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Service Bulletin

Bulletin G25-002
Date
July 31, 2025
To
All Mobile Hydraulic Distributor Service Managers
Subject
Measuring and Recording of Turntable Bearing Vertical Movement
Models Affected
All Models

From
Manitowoc Cranes

INFORMATION ONLY

Please remind Grove Crane owners/users of the importance of performing routine inspections and maintenance of turntable bearings. The required inspection protocol for turntable bearing vertical movement is described in this Service Bulletin. This Service Bulletin replaces Service Bulletin G20-011.

A. INSPECTION AND ADJUSTMENT OF TURNTABLE BEARING ATTACHMENT BOLTS

It is imperative to ensure the turntable bearing attachment bolts are properly torqued. Therefore, all bearing attaching bolts must be inspected for lack of torque and retorqued, as required, in accordance with the following schedule as the bolts may loosen in service due to vibration, shock-loads and temperature changes:

1. Grove Designed AT/RT/GRT/TMS (except TMS900E & TMS9000E) and Industrial Cranes

All bearing attaching bolts must be inspected after the first 300 hours of crane operation and every 500 hours of crane operation thereafter.

2. KMK/GMK Designed AT Cranes and Grove Designed TMS900E & TMS9000E Cranes

All bearing attaching bolts must be inspected every 300 hours of crane operation or every three months.

WARNING: Failure to maintain proper torque of the turntable bearing attaching bolts may result in serious injury or death as well as damage to the crane and other property. Maintaining proper torque value for bolts is extremely important for structural strength, performance and reliability of the crane. Variations in torque can cause distortion, binding, or complete separation of the superstructure from the carrier.

CAUTION: Repeated re-torquing may cause bolts to stretch. If bolts keep working loose, they must be replaced with new bolts of the proper grade and size. Proper identification of bolt grade is important. When marked as a high strength bolt (grade 8), the serviceman must be aware of bolt classifications and that he is installing a high strength heat-treated tempered component and the bolt must be installed according to specifications. Special attention should be given to the existence of lubricant and plating that will cause variation from dry torque values. When a high strength bolt is removed, or un-torqued, the bolt must be replaced with a new bolt of the same classification.

B. INSPECTION AND LUBRICATION OF TURNTABLE BEARINGS

For the continued satisfactory operation of cranes, turntable bearings must be routinely lubricated and inspected for wear. Please see the Service Manual for complete inspection and lubrication instructions.

C. PROCEDURE FOR MEASURING VERTICAL MOVEMENT IN TURNTABLE BEARINGS

If you suspect that there is too much vertical movement in the turntable bearing on an affected crane, measure the vertical movement in accordance with the procedure attached to this Service Bulletin. The procedure describes the proper method for measuring the vertical movement in turntable bearing and includes a list of equipment required, step by step instructions, and a form to record the required information.

Please note that the dial indicator **must** be placed as close to the outer perimeter of the turntable bearing as possible and **must** be adjusted to zero when performing this procedure.

The procedure includes a list of bearing part numbers and the maximum acceptable axial movement for each part number. If your readings exceed the maximum acceptable limit or the bearing is rough or binding when swinging, the bearing must be replaced. For any bearings not listed, the information must be sent to Crane Care for evaluation.

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TURNTABLE BEARING VERTICAL MOVEMENT MEASURING PROCEDURE

Equipment required:

1. Dial indicator with a magnetic base **(calibration to have been checked within the last 90 days.)**

2. Carpenter's level.

3. "Erick Miracle Point" or equivalent calibrated electronic boom angle indicator for boom elevation (not required if the unit is equipped with a calibrated electronic boom angle indicator.)

Procedure:

NOTE: During this procedure, the crane shall be set up with the minimum amount of counterweight and the boom extension shall be either in the stowed position or removed.

1. Position the unit on a firm level surface.

2. If the unit is equipped with outriggers, fully extend the outriggers and raise the unit until all wheels are clear of the ground.

3. Using the procedure in the applicable manual, check to assure the torque on all the turntable bearing bolts is correct.

4. If applicable, fully extend the counterweight to the working position.

5. Thoroughly clean the upper (superstructure) and the lower (carrier) bearing mounting plates.

6. Place a carpenter's level on the lower bearing mounting plate. If the unit is equipped with outriggers, raise and lower the outriggers as required to level the unit front to rear and side to side. If the unit is not equipped with outriggers, it may be necessary to crib under the wheels to level the unit.

   NOTE: If the unit is not equipped with a calibrated electronic boom angle indicator, an "Erick Miracle Point" or an equivalent indicator must be attached to the boom.

7. With boom fully retracted, elevate the boom to the maximum elevation.

8. Swing the boom over the right front outrigger.

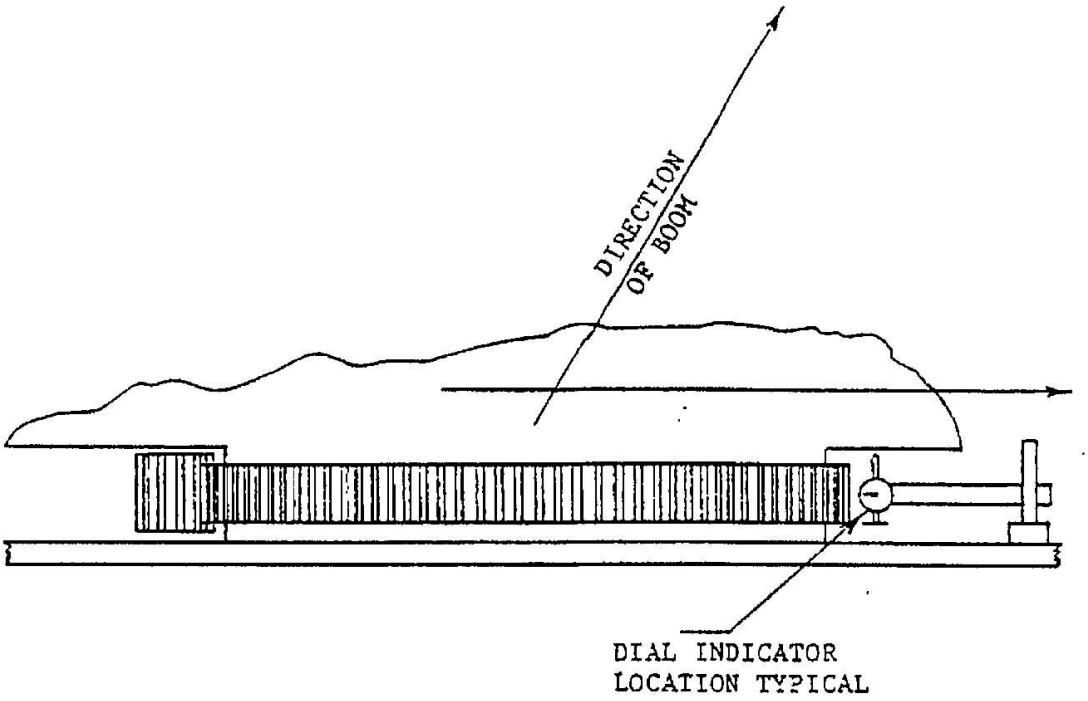
9. Position the dial indicator as shown in Figure 1 with the magnetic base on the lower bearing mounting plate at a point directly under the centerline of the boom, and as close to the outer perimeter of the turntable bearing as possible. Adjust the dial indicator so it is against the upper bearing mounting plate and zero the indicator.

10. Lower the boom to horizontal (0) degrees for Grove Designed AT/RT/GRT/TMS (except TMS900E & TMS9000E) and Industrial Cranes.

    Lower the boom to ten (10) degrees KMK/GMK Designed AT Cranes and Grove Designed TMS900E & TMS9000E Cranes

11. Record the reading on the dial indicator in the appropriate space on the form.
12. Remove the dial indicator and its magnetic base.
13. Repeat steps (7 through 13) at each of the other three outrigger locations (i.e. right rear, left rear, left front.)
14. If your turntable bearing is not on the attached list, please forward this information to Crane Care for evaluation and reply.

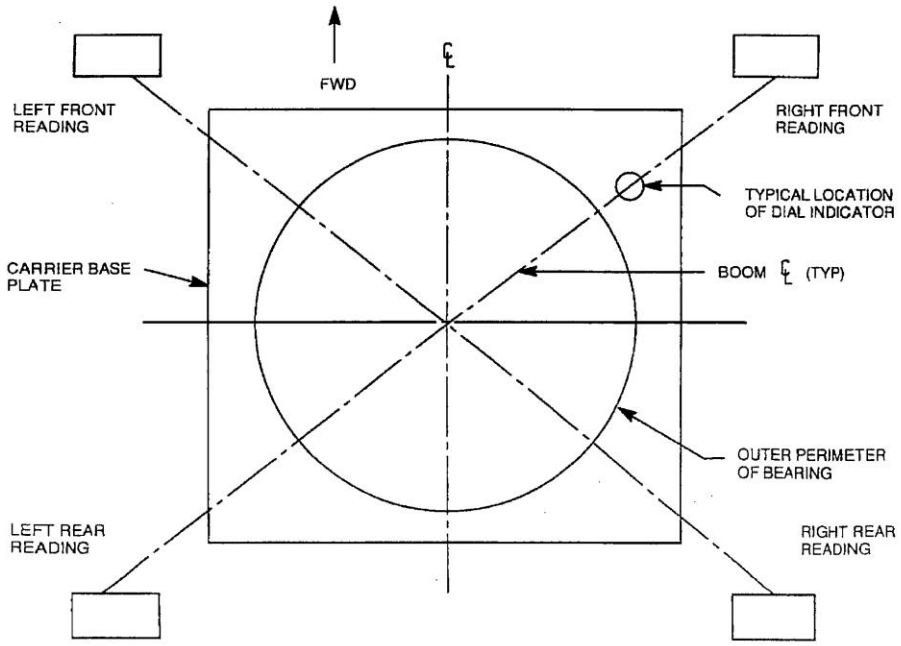
LOCATION OF DIAL INDICATOR TO BOOM



Measurement of Turntable Bearing Vertical Movement

1 / 2000

GROVE MODEL	SERIAL NO.
TURNTABLE BEARING MANUFACTURER	PART NO. SERIAL NO.
DATE OF INSPECTION:	
DISTRIBUTOR NAME:	PHONE NO.
NAME OF PERSON PERFORMING INSPECTION:	
CUSTOMER NAME:	



Grove P/N	(in.)	Grove P/N	(in.)
7069000048	0.063	7069000392	0.065
7069000118	0.084	7069000406	0.125
7069000120	0.112	7069000410	0.084
7069000121	0.108	7069000416	0.100
7069000122	0.112	7069000420	0.075
7069000125	0.108	7069000448	0.115
7069000169	0.141	7069000458	0.060
7069000188	0.125	7069000459	0.060
7069000225	0.037	7069001048	0.055
7069000230	0.090	7069001063	0.065
7069000243	0.100	7069001085	0.085
7069000247	0.112	7069001095	0.085
7069000249	0.084	7069001122	0.055
7069000253	0.108	7069001126	0.115
7069000256	0.090	7069001127	0.075
7069000261	0.112	7069001133	0.065
7069000264	0.125	7069001158	0.125
7069000272	0.140	7069001159	0.084
7069000283	0.108	7069001162	0.132
7069000284	0.108	7069001165	0.100
7069000290	0.108	7069001166	0.141
7069000294	0.132	7069001177	0.121
7069000295	0.121	7069001191	0.060
7069000311	0.141	7069001192	0.060
7069000312	0.100	7069001230	0.105
7069000323	0.132	7069100038	0.075
7069000324	0.132	7069100068	0.080
7069000329	0.108	7069100072	0.102
7069000342	0.065	7069100081	0.085
7069000343	0.060	7069100090	0.085
7069000352	0.065	7069102041	0.090
7069000353	0.065	7069102055	0.090
7069000365	0.088	7069102067	0.090
7069000366	0.088	7069102074	0.090
7069000369	0.055	7069102076	0.070
7069000376	0.100	7069102079	0.090
7069000377	0.112	7069800000	0.140
7069000391	0.065		

Grove P/N	Max Vert Movement (in,)
1100062	0.035
1200200	0.060
1200406	0.060
80029211	0.060
80056770	0.100
80056771	0.080
80057040	0.058
80057041	0.060
80057243	0.100
80057283	0.111
80057284	0.090
80057028	0.080
80089762	*
80095509	0.075
80112629	*
80119764	0.060
03012552	0.107
03056048	0.081
80134742	0.081
80123556	0.118
80123557	0.110
80134986	0.059
80134987	0.067
80142109	*

* 4 times the baseline vertical movement taken at machine placed in service; if no baseline was measured contact the factory with the bearing serial number and use the bench test value they provide.

European P/N	(in.)
6069990064	0.121