

EG-07b: Replace Components (Retrieval Crane - Speed Sensor Box)

SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- The crane must be powered down during the speed sensor box changeout.
- A ladder will be used to reach the sensor box. Be careful when stepping on and off the ladder.
- The area around the chain and pulleys is dimly lit. Use a flashlight as needed.
- A tripping hazard exists when moving around the rails in the aisle area.

EQUIPMENT

- flashlight
- clean shop towels
- support blocks
- replacement parts
- 3/16-inch Allen wrench
- pliers
- 3/8-inch T-handle Allen wrench

RESOURCES

- parts book



Replace Components (Retrieval Crane - Speed Sensor Box)

1. Install the support blocks.

- Raise the elevator approximately two feet above the base.
- Position the support blocks under the elevator, as shown below.



Support Blocks

- Lower the elevator until it rests on the support blocks.
- ### 2. Press the Safety Stop and E-Stop to power down the crane.

3. Remove the chain.

- Using a 3/16-inch Allen wrench, remove the two sets of chain guides. See the figure below.

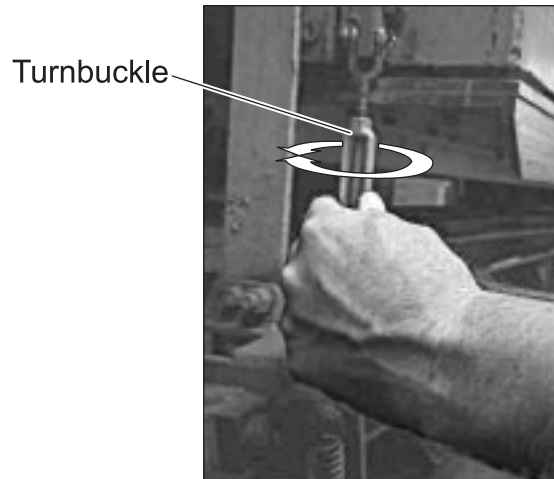


Chain Guides



- Loosen the turnbuckle to detach the chain.

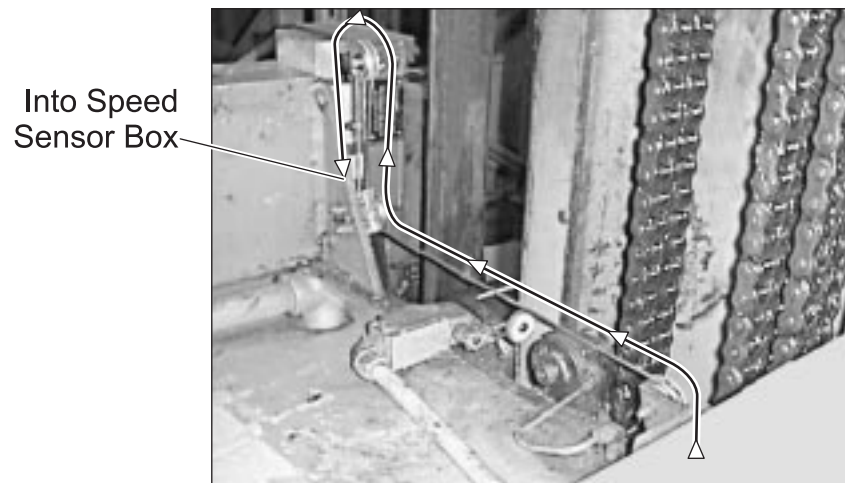
Note: Be careful when you remove the chain from the turnbuckle. Do not twist the chain. Carefully set the chain to the side without twisting it. See the figure below.



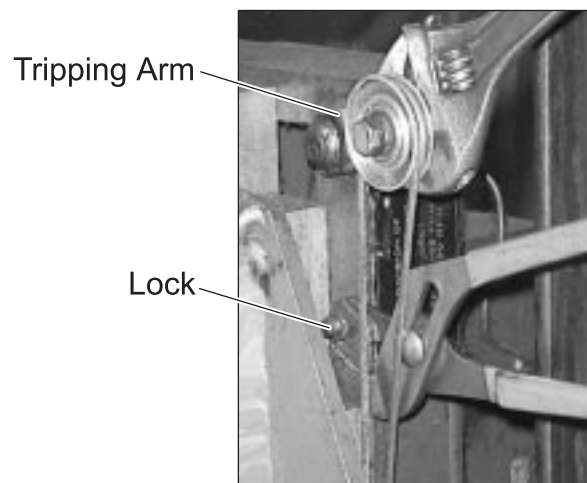
Turnbuckle

4. Remove the brake cable.

- The brake cable is disconnected at the top of the elevator, at the speed sensor box. Note how the cable is threaded over the pulleys (for reinstallation). See the figure below.

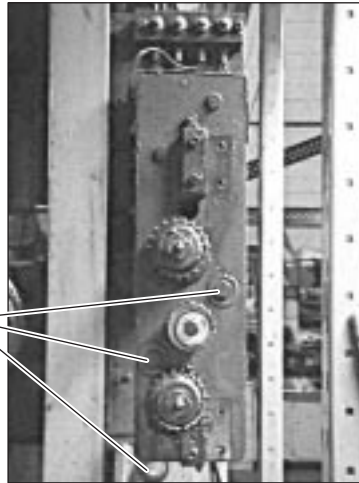


- Place a wrench on the tripping arm and pliers on the lock, as shown below.



- While holding tension on the tripping arm, push down on the pliers. You will feel the lock release.
- Unthread the cable from around the pulleys.
- Return to the floor to access the speed sensor box mounting bolts.

- Using the 3/8-inch T-handle Allen wrench, remove the three mounting bolts, as shown below.



Mounting Bolts

5. Install the new speed sensor box.

- Using the 3/8-inch T-handle Allen wrench, install the mounting bolts wrench-tight.
- Go to the top of the sensor box and reinstall the cable over the pulleys.
- Cock the lock.
- Reinstall the chain over the pulleys, and reinstall the two sets of chain guides.
- Connect the chain to the turnbuckle.
- Tension the chain. When tensioned, the chain above the box must not touch the frame or box when wiggled side to side.

6. Remove the supporting blocks.

- Release the Safety Stop and E-Stop to power up the crane.
- Raise the crane approximately two feet.
- Remove the blocks.

7. Clean up the work area.

8. Document the work history.