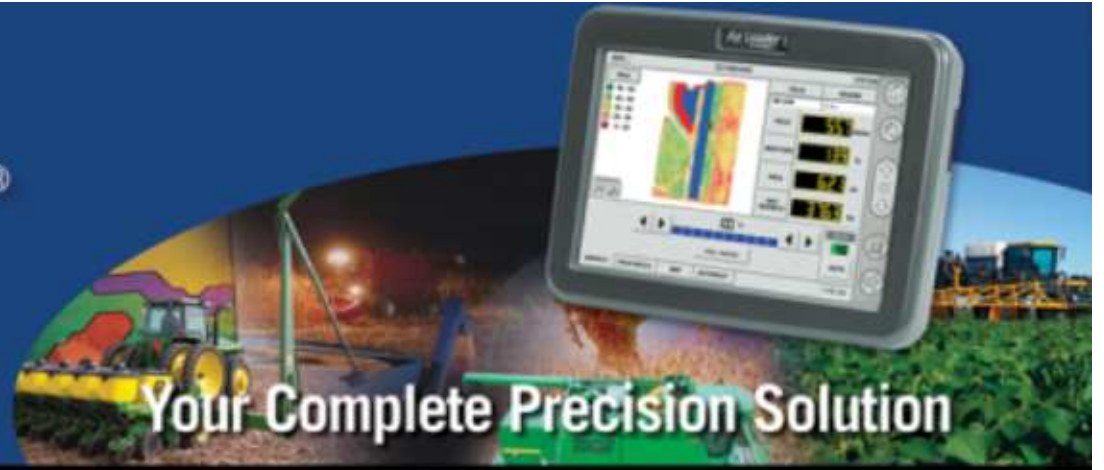
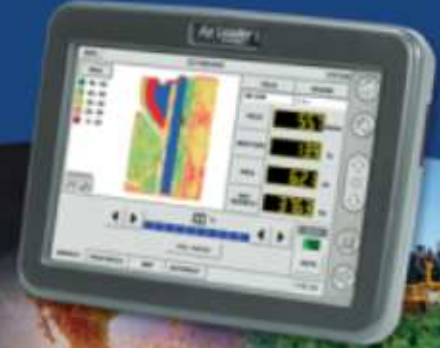


Ag Leader[®]
Technology



Your Complete Precision Solution

***SureStop[™] Clutch
Installation Recommendations
Spring 2009***





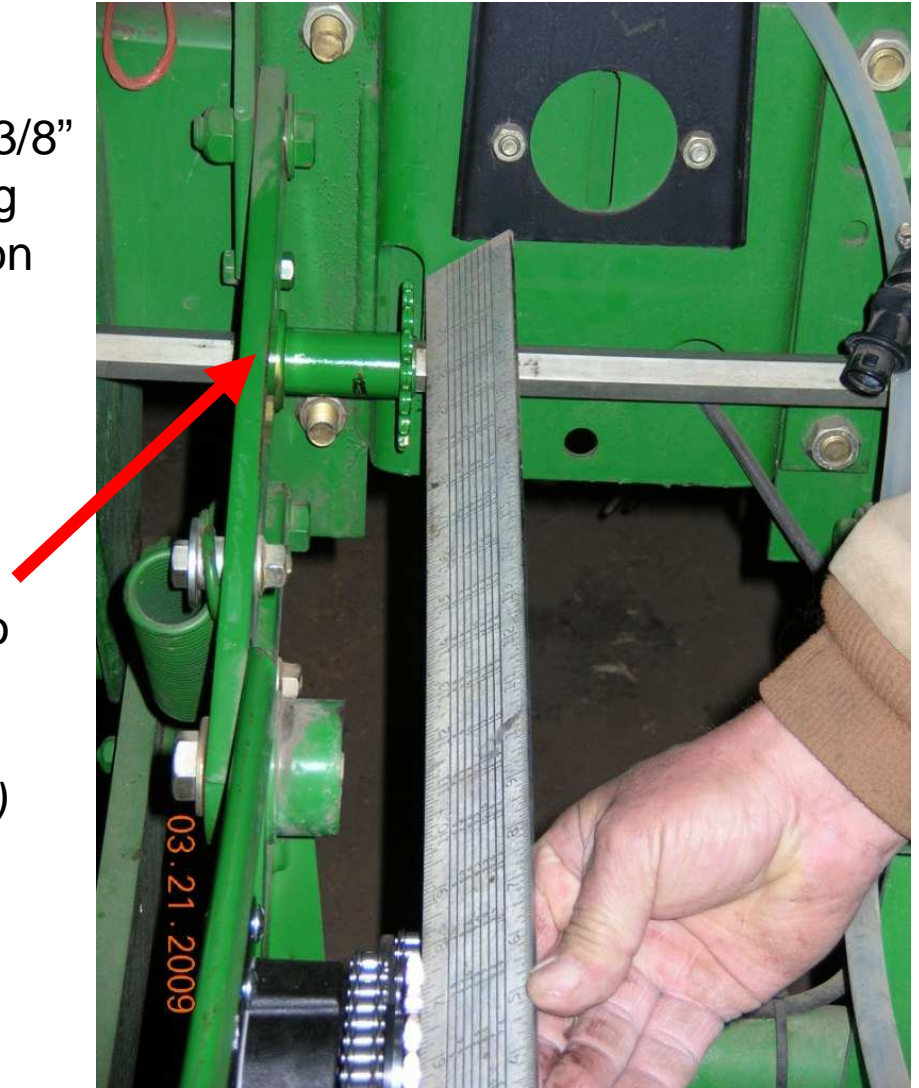
Deere Misaligned Chain

- Installation for SureStop Clutch on John Deere planters requires the chain to run slightly out of line
 - The misaligned chain is present on all adjustable heavy-duty down force springs while using chain driven seed meters
 - Bearing hanger/sprocket assembly can only be spaced over a small amount, until you interfere with the springs



Deere Misaligned Chain

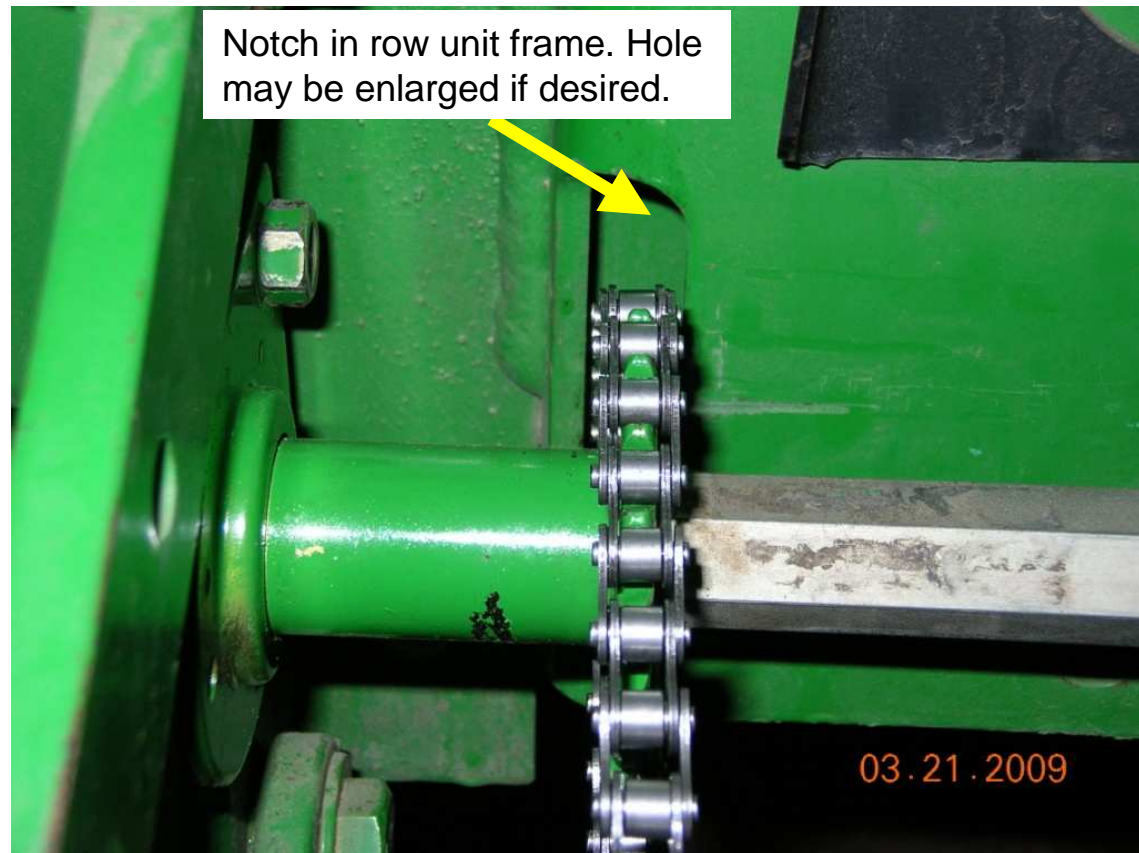
- Chain will be about 3/8" out of line if following Ag Leader installation instructions
- Two (2) spacer washers installed to space over drive sprocket (*can't see them in this picture*)





Reasons for Misalignment

Number 1

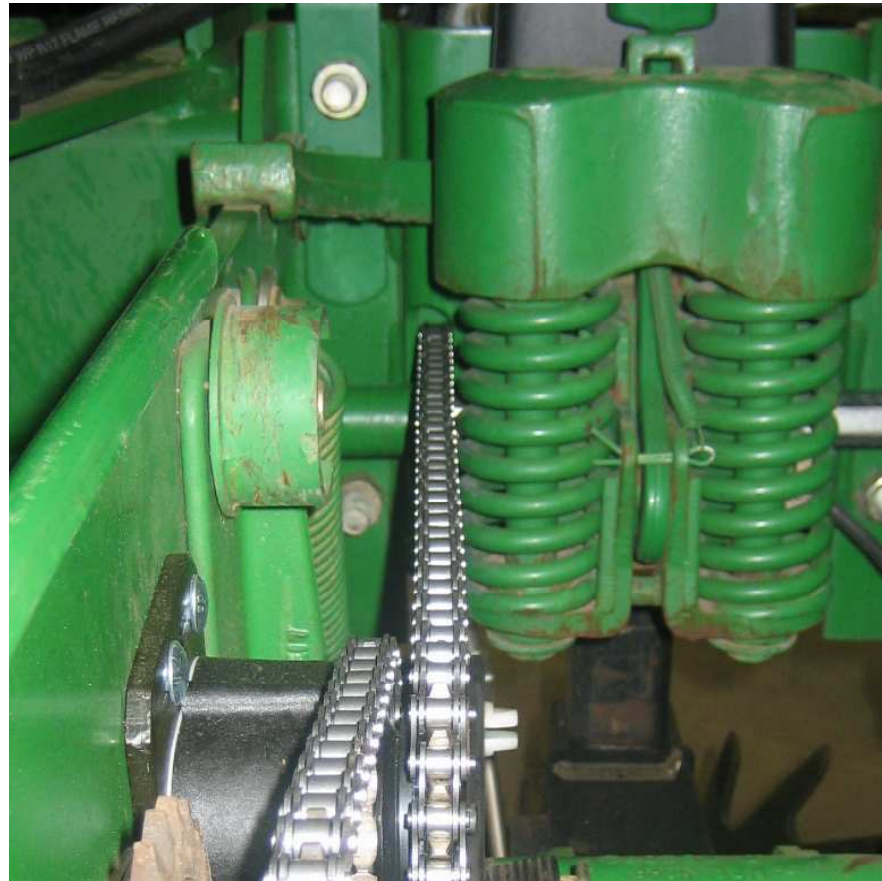


- Cannot space drive sprocket over any more due to the notch in row unit frame
- Sprocket and chain may interfere with the frame



Reasons for Misalignment

Number 2



- Chain is very close to Heavy Duty down pressure springs
- Field testing has proved it is not a problem



Deere Misaligned Chain

- Testing in 2008 proved that the chains can be run slightly misaligned
 - 4 JD planters ran over 4,000 acres with no issues with misaligned chains
 - There was no appearance of excessive wear on the chain or sprockets
 - We did not see any issues with seed spacing or singulation
 - One planter had a Precision Planting 20/20 monitor
 - Ag Leader supplies a more flexible chain allowing for a small misalignment of the sprockets
 - Lab & field tested without sprocket spacers (3/4" out of alignment) and saw good results

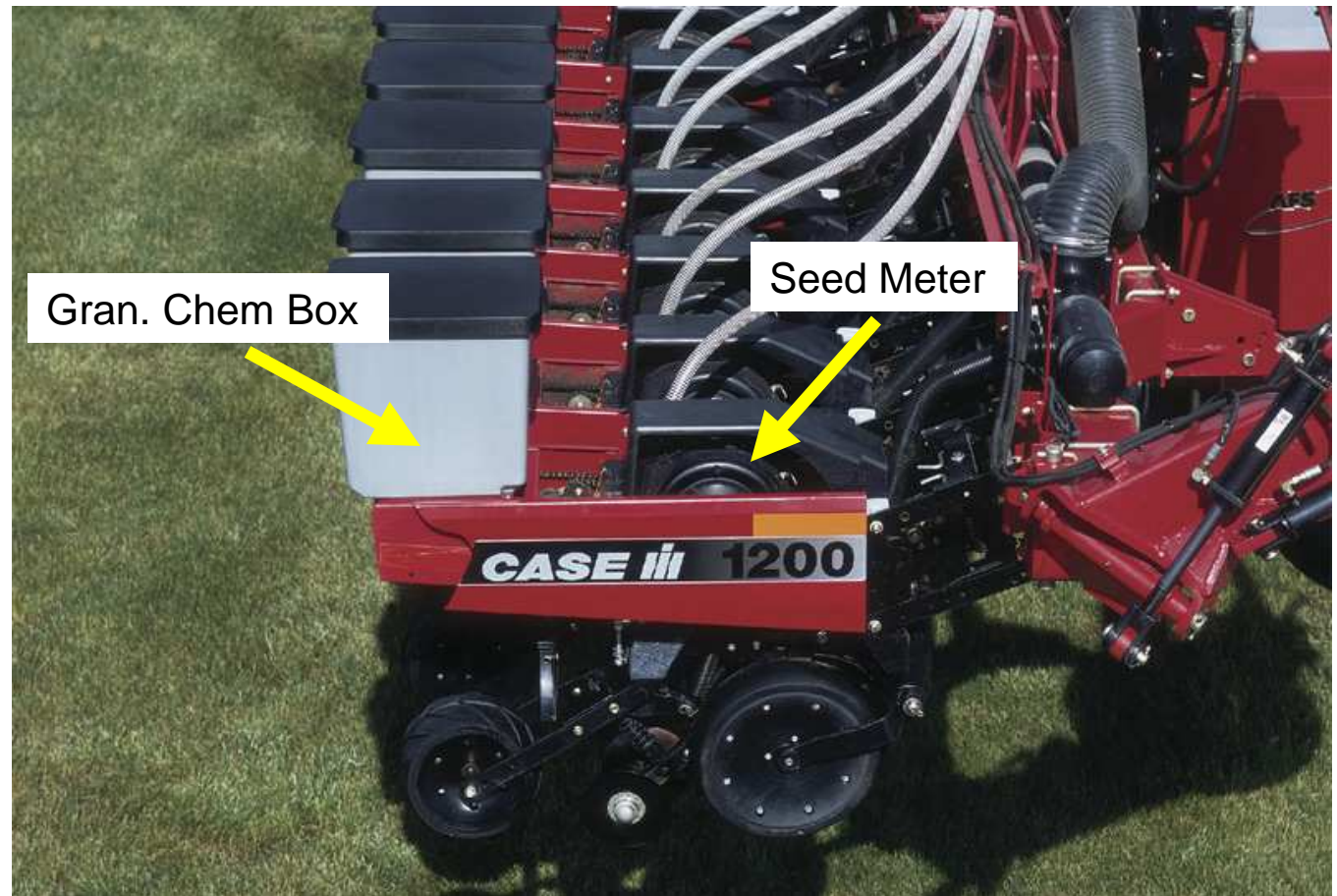


Case 1200 gran. chem box

- Recommended Installation Procedure:
 - Chain misalignment from seed meter drive sprocket back to granular chemical drive sprocket
 - Issue can be resolved by installing (3)- 3/8" spacer washers on gran.chem drive sprocket bolts
 - See pictures in following slides

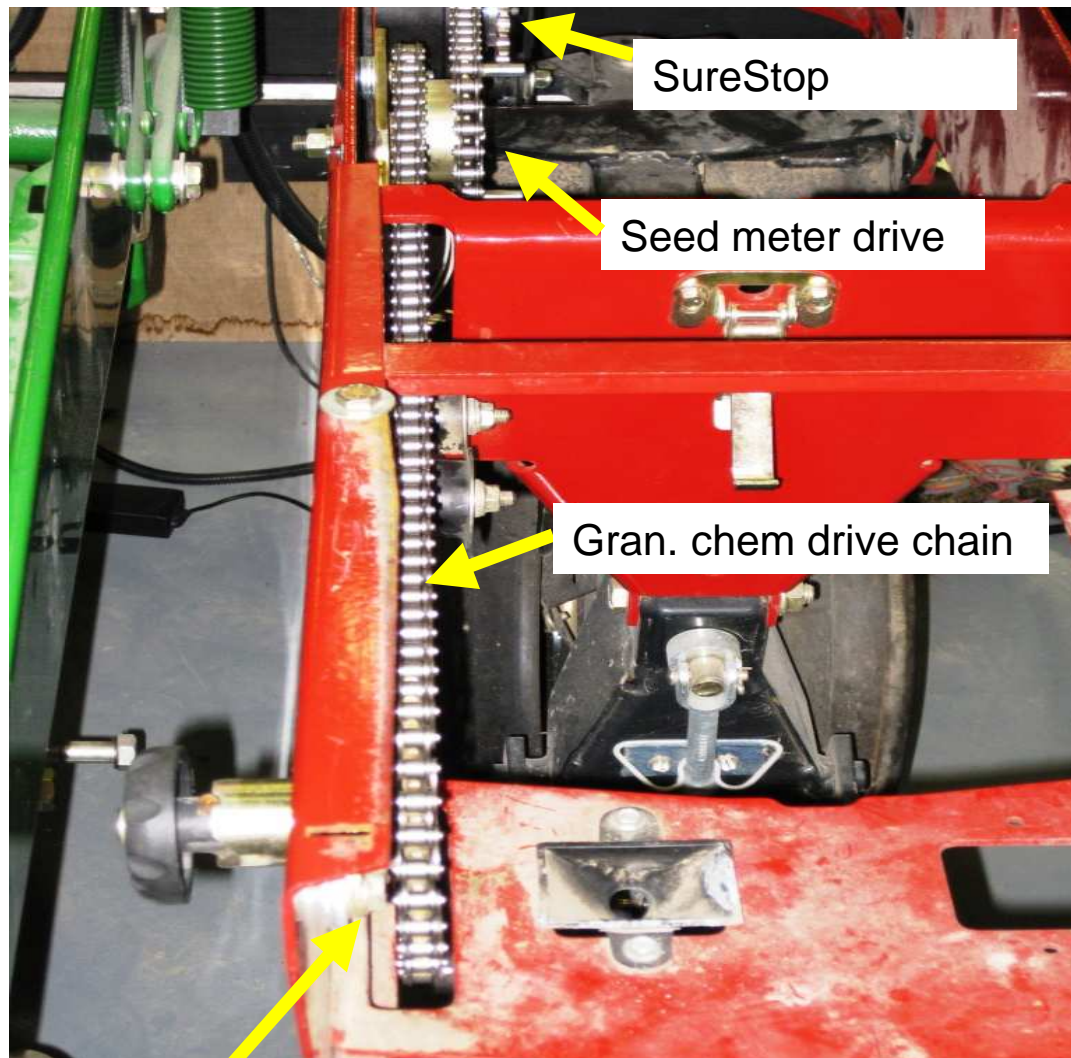


Case 1200 gran. chem box





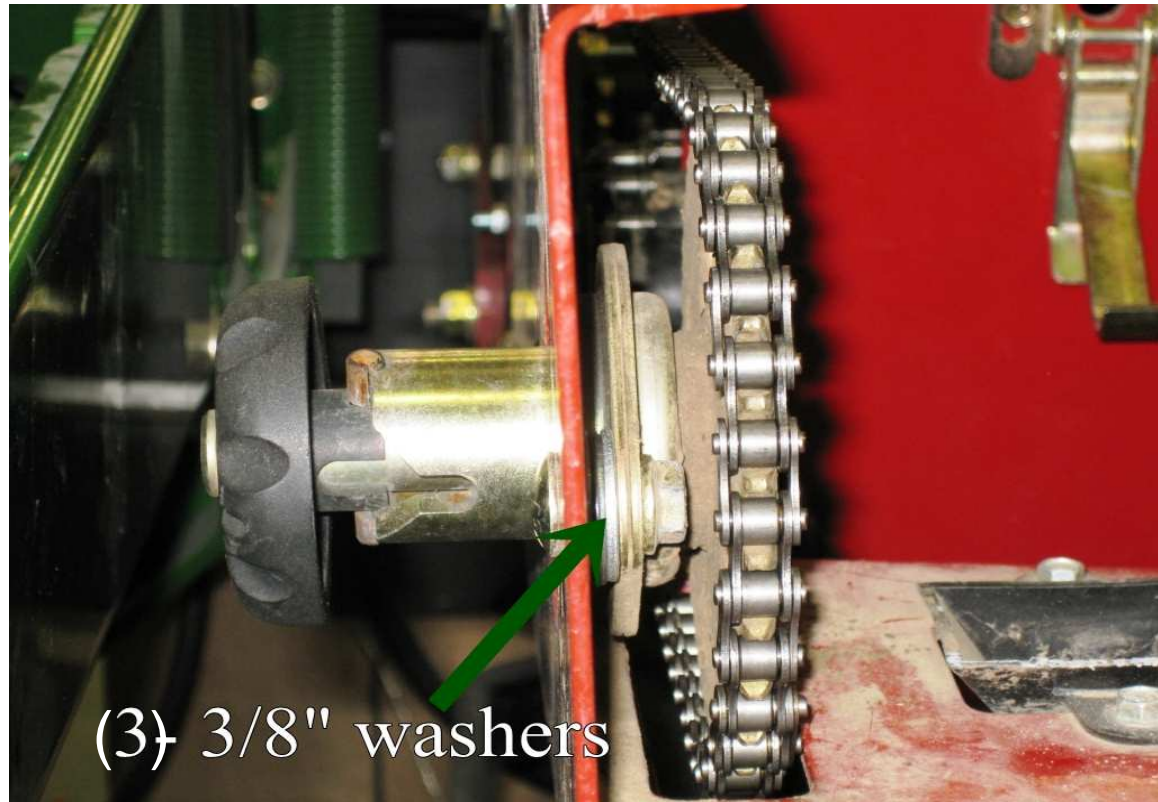
Case 1200 gran. chem box



Install spacer washers



Case 1200 gran. chem box



(3) 3/8" washers

- Install washers as shown to align granular chemical drive sprocket
- OEM bolts may need to be replaced with 1/4" – 1/2" longer carriage bolts
- Bolts and Washers are not supplied in Kits

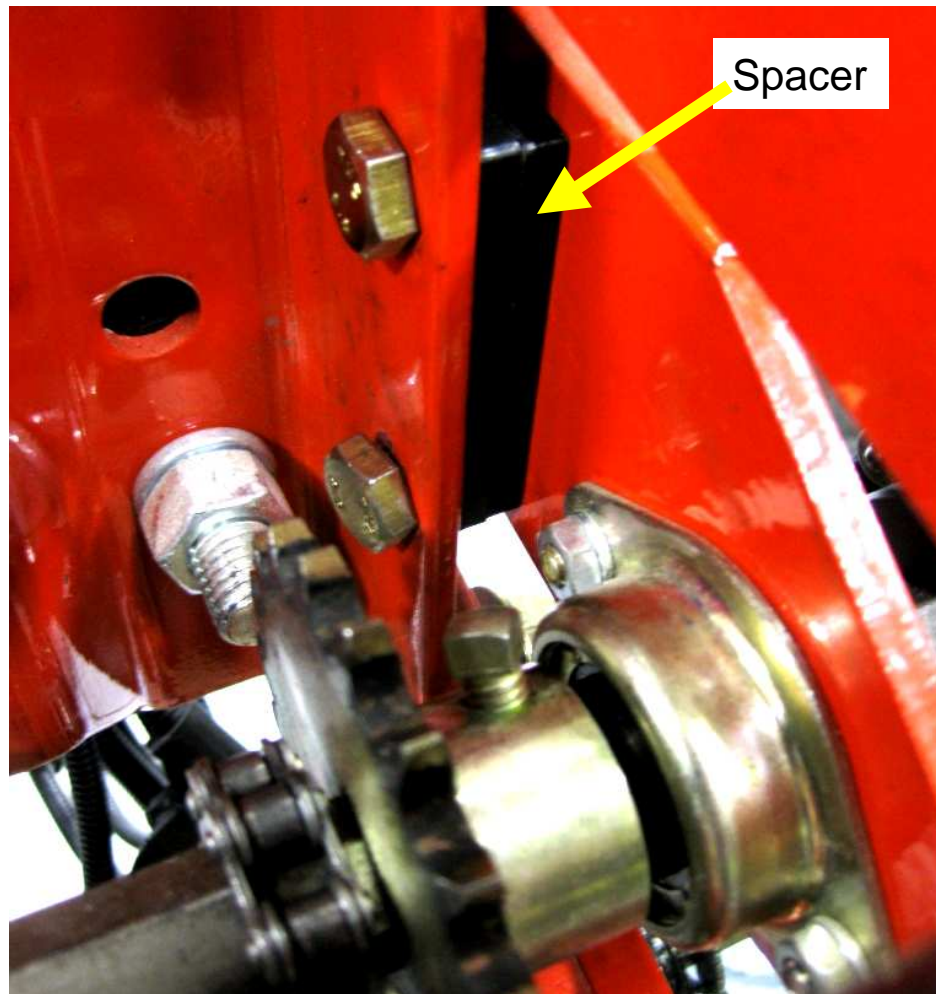


White bearing hanger difference

- Ag Leader installation instructions show a different bearing hanger and drive sprocket than some late model White 8000 series planters
- Bearing hanger can be spaced to outside of row unit frame using one (1) bearing hanger spacer



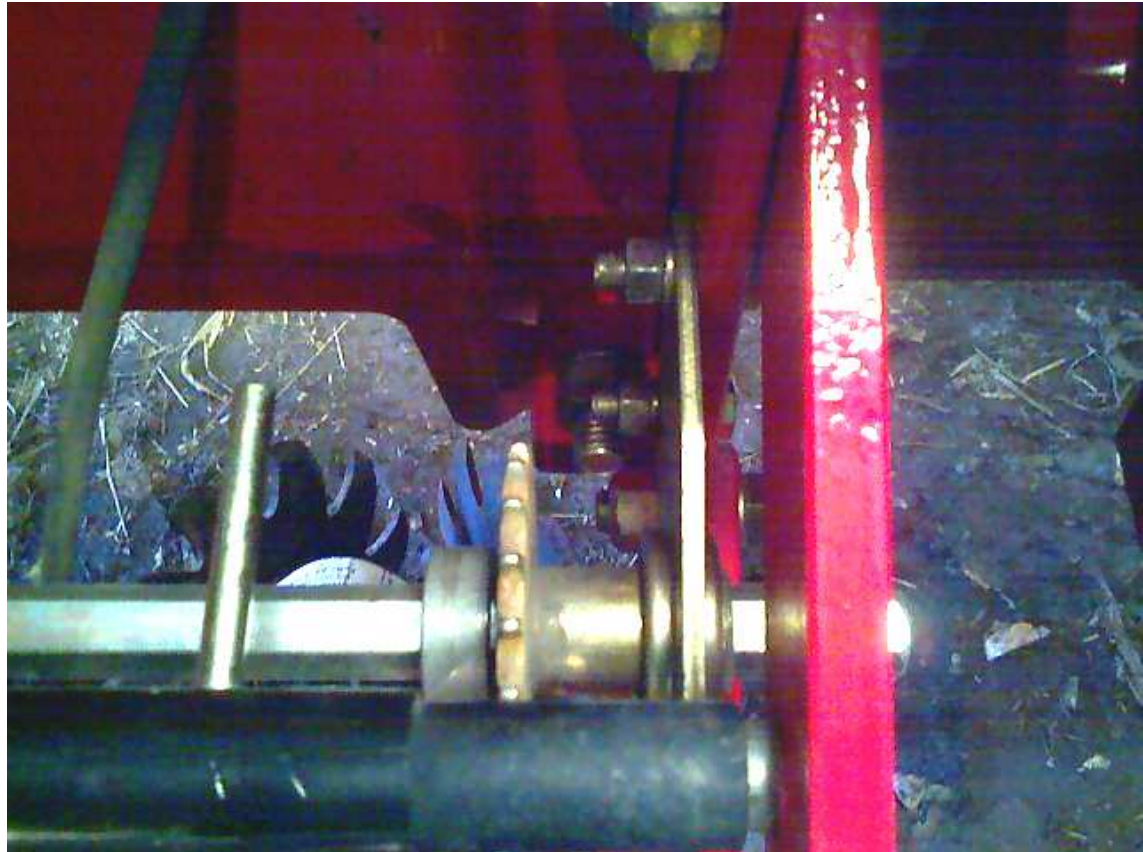
White bearing hanger difference Old Style Bearing Hanger



- Bearing hanger and drive sprocket shown in Ag Leader installation instructions



White bearing hanger difference Newer Style Bearing



- Newer style bearing hanger/sprocket assembly
- The assembly can be installed on the **outside** of row unit frame using one (1) bearing hanger spacer to align input chain

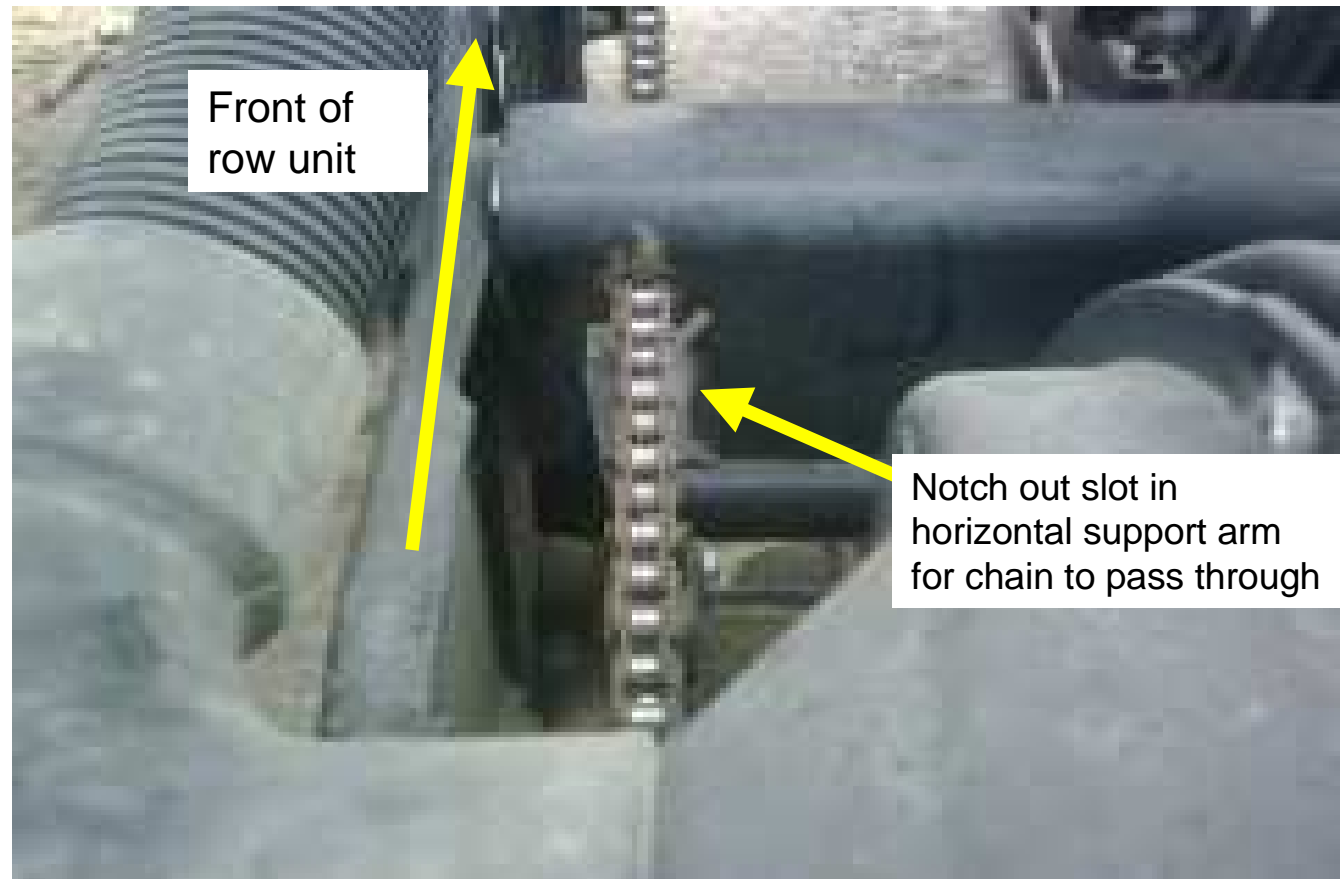


Kinze 3660 chain slot

- After drive sprocket has been spaced over, Ag Leader input chain may rub against horizontal support arm inside of row unit frame
- On Kinze 3660 planters, the slot in the horizontal support arm for the input chain may need to be cut out



Kinze 3660 chain slot



Front of
row unit

Notch out slot in
horizontal support arm
for chain to pass through

- Kinze 3660 EdgeVac planter
- The slot in the horizontal support arm is not wide enough for our chain to pass through after the drive sprocket has been spaced over