



SUBJECT: INTERNAL CLEARANCE ON ROTATION BEARINGS

Manufacturers of rotation bearings list several systems which occur when the bearing has reached its useful life. These include:

- Metal particles in the grease
- Increased drive power required
- Noise
- Rough operation
- a steady increase of bearing clearance which accelerates towards the end of the bearing life

The internal clearance can be measured and is a good means of determining bearing condition. Listed below is an accepted procedure for determining internal bearing clearance. A dial indicator with magnetic base is required to perform this procedure.

1. Start with boom in boom rest and outriggers and stabilizers set.
2. Attach dial indicator base to top of frame side plate or top plate on the side opposite the direction the boom is pointing (see Figure 1).
3. Locate dial indicator needle on turret base plate (see Figure 1).
4. Power boom down in boom rest.
5. Reset dial indicator to zero.
6. Raise boom approximately 3" above boom rest.
7. Record deflection indicated on dial.
8. Repeat Steps 4 – 7 three times and average the readings.
9. If the average deflection is greater than 0.090", the bearing should be replaced.
10. If the average deflection is less than 0.090", then repeat measurement procedure every 45° around entire working area of crane. Referring to Figure 2, measure deflection at positions 2, 3, 7 and 8 for 180° rotation and positions 2 – 8 for 360° rotation. Locate dial indicator on frame directly opposite to the direction the boom is pointing. Also use another crane or overhead hoist to support end of boom while powering down and resetting dial indicator. An average deflection greater than 0.090" in any position is an indication that the bearing has reached its useful life and should be replaced.

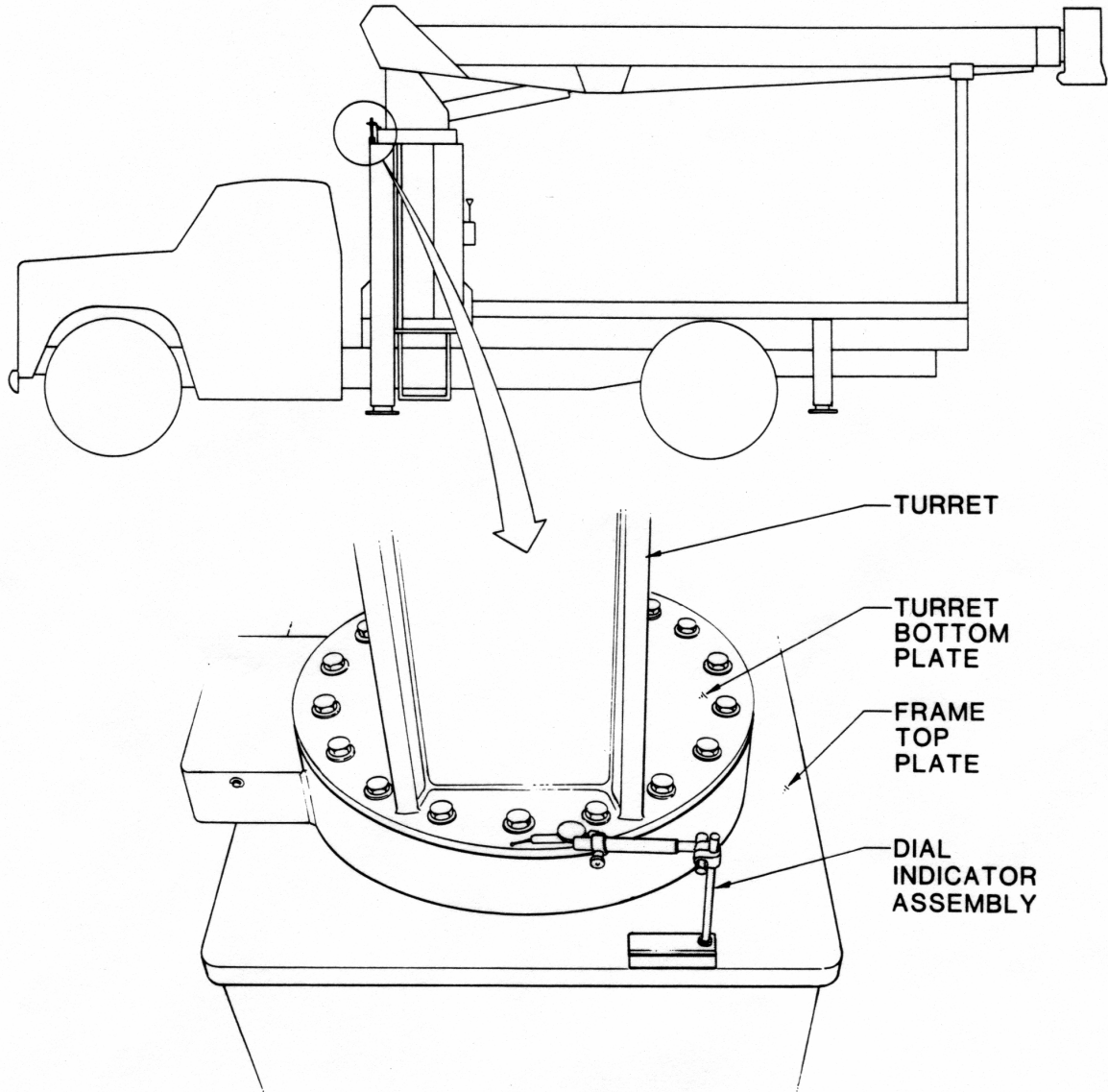


FIGURE 1

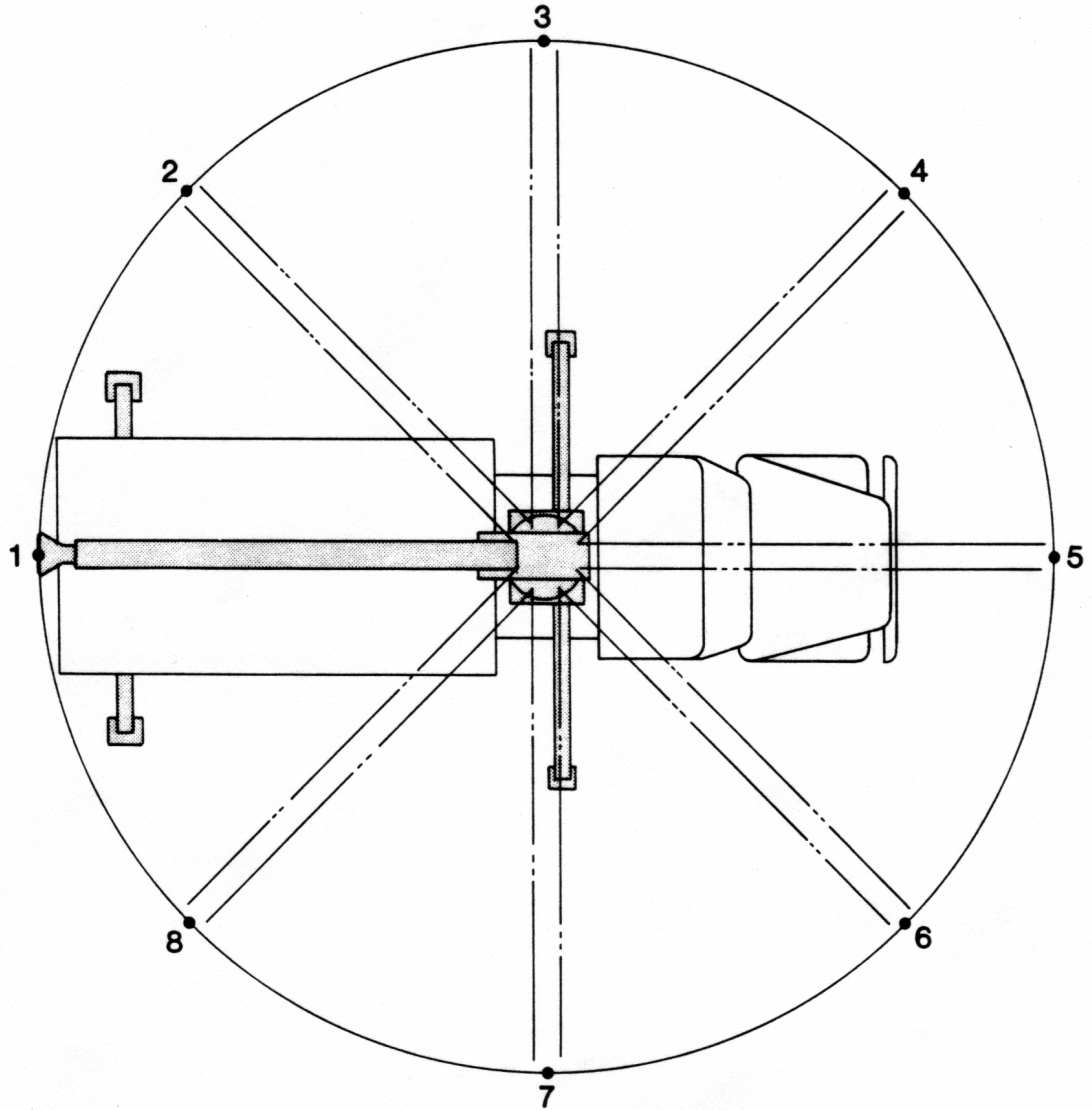


FIGURE 2