





MEASUING ROTATION BEARING DEFLECTION WITH A DIAL INDICATOR

MODEL(S): ALL TEREX UTILITIES EQUIPMENT

TOOLS NEEDED: UNIT SPECIFIC MANUAL DIAL INDICATOR WITH MAGNETIC BASE SMALL SQUARE FELT PEN CENTER PUNCH BALL PEEN HAMMER



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:

 \checkmark You are trained and qualified to perform maintenance on this machine.

- \checkmark You read, understand and obey:
 - manufacturer's instructions and safety rules
 - employer's safety rules and worksite regulations
 - applicable governmental regulations

 \checkmark 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.



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Measure the diameter of the pedestal



| Divide the diameter by 2 to calculate the radius | Subtract radius from the dial indicator position

STEP 3 - STEP 4



| Set-up the unit as shown in the manual | Position the dial indicator | Reposition the boom

STEP 5 - STEP 7



Read and record the value Mark the dial indicator position STEP 8 - STEP 10

STEP 1

Determine the dial indicator position using the maintenance manual for the unit being measured. It will be listed as a dimension from the centerline of rotation.

Note: Measure the overall diameter of the pedestal, then divide by 2. This is the radius to the outside edge of the pedestal from the center of rotation. Add the remainder of the distance needed to obtain the distance required for placement of the indicator point.

MEASUREMENTS

Leveling chain stretch limit, length of 10 links #120	15.23 in. (386.84 mm) maximum
Turntable gear backlash	
New	0.008-0.025 in. (0.20-0.64 mm)
Used	0.025-0.050 in. (0.64-1.27 mm)
75 lbs. (34 kg) side pull at elbow pin	2 in. (50.8 mm) max at elbow pin
Turntable deflection	0.160 at 14 in. (355.6 mm)
Slave cylinder length setting	20.92" (531.4 mm)
Boom tip chain, pins from leveling rod to sprocket	37 pins

FIGURE 1 - Example measurements from the unit in the Tech Tip Video

STEP 2

In this example, the diameter of the pedestal is measured at 18 inches. The dial indicator needs to be positioned at 14 inches from the center of rotation.



STEP 3

Dividing the diameter of 18 by 2 yields a radius of 9. This is the distance to the outside edge of the pedestal.



STEP 4

Next subtract the radius from the dial indicator position. 14 in. -9 in. = 5 in. This is the measurement from the edge of the pedestal to the dial indicator position.



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STEP 5

Set the unit up in the position shown in the unit specific maintenance manual, taking the load away from the dial indicator point. **Figure 5**

Place the dial indicator 5 inches from the edge of the pedestal as determined in the previous steps.

STEP 6

Zero the dial indicator, making sure it has some preload. Also check to see if there is enough remaining travel for the measurement to be taken.

STEP 7

Position the boom as shown in the unit specific maintenance manual so that the load moves toward the dial indicator. **Figure 6**



FIGURE 5



FIGURE 6

STEP 8

Read and record the value shown on the dial indicator. This is the rotation bearing deflection reading. It must be less than the maximum value shown in the maintenance manual, otherwise replacement is required.

STEP 9 (Optional)

Use a centerpunch and hammer to mark the position of the dial indicator for future testing. This allows the test to be consistently performed and provides accurate comparisons of measurements from year-to-year.

STEP 10

Some fleets use green paint to mark the dial indicator location for future use.



FOR FURTHER ASSISTANCE, CONTACT THE TEREX UTILITIES TECHNICAL SUPPORT TEAM PHONE: 1-844-TEREX4U (1-844-837-3948) | EMAIL: UTILITIES.SERVICE@TEREX.COM