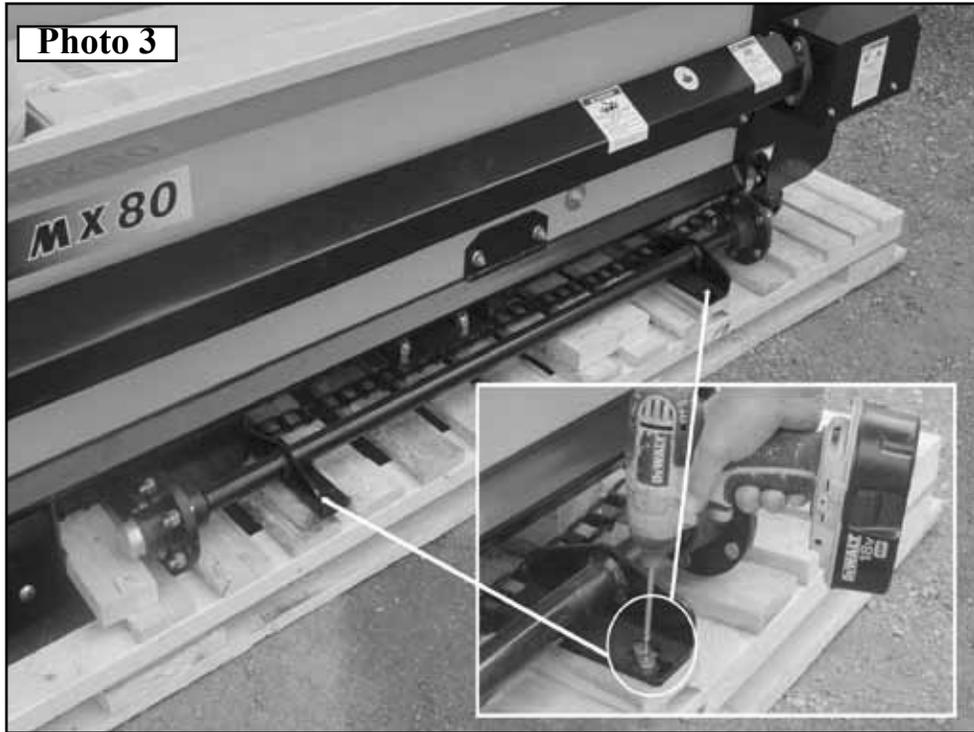
1. Remove all screws securing the upper part of the crate to the lower skid. There are two (2) screws located at each corner around the bottom of the crate, and two along each side. *Photo 1*



2. Remove the upper portion of the crate. *Photo 2*



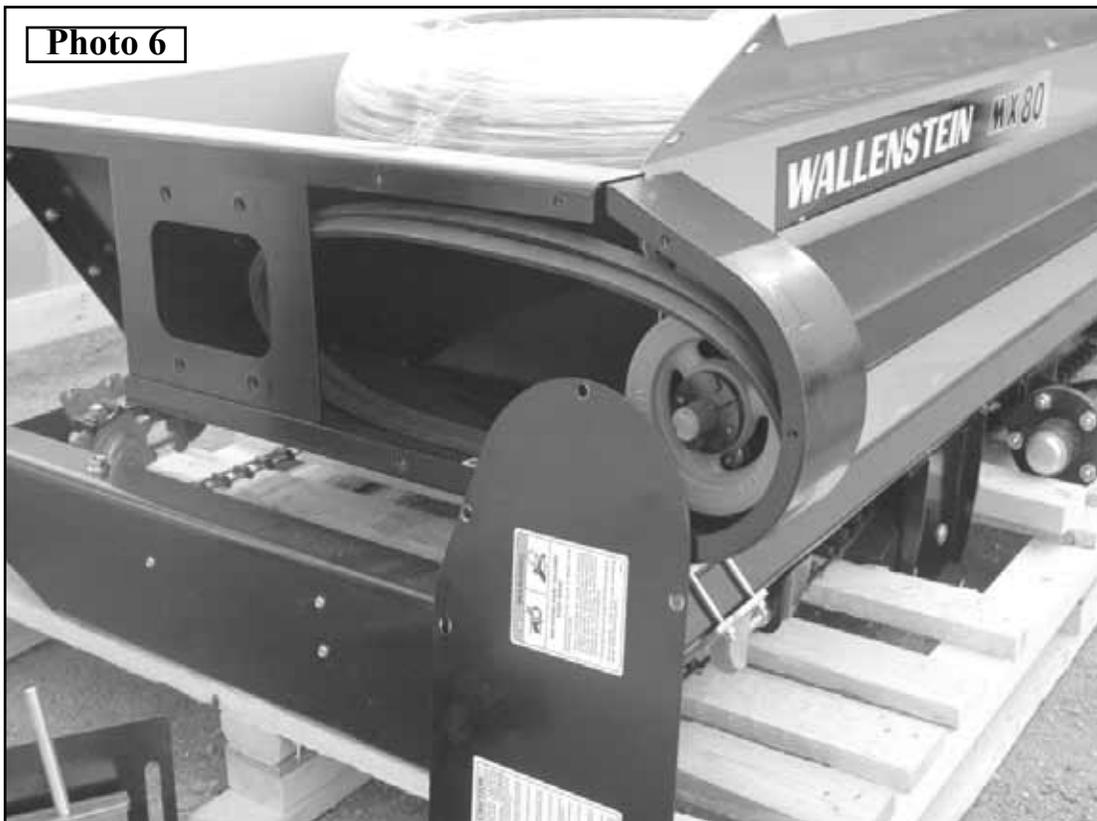
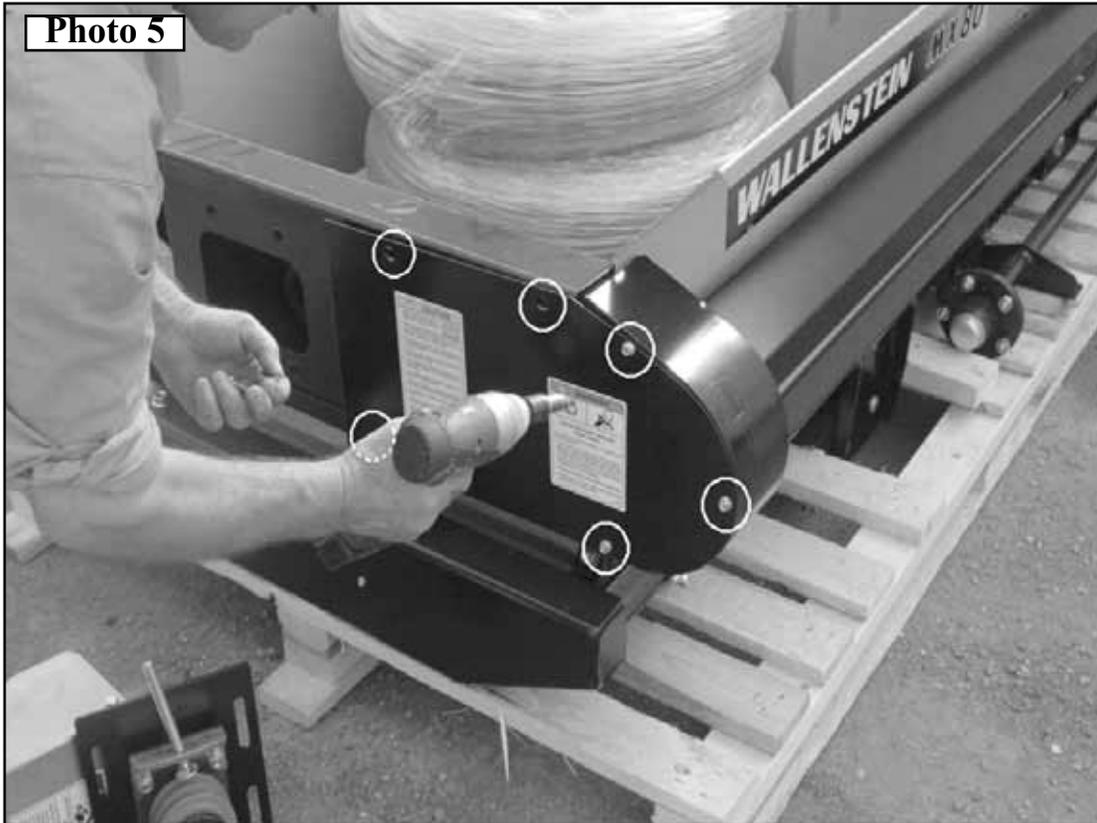
3. Locate the axle assembly and remove the screws and bracket securing it to the lower skid. *Photo 3* Set the axle aside for later assembly.



4. Remove (4) **Hex Bolt, 1/2NC x 1-1/2** and four (4) **Flat Washer, 1/2**, from the front location of the spreader (used to mount the Adjustable Input Shaft Assembly). *Photo 4*



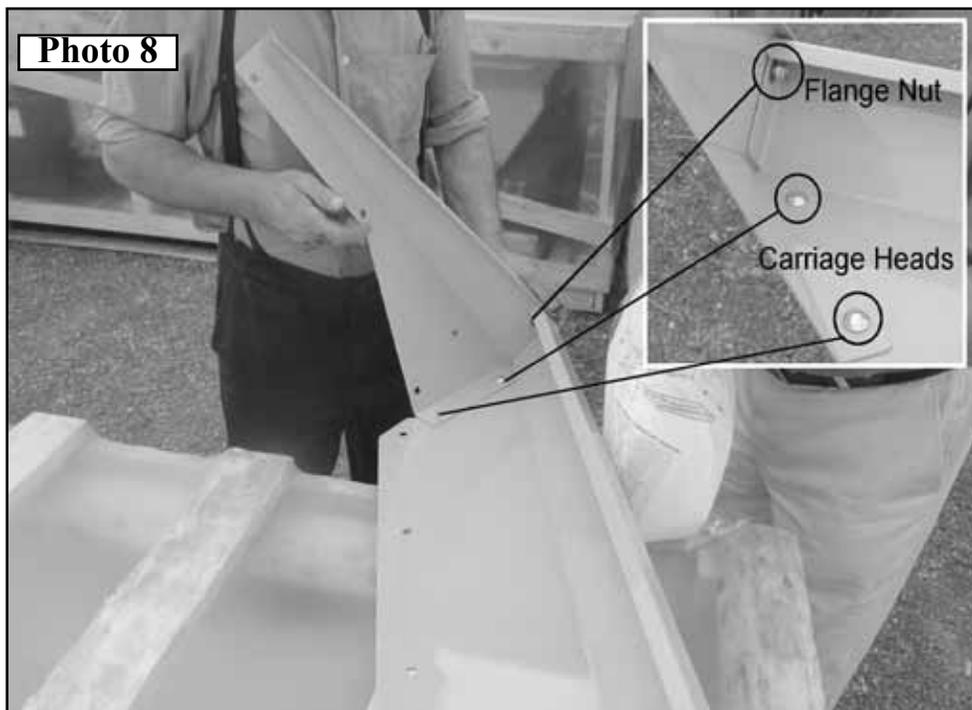
5. Remove (6) **Flange Bolt, 1/4 NC x 3/4** securing the PTO Belt Shield and set it aside.
Photo 5 & 6



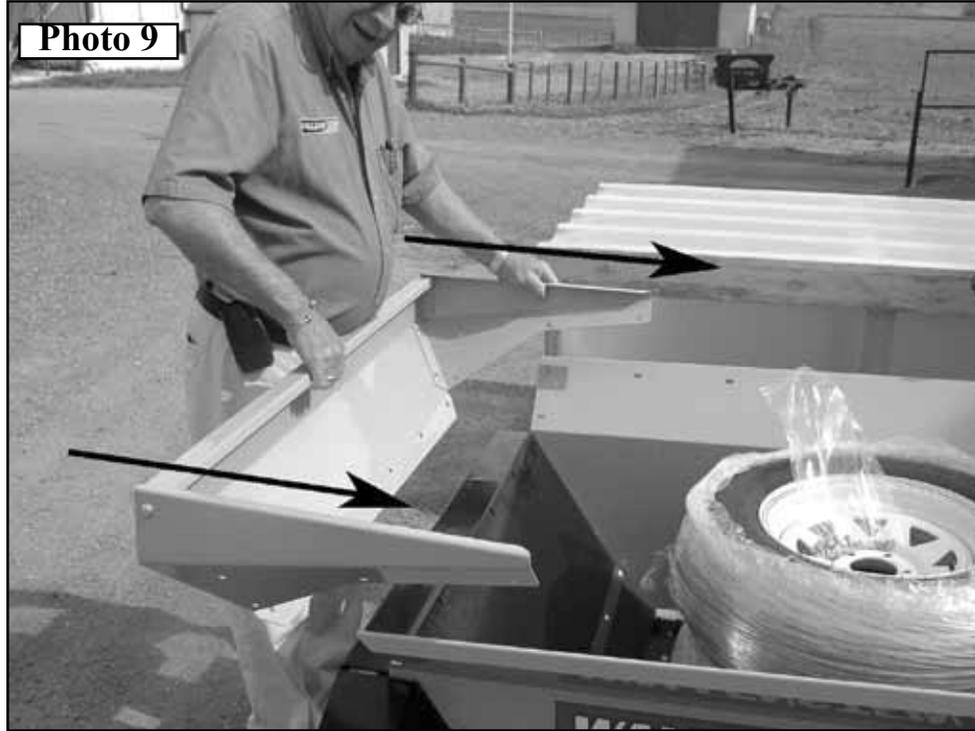
6. Locate the box containing the Top, Left Hand and Right Hand Splash Guards.
Photo 7



7. Assemble the Right Hand and Left Hand Splash Guard to the Top Splash Guard using (6) Carriage Bolts, 5/16NC x 5/8 and (6) Flange Nut, 5/16NC. *Photo 8*



8. Take the Splash Guard Assembly to the front of the spreader and place into position. *Photo 9*



9. Loosley install (14) **Carriage Bolts, 5/16NC x 5/8** and (14) **Flange Nut, 5/16NC**, to the Splash Guard assembly, working from one side to the other. *Photo 10*



10. Secure all Carriage Bolts by tightening down all Flange nuts. To access some of the middle Flange Nuts, reach in through the open PTO area with your socket or wrench.
Photo 11 & 12

Photo 11

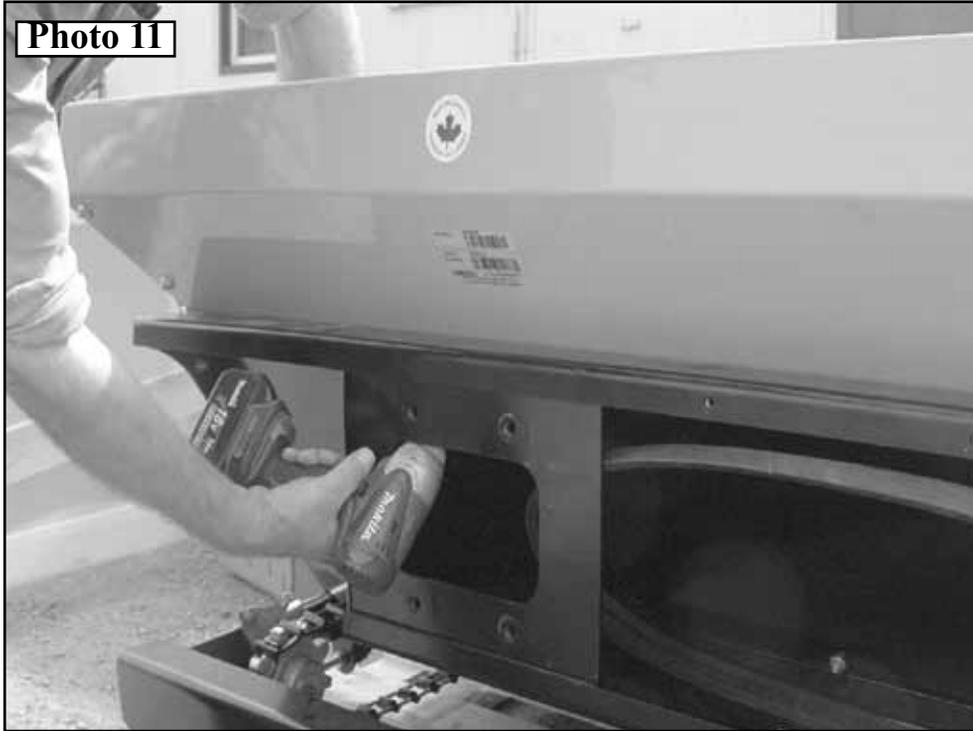
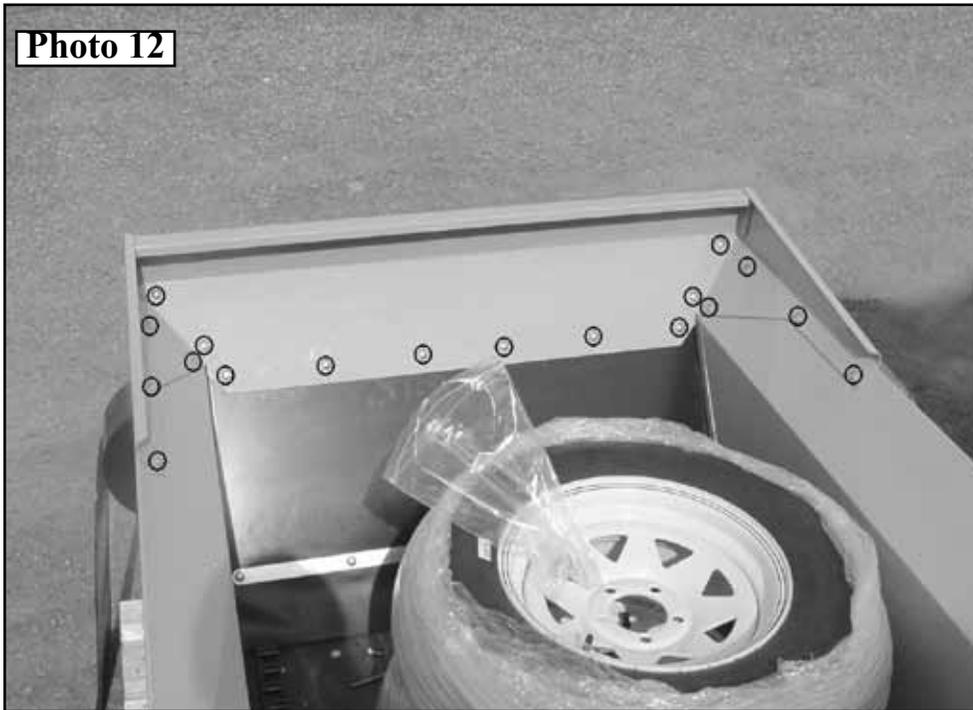
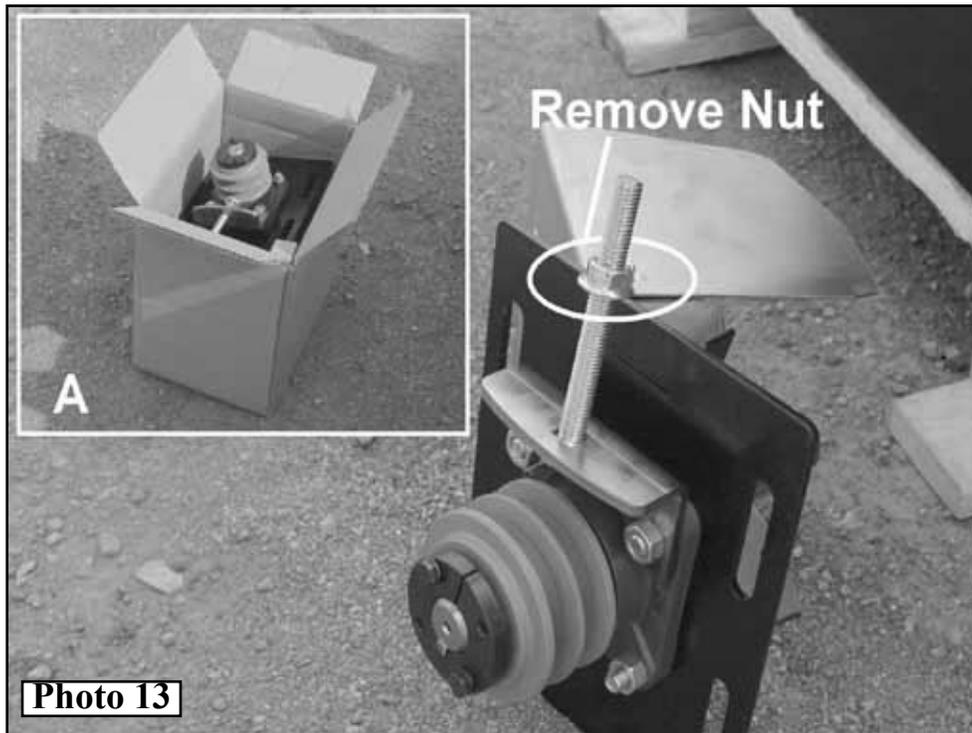


Photo 12



11. Locate the box containing the Adjustable Input Shaft Assembly. Lift the assembly from the box and remove the **Flange Nut, 1/2NC**, from the threaded adjustment stud.

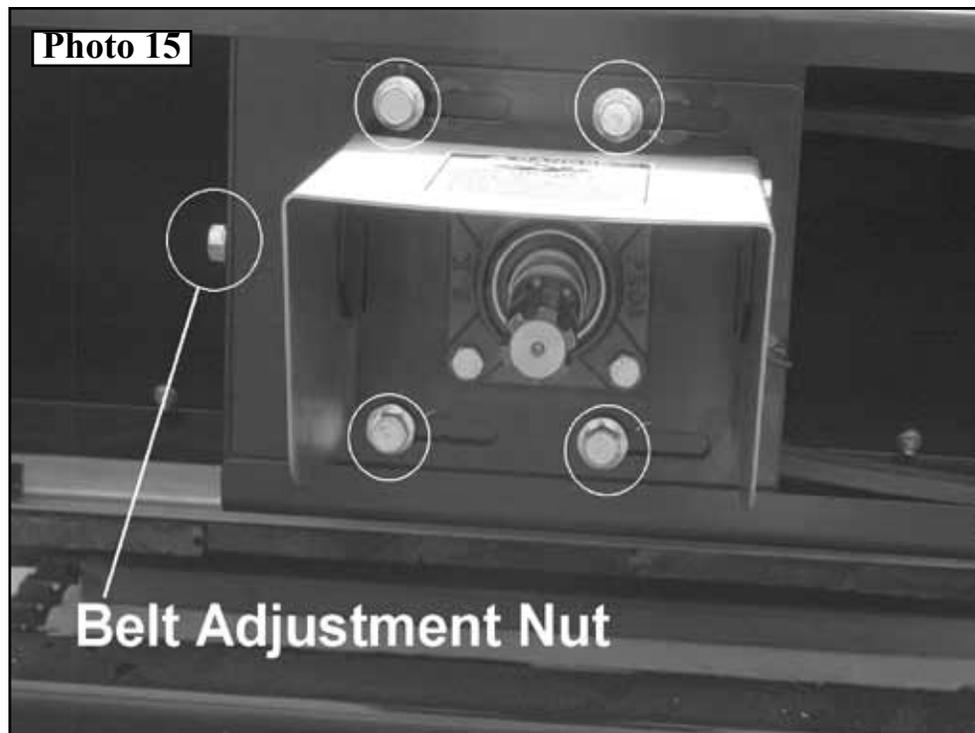
Photo 13



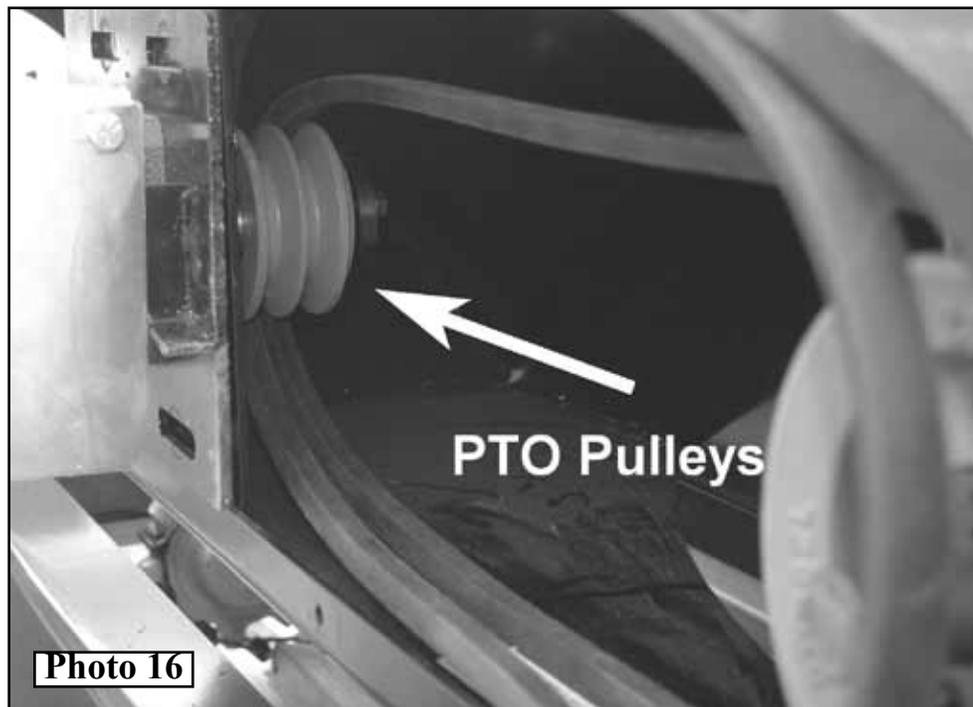
12. Install the Adjustable Input Shaft Assembly into the spreader, navigating the threaded adjustment stud through the hole provided. **Photo 14**



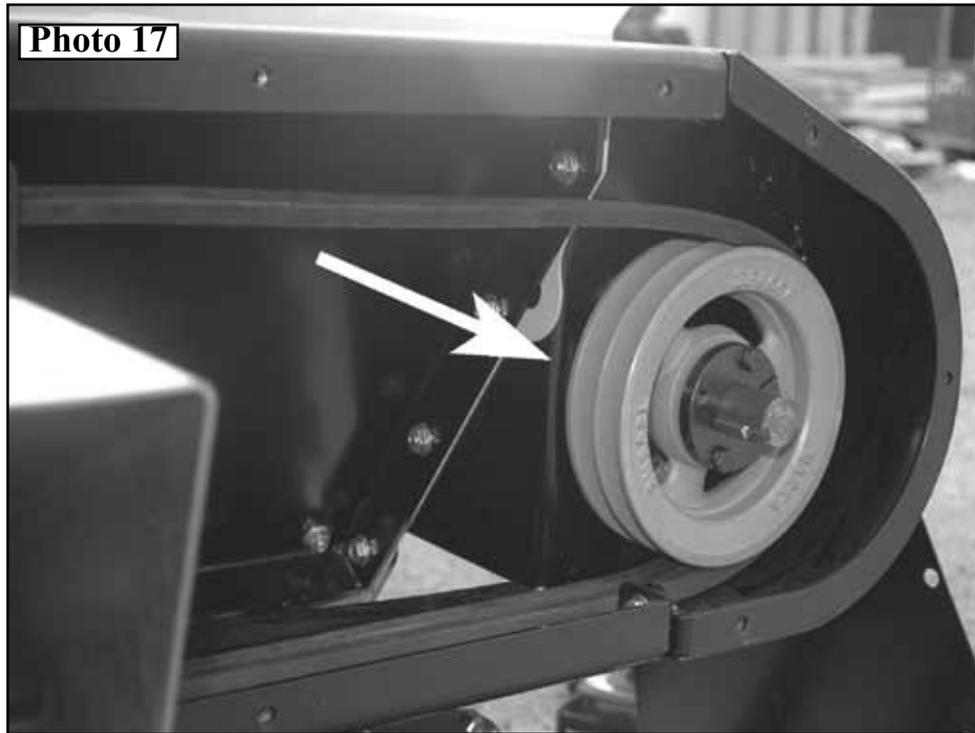
13. Loosley re-install the (4) **Hex Bolt, 1/2NC x 1-1/2** fasteners and (4) **Flat Washer, 1/2**, removed in Step 4 to hold the Adjustable Input Shaft Assembly into place, but do not tighten down. At the same time, re-install the **Flange Nut, 1/2NC** (removed from the Input Shaft Assembly in Step 11), back on to the threaded Adjustment Stud. *Photo 15*



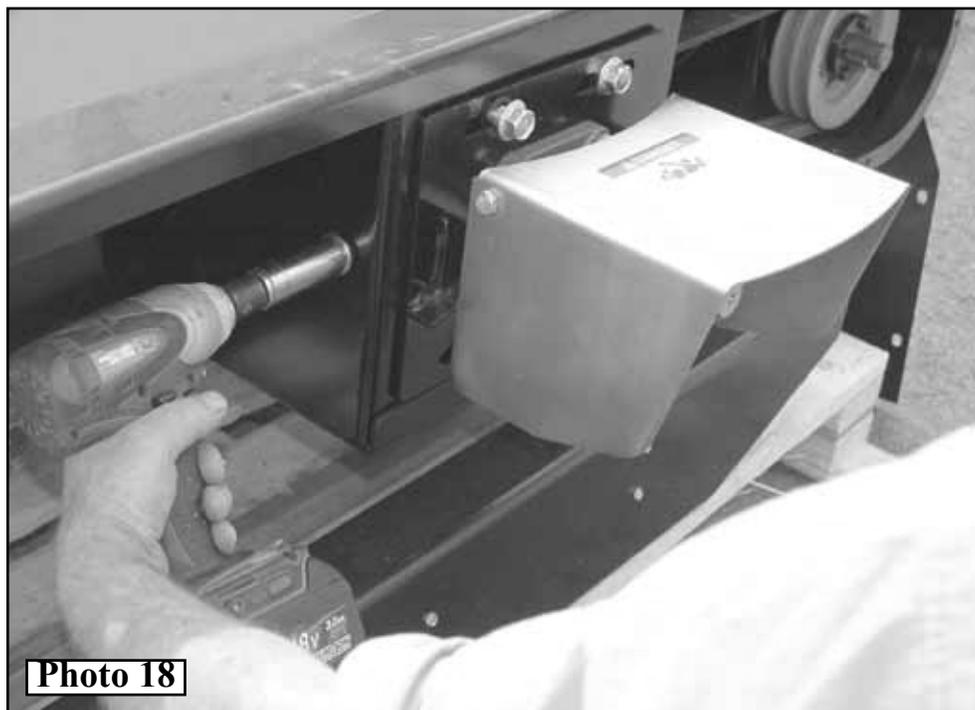
14. Slip both Belts over each pulley of the Adjustable Input Shaft Assembly. *Photo 16*



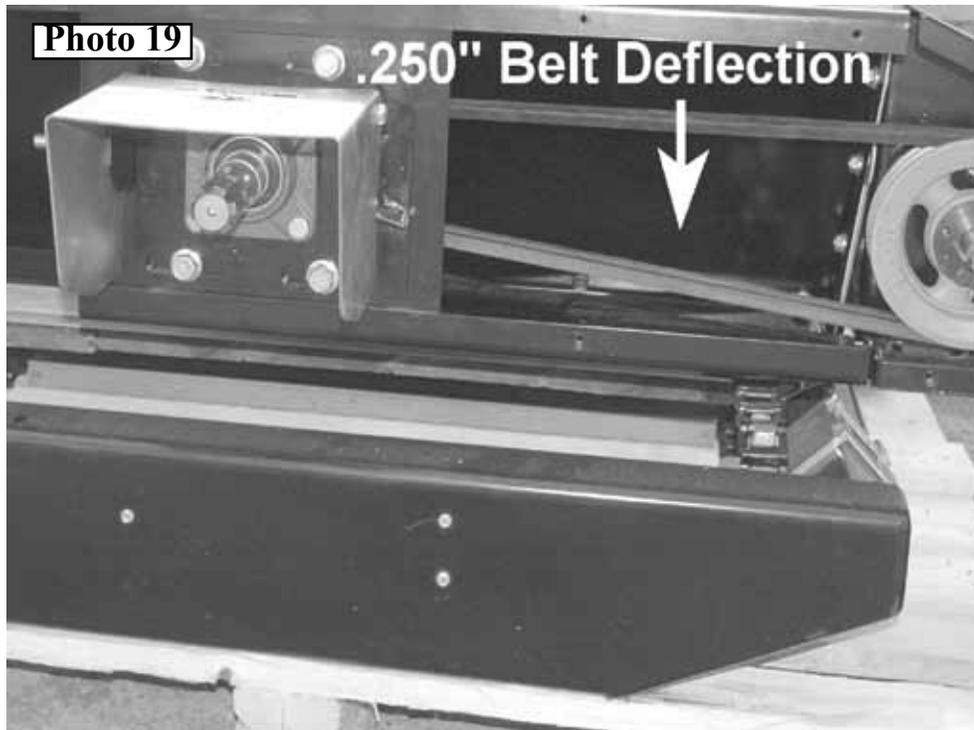
15. Attach both Belts to each pulley of the Drive Shaft. **Photo 17**



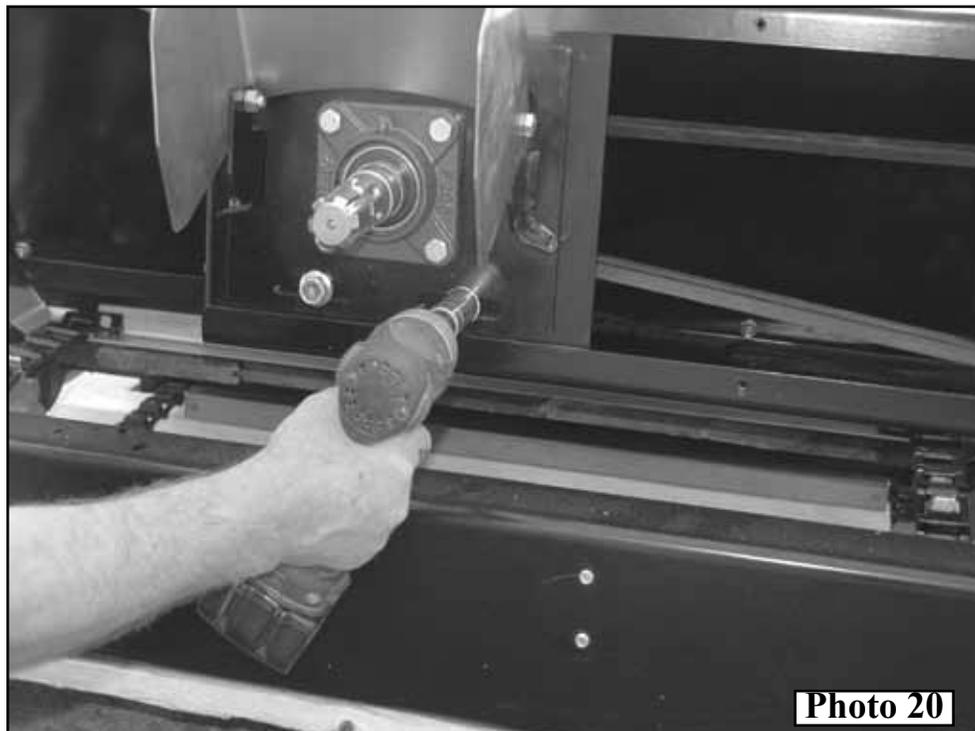
16. Thread the **Flange Nut, 1/2NC** Adjustment Nut of the Adjustable Input Shaft Assembly until belts have tensioned with approximately .250" belt deflection. Do NOT overtighten. **Photos 18 & (19 next Page)**



DO NOT OVERTIGHTEN BELT



17. Tighten down all (4) **Hex Bolt, 1/2NC x 1-1/2** fasteners to secure the Adjustable Input Shaft Assembly. *Photo 20*



18. Using the **#10 Self Tapping Screws**, attach the protective storage compartment for the paper owners manual to front of spreader and reinstall the PTO Belt Shield. **Photo 21**



19. Safely raise the vehicle to install the axle assembly. The example shown illustrates the use of a lift truck. **Photo 22**

CAUTION

Exercise extreme caution when raising the spreader to ensure a safe working environment. All precautions should be taken to avoid injury.



20. Carefully place the spreader down on Jacks located at four (4) points around the lower frame. *Photo 23 & 24*



Photo 23



Photo 24

21. Install the axle assembly to the spreader. *Photo 25*

NOTE

The axle assembly differs in length from the mounting surface to the hub from left to right side. The shorter side is assembled to the right hand side of the spreader.

Photo 25



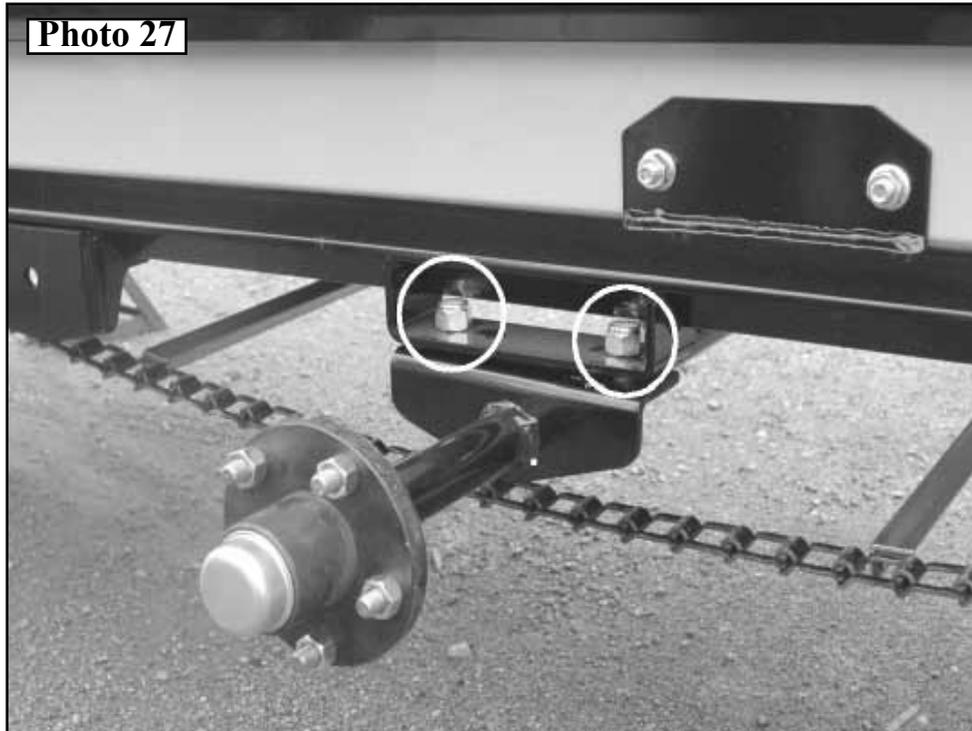
22. Enlisting the help of a second pair of hands, pass the axle under the spreader (from the right side) to a second person on the left side.

IMPORTANT

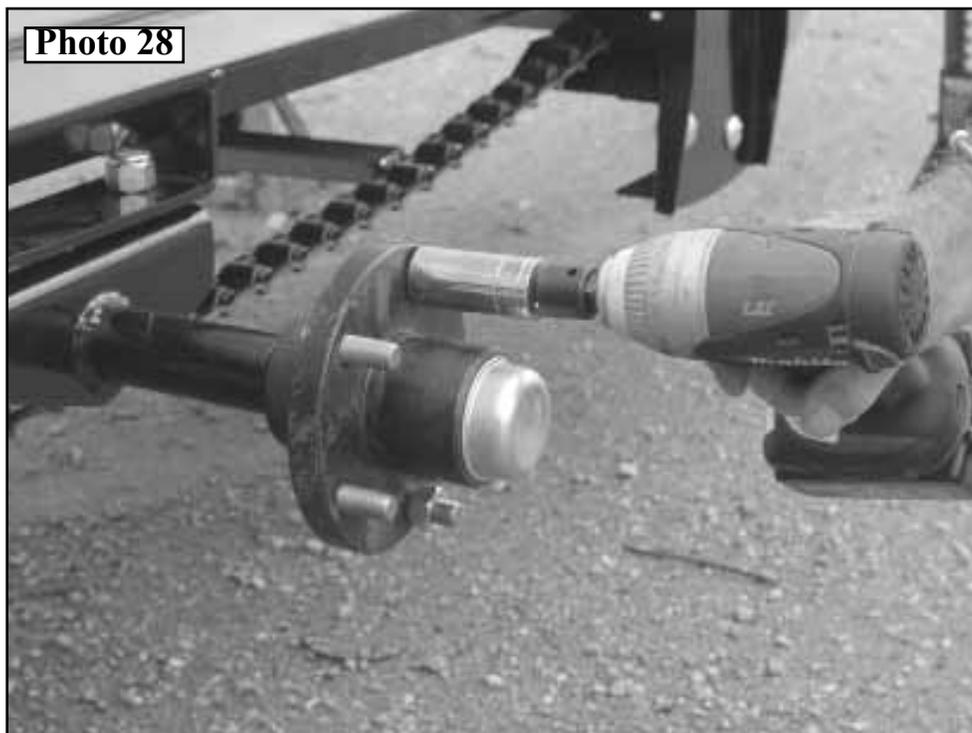
Install the axle OVER TOP of the Apron Chain. Photo 26



23. Secure the axle to the bracket with (4) **Hex Bolt, 5/8NC x 1-1/4** & (4) **Hex Lock Nut, 5/8NC**. *Photo 27*



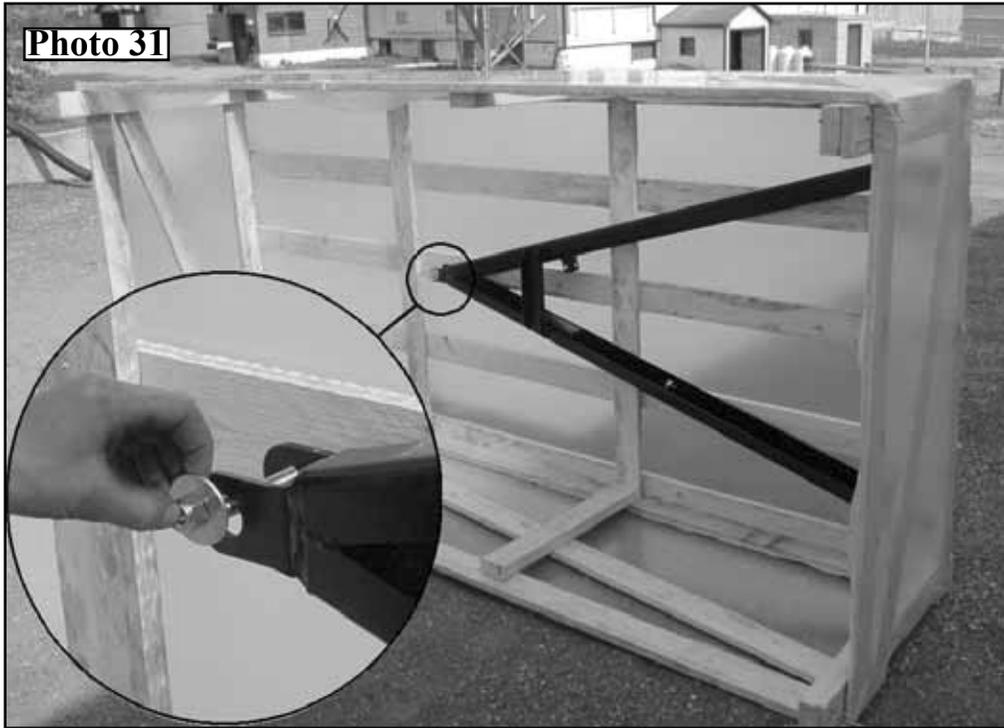
24. Remove (5) **Lug Nut, 1/2NF**, from each of two wheel hubs. *Photo 28*



25. Install the tires to both right and left hand side of spreader. Torque lug nuts to specified torque. Photos *29 & 30*



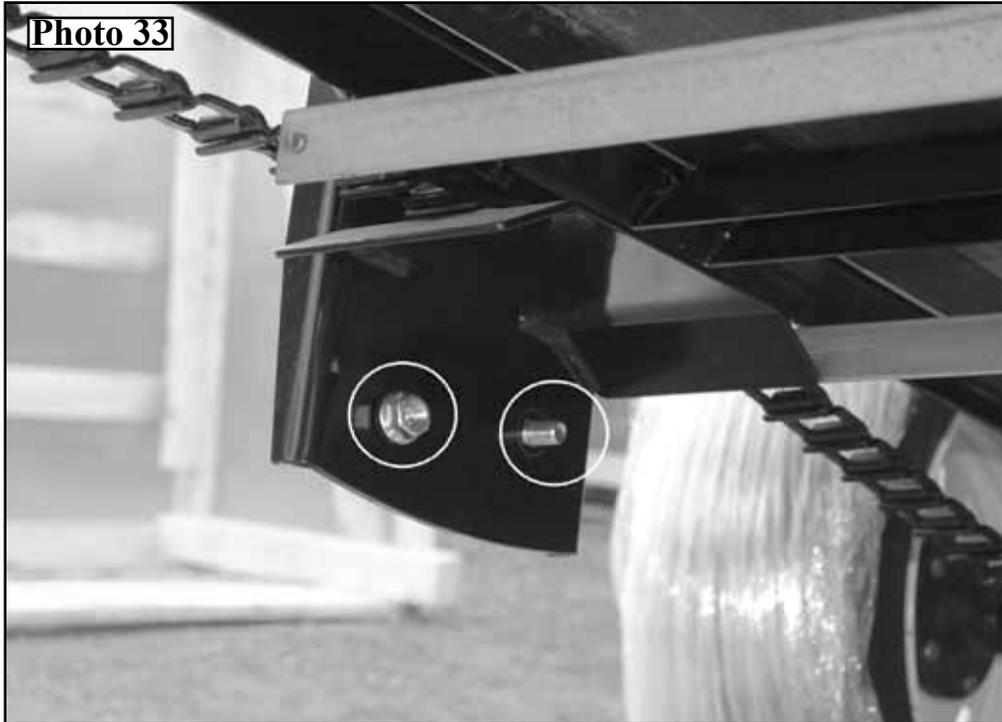
26. Locate the Hitch Frame which is shipped bolted and secured to the top of the inside of the crate. **Photo 31**



27. Remove the (2) **Carriage Bolt, 1/2NC x 1-1/2** & (2) **Hex Lock Nut, 1/2NC**, from the location on the Hitch where it will be attached to the spreader. This hardware is shipped mounted here for your convenience. **Photo 32**



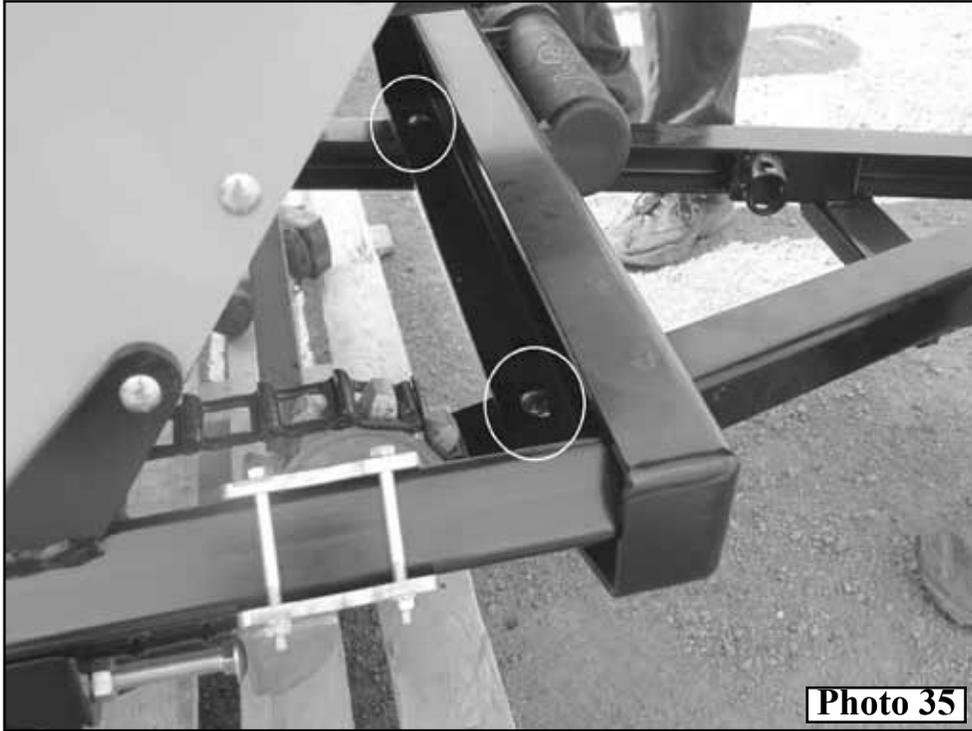
28. Remove the (2) **Carriage Bolt, 1/2NC x 1** & (2) **Hex Lock Nut, 1/2NC**, from the bracket weldment location on both sides of the spreader where the hitch will be attached to a second point. This hardware is shipped installed at this location for your convenience. *Photo 33*



29. Place the hitch into position at the front of the spreader. *Photo 34*



30. Attach hitch at the front location on the spreader with (2) **Carriage Bolt, 1/2NC x 1-1/2** & (2) **Hex Lock Nut, 1/2NC** removed in Step 27. *Photo 35*



31. Secure the Hitch Frame to the second mounting point (farther back) at the bracket weldment on the spreader. Use (2) **Carriage Bolt, 1/2NC x 1** & (2) **Hex Lock Nut, 1/2NC** removed in Step 28. *Photo 36*



32. Install the swivel jack in the upright position to support the front end of the spreader while finishing off the final assembly. *Photo 37*



33. Remove (2) **Carriage Bolt, 5/16NC x 3/4** & (2) **Flange Nut, 5/16NC** at rear of spreader on Left Hand Side Panel (to mount the Cross Bar). *Photo 38*



34. Remove (2) **Carriage Bolt, 5/16NC x 3/4** & (2) **Flange Nut, 5/16NC** at rear of spreader on Right Hand Side Panel (to mount the Cross Bar). *Photo 39*



35. Install the Cross Bar and tighten all **Carriage Bolt, 5/16NC x 3/4** securely. *Photo 40*



36. Install PTO Drive Shaft to Input Shaft. Depress locking pin on shaft and align splines.
Photos 41 & 42



IMPORTANT

Push PTO Shaft on until locking pin engages

37. Hook up the spreader to towing vehicle and place the Swivel Jack in the trailering position. *Photo 43*

