

EA-04a: Repair McGuire Dock (Lift Roller)

SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- Place orange cones at the entrance to the dock to let drivers know that maintenance is being performed in the area.
- Notify the truck jockey that maintenance is being performed on the dock.
- It is very important to have the dock adequately supported when working under the dock plate. Place the safety post in the safety post cup to brace the plate and hoist as needed.
- If working in the evening or at night, a flashlight (or other light source) may be needed.
- Wear cotton gloves and a protective suit to protect skin and clothing from dirt and debris.

EQUIPMENT

- cable winch
- 3/4-inch combination wrench
- 3/4-inch socket wrench
- replacement parts
- Tyvek suit
- cotton gloves
- 15-inch adjustable crescent wrench
- hook and ring
- straps
- grease gun
- linear measuring device
- orange cones

RESOURCES

- McGuire Manual

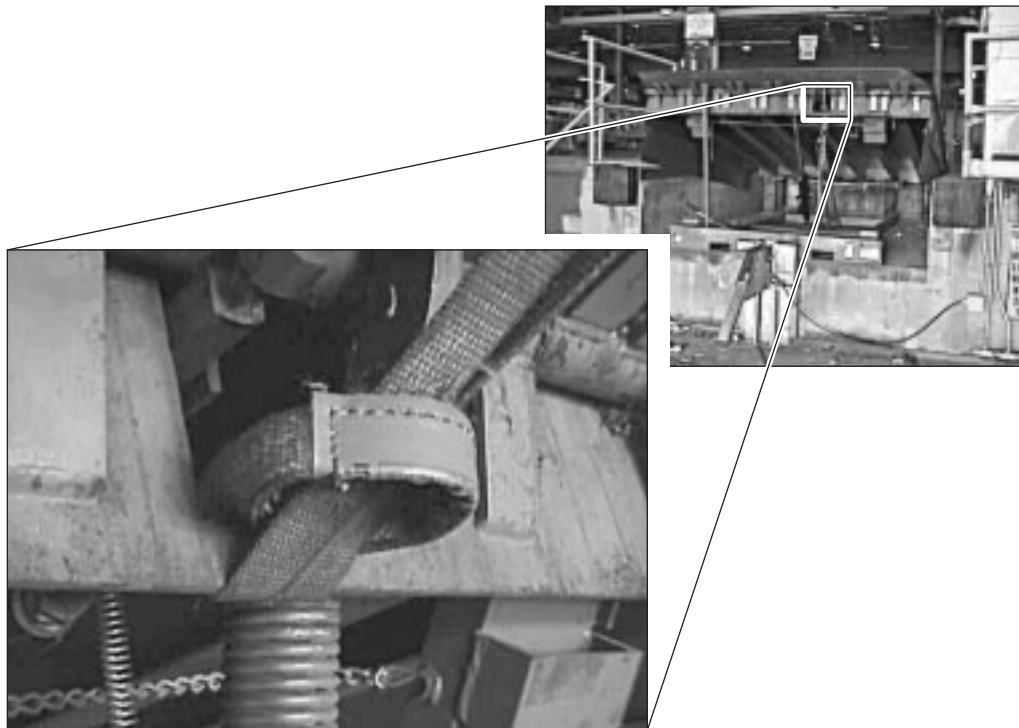


Repair McGuire Dock (Lift Roller)

Warning: You will be working underneath the dock plate when replacing the lift roller. Follow all recommended safe practices when using equipment associated with hoisting and securing the dock plate. Severe injury could result if safe practices are not observed.



1. Place the orange cones at the entrance to the dock area to warn drivers that the dock is not available for use.
2. Pull the release the chain to lift the dock up.
3. Place the safety post in the safety post cup.
4. Attach a strap to the cutout on the plate under the hinged lip. See the figure below.

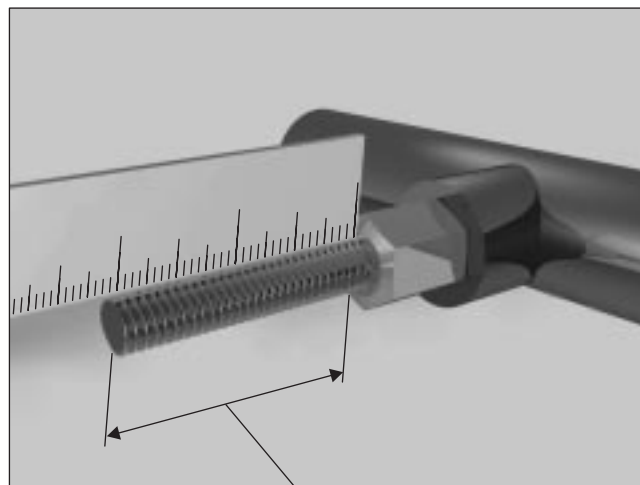


5. Connect a strap (or other lifting device) to the overhead hoist.

- Using the hand-control, position the overhead hoist hook over the dock plate and above the strap.
- Attach the strap to the hoist hook. See the figure below.

**6. Note the current adjustment of the adjusting nut.**

- Using a measuring device, note the distance from the adjusting nut to the end of the threaded rod. You will need this information to restore the spring tension to its original adjustment. See the figure below.



Measure Distance from
Adjustment Nut to End of Bolt

- Using a 15-inch adjustable crescent wrench, back the adjusting nuts off approximately three inches. This relieves some of the tension on the main extension springs.

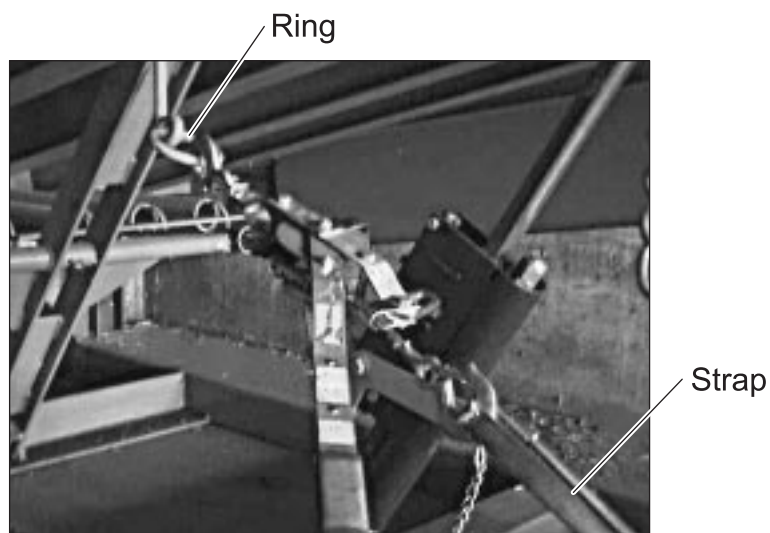
Note: Do not let the safety post fall when the dock plate is hoisted up. Remove the safety post from the cup before hoisting the dock plate.

7. Remove a small amount of tension from the main extension springs.

- Attach the hook and ring to the cam roller arm.
- Attach a strap to the cutout on the front of the base frame. See the figure below.



- Connect the cable winch between the hook and ring and the strap. See the figure below.

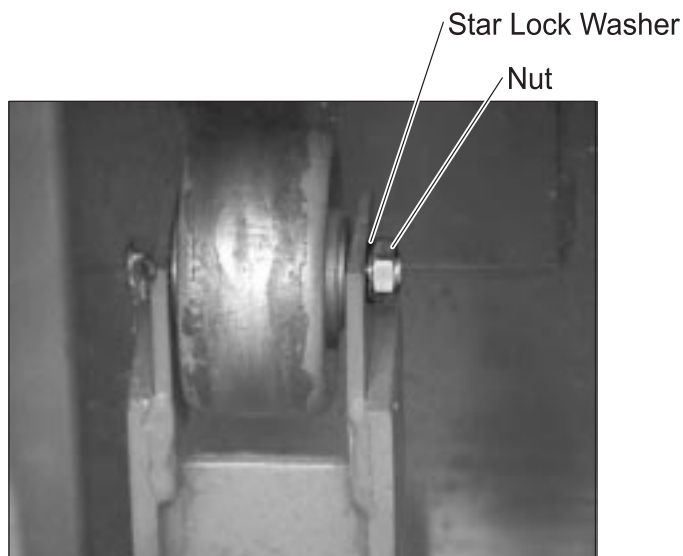


- Tighten the cable winch until the lift roller pulls down from the dock plate.

Note: If the roller does not pull down from the plate after tightening, raise the hoist until there is no weight on the lift roller.

8. Remove the lift roller.

- Using a 3/4-inch socket wrench and a 3/4-inch combination wrench, remove the nut securing the roller in place.
- Slide the star lock washer off the bolt and remove the bolt (roller shaft). See the figure below.



- Remove the lift roller.

9. Obtain the specified replacement part.

- Refer to the McGuire Manual in the C-Maintenance Shop, as needed.

10. Install the new lift roller.

- Position the lift roller/sleeve assembly in the arm.
- Lubricate the lift roller sleeve using a grease gun.
- Insert the bolt (roller shaft) through the assembly.
- Install the star lock washer and nut.
- Using a 3/4-inch wrench and 3/4-inch socket, tighten the nut wrench-tight.

- Spin the roller to ensure that it is turning freely, without binding. Checking helps to ensure smooth operation.

11. Remove the tension from the cam arm.

- Remove the cable winch, hook and ring, and the strap.

12. Restore the spring tension to the main extension springs.

- Adjust the nuts (on the threaded rods) for the distance noted earlier during lift roller removal.

13. Disconnect the hoist from the dock plate.

- Lower the hoist until the dock plate rests on the lift roller.
- Disconnect the strap from the hoist hook.
- Remove the strap from the dock plate frame.

14. Remove all tools from the work area and clean up the area.

15. Lower the dock plate to the dock level.

- Walk the dock down.

16. Clean up the work area.

17. Remove the cones at the entrance to the dock.

18. Document the work performed.

