



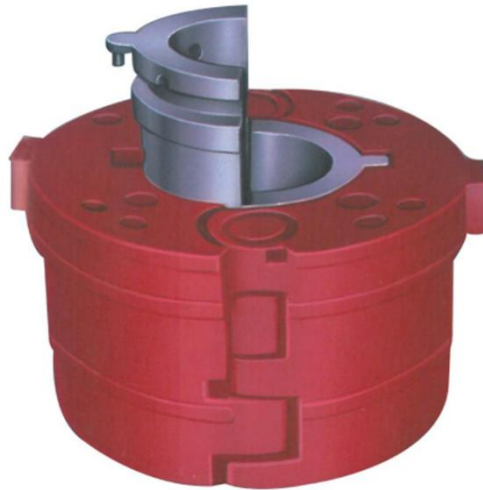
MASTER BUSHING CAT IV FULL INSPECTION CERTIFICATE

Customer:	Daqing Drilling Company	Date Of Service:	09. April .2025
Type Of Inspection:	CAT IV INSPECTION	Report No:	QC-B-04-25-0166-12
Rig & Location:	DQ Rig 037	Specification:	API RP 7L



PROCEDURE

The Rig was equipped Master Bushing with the Following specifications:

S/No:	11333
Inspection Frequency:	6 Months
Equipment Name	Master Bushing 18 5/8"
Specification:	API RP 7L CAT IV



-The products have been examined and found to conform to the relevant Quality standards and delivery are thus permitted

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Abdullah Mofeed		Mohammed Abdullah	



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PROCEDURE

Master Bushing Inspection Procedure based on API Standards (CAT IV – Full Inspection)

MASETR BUSHING INSPECTION PROCEDURE (CAT IV – FULL INSPECTION)

Per API Standard & OEM Specifications

1. Disassembly & Preparation

- Remove both halves of the drilling bowls from the Master bushing using an approved lifting chain sling.
- Clean all components to remove debris, grease, or abrasive materials.

2. Visual Inspection



- Inspect inner/outer surfaces of the bowl for:
 - Burrs, cracks, or panned-over edges.
 - Wear, galling, or deformation in load-bearing areas.
- Verify the taper condition; ensure no gouges or irregularities.

3. Dimensional Check

- Measure taper length using a straight edge (per OEM specs).
- Check taper angle and throat diameter against OEM tolerances.
- Confirm slip height in the bushing; ensure slips are not riding too low.

4. Non-Destructive Testing (NDT)

- Perform Magnetic Particle Inspection (MPI) on:

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- Recess areas.
- Load-bearing surfaces.
- Document any indications of cracks or defects.

5. Reassembly

- Lubricate the back of the drilling bowls before reassembly.
- Reinstall bowls into the Master bushing using the proper lifting sling.
- Ensure proper alignment and seating of components.

6. Reporting

- Prepare a detailed inspection report including:
 - Dimensional measurements.
 - MPI results.
 - Observations (e.g., wear, corrosion).
 - Compliance with OEM/API standards.



Notes:

Critical Areas: Focus on taper integrity, slip engagement, and load-bearing surfaces.

Rejection Criteria: Discard components with cracks, excessive wear, or out-of-spec dimensions.

Safety: Always use certified lifting equipment and follow OEM torque/assembly guidelines.

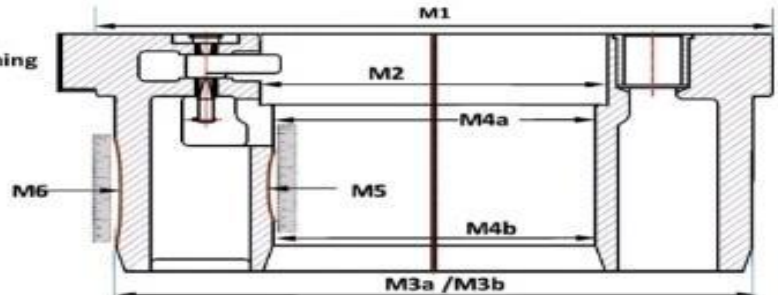
Let me know if you need additional details or formatting adjustments!

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二、主补芯磨损允量推荐
The allowable wear tolerance for Master Bushing


主补芯检测项目 Master bushing parameters	制造规范 OEM Specification	测量工具 Measuring tool	磨损量推荐 The maximum allowable tolerance
主补芯上沿外径 M1 Master bushing upper section OD M1	Φ1014.24-1015mm	卷尺 tape	小于 1005mm 报废 Less than 1005mm, Reject
主补芯上沿内径 M2 Master bushing upper section ID M2	Φ520.7-520.95mm	卷尺 tape	大于 527mm 报废 More than 527mm, Reject
主补芯下本体外径 M3a / M3b Master Bushing lower section OD M3a / M3b	Φ954.62-955.0mm	卷尺 tape	小于 945mm 报废 Less than 945mm, Reject
主补芯下本体内径 M4a / M4b Master Bushing lower section OD M4a / M4b	Φ482.6-482.85mm	卷尺 tape	大于 489mm 报废 More than 489mm, Reject
主补芯本体外壁磨损量(补芯高度范围内环形凹陷) M5 The wear on the outer wall of master bushing M5	-----	钢板尺 steel rulers	大于 3mm 报废 More than 3mm, Reject
主补芯本体外壁磨损量 M6 The wear on the outer wall of master bushing M6	-----	钢板尺 steel rulers	大于 3mm 报废 More than 3mm, Reject

Measures	OEM Specification	Actual Value	Result
Bushing upper section OD M1 Minimum value	1005 mm	1010 mm	passed
ushing upper section ID M2 Maximum value	527 mm	523 mm	passed
Master bushing lower section OD M3a/M3b Minimum value	945 mm	955 mm	passed
Master bushing lower section OD M4a/M4b Minimum value	489 mm	482 mm	passed
The Maximum wear on outer wall of bushing M5	3 mm	0 mm	passed
The Maximum wear on outer wall of bushing M6	3 mm	0 mm	passed

PROCEDURE

Visual and MPI were carried out on the Available Critical Areas of the **CASING MASTER BUSHING** and were Found Satisfactory for Further Use.

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CAT IV Inspection Was Carried out on the Insert Bowl and found **Acceptable** at The Time of Inspection.



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