

EA-02: Rebuild Dock

SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- The stock used in the repairs can be heavy, so practice correct lifting techniques.
- A heat hazard occurs when the welded areas are cut.
- Wear safety glasses to protect your eyes while operating a grinder.
- Wear hearing protection if arc air is used.

EQUIPMENT

- gloves
- Maintenance Mechanic hand tools
- torch, welder, welding equipment (arc air)
- round stock
- hinge stock
- support beam stock
- angle stock
- grinder

RESOURCES

- none

Rebuild Dock

Note: This task consists of three parts:

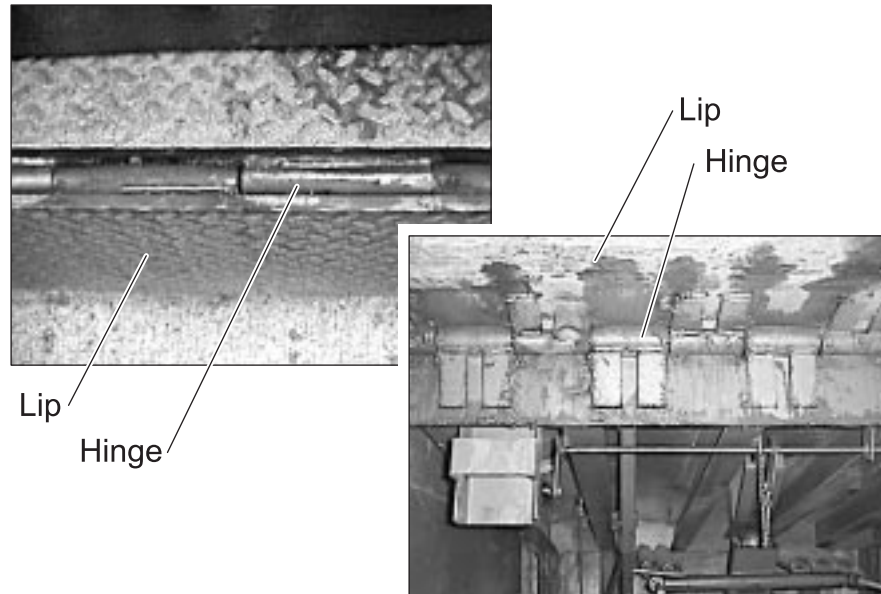
Part 1: Hinge Replacement

Part 2: Repair/Replace Support Beams

Part 3: Correct a Bow

Part 1: Hinge Replacement

1. Remove the hinge on the lip.



- Turn the dock over so that the supports are pointing up.
- Measure the hinge pieces and record the results.
- Using a torch arc air, cut off all the hinges from both the lip and the dock plate.
- Clean and grind the weld area on both the lip and the dock plate.

2. Install the hinge on the lip.

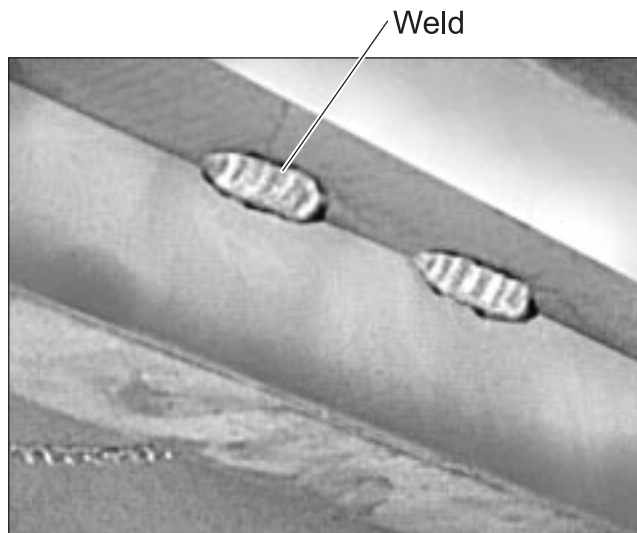
- Cut each hinge piece from round stock to the exact measurements taken earlier.
- Slide the hinge pieces over the hinge-holding bar to form a hinge assembly.
- Position the hinge assembly at the dock plate in the same place as the original hinge.
- Weld every other hinge piece to the dock plate.
- Position the lip to the hinge in the same place as the original hinge.
- Weld the free hinge pieces to the lip.
- Remove the hinge-holding bar and install a new hinge bar.

3. **Clean your work area.**
4. **Document the work history.**

Part 2: Repair/Replace Support Beams

Note: There may be areas that have cracks which require welding. Some areas may require angle support. Other areas may require the replacement of support beams.

1. **Repair the weld between support beams and the dock plate.**



- Turn the dock over so that the supports are pointing up.
 - Identify what areas require repair.
 - Clean and grind the area for welding.
 - Weld the support beam to the dock plate.
2. **Clean your work area.**
 3. **Document the work history.**

4. Install angle to the support beam and the dock plate.

- Identify the support beam that requires angle support.
- Determine the length of angle needed.
- Cut the angle to length.
- Clean and grind the areas for welding.
- Place the angle along side the support beam.
- Weld the angle to the support beam and the dock plate.
- Clean your work area.
- Document the work history.

5. Replace the defective section of support beam.

- Identify the support beam section that requires replacement.
- Determine the length of support beam needed.
- Cut the replacement support beam to length.
- Cut the support beam from the dock plate.
- Clean and grind the weld areas on the dock plate and attaching support beams.
- Position the replacement beam and weld it to the dock plate and attaching beams.
- Clean your work area.
- Document the work history.

Part 3: Correct Bows**1. Correct a bowed area in the dock plate.**

- Turn the dock over so that the supports are pointing up.
- Place the dock plate in a press.
- Press the bow out of the dock plate.
- Clean your work area.
- Document the work history.

2. Correct a bowed area in the front plate.

- Heat the area with a torch.
- Straighten the heated area with a heavy hammer.
- Weld, if necessary, any area that happens to break loose.
- Clean your work area.
- Document the work history.

