

CC-03: Replace Gear Box

SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- The motor for the gear box must be locked and tagged at the disconnect before removal.
- Lifting devices may be required when moving the gear box and /or motor. Use safe, recommended techniques when operating lifting devices.

EQUIPMENT

- 9/16-inch wrench
- 3/4-inch wrench
- 1/4-inch Allen wrench
- 15/16-inch wrench
- gear puller
- straightedge
- gloves
- replacement parts
- lift truck (if gear box is heavy)

Note: Hand tools may vary in size due to the size of the gear box.

RESOURCES

- none required



Replace Gear Box

Gear Box Removal:

1. **Check to ensure a new gear box is available.**

- Look at the dataplate and note the model number of the gear box. See the figure below.

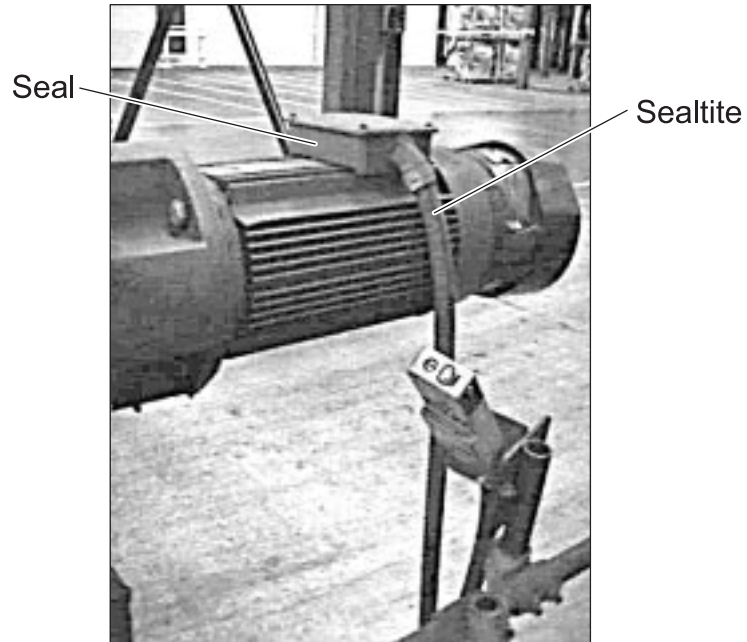


- Check with the crib to ensure that a replacement unit is available.

2. **Lock out and tag the gear box motor at the disconnect. See the figure below.**



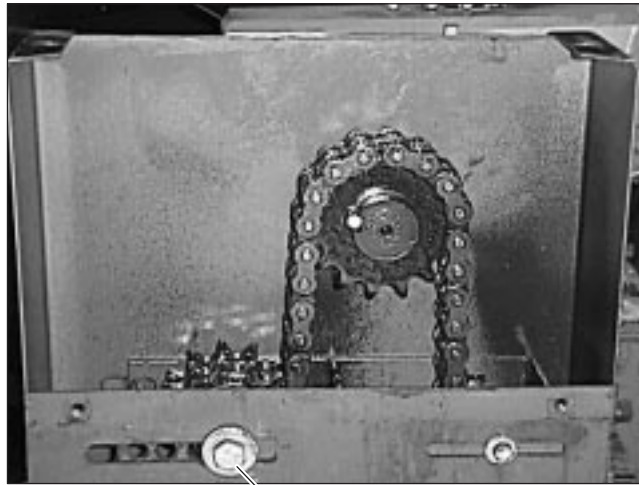
- 3. An Electrician may have to remove the sealite from the motor, if necessary. See the figure below.**



- 4. Using a 3/4-inch wrench, remove the mounting bolts connecting the gear box to the motor. See the figure below.**

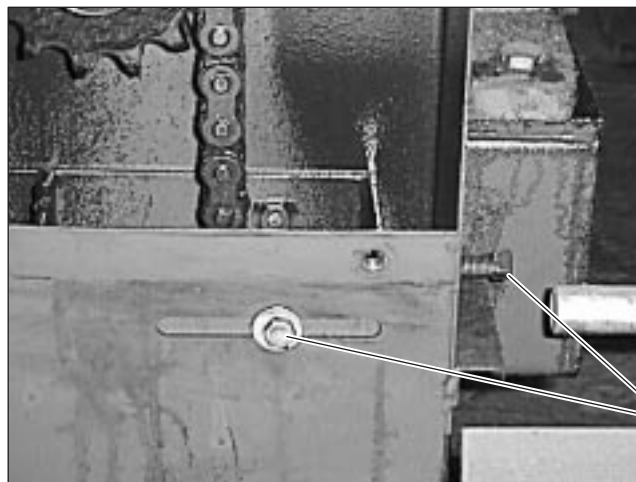


5. **Slide the motor off the gear box shaft and set aside.**
6. **Using a 9/16-inch wrench, remove the four bolts securing the gear box guard.**
7. **Loosen the takeup assembly.**
 - Using a 15/16-inch wrench, loosen the takeup sprocket bolt. See the figure below.



Take Up Sprocket Bolt

- Using a 9/16-inch wrench, loosen the two bolts securing the takeup slide assembly in position. See the figure below.



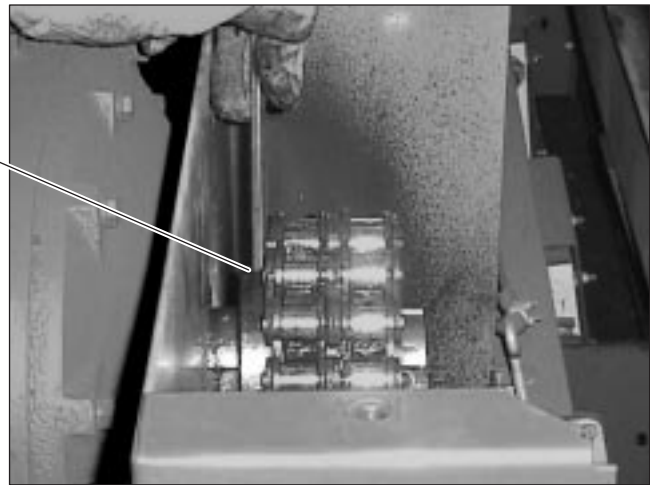
Take Up Assembly Positioning Bolts

- Loosen the 1/2"-13 square head bolt to back off the takeup sprocket.

Note: Disconnect the master link to permit chain removal and access to the gear assembly.

8. Remove the sprocket and key.

- Using a 1/4- inch Allen wrench, remove the two setscrews. See the figure below.



Sprocket Set Screw

- Slide the sprocket off the shaft using a gear puller, if necessary.

9. Remove the gear box.

- Using a 15/16-inch wrench, remove the four bolts connecting the gear box to the base.
- Lift the gear box off the base and set aside. Ask for assistance, as necessary. Depending on the size of the gear box, a lift truck may be required.

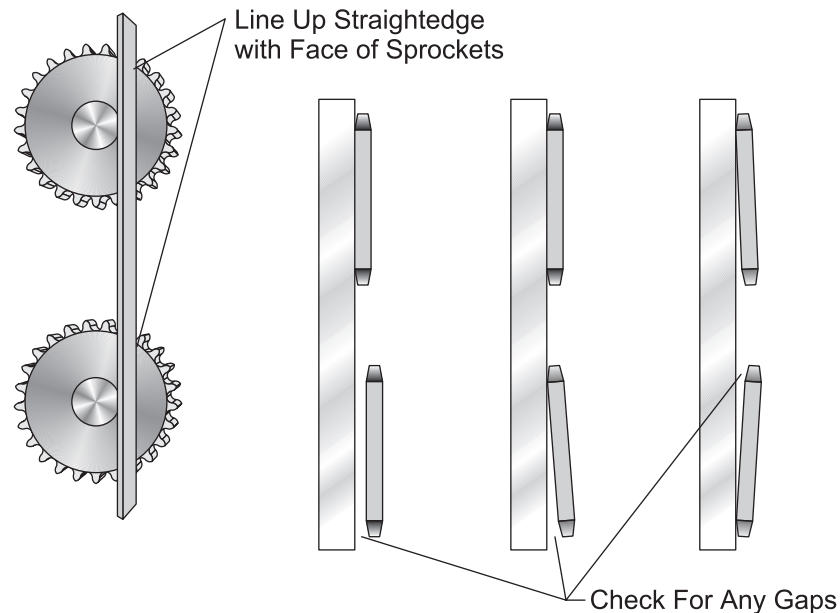
Gear Box Installation:

1. Install the replacement unit.

- Lift the gear box into position, and align the gear box mounting holes with the base.
- Install the four bolts.

2. Install the sprocket and key.

- Place a straightedge across the faces of two sprockets and align the drive sprocket to the driven sprocket, as shown below.



- Slide the drive sprocket in or out until no gap is visible between the straightedge and the gear face. Sprocket faces must be aligned.
- Using an Allen wrench, install the setscrews and tighten wrench-tight.

3. Install the chain.

- Lift the chain over the drive sprocket. If the chain was disconnected at the master link, reconnect the chain.

4. Adjust the chain tension.

- Turn the square head 1/2"-13 bolt to slide the sprocket against the chain.
- Tension the chain until the deflection measures 1/4 to 1/2 inch.
- Tighten bolts wrench-tight.

5. Check to ensure that all fasteners are wrench-tight.**6. Install the guard cover.**

- Using a 9/16-inch wrench, install the four bolts wrench-tight.



7. **Install the motor.**
 - Lift the motor into position and install two long bolts to temporarily support the motor. Once supported, slide the motor up to the motor coupling.
 - Remove the two long bolts and install the four motor mounting bolts.
 - Tighten bolts wrench-tight.
8. **Reconnect electrical wiring and sealite.**
9. **Check the oil level.**
 - Remove the plug at the fill level line. If oil seeps out, the oil level is adequate. If not, add oil until oil runs out of the plug hole.
 - Reinstall the oil level plug.
10. **Remove the lock and tag.**
11. **Power up the motor to check for proper rotation of the motor (if the wiring was disconnected).**
12. **Check operation.**
 - Gear box components must operate without any excessive noise, such as cracking, popping, or grinding.
13. **Clean up the work area.**
14. **Document the work history.**