



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.



Install the Right Splined Castor Spindle

1. Raise the rotor all the way.
 - Fully extend the height cylinder to raise the rotor.



Raise the Rotor all the Way

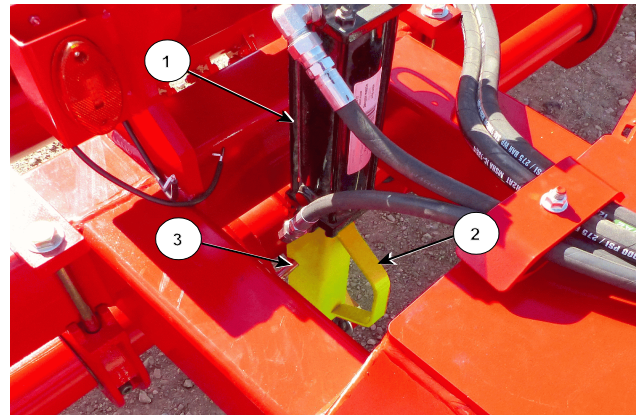
2200243-2

Installation of the Rock Rake 4300 Updates

2. Install the transport lock on the height cylinder.
 - Install the cylinder lock (2) over the cylinder rod.
 - Fasten in place with the lock pin (3).
3. Extend the hitch cylinder to move the machine into the transport position.

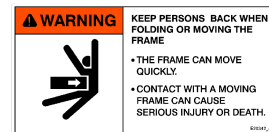


Keep persons back when moving the towing arm. The towing arm can move quickly. Contact with a moving tow arm can cause serious injury or death.



Raise the Rotor and Lock in Place

220171C



Machine In Transport Position

220239-2

4. Lower the hitch transport lock (1) over the hitch arm.
 - Ensure the hitch lock (1) is engaged over the hitch before transporting.
 - Fasten the hitch transport lock with the pin (2).



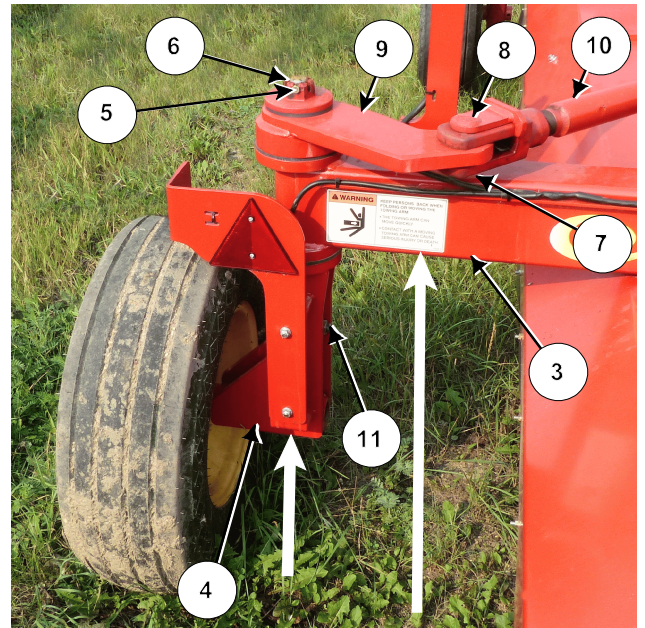
Lower the Hitch Transport Lock

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Install the rotor and transport lock when servicing the Rock Rake. Serious injury could result if locks are not installed.

5. Support the rear castor beam (3).
6. Remove the rear wheel.
7. Remove hub/spindle from the housing (4) by removing the bolt.
 - Keep the bolt and nut for re-use.
 - Keep the hub/spindle for re-use.
8. Support the castor spindle housing (4) to keep it vertical and up against the castor beam (3).
 - Have a person help to support the housing (4).
 - If the castor housing is kept vertical then the spindle can be replaced without having to remove the internal bushings and the lower wear plate.
9. Remove the cotter pin (7) from the anti-turn pin (8).
 - Keep the cotter pin for re-use.
10. Remove the anti-turn pin (9) from the turnbuckle clevis.
 - Keep the pin for re-use.
11. Remove the turnbuckle (10) from the axle pivot plate (9).
12. Remove the bolt (5) from the castle nut at the top of the spindle.
 - Keep the bolt and nut for re-use.
13. Remove the top cap (6) with the castle nut.
 - Keep the top cap for re-use.
14. Remove the nylon bushing that was under the top cap.
 - Keep the nylon bushing for re-use.

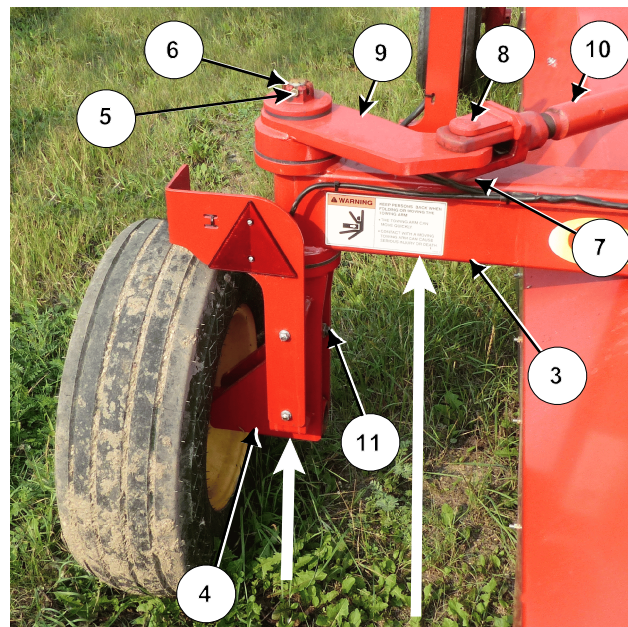


Replacing the Castor Spindle

223253C

15. Remove the axle pivot plate (9).
 - Discard the axle pivot plate.
16. Remove the top UHMW wear plate from the spindle.
 - Discard the top UHMW wear plate.
17. Remove the lower spindle fasteners (11).
 - Keep the fasteners for re-use.
18. Lift the spindle out of the castor beam.
 - Lift slowly to keep the lower spindle housing in place.

Note: If the top MRP bushing comes out of the spindle housing on the beam, place the bushing back into the beam.

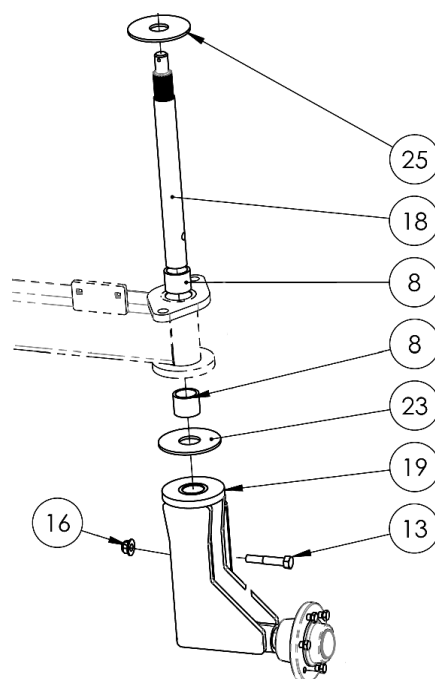


Replacing the Castor Spindle

223253C

Note: If the lower spindle housing does not stay in place, refer to the exploded view diagram (shown below) to reassemble the bushings and lower UHMW wear plate.

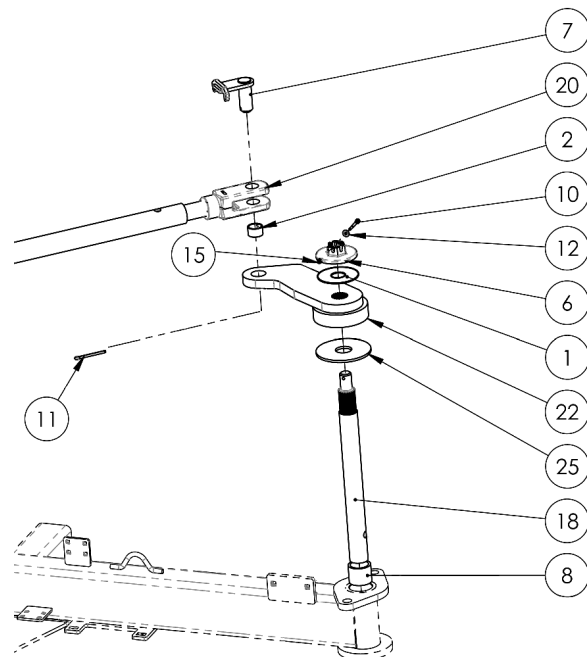
8	BUSHING,MRP,2.485X2.0X2.0
13	BOLT,HEX,3/4X4,UNC,GR5,ZP
16	NUT,FLG,LOCK,3/4,UNC,GR5,ZP
18	SHAFT,CASTOR,PIVOT,SPLINED
19	AXLE,PIVOT
23	PLATE,WEAR,CASTOR,UHMW
25	PLATE,WEAR,CASTOR,UHMW



Spindle Housing Assembly

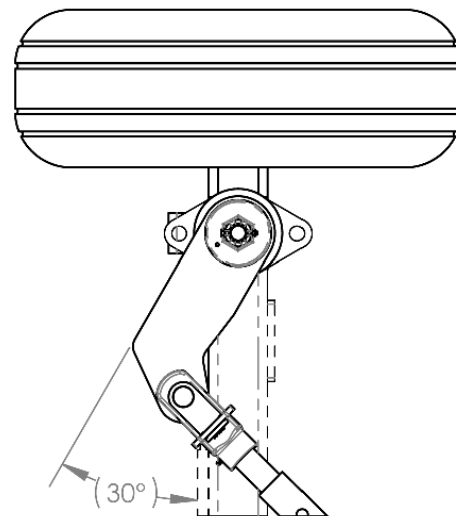
47568_A

19. Insert the new splined spindle (18) into the rear castor beam (3).
 - Place the spindle into the upper and lower MRP bushings (8), through the lower UHMW (23) and into the spindle housing.
 - Align the spindle so the lower 3/4" x 4" bolt (that was removed earlier) can be inserted through the housing and through the spindle.
 - Fasten the bolt with a 3/4" flange locknut.
 - Torque to 290 lbft.
20. Place the new UHMW (1-13/16" inside diameter x 6" outside diameter) plate (25) onto the splined spindle.
21. Place the new splined pivot plate (22) onto the spindle.
 - With the castor housing parallel the castor beam, position the pivot plate at 30 degrees from the castor beam pointing toward the back of the machine.
 - Finer adjustment of the pivot plate will be made later.
22. Place the wear plate (1) (removed earlier) onto the top of the pivot plate.
23. Place the castle nut top cap (15) (removed earlier) onto the spindle.
 - Tighten the castle nut until it can't turn any more, then turn back one hole position.
 - The pivot plate should still be able to turn by hand.
 - If the pivot plate cannot be turned by hand then continue backing off the castle nut until it can be turned by hand.



Spindle Replacement

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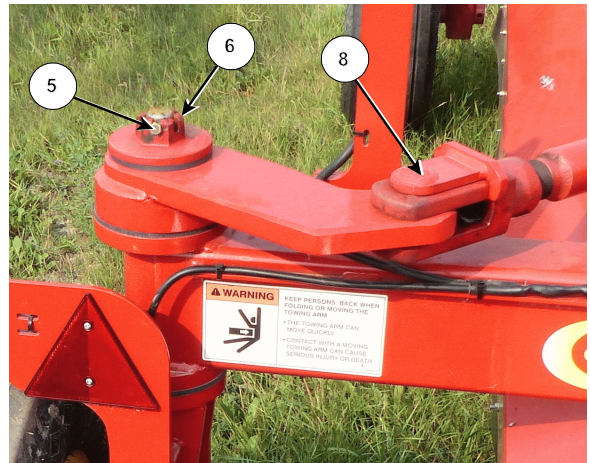


Position the Pivot Plate
(Wheel Shown Installed for Clarity Only)

47568_A2

Installation of the Rock Rake 4300 Updates

24. Place the bolt (5) (removed earlier) into the slot of the castle nut (6).
25. Place the hardened bushing (2) (1-5/8" x 1.385" x 1") into the pivot plate.
26. Place the clevis of the turnbuckle rod onto the pivot plate.
27. Insert the anti-turn pin (8) (removed earlier) into the turnbuckle and pivot pin.
28. Insert the cotter pin (removed earlier) into the anti-turn pin (8).
29. Check the alignment of the castor housing.
 - Ensure the hitch is still locked in the transport position.
 - Check if the castor beam and the castor housing are parallel by placing a straight edge (9) along the side of the castor beam and the castor housing.
- If the castor needs adjusting:
 - Loosen the turnbuckle jamnut (1) using the special wrench mounted on the machine.
 - Turn the turnbuckle (2) to adjust until the beam and housing are parallel.
 - Lock in place with the jamnut (1) on the turnbuckle.
30. Place the hub/spindle into the castor housing.
 - Fasten with the 1/2" x 3-1/2" hex bolt and nut removed earlier.
 - Torque to 85 lbft.
31. Place the wheel onto the hub and fasten with the hub bolts.
 - Torque to 135 lbft.



Turnbuckle Clevis and Anti-turn Pin

223253-2C



Check Alignment with a Straight Edge

223255C



Adjusting the Castor Alignment

223254C

Install the Motor Connection Guard

Note: The recommend process for drilling the holes for the guard (shown below) are listed as the following steps.

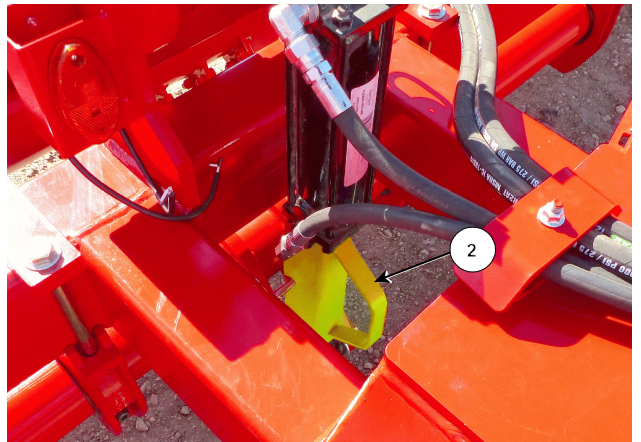
- If able to access another way to drill the holes then that is acceptable as long as proper drill hole dimensions can be achieved.
1. Remove the upper shield
 - Removing the fasteners (3) holding the shield to the castor beam.
 - Remove the fasteners from both sides of the beam.
 2. Remove the fasteners from the brace holding the overlap of the shields.
 - Keep all these fasteners for reuse.
 3. Remove the shield.
 - Keep for reuse.
 4. Remove the rotor transport lock (2) from the rotor and lower the rotor to the ground position.



Remove the Rubber Guard Covering the Motor 223256C



Remove the Fasteners from the Overlap of the Front and Rear Shields 223267C



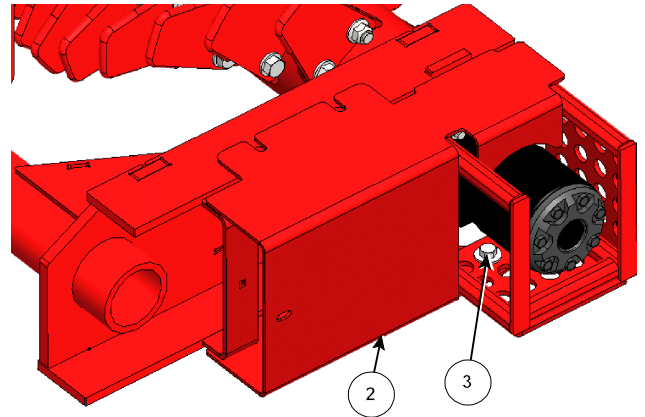
Remove Rotor Transport Lock.
Lower Rotor to the Ground

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Installation of the Rock Rake 4300 Updates

- Place the motor connection guard (2) in place as shown in the diagram.

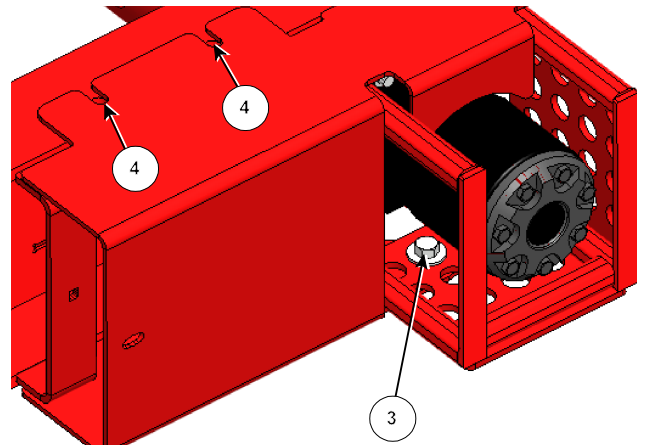
- Align the lower tab of the new guard over the hole (3) in the lower part of the motor housing.
- The tab should be under the second hole from the hydraulic connections side on the back row.
- Do not fasten the guard in place at this time.



Motor Connection Guard

223257C

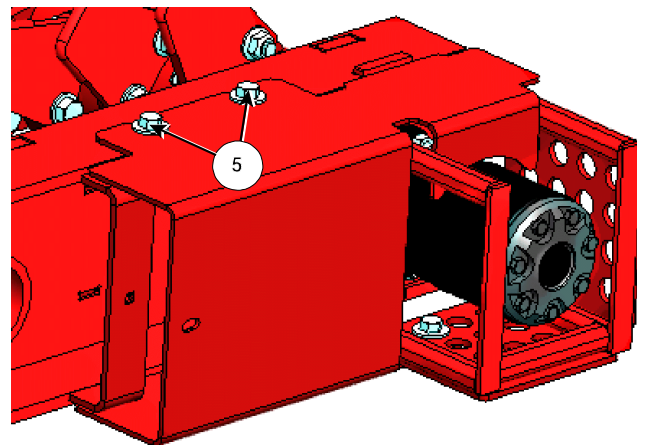
- Use the upper slots of the guard (4) to mark locations for two holes to be drilled into the frame piece of the motor mount.
- Remove the guard and drill the 2 marked locations with a 9/16" drill bit through the top of the motor mount frame.



Mark 2 Locations to Drill Holes

223257-2C

- Attach the guard to the underside of the second hole from the hydraulic connections side on the back row with a 1/2" x 1-1/2" hex bolt, flatwasher and a flange locknut (3).
- Attach the top of the guard through the slots and the holes drilled with 2 of 1/2" x 1-1/2" hex bolts, flatwashers and flange locknuts (5).

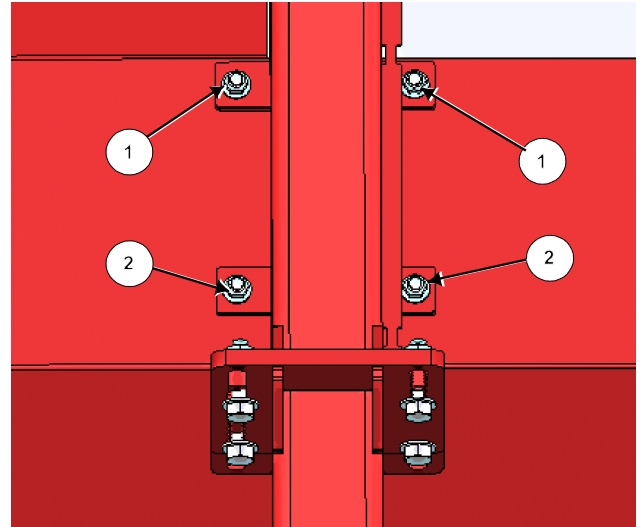


Attach the Motor Connections Guard

223270C

10. Replace the upper shield.

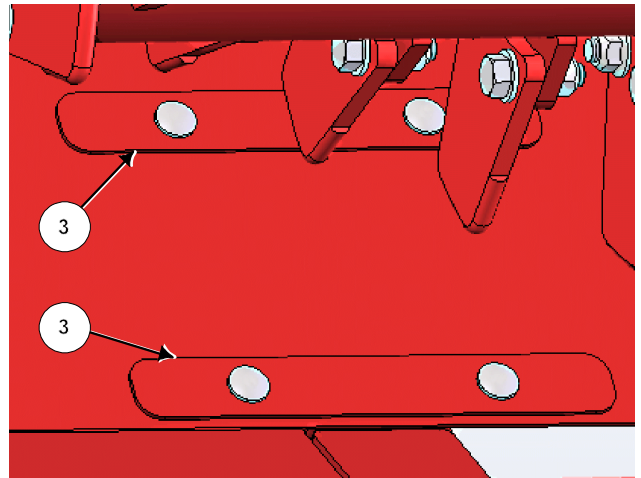
- When adding the fasteners for the shield to the castor beam, add the included stiffeners (3) to the underside of the shield at the upper holes.
- Attach the stiffeners (3) under the shield using the previously removed fasteners at the (1) and (2) position.



Add Stiffeners under the Shield at the Castor Beam

223261C

- Use the remaining fasteners removed earlier to attach the shield to the castor beam.



Attach the Stiffeners to the Underside of Shield

223262C

11. At the brace that holds the rear shield and the other shield, add stiffeners (3) under the fasteners that attach the shields to the brace (4).

- Use the remaining fasteners removed earlier to attach the shields together.

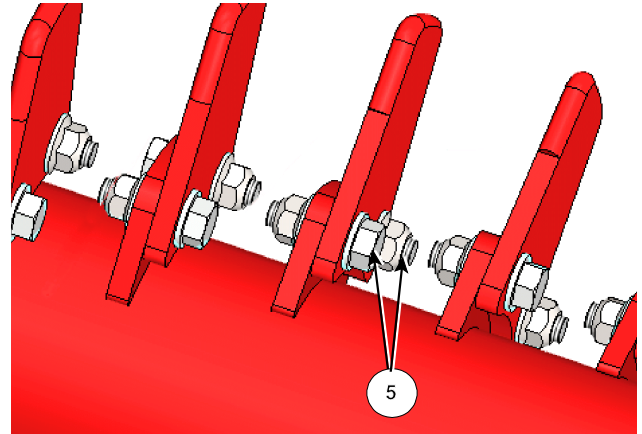


Add Stiffener under the Shield

223267-2C

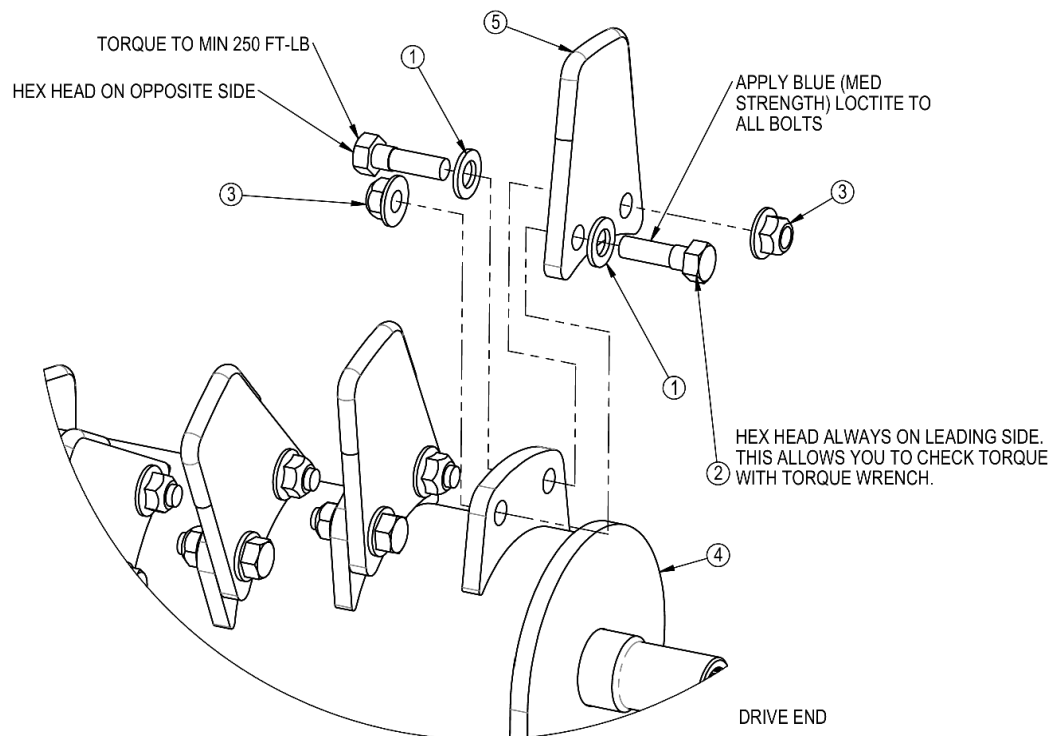
Replace All the Fasteners of the Rock Rake Teeth

1. Replace the fasteners on all the rotor teeth with the supplied 5/8" x 2" Grade 8 bolts (2), 5/8" hardened washer (1) and 5/8" flange locknut (3).
 - Begin replacing from the drive end of the rotor.
 - Install the fasteners according to the diagram below.
 - Place blue (medium strength) Loctite on all the new bolts.
 - Torque all the bolts to a minimum of 250 lbft.



Replace the Teeth Fasteners with Upgraded Fasteners

223258

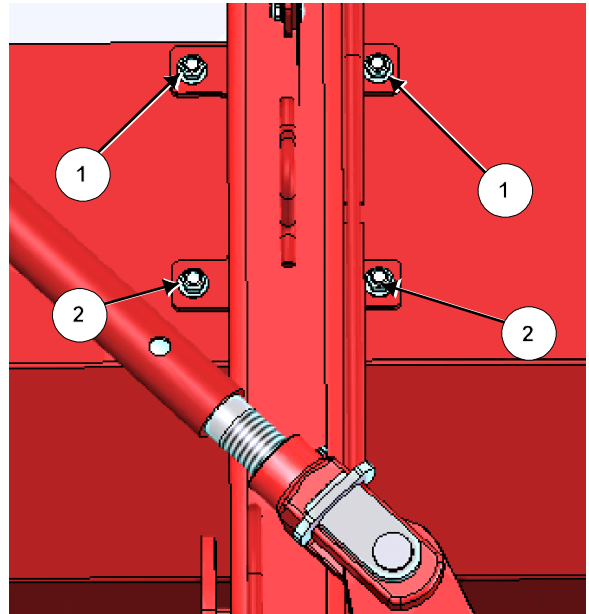


Replace all the Fasteners of the Teeth Rotors

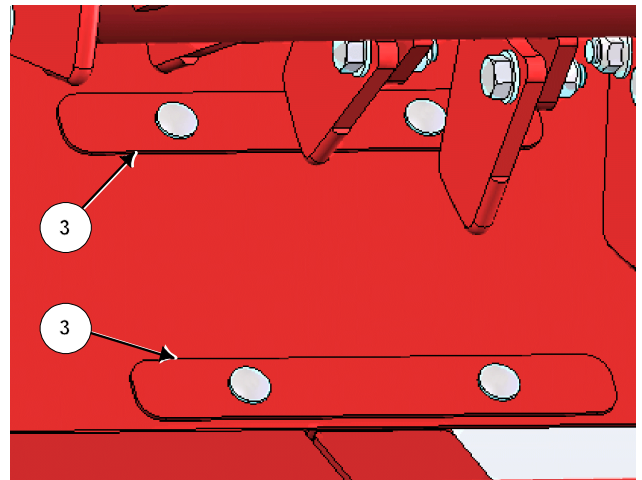
46029_C

Add Stiffeners to the Shield at the Rear Castor Beam

1. Remove the shield connection fasteners (1) and (2) at the rear castor beam
 - Remove 1 set of fasteners at a time to keep the shield attached to the castor beam.
 - Keep the fasteners for re-use.
2. Add stiffeners (3) to the underside of the shield at the connection to the castor beam.
 - Use the fasteners removed earlier.



Right Shield Connection to Castor Beam 223260C



Attach the Stiffeners to the Underside of Shield 223262C