Tech Tips

Service Call:
Rotation Bearing Deflection Test

Tools Required:
(1) Dial Indicator with Magnetic Base
(2) Tape Measure
(3) Maintenance Manual for the Unit Being Tested
(4) Additional outrigger pads as needed

Model(s):
All: Telelect / Simon-Telelect / Terex Utilities manufactured Digger Derricks
Tech Tip Safety Rules

Danger
Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury. Many of the hazards identified in the operator’s manual are also safety hazards when maintenance and repair procedures are performed.

Do Not Perform Maintenance Unless:
- You are trained and qualified to perform maintenance on this machine.
- You read, understand and obey:
  - manufacturer’s instructions and safety rules
  - employer’s safety rules and worksite regulations
  - applicable governmental regulations
- You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this tech tip is a supplement to the service manual. Consult the appropriate service manual of your machine for safety rules and hazards.
Step 1
Read this entire procedure and the section in the maintenance manual that applies to this procedure before starting the work.

Step 2
Position the truck in a suitable location. Check for overhead obstructions. Set the outriggers.

Step 3
Check for obstructions before rotating boom. Position the boom where it is used most frequently during operation. This is usually to the curbside of the truck or 45 degrees forward or backwards of this position.
Step 4
Extend the second (or stinger) section of the boom. If the second doesn’t reach the ground, then lower the auger and place an outrigger pad at the position the auger will contact the ground.

If the unit isn’t equipped with an auger, stack an adequate number of outrigger pads to allow the sheave head to make contact with the outrigger pads.

Do not contact the outrigger pads at this point.

Step 5
Check for obstructions. Boom down slowly and stop just above the outrigger pads.
**Step 6**
Attach the dial indicator base to the pedestal, positioning the tip perpendicular to the edge of the turntable bottom plate and at the specified indicator radius.

**Note:** Consult the table at the end of this document for the dial indicator radius for your specific unit.

**Note:** Make sure you know which way the dial indicator rotates when it moves to record the correct reading.
Step 7
Zero out the dial indicator. Verify that you have at least .25 inches of movement on the dial indicator in both directions when zeroing.

Step 8
Slowly and carefully lower the sheave head or auger onto the outrigger pad. Referencing the hydraulic pressure gauge, boom down until the gauge reads between 1,600 to 1,800 PSI.

Step 9
Read the number on the dial indicator. This is your rotation bearing deflection. Record the reading and check this reading against the “Maximum Allowable Bearing Deflection” in the following table.

Note: This value is based on a specific dimension of the reading from the centerline of rotation. This dimension is given with the maximum deflection.
**Tech Tips**

**Note:** Measure the deflection at the same boom location and dial indicator radius every time this test is performed to provide consistent measurements that can be compared over the life of the machine. Marking the dial indicator position with a center punch or paint spot will allow the test to be consistently repeated in the future.

<table>
<thead>
<tr>
<th>Unit Model</th>
<th>Maintenance Manual</th>
<th>Indicator Radius (inch)</th>
<th>Max Deflection (inch)</th>
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*Unit Specific Maximum Allowable Bearing Deflection*